C H A P T E R **3**

Connect the PC and Log into the GUI

This chapter explains how to connect Windows PCs and Solaris workstations to the Cisco ONS 15454 and how to log into Cisco Transport Controller (CTC) software, which is the ONS 15454 Operation, Administration, Maintenance and Provisioning (OAM&P) user interface. Procedures for connecting to the ONS 15454 ANSI using TL1 are provided in the *Cisco ONS SONET TL1 Command Guide.* Procedures for connecting to the ONS 15454 ETSI using TL1 are provided in the *Cisco ONS 15454 SDH and Cisco ONS 15600 SDH TL1 Command Guide*.

Note The procedures and tasks described in this chapter for the Cisco ONS 15454 platform is applicable to the Cisco ONS 15454 M2 and Cisco ONS 15454 M6 platforms, unless noted otherwise.

Note Unless otherwise specified, "ONS 15454" refers to both ANSI and ETSI shelf assemblies.

Before You Begin

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

1. NTP-G17 Set Up Computer for CTC, page 3-2—Complete this procedure if your Windows PC or Solaris workstation has never been connected to an ONS 15454.

2. NTP-G18 Set Up CTC Computer for Local Craft Connection to the ONS 15454, page 3-9—Complete this procedure to set up your computer for an onsite craft connection to the ONS 15454.

3. NTP-G19 Set Up a CTC Computer for a Corporate LAN Connection to the ONS 15454, page 3-25—Complete this procedure to set up your computer to connect to the ONS 15454 using a corporate LAN.

4. NTP-G21 Log into the GUI, page 3-28—Complete this procedure to log into CTC.

5. NTP-G190 Use the CTC Launcher Application to Manage Multiple ONS Nodes, page 3-38—Complete this procedure to use the CTC launcher application.

Note Autonegotiation is enabled on the EMS, craft terminal, and TNC/TSC LAN ports by default. The Layer 2 switch (Cisco or third party equipment) ports where the LAN cables are connected, are also configured with the autonegotiation enabled.

For an ONS 15454 M6 shelf, we recommend the use of RJ-45 port (craft terminal port or the EMS port) on the ECU to establish LAN connectivity. The advantages of using the RJ-45 ports on the ECU include:

- CAT-5 Ethernet cable connections can be managed better by routing the cable through the ECU ejector.
- If the TNC or TSC card fails, the LAN connection is not lost during the TNC or TSC card switch over.

If the ECU is absent, you can connect a CAT-5 Ethernet cable to the LAN port on the TNC/TSC card to create an external LAN connection.

NTP-G17 Set Up Computer for CTC

Purpose	This procedure configures your Windows PC or Solaris workstation to run CTC.
Tools/Equipment	Cisco ONS 15454 Release 9.2 software CD
Prerequisite Procedures	Chapter 1, "Install the Cisco ONS 15454, ONS 15454 M2, and ONS 15454 M6 Shelf"
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	None

Note JRE 1.6 is required to log into nodes running Software Release 9.2. JRE 1.6 is provided on the Software R9.2 software CD. Complete the "DLP-G52 Change the JRE Version" task on page 3-9 as needed.

Step 1 If your computer does not have an appropriate browser installed, complete one of the following:

- To install Internet Explorer 6.x, 7.x, or 8.x on a Windows PC, download the browser from www.microsoft.com
- To install Mozilla 1.7 on a Solaris workstation, download the browser from www.mozilla.org
- To install Safari on a MacOS-X PC, download the browser fromwww.apple.com

Note Internet Explorer 8.x is supported on Windows 7, and Safari is supported on MacOS-X.

Step 2 (Windows PC only) Complete the "DLP-G331 Adjust the Java Virtual Memory Heap Size (Windows)" task on page 3-29 to increase the size of the JVM heap to improve CTC performance.

Step 3 Complete one of the following:

- If your computer is a Windows PC, complete the "DLP-G37 Run the CTC Installation Wizard for Windows PCs" task on page 3-3.
- If your computer is a Solaris workstation, complete the "DLP-G38 Run the CTC Installation Wizard for Solaris Workstations" task on page 3-6.

Stop. You have completed this procedure.

DLP-G37 Run the CTC Installation Wizard for Windows PCs

Purpose	This task installs CTC online user manuals, Acrobat Reader 8.1.2, JRE 1.6, and CTC JAR files on Windows PCs.
Tools/Equipment	Cisco ONS 15454 Release 9.2 software CD
Prerequisite Procedures	None
Required/As Needed	This task is required if you will use a Windows computer to run CTC and if any one of the following is true:
	• JRE 1.6 is not installed.
	• CTC online user manuals are not installed and are needed.
	• CTC JAR files are not installed and are needed.
Onsite/Remote	Onsite or remote
Security Level	None

> **Note** If you will log into nodes running CTC software earlier than Release 4.6, install JRE 1.3.1. To run CTC software R9.2, install JRE 1.6.

Step 1   Verify that your computer has the following:

- Processor—Pentium III, 700 Mhz or faster

- RAM—384 MB recommended, 512 MB optimum

> **Note** Processor and RAM requirements are guidelines. CTC performance is faster if your computer has a faster processor and more RAM.

- Hard drive—20 GB hard drive recommended with at least 50 MB of space available

- Operating system—Windows 98 (1st and 2nd editions), Windows NT 4.0 (with Service Pack 6a), Windows 2000 (with Service Pack 3), Windows XP (with Service Pack 1), Windows Vista, or Windows 7. If your operating system is Windows NT 4.0, go to Step 2. If your operating system is Windows Vista or Windows 7, go to Step 3. For all others, go to Step 4.

Step 2   Verify that Service Pack 6a or later is installed. From Windows Start menu, choose **Programs > Administrative Tools > Windows NT Diagnostics** and check the service pack on the Version tab of the Windows NT Diagnostics dialog box. If Service Pack 6a or later is not installed, do not continue. Install Service Pack 6a following the computer upgrade procedures for your site. Go to Step 4.

Step 3   Complete DLP-G450 Configuring Windows Vista or Windows 7 to Support CTC, page 3-46 and go toStep 4.

Step 4   Insert the Cisco ONS 15454 Release 9.2 software CD into your computer CD drive. The installation program begins running automatically. If it does not start, navigate to the CD directory and double-click **setup.exe**.

The Cisco Transport Controller Installation Wizard displays the components that will be installed on your computer:

- JRE 1.6

- Acrobat Reader 8.1.2

- Online User Manuals

> • CTC JAR files

> ✎
> **Note**   JRE 1.6 is required to run Release 9.2. Preinstalling the CTC JAR files saves time at initial login. If the JAR files are not installed, they are downloaded from the TCC2/TCC2P/TCC3/TNC/TSC cards the first time you log in.

Step 5   Click **Next**.

Step 6   Complete one of the following:

- Click **Typical** to install the JRE, CTC JAR files, online user manuals, and Acrobat Reader. If you already have JRE 1.6 installed on your computer, choose **Custom**.

- Click **Custom** if you want to choose the components that you want to install. By default, Acrobat Reader and the online user manuals are selected.

Step 7   Click **Next**.

Step 8   Complete the following, as applicable:

- If you selected Typical in Step 6, skip this step and continue with Step 9.

- If you selected Custom in Step 6, check the CTC component that you want to install and click **Next**.

  - If you selected Online User Manuals, continue with Step 9.

  - If you did not select Online User Manuals, continue with Step 11.

Step 9   The directory where the installation wizard will install the CTC online user manuals appears. The default is C:\Program Files\Cisco\CTC\Documentation.

- If you want to change the CTC online user manuals directory, type the new directory path in the Directory Name field, or click **Browse** to navigate to the directory.

- If you do not want to change the directory, continue with Step 10.

Step 10   Click **Next**.

Step 11   Review the components that will be installed. If you want to change the components, complete one of the following. If not, proceed to Step 12.

- If you selected Typical in Step 6, click **Back** twice to return to the installation setup type page. Choose **Custom** and repeat Steps 7 through 10.

- If you selected Custom in Step 6, click **Back** once or twice (depending on the components selected) until the component selection page appears. Repeat Steps 7 through 10.

Step 12   Click **Next**. It might take a few minutes for the JRE installation wizard to appear. If you selected Custom in Step 6 and you don't need to install a JRE, continue with Step 14.

Step 13   To install the JRE, complete the following:

    a.   In the Java 2 Runtime Environment License Agreement dialog box, view the license agreement and choose one of the following:

- I accept the terms of the license agreement—Accepts the license agreement. Continue with Step b.

- I do not accept the terms of the license agreement—Disables the Next button on the Java 2 Runtime Environment License Agreement dialog box. Click **Cancel** to return to the CTC installation wizard. CTC will not install the JRE. Continue with Step 14.

> **Note** If JRE 1.6 is already installed on your computer, the Java 2 Runtime Environment License Agreement dialog box does not appear. You must click **Next** and then choose **Modify** to change the JRE installation, or **Remove** to uninstall the JRE. If you choose **Modify** and click **Next**, continue with Step e. If you choose **Remove** and click **Next**, continue with **Step i.**

    b. Click **Next**.

    c. Choose one of the following:

       • Click **Typical** to install all JRE features. If you select Typical, the JRE version installed will automatically become the default JRE version for your browsers.

       • Click **Custom** if you want to select the components to install and select the browsers that will use the JRE version.

    d. Click **Next**.

    e. If you selected Typical, continue with Step i. If you selected Custom, click the drop-down list for each program feature that you want to install and choose the desired setting. The program features include:

       • Java 2 Runtime Environment—(Default) Installs JRE 1.6 with support for European languages.

       • Support for Additional Languages—Adds support for non-European languages.

       • Additional Font and Media Support—Adds Lucida fonts, Java Sound, and color management capabilities.

    The drop-down list options for each program feature include:

       • This feature will be installed on the local hard drive—Installs the selected feature.

       • This feature and all subfeatures will be installed on the local hard drive—Installs the selected feature and all subfeatures.

       • Don't install this feature now—Does not install the feature (not an option for Java 2 Runtime Environment).

    To modify the directory where the JRE version is installed, click **Change**, navigate to the desired directory, and click **OK**.

    f. Click **Next**.

    g. In the Browser Registration dialog box, check the browsers that you want to register with the Java Plug-In. The JRE version will be the default for the selected browsers. It is acceptable to leave both browser check boxes unchecked.

> **Note** Setting the JRE as the default for these browsers might cause problems with these browsers.

    h. Click **Next**.

    i. Click **Finish**.

> **Note** If you are uninstalling the JRE, click **Remove**.

Step 14 In the Cisco Transport Controller Installation Wizard, click **Next**. The online user manuals and/or Adobe Acrobat Reader are installed.

Step 15 Click **Finish**.

Step 16 Return to your originating procedure (NTP).

DLP-G38 Run the CTC Installation Wizard for Solaris Workstations

Purpose	This task installs the CTC online user manuals, Acrobat 8.1.2, and JRE 1.6 on Solaris workstations, as necessary.
Tools/Equipment	Cisco ONS 15454 Release 9.2 software CD
Prerequisite Procedures	None
Required/As Needed	This task is required if you will use a Solaris workstation to run CTC, and any of the following is true:

- JRE 1.6 is not installed.

- CTC online user manuals are not installed and are needed.

Onsite/Remote	Onsite or remote
Security Level	None

> **Note** If you will log into nodes running CTC software earlier than Release 4.6, install JRE 1.3.1. To run CTC software R9.2, install JRE 1.6.

Step 1 Verify that your computer has the following:

- RAM—384 MB recommended, 512 MB optimum

- Hard drive—20 GB hard drive recommended with at least 50 MB of space available

- Operating system—Solaris 9 or 10

   > **Note** These requirements are guidelines. CTC performance is faster if your computer has a faster processor and more RAM.

Step 2 Change the directory. Type:

cd /cdrom/cdrom0/

Step 3 From the techdoc454 CD directory, type:

./setup.bat

The Cisco Transport Controller Installation Wizard displays the components that will be installed on your computer:

- JRE 1.6

- Acrobat Reader 8.1.2

- Online User Manuals

- CTC JAR files

Step 4 Click **Next**.

Step 5 Complete one of the following:

- Click **Typical** to install both the JRE and the online user manuals. If you already have JRE 1.6 installed on your computer, choose **Custom**.

- Click **Custom** if you want to install either the JRE or the online user manuals.

Step 6   Click **Next**.

Step 7   Complete the following, as applicable:

- If you selected Typical in Step 5, continue with Step 8.

- If you selected Custom in Step 5, check the CTC component that you want to install and click **Next**.

  - If you selected Online User Manuals, continue with Step 8.

  - If you did not select Online User Manuals, continue with Step 10.

Step 8   The directory where the installation wizard will install the CTC online user manuals appears. The default is /usr/doc/ctc.

- If you want to change the CTC online user manuals directory, type the new directory path in the Directory Name field, or click **Browse** to navigate to the directory.

- If you do not want to change the CTC online user manuals directory, skip this step.

Step 9   Click **Next**.

Step 10 Review the components that will be installed.

- If you selected Typical in Step 5, click **Back** twice to return to the installation setup type page. Choose **Custom** and repeat Steps 6 through 9.

- If you selected Custom in Step 5, click **Back** once or twice (depending on the components selected) until you reach the component selection page and check the desired components. Repeat Steps 7 through 9.

Step 11 Click **Next**. It might take a few minutes for the JRE installation wizard to appear. If you selected Custom in Step 6 and need to install the JRE, continue with Step 13.

Step 12 To install the JRE, complete the following:

  a. In the Java 2 Runtime Environment License Agreement dialog box, view the license agreement and choose one of the following:

- I accept the terms of the license agreement—Accepts the license agreement. Continue with Step b.

- I do not accept the terms of the license agreement—Disables the Next button on the Java 2 Runtime Environment License Agreement dialog box. Click **Cancel** to return to the CTC installation wizard. CTC will not install the JRE. Continue with Step 13.

> **Note**   If JRE 1.6 is already installed on your computer, the Java 2 Runtime Environment License Agreement dialog box does not appear. You must click **Next** and then choose **Modify** to change the JRE installation or **Remove** to uninstall the JRE. If you choose **Modify** and click **Next**, continue with Step e. If you choose **Remove** and click **Next**, continue with **Step** i.

  b. Click **Next**.

  c. Choose one of the following:

- Click **Typical** to install all JRE features. If you select Typical, the JRE version installed will automatically become the default JRE version for your browsers.

- Click **Custom** if you want to select the components to install and select the browsers that will use the JRE version.

d. Click **Next**.

e. If you selected Typical, continue with Step i. If you selected Custom, click the drop-down list for each program feature that you want to install and choose the desired setting. The program features include:

- Java 2 Runtime Environment—(Default) Installs JRE 1.6 with support for European languages.

- Support for Additional Languages—Adds support for non-European languages.

- Additional Font and Media Support—Adds Lucida fonts, Java Sound, and color management capabilities.

The drop-down list options for each program feature include:

- This feature will be installed on the local hard drive—Installs the selected feature.

- This feature and all subfeatures will be installed on the local hard drive—Installs the selected feature and all subfeatures.

- Don't install this feature now—Does not install the feature (not an option for Java 2 Runtime Environment).

To modify the directory where the JRE version is installed, click **Change**, navigate to the desired directory, and click **OK**.

f. Click **Next**.

g. In the Browser Registration dialog box, check the browsers that you want to register with the Java Plug-In. The JRE version will be the default for the selected browsers. It is acceptable to leave both browser check boxes unchecked.

> **Note** Setting the JRE version as the default for these browsers might cause problems with these browsers.

h. Click **Next**.

i. Click **Finish**.

> **Note** If you are uninstalling the JRE, click **Remove**.

Step 13 In the Cisco Transport Controller Installation Wizard, click **Next**. The online user manuals are installed.

Step 14 Click **Finish**.

> **Note** Be sure to record the names of the directories you choose for JRE and the online user manuals.

Step 15 Return to your originating procedure (NTP).

DLP-G52 Change the JRE Version

Purpose	This task changes the JRE version, which is useful if you would like to upgrade to a later JRE version from an earlier one without using the software CD. This does not affect the browser default version. After selecting the desired JRE version, you must exit CTC. The next time you log into a node, the new JRE version will be used.
Tools	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1   From the Edit menu, choose **Preferences**.

Step 2   Click the **JRE** tab. The JRE tab shows the current JRE version and the recommended and supported versions.

Step 3   Click the **Browse** button and navigate to the JRE directory on your computer.

Step 4   Choose the JRE version.

Step 5   Click **Open**, then click **OK**.

Step 6   From the File menu, choose **Exit**.

Step 7   In the confirmation dialog box, click **Yes**.

Step 8   Log out of the ONS node.

Step 9   In the web browser that you used to log into the node, click **Delete CTC Cache**.

Step 10   Click **Yes** on the confirmation dialog then close the browser window.

Step 11   Complete the "DLP-G46 Log into CTC" task on page 3-30.

Step 12   Return to your originating procedure (NTP).

NTP-G18 Set Up CTC Computer for Local Craft Connection to the ONS 15454

Purpose	This procedure explains how to set up a PC running Windows or a Solaris workstation for an onsite local craft connection to the ONS 15454.
Tools/Equipment	Network interface card (NIC), also referred to as an Ethernet card
	Straight-through (CAT-5) LAN cable
Prerequisite Procedures	NTP-G17 Set Up Computer for CTC, page 3-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	None

Step 1   Complete one of the CTC computer setup tasks shown in Table 3-1 based on your CTC connection environment. For initial setup, use Option 1 or 3 if you are setting up a Windows PC. Use Option 4 if you are setting up a Solaris workstation.

Table 3-1   CTC Computer Setup for Local Craft Connections to the ONS 15454

Option	CTC Connection Environment	CTC Computer Setup Task
1	• You are connecting from a Windows PC. • You will connect to one ONS 15454, or ONS 15454 M2, or ONS 15454 M6. • You need to access non-ONS 15454 applications such as ping and tracert (trace route).	DLP-G39 Set Up a Windows PC for Craft Connection to an ONS 15454 on the Same Subnet Using Static IP Addresses, page 3-12
2	• You are connecting from a Windows PC. • Your network uses Dynamic Host Configuration Protocol (DHCP) for assignment of host IP addresses. • The CTC computer is provisioned for DHCP. • The ONS 15454 has DHCP forwarding enabled. • The ONS 15454 is connected to a DHCP server. **Note** The ONS 15454 does not provide IP addresses. If DHCP is enabled, it passes DCHP requests to an external DHCP server.	DLP-G40 Set Up a Windows PC for Craft Connection to an ONS 15454 Using Dynamic Host Configuration Protocol, page 3-15 **Note** Do not use this task for initial node turn-up. Use the task only if DHCP forwarding is enabled on the ONS 15454. By default, DHCP is not enabled. To enable it, see the "NTP-G26 Set Up CTC Network Access" procedure on page 4-18.

Table 3-1   ***CTC Computer Setup for Local Craft Connections to the ONS 15454 (continued)***

Option	CTC Connection Environment	CTC Computer Setup Task (continued)
3	• You are connecting from a Windows PC. • You will connect to ONS 15454s at different locations and times and do not wish to reconfigure your PC's IP settings each time. • You will not access or use non-ONS 15454 applications such as ping and tracert (trace route). • If you are using an ANSI shelf, you will connect to the TCC2/TCC2P/TCC3 Ethernet port or backplane LAN pins either directly or through a hub. • If you are using an ETSI shelf, you will connect to the ONS 15454 Ethernet port or the RJ-45 jack on the MIC-C/T/P FMEC either directly or through a hub. • If you are using an ANSI or ETSI multishelf node, you will connect to the patch panel DCN port or the Catalyst 2950 or the Catalyst 3560 using a straight-through (CAT 5) LAN cable. • If you are using an ONS 15454 M6 shelf assembly, you will connect to the TNC/TSC ethernet port, or the EMS port or the craft terminal port on the ECU either directly or through a hub. • If you are using an ONS 15454 M2 shelf assembly, you will connect to the TNC/TSC ethernet port or the EMS port on the power module either directly or through a hub. • If you are using an ONS 15454 M6 multishelf node, you will connect to the patch panel DCN port or the Catalyst 2950 or Catalyst 3560 using a straight-through (CAT 5) LAN cable.	DLP-G41 Set Up a Windows PC for Craft Connection to an ONS 15454 Using Automatic Host Detection, page 3-19
4	• You are connecting from a Solaris workstation. • You will connect to one ONS 15454. • You need to access non-ONS 15454 applications such as ping and tracert (trace route).	DLP-G42 Set Up a Solaris Workstation for a Craft Connection to an ONS 15454, page 3-23

Step 2   Connect a straight-through CAT-5 LAN cable from the Windows PC or Solaris workstation NIC to one of the following:

- The RJ-45 (LAN) port on the active or standby TCC2/TCC2P/TCC3 card. Use this method for the initial shelf turn-up.
- The RJ-45 (LAN) port on a hub or switch to which the ONS 15454 is physically connected.
- For multishelf mode, the DCN RJ-45 (LAN) port on the Ethernet Adapter Panel (EAP) or Port 23 or 24 of the Catalyst 2950 or the Catalyst 3560.
- If you are using an ONS 15454 M2 shelf assembly, you will connect to the TNC/TSC ethernet port or the EMS port on the power module either directly or through a hub.
- If you are using an ONS 15454 M6 shelf assembly, you will connect to the TNC/TSC ethernet port, or the EMS port or the craft terminal port on the ECU either directly or through a hub.

> **Note**   For instructions on crimping your own straight-through (CAT-5) LAN cables, refer to the *Cisco ONS 15454 DWDM Troubleshooting Guide*.

Step 3   After setting up your CTC computer, continue with the as needed.

Stop. You have completed this procedure.

DLP-G39 Set Up a Windows PC for Craft Connection to an ONS 15454 on the Same Subnet Using Static IP Addresses

Purpose	This task sets up your computer for a local craft connection to the ONS 15454 when:
	• You will connect to one ONS 15454; if you will connect to multiple ONS 15454s, you might need to reconfigure your computer's IP settings each time you connect to an ONS 15454.
	• You need to use non-ONS 15454 applications such as ping and tracert (trace route).
Tools/Equipment	None
Prerequisite Procedures	NTP-G17 Set Up Computer for CTC, page 3-2
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	None

Step 1   Verify the operating system that is installed on your computer:

a.   From the Windows Start menu, choose **Settings > Control Panel**.

b.   In the Control Panel window, double-click the **System** icon.

c.   On the General tab of the System Settings window, verify that the Windows operating system is one of the following: Windows 98, Windows NT 4.0, Windows 2000, Windows XP, Windows Vista, or Windows 7.

Step 2   According to the Windows operating system installed on your computer, perform one of the following steps:

- For Windows 98, complete Step 3.
- For Windows NT 4.0, complete Step 4.
- For Windows 2000, complete Step 5.
- For Windows XP, complete Step 6.
- For Windows Vista, complete Step 7.
- For Windows 7, complete Step 8.

Step 3   If you have Windows 98 installed on your PC, complete the following steps to change its TCP/IP configuration:

    a.   From the Windows Start menu, choose **Settings** > **Control Panel**.

    b.   In the Control Panel dialog box, click the **Network** icon.

    c.   In the Network dialog box, choose **TCP/IP** for your NIC card, then click **Properties**.

    d.   In the TCP/IP Properties dialog box, click the **DNS Configuration** tab and choose **Disable DNS**.

    e.   Click the **WINS Configuration** tab and choose **Disable WINS Resolution**.

    f.   Click the **IP Address** tab.

    g.   In the IP Address window, click **Specify an IP address**.

    h.   In the IP Address field, enter an IP address that is identical to the ONS 15454 IP address except for the last octet. The last octet must be 1 or 3 through 254. This IP address appears on the LCD unless its display is suppressed during node provisioning.

    i.   In the Subnet Mask field, type the same subnet mask as the ONS 15454. The default is **255.255.255.0** (24 bit).

    j.   Click **OK**.

    k.   In the TCP/IP dialog box, click the **Gateway** tab.

    l.   In the New Gateway field, type the ONS 15454 IP address. Click **Add**.

    m.   Verify that the IP address appears in the Installed Gateways field, then click **OK**.

    n.   When the prompt to restart your PC appears, click **Yes**.

    o.   Proceed to Step 9.

Step 4   If you have Windows NT 4.0 installed on your PC, complete the following steps to change its TCP/IP configuration:

    a.   From the Windows Start menu, choose **Settings** > **Control Panel**.

    b.   In the Control Panel dialog box, click the **Network** icon.

    c.   In the Network dialog box, click the **Protocols** tab, choose **TCP/IP Protocol**, then click **Properties**.

    d.   Click the **IP Address** tab.

    e.   In the IP Address window, click **Specify an IP address**.

    f.   In the IP Address field, enter an IP address that is identical to the ONS 15454 IP address shown on the ONS 15454 LCD except for the last octet. The last octet must be 1 or 3 through 254.

    g.   In the Subnet Mask field, type **255.255.255.0**.

    h.   Click **Advanced**.

    i.   In the Gateways List, click **Add**. The TCP/IP Gateway Address dialog box appears.

    j.   Type the ONS 15454 IP address in the Gateway Address field.

    k.   Click **Add**.

    l.   Click **OK**.

    m.   Click **Apply**.

    n.   In some cases, Windows NT 4.0 prompts you to reboot your PC. If you receive this prompt, click **Yes**.

    o.   Proceed to Step 9.

Step 5   If you have Windows 2000 installed on your PC, complete the following steps to change its TCP/IP configuration:

    a. From the Windows Start menu, choose **Settings > Network and Dial-up Connections > Local Area Connection**.

    b. In the Local Area Connection Status dialog box, choose the local area connection connected to the PC port connected to the ONS 15454.

    c. Click **Properties**.

    d. On the General tab, choose **Internet Protocol (TCP/IP)**, then click **Properties**.

    e. Click **Use the following IP address**.

    f. In the IP Address field, enter an IP address that is identical to the ONS 15454 IP address shown on the ONS 15454 LCD except for the last octet. The last octet must be 1 or 3 through 254.

    g. In the Subnet Mask field, type **255.255.255.0**.

    h. In the Default Gateway field, type the ONS 15454 IP address.

    i. Click **OK**.

    j. In the Local Area Connection Properties dialog box, click **OK**.

    k. In the Local Area Connection Status dialog box, click **Close**.

    l. Proceed to Step 9.

Step 6   If you have Windows XP installed on your PC, complete the following steps to change its TCP/IP configuration:

    a. From the Windows Start menu, choose **Control Panel > Network Connections**.

> **Note**   If the Network Connections menu is not available, right-click the Windows screen and choose **Properties** from the popup menu. Click the **Appearance** tab, then under Scheme, choose **Classic View**.

    b. From the Network Connections dialog box, click the **Local Area Connection** icon.

    c. On the General tab of the Local Area Connection Properties dialog box, choose **Internet Protocol (TCP/IP)**, then click **Properties**.

    d. In the IP Address field, enter an IP address that is identical to the ONS 15454 IP address shown on the ONS 15454 LCD except for the last octet. The last octet must be 1 or 3 through 254.

    e. In the Subnet Mask field, type **255.255.255.0**.

    f. In the Default Gateway field, type the ONS 15454 IP address.

    g. Click **OK**.

    h. In the Local Area Connection Properties dialog box, click **OK**.

    i. In the Local Area Connection Status dialog box, click **Close**.

    j. Proceed to Step 9.

Step 7   If you have Windows Vista installed on your PC, complete the following steps to change its TCP/IP configuration:

    a. From the Windows Start menu, choose **Control Panel > Network and Internet > Network and Sharing Center > Manage network connections**. The Manage network connections window appears.

b. Right-click the **Local Area Connection** icon, then click **Properties**. The Local Area Connection Properties dialog box appears.

c. Click the **Networking** tab. Under **This connection uses the following items**, click **Internet Protocol Version 4 (TCP/IPv4) > Properties**. The Networking dialog box appears.

d. Click **Use the following IP address** and in the IP Address field, enter an IP address that is identical to the ONS 15454 IP address shown on the ONS 15454 LCD except for the last octet. The last octet must be 1 or 3 through 254.

e. In the Subnet Mask field, type **255.255.255.0**.

f. In the Default Gateway field, type the ONS 15454 IP address.

g. Click **OK**.

h. In the Local Area Connection Properties dialog box, click **OK**.

i. Proceed to Step 9.

Step 8   If you have Windows 7 installed on your PC, complete the following steps to change its TCP/IP configuration:

a. From the Windows Start menu, choose **Control Panel.**

b. In the search box, type **adapter.**

c. Under Network and Sharing Center, click **View Network Connections.** The Network Connections dialog box appears.

d. In the Network Connections dialog box, right-click the **Local Area Connection** icon, then click **Properties**. The Local Area Connection Properties dialog box appears.

e. Click the **Networking** tab. Under **This connection uses the following items**, click **Internet Protocol Version 4 (TCP/IPv4) > Properties**. The Networking dialog box appears.

f. Click **Use the following IP address** and in the IP Address field, enter an IP address that is identical to the ONS 15454 IP address shown on the ONS 15454 LCD except for the last octet. The last octet must be 1 or 3 through 254.

g. In the Subnet Mask field, type **255.255.255.0**.

h. In the Default Gateway field, type the ONS 15454 IP address.

i. Click **OK**.

j. In the Local Area Connection Properties dialog box, click **OK**.

Step 9   Return to your originating procedure (NTP).

DLP-G40 Set Up a Windows PC for Craft Connection to an ONS 15454 Using Dynamic Host Configuration Protocol

Purpose	This task sets up your computer for craft connection to the ONS 15454 using DHCP.
Tools/Equipment	None
Prerequisite Procedures	NTP-G17 Set Up Computer for CTC, page 3-2
	NTP-G26 Set Up CTC Network Access, page 4-18

Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	None

> **Note** Do not use this task for initial node turn-up. Use the task only if DHCP forwarding is enabled on the ONS 15454. By default, DHCP is not enabled. To enable it, see the "NTP-G26 Set Up CTC Network Access" procedure on page 4-18.

> **Note** The ONS 15454 does not provide the IP addresses. If DHCP forwarding is enabled, it passes DCHP requests to an external DHCP server.

Step 1 Verify the operating system that is installed on your computer:

    a. From the Windows Start menu, choose **Settings > Control Panel**.

    b. In the Control Panel window, double-click the **System** icon.

    c. On the General tab of the System Settings window, verify that the Windows operating system is one of the following: Windows 98, Windows NT 4.0, Windows 2000, Windows XP, Windows Vista, or Windows 7.

Step 2 According to the Windows operating system installed on your computer, perform one of the following steps:

    • For Windows 98, complete Step 3.

    • For Windows NT 4.0, complete Step 4.

    • For Windows 2000, complete Step 5.

    • For Windows XP, complete Step 6.

    • For Windows Vista, complete Step 7.

    • For Windows 7, complete Step 8.

Step 3 If you have Windows 98 installed on your PC, complete the following steps to change its TCP/IP configuration:

    a. From the Windows Start menu, choose **Settings** > **Control Panel**.

    b. In the Control Panel dialog box, click the **Network** icon.

    c. In the Network dialog box, select **TCP/IP** for your NIC, then click **Properties**.

    d. In the TCP/IP Properties dialog box, click the **DNS Configuration** tab and choose **Disable DNS**.

    e. Click the **WINS Configuration** tab and choose **Disable WINS Resolution**.

    f. Click the **IP Address** tab.

    g. In the IP Address window, click **Obtain an IP address automatically**.

    h. Click **OK**.

    i. When the prompt to restart your PC appears, click **Yes**.

    j. Proceed to Step 9.

Step 4 If you have Windows NT 4.0 installed on your PC, complete the following steps to change its TCP/IP configuration:

    a. From the Windows Start menu, choose **Settings** > **Control Panel**.

    b. In the Control Panel dialog box, click the **Network** icon.

    c. In the Network dialog box, click the **Protocols** tab, choose **TCP/IP Protocol**, then click **Properties**.

    d. Click the **IP Address** tab.

    e. In the IP Address window, click **Obtain an IP address from a DHCP server**.

    f. Click **OK**.

    g. Click **Apply**.

    h. If Windows prompts you to restart your PC, click **Yes**.

    i. Proceed to Step 9.

Step 5   If you have Windows 2000 installed on your PC, complete the following steps to change its TCP/IP configuration:

    a. From the Windows Start menu, choose **Settings > Network and Dial-up Connections > Local Area Connection**.

    b. In the Local Area Connection Status dialog box, choose the local area connection connected to the PC port connected to the ONS 15454.

    c. In the Local Area Connection Status dialog box, click **Properties**.

    d. On the General tab, choose **Internet Protocol (TCP/IP)**, then click **Properties**.

    e. Click **Obtain an IP address automatically**.

    f. Click **OK**.

    g. In the Local Area Connection Properties dialog box, click **OK**.

    h. In the Local Area Connection Status dialog box, click **Close**.

    i. Proceed to Step 9.

Step 6   If you have Windows XP installed on your PC, complete the following steps to change its TCP/IP configuration:

    a. From the Windows Start menu, choose **Control Panel > Network Connections**.

> **Note** If the Network Connections menu is not available, right-click the Windows screen and choose **Properties** from the popup menu. Click the **Appearance** tab, then under Scheme, choose **Classic View**.

    b. From the Network Connections dialog box, click the **Local Area Connection** icon.

    c. On the General tab of the Local Area Connection Properties dialog box, click **Properties**.

    d. On the General tab, choose **Internet Protocol (TCP/IP)**, then click **Properties**.

    e. Click **Obtain an IP address automatically**.

    f. Click **OK**.

    g. In the Local Area Connection Properties dialog box, click **OK**.

    h. In the Local Area Connection Status dialog box, click **Close**.

    i. Proceed to Step 9.

Step 7   If you have Windows Vista installed on your PC, complete the following steps to change its TCP/IP configuration:

    a.   From the Windows Start menu, choose **Control Panel > Network and Internet > Network and Sharing Center > Manage network connections**. The Manage network connections window appears.

    b.   Right-click the **Local Area Connection** icon, then click **Properties**. The Local Area Connection Properties dialog box appears.

    c.   Click the **Networking** tab. Under **This connection uses the following items**, click **Internet Protocol Version 4 (TCP/IPv4) > Properties**. The Networking dialog box appears.

    d.   Click **Obtain an IP address automatically**.

    e.   Click **OK**.

    f.   In the Local Area Connection Properties dialog box, click **OK**.

    g.   Proceed to .

Step 8   If you have Windows 7 installed on your PC, complete the following steps to change its TCP/IP configuration:

    a.   From the Windows Start menu, choose **Control Panel.**

    b.   In the search box, type **adapter**.

    c.   Under Network and Sharing Center, click **View Network Connections.** The Network Connections dialog box appears.

    d.   Right-click the **Local Area Connection** icon, then click **Properties**. The Local Area Connection Properties dialog box appears.

    e.   Click the **Networking** tab. Under **This connection uses the following items**, click **Internet Protocol Version 4 (TCP/IPv4) > Properties**. The Networking dialog box appears.

    f.   Click **Obtain an IP address automatically**.

    g.   Click **OK**.

    h.   In the Local Area Connection Properties dialog box, click **OK**.

Step 9   Return to your originating procedure (NTP).

DLP-G41 Set Up a Windows PC for Craft Connection to an ONS 15454 Using Automatic Host Detection

Purpose	This task sets up your computer for local craft connection to the ONS 15454 when:
	• You are using an ANSI shelf, you will connect to the ONS 15454 Ethernet port or backplane LAN pins either directly or through a hub.
	• You are using an ETSI shelf, you will connect to the ONS 15454 Ethernet port or the RJ-45 jack on the MIC-C/T/P FMEC either directly or through a hub.
	• You are using an ONS 15454 M6 shelf assembly, you will connect to the TNC/TSC ethernet port, or the EMS port or the craft terminal port on the ECU either directly or through a hub.
	• You are using an ONS 15454 M2 shelf assembly, you will connect to the TNC/TSC ethernet port or the EMS port on the power module either directly or through a hub.
	• You will connect to multiple ONS 15454s and do not want to reconfigure your IP address each time.
	• You do not need to access non-ONS 15454 applications such as ping and tracert (trace route).
Tools/Equipment	None
Prerequisite Procedures	NTP-G17 Set Up Computer for CTC, page 3-2
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	None

Step 1 Verify the operating system that is installed on your computer:

a. From the Windows Start menu, choose **Settings > Control Panel** or, for Windows XP, **Control Panel > System**.

b. In the Control Panel window, double-click the **System** icon.

c. On the General tab of the System Settings window, verify that the Windows operating system is one of the following: Windows 98, Windows NT 4.0, Windows 2000, Windows XP, Windows Vista, or Windows 7.

Step 2 According to the Windows operating system installed on your computer, perform one of the following steps:

- For Windows 98, complete Step 3.
- For Windows NT 4.0, complete Step 4.
- For Windows 2000, complete Step 5.
- For Windows XP, complete Step 6.
- For Windows Vista, complete Step 7.
- For Windows 7, complete Step 8.

Step 3 If you have Windows 98 installed on your PC, complete the following steps to change its TCP/IP configuration:

   a. From the Windows Start menu, choose **Settings > Control Panel**.

   b. In the Control Panel dialog box, click the **Network** icon.

   c. In the Network dialog box, select **TCP/IP** for your NIC, then click **Properties**.

   d. In the TCP/IP Properties dialog box, click the **DNS Configuration** tab and choose **Disable DNS**.

   e. Click the **WINS Configuration** tab and choose **Disable WINS Resolution**.

   f. Click the **IP Address** tab.

   g. In the IP Address window, click **Specify an IP address**.

   h. In the IP Address field, enter any legitimate IP address other than the node IP address as indicated on the LCD of the ONS 15454. The default IP address is 192.1.0.2.

> ✎ **Note** You can suppress the LCD IP address display using CTC. For more information, see the "DLP-G162 Change IP Settings" task on page 11-23.

   i. In the Subnet Mask field, type the same subnet mask as the ONS 15454. The default is **255.255.255.0** (24 bit).

   j. Click **OK**.

   k. In the TCP/IP dialog box, click the **Gateway** tab.

   l. In the New Gateway field, type the address entered in Step h. Click **Add**.

   m. Verify that the IP address appears in the Installed Gateways field, then click **OK**.

   n. When the prompt to restart your PC appears, click **Yes**.

   o. Proceed to Step 9.

Step 4 If you have Windows NT 4.0 installed on your PC, complete the following steps to change its TCP/IP configuration:

   a. From the Windows Start menu, choose **Settings > Control Panel**.

   b. In the Control Panel dialog box, click the **Network** icon.

   c. In the Network dialog box, click the **Protocols** tab, choose **TCP/IP Protocol**, then click **Properties**.

   d. Click the **IP Address** tab.

   e. In the IP Address window, click **Specify an IP address**.

   f. In the IP Address field, enter any legitimate IP address other than the node IP address as indicated on the LCD of the ONS 15454. The default IP address is 192.1.0.2.

> ✎ **Note** You can suppress the LCD IP address display using CTC. For more information, see the "DLP-G162 Change IP Settings" task on page 11-23.

   g. In the Subnet Mask field, type the same subnet mask as the ONS 15454. The default is **255.255.255.0** (24 bit).

   h. Click **Advanced**.

   i. In the Gateways List, click **Add**. The TCP/IP Gateway Address dialog box appears.

   j. Type the IP address entered in Step f in the Gateway Address field.

    k. Click **Add**.

    l. Click **OK**.

    m. Click **Apply**.

    n. Reboot your PC.

    o. Proceed to Step 9.

Step 5 If you have Windows 2000 installed on your PC, complete the following steps to change its TCP/IP configuration:

    a. From the Windows Start menu, choose **Settings > Network and Dial-up Connections > Local Area Connection**.

    b. In the Local Area Connection Status dialog box, click **Properties**.

    c. On the General tab, choose **Internet Protocol (TCP/IP)**, then click **Properties**.

    d. Click **Use the following IP address**.

    e. In the IP Address field, enter any legitimate IP address other than the node IP address as indicated on the LCD of the ONS 15454. The default IP address is 192.1.0.2.

> ✎
> **Note**   You can suppress the LCD IP address display using CTC. For more information, see the "DLP-G162 Change IP Settings" task on page 11-23.

    f. In the Subnet Mask field, type the same subnet mask as the ONS 15454. The default is **255.255.255.0** (24 bit).

    g. Type the IP address entered in Step e in the Gateway Address field.

    h. Click **OK**.

    i. In the Local Area Connection Properties dialog box, click **OK**.

    j. In the Local Area Connection Status dialog box, click **Close**.

    k. Proceed to Step 9.

Step 6 If you have Windows XP installed on your PC, complete the following steps to change its TCP/IP configuration:

    a. From the Windows Start menu, choose **Control Panel > Network Connections**.

> ✎
> **Note**   If the Network Connections menu is not available, click **Switch to Classic View**.

    b. From the Network Connections dialog box, right-click the **Local Area Connection** icon and select **Properties**.

    c. Scroll to the bottom of the Local Area Connection Properties dialog box. Click **Internet Protocol (TCP/IP)** to select it, then click **Properties**.

    d. In the IP Address field, enter any legitimate IP address other than the node IP address as indicated on the LCD of the ONS 15454. The default IP address is 192.1.0.2.

    e. Select the **Use the Following IP Address:** radio button.

> ✎
> **Note**   You can suppress the LCD IP address display using CTC. For more information, see the "DLP-G162 Change IP Settings" task on page 11-23.

    f. In the Subnet Mask field, type the same subnet mask as the ONS 15454. The default is **255.255.255.0** (24 bit).

    g. Type the IP address entered in Step d in the Gateway Address field.

    h. Click **OK**.

    i. In the Local Area Connection Properties dialog box, click **Close**.

Step 7 If you have Windows Vista installed on your PC, complete the following steps to change its TCP/IP configuration:

    a. From the Windows Start menu, choose **Control Panel > Network and Internet > Network and Sharing Center > Manage network connections**. The Manage network connections window appears.

    b. Right-click the **Local Area Connection** icon, then click **Properties**. The Local Area Connection Properties dialog box appears.

    c. Click the **Networking** tab. Under **This connection uses the following items**, click **Internet Protocol Version 4 (TCP/IPv4) > Properties**. The Networking dialog box appears.

    d. Click **Use the following IP address** and in the IP Address field, enter any legitimate IP address other than the node IP address indicated on the LCD of the ONS 15454. The default IP address is 192.1.0.2.

> **Note** You can suppress the LCD IP address display using CTC. For more information, see the "DLP-G162 Change IP Settings" task on page 11-23.

    e. In the Subnet Mask field, type the same subnet mask as the ONS 15454. The default is **255.255.255.0** (24 bit).

    f. Type the IP address entered in Step d in the Gateway Address field.

    g. Click **OK**.

    h. In the Local Area Connection Properties dialog box, click **Close**.

Step 8 If you have Windows 7 installed on your PC, complete the following steps to change its TCP/IP configuration:

    a. From the Windows Start menu, choose **Control Panel.**

    b. In the search box, type **adapter.**

    c. Under Network and Sharing Center, click **View Network Connections.** The Network Connections dialog box appears.

    d. Right-click the **Local Area Connection** icon, then click **Properties**. The Local Area Connection Properties dialog box appears.

    e. Click the **Networking** tab. Under **This connection uses the following items**, click **Internet Protocol Version 4 (TCP/IPv4) > Properties**. The Networking dialog box appears.

    f. Click **Use the following IP address** and in the IP Address field, enter any legitimate IP address other than the node IP address indicated on the LCD of the ONS 15454. The default IP address is 192.1.0.2.

> **Note** You can suppress the LCD IP address display using CTC. For more information, see the "DLP-G162 Change IP Settings" task on page 11-23.

    g. In the Subnet Mask field, type the same subnet mask as the ONS 15454. The default is **255.255.255.0** (24 bit).

    h. Type the IP address entered in Step f in the Gateway Address field.

    i. Click **OK**.

    j. In the Local Area Connection Properties dialog box, click **Close**.

Step 9   Return to your originating procedure (NTP).

DLP-G42 Set Up a Solaris Workstation for a Craft Connection to an ONS 15454

Purpose	This task sets up a Solaris workstation for a craft connection to the ONS 15454.
Tools/Equipment	None
Prerequisite Procedures	NTP-G17 Set Up Computer for CTC, page 3-2
Required/As Needed	As needed
Onsite/Remote	Onsite
Security Level	None

Note   This procedure does not apply to the ONS 15454 M6 and ONS 15454 M2 chassis, because they do not have a backplane TL1 craft port.

Step 1   Log into the workstation as the root user.

Step 2   Check to see if the interface is plumbed by typing:

    # ifconfig *device*

    For example:

    # ifconfig hme1

    • If the interface is plumbed, a message similar to the following appears:

        hme1:flags=1000842<BROADCAST,RUNNING,MULTICAST,IPv4>mtu 1500 index 2 inet 0.0.0.0 netmask 0

        If a message similar to this one appears, go to Step 4.

    • If the interface is not plumbed, a message similar to the following appears:

        ifconfig: status: SIOCGLIFFLAGS: hme1: no such interface.

        If a message similar to this one appears, go to Step 3.

Step 3   Plumb the interface by typing:

    # ifconfig *device* **plumb**

    For example:

    # ifconfig hme1 plumb

Step 4   Configure the IP address on the interface by typing:

    # ifconfig *interface ip-address* **netmask** *netmask* **up**

For example:

ifconfig hme0 192.1.0.3 netmask 255.255.255.0 up

✎

Note   Enter an IP address that is identical to the ONS 15454 IP address except for the last octet. The last octet must be 1 or 3 through 254.

Step 5   In the Subnet Mask field, type **255.255.255.0**. Skip this step if you checked Craft Access Only on the Provisioning > Network > General > Gateway Settings tab.

Step 6   Test the connection:

a.   Start Mozilla.

b.   Enter the ONS 15454 IP address in the web address (URL) field. If the connection is established, a Java Console window, CTC caching messages, and the Cisco Transport Controller Login dialog box appear. If this occurs, go to Step 2 of the "DLP-G46 Log into CTC" task on page 3-30 to complete the login. If the Login dialog box does not appear, complete Steps c and d.

c.   At the prompt, type:

ping *ONS-15454-IP-address*

For example, to connect to an ONS 15454 with a default IP address of 192.1.0.2, type:

ping 192.1.0.2

If your workstation is connected to the ONS 15454, the following message appears:

IP-*address* is alive

✎

Note   Skip this step if you checked the Craft Access Only check box on the Provisioning > Network > General > Gateway Settings tab.

d.   If CTC is not responding, a "no answer from *x.x.x.x*" message appears. Verify the IP and subnet mask information. Check that the cables connecting the workstation to the ONS 15454 are securely attached. Check the link status by typing:

ndd -set /dev/*device* **instance 0**

ndd -get /dev/*device* **link_status**

For example:

ndd -set /dev/hme instance 0

ndd -get /dev/hme link_status

A result of "1" means the link is up. A result of "0" means the link is down.

✎

Note   Check the man page for ndd. For example, type: # **man ndd**.

Step 7   Return to your originating procedure (NTP).

NTP-G19 Set Up a CTC Computer for a Corporate LAN Connection to the ONS 15454

Purpose	This procedure sets up your computer to access the ONS 15454 through a corporate LAN.
Tools/Equipment	NIC, also referred to as an Ethernet card
	Straight-through (CAT-5) LAN cable
Prerequisite Procedures	• NTP-G17 Set Up Computer for CTC, page 3-2
	• The ONS 15454 must be provisioned for LAN connectivity, including IP address, subnet mask, default gateway.
	• The ONS 15454 must be physically connected to the corporate LAN.
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	None

Step 1   If your computer is already connected to the corporate LAN, go to Step 3. If you changed your computer's network settings for craft access to the ONS 15454, change the settings back to the corporate LAN access settings. This generally means:

 • Set the IP Address on the TCP/IP dialog box back to **Obtain an IP address automatically** (Windows 2000 and XP) or **Obtain an IP address from a DHCP server** (Windows NT 4.0).

 • If your LAN requires that Domain Name System (DNS) or Windows Internet Naming Service (WINS) be enabled, change the setting on the DNS Configuration or WINS Configuration tab of the TCP/IP dialog box.

Step 2   Connect the ONS 15454 and the computer to the corporate LAN:

 • Connect a straight-through (CAT-5) LAN cable from the PC or Solaris workstation NIC card to a corporate LAN port.

 • For a single ONS 15454 shelf node, connect a straight-through (CAT-5) LAN cable from the EMS or the craft terminal port to the corporate LAN port. For a single ONS 15454 M2 shelf, connect a straight-through (CAT-5) LAN cable from the EMS or the TNC/TSC Ethernet port to the corporate LAN port. For a single ONS 15454 M6 shelf, connect a straight-through (CAT-5) LAN cable from the EMS port, or the craft terminal port, or the TNC/TSC Ethernet port to the corporate LAN.

 • For an ONS 15454 M6 multishelf node, connect a straight-through (CAT-5) LAN cable from the EMS port, or the craft terminal port, or the TNC/TSC Ethernet port. For an ONS 15454, connect the DCN RJ-45 (LAN) port on the EAP or to Port 23 or 24 of the Catalyst 2950 or the Catalyst 3560 to corporate LAN port.

Step 3   If your computer is connected to a proxy server, disable proxy service or add the ONS 15454 nodes as exceptions. To disable or bypass proxy service, complete one of the following tasks, depending on the web browser that you use:

 • DLP-G43 Disable or Bypass Proxy Service Using Internet Explorer (Windows), page 3-26

 • DLP-G44 Disable or Bypass Proxy Service Using Mozilla (Solaris), page 3-27

Step 4   Continue with the "NTP-G21 Log into the GUI" procedure on page 3-28.

Stop. You have completed this procedure.

DLP-G43 Disable or Bypass Proxy Service Using Internet Explorer (Windows)

Purpose	This task disables or bypasses proxy service for PCs running Internet Explorer.
Tools/Equipment	None
Prerequisite Procedures	NTP-G17 Set Up Computer for CTC, page 3-2
Required/As Needed	Required if your computer is connected to a network computer proxy server and your browser is Internet Explorer.
Onsite/Remote	Onsite or remote
Security Level	None

> **Note** If you disable proxy on a TCC2P/TCC3/TNC/TSC node that has secure mode enabled, the node's communication with other secure mode nodes may be compromised. For more information about secure mode, refer to the "Management Network Connectivity" chapter in the *Cisco ONS 15454 DWDM Reference Manual.*

Step 1 From the Start menu, select **Settings > Control Panel**.

> **Note** If your computer is running Windows XP, you can select Control Panel directly from the Start menu. Make sure that you are in Classic View before continuing with this procedure. To switch to Classic View, right-click the Windows screen and choose **Properties** from the popup menu. Click the **Appearance** tab, then under Scheme, choose **Classic View**.

Step 2 In the Control Panel window, choose **Internet Options**.

Step 3 In the Internet Properties dialog box, click **Connections** > **LAN Settings**.

Step 4 In the LAN Settings dialog box, complete one of the following tasks:

- Uncheck **Use a proxy server** to disable the service.

- To bypass the service, leave **Use a proxy server** selected and click **Advanced**. In the Proxy Setting dialog box under Exceptions, enter the IP addresses of ONS 15454 nodes that you will access. Separate each address with a semicolon. You can insert an asterisk (*) for the host number to include all the ONS 15454s on your network. Click **OK** to close each open dialog box.

> **Note** For ONS 15454, ONS 15454 M2, and ONS 15454 M6 nodes that have TCC2P/TCC3/TNC/TSC cards installed with the TCC2P/TCC3/TNC/TSC secure mode option enabled, enter the backplane LAN port (or the EMS port) IP addresses. If the node is in secure mode and the configuration has been locked, you will not be able to change the IP address unless the lock is disabled by Cisco Technical Support. Refer to the "Management Network Connectivity" chapter in the *Cisco ONS 15454 DWDM Reference Manual* for more information about secure mode.

Step 5   Return to your originating procedure (NTP).

DLP-G44 Disable or Bypass Proxy Service Using Mozilla (Solaris)

Purpose	This task disables or bypasses proxy service for Windows PCs running Mozilla (Solaris). Required if your computer is connected to a network computer proxy server and your browser is Mozilla (Solaris).
Tools/Equipment	None
Prerequisite Procedures	NTP-G17 Set Up Computer for CTC, page 3-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	None

Note   If you disable proxy on a TCC2P/TCC3/TNC/TSC node that has secure mode enabled, the node's communication with other secure mode nodes may be compromised. For more information about secure mode, refer to the "Management Network Connectivity" chapter in the *Cisco ONS 15454 DWDM Reference Manual*.

Step 1   Open Mozilla (Solaris).

Step 2   From the Edit menu, choose **Tools**. The Internet Options dialog box appears.

Step 3   In the Network tab, click **Settings**. The Connection Settings dialog box appears.

Step 4   In the Connection Settings dialog box, set one of the following options:

- Click the **No proxy** option to disable the proxy server.
- Click the **Auto-detect proxy settings for this network** option to automatically detect the proxy settings for the network.
- Click the **Manual proxy configuration** option to add exceptions to the proxy server. In the No Proxy For field, enter the IP addresses of the ONS 15454 nodes that you will access. Separate each address with a comma.
- Click **OK** to close the Connection Settings dialog box.
- Click **OK** to close the Internet Options dialog box.

Note   For ONS 15454, ONS 15454 M2, or ONS 15454 M6 nodes that have TCC2P, TCC3, TNC, or TSC cards installed with the TCC2P/TCC3/TNC/TSC secure mode option enabled, enter the backplane LAN port (or EMS port) IP addresses in the Manual proxy configuration option. If the node is in secure mode and the configuration has been locked, you will not be able to change the IP address unless the lock is disabled by Cisco Technical Support. Information on contacting Cisco Technical Support is provided in the *Preface* Chapter of this guide.

Step 5   Return to your originating procedure (NTP).

NTP-G21 Log into the GUI

Purpose	This procedure logs into CTC, the graphical user interface (GUI) software used to manage the ONS 15454. This procedure includes optional node login tasks.
Tools/Equipment	None
Prerequisite Procedures	NTP-G17 Set Up Computer for CTC, page 3-2
	One of the following procedures:
	• NTP-G18 Set Up CTC Computer for Local Craft Connection to the ONS 15454, page 3-9
	• NTP-G19 Set Up a CTC Computer for a Corporate LAN Connection to the ONS 15454, page 3-25
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1 Complete the "DLP-G46 Log into CTC" task on page 3-30.

✎ **Note** For information about navigating in CTC, see Appendix A, "CTC Information and Shortcuts."

During network topology discovery, CTC polls each node in the network to determine which one contains the most recent version of the CTC software. If CTC discovers a node in the network that has a more recent version of the CTC software than the version you are currently running, CTC generates a message stating that a later version of the CTC has been found in the network. If you have network discovery disabled, CTC will not seek more recent versions of the software. Unreachable nodes are not included in the upgrade discovery.

✎ **Note** Upgrading the CTC software will overwrite your existing software. You must restart CTC after the upgrade is complete.

Step 2 As needed, complete the "DLP-G48 Create Login Node Groups" task on page 3-33. Login node groups allow you to view and manage nodes that have an IP connection but no data communications channel (DCC) connection to the login node.

Step 3 As needed, complete the "DLP-G49 Add a Node to the Current Session or Login Group" task on page 3-34.

Step 4 As needed, complete the "DLP-G50 Delete a Node from the Current Session or Login Group" task on page 3-35.

Step 5 As needed, complete the "DLP-G331 Adjust the Java Virtual Memory Heap Size (Windows)" task on page 3-29.

Step 6 As needed, complete the "DLP-G51 Delete a Node from a Specific Login Node Group" task on page 3-36.

Step 7 As needed, complete the "DLP-G53 Configure the CTC Alerts Dialog Box for Automatic Popup" task on page 3-36.

Chapter 3   Connect the PC and Log into the GUI

Before You Begin

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

DLP-G331 Adjust the Java Virtual Memory Heap Size (Windows)

Purpose	This task allows you to adjust the Java Virtual Memory (JVM) heap size of a Windows PC from the default 256 MB to the maximum of 512 MB in order to improve CTC performance.
Tools/Equipment	None
Prerequisite procedures	None
Required/As needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

> **Note** The task adjusts the physical memory allocation in the computer RAM so that more space is allocated for CTC. However, less physical memory will be available for other computer processes and programs. If you notice performance degradation of non-CTC programs after completing this task, reduce the JVM allotted to CTC. You may need to repeat the task a few times to find the right balance between JVM allotted to CTC and to other programs on your computer.

Step 1 From the Windows PC, click **Start > Settings > Control Panel**. > System, or **Start > Control Panel > System** (Windows XP). The Windows Control Panel appears. The System Properties dialog box appears.

Step 2 Click the **Advanced** tab.

Step 3 Click **Environmental Variables**. The Environmental Variables dialog box appears.

Step 4 In the User Variables area, check to see whether a CTC_HEAP variable was created. If yes, complete the following steps. If not, continue with Step 5.

   a. Check the CTC_HEAP value. If it is 512, continue with Step 12. If not, continue with Step b.

   b. Click the CTC_HEAP variable and click **Edit**.

   c. In the Edit User Variable dialog box, enter the new JVM heap size. This can be any number between 256 and 512 MB.

   d. Click **OK**, then continue with Step 9.

Step 5 click **New**. The New User Variable dialog box appears.

Step 6 Type "CTC_HEAP" in the Variable Name field.

Step 7 Type "512" in the Variable Value field.

Step 8 Click **OK** to close the New User Variable dialog box.

Step 9 Click **OK** to close the Environmental Variables dialog box.

Step 10 Click **OK** to close the System Properties dialog box.

Step 11 Reboot your PC.

Step 12 Return to your originating procedure (NTP).

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DLP-G46 Log into CTC

Purpose	This task logs into the graphical user interface (GUI) of CTC.
Tools/Equipment	None
Prerequisite Procedures	NTP-G17 Set Up Computer for CTC, page 3-2
	One of the following procedures:
	• NTP-G18 Set Up CTC Computer for Local Craft Connection to the ONS 15454, page 3-9
	• NTP-G19 Set Up a CTC Computer for a Corporate LAN Connection to the ONS 15454, page 3-25
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

✎ **Note** For information about CTC views and navigation, see Appendix A, "CTC Information and Shortcuts."

Step 1 From the computer connected to the ONS 15454, start Internet Explorer (Windows PC) or Mozilla (Solaris workstation):

- • If you are using a Windows PC, launch Internet Explorer from the Windows Start menu or a shortcut icon.

- • If you are using a Solaris workstation, navigate to the directory where Mozilla was installed, then type:

 # mozilla -install

Step 2 In Internet Explorer or Mozilla web address (URL) field, enter the ONS 15454 IPv4 or IPv6 address. For initial setup, this is the default IP address, 192.1.0.2.

✎ **Note** The IP address appears on the LCD. You can suppress the LCD IP address display using CTC after you log in. For more information, see the "DLP-G162 Change IP Settings" task on page 11-23.

Step 3 Press **Enter**. The browser displays a window with a Delete CTC Cache field and information about the Cisco Transport Controller Java and System environments.

✎ **Note** To log into CTC using an IPv6 address, you must first log into CTC using an IPv4 address and assign an IPv6 address to the node. Then, use the IPv6 address that you assigned to the node to log into CTC. For more information about configuring IPv6 address, see "DLP-G56 Provision IP Settings" task on page 4-19. Enter the IPv6 address in the address bar of the browser, enclosed in square brackets.

Note   The Delete CTC Cache field deletes the CTC JAR (Java Archive) files that are downloaded to your computer when you log into an ONS 15454. You perform this action if connectivity problems occur or you want to delete older CTC JAR file versions from your computer. For more information, refer to the "General Troubleshooting" chapter in the *Cisco ONS 15454 DWDM Troubleshooting Guide* and the "CTC Operations" chapter in the *Cisco ONS 15454 DWDM Reference Manual*.

Note   If you are logging into ONS 15454 nodes in an operation network that are running different releases of CTC software, log into the node running the most recent release. If you log into a node running an older release, you will receive an INCOMPATIBLE-SW alarm for each node in the network running a new release, and CTC will not be able to manage these nodes. To check the software version of a node, select About CTC from the CTC Help menu. This will display the ONS 15454 software version for each node visible on the network view. If the node is not visible, the software version can be read from the LCD display. To resolve an alarm, refer to the *Cisco ONS 15454 DWDM Troubleshooting Guide*.

Step 4   If a Java Plug-in Security Warning dialog box appears, complete the "DLP-G47 Install Public-Key Security Certificate" task on page 3-32 to install the public-key security certificate required by Software Release 4.1 and later.

After you complete the security certificate dialog box (or if the certificate is already installed), a Java Console window displays the CTC file download status. The web browser displays information about your Java and system environments. If this is the first login, CTC caching messages appear while CTC files are downloaded to your computer. The first time you connect to an ONS 15454, this process can take several minutes. After the download, a warning message window appears.

Step 5   Click **OK**. The CTC Login dialog box appears.

Step 6   In the Login dialog box, type a user name and password (both are case sensitive). For initial setup, type the user name **CISCO15** and the password **otbu+1**.

Note   The CISCO15 user is provided with every ONS 15454. CISCO15 has Superuser privileges, so you can create other users. You must create another Superuser before you can delete the CISCO15 user. CISCO15 is delivered with the otbu+1 password. To change the password for CISCO15, complete the "DLP-G191 Change User Password and Security Level on a Single Node" task on page 11-59 after you log in.

Step 7   Each time you log into an ONS 15454, you can select the following login options:

- Additional Nodes—Displays a list of current login node groups. To create a login node group or add additional groups, see the "DLP-G48 Create Login Node Groups" task on page 3-33.

- Disable Network Discovery—Check this box to view only the ONS 15454 (and additional nodes within the login node group, if any) entered in the Node Name field. Nodes linked to this node through DCCs are not discovered and will not appear in CTC network view. Using this option can decrease the CTC startup time in networks with many DCC-connected nodes, and can reduce memory consumption.

- Disable Circuit Management—Check this box to disable discovery of existing circuits. Using this option can decrease the CTC initialization time in networks with many existing circuits and reduce memory consumption. After you are logged in, you can enable circuit discovery at any time by choosing the Enable Circuit Discovery button on the Circuits tab.

Step 8 If you keep Disable Network Discovery unchecked, CTC attempts to upgrade the CTC software by downloading more recent versions of the JAR files it finds during the network discovery. Click **Yes** to allow CTC to download the newer JAR files, or **No** to prevent CTC from downloading the JAR files.

✎ **Note** Upgrading the CTC software will overwrite your existing software. You must restart CTC after the upgrade is complete.

Step 9 Click **Login**.

If the login is successful, the CTC node view window (in single-shelf mode) or multishelf view window (in multishelf mode) appears. From here, you can navigate to other CTC views to provision and manage the ONS 15454. If you need to turn up the shelf for the first time, see Chapter 4, "Turn Up a Node." If login problems occur, refer to the *Cisco ONS 15454 DWDM Troubleshooting Guide*.

Step 10 Return to your originating procedure (NTP).

DLP-G47 Install Public-Key Security Certificate

Purpose	This task installs the ITU Recommendation X.509 public-key security certificate. The public-key certificate is required to run Software Release 4.1 or later.
Tools/Equipment	None
Prerequisite Procedures	This task is performed during the "DLP-G46 Log into CTC" task on page 3-30. You cannot perform it outside of this task.
Required/As Needed	Required
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 If the Java Plug-in Security Warning dialog box appears, choose one of the following options:

✎ **Note** The Java Plug-in Security Warning dialog box options that appear depend on the JRE version you are using. If you installed JRE 1.6, you will see the following options: Yes, No, Always, and More Details. If you are using JRE 1.3.1_02, you will see the following options (shown in parentheses in the following list): Grant This Session, Deny, Grant Always, and View Certificate.

- Yes (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.

- No (Deny)—Denies permission to install the certificate. If you choose this option, you cannot log into the ONS 15454.

- Always (Grant Always)—Installs the public-key certificate and does not delete it after the session is over. Cisco recommends this option.

- More Details (View Certificate)—Allows you to view the public-key security certificate.

Step 2 Return to your originating procedure (NTP) or task (DLP).

DLP-G48 Create Login Node Groups

Purpose	This task creates a login node group to display ONS 15454s that have an IP connection but not a data channel connection (DCC) to the login node.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 From the Edit menu in node view, choose **Preferences**.

Step 2 Click **Login Node Group** and **Create Group**.

**Step 3** Enter a name for the group in the Create Login Group Name dialog box. Click **OK**.

Step 4 In the Members area, type the IP address (or node name) of a node you want to add to the group. Click **Add**. Repeat this step for each node that you want to add to the group.

> **Note** If the ONS 15454, ONS 15454 M2, and ONS 15454 M6 that you want to add to the login node group has TCC2P/TCC3/TNC/TSC cards installed and the TCC2P/TCC3/TNC/TSC secure mode option is enabled, enter the backplane LAN port (or EMS port) IP address. If the node is in secure mode and the configuration has been locked, you will not be able to change the IP address unless the lock is disabled by Cisco Technical Support. Refer to the "Management Network Connectivity" chapter in the *Cisco ONS 15454 DWDM Reference Manual* for more information about secure mode.

Step 5 Click **OK**.

The next time you log into an ONS 15454, the login node group will be available in the Additional Nodes list of the Login dialog box. For example, in Figure 3-1, a login node group is created that contains the IP addresses for Nodes 1, 4, and 5. During login, if you choose this group from the Additional Nodes list and Disable Network Discovery is not selected, all nodes in the figure appear. If the login group and Disable Network Discovery are both selected, only Nodes 1, 4, and 5 appear. You can create as many login node groups as you need. The groups are stored in the CTC preferences file and are not visible to other users.

Figure 3-1   Login Node Group
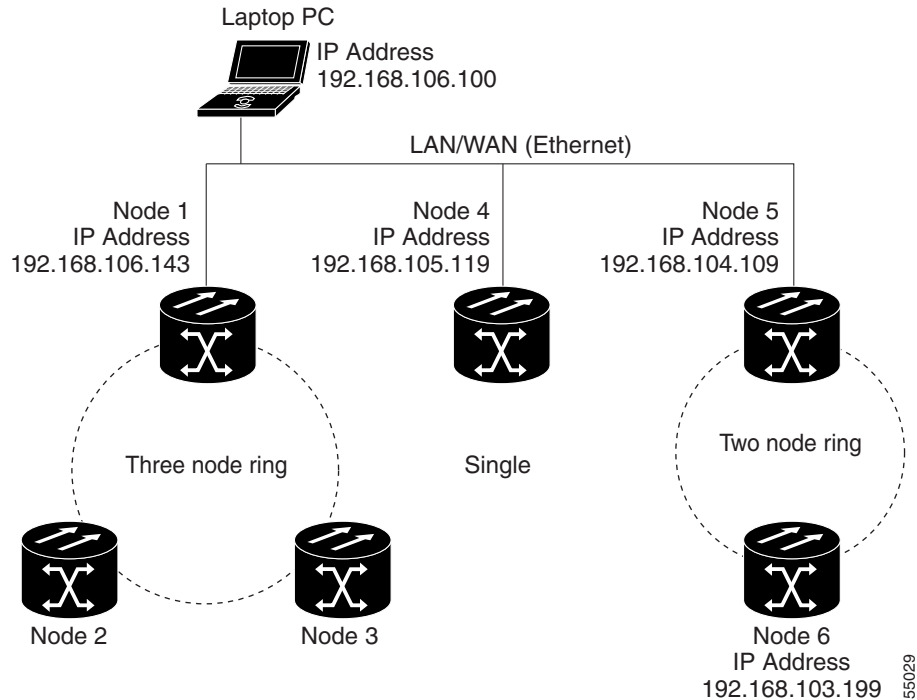
Step 6   Return to your originating procedure (NTP).

DLP-G49 Add a Node to the Current Session or Login Group

Purpose	This task adds a node to the current CTC session or login node group.
Tools	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1   In any CTC view, from the CTC File menu, click **Add Node**.

Step 2   In the Add Node dialog box, enter the node name (or IP address).

If the ONS 15454, ONS 15454 M2, and ONS 15454 M6 that you want to add has
TCC2P/TCC3/TNC/TSC cards installed and the TCC2P/TCC3/TNC/TSC secure mode option is
enabled, enter the backplane LAN port (or the EMS port for the ONS 15454 M2 and ONS 15454 M6)
IP address.

✎

Note   If the node is in secure mode, the backplane IP address display might be disabled. A Superuser can reenable the IP display. If the node is in secure mode and the configuration has been locked, you will not be able to change the IP address unless the lock is disabled by Cisco Technical Support. Refer to the "Management Network Connectivity" chapter in the *Cisco ONS 15454 DWDM Reference Manual* for more information about secure mode.

Step 3   If you want to add the node to the current login node group, check **Add to current login node group**. Otherwise, leave it unchecked.

✎

Note   This check box is active only if you selected a login group when you logged into CTC.

Step 4   Click **OK**.

After a few seconds, the new node appears on the network view map.

Step 5   Return to your originating procedure (NTP).

DLP-G50 Delete a Node from the Current Session or Login Group

Purpose	This task removes a node from the current CTC session or login node group. To remove a node from a login node group that is not the current one, see "DLP-G51 Delete a Node from a Specific Login Node Group" task on page 3-36.
Tools	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

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

Step 2   On the network map, single-click the node that you want to delete.

Step 3   From the CTC File menu, click **Delete Selected Node**.

After a few seconds, the node disappears from the network view map.

Step 4   Return to your originating procedure (NTP).

DLP-G51 Delete a Node from a Specific Login Node Group

Purpose	This task removes a node from a specific login node group. To remove a node from the current login node group, see the "DLP-G50 Delete a Node from the Current Session or Login Group" task on page 3-35.
Tools	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 In any CTC view, from the CTC Edit menu, choose **Preferences**.

Step 2 In the Preferences dialog box, click the **Login Node Groups** tab.

Step 3 Click the login node group tab containing the node you want to remove.

Step 4 Click the node you want to remove, then click **Remove**.

Step 5 Click **OK**.

Step 6 Return to your originating procedure (NTP).

DLP-G53 Configure the CTC Alerts Dialog Box for Automatic Popup

Purpose	This task sets up the CTC Alerts dialog box to open for all alerts, for circuit deletion errors only, or never. The CTC Alerts dialog box displays network disconnection, Send-PDIP inconsistency, circuit deletion status, condition retrieval errors, and software download failure.
Tools	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1 Click the **CTC Alerts** toolbar icon. (The icon is located on the far right of the CTC toolbar.)

Step 2 In the CTC Alerts dialog box, choose one of the following:

- All alerts—Sets the CTC Alerts dialog box to open automatically for all notifications.
- Error alerts only—Sets the CTC Alerts dialog box to open automatically for circuit deletion errors only.
- Never—Sets the CTC Alerts dialog box to never open automatically.

Step 3 Click **Close**.

Step 4 Return to your originating procedure (NTP).

DLP-G448 Designate ONS 15454 SOCKS GNEs

Purpose	This task designates ONS 15454s GNEs that will serve as SOCKS servers to facilitate login performance in large networks.
Tools	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

> **Note** This task cannot be completed until the ONS 15454 network has been provisioned. It is intended only for users experiencing long login times, and especially users with Windows XP, Service Pack 2.

> **Note** To complete this task, you will need a list of ONS 15454s (IP addresses or node names) that are provisioned as GNEs. You must have connectivity to the GNEs.

Step 1   From the CTC Edit menu, choose **Preferences**.

Step 2   In the Preferences dialog box, click the **SOCKS** tab.

Step 3   In the Designated SOCKS Server field, type the IP address or DNS node name of the first ONS 15454 SOCKS server. The ONS 15454 that you enter must have SOCKS proxy server enabled, and it must have LAN access.

Step 4   Click **Add**. The node is added to the SOCKS server list. If you need to remove a node on the list, click **Remove**.

Step 5   Repeat Steps 3 and 4 to add all qualified ONS 15454s within the network. Add all ONS nodes that have SOCKS proxy enabled and are connected to the LAN.

Step 6   Click **Check All Servers**. CTC verifies that all nodes can perform as SOCKS servers. Once verified, a check is placed next to the node IP address or node name in the SOCKS server list. An X placed next to the node indicates one or more of the following:

- The entry does not correspond to a valid DNS name.
- The numeric IP address is invalid.
- The node cannot be reached.
- The node can be reached, but the SOCKS port cannot be accessed, for example, a firewall problem might exist.

Step 7   Click **Apply**. The list of ONS 15454 nodes, including ones that received an X in Step 6, are added as SOCKS servers.

Step 8   Click **OK** to close the Preferences dialog box.

Step 9   Return to your originating procedure (NTP).

NTP-G190 Use the CTC Launcher Application to Manage Multiple ONS Nodes

Purpose	This procedure uses the CTC Launcher to start a CTC session with an ONS NE that has an IP connection to the CTC computer; create TL1 tunnels to connect to ONS NEs on the other side of third-party, OSI-based GNEs; and view, manage, and delete TL1 tunnels using CTC.
Tools/Equipment	None
Prerequisite Procedures	NTP-G17 Set Up Computer for CTC, page 3-2
	One of the following procedures:
	• NTP-G18 Set Up CTC Computer for Local Craft Connection to the ONS 15454, page 3-9
	• NTP-G19 Set Up a CTC Computer for a Corporate LAN Connection to the ONS 15454, page 3-25
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Note   JRE 1.6 must be installed on the PC you are using with the CTC Launcher application.

Step 1   As needed, complete one of the following tasks to install the CTC Launcher:

   • DLP-G440 Install the CTC Launcher Application from a Release 9.2 Software CD, page 3-39

   • DLP-G441 Install the CTC Launcher Application from a Release 9.2 Node, page 3-39

Step 2   As needed, complete the "DLP-G442 Connect to ONS Nodes Using the CTC Launcher" task on page 3-40 to connect to an ONS network element with direct IP connectivity.

Step 3   As needed, complete the "DLP-G449 Install or Reinstall the CTC JAR Files" task on page 3-46.

Step 4   As needed, complete one of the following tasks to create a TL1 tunnel, which enables you to connect to an ONS network element residing behind OSI-based, third-party GNEs:

   • DLP-G443 Create a TL1 Tunnel Using the CTC Launcher, page 3-41

   • DLP-G444 Create a TL1 Tunnel Using CTC, page 3-42

Step 5   As needed, complete the "DLP-G445 View TL1 Tunnel Information" task on page 3-43.

Step 6   As needed, complete the "DLP-G446 Edit a TL1 Tunnel Using CTC" task on page 3-44.

Step 7   As needed, complete the "DLP-G447 Delete a TL1 Tunnel Using CTC" task on page 3-45.

Stop. You have completed this procedure.

DLP-G440 Install the CTC Launcher Application from a Release 9.2 Software CD

Purpose	This task installs the CTC Launcher from a Release 9.2 software CD.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	None

Step 1   Insert the Cisco ONS 15454 or Cisco ONS 15454 SDH or Cisco ONS 15310-CL or Cisco ONS 15310-MA Software Release 9.2 CD into your CD drive.

Step 2   Navigate to the CtcLauncher directory.

Step 3   Save the StartCTC.exe file to a local hard drive.

Step 4   Return to your originating procedure (NTP).

DLP-G441 Install the CTC Launcher Application from a Release 9.2 Node

Purpose	This task installs the CTC Launcher from an ONS 15454 node running Software R9.2.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	None

Step 1   Using a web browser, go to the following address, where *node-name* is the DNS name of a node you are going to access:

http://*node-name***/fs/StartCTC.exe**

The browser File Download dialog box appears.

Step 2   Click **Save.**

Step 3   Navigate to the location where you want to save the StartCTC.exe file on the local hard drive.

Step 4   Click **Save**.

Step 5   Return to your originating procedure (NTP).

DLP-G442 Connect to ONS Nodes Using the CTC Launcher

Purpose	This task connects the CTC Launcher to ONS nodes.
Tools/Equipment	None
Prerequisite Procedures	NTP-G17 Set Up Computer for CTC, page 3-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	None

Step 1   Start the CTC Launcher:

- Windows: navigate to the directory containing the StartCTC.exe file and double-click it. (You can also use the Windows Start menu Run command.)

- Solaris: assuming the StartCTC.exe file is accessible from the current shell path, navigate to the directory containing the StartCTC.exe file and type:

    % java -jar StartCTC.exe

Step 2   In the CTC Launcher dialog box, choose **Use IP**.

Step 3   In the Login Node box, enter the ONS NE node name or IP address. (If the address was entered previously, you can choose it from the drop-down menu.)

Step 4   Select the CTC version you want to launch from the following choices in the drop-down menu:

- Same version as the login node: Select if you want to launch the same CTC version as the login node version, even if more recent versions of CTC are available in the cache.

- Latest version available: Select if you want to launch the latest CTC version available. If the cache has a newer CTC version than the login node, that CTC version will be used. Otherwise the same CTC version as the login node will be used.

- Version x.xx: Select if you want to launch a specific CTC version.

> **Note**   Cisco recommends that you always use the "Same version as the login node" unless the use of newer CTC versions is needed (for example, when CTC must manage a network containing mixed version NEs).

Step 5   Click **Launch CTC**. After the connection is made, the CTC Login dialog box appears.

Step 6   Log into the ONS node.

> **Note**   Because each CTC version requires particular JRE versions, the CTC Launcher will prompt the user for the location of a suitable JRE whenever a new CTC version is launched for the first time using a file chooser dialog (if a suitable JRE version is not known by the launcher yet). That JRE information is then saved in the user's preferences file. From the selection dialog, select any appropriate JRE directory.
>
> After the JRE version is selected, the CTC will be launched. The required jar files will be downloaded into the new cache if they are missing. The CTC Login window will appear after a few seconds.

Step 7   Return to your originating procedure (NTP).

DLP-G443 Create a TL1 Tunnel Using the CTC Launcher

Purpose	This task creates a TL1 tunnel using the CTC Launcher, and the tunnel transports the TCP traffic to and from ONS ENEs through the OSI-based GNE.
Tools/Equipment	None
Prerequisite Procedures	NTP-G17 Set Up Computer for CTC, page 3-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	None

Step 1   Double-click the StartCTC.exe file.

Step 2   Click **Use TL1 Tunnel**.

Step 3   In the Open CTC TL1 Tunnel dialog box, enter the following:

- Far End TID—Enter the TID of the ONS ENE at the far end of the tunnel. The TID is the name entered in the Node Name field on the node view Provisioning > General tab.

- Host Name/IP Address—Enter the GNE DNS host name or IP address through which the tunnel will established. This is the third-party vendor GNE that is connected to an ONS node through an OSI DCC network. CTC uses TCP/IP over a DCN to reach the GNE. The GNE accepts TL1 connections from the network and can forward TL1 traffic to the ENEs.

- Choose a port option:
  - Use Default TL1 Port—Choose this option if you want to use the default TL1 port 3081 and 3082.
  - Use Other TL1 Port—Choose this option if the GNE uses a different TL1 port. Enter the port number in the box next to the User Other TL1 Port radio button.

- TL1 Encoding Mode—Choose the TL1 encoding:
  - LV + Binary Payload— TL1 messages are delimited by LV (length value) headers and TCP traffic is encapsulated in binary form. Cisco recommends this option because it is the most efficient encoding mode. However, you must verify that the GNE supports LV + Binary Payload encoding.
  - LV + Base64 Payload— TL1 messages are delimited by LV headers and TCP traffic is encapsulated using Base64 encoding.
  - Raw—TL1 messages are delimited by semi-columns only, and the TCP traffic is encapsulated using Base64 encoding.

- GNE Login Required—Check this box if the GNE requires a a local TL1 ACT-USER login before forwarding TL1 traffic to ENEs.

- TID—If the GNE Login Required box is checked, enter the GNE TID.

Step 4   Click **OK**.

Step 5   If the GNE Login Required box is checked, complete the following steps. If not, continue Step 6.

    a. In the Login to Gateway NE dialog box UID field, enter the TL1 user name.

    b. In the PID field, enter the TL1 user password.

    c. Click **OK**.

Step 6   When the CTC Login dialog box appears, complete the CTC login.

Step 7   Return to your originating procedure (NTP).

DLP-G444 Create a TL1 Tunnel Using CTC

Purpose	This task creates a TL1 tunnel using CTC.
Tools/Equipment	None
Prerequisite Procedures	NTP-G17 Set Up Computer for CTC, page 3-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1   From the Tools menu, choose **Manage TL1 Tunnels**.

Step 2   In the TL1 Tunnels window, click **Create**.

Step 3   In the Create CTC TL1 Tunnel dialog box, enter the following:

- Far End TID—Enter the TID of the ONS ENE at the far end of the tunnel. The ENE must be a Cisco ONS NE. The TID is the name entered in the Node Name field on the node view Provisioning > General tab.

- Host Name/IP Address—Enter the GNE DNS host name or IP address through which the tunnel will established. This is the third-party vendor GNE that is connected to an ONS NE with an OSI DCC. CTC uses TCP/IP over a DCN to reach the GNE. The GNE accepts TL1 connections from the network and can forward TL1 traffic to the ENEs.

- Choose a port option:

    - Use Default TL1 Port—Choose this option if you want to use the GNE default TL1 port. TL1 uses standard ports, such as 3081 and 3082, unless custom TL1 ports are defined.

    - Use Other TL1 Port—Choose this option if the GNE uses a different TL1 port. Enter the port number in the box next to the User Other TL1 Port radio button.

- TL1 Encoding Mode—Choose the TL1 encoding:

    - LV + Binary Payload— TL1 messages are delimited by LV (length value) headers and TCP traffic is encapsulated in binary form. Cisco recommends this option because it is the most efficient. However, you must verify that the GNE supports LV + Binary Payload encoding.

    - LV + Base64 Payload— TL1 messages are delimited by LV headers and TCP traffic is encapsulated using Base64 encoding.

    - Raw—TL1 messages are delimited by semi-columns only, and the TCP traffic is encapsulated using Base64 encoding.

- GNE Login Required—Check this box if the GNE requires a a local TL1 ACT-USER login before forwarding TL1 traffic to ENEs.

- TID—If the GNE Login Required box is checked, enter the GNE TID.

Step 4   Click **OK**.

Step 5   If the GNE Login Required box is checked, complete the following steps. If not, continue Step 6.

    a.   In the Login to Gateway NE dialog box UID field, enter the TL1 user name.

    b.   In the PID field, enter the TL1 user password.

    c.   Click **OK**.

Step 6   After the CTC Login dialog box appears, log into CTC.

Step 7   Return to your originating procedure (NTP).

DLP-G445 View TL1 Tunnel Information

Purpose	This task views a TL1 tunnel created using the CTC Launcher.
Tools/Equipment	None
Prerequisite Procedures	NTP-G17 Set Up Computer for CTC, page 3-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Retrieve or higher

Step 1   Log into CTC.

Step 2   From the Tools menu, choose **Manage TL1 Tunnels**.

Step 3   In the TL1 Tunnels window, view the information shown in Table 3-2.

Table 3-2   TL1 Tunnels Window

Item	Description
Far End TID	The Target ID of the NE at the far end of the tunnel. This NE is an ONS NE. It is typically connected with an OSI DCC to a third-party vender GNE. CTC manages this NE.
GNE Host	The GNE host or IP address through which the tunnel is established. This is generally a third-party vendor GNE that is connected to an ONS NE with an OSI DCC. CTC uses TCP/IP over a DCN to reach the GNE. The GNE accepts TL1 connections from the network and can forward TL1 traffic to the ENEs.
Port	The TCP port number where the GNE accepts TL1 connections coming from the DCN. These port numbers are standard (such as 3081 and 3082) unless custom port numbers are provisioned on the GNE.

Table 3-2　　　*TL1 Tunnels Window (continued)*

Item	Description
TL1 Encoding	Defines the TL1 encoding used for the tunnel: • LV + Binary Payload— TL1 messages are delimited by an LV (length value) header. TCP traffic is encapsulated in binary form. • LV + Base64 Payload— TL1 messages are delimited by an LV header. TCP traffic is encapsulated using the base 64 encoding. • Raw—TL1 messages are delimited by semi-columns only, and the TCP traffic is encapsulated using Base64 encoding.
GNE TID	The GNE TID is shown when the GNE requires a local TL1 ACT-USER login before forwarding TL1 traffic to ENEs. If present, CTC asks the user for the ACT-USER user ID and password when the tunnel is opened.
State	Indicates the tunnel state: OPEN—A tunnel is currently open and carrying TCP traffic. RETRY PENDING—The TL1 connection carrying the tunnel has been disconnected and a retry to reconnect it is pending. (CTC automatically attempts to reconnect the tunnel at regular intervals. During that time all ENEs behind the tunnel are unreachable.) (empty)—No tunnel is currently open.
Far End IP	The IP address of the ONS NE that is at the far end of the TL1 tunnel. This information is retrieved from the NE when the tunnel is established.
Sockets	The number of active TCP sockets that are multiplexed in the tunnel. This information is automatically updated in real time.
Retries	Indicates the number of times CTC tried to reopen a tunnel. If a network problem causes a tunnel to go down, CTC automatically tries to reopen it at regular intervals. This information is automatically updated in real time.
Rx Bytes	Shows the number of bytes of management traffic that were received over the tunnel. This information is automatically updated in real time.
Tx Bytes	Shows the number of bytes of management traffic that were transmitted over the tunnel. This information is automatically updated in real time.

Step 4　　　Return to your originating procedure (NTP).

DLP-G446 Edit a TL1 Tunnel Using CTC

Purpose	This task edits a TL1 tunnel using CTC.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1   From the Tools menu, choose **Manage TL1 Tunnels**.

Step 2   In the TL1 Tunnels window, click the tunnel you want to edit.

Step 3   Click **Edit**.

Step 4   In the Edit CTC TL1 Tunnel dialog box, edit the following:

- Use Default TL1 Port—Choose this option if you want to use the GNE default TL1 port. TL1 uses standard ports, such as 3081 and 3082, unless custom TL1 ports are defined.

- Use Other TL1 Port—Choose this option if the GNE uses a different TL1 port. Enter the port number in the box next to the User Other TL1 Port radio button.

- TL1 Encoding Mode—Choose the TL1 encoding:

  - LV + Binary Payload— TL1 messages are delimited by LV (length value) headers and TCP traffic is encapsulated in binary form. Cisco recommends this option because it is the most efficient. However, you must verify that the GNE supports LV + Binary Payload encoding.

  - LV + Base64 Payload— TL1 messages are delimited by LV headers and TCP traffic is encapsulated using Base64 encoding.

  - Raw—TL1 messages are delimited by semi-columns only, and the TCP traffic is encapsulated using Base64 encoding.

- GNE Login Required—Check this box if the GNE requires a a local TL1 ACT-USER login before forwarding TL1 traffic to ENEs.

- TID—If the GNE Login Required box is checked, enter the GNE TID.

Step 5   Click **OK**.

Step 6   If the GNE Login Required box is checked, complete login in the Login to Gateway NE dialog box. If not, continue Step 6.

  a.   In the UID field, enter the TL1 user name.

  b.   In the PID field, enter the TL1 user password.

  c.   Click **OK**.

Step 7   When the CTC Login dialog box appears, complete the CTC login. Refer to login procedures in the user documentation for the ONS ENE.

Step 8   Return to your originating procedure (NTP).

DLP-G447 Delete a TL1 Tunnel Using CTC

Purpose	This task deletes a TL1 tunnel using CTC.
Tools/Equipment	None
Prerequisite Procedures	DLP-G46 Log into CTC, page 3-30
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	Provisioning or higher

Step 1   From the Tools menu, choose **Manage TL1 Tunnels**.

Step 2   In the TL1 Tunnels window, click the tunnel you want to delete.

Step 3   Click **Delete**.

Step 4   In the confirmation dialog box, click **OK**.

Step 5   Return to your originating procedure (NTP).

DLP-G449 Install or Reinstall the CTC JAR Files

Purpose	This task installs or reinstalls the CTC JAR files into the CTC cache directory on your PC. This is useful when you are using a new CTC version and want to install or reinstall the CTC JAR files without logging into a node or using the StartCTC application (StartCTC.exe).
Tools/Equipment	None
Prerequisite Procedures	NTP-G17 Set Up Computer for CTC, page 3-2
Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	None

Step 1   Insert the Cisco ONS 15454 or Cisco ONS 15454 SDH Software Release 9.2 CD into your CD drive.

Step 2   Navigate to the CacheInstall directory.

✎ **Note**   The CTC cache installer is also available on Cisco.com. If you are downloading the SetupCtc-*version*.exe (where *version* is the release version, for example, SetupCtc-085000.exe) file from Cisco.com, skip Step 1 and Step 2.

Step 3   Copy the SetupCtc-*version*.exe file to your local hard drive. Use any location that is convenient for you to access, such as the Windows desktop. Ensure that you have enough disk space to copy and extract the SetupCtc-*version*.exe file.

Step 4   Double-click the SetupCtc-*version*.exe file. This creates a directory named SetupCtc-*version* (at the same location), which contains the LDCACHE.exe file and other CTC files.

Step 5   Double-click the LDCACHE.exe file to install or reinstall the new CTC JAR files into the CTC cache directory on your PC.

Step 6   Return to your originating procedure (NTP).

DLP-G450 Configuring Windows Vista or Windows 7 to Support CTC

Purpose	This task describes the configurations that must be done in Windows Vista or Windows 7 operating system prior to launching CTC.
Tools/Equipment	None
Prerequisite Procedures	None

Required/As Needed	As needed
Onsite/Remote	Onsite or remote
Security Level	None

Step 1   Complete the following steps to disable Internet Explorer 7 protected mode:

Note   Perform a full installation of the Windows Vista or Windows 7 operating system on your computer. If Windows Vista or Windows 7 is installed through operating system upgrade, CTC will not work. Refer to the manufacturer's user guide for instructions on how to install Windows Vista or Windows 7.

Note   This procedure is needed only if CTC is launched from the Internet Explorer browser. If you start CTC by downloading the CTC Launcher application from the node, perform the .

   a.   Open Internet Explorer,

   b.   Click **Tools > Internet Options**.

   c.   Click the **Security** tab.

   d.   Select the zone that is appropriate. The available options are: Local Intranet, Internet, and Trusted Sites.

   e.   Check the **Disable Protect Mode** check box.

Step 2   Complete the following steps to Disable TCP Autotuning:

   a.   From the Windows Start menu, click **Search > Search for Files and Folders.** The Search window appears.

   b.   On the right side of the window in the Search box, type **Command Prompt** and press **Enter**. Windows will search for the Command Prompt application and list it in the search results.

   c.   Right click **cmd** and select **Run as administrator**.

   d.   Enter the administrator user ID and password and click **OK**.

   e.   A Command prompt windows appears. At the command prompt enter the following text:

```
netsh interface tcp set global autotuninglevel=disabled
```

   Autotuning can be enabled if desired using the following command:

```
netsh interface tcp set global autotuninglevel=normal
```

Step 3   Return to your originating procedure (NTP).