



## Upgrading to CTM R6.0 from an Earlier Release

This chapter describes how to upgrade to CTM R6.0 from an earlier release. If you are upgrading from your existing CTM installation to CTM R6.0, you can migrate basic NE information, users and profiles, topology information, OSS client data, and customized maps.



### Note

You can upgrade to CTM R6.0 directly from either CTM R4.7.x, CTM R5.0.x, or Cisco MGM R5.0.x. If you are upgrading from a release prior to CTM R4.7.x, you must first upgrade to CTM R4.7.x or CTM R5.0.x. Refer to *Cisco Transport Manager Release 4.7 Installation Guide* or *Cisco Transport Manager Release 5.0 Installation Guide* for the exact installation procedure. After you install CTM R4.7.x, CTM R5.0.x, or Cisco MGM R5.0, you can upgrade to CTM R6.0.

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### Note

After upgrading to CTM R6.0, the old CTM server directory is moved to `CiscoTransportManagerServer-old`. Any data previously saved under `/opt/CiscoTransportManagerServer/admin`, `/opt/CiscoTransportManagerServer/images`, `/opt/CiscoTransportManagerServer/cms`, `/opt/CiscoTransportManagerServer/bin/jcorbagw.sh`, `/opt/CiscoTransportManagerServer/cfg/usr`, and `/opt/CiscoTransportManagerServer/cfg/corbagw.properties` is saved under the new directory. Before removing the old version, move any relevant data to the new `/opt/CiscoTransportManagerServer` directory.

**Caution**

When migrating basic data, the migration could stall if the /temp directory contains temporary files left over from previous upgrades. Remove all temporary files from /temp before upgrading CTM.

**Caution**

When upgrading from CTM R5.0.x to CTM R6.0, the migration fails when the network partition ID is greater than 9. This is a known issue that is tracked as CSCsd51643. Refer to the *Release Notes for Cisco Transport Manager Release 6.0* for the steps to work around this problem.

**Caution**

Before upgrading to CTM R6.0, verify that the NE versions in your network are supported by CTM R6.0. Refer to *Release Notes for Cisco Transport Manager Release 6.0* for the NE software versions that are supported. If your network contains NEs that are not supported in CTM R6.0, it will not be possible to discover or manage them.

**Note**

For an explanation of error messages that you might encounter during the upgrade, see [Appendix A, “Understanding Installation Error Messages.”](#)

**Note**

If you need instructions to mount or unmount CDs, see [Appendix C, “Mounting and Unmounting CDs on Sun Solaris.”](#)

## 3.1 Upgrading from CTM R5.0.x to CTM R6.0 and Oracle9i on the Same Workstation

This section describes how to upgrade from CTM R5.0.x to CTM R6.0 when you are installing the CTM R6.0 server and the Oracle9i database on the same Sun Solaris 8 server.

**Caution**

Before upgrading your database to CTM R6.0, it is strongly recommended that you back up your CTM R5.0.x database. If you do so, you can revert to your old data in the event that the upgrade fails. To back up the database, see *Cisco Transport Manager Release 6.0 User Guide*, which is available online at <http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/optnet/ctm/index.htm>. Refer to the section “Backing Up the CTM Database from the CTM GUI.”

**Note**

The C shell is assumed for all UNIX commands.

### 3.1.1 Downloading the Oracle Patch Installer

**Note**

The Oracle patch installer is used to install additional Oracle patches. If you already installed the Oracle patch installer, you can skip this section.

---

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



---

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**Step 2** Click **Patches**.

**Step 3** Click **Simple Search**.

**Step 4** In the Search by Patch Number(s) field, enter **2617419**.

**Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 6** Click **Go**.

**Step 7** Click **Download**.

**Step 8** In the list of patches returned, click the first patch, which has the latest release number.



---

**Note** Do not be concerned if the patch refers to a later version of Oracle.

---

**Step 9** In the Patch 2617419 window, go to the Platform or Language field and choose **Generic Platform** (the default).

**Step 10** Click **Download**.

**Step 11** Save the patch to the `/oraclesw9i/product/9.2` directory.

**Step 12** Enter the following commands to change the patch ownership and unzip the patch:

```
chown oracle:dba /oraclesw9i/product/9.2/p2617419_10102_GENERIC.zip
cd /oraclesw9i/product/9.2
unzip p2617419_10102_GENERIC.zip
```

---

## 3.1.2 Downloading the 9.2.0.6 Patch for Oracle9i

If you already have the 9.2.0.6 patch for Oracle9i installed, you can skip this section. To find out which patches have been installed, enter the following commands as the oracle user:

```
cd $ORACLE_HOME/OPatch/
./opatch lsinventory -detail | grep -i "oracle9i patch"
```

The output shows:

```
Oracle9i Patch                               9.2.0.6.0
```

---

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.




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- Step 2** Click **Patches**.
- Step 3** Click **Simple Search**.
- Step 4** In the Search by Patch Number(s) field, enter **3948480**.
- Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 6** Click **Go**.
- Step 7** Click **Download**. For 32-bit Oracle, download **p3948480\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p3948480\_9206\_SOLARIS64.zip**.
- Step 8** As the oracle user, save the patch to the /oraclesw9i directory.
- Step 9** As the oracle user, enter one of the following sets of commands to prepare the patch set, depending on your Oracle version:
- For 32-bit Oracle, enter:
 

```
cd /oraclesw9i
unzip p3948480_9206_SOLARIS.zip
```
  - For 64-bit Oracle, enter:
 

```
cd /oraclesw9i
unzip p3948480_9206_SOLARIS64.zip
```
- 

### 3.1.3 Installing the 9.2.0.6 Patch for Oracle9i




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**Note** If you already have the 9.2.0.6 patch for Oracle9i installed, you can skip this section.

---

- Step 1** Complete the following substeps to shut down all of the CTM clients:
- a. In the Domain Explorer window, choose **Administration > CTM Users**.
  - b. In the CTM Users table, choose **Administration > Logged In CTM Users**.
  - c. In the Logged In CTM Users table, select the user whose session will be ended and choose **Administration > Log Out User** (or click the **Log Out User** tool).
  - d. Click **Yes** at the following prompt:
 

```
This operation will log out the selected CTM user. The process will take approximately
1 minute and this CTM client will be unusable until then. Do you wish to continue?
```

Wait while the CTM server logs out the selected CTM client. The CTM GUI is frozen for approximately 1 minute until the request is complete.
- Step 2** As the root user, enter the following command to stop the workstation where the CTM server is running:

```
ctms-stop
```

- Step 3** Log in as the oracle user on the workstation where the CTM database is running and enter the following command to stop the Oracle listener:

```
lsnrctl stop
```

- Step 4** Enter the following commands to shut down all Oracle processes, if they are running:

```
sqlplus /nolog
SQL> connect / as sysdba
SQL> shutdown immediate
SQL> exit
```

- Step 5** Insert disk one of the CTM installation CDs in the CD-ROM drive.

- Step 6** If you are using an xterm window or a remote host, enter the following command to set the DISPLAY variable:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

- Step 7** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

- Step 8** Depending on your Oracle version, enter one of the following sets of commands to install the 9.2.0.6 patch:

- For 32-bit Oracle, enter:

```
cp /cdrom/cdrom0/Disk1/patchset.rsp /oraclesw9i
cd /oraclesw9i/Disk1
./runInstaller -responseFile /oraclesw9i/patchset.rsp
```

- For 64-bit Oracle, enter:

```
cp /cdrom/cdrom0/Disk1/patchset_64bit.rsp /oraclesw9i
cd /oraclesw9i/Disk1
./runInstaller -responseFile /oraclesw9i/patchset_64bit.rsp
```




---

**Note** If the Disk Location screen pops up, click **Cancel**.

---

- Step 9** At the prompt to run the root.sh script, log into another terminal window as the root user and enter the following commands:

```
cd /oraclesw9i/product/9.2
./root.sh
```

- Step 10** After the script finishes running, return to the prompt popup window and click **OK**.

- Step 11** Click **Next**.

- Step 12** Enter the following commands to eject the CD:

```
cd /
eject cdrom
```

- Step 13** After the patch is installed, read the Oracle patch README.html file to carry out the post-installation steps and check any caveats associated with this patch.

**Step 14** Depending on your Oracle version, enter one of the following sets of commands to remove the 9.2.0.6 patch installation files:

- For 32-bit Oracle, enter:

```
rm -rf /oraclesw9i/Disk1
rm -rf /oraclesw9i/p3948480_9206_SOLARIS.zip
rm -rf /oraclesw9i/README.html
```

- For 64-bit Oracle, enter:

```
rm -rf /oraclesw9i/Disk1
rm -rf /oraclesw9i/p3948480_9206_SOLARIS64.zip
rm -rf /oraclesw9i/README.html
```

**Step 15** Enter the following commands to update the Oracle data dictionary:

```
sqlplus /nolog
SQL> connect / as sysdba
SQL> startup migrate
SQL> spool /oraclesw9i/patch.log
SQL> @?/rdbms/admin/catpatch.sql
SQL> spool off
```



**Note** Review the /oraclesw9i/patch.log file for errors and inspect the list of components that is displayed at the end of catpatch.sql script. This list provides the version and status of each SERVER component in the database. If necessary, repeat [Step 15](#) to rerun the catpatch.sql script after correcting any problems.

```
SQL> shutdown
SQL> startup
SQL> @?/rdbms/admin/utlrlp.sql
SQL> exit
```



**Note** The utlrlp.sql script is used to recompile all invalid PL/SQL packages now instead of when the packages are accessed for the first time. This command is optional but recommended.

## 3.1.4 Installing and Applying Additional Oracle Patches

Complete the following steps to install and apply additional required Oracle patches.

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



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**Step 2** Click **Patches**.

**Step 3** Click **Simple Search**.

**Step 4** In the Search by Patch Number field, enter **2733910**.

- Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 6** Click **Go**.
- Step 7** Click **Download**. For 32-bit Oracle, download **p2733910\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p2733910\_9206\_SOLARIS64.zip**.
- Step 8** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```



---

**Note** The 32-bit patch 2733910 unzips to ./.4092208. This is not an error.

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- Step 9** In the MetaLink window, click **Patches**.
- Step 10** Click **Simple Search**.
- Step 11** In the Search by Patch Number field, enter **4067938**.
- Step 12** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 13** Click **Go**.
- Step 14** Click **Download**. For 32-bit Oracle, download **p4067938\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4067938\_9206\_SOLARIS64.zip**.
- Step 15** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:
- ```
cd /oraclesw9i
unzip <patch_zip_filename>
```
- Step 16** In the MetaLink window, click **Patches**.
- Step 17** Click **Simple Search**.
- Step 18** In the Search by Patch Number field, enter **4147836**.
- Step 19** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 20** Click **Go**.
- Step 21** Click **Download**. For 32-bit Oracle, download **p4147836\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4147836\_9206\_SOLARIS64.zip**.
- Step 22** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:
- ```
cd /oraclesw9i
unzip <patch_zip_filename>
```

**Step 23** As the oracle user, enter the following commands to shut down the Oracle listener and all of the Oracle processes:

```
sqlplus /nolog
SQL> connect / as sysdba
SQL> shutdown immediate
SQL> exit
lsnrctl stop
```

**Step 24** For 64-bit Oracle only, the **opatch apply** command might fail. If this happens, edit the \$ORACLE\_HOME/inventory/ContentsXML/oraclehomeproperties.xml file by changing <ARU\_ID>453</ARU\_ID> to <ARU\_ID>23</ARU\_ID>. This is a known Oracle bug.

**Step 25** Depending on your configuration, enter one of the following sets of commands as the oracle user to change directories to the patch directory and apply the 2733910 patch (which unzips to 4092208 on a 32-bit workstation):

- For 32-bit, enter:

```
cd 4092208
/oraclesw9i/product/9.2/OPatch/opatch apply
```

- For 64-bit, enter:

```
cd 2733910
/oraclesw9i/product/9.2/OPatch/opatch apply
```

**Step 26** Enter the following commands to change directories to the patch directory and apply the 4067938 patch:

```
cd 4067938
/oraclesw9i/product/9.2/OPatch/opatch apply
```

**Step 27** Enter the following commands to change directories to the patch directory and apply the 4147836 patch:

```
cd 4147836
/oraclesw9i/product/9.2/OPatch/opatch apply
```

**Step 28** As the oracle user, enter the following commands to start the CTM database and the Oracle listener:

```
lsnrctl start
sqlplus /nolog
SQL> connect / as sysdba
SQL> startup
SQL> exit
```

## 3.1.5 Installing the CTM R6.0 Server and Upgrading the Database

If the CTM release that you are upgrading from is CTM R5.0.2.85.1 or R5.0.2.90.1, you must execute the following SQL commands before proceeding with the CTM R6.0 upgrade:

```
sqlplus ctmanager/ctm123!
SQL> ALTER TABLE ONS15454_327_NE_Table DROP COLUMN NEUSERNAME;
SQL> ALTER TABLE ONS15454_327_NE_Table DROP COLUMN NEPASSWD;
SQL> commit;
```

**Note**

If you changed the default password of `ctm123!` for the CTM `ctmanager` account, please use the correct password in the SQLPlus command.

To install the CTM server and upgrade the database, log in as the root user and complete the following steps:

**Step 1** If you are using an xterm window or a remote host, enter the following command to set the `DISPLAY` variable:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

**Step 2** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

**Step 3** Insert the CTM Server Disk 1 installation CD and enter the following commands:

```
cd /  
cdrom/cdrom0/Disk1/ctmsetup.sh
```

The setup program searches for Sun Microsystems JRE version 1.4.2\_05 on your workstation.

**Note**

If JRE is not installed, the setup program starts the Java installation program. Follow the prompts to install JRE. Enter **yes** at the following binary license code agreement prompt:

```
Do you agree to the above license terms? [yes or no]
```

Then, continue installing the CTM server and upgrading the database.

**Note**

If the required Solaris patches are missing, you must install them manually. Click **Cancel**; then, click **Quit**. Download the patches from SunSolve Online at <http://sunsolve.sun.com>. After you install the patches, continue installing the CTM server and upgrading the database.

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Wait for up to 60 seconds while the following message appears:

```
Ctmsetup.sh is installing CTM server...
```

**Step 4** Click **Next** at the Introduction screen.

**Step 5** At the License Agreement screen, read the license agreement and click the **I accept the terms of the license agreement** radio button. Click **Next**.

**Step 6** At the Installation Options screen, choose **Upgrade from existing CTM release**; then, click **Next**.

**Step 7** At the Select Products screen, check the **Install Cisco Transport Manager Server** check box; then, click **Next**.

**Note**

The Install Web Server check box is selected automatically when you choose Install Cisco Transport Manager Server. The Install Web Server option allows you to use an HTTP connection to download files from the CTM server to the CTM client. The web server is also used to launch the online help and CiscoView, which is an application used by CTM to configure and monitor ONS 155xx NEs. The web server is required for the CTM server.

**Caution**

Do not check the other check boxes on the Select Products screen.

**Note**

When you choose Install Cisco Transport Manager Server, the High Availability Installation option becomes available. This option applies only to HA installations. Do not choose it. To install HA, refer to *Cisco Transport Manager High Availability Installation Guide for CTM R6.0*.

**Note**

The license for CTM GateWay/CORBA is sold separately. If you are using this feature in a production environment, you must purchase a license. You can install CTM GateWay/CORBA when you install the CTM server; however, this section assumes that you are installing the two products separately. For more information, see [Chapter 4, “Installing CTM GateWay/CORBA R6.0.”](#)

**Note**

The license for CiscoView is sold separately if used to manage the ONS 15530, ONS 15540 ESP, or ONS 15540 ESPx. If you are using this feature in a production environment to manage the ONS 15530, ONS 15540 ESP, or ONS 15540 ESPx, you must purchase a license for LAN Management Solution (LMS) Release 2.5, which includes CiscoView.

The license for CiscoView is bundled with CTM if used to manage the ONS 15501 DC or AC. You do not need to purchase a separate CiscoView license to manage the ONS 15501 DC or AC.

If you check the Install CiscoView Server check box, you receive the following prompt:

```
CiscoView installation has been moved to CTM Server Disk 3. After CTM server has
been installed, insert the CTM Server Disk 3 and run the './installCiscoView.sh'
script.
```

You must install the CTM server before you can install CiscoView. After installing the CTM server, see [Chapter 6, “Installing and Setting Up CiscoView.”](#)

- Step 8** At the CTM Group Information & Sudo Installation screen, complete the following substeps:
- a. Enter the name of the UNIX group to which you want to assign administrator privileges.
  - b. To install sudo, check the **Install CTM Sudo** check box. If you do not want to install sudo, uncheck the check box.
  - c. Click **Next**.



---

**Note** For information about the sudo feature, see [1.4.1 Overview of Sudo Commands, page 1-12](#).

---

- Step 9** At the FTP Information screen, complete the following substeps to configure an FTP account for ONS 15216 EDFA3 software download operations:
- Enter the following information:
    - FTP username
    - FTP user password
    - Confirm FTP user password
    - FTP directory
  - Check or uncheck the **Create new FTP Account** check box. If checked, the FTP user will be created automatically on the CTM server workstation by the install script. If unchecked, it is assumed that an FTP user already exists on the CTM server workstation.
  - Click **Next**.



---

**Note** The FTP information that you enter during the CTM server installation can be modified later from the CTM client Control Panel window. Refer to *Cisco Transport Manager Release 6.0 User Guide* for more information.

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- Step 10** At the Main Options screen, complete the following substeps:
- Check the **Upgrade CTM database** check box.
  - Check the **Install CTM server** check box.
  - Click **Next**.
- Step 11** At the Server IP Address screen, specify an IP address for the CTM server. The Hostname field is automatically populated with the hostname of the selected IP address. After confirming the IP address and hostname details, click **Next**.
- Step 12** At the Configure TFTP Server screen, complete the following substeps if you want to enable TFTP for the ONS 15216 EDFA2, ONS 15501, ONS 15530, and ONS 15540:
- Check the **Enable TFTP Server** check box.
  - Enter the TFTP directory name. The default is /tftpboot.
  - Click **Next**.
- Step 13** At the Destination Folder screen, specify where you want to install the CTM server. The default directory is /opt/CiscoTransportManagerServer. You can click **Change** to choose a different destination. After you specify your destination, click **Next**.



---

**Note** If the destination directory that you specified is a new directory, you will receive the message “Specified directory does not exist, create it?” Click **Yes**.

---



---

**Caution** CTM checks for the /opt/CiscoTransportManagerServer directory or a symbolic link to it. If CTM cannot find the /opt/CiscoTransportManagerServer directory or a symbolic link, CTM creates a symbolic link automatically. Therefore, do not delete any instances of /opt/CiscoTransportManagerServer from your CTM file structure.

---

**Step 14** The Pre-Installation Summary screen shows the items that will be installed. Click **Install**.



**Note** It might take 30 to 60 minutes or longer to install the CTM server and upgrade the database, depending on your system performance.

**Step 15** At the Insert New Media screen, complete the following substeps:

- a. Eject the CTM Server Disk 1 installation CD, insert the CTM Server Disk 2 installation CD, and click **Browse**.
- b. The Select a Folder dialog box opens. Double-click **cdrom**; then, single-click **cdrom0**. The filename text box now reads `/cdrom/cdrom0`.
- c. In the Select a Folder dialog box, click **Select**.
- d. In the Insert New Media screen, click **OK**.

**Step 16** The Web Server Installation Summary screen summarizes the results of the web server installation. Click **Next**.

**Step 17** The Install Complete screen summarizes the results of the installation. Click **Done**.

**Step 18** (Optional) If you want to change the database name, enter the following commands as the root user:



**Note** Verify that the CTM server is stopped before running the `change_db_name.sh` script.

```
cd /opt/CiscoTransportManagerServer/bin
./change_db_name.sh <old_database_name> <new_database_name> <CTM_server_IP_address>
```

**Step 19** Enter the following command to reboot the system. The CTM server starts automatically after rebooting:

```
init 6
```

**Step 20** To verify that the CTM R6.0 server is running, enter the **showctm** command after the server reboots. The **showctm** command displays the CTM server version running as 6.0, followed by the build number. In the output, you will see two instances of “CTMServer,” “SnmpTrapService,” “SMService,” and “Apache Web Server.” This indicates that the CTM server is running. You should also see NE-specific processes, depending on your network. You might also see CTM GateWay/CORBA and CTM GateWay/TL1 instances.

## 3.1.6 Copying the Client Upgrade Files After the CTM Server Installation

You have two options for upgrading each client installation to the latest version of CTM that is on the server. You can choose to:

- Manually upgrade each client installation. If you have a previously installed version of the CTM client, you must delete the directory where the previous client is installed before installing the CTM R6.0 client. See [5.1 Installing the CTM Client and Cisco Edge Craft on Microsoft Windows, page 5-2](#) or [5.4 Installing the CTM Client and Cisco Edge Craft on Sun Solaris, page 5-6](#) for more information.
- Automatically upgrade each client when it connects to a server. During login, if the CTM client software version is older than the CTM server software version, the client will be prompted for upgrade. See [5.2 Starting the CTM Client in Microsoft Windows, page 5-5](#) or [5.5 Starting the CTM Client in Sun Solaris, page 5-8](#) for more information.

For this option you must copy the client installation files to the server. The CTM client and server installation files reside on separate installation CDs. To copy the client installation files to the server, you must eject the CTM server CD, insert the CTM client CD, and run an automated script, `CopyUpgradeFiles.sh`, to copy the client installation files to a specific folder under the CTM server installation directory. To do this, log in as the root user and complete the following steps.



---

**Note** The CTM server must be installed before completing the following steps.

---

**Step 1** Enter the following commands to eject the CTM server installation CD:

```
cd /  
eject cdrom
```

**Step 2** Insert the CTM client installation CD and enter the following commands:

```
cd /cdrom/cdrom0/ctmc  
./CopyUpgradeFiles.sh
```

---

## 3.2 Upgrading from CTM R5.0.x to CTM R6.0 and Oracle9i on Separate Workstations

This section describes how to upgrade from CTM R5.0.x to CTM R6.0 when you are installing the CTM R6.0 server and the Oracle9i database on separate Sun Solaris 8 servers.



**Caution**

---

Before upgrading your database to CTM R6.0, it is strongly recommended that you back up your CTM R5.0.x database. If you do so, you can revert to your old data in the event that the upgrade fails. To back up the database, see *Cisco Transport Manager Release 6.0 User Guide*, which is available online at <http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/optnet/ctm/index.htm>. Refer to the section “Backing Up the CTM Database from the CTM GUI.”

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**Note**

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The C shell is assumed for all UNIX commands.

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### 3.2.1 Downloading the Oracle Patch Installer on the CTM Database Workstation



**Note**

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The Oracle patch installer is used to install additional Oracle patches. If you already installed the Oracle patch installer, you can skip this section.

---

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.




---

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---

- Step 2** Click **Patches**.
- Step 3** Click **Simple Search**.
- Step 4** In the Search by Patch Number(s) field, enter **2617419**.
- Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 6** Click **Go**.
- Step 7** Click **Download**.
- Step 8** In the list of patches returned, click the first patch, which has the latest release number.




---

**Note** Do not be concerned if the patch refers to a later version of Oracle.

---

- Step 9** In the Patch 2617419 window, go to the Platform or Language field and choose **Generic Platform** (the default).
- Step 10** Click **Download**.
- Step 11** Save the patch to the `/oraclesw9i/product/9.2` directory.
- Step 12** Enter the following commands to change the patch ownership and unzip the patch:
- ```
chown oracle:dba /oraclesw9i/product/9.2/p2617419_10102_GENERIC.zip
cd /oraclesw9i/product/9.2
unzip p2617419_10102_GENERIC.zip
```
- 

## 3.2.2 Downloading the 9.2.0.6 Patch for Oracle9i on the CTM Database Workstation

If you already have the 9.2.0.6 patch for Oracle9i installed, you can skip this section. To find out which patches have been installed, enter the following commands as the oracle user:

```
cd $ORACLE_HOME/OPatch/
./opatch lsinventory -detail | grep -i "oracle9i patch"
```

The output shows:

```
Oracle9i Patch                9.2.0.6.0
```

---

- Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.




---

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---

- Step 2** Click **Patches**.
- Step 3** Click **Simple Search**.
- Step 4** In the Search by Patch Number(s) field, enter **3948480**.
- Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 6** Click **Go**.
- Step 7** Click **Download**. For 32-bit Oracle, download **p3948480\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p3948480\_9206\_SOLARIS64.zip**.
- Step 8** As the oracle user, save the patch to the /oraclesw9i directory.
- Step 9** As the oracle user, enter one of the following sets of commands to prepare the patch set, depending on your Oracle version:
- For 32-bit Oracle, enter:
 

```
cd /oraclesw9i
unzip p3948480_9206_SOLARIS.zip
```
  - For 64-bit Oracle, enter:
 

```
cd /oraclesw9i
unzip p3948480_9206_SOLARIS64.zip
```

### 3.2.3 Installing the 9.2.0.6 Patch for Oracle9i on the CTM Database Workstation



**Note** If you already have the 9.2.0.6 patch for Oracle9i installed, you can skip this section.

- Step 1** Complete the following substeps to shut down all of the CTM clients:
- a. In the Domain Explorer window, choose **Administration > CTM Users**.
  - b. In the CTM Users table, choose **Administration > Logged In CTM Users**.
  - c. In the Logged In CTM Users table, select the user whose session will be ended and choose **Administration > Log Out User** (or click the **Log Out User** tool).
  - d. Click **Yes** at the following prompt:
 

```
This operation will log out the selected CTM user. The process will take approximately
1 minute and this CTM client will be unusable until then. Do you wish to continue?
```

Wait while the CTM server logs out the selected CTM client. The CTM GUI is frozen for approximately 1 minute until the request is complete.
- Step 2** As the root user, enter the following command to stop the workstation where the CTM server is running:
- ```
ctms-stop
```
- Step 3** Log in as the oracle user on the workstation where the CTM database is running and enter the following command to stop the Oracle listener:

```
lsnrctl stop
```

**Step 4** Enter the following commands to shut down all Oracle processes, if they are running:

```
sqlplus /nolog
SQL> connect / as sysdba
SQL> shutdown immediate
SQL> exit
```

**Step 5** Insert disk one of the CTM installation CDs in the CD-ROM drive.

**Step 6** If you are using an xterm window or a remote host, enter the following command to set the DISPLAY variable:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

**Step 7** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

**Step 8** Depending on your Oracle version, enter one of the following sets of commands to install the 9.2.0.6 patch:

- For 32-bit Oracle, enter:

```
cd /oraclesw9i/Disk1
./runInstaller -responseFile /oraclesw9i/patchset.rsp
```

- For 64-bit Oracle, enter:

```
cd /oraclesw9i/Disk1
./runInstaller -responseFile /oraclesw9i/patchset_64bit.rsp
```




---

**Note** If the Disk Location screen pops up, click **Cancel**.

---

**Step 9** At the prompt to run the root.sh script, log into another terminal window as the root user and enter the following commands:

```
cd /oraclesw9i/product/9.2
./root.sh
```

**Step 10** After the script finishes running, return to the prompt popup window and click **OK**.

**Step 11** Click **Next**.

**Step 12** Enter the following commands to eject the CD:

```
cd /
eject cdrom
```

**Step 13** After the patch is installed, read the Oracle patch README.html file to carry out the post-installation steps and check any caveats associated with this patch.

**Step 14** Depending on your Oracle version, enter one of the following sets of commands to remove the 9.2.0.6 patch installation files:

- For 32-bit Oracle, enter:

```
rm -rf /oraclesw9i/Disk1
rm -rf /oraclesw9i/p3948480_9206_SOLARIS.zip
rm -rf /oraclesw9i/README.html
```

- For 64-bit Oracle, enter:

```
rm -rf /oraclesw9i/Disk1
rm -rf /oraclesw9i/p3948480_9206_SOLARIS64.zip
rm -rf /oraclesw9i/README.html
```

**Step 15** Enter the following commands to update the Oracle data dictionary:

```
sqlplus /nolog
SQL> connect / as sysdba
SQL> startup migrate
SQL> spool /oraclesw9i/patch.log
SQL> @?/rdbms/admin/catpatch.sql
SQL> spool off
```



**Note** Review the /oraclesw9i/patch.log file for errors and inspect the list of components that is displayed at the end of catpatch.sql script. This list provides the version and status of each SERVER component in the database. If necessary, repeat [Step 15](#) to rerun the catpatch.sql script after correcting any problems.

```
SQL> shutdown
SQL> startup
SQL> @?/rdbms/admin/utlrlp.sql
SQL> exit
```



**Note** The utlrlp.sql script is used to recompile all invalid PL/SQL packages now instead of when the packages are accessed for the first time. This command is optional but recommended.

## 3.2.4 Installing and Applying Additional Oracle Patches on the CTM Database Workstation

Complete the following steps to install and apply additional required Oracle patches.

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



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**Step 2** Click **Patches**.

**Step 3** Click **Simple Search**.

**Step 4** In the Search by Patch Number field, enter **2733910**.

**Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 6** Click **Go**.

**Step 7** Click **Download**. For 32-bit Oracle, download **p2733910\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p2733910\_9206\_SOLARIS64.zip**.

**Step 8** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```




---

**Note** The 32-bit patch 2733910 unzips to ./4092208. This is not an error.

---

**Step 9** In the MetaLink window, click **Patches**.

**Step 10** Click **Simple Search**.

**Step 11** In the Search by Patch Number field, enter **4067938**.

**Step 12** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 13** Click **Go**.

**Step 14** Click **Download**. For 32-bit Oracle, download **p4067938\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4067938\_9206\_SOLARIS64.zip**.

**Step 15** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```

**Step 16** In the MetaLink window, click **Patches**.

**Step 17** Click **Simple Search**.

**Step 18** In the Search by Patch Number field, enter **4147836**.

**Step 19** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 20** Click **Go**.

**Step 21** Click **Download**. For 32-bit Oracle, download **p4147836\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4147836\_9206\_SOLARIS64.zip**.

**Step 22** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```

**Step 23** As the oracle user, enter the following commands to shut down the Oracle listener and all of the Oracle processes:

```
sqlplus /nolog
SQL> connect / as sysdba
```

```
SQL> shutdown immediate
SQL> exit
lsnrctl stop
```

**Step 24** For 64-bit Oracle only, the **opatch apply** command might fail. If this happens, edit the \$ORACLE\_HOME/inventory/ContentsXML/oraclehomeproperties.xml file by changing <ARU\_ID>453</ARU\_ID> to <ARU\_ID>23</ARU\_ID>. This is a known Oracle bug.

**Step 25** Depending on your configuration, enter one of the following sets of commands as the oracle user to change directories to the patch directory and apply the 2733910 patch (which unzips to 4092208 on a 32-bit workstation):

- For 32-bit, enter:

```
cd 4092208
/oraclesw9i/product/9.2/OPatch/opatch apply
```

- For 64-bit, enter:

```
cd 2733910
/oraclesw9i/product/9.2/OPatch/opatch apply
```

**Step 26** Enter the following commands to change directories to the patch directory and apply the 4067938 patch:

```
cd 4067938
/oraclesw9i/product/9.2/OPatch/opatch apply
```

**Step 27** Enter the following commands to change directories to the patch directory and apply the 4147836 patch:

```
cd 4147836
/oraclesw9i/product/9.2/OPatch/opatch apply
```

**Step 28** As the oracle user, enter the following commands to start the CTM database and the Oracle listener:

```
lsnrctl start
sqlplus /nolog
SQL> connect / as sysdba
SQL> startup
SQL> exit
```

## 3.2.5 Upgrading the Database on the CTM Database Workstation

To upgrade the database, log in as the root user on the CTM database workstation and complete the following steps:

**Step 1** If you are using an xterm window or a remote host, enter the following command to set the DISPLAY variable:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

**Step 2** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

**Step 3** Insert the CTM Server Disk 1 installation CD and enter the following commands:

```
cd /
cdrom/cdrom0/Disk1/ctmsetup.sh
```

The setup program searches for Sun Microsystems JRE version 1.4.2\_05 on your workstation.



**Note** If JRE is not installed, the setup program starts the Java installation program. Follow the prompts to install JRE. Enter **yes** at the following binary license code agreement prompt:

```
Do you agree to the above license terms? [yes or no]
```

Then, continue upgrading the database.



**Note** If the required Solaris patches are missing, you must install them manually. Click **Cancel**; then, click **Quit**. Download the patches from SunSolve Online at <http://sunsolve.sun.com>. After you install the patches, continue installing the CTM server and database.

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Wait for up to 60 seconds while the following message appears:

```
Ctmsetup.sh is installing CTM server...
```

- Step 4** Click **Next** at the Introduction screen.
- Step 5** At the License Agreement screen, read the license agreement and click the **I accept the terms of the license agreement** radio button. Click **Next**.
- Step 6** At the Installation Options screen, choose **Upgrade from existing CTM release**; then, click **Next**.
- Step 7** At the Select Products screen, check the **Install Cisco Transport Manager Server** check box; then, click **Next**.



**Note** The Install Web Server check box is selected automatically when you choose Install Cisco Transport Manager Server. The Install Web Server option allows you to use an HTTP connection to download files from the CTM server to the CTM client. The web server is also used to launch the online help and CiscoView, which is an application used by CTM to configure and monitor ONS 155xx NEs. The web server is required for the CTM server.



**Caution** Do not check the other check boxes on the Select Products screen.



**Note** When you choose Install Cisco Transport Manager Server, the High Availability Installation option becomes available. This option applies only to HA installations. Do not choose it. To install HA, refer to *Cisco Transport Manager High Availability Installation Guide for CTM R6.0*.

**Note**

The license for CTM GateWay/CORBA is sold separately. If you are using this feature in a production environment, you must purchase a license. You can install CTM GateWay/CORBA when you install the CTM server; however, this section assumes that you are installing the two products separately. For more information, see [Chapter 4, “Installing CTM GateWay/CORBA R6.0.”](#)

**Note**

The license for CiscoView is sold separately if used to manage the ONS 15530, ONS 15540 ESP, or ONS 15540 ESPx. If you are using this feature in a production environment to manage the ONS 15530, ONS 15540 ESP, or ONS 15540 ESPx, you must purchase a license for LAN Management Solution (LMS) Release 2.5, which includes CiscoView.

The license for CiscoView is bundled with CTM if used to manage the ONS 15501 DC or AC. You do not need to purchase a separate CiscoView license to manage the ONS 15501 DC or AC.

If you check the Install CiscoView Server check box, you receive the following prompt:

```
CiscoView installation has been moved to CTM Server Disk 3. After CTM server has
been installed, insert the CTM Server Disk 3 and run the './installCiscoView.sh'
script.
```

You must install the CTM server before you can install CiscoView. After installing the CTM server, see [Chapter 6, “Installing and Setting Up CiscoView.”](#)

- Step 8** At the CTM Group Information & Sudo Installation screen, complete the following substeps:
- Enter the name of the UNIX group to which you want to assign administrator privileges.
  - To install sudo, check the **Install CTM Sudo** check box. If you do not want to install sudo, uncheck the check box.
  - Click **Next**.

**Note**

For information about the sudo feature, see [1.4.1 Overview of Sudo Commands, page 1-12](#).

- Step 9** At the FTP Information screen, accept the default selections; then, click **Next**.

- Step 10** At the Main Options screen, check only the **Upgrade CTM database** check box; then, click **Next**.

**Note**

Be sure to uncheck the **Install CTM server** check box.

- Step 11** At the Specify CTM Server to Connect to screen, enter the IP address or hostname of the CTM server workstation; then, click **Next**.

**Note**

If you entered a hostname, the setup program automatically translates the hostname to a physical IP address and prompts you to confirm the address. Click **Yes**.

- Step 12** The Pre-Installation Summary screen shows the items that will be installed. Click **Install**.




---

**Note** It might take 20 minutes or longer to upgrade the database, depending on your system performance.

---

**Step 13** The Install Complete screen summarizes the results of the installation. Click **Done**.

---

## 3.2.6 Downloading the Oracle Patch Installer on the CTM Server Workstation




---

**Note** The Oracle patch installer is used to install additional Oracle patches. If you already installed the Oracle patch installer, you can skip this section.

---

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.




---

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---

**Step 2** Click **Patches**.

**Step 3** Click **Simple Search**.

**Step 4** In the Search by Patch Number(s) field, enter **2617419**.

**Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 6** Click **Go**.

**Step 7** Click **Download**.

**Step 8** In the list of patches returned, click the first patch, which has the latest release number.




---

**Note** Do not be concerned if the patch refers to a later version of Oracle.

---

**Step 9** In the Patch 2617419 window, go to the Platform or Language field and choose **Generic Platform** (the default).

**Step 10** Click **Download**.

**Step 11** Save the patch to the `/oraclesw9i/product/9.2` directory.

**Step 12** Enter the following commands to change the patch ownership and unzip the patch:

```
chown oracle:dba /oraclesw9i/product/9.2/p2617419_10102_GENERIC.zip
cd /oraclesw9i/product/9.2
unzip p2617419_10102_GENERIC.zip
```

---

## 3.2.7 Downloading the 9.2.0.6 Patch for Oracle9i on the CTM Server Workstation



---

**Note** If you already have the 9.2.0.6 patch for Oracle9i installed, you can skip this section.

---

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



---

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---

**Step 2** Click **Patches**.

**Step 3** Click **Simple Search**.

**Step 4** In the Search by Patch Number(s) field, enter **3948480**.

**Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 6** Click **Go**.

**Step 7** Click **Download**. For 32-bit Oracle, download **p3948480\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p3948480\_9206\_SOLARIS64.zip**.

**Step 8** As the oracle user, save the patch to the /oraclesw9i directory.

**Step 9** As the oracle user, enter one of the following sets of commands to prepare the patch set, depending on your Oracle version:

- For 32-bit Oracle, enter:  

```
cd /oraclesw9i
unzip p3948480_9206_SOLARIS.zip
```
  - For 64-bit Oracle, enter:  

```
cd /oraclesw9i
unzip p3948480_9206_SOLARIS64.zip
```
- 

## 3.2.8 Installing the 9.2.0.6 Patch for Oracle9i on the CTM Server Workstation



---

**Note** If you already have the 9.2.0.6 patch for Oracle9i installed, you can skip this section.

---

**Step 1** Complete the following substeps to shut down all of the CTM clients:

- a. In the Domain Explorer window, choose **Administration > CTM Users**.
- b. In the CTM Users table, choose **Administration > Logged In CTM Users**.

- c. In the Logged In CTM Users table, select the user whose session will be ended and choose **Administration > Log Out User** (or click the **Log Out User** tool).
- d. Click **Yes** at the following prompt:

This operation will log out the selected CTM user. The process will take approximately 1 minute and this CTM client will be unusable until then. Do you wish to continue?

Wait while the CTM server logs out the selected CTM client. The CTM GUI is frozen for approximately 1 minute until the request is complete.

- Step 2** As the root user, enter the following command to stop the workstation where the CTM server is running:

```
ctms-stop
```

- Step 3** Insert disk one of the CTM installation CDs in the CD-ROM drive.

- Step 4** If you are using an xterm window or a remote host, enter the following command to set the DISPLAY variable:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

- Step 5** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

- Step 6** Depending on your Oracle version, enter one of the following sets of commands to install the 9.2.0.6 patch:

- For 32-bit Oracle, enter:

```
cp /cdrom/cdrom0/Disk1/patchset.rsp /oraclesw9i
cd /oraclesw9i/Disk1
./runInstaller -responseFile /oraclesw9i/patchset.rsp
```

- For 64-bit Oracle, enter:

```
cp /cdrom/cdrom0/Disk1/patchset_64bit.rsp /oraclesw9i
cd /oraclesw9i/Disk1
./runInstaller -responseFile /oraclesw9i/patchset_64bit.rsp
```




---

**Note** If the Disk Location screen pops up, click **Cancel**.

---

- Step 7** At the prompt to run the root.sh script, log into another terminal window as the root user and enter the following commands:

```
cd /oraclesw9i/product/9.2
./root.sh
```

- Step 8** After the script finishes running, return to the prompt popup window and click **OK**.

- Step 9** Click **Next**.

- Step 10** Enter the following commands to eject the CD:

```
cd /
eject cdrom
```

- Step 11** After the patch is installed, read the Oracle patch README.html file to carry out the post-installation steps and check any caveats associated with this patch.

**Step 12** Depending on your Oracle version, enter one of the following sets of commands to remove the 9.2.0.6 patch installation files:

- For 32-bit Oracle, enter:

```
rm -rf /oraclesw9i/Disk1
rm -rf /oraclesw9i/p3948480_9206_SOLARIS.zip
rm -rf /oraclesw9i/README.html
```

- For 64-bit Oracle, enter:

```
rm -rf /oraclesw9i/Disk1
rm -rf /oraclesw9i/p3948480_9206_SOLARIS64.zip
rm -rf /oraclesw9i/README.html
```

## 3.2.9 Installing and Applying Additional Oracle Patches on the CTM Server Workstation

Complete the following steps to install and apply additional required Oracle patches.

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



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**Step 2** Click **Patches**.

**Step 3** Click **Simple Search**.

**Step 4** In the Search by Patch Number field, enter **2733910**.

**Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 6** Click **Go**.

**Step 7** Click **Download**. For 32-bit Oracle, download **p2733910\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p2733910\_9206\_SOLARIS64.zip**.

**Step 8** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```



**Note** The 32-bit patch 2733910 unzips to ./4092208. This is not an error.

**Step 9** In the MetaLink window, click **Patches**.

**Step 10** Click **Simple Search**.

**Step 11** In the Search by Patch Number field, enter **4067938**.

- Step 12** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 13** Click **Go**.
- Step 14** Click **Download**. For 32-bit Oracle, download **p4067938\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4067938\_9206\_SOLARIS64.zip**.
- Step 15** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:
- ```
cd /oraclesw9i
unzip <patch_zip_filename>
```
- Step 16** In the MetaLink window, click **Patches**.
- Step 17** Click **Simple Search**.
- Step 18** In the Search by Patch Number field, enter **4147836**.
- Step 19** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 20** Click **Go**.
- Step 21** Click **Download**. For 32-bit Oracle, download **p4147836\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4147836\_9206\_SOLARIS64.zip**.
- Step 22** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:
- ```
cd /oraclesw9i
unzip <patch_zip_filename>
```
- Step 23** For 64-bit Oracle only, the **opatch apply** command might fail. If this happens, edit the \$ORACLE\_HOME/inventory/ContentsXML/oraclehomeproperties.xml file by changing <ARU\_ID>453</ARU\_ID> to <ARU\_ID>23</ARU\_ID>. This is a known Oracle bug.
- Step 24** Depending on your configuration, enter one of the following sets of commands as the oracle user to change directories to the patch directory and apply the 2733910 patch (which unzips to 4092208 on a 32-bit workstation):
- For 32-bit, enter:
 

```
cd 4092208
/oraclesw9i/product/9.2/OPatch/opatch apply
```
  - For 64-bit, enter:
 

```
cd 2733910
/oraclesw9i/product/9.2/OPatch/opatch apply
```
- Step 25** Enter the following commands to change directories to the patch directory and apply the 4067938 patch:
- ```
cd 4067938
/oraclesw9i/product/9.2/OPatch/opatch apply
```
- Step 26** Enter the following commands to change directories to the patch directory and apply the 4147836 patch:
- ```
cd 4147836
```

```
/oraclesw9i/product/9.2/OPatch/opatch apply
```

## 3.2.10 Installing the CTM R6.0 Server on the CTM Server Workstation

If the CTM release that you are upgrading from is CTM R5.0.2.85.1 or R5.0.2.90.1, you must execute the following SQL commands before proceeding with the CTM R6.0 upgrade:

```
sqlplus ctmanager/ctm123!
SQL> ALTER TABLE ONS15454_327_NE_Table DROP COLUMN NEUSERNAME;
SQL> ALTER TABLE ONS15454_327_NE_Table DROP COLUMN NEPASSWD;
SQL> commit;
```



### Note

If you changed the default password of ctm123! for the CTM ctmanager account, please use the correct password in the SQLPlus command.

To install the CTM server, log in as the root user on the workstation where the CTM server will run and complete the following steps:

**Step 1** If you are using an xterm window or a remote host, enter the following command to set the DISPLAY variable:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

**Step 2** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

**Step 3** Insert the CTM Server Disk 1 installation CD and enter the following commands:

```
cd /
cdrom/cdrom0/Disk1/ctmsetup.sh
```

The setup program searches for Sun Microsystems JRE version 1.4.2\_05 on your workstation.



### Note

If JRE is not installed, the setup program starts the Java installation program. Follow the prompts to install JRE. Enter **yes** at the following binary license code agreement prompt:

```
Do you agree to the above license terms? [yes or no]
```

Then, continue installing the CTM server.



### Note

If the required Solaris patches are missing, you must install them manually. Click **Cancel**; then, click **Quit**. Download the patches from SunSolve Online at <http://sunsolve.sun.com>. After you install the patches, continue installing the CTM server.

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Wait for up to 60 seconds while the following message appears:

```
ctmsetup.sh is installing CTM server...
```

- Step 4** Click **Next** at the Introduction screen.
- Step 5** At the License Agreement screen, read the license agreement and click the **I accept the terms of the license agreement** radio button. Click **Next**.
- Step 6** At the Installation Options screen, choose **Upgrade from existing CTM release**; then, click **Next**.
- Step 7** At the Select Products screen, check the **Install Cisco Transport Manager Server** check box; then, click **Next**.




---

**Caution** Do not check the other check boxes on the Select Products screen.

---

- Step 8** At the CTM Group Information & Sudo Installation screen, complete the following substeps:
- Enter the name of the UNIX group to which you want to assign administrator privileges.
  - To install sudo, check the **Install CTM Sudo** check box. If you do not want to install sudo, uncheck the check box.
  - Click **Next**.
- Step 9** At the FTP Information screen, complete the following substeps to configure an FTP account for ONS 15216 EDFA3 software download operations:
- Enter the following information:
    - FTP username
    - FTP user password
    - Confirm FTP user password
    - FTP directory
  - Check or uncheck the **Create new FTP Account** check box. If checked, the FTP user will be created automatically on the CTM server workstation by the install script. If unchecked, it is assumed that an FTP user already exists on the CTM server workstation.
  - Click **Next**.




---

**Note** The FTP information that you enter during the CTM server installation can be modified later from the CTM client Control Panel window. Refer to *Cisco Transport Manager Release 6.0 User Guide* for more information.

---

- Step 10** At the Main Options screen, check only the **Install CTM server** check box; then, click **Next**.




---

**Note** Be sure to uncheck the **Upgrade CTM database** check box.

---

- Step 11** At the Server IP Address screen, specify an IP address for the CTM server. The Hostname field is automatically populated with the hostname of the selected IP address. After confirming the IP address and hostname details, click **Next**.
- Step 12** At the Configure TFTP Server screen, complete the following substeps if you want to enable TFTP for the ONS 15216 EDFA2, ONS 15501, ONS 15530, and ONS 15540:
- Check the **Enable TFTP Server** check box.

- b. Enter the TFTP directory name. The default is /tftpboot.
- c. Click **Next**.

**Step 13** At the Specify CTM Database to Connect to screen, enter the IP address or hostname of the database workstation; then, click **Next**.



**Caution** Be sure to enter the correct IP address or hostname. Do not simply accept the default.



**Note** If you entered a hostname, the setup program automatically translates the hostname to a physical IP address and prompts you to confirm the address. Click **Yes**.

**Step 14** At the Destination Folder screen, specify where you want to install the CTM server. The default directory is /opt/CiscoTransportManagerServer. You can click **Change** to choose a different destination. After you specify your destination, click **Next**.



**Note** If the destination directory that you specified is a new directory, you will receive the message “Specified directory does not exist, create it?” Click **Yes**.



**Caution** CTM checks for the /opt/CiscoTransportManagerServer directory or a symbolic link to it. If CTM cannot find the /opt/CiscoTransportManagerServer directory or a symbolic link, CTM creates a symbolic link automatically. Therefore, do not delete any instances of /opt/CiscoTransportManagerServer from your CTM file structure.

**Step 15** The Pre-Installation Summary screen shows the items that will be installed. Click **Install**.



**Note** It might take 20 minutes or longer to install the server, depending on your system performance.

**Step 16** At the Insert New Media screen, complete the following substeps:

- a. Eject the CTM Server Disk 1 installation CD, insert the CTM Server Disk 2 installation CD, and click **Browse**.
- b. The Select a Folder dialog box opens. Double-click **cdrom**; then, single-click **cdrom0**. The filename text box now reads /cdrom/cdrom0.
- c. In the Select a Folder dialog box, click **Select**.
- d. In the Insert New Media screen, click **OK**.

**Step 17** The Web Server Installation Summary screen summarizes the results of the web server installation. Click **Next**.

**Step 18** The Install Complete screen summarizes the results of the installation. Click **Done**.

**Step 19** (Optional) If you want to change the database name, enter the following commands as the root user *on the CTM database workstation*:



**Caution** Be sure to enter the following commands on the CTM database workstation, not on the CTM server workstation. Also, verify that the CTM server is stopped before running the `change_db_name.sh` script.

```
cd /opt/CiscoTransportManagerServer/bin
./change_db_name.sh <old_database_name> <new_database_name> <CTM_server_IP_address>
```

**Step 20** Enter the following command to reboot the system. The CTM server starts automatically after rebooting:

```
init 6
```

**Step 21** To verify that the CTM R6.0 server is running, enter the **showctm** command after the server reboots. The **showctm** command displays the CTM server version running as 6.0, followed by the build number. In the output, you will see two instances of “CTMServer,” “SnmpTrapService,” “SMService,” and “Apache Web Server.” This indicates that the CTM server is running. You should also see NE-specific processes, depending on your network. You might also see CTM GateWay/CORBA and CTM GateWay/TL1 instances.

## 3.2.11 Copying the Client Upgrade Files After the CTM Server Installation

You have two options for upgrading each client installation to the latest version of CTM that is on the server. You can choose to:

- Manually upgrade each client installation. If you have a previously installed version of the CTM client, you must delete the directory where the previous client is installed before installing the CTM R6.0 client. See [5.1 Installing the CTM Client and Cisco Edge Craft on Microsoft Windows, page 5-2](#) or [5.4 Installing the CTM Client and Cisco Edge Craft on Sun Solaris, page 5-6](#) for more information.
- Automatically upgrade each client when it connects to a server. During login, if the CTM client software version is older than the CTM server software version, the client will be prompted for upgrade. See [5.2 Starting the CTM Client in Microsoft Windows, page 5-5](#) or [5.5 Starting the CTM Client in Sun Solaris, page 5-8](#) for more information.

For this option you must copy the client installation files to the server. The CTM client and server installation files reside on separate installation CDs. To copy the client installation files to the server, you must eject the CTM server CD, insert the CTM client CD, and run an automated script, `CopyUpgradeFiles.sh`, to copy the client installation files to a specific folder under the CTM server installation directory. To do this, log in as the root user and complete the following steps.



**Note** The CTM server must be installed before completing the following steps.

**Step 1** Enter the following commands to eject the CTM server installation CD:

```
cd /
eject cdrom
```

**Step 2** Insert the CTM client installation CD and enter the following commands:

```
cd /cdrom/cdrom0/ctmc
./CopyUpgradeFiles.sh
```

## 3.3 Upgrading from CTM R4.7.x and Oracle8i to CTM R6.0 and Oracle9i on the Same Workstation

This section describes how to upgrade from CTM R4.7.x and Oracle8i to CTM R6.0 and Oracle9i when you are installing the CTM R6.0 server and the Oracle9i database on the same Sun Solaris 8 server.



### Caution

Before upgrading your database to CTM R6.0, it is strongly recommended that you back up your CTM R4.7.x database. If you do so, you can revert to your old data in the event that the upgrade fails. To back up the database, see *Cisco Transport Manager Release 6.0 User Guide*, which is available online at <http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/optnet/ctm/index.htm>. Refer to the section “Backing Up the CTM Database from the CTM GUI.”



### Note

The C shell is assumed for all UNIX commands.

### 3.3.1 Setting the Environment for Installation

To set the environment for installation, log in as the root user and complete the following steps:

**Step 1** Enter the following command to verify that the disk directories shown in [Table 3-1](#) exist:

```
ls -l
```

**Table 3-1** Disk Directories

Directory	Contents
/db01	For the system tablespace used by Oracle
/db02	For the basedata tablespace, the alarmdata tablespace, the eventdata tablespace used by CTM, and the system tablespace used by Oracle
/db03	For the data tablespace used by CTM
/db04	For the INDEX tablespace used by CTM
/db05 <sup>1</sup>	For the archived logs
/ctm_backup <sup>2</sup>	For the backed-up database and configuration files
/oraclesw9i	For the Oracle software
/tftpboot	For the TFTP directory
	<b>Note</b> Disk partitioning is not required for /tftpboot, but the directory is required.

1. If you want to install the CTM database in ARCHIVELOG mode, the /db05 directory is required. ARCHIVELOG mode is required for hot backups.

2. The /ctm\_backup directory can be a symbolic link to a storage device. Note that performance degrades if you map all of your symbolic links to the same partition and you do not have disk striping.

**Step 2** Enter the following command to modify the password file:

```
vi /etc/passwd
```

**Step 3** Navigate to the entry that looks similar to the following:

```
oracle:x:100:3303::/oraclesw:/bin/csh
```

**Step 4** In the entry, change /oraclesw to **/oraclesw9i**. The entry should now look similar to the following:

```
oracle:x:100:3303::/oraclesw9i:/bin/csh
```

**Step 5** Enter the following command to save the changes:

```
:wq!
```

## 3.3.2 Installing the Oracle9i Software

**Step 1** Insert the CTM Server Disk 1 installation CD and enter the following command:

```
cd /cdrom/cdrom0/Disk1
```

**Step 2** Enter the following command to list the files in the cdrom/cdrom0/Disk1 directory:

```
ls -laR
```



**Note** If a list of files is returned, it indicates that you can access the CD-ROM successfully. If no files are visible, or if an error message is returned, refer to Sun Solaris documentation for mounting the CD-ROM.

**Step 3** Enter the following command to copy the default profile to the Oracle home directory:

```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/cfg/{small | medium | large | highend}/.cshrc /oraclesw9i/.cshrc
```

For example, to copy the default profile for a small network, enter:

```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/cfg/small/.cshrc /oraclesw9i/.cshrc
```



**Note** If you installed Oracle Standard Edition, you must copy the default profile for a small network.

**Step 4** Enter the following command to determine what type of applications you can run on your operating system (OS):

```
isainfo -kv
```

If the output reads “64-bit sparcv9 kernel modules,” you can run both 64-bit and 32-bit applications. If the output reads “32-bit sparcv9 kernel modules,” you can run only 32-bit applications.



**Note** It is recommended that you be able to run both 64-bit and 32-bit applications.

**Step 5** Complete one of the following options, depending on your Oracle version:

- If you are installing 32-bit Oracle Enterprise Edition, enter:

```
cp /cdrom/cdrom0/Disk1/svrcustom.rsp /oraclesw9i
cp /cdrom/cdrom0/Disk1/patchset.rsp /oraclesw9i
```

- If you are installing 64-bit Oracle Enterprise Edition, enter:

```
cp /cdrom/cdrom0/Disk1/svrcustom_64bit.rsp /oraclesw9i
cp /cdrom/cdrom0/Disk1/patchset_64bit.rsp /oraclesw9i
```

- If you are installing 32-bit Oracle Standard Edition, enter:

```
cp /cdrom/cdrom0/Disk1/svrcustom_std.rsp /oraclesw9i
cp /cdrom/cdrom0/Disk1/patchset.rsp /oraclesw9i
```

- If you are installing 64-bit Oracle Standard Edition, enter:

```
cp /cdrom/cdrom0/Disk1/svrcustom_std_64bit.rsp /oraclesw9i
cp /cdrom/cdrom0/Disk1/patchset_64bit.rsp /oraclesw9i
```

**Step 6** (Optional) Enter the following commands to change ownership of the Oracle software directories:

```
/usr/bin/chown -R oracle:dba /oraclesw9i
/usr/bin/chown -R oracle:dba /db01
/usr/bin/chown -R oracle:dba /db02
/usr/bin/chown -R oracle:dba /db03
/usr/bin/chown -R oracle:dba /db04
/usr/bin/chown -R oracle:dba /db05
/usr/bin/chown -R oracle:dba /ctm_backup
```

**Step 7** Enter the following commands to eject the CTM Server Disk 1 installation CD:

```
cd /
eject cdrom
```

**Step 8** If you are using an xterm window or a remote host, enter the following command to enable the xterm connection from the clients:

```
/usr/openwin/bin/xhost +
```

### 3.3.3 Installing the Oracle9i Software with the .rsp Response File Provided by Cisco

**Step 1** Complete the following substeps to shut down all of the CTM clients:

- In the Domain Explorer window, choose **Administration > CTM Users**.
- In the CTM Users table, choose **Administration > Logged In CTM Users**.
- In the Logged In CTM Users table, select the user whose session will be ended and choose **Administration > Log Out User** (or click the **Log Out User** tool).
- Click **Yes** at the following prompt:

This operation will log out the selected CTM user. The process will take approximately 1 minute and this CTM client will be unusable until then. Do you wish to continue?

Wait while the CTM server logs out the selected CTM client. The CTM GUI is frozen for approximately 1 minute until the request is complete.

**Step 2** As the root user, enter the following command to stop the workstation where the CTM server is running:

```
ctms-stop
```

**Step 3** Enter the following command to remove the oraInst.loc file, if it exists:

```
rm /var/opt/oracle/oraInst.loc
```

**Step 4** On the workstation where the CTM database is running, enter the following commands to stop the Oracle listener and shut down all Oracle processes, if they are running:

```

csh
source /oraclesw/.cshrc
lsnrctl stop
sqlplus /nolog
SQL> connect / as sysdba
SQL> shutdown immediate
SQL> exit

```

**Step 5** Enter the following command to log in as the oracle user:

```
su - oracle
```




---

**Tip** To verify the username, enter the **id** command.

---

**Step 6** Insert disk one of the Oracle9i installation CDs in the CD-ROM drive.

**Step 7** Enter the following command to set the display on your terminal:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

**Step 8** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

**Step 9** Complete one of the following options, depending on your Oracle version:

- If you are installing 32-bit Oracle Enterprise Edition, enter the following commands to start the Oracle Installer:
 

```
cd /cdrom/cdrom0
./runInstaller -responseFile /oraclesw9i/svrcustom.rsp &
```
- If you are installing 64-bit Oracle Enterprise Edition, enter the following commands to start the Oracle Installer:
 

```
cd /cdrom/cdrom0
./runInstaller -responseFile /oraclesw9i/svrcustom_64bit.rsp &
```
- If you are installing 32-bit Oracle Standard Edition, enter the following command to start the Oracle Installer:
 

```
cd /cdrom/cdrom0
./runInstaller -responseFile /oraclesw9i/svrcustom_std.rsp &
```

- If you are installing 64-bit Oracle Standard Edition, enter the following command to start the Oracle Installer:

```
cd /cdrom/cdrom0
./runInstaller -responseFile /oraclesw9i/svrcustom_std_64bit.rsp &
```

**Step 10** At the Inventory Location screen, click **OK**.

**Step 11** The Oracle Universal Installer screen appears and prompts you to run the /tmp/orainstRoot.sh script. Log into another terminal window as the root user and enter the following command:

```
cd /tmp/
```



**Note** The Installer does not prompt you to run the /tmp/orainstRoot.sh script if you have a previous version of Oracle installed on your workstation or if the /var/opt/oracle/oratab file already exists on your workstation.

**Step 12** Enter the following command to run the orainstRoot.sh script:

```
./orainstRoot.sh
```

**Step 13** Return to the Oracle Universal Installer screen and click **Continue**.



**Note** The Oracle Universal Installer process might take up to 5 minutes.

**Step 14** The Disk Location dialog box prompts you for disk two of the Oracle9i installation CDs. Return to the terminal window where you ran the ./runInstaller command and press **Return** on your keyboard to bring up the command prompt.

**Step 15** Enter the following command at the command prompt:

```
eject cdrom
```

**Step 16** Remove disk one and insert disk two of the Oracle9i installation CDs.

**Step 17** Minimize the terminal window.

**Step 18** Return to the Disk Location dialog box and change the path to read as one of the following, depending on your Oracle version:

- For 32-bit Oracle, enter:  

```
/cdrom/cdrom0/orc19201_2
```
- For 64-bit Oracle, enter:  

```
/cdrom/cdrom0/disk2
```

Click **OK**.

**Step 19** The Disk Location dialog box prompts you for disk three of the Oracle9i installation CDs. Return to the terminal window where you ran the ./runInstaller command and press **Return** on your keyboard to bring up the command prompt.

**Step 20** Enter the following command at the command prompt:

```
eject cdrom
```

**Step 21** Remove disk two and insert disk three of the Oracle9i installation CDs.

**Step 22** Minimize the terminal window.

**Step 23** Return to the Disk Location dialog box and change the path to read as one of the following, depending on your Oracle version:

- For 32-bit Oracle, enter:  
`/cdrom/cdrom0/orc19201_3`
- For 64-bit Oracle, enter:  
`/cdrom/cdrom0/disk3`

Click **OK**.

**Step 24** You are prompted to run `/oraclesw9i/product/9.2/root.sh` from another window. Log into another terminal window as the root user and enter the following command:

```
cd /oraclesw9i/product/9.2
```

**Step 25** Enter the following command to run the root.sh script:

```
./root.sh
```

**Step 26** At the prompt for the local bin directory, enter the following path in the root.sh script:



**Note** The `/oraclesw9i/product/9.2/local/bin` directory must be created before running the root.sh script.

```
/oraclesw9i/product/9.2/local/bin
```

**Step 27** Return to the Oracle Setup Privileges screen and click **OK**.

**Step 28** Enter the following command to eject the CD:

```
eject cdrom
```

## 3.3.4 Downloading the Oracle Patch Installer



**Note** The Oracle patch installer is used to install additional Oracle patches. If you already installed the Oracle patch installer, you can skip this section.

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



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**Step 2** Click **Patches**.

**Step 3** Click **Simple Search**.

**Step 4** In the Search by Patch Number(s) field, enter **2617419**.

**Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- Solaris Operating System (SPARC 32-bit)
- Solaris Operating System (SPARC 64-bit)

**Step 6** Click **Go**.

**Step 7** Click **Download**.

**Step 8** In the list of patches returned, click the first patch, which has the latest release number.



**Note** Do not be concerned if the patch refers to a later version of Oracle.

**Step 9** In the Patch 2617419 window, go to the Platform or Language field and choose **Generic Platform** (the default).

**Step 10** Click **Download**.

**Step 11** Save the patch to the /oraclesw9i/product/9.2 directory.

**Step 12** Enter the following commands to change the patch ownership and unzip the patch:

```
chown oracle:dba /oraclesw9i/product/9.2/p2617419_10102_GENERIC.zip
cd /oraclesw9i/product/9.2
unzip p2617419_10102_GENERIC.zip
```

### 3.3.5 Downloading the 9.2.0.6 Patch for Oracle9i

If you already have the 9.2.0.6 patch for Oracle9i installed, you can skip this section. To find out which patches have been installed, enter the following commands as the oracle user:

```
cd $ORACLE_HOME/OPatch/
./opatch lsinventory -detail | grep -i "oracle9i patch"
```

The output shows:

```
Oracle9i Patch                9.2.0.6.0
```

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



**Note** This website is Copyright © 2004, Oracle Corporation. All rights reserved.

**Step 2** Click **Patches**.

**Step 3** Click **Simple Search**.

**Step 4** In the Search by Patch Number(s) field, enter **3948480**.

**Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- Solaris Operating System (SPARC 32-bit)
- Solaris Operating System (SPARC 64-bit)

**Step 6** Click **Go**.

- Step 7** Click **Download**. For 32-bit Oracle, download **p3948480\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p3948480\_9206\_SOLARIS64.zip**.
- Step 8** As the oracle user, save the patch to the /oraclesw9i directory.
- Step 9** As the oracle user, enter one of the following sets of commands to prepare the patch set, depending on your Oracle version:

- For 32-bit Oracle, enter:

```
cd /oraclesw9i
unzip p3948480_9206_SOLARIS.zip
```

- For 64-bit Oracle, enter:

```
cd /oraclesw9i
unzip p3948480_9206_SOLARIS64.zip
```

### 3.3.6 Installing the 9.2.0.6 Patch for Oracle9i



**Note** If you already have the 9.2.0.6 patch for Oracle9i installed, you can skip this section.

- Step 1** Insert disk one of the CTM installation CDs in the CD-ROM drive.
- Step 2** Enter the following command to log into the database workstation as the oracle user:
- ```
su - oracle
```
- Step 3** If you are using an xterm window or a remote host, enter the following command to set the DISPLAY variable:
- ```
setenv DISPLAY <hostname_or_IP_address>:0.0
```
- Step 4** Enter the following command to verify that the display is set correctly:
- ```
echo $DISPLAY
```
- In the output, you should see:
- ```
<hostname_or_IP_address>:0.0
```
- Step 5** Depending on your Oracle version, enter one of the following sets of commands to install the 9.2.0.6 patch:

- For 32-bit Oracle, enter:

```
cd /oraclesw9i/Disk1
./runInstaller -responseFile /oraclesw9i/patchset.rsp
```

- For 64-bit Oracle, enter:

```
cd /oraclesw9i/Disk1
./runInstaller -responseFile /oraclesw9i/patchset_64bit.rsp
```



**Note** If the Disk Location screen pops up, click **Cancel**.

**Step 6** At the prompt to run the root.sh script, log into another terminal window as the root user and enter the following commands:

```
cd /oraclesw9i/product/9.2
./root.sh
```

**Step 7** After the script finishes running, return to the prompt popup window and click **OK**.

**Step 8** Click **Next**.

**Step 9** Enter the following commands to eject the CD:

```
cd /
eject cdrom
```

**Step 10** After the patch is installed, read the Oracle patch README.html file to carry out the post-installation steps and check any caveats associated with this patch.

**Step 11** Depending on your Oracle version, enter one of the following sets of commands to remove the 9.2.0.6 patch installation files:

- For 32-bit Oracle, enter:

```
rm -rf /oraclesw9i/Disk1
rm -rf /oraclesw9i/p3948480_9206_SOLARIS.zip
rm -rf /oraclesw9i/README.html
```

- For 64-bit Oracle, enter:

```
rm -rf /oraclesw9i/Disk1
rm -rf /oraclesw9i/p3948480_9206_SOLARIS64.zip
rm -rf /oraclesw9i/README.html
```

## 3.3.7 Installing and Applying Additional Oracle Patches

Complete the following steps to install and apply additional required Oracle patches.

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



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**Step 2** Click **Patches**.

**Step 3** Click **Simple Search**.

**Step 4** In the Search by Patch Number field, enter **2733910**.

**Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 6** Click **Go**.

**Step 7** Click **Download**. For 32-bit Oracle, download **p2733910\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p2733910\_9206\_SOLARIS64.zip**.

**Step 8** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```




---

**Note** The 32-bit patch 2733910 unzips to ./4092208. This is not an error.

---

**Step 9** In the MetaLink window, click **Patches**.

**Step 10** Click **Simple Search**.

**Step 11** In the Search by Patch Number field, enter **4067938**.

**Step 12** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 13** Click **Go**.

**Step 14** Click **Download**. For 32-bit Oracle, download **p4067938\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4067938\_9206\_SOLARIS64.zip**.

**Step 15** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```

**Step 16** In the MetaLink window, click **Patches**.

**Step 17** Click **Simple Search**.

**Step 18** In the Search by Patch Number field, enter **4147836**.

**Step 19** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 20** Click **Go**.

**Step 21** Click **Download**. For 32-bit Oracle, download **p4147836\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4147836\_9206\_SOLARIS64.zip**.

**Step 22** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```

**Step 23** For 64-bit Oracle only, the **opatch apply** command might fail. If this happens, edit the \$ORACLE\_HOME/inventory/ContentsXML/oraclehomeproperties.xml file by changing <ARU\_ID>453</ARU\_ID> to <ARU\_ID>23</ARU\_ID>. This is a known Oracle bug.

**Step 24** Depending on your configuration, enter one of the following sets of commands as the oracle user to change directories to the patch directory and apply the 2733910 patch (which unzips to 4092208 on a 32-bit workstation):

- For 32-bit, enter:

```
cd 4092208
/oraclesw9i/product/9.2/OPatch/opatch apply
```

- For 64-bit, enter:

```
cd 2733910
/oraclesw9i/product/9.2/OPatch/opatch apply
```

**Step 25** Enter the following commands to change directories to the patch directory and apply the 4067938 patch:

```
cd 4067938
/oraclesw9i/product/9.2/OPatch/opatch apply
```

**Step 26** Enter the following commands to change directories to the patch directory and apply the 4147836 patch:

```
cd 4147836
/oraclesw9i/product/9.2/OPatch/opatch apply
```

**Step 27** As the oracle user, enter the following commands to restart the CTM R4.7.x database and the Oracle listener:

```
csh
source /oraclesw/.cshrc
sqlplus /nolog
SQL> connect / as sysdba
SQL> startup
SQL> exit
lsnrctl start
```

## 3.3.8 Installing the CTM R6.0 Server and Database and Migrating Basic Data



### Note

Before installing the CTM database, verify that Oracle9i is installed in the /oraclesw9i directory.

To install the CTM server and database and migrate basic data, log in as the root user and complete the following steps:

**Step 1** If you are using an xterm window or a remote host, enter the following command to set the DISPLAY variable:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

**Step 2** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

**Step 3** Insert the CTM Server Disk 1 installation CD and enter the following commands:

```
cd /
cdrom/cdrom0/Disk1/ctmsetup.sh
```

The setup program searches for Sun Microsystems JRE version 1.4.2\_05 on your workstation.



**Note** If JRE is not installed, the setup program starts the Java installation program. Follow the prompts to install JRE. Enter **yes** at the following binary license code agreement prompt:

```
Do you agree to the above license terms? [yes or no]
```

Then, continue installing the CTM server and database.



**Note** If the required Solaris patches are missing, you must install them manually. Click **Cancel**; then, click **Quit**. Download the patches from SunSolve Online at <http://sunsolve.sun.com>. After you install the patches, continue installing the CTM server and database.

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Wait for up to 60 seconds while the following message appears:

```
Ctmsetup.sh is installing CTM server...
```

- Step 4** Click **Next** at the Introduction screen.
- Step 5** At the License Agreement screen, read the license agreement and click the **I accept the terms of the license agreement** radio button. Click **Next**.
- Step 6** At the Installation Options screen, choose **Upgrade from existing CTM release**; then, click **Next**.
- Step 7** At the Database Migration Information screen, confirm the migration details and click **Next**.
- Step 8** At the Select Products screen, check the **Install Cisco Transport Manager Server** check box; then, click **Next**.



**Note** The Install Web Server check box is selected automatically when you choose Install Cisco Transport Manager Server. The Install Web Server option allows you to use an HTTP connection to download files from the CTM server to the CTM client. The web server is also used to launch the online help and CiscoView, which is an application used by CTM to configure and monitor ONS 155xx NEs. The web server is required for the CTM server.



**Caution** Do not check the other check boxes on the Select Products screen.



**Note** When you choose Install Cisco Transport Manager Server, the High Availability Installation option becomes available. This option applies only to HA installations. Do not choose it. To install HA, refer to *Cisco Transport Manager High Availability Installation Guide for CTM R6.0*.



**Note** The license for CTM GateWay/CORBA is sold separately. If you are using this feature in a production environment, you must purchase a license. You can install CTM GateWay/CORBA when you install the CTM server; however, this section assumes that you are installing the two products separately. For more information, see [Chapter 4, “Installing CTM GateWay/CORBA R6.0.”](#)

**Note**

The license for CiscoView is sold separately if used to manage the ONS 15530, ONS 15540 ESP, or ONS 15540 ESPx. If you are using this feature in a production environment to manage the ONS 15530, ONS 15540 ESP, or ONS 15540 ESPx, you must purchase a license for LAN Management Solution (LMS) Release 2.5, which includes CiscoView.

The license for CiscoView is bundled with CTM if used to manage the ONS 15501 DC or AC. You do not need to purchase a separate CiscoView license to manage the ONS 15501 DC or AC.

If you check the Install CiscoView Server check box, you receive the following prompt:

```
CiscoView installation has been moved to CTM Server Disk 3. After CTM server has
been installed, insert the CTM Server Disk 3 and run the './installCiscoView.sh'
script.
```

You must install the CTM server before you can install CiscoView. After installing the CTM server, see [Chapter 6, “Installing and Setting Up CiscoView.”](#)

- Step 9** At the CTM Group Information & Sudo Installation screen, complete the following substeps:
- Enter the name of the UNIX group to which you want to assign administrator privileges.
  - To install sudo, check the **Install CTM Sudo** check box. If you do not want to install sudo, uncheck the check box.
  - Click **Next**.

**Note**

For information about the sudo feature, see [1.4.1 Overview of Sudo Commands, page 1-12](#).

- Step 10** At the FTP Information screen, complete the following substeps to configure an FTP account for ONS 15216 EDFA3 software download operations:
- Enter the following information:
    - FTP username
    - FTP user password
    - Confirm FTP user password
    - FTP directory
  - Check or uncheck the **Create new FTP Account** check box. If checked, the FTP user will be created automatically on the CTM server workstation by the install script. If unchecked, it is assumed that an FTP user already exists on the CTM server workstation.
  - Click **Next**.

**Note**

The FTP information that you enter during the CTM server installation can be modified later from the CTM client Control Panel window. Refer to *Cisco Transport Manager Release 6.0 User Guide* for more information.

- Step 11** At the Main Options screen, complete the following substeps:
- Check the **Create CTM database** check box and specify the Oracle SID. The default is CTM.
  - Check the **Install CTM server** check box.




---

**Caution** Uncheck the **Check System Settings** check box. Leave the **Migrate historical data** check box unchecked.

---

c. Click **Next**.

**Step 12** At the Server IP Address screen, specify an IP address for the CTM server; then, click **Next**.

**Step 13** At the Select Network Configuration screen, specify the size of your network; then, click **Next**.




---

**Note** If you installed Oracle Standard Edition, you can only choose **Small**.

---

**Step 14** At the Configure TFTP Server screen, complete the following substeps if you want to enable TFTP for the ONS 15216 EDFA2, ONS 15501, ONS 15530, and ONS 15540:

- a. Check the **Enable TFTP Server** check box.
- b. Enter the TFTP directory name. The default is /tftpboot.
- c. Click **Next**.

**Step 15** At the Database Information screen, specify the IP address of the database workstation and specify whether or not you want to install the database in ARCHIVELOG mode. Click **Next**.

**Step 16** At the CTM Database Installation Directories screen, the setup program verifies that the directories exist as recommended in [Table 3-1](#). Click **Next**.

**Step 17** The Migrate CTM Data screen appears with the following messages:

```
Do you want to migrate CTM data?
Do you want to migrate GateWay CORBA data?
```

Log into another terminal window as the root user and enter the following command to stop the server, if it is running:

```
ctms-stop
```

**Step 18** Return to the Migrate CTM Data screen and complete the following substeps:

- a. Click **Yes** to migrate CTM data.
- b. Click **Yes** or **No** to migrate CTM GateWay/CORBA data, depending on your configuration.




---

**Note** If you want to migrate CTM GateWay/CORBA data, you must click **Yes** at this point. You cannot migrate CTM GateWay/CORBA data later.

---

- c. Specify the IP address or hostname of the database server that you are migrating data from.
- d. Enter the password for the ctmanager oracle user. (Use the password of the database you are migrating from; the default is *ctm123!*.)
- e. Click **Next**.




---

**Note** If you entered a hostname, the setup program automatically translates the hostname to a physical IP address and prompts you to confirm the address. Click **Yes**.

---

**Step 19** At the Destination Folder screen, specify where you want to install the CTM server. The default directory is `/opt/CiscoTransportManagerServer`. You can click **Change** to choose a different destination. After you specify your destination, click **Next**.



**Note** If the destination directory that you specified is a new directory, you will receive the message “Specified directory does not exist, create it?” Click **Yes**.



**Caution** CTM checks for the `/opt/CiscoTransportManagerServer` directory or a symbolic link to it. If CTM cannot find the `/opt/CiscoTransportManagerServer` directory or a symbolic link, CTM creates a symbolic link automatically. Therefore, do not delete any instances of `/opt/CiscoTransportManagerServer` from your CTM file structure.

**Step 20** The Pre-Installation Summary screen shows the items that will be installed. Click **Install**.



**Note** It might take 30 to 60 minutes or longer to migrate basic data, depending on your system performance and on the amount of data that you are migrating.

**Step 21** At the Insert New Media screen, complete the following substeps:

- a. Eject the CTM Server Disk 1 installation CD, insert the CTM Server Disk 2 installation CD, and click **Browse**.
- b. The Select a Folder dialog box opens. Double-click **cdrom**; then, single-click **cdrom0**. The filename text box now reads `/cdrom/cdrom0`.
- c. In the Select a Folder dialog box, click **Select**.
- d. In the Insert New Media screen, click **OK**.

**Step 22** The Web Server Installation Summary screen summarizes the results of the web server installation. Click **Next**.

**Step 23** The Install Complete screen summarizes the results of the installation. Click **Done**.

**Step 24** Enter the following command to reboot the system. The CTM server starts automatically after rebooting:

```
init 6
```

**Step 25** To verify that the CTM R6.0 server is running, enter the **showctm** command after the server reboots. The **showctm** command displays the CTM server version running as 6.0, followed by the build number. In the output, you will see two instances of “CTMServer,” “SnmpTrapService,” “SMService,” and “Apache Web Server.” This indicates that the CTM server is running. You should also see NE-specific processes, depending on your network. You might also see CTM GateWay/CORBA and CTM GateWay/TL1 instances.

### 3.3.9 Copying the Client Upgrade Files After the CTM Server Installation

You have two options for upgrading each client installation to the latest version of CTM that is on the server. You can choose to:

- Manually upgrade each client installation. If you have a previously installed version of the CTM client, you must delete the directory where the previous client is installed before installing the CTM R6.0 client. See [5.1 Installing the CTM Client and Cisco Edge Craft on Microsoft Windows, page 5-2](#) or [5.4 Installing the CTM Client and Cisco Edge Craft on Sun Solaris, page 5-6](#) for more information.
- Automatically upgrade each client when it connects to a server. During login, if the CTM client software version is older than the CTM server software version, the client will be prompted for upgrade. See [5.2 Starting the CTM Client in Microsoft Windows, page 5-5](#) or [5.5 Starting the CTM Client in Sun Solaris, page 5-8](#) for more information.

For this option you must copy the client installation files to the server. The CTM client and server installation files reside on separate installation CDs. To copy the client installation files to the server, you must eject the CTM server CD, insert the CTM client CD, and run an automated script, `CopyUpgradeFiles.sh`, to copy the client installation files to a specific folder under the CTM server installation directory. To do this, log in as the root user and complete the following steps.



#### Note

The CTM server must be installed before completing the following steps.

**Step 1** Enter the following commands to eject the CTM server installation CD:

```
cd /
eject cdrom
```

**Step 2** Insert the CTM client installation CD and enter the following commands:

```
cd /cdrom/cdrom0/ctmc
./CopyUpgradeFiles.sh
```

## 3.4 Upgrading from CTM R4.7.x and Oracle8i to CTM R6.0 and Oracle9i on Separate Workstations

This section describes how to upgrade from CTM R4.7.x and Oracle8i to CTM R6.0 and Oracle9i when you are installing the CTM R6.0 server and the Oracle9i database on separate Sun Solaris 8 servers.



#### Caution

Before upgrading your database to CTM R6.0, it is strongly recommended that you back up your CTM R4.7.x database. If you do so, you can revert to your old data in the event that the upgrade fails. To back up the database, see *Cisco Transport Manager Release 6.0 User Guide*, which is available online at <http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/optnet/ctm/index.htm>. Refer to the section “Backing Up the CTM Database from the CTM GUI.”



#### Note

The C shell is assumed for all UNIX commands.

## 3.4.1 Setting the Environment for Installation on the CTM Database Workstation

To set the environment for installation, log into the database server as the root user and complete the following steps:

**Step 1** Enter the following command to verify that the disk directories shown in [Table 3-2](#) exist:

```
ls -l
```

**Table 3-2** Disk Directories

Directory	Contents
/db01	For the system tablespace used by Oracle
/db02	For the basedata tablespace, the alarmdata tablespace, the eventdata tablespace used by CTM, and the system tablespace used by Oracle
/db03	For the data tablespace used by CTM
/db04	For the INDEX tablespace used by CTM
/db05 <sup>1</sup>	For the archived logs
/ctm_backup <sup>2</sup>	For the backed-up database and configuration files
/oraclesw9i	For the Oracle software
/tftpboot	For the TFTP directory
	<b>Note</b> Disk partitioning is not required for /tftpboot, but the directory is required.

1. If you want to install the CTM database in ARCHIVELOG mode, the /db05 directory is required. ARCHIVELOG mode is required for hot backups.
2. The /ctm\_backup directory can be a symbolic link to a storage device. Note that performance degrades if you map all of your symbolic links to the same partition and you do not have disk striping.

**Step 2** Enter the following command to modify the password file:

```
vi /etc/passwd
```

**Step 3** Navigate to the entry that looks similar to the following:

```
oracle:x:100:3303::/oraclesw:/bin/csh
```

**Step 4** In the entry, change /oraclesw to **/oraclesw9i**. The entry should now look similar to the following:

```
oracle:x:100:3303::/oraclesw9i:/bin/csh
```

**Step 5** Enter the following command to save the changes:

```
:wq!
```

## 3.4.2 Installing the Oracle9i Software on the CTM Database Workstation

**Step 1** Insert the CTM Server Disk 1 installation CD and enter the following command:

```
cd /cdrom/cdrom0/Disk1
```

**Step 2** Enter the following command to list the files in the cdrom/cdrom0/Disk1 directory:

```
ls -laR
```



**Note** If a list of files is returned, it indicates that you can access the CD-ROM successfully. If no files are visible, or if an error message is returned, refer to Sun Solaris documentation for mounting the CD-ROM.

**Step 3** Enter the following command to copy the default profile to the Oracle home directory:

```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/cfg/{small | medium | large | highend}/.cshrc
/oraclesw9i/.cshrc
```

For example, to copy the default profile for a small network, enter:

```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/cfg/small/.cshrc /oraclesw9i/.cshrc
```



**Note** If you installed Oracle Standard Edition, you must copy the default profile for a small network.

**Step 4** Enter the following command to determine what type of applications you can run on your OS:

```
isainfo -kv
```

If the output reads “64-bit sparcv9 kernel modules,” you can run both 64-bit and 32-bit applications. If the output reads “32-bit sparcv9 kernel modules,” you can run only 32-bit applications.



**Note** It is recommended that you be able to run both 64-bit and 32-bit applications.

**Step 5** Complete one of the following options, depending on your Oracle version:

- If you are installing 32-bit Oracle Enterprise Edition, enter:

```
cp /cdrom/cdrom0/Disk1/svrcustom.rsp /oraclesw9i
cp /cdrom/cdrom0/Disk1/patchset.rsp /oraclesw9i
```

- If you are installing 64-bit Oracle Enterprise Edition, enter:

```
cp /cdrom/cdrom0/Disk1/svrcustom_64bit.rsp /oraclesw9i
cp /cdrom/cdrom0/Disk1/patchset_64bit.rsp /oraclesw9i
```

- If you are installing 32-bit Oracle Standard Edition, enter:

```
cp /cdrom/cdrom0/Disk1/svrcustom_std.rsp /oraclesw9i
cp /cdrom/cdrom0/Disk1/patchset.rsp /oraclesw9i
```

- If you are installing 64-bit Oracle Standard Edition, enter:

```
cp /cdrom/cdrom0/Disk1/svrcustom_std_64bit.rsp /oraclesw9i
cp /cdrom/cdrom0/Disk1/patchset_64bit.rsp /oraclesw9i
```

**Step 6** (Optional) Enter the following commands to change ownership of the Oracle software directories:

```
/usr/bin/chown -R oracle:dba /oraclesw9i
/usr/bin/chown -R oracle:dba /db01
/usr/bin/chown -R oracle:dba /db02
/usr/bin/chown -R oracle:dba /db03
/usr/bin/chown -R oracle:dba /db04
/usr/bin/chown -R oracle:dba /db05
/usr/bin/chown -R oracle:dba /ctm_backup
```

**Step 7** Enter the following commands to eject the CTM Server Disk 1 installation CD:

```
cd /
eject cdrom
```

- Step 8** If you are using an xterm window or a remote host, enter the following command to enable the xterm connection from the clients:

```
/usr/openwin/bin/xhost +
```

### 3.4.3 Installing the Oracle9i Software with the .rsp Response File Provided by Cisco on the CTM Database Workstation

- Step 1** Complete the following substeps to shut down all of the CTM clients:

- a. In the Domain Explorer window, choose **Administration > CTM Users**.
- b. In the CTM Users table, choose **Administration > Logged In CTM Users**.
- c. In the Logged In CTM Users table, select the user whose session will be ended and choose **Administration > Log Out User** (or click the **Log Out User** tool).
- d. Click **Yes** at the following prompt:

```
This operation will log out the selected CTM user. The process will take approximately
1 minute and this CTM client will be unusable until then. Do you wish to continue?
```

Wait while the CTM server logs out the selected CTM client. The CTM GUI is frozen for approximately 1 minute until the request is complete.

- Step 2** As the root user, enter the following command to stop the workstation where the CTM server is running:

```
ctms-stop
```

- Step 3** Enter the following command to remove the oraInst.loc file, if it exists:

```
rm /var/opt/oracle/oraInst.loc
```

- Step 4** On the workstation where the CTM database is running, enter the following commands to stop the Oracle listener and shut down all Oracle processes, if they are running:

```
csh
source /oraclesw/.cshrc
lsnrctl stop
sqlplus /nolog
SQL> connect / as sysdba
SQL> shutdown immediate
SQL> exit
```

- Step 5** Enter the following command to log in as the oracle user:

```
su - oracle
```



**Tip** To verify the username, enter the **id** command.

- Step 6** Insert disk one of the Oracle9i installation CDs in the CD-ROM drive.

- Step 7** Enter the following command to set the display on your terminal:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

**Step 8** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

**Step 9** Complete one of the following options, depending on your Oracle version:

- If you are installing 32-bit Oracle Enterprise Edition, enter the following command to start the Oracle Installer:

```
cd /cdrom/cdrom0
./runInstaller -responseFile /oraclesw9i/svrcustom.rsp &
```

- If you are installing 64-bit Oracle Enterprise Edition, enter the following command to start the Oracle Installer:

```
cd /cdrom/cdrom0
./runInstaller -responseFile /oraclesw9i/svrcustom_64bit.rsp &
```

- If you are installing 32-bit Oracle Standard Edition, enter the following command to start the Oracle Installer:

```
cd /cdrom/cdrom0
./runInstaller -responseFile /oraclesw9i/svrcustom_std.rsp &
```

- If you are installing 64-bit Oracle Standard Edition, enter the following command to start the Oracle Installer:

```
cd /cdrom/cdrom0
./runInstaller -responseFile /oraclesw9i/svrcustom_std_64bit.rsp &
```

**Step 10** At the Inventory Location screen, click **OK**.

**Step 11** The Oracle Universal Installer screen appears and prompts you to run the /tmp/orainstRoot.sh script. Log into another terminal window as the root user and enter the following command:

```
cd /tmp/
```




---

**Note** The Installer does not prompt you to run the /tmp/orainstRoot.sh script if you have a previous version of Oracle installed on your workstation or if the /var/opt/oracle/oratab file already exists on your workstation.

---

**Step 12** Enter the following command to run the orainstRoot.sh script:

```
./orainstRoot.sh
```

**Step 13** Return to the Oracle Universal Installer screen and click **Continue**.




---


**Note** The Oracle Universal Installer process might take up to 5 minutes.

---

**Step 14** The Disk Location dialog box prompts you for disk two of the Oracle9i installation CDs. Return to the terminal window where you ran the ./runInstaller command and press **Return** on your keyboard to bring up the command prompt.

**Step 15** Enter the following command at the command prompt:

```
eject cdrom
```

- Step 16** Remove disk one and insert disk two of the Oracle9i installation CDs.
- Step 17** Minimize the terminal window.
- Step 18** Return to the Disk Location dialog box and change the path to read as one of the following, depending on your Oracle version:
- For 32-bit Oracle, enter:  
`/cdrom/cdrom0/orcl9201_2`
  - For 64-bit Oracle, enter:  
`/cdrom/cdrom0/disk2`
- Click **OK**.
- Step 19** The Disk Location dialog box prompts you for disk three of the Oracle9i installation CDs. Return to the terminal window where you ran the `./runInstaller` command and press **Return** on your keyboard to bring up the command prompt.
- Step 20** Enter the following command at the command prompt:
- ```
eject cdrom
```
- Step 21** Remove disk two and insert disk three of the Oracle9i installation CDs.
- Step 22** Minimize the terminal window.
- Step 23** Return to the Disk Location dialog box and change the path to read as one of the following, depending on your Oracle version:
- For 32-bit Oracle, enter:  
`/cdrom/cdrom0/orcl9201_3`
  - For 64-bit Oracle, enter:  
`/cdrom/cdrom0/disk3`
- Click **OK**.
- Step 24** You are prompted to run `/oraclesw9i/product/9.2/root.sh` from another window. Log into another terminal window as the root user and enter the following command:
- ```
cd /oraclesw9i/product/9.2
```
- Step 25** Enter the following command to run the `root.sh` script:
- ```
./root.sh
```
- Step 26** At the prompt for the local bin directory, enter the following path in the `root.sh` script:
-  **Note** The `/oraclesw9i/product/9.2/local/bin` directory must be created before running the `root.sh` script.
- ```
/oraclesw9i/product/9.2/local/bin
```
- Step 27** Return to the Oracle Setup Privileges screen and click **OK**.
- Step 28** Enter the following command to eject the CD:
- ```
eject cdrom
```

## 3.4.4 Downloading the Oracle Patch Installer on the CTM Database Workstation


**Note**

The Oracle patch installer is used to install additional Oracle patches. If you already installed the Oracle patch installer, you can skip this section.

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.


**Note**

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**Step 2** Click **Patches**.

**Step 3** Click **Simple Search**.

**Step 4** In the Search by Patch Number(s) field, enter **2617419**.

**Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 6** Click **Go**.

**Step 7** Click **Download**.

**Step 8** In the list of patches returned, click the first patch, which has the latest release number.


**Note**

Do not be concerned if the patch refers to a later version of Oracle.

**Step 9** In the Patch 2617419 window, go to the Platform or Language field and choose **Generic Platform** (the default).

**Step 10** Click **Download**.

**Step 11** Save the patch to the `/oraclesw9i/product/9.2` directory.

**Step 12** Enter the following commands to change the patch ownership and unzip the patch:

```
chown oracle:dba /oraclesw9i/product/9.2/p2617419_10102_GENERIC.zip
cd /oraclesw9i/product/9.2
unzip p2617419_10102_GENERIC.zip
```

## 3.4.5 Downloading the 9.2.0.6 Patch for Oracle9i on the CTM Database Workstation

If you already have the 9.2.0.6 patch for Oracle9i installed, you can skip this section. To find out which patches have been installed, enter the following commands as the oracle user:

```
cd $ORACLE_HOME/OPatch/
./opatch lsinventory -detail | grep -i "oracle9i patch"
```

The output shows:

```
Oracle9i Patch                      9.2.0.6.0
```

- Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



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- Step 2** Click **Patches**.
- Step 3** Click **Simple Search**.
- Step 4** In the Search by Patch Number(s) field, enter **3948480**.
- Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 6** Click **Go**.
- Step 7** Click **Download**. For 32-bit Oracle, download **p3948480\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p3948480\_9206\_SOLARIS64.zip**.
- Step 8** As the oracle user, save the patch to the /oraclesw9i directory.
- Step 9** As the oracle user, enter one of the following sets of commands to prepare the patch set, depending on your Oracle version:
- For 32-bit Oracle, enter:
 

```
cd /oraclesw9i
unzip p3948480_9206_SOLARIS.zip
```
  - For 64-bit Oracle, enter:
 

```
cd /oraclesw9i
unzip p3948480_9206_SOLARIS64.zip
```

## 3.4.6 Installing the 9.2.0.6 Patch for Oracle9i on the CTM Database Workstation



**Note** If you already have the 9.2.0.6 patch for Oracle9i installed, you can skip this section.

- Step 1** Insert disk one of the CTM installation CDs in the CD-ROM drive.
- Step 2** Enter the following command to log into the database workstation as the oracle user:

```
su - oracle
```

- Step 3** If you are using an xterm window or a remote host, enter the following command to set the DISPLAY variable:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

- Step 4** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

- Step 5** Depending on your Oracle version, enter one of the following sets of commands to install the 9.2.0.6 patch:

- For 32-bit Oracle, enter:

```
cd /oraclesw9i/Disk1
./runInstaller -responseFile /oraclesw9i/patchset.rsp
```

- For 64-bit Oracle, enter:

```
cd /oraclesw9i/Disk1
./runInstaller -responseFile /oraclesw9i/patchset_64bit.rsp
```



**Note** If the Disk Location screen pops up, click **Cancel**.

- Step 6** At the prompt to run the root.sh script, log into another terminal window as the root user and enter the following commands:

```
cd /oraclesw9i/product/9.2
./root.sh
```

- Step 7** After the script finishes running, return to the prompt popup window and click **OK**.

- Step 8** Click **Next**.

- Step 9** Enter the following commands to eject the CD:

```
cd /
eject cdrom
```

- Step 10** After the patch is installed, read the Oracle patch README.html file to carry out the post-installation steps and check any caveats associated with this patch.

- Step 11** Depending on your Oracle version, enter one of the following sets of commands to remove the 9.2.0.6 patch installation files:

- For 32-bit Oracle, enter:

```
rm -rf /oraclesw9i/Disk1
rm -rf /oraclesw9i/p3948480_9206_SOLARIS.zip
rm -rf /oraclesw9i/README.html
```

- For 64-bit Oracle, enter:

```
rm -rf /oraclesw9i/Disk1
```

```
rm -rf /oraclesw9i/p3948480_9206_SOLARIS64.zip
rm -rf /oraclesw9i/README.html
```

---

## 3.4.7 Installing and Applying Additional Oracle Patches on the CTM Database Workstation

Complete the following steps to install and apply additional required Oracle patches.

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



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---

**Step 2** Click **Patches**.

**Step 3** Click **Simple Search**.

**Step 4** In the Search by Patch Number field, enter **2733910**.

**Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 6** Click **Go**.

**Step 7** Click **Download**. For 32-bit Oracle, download **p2733910\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p2733910\_9206\_SOLARIS64.zip**.

**Step 8** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```



**Note** The 32-bit patch 2733910 unzips to ./4092208. This is not an error.

---

**Step 9** In the MetaLink window, click **Patches**.

**Step 10** Click **Simple Search**.

**Step 11** In the Search by Patch Number field, enter **4067938**.

**Step 12** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 13** Click **Go**.

**Step 14** Click **Download**. For 32-bit Oracle, download **p4067938\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4067938\_9206\_SOLARIS64.zip**.

**Step 15** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```

**Step 16** In the MetaLink window, click **Patches**.

**Step 17** Click **Simple Search**.

**Step 18** In the Search by Patch Number field, enter **4147836**.

**Step 19** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 20** Click **Go**.

**Step 21** Click **Download**. For 32-bit Oracle, download **p4147836\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4147836\_9206\_SOLARIS64.zip**.

**Step 22** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```

**Step 23** For 64-bit Oracle only, the **opatch apply** command might fail. If this happens, edit the \$ORACLE\_HOME/inventory/ContentsXML/oraclehomeproperties.xml file by changing <ARU\_ID>453</ARU\_ID> to <ARU\_ID>23</ARU\_ID>. This is a known Oracle bug.

**Step 24** Depending on your configuration, enter one of the following sets of commands as the oracle user to change directories to the patch directory and apply the 2733910 patch (which unzips to 4092208 on a 32-bit workstation):

- For 32-bit, enter:

```
cd 4092208
/oraclesw9i/product/9.2/OPatch/opatch apply
```

- For 64-bit, enter:

```
cd 2733910
/oraclesw9i/product/9.2/OPatch/opatch apply
```

**Step 25** Enter the following commands to change directories to the patch directory and apply the 4067938 patch:

```
cd 4067938
/oraclesw9i/product/9.2/OPatch/opatch apply
```

**Step 26** Enter the following commands to change directories to the patch directory and apply the 4147836 patch:

```
cd 4147836
/oraclesw9i/product/9.2/OPatch/opatch apply
```

**Step 27** As the oracle user, enter the following commands to restart the CTM R4.7.x database and the Oracle listener:

```
csh
source /oraclesw/.cshrc
sqlplus /nolog
SQL> connect / as sysdba
SQL> startup
SQL> exit
```

```
lsnrctl start
```

---

## 3.4.8 Installing the CTM R6.0 Database and Migrating Basic Data on the CTM Database Workstation



**Note** Before installing the CTM database, verify that Oracle9i is installed in the /oraclesw9i directory.

To install the CTM R6.0 database and migrate basic data, log into the database server as the root user and complete the following steps:

**Step 1** If you are using an xterm window or a remote host, enter the following command to set the DISPLAY variable:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

**Step 2** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

**Step 3** Insert the CTM Server Disk 1 installation CD and enter the following commands:

```
cd /
cdrom/cdrom0/Disk1/ctmsetup.sh
```

The setup program searches for Sun Microsystems JRE version 1.4.2\_05 on your workstation.



**Note** If JRE is not installed, the setup program starts the Java installation program. Follow the prompts to install JRE. Enter **yes** at the following binary license code agreement prompt:

```
Do you agree to the above license terms? [yes or no]
```

Then, continue installing the CTM database.



**Note** If the required Solaris patches are missing, you must install them manually. Click **Cancel**; then, click **Quit**. Download the patches from SunSolve Online at <http://sunsolve.sun.com>. After you install the patches, continue installing the CTM database.

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Wait for up to 60 seconds while the following message appears:

```
Ctmsetup.sh is installing CTM server...
```

**Step 4** Click **Next** at the Introduction screen.

**Step 5** At the License Agreement screen, read the license agreement and click the **I accept the terms of the license agreement** radio button. Click **Next**.

- Step 6** At the Installation Options screen, choose **Upgrade from existing CTM release**; then, click **Next**.
- Step 7** At the Database Migration Information screen, confirm the migration details; then, click **Next**.
- Step 8** At the Select Products screen, check the **Install Cisco Transport Manager Server** check box; then, click **Next**.



**Note** The Install Web Server check box is selected automatically when you choose Install Cisco Transport Manager Server. The Install Web Server option allows you to use an HTTP connection to download files from the CTM server to the CTM client. The web server is also used to launch the online help and CiscoView, which is an application used by CTM to configure and monitor ONS 155xx NEs. The web server is required for the CTM server.



**Caution** Do not check the other check boxes on the Select Products screen.



**Note** When you choose Install Cisco Transport Manager Server, the High Availability Installation option becomes available. This option applies only to HA installations. Do not choose it. To install HA, refer to *Cisco Transport Manager High Availability Installation Guide for CTM R6.0*.



**Note** The license for CTM GateWay/CORBA is sold separately. If you are using this feature in a production environment, you must purchase a license. You can install CTM GateWay/CORBA when you install the CTM server; however, this section assumes that you are installing the two products separately. For more information, see [Chapter 4, “Installing CTM GateWay/CORBA R6.0.”](#)



**Note** The license for CiscoView is sold separately if used to manage the ONS 15530, ONS 15540 ESP, or ONS 15540 ESPx. If you are using this feature in a production environment to manage the ONS 15530, ONS 15540 ESP, or ONS 15540 ESPx, you must purchase a license for LAN Management Solution (LMS) Release 2.5, which includes CiscoView.

The license for CiscoView is bundled with CTM if used to manage the ONS 15501 DC or AC. You do not need to purchase a separate CiscoView license to manage the ONS 15501 DC or AC.

If you check the Install CiscoView Server check box, you receive the following prompt:

```
CiscoView installation has been moved to CTM Server Disk 3. After CTM server has
been installed, insert the CTM Server Disk 3 and run the './installCiscoView.sh'
script.
```

You must install the CTM server before you can install CiscoView. After installing the CTM server, see [Chapter 6, “Installing and Setting Up CiscoView.”](#)

- Step 9** At the CTM Group Information & Sudo Installation screen, complete the following substeps:
- a. Enter the name of the UNIX group to which you want to assign administrator privileges.

- b. To install sudo, check the **Install CTM Sudo** check box. If you do not want to install sudo, uncheck the check box.
- c. Click **Next**.



**Note** For information about the sudo feature, see [1.4.1 Overview of Sudo Commands, page 1-12](#).

**Step 10** At the FTP Information screen, accept the default selections; then, click **Next**.

**Step 11** At the Main Options screen, check only the **Create CTM database** check box and specify the Oracle SID. (The default is CTM.) Click **Next**.



**Caution** Be sure to uncheck the other check boxes on the Main Options screen.

**Step 12** At the Specify CTM Server IP Address screen, enter the IP address or hostname of the workstation where the CTM server will run; then, click **Next**.



**Note** If you entered a hostname, the setup program automatically translates the hostname to a physical IP address and prompts you to confirm the address. Click **Yes**.

**Step 13** At the Select Network Configuration screen, specify the size of your network; then, click **Next**.



**Note** If you installed Oracle Standard Edition, you can only choose **Small**.

**Step 14** At the Database Information screen, specify the IP address of the database workstation and specify whether or not you want to install the database in ARCHIVELOG mode. Click **Next**.

**Step 15** At the CTM Database Installation Directories screen, the setup program verifies that the directories exist as recommended in [Table 3-2](#). Click **Next**.

**Step 16** The Migrate CTM Data screen appears with the following messages:

```
Do you want to migrate CTM data?
Do you want to migrate GateWay CORBA data?
```

As the root user, log into a terminal window on the CTM server and enter the following command to stop the previous version of the CTM server:

```
ctms-stop
```

**Step 17** Return to the Migrate CTM Data screen and complete the following substeps:

- a. Click **Yes** to migrate CTM data.
- b. Click **Yes** or **No** to migrate CTM GateWay/CORBA data, depending on your configuration.



**Note** If you want to migrate CTM GateWay/CORBA data, you must click **Yes** at this point. You cannot migrate CTM GateWay/CORBA data later.

- c. Specify the IP address or hostname of the database server that you are migrating data from.
- d. Enter the password for the ctmanager oracle user. (Use the password of the database you are migrating from; the default is *ctm123!*.)

- e. Click **Next**.



**Note** If you entered a hostname, the setup program automatically translates the hostname to a physical IP address and prompts you to confirm the address. Click **Yes**.

- Step 18** At the Pre-Installation Summary screen, click **Install** to create the CTM database and migrate basic data.



**Note** It might take 30 to 60 minutes or longer to migrate basic data, depending on your system performance and on the amount of data that you are migrating.

- Step 19** At the Insert New Media screen, complete the following substeps:

- a. Eject the CTM Server Disk 1 installation CD, insert the CTM Server Disk 2 installation CD, and click **Browse**.
- b. The Select a Folder dialog box opens. Double-click **cdrom**; then, single-click **cdrom0**. The filename text box now reads `/cdrom/cdrom0`.
- c. In the Select a Folder dialog box, click **Select**.
- d. In the Insert New Media screen, click **OK**.

- Step 20** The Install Complete screen summarizes the results of the installation. Click **Done**.

## 3.4.9 Installing the Oracle9i Client on the CTM Server Workstation

This section describes how to install the Oracle9i client software on a Sun Solaris 8 server to meet the CTM server requirements for a remote database configuration.

Log in as the root user on the workstation where the CTM server will run and complete the following steps:

- Step 1** Enter the following command to verify that the disk directories shown in [Table 3-3](#) exist:

```
ls -l
```

**Table 3-3** Disk Directories

| Directory                | Contents                                                                                    |
|--------------------------|---------------------------------------------------------------------------------------------|
| /ctm_backup <sup>1</sup> | For the backed-up configuration files                                                       |
| /oraclesw9i              | For the Oracle software                                                                     |
| /tftpboot                | For the TFTP directory                                                                      |
|                          | <b>Note</b> Disk partitioning is not required for /tftpboot, but the directory is required. |

1. The /ctm\_backup directory can be a symbolic link to a storage device. Note that performance degrades if you map all of your symbolic links to the same partition and you do not have disk striping.

- Step 2** Enter the following command to modify the password file:

```
vi /etc/passwd
```

**Step 3** Navigate to the entry that looks similar to the following:

```
oracle:x:100:3303::/oraclesw:/bin/csh
```

**Step 4** In the entry, change /oraclesw to **/oraclesw9i**. The entry should now look similar to the following:

```
oracle:x:100:3303::/oraclesw9i:/bin/csh
```

**Step 5** Enter the following command to save the changes:

```
:wq!
```

**Step 6** Enter the following commands to create a soft link to use your existing partitions:

```
ln -s /<partition_name_1> /ctm_backup
ln -s /<partition_name_2> /oraclesw9i
```

**Step 7** Enter the following command to enable the xterm connection from the clients:

```
/usr/openwin/bin/xhost +
```

**Step 8** Insert the CTM Server Disk 1 installation CD.

**Step 9** Enter the following command to copy the default profile to the Oracle home directory:

```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/cfg/{small | medium | large | highend}/.cshrc
/oraclesw9i/.cshrc
```

For example, to copy the default profile for a small network, enter:

```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/cfg/small/.cshrc /oraclesw9i/.cshrc
```

**Step 10** Complete one of the following options, depending on your Oracle version:

- If you are installing 32-bit Oracle Enterprise Edition, enter the following command to copy the clientcustom.rsp response file to your workstation:

```
cp /cdrom/cdrom0/Disk1/clientcustom.rsp /oraclesw9i
cp /cdrom/cdrom0/Disk1/patchset.rsp /oraclesw9i
```

- If you are installing 64-bit Oracle Enterprise Edition, enter the following command to copy the clientcustom\_64bit.rsp response file to your workstation:

```
cp /cdrom/cdrom0/Disk1/clientcustom_64bit.rsp /oraclesw9i
cp /cdrom/cdrom0/Disk1/patchset_64bit.rsp /oraclesw9i
```

- If you are installing 32-bit Oracle Standard Edition, enter the following command to copy the clientcustom\_std.rsp response file to your workstation:

```
cp /cdrom/cdrom0/Disk1/clientcustom_std.rsp /oraclesw9i
cp /cdrom/cdrom0/Disk1/patchset.rsp /oraclesw9i
```

- If you are installing 64-bit Oracle Standard Edition, enter the following command to copy the clientcustom\_std\_64bit.rsp response file to your workstation:

```
cp /cdrom/cdrom0/Disk1/clientcustom_std_64bit.rsp /oraclesw9i
cp /cdrom/cdrom0/Disk1/patchset_64bit.rsp /oraclesw9i
```

**Step 11** Enter the following commands to change ownership of the Oracle software directories:

```
/usr/bin/chown -R oracle:dba /oraclesw9i
/usr/bin/chown -R oracle:dba /ctm_backup
```

**Step 12** Enter the following commands to eject the CTM Server Disk 1 installation CD:

```
cd /
eject cdrom
```

**Step 13** Enter the following command to remove the oraInst.loc file, if it exists:

```
rm /var/opt/oracle/oraInst.loc
```

**Step 14** Enter the following command to log in as the oracle user:

```
su - oracle
```



**Tip** To verify the username, enter the **id** command.

**Step 15** Insert disk one of the Oracle9i installation CDs.

**Step 16** Enter the following command to set the display on your terminal:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

**Step 17** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

**Step 18** Enter the following command to point to the cdrom/cdrom0 directory:

```
cd /cdrom/cdrom0
```

**Step 19** Depending on your Oracle version, complete one of the following options to install the Oracle client:

- If you are installing 32-bit Oracle Enterprise Edition, enter:
 

```
./runInstaller -responseFile /oraclesw9i/clientcustom.rsp
```
- If you are installing 64-bit Oracle Enterprise Edition, enter:
 

```
./runInstaller -responseFile /oraclesw9i/clientcustom_64bit.rsp
```
- If you are installing 32-bit Oracle Standard Edition, enter:
 

```
./runInstaller -responseFile /oraclesw9i/clientcustom_std.rsp
```
- If you are installing 64-bit Oracle Standard Edition, enter:
 

```
./runInstaller -responseFile /oraclesw9i/clientcustom_std_64bit.rsp
```

**Step 20** The Oracle Universal Installer screen prompts you to run the /tmp/orainstRoot.sh script. Log into another terminal window as the root user and enter the following command:

```
cd /tmp
```



**Note** The Installer does not prompt you to run the /tmp/orainstRoot.sh script if you have a previous version of Oracle installed on your workstation or if the /var/opt/oracle/oratab file already exists on your workstation.

**Step 21** Enter the following command to run the orainstRoot.sh script:

```
./orainstRoot.sh
```

**Step 22** Return to the Oracle Universal Installer screen and click **Continue**.



---

**Note** The Oracle Universal Installer process might take up to 5 minutes.

---

**Step 23** You are prompted to run `/oraclesw9i/product/9.2/root.sh` from another window. Log into another terminal window as the root user and enter the following command:

```
cd /oraclesw9i/product/9.2
```

**Step 24** Enter the following command to run the root.sh script:

```
./root.sh
```

**Step 25** At the prompt for the local bin directory, enter the following command in the root.sh script:

```
/oraclesw9i/product/9.2/local/bin
```

**Step 26** Return to the Oracle Setup Privileges screen and click **OK**.

**Step 27** Enter the following commands to eject the CD:

```
cd /  
eject cdrom
```

---

### 3.4.9.1 Downloading the Oracle Patch Installer on the CTM Server Workstation



---

**Note** The Oracle patch installer is used to install additional Oracle patches. If you already installed the Oracle patch installer, you can skip this section.

---

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



---

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---

**Step 2** Click **Patches**.

**Step 3** Click **Simple Search**.

**Step 4** In the Search by Patch Number(s) field, enter **2617419**.

**Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 6** Click **Go**.

**Step 7** Click **Download**.

**Step 8** In the list of patches returned, click the first patch, which has the latest release number.



---

**Note** Do not be concerned if the patch refers to a later version of Oracle.

---

- Step 9** In the Patch 2617419 window, go to the Platform or Language field and choose **Generic Platform** (the default).
- Step 10** Click **Download**.
- Step 11** Save the patch to the `/oraclesw9i/product/9.2` directory.
- Step 12** Enter the following commands to change the patch ownership and unzip the patch:

```
chown oracle:dba /oraclesw9i/product/9.2/p2617419_10102_GENERIC.zip
cd /oraclesw9i/product/9.2
unzip p2617419_10102_GENERIC.zip
```

### 3.4.9.2 Downloading the 9.2.0.6 Patch for Oracle9i on the CTM Server Workstation



**Note** If you already have the 9.2.0.6 patch for Oracle9i installed, you can skip this section.

- Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



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- Step 2** Click **Patches**.
- Step 3** Click **Simple Search**.
- Step 4** In the Search by Patch Number(s) field, enter **3948480**.
- Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 6** Click **Go**.
- Step 7** Click **Download**. For 32-bit Oracle, download **p3948480\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p3948480\_9206\_SOLARIS64.zip**.
- Step 8** As the oracle user, save the patch to the `/oraclesw9i` directory.
- Step 9** As the oracle user, enter one of the following sets of commands to prepare the patch set, depending on your Oracle version:
- For 32-bit Oracle, enter:
 


```
cd /oraclesw9i
unzip p3948480_9206_SOLARIS.zip
```
  - For 64-bit Oracle, enter:
 

```
cd /oraclesw9i
unzip p3948480_9206_SOLARIS64.zip
```

### 3.4.9.3 Installing the 9.2.0.6 Patch for Oracle9i on the CTM Server Workstation

- Step 1** Insert disk one of the CTM installation CDs in the CD-ROM drive.
- Step 2** Enter the following command to log into the database workstation as the oracle user:
- ```
su - oracle
```
- Step 3** If you are using an xterm window or a remote host, enter the following command to set the DISPLAY variable:
- ```
setenv DISPLAY <hostname_or_IP_address>:0.0
```
- Step 4** Enter the following command to verify that the display is set correctly:
- ```
echo $DISPLAY
```
- In the output, you should see:
- ```
<hostname_or_IP_address>:0.0
```
- Step 5** Depending on your Oracle version, enter one of the following sets of commands to install the 9.2.0.6 patch:
- For 32-bit Oracle, enter:

```
cd /oraclesw9i/Disk1
./runInstaller -responseFile /oraclesw9i/patchset.rsp
```
  - For 64-bit Oracle, enter:

```
cd /oraclesw9i/Disk1
./runInstaller -responseFile /oraclesw9i/patchset_64bit.rsp
```
-  **Note** If the Disk Location screen pops up, click **Cancel**.
- Step 6** At the prompt to run the root.sh script, log into another terminal window as the root user and enter the following commands:
- ```
cd /oraclesw9i/product/9.2
./root.sh
```
- Step 7** After the script finishes running, return to the prompt popup window and click **OK**.
- Step 8** Click **Next**.
- Step 9** Enter the following commands to eject the CD:
- ```
cd /
eject cdrom
```
- Step 10** After the patch is installed, read the Oracle patch README.html file to carry out the post-installation steps and check any caveats associated with this patch.
- Step 11** Depending on your Oracle version, enter one of the following sets of commands to remove the 9.2.0.6 patch installation files:
- For 32-bit Oracle, enter:

```
rm -rf /oraclesw9i/Disk1
rm -rf /oraclesw9i/p3948480_9206_SOLARIS.zip
rm -rf /oraclesw9i/README.html
```

- For 64-bit Oracle, enter:

```
rm -rf /oraclesw9i/Disk1
rm -rf /oraclesw9i/p3948480_9206_SOLARIS64.zip
rm -rf /oraclesw9i/README.html
```

### 3.4.9.4 Installing and Applying Additional Oracle Patches on the CTM Server Workstation

Complete the following steps to install and apply additional required Oracle patches.

- Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



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- Step 2** Click **Patches**.

- Step 3** Click **Simple Search**.

- Step 4** In the Search by Patch Number field, enter **2733910**.

- Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

- Step 6** Click **Go**.

- Step 7** Click **Download**. For 32-bit Oracle, download **p2733910\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p2733910\_9206\_SOLARIS64.zip**.

- Step 8** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```



**Note** The 32-bit patch 2733910 unzips to .4092208. This is not an error.

- Step 9** In the MetaLink window, click **Patches**.

- Step 10** Click **Simple Search**.

- Step 11** In the Search by Patch Number field, enter **4067938**.

- Step 12** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

- Step 13** Click **Go**.

- Step 14** Click **Download**. For 32-bit Oracle, download **p4067938\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4067938\_9206\_SOLARIS64.zip**.

**Step 15** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```

**Step 16** In the MetaLink window, click **Patches**.

**Step 17** Click **Simple Search**.

**Step 18** In the Search by Patch Number field, enter **4147836**.

**Step 19** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 20** Click **Go**.

**Step 21** Click **Download**. For 32-bit Oracle, download **p4147836\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4147836\_9206\_SOLARIS64.zip**.

**Step 22** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```

**Step 23** For 64-bit Oracle only, the **opatch apply** command might fail. If this happens, edit the \$ORACLE\_HOME/inventory/ContentsXML/oraclehomeproperties.xml file by changing <ARU\_ID>453</ARU\_ID> to <ARU\_ID>23</ARU\_ID>. This is a known Oracle bug.

**Step 24** Depending on your configuration, enter one of the following sets of commands as the oracle user to change directories to the patch directory and apply the 2733910 patch (which unzips to 4092208 on a 32-bit workstation):

- For 32-bit, enter:

```
cd 4092208
/oraclesw9i/product/9.2/OPatch/opatch apply
```

- For 64-bit, enter:

```
cd 2733910
/oraclesw9i/product/9.2/OPatch/opatch apply
```

**Step 25** Enter the following commands to change directories to the patch directory and apply the 4067938 patch:

```
cd 4067938
/oraclesw9i/product/9.2/OPatch/opatch apply
```

**Step 26** Enter the following commands to change directories to the patch directory and apply the 4147836 patch:

```
cd 4147836
/oraclesw9i/product/9.2/OPatch/opatch apply
```

## 3.4.10 Updating the UNIX Environment on the CTM Server Workstation

**Step 1** Log in as the root user on the workstation where the CTM R6.0 server will run and insert the CTM Server Disk 1 installation CD.

**Step 2** If the tnsnames.ora file in the /oraclesw9i/product/9.2/network/admin directory exists, enter the following commands to back up the file and copy it from the CTM Server Disk 1 installation CD:

```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/cfg/{small | medium | large |
highend}/tnsnames.ora /oraclesw9i/product/9.2/network/admin/tnsnames.ora
```

**Step 3** Enter the following command to change file permissions:

```
chmod +w /oraclesw9i/product/9.2/network/admin/tnsnames.ora
```

**Step 4** Edit the tnsnames.ora file by replacing the parameter *CTMhostname* with the hostname or IP address of the workstation where Oracle9i is installed and running.

**Step 5** Edit the /var/opt/oracle/oratab file by adding the following line as the first line in the file:

```
<Oracle_SID>:/oraclesw9i/product/9.2:N
```



**Note** The default Oracle SID is CTM.

## 3.4.11 Verifying the Oracle9i Client Connection on the CTM Server Workstation

**Step 1** Verify that the Oracle9i database is running on the workstation where it was installed.

**Step 2** Enter the following command to log in as the oracle user:

```
su - oracle
```

**Step 3** Enter the following command to verify that the Oracle9i database can connect to the CTM server:

```
tnsping <Oracle_SID>
```



**Note** The default Oracle SID is CTM.

You should receive the following reply:

```
Attempting to contact (DESCRIPTION = (ADDRESS = (PROTOCOL= TCP)(Host=
<IP_address_where_database_is_running>)(Port= 1521)) (
CONNECT_DATA = (SID = <ORACLE_SID>)))
OK (0 msec)
```

## 3.4.12 Installing the CTM R6.0 Server

To install the CTM R6.0 server, log in as the root user on the workstation where the CTM R6.0 server will run and complete the following steps:

- Step 1** If you are using an xterm window or a remote host, enter the following command to set the DISPLAY variable:
- ```
setenv DISPLAY <hostname_or_IP_address>:0.0
```
- Step 2** Enter the following command to verify that the display is set correctly:
- ```
echo $DISPLAY
```
- In the output, you should see:
- ```
<hostname_or_IP_address>:0.0
```
- Step 3** Insert the CTM Server Disk 1 installation CD and enter the following commands:
- ```
cd /  
cdrom/cdrom0/Disk1/ctmsetup.sh
```
- The CTM server installation begins. Wait for up to 60 seconds while the following message appears:
- ```
Ctmsetup.sh is installing CTM server...
```
- Step 4** Click **Next** at the Introduction screen.
- Step 5** At the License Agreement screen, read the license agreement and click the **I accept the terms of the license agreement** radio button. Click **Next**.
- Step 6** At the Installation Options screen, choose **Upgrade from existing CTM release**; then, click **Next**.
- Step 7** At the Database Migration Information screen, confirm the migration details and click **Next**.
- Step 8** At the Select Products screen, check only the **Install Cisco Transport Manager Server** check box; then, click **Next**.
- Step 9** At the CTM Group Information & Sudo Installation screen, confirm the name of the UNIX group to which you want to assign administrator privileges. Check or uncheck the **Install CTM Sudo** check box. Click **Next**.
- Step 10** At the FTP Information screen, complete the following substeps to configure an FTP account for ONS 15216 EDFA3 software download operations:
- Enter the following information:
    - FTP username
    - FTP user password
    - Confirm FTP user password
    - FTP directory
  - Check or uncheck the **Create new FTP Account** check box. If checked, the FTP user will be created automatically on the CTM server workstation by the install script. If unchecked, it is assumed that an FTP user already exists on the CTM server workstation.
  - Click **Next**.

**Note**

The FTP information that you enter during the CTM server installation can be modified later from the CTM client Control Panel window. Refer to *Cisco Transport Manager Release 6.0 User Guide* for more information.

**Step 11** At the Main Options screen, check only the **Install CTM server** check box; then, click **Next**.

**Caution**

Be sure to uncheck the other check boxes on the Main Options screen.

**Step 12** At the Server IP Address screen, specify an IP address for the CTM server; then, click **Next**.

**Step 13** At the Select Network Configuration screen, specify the size of your network; then, click **Next**.

**Note**

If you installed Oracle Standard Edition, you can only choose **Small**.

**Step 14** At the Configure TFTP Server screen, complete the following substeps if you want to enable TFTP for the ONS 15216 EDFA2, ONS 15501, ONS 15530, and ONS 15540:

- a. Check the **Enable TFTP Server** check box.
- b. Enter the TFTP directory name. The default is /tftpboot.
- c. Click **Next**.

**Step 15** At the Specify CTM Database to Connect to screen, enter the IP address or hostname of the workstation where Oracle9i is installed; then, click **Next**.

**Note**

If you entered a hostname, the setup program automatically translates the hostname to a physical IP address and prompts you to confirm the address. Click **Yes**.

**Step 16** At the Destination Folder screen, specify where you want to install the CTM server. The default directory is /opt/CiscoTransportManagerServer. You can click **Change** to choose a different destination. After you specify your destination, click **Next**.

**Note**

If the destination directory that you specified is a new directory, you will receive the message “Specified directory does not exist, create it?” Click **Yes**.

**Caution**

CTM checks for the /opt/CiscoTransportManagerServer directory or a symbolic link to it. If CTM cannot find the /opt/CiscoTransportManagerServer directory or a symbolic link, CTM creates a symbolic link automatically. Therefore, do not delete any instances of /opt/CiscoTransportManagerServer from your CTM file structure.

**Step 17** The Pre-Installation Summary screen shows the items that will be installed. Click **Install**.

**Step 18** At the Insert New Media screen, complete the following substeps:

- a. Eject the CTM Server Disk 1 installation CD, insert the CTM Server Disk 2 installation CD, and click **Browse**.
- b. The Select a Folder dialog box opens. Double-click **cdrom**; then, single-click **cdrom0**. The filename text box now reads /cdrom/cdrom0.

- c. In the Select a Folder dialog box, click **Select**.
  - d. In the Insert New Media screen, click **OK**.
- Step 19** The Web Server Installation Summary screen summarizes the results of the web server installation. Click **Next**.
- Step 20** The Install Complete screen summarizes the results of the installation. Click **Done**.
- Step 21** Enter the following command to reboot the system. The CTM server starts automatically after rebooting:
- ```
init 6
```
- Step 22** To verify that the CTM R6.0 server is running, enter the **showctm** command after the server reboots. The **showctm** command displays the CTM server version running as 6.0, followed by the build number. In the output, you will see two instances of “CTMServer,” “SnmpTrapService,” “SMService,” and “Apache Web Server.” This indicates that the CTM server is running. You should also see NE-specific processes, depending on your network. You might also see CTM GateWay/CORBA and CTM GateWay/TL1 instances.
- 

### 3.4.13 Copying the Client Upgrade Files After the CTM Server Installation

You have two options for upgrading each client installation to the latest version of CTM that is on the server. You can choose to:

- Manually upgrade each client installation. If you have a previously installed version of the CTM client, you must delete the directory where the previous client is installed before installing the CTM R6.0 client. See [5.1 Installing the CTM Client and Cisco Edge Craft on Microsoft Windows, page 5-2](#) or [5.4 Installing the CTM Client and Cisco Edge Craft on Sun Solaris, page 5-6](#) for more information.
- Automatically upgrade each client when it connects to a server. During login, if the CTM client software version is older than the CTM server software version, the client will be prompted for upgrade. See [5.2 Starting the CTM Client in Microsoft Windows, page 5-5](#) or [5.5 Starting the CTM Client in Sun Solaris, page 5-8](#) for more information.

For this option you must copy the client installation files to the server. The CTM client and server installation files reside on separate installation CDs. To copy the client installation files to the server, you must eject the CTM server CD, insert the CTM client CD, and run an automated script, `CopyUpgradeFiles.sh`, to copy the client installation files to a specific folder under the CTM server installation directory. To do this, log in as the root user and complete the following steps.



**Note** The CTM server must be installed before completing the following steps.

---

- Step 1** Enter the following commands to eject the CTM server installation CD:

```
cd /  
eject cdrom
```

- Step 2** Insert the CTM client installation CD and enter the following commands:

```
cd /cdrom/cdrom0/ctmc  
./CopyUpgradeFiles.sh
```

---

## 3.5 Upgrading from Cisco MGM R5.0 to CTM R6.0 and Oracle9i on the Same Workstation

This section describes how to upgrade from Cisco MGM R5.0 to CTM R6.0 and Oracle9i when you are installing the CTM R6.0 server and the Oracle9i database on the same Sun Solaris 8 server.



### Caution

Before upgrading your database to CTM R6.0, it is strongly recommended that you back up your Cisco MGM R5.0 database. If you do so, you can revert to your old data in the event that the upgrade fails. To back up the database, see *Cisco Transport Manager Release 6.0 User Guide*, which is available online at <http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/optnet/ctm/index.htm>. Refer to the section “Backing Up the CTM Database from the CTM GUI.”



### Note

The C shell is assumed for all UNIX commands.

When upgrading, you have two options:

- [3.5.1 Retaining 32-Bit Oracle, page 3-72](#)
- [3.5.2 Upgrading from 32-Bit Oracle to 64-Bit Oracle, page 3-72](#)

### 3.5.1 Retaining 32-Bit Oracle

If you are upgrading from MGM R5.0 to CTM R6.0 and you want to retain 32-bit Oracle, no action is required.

### 3.5.2 Upgrading from 32-Bit Oracle to 64-Bit Oracle

To upgrade from 32-bit Oracle to 64-bit Oracle, complete the procedure [3.6.2 Upgrading from 32-Bit Oracle to 64-Bit Oracle on the CTM Database Workstation, page 3-78](#) (and subsections).

### 3.5.3 Installing the CTM R6.0 Server and Database and Migrating Basic Data



### Note

Before installing the CTM database, verify that Oracle9i is installed in the `/oraclesw9i` directory.

To install the CTM server and database and migrate basic data, log in as the root user and complete the following steps:

**Step 1** If you are using an xterm window or a remote host, enter the following command to set the `DISPLAY` variable:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

**Step 2** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

**Step 3** Insert the CTM Server Disk 1 installation CD and enter the following commands:

```
cd /  
cdrom/cdrom0/Disk1/ctmsetup.sh
```

The setup program searches for Sun Microsystems JRE version 1.4.2\_05 on your workstation.



**Note** If JRE is not installed, the setup program starts the Java installation program. Follow the prompts to install JRE. Enter **yes** at the following binary license code agreement prompt:

```
Do you agree to the above license terms? [yes or no]
```

Then, continue installing the CTM server and database.



**Note** If the required Solaris patches are missing, you must install them manually. Click **Cancel**; then, click **Quit**. Download the patches from SunSolve Online at <http://sunsolve.sun.com>. After you install the patches, continue installing the CTM server and database.

This website is Copyright © 2005, Sun Microsystems, Inc. All rights reserved.

Wait for up to 60 seconds while the following message appears:

```
Ctmsetup.sh is installing CTM server...
```

**Step 4** Click **Next** at the Introduction screen.

**Step 5** At the License Agreement screen, read the license agreement and click the **I accept the terms of the license agreement** radio button. Click **Next**.

**Step 6** At the Installation Options screen, choose **Upgrade from existing MGM release**; then, click **Next**.

**Step 7** At the Select Products screen, check the **Install Cisco Transport Manager Server** check box; then, click **Next**.



**Note** The Install Web Server check box is selected automatically when you choose Install Cisco Transport Manager Server. The Install Web Server option allows you to use an HTTP connection to download files from the CTM server to the CTM client. The web server is also used to launch the online help and CiscoView, which is an application used by CTM to configure and monitor ONS 155xx NEs. The web server is required for the CTM server.



**Caution** Do not check the other check boxes on the Select Products screen.



**Note** When you choose Install Cisco Transport Manager Server, the High Availability Installation option becomes available. This option applies only to HA installations. Do not choose it. To install HA, refer to *Cisco Transport Manager High Availability Installation Guide for CTM R6.0*.



**Note** The license for CTM GateWay/CORBA is sold separately. If you are using this feature in a production environment, you must purchase a license. You can install CTM GateWay/CORBA when you install the CTM server; however, this section assumes that you are installing the two products separately. For more information, see [Chapter 4, “Installing CTM GateWay/CORBA R6.0.”](#)



**Note** The license for CiscoView is sold separately if used to manage the ONS 15530, ONS 15540 ESP, or ONS 15540 ESPx. If you are using this feature in a production environment to manage the ONS 15530, ONS 15540 ESP, or ONS 15540 ESPx, you must purchase a license for LAN Management Solution (LMS) Release 2.5, which includes CiscoView.

The license for CiscoView is bundled with CTM if used to manage the ONS 15501 DC or AC. You do not need to purchase a separate CiscoView license to manage the ONS 15501 DC or AC.

If you check the Install CiscoView Server check box, you receive the following prompt:

```
CiscoView installation has been moved to CTM Server Disk 3. After CTM server has
been installed, insert the CTM Server Disk 3 and run the './installCiscoView.sh'
script.
```

You must install the CTM server before you can install CiscoView. After installing the CTM server, see [Chapter 6, “Installing and Setting Up CiscoView.”](#)

- Step 8** At the CTM Group Information & Sudo Installation screen, complete the following substeps:
- Enter the name of the UNIX group to which you want to assign administrator privileges.
  - To install sudo, check the **Install CTM Sudo** check box. If you do not want to install sudo, uncheck the check box.
  - Click **Next**.



**Note** For information about the sudo feature, see [1.4.1 Overview of Sudo Commands, page 1-12](#).

- Step 9** At the FTP Information screen, complete the following substeps to configure an FTP account for ONS 15216 EDFA3 software download operations:
- Enter the following information:
    - FTP username
    - FTP user password
    - Confirm FTP user password
    - FTP directory
  - Check or uncheck the **Create new FTP Account** check box. If checked, the FTP user will be created automatically on the CTM server workstation by the install script. If unchecked, it is assumed that an FTP user already exists on the CTM server workstation.
  - Click **Next**.

**Note**

The FTP information that you enter during the CTM server installation can be modified later from the CTM client Control Panel window. Refer to *Cisco Transport Manager Release 6.0 User Guide* for more information.

- Step 10** At the Main Options screen, complete the following substeps:
- Check the **Upgrade MGM database** check box and specify the Oracle SID. The default is CTM.
  - Check the **Install CTM server** check box.
  - Click **Next**.
- Step 11** At the Server IP Address screen, specify an IP address for the CTM server. The Hostname field is automatically populated with the hostname of the selected IP address. You can change the hostname if needed. After confirming the IP address and hostname details, click **Next**.
- Step 12** At the Select Network Configuration screen, specify the size of your network; then, click **Next**.

**Note**

If you installed Oracle Standard Edition, you can only choose **Small**.

- Step 13** At the Configure TFTP Server screen, complete the following substeps if you want to enable TFTP for the ONS 15216 EDFA2, ONS 15501, ONS 15530, and ONS 15540:
- Check the **Enable TFTP Server** check box.
  - Enter the TFTP directory name. The default is /tftpboot.
  - Click **Next**.
- Step 14** At the Database Information screen, specify the IP address of the database workstation and specify whether or not you want to install the database in ARCHIVELOG mode. Click **Next**.
- Step 15** At the CTM Database Installation Directories screen, the setup program verifies that the directories exist as recommended in [Table 3-1](#). Click **Next**.
- Step 16** The Migrate CTM Data screen appears with the following messages:

```
Do you want to migrate CTM data?  
Do you want to migrate GateWay CORBA data?
```

Log into another terminal window as the root user and enter the following command to stop the server, if it is running:

```
ctms-stop
```

- Step 17** Return to the Migrate CTM Data screen and complete the following substeps:
- Click **Yes** to migrate CTM data.
  - Click **Yes** or **No** to migrate CTM GateWay/CORBA data, depending on your configuration.

**Note**

If you want to migrate CTM GateWay/CORBA data, you must click **Yes** at this point. You cannot migrate CTM GateWay/CORBA data later.

- Specify the IP address or hostname of the database server that you are migrating data from.
- Enter the password for the ctmanager oracle user. (Use the password of the database you are migrating from; the default is *ctm123!*.)
- Click **Next**.




---

**Note** If you entered a hostname, the setup program automatically translates the hostname to a physical IP address and prompts you to confirm the address. Click **Yes**.

---

**Step 18** At the Destination Folder screen, specify where you want to install the CTM server. The default directory is `/opt/CiscoTransportManagerServer`. You can click **Change** to choose a different destination. After you specify your destination, click **Next**.




---

**Note** If the destination directory that you specified is a new directory, you will receive the message “Specified directory does not exist, create it?” Click **Yes**.

---




---

**Caution** CTM checks for the `/opt/CiscoTransportManagerServer` directory or a symbolic link to it. If CTM cannot find the `/opt/CiscoTransportManagerServer` directory or a symbolic link, CTM creates a symbolic link automatically. Therefore, do not delete any instances of `/opt/CiscoTransportManagerServer` from your CTM file structure.

---

**Step 19** The Pre-Installation Summary screen shows the items that will be installed. Click **Install**.




---

**Note** It might take 30 to 60 minutes or longer to migrate basic data, depending on your system performance and on the amount of data that you are migrating.

---

**Step 20** At the Insert New Media screen, complete the following substeps:

- a. Eject the CTM Server Disk 1 installation CD, insert the CTM Server Disk 2 installation CD, and click **Browse**.
- b. The Select a Folder dialog box opens. Double-click **cdrom**; then, single-click **cdrom0**. The filename text box now reads `/cdrom/cdrom0`.
- c. In the Select a Folder dialog box, click **Select**.
- d. In the Insert New Media screen, click **OK**.

**Step 21** The Web Server Installation Summary screen summarizes the results of the web server installation. Click **Next**.

**Step 22** The Install Complete screen summarizes the results of the installation. Click **Done**.

**Step 23** Enter the following command to reboot the system. The CTM server starts automatically after rebooting:

```
init 6
```

**Step 24** To verify that the CTM R6.0 server is running, enter the **showctm** command after the server reboots. The **showctm** command displays the CTM server version running as 6.0, followed by the build number. In the output, you will see two instances of “CTMServer,” “SnmpTrapService,” “SMService,” and “Apache Web Server.” This indicates that the CTM server is running. You should also see MGX NE and PM services. You might also see CTM GateWay/CORBA and CTM GateWay/TL1 instances.

---

## 3.5.4 Copying the Client Upgrade Files After the CTM Server Installation

You have two options for upgrading each client installation to the latest version of CTM that is on the server. You can choose to:

- Manually upgrade each client installation. If you have a previously installed version of the CTM client, you must delete the directory where the previous client is installed before installing the CTM R6.0 client. See [5.1 Installing the CTM Client and Cisco Edge Craft on Microsoft Windows, page 5-2](#) or [5.4 Installing the CTM Client and Cisco Edge Craft on Sun Solaris, page 5-6](#) for more information.
- Automatically upgrade each client when it connects to a server. During login, if the CTM client software version is older than the CTM server software version, the client will be prompted for upgrade. See [5.2 Starting the CTM Client in Microsoft Windows, page 5-5](#) or [5.5 Starting the CTM Client in Sun Solaris, page 5-8](#) for more information.

For this option you must copy the client installation files to the server. The CTM client and server installation files reside on separate installation CDs. To copy the client installation files to the server, you must eject the CTM server CD, insert the CTM client CD, and run an automated script, `CopyUpgradeFiles.sh`, to copy the client installation files to a specific folder under the CTM server installation directory. To do this, log in as the root user and complete the following steps.

**Note**

The CTM server must be installed before completing the following steps.

**Step 1** Enter the following commands to eject the CTM server installation CD:

```
cd /  
eject cdrom
```

**Step 2** Insert the CTM client installation CD and enter the following commands:

```
cd /cdrom/cdrom0/ctmc  
./CopyUpgradeFiles.sh
```

## 3.6 Upgrading from Cisco MGM R5.0 to CTM R6.0 and Oracle9i on Separate Workstations

This section describes how to upgrade from Cisco MGM R5.0 to CTM R6.0 and Oracle9i when you are installing the CTM R6.0 server and the Oracle9i database on separate Sun Solaris 8 servers.

**Caution**

Before upgrading your database to CTM R6.0, it is strongly recommended that you back up your Cisco MGM R5.0 database. If you do so, you can revert to your old data in the event that the upgrade fails. To back up the database, see *Cisco Transport Manager Release 6.0 User Guide*, which is available online at <http://www.cisco.com/univercd/cc/td/doc/product/rtrmgmt/optnet/ctm/index.htm>. Refer to the section “Backing Up the CTM Database from the CTM GUI.”

**Note**

The C shell is assumed for all UNIX commands.

When upgrading, you have two options:

- [3.6.1 Retaining 32-Bit Oracle, page 3-78](#)
- [3.6.2 Upgrading from 32-Bit Oracle to 64-Bit Oracle on the CTM Database Workstation, page 3-78](#)

## 3.6.1 Retaining 32-Bit Oracle

### 3.6.1.1 Retaining 32-Bit Oracle on the CTM Database Workstation

If you are upgrading from MGM R5.0 to CTM R6.0 and you want to retain 32-bit Oracle, no action is required.

### 3.6.1.2 Retaining 32-Bit Oracle on the CTM Server Workstation

If you are upgrading from MGM R5.0 to CTM R6.0 and you want to retain 32-bit Oracle, enter the following command to verify that the Oracle9i database can connect to the CTM server:

```
tnsping <Oracle_SID>
```




---

**Note** The default Oracle SID is MGM5\_0.

---

You should receive the following reply:

```
Attempting to contact (DESCRIPTION = (ADDRESS = (PROTOCOL= TCP) (Host=
<IP_address_where_database_is_running>) (Port= 1521)) (
CONNECT_DATA = (SID = <ORACLE_SID>)))
OK (0 msec)
```

## 3.6.2 Upgrading from 32-Bit Oracle to 64-Bit Oracle on the CTM Database Workstation

Complete the following subsections to upgrade from 32-bit Oracle to 64-bit Oracle on the CTM database workstation.

### 3.6.2.1 Shutting Down the MGM R5.0 Database Instance on the CTM Database Workstation

---

**Step 1** Complete the following substeps to shut down all of the MGM clients:

- In the Domain Explorer window, choose **Administration > MGM Users**.
- In the MGM Users table, choose **Administration > Logged In MGM Users**.
- In the Logged In MGM Users table, select the user whose session will be ended and choose **Administration > Log Out User** (or click the **Log Out User** tool).
- Click **Yes** at the following prompt:

```
This operation will log out the selected CTM user. The process will take approximately
1 minute and this CTM client will be unusable until then. Do you wish to continue?
```

Wait while the MGM server logs out the selected MGM client. The MGM GUI is frozen for approximately 1 minute until the request is complete.

**Step 2** As the root user, enter the following command to stop the workstation where the MGM server is running:

```
mgms-stop
```

**Step 3** On the workstation where the MGM database is running, enter the following commands to stop the Oracle listener and shut down all Oracle processes, if they are running:

```
su -u oracle
csh
setenv ORACLE_HOME /oraclesw9i/product/9.2
setenv ORACLE_SID MGM5_0
lsnrctl stop
sqlplus /nolog
SQL> connect / as sysdba
SQL> shutdown immediate
SQL> exit
```

### 3.6.2.2 Setting the Environment for Installation on the CTM Database Workstation

Log in as the root user on the workstation where the CTM server will run and complete the following steps:

**Step 1** Enter the following command to verify that the disk directories shown in [Table 3-3](#) exist:

```
ls -l
```

**Table 3-4** Disk Directories

| Directory                | Contents                                                                                    |
|--------------------------|---------------------------------------------------------------------------------------------|
| /ctm_backup <sup>1</sup> | For the backed-up configuration files                                                       |
| /oraclesw9i              | For the Oracle software                                                                     |
| /tftpboot                | For the TFTP directory                                                                      |
|                          | <b>Note</b> Disk partitioning is not required for /tftpboot, but the directory is required. |

1. The /ctm\_backup directory can be a symbolic link to a storage device. Note that performance degrades if you map all of your symbolic links to the same partition and you do not have disk striping.

**Step 2** Enter the following command to verify the password file:

```
vi /etc/passwd
```

**Step 3** Navigate to the entry that looks similar to the following, and verify that the entry exists:

```
oracle:x:100:3303::/oraclesw9i:/bin/csh
```

**Step 4** Enter the following command to quit:

```
:q!
```

### 3.6.2.3 Downloading the Oracle Patch Installer on the CTM Database Workstation



**Note** The Oracle patch installer is used to install additional Oracle patches. If you already installed the Oracle patch installer, you can skip this section.

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



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**Step 2** Click **Patches**.

**Step 3** Click **Simple Search**.

**Step 4** In the Search by Patch Number(s) field, enter **2617419**.

**Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- **Solaris Operating System (SPARC 32-bit)**
- **Solaris Operating System (SPARC 64-bit)**

**Step 6** Click **Go**.

**Step 7** Click **Download**.

**Step 8** In the list of patches returned, click the first patch, which has the latest release number.



**Note** Do not be concerned if the patch refers to a later version of Oracle.

**Step 9** In the Patch 2617419 window, go to the Platform or Language field and choose **Generic Platform** (the default).

**Step 10** Click **Download**.

**Step 11** Save the patch to the `/oraclesw9i/product/9.2` directory.

**Step 12** Enter the following commands to change the patch ownership and unzip the patch:

```
chown oracle:dba /oraclesw9i/product/9.2/p2617419_10102_GENERIC.zip
cd /oraclesw9i/product/9.2
unzip p2617419_10102_GENERIC.zip
```

### 3.6.2.4 Downloading the 64-Bit 9.2.0.6 Patch for Oracle9i on the CTM Database Workstation

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



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**Step 2** Click **Patches**.

- Step 3** Click **Simple Search**.
- Step 4** In the Search by Patch Number(s) field, enter **3948480**.
- Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 6** Click **Go**.
- Step 7** Click **Download**. For 64-bit Oracle, download **p3948480\_9206\_SOLARIS64.zip**.
- Step 8** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:
- ```
cd /oraclesw9i
unzip <patch_zip_filename>
```
- Step 9** Enter the following commands to prepare the patch set:
- ```
cd /oraclesw9i
unzip p3948480_9206_SOLARIS64.zip
```
- 

### 3.6.2.5 Uninstalling 32-Bit Oracle9i on the CTM Database Workstation

You must download the 9.2.0.6 patch before uninstalling 32-bit Oracle9i because you need Oracle Universal Installer version 10.1.0.3 to uninstall Oracle9i.

---

- Step 1** Enter the following command to enable the xterm connection from the clients:
- ```
/usr/openwin/bin/xhost +
```
- Step 2** Enter the following command to set the display on your terminal:
- ```
setenv DISPLAY <hostname_or_IP_address>:0.0
```
- Step 3** Enter the following command to verify that the display is set correctly:
- ```
echo $DISPLAY
```
- In the output, you should see:
- ```
<hostname_or_IP_address>:0.0
```
- Step 4** Enter the following commands to launch Oracle Universal Installer version 10.1.0.3, which will allow you to uninstall the previous version of Oracle:
- ```
cd /oraclesw9i/Disk1
./runInstaller
```
- Step 5** At the Welcome screen, click **Deinstall Products**.
- Step 6** In the Inventory dialog box, complete the following substeps:
- Expand **Independent Products** and select all of the components under Independent Products.
  - Select **OHOME1**.
  - Click **Remove**.
- Step 7** The Confirmation dialog box shows which products will be uninstalled. Click **Yes**.

- Step 8** The Remove progress bar tracks the progress of the uninstallation. When the Remove progress bar disappears, the uninstallation is complete. Click **Close** in the Inventory dialog box.
- Step 9** Return to the Oracle Universal Installer Welcome screen and click **Cancel**.
- Step 10** At the “Do you really want to exit?” prompt, click **Yes**.
- Step 11** Enter the following command to move the existing Oracle home directory to a backup directory:
- ```
mv /oraclesw9i/product/9.2 /oraclesw9i/product/9.2.old
```

### 3.6.2.6 Installing the Oracle9i Client Software on the CTM Database Workstation

- Step 1** Insert the CTM Server Disk 1 installation CD.
- Step 2** As the root user, enter the following command to remove the oraInst.loc file, if it exists:

```
rm /var/opt/oracle/oraInst.loc
```

- Step 3** Enter the following command to log in as the oracle user:

```
su - oracle
```



**Tip** To verify the username, enter the **id** command.

- Step 4** Enter the following command to copy the default profile to the Oracle home directory:

```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/cfg/{small | medium | large | highend}/.cshrc /oraclesw9i/.cshrc
```

For example, to copy the default profile for a small network, enter:

```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/cfg/small/.cshrc /oraclesw9i/.cshrc
```

- Step 5** Complete one of the following options, depending on your Oracle version:

- If you are installing 64-bit Oracle Enterprise Edition, enter the following command to copy the clientcustom\_64bit.rsp response file to your workstation:

```
cp /cdrom/cdrom0/Disk1/clientcustom_64bit.rsp /oraclesw9i
```

- If you are installing 64-bit Oracle Standard Edition, enter the following command to copy the clientcustom\_std\_64bit.rsp response file to your workstation:

```
cp /cdrom/cdrom0/Disk1/clientcustom_std_64bit.rsp /oraclesw9i
```

- Step 6** Enter the following commands to eject the CTM Server Disk 1 installation CD:

```
cd /
eject cdrom
```

- Step 7** Insert disk one of the Oracle9i installation CDs.

- Step 8** Enter the following command to set the display on your terminal:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

- Step 9** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

**Step 10** Enter the following command to point to the cdrom/cdrom0 directory:

```
cd /cdrom/cdrom0
```

**Step 11** Depending on your Oracle version, complete one of the following options to install the Oracle client:

- If you are installing 64-bit Oracle Enterprise Edition, enter:

```
./runInstaller -responseFile /oraclesw9i/clientcustom_64bit.rsp
```

- If you are installing 64-bit Oracle Standard Edition, enter:

```
./runInstaller -responseFile /oraclesw9i/clientcustom_std_64bit.rsp
```

**Step 12** At the Inventory Location screen, click **OK**.

**Step 13** The Oracle Universal Installer screen prompts you to run the /tmp/orainstRoot.sh script. Log into another terminal window as the root user and enter the following command:

```
cd /tmp
```



---

**Note** The Installer does not prompt you to run the /tmp/orainstRoot.sh script if you have a previous version of Oracle installed on your workstation or if the /var/opt/oracle/oratab file already exists on your workstation.

---

**Step 14** Enter the following command to run the orainstRoot.sh script:

```
./orainstRoot.sh
```

**Step 15** Return to the Oracle Universal Installer screen and click **Continue**.



---

**Note** The Oracle Universal Installer process might take up to 5 minutes.

---

**Step 16** You are prompted to run /oraclesw9i/product/9.2/root.sh from another window. Log into another terminal window as the root user and enter the following command:

```
cd /oraclesw9i/product/9.2
```

**Step 17** Enter the following command to run the root.sh script:

```
./root.sh
```

**Step 18** At the prompt for the local bin directory, enter the following command in the root.sh script:

```
/oraclesw9i/product/9.2/local/bin
```

**Step 19** Return to the Oracle Setup Privileges screen and click **OK**.

**Step 20** Enter the following commands to eject the CD:

```
cd /  
eject cdrom
```

---

### 3.6.2.7 Installing the 9.2.0.6 Patch for Oracle9i on the CTM Database Workstation

**Step 1** Insert disk one of the CTM installation CDs in the CD-ROM drive.

**Step 2** Enter the following command to log into the database workstation as the oracle user:

```
su - oracle
```

**Step 3** Enter the following commands to install the 9.2.0.6 patch:

```
cd /oraclesw9i/Disk1
./runInstaller -responseFile /oraclesw9i/patchset_64bit.rsp
```



**Note** If the Disk Location screen pops up, click **Cancel**.

**Step 4** At the prompt to run the root.sh script, log into another terminal window as the root user and enter the following commands:

```
cd /oraclesw9i/product/9.2
./root.sh
```

**Step 5** After the script finishes running, return to the prompt popup window and click **OK**.

**Step 6** Click **Next**.

**Step 7** Enter the following commands to eject the CD:

```
cd /
eject cdrom
```

**Step 8** After the patch is installed, read the Oracle patch README.html file to carry out the post-installation steps and check any caveats associated with this patch.

**Step 9** Enter the following commands to remove the 9.2.0.6 patch installation files:

```
rm -rf /oraclesw9i/Disk1
rm -rf /oraclesw9i/p3948480_9206_SOLARIS64.zip
rm -rf /oraclesw9i/README.html
```

### 3.6.2.8 Installing and Applying Additional Oracle Patches on the CTM Database Workstation

Complete the following steps to install and apply additional required Oracle patches.

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



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**Step 2** Click **Patches**.

**Step 3** Click **Simple Search**.

**Step 4** In the Search by Patch Number field, enter **2733910**.

**Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- Solaris Operating System (SPARC 32-bit)
- Solaris Operating System (SPARC 64-bit)

**Step 6** Click **Go**.

**Step 7** Click **Download**. For 32-bit Oracle, download **p2733910\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p2733910\_9206\_SOLARIS64.zip**.

**Step 8** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```



**Note** The 32-bit patch 2733910 unzips to ./4092208. This is not an error.

**Step 9** In the MetaLink window, click **Patches**.

**Step 10** Click **Simple Search**.

**Step 11** In the Search by Patch Number field, enter **4067938**.

**Step 12** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- Solaris Operating System (SPARC 32-bit)
- Solaris Operating System (SPARC 64-bit)

**Step 13** Click **Go**.

**Step 14** Click **Download**. For 32-bit Oracle, download **p4067938\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4067938\_9206\_SOLARIS64.zip**.

**Step 15** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```

**Step 16** In the MetaLink window, click **Patches**.

**Step 17** Click **Simple Search**.

**Step 18** In the Search by Patch Number field, enter **4147836**.

**Step 19** In the Platform or Language field, choose one of the following options, depending on your Oracle version:

- Solaris Operating System (SPARC 32-bit)
- Solaris Operating System (SPARC 64-bit)

**Step 20** Click **Go**.

**Step 21** Click **Download**. For 32-bit Oracle, download **p4147836\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4147836\_9206\_SOLARIS64.zip**.

**Step 22** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```

- Step 23** For 64-bit Oracle only, the **opatch apply** command might fail. If this happens, edit the `$ORACLE_HOME/inventory/ContentsXML/oraclehomeproperties.xml` file by changing `<ARU_ID>453</ARU_ID>` to `<ARU_ID>23</ARU_ID>`. This is a known Oracle bug.
- Step 24** Depending on your configuration, enter one of the following sets of commands as the oracle user to change directories to the patch directory and apply the 2733910 patch (which unzips to 4092208 on a 32-bit workstation):
- For 32-bit, enter:
 

```
cd 4092208
/oraclesw9i/product/9.2/OPatch/opatch apply
```
  - For 64-bit, enter:
 

```
cd 2733910
/oraclesw9i/product/9.2/OPatch/opatch apply
```
- Step 25** Enter the following commands to change directories to the patch directory and apply the 4067938 patch:
- ```
cd 4067938
/oraclesw9i/product/9.2/OPatch/opatch apply
```
- Step 26** Enter the following commands to change directories to the patch directory and apply the 4147836 patch:
- ```
cd 4147836
/oraclesw9i/product/9.2/OPatch/opatch apply
```
- 

### 3.6.2.9 Updating the .ora File on the CTM Database Workstation

- Step 1** Add the following lines to the `/oraclesw9i/admin/<MGM_Oracle_SID>/pfile/init<MGM_Oracle_SID>.ora` file:

```
aq_tm_processes=0
_system_trig_enabled=false
```



**Note** The default MGM R5.0 Oracle SID is MGM5\_0.

- Step 2** Enter the following commands to create a soft link to the .ora file:

```
ln -s /oraclesw9i/admin/<MGM_Oracle_SID>/pfile/init<MGM_Oracle_SID>.ora \
/oraclesw9i/product/9.2/dbs/initMGM5_0.ora
```

---

### 3.6.2.10 Running the Database Procedures on the CTM Database Workstation

- Step 1** Enter the following commands to log in as the oracle user and set the environment:

```
su -u oracle
csh
setenv ORACLE_HOME /oraclesw9i/product/9.2
setenv ORACLE_SID MGM5_0
```

**Step 2** Enter the following commands to start the MGM R5.0 database in a restricted mode:

```
cd $ORACLE_HOME/rdbms/admin
sqlplus /nolog
SQL> connect / as sysdba
SQL> startup restrict
SQL> spool /temp/catalog.spool
SQL> @$ORACLE_HOME/rdbms/admin/catalog.sql
SQL> spool off
```

**Step 3** Enter the following command to check for DBMS\_STANDARD validity in the status field. The value of the status field should be “valid.”

```
SQL> select status,owner,object_name,object_type from dba_objects where object_name =
'DBMS_STANDARD';
```

**Step 4** If the status is invalid, enter the following command:

```
SQL> alter package dbms_standard compile;
```

**Step 5** Enter the following commands to run the catproc and utlirp scripts:

```
SQL> spool /temp/catproc.spool
SQL> @$ORACLE_HOME/rdbms/admin/catproc.sql
SQL> spool off
SQL> set echo on
SQL> spool /temp/utlirp.spool
SQL> @$ORACLE_HOME/rdbms/admin/utlirp.sql
SQL> spool off
SQL> set echo off
```

**Step 6** Enter the following commands to shut down the MGM R5.0 database:

```
SQL> alter system disable restricted session;
SQL> shutdown immediate;
SQL> exit
```

**Step 7** Verify that there are no Oracle errors in the following files:




---

**Note** You can ignore the ORA-955 errors, which do not affect functionality.

---

- /temp/catalog.spool
  - /temp/catproc.spool
  - /temp/utlirp.spool
- 

### 3.6.2.11 Restarting the MGM R5.0 Database

**Step 1** Remove the following lines from the /oraclesw9i/admin/MGM5\_0/pfile/initMGM5\_0.ora file. You added these lines in a previous procedure.

```
aq_tm_processes=0
_system_trig_enabled=false
```

**Step 2** Enter the following command to start the Oracle listener:

```
lsnrctl start
```

**Step 3** Enter the following commands to start the MGM R5.0 database:

```
cd $ORACLE_HOME/rdbms/admin
sqlplus /nolog
SQL> connect / as sysdba
SQL> startup
SQL> exit
```

**Step 4** After verifying that the database instance is running, it is safe to remove the /oraclesw9i/product/9.2.old backup directory.

### 3.6.3 Installing the CTM R6.0 Database and Migrating Basic Data on the CTM Database Workstation



**Note**

Before installing the CTM database, verify that Oracle9i is installed in the /oraclesw9i directory.

To install the CTM R6.0 database and migrate basic data, log into the database server as the root user and complete the following steps:

**Step 1** If you are using an xterm window or a remote host, enter the following command to set the DISPLAY variable:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

**Step 2** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

**Step 3** Insert the CTM Server Disk 1 installation CD and enter the following commands:

```
cd /
cdrom/cdrom0/Disk1/ctmsetup.sh
```

The setup program searches for Sun Microsystems JRE version 1.4.2\_05 on your workstation.



**Note**

If JRE is not installed, the setup program starts the Java installation program. Follow the prompts to install JRE. Enter **yes** at the following binary license code agreement prompt:

```
Do you agree to the above license terms? [yes or no]
```

Then, continue installing the CTM database.



**Note**

If the required Solaris patches are missing, you must install them manually. Click **Cancel**; then, click **Quit**. Download the patches from SunSolve Online at <http://sunsolve.sun.com>. After you install the patches, continue installing the CTM database.

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Wait for up to 60 seconds while the following message appears:

```
ctmsetup.sh is installing CTM server...
```

- Step 4** Click **Next** at the Introduction screen.
- Step 5** At the License Agreement screen, read the license agreement and click the **I accept the terms of the license agreement** radio button. Click **Next**.
- Step 6** At the Installation Options screen, choose **Upgrade from existing MGM release**; then, click **Next**.
- Step 7** At the Select Products screen, check the **Install Cisco Transport Manager Server** check box; then, click **Next**.



**Note** The Install Web Server check box is selected automatically when you choose Install Cisco Transport Manager Server. The Install Web Server option allows you to use an HTTP connection to download files from the CTM server to the CTM client. The web server is also used to launch the online help and CiscoView, which is an application used by CTM to configure and monitor ONS 155xx NEs. The web server is required for the CTM server.



**Caution** Do not check the other check boxes on the Select Products screen.



**Note** When you choose Install Cisco Transport Manager Server, the High Availability Installation option becomes available. This option applies only to HA installations. Do not choose it. To install HA, refer to *Cisco Transport Manager High Availability Installation Guide for CTM R6.0*.



**Note** The license for CTM GateWay/CORBA is sold separately. If you are using this feature in a production environment, you must purchase a license. You can install CTM GateWay/CORBA when you install the CTM server; however, this section assumes that you are installing the two products separately. For more information, see [Chapter 4, “Installing CTM GateWay/CORBA R6.0.”](#)



**Note** The license for CiscoView is sold separately if used to manage the ONS 15530, ONS 15540 ESP, or ONS 15540 ESPx. If you are using this feature in a production environment to manage the ONS 15530, ONS 15540 ESP, or ONS 15540 ESPx, you must purchase a license for LAN Management Solution (LMS) Release 2.5, which includes CiscoView.

The license for CiscoView is bundled with CTM if used to manage the ONS 15501 DC or AC. You do not need to purchase a separate CiscoView license to manage the ONS 15501 DC or AC.

If you check the Install CiscoView Server check box, you receive the following prompt:

CiscoView installation has been moved to CTM Server Disk 3. After CTM server has been installed, insert the CTM Server Disk 3 and run the './installCiscoView.sh' script.

You must install the CTM server before you can install CiscoView. After installing the CTM server, see [Chapter 6, “Installing and Setting Up CiscoView.”](#)

- Step 8** At the CTM Group Information & Sudo Installation screen, complete the following substeps:
- Enter the name of the UNIX group to which you want to assign administrator privileges.
  - To install sudo, check the **Install CTM Sudo** check box. If you do not want to install sudo, uncheck the check box.
  - Click **Next**.



**Note** For information about the sudo feature, see [1.4.1 Overview of Sudo Commands, page 1-12](#).

- Step 9** At the FTP Information screen, accept the default selections; then, click **Next**.

- Step 10** At the Main Options screen, check only the **Upgrade MGM database** check box and specify the Oracle SID. (The default is CTM.) Click **Next**.



**Caution** Be sure to uncheck the other check box on the Main Options screen.

- Step 11** At the Specify CTM Server IP Address screen, enter the IP address or hostname of the workstation where the CTM server will run; then, click **Next**.



**Note** If you entered a hostname, the setup program automatically translates the hostname to a physical IP address and prompts you to confirm the address. Click **Yes**.

- Step 12** At the Select Network Configuration screen, specify the size of your network; then, click **Next**.



**Note** If you installed Oracle Standard Edition, you can only choose **Small**.

- Step 13** At the Database Information screen, specify the IP address of the database workstation and specify whether or not you want to install the database in ARCHIVELOG mode. Click **Next**.

- Step 14** At the CTM Database Installation Directories screen, the setup program verifies that the directories exist as recommended in [Table 3-2](#). Click **Next**.

- Step 15** The Migrate CTM Data screen appears with the following messages:

```
Do you want to migrate CTM data?
Do you want to migrate GateWay CORBA data?
```

As the root user, log into a terminal window on the CTM server workstation and enter the following command to stop the MGM R5.0 server:

```
mgms-stop
```

**Step 16** Return to the Migrate CTM Data screen and complete the following substeps:

- a. Click **Yes** to migrate CTM data.
- b. Click **Yes** or **No** to migrate CTM GateWay/CORBA data, depending on your configuration.



---

**Note** If you want to migrate CTM GateWay/CORBA data, you must click **Yes** at this point. You cannot migrate CTM GateWay/CORBA data later.

---

- c. Specify the IP address or hostname of the database server that you are migrating data from.
- d. Enter the password for the ctmanager oracle user. (Use the password of the database you are migrating from; the default is *ctm123!*.)
- e. Click **Next**.



---

**Note** If you entered a hostname, the setup program automatically translates the hostname to a physical IP address and prompts you to confirm the address. Click **Yes**.

---

**Step 17** At the Pre-Installation Summary screen, click **Install** to create the CTM database and migrate basic data.



---

**Note** It might take 30 to 60 minutes or longer to migrate basic data, depending on your system performance and on the amount of data that you are migrating.

---

**Step 18** At the Insert New Media screen, complete the following substeps:

- a. Eject the CTM Server Disk 1 installation CD, insert the CTM Server Disk 2 installation CD, and click **Browse**.
- b. The Select a Folder dialog box opens. Double-click **cdrom**; then, single-click **cdrom0**. The filename text box now reads */cdrom/cdrom0*.
- c. In the Select a Folder dialog box, click **Select**.
- d. In the Insert New Media screen, click **OK**.

**Step 19** The Install Complete screen summarizes the results of the installation. Click **Done**.

---

## 3.6.4 Upgrading from 32-Bit Oracle to 64-Bit Oracle on the CTM Server Workstation

This section describes how to upgrade from 32-bit Oracle to 64-bit Oracle client software on a Sun Solaris 8 server to meet the CTM server requirements for a remote database configuration. Complete the following subsections.

### 3.6.4.1 Setting the Environment for Installation on the CTM Server Workstation

Log in as the root user on the workstation where the CTM server will run and complete the following steps:

**Step 1** Enter the following command to verify that the disk directories shown in [Table 3-3](#) exist:

```
ls -l
```

**Table 3-5** Disk Directories

| Directory                                                                                   | Contents                              |
|---------------------------------------------------------------------------------------------|---------------------------------------|
| /ctm_backup <sup>1</sup>                                                                    | For the backed-up configuration files |
| /oraclesw9i                                                                                 | For the Oracle software               |
| /tftpboot                                                                                   | For the TFTP directory                |
| <b>Note</b> Disk partitioning is not required for /tftpboot, but the directory is required. |                                       |

1. The /ctm\_backup directory can be a symbolic link to a storage device. Note that performance degrades if you map all of your symbolic links to the same partition and you do not have disk striping.

**Step 2** Enter the following command to verify the password file:

```
vi /etc/passwd
```

**Step 3** Navigate to the entry that looks similar to the following, and verify that the entry exists:

```
oracle:x:100:3303::/oraclesw9i:/bin/csh
```

**Step 4** Enter the following command to quit:

```
:q!
```

### 3.6.4.2 Downloading the Oracle Patch Installer on the CTM Server Workstation



**Note**

The Oracle patch installer is used to install additional Oracle patches. If you already installed the Oracle patch installer, you can skip this section.

**Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



---

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---

- Step 2** Click **Patches**.
- Step 3** Click **Simple Search**.
- Step 4** In the Search by Patch Number(s) field, enter **2617419**.
- Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 6** Click **Go**.
- Step 7** Click **Download**.
- Step 8** In the list of patches returned, click the first patch, which has the latest release number.



---

**Note** Do not be concerned if the patch refers to a later version of Oracle.

---

- Step 9** In the Patch 2617419 window, go to the Platform or Language field and choose **Generic Platform** (the default).
- Step 10** Save the patch to the /oraclesw9i/product/9.2 directory.
- Step 11** Enter the following commands to change the patch ownership and unzip the patch:

```
chown oracle:dba /oraclesw9i/product/9.2/p2617419_10102_GENERIC.zip
cd /oraclesw9i/product/9.2
unzip p2617419_10102_GENERIC.zip
```

---

### 3.6.4.3 Downloading the 64-Bit 9.2.0.6 Patch for Oracle9i on the CTM Server Workstation

- Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



---

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---

- Step 2** Click **Patches**.
- Step 3** Click **Simple Search**.
- Step 4** In the Search by Patch Number(s) field, enter **3948480**.
- Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 6** Click **Go**.
- Step 7** Click **Download**. For 64-bit Oracle, download **p3948480\_9206\_SOLARIS64.zip**.

**Step 8** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:

```
cd /oraclesw9i
unzip <patch_zip_filename>
```

**Step 9** Enter the following commands to prepare the patch set:

```
cd /oraclesw9i
unzip p3948480_9206_SOLARIS64.zip
```

---

### 3.6.4.4 Uninstalling 32-Bit Oracle9i on the CTM Server Workstation

You must download the 9.2.0.6 patch before uninstalling 32-bit Oracle9i because you need Oracle Universal Installer version 10.1.0.3 to uninstall Oracle9i.

---

**Step 1** Enter the following command to enable the xterm connection from the clients:

```
/usr/openwin/bin/xhost +
```

**Step 2** Enter the following commands to launch Oracle Universal Installer version 10.1.0.3, which will allow you to uninstall the previous version of Oracle:

```
cd /oraclesw9i/Disk1
./runInstaller
```

**Step 3** At the Welcome screen, click **Deinstall Products**.

**Step 4** In the Inventory dialog box, complete the following substeps:

- a. Expand **Independent Products** and select all of the components under Independent Products.
- b. Select **OHOME1**.
- c. Click **Remove**.

**Step 5** The Confirmation dialog box shows which products will be uninstalled. Click **Yes**.

**Step 6** The Remove progress bar tracks the progress of the uninstallation. When the Remove progress bar disappears, the uninstallation is complete. Click **Close** in the Inventory dialog box.

**Step 7** Return to the Oracle Universal Installer Welcome screen and click **Cancel**.

**Step 8** At the “Do you really want to exit?” prompt, click **Yes**.

---

### 3.6.4.5 Installing the Oracle9i Client Software on the CTM Server Workstation

**Step 1** Insert the CTM Server Disk 1 installation CD.

**Step 2** Enter the following command to copy the default profile to the Oracle home directory:

```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/cfg/{small | medium | large | highend}/.cshrc
/oraclesw9i/.cshrc
```

For example, to copy the default profile for a small network, enter:

```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/cfg/small/.cshrc /oraclesw9i/.cshrc
```

**Step 3** Complete one of the following options, depending on your Oracle version:

- If you are installing 64-bit Oracle Enterprise Edition, enter the following command to copy the clientcustom\_64bit.rsp response file to your workstation:

```
cp /cdrom/cdrom0/Disk1/clientcustom_64bit.rsp /oraclesw9i
```

- If you are installing 64-bit Oracle Standard Edition, enter the following command to copy the clientcustom\_std\_64bit.rsp response file to your workstation:

```
cp /cdrom/cdrom0/Disk1/clientcustom_std_64bit.rsp /oraclesw9i
```

**Step 4** Enter the following commands to eject the CTM Server Disk 1 installation CD:

```
cd /  
eject cdrom
```

**Step 5** Enter the following command to remove the oraInst.loc file, if it exists:

```
rm /var/opt/oracle/oraInst.loc
```

**Step 6** Enter the following command to log in as the oracle user:

```
su - oracle
```



---

**Tip** To verify the username, enter the **id** command.

---

**Step 7** Insert disk one of the Oracle9i installation CDs.

**Step 8** Enter the following command to set the display on your terminal:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

**Step 9** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

**Step 10** Enter the following command to point to the cdrom/cdrom0 directory:

```
cd /cdrom/cdrom0
```

**Step 11** Depending on your Oracle version, complete one of the following options to install the Oracle client:

- If you are installing 64-bit Oracle Enterprise Edition, enter:

```
./runInstaller -responseFile /oraclesw9i/clientcustom_64bit.rsp
```

- If you are installing 64-bit Oracle Standard Edition, enter:

```
./runInstaller -responseFile /oraclesw9i/clientcustom_std_64bit.rsp
```

**Step 12** The Oracle Universal Installer screen prompts you to run the /tmp/orainstRoot.sh script. Log into another terminal window as the root user and enter the following command:

```
cd /tmp
```




---

**Note** The Installer does not prompt you to run the `/tmp/orainstRoot.sh` script if you have a previous version of Oracle installed on your workstation or if the `/var/opt/oracle/oratab` file already exists on your workstation.

---

**Step 13** Enter the following command to run the `orainstRoot.sh` script:

```
./orainstRoot.sh
```

**Step 14** Return to the Oracle Universal Installer screen and click **Continue**.




---

**Note** The Oracle Universal Installer process might take up to 5 minutes.

---

**Step 15** You are prompted to run `/oraclesw9i/product/9.2/root.sh` from another window. Log into another terminal window as the root user and enter the following command:

```
cd /oraclesw9i/product/9.2
```

**Step 16** Enter the following command to run the `root.sh` script:

```
./root.sh
```

**Step 17** At the prompt for the local bin directory, enter the following command in the `root.sh` script:

```
/oraclesw9i/product/9.2/local/bin
```

**Step 18** Return to the Oracle Setup Privileges screen and click **OK**.

**Step 19** Enter the following commands to eject the CD:

```
cd /
eject cdrom
```

---

### 3.6.4.6 Installing the 9.2.0.6 Patch for Oracle9i on the CTM Server Workstation

---

**Step 1** Insert disk one of the CTM installation CDs in the CD-ROM drive.

**Step 2** Enter the following command to log into the database workstation as the oracle user:

```
su - oracle
```

**Step 3** Enter the following commands to install the 9.2.0.6 patch:

```
cd /oraclesw9i/Disk1
./runInstaller -responseFile /oraclesw9i/patchset_64bit.rsp
```




---

**Note** If the Disk Location screen pops up, click **Cancel**.

---

**Step 4** At the prompt to run the `root.sh` script, log into another terminal window as the root user and enter the following commands:

```
cd /oraclesw9i/product/9.2
./root.sh
```

**Step 5** After the script finishes running, return to the prompt popup window and click **OK**.

- Step 6** Click **Next**.
- Step 7** Enter the following commands to eject the CD:
- ```
cd /
eject cdrom
```
- Step 8** After the patch is installed, read the Oracle patch README.html file to carry out the post-installation steps and check any caveats associated with this patch.
- Step 9** Enter the following commands to remove the 9.2.0.6 patch installation files:
- ```
rm -rf /oraclesw9i/Disk1
rm -rf /oraclesw9i/p3948480_9206_SOLARIS64.zip
rm -rf /oraclesw9i/README.html
```

### 3.6.4.7 Installing and Applying Additional Oracle Patches on the CTM Server Workstation

Complete the following steps to install and apply additional required Oracle patches.

- Step 1** Go to <http://metalink.oracle.com> and click **Login to MetaLink**. Enter your Oracle MetaLink username and password.



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- Step 2** Click **Patches**.
- Step 3** Click **Simple Search**.
- Step 4** In the Search by Patch Number field, enter **2733910**.
- Step 5** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 6** Click **Go**.
- Step 7** Click **Download**. For 32-bit Oracle, download **p2733910\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p2733910\_9206\_SOLARIS64.zip**.
- Step 8** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:
- ```
cd /oraclesw9i
unzip <patch_zip_filename>
```



**Note** The 32-bit patch 2733910 unzips to ./4092208. This is not an error.

- Step 9** In the MetaLink window, click **Patches**.
- Step 10** Click **Simple Search**.
- Step 11** In the Search by Patch Number field, enter **4067938**.

- Step 12** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 13** Click **Go**.
- Step 14** Click **Download**. For 32-bit Oracle, download **p4067938\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4067938\_9206\_SOLARIS64.zip**.
- Step 15** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:
- ```
cd /oraclesw9i
unzip <patch_zip_filename>
```
- Step 16** In the MetaLink window, click **Patches**.
- Step 17** Click **Simple Search**.
- Step 18** In the Search by Patch Number field, enter **4147836**.
- Step 19** In the Platform or Language field, choose one of the following options, depending on your Oracle version:
- **Solaris Operating System (SPARC 32-bit)**
  - **Solaris Operating System (SPARC 64-bit)**
- Step 20** Click **Go**.
- Step 21** Click **Download**. For 32-bit Oracle, download **p4147836\_9206\_SOLARIS.zip**. For 64-bit Oracle, download **p4147836\_9206\_SOLARIS64.zip**.
- Step 22** As the oracle user, save the patch to the /oraclesw9i directory and enter the following commands to unzip the .zip file:
- ```
cd /oraclesw9i
unzip <patch_zip_filename>
```
- Step 23** For 64-bit Oracle only, the **opatch apply** command might fail. If this happens, edit the \$ORACLE\_HOME/inventory/ContentsXML/oraclehomeproperties.xml file by changing <ARU\_ID>453</ARU\_ID> to <ARU\_ID>23</ARU\_ID>. This is a known Oracle bug.
- Step 24** Depending on your configuration, enter one of the following sets of commands as the oracle user to change directories to the patch directory and apply the 2733910 patch (which unzips to 4092208 on a 32-bit workstation):
- For 32-bit, enter:
 

```
cd 4092208
/oraclesw9i/product/9.2/OPatch/opatch apply
```
  - For 64-bit, enter:
 

```
cd 2733910
/oraclesw9i/product/9.2/OPatch/opatch apply
```
- Step 25** Enter the following commands to change directories to the patch directory and apply the 4067938 patch:
- ```
cd 4067938
/oraclesw9i/product/9.2/OPatch/opatch apply
```
- Step 26** Enter the following commands to change directories to the patch directory and apply the 4147836 patch:
- ```
cd 4147836
```

```
/oraclesw9i/product/9.2/OPatch/opatch apply
```

---

### 3.6.4.8 Updating the UNIX Environment on the CTM Server Workstation

---

- Step 1** Log in as the root user on the workstation where the CTM R6.0 server will run and insert the CTM Server Disk 1 installation CD.
- Step 2** If the tnsnames.ora file in the /oraclesw9i/product/9.2/network/admin directory exists, enter the following commands to back up the file and copy it from the CTM Server Disk 1 installation CD:
- ```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/cfg/{small | medium | large | highend}/tnsnames.ora /oraclesw9i/product/9.2/network/admin/tnsnames.ora
```
- Step 3** Enter the following command to change file permissions:
- ```
chmod +w /oraclesw9i/product/9.2/network/admin/tnsnames.ora
```
- Step 4** Edit the tnsnames.ora file by replacing the parameter *CTMhostname* with the hostname or IP address of the workstation where Oracle9i is installed and running.
- Step 5** Edit the /var/opt/oracle/oratab file by adding the following line as the first line in the file:
- ```
<Oracle_SID>:/oraclesw9i/product/9.2:N
```



**Note** The default Oracle SID is CTM.

---

### 3.6.4.9 Verifying the Oracle9i Client Connection on the CTM Server Workstation

---

- Step 1** Verify that the Oracle9i database is running on the workstation where it was installed.
- Step 2** Enter the following command to log in as the oracle user:
- ```
su - oracle
```
- Step 3** Enter the following command to verify that the Oracle9i database can connect to the CTM server:
- ```
tnsping <Oracle_SID>
```



**Note** The default Oracle SID is CTM.

---

You should receive the following reply:

```
Attempting to contact (DESCRIPTION = (ADDRESS = (PROTOCOL= TCP) (Host=
<IP_address_where_database_is_running>)(Port= 1521)) (
CONNECT_DATA = (SID = <ORACLE_SID>)))
OK (0 msec)
```

---

## 3.6.5 Installing the CTM R6.0 Server on the CTM Server Workstation

To install the CTM R6.0 server, log in as the root user on the workstation where the CTM R6.0 server will run and complete the following steps:

**Step 1** If you are using an xterm window or a remote host, enter the following command to set the DISPLAY variable:

```
setenv DISPLAY <hostname_or_IP_address>:0.0
```

**Step 2** Enter the following command to verify that the display is set correctly:

```
echo $DISPLAY
```

In the output, you should see:

```
<hostname_or_IP_address>:0.0
```

**Step 3** Insert the CTM Server Disk 1 installation CD and enter the following commands:

```
cd /
cdrom/cdrom0/Disk1/ctmsetup.sh
```

The CTM server installation begins. Wait for up to 60 seconds while the following message appears:

```
Ctmsetup.sh is installing CTM server...
```

**Step 4** Click **Next** at the Introduction screen.

**Step 5** At the License Agreement screen, read the license agreement and click the **I accept the terms of the license agreement** radio button. Click **Next**.

**Step 6** At the Installation Options screen, choose **Upgrade from existing MGM release**; then, click **Next**.

**Step 7** At the Select Products screen, check only the **Install Cisco Transport Manager Server** check box; then, click **Next**.

**Step 8** At the CTM Group Information & Sudo Installation screen, confirm the name of the UNIX group to which you want to assign administrator privileges. Check or uncheck the **Install CTM Sudo** check box. Click **Next**.

**Step 9** At the FTP Information screen, complete the following substeps to configure an FTP account for ONS 15216 EDFA3 software download operations:

a. Enter the following information:

- FTP username
- FTP user password
- Confirm FTP user password
- FTP directory

b. Check or uncheck the **Create new FTP Account** check box. If checked, the FTP user will be created automatically on the CTM server workstation by the install script. If unchecked, it is assumed that an FTP user already exists on the CTM server workstation.

c. Click **Next**.



**Note**

The FTP information that you enter during the CTM server installation can be modified later from the CTM client Control Panel window. Refer to *Cisco Transport Manager Release 6.0 User Guide* for more information.

**Step 10** At the Main Options screen, check only the **Install CTM server** check box; then, click **Next**.



**Caution** Be sure to uncheck the other check box on the Main Options screen.

**Step 11** At the Server IP Address screen, specify an IP address for the CTM server. The Hostname field is automatically populated with the hostname of the selected IP address. You can change the hostname if needed. After confirming the IP address and hostname details, click **Next**.

**Step 12** At the Select Network Configuration screen, specify the size of your network; then, click **Next**.



**Note** If you installed Oracle Standard Edition, you can only choose **Small**.

**Step 13** At the Configure TFTP Server screen, complete the following substeps if you want to enable TFTP for the ONS 15216 EDFA2, ONS 15501, ONS 15530, and ONS 15540:

- a. Check the **Enable TFTP Server** check box.
- b. Enter the TFTP directory name. The default is /tftpboot.
- c. Click **Next**.

**Step 14** At the Specify CTM Database to Connect to screen, enter the IP address or hostname of the workstation where Oracle9i is installed; then, click **Next**.



**Note** If you entered a hostname, the setup program automatically translates the hostname to a physical IP address and prompts you to confirm the address. Click **Yes**.

**Step 15** At the Destination Folder screen, specify where you want to install the CTM server. The default directory is /opt/CiscoTransportManagerServer. You can click **Change** to choose a different destination. After you specify your destination, click **Next**.



**Note** If the destination directory that you specified is a new directory, you will receive the message “Specified directory does not exist, create it?” Click **Yes**.



**Caution** CTM checks for the /opt/CiscoTransportManagerServer directory or a symbolic link to it. If CTM cannot find the /opt/CiscoTransportManagerServer directory or a symbolic link, CTM creates a symbolic link automatically. Therefore, do not delete any instances of /opt/CiscoTransportManagerServer from your CTM file structure.

**Step 16** The Pre-Installation Summary screen shows the items that will be installed. Click **Install**.

**Step 17** At the Insert New Media screen, complete the following substeps:

- a. Eject the CTM Server Disk 1 installation CD, insert the CTM Server Disk 2 installation CD, and click **Browse**.
- b. The Select a Folder dialog box opens. Double-click **cdrom**; then, single-click **cdrom0**. The filename text box now reads /cdrom/cdrom0.
- c. In the Select a Folder dialog box, click **Select**.
- d. In the Insert New Media screen, click **OK**.

- Step 18** The Web Server Installation Summary screen summarizes the results of the web server installation. Click **Next**.
- Step 19** The Install Complete screen summarizes the results of the installation. Click **Done**.
- Step 20** Enter the following command to reboot the system. The CTM server starts automatically after rebooting:
- ```
init 6
```
- Step 21** To verify that the CTM R6.0 server is running, enter the **showctm** command after the server reboots. The **showctm** command displays the CTM server version running as 6.0, followed by the build number. In the output, you will see two instances of “CTMServer,” “SnmpTrapService,” “SMService,” and “Apache Web Server.” This indicates that the CTM server is running. You should also see NE-specific processes, depending on your network. You might also see CTM GateWay/CORBA and CTM GateWay/TL1 instances.

## 3.6.6 Copying the Client Upgrade Files After the CTM Server Installation

You have two options for upgrading each client installation to the latest version of CTM that is on the server. You can choose to:

- Manually upgrade each client installation. If you have a previously installed version of the CTM client, you must delete the directory where the previous client is installed before installing the CTM R6.0 client. See [5.1 Installing the CTM Client and Cisco Edge Craft on Microsoft Windows, page 5-2](#) or [5.4 Installing the CTM Client and Cisco Edge Craft on Sun Solaris, page 5-6](#) for more information.
- Automatically upgrade each client when it connects to a server. During login, if the CTM client software version is older than the CTM server software version, the client will be prompted for upgrade. See [5.2 Starting the CTM Client in Microsoft Windows, page 5-5](#) or [5.5 Starting the CTM Client in Sun Solaris, page 5-8](#) for more information.

For this option you must copy the client installation files to the server. The CTM client and server installation files reside on separate installation CDs. To copy the client installation files to the server, you must eject the CTM server CD, insert the CTM client CD, and run an automated script, `CopyUpgradeFiles.sh`, to copy the client installation files to a specific folder under the CTM server installation directory. To do this, log in as the root user and complete the following steps.



### Note

The CTM server must be installed before completing the following steps.

- Step 1** Enter the following commands to eject the CTM server installation CD:
- ```
cd /
eject cdrom
```
- Step 2** Insert the CTM client installation CD and enter the following commands:
- ```
cd /cdrom/cdrom0/ctmc
./CopyUpgradeFiles.sh
```

## 3.7 Verifying that the Oracle9i and CTM Server Processes Are Running

After installation, complete the following steps to verify that the Oracle9i and CTM server processes are running:

**Step 1** Enter the following commands on the CTM database workstation to verify that CTM database is running:

```
su - oracle
sqlplus ctmanager/<password_for_ctmanager_Oracle_user>
```



**Note** The default password for the ctmanager oracle user is *ctm123!*.

You should see the following output:

```
Connected to:
Oracle9i...
```

**Step 2** Enter the following command to exit SQL\*Plus:

```
exit
```

**Step 3** Enter the following command to verify that the CTM R6.0 server is running:

```
showctm
```

In the output, you should see the text “CTMServer,” “SnmpTrapService,” “SMService,” and “Apache Web Server.” This indicates that the CTM server is running. You should also see some NE-specific processes, depending on your network. You might also see CTM GateWay/CORBA and CTM GateWay/TL1 instances.

**Step 4** If the CTM server is not running, log into the UNIX workstation as the root user and enter the following command:

```
ctms-start
```

**Step 5** If the following error is returned on the command prompt for the web server:

```
(125)Address already in use: make_sock: could not bind to address <IP_address>
no listening sockets available, shutting down
```

Complete the following substeps:

a. Enter the following command on the server workstation; then, kill the processes listed:

```
ps -ef | grep httpd | grep CiscoTransportManagerServer | grep -v grep
```

b. Enter the following command to shut down the CTM server:

```
ctms-stop
```

c. Enter the following command to restart the CTM server (this restarts the latest installed web server):

```
ctms-start
```

- Step 6** If you do not have root user privileges but you belong to the UNIX group that can use sudo functionality to run commands as nonroot, enter the following command:

```
sudo ctms-start
```

---

## 3.8 Setting Up Sudo

As described in [1.4.1 Overview of Sudo Commands, page 1-12](#), the CTM server installation includes installation of the UNIX sudo command. This command allows nonroot users who belong to the UNIX group specified during installation to run certain CTM administrative commands. For security reasons, the installed sudo command **setuid** is disabled by default. You must enable setuid on the sudo command in order for it to work.



### Note

Sudo is often available in the standard UNIX environment established by the CTM server system administrator. If so, it is not necessary to use the sudo bundled with CTM or follow this procedure to enable it. Instead, you can use the sudo established by the system administrator.

---

To enable setuid:

- Step 1** Log into the CTM server as the root user and enter the following command:
- ```
chmod 4111 /opt/CiscoTransportManagerServer/admin/sudo/sudo
```
- Step 2** Verify that users have /opt/CiscoTransportManagerServer/admin/sudo in their path environment, so that they can execute sudo without having to specify the full path.
- 

## 3.9 (Optional) Migrating Historical CTM R4.7.x Data

If you are upgrading from CTM R4.7.x to CTM R6.0, after the basic migration is complete, you can migrate historical PM data, events, acknowledged and cleared alarms, and audit trail data, as follows:



### Caution

Historical migration might take a long time if you have a large volume of data. It is recommended that you prune historic data and retain only the data that you require to migrate. Refer to the section “Using Pruning Scripts” in *Cisco Transport Manager Release 6.0 User Guide*.

---



### Note

If you choose to migrate CTM R4.7.x data, the migration requires the same amount of space as your current CTM database.

---



### Note

If you are migrating from CTM R5.0.x or Cisco MGM R5.0 to CTM R6.0, do not perform historical migration. For Cisco MGM R5.0 to CTM R6.0, the basic migration includes the historical migration. For CTM R5.0.x to CTM R6.0, the existing database is upgraded.

---

**Note**


---

Audit trail data is supported and migrated for CTC-based NEs only.

---

- Step 1** Log in as the root user on the workstation where the CTM R6.0 server is installed.
- Step 2** If you are using an xterm window or a remote host, enter the following command to set the DISPLAY variable:
- ```
setenv DISPLAY <hostname_or_IP_address>:0.0
```
- Step 3** Enter the following command to verify that the display is set correctly:
- ```
echo $DISPLAY
```
- In the output, you should see:
- ```
<hostname_or_IP_address>:0.0
```
- Step 4** Change the directory to /cdrom/cdrom0/Disk1 and enter the following command:
- ```
./ctmsetup.sh
```
- Step 5** Click **Next** at the Introduction screen.
- Step 6** At the License Agreement screen, read the license agreement and click the **I accept the terms of the license agreement** radio button. Click **Next**.
- Step 7** At the Installation Options screen, choose **Upgrade from existing CTM release**; then, click **Next**.
- Step 8** At the Select Products screen, check only the **Install Cisco Transport Manager Server** check box; then, click **Next**.

**Note**


---

The Install Web Server check box is selected automatically when you choose Install Cisco Transport Manager Server.

---

**Caution**


---

Do not check the other check boxes on the Select Products screen.

---

- Step 9** At the CTM Group Information & Sudo Installation screen, complete the following substeps:
- Enter the name of the UNIX group to which you want to assign administrator privileges.
  - To install sudo, check the **Install CTM Sudo** check box. If you do not want to install sudo, uncheck the check box.
  - Click **Next**.
- Step 10** At the FTP Information screen, accept the default selections; then, click **Next**.
- Step 11** At the Main Options screen, check only the **Migrate historical data** check box; then, click **Next**.
- Step 12** At the Migrate Historical CTM Data screen, choose data that you want to migrate; then, click **Next**.
- Step 13** At the Pre-Installation Summary screen, click **Install** to begin the historical migration.
- Step 14** At the Insert New Media screen, complete the following substeps:
- Eject the CTM Server Disk 1 installation CD, insert the CTM Server Disk 2 installation CD, and click **Browse**.
  - The Select a Folder dialog box opens. Double-click **cdrom**; then, single-click **cdrom0**. The filename text box now reads /cdrom/cdrom0.

## ■ 3.9 (Optional) Migrating Historical CTM R4.7.x Data

- c. In the Select a Folder dialog box, click **Select**.
- d. In the Insert New Media screen, click **OK**.

**Step 15** The Install Complete screen summarizes the results of the migration. Click **Done**.

---