



CHAPTER 3

Upgrading to CTM R9.0 from an Earlier Release



Caution

A reliable network connection is required when carrying out an installation on a remote workstation.

This chapter describes how to upgrade to CTM R9.0 from an earlier release. This chapter contains the following sections:

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Note

- You can upgrade to CTM R9.0 directly from CTM R8.5 or R8.0. If you are upgrading from a release prior to CTM R8.0, you must first upgrade to CTM R8.0. See the [Cisco Transport Manager Release 8.0 Installation Guide](#) for the exact installation procedure. After you install CTM R8.0, you can upgrade to CTM R9.0.
- After upgrading to CTM R9.0, the old CTM server directory is moved to `CiscoTransportManagerServer-old`. Any data previously saved in the following directories is saved in the new `/opt/CiscoTransportManagerServer` directory:
 - `/opt/CiscoTransportManagerServer/admin`
 - `/opt/CiscoTransportManagerServer/images`
 - `/opt/CiscoTransportManagerServer/cms`
 - `/opt/CiscoTransportManagerServer/bin/jcorbagw.sh`
 - `/opt/CiscoTransportManagerServer/cfg/usr`

– /opt/CiscoTransportManagerServer/cfg/corbagw.properties

Before removing the old version, move any relevant data to the new directory.

**Caution**

When migrating 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**

Before upgrading to CTM R9.0, verify that the NE versions in your network are supported by CTM R9.0. See the [Release Notes for Cisco Transport Manager Release 9.0](#) for the NE software versions that are supported. If your network contains NEs with an unsupported software version, it will not be possible to discover or manage them.

**Note**

- If your network contains NE types that are no longer supported in CTM R9.0 (such as the Cisco 7600), those NEs will be removed automatically from your CTM database during the upgrade.
- For an explanation of error messages that you might encounter during the upgrade, see [Appendix B, “Understanding Installation Error Messages.”](#)
- If you need instructions to mount or unmount CDs, see [Appendix D, “Mounting and Unmounting CDs on Sun Solaris.”](#)

After the upgrade is complete, you can delete /opt/CiscoTransportManagerServer.oldCTM and the install location it points to (if it is a link), because the new server /opt/CiscoTransportManagerServer is now installed.

Complete the following steps if you canceled the upgrade:

-
- Step 1** Delete the new CTM server that was installed—/opt/CiscoTransportManagerServer—as well as the install location it points to. The new server installation might not be complete.
- Step 2** Delete /opt/CiscoTransportManagerServer.oldCTM and create a new /opt/CiscoTransportManagerServer (if it is a link) that points to the same old install location. Alternately, rename /opt/CiscoTransportManagerServer.oldCTM to /opt/CiscoTransportManagerServer (if it is a directory).
- Step 3** Reimport the database.
- Step 4** Check the database version in the /opt/newdbinfo file. The database version should be the old CTM release (that is, CTM R8.0 or R8.5).
- Step 5** Proceed with the upgrade.
-

3.1 Backing Up the Database on Solaris 10 Before Migration

Before upgrading the database to CTM R9.0, it is strongly recommended that you back up the existing database. This ensures that you can revert to the old data in the event that the upgrade fails.

To back up CTM, see the following sections in Chapter 4 of the *Cisco Transport Manager Release 9.0 User Guide*:

- Backing Up the CTM Database from the CTM GUI
- Backing Up the CTM Database from the CLI

3.2 Migrating to Sun Solaris 10, Release 05/08

Before upgrading to Solaris 10, verify that your root directory has enough space. A minimum of 6 GB of free root space must be available.

Step 1 Log in as the root user and enter the following command to shut down CTM:

```
ctms-stop
```

Step 2 Enter the following commands to shut down Oracle:

```
su - oracle
sqlplus /nolog
SQL> connect / as sysdba
SQL> shutdown immediate
SQL> quit
lsnrctl stop
```

Step 3 Enter the following command to enter the OK prompt:

```
init 0
```

Step 4 Insert the Solaris 10 media for installation.

Step 5 At the OK prompt, enter the following command:

```
boot cdrom
```

Step 6 The workstation reboots and you are prompted to enter values for system identification.

Step 7 When prompted, choose the **Upgrade Installation** feature. Continue the OS upgrade using the default values.

Step 8 After the OS upgrade is complete, relink the Oracle database and any other Oracle tools or programs. When you upgrade the OS, the version of OS-level utilities (such as Motif and the C compiler) might change. Relinking Oracle and your other products ensures that the database and tools use libraries and utilities that are currently on the system.

As the oracle user, complete the following substeps to relink the Oracle database and tools:

a. Enter the following command:

```
env | pg
```

b. Verify that you see the correct absolute path for \$ORACLE_HOME in the variable definitions.

c. Enter the following commands to run the relink script provided in the \$ORACLE_HOME/bin directory:

```
cd $ORACLE_HOME/bin
relink all
```

The **relink all** command does not relink every executable that Oracle provides. (You can check which executables were relinked by using the **ls -l** command in the \$ORACLE_HOME/bin directory to check the time stamps.) However, the **relink all** command recreates the shared libraries that most executables rely on, thereby resolving most issues that require a valid relink.

- d. If the relink command returns the following error, verify that you have /usr/ccs/bin/make on your server:

```
<ORACLE_HOME>/bin/relink: /usr/bin/make: not found
```

Then, enter the following command (which requires root privileges) to create a symbolic link:

```
ln -s /usr/ccs/bin/make /usr/bin/make
```

- e. Repeat substep c (the **relink all** command).

3.3 Upgrading from CTM R8.0 and Oracle9i to CTM R9.0 and Oracle 10g on the Same Workstation

This section describes how to upgrade from CTM R8.0 and Oracle9i to CTM R9.0 and Oracle 10g when you are installing the CTM R9.0 server and the Oracle 10g database on the same workstation.



Note

The procedures in this section are extracted from the Oracle documentation. Use the information in this section in conjunction with the Oracle documentation available on the Oracle website at www.oracle.com. The Oracle website is copyright © 2007, Oracle Corporation. All rights reserved.

- Step 1** Log in as the root user. The C shell (csh) is recommended. To start the C shell, enter the following command:
- ```
/bin/csh
```
- Step 2** Verify that your server has enough RAM available for your CTM network size. See [1.1.1 Server Specifications, page 1-2](#) for details.
- Step 3** Enter the following command to verify that the CTM R8.0 server is running:
- ```
showctm
```
- Step 4** If the CTM server is running, enter the following command to stop it before performing the upgrade:
- ```
ctms-stop
```
- Step 5** Enter the following command:
- ```
mv /usr/bin/java.old /usr/bin/java
```



Note

The location of the jre folder might vary. This step is required from the installation of Solaris 10, Release 05/08.

- Step 6** Install the latest CTM R8.0 service pack. See the [Migration Matrix for CTM Service Pack Releases](#) for more information.

3.3.1 Upgrading Oracle9i to Oracle 10g

- Step 1** Enter the following commands to copy the premigration and postmigration scripts:

```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/pre_migration_Ora9i2Ora10g.sh
/opt/CiscoTransportManagerServer/bin
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/migration_Ora9i2Ora10g.sh
/opt/CiscoTransportManagerServer/bin
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/pre_migration_extract_size.sql
/opt/CiscoTransportManagerServer/bin
```

- Step 2** Verify that the following scripts have execution permissions:

- pre_migration_Ora9i2Ora10g.sh
- migration_Ora9i2Ora10g.sh
- pre_migration_extract_size.sql

- Step 3** If the scripts do not have execution permissions, enter the following commands:

```
chmod ugo+x pre_migration_Ora9i2Ora10g.sh
chmod ugo+x migration_Ora9i2Ora10g.sh
chmod ugo+x pre_migration_extract_size.sql
```

- Step 4** Enter the following commands to run the premigration script:

```
cd /opt/CiscoTransportManagerServer/bin
./pre_migration_Ora9i2Ora10g.sh /cdrom/cdrom0 [<working_directory>]
```



Note

- The /cdrom/cdrom0 directory is the mount point where the Disk1 directory is located. It is required for mounting the CTM Server Disk 1 installation CD.
- The <working_directory> is an optional parameter to specify the directory where the premigration phase can store the required files. The default location is /temp/ORA_MIG10. Take note of the <working_directory> parameter if you are planning to use a location other than the default location.

- Step 5** Wait until the premigration script completes successfully. In the command output, you should see:

```
"Preliminary checks phase SUCCESSFUL...."
```

- Step 6** Enter the following commands to shut down Oracle:

```
su - oracle
sqlplus /nolog
SQL> connect / as sysdba
SQL> shutdown immediate
SQL> quit
lsnrctl stop
```



Caution

The command to shut down Oracle does not work in a high availability (HA) installation. See the *Cisco Transport Manager Release 9.0 High Availability Installation Guide*.

**Caution**

In a local redundancy HA environment, the `/var/opt/oracle/oraInst.loc` file is present in only one of the two servers in the same cluster. Verify that you can launch the installer where the file is present.

Step 7 Enter the following command to set the DISPLAY variable:

```
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 command output, you should see:

```
<hostname_or_IP_address>:0.0
```

Step 9 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 +
```

Step 10 Enter the following commands to uninstall the previous version of Oracle:

- For version 9.2.0.7, enter:
`/oraclesw9i/product/9.2/oui/bin/runInstaller`
- For version 9.2.0.8, enter:
`/oraclesw9i/Disk1/runInstaller`

Step 11 Click the **Deinstall Product** button. In the Inventory panel, select all of the Oracle products listed and click the **Remove** button. When Oracle is uninstalled, click the **Exit** button.

Step 12 Complete the following preinstallation steps:

- a. Enter the following command to view the CTM Oracle SID:
`echo $ORACLE_SID`
- b. Edit the `/var/opt/oracle/oratab` file as the root user. In this file, replace the `"/oraclesw9i/product/9.2"` string with `"/oracle/product/10.2.0"`.
- c. Verify that the first line of the file contains the CTM Oracle SID (as described in substep a).



Note It is not possible to install Oracle 10g in the same directory as Oracle9i.

- d. Edit the `/var/opt/oracle/oraInst.loc` file as the root user. In this file, replace the `"/oraclesw9i"` string with `"/oracle"`.

Step 13 Enter the following command to log out from the oracle user shell and become the root user:

```
exit
```

Step 14 Complete the following substeps to create a new Oracle home directory and install group, and then upgrade the existing oracle user to the new environment:

- a. Log in as the root user.
- b. Enter the following command to create the oinstall group:
`groupadd oinstall`
- c. Enter the following command to create the new mount point for the oracle user home directory:

```
mkdir /oracle
```

- d. Enter the following command to change ownership to the /oracle directory and its contents:

```
chown -R oracle:dba /oracle
```

- e. Enter the following command to remove all files and subdirectories from the /oraclesw9i directory:

```
rm -R /oraclesw9i/*
```



Caution The oracle user must set the home directory to /oracle. If the home directory is not set to /oracle, the Oracle software might not start.

- f. If /oraclesw9i is a mount point for a dedicated partition for the Oracle application, enter the following commands to unmount the related partition and delete the mount point:

```
umount /oraclesw9i
rm -R /oraclesw9i
usermod -g oinstall -G dba -m -s /bin/csh -d /oracle oracle
```



Note When working in an HA installation, do not complete substep g; that is, for an HA installation, do not modify the /etc/vfstab file.

- g. Modify the /etc/vfstab file. In this file, replace the "oraclesw9i" string with "oracle".
h. Mount the /oracle mount point.

Step 15 Install Oracle 10g. Complete all of [A.1 Installing Oracle 10g, page A-1](#) before proceeding to [Step 16](#).

Step 16 After completing the installation, enter the following command to log into the database workstation as the oracle user:

```
su - oracle
```

Step 17 Enter the following command to create a soft link for the initCTM.ora file:

```
ln -s /oracle/admin/<Oracle_SID>/pfile/init<Oracle_SID>.ora /oracle/product/10.2.0
/dba/init<Oracle_SID>.ora
```

Step 18 As the root user, enter the following commands to run the postmigration script:

```
cd /opt/CiscoTransportManagerServer/bin
./migration_Ora9i2Ora10g.sh [<working_directory>]
```



Note The *<working_directory>* is an optional parameter to specify the directory where the premigration phase can store the required files. The default location is /temp/ORA_MIG10. Take note of the *<working_directory>* parameter if you are planning to use a location other than the default location. If you specified a working directory in [Step 4](#), use the same *<working_directory>*.

Step 19 The migration_Oracle9i2Ora10g.sh script checks the results of the migration step. You should not see any error messages.

Step 20 As the oracle user, enter the following commands to stop the CTM database:

```
su - oracle
sqlplus /nolog
SQL> connect / as sysdba
SQL> shutdown immediate
```

```
SQL> quit
```

```
lsnrctl stop
```

- Step 21** Download and install the alert patch for Oracle CPUApr2008. Complete all of [A.2 Downloading and Installing the Alert Patch for Oracle CPUApr2008 \(Patch Number 6864068\)](#), page A-10 before proceeding to [Step 22](#).
- Step 22** Complete [A.3 Downloading and Installing the Oracle Patch 5201883](#), page A-12 before proceeding to [Step 23](#).
- Step 23** As the oracle user, enter the following commands:
- ```
chmod 777 $ORACLE_HOME/network/log
chmod 777 $ORACLE_HOME/network/trace
chmod +t $ORACLE_HOME/network/log
chmod +t $ORACLE_HOME/network/trace
```
- Step 24** As the root user, insert the CTM Server Disk 1 installation CD and enter the following commands:
- ```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/cfg/{small | medium | large | highend}/dbstart
/oracle/product/10.2.0/bin/dbstart
chown oracle:dba /oracle/product/10.2.0/bin/dbstart
chmod +x /oracle/product/10.2.0/bin/dbstart

su - oracle
$ORACLE_HOME/bin/dbstart
lsnrctl start
```
- Step 25** Complete [A.5 Postinstallation Steps for the Alert Patch for Oracle CPUApr2008 \(Patch Number 6864068\)](#), page A-13.

3.3.2 Installing the CTM R9.0 Server and Upgrading the CTM Database to CTM R9.0

- Step 1** Enter the following commands to start the CTM installation:

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

The setup program searches for Sun Microsystems JRE version 1.5.0_17 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; then, continue this procedure:
Do you agree to the above license terms? [yes or no]
- 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 this procedure.

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

```
Please wait, Cisco Transport Manager Server Release 9.0 is being configured for your system. This may take a moment...
```

- Step 2** At the Introduction screen, click **Next**.
- Step 3** 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 4** At the Installation Options screen, choose **Upgrade from existing CTM release**; then, click **Next**.
- Step 5** At the Select Products to Install screen, check the **Cisco Transport Manager server** check box; then, click **Next**.

**Note**

- The Web Server check box is selected automatically when you choose Cisco Transport Manager server. The web server 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. The web server is required for the CTM server.
- The license for CTM GateWay/CORBA is sold separately. If you are using this feature in a production environment, you must purchase a license. See [Chapter 4, “Installing CTM GateWay/CORBA R9.0”](#) for details.
- If the CTM GateWay/CORBA check box is disabled and checked due to a previous installation, installation is mandatory during the upgrade. If the CTM GateWay/CORBA check box is disabled and unchecked, do not attempt installation during the upgrade.

**Caution**

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

- Step 6** At the Select Modules to Install screen, select individual modules or select all; then, click **Next**.
- Optical Module: ONS 15xxx (inc. shelf controller)
 - Cisco MGX Voice Gateway
 - All of the Above Modules

**Note**

The MDS 9000 module is a common module that will be installed with any selection.

- Step 7** At the Main Options screen, complete the following substeps:
- a. Check the **Upgrade CTM database** check box.
 - b. Check the **Install CTM server** check box.
 - c. Click **Next**.
- Step 8** At the Select Network Configuration Type screen, select the option to upgrade your current network configuration type.
- Step 9** At the Select Network Configuration screen, select which of the following available network configuration types you want to upgrade:
- Large
 - High end

**Note**

This screen is displayed only if you selected the Upgrade Network Configuration Type option in the previous step.

Step 10 At the User Migration screen, complete the following substeps:

- a. Select the **Migrate Users** or **Do not migrate users** check box. Complete the Password and Password (confirm) fields if you chose to migrate the CTM users. The Password field sets the password for all CTM users migrated from the CTM R8.0 server.

**Note**

Users can log into the CTM R9.0 server using this password. They will be prompted to change their passwords on first login.

- b. Click **Next**.

Step 11 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 [1.5 Overview of Sudo Commands, page 1-18](#).

Step 12 (For optical modules only) At the FTP Information screen, complete the following substeps to configure an FTP account for 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. See the [Cisco Transport Manager Release 9.0 User Guide](#) for more information.

Step 13 At the Server IP Address screen, specify an IP address for the CTM server. The Hostname field is populated automatically with the hostname of the selected IP address. After confirming the IP address and hostname details, click **Next**.

**Note**

The hostname is available only if you select Cisco MGX Voice Gateway.

- Step 14** At the Configure TFTP Server screen, complete the following substeps if you want to enable TFTP for optical modules:
- Check the **Enable TFTP Server** check box.
 - Enter the TFTP directory name. The default is /tftpboot.
 - Click **Next**.

- 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**.
- Do not specify any mount point as the target installation directory for the server installation, or the installation data might be lost when the workstation restarts.

**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**.

**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 17** 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.
 - In the Select a Folder dialog box, click **Select**.
 - In the Insert New Media screen, click **OK**.
 - Repeat substeps a to d for the other disks.

**Note**

If you chose to install only the optical module or only the MGX module, the CTM installer might automatically skip one or more disks.

- 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 **Next**.

- Step 20** The Upgrade Server and Database Complete screen displays the log location. Click **Done**.

**Note**

If errors occur during the migration, a “Warning: Migration Errors” screen is displayed. To continue with the installation, check the **I Acknowledge** check box and click **Next**.

- Step 21** Depending on the network size you selected during the installation, enter the following commands to configure the third redo log on the CTM database:

```
cd /opt/CiscoTransportManagerServer/bin
./rd_log_config.sh { small | medium | large | highend }
```

- Step 22** Enter the following command to reboot the system. The CTM server starts automatically after rebooting:

**Caution**

After you click the Done button in the installation window, the background processes continue to run for several minutes. Before rebooting, you must wait for the reboot message on the terminal where you started the installation. Depending on the server performance, the background processes can take up to 15 minutes before the reboot message appears. Rebooting the server before this message appears will break CTM functionalities.

```
init 6
```

- Step 23** To verify that the CTM R9.0 server is running, enter the **showctm** command after the server reboots. The **showctm** command displays the CTM server version running as 9.0, followed by the build number. In the command output, you should see two instances of “CTM Server,” “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 Upgrading from CTM R8.0 and Oracle9i to CTM R9.0 and Oracle 10g on Separate Workstations

This section describes how to upgrade from CTM R8.0 and Oracle9i to CTM R9.0 and Oracle 10g when you are installing the CTM R9.0 server and the Oracle 10g database on separate Sun Solaris 10 workstations.

**Note**

The procedures in this section are extracted from the Oracle documentation. Use the information in this section in conjunction with the Oracle documentation available on the Oracle website at www.oracle.com. The Oracle website is copyright © 2007, Oracle Corporation. All rights reserved.

3.4.1 Installing the CTM R9.0 Server 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:

**Note**

Before proceeding with the installation, verify that your server has enough RAM available for your CTM network size. See [1.1.1 Server Specifications, page 1-2](#) for details.

Step 1 Enter the following command to verify that the CTM R8.0 server is running:

```
showctm
```

Step 2 If the CTM server is running, enter the following command to stop it before performing the upgrade:

```
ctms-stop
```

Step 3 Enter the following command:

```
mv /usr/bin/java.old /usr/bin/java
```

Step 4 Install the latest CTM R8.0 service pack. See the [Migration Matrix for CTM Service Pack Releases](#) for more information.

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

```
su - oracle
```

Step 6 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 command output, you should see:

```
<hostname_or_IP_address>:0.0
```

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 +
```

Step 9 Enter the following command to uninstall the previous version of the Oracle client:

- For version 9.2.0.7, enter:

```
/oraclesw9i/product/9.2/oui/bin/runInstaller
```

- For version 9.2.0.8, enter:

```
/oraclesw9i/Disk1/runInstaller
```

Step 10 Complete the following preinstallation steps:

- a. Enter the following command to view the CTM Oracle SID:

```
echo $ORACLE_SID
```

- b. Edit the `/var/opt/oracle/oratab` file as the root user. In this file, replace the `"/oraclesw9i/product/9.2"` string with `"/oracle/product/10.2.0"`.

- c. Check that the first line of the file contains the CTM Oracle SID (as described in substep a).



Note It is not possible to install Oracle 10g in the same directory as Oracle9i.

- d. Edit the `/var/opt/oracle/oraInst.loc` file as the root user. In this file, replace the `"/oraclesw9i"` string with `"/oracle"`.

- Step 11** Complete the following substeps to create a new Oracle home directory and install group. Afterward, upgrade the existing oracle user to the new environment.
- Log in as the root user.
 - Enter the following command to create the oinstall group:


```
groupadd oinstall
```
 - Enter the following command to create the new mount point for the oracle user home directory:


```
mkdir /oracle
```
 - Enter the following command to change ownership to the /oracle directory and its contents:


```
chown -R oracle:dba /oracle
```
 - Enter the following command to remove all files and subdirectories from the /oraclesw9i directory:


```
rm -R /oraclesw9i/*
```



Caution The oracle user must set the home directory to /oracle. If the home directory is not set to /oracle, the Oracle software might not start.

- If /oraclesw9i is a mount point for a dedicated partition for the Oracle application, enter the following commands to unmount the related partition and delete the mount point:


```
umount /oraclesw9i
rm -R /oraclesw9i
usermod -g oinstall -G dba -m -s /bin/csh -d /oracle oracle
```
 - Modify the /etc/vfstab file. In this file, replace the "oraclesw9i" string with "oracle".
 - Mount the /oracle mount point.
- Step 12** Install the Oracle 10g client. Complete [2.2.2.2 Installing the Oracle 10g Client, page 2-12](#) before proceeding to [Step 13](#).
- Step 13** Enter the following command to set the DISPLAY variable:
- ```
setenv DISPLAY <hostname_or_IP_address>:0.0
```
- Step 14** Enter the following command to verify that the display is set correctly:
- ```
echo $DISPLAY
```
- In the command output, you should see:
- ```
<hostname_or_IP_address>:0.0
```
- Step 15** 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 1.5.0_17 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; then, continue this procedure:
Do you agree to the above license terms? [yes or no]
- 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 this procedure.

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

```
Please wait, Cisco Transport Manager Server Release 9.0 is being configured for your system. This may take a moment...
```

- Step 16** At the Introduction screen, click **Next**.
- Step 17** 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 18** At the Installation Options screen, choose **Upgrade from existing CTM release**; then, click **Next**.
- Step 19** At the Select Products to Install screen, check the **Cisco Transport Manager server** check box; then, click **Next**.

**Caution**

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

- Step 20** At the Select Modules to Install screen, select individual modules or select all; then, click **Next**.
- Optical Module: ONS 15xxx (inc. shelf controller)
 - Cisco MGX Voice Gateway
 - All of the Above Modules

**Note**

- The MDS 9000 module is a common module that will be installed with any selection.
- Modules installed in CTM R8.0 are selected by default in the Select Modules to Install screen.

- Step 21** At the Main Options screen, check *only* the **Install CTM server** check box; then, click **Next**.

**Caution**

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

- Step 22** 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 23** (For optical modules only) At the FTP Information screen, complete the following substeps to configure an FTP account for software download operations:

- 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. See the *Cisco Transport Manager Release 9.0 User Guide* for more information.

- Step 24** At the Server IP Address screen, specify an IP address for the CTM server. The Hostname field is populated automatically with the hostname of the selected IP address. After confirming the IP address and hostname details, click **Next**.

**Note**

The hostname is available only if you select Cisco MGX Voice Gateway.

- Step 25** At the Configure TFTP Server screen, complete the following substeps if you want to enable TFTP for optical modules:
 - a. Check the **Enable TFTP Server** check box.
 - b. Enter the TFTP directory name. The default is /tftpboot.
 - c. Click **Next**.

- Step 26** 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 27** 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**.
- Do not specify any mount point as the target installation directory for the server installation, or the installation data might be lost when the workstation restarts.

**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 28 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 29 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**.
- e. Repeat substeps a to d for the other disks.

**Note**

If you chose to install only the optical module or only the MGX module, the CTM installer might automatically skip one or more disks.

Step 30 The Web Server Installation Summary screen summarizes the results of the web server installation. Click **Next**.

Step 31 The Install Complete screen summarizes the results of the installation. Click **Next**.

Step 32 The Upgrade Server Complete screen displays the log location. Click **Done**.

Step 33 After you click the Done button, background processes continue to run for several minutes. When the installation is complete, the following message is displayed:

```
Installation complete. Please see <install_directory>/install.log for details.
Please REBOOT THE SYSTEM before starting Cisco Transport Manager Server.
```

Do not reboot the system at this time. Before rebooting, you must install the CTM database, which you will do in a later section.

3.4.2 Upgrading the Database on the CTM Database Workstation

Step 1 Log in as the root user on the CTM database workstation. The C shell (csh) is recommended. To start the C shell, enter the following command:

```
/bin/csh
```

Step 2 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 command output, you should see:

```
<hostname_or_IP_address>:0.0
```

Step 4 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 +
```

Step 5 Install Oracle 10g. Complete [3.3.1 Upgrading Oracle9i to Oracle 10g, page 3-5](#) before proceeding to [Step 6](#).

Step 6 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 1.5.0_17 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; then, continue this procedure:
Do you agree to the above license terms? [yes or no]
- 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 this procedure.

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

```
Please wait, Cisco Transport Manager Server Release 9.0 is being configured for your system. This may take a moment...
```

Step 7 At the Introduction screen, click **Next**.

Step 8 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 9 At the Installation Options screen, choose **Upgrade from existing CTM release**; then, click **Next**.



Note

If your network size is medium or large, you can also choose **Upgrade CTM network configuration size**. (Small or high-end network sizes cannot be upgraded.) Alternately, you can upgrade the network size as a separate step. See [3.8 Upgrading the CTM Network Configuration Size, page 3-33](#).

Step 10 At the Select Products to Install screen, check the **Cisco Transport Manager server** check box; then, click **Next**.



Note

- The Web Server check box is selected automatically when you choose Cisco Transport Manager server. The web server 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. The web server is required for the CTM server.

- The license for CTM GateWay/CORBA is sold separately. If you are using this feature in a production environment, you must purchase a license. See [Chapter 4, “Installing CTM GateWay/CORBA R9.0”](#) for details.

**Caution**

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

Step 11 At the Select Modules to Install screen, select individual modules or select all; then, click **Next**.

- Optical Module: ONS 15xxx (inc. shelf controller)
- Cisco MGX Voice Gateway
- All of the Above Modules

**Note**

Modules installed in CTM R8.0 are selected by default in the Select Modules to Install screen.

Step 12 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 13 (Optional) If you selected **Upgrade CTM network configuration size** in [Step 9](#), the Select to Upgrade Network Configuration Type screen appears. Select the option to upgrade your current network configuration type.

Step 14 (Optional) At the Select Network Configuration screen, select which of the following available network configuration types you want to upgrade:

- Large
- High end

**Note**

This screen is displayed only if you selected the Upgrade Network Configuration Type option in the previous step.

Step 15 At the User Migration screen, complete the following substeps:

- Check the **Migrate Users** or **Do not migrate users** check box. Complete the Password and Password (confirm) fields if you chose to migrate the CTM users.
- Click **Next**.

Step 16 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 17 (For optical modules only) At the FTP Information screen, accept the default values; then, click **Next**.

Step 18 At the Server IP Address screen, enter the hostname of CTM server workstation. You do not need to modify the IP address.

Step 19 The Pre Installation Summary screen shows the items that will be installed. Click **Install**.



Note It might take 40 minutes or longer to upgrade the database, depending on your system performance.

Step 20 The Upgrade Database Complete screen summarizes the results of the upgrade. Click **Done**.



Note If errors occur during the migration, a “Warning: Migration Errors” screen is displayed. To continue with the installation, check the **I Acknowledge** check box and click **Next**.

Step 21 Depending on the network size you selected during the installation, enter the following commands to configure the third redo log on the CTM database:

```
cd /opt/CiscoTransportManagerServer/bin
./rd_log_config.sh { small | medium | large | highend }
```

3.4.3 Verifying the Oracle 10g Client Installation on the CTM Server Workstation and Restarting the CTM Server

Log in as the root user on the workstation where the CTM server is installed and complete the following steps:

Step 1 Enter the following command to log in as the oracle user:

```
su - oracle
```

Step 2 Enter the following command to verify that the CTM server can connect to the Oracle 10g database:

```
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)
```



Note The msec value can be greater than 0.

Step 3 Log out from the oracle user and enter the following command to return to the shell as the root user:

```
exit
```

Step 4 Enter the following command to reboot the system:

```
init 6
```

The CTM server starts automatically after rebooting.

Step 5 To verify that the CTM R9.0 server is running, enter the **showctm** command after the server reboots. The **showctm** command displays the CTM server version running as 9.0, followed by the build number. In the command output, you should see two instances of “CTM Server,” “SnmpTrapService,” “SMSservice,” and “Apache Web Server.” This indicates that the CTM server is running.

Step 6 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. Restart the CTM server. This restarts the latest installed web server.

3.5 Upgrading from CTM R8.5 to CTM R9.0 on the Same Workstation

This section describes how to upgrade from CTM R8.5 to CTM R9.0 when you are installing the CTM R9.0 server and the Oracle 10g database on the same workstation.



Note

The procedures in this section are extracted from the Oracle documentation. Use the information in this section in conjunction with the Oracle documentation available on the Oracle website at www.oracle.com. The Oracle website is copyright © 2007, Oracle Corporation. All rights reserved.

3.5.1 Installing the CTM R9.0 Server and Upgrading the Database

Log in as the root user and complete the following steps:



Note

Before proceeding with the installation, verify that your server has enough RAM available for your CTM network size. See [1.1.1 Server Specifications, page 1-2](#) for details.

Step 1 Enter the following command to verify that the CTM R8.0 server is running:

```
showctm
```

Step 2 If the CTM server is running, enter the following command to stop it before performing the upgrade:

```
ctms-stop
```

Step 3 Install the latest CTM R8.5 service pack. See the [Migration Matrix for CTM Service Pack Releases](#) for more information.

Step 4 Enter the following command:

```
mv /usr/bin/java.old /usr/bin/java
```

Step 5 As the oracle user, enter the following commands to stop the CTM database:

```
su - oracle
sqlplus /nolog
SQL> connect / as sysdba
SQL> shutdown immediate
SQL> quit
```

```
lsnrctl stop
```

Step 6 Complete all of [A.1.6 Downloading and Installing the OPatch \(Patch Number 4898608\)](#), page A-7 before proceeding to [Step 7](#).

Step 7 Download and install the alert patch for Oracle CPUApr2008. Complete all of [A.2 Downloading and Installing the Alert Patch for Oracle CPUApr2008 \(Patch Number 6864068\)](#), page A-10 before proceeding to [Step 8](#).

Step 8 Complete [A.3 Downloading and Installing the Oracle Patch 5201883](#), page A-12 before proceeding to [Step 9](#).

Step 9 As the oracle user, enter the following commands:

```
chmod 777 $ORACLE_HOME/network/log
chmod 777 $ORACLE_HOME/network/trace
chmod +t $ORACLE_HOME/network/log
chmod +t $ORACLE_HOME/network/trace
```

Step 10 As the root user, insert the CTM Server Disk 1 installation CD and enter the following commands:

```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/cfg/{small | medium | large | highend}/dbstart
/oracle/product/10.2.0/bin/dbstart
chown oracle:dba /oracle/product/10.2.0/bin/dbstart
chmod +x /oracle/product/10.2.0/bin/dbstart
```

```
su - oracle
$ORACLE_HOME/bin/dbstart
lsnrctl start
```

Step 11 Complete [A.5 Postinstallation Steps for the Alert Patch for Oracle CPUApr2008 \(Patch Number 6864068\)](#), page A-13 before proceeding to [Step 12](#).

Step 12 As the root user, enter the following commands to start the CTM installation:

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

The setup program searches for Sun Microsystems JRE version 1.5.0_17 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; then, continue this procedure:
Do you agree to the above license terms? [yes or no]
- 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 this procedure.

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

```
Please wait, Cisco Transport Manager Server Release 9.0 is being configured for your system. This may take a moment...
```

- Step 13** At the Introduction screen, click **Next**.
- Step 14** 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 15** At the Installation Options screen, choose **Upgrade from existing CTM release**; then, click **Next**.
- Step 16** At the Select Products to Install screen, check the **Cisco Transport Manager server** check box; then, click **Next**.

**Note**

- The Web Server check box is selected automatically when you choose Cisco Transport Manager server. The web server 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. The web server is required for the CTM server.
- The license for CTM GateWay/CORBA is sold separately. If you are using this feature in a production environment, you must purchase a license. See [Chapter 4, “Installing CTM GateWay/CORBA R9.0”](#) for details.
- If the CTM GateWay/CORBA check box is disabled and checked due to a previous installation, installation is mandatory during the upgrade. If the CTM GateWay/CORBA check box is disabled and unchecked, do not attempt installation during the upgrade.

**Caution**

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

- Step 17** At the Select Modules to Install screen, select individual modules or select all; then, click **Next**.
- Optical Module: ONS 15xxx (inc. shelf controller)
 - Cisco MGX Voice Gateway
 - All of the Above Modules

**Note**

The MDS 9000 module is a common module that will be installed with any selection.

- Step 18** At the Main Options screen, complete the following substeps:
- a. Check the **Upgrade CTM database** check box.
 - b. Check the **Install CTM server** check box.
 - c. Click **Next**.
- Step 19** At the Select Network Configuration Type screen, select the option to upgrade your current network configuration type.
- Step 20** At the Select Network Configuration screen, select which of the following available network configuration types you want to upgrade:
- Large
 - High end

**Note**

This screen is displayed only if you selected the Upgrade Network Configuration Type option in the previous step.

Step 21 At the Update System Parameters screen, choose **Optimize CTM database parameters** and **Optimize CTM server parameters**; then, click **Next**.

Step 22 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 [1.5 Overview of Sudo Commands, page 1-18](#).

Step 23 (For optical modules only) At the FTP Information screen, complete the following substeps to configure an FTP account for 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. See the [Cisco Transport Manager Release 9.0 User Guide](#) for more information.

Step 24 At the Server IP Address screen, specify an IP address for the CTM server. The Hostname field is populated automatically with the hostname of the selected IP address. After confirming the IP address and hostname details, click **Next**.

**Note**

The hostname is available only if you select Cisco MGX Voice Gateway.

Step 25 At the Configure TFTP Server screen, complete the following substeps if you want to enable TFTP for optical modules:

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

Step 26 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**.
- Do not specify any mount point as the target installation directory for the server installation, or the installation data might be lost when the workstation restarts.

**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 27 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 28 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**.
- e. Repeat substeps **a** to **d** for the other disks.

**Note**

If you chose to install only the optical module or only the MGX module, the CTM installer might automatically skip one or more disks.

Step 29 The Web Server Installation Summary screen summarizes the results of the web server installation. Click **Next**.

Step 30 The Install Complete screen summarizes the results of the installation. Click **Next**.

Step 31 The Upgrade Server and Database Complete screen displays the log location. Click **Done**.

Step 32 Depending on the network size you selected during the installation, enter the following commands to configure the third redo log on the CTM database:

```
cd /opt/CiscoTransportManagerServer/bin
./rd_log_config.sh { small | medium | large | highend }
```

Step 33 Enter the following command to reboot the system. The CTM server starts automatically after rebooting:

**Caution**

After you click the Done button in the installation window, the background processes continue to run for several minutes. Before rebooting, you must wait for the reboot message on the terminal where you started the installation. Depending on the server performance, the background processes can take up to 15 minutes before the reboot message appears. Rebooting the server before this message appears will break CTM functionalities.

```
init 6
```

- Step 34** To verify that the CTM R9.0 server is running, enter the **showctm** command after the server reboots. The **showctm** command displays the CTM server version running as 9.0, followed by the build number. In the command output, you should see two instances of “CTM Server,” “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 Upgrading from CTM R8.5 to CTM R9.0 on Separate Workstations

This section describes how to upgrade from CTM R8.5 to CTM R9.0 when you are installing the CTM R9.0 server and Oracle 10g on separate Sun Solaris 10 workstations.

**Note**

The procedures in this section are extracted from the Oracle documentation. Use the information in this section in conjunction with the Oracle documentation available on the Oracle website at www.oracle.com. The Oracle website is copyright © 2007, Oracle Corporation. All rights reserved.

3.6.1 Installing the CTM R9.0 Server 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:

**Note**

Before proceeding with the installation, verify that your server has enough RAM available for your CTM network size. See [1.1.1 Server Specifications, page 1-2](#) for details.

- Step 1** Enter the following command to verify that the CTM R8.5 server is running:

```
showctm
```

- Step 2** If the CTM server is running, enter the following command to stop it before performing the upgrade:

```
ctms-stop
```

- Step 3** Enter the following command as the root user:

```
mv /usr/bin/java.old /usr/bin/java
```

- Step 4** Install the latest CTM R8.5 service pack. See the [Migration Matrix for CTM Service Pack Releases](#) for more information.
- Step 5** Complete all of [A.1.6 Downloading and Installing the OPatch \(Patch Number 4898608\)](#), page A-7 before proceeding to [Step 6](#).
- Step 6** Download and install the alert patch for Oracle CPUApr2008. Complete all of [A.2 Downloading and Installing the Alert Patch for Oracle CPUApr2008 \(Patch Number 6864068\)](#), page A-10 before proceeding to [Step 7](#).
- Step 7** 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 1.5.0_17 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; then, continue this procedure:
Do you agree to the above license terms? [yes or no]
- 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 this procedure.

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

```
Please wait, Cisco Transport Manager Server Release 9.0 is being configured for your system. This may take a moment...
```

- Step 8** At the Introduction screen, click **Next**.
- Step 9** 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 10** At the Installation Options screen, choose **Upgrade from existing CTM release**; then, click **Next**.
- Step 11** At the Select Products to Install screen, check the **Cisco Transport Manager server** check box; then, click **Next**.

**Caution**

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

- Step 12** At the Select Modules to Install screen, select individual modules or select all; then, click **Next**.
- Optical Module: ONS 15xxx (inc. shelf controller)
 - Cisco MGX Voice Gateway
 - All of the Above Modules

**Note**

The MDS 9000 module is a common module that will be installed with any selection.

- Step 13** 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 14** At the Update System Parameters screen, choose **Optimize CTM database parameters** and **Optimize CTM server parameters**; then, click **Next**.
- Step 15** 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 16** (For optical modules only) At the FTP Information screen, complete the following substeps to configure an FTP account for 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. See the [Cisco Transport Manager Release 9.0 User Guide](#) for more information.

- Step 17** 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**.

**Note**

The hostname is available only if you select Cisco MGX Voice Gateway.

- Step 18** At the Configure TFTP Server screen, complete the following substeps if you want to enable TFTP for optical modules:
- Check the **Enable TFTP Server** check box.
 - Enter the TFTP directory name. The default is /tftpboot.
 - Click **Next**.

- Step 19** 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 20 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**.
- Do not specify any mount point as the target installation directory for the server installation, or the installation data might be lost when the workstation restarts.

**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 21 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 22 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`.
- In the Select a Folder dialog box, click **Select**.
- In the Insert New Media screen, click **OK**.
- Repeat substeps **a** to **d** for the other disks.

**Note**

If you chose to install only the optical module or only the MGX module, the CTM installer might automatically skip one or more disks.

Step 23 The Web Server Installation Summary screen summarizes the results of the web server installation. Click **Next**.

Step 24 The Upgrade Complete screen summarizes the results of the installation. Click **Done**.

Step 25 After you click the Done button, background processes continue to run for several minutes. When the installation is complete, the following message is displayed:

```
Installation complete. Please see <install_directory>/install.log for details.
Please REBOOT THE SYSTEM before starting Cisco Transport Manager Server.
```

Do not reboot the system at this time. Before rebooting, you must install the CTM database, which you will do in a later section.

3.6.2 Upgrading the Database on the CTM Database Workstation

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 command output, you should see:
- ```
<hostname_or_IP_address>:0.0
```
- Step 3** Enter the following commands to stop the CTM database:
- ```
su - oracle
sqlplus /nolog
SQL> connect / as sysdba
SQL> shutdown immediate
SQL> quit
lsnrctl stop
```
- Step 4** Complete all of [A.1.6 Downloading and Installing the OPatch \(Patch Number 4898608\)](#), page A-7 before proceeding to [Step 5](#).
- Step 5** Download and install the alert patch for Oracle CPUApr2008. Complete all of [A.2 Downloading and Installing the Alert Patch for Oracle CPUApr2008 \(Patch Number 6864068\)](#), page A-10 before proceeding to [Step 6](#).
- Step 6** Complete [A.3 Downloading and Installing the Oracle Patch 5201883](#), page A-12 before proceeding to [Step 7](#).
- Step 7** As the oracle user, enter the following commands:
- ```
chmod 777 $ORACLE_HOME/network/log
chmod 777 $ORACLE_HOME/network/trace
chmod +t $ORACLE_HOME/network/log
chmod +t $ORACLE_HOME/network/trace
```
- Step 8** As the root user, insert the CTM Server Disk 1 installation CD and enter the following commands:
- ```
cp /cdrom/cdrom0/Disk1/InstData/Solaris/VM/cfg/{small|medium|large|highend}/dbstart
/oracle/product/10.2.0/bin/dbstart
chown oracle:dba /oracle/product/10.2.0/bin/dbstart
chmod +x /oracle/product/10.2.0/bin/dbstart
su - oracle
$ORACLE_HOME/bin/dbstart
lsnrctl start
```
- Step 9** Complete [A.5 Postinstallation Steps for the Alert Patch for Oracle CPUApr2008 \(Patch Number 6864068\)](#), page A-13 before proceeding to [Step 10](#).
- Step 10** 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 1.5.0\_17 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; then, continue this procedure:  
Do you agree to the above license terms? [yes or no]
- 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 this procedure.

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

```
Please wait, Cisco Transport Manager Server Release 9.0 is being configured for your
system. This may take a moment...
```

- Step 11** At the Introduction screen, click **Next**.
- Step 12** 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 13** At the Installation Options screen, choose **Upgrade from existing CTM release**; then, click **Next**.

**Note**

If your network size is medium or large, you can also choose **Upgrade CTM network configuration size**. (Small or high-end network sizes cannot be upgraded.) Alternately, you can upgrade the network size as a separate step. See [3.8 Upgrading the CTM Network Configuration Size, page 3-33](#).

- Step 14** At the Select Products to Install screen, check the **Cisco Transport Manager server** check box; then, click **Next**.

**Caution**

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

**Note**

- The Web Server check box is selected automatically when you choose Cisco Transport Manager server. The web server 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. The web server is required for the CTM server.
- The license for CTM GateWay/CORBA is sold separately. If you are using this feature in a production environment, you must purchase a license. See [Chapter 4, "Installing CTM GateWay/CORBA R9.0"](#) for details.

- Step 15** At the Select Modules to Install screen, select individual modules or select all; then, click **Next**.
- Optical Module: ONS 15xxx (inc. shelf controller)
  - Cisco MGX Voice Gateway
  - All of the Above Modules

- Step 16** 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 17** (Optional) If you selected **Upgrade CTM network configuration size** in [Step 13](#), the Select to Upgrade Network Configuration Type screen appears. Select the option to upgrade your current network configuration type.

**Step 18** (Optional) At the Select Network Configuration screen, select which of the following available network configuration types you want to upgrade:

- Large
- High end

**Note**

This screen is displayed only if you selected the Upgrade Network Configuration Type option in the previous step.

**Step 19** 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 [1.5 Overview of Sudo Commands, page 1-18](#).

**Step 20** (For optical modules only) At the FTP Information screen, accept the default values; then, click **Next**.

**Step 21** The Pre Installation Summary screen shows the items that will be installed. Click **Install**.

**Note**

It might take 40 minutes or longer to upgrade the database, depending on your system performance.

**Step 22** The Upgrade Database Complete screen summarizes the results of the upgrade. Click **Done**.

**Step 23** Depending on the network size you selected during the installation, enter the following commands to configure the third redo log on the CTM database:

```
cd /opt/CiscoTransportManagerServer/bin
./rd_log_config.sh { small | medium | large | highend }
```

## 3.7 Verifying That the Oracle 10g and CTM Server Processes Are Running

After installation, complete the following steps to verify that the Oracle 10g 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!*.

In the command output, you should see:

```
Connected to:
Oracle10g...
```

**Step 2** Enter the following command to exit SQL\*Plus:

```
exit
```

**Step 3** Log into the CTM server workstation as the root user.

**Step 4** Enter the following command to verify that the CTM R9.0 server is running:

```
showctm
```

In the command output, you should see the text “CTM Server,” “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 5** If the CTM server is not running, enter the following command:

```
ctms-start
```

**Step 6** 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 7** 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 Upgrading the CTM Network Configuration Size

**Note**

You can complete the following procedure whether you are installing CTM R9.0 as a new installation or upgrading to CTM R9.0 from an earlier release.

---

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

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

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

```
Please wait, Cisco Transport Manager Server Release 9.0 is being configured for your
system. This may take a moment...
```

**Step 2** At the Introduction screen, click **Next**.

**Step 3** 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 4** At the Installation Options screen, choose **Upgrade CTM network configuration size**; then, click **Next**.

**Step 5** At the Select Network Configuration screen, specify the size of your network; then, click **Next**.



**Note**

You can upgrade the network configuration only if your network size is medium or large. Small and high-end configurations cannot be upgraded.

---

**Step 6** At the Update System Parameters screen, choose **Optimize CTM database parameters** and **Optimize CTM server parameters**. (Both options are selected by default.) Click **Next**.

**Step 7** At the Pre Installation Summary screen, click **Install**.

**Step 8** As the root user, enter the following command to reboot the system:

```
init 6
```

The CTM server starts automatically after rebooting. After the server reboot, it might take up to 20 minutes for the CTM server to come up.

---

## 3.9 Adding New Modules



**Note**

- You can complete the following procedure whether you are installing CTM R9.0 as a new installation or upgrading to CTM R9.0 from an earlier release.
  - Before adding new MGX modules to an existing CTM installation, verify that you have the required SFTP packages installed. See [1.4.1 Solaris SFTP Packages for MGX NEs, page 1-17](#).
- 



**Caution**

Contact the Cisco Technical Assistance Center (TAC) before adding new modules on a patched CTM server.

---

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

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

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

```
Please wait, Cisco Transport Manager Server Release 9.0 is being configured for your system. This may take a moment...
```

- Step 2** At the Introduction screen, click **Next**.
- Step 3** 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 4** At the Installation Options screen, choose **Add new modules**; then, click **Next**.
- Step 5** At the Select Modules to Install screen, select individual modules or select all; then, click **Next**.
- Optical Module: ONS 15xxx (inc. shelf controller)
  - Cisco MGX Voice Gateway
  - All of the Above Modules

**Note**

- All service modules of the MGX NE, including the RPM module, should be upgraded to R5.4 before adding the NE to CTM in SNMPv3 mode. Otherwise, CTM cannot synchronize with the NE.
- For any modules that are already installed, the option to install them is dimmed. You cannot install modules that are already installed. Only modules that are not yet installed are selectable.

- Step 6** (For optical modules only) At the FTP Information screen, enter the following information to configure an FTP account for software download operations:
- FTP username
  - FTP user password
  - Confirm FTP user password
  - FTP directory
- Step 7** At the Configure TFTP Server screen, complete the following substeps if you want to enable TFTP for optical modules:
- a. Check the **Enable TFTP Server** check box.
  - b. Enter the TFTP directory name. The default is /tftpboot.
  - c. Click **Next**.
- Step 8** At the Pre Installation Summary screen, click **Install**.
- Step 9** At the Add New Module Complete screen, click **Done**.

## 3.10 New Zealand Daylight Saving Time Updates

If you are located in New Zealand, you must apply the steps described in [Appendix D, “Updating CTM Daylight Saving Time for New Zealand”](#) to make the CTM server compliant with the New Zealand Daylight Saving Time (DST) settings update.

## 3.11 Upgrading the Performance of the Oracle Database

See [2.5 Upgrading the Performance of the Oracle Database](#), page 2-30.