



CHAPTER 9

Upgrading the Cisco MGC to Software Release 9.1(5)

This chapter contains procedures for upgrading Software Release 7 of the Cisco Media Gateway Controller (MGC) to Software Release 9.1(5) and upgrading within Software Release 9.1(5).



Note

Upgrading to Software Release 9.1(5) may take approximately two hours.



Note

In Cisco MGC software releases prior to Release 7.4, the Cisco Media Gateway Controller (MGC) was referred to as the *Cisco telephony controller software*. If you are uninstalling a software release prior to Release 7.4, you can find the Cisco MGC software files and processes in the **/opt/TransPath** directory of your host server.

In Release 7.4 and later releases, the Cisco MGC software files and processes are located in the **/opt/CiscoMGC** directory.

This chapter contains the following sections:

- [Before You Start, page 9-1](#)
- [Quick Upgrade Guide, page 9-2](#)
- [Upgrading to Software Release 9.1\(5\), page 9-5](#)
- [Fallback Procedures, page 9-8](#)

Before You Start



Caution

To prevent the system from running out of disk space during installation and to avoid removal of data files and databases to compensate, you must first verify that there is enough hard disk space to support your intended upgrade. You can delete unnecessary log files (platform*.log), user-generated trace files (*.btr), call detail record (CDR) files (.bin or .csv), old *.tar files, or user-generated toolkit files (in the /var/cust_specific/toolkit directory) to free space. You also need at least 4 GB of disk space for the /opt file system.

Before you start upgrading to the current MGC software release, perform the following steps:

- Review the hardware and software requirements found in the document *Release Notes for the Cisco Media Gateway Controller Software Release 9*.
- Ensure that you have access to the console port on your Cisco MGC host.

Required Software

You must have the Cisco MGC Installation CD, which includes the current release of the Cisco MGC software.

Quick Upgrade Guide

The following table provides an overview of the upgrade procedure. If you need more detailed information, go to the page indicated in the rightmost column.



Caution

It is important to follow the sequence of software installation procedures provided in [“Cisco MGC Software Installation/Uninstallation Sequence”](#) section on page 7-3.

Task	For Detailed Procedures, Go to...
Back up system data	“Backing Up System Data” section on page 9-2
Remove previous version of the MGC software.	“Removing a Previous Version of the Cisco MGC Software” section on page 9-3.
Install Cisco MGC Software Release 9.	Depending on your software upgrade requirements, see the following: “Upgrading a Simplex System” section on page 9-5 OR “Upgrading a Fault Tolerant System” section on page 9-6

Backing Up System Data

Before you upgrade, make copies of the following directories to back up system data:

- /opt/CiscoMGC/etc
- /opt/CiscoMGC/dialPlan
- /opt/CiscoMGC/CONFIG_LIB



Tip

You also may want to back up your CDR files to a separate server.

Step 1 Back up the database by entering the following command:

```
/opt/TimesTen32/32/bin/ttMigrate -c DSN=howdydb/opt/ciscoMGC/etc/migrate.ttdb
```

If you do not run the migrate command when you back up your system data, you will get the following message (when this occurs, run the migrate command and repeat the installation process):

Error Message A backup file was found for the database, but no migration file.

A migration file is required in order to upgrade to the latest release of the Main Memory Database (MMDB). If you get the above message, you must do one of the following procedures:

Option 1:

1. Run the following command on the other MGC if running in a failover pair:

```
/opt/TimesTen32/32/bin/ttMigrate -c DSN=howdydb migrate.ttdb
```

2. Move the file to the /opt/CiscoMGC/etc directory.
3. Reinstall the package.

Option 2:

1. Reinstall the previous release of the MGC and run the following command:

```
/opt/TimesTen32/32/bin/ttMigrate -c DSN=howdydb /opt/CiscoMGC/etc/migrate.ttdb
```

2. Uninstall the previous release.
3. Reinstall the package.

Option 3:

If you do not want to save your data from the previous release, remove the file
/opt/CiscoMGC/etc/export.ttdb

4. Reinstall the package.

For details on backing up your system data, see “Cisco MGC Backup and Restore Procedures” section in Chapter 3 of the *Cisco Media Gateway Controller Software Release 9 Operations, Maintenance, and Troubleshooting Guide*.

Removing a Previous Version of the Cisco MGC Software

Before upgrading an existing release of the Cisco MGC software, you must first uninstall the previous software version.



Caution

We require that software be uninstalled in the **reverse order** in which it is installed. For example, you must first uninstall package CSCOh013 **before** you uninstall the Cisco MGC software.



Note

For a sample uninstall.sh output, see the [“Removing a Previous Software Version: Sample Output for uninstall.sh”](#) section on page E-1.

To remove the Cisco MGC software, complete the following steps:

-
- Step 1** Log in at the console as the root user.
 - Step 2** Uninstall package CSCOh013. Refer to [Removing the Cisco Security Package, page 7-11](#) for the uninstallation procedures.
 - Step 3** Stop the Cisco MGC software by entering the following command:



Caution Stopping the Cisco MGC software on the active host takes **all** processes and links out of service.

```
# /etc/init.d/CiscoMGC stop
```

Wait until the system returns the following response:

```
Signalling procM to shut down
...shutdown complete
```

- Step 4** Uninstall the Cisco MGC.
- Step 5** Install the new version of the Cisco MGC. Insert the Cisco MGC Software Version 9 CD-ROM into the CD-ROM drive and enter the following commands:

```
# cd /cdrom/cdrom0
# ./uninstall.sh
```

- Step 6** Answer **y** to the following prompt if you are upgrading from a previous version of software Release 9. If this is an initial installation, answer **n**:

```
If you answer no to the following question you will lose all new provisioning work.
Is the uninstall being done in order to upgrade to a new version of the software? [y]
[y,n,?,q]
```

- Step 7** The system asks if you want to use the supplied administrative file to perform an unattended package removal. This process removes all the packages automatically.



Timesaver

If you do not accept the unattended removal, the system prompts you before removing each package individually.

- Step 8** Type **y** (yes) and press **Enter** to accept unattended package removal. The system displays a list of packages as it removes them.

When package removal is finished, the following message appears:

```
Uninstallation log can be found in /var/adm/MGC_uninstall.log.
```

- Step 9** Install package CSCOh013. Refer to [Installing the Cisco Security Package, page 7-7](#) for detailed procedures.

- Step 10** Start the Cisco MGC.

- Step 11** Change to the /etc directory and open the group file with your editor.

Make sure that the **mgcgrp** group is removed so that the default software installation will be accepted later.

- Step 12** Save any changes to the group file and close it.
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This completes the removal of the previous version of the Cisco MGC software. If you have questions or need assistance, see the [“Obtaining Documentation, Obtaining Support, and Security Guidelines” section on page xvii](#).

Upgrading to Software Release 9.1(5)

**Caution**

Perform software upgrade *only* during the maintenance window, when call traffic is minimal.

**Caution**

When upgrading to Software Release 9.1(5), make sure that you limit the MML names that you are using for the PRI backhaul IP links to a maximum of 16 characters. If the MML names exceed 16 characters, the upgrade will fail.

**Note**

For the software to work properly, you must reboot the system every time you modify any file in the */etc* directory.

Monitor system output frequently for error messages during the software upgrade process and correct any error conditions before continuing with the upgrade.

**Note**

During migration from Software Release 7.4.11 to 9.1.5, the PTCODE TID for one of the destinations is converted to an OPC from DPC, resulting in the system having two OPCs with same type "TRUEOPC".

You must delete the extra OPC by using the MML command **prov-dlt:OPC** and adding the real DPC back by entering the MML command **prov-add:DPC** after 9.1.5 is installed.

Upgrading a Simplex System

To upgrade a simplex system, perform the following steps:

- Step 1** Back up your system data. See [“Backing Up System Data” section on page 9-2](#).
- Step 2** Remove the Cisco MGC software. See [“Removing a Previous Version of the Cisco MGC Software” section on page 9-3](#).
- Step 3** Install the new software. See the [“Installing the Cisco MGC Software Release 9.1\(5\)” section on page 7-3](#).

**Note**

Make sure you run the migrate command when backing up your system data (see [“Backing Up System Data” section on page 9-2](#)).

Upgrading a Fault Tolerant System



Note

There will be a brief service interruption when you upgrade from one major software release to another.

Before upgrading a fault tolerant system, make sure that you complete the following prerequisites:

- Verify that both platforms (dual system) are operational and processing calls.
- Ensure that both servers are able to run as master immediately prior to the upgrade.



Caution

If your fault tolerant system has Software Release 7.3, you cannot upgrade to Software Release 9 without call interruption.

You must install the software on the standby server and bring it up before you can take the active server down.

To upgrade a fault tolerant system:

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- Step 1** Back up your system data. See [“Backing Up System Data” section on page 9-2](#).
- Step 2** On Host X, make sure that both MGCs share the same configuration by entering the **prov-sync** command.
- Step 3** On Host Y, log in to the standby host (Host Y) as **mgcusr**.
- Step 4** Run the MML command **prov-exp** to export your data files to an MML script. (This command is available only in Software Release 7.4 and later.)



Note

After exporting your data files, you must edit them because the format of some files has been changed in Software Release 9. You must edit the trunk group and routing files so that they can be read by the newer software.

For more information on MML, see the *Cisco Media Gateway Controller Software Release 9 Provisioning Guide and the Cisco Media Gateway Controller Software Release 9 MML Command Reference*.

- Step 5** On Host Y, stop the Cisco MGC software by entering the **/etc/init.d/CiscoMGC stop** command.



Note

Before you take the active server down, we recommend first installing and bringing up the software on the standby server.

- Step 6** Remove the Cisco MGC software. See [“Removing a Previous Version of the Cisco MGC Software” section on page 9-3](#).
- Step 7** Install the new software. See the [“Installing the Cisco MGC Software Release 9.1\(5\)” section on page 7-3](#).



Note

Make sure you run the migrate command when backing up your system data (see [“Backing Up System Data” section on page 9-2](#)).

- Step 8** Turn off the synchronization interfaces by editing (on Host Y) the XECfgParm.dat file in the /opt/CiscoMGC directory to set the pom.dataSync parameter to **false**.
- Step 9** Save changes to the XECfgParm.dat file.
- Step 10** To prevent impact on existing calls, enter the following command (on Host X) and wait for existing calls to release:
- ```
set-admin-state:mgc02:lock
```
- Step 11** Log in to the active host (Host X) as the root user. Stop the MGC software by entering the **/etc/init.d/CiscoMGC stop** command. Wait for Host X to stop before starting Host Y.
- Step 12** To unblock the CICs when the new system comes up, edit the properties.dat file on Host Y to set \*.GRSEnabled=true before starting the MGC software.




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**Caution** Before setting \*.GRSEnabled=true, make sure the protocol supports group reset.

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- Step 13** On Host Y, restart the MGC software by entering the **/etc/init.d/CiscoMGC start** command.
- Step 14** Verify that Host Y is in the active state by entering the following MML command:
- ```
rtrv-ne
```
- If Host Y is not in the active state, contact Cisco TAC.
- Step 15** On Host X, remove the MGC software. See [“Removing a Previous Version of the Cisco MGC Software” section on page 9-3](#).
- Step 16** On Host X, install the new software. See the [“Installing the Cisco MGC Software Release 9.1\(5\)” section on page 7-3](#).
- Step 17** Start the MGC software on Host X by entering the **/etc/init.d/CiscoMGC start** command.
- Step 18** Verify that the Host X MGC software is running in standby mode by entering the following MML command:
- ```
rtrv-ne
```
- Step 19** Turn on the synchronization interfaces. On Host Y, enter the MML command **sw-over::confirm** to switch call processing to Host X. Verify that Host X is processing calls.
- Step 20** On Host Y (now the standby host), stop the MGC software by entering the **/etc/init.d/CiscoMGC stop** command.
- Step 21** Edit the XECfgParm.dat file in the /opt/CiscoMGC directory to set the pom.dataSync parameter to **true**.
- Step 22** Save changes to the XECfgParm.dat file and restart the MGC software by entering the **/etc/init.d/CiscoMGC start** command.
- Step 23** On Host X, make sure the pom.dataSync parameter is set to **true**.
- Step 24** On Host Y, stop the daemon on the standby host by entering the **ttreplic** command.
- Step 25** On Host Y, re-run the replication script by entering the following command:
- ```
setup_replication.sh activehost standby
```
-

This completes the procedures for upgrading to Cisco MGC Software Release 9. If you have questions or need assistance, see the [“Obtaining Documentation, Obtaining Support, and Security Guidelines” section on page xvii](#).

Fallback Procedures


Note

Before upgrading your Cisco MGC software, make sure that you back up all .dat files. Use the **config-lib** command located in /opt/CiscoMGC/local to back up these files.

If the upgrade fails for some reason, uninstall the new software release, fall back to the last software release installed on your system, note down the details of the upgrade failure, and open a TAC case with Cisco.

Do the following procedures to fall back to the last software release:

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- Step 1** Log in as root.
- Step 2** At the prompt, enter the following command to uninstall the new software release you were attempting to install:
- ```
uninstall.sh
```
- The following message displays:
- ```
If you answer no to the following question you will lose all new provisioning work.
Is the uninstall being done in order to upgrade to a new version of the
software? [y] [y,n,?,q]
```
- Step 3** Type **n** to fallback to the original software release. The following message displays:
- ```
Backup setup complete.
Use supplied admin file for unattended removal? [n] [y,n,?,q] y
```
- Step 4** Type **y** to start unattended removal of the new software.
- Step 5** Install the old Cisco MGC configuration by using the following command:
- ```
install.sh
```
- Step 6** Call TAC for assistance after the old software is restored.
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This completes the fallback procedures for Software Release 9. If you have questions or need assistance, see the [“Obtaining Documentation, Obtaining Support, and Security Guidelines”](#) section on page xvii.