



Configuring and Viewing System Properties

This chapter describes how to configure and view system properties on the Cisco Mobility Services Engine.

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Licensing Requirement

All Mobility Services Engines are shipped with an evaluation license of CAS and wIPS. Evaluation copies are good for a period of 60 days (480 hours) and have preset device limits for each service. They are provided with a 120 day license (time is decremented by the number of days you use it rather than by the number of calendar days passed).

For more information on purchasing and installing licenses, see the following URL:

http://www.cisco.com/en/US/prod/collateral/wireless/ps9733/ps9742/data_sheet_c07-473865.html

Editing General Properties and Viewing Performance

General Properties—You can use the Cisco Prime Infrastructure to edit the general properties of a Mobility Services Engine such as contact name, username, password, services enabled on the system, enabling or disabling a service, or enabling the MSE for synchronization. See the [Editing General Properties, on page 2](#) for more information.



Note

Use the general properties to modify the username and password that you defined during initial setup of the MSE.

Performance—You can use the Prime Infrastructure to view CPU and memory usage for a given MSE. See the [Viewing Performance Information, on page 4](#) for more information.

This section contains the following topics:

- [Editing General Properties, on page 2](#)
- [Viewing Performance Information, on page 4](#)

Editing General Properties

To edit the general properties of a Mobility Services Engine, follow these steps:

- Step 1** Choose **Services > Mobility Services > Mobility Services Engines** to display the Mobility Services page.
- Step 2** Click the name of the MSE you want to edit. Two tabs appear with the following headings: General and Performance.
Note If the General Properties page is not displayed by default, choose **Systems > General Properties** from the left sidebar menu.
- Step 3** Modify the fields as appropriate on the General tab. This table lists the General Properties page fields.

Table 1: General Tab

Field	Configuration Options
Device Name	User-assigned name for the MSE.
Device Type	Indicates the type of MSE (for example, Cisco 3310 MSE). Indicates whether the device is a virtual appliance or not.
Device UDI	The Device UDI (Unique Device Identifier) is the string between double quote characters (including spaces in the end if any).
Version	Version of product identifier.
Start Time	Indicates the start time when the server was started.
IP Address	Indicates the IP address for the MSE.
Contact Name	Enter a contact name for the MSE.
User Name	Enter the login username for the Prime Infrastructure server that manages the MSE. This replaces any previously defined username including any set during initial setup.
Password	Enter the login password for the Prime Infrastructure server that manages the MSE. This replaces any previously defined password including any set during initial setup.
Legacy Port	Enter the mobility services port number that supports HTTPS communication. The Legacy HTTPS option must also be enabled.

Field	Configuration Options
Legacy HTTPS	This does not apply to MSEs. It applies only to location appliances.
Delete synchronized service assignments and enable synchronization	Select this check box if you want to permanently remove all service assignments from the MSE. This option shows up only if the delete synchronized service assignments check box was unselected while adding a MSE.
Mobility Services	<p>To enable a service on the MSE, select the check box next to the service. The services include Context Aware, wIPS, Mobile Concierge, CMX Analytics, CMX Browser Engage, and Proxy service.</p> <p>You can choose CAS to track clients, rogues, interferers, wired clients, and tags.</p> <p>Choose either of the following engines to track tags:</p> <ul style="list-style-type: none"> • Cisco Tag Engine <p style="text-align: center;">or</p> <ul style="list-style-type: none"> • Partner Tag Engine <p>Note The Partner Tag Engine is used only to track the tags. The clients are still tracked by Cisco Context-Aware Engine.</p> <p>Note Once selected, the service is displayed as Up (active). All inactive services are noted as Down (inactive) on the selected (current) system and on the network.</p> <p>Note From release 7.5 onward, wIPS service requires a dedicated MSE because it does not support CAS and wIPS on the same MSE.</p> <p>Click the here link to see the number of devices that can be assigned for the current system.</p> <p>In the License Center page, choose MSE from the left sidebar menu option to see the license details for all MSEs on the network.</p> <p>Note For more information on purchasing and installing licenses, see the following URL: http://www.cisco.com/en/US/prod/collateral/wireless/ps9733/ps9742/data_sheet_c07-473865.html</p>

- Note** The following tcp ports are in use on the MSE in Release 6.0: tcp 22: MSE SSH port, tcp 80: MSE HTTP port, tcp 443: MSE HTTPS port, tcp 1411: , tcp 8001: Legacy port. Used for location APIs.
- Note** The following udp ports are in use on the MSE in Release 6.0: udp 123: NTPD port (open after NTP configuration), udp 32768: Location internal port.
- Note** Port 80 is enabled on the MSE if the **enable http** command was entered on the MSE. Ports 8880 and 8843 are closed on the MSE when the CA-issued certificates are installed on the MSE.

Step 4 Click **Save** to update the Prime Infrastructure and MSE databases.

Viewing Performance Information

To view performance details, follow these steps:

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- Step 1** Choose **Services > Mobility Services > Mobility Services Engines** to display the Mobility Services page.
- Step 2** Click the name of the Mobility Services Engine you want to view. Two tabs appear with the following headings: General and Performance.
- Step 3** Click the **Performance** tab.
Click a time period (such as *1w*) on the y-axis to see performance numbers for periods greater than one day.
To view a textual summary of performance, click the second icon under CPU.
To enlarge the page, click the icon at the lower right.
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Modifying NMSP Parameters

Network Mobility Services Protocol (NMSP) is the protocol that manages communication between the Mobility Services Engine and the Cisco WLC. Transport of telemetry, emergency, and chokepoint information between the Mobility Services Engine and the Cisco WLC is managed by this protocol.

This menu option is only available in MSE Release 7.0.105.0 and earlier.

- We recommend no change in the default parameter values unless the network is expecting slow response or excessive latency.
- Telemetry, emergency, and chokepoint information is only seen on controllers and the Prime Infrastructure installed with software Release 4.1 and later.
- The TCP port (16113) that the controller and MSE communicate over must be open (not blocked) on any firewall that exists between the controller and MSE for NMSP to function.

To configure NMSP parameters, follow these steps:

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- Step 1** Choose **Services > Mobility Services > Mobility Services Engines**.
- Step 2** Click the name of the MSE whose properties you want to edit.
- Step 3** Choose **System > NMSP Parameters**. The configuration options appear.
- Step 4** Modify the NMSP parameters as appropriate. The following table lists the NMSP parameters.

Table 2: NMSP Parameters

Field	Description
IP Address	IP address of the controller or IOS 3E switch.

Field	Description
Target Type	Type of the controller: Controller or IOS 3E switch.
Version	Version of the target device.
NMSP Status	NMSP connection status between MSE and target type.
Echo Request Count	Number of echo request made.
Echo Response Count	Number of echo requests received.
Last Message Received	Timestamp when the last message was received.

Field	Description
Echo Interval	How frequently an echo request is sent from a MSE to a controller. The default value is 15 seconds. Allowed values range from 1 to 120 seconds. Note If a network is experiencing slow response, you can increase the values of the echo interval, neighbor dead interval, and the response timeout values to limit the number of failed echo acknowledgements.
Neighbor Dead Interval	The number of seconds that the MSE waits for a successful echo response from the controller before declaring the neighbor dead. This timer begins when the echo request is sent. The default value is 30 seconds. Allowed values range from 1 to 240 seconds. Note This value must be at least two times the echo interval value.
Response Timeout	How long the MSE waits before considering the pending request as timed out. The default value is 1 second. Minimum value is 1. There is no maximum value.
Retransmit Interval	Interval of time that the MSE waits between notification of a response timeout and initiation of a request retransmission. The default setting is 3 seconds. Allowed values range from 1 to 120 seconds.
Maximum Retransmits	The maximum number of retransmits that are sent in the absence of a response to any request. The default setting is 5. The allowed minimum value is 0. There is no maximum value.

Step 5 Click **Save** to update the Prime Infrastructure and MSE databases.

Viewing Active Sessions on a System

You can view active user sessions on the Mobility Services Engine.

To view active user sessions, follow these steps:

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- Step 1** Choose **Services > Mobility Services**.
- Step 2** Click the name of the MSE to view its active sessions.
- Step 3** Choose **System > Active Sessions**.
For every session, the Prime Infrastructure shows the following information:
- Session identifier
 - IP address from which the MSE is accessed
 - Username of the connected user
 - Date and time when the session started
 - Date and time when the MSE was last accessed
 - How long the session was idle since it was last accessed
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Adding and Deleting Trap Destinations

You can specify which Prime Infrastructure or Cisco Security Monitoring, Analysis, and Response System (CS-MARS) network management platform is the recipient of SNMP traps generated by the Mobility Services Engine.

When a user adds a Mobility Services Engine using Prime Infrastructure, that Prime Infrastructure platform automatically establishes itself as the default trap destination. If a redundant Prime Infrastructure configuration exists, the backup Prime Infrastructure is not listed as the default trap destination unless the primary Prime Infrastructure fails and the backup system takes over. Only an active Prime Infrastructure is listed as a trap destination.

- [Adding Trap Destinations, on page 7](#)
- [Deleting Trap Destinations, on page 8](#)

Adding Trap Destinations

To add a trap destination, follow these steps:

- Step 1** Choose **Services > Mobility Services Engines**.
- Step 2** Click the name of the Mobility Services Engine for which you want to define a new SNMP trap destination server.
- Step 3** Choose **System > Trap Destinations**.
- Step 4** From the Select a command drop-down list, choose **Add Trap Destination**. Click **Go**.
The New Trap Destination page appears.

The following table lists the Add Trap Destination page fields.

Table 3: Add Trap Destination Page Fields

Field	Description
IP Address	IP address for the trap destination.
Port Number	The port number for the trap destination. The default port number is 162.
Destination Type	This field is not editable and has a value of Other .
SNMP Version	Choose either v2c or v3 from the SNMP Version drop-down list.
The following set of fields appear only if you select v3 as the SNMP version.	
User Name	The username for the SNMP Version 3.
Security Name	The security name for the SNMP Version 3.
Authentication Type	Choose one of the following from the drop-down list: HMAC-MD5 HMAC-SHA
Authentication Password	The authentication password for the SNMP Version 3.
Privacy Type	Choose one of the following from the drop-down list: CBC-DES CFB-AES-128 CFB-AES-192 CFB-AES-256
Privacy Password	The privacy password for the SNMP Version 3.

Note All trap destinations are identified as *other* except the automatically created *default* trap destination.

- Step 5** Click **Save**.
You are returned to the Trap Destination Summary page and the newly defined trap is listed.
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Deleting Trap Destinations

To delete a trap destination, follow these steps:

- Step 1** Choose **Services > Mobility Services Engines**.
- Step 2** Click the name of the Mobility Services Engine for which you want to delete a SNMP trap destination server.
- Step 3** Choose **System > Trap Destinations**.
- Step 4** Select the check box next to the trap destination entry that you want to delete.
- Step 5** From the Select a command drop-down list, choose **Add Trap Destination**. Click **Go**.
- Step 6** In the dialog box that appears, click **OK** to confirm deletion.
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Viewing and Configuring Advanced Parameters

In the Prime Infrastructure Advanced Parameters page, you can view general system level settings of the Mobility Services Engine and configure monitoring parameters.

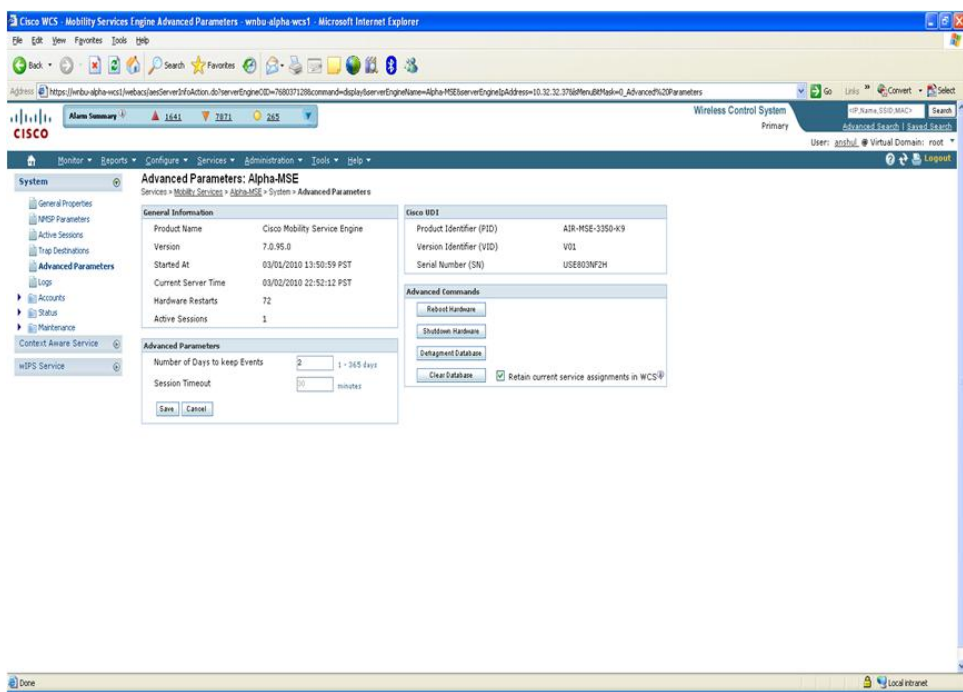
- See the [Viewing Advanced Parameter Settings](#) to view current system- level advanced parameters.
- See the [Initiating Advanced Commands](#) to modify the current system- level advanced parameters or initiate advanced commands such as system reboot, system shut down, or clear a configuration file.

Viewing Advanced Parameter Settings

To view the advanced parameter settings of the Mobility Services Engine, follow these steps:

- Step 1** Choose **Services > Mobility Services Engines**.
- Step 2** Click the name of a Mobility Services Engine to view its status.
- Step 3** Choose **System > Advanced Parameters**. The Advanced Parameters page appears.

Figure 1: Advanced Parameters Page



Initiating Advanced Parameters

The Advanced Parameters page of the Prime Infrastructure enables you to set the number of days events are kept and set session time out values. It also enables you to initiate a system reboot or shut down, or clear the system database.



Note

You can use the Prime Infrastructure to modify troubleshooting parameters for a Mobility Services Engine or a location appliance.

In the Advanced Parameters page, you can use the Prime Infrastructure as follows:

- To set how long events are kept and how long before a session times out.
For more information, see the [Configuring Advanced Parameters](#).
- To initiate a system reboot or shutdown, or clear the system database.
For more information, see the [Initiating Advanced Commands](#).

Configuring Advanced Parameters

To configure advanced parameters, follow these steps:

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- Step 1** Choose **Services > Mobility Services Engines**.
- Step 2** Click the name of the mobility service whose properties you want to edit.
- Step 3** From the left sidebar menu, choose **System > Advanced Parameters**.
- Step 4** View or modify the advanced parameters as necessary.
- General Information
 - Product Name
 - Version
 - Started At
 - Current Server Time
 - Hardware Resets
 - Active Sessions
 - Advanced Parameters

Caution Enable advanced debugging only under the guidance of Cisco TAC personnel because advanced debugging slows the mobility service down.

 - Number of Days to keep Events—Enter the number of days to keep logs. Change this value as required for monitoring and troubleshooting.
 - Session Timeout—Enter the number of minutes before a session times out. Change this value as required for monitoring and troubleshooting. Currently this option appears dimmed.
 - Cisco UDI
 - Product Identifier (PID)—The product ID of the MSE.
 - Version Identifier (VID)—The version number of the MSE.
 - Serial Number (SN)—Serial number of the MSE.
 - Advanced Commands
 - Reboot Hardware—Click to reboot the mobility services hardware. See the [Rebooting or Shutting Down a System](#), on page 11 for more information.

- Shutdown Hardware—Click to turn off the mobility services hardware. See the [Rebooting or Shutting Down a System, on page 11](#) for more information.
- Clear Database—Click to clear the mobility services database. See the [Clearing the System Database, on page 11](#) for more information. Unselect the **Retain current service assignments in Prime Infrastructure** check box to remove all existing service assignments from the Prime Infrastructure and MSE. The resources must be reassigned in the **Services > Synchronize Services** page. By default, this option is selected.

Step 5 Click **Save** to update the Prime Infrastructure and MSE databases.

Initiating Advanced Commands

You can initiate a system reboot or shutdown, or clear the system database by clicking the appropriate button in the Advanced Parameters page.

- [Rebooting or Shutting Down a System](#)
- [Clearing the System Database](#)

Rebooting or Shutting Down a System

To reboot or shut down a Mobility Services Engine, follow these steps:

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- Step 1** Choose **Services > Mobility Services Engines**.
- Step 2** Click the name of a Mobility Services Engine you want to reboot or shut down.
- Step 3** Choose **System > Advanced Parameters**.
- Step 4** In the Advanced Commands group box, click the appropriate button (**Reboot Hardware** or **Shutdown Hardware**). Click **OK** in the confirmation dialog box to initiate either the reboot or shutdown process. Click **Cancel** to stop the process.
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Clearing the System Database

To clear a Mobility Services Engine configuration and restore its factory defaults, follow these steps:

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- Step 1** Choose **Services > Mobility Services Engines**.
- Step 2** Click the name of the Mobility Services Engine you want to configure.
- Step 3** Choose **System > Advanced Parameters**.
- Step 4** In the Advanced Commands group box, unselect the **Retain current service assignments in Prime Infrastructure** check box to remove all existing service assignments from the Prime Infrastructure and MSE.

The resources must be reassigned in the Services > Synchronize Services page. By default, this option is selected.

Step 5 In the Advanced Commands group box, click **Clear Database**.

Step 6 Click **OK** to clear the Mobility Services Engine database.
