



## CHAPTER 8

# Performing Maintenance Operations

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This chapter describes how to back up and restore mobility services engine data and how to update the mobility services engine software. It also describes other maintenance operations.

This chapter contains the following sections:

- [Recovering a Lost Password, page 8-1](#)
- [Recovering a Lost Root Password, page 8-2](#)
- [Backing Up and Restoring Mobility Services Engine Data, page 8-2](#)
- [Downloading Software to Mobility Services Engines, page 8-4](#)
- [Configuring NTP Server, page 8-6](#)
- [Resetting the System, page 8-6](#)

## Recovering a Lost Password

To recover a lost or forgotten password for a mobility services engine, follow these steps:

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- Step 1** When the GRUB (GRand Unified Bootloader) screen comes up, press **Esc** to enter the boot menu.
  - Step 2** Press **e** to edit.
  - Step 3** Navigate to the line beginning with kernel and press **e**.  
At the end of the line put a space, followed by the number one (**1**). Press **Enter** to save this change.
  - Step 4** Press **b** to begin boot.  
At the end of the boot sequence, a shell prompt appears.
  - Step 5** The user may change the root password by entering the **passwd** command.
  - Step 6** Enter and confirm the new password.
  - Step 7** Reboot the machine.
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## Recovering a Lost Root Password

To recover a lost or forgotten root password for a mobility services engine, follow these steps:

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- Step 1** When the GRUB screen comes up, press **Esc** to enter the boot menu.
- Step 2** Press **e** to edit.
- Step 3** Navigate to the line beginning with kernel and press **e**.  
At the end of the line, enter a space and the number one (**1**). Press **Enter** to save this change.
- Step 4** Press **b** to begin boot sequence.  
At the end of the boot sequence, a shell prompt appears.



**Note** The shell prompt does not appear if you set up a single user-mode password.

- Step 5** You can change the root password by entering the **passwd** command.
- Step 6** Enter and confirm the new password.
- Step 7** Restart the machine.
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## Backing Up and Restoring Mobility Services Engine Data

This information describes how to back up and restore mobility services engine data. It also describes how to enable automatic backup.

This section includes the following topics:

- [Backing Up Mobility Services Engine Historical Data, page 8-2](#)
- [Restoring Mobility Services Engine Historical Data, page 8-3](#)
- [Enabling Automatic Data Backup, page 8-4](#)

### Backing Up Mobility Services Engine Historical Data

The WCS includes functionality for backing up mobility services engine data.



**Note** You cannot run the backup process in the background while working on other mobility services engine operations in other WCS pages.

To back up mobility services engine data, follow these steps:

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- Step 1** In Cisco WCS, choose **Services > Mobility Services**.
- Step 2** Click the name of the mobility services engine that you want to back up.
- Step 3** Choose **System > Maintenance > Backup**.
- Step 4** Enter the name of the backup.

**Step 5** Enter the time in seconds after which the backup times out.

**Step 6** Click **Submit** to back up the historical data to the hard drive of the server running WCS.

The status of the backup can be seen on the screen while the backup is in process. Three items will appear on the screen during the backup process: (1) The Last Status text box provides messages noting the status of the backup; (2) The Progress text box shows what percentage of the backup is complete; and (3) The Started at text box shows when the backup began noting date and time.



**Note** You can run the backup process in the background while working on other mobility services engine operations in other WCS pages.



**Note** Backups are stored in the FTP directory you specify during the WCS installation.

## Restoring Mobility Services Engine Historical Data

You can use WCS to restore backed-up historical data.



**Note** You cannot run the restore process in the background while working on other mobility service engine operations in other WCS pages.

To restore mobility services engine data, follow these steps:

**Step 1** In Cisco WCS, choose **Services > Mobility Services**.

**Step 2** Click the name of the mobility services engine that you want to restore.

**Step 3** Click **System > Maintenance > Restore**.

**Step 4** Choose the file to restore from the drop-down list.

**Step 5** Select the **Delete synchronized service assignments** check box if you want to permanently removes all service assignments from the mobility services engine.

This option is applicable for network designs, wired switches, controllers and event definitions. The existing location history data is retained, however, you must use manual service assignments to do any future location calculations.

**Step 6** Click **Submit** to start the restoration process.

**Step 7** Click **OK** to confirm that you want to restore the data from the Cisco WCS server hard drive. When restoration is completed, WCS displays a message to that effect.

## Enabling Automatic Data Backup

You can configure WCS to perform automatic backups of mobility services engine data on a regular basis.

To enable automatic backup of data on a mobility services engine, follow these steps:

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- Step 1** In Cisco WCS, choose **Administration > Background Tasks**.
  - Step 2** Select the **Mobility Service Backup** check box and click on its link.
  - Step 3** In the page that appears, select the **Enabled** check box.
  - Step 4** Modify the Max backups to keep text box if you want to keep backup data more than 7 days (default).
  - Step 5** Modify the Interval text box if you want the backup run more often or less often than 7 days (default).
  - Step 6** Click **Submit**.

The backups are stored in the FTP directory that you specify during the WCS installation.

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## Downloading Software to Mobility Services Engines

To download software to a mobility services engine, follow these steps:

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- Step 1** Verify that you can ping the mobility services engine from the Cisco WCS server or an external FTP server, whichever you are going to use for the application code download.
  - Step 2** In Cisco WCS, choose **Services > Mobility Services**.
  - Step 3** Click the name of the mobility services engine to which you want to download software.
  - Step 4** Choose **System > Maintenance > Download Software**.
  - Step 5** To download software, do one of the following:
    - To download software listed in the WCS directory, select **Select from uploaded images to transfer into the Server**. Then, choose a binary image from the drop-down list.  
The WCS downloads the binary images listed in the drop-down list into the FTP server directory you specified during the WCS installation.
    - To use downloaded software available locally or over the network, select **Browse a new software image to transfer into the Server**, and click **Browse**. Locate the file, and click **Open**.
  - Step 6** Enter the time in seconds (between 1 and 999999) after which software download times out.
  - Step 7** Click **Download** to send the software to the /opt/installers directory on the mobility services engine.
  - Step 8** After the image is transferred to the mobility services engine, log in to the mobility services engine CLI.
  - Step 9** Run the installer image from the /opt/installers directory by entering:  
*./bin mse image.*  
This installs the software.
  - Step 10** To run the software enter:  
*/etc/init.d/msed start.*



**Note** To stop the software, enter `/etc/init.d/msed stop`, and to check status enter `/etc/init.d/msed status`.

## Manually Downloading Software

If you do not want to automatically update the mobility services engine software using WCS, follow these steps to upgrade the software manually using a local (console) or remote (SSH) connection.

**Step 1** Transfer the new mobility services engine image onto the hard drive.

- a. Log in as root, and use the binary setting to send the image from an external FTP server root directory. The release note format is similar to the following and changes with each release: `CISCO-MSE-L-K9-x-x-x-x-64bit.bin.gz`.



**Note** The mobility services engine image is compressed at this point.



**Note** The default login name for the FTP server is `ftp-user`.

Your entries should look like this example:

```
# cd /opt/installers
# ftp <FTP Server IP address>
Name: <login>
Password: <password>
binary
get CISCO-MSE-L-K9-x-x-x-x-0-64bit.bin.gz
<CTRL-Z>
#
```

- b. Verify that the image (`CISCO-MSE-L-K9-x-x-x-x-64bit.bin.gz`) is in the mobility services engine `/opt/installers` directory.
- c. To decompress (unzip) the image file enter the following command:
 

```
gunzip CISCO-MSE-L-K9-x-x-x-x-64bit.bin.gz
```

 The decompression yields a bin file.
- d. Make sure that the `CISCO-MSE-L-K9-x-x-x-x.bin` file has execute permissions for the root user. If not, enter the following command:

```
chmod 755 CISCO-MSE-L-K9-x-x-x-x.bin.
```

**Step 2** Manually stop the mobility services engine.

**Step 3** Log in as root and enter:

```
/etc/init.d/msed stop.
```

**Step 4** Enter the following command:

```
/opt/installers/CISCO-MSE-L-K9-x-x-x-x.bin
```

to install the new mobility services engine image.

**Step 5** Start the new mobility services engine software by entering the following command:

```
/etc/init.d/mseed start
```



**Caution**

Only complete the next step that uninstalls the script files if the system instructs you to do so. Removing the files unnecessarily erases your historical data.

**Step 6** Enter the following command to uninstall the script files of the mobility services engine:

```
/opt/mse/uninstall
```

## Configuring NTP Server

You can configure NTP servers to set up the time and date of the mobility services engine.



**Note**

- You are automatically prompted to enable NTP and enter NTP server IP addresses as part of the automatic installation script for the mobility services engine. For more details on the automatic installation script, refer to the *Cisco 3350 Mobility Services Engine Getting Started Guide* or *Cisco 3310 Mobility Services Engine Getting Started Guide* at the following link: [http://www.cisco.com/en/US/products/ps9742/tsd\\_products\\_support\\_series\\_home.html](http://www.cisco.com/en/US/products/ps9742/tsd_products_support_series_home.html)
- If you need to add or change an NTP server installation after a mobility services engine install, rerun the automatic installation script. You can configure the NTP server without adjusting the other values by just tabbing through the script.



**Note**

For more information on NTP server configuration, consult the Linux configuration guides.

## Resetting the System

For information on rebooting or shutting down the mobility services engine hardware, see the [Rebooting or Shutting Down a System](#), page 4-11.

## Defragmenting the Database

For information on defragmenting the mobility services engine database, see the [Defragmenting the Database](#), page 4-11

## Clearing the Configuration File

For information on clearing the configuration file, see the [Clearing the System Database](#), page 4-11