



## Using Tools

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You use Home Agent Service Manager (HA SM) tools to troubleshoot and debug connectivity and performance issues. You can invoke the following tasks from the Tools tab:

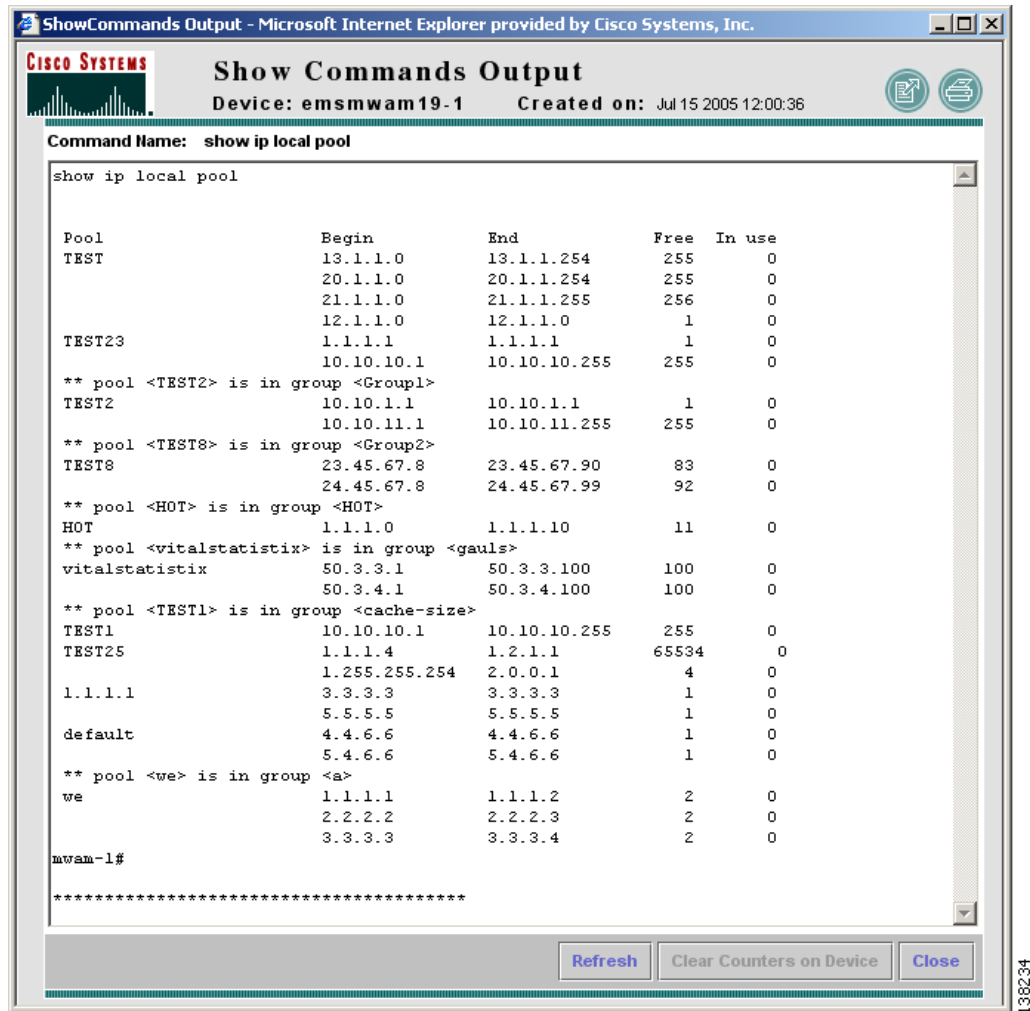
Menu Option	Task	Topic
Show Commands	Use show commands to monitor HA-specific status and statistical information	<a href="#">Using Show Commands, page 5-1</a>
Debugging	Debugging devices	<a href="#">Debugging Devices, page 5-3</a>
Syslog	Viewing the syslog	<a href="#">Viewing Syslogs, page 5-7</a>

## Using Show Commands

You can use the show commands to monitor HA-specific status, statistics and current configurations. To use the show commands:

- 
- Step 1** Choose **HA Service Manger > Tools > Show Commands**.  
The Show Commands window appears. [Table 5-1](#) provides information on the different commands.
  - Step 2** Select a device from the **Select Device** drop-down list, a command and its options from the **Select Commands** list of command sets.
  - Step 3** Click **Show Output**. The HA SM displays a Show Commands Output window. (See [Figure 5-1 on page 5-2](#).)

Figure 5-1 Show Commands Output Window



The Show Commands Output window displays the device name, date and time that the output is generated. You can perform the following tasks in the Show Commands Output window:

Button	Description
Print icon	Prints the output.
Export icon	Exports the output as a PDF file.
Refresh	Refreshes the screen.
Clear Device Counters	Clears the output from show commands that display statistics. This option is disabled for some commands.
Close	Closes the window.

Table 5-1 shows the show commands available in HA SM.

**Table 5-1** List of Show Commands

Command Set	Command	Information
Mobile IP Host Info	<b>show ip mobile host</b>	Displays information about the mobile station.
Mobile IP Bindings	<b>show ip mobile binding</b>	Displays the mobility binding table.  The Home Agent updates the mobility binding table in response to registration events from mobile nodes. If you specify the address argument, bindings are shown for only that mobile node.
Mobile IP Tunnels	<b>show ip mobile tunnel</b>	Displays information about the active mobile IP tunnels. The source IP address of the tunnel is the IP address configured corresponding to the VRF.  The Home Agent releases the tunnel when there are no users on the tunnel.
Mobile Router Info	<b>show ip route mobile</b>	Displays information about Mobile IP routes.
Mobile IP Protocol Statistics	<b>show ip mobile traffic</b>	Displays Home Agent protocol statistics.  You can reset the counters to zero using the <b>clear ip mobile traffic</b> command.
Mobile IP Security Violation Log	<b>show ip mobile violation</b>	Displays information about security violations.  The most recent violation (unknown requestors) is saved for all mobile nodes. A circular log holds up to 50 unknown requestors, or violators without security association.
Local Pool Statistics	<b>show ip local pool</b>	Displays statistics for any defined IP address pools.  If you omit the variable name, you can view a generic list of all defined address pools and the IP addresses that belong to them. If you specify a name, you can view detailed information for that pool.
Mobile Global Info	<b>show ip mobile globals</b>	Displays global settings of Home Agent and Foreign Agent. You can view the services that they provide.
Mobile IP AAA	<b>show ip mobile aaa requests</b>	Displays the list of hosts that have pending requests with a AAA server. You also can view the pending requests for a specific Host IP Address or a NAI string.

## Debugging Devices

The Home Agent supports conditional debugging based on NAI, as well as conditional debugging based on the home address of the mobile node. Only AAA and Mobile IP components will support conditional debugging.

You can use the Debugging tool to debug one or more devices. The HA SM provides several commands that you can use to customize the task.

**Caution**

The system gives high priority to debugging output. For this reason, use debugging commands only for troubleshooting specific problems or during troubleshooting sessions with the Cisco Technical Assistance Center. Excessive debugging output can render the system inoperable. Debugging is best done during periods of low network activity.

The steps to debug a device are:

- [Configuring a Device for Debugging, page 5-4](#)
- [Debugging a Device, page 5-5](#)

**Timeout Information**

The HA SM automatically times out and stops processing logs for a device when new logs are available or 30 minutes when new logs are not available:

- Close the window.
- Leave the window idle.

## Configuring a Device for Debugging

**Note**

Executing the command **ip mobile debug include username** on a version 3.0 HA device appends the username to each debug message as a tag. You must enable this command manually in order to proceed with configuring the device for debugging.

To configure a device for debugging:

- 
- Step 1** Open a Telnet connection to the device.
- Step 2** Configure the device to send the logs to the HA SM server by using the following command:
- ```
logging HA-SM-IP-Address
```
- Step 3** Configure the device to set the logging level to debug by using the command:
- ```
logging trap debug
```
- This command is required for debugging only; the default level is informational.
- Step 4** The following recommended configuration reduces overhead on the device by directing all logs to the HA SM server; rather than the console or monitor. The last two of these commands enable the device to send urgent informational logs to the console in the event of an IP network or syslog server failure:
- ```
no logging monitor
logging console informational
no logging console guaranteed
```
- Step 5** You can now debug the device. See [Debugging a Device, page 5-5](#), for more information.
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## Debugging a Device

To debug a device:

- Step 1** Ensure that the device is configured as described in [Configuring a Device for Debugging](#), page 5-4.
- Step 2** Select **HA Service Manger > Tools > Debugging**.
- The Debugging window appears. (See [Figure 5-2](#) on page 5-5.)

**Figure 5-2** Debugging Window

- Step 3** Select the device or devices that you want to debug.
- The Debugging window displays:

| Field         | Description                                                        |
|---------------|--------------------------------------------------------------------|
| Select Device |                                                                    |
| Devices       | Drop-down list of devices in the selected group.                   |
| User Name     | Identifies devices that are associated with a specific user name.  |
| IP Address    | Identifies devices that are associated with a specific IP Address. |

- Step 4** Use the Add and Remove buttons to choose the debug commands in the Enable Debugs pane. [Table 5-2](#) provides information on the different debug commands.
- Step 5** Click **Start Debug**.
- The HA SM displays a Debug Commands Output window. If new logs are available, the value **New Log Available** field will be **Yes**.
- In the Debug Commands Output window, you can:

| Button             | Description                                                                                                                                                                                                                         |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Print</b> icon  | Prints the output.                                                                                                                                                                                                                  |
| <b>Export</b> icon | Exports the output as a PDF file.                                                                                                                                                                                                   |
| <b>Stop Debug</b>  | Stops debugging. This window appears before the HA SM completes debugging.                                                                                                                                                          |
| <b>Refresh</b>     | Click the <b>Refresh</b> button to obtain new logs from the log file. This button is enabled when: <ul style="list-style-type: none"> <li>• The device has been configured for debugging, and</li> <li>• New logs exist.</li> </ul> |
| <b>Close</b>       | Closes the window and stops the debug process on the device.                                                                                                                                                                        |

Table 5-2 provides information on the different debug commands.

**Table 5-2** Debug Commands in HA Service Manager

| Command Set                 | Command                   | Information                                                                                                                                                                                                                                                                               |
|-----------------------------|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Radius Details              | debug radius              | Displays information associated with Remote Authentication Dial-in User Service (RADIUS). RADIUS is a distributed security system that secures networks against unauthorized access. Cisco supports RADIUS under the authentication, authorization, and accounting (AAA) security system. |
| TACACS Details              | debug tacacs              | Displays information associated with Terminal Access Controller Access Control System (TACACS). TACACS is a distributed security system that secures networks against unauthorized access. Cisco supports TACACS under the authentication, authorization, and accounting security system. |
| IP Mobile Details           | debug ip mobile           | Displays IP mobility activities.                                                                                                                                                                                                                                                          |
| IP Mobile Host Details      | debug ip mobile host      | Displays information associated with the mobile host or mobile node group such as configured IP pools, NAI, and so on.                                                                                                                                                                    |
| IP Mobile Advertise Details | debug ip mobile advertise | Displays advertisement information such as its type, sequence, lifetime etc.                                                                                                                                                                                                              |
| AAA Accounting Details      | debug aaa accounting      | Displays information on accountable events as they occur. This command is independent of the accounting protocol used to transfer the accounting information to a server.                                                                                                                 |
| AAA POD Details             | debug aaa pod             | Displays debug information for Radius Disconnect message processing at AAA subsystem level.                                                                                                                                                                                               |

## Viewing Syslogs

You can use the Syslog tool to view syslog messages (error, exception, information etc) sent by devices in the network. The logged message data can be used to analyze network device performance.

To view syslogs, you must configure the device. See [Configuring a Device to View Syslogs, page 5-7](#), for more information.

### Timeout Information

The HA SM automatically times out and stops processing logs for a device within 10 minutes when new logs are available or 30 minutes when new logs are not available when you:

- Close the window.
- Leave the window idle.

## Configuring a Device to View Syslogs

To configure a device for view syslogs:

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**Step 1** Open a Telnet connection to the device.

**Step 2** Configure the device to send the logs to the HA SM server by using the command syntax:

```
logging <HA-SM-IP-Address>
```

The following recommended configurations reduces overhead on the device by directing all logs to the HA SM server; rather than the console or monitor. The last two commands enable the device to send urgent informational logs to the console in the event of an IP network or syslog server failure:

```
no logging monitor
```

```
logging console informational
```

```
no logging console guaranteed
```

**Step 3** You can now view the syslogs. See [Viewing Syslogs, page 5-7](#) for more information.

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## Viewing Syslogs

To view syslogs:

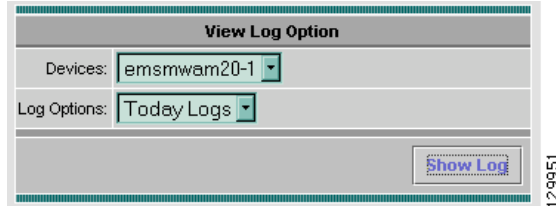
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**Step 1** Ensure that the device is configured as described in [Configuring a Device to View Syslogs, page 5-7](#).

**Step 2** Choose **HA Service Manger > Tools > Syslog**.

The Syslog Options window appears. (See [Figure 5-3 on page 5-8](#).)

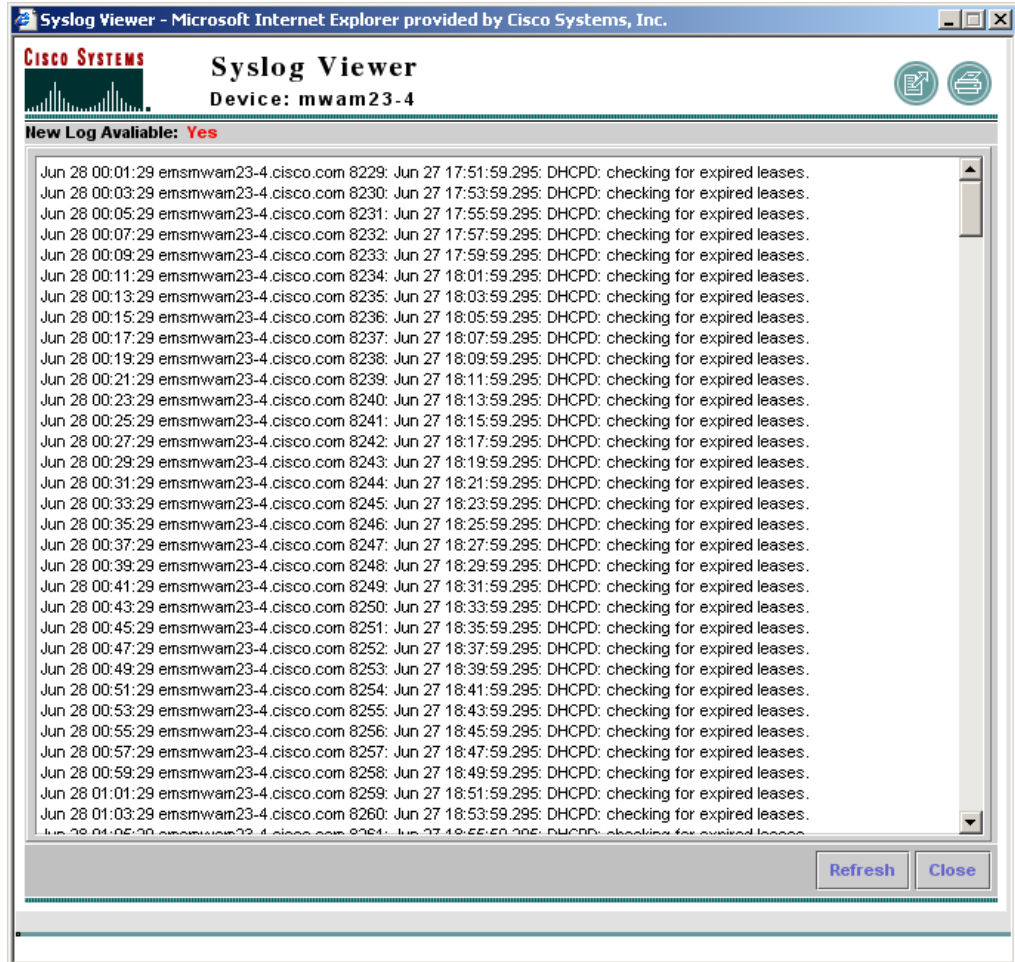
Figure 5-3 Syslog Options Window



- Step 3** Select a device from the **Devices** drop-down list.
- Step 4** Select a viewing option from the **Viewing Options** menu.
- Step 5** Click **Show Log**.

The Syslog Viewer window appears. (See [Figure 5-4 on page 5-8](#).) If new logs are available, the value **New Log Available** field will be **Yes**.

Figure 5-4 Syslog Viewer Window



You can perform the following tasks in the Syslog Viewer window:

| <b>Feature</b>     | <b>Information</b>                                                                                                |
|--------------------|-------------------------------------------------------------------------------------------------------------------|
| <b>Print icon</b>  | Prints the output.                                                                                                |
| <b>Export icon</b> | Exports the output as a PDF file.                                                                                 |
| <b>Refresh</b>     | Obtains any new logs that are available in the log file. This button is enabled only when new logs are available. |
| <b>Close</b>       | Closes the window.                                                                                                |

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