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About This Document

NVIDIA Unified Fabric Manager for Software Defined Networks (UFM-SDN) appliance enables data center operators to efficiently provision, monitor and operate large-scale compute and storage data center interconnect infrastructures. UFM eliminates the complexity of fabric management, while also providing deep visibility into traffic and optimizing fabric performance.

This reference guide documents all the commands that can be used to configure the NVIDIA® UFM®-SDN Appliance.

Technical Support

Customers who purchased NVIDIA products directly from NVIDIA are invited to contact us through the following methods:

- E-mail: enterprisesupport@nvidia.com

Customers who purchased NVIDIA M-1 Global Support Services, please see your contract for details regarding Technical Support.

Customers who purchased NVIDIA products through an NVIDIA-approved reseller should first seek assistance through their reseller.

Document Revision History

For the list of changes made to this document, refer to Document Revision History 1.
Using Command Line Interface

UFM-SDN Appliance is equipped with an industry-standard command line interface (CLI). The CLI is accessed through SSH or Telnet sessions or directly through the console port on the front panel, if it exists. This page explains how to use the CLI of UFM-SDN Appliance.

1.1 CLI Modes

The CLI has the following modes, and each mode makes available a different set of commands for execution. The different CLI configuration modes are:

<table>
<thead>
<tr>
<th>Mode/Context</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>standard</td>
<td>When the CLI is launched, it begins in Standard mode. This is the most restrictive mode and only has commands to query a restricted set of state information. Users cannot take any actions that directly affect the system, nor can they change any configuration.</td>
</tr>
<tr>
<td>enable</td>
<td>The “enable” command moves the user to Enable mode. This mode offers commands to view all state information and take actions like rebooting the system, but it does not allow any configuration to be changed. Its commands are a superset of those in Standard mode. To return to Standard mode, enter “disable” or “exit”.</td>
</tr>
<tr>
<td>config</td>
<td>The “configure terminal” command moves the user from Enable mode to Config mode. Config mode is allowed only for user accounts in the “admin” role (or capabilities) - see Users, Roles and Capabilities. This mode has a full unrestricted set of commands to view anything, take any action, or change any configuration. Its commands are a superset of those in Enable mode. To return to Enable mode, enter “exit” or “no configure”. Note that moving directly from/to Standard mode to/from Config mode is not possible.</td>
</tr>
<tr>
<td>config ufm</td>
<td>Configuration mode for UFM interface. Config ufm mode is allowed only for user accounts in the “admin” role (or capabilities) - see Users, Roles and Capabilities. This mode has a full unrestricted set of commands to view anything, take any action, or change any configuration. Its commands are a superset of those in config mode and enables you to configure UFM-related commands.</td>
</tr>
<tr>
<td>config interface management</td>
<td>Configuration mode for management interfaces</td>
</tr>
</tbody>
</table>

1.2 Syntax Conventions

To help you identify the different parts of a CLI command, the following table explains conventions of presenting the syntax of commands.

<table>
<thead>
<tr>
<th>Syntax Convention</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; &gt; Angled brackets</td>
<td>Indicate a value/variable that must be replaced. mtu &lt;value&gt; value - MTU size in MB</td>
<td>&lt;1...65535&gt; or &lt;interface&gt;</td>
</tr>
</tbody>
</table>
### Syntax Convention

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>[ ] Square brackets</td>
<td>Enclose optional parameters. However, only one parameter out of the list of parameters listed can be used. The user cannot have a combination of the parameters unless stated otherwise.</td>
<td>[destination-ip</td>
</tr>
<tr>
<td>{ } Braces</td>
<td>Enclose alternatives or variables that are required for the parameter in square brackets.</td>
<td>[mode {active</td>
</tr>
<tr>
<td></td>
<td>Pipe</td>
<td>Identify mutually exclusive choices.</td>
</tr>
</tbody>
</table>

Do not use the angled or square brackets, vertical bar, or braces in command lines. This guide uses these symbols only to show the different entry types.

CLI commands and options are in lowercase and are case-sensitive. For example, when you enter the enable command, enter it all in lowercase. It cannot be ENABLE or Enable. Text entries you create are also case-sensitive.

1.3 Prompt and Response Conventions

The prompt always begins with the hostname of the system. What follows depends on what command mode the user is in. To demonstrate by example, assuming the machine name is “ufm-sdn-app”, the prompts for each of the modes are:

```
ufm-sdn-app >               (Standard mode)
ufm-sdn-app #              (Enable mode)
ufm-sdn-app (config) #     (Config mode)
```

The following session shows how to move between command modes:

```
ufm-sdn-app > enable        (You start in Standard mode)
ufm-sdn-app # configure terminal (Move to Enable mode)
ufm-sdn-app (config) # exit (Move to Config mode)
ufm-sdn-app (config) # exit (You are in Config mode)
ufm-sdn-app (config) # exit (Exit Config mode)
ufm-sdn-app # disable       (You are back in Enable mode)
ufm-sdn-app #               (Exit Enable mode)
ufm-sdn-app >              (You are back in Standard mode)
```

Commands entered do not print any response and simply show the command prompt after you press <Enter>.

If an error is encountered in executing a command, the response will begin with "%", followed by some text describing the error.

1.4 Getting Help

You may request context-sensitive help at any time by pressing “?” on the command line. This will show a list of choices for the word you are on, or a list of top-level commands if you have not typed anything yet.
For example, if you are in Standard mode and you type "?" at the command line, then you will get the following list of available commands.

```
ufm-sdn-app > ?
cli Configure CLI shell options
enable Enter enable mode
exit Log out of the CLI
help View description of the interactive help system
no Negate or clear certain configuration options
show Display system configuration or statistics
slogin Log into another system securely using ssh
switch Configure switch on system
telnet Log into another system using telnet
terminal Set terminal parameters
traceroute Trace the route packets take to a destination
switch >
```

If you type a legal string and then press "?" without a space character before it, then you will either get a description of the command that you have typed so far or the possible command/parameter completions. If you press "?" after a space character and "<cr>" is shown, this means that what you have entered so far is a complete command, and that you may press Enter (carriage return) to execute it.

Try the following to get started:

```
?
show ?
show c?
show clock?
show clock ?
show interfaces ?   (from enable mode)
```

You can also enter "help" to view a description of the interactive help system.

Note also that the CLI supports command and/or parameter tab-completions and their shortened forms. For example, you can enter "en" instead of the "enable" command, or "cli cl" instead of "cli clear-history". In case of ambiguity (more than one completion option is available, that is), then you can hit double tabs to obtain the disambiguation options. Thus, if you are in Enable mode and wish to learn which commands start with the letter "c", type "c" and click twice on the tab key to get the following:

```
ufm-sdn-app # c<tab>
clear       cli       configure
```

This signifies that there are three commands that start with the letter "c": clear, cli and configure.

### 1.5 Using "no" Command Form

Several config commands feature a "no" form whose purpose is to reset a parameter value to its inherited or default value, or to disable a configuration.

The command sequence below performs the following:

1. Displays the current CLI session option.
2. Disables auto-logout.
3. Displays the new CLI session options (auto-logout is disabled).
4. Re-enables auto-logout (after 15 minutes).
5. Displays the final CLI session options (auto-logout is enabled).

```
ufm-sdn-app # coctab>
clear       cli       configure
ufm-sdn-app # c
```

// 1. Display the current CLI session options
1.6 CLI Pipeline Operator Commands

1.6.1 CLI Filtration Options "include" and "exclude"

The UFM-SDN appliance CLI supports filtering “show” commands to display lines containing or excluding certain phrases or characters. To filter the outputs of the “show” commands use the following format:

```
ufm-sdn-app (config) # <show command> | {include | exclude} <extended regular expression> [ignore-case] [next <lines>] [prev <lines>]
```

The filtering parameters are separated from the show command they filter by a pipe character (i.e. "|"). Quotation marks may be used to include or exclude a string including space, and multiple filters can be used simultaneously. For example:

Example for "include":

```
ufm-sdn-app (config) # show clock | include Time
Time: 15:46:54
Time zone: UTC
```

Example for "exclude":

```
ufm-sdn-app (config) # show clock | exclude Time
Date: 2020/08/07 (Etc/UTC)
```
1.6.2 CLI Monitoring Option "watch"

Running this command displays a show-command output that is updated at a time interval specified by the "interval" parameter (2 seconds is the default).

```
ufm-sdn-app (config) # <show command> | watch [diff] [interval <1-100 secs>]
```

The "diff" parameter highlights the differences between each iteration of the command.

For example running the command "show power | watch diff interval 1" yields something similar to the following:

```
-----------------------------------------------------------------------
Module  Device          Sensor  Power   Voltage  Current  Feed  Status
[Watts] [Watts] [Amp]
-----------------------------------------------------------------------
PS1     power-mon       input   85.00   230.00   0.38     AC    OK
PS2     power-mon       -       -       -        -        -     FAIL
-----------------------------------------------------------------------
Total power used : 85.00 Watts
Total power capacity : 460.00 Watts
Total power available : 375.00 Watts
Maximum consumed power of all turned on modules: 46.00 Watts
```

With the highlighted black blocks indicating the change that has occurred between one iteration of the command from one second to the next.

To exit "watch" mode, press Ctrl+C. The "watch" option may be used in conjunction with the "include" and "exclude" options as follows:

```
ufm-sdn-app (config) # <show command> | {include | exclude} <extended regular expression> | watch [diff] [interval <1-100 secs>]
```

It is possible to count the number of lines in an output of a "show" command by using the following:

```
ufm-sdn-app (config) # <show command> | count
```

For example:

```
ufm-sdn-app (config) # show clock | count
4
```

1.6.3 CLI "json-print" Option

The UFM-SDN appliance CLI supports printing "show" commands in JSON syntax.

To print the output of the show commands as JSON, use the following format:

```
ufm-sdn-app (config) # <show command> | json-print
```

Running the command displays an output of the show command in JSON syntax structure instead of its regular format. For example:

```
ufm-sdn-app (config) # show ftp-server
FTP server enabled: no
ufm-sdn-app (config) # show ftp-server | json-print
```
The "json-print" option cannot be used together with filtering ("include" and "exclude") and/or monitoring ("watch").

### 1.6.4 CLI Shortcuts

The following table presents the available keyboard shortcuts for the UFM-SDN CLI.

<table>
<thead>
<tr>
<th>Key Combination</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ctrl-a</td>
<td>Move cursor to beginning of line</td>
</tr>
<tr>
<td>Ctrl-b</td>
<td>Move cursor backward one character without deleting</td>
</tr>
<tr>
<td>Ctrl-c</td>
<td>Terminate operation</td>
</tr>
<tr>
<td>Ctrl-d</td>
<td>If cursor is in the middle of the line, delete one character forward. If cursor is at the end of the line, show autocomplete options for current word or word fragment. If cursor at an empty line, same as Esc</td>
</tr>
<tr>
<td>Ctrl-e</td>
<td>Move cursor to end of line</td>
</tr>
<tr>
<td>Ctrl-f</td>
<td>Move cursor forward one character</td>
</tr>
<tr>
<td>Ctrl-h</td>
<td>Delete one character backwards from cursor</td>
</tr>
<tr>
<td>Ctrl-i</td>
<td>Auto-complete current word (same as TAB)</td>
</tr>
<tr>
<td>Ctrl-j</td>
<td>Return carriage (same as ENTER)</td>
</tr>
<tr>
<td>Ctrl-k</td>
<td>Delete line after cursor</td>
</tr>
<tr>
<td>Ctrl-l</td>
<td>Clear screen and show line at the top of terminal window</td>
</tr>
<tr>
<td>Ctrl-m</td>
<td>Return carriage (same as ENTER)</td>
</tr>
<tr>
<td>Ctrl-n</td>
<td>Next line (same as DOWN ARROW)</td>
</tr>
<tr>
<td>Ctrl-p</td>
<td>Next line (same as UP ARROW)</td>
</tr>
<tr>
<td>Ctrl-t</td>
<td>Transpose the two characters on either side of cursor</td>
</tr>
<tr>
<td>Ctrl-u</td>
<td>Delete line</td>
</tr>
<tr>
<td>Ctrl-w</td>
<td>Delete the last word</td>
</tr>
<tr>
<td>Ctrl-y</td>
<td>Retrieve (&quot;yank&quot;) last item deleted</td>
</tr>
<tr>
<td>Esc b</td>
<td>Move cursor one word backward</td>
</tr>
<tr>
<td>Esc c</td>
<td>Capitalizes first letter in word after cursor</td>
</tr>
<tr>
<td>Esc d</td>
<td>Delete one word forward from cursor</td>
</tr>
<tr>
<td>Esc f</td>
<td>Move one word forward from cursor</td>
</tr>
<tr>
<td>Esc l</td>
<td>Change word after cursor to lowercase letters</td>
</tr>
<tr>
<td>Esc Ctrl-h</td>
<td>Delete one word backward from cursor</td>
</tr>
<tr>
<td>Esc [ A</td>
<td>Next line (same as DOWN ARROW)</td>
</tr>
<tr>
<td>Esc [ B</td>
<td>Next line (same as UP ARROW)</td>
</tr>
<tr>
<td>Esc [ C</td>
<td>Move forward one character from cursor</td>
</tr>
<tr>
<td>Esc [ D</td>
<td>Move backward one character from cursor</td>
</tr>
</tbody>
</table>
1.7 Users, Roles and Capabilities

The following table describes the predefined users and their roles and capabilities. The roles described below can be assigned to new users and to existing ones as well.

<table>
<thead>
<tr>
<th>Username</th>
<th>Role and Capability</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>admin</td>
<td>System Administrator</td>
<td>Can perform all operations allowed to System Administration group for both Appliance Management and UFM Application</td>
</tr>
<tr>
<td>ufmsysadmin</td>
<td>UFM System Administrator</td>
<td>Can perform all operations allowed to Fabric Administration group</td>
</tr>
<tr>
<td>ufmfabadmin</td>
<td>UFM Fabric Administrator</td>
<td>Can perform all operations allowed to Fabric Operator group users, and can also create, delete, and modify environments and global networks</td>
</tr>
<tr>
<td>ufmfaboperator</td>
<td>UFM Fabric Operator</td>
<td>Can perform all operations allowed to Monitoring group users, and can also configure fabric, modify the fabric design, define logical objects, and allocate resources. Fabric Operator group users cannot create, delete or modify environments or global networks.</td>
</tr>
<tr>
<td>ufmfabmonitor</td>
<td>UFM Monitoring Only</td>
<td>Can see the fabric configuration, open monitoring sessions, define monitoring templates, and export monitoring data to CSV files</td>
</tr>
<tr>
<td>ufmportalmanager</td>
<td>Multi-site Portal Administration</td>
<td>Multi-site Portal Administration group</td>
</tr>
<tr>
<td>ufmportaluser</td>
<td>Multi-site Portal Monitoring</td>
<td>Multi-site Portal Monitoring group</td>
</tr>
</tbody>
</table>
2 System Management

- Network Interfaces
- NTP, Clock and Time Zones
- Software Management
- Configuration Management
- Local and Remote Logging
- User Management and AAA
- Security
- Firmware Management
- CLI Session
- Banner
- SSH
- Remote Login
- Web Server
- SNMP
- Scheduled Jobs
- Event Notification
- Statistics and Alarms
- Chassis Management
- Cryptography (X.509, IPSec)
- Docker Container

2.1 Network Interfaces

- Interface
- Hostname
- Routing
- Network to Media Resolution (ARP & NDP)
- DHCP
- IP Diagnostic Tools
- Network Bonding

2.1.1 Interface

This chapter describes the commands that configure and monitor the network interface.

2.1.1.1 interface

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>eth0</th>
<th>Management port 0 (out of band)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>eth1</td>
<td>Management port 1 (out of band)</td>
</tr>
<tr>
<td></td>
<td>eth2</td>
<td>Management port 2 (out of band)</td>
</tr>
<tr>
<td></td>
<td>eth3</td>
<td>Management port 3 (out of band)</td>
</tr>
<tr>
<td></td>
<td>ib0</td>
<td>InfiniBand interface 0 (part of bond0)</td>
</tr>
</tbody>
</table>
### ib1
InfiniBand interface 1 (part of bond0)

### bond0
IP-over-IB bonded interface which consist of ib0 and ib1

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

#### Example
```
ufmapl [ mgmt-sa ] (config) # interface eth0
ufmapl [ mgmt-sa ] (config interface eth0) #
```

#### Related Commands
show interfaces

#### Notes

---

### 2.1.1.2 ip address

- **Syntax**
  - `ip address <IP address> <netmask>`
  - `no ip address`

- **Sets the IP address and netmask of this interface. The no form of the command clears the IP address and netmask of this interface.**

- **Syntax Description**
  - IP address
  - IPv4 address
  - netmask
  - Subnet mask of IP address

- **Default**
  - 0.0.0.0/0

- **Configuration Mode**
  - config interface

- **History**
  - 1.5

- **Example**
  - `ufmapl [ mgmt-sa ] (config interface eth0) # ip address 10.10.10.10 255.255.255.0`

- **Related Commands**
  - interface
  - show interfaces

- **Notes**
  - If DHCP is enabled on the specified interface, then the DHCP IP assignment will hold until DHCP is disabled.

---

### 2.1.1.3 alias ip address

- **Syntax**
  - `alias <index> ip address < IP address> <netmask>`
  - `no alias <index>`

- **Adds an additional IP address to the specified interface. The secondary address will appear in the output of “show interface” under the data of the primary interface along with the alias. The no form of the command removes the secondary address to the specified interface.**

- **Syntax Description**
  - alias
  - A number to be associated with the secondary IP
  - IP address
  - IPv4 address
  - netmask
  - Subnet mask of IP address
### Default
- N/A

### Configuration Mode
- config interface

### History
- 1.5

### Example
```
ufmapl [ mgmt-sa ] (config interface eth0) # alias 2 ip address 9.9.9.9 255.255.255.255
```

### Related Commands
- interface
- show interfaces

### Notes
- If DHCP is enabled on the specified interface, then the DHCP IP assignment will hold until DHCP is disabled.
- More than one additional IP address can be added to the interface.

#### 2.1.1.4 mtu
```
mtu <size>
no mtu
```
Sets the maximum transmission unit (MTU) size for this interface in bytes. The no form of the command resets the MTU to its default.

<table>
<thead>
<tr>
<th>Syntax Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>bytes</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Configuration Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>config interface</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>ufmapl [ mgmt-sa ] (config interface eth0) # mtu 1500</code></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Related Commands</th>
</tr>
</thead>
<tbody>
<tr>
<td>interface</td>
</tr>
<tr>
<td>show interfaces &lt;if-name&gt;</td>
</tr>
</tbody>
</table>

### 2.1.1.5 duplex
```
duplex <duplex>
no duplex
```
Sets the duplex mode of the interface. The no form of the command resets the duplex setting to its default value.

<table>
<thead>
<tr>
<th>Syntax Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>duplex</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
</tr>
</thead>
<tbody>
<tr>
<td>auto</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Configuration Mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>config interface</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
</tr>
</tbody>
</table>
## Example

```
ufmapl [ mgmt-sa ] (config interface eth0) # duplex auto
```

## Related Commands

- `interface`
- `show interfaces <if-name>`

## Notes

- Setting the duplex to “auto” also sets the speed to “auto”
- Setting the duplex to “half” or “full” also sets the speed to a manual setting which is determined by querying the interface to find out its current auto-detected state

### 2.1.1.6 speed

<table>
<thead>
<tr>
<th>speed &lt;speed&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>no speed</td>
</tr>
<tr>
<td>Sets interface speed in Mbps.</td>
</tr>
<tr>
<td>The no form of the command resets the speed setting to its default value.</td>
</tr>
</tbody>
</table>

#### Syntax Description

- `speed`  
  - 10 - 10Mbps  
  - 100 - 100Mbps  
  - 1000 - 1000Mbps  
  - auto - auto-speed sensing (10/100/1000Mbps)

#### Default

- auto

#### Configuration Mode

- `config interface`

#### History

- 1.5

#### Example

```
ufmapl [ mgmt-sa ] (config interface eth0) # speed auto
```

#### Related Commands

- `interface`
- `show interfaces <if-name>`

#### Notes

- Setting the speed to “auto” also sets the duplex to “auto”
- Setting the speed to 10, 100, or 1000 also sets the duplex to a manual setting which is determined by querying the interface to find out its current auto-detected state

### 2.1.1.7 dhcp

<table>
<thead>
<tr>
<th>dhcp [renew]</th>
</tr>
</thead>
<tbody>
<tr>
<td>no dhcp</td>
</tr>
<tr>
<td>Enables DHCP on the specified interface.</td>
</tr>
<tr>
<td>The no form of the command disables DHCP on the specified interface.</td>
</tr>
</tbody>
</table>

#### Syntax Description

- `renew`  
  - Forces a renewal of the IP address. A restart on the DHCP client for the specified interface will be issued.

#### Default

- Enabled

#### Configuration Mode

- `config interface`

#### History

- 1.5
2.1.1.8 zeroconf

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>zeroconf</td>
<td>Enables zeroconf on the specified interface.</td>
</tr>
<tr>
<td>no zeroconf</td>
<td>The no form of the command disables the use of zeroconf on the specified interface.</td>
</tr>
</tbody>
</table>

**Syntax**

N/A

**Default**

Disabled

**Configuration Mode**

config interface

**History**

1.5

**Example**

ufmapl [ mgmt-sa ] (config interface eth0) # zeroconf

**Related Commands**

interface
show interfaces <if-name> configured

**Notes**

- Enabling zeroconf randomly chooses a unique link-local IPv4 address from the 169.254.0.0/16 block
- This command is an alternative to DHCP
- Enabling zeroconf disables DHCP and vice versa

2.1.1.9 shutdown

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>shutdown</td>
<td>Enables the specified interface. The no form of the command enables the specified interface.</td>
</tr>
<tr>
<td>no shutdown</td>
<td>Disables the specified interface.</td>
</tr>
</tbody>
</table>

**Syntax Description**

N/A

**Default**

Enabled

**Configuration Mode**

config interface

**History**

1.5

**Example**

ufmapl [ mgmt-sa ] (config interface eth0) # shutdown

**Related Commands**

interface
show interfaces <if-name> configured
### 2.1.1.10 comment

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>string</th>
<th>A free-form string that has no semantics other than being displayed when interface records are listed</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config interface</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

#### Example

```
ufmapl [ mgmt-sa ] (config interface eth0) # comment my_interface
```

#### Related Commands

- `interface`
- `show interfaces <if-name> configured`

### Notes

2.1.1.11  show interfaces

```
show interfaces <ifname> [configured | brief]
Displays information about the specified interface, configuration status, and counters.
```

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>ifname</th>
<th>The interface whose data to display (e.g., “eth0”, “eth1”, etc.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>configured</td>
<td>Displays interface configuration</td>
</tr>
<tr>
<td></td>
<td>brief</td>
<td>Displays interface configuration and status in brief format</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.1.0</td>
<td>Updated output</td>
</tr>
</tbody>
</table>
### Example

```
ufmapl { mgmt-sa } (config) # show interfaces eth0
Interface eth0 status:
  Comment:
  Admin up: yes
  Link up: yes
  DHCP running: yes
  IP address: 172.30.30.8
  Netmask: 255.255.0.0
  IPv6 enabled: yes
  Autoconf enabled: no
  Autoconf router: yes
  Autoconf privacy: no
  DHCPv6 running: no
  IPv6 addresses: 1
    IPv6 address: fe80::a6bf:1ff:fe00:9c20/64
  Speed: 1000Mbit/s (auto)
  Duplex: full (auto)
  Interface type: ethernet
  Interface source: physical
  MTU: 1500
  HW address: A4:BF:01:00:9C:20
  RX bytes: 1629833215 TX bytes: 2808005
  RX packets: 12981118 TX packets: 51988
  RX mcast packets: 26852703 TX discards: 0
  RX discards: 0 TX errors: 0
  RX errors: 0 TX overruns: 0
  RX overruns: 0 TX carrier: 0
  TX queue len: 1000
```

### Related Commands

```
interface <ifname> ip address <IP address> <netmask>
```

### Notes

#### 2.1.1.12 ipv6 enable

IPv6 enable

```
no ipv6 enable
```

Enables all IPv6 addressing for this interface.

The no form of the command disables all IPv6 addressing for this interface.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>Disabled</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config interface management</td>
</tr>
<tr>
<td>History</td>
<td>4.1.0</td>
</tr>
<tr>
<td>Example</td>
<td>ufmapi (config interface eth0)# ipv6 enable</td>
</tr>
<tr>
<td>Related Commands</td>
<td>ipv6 address show interface</td>
</tr>
</tbody>
</table>
| Notes               | - The interface identifier is a 64-bit long modified EUI-64, which is based on the MAC address of the interface.
- If IPv6 is enabled on an interface, the system will automatically add a link-local address to the interface. Link-local addresses can only be used to communicate with other hosts on the same link, and packets with link-local addresses are never forwarded by a router.
- A link-local address, which may not be removed, is required for proper IPv6 operation. The link-local addresses start with “fe80::”, and are combined with the interface identifier to form the complete address. |
### 2.1.1.13 ipv6 address

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>IPv6 address/netmask</td>
<td>Configures a static IPv6 address and netmask. Format example: 2001:db8:1234::5678/64.</td>
</tr>
</tbody>
</table>

| autoconfig | Enables IPv6 stateless address auto configuration (SLAAC) for this interface. An address will be automatically added to the interface based on an IPv6 prefix learned from router advertisements, combined with an interface identifier. |

| autoconfig default | Enables default learning routes. The default route will be discovered automatically, if the autoconfig is enabled. |

| autoconfig privacy | Uses privacy extensions for SLAAC to construct the autoconfig address, if the autoconfig is enabled |

Default: No IP address available, auto config is enabled

Configuration Mode: `config interface management`

History: 4.1.0

Example:

```plaintext
ufmapl (config interface eth0)# ipv6 fe80::202:c9ff:fe5e:a5d8/64
```

Related Commands: ipv6 address, show interface

Notes:
- On a given interface, up to 16 addresses can be configured
- For Ethernet, the default interface identifier is a 64-bit long modified EUI-64, which is based on the MAC address of the interface

### 2.1.1.14 ipv6 dhcp client enable

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
</table>

Default: Enabled

Configuration Mode: `config interface management`

History: 4.1.0

Example:

```plaintext
ufmapl (config interface eth0)# ipv6 dhcp client enable
```

`ipv6 dhcp client enable` enables DHCPv6 on this interface. The no form of the command disables DHCPv6 on this interface.
| Related Commands | ipv6 dhcp client renew  
|                 | show ipv6 dhcp |

**2.1.1.15 ipv6 dhcp client renew**

| Syntax Description | ipv6 dhcp client renew  
| Default | N/A  
| Configuration Mode | config interface management  
| History | 4.1.0  
| Example | ufmapl (config interface eth0)# ipv6 dhcp client renew |

**Related Commands**

| ipv6 dhcp client enable  
| show ipv6 dhcp |

**Notes**

2.1.2 Hostname

**2.1.2.1 hostname**

| hostname <hostname>  
| no hostname  
| Sets a static system hostname.  
| The no form of the command clears the user-configured hostname.  
| Syntax Description | hostname  
| Default | Default hostname  
| Configuration Mode | config  
| History | 1.5  
| Example | ufmapl [ mgmt-sa ] (config) # hostname ufmapl-hostname  
| Related Commands | show hosts |

**Notes**

"." is not permitted as a valid character of the hostname.
### 2.1.2.2 ip name-server

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Example**

```
ufmap1 [ mgmt-sa ] (config) # ip name-server 9.9.9.9
```

**Related Commands**

- `show hosts`

**Notes**

- The no form of the command clears the name server.

### 2.1.2.3 ip domain-list

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>domain_name</th>
<th>String</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Example**

```
ufmap1 [ mgmt-sa ] (config) # ip domain-list mydomain2.com
```

**Related Commands**

- `show hosts`

**Notes**

- A domain name is an identification string that defines a realm of administrative autonomy, authority, or control in the Internet.
- Domain names are formed by the rules and procedures of the Domain Name System (DNS).

### 2.1.2.4 {ip | ipv6} host

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>hostname</th>
<th>String</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>ip-address</td>
<td>IPv4 or IPv6 address</td>
</tr>
</tbody>
</table>

**Example**

```
ufmap1 [ mgmt-sa ] (config) # ip host hostname ip-address
```

**Related Commands**

- `show hosts`
<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [ mgmt-sa ] (config) # ip host test-host 1.2.3.4
ufmapl [ mgmt-sa ] (config) # ipv6 host my-ipv6-host 2001::8f9
```

**Related Commands**

- show hosts

**Notes**

2.1.2.5 `{ip | ipv6} map-hostname`

```
{ip | ipv6} map-hostname
no {ip | ipv6} map-hostname
```

Maps between the currently-configured hostname and the loopback address 127.0.0.1. The no form of the command clears the mapping.

**Syntax Description**

- N/A

**Default**

- IPv4 mapping is enabled by default
- IPv6 mapping is disabled by default

**Configuration Mode**

- config

**History**

- 1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # ip map-hostname
```

**Related Commands**

- show hosts

**Notes**

- If no mapping is configured, a mapping between the hostname and the IPv4 loopback address 127.0.0.1 will be added
- The no form of the command maps the hostname to the IPv6 loopback address if there is no statically configured mapping from the hostname to an IPv6 address (disabled by default)
- Static host mappings are preferred over DNS results. As a result, with this option set, you will not be able to look up your hostname on your configured DNS server; but without it set, some problems may arise if your hostname cannot be looked up in DNS.

2.1.2.6 `show hosts`

```
show hosts
```

Displays hostname, DNS configuration, and static host mappings.

**Syntax Description**

- N/A

**Default**

- N/A

**Configuration Mode**

- Any configuration mode
Example

```
ufmapl [ mgmt-sa ] (config) # show hosts
Hostname: ufmapl

Name servers:
9.9.9.9 configured
10.211.0.121 (DHCP on eth0)

Domain names:
mydomain2.com configured
lab.mydomain.com dynamic (DHCP on eth0)
vmlab.mydomain.com dynamic (DHCP on eth0)
tok.mydomain.com dynamic (DHCP on eth0)
mydomain.com dynamic (DHCP on eth0)

Static IPv4 host mappings:
10.7.144.133 --> ufmapl1
127.0.0.1 --> localhost

Static IPv6 host mappings:
::1 --> localhost6
fcfc:fcfc:209:36:a6bf:1ff:fe00:9c20 --> ufmapl1

Automatically map hostname to loopback address: yes
Automatically map hostname to IPv6 loopback address: no
```

Related Commands
- `show hosts`

Notes
- The configured default gateway will not be used if DHCP is enabled
- In order to configure ipv4 default-gateway use "ip route" command

2.1.3 Routing

2.1.3.1 `{ip | ipv6} default-gateway`

```
[ip | ipv6] default-gateway [ip-address] | <ifname>]
```

Sets a static default gateway.
The no form of the command deletes the default gateway.

Syntax Description
- `ip-address` The default gateway IP address
- `ifname` Name of the interface interface name (e.g. eth0, eth1).

Default
N/A

Configuration Mode
config

History
1.5

Example

```
ufmapl [ mgmt-sa ] (config) # ip default-gateway 172.30.0.1
```

Related Commands
- `show {ip | ipv6} default-gateway`
- `show {ip | ipv6} route`

Notes
- The configured default gateway will not be used if DHCP is enabled
- In order to configure ipv4 default-gateway use "ip route" command

2.1.3.2 `show {ip | ipv6} default-gateway`

```
show [ip | ipv6] default-gateway [static]
```

Displays the default gateway.
### Syntax Description

<table>
<thead>
<tr>
<th><strong>Static</strong></th>
<th>Displays the static configuration of the default gateway</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td><code>ufmapl [ mgmt-sa ] (config) # show ip default-gateway</code></td>
</tr>
<tr>
<td>Related Commands</td>
<td>![ip</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

#### 2.1.3.3 `{ip | ipv6} route`

```
```

Sets a static route for a given IP. The no form of the command deletes the static route.

<table>
<thead>
<tr>
<th>Syntax Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>network-prefix</strong></td>
</tr>
<tr>
<td><strong>netmask</strong></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>nexthop-address</strong></td>
</tr>
<tr>
<td><strong>ifname</strong></td>
</tr>
<tr>
<td>Default</td>
</tr>
<tr>
<td>Configuration Mode</td>
</tr>
<tr>
<td>History</td>
</tr>
<tr>
<td>Example</td>
</tr>
<tr>
<td>Related Commands</td>
</tr>
<tr>
<td>Notes</td>
</tr>
</tbody>
</table>

#### 2.1.3.4 show `{ip | ipv6} route`

```
show {ip | ipv6} route [static]
```

Displays the routing table in the system.

<table>
<thead>
<tr>
<th>Syntax Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>static</strong></td>
</tr>
<tr>
<td>Default</td>
</tr>
</tbody>
</table>

37
2.1.4 Network to Media Resolution (ARP & NDP)
IPv4 network use Address Resolution Protocol (ARP) to resolve IP address to MAC address.

2.1.4.1 arp

```
ufmap1 [ mgmt-sa ] (config) # arp 172.30.0.1 00:00:5E:00:01:01
```

Syntax Description
- ip-address: IPv4 address
- mac-address: MAC address

Default
N/A

Configuration Mode
config

History
1.5

Example
```
ufmap1 [ mgmt-sa ] (config) # show ip route
```

Related Commands
- show ip arp

Notes

2.1.4.2 show arp

```
ufmap1 [ mgmt-sa ] (config) # show ip route
Destination       Mask              Gateway           Interface   Source
default           0.0.0.0           172.30.0.1        eth0        DHCP
10.10.10.10       255.255.255.255   0.0.0.0           eth0        static
20.10.10.10       255.255.255.255   0.0.0.0           eth0        static
20.20.20.0        255.255.255.0     0.0.0.0           eth0        static
172.30.0.0        255.255.0.0       0.0.0.0           eth0
interface
```

Syntax Description
- show arp [static]: Displays the ARP table.

Default
N/A

Configuration Mode
Any configuration mode

History
1.5
Example

ufmapl [ mgmt-sa ] (config) # show arp
ARP cache contents
IP 172.30.0.1 maps to MAC 00:00:5E:00:01:01 (interface eth0)
ufmapl [ mgmt-sa ] (config) # show arp static
Static ARP entries
IP 1.1.1.1 maps to MAC 00:01:02:03:04:05

Related Commands
arp

Notes

2.1.4.3 ipv6 neighbor

ipv6 neighbor <ipv6-address> <ifname> <mac-address>
no ipv6 neighbor <ipv6-address> <ifname> <mac-address>
Adds a static neighbor entry.
The no form of the command deletes the static entry.

Syntax Description

<table>
<thead>
<tr>
<th>ipv6-address</th>
<th>IPv6 address</th>
</tr>
</thead>
<tbody>
<tr>
<td>ifname</td>
<td>Management interface (i.e. eth0, eth1)</td>
</tr>
<tr>
<td>mac-address</td>
<td>MAC address</td>
</tr>
</tbody>
</table>

Default
N/A

Configuration Mode
config

History
4.1.0

Example

ufmapl [ mgmt-sa ] (config) # ipv6 neighbor 2001:db8:701f::8f9 eth0 00:11:22:33:44:55

Related Commands
show ipv6 neighbor
ipv6 route
arp
clear ipv6 neighbors

Notes

- ARP is used only with IPv4. In IPv6 networks, Neighbor Discovery Protocol (NDP) is used similarly.
- Use The no form of the command to remove static entries. Dynamic entries can be cleared via the “clear ipv6 neighbors” command.

2.1.4.4 clear ipv6 neighbors

clear ipv6 neighbors
Clears the dynamic neighbors cache.

Syntax Description
N/A

Default
N/A

Configuration Mode
config

History
4.1.0
Example

ufmap1 [ mgmt-sa ] (config) # clear ipv6 neighbors

Related Commands

ipv6 neighbor
show ipv6 neighbor
arp

Notes

- Clearing Neighbor Discovery Protocol (NDP) cache removes only the dynamic entries learned and not the static entries configured
- Use the no form of the command to remove static entries

2.1.4.5 show ipv6 neighbors

show ipv6 neighbors [static]
Displays the Neighbor Discovery Protocol (NDP) table.

Syntax Description

static  Filters only the table of the static entries

Default
N/A

Configuration Mode
Any configuration mode

History
4.1.0

Example

ufmap1 [ mgmt-sa ] (config) # show ipv6 neighbors
IPv6 Address         Age      MAC Address
--------------------- ----      -----------------
permanent            eth0

Related Commands

ipv6 neighbor
clear ipv6 neighbor
show ipv6

Notes

2.1.5 DHCP

2.1.5.1 ip dhcp

ip dhcp [default-gateway yield-to-static | hostname <hostname> | primary-intf <ifname> | send-hostname]
no ip dhcp [default-gateway yield-to-static | hostname | primary-intf | send-hostname]
Sets global DHCP configuration.
The no form of the command deletes the DHCP configuration.

Syntax Description

yield-to-static  Does not allow you to install a default gateway from DHCP if there is already a statically configured one

hostname  Specifies the hostname to be sent during DHCP client negotiation if send-hostname is enabled

primary-intf  Sets the interface from which a non-interface-specific configuration (resolver and routes) will be accepted via DHCP
<table>
<thead>
<tr>
<th>send-hostname</th>
<th>Enables the DHCP client to send a hostname during negotiation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>no ip dhcp yield-to-static</td>
</tr>
<tr>
<td></td>
<td>no ip dhcp hostname</td>
</tr>
<tr>
<td></td>
<td>ip dhcp primary-intf eth0</td>
</tr>
<tr>
<td></td>
<td>no ip dhcp send-hostname</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td>uimapl [ mgmt-sa ] (config) # ip dhcp default-gateway yield-to-static</td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ip dhcp</td>
</tr>
<tr>
<td></td>
<td>dhcp [renew]</td>
</tr>
<tr>
<td>Notes</td>
<td>DHCP is supported for IPv4 networks only</td>
</tr>
</tbody>
</table>

### 2.1.5.2 show {ip | ipv6} dhcp

**Syntax Description**: Displays the DHCP/DHCPv6 configuration and status.

**Default**: N/A

**Configuration Mode**: Any configuration mode

**History**: 1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # show ip dhcp
--------------------------------------
Interface    DHCP      DHCP      Valid
             Enabled    Running    lease
--------------------------------------
bond0        no        no         no
eth0         yes       yes        yes
ib0          no        no         no
ib1          no        no         no
lo           no        no         no
IPv4 dhcp default gateway yields to static configuration: no
DHCP primary interface:
  Configured: eth0
  Active: eth0
DHCP client options:
  Send Hostname: no
  Client Hostname: uimapl (using system hostname)
```

**Related Commands**: ip dhcp dhcp [renew]

**Notes**: N/A
### 2.1.5.3 ipv6 dhcp primary-intf

**Syntax**
```
ipv6 dhcp primary-intf <if-name>
no ipv6 dhcp primary-intf
```

Sets the interface from which non-interface-specific (resolver) configuration is accepted via DHCPv6. The no form of the command resets non-interface-specific (resolver) configuration.

**Syntax Description**
- `if-name`:
  - `lo`
  - `eth0`
  - `eth1`

**Default**
N/A

**Configuration Mode**
config

**History**
4.1.0

**Example**
```
ufmap1 [mgmt-sa] (config) # ipv6 dhcp primary-intf eth0
```

**Related Commands**
- `ipv6 enable`
- `ipv6 address`
- `show interface <ifname>`

**Notes**

### 2.1.5.4 ipv6 dhcp stateless

**Syntax**
```
ipv6 dhcp stateless
no ipv6 dhcp stateless
```

Enables stateless DHCPv6 requests. The no form of the command disables stateless DHCPv6 requests.

**Syntax Description**
N/A

**Default**
N/A

**Configuration Mode**
config

**History**
4.1.0

**Example**
```
ufmap1 [mgmt-sa] (config) # ipv6 dhcp stateless
```

**Related Commands**
- `ipv6 enable`
- `ipv6 address`
- `show interface <ifname>`

**Notes**
- This command only gets DNS configuration, not an IPv6 address.
- The no form of the command requests all information, including an IPv6 address.
### 2.1.6 IP Diagnostic Tools

#### 2.1.6.1 ping | ping6

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Linux Ping options</th>
<th><a href="http://linux.about.com/od/commands/l/blcmdl8_ping.htm">http://linux.about.com/od/commands/l/blcmdl8_ping.htm</a></th>
</tr>
</thead>
</table>

**Default**
N/A

**Configuration Mode**
config

**History**
1.5

**Example**
```
ufmapl [ mgmt-sa ] (config) # ping 172.30.2.2
PING 172.30.2.2 (172.30.2.2) 56(84) bytes of data.
64 bytes from 172.30.2.2: icmp_seq=1 ttl=64 time=0.703 ms
64 bytes from 172.30.2.2: icmp_seq=2 ttl=64 time=0.187 ms
64 bytes from 172.30.2.2: icmp_seq=3 ttl=64 time=0.166 ms
64 bytes from 172.30.2.2: icmp_seq=4 ttl=64 time=0.161 ms
64 bytes from 172.30.2.2: icmp_seq=5 ttl=64 time=0.153 ms
64 bytes from 172.30.2.2: icmp_seq=6 ttl=64 time=0.144 ms
^C
--- 172.30.2.2 ping statistics ---
6 packets transmitted, 6 received, 0% packet loss, time 5004ms
rtt min/avg/max/mdev = 0.144/0.252/0.703/0.202 ms
```

**Related Commands**
traceroutes

**Notes**

#### 2.1.6.2 traceroutes


Traces the route packets take to a destination.

**Syntax Description**

- `-4` Uses IPv4
- `-6` Uses IPv6
- `-d` Enables socket level debugging
- `-F` Sets DF (do not fragment bit) on
- `-I` Uses ICMP ECHO for tracerouting
- `-T` Uses TCP SYN for tracerouting
- `-U` Uses UDP datagram (default) for tracerouting
- `-n` Does not resolve IP addresses to their domain names
- `-r` Bypasses the normal routing and send directly to a host on an attached network
- `-A` Performs AS path lookups in routing registries and print results directly after the corresponding addresses
Prints version info and exit

- Starts from the first_ttl hop (instead from 1)
- Routes packets throw the specified gateway (maximum 8 for IPv4 and 127 for IPv6)
- Specifies a network interface to operate with
- Sets the max number of hops—max TTL to be reached (default is 30)
- Sets the number of probes to be tried simultaneously (default is 16)
- Uses destination port. It is an initial value for the UDP destination port (incremented by each probe, default is 33434), for the ICMP seq number (incremented as well, default from 1), and the constant destination port for TCP tries (default is 80)
- Sets the TOS (IPv4 type of service) or TC (IPv6 traffic class) value for outgoing packets
- Uses specified flow_label for IPv6 packets
- Sets the number of seconds to wait for response to a probe (default is 5.0). Non-integer (float point) values allowed too.
- Sets the number of probes per each hop (default is 3)
- Uses source src_addr for outgoing packets
- Sets minimal time interval between probes (default is 0). If the value is more than 10, then it specifies a number in milliseconds, else it is a number of seconds (float point values allowed too).

Default
N/A

Configuration Mode config

History 1.5

Example

```
ufmap1 [ mgmt-sa ] (config) # traceroute 192.168.10.70
traceroute to 192.168.10.70 (192.168.10.70), 30 hops max, 40 byte packets
1 172.30.0.1 (172.30.0.1) 3.632 ms 2.849 ms 3.544 ms
2 10.222.128.46 (10.222.128.46) 3.176 ms 3.289 ms 3.656 ms
3 10.158.128.30 (10.158.128.30) 15.331 ms 15.819 ms 16.388 ms
4 10.158.128.65 (10.158.128.65) 20.468 ms 7.893 ms 12.27 ms
5 10.7.34.115 (10.7.34.115) 16.405 ms 11.985 ms 12.264 ms
6 192.168.10.70 (192.168.10.70) 16.377 ms 16.091 ms 20.475 ms
```

Related Commands ping | ping6

Notes

2.1.6.3 tcpdump

```
tcpcdump [-aAdeflLNOpqRStuVxX][-c count] [-C file_size]
[-r file] [-s snaplen] [-T type] [-w file]
[-W filecount] [-y datalinktype] [-Z user]
expression
```
Invokes standard binary, passing command line parameters straight through. Runs in foreground, printing packets as they arrive, until the user hits Ctrl+C.
### Syntax Description

<table>
<thead>
<tr>
<th>Description</th>
<th>N/A</th>
</tr>
</thead>
</table>

### Default

| N/A |

### Configuration Mode

| config |

### History

| 1.5 |

### Example

```plaintext
ufmapl [ mgmt-sa ] (config) # tcpdump
... 09:37:38.678812 IP 192.168.10.7.ssh > 192.168.10.1.54155: P 1494624:1494800(176) ack 625 win 90
<nop,nop,tstamp 5842763 858672398>
09:37:38.678860 IP 192.168.10.7.ssh > 192.168.10.1.54155: P 1494800:1495104(304) ack 625 win 90
<nop,nop,tstamp 5842763 858672398>
...
9141 packets captured
9142 packets received by filter
0 packets dropped by kernel
```

### Related Commands

- **Network Bonding**

### Notes

2.1.7 Network Bonding

2.1.7.1 bond

```plaintext
bond <bonded-if> [mode <string>] [link-mon-time <milliseconds>] [up-delay-time <milliseconds>] [down-delay-time <milliseconds>]
no bond <bonded-if>
```

Creates the named bonded interface.
The no form of the command deletes the named bonded interface.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>Specifies the type of mode the bonded interface is:</td>
<td>balance-rr</td>
</tr>
<tr>
<td></td>
<td>backup</td>
</tr>
<tr>
<td></td>
<td>balance-xor</td>
</tr>
<tr>
<td></td>
<td>balance-xor-layer3+4</td>
</tr>
<tr>
<td></td>
<td>broadcast</td>
</tr>
<tr>
<td></td>
<td>link-agg</td>
</tr>
<tr>
<td></td>
<td>link-agg-layer3+4</td>
</tr>
<tr>
<td></td>
<td>balance-tlb</td>
</tr>
<tr>
<td></td>
<td>balance-alb</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>link-mon-time</th>
<th>Specifies the link monitoring frequency (in msecs)</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>up-delay-time</th>
<th>Specifies the time (in msecs) to wait before enabling a slave after a link recovery has been detected</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>down-delay-time</th>
<th>Specifies the time (in msecs), to wait before disabling a slave after a link failure has been detected for the specified bonded interface</th>
</tr>
</thead>
</table>

### Default

| N/A |

### Configuration Mode

| config |

### History

| 1.5 |

45
| Example | | | uflmapl [ mgmt-sa ] (config) # bond bond0 mode backup  
| | | | uflmapl [ mgmt-sa ] (config) # bond bond0 link-mon-time 100 |

| Related Commands | interface  
| | show bonds |

| Notes |

### 2.1.7.2 interface

```
interface <ifname> bond <bond-if>  
no interface <ifname> bond <bond-if>  
```

**Description**
Adds the named interface from the specified bonded interface. The no form of the command removes the named interface from the specified bonded interface.

| Syntax Description | bond  
| | The bonded interface |

| Default | N/A |

| Configuration Mode | config |

| History | 1.5 |

| Example | | | uflmapl [ mgmt-sa ] (config) # interface ib0 bond bond0 |

| Related Commands | bond  
| | show bonds |

| Notes |

### 2.1.7.3 show bonds

```
show bonds [bonded-if]  
```

**Description**
Displays bonding configuration and status.

| Syntax Description | N/A |

| Default | N/A |

| Configuration Mode | Any configuration mode |

| History | 1.5 |

| Example | | | uflmapl [ mgmt-sa ] (config) # show bonds  
| Bonded Interface bond0:  
| Enabled: yes  
| Mode: backup  
| Link Monitor Time: 100  
| Interfaces:  
| ib0  
| ib1 |

| Related Commands | bond  
| | interface |

| Notes |
2.2 NTP, Clock and Time Zones

2.2.1 clock set

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>hh:mm:ss</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>yyyy/mm/dd</td>
<td>Date</td>
</tr>
</tbody>
</table>

Default: N/A

Configuration Mode: config

History: 1.5

Example:
```
ufmap1 [ mgmt-sa ] (config) # clock set 23:23:23 2012/12/15
```

Related Commands: show clock

Notes: If not specified, the date will be left as is

2.2.2 clock timezone

```
clock timezone [<zone word> [<zone word> [<zone word> [<zone word>]]]]
```
Sets the system time zone. The time zone may be specified in one of three ways:

- A nearby city whose time zone rules to follow. The system has a large list of cities which can be displayed by the help and completion system. They are organized hierarchically because there are too many of them to display in a flat list. A given city may be required to be specified in two, three, or four words, depending on the city.
- An offset from UTC. This will be in the form UTC-offset UTC, UTC-offset UTC+<0-14>, UTC-offset UTC-<1-12>.
- UTC (Universal Time, which is almost identical to GMT), and this is the default time zone

The no form of the command resets time zone to its default (GMT).

Syntax Description: zone word

The possible forms this could take include: continent, city, continent, country, city, continent, region, country, city, ocean, and/or island.

Default: GMT

Configuration Mode: config

History: 1.5

Example:
```
ufmap1 [ mgmt-sa ] (config) # clock timezone America North United_States Other New_York
```

Related Commands: show clock

Notes: If not specified, the date will be left as is
### 2.2.3 ntp

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>disable</td>
<td>Disables NTP</td>
<td></td>
</tr>
<tr>
<td>enable</td>
<td>Enables NTP</td>
<td></td>
</tr>
<tr>
<td>peer</td>
<td>server</td>
<td>Configures an NTP peer or server node</td>
</tr>
<tr>
<td>ip-address</td>
<td>IPv4 address</td>
<td></td>
</tr>
<tr>
<td>version</td>
<td>Specifies the NTP version number of this peer. Possible values are 3 or 4.</td>
<td></td>
</tr>
</tbody>
</table>

**Default**

NTP is enabled  
NTP version number is 4

**Configuration Mode**

config

**History**

1.5

**Example**

ufmapl [ mgmt-sa ] (config) # no ntp peer 192.168.10.24 disable

**Related Commands**

show ntp

**Notes**

This is a one-time operation and does not cause the clock to be kept in sync on an ongoing basis. It will generate an error if SNTP is enabled since the socket it requires will already be in use.

### 2.2.4 ntpdate

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>ntpdate &lt;ip-address&gt;</td>
<td>Sets the system clock using the specified SNTP server.</td>
<td></td>
</tr>
</tbody>
</table>

**Default**

N/A

**Configuration Mode**

config

**History**

1.5

**Example**

ufmapl [ mgmt-sa ] (config) # ntpdate 192.168.10.10 15 Dec 17:25:40 ntpdate[15286]: adjust time server 192.168.10.10 offset -0.000092 sec

**Related Commands**

show ntp

**Notes**

This is a one-time operation and does not cause the clock to be kept in sync on an ongoing basis. It will generate an error if SNTP is enabled since the socket it requires will already be in use.
2.2.5 show clock

```
show clock
Displays the current system time, date and time zone.
```

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Example**
```
ufmap1 [mgmt-sa] (config) # show clock
Time: 23:23:26
Date: 2012/12/15
Time zone: America North United_States Other New_York
```

**Related Commands**
- clock set
- clock timezone
- ntp
tptpdate

**Notes**

2.2.6 show ntp

```
show ntp
Displays the current NTP settings.
```

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Example**
```
ufmap1 [mgmt-sa] (config) # show ntp
NTP is enabled.
Clock is unsynchronized.
No NTP peers or servers configured.
```

**Related Commands**
- ntp
tptpdate

**Notes**

2.3 Software Management

This chapter displays all the relevant commands used to manage the system software image.

2.3.1 image boot

```
image boot [location <location-id> | next]
Specifies the default location where the system should be booted from.
```
### Syntax Description

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>location-id</td>
<td>Specifies the default destination location. There can be up to 2 images on the system. Possible values: 1-2.</td>
</tr>
<tr>
<td>next</td>
<td>Sets the boot location to be the next once after the one currently booted from, thus avoiding a cycle through all the available locations</td>
</tr>
</tbody>
</table>

#### Default

N/A

#### Configuration Mode

config

#### History

1.5

#### Example

```
ufmapl [ mgmt-sa ] (config) # image boot location 2
```

#### Related Commands

show images

#### Notes

2.3.2 **boot next**

```
boot next fallback-reboot enable
no boot next fallback-reboot enable
```

Sets the default setting for next boot. Normally, if the system fails to apply the configuration on startup (after attempting upgrades or downgrades, as appropriate), it will reboot to the other partition as a fallback.

The no form of the command tells the system not to do that, only for the next boot.

#### Syntax Description

<table>
<thead>
<tr>
<th>Field</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

#### Default

N/A

#### Configuration Mode

config

#### History

1.5

#### Example

```
ufmapl [ mgmt-sa ] (config) # boot fallback-reboot enable
```

#### Related Commands

show images

#### Notes

Normally, if the system fails to apply the configuration on startup (after attempting upgrades or downgrades, as appropriate), it will reboot to the other partition as a fallback. The ‘no’ variant of this command tells the system NOT to do that, ONLY for the next boot. Note that this setting is not persistent, and will go back to enabled automatically after every boot.
## 2.3.3 image delete

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>image-name</th>
<th>Specifies the image name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [ mgmt-sa ] (config) # image delete image-ufm_appliance-x86_64-x86_64-20121205-152024.img
```

**Related Commands**

- show images

**Notes**

- N/A

## 2.3.4 image fetch

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>URL</th>
<th>HTTP, HTTPS, FTP, TFTP, SCP and SFTP are supported Example: scp://username[:password]@hostname/path/filename</th>
</tr>
</thead>
<tbody>
<tr>
<td>filename</td>
<td>filename</td>
<td>Specifies a filename for this image to be stored as locally</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [ mgmt-sa ] (config) # image fetch scp://<username>@192.168.10.125/var/www/html/<image_name> Password: ****** 100.0% [#####################################################################]#
```

**Related Commands**

- show images

**Notes**

- Please delete the previously available image, prior to fetching the new image
- See section “Updating UFM™ SDN Appliance Software” in the Mellanox UFM SDN Appliance User Manual for a full upgrade example

## 2.3.5 image install

| Syntax Description | image-install <image-filename> [location <location-id>] | [progress <prog-options>] | [verify <ver-options>] | Downloads an image from the specified URL or via SCP. |

```
### Syntax Description

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>image filename</td>
<td>Specifies the image name</td>
</tr>
<tr>
<td>location-id</td>
<td>Specifies the image destination location</td>
</tr>
</tbody>
</table>
| prog-options | • “no-track” overrides CLI default and does not track the installation progress.  
  • “track” overrides CLI default and tracks the installation progress.     |
| ver-options | • “check-sig” requires an image to have either a valid signature or no signature.  
  • “ignore-sig” allows unsigned or invalidly signed images to be installed.  
  • “require-sig” requires from the installed image to have a valid signature. If a valid signature is not found on the image, the image cannot be installed. |

**Default**

N/A

**Configuration Mode**

config

**History**

1.5

**Example**

```
ufmapi [ mgmt-sa ] (config) # image install image-ufm_appliance-x86_64-x86_64-20121205-152024.img
Step 1 of 4: Verify Image
100.0%
[#########################################################################]
Step 2 of 4: Uncompress Image
100.0%
[#########################################################################]
Step 3 of 4: Create Filesystem
100.0%
[#########################################################################]
Step 4 of 4: Extract Image
100.0%
[#########################################################################]
```

**Related Commands**

show images

**Notes**

- The image cannot be installed on the “active” location (the one which is currently being booted)
- On a two-location system, the location is chosen automatically if no location is specified

### 2.3.6 image move

image move <src image name> <dest image name>

Renames the specified image file.

**Syntax Description**

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>src image name</td>
<td>Specifies the old image name</td>
</tr>
<tr>
<td>dest image name</td>
<td>Specifies the new image name</td>
</tr>
</tbody>
</table>

**Default**

N/A

**Configuration Mode**

config

**History**

1.5
2.3.7 image option

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>require-sig</th>
<th>Requires images to be signed by a trusted signature</th>
</tr>
</thead>
</table>

Default: N/A

Configuration Mode: config

History: 1.5

Example:

```
ufmapl [ mgmt-sa ] (config) # image options require-sig
```

Related Commands: show images

Notes:

- Requires from all the installed images a valid signature.
- The no form of the command does not require a signature. However if one is present, it must be valid.

2.3.8 show bootvar

Syntax Description: Displays the installed system images and the boot parameters.

Default: N/A

Configuration Mode: config

History: 1.5

Example:

```
ufmapl [ mgmt-sa ] (config) # show bootvar
Installed images:
  Partition 1:
    ufmapl nanoparticles_1.1.0.11_ufm_3.8.2.5 2012-12-15 15:23:24 x86_64
  Partition 2:
    ufmapl nanoparticles_1.0.5.8_ufm_3.8.2.5 2012-10-24 14:27:53 x86_64
Last boot partition: 1
Next boot partition: 1
Boot manager password is set.
No image install currently in progress.
Image signing: trusted signature always required
Admin require signed images: yes
Settings for next boot only:
  Fallback reboot on configuration failure: yes (default)
```

53
Related Commands | N/A
---|---

Notes

### 2.3.9 show images

**Syntax Description**

- N/A

**Default**

- N/A

**Configuration Mode**

- Any configuration mode

**History**

- 1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # show images
Images available to be installed:
  image-ufm_appliance-x86_64-x86_64-20121205-152024.img
ufm_appliance UFMAPL_1.1.0.11_UFM_3.8.2.5 2012-12-05 15:20:24 x86_64

Installed images:
  Partition 1:
    ufm_appliance UFMAPL_1.1.0.11_UFM_3.8.2.5 2012-12-05 15:20:24 x86_64
  Partition 2:
    ufm_appliance UFMAPL_1.0.5.0_UFM_3.8.0.16 2012-10-24 14:27:53 x86_64

Last boot partition: 1
Next boot partition: 1
Boot manager password is set.
No image install currently in progress.
Image signing: trusted signature always required
Admin require signed images: yes
Settings for next boot only:
  Fallback reboot on configuration failure: yes (default)
```

Related Commands

- image boot
- image delete
- image fetch
- image install
- image move
- image option
- boot next

Notes

### 2.4 Configuration Management

#### 2.4.1 Saving a Configuration File

To save the current configuration to the active configuration file, you can either use the “configuration write” command (requires running in Config mode) or the “write memory” command (requires running in Enable mode).

- To save the configuration to the active configuration file, run:

  ```
  ufmapl (config) # configuration write
  ```
To save the configuration to a user-specified file without making the new file the active configuration file, run:

```
ufmapl (config) # configuration write to myconf no-switch
```

To save the configuration to a user-specified file and make the new file the active configuration file, run:

```
ufmapl (config) # configuration write to myconf
```

To display the available configuration files and the active file, run:

```
ufmapl (config) # show configuration files
initial
myconf (active)
ufmapl (config) #
```

### 2.4.2 Loading a Configuration File

By default, or after a system reset, the system loads the default “initial” configuration file.

To load a different configuration file and make it the active configuration:

```
ufmapl >
ufmapl > enable
ufmapl # configure terminal
ufmapl (config) # configuration ufmapl-to myconfig
ufmapl (config) #
```

### 2.4.3 Restoring Factory Default Configuration

If system configuration becomes corrupted, it is suggested to restore factory default configuration.

To restore factory default configuration on a single management module system, run:

```
ufmapl (config) # reset factory keep-basic
```

### 2.4.4 Managing Configuration Files

There are two types of configuration files that can be applied on the host, BIN files (binary) and text-based configuration files.

#### 2.4.4.1 BIN Configuration Files

BIN configuration files are not human readable. Additionally, these files are encrypted and contain integrity verification preventing them from being edited and used on the host.

To create a new BIN configuration file:

```
ufmapl (config) # configuration new my-filename
```
To upload a BIN configuration file from a host to an external file server:

```plaintext
ufmapl (config) # configuration upload my-filename scp://myusername@my-server/path/to/my/<file>
```

To fetch a BIN configuration file:

```plaintext
ufmapl (config) # configuration fetch scp://myusername@my-server/path/to/my/<file>
```

To see the available configuration files:

```plaintext
ufmapl (config) # show configuration files
initial (active)
my-filename
Active configuration: initial
Unsaved changes: no
```

To load a BIN configuration file:

```plaintext
ufmapl (config) # configuration ufmapl-to my-filename
This requires a reboot.
Type 'yes' to confirm: yes
```

A newly created BIN configuration file is always empty and is not created from the running- config.

To create a new text-based configuration file:

```plaintext
ufmapl (config) # configuration text generate active running save my-filename
```

A newly created text configuration file is always created from the running-config.

Applying a new BIN configuration file changes the whole host’s configuration and requires system reboot which can be performed using the command “reload”.

A binary configuration file uploaded from the host is encrypted and has integrity verification. If the file is modified in any manner, the fetch to the host fails.

2.4.4.2 Text Configuration Files

Text configuration files are text based and editable. It is similar in form to the output of the command “show running-config expanded”.

To create a new text-based configuration file:

```plaintext
ufmapl (config) # configuration text generate active running save my-filename
```

To apply a text-based configuration file:

```plaintext
ufmapl (config) # configuration text file my-filename apply
```
Applying a text-based configuration file to an existing/running data port configuration may result in unpredictable behavior. It is therefore suggested to first clear the host’s configuration by applying a specific configuration file (following the procedure in “BIN Configuration File”) or by resetting the host back to factory default.

To upload a text-based configuration file from a host to an external file server:

```
ufmapl (config) # configuration text file my-filename upload scp://root@my-server/root/tmp/my-filename
```

To fetch a text-based configuration file from an external file server to a host:

```
ufmapl (config) # configuration text fetch scp://root@my-server/root/tmp/my-filename
```

To apply a text-based configuration file:

```
ufmapl (config) # configuration text file my-filename apply
```

When applying a text-based configuration file, the configuration is appended to the host’s existing configuration. Only new or changed configuration is added. Reboot is not required.

2.4.5 Configuration Management Commands

- **File Transfer**
- **File System**
- **Configuration File**

2.4.6 File Transfer

2.4.6.1 ftp-server enable

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>Disabled</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td>ufmapl [ mgmt-sa ] (config) # ftp-server enable</td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ftp-server</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>
2.4.6.2  show ftp-server

<table>
<thead>
<tr>
<th>show ftp-server</th>
<th>Displays FTP server settings.</th>
</tr>
</thead>
</table>

**Syntax Description**
N/A

**Default**
Disabled

**Configuration Mode**
config

**History**
1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # show ftp-server
FTP server enabled: yes
```

**Related Commands**
ftp-server enable

**Notes**

2.4.7  File System

2.4.7.1  File System Commands

2.4.7.1.1  debug generate dump

<table>
<thead>
<tr>
<th>debug generate dump</th>
<th>Generates a debug dump.</th>
</tr>
</thead>
</table>

**Syntax Description**
N/A

**Default**
N/A

**Configuration Mode**
config

**History**
1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # debug generate dump
Generated dump sysdump-ufmapl-112104-201140526-091707.tgz
```

**Related Commands**
file debug-dump

**Notes**
The dump can then be manipulated using the “file debug-dump...” commands

2.4.7.1.2  file debug-dump

|--------------------------|------------------------------------------------------------------|

**Syntax Description**

<table>
<thead>
<tr>
<th>filename</th>
<th>The specified file name</th>
</tr>
</thead>
</table>

| latest | Delete, upload, or e-mail the latest debug dump file to a remote host |
URL | HTTP, HTTPS, FTP, TFTP, SCP and SFTP are supported. Example: `scp://username[:password]@hostname/path/filename`

Default | N/A
Configuration Mode | config
History | 1.5
| 1.8 | Updated delete/email/upload syntax
Example

```
ufmapl [ mgmt-sa ] (config) # file debug-dump email sysdump-
ufmapl-112104-20114052-091707.tgz
```

Related Commands

Notes

### 2.4.7.1.3 file docker-label delete

```
file docker-label delete <filename>
```
Deletes a docker label archive file.

Syntax Description

| filename | The specified file name |

Default | N/A
Configuration Mode | config
History | 4.7.0

Example

```
ufmapl [ mgmt-sa ] (config) # file docker-label delete dockerfile
```

Related Commands | show files docker-label

Notes

### 2.4.7.1.4 file stats

```
file stats [delete <filename> | move {<source filename> | <destination filename>} | upload <filename> <URL>]
```
Manipulates statistics report files.

Syntax Description

| delete | Deletes a stats report file |
| move | Renames a stats report file |
| upload | Uploads a stats report file. HTTP, HTTPS, FTP, TFTP, SCP and SFTP are supported. Example: `scp://username[:password]@hostname/path/filename` |

Default | N/A
Configuration Mode | config
### 2.4.7.1.5 file tcpdump

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>delete</th>
<th>Deletes the specified tcpdump output file</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>upload</td>
<td>Uploads the specified tcpdump output file to the specified URL. HTTP, HTTPS, FTP, TFTP, SCP and SFTP are supported. Example: scp://username[:password]@hostname/path/filename</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th>config</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>History</th>
<th>1.5</th>
</tr>
</thead>
</table>

**Example**

```
ufmapl [ mgmt-sa ] (config) # file tcpdump delete my-tcpdump-file.txt
```

<table>
<thead>
<tr>
<th>Related Commands</th>
<th>show files stats tcpdump</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Notes</th>
</tr>
</thead>
</table>

### 2.4.7.1.6 show files debug-dump

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>show files debug-dump [filename] Displays a list of debug dump files.</th>
</tr>
</thead>
<tbody>
<tr>
<td>filename</td>
<td>Displays a summary of the contents of a particular debug dump file</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th>Any configuration mode</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>History</th>
<th>1.5</th>
</tr>
</thead>
</table>
Example

```
ufmapl [ mgmt-sa ] # show files debug-dump sysdump-r-
ufm237-20210809-211426.tgz
==================================================
System information:
Hostname:      r-ufm237
Version:       ufm_appliance UFMAPL_4.6.0.6_UFM_6.7.0.8 2021-08-08 19:27:47
x86_64
Current time:  2021-08-09 21:14:26
System uptime: 0d 21h 27m 28s
==================================================
==================================================
Output of ‘uname -a’:
Linux r-ufm237 3.10.0-1127.19.1.el7MELLANOXsmp-x86_64 ufm_appliance
UFMAPL_4.6.0.6_UFM_6.7.0.8 #1 2021-08-08 18:45:38  x86_64 x86_64 x86_64
GNU/Linux
==================================================
```

Related Commands
- `file debug-dump`

Notes

2.4.7.1.7 show files docker-label

```
show files docker-label
Displays a list of docker label archive files.
```

Syntax Description N/A
Default N/A
Configuration Mode Any configuration mode
History 4.7.0
Example
```
ufmapl [ mgmt-sa ] (config) # show file docker-label
ribd.config.zip
```

Related Commands
- `file docker-label delete`

Notes

2.4.7.1.8 show files stats

```
show files stats <filename>
Displays a list of statistics report files.
```

Syntax Description
- `filename`
  Display the contents of a particular statistics report file
Default N/A
Configuration Mode Any configuration mode
History 1.5
Example
```
ufmapl [ mgmt-sa ] (config) # show files stats
memory-201140524-111745.csv
```

Related Commands
- `file stats`
2.4.7.1.9 show files system

show files system [detail]
Displays usage information of the file systems on the system.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>detail</th>
<th>Displays more detailed information on file-system</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

**Example**

```
ufmap1 [ mgmt-ha-active ] (config) # show files system
Statistics for /config filesystem:
  Space Total   182 MB
  Space Used    1 MB
  Space Free    181 MB
  Space Available   172 MB
  Space Percent Free   99%
  Inodes Percent Free   99%

Statistics for /var filesystem:
  Space Total   50529 MB
  Space Used    48650 MB
  Space Free    1880 MB
  Space Available   46076 MB
  Space Percent Free   96%
  Inodes Percent Free   99%

Statistics for /opt/ufm/history filesystem:
  Space Total   775980 MB
  Space Used    674 MB
  Space Free    775306 MB
  Space Available   735882 MB
  Space Percent Free   99%
  Inodes Percent Free   99%

Statistics for /opt/ufm/files filesystem:
  Space Total   50267 MB
  Space Used    107 MB
  Space Free    50160 MB
  Space Available   47600 MB
  Space Percent Free   99%
  Inodes Percent Free   99%
```

**Related Commands**

file tcpdump
tcpdump

---

2.4.7.1.10 show files tcpdump

show files tcpdump
Displays a list of statistics report files.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Example**

```
ufmap1 [ mgmt-sa ] (config) # show files stats
test
dump3
```

**Related Commands**

file tcpdump
tcpdump
## 2.4.7.1.11 reload

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>force</th>
<th>Forces an immediate reboot of the system even if the system is busy</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>halt</td>
<td>Shuts down the system</td>
</tr>
<tr>
<td></td>
<td>noconfirm</td>
<td>Reboots the system without asking about unsaved changes</td>
</tr>
</tbody>
</table>

### Default
1000

### Configuration Mode
config

### History
1.5

### Example
```bash
ufm-apl [ mgmt-sa ] (config) # reload
Configuration has been modified; save first? [yes] yes
Configuration changes saved.
```

### Related Commands
reset factory

### Notes

## 2.4.7.1.12 reset factory

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>keep-all-config</th>
<th>Preserves all configuration files including licenses. Removes the logs, stats, images, snapshots, history, known hosts. The user is prompted for confirmation before honoring this command, unless confirmation is disabled with the command: “no cli default prompt confirm-reset”.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>keep-basic</td>
<td>Preserves licenses in the running configuration file.</td>
</tr>
<tr>
<td></td>
<td>only-config</td>
<td>Removes configuration files only. Logs, stats, images, snapshots, history, and known hosts are preserved.</td>
</tr>
<tr>
<td></td>
<td>halt</td>
<td>The system is halted after this process completes</td>
</tr>
</tbody>
</table>

### Default
N/A

### History
4.2.0

### Example
```bash
ufm-apl (config) # reset factory
Warning - confirming will cause system reboot.
Type 'YES' to confirm reset: YES
Resetting and rebooting the system -- please wait...
```

### Related Commands
reload
### 2.4.7.1.13 reset factory keep-docker

<table>
<thead>
<tr>
<th>reset factory keep-docker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resets all host configuration except for docker configuration.</td>
</tr>
</tbody>
</table>

**Syntax Description**
- `reset factory keep-docker`

**Default**
- N/A

**Configuration Mode**
- config

**History**
- 4.2.0

**Example**
```
ufm-apl (config) # reset factory keep-docker
```

**Related Commands**
- reset factory

**Notes**

### 2.4.7.1.14 configuration new factory keep-docker

<table>
<thead>
<tr>
<th>configuration new &lt;filename&gt; factory keep-docker</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creates new file with only factory defaults except docker current configuration.</td>
</tr>
</tbody>
</table>

**Syntax Description**
- `configuration new <filename> factory keep-docker`

**Default**
- N/A

**Configuration Mode**
- config

**History**
- 4.2.0

**Example**
```
ufm-apl (config) # no configuration new my_file factory keep-docker
```

**Related Commands**
- configuration new factory

**Notes**

### 2.4.8 Configuration File

#### 2.4.8.1 configuration audit

<table>
<thead>
<tr>
<th>configuration audit max-changes &lt;number&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chooses settings related to configuration change auditing.</td>
</tr>
</tbody>
</table>

**Syntax Description**
- `configuration audit max-changes <number>`

<table>
<thead>
<tr>
<th>max-changes</th>
<th>Set maximum number of audit messages to log per change</th>
</tr>
</thead>
</table>

64
### Default
1000

### Configuration Mode
config

### History
1.5

### Example
```
ufmapl [ mgmt-sa ] (config) # configuration audit max-changes 100
```

### Related Commands
show configuration

---

### 2.4.8.2 configuration copy

**configuration copy <source-name> <dest-name>**
Copies a configuration file.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>source-name</td>
<td>Name of source file</td>
</tr>
<tr>
<td>dest-name</td>
<td>Name of destination file. If the file of specified filename does not exist a new file will be created with said filename.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Example**
```
ufmapl [ mgmt-sa ] (config) # configuration copy initial.bak example
```

**Related Commands**
show configuration

**Notes**
- This command does not affect the current running configuration
- The active configuration file may not be the target of a copy. However, it may be the source of a copy in which case the original remains active.

---

### 2.4.8.3 configuration delete

**configuration delete <filename>**
Deletes a configuration file.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>filename</td>
<td>Name of file to delete</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Example**
```
ufmapl [ mgmt-sa ] (config) # show configuration files
example  initial  initial.bak  initial.prev
ufmapl [ mgmt-sa ] (config) # configuration delete example
ufmapl [ mgmt-sa ] (config) # show configuration files
initial  initial.bak  initial.prev
```

**Related Commands**
show configuration
### 2.4.8.4 configuration fetch

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>name</th>
<th>Configuration filename</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [ mgmt-sa ] (config) # configuration fetch scp://root:password@192.168.10.125/tmp/conf1
```

**Related Commands**

- configuration switch-to

**Notes**

- The downloaded file should not override the active configuration file, using the `<name>` parameter
- If no name is specified for a configuration fetch, it is given the same name as it had on the server
- No configuration file may have the name “active”

### 2.4.8.5 configuration jump-start

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

configuration jump-start

Runs the initial-configuration wizard.
Example

```
ufmapl [ mgmt-sa ] (config) # configuration jump-start
Mellanox UFM appliance configuration wizard
Step 1: Hostname? [ufm-appliance-8990b8]
Step 2: Use DHCP on eth0 interface? [yes]
Step 3: Enable IPv6? [yes]
Step 4: Enable IPv6 autoconfig (SLAAC) on eth0 interface? [no]
Step 5: Enable DHCPv6 on eth0 interface? [yes]
Step 6: Admin password (Enter to leave unchanged)?
Step 7: bond0 IPv4 address and masklen? [192.168.1.234/24]

You have entered the following information:
1. Hostname: ufm-appliance-8990b8
2. Use DHCP on eth0 interface: yes
3. Enable IPv6: yes
4. Enable IPv6 autoconfig (SLAAC) on eth0 interface: yes
5. Enable DHCPv6 on eth0 interface: yes
6. Admin password (Enter to leave unchanged): (unchanged)
7. bond0 IP address and masklen: 192.168.1.234/24

To change an answer, enter the step number to return to.
Otherwise hit <enter> to save changes and exit.
Choice:
Configuration changes saved.
UFM is configured as an external SM.
```

Related Commands

- The wizard is automatically invoked whenever the CLI is launched when the active configuration file is fresh (i.e. not modified from its initial contents)
- This command invokes the wizard on demand

2.4.8.6 configuration merge

```
configuration merge <filename>
Merges the “shared configuration” from one configuration file into the running configuration.
```

Syntax Description

- **filename**: Name of file from which to merge settings
- Default: N/A

Configuration Mode

- **config**: config

History

- 1.5

Example

```
ufmapl [ mgmt-sa ] (config) # configuration merge new-config-file
```

Related Commands

Notes

- No configuration files are modified during this process
- The configuration name must be a non-active configuration file

2.4.8.7 configuration move

```
configuration move <source-name> <dest-name>
Moves a configuration file.
```

Syntax Description

- **source-name**: Old name of file to move
- **dest-name**: New name for moved file
- Default: N/A
### 2.4.8.8 configuration new

configuration new <filename> [factory [keep-basic] [keep-connect]]

Creates a new configuration file under the specified name. The parameters specify what configuration, if any, to carry forward from the current running configuration.

**Syntax Description**
- **filename**: Names for new configuration file
- **factory**: Creates new file with only factory defaults
- **keep-basic**: Keeps licenses and host keys
- **keep-connect**: Keeps configuration necessary for connectivity (interfaces, routes, and ARP)

**Default**
- Keeps licenses and host keys

**Configuration Mode**
- config

**History**
- 1.5

**Example**
```
ufmapl [ mgmt-sa ] (config) # show configuration files
example1      initial       initial.bak   initial.prev
ufmapl [ mgmt-sa ] (config) # configuration move example1 example2
ufmapl [ mgmt-sa ] (config) # show configuration files
example2      initial       initial.bak   initial.prev
```

**Related Commands**
- show configuration

**Notes**
- This command does not affect the current running configuration
- The active configuration file may not be the target of a move

### 2.4.8.9 configuration switch-to

configuration switch-to <filename> [no-reboot]

Loads the configuration from the specified file and makes it the active configuration file.

**Syntax Description**
- **no-reboot**: Forces configuration change without rebooting the host

**Default**
- N/A

**Configuration Mode**
- config

**History**
- 4.2.0

```
### Example

```
ufmapl [ mgmt-sa ] (config) # show configuration files
initial (active)
newcon
initial.prev
initial.bak
ufmapl [ mgmt-sa ] (config) # configuration switch-to newcon
ufmapl [ mgmt-sa ] (config) # show configuration files
initial
newcon (active)
initial.prev
initial.bak
```

### Related Commands

- `show configuration files`

### Notes

- The current running configuration is lost and not automatically saved to the previous active configuration file.
- When running the command without the “no-reboot” parameter, the user is prompted to OK a reboot. If the answer is “yes”, the configuration is replaced and the host is rebooted immediately.

### 2.4.8.10 configuration text fetch

configuration text fetch <download-URL> [apply] [discard] [fail-continue] [filename <file>] [verbose]
Downloads a text-based configuration file from a remote host.

**Syntax Description**

- **download-URL**
  
  Supported types are HTTP, HTTPPS, FTP, TFTP, SCP and SFTP
  
  Example: `scp://username[:password]@hostname/path/ filename`

- **apply**
  
  Applies the configuration on the system

- **discard**
  
  Deletes the configuration text after applying it

- **fail-continue**
  
  Continues execution of the commands even if some commands fail

- **filename**
  
  Specifies filename for saving downloaded text file

- **verbose**
  
  Displays all commands being executed and their output, instead of just those that get errors

**Default**

N/A

**Configuration Mode**

config

**History**

1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # configuration text fetch example@host.com
```

**Related Commands**

- `show configuration files`

**Notes**
### 2.4.8.11 configuration text file

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>filename</td>
<td>Specifies the filename</td>
</tr>
<tr>
<td>apply</td>
<td>Applies the configuration on the system</td>
</tr>
<tr>
<td>fail-continue</td>
<td>Continues execution of the commands even if some commands fail</td>
</tr>
<tr>
<td>verbose</td>
<td>Displays all commands being executed and their output, instead of just those that get errors</td>
</tr>
<tr>
<td>delete</td>
<td>Deletes the file</td>
</tr>
<tr>
<td>rename</td>
<td>Renames the file</td>
</tr>
<tr>
<td>upload</td>
<td>Supported types are HTTP, HTTPS, FTP, TFTP, SCP and SFTP</td>
</tr>
</tbody>
</table>

**Example:**

```
ufmapl [ mgmt-sa ] (config) # configuration text file my-config-file
```

**Related Commands**

- show configuration files

**Notes**

**2.4.8.12 configuration text generate**

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>active</td>
<td>Generates from currently active configuration</td>
</tr>
<tr>
<td>running</td>
<td>Uses running configuration</td>
</tr>
<tr>
<td>saved</td>
<td>Uses saved configuration</td>
</tr>
<tr>
<td>file</td>
<td>Generates from inactive saved configuration</td>
</tr>
<tr>
<td>save</td>
<td>Saves new file to local persistent storage</td>
</tr>
<tr>
<td>upload</td>
<td>Supported types are HTTP, HTTPS, FTP, TFTP, SCP and SFTP</td>
</tr>
</tbody>
</table>

**Example:**

```
scp://username[:password]@hostname/path/filename
```
### Configuration Mode

| Configuration Mode | config |

### History

| History | 1.5 |

### Example

```plaintext
ufmapl ( config ) # configuration text generate file
initial.prev save example
ufmapl ( config ) # show configuration files
initial (active)
initial.prev
initial.bak
Active configuration: initial
Unsaved changes: yes
```

### Related Commands

- `show configuration files`

### Notes

- Configuration filename cannot be "active"

---

### 2.4.8.13 configuration upload

`configuration upload [active | <name>] <URL>`

Uploads a configuration file to a remote host.

#### Syntax Description

- **active**: Upload the active configuration file
- **URL**: Supported types are HTTP, HTTPS, FTP, TFTP, SCP and SFTP
  - Example: `scp://username[:password]@hostname/path/filename`

#### Default

N/A

#### Configuration Mode

config

#### History

1.5

#### Example

```plaintext
ufmapl ( config ) # configuration upload active scp://root:password@192.168.10.125/tmp/conf1
```

#### Related Commands

- `show configuration files`

#### Notes

- Configuration filename cannot be "active"

---

### 2.4.8.14 configuration write

`configuration write [local | to <filename> [no-switch]]`

Saves the running configuration to the active configuration file.

#### Syntax Description

- **local**: Saves the running configuration locally (same as "write memory local").
- **to <filename>**: Saves the running configuration to a new file under a different name and makes it the active file.
- **no-switch**: Saves the running configuration to this file but keep the current one active.

#### Default

N/A

#### Configuration Mode

config

#### History

4.2.0
<table>
<thead>
<tr>
<th>Example</th>
<th><code>ufmapl (config) # configuration write</code></th>
</tr>
</thead>
<tbody>
<tr>
<td>Related Commands</td>
<td><code>write</code></td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

### 2.4.8.15 write

write [memory [local] | terminal]

Saves or displays the running configuration.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>memory</td>
<td>Saves running configuration to the active configuration file. It is the same as &quot;configuration write&quot;.</td>
</tr>
<tr>
<td>local</td>
<td>Saves the running configuration only on the local node. It is the same as &quot;configuration write local&quot;.</td>
</tr>
<tr>
<td>terminal</td>
<td>Displays commands to recreate current running configuration. It is the same as &quot;show running-config&quot;.</td>
</tr>
</tbody>
</table>

**Default**: N/A

**Configuration Mode**: `config`

**History**: 1.5

<table>
<thead>
<tr>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>ufmapl (mgmt-sa ) (config) # write terminal</code></td>
</tr>
<tr>
<td><code>## Running database &quot;initial&quot;</code></td>
</tr>
<tr>
<td><code>## Generated at 20114/05/27 10:05:16 +0000</code></td>
</tr>
<tr>
<td><code>## Hostname: ufmapl</code></td>
</tr>
<tr>
<td><code>##</code></td>
</tr>
<tr>
<td><code>## Network interface configuration</code></td>
</tr>
<tr>
<td><code>## interface eth0 comment &quot;&quot;</code></td>
</tr>
<tr>
<td><code>interface eth0 create</code></td>
</tr>
<tr>
<td><code>interface eth0 display</code></td>
</tr>
<tr>
<td><code>interface eth0 duplex auto</code></td>
</tr>
<tr>
<td><code>interface eth0 mtu 1500</code></td>
</tr>
<tr>
<td><code>no interface eth0 shutdown</code></td>
</tr>
<tr>
<td><code>interface eth0 speed auto</code></td>
</tr>
<tr>
<td><code>no interface eth0 zeroconf</code></td>
</tr>
<tr>
<td><code>##</code></td>
</tr>
<tr>
<td><code>## Local user account configuration</code></td>
</tr>
<tr>
<td><code>## username a** capability admin</code></td>
</tr>
<tr>
<td><code>no username a** disable</code></td>
</tr>
<tr>
<td><code>username a** disable password</code></td>
</tr>
<tr>
<td><code>.....</code></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Related Commands</th>
<th><code>show running-config</code></th>
</tr>
</thead>
<tbody>
<tr>
<td><code>configuration write</code></td>
<td></td>
</tr>
</tbody>
</table>

| Notes | |

### 2.4.8.16 show configuration

`show configuration [audit | | files [<filename>] | full | running [full] | text files]` Displays a list of CLI commands that will bring the state of a fresh system up to match the current persistent state of this system.
<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>audit files</th>
<th>Displays settings for configuration change auditing Displays a list of configuration files in persistent storage if no filename is specified. If a filename is specified, it displays the commands to recreate the configuration in that file. In the latter case, only non-default commands are shown, as for the normal “show configuration” command.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td>does not exclude commands that set default values</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>
| Example           |             | ```
ufmap1 [ mgmt-sa ] (config) # show configuration
##
## Active saved database 'newcon'
## Generated at 20114/05/25 10:18:52 +0000
## Hostname: ufmap1-lcc29c
##
## Network interface configuration
##
interface eth0 comment ""
interface eth0 create
interface eth0 dhcp
interface eth0 display
interface eth0 duplex auto
interface eth0 mtu 1500
no interface eth0 shutdown
interface eth0 speed auto
no interface eth0 zeroconf
``` |
| Related Commands  | configuration audit configuration delete configuration move configuration new |
| Notes             |                                                                                     |

### 2.4.8.17 show running-config

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>full</th>
<th>Displays commands to recreate current running configuration.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td>Does not exclude commands that set default values</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>
Example

ufmapl [ mgmt-sa ] (config) # show running-config
## Running database "initial"
## Generated at 2012/02/28 14:59:02 +0000
## Hostname: ufmapl-5ea5d8
##
## License keys
license install LK2-EPM_SX-5K11-5K1L-5KGL-0XAL-64QK-6Q2Q-6Q1G-6Q3-60Q3-60Q3-88A1-50DF-2KGK-8
license install LK2-RESTRICTED_CMDS-88A0-RFD7-Y4CP-Y
##
## Network interface configuration
interface eth0 create
interface eth0 comment ""
interface eth0 dhcp
interface eth0 display
interface eth0 duplex auto
interface eth0 mtu 1500
no interface eth0 shutdown ...

Related Commands
show configuration running

Notes
Same as "show configuration running" except that it applies to the currently running configuration rather than the current persisted configuration.

2.5 Local and Remote Logging

2.5.1 logging local

`logging local <log-level>`
no logging local
Sets the minimum severity of log messages to be saved in log files on local persistent storage.
The no form disables the ability to log messages locally and remotely.

Syntax Description

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>log-level</code></td>
<td>alert - alert notification, action must be taken immediately</td>
</tr>
<tr>
<td></td>
<td>crit - critical condition</td>
</tr>
<tr>
<td></td>
<td>debug - debug level messages</td>
</tr>
<tr>
<td></td>
<td>emerg - system is unusable (emergency)</td>
</tr>
<tr>
<td></td>
<td>err - error condition</td>
</tr>
<tr>
<td></td>
<td>info - informational condition</td>
</tr>
<tr>
<td></td>
<td>none - disables the logging locally and remotely</td>
</tr>
<tr>
<td></td>
<td>notice - normal, but significant condition</td>
</tr>
<tr>
<td></td>
<td>warning - warning condition</td>
</tr>
</tbody>
</table>

Default
info

Configuration Mode
config

History
1.5

Example

ufmapl [ mgmt-sa ] (config) # logging local info

Related Commands
show logging
logging local override
Notes

- The commands "logging local none" and "no logging local" have the same effect.
- Disabling the logging messages will disable all logging:
  - Local logging
  - Logging messages sent from hosts to be logged in the system
  - Remote logging (syslog)

2.5.2 logging local override

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
</table>
| logging local override [class <class> priority <log-level>]
no logging local override [class <class> priority <log-level>]| Enables class-specific overrides to the local log level. The no form of the command disables all class-specific overrides to the local log level without deleting them from the configuration, but disables them so that the logging level for all classes is determined solely by the global setting. |
| Syntax Description | Class Override enables class-specific overrides to the local log level |
| Syntax Description | Sets or removes a per-class override on the logging level. All classes which do not have an override set will use the global logging level set with "logging local <log level>". Classes that do have an override will do as the override specifies. If "none" is specified for the log level, MLNX-OS will not log anything from this class. Classes available: |
| Syntax Description | iss-modules - protocol stack |
| Syntax Description | mgmt-back - system management back-end |
| Syntax Description | mgmt-core - system management core |
| Syntax Description | mgmt-front - system management front-end |
| Syntax Description | mix-daemons - management daemons |
| Syntax Description | sx-sdk - switch SDK |
| Syntax Description | Log-level Override disabled |
| Default Override disabled | Override disabled |
| Configuration Mode config | config |
| History 1.5 | 1.5 |
| Example ufmapi [ mgmt-sa ] (config) # logging local override class mgmt-front priority warning | ufmapi [ mgmt-sa ] (config) # logging local override class mgmt-front priority warning |
| Related Commands show logging | show logging |
| Related Commands logging local | logging local |
2.5.3 logging <syslog-ip-address>

logging <syslog-ip-address> [trap [<log-level> | override class <class> priority <log-level>]]
no logging <syslog-ip-address> [trap [<log-level> | override class <class> priority <log-level>]]

Enables (by setting the IP address) sending logging messages, with ability to filter the logging
messages according to their classes.
The no form of the command stops sending messages to the remote syslog server.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>syslog-ip-address</th>
<th>IPv4 address of the remote syslog server</th>
</tr>
</thead>
</table>
| class              | Sets or removes a per-class override on the logging level. All classes which do not have an override set will use the global logging level set with "logging local <log level>". Classes that do have an override will do as the override specifies. If "none" is specified for the log level, MLNX-OS will not log anything from this class. Classes available:
• iss-modules - protocol stack
• mgmt-back - system management back-end
• mgmt-core - system management core
• mgmt-front - system management front-end
• mlx-daemons - management daemons
• sx-sdk - switch SDK |
| log-level          | alert - alert notification, action must be taken immediately
• crit - critical condition
• debug - debug level messages
• emerg - system is unusable (emergency)
• err - error condition
• info - informational condition
• none - disables the logging locally and remotely
• notice - normal, but significant condition
• warning - warning condition |

Default: Remote logging is disabled

Configuration Mode: config

History: 1.5

Example:

ufmapl [ mgmt-sa ] (config) # logging local info

Related Commands:
show logging
logging local override

Notes:
2.5.4 logging receive

<table>
<thead>
<tr>
<th>logging receive</th>
</tr>
</thead>
<tbody>
<tr>
<td>no logging receive</td>
</tr>
<tr>
<td>Enables receiving logging messages from a remote host.</td>
</tr>
<tr>
<td>The no form of the command disables the option of receiving logging messages from a remote host.</td>
</tr>
</tbody>
</table>

Syntax | N/A |
Default | Disabled |
Configuration Mode | config |
History | 1.5 |
Example | ufname [ mgmt-sa ] (config) # logging receive |
Related Commands | show logging |
logging local override |
Notes |
• This does not log to the console TTY port |
• Inband management should be enabled in order to open a channel from the host to the CPU |
• If enabled, only log messages matching or exceeding the minimum severity specified with the "logging local" command will be logged, regardless of what is sent from the remote host |

2.5.5 logging format

| logging format [standard | welf [fw-name <hostname>]] |
|-----------------------------|
| no logging format [standard | welf [fw-name <hostname>]] |
| Sets the format of the logging messages. |
| The no form of the command resets the format to its default. |

Syntax Description | standard | Standard format |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>welf</td>
<td>WebTrends Enhanced Log file (WELF) format</td>
<td></td>
</tr>
<tr>
<td>fw-name</td>
<td>Specifies the firewall hostname that should be associated with each message logged in WELF format. If no firewall name is set, the hostname is used by default</td>
<td></td>
</tr>
</tbody>
</table>

Default | Standard |
Configuration Mode | config |
History | 1.5 |
Example | ufname [ mgmt-sa ] (config) # logging format standard |
Related Commands | show logging |
2.5.6 logging fields

logging fields seconds [enable | fractional-digits <f-digit> | whole-digits <w-digit>]
no logging fields seconds [enable | fractional-digits <f-digit> | whole-digits <w-digit>]

Specifies whether to include an additional field in each log message that shows the number of seconds since the Epoch or not. The no form of the command disallows including an additional field in each log message that shows the number of seconds since the Epoch.

Syntax Description

<table>
<thead>
<tr>
<th>enable</th>
<th>Specifies whether to include an additional field in each log message that shows the number of seconds since the Epoch or not</th>
</tr>
</thead>
<tbody>
<tr>
<td>fractional-digits</td>
<td>The fractional-digits parameter controls the number of digits to the right of the decimal point. Truncation is done from the right. Possible values: 1, 2, 3, or 6.</td>
</tr>
<tr>
<td>whole-digits</td>
<td>The whole-digits parameter controls the number of digits to the left of the decimal point. Truncation is done from the left. Except for the year, all of these digits are redundant with syslog's own date and time. Possible values: 1, 6, or all.</td>
</tr>
</tbody>
</table>

Default Disabled

Configuration Mode config

History 1.5

Example

```
ufmapl [ mgmt-sa ] (config) # logging fields seconds enable
ufmapl [ mgmt-sa ] (config) # logging fields seconds whole-digits 1
```

Related Commands show logging

Notes

This is independent of the standard syslog date and time at the beginning of each message in the format of "July 15 18:00:00". Aside from indicating the year at full precision, its main purpose is to provide subsecond precision.

2.5.7 logging level

logging level [cli commands <log-level> | audit mgmt <log-level>]

Sets the severity level at which CLI commands or the management audit message that the user executes are logged. This includes auditing of both configuration changes and actions.

Syntax Description

<table>
<thead>
<tr>
<th>cli commands</th>
<th>Sets the severity level at which CLI commands which the user executes are logged</th>
</tr>
</thead>
<tbody>
<tr>
<td>audit mgmt</td>
<td>Sets the severity level at which all network management audit messages are logged</td>
</tr>
</tbody>
</table>
### log-level

<table>
<thead>
<tr>
<th>log-level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>alert</td>
<td>alert notification, action must be taken immediately</td>
</tr>
<tr>
<td>crit</td>
<td>critical condition</td>
</tr>
<tr>
<td>debug</td>
<td>debug level messages</td>
</tr>
<tr>
<td>emerg</td>
<td>system is unusable (emergency)</td>
</tr>
<tr>
<td>err</td>
<td>error condition</td>
</tr>
<tr>
<td>info</td>
<td>informational condition</td>
</tr>
<tr>
<td>none</td>
<td>disables the logging locally and remotely</td>
</tr>
<tr>
<td>notice</td>
<td>normal, but significant condition</td>
</tr>
<tr>
<td>warning</td>
<td>warning condition</td>
</tr>
</tbody>
</table>

**Default**

CLI commands and audit message are set to notice logging level

**Configuration Mode**

`config`

**History**

1.5

**Example**

```bash
ufmapl [ mgmt-sa ] (config) # logging level cli commands info
```

**Related Commands**

`show logging`

**Notes**


### 2.5.8 logging files delete

**Syntax**

`logging files delete [current | oldest [<number-of-files>]]`

Deletes the current or oldest log files.

**Syntax Description**

- `current`: Deletes current log file
- `oldest`: Deletes oldest log file
- `number-of-files`: Sets the number of files to be deleted

**Default**

N/A

**Configuration Mode**

`config`

**History**

1.5

**Example**

```bash
ufmapl [ mgmt-sa ] (config) # logging files delete current
```

**Related Commands**

`show logging`

`show log files`

**Notes**


### 2.5.9 logging files rotation

**Syntax**

`logging files rotation [criteria [ frequency <freq> | size <size-mb> | size-pct <size-percentage> ] | force | max-number <number-of-files> ]`

Sets the rotation criteria of the logging files.
<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>current</th>
<th>The current log file. The current log file will have the filename &quot;messages&quot; if you do not specify a new name for it in the upload URL.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>file-number</td>
<td>An archived log file. The archived log file will have the name “messages&lt;n&gt;.gz” (while “n” is the file number) if you do not specify a new name for it in the upload URL. The file will be compressed with gzip.</td>
</tr>
<tr>
<td></td>
<td>url</td>
<td>Uploads URL path. FTP, TFTP, SCP, and SFTP are supported. Example: scp://username[:password]@hostname/path/filename.</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
</tbody>
</table>

2.5.10 logging files upload
### 2.5.11 show logging

**show logging**
Displays the logging configurations.

**Syntax Description**
N/A

**Default**
N/A

**Configuration Mode**
Any configuration mode

**History**
1.5

**Example**
```
ufmapl [ mgmt-sa ] (config) # show logging
Local logging level: info
Override for class mgmt-front: warning
Default remote logging level: notice
No remote syslog servers configured.
Allow receiving of messages from remote hosts: no
Number of archived log files to keep: 10
Log rotation size threshold: 5.000% of partition (43 megabytes)
Log format: standard
Subsecond timestamp field: enabled
Subsecond timestamp precision: 1 whole digit; 3 fractional digits
Levels at which messages are logged:
    CLI commands: info
    Audit messages: notice
```

**Related Commands**
- logging fields
- logging files rotation
- logging level
- logging local
- logging receive
- logging <syslog IP address>

**Notes**

### 2.5.12 show log

**show log [continues | files [<file-number>] ] [ [not] matching <reg-exp>]**
Displays the log file with optional filter criteria.

**Syntax Description**
- `continues`: Displays the last few lines of the current log file and then continues to display new lines as they come in until the user hits Ctrl-C, similar to LINUX "tail" utility
- `files`: Displays the list of log files
- `file-number`: Displays an archived log file, where the number may range from 1 up to the number of archived log files available
The file is piped through a LINUX "grep" utility to only include lines either matching, or not matching, the provided regular expression.

Default
N/A

Configuration Mode
Any configuration mode

Example

```
ufmapl [ mgmt-sa ] (config) # show log matching INFO
Feb 1 10:57:04 switch clusterd[2659]: [4.193] [clusterd.INFO]: master browse reply: add service mxyzzy--0002c9ea5d8 _tms_cluster._tcp. local.
Feb 1 10:57:04 switch clusterd[2659]: [4.199] [clusterd.INFO]: master resolve reply via browse: name mxyzzy--0002c9ea5d8 type _tms_cluster._tcp. domain local. addr 172.30.2.2 port 60102 ifindex 1
Feb 1 10:57:07 switch SX[2785]: TID 1208106288: [7.746] [hwd.INFO]: hwd_kernel_interrupt_sim: Entry
Feb 1 10:57:07 switch SX[2785]: TID 1208106288: [7.747] [hwd.INFO]: hwd_kernel_interrupt_sim: err=0
Feb 1 10:57:07 switch mgmtd[2599]: [7.748] [mgmtd.INFO]: Handling EVENT request (session 26)
Feb 1 10:57:07 switch mgmtd[2599]: [7.749] [mgmtd.INFO]: EVENT: /system/chassis/events/hw-isr-event
Feb 1 10:57:07 switch mgmtd[2599]: [7.750] [mgmtd.INFO]: EVENT: [0] mask = 0 (uint32)
Feb 1 10:57:07 switch health[2900]: TID 1208104656: [7.751] [health.INFO]: Received ISR event with mask 0
Feb 1 10:57:07 switch mgmtd[2599]: [7.754] [mgmtd.INFO]: Sending externally: type event session 36 id 1732128
Feb 1 10:57:07 switch mgmtd[2599]: [7.755] [mgmtd.INFO]: Event sent by user 1:2785-0-0 has been handled
```

Related Commands
- logging fields
- logging files rotation
- logging level
- logging local
- logging receive
- logging <syslog IP address>

Notes

2.6 User Management and AAA

- **User Accounts**
- **AAA Methods**
  - RADIUS
  - TACACS+
  - LDAP

2.6.1 User Accounts

2.6.1.1 username

```
username <username> [capability <cap> | disable [login | password] | full-name <name> | nopassword | password [0 | 7] <password>]
no username <username> [capability | disable [login | password] | full-name]
```

Creates a user and sets its capabilities, password and name.
The no form of the command deletes the user configuration.
### Syntax Description

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>username</th>
<th>Specifies a username and creates a user account. New users are created initially with admin privileges but is disabled.</th>
</tr>
</thead>
<tbody>
<tr>
<td>capability</td>
<td>User capabilities:</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• admin - full administrative capabilities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• monitor - read only capabilities and actions, can not change the running configuration</td>
<td></td>
</tr>
<tr>
<td>disable [login</td>
<td>User capabilities:</td>
<td></td>
</tr>
<tr>
<td>password]</td>
<td>• Disable - disable this account</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Disable login - disable all logins to this account</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Disable password - disable login to this account using a local password</td>
<td></td>
</tr>
<tr>
<td>full-name</td>
<td>Full name of the user</td>
<td></td>
</tr>
<tr>
<td>nopassword</td>
<td>The next login of the user will not require password</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>Specifies a login password in cleartext</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Specifies a login password in encrypted text</td>
<td></td>
</tr>
<tr>
<td>password</td>
<td>Specifies a password for the user in string form. If [0</td>
<td>7] was not specified then the password is in cleartext.</td>
</tr>
</tbody>
</table>

### Default

The following usernames are available by default:
- admin
- monitor
- xmladmin
- xmluser

### Configuration Mode

config

### History

1.5

### Example

```
ufmapl [ mgmt-sa ] (config) # username monitor full-name smith
```

### Related Commands

- show usernames
- show users

### Notes

- To enable a user account, set a password on it (or use the "nopassword" command to enable it with no password required for login)
- Removing a user account does not terminate any current sessions that user has open; it just prevents new sessions from being established
- Encrypted password is useful for the "show configuration" command, since the cleartext password cannot be recovered after it is set

### 2.6.1.2 show usernames

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>show usernames</th>
<th>Displays list of users and their capabilities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>
Example

```
ufmapl [ mgmt-sa ] (config) # show usernames
USERNAME FULL NAME CAPABILITY ACCOUNT STATUS
USERID System Administrator admin Password set
admin System Administrator admin Password set
monitor smith monitor Password set
xmladmin XML Admin User admin No password required
monitor No password required
```

Related Commands
- username
- show users

Notes

### 2.6.1.3 show users

#### Syntax Description
- `history`
  - Displays logged in users and related information such as idle time and what host they have connected from.

#### Default
- N/A

#### Configuration Mode
- Any configuration mode

#### History
- 1.5

#### Example

```
ufmapl [ mgmt-sa ] (config) # show users
USERNAME FULL NAME LINE HOST IDLE
admin System Administrator pts/0 172.22.237.174 0d0h34m4s
admin System Administrator pts/1 172.30.0.127 1d3h30m49s
admin System Administrator pts/3 172.22.237.34 0d0h0m0s
ufmapl [ mgmt-sa ] (config) # show users history
admin pts/3 172.22.237.34 Wed Feb 1 11:56 still logged in
admin pts/3 172.22.237.34 Wed Feb 1 11:42 - 11:46 (00:04)
```

Related Commands
- username
- show usernames

Notes

### 2.6.1.4 show whoami

#### Syntax Description
- Displays username and capabilities of user currently logged in.

#### Default
- N/A

#### Configuration Mode
- Any configuration mode

#### History
- 1.5

#### Example

```
ufmapl [ mgmt-sa ] (config) # show whoami
Current user: admin
Capabilities: admin
```

Related Commands
- username
2.6.2 AAA Methods

2.6.2.1 aaa accounting

```
aaa accounting changes default [<time-frame> | stop-only] tacacs+
no aaa accounting changes default [<time-frame> | stop-only] tacacs+
```

Enables logging of system changes to a AAA accounting server. The no form of the command disables the accounting.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Stop-only</th>
<th>Sends a stop accounting notice at the end of requested user process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

**Example**
```
ufmapl [ mgmt-sa ] (config) # aaa accounting changes default stop-only tacacs+
```

**Related Commands**
- show aaa

**Notes**
- TACACS+ is presently the only accounting service method supported
- Change accounting covers both configuration changes and system actions that are visible under audit logging, however this feature operates independently of audit logging, so it is unaffected by the "logging level audit mgmt" or "configuration audit" commands
- Configured TACACS+ servers are contacted in the order in which they appear in the configuration until one accepts the accounting data, or the server list is exhausted
- Despite the name of the "stop-only" keyword, which indicates that this feature logs a TACACS+ accounting "stop" message, and in contrast to configuration change accounting, which happens after configuration database changes, system actions are logged when the action is started, not when the action has completed

2.6.2.2 aaa authentication login default

```
aaa authentication login default <auth method> [<auth method>] [<auth method>] [<auth method>]
no aaa authentication login
```

Sets a sequence of authentication methods. Up to four methods can be configured. The no form of the command resets the configuration to its default.
<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>auth-method</th>
<th>Possible values:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>• local</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• radius</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• tacacs+</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ldap</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th>config</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>History</th>
<th>1.5</th>
</tr>
</thead>
</table>

**Example**

```plaintext
ufmapl [ mgmt-ea ] (config) # aaa authentication login default local radius tacacs+ ldap
```

**Related Commands**

show aaa

**Notes**

The order in which the methods are specified is the order in which the authentication is attempted. It is required that “local” is one of the methods selected. It is recommended that “local” be listed first to avoid potential problems logging in to local accounts in the face of network or remote server issues.

### 2.6.2.3 aaa authorization map

```plaintext
aaa authorization map [default-user <username> | order <policy>]
no aaa authorization map [default-user | order]
```

Sets the mapping permissions of a user in case a remote authentication is done. The no form of the command resets the attributes to default.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>user name</th>
<th>Sets what local account the authenticated user will be logged on as when a user is authenticated (via RADIUS or TACACS+) and does not have a local account. If the username is local, this mapping is ignored.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>policy</td>
<td>Sets the user mapping behavior when authenticating users via RADIUS or TACACS+ to one of three choices. The order determines how the remote user mapping behaves. If the authenticated username is valid locally, no mapping is performed. The setting has the following three possible behaviors:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• remote-first · If a local-user mapping attribute is returned and it is a valid local username, it maps the authenticated user to the local user specified in the attribute. Otherwise, it uses the user specified by the default-user command.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• remote-only · Maps a remote authenticated user if the authentication server sends a local-user mapping attribute. If the attribute does not specify a valid local user, no further mapping is tried.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• local-only · Maps all remote users to the user specified by the &quot;aaa authorization map default-user &lt;username&gt;&quot; command. Any vendor attributes received by an authentication server are ignored.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>Default user: admin</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Map order: remote-first</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th>config</th>
</tr>
</thead>
</table>

| History | 1.5 |
### 2.6.2.4 show aaa

<table>
<thead>
<tr>
<th>show aaa</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displays the AAA configuration.</td>
</tr>
</tbody>
</table>

| Syntax Description | N/A |
| Default | N/A |
| Configuration Mode | Any configuration mode |
| History | 1.5 |

<table>
<thead>
<tr>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufmapi [ mgmt-sa ] (config) # show aaa</td>
</tr>
<tr>
<td>AAA authorization:</td>
</tr>
<tr>
<td>Default User: admin</td>
</tr>
<tr>
<td>Map Order: remote-first</td>
</tr>
<tr>
<td>Authentication method(s):</td>
</tr>
<tr>
<td>local</td>
</tr>
<tr>
<td>Accounting method(s):</td>
</tr>
<tr>
<td>tacacs+</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Related Commands</th>
</tr>
</thead>
<tbody>
<tr>
<td>aaa accounting</td>
</tr>
<tr>
<td>aaa authentication</td>
</tr>
<tr>
<td>aaa authorization</td>
</tr>
<tr>
<td>show aaa</td>
</tr>
<tr>
<td>show usernames</td>
</tr>
<tr>
<td>username</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Notes</th>
</tr>
</thead>
</table>

### 2.6.3 RADIUS

#### 2.6.3.1 radius-server

| radius-server [key <secret> | retransmit <retries> | timeout <seconds>] |
|--------------------------|
| no radius-server [key | retransmit | timeout] |
| Sets global RADIUS server attributes. |
| The no form of the command resets the attributes to their default values. |

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>key</th>
<th>Sets a secret key (shared hidden text string), known to the system and to the RADIUS server</th>
</tr>
</thead>
<tbody>
<tr>
<td>retransmit</td>
<td>Number of retries (0-5) before exhausting from the authentication</td>
<td></td>
</tr>
<tr>
<td>timeout</td>
<td>Timeout in seconds between each retry (1-60)</td>
<td></td>
</tr>
</tbody>
</table>
2.6.3.2 radius-server host

```
radius-server host <ip-address> [enable | auth-port <port> | key <secret> | retransmit <retries> | timeout <seconds>]
no radius-server host <ip-address> [enable | auth-port ]
```

Configures RADIUS server attributes. The no form of the command resets the attributes to their default values and deletes the RADIUS server.

**Syntax Description**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ip-address</td>
<td>RADIUS server IP address</td>
</tr>
<tr>
<td>enable</td>
<td>Administrative enable of the RADIUS server</td>
</tr>
<tr>
<td>auth-port</td>
<td>RADIUS server UDP port number</td>
</tr>
<tr>
<td>key</td>
<td>Sets a secret key (shared hidden text string) known to the system and to the RADIUS server</td>
</tr>
<tr>
<td>retransmit</td>
<td>Number of retries (0-5) before exhausting from the authentication</td>
</tr>
<tr>
<td>timeout</td>
<td>Timeout in seconds between each retry (1-60)</td>
</tr>
</tbody>
</table>

**Default**

3 seconds, 1 retry
Default UDP port is 1812

**Related Commands**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>aaa authorization</td>
<td></td>
</tr>
<tr>
<td>radius-server</td>
<td></td>
</tr>
<tr>
<td>show radius</td>
<td></td>
</tr>
</tbody>
</table>

**Notes**

- RADIUS servers are tried in the order they are configured
- If you do not specify a parameter for this configured RADIUS server, the configuration will be taken from the global RADIUS server configuration. Refer to "radius-server" command.
### 2.6.3.3 show radius

**Syntax**
```
show radius
```

**Description**
Displays RADIUS configurations.

**Default**
N/A

**Configuration Mode**
Any configuration mode

**History**
1.5

**Example**
```
ufmapl [ mgmt-sa ] (config) # show radius
RADIUS defaults:
   Key:             3333
   Timeout:         3
   Retransmit:      1

RADIUS servers:
   40.40.40.40:1812
     Enabled:         yes
     Key:             3333 (default)
     Timeout:         3 (default)
     Retransmit:      1 (default)
```

**Related Commands**
- `aaa authorization`
- `radius-server`
- `radius-server host`

**Notes**

### 2.6.4 TACACS+

#### 2.6.4.1 tacacs-server

**Syntax**
```
tacacs-server [key <secret> | retransmit <retries> | timeout <seconds>]
no tacacs-server [key | retransmit | timeout]
```

**Description**
Sets global TACACS+ server attributes. The no form of the command resets the attributes to default values.

**Syntax Description**
- `key`
  - Set a secret key (shared hidden text string) known to the system and to the TACACS+ server
- `retransmit`
  - Number of retries (0-5) before exhausting from the authentication
- `timeout`
  - Timeout in seconds between each retry (1-60)

**Default**
- 3 seconds, 1 retry

**Configuration Mode**
`config`

**History**
1.5

**Example**
```
ufmapl [ mgmt-sa ] (config) # tacacs-server retransmit 3
```

**Related Commands**
- `aaa authorization`
- `show radius`
- `show tacacs`
- `tacacs-server host`
Notes

Each TACACS+ server can override those global parameters using the command "tacacs-server host".

2.6.4.2 tacacs-server host

tacacs-server host <ip-address> {enable | auth-port <port> | auth-type <type> | key <secret> | retransmit <retries> | timeout <seconds>}
no tacacs-server host <ip-address> {enable | auth-port}

Configures TACACS+ server attributes. The no form of the command resets the attributes to their default values and deletes the TACACS+ server.

Syntax Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ip-address</td>
<td>TACACS+ server IP address</td>
</tr>
<tr>
<td>enable</td>
<td>Administrative enable for the TACACS+ server</td>
</tr>
<tr>
<td>auth-port</td>
<td>TACACS+ server UDP port number</td>
</tr>
<tr>
<td>key</td>
<td>Set a secret key (shared hidden text string) known to the system and to the TACACS+ server</td>
</tr>
<tr>
<td>retransmit</td>
<td>Number of retries (0-5) before exhausting from the authentication</td>
</tr>
<tr>
<td>timeout</td>
<td>Timeout in seconds between each retry (1-60)</td>
</tr>
</tbody>
</table>

Default

3 seconds, 1 retry
Default TCP port is 49
Default auth-type is PAP

Configuration Mode

config

History

1.5

Example

ufmapl [ mgmt-sa ] (config) # tacacs-server host 40.40.40.40

Related Commands

aaa authorization
show tacacs
tacacs-server

Notes

- TACACS+ servers are tried in the order they are configured
- A PAP auth-type similar to an ASCII login, except that the username and password arrive at the network access server in a PAP protocol packet instead of being typed in by the user, so the user is not prompted
- If the user does not specify a parameter for this configured TACACS+ server, the configuration will be taken from the global TACACS+ server configuration. Refer to "tacacs-server" command.

2.6.4.3 show tacacs

show tacacs
Displays TACACS+ configurations.

Syntax Description

N/A

Default

N/A


<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th>Any configuration mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [ mgmt-sa ] (config) # show tacacs
TACACS+ defaults:
  Key:               3333
  Timeout:          3
  Retransmit:      1
TACACS+ servers:
  40.40.40.40:49
  Enabled:         yes
  Auth-type         PAP
  Key:             3333 (default)
  Timeout:         3 (default)
  Retransmit:      1 (default)
```

**Related Commands**

- aaa authorization
- tacacs-server
- tacacs-server host

**Notes**

2.6.5 LDAP

2.6.5.1 ldap base-dn

```
ldap base-dn <string>
no ldap base-dn
```

Sets the base distinguished name (location) of the user information in the schema of the LDAP server. The no form of the command resets the attribute to its default values.

**Syntax Description**

- **string**: A case-sensitive string that specifies the location in the LDAP hierarchy where the server should begin searching when it receives an authorization request. For example: "ou=users,dc=example,dc=com", with no spaces.

**Where:**

- **ou** - organizational unit
- **dc** - domain component
- **cn** - common name
- **sn** - surname

**Default**

```
ou=users,dc=example,dc=com
```

**Configuration Mode**

```
config
```

**History**

```
1.5
```

**Example**

```
ufmapl [ mgmt-sa ] (config) # ldap base-dn ou=department,dc=example,dc=com
```

**Related Commands**

- show ldap

**Notes**
### 2.6.5.2 ldap {bind-dn | bind-password}

| ldap [bind-dn | bind-password] <string> |
|---------------------------------------|
| no ldap [bind-dn | bind-password] |

Gives the distinguished name or password to bind to on the LDAP server. This can be left empty for anonymous login (the default). The no form of the command resets the attribute to its default values.

**Syntax Description**
- **string**: A case-sensitive string that specifies distinguished name or password to bind to on the LDAP server.

**Default**

```plaintext
""
```

**Configuration Mode**
config

**History**
1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # ldap bind-dn my-dn
ufmapl [ mgmt-sa ] (config) # ldap bind-password my-password
```

**Related Commands**
- show ldap

**Notes**
For anonymous login, bind-dn and bind-password should be empty strings ""

### 2.6.5.3 ldap {group-attribute | group-dn}

| ldap [group-attribute {<group-att> | member | uniqueMember} | group-dn <group-dn>] |
|---------------------------------------|
| no ldap [group-attribute | group-dn] |

Sets the distinguished name or attribute name of a group on the LDAP server. The no form of the command resets the attribute to its default values.

**Syntax Description**
- **group-attribute**
  - **<group-att>**
    - Specifies a custom attribute name
  - **member**
    - groupOfNames or group membership attribute
  - **uniqueMember**
    - groupOfUniqueNames membership attribute
  - **group-dn**
    - DN of group required for authorization

**Default**
- **group-att**: member
- **group-dn**: ""

**Configuration Mode**
config

**History**
1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # ldap group-attribute member
ufmapl [ mgmt-sa ] (config) # ldap group-dn my-group-dn
```

**Related Commands**
- show ldap
Notes

- The user’s distinguished name must be listed as one of the values of this attribute or the user will not be authorized to log in.
- After login authentication, if the group-dn is set, a user must be a member of this group or the user will not be authorized to log in. If the group is not set ("" - the default) no authorization checks are done.

2.6.5.4 ldap host

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>ip-address</th>
<th>IP address</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number</td>
<td>The order of the LDAP server</td>
</tr>
<tr>
<td></td>
<td>last</td>
<td>The LDAP server will be added in the last location</td>
</tr>
</tbody>
</table>

Default: N/A

Configuration Mode: config

History: 1.5

Example:

```
ufmapl [ mgmt-sa ] (config) # ldap host 10.10.10.10
```

Related Commands:

- show aaa
- show ldap

Notes:

- The system will select the LDAP host to try according to its order
- New servers are by default added at the end of the list of servers

2.6.5.5 ldap login-attribute

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>string</th>
<th>Custom attribute name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>uid</td>
<td>LDAP login name is taken from the user login username</td>
</tr>
<tr>
<td></td>
<td>sAMAccountName</td>
<td>SAM Account name, active directory login name</td>
</tr>
</tbody>
</table>

Default: N/A

Configuration Mode: config

History: 1.5
### 2.6.5.6 ldap port

```
ufmapl [ mgmt-sa ] (config) # ldap port 1111
```

Sets the TCP port on the LDAP server to connect to for authentication. The no form of the command resets this attribute to its default value.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>port</th>
</tr>
</thead>
<tbody>
<tr>
<td>TCP port number</td>
<td></td>
</tr>
</tbody>
</table>

**Default**: 389

**Configuration Mode**: `config`

**History**: 1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # ldap port 1111
```

**Related Commands**: `show aaa`, `show ldap`

**Notes**

### 2.6.5.7 ldap referrals

```
ufmapl [ mgmt-sa ] (config) # no ldap referrals
```

Enables LDAP referrals. The no form of the command disables LDAP referrals.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
</table>

**Default**: `Enabled`

**Configuration Mode**: `config`

**History**: 1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # no ldap referrals
```

**Related Commands**: `show aaa`, `show ldap`
## 2.6.5.8 ldap scope

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>scope</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• one-level - searches the immediate children of the base DN</td>
</tr>
<tr>
<td></td>
<td>• subtree - searches at the base DN and all its children</td>
</tr>
</tbody>
</table>

### Default
subtree

### Configuration Mode
config

### History
1.5

### Example
ufmapl [ mgmt-sa ] (config) # ldap scope subtree

### Related Commands
show aaa
show ldap

### Notes

## 2.6.5.9 ldap ssl

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>cert-verify</th>
<th>mode</th>
<th>port</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Enables verification of SSL/TLS server certificates. This may be required if the server's certificate is self-signed, or does not match the name of the server.</td>
<td>Sets the security mode for connections to the LDAP server.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Sets the port on the LDAP server to connect to for authentication when the SSL security mode is enabled (LDAP over SSL).</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>mode</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• none - requests no encryption for the LDAP connection</td>
</tr>
<tr>
<td></td>
<td>• ssl - the SSL-port configuration is used, an SSL connection is made before LDAP requests are sent (LDAP over SSL)</td>
</tr>
<tr>
<td></td>
<td>• tls - the normal LDAP port is used, an LDAP connection is initiated, and then TLS is started on this existing connection</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>port</th>
</tr>
</thead>
</table>

[| ldap ssl [cert-verify | mode <mode> | port <port-number>] |
| no ldap ssl [cert-verify | mode | port] |

Sets SSL parameter for LDAP.
The no form of the command resets the attribute to its default value.
Default

cert-verify is enabled
mode is none (LDAP SSL is not activated)
port-number is 636

Configuration Mode

config

History

1.5

Example

ufmapl [ mgmt-sa ] (config) # ldap ssl mode ssl

Related Commands

show aaa
show ldap

Notes

• If available, the TLS mode is recommended, as it is standardized, and may also be of higher security
• The port number is used only for SSL mode. If the mode is TLS, the LDAP port number will be used.

2.6.5.10 ldap timeout

ldap [timeout-bind | timeout-search] <seconds>
no ldap [timeout-bind | timeout-search]
Sets a global communication timeout in seconds for all LDAP servers to specify the extent of the search in the LDAP hierarchy that the server should make when it receives an authorization request.
The no form of the command resets the attribute to its default value.

Syntax Description

timeout-bind
Sets the global LDAP bind timeout for all LDAP servers

timeout-search
Sets the global LDAP search timeout for all LDAP servers

seconds
Range: 1-60

Default

5 seconds

Configuration Mode

config

History

1.5

Example

ufmapl [ mgmt-sa ] (config) # ldap timeout-bind 10

Related Commands

show aaa
show ldap

Notes

2.6.5.11 ldap version

ldap version <version>
no ldap version
Sets the LDAP version.
The no form of the command resets the attribute to its default value.

Syntax Description

version
Sets the LDAP version. Possible values: 2 or 3.

Default

3
2.6.5.12 show ldap

show ldap
Displays LDAP configurations.

Syntax Description N/A
Default N/A
Configuration Mode Any configuration mode
History 1.5

Example
ufmapl [ mgmt-sa ] (config) # show ldap
User base DN : ou=department,dc=example,dc=com
User search scope : subtree
Login attribute : uid
Bind DN : my-dn
Bind password : my-password
Group base DN : my-group-dn
Group attribute : member
LDAP version : 3
Referrals : no
Search Timeout : 5
Bind Timeout : 10
SSL mode : none
Server SSL port : 636 (not active)
SSL cert verify : yes
LDAP servers:
1: 10.10.10.10
2: 10.10.10.12

Related Commands show aaa
show ldap

Notes

2.7 Security

2.7.1 ip filter enable

ip filter enable
no ip filter enable
Enables IP filtering. The no form of the command disables IP filtering.

Syntax Description N/A
Default Disabled
Configuration Mode config
### 2.7.2 ip filter chain

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>clear</td>
<td>Delete all rules from this chain</td>
</tr>
<tr>
<td>policy</td>
<td>Specify default policy for this chain</td>
</tr>
<tr>
<td>rule</td>
<td>Add or modify an IP filtering rule</td>
</tr>
</tbody>
</table>

Default: N/A

Configuration Mode: config

History: 1.5

Example:
```
ufmapl [ mgmt-sa ] (config) # ip filter chain FORWARD clear
```

Related Commands:
- show ip filter

Notes:

### 2.7.3 show ip filter

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>all</td>
<td>Displays IP filtering state (including unconfigured rules)</td>
</tr>
<tr>
<td>configured</td>
<td>Displays IP filtering configuration</td>
</tr>
</tbody>
</table>

Default: N/A

Configuration Mode: Any configuration mode

History: 1.5
Example

ufmapl [ mgmt-sa ] (config) # show ip filter
Packet filtering for IPv4: DISABLED
Active IPv4 filtering rules (omitting any not from configuration):
Chain 'INPUT'
  No rules.
  Policy: ACCEPT
Chain 'OUTPUT'
  No rules.
  Policy: ACCEPT
Chain 'FORWARD'
  No rules.
  Policy: ACCEPT

Related Commands
ip filter chain
ip filter enable

Notes

2.8 Firmware Management

2.8.1 firmware install

firmware install
Installs the updated HCA firmware supplied in the software image.

Syntax Description N/A
Default N/A
Configuration Mode config
History 1.5
Example

ufmapl [ mgmt-sa ] (config) # firmware install

Related Commands show firmware
Notes Running this command requires system reboot.

2.8.2 show firmware

show firmware
Displays the HCA firmware information.

Syntax Description N/A
Default N/A
Configuration Mode Any configuration mode
History 1.5
Example

ufmapl [ mgmt-sa ] (config) # show firmware
Installed firmware version: 2.11.500
Running firmware version: 2.11.500
Image available for installation: 2.11.500

Related Commands firmware install
2.9 CLI Session

This chapter displays all the relevant commands used to manage CLI session terminal.

### 2.9.1 cli clear-history

<table>
<thead>
<tr>
<th>cli clear-history</th>
<th>Clears the command history of the current user.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntax Description</td>
<td>N/A</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td>ufmap1 [ mgmt-sa ] (config) # cli clear-history</td>
</tr>
</tbody>
</table>

**Related Commands**

**Notes**

### 2.9.2 cli default

| cli default [auto-logout <minutes> | paging enable | prefix-modes [enable | show-config] | progress enable | prompt [confirm-reload | confirm-reset | confirm-unsaved | empty-password] |
|-----------------------------------|----------------|---------------------|---------------|-----------------|------------------------|
| no cli default [auto-logout | paging enable | prefix-modes [enable | show-config] | progress enable | prompt [confirm-reload | confirm-reset | confirm-unsaved | empty-password] |
| Configures default CLI options for all future sessions. The no form of the command deletes or disables the default CLI options. |

**Syntax Description**

- **minutes**
  - Configures keyboard inactivity timeout for automatic logout. Range: 0-35791. Setting the value to 0 or using the no form of the command disables the auto-logout.

- **paging enable**
  - Enables text viewing one screen at a time

- **prefix-modes [enable | show-config]**
  - Configures the prefix modes feature of CLI.
    - "prefix-modes enable" enables prefix modes for current and all future sessions
    - "prefix-modes show-config" uses prefix modes in "show configuration" output for current and all future sessions

- **progress enable**
  - Enables progress updates

- **prompt confirm-reload**
  - Prompts for confirmation before rebooting

- **prompt confirm-reset**
  - Prompts for confirmation before resetting to factory state

**Notes**
### prompt confirm-unsaved

Confirms whether or not to save unsaved changes before rebooting

### prompt empty-password

Prompts for a password if none is specified in a pseudo-URL for SCP

**Default:** N/A

**Configuration Mode:** `config`

**History:** 1.5

**Example**

```
ufmap { mgmt-sa } (config) # cli default prefix-modes enable
```

**Related Commands:** `show cli`

**Notes**

### 2.9.3 cli session

```
cli session [auto-logout <minutes> | paging enable | prefix-modes {enable | show-config} | progress enable | terminal {length <size> | resize | type <terminal-type> | width} | x-display full <display>]
no cli session [auto-logout | paging enable | prefix-modes {enable | show-config} | progress enable | terminal type | x-display]
```

Configures default CLI options for all future sessions. The no form of the command deletes or disables the CLI sessions.

**Syntax Description**

- **minutes**
  
  Configures keyboard inactivity timeout for automatic logout. Range: 0-35791. Setting the value to 0 or using the no form of the command disables the auto logout.

- **paging enable**
  
  Enables text viewing one screen at a time

- **prefix-modes enable | show-config**
  
  Configures the prefix modes feature of CLI. “prefix-modes enable” enables prefix modes for current and all future sessions “prefix-modes show-config” uses prefix modes in “show configuration” output for current and all future sessions

- **progress enable**
  
  Enables progress updates

- **terminal length**
  
  Sets the number of lines for the current terminal. Range: 5-999.

- **terminal resize**
  
  Resizes the CLI terminal settings (to match the actual terminal window)

- **terminal-type**
  
  Sets the terminal type. Valid options: ansi, console, dumb, linux, unknown, vt52, vt100, vt102, vt220, vt320, xterm.

- **terminal width**
  
  Sets the width of the terminal in characters. Range: 34-999.

- **x-display full <display>**
  
  Specifies the display as a raw string (e.g. localhost:0.0)

**Default:** N/A

**Configuration Mode:** `config`
2.9.4  show cli

```
show cli
Displays the CLI configuration and status.
```

**Syntax Description**

N/A

**Default**

N/A

**Configuration Mode**

Any configuration mode

**History**

1.5

**Example**

```
ufmap1 [ mgmt-sa ] (config) # show cli

CLI current session settings:
  Maximum line size: 8192
  Terminal width: 171 columns
  Terminal length: 38 rows
  Terminal type: xterm
  X display setting: (none)
  Auto-logout: disabled
  Paging: enabled
  Progress tracking: enabled
  Prefix modes: disabled

CLI defaults for future sessions:
  Auto-logout: disabled
  Paging: enabled
  Progress tracking: enabled
  Prefix modes: enabled (and use in 'show configuration')

Settings for both this session and future ones:
  Show hidden config: yes
  Confirm losing changes: yes
  Confirm reboot/shutdown: no
  Confirm factory reset: yes
  Prompt on empty password: yes
```

**Related Commands**

cli default

**Notes**

2.10  Banner

2.10.1  banner login

```
banner login <string>
no banner login
Sets the CLI welcome banner message. The no form of the command resets the system login banner to its default.
```

**Syntax Description**

<table>
<thead>
<tr>
<th>string</th>
<th>Text banner</th>
</tr>
</thead>
</table>

**Default**

"Mellanox MLNX-OS UFM Appliance Management"

**Configuration Mode**

config
<table>
<thead>
<tr>
<th>History</th>
<th>1.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example</td>
<td><img src="#" alt="Example" /></td>
</tr>
<tr>
<td>Related Commands</td>
<td>show banner</td>
</tr>
<tr>
<td>Notes</td>
<td>The banner’s content changes in case of different system issues</td>
</tr>
</tbody>
</table>

### 2.10.2 banner motd

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>string</th>
<th>Text banner</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>&quot;Mellanox Switch&quot;</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td><img src="#" alt="Example" /></td>
<td></td>
</tr>
<tr>
<td>Related Commands</td>
<td>show banner</td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td>If more than one word is used (there is a space) quotation marks should be added (i.e. &quot;xxxx xxxx&quot;)</td>
<td></td>
</tr>
</tbody>
</table>

### 2.10.3 show banner

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td><img src="#" alt="Example" /></td>
</tr>
<tr>
<td>Related Commands</td>
<td>banner login, banner motd</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>
# 2.11 SSH

## 2.11.1 ssh server enable

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ssh server enable</td>
<td>Enables the SSH server. The no form of the command disables the SSH server.</td>
</tr>
<tr>
<td>no ssh server enable</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Default**: Enabled

**Configuration Mode**: config

**History**: 1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # ssh server enable
```

**Related Commands**: show ssh server

**Notes**: Disabling SSH server does not terminate existing SSH sessions, it only prevents new ones from being established.

## 2.11.2 ssh server host-key

```
ssh server host-key {<key type> {private-key <private-key> | public-key <public-key>} | generate}
```

Manipulates host keys for SSH.

**Syntax Description**

- **key-type**
  - rsa1 - RSAv1
  - rsa2 - RSAv2
  - dsa2 - DSAv2
- **private-key**
  - Sets new private-key for the host keys of the specified type
- **public-key**
  - Sets new public-key for the host keys of the specified type
- **generate**
  - Generates new RSA and DSA host keys for SSH

**Default**: SSH keys are locally generated

**Configuration Mode**: config

**History**: 1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # ssh server host-key dsa2 private-key
```

**Related Commands**: show ssh server

**Notes**
### 2.11.3 ssh server listen

**Syntax**

```plaintext
ssh server listen [enable | interface <inf>]
no ssh server listen [enable | interface <inf>]
```

Enables the listen interface restricted list for SSH. If enabled, and at least one non-DHCP interface is specified in the list, the SSH connections are only accepted on those specified interfaces.

The no form of the command disables the listen interface restricted list for SSH. When disabled, SSH connections are not accepted on any interface.

**Syntax Description**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>enable</td>
<td>Enables SSH interface restrictions on access to this system</td>
</tr>
<tr>
<td>interface</td>
<td>Adds interface to SSH server access restriction list</td>
</tr>
</tbody>
</table>

**Default**

SSH listen is enabled

**Configuration Mode**

config

**History**

1.5

**Example**

```plaintext
ufmapl [ mgmt-sa ] (config) # ssh server listen enable
```

**Related Commands**

show ssh server

**Notes**

### 2.11.4 ssh server min-version

**Syntax**

```plaintext
ssh server min-version <version>
no ssh server min-version
```

Sets the minimum version of the SSH protocol that the server supports.

The no form of the command resets the minimum version of SSH protocol supported.

**Syntax Description**

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>version</td>
<td>Values: 1 or 2</td>
<td></td>
</tr>
</tbody>
</table>

**Default**

2

**Configuration Mode**

config

**History**

1.5

**Example**

```plaintext
ufmapl [ mgmt-sa ] (config) # ssh server min-version 2
```

**Related Commands**

show ssh server

**Notes**

### 2.11.5 ssh server ports

**Syntax**

```plaintext
ssh server ports [<port1> [ <port2> ... ]]
```

Specifies which ports the SSH server listens on.
### Syntax Description

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>port</th>
<th>Port number in [1...65535]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>22</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td></td>
<td><code>ufmapl [ mgmt-sa ] (config) # ssh server ports 22</code></td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ssh server</td>
<td></td>
</tr>
</tbody>
</table>
| Notes              | • Multiple ports can be specified by repeating the <port> parameter  
|                    | • The command will remove any previous ports if not listed in the command |

#### 2.11.6 ssh server x11-forwarding

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ssh server x11-forwarding enable</td>
<td>Enables X11 forwarding on the SSH server. The no form of the command disables X11 forwarding.</td>
</tr>
<tr>
<td>no ssh server x11-forwarding enable</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>Disabled</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td><code>ufmapl [ mgmt-sa ] (config) # ssh server x11-forwarding enable</code></td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ssh server</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

#### 2.11.7 ssh client global

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ssh client global [host-key-check &lt;policy&gt;]</td>
<td>Configures global SSH client settings. The no form of the command negates global SSH client settings.</td>
</tr>
<tr>
<td>no ssh client global</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ssh client global</td>
<td></td>
</tr>
<tr>
<td>known-host-lookup &lt;known-host-entry&gt;</td>
<td></td>
</tr>
<tr>
<td>no ssh client global [known-host-lookup &lt;known-host-entry&gt;]</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td><code>ufmapl [ mgmt-sa ] (config) # ssh client global [host-key-check &lt;policy&gt;]</code></td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ssh server</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>
host-key-check
Sets SSH client configuration to control how host key checking is performed. This parameter may be set in 3 ways.
- If set to "no" it always permits connection, and accepts any new or changed host keys without checking
- If set to "ask" it prompts user to accept new host keys, but does not permit a connection if there was already a known host entry that does not match the one presented by the host
- If set to "yes" it only permits connection if a matching host key is already in the known hosts file

known-host
Adds an entry to the global known-hosts configuration file. The entry consists of "<IP> <key-type> <key>".

Default
host-key-check - ask, no keys are configured by default

Configuration Mode
config

History
1.5

Example
ufmapl [ mgmt-sa | (config) ] ssh client global host-key-check no

Related Commands
show ssh client

Notes

2.11.8 ssh client user

ssh client user <username> [authorized-key sshv2 <public key> | identity <key type> {generate | private-key {[private key] | public-key {[public key]}]} | known-host <known host> remove]
no ssh client user admin [authorized-key sshv2 <public key ID> | identity <key type>]

Adds an entry to the global known-hosts configuration file, either by generating new key, or by adding manually a public or private key. The no form of the command removes a public key from the specified user’s authorized key list, or changes the key type.

Syntax Description

username
The specified user must be a valid account on the system. Possible values: admin, monitor, xmladmin, and xmluser.

authorized-key sshv2
Adds the specified key to the list of authorized SSHv2 RSA or DSA public keys for this user account. These keys can be used to log into the user’s account.

identity
Sets certain SSH client identity settings for a user, dsa2 or rsa2

generate
Generates SSH client identity keys for specified user

private-key
Sets private key SSH client identity settings for the user

public-key
Sets public key SSH client identity settings for the user
<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>known-host</td>
<td>Removes host from user's known host file</td>
</tr>
</tbody>
</table>

**Default**

No keys

**Configuration Mode**

config

**History**

1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # ssh client user admin known-host 172.30.1.116 remove
```

**Related Commands**

- show ssh client

**Notes**

If a key is being pasted from a cut buffer and was displayed with a paging program, it is likely that newline characters have been inserted, even if the output was not long enough to require paging. One can specify "no cli session paging enable" before running the "show" command to prevent the newlines from being inserted.

---

### 2.11.9 slogin

**Syntax**

```
slogin [no cli session paging enable] <hostname>
```

**Description**

Invokes the SSH client. The user is returned to the CLI when SSH finishes.

**Usage**

- `-1246AaCfkgNnqStTvVxXy`  
- `-b bind_address`  
- `-c cipher_spec`  
- `-D port`  
- `-e escape_char`  
- `-F configfile`  
- `-I port:host:hostport`  
- `-l login_name`  
- `-m mac_spec`  
- `-o option`  
- `-p port`  
- `-R port:host:hostport`  
- `[user@]hostname [command]`  

**Default**

N/A

**Configuration Mode**

config

**History**

1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # slogin 192.168.10.70
The authenticity of host '192.168.10.70 (192.168.10.70)' can't be established.  
RSA key fingerprint is 2e:ad:2d:23:45:4e:47:e0:2c:aer:8cr34:f8:1ar8:cb.  
Are you sure you want to continue connecting (yes/no)? yes  
Warning: Permanently added '192.168.10.70' (RSA) to the list of known hosts.  
Mellanox MLNX-OS Switch Management  
Last login: Sat Feb 28 22:55:17 2009 from 10.208.0.121  
Mellanox Switch
```

**Related Commands**

- show ssh client

**Notes**

---

### 2.11.10 show ssh client

**Description**

Displays the client configuration of the SSH server.

**Syntax Description**

N/A
2.11.11 show ssh server

Syntax Description
shows ssh server
Displays SSH server configuration.

Default
N/A

Configuration Mode
Any configuration mode

Example
ufmap1 [ mgmt-sa ] (config) # show ssh server
SSH server configuration:
    SSH server enabled:       yes
    Minimum protocol version: 2
    All forwarding enabled:   no
    SSH server ports:         22
    Interface listen enabled: yes
    No Listen Interfaces.

Host Key Finger Prints:
    DSA v2 host key: 7c:4af77251:67b5:8b:62d2:1b:9f3:be:3e:68

Related Commands
ssh server

Notes

2.12 Remote Login

2.12.1 telnet-server enable

telnet-server enable
no telnet-server enable
Enables the telnet server.
The no form of the command disables the telnet server.

Syntax Description
N/A
2.1.12.2 show telnet-server

**show telnet-server**

Displays telnet server settings.

**Syntax Description**

N/A

**Default**

N/A

**Configuration Mode**

Any configuration mode

**History**

1.5

**Example**

```
ufmap1 [ mgmt-sa ] (config) # show telnet-server
Telnet server enabled: yes
```

**Related Commands**

telnet-server

**Notes**

2.13 Web Server

2.13.1 web auto-log-out

```
web auto-log-out <number-of-minutes>
no web auto-log-out
```

Configures length of user inactivity before auto-log-out of a web session. The no form of the command disables the web auto-log-out (web sessions will never logged out due to inactivity).

**Syntax Description**

- **number-of-minutes**: The length of user inactivity in minutes.
  - 0 disables the inactivity timer (same as a "no web auto-log-out" command).

**Default**

60 minutes

**Configuration Mode**

config

**History**

1.5

**Example**

```
ufmap1 [ mgmt-sa ] (config) # web auto-log-out 60
```

**Related Commands**

show web
The no form of the command does not automatically log users out due to inactivity.

### 2.13.2 web enable

**web enable**  
**no web enable**  
Enables the web-based management console.  
The no form of the command disables the web-based management console.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>Enabled</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [ mgmt-sa ] (config) # web enable
```

**Related Commands**

show web

**Notes**

### 2.13.3 web http

**web http [enable | redirect]**

no web http [enable | redirect]  
Configures HTTP access to the web-based management console.  
The no form of the command negates HTTP settings for the web-based management console.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>enable</th>
<th>Enable HTTP access to the web-based management console</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>redirect</td>
<td>Enables redirection to HTTPS</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>HTTP is enabled</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>HTTP TCP port is 80</td>
</tr>
<tr>
<td></td>
<td>HTTP redirect to HTTPS is disabled</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th>config</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [ mgmt-sa ] (config) # web http enable
```

**Related Commands**

show web

**Notes**

If HTTP access is enabled, this specifies whether a redirect from the HTTP port to the HTTPS port should be issued.

### 2.13.4 web httpd listen

**web httpd listen [enable | interface <ifName>]**

no web httpd listen [enable | interface <ifName>]  
Enables the listen interface restricted list for HTTP and HTTPS.  
The no form of the command disables the HTTP server listen ability.
### Syntax Description

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>enable</strong></td>
<td>Enable HTTP access to the web-based management console</td>
</tr>
<tr>
<td><strong>interface</strong></td>
<td>Adds interface to Web server access restriction list (i.e. eth0, eth1)</td>
</tr>
</tbody>
</table>

#### Default

- **Listening is enabled**
- **All interfaces are permitted**

#### Configuration Mode

**config**

#### History

1.5

#### Example

```bash
ufmapl [ mgmt-sa ] (config) # web httpd enable
```

#### Related Commands

- show web

#### Notes

If enabled, and if at least one of the interfaces listed is eligible to be a listen interface, then HTTP/HTTPS requests will only be accepted on those interfaces. Otherwise, HTTP/HTTPS requests are accepted on any interface.

---

### 2.13.5 web https

- **web https [certificate [default-cert | name <name> | regenerate] | enable | ssl]**
- **no web https [certificate | enable | ssl]**

Configure HTTPS access to the web-based management console.
The no form of the command disables the HTTPS server listen ability.

#### Syntax Description

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>certificate</strong></td>
<td>Configure the certificate to use for HTTPS connections</td>
</tr>
<tr>
<td></td>
<td>• default-cert - Configure HTTPS to use the configured default certificate</td>
</tr>
<tr>
<td></td>
<td>• name - Configure the named certificate to be used for HTTPS connections</td>
</tr>
<tr>
<td></td>
<td>• regenerate - Regenerate the system default certificate for HTTPS connections</td>
</tr>
<tr>
<td><strong>enable</strong></td>
<td>Enable HTTPS access to the web-based management console</td>
</tr>
<tr>
<td><strong>ssl</strong></td>
<td>Configure SSL/TLS settings for HTTPS</td>
</tr>
</tbody>
</table>

#### Default

- **HTTPS is enabled**
- **Default port is 443**

#### Configuration Mode

**config**

#### History

1.5

#### Example

```bash
ufmapl [ mgmt-sa ] (config) # web https enable
```

#### Related Commands

- show web

- **web enable**

#### Notes
### 2.13.6 web sessions

web session [renewal <minutes> | timeout <minutes>]
no web session [renewal | timeout]

Configures session settings.
The no form of the command resets session settings to default.

**Syntax Description**

- **renewal**: Configures time before expiration to renew a session
- **timeout**: Configures time after which a session expires

**Default**

- **timeout**: 2.5 hours
- **renewal**: 30 min

**Configuration Mode**

- config

**History**

- **1.5**

**Example**

```plaintext
ufmapl [ mgmt-sa ] (config) # web sessions renewal 30
```

**Related Commands**

- show web

**Notes**

### 2.13.7 web proxy auth

web proxy auth [authtype <type> | basic [password <password> | username <username>]]
no web proxy auth [authtype | basic [password | username]]

Configures authentication settings for web proxy authentication.
The no form of the command resets the attributes to their default values.

**Syntax Description**

- **type**: Configures the type of authentication to use with web proxy. Possible values:
  - basic - HTTP basic authentication
  - none - No authentication
- **basic**: Configures HTTP basic authentication settings for proxy
- **password**: A password used for HTTP basic authentication with the web proxy
- **username**: A username used for HTTP basic authentication with the web proxy

**Default**

- Web proxy is disabled

**Configuration Mode**

- config

**History**

- **1.5**

**Example**

```plaintext
ufmapl [ mgmt-sa ] (config) # web proxy auth authtype basic
ufmapl [ mgmt-sa ] (config) # web proxy auth basic username web-user
ufmapl [ mgmt-sa ] (config) # web proxy auth basic password web-password
```

**Related Commands**

- show web
- web proxy host
2.13.8  web proxy host

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>ip-address</th>
<th>IPv4 address</th>
</tr>
</thead>
<tbody>
<tr>
<td>port</td>
<td>port</td>
<td>Sets the web proxy default port</td>
</tr>
</tbody>
</table>

Default: 1080

Configuration Mode: config

History: 1.5

Example:
```
ufmapl [ mgmt-sa ] (config) # web proxy host 10.10.10.10 port 1080
```

Related Commands:
- show web
- web proxy auth

Notes

2.13.9  show web

```
show web
```

Displays the web configuration.

Syntax Description: N/A

Default: N/A

Configuration Mode: Any configuration mode

History: 1.5

Example:
```
uimapl [ mgmt-sa ] (config) # show web

Web User Interface:
  Web interface enabled: yes
  Web caching enabled: no
  HTTP enabled: no
  HTTP redirect to HTTPS: no
  HTTPS enabled: yes
  HTTPS ssl-ciphers: TLS1.2
  HTTPS ssl-renegotiation: no
  HTTPS ssl-secure-cookie: yes
  HTTPS certificate name: default-cert
  Listen enabled: yes
  Listen interfaces: No interface configured.
  Inactivity timeout: 5 min
  Session timeout: 10 min
  Session renewal: 5 min

Web file transfer proxy:
  Proxy enabled: no

Web file transfer certificate authority:
  HTTPS server cert verify: yes
  HTTPS supplemental CA list: default-ca-list
```

Related Commands
2.14 SNMP

The commands in this section are used to manage the SNMP server. UFM SNMP settings must be modified in the configuration file using the "ufm configuration export/import" commands.

2.14.1 snmp-server community

Syntax:

```
snmp-server community <community> [ro | rw]
no snmp-server community <community>
```

Sets a community name for either read-only or read-write SNMP requests.
The no form of the command sets the community string to default.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>community</th>
<th>Community name</th>
</tr>
</thead>
<tbody>
<tr>
<td>ro</td>
<td></td>
<td>Sets the read-only community string</td>
</tr>
<tr>
<td>rw</td>
<td></td>
<td>Sets the read-write community string</td>
</tr>
</tbody>
</table>

Default:
- Read-only community: "public"
- Read-write community: ""

Configuration Mode: config

Example:
```
switch[ mgmt-sa ] (config) # snmp-server community private rw
```

Related Commands:
- show snmp

Notes:
- If neither the "ro" or the "rw" parameters are specified, the read-only community is set as the default community
- If the read-only community is specified, only queries can be performed
- If the read-write community is specified, both queries and sets can be performed

2.14.2 snmp-server contact

Syntax:

```
no snmp-server contact
```

Sets a value for the sysContact variable in MIB-II.
The no form of the command resets the parameter to its default value.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>contact-name</th>
<th>Contact name</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Default:
- ""

Configuration Mode: config

History: 1.5
Example

ufmapl [ mgmt-sa ] (config) # snmp-server contact my-name

Related Commands
show snmp

Notes

2.14.3 snmp-server listen

```
snmp-server listen [enable | interface <ifName>]
nosnmp-server listen [enable | interface <ifName>]
```

Configures SNMP server interface access restrictions. The no form of the command disables the listen interface restricted list for SNMP server.

**Syntax Description**
- `enable`: Enables SNMP interface restrictions on access to this system.
- `interface <ifName>`: Adds an interface to the "listen" list for SNMP server. For example: "eth0", "eth1".

**Default**
N/A

**Configuration Mode**
config

**History**
1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # snmp listen enable
```

**Related Commands**
show snmp

**Notes**
If enabled, and if at least one of the interfaces listed is eligible to be a listen interface, then SNMP requests will only be accepted on those interfaces. Otherwise, SNMP requests are accepted on any interface.

2.14.4 snmp-server location

```
snmp-server location <system-location>
nosnmp-server location
```

Sets a value for the sysLocation variable in MIB-II. The no form of the command clears the contents of the sysLocation variable.

**Syntax Description**
- `system-location`: string

**Default**
N/A

**Configuration Mode**
config

**History**
1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # snmp-server location lab
```

**Related Commands**
show snmp

**Notes**
2.14.5 snmp-server port

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>161</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td>uFmapl [ mgmt-sa ] (config) # snmp-server port 1000</td>
</tr>
<tr>
<td>Related Commands</td>
<td>show snmp</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

Sets the UDP listening port for the SNMP agent. The no form of the command resets the parameter to its default value.

2.14.6 snmp-server traps

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>community</th>
<th>Sets the default community for traps sent to hosts which do not have a custom community string set</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>event</td>
<td>Specifies which events will be sent as traps</td>
</tr>
<tr>
<td></td>
<td>port</td>
<td>Sets the default port to which traps are sent</td>
</tr>
<tr>
<td></td>
<td>send-test</td>
<td>Sends a test trap</td>
</tr>
<tr>
<td>Default</td>
<td>Community: public</td>
<td></td>
</tr>
<tr>
<td>All traps are enabled</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Port: 162</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td>uFmapl [ mgmt-sa ] (config) # snmp-server community public</td>
<td></td>
</tr>
<tr>
<td>Related Commands</td>
<td>show snmp</td>
<td></td>
</tr>
<tr>
<td></td>
<td>show snmp events</td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td>• This setting is only meaningful if traps are enabled, though the list of hosts may still be edited if traps are disabled</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Refer to Mellanox MIB file for the list of supported traps</td>
<td></td>
</tr>
</tbody>
</table>
2.14.7 snmp-server user

```
snmp-server user {admin | <username>} v3 {[encrypted] auth <hash-type> <password> [priv <privacy-type> [<password>]] | capability <cap> | enable <sets> | prompt auth <hash-type> [priv <privacy-type>]} no snmp-server user {admin | <username>} v3 {[encrypted] auth <hash-type> <password> [priv <privacy-type> [<password>]] | capability <cap> | enable <sets> | prompt auth <hash-type> [priv <privacy-type>]} Specifies an existing username, or a new one to be added. The no form of the command disables access via SNMP v3 for the specified user.
```

**Syntax Description**

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>v3</td>
<td>Configures SNMPv3 users</td>
</tr>
<tr>
<td>auth</td>
<td>Configures SNMPv3 security parameters, specifying passwords in plaintext on the command line. Note that passwords are always stored encrypted.</td>
</tr>
<tr>
<td>capability</td>
<td>Sets capability level for SET requests</td>
</tr>
<tr>
<td>enable</td>
<td>Enables SNMPv3 access for this user</td>
</tr>
<tr>
<td>encrypted</td>
<td>Configures SNMPv3 security parameters, specifying passwords in encrypted form</td>
</tr>
<tr>
<td>prompt</td>
<td>Configures SNMPv3 security parameters, specifying passwords securely in follow-up prompts, rather than on the command line</td>
</tr>
</tbody>
</table>

**Default**

No SNMPv3 users defined

**Configuration Mode**

`config`

**History**

1.5

**Example**

```
ufmap1 [ mgmt-sa ] (config) # snmp-server user admin v3 enable
```

**Related Commands**

show snmp user

**Notes**


2.14.8 show snmp

```
show snmp [engineID | events | user] Displays SNMP-server configuration and status.
```

**Syntax Description**

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>engineID</td>
<td>SNMP Engine ID</td>
</tr>
<tr>
<td>events</td>
<td>SNMP events</td>
</tr>
<tr>
<td>user</td>
<td>SNMP users</td>
</tr>
</tbody>
</table>

**Default**

N/A

**Configuration Mode**

Any configuration mode

**History**

1.5
2.15 Scheduled Jobs

Use the commands in this section to manage and schedule the execution of jobs.

2.15.1 job

```
job <job-id>
no job <job-id>

Creates a job. The no form of the command deletes the job.
```

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>job-id</th>
<th>An integer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

```
ufmapl [ mgmt-sa ] (config) # job 100
ufmapl [ mgmt-sa ] (config job 100) #
```

Related Commands

```
show jobs
```

Notes

Job state is lost on reboot.

2.15.2 comment

```
comment <comment>
no comment

Adds a comment to the job. The no form of the command deletes the comment.
```

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>comment</th>
<th>String</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config job</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

Related Commands

```
show jobs
```
2.15.3 command

```plaintext
command <sequence #> | <command>
no command <sequence #>
```

Adds a CLI command to the job.
The no form of the command deletes the command from the job.

**Syntax Description**

- `sequence #`: An integer that controls the order the command is executed relative to other commands in this job.
  The commands are executed in an ascending order.
- `command`: CLI command

**Default**

N/A

**Configuration Mode**

`config job`

**History**

1.5

**Example**

```plaintext
ufmapl [ mgmt-sa ] (config job 100) # command 10 "show power"
```

**Related Commands**

- `show jobs`

**Notes**

- The command must be defined with quotation marks (""")
- The command must be added as it was executed from the "config" mode. For example, in order to change the interface description you need to add the command: "interface <type> <number> description my-description".

2.15.4 enable

```plaintext
enable
no enable
```

Enables the specified job.
The no form of the command disables the specified job.

**Syntax Description**

N/A

**Default**

N/A

**Configuration Mode**

`config job`

**History**

1.5

**Example**

```plaintext
ufmapl [ mgmt-sa ] (config job 100) # enable
```

**Related Commands**

- `show jobs`
If a job is disabled, it will not be executed automatically according to its schedule; nor can it be executed manually.

### 2.15.5 execute

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config job</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td><code>ufmapl [ mgmt-sa ] (config job 100) # execute</code></td>
</tr>
<tr>
<td>Related Commands</td>
<td>show jobs</td>
</tr>
</tbody>
</table>
| Notes               | - The job timer (if set) is not canceled and the job state is not changed (i.e. the time of the next automatic execution is not affected)  
                        - The job will not be run if not currently enabled |

### 2.15.6 fail-continue

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>A job will halt execution as soon as any of its commands fails</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config job</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td><code>ufmapl [ mgmt-sa ] (config job 100) # fail-continue</code></td>
</tr>
<tr>
<td>Related Commands</td>
<td>show jobs</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

### 2.15.7 name

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>name &lt;job-name&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>no name</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Configures a name for this job. The no form of the command resets the name to its default.</td>
</tr>
<tr>
<td>History</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td></td>
</tr>
<tr>
<td>Related Commands</td>
<td>show jobs</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>
## 2.15.8 schedule type

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>recurrence-type</th>
<th>The available schedule types are:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>once</td>
<td>• daily - the job is executed every day at a specified time</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config job</td>
<td>• weekly - the job is executed on a weekly basis</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td>• monthly - the job is executed every month on a specified day of the month</td>
</tr>
<tr>
<td>Example</td>
<td>ufnapl [ mgmt-sa ] (config job 100) # schedule type once</td>
<td></td>
</tr>
<tr>
<td>Related Commands</td>
<td>show jobs</td>
<td>A schedule type is essentially a structure for specifying one or more future dates and times for a job to execute.</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Schedule Syntax:

- `schedule type <recurrence-type>`
- `no schedule type`

Sets the type of schedule the job will automatically execute on. The no form of the command resets the schedule type to its default.

## 2.15.9 schedule <recurrence-type>

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>interval-and-date</th>
<th>Sets the type of schedule the job will automatically execute on. The no form of the command resets the schedule type to its default.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config job</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td>ufnapl [ mgmt-sa ] (config job 100) # schedule &lt;recurrence-type&gt; interval-and-date</td>
<td></td>
</tr>
<tr>
<td>Related Commands</td>
<td>show jobs</td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Syntax Description:

recurrence-type

The available schedule types are:
- daily - the job is executed every day at a specified time
- weekly - the job is executed on a weekly basis
- monthly - the job is executed every month on a specified day of the month
- once - the job is executed once at a single specified date and time
- periodic - the job is executed on a specified fixed time interval starting from a fixed point in time

interval-and-date

Interval and date per recurrence type

Default:

once

Configuration Mode:

config job

History:

1.5

Example:

```
ufmapl [ mgmt-sa ] (config job 100) # schedule monthly interval 10
```

Related Commands:

show jobs

Notes:

A schedule type is essentially a structure for specifying one or more future dates and times for a job to execute.

---

### 2.15.10 show jobs

**Syntax Description**

```
show jobs [<job-id>]
```

Displays configuration and state (including results of last execution, if any exist) of all jobs, or of one job if a job ID is specified.

**Syntax Description**

<table>
<thead>
<tr>
<th>job-id</th>
<th>Job ID</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Configuration Mode**

Any configuration mode

**History**

1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # show jobs 10
```

```
Job 10:  Status: inactive
     Enabled: yes
Continue on failure: no
Schedule Type: once
Time and date:    1970/01/01 00:00:00 +0000
Last Exec Time:    Thu 2012/04/05 13:11:42 +0000
Next Exec Time:     N/A
Commands:  Command 10: show power
Last Output:  =====================
Module   Status
PS1     OK
PS2    NOT PRESENT
```

**Related Commands**

**Notes**
## 2.16 Event Notification

### 2.16.1 email autosupport

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>`email autosupport [enable</td>
<td>event &lt;event-name&gt;]`</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>enable</th>
<th>event</th>
</tr>
</thead>
<tbody>
<tr>
<td>enable</td>
<td>Enables the sending of email to vendor autosupport when certain failures occur</td>
<td>Specifies events for which to send autosupport notification emails</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>Email autosupport is disabled</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th>config</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>History</th>
<th>1.5</th>
</tr>
</thead>
</table>

**Example**

```
ufmapl [ mgmt-sa ] (config) # email autosupport enable
```

**Related Commands**

- `show email`

**Notes**

Refer to "show email event" for the full event list

### 2.16.2 email dead-letter

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>`email dead-letter [cleanup max-age &lt;duration&gt;</td>
<td>enable]`</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>cleanup max-age</th>
<th>enable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: “5d4h3m2s” for 5 days, 4 hours, 3 minutes, 2 seconds</td>
<td>Saves dead-letter files for undeliverable emails</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>Save dead letter is enabled The default duration is 14 days</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th>config</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>History</th>
<th>1.5</th>
</tr>
</thead>
</table>

**Example**

```
ufmapl [ mgmt-sa ] (config) # email dead-letter enable
```

**Related Commands**

- `show email`

**Notes**
### 2.16.3 email domain

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Hostname-or-ip-address</th>
<th>Hostname or IP address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>No email domain</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td></td>
<td>ufnapl [ mgmt-sa ] (config) # email domain mellanox</td>
</tr>
</tbody>
</table>

**Related Commands**
- show email

**Notes**

### 2.16.4 email mailhub

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Hostname-or-ip-address</th>
<th>Hostname or IP address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td></td>
<td>ufnapl [ mgmt-sa ] (config) # email mailhub 10.0.8.11</td>
</tr>
</tbody>
</table>

**Related Commands**
- show email [events]

**Notes**

### 2.16.5 email mailhub-port

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Port</th>
<th>Port number</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes**

Sets the mail relay port to be used to send notification emails. The no form of the command resets the port to its default.
### 2.16.6 email notify event

**Syntax**
```
email notify event <event-name>
no email notify event <event-name>
```

**Description**
Enables sending email notifications for the specified event type. The no form of the command disables sending email notifications for the specified event type.

**Default**
No events are enabled

**Configuration Mode**
config

**Example**
```
ufmapl [ mgmt-sa ] (config) # email notify event process-crash
```

**Related Commands**
show email events

**Notes**
This does not affect auto-support emails. Auto-support can be disabled overall, but if it is enabled, all auto-support events are sent as emails.

### 2.16.7 email notify recipient

**Syntax**
```
email notify recipient <email-addr> [class {info | failure | detail}]
no email notify recipient <email-addr> [class {info | failure | detail}]
```

**Description**
Adds an email address from the list of addresses to which to send email notifications of events. The no form of the command removes an email address from the list of addresses to which to send email notifications of events.

**Default**
No recipients are added
### 2.16.8 email return-addr

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>email return-addr &lt;username&gt;</code></td>
<td>Sets the username or fully-qualified return address from which email notifications are sent.</td>
</tr>
<tr>
<td><code>no email domain</code></td>
<td>Sets the return address to be the username or fully-qualified return address.</td>
</tr>
</tbody>
</table>

- If the string provided contains an “@” character, it is considered to be fully-qualified and used as-is.
- Otherwise, it is considered to be just the username, and we append “@hostname.<domain>”. The default is “do-not-reply”, but this can be changed to “admin” or whatnot in case something along the line does not like fictitious addresses.

The `no` form of the command resets this attribute to its default.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Default</th>
<th>Configuration Mode</th>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>Username</td>
<td>do-not-reply</td>
<td>config</td>
<td>1.5</td>
</tr>
</tbody>
</table>

### 2.16.9 email return-host

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>email return-host</code></td>
<td>Includes the hostname in the return address for emails. The no form of the command does not include the hostname in the return address for emails.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Default</th>
<th>Configuration Mode</th>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>No return host</td>
<td>config</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Example**

```plaintext
eumap1 (mgmt-sa) (config) # email notify recipient user2@autosupport.mellanox.com
```
Example

ufmapl [ mgmt-sa ] (config) # no email return-host

Related Commands
show email

Notes
This only takes effect if the return address does not contain an "@" character.

2.16.10 email send-test

email send-test
Sends test-email to all configured event and failure recipients.

Syntax Description
N/A

Default
No return host

Configuration Mode
config

History
1.5

Example

ufmapl [ mgmt-sa ] (config) # email autosupport enable

Related Commands
show email [events]

Notes

2.16.11 show email

show email [events]
Shows email configuration or events for which email should be sent upon.

Syntax Description

<table>
<thead>
<tr>
<th>events</th>
<th>Displays event list</th>
</tr>
</thead>
</table>

Default
N/A

Configuration Mode
Any configuration mode

History
1.5

Example

ufmapl [ mgmt-sa ] (config) # show email
Mail hub:           
Mail hub port: 25   
Domain override:   
Return address: do-not-reply
Include hostname in return address: yes
Current reply address: host@localdomain
Security mode: tls-none
Verify server cert: yes
Supplemental CA list: default-ca-list

Dead letter settings:
Save dead.letter files: yes
Dead letter max age: 14 days
Email notification recipients:
No recipients configured.

Autosupport emails
Enabled: no
Recipient: autosupport@autosupport.mellanox.com
Mail hub: autosupport.mellanox.com
Security mode: tls-none
Verify server cert: yes
Supplemental CA list: default-ca-list
# 2.17 Statistics and Alarms

## 2.17.1 stats alarm clear

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>alarm-id</th>
<th>Alarms supported by the system, for example:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>• cpu_util_indiv - average CPU utilization too high: percent utilization</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• disk_io - operating system disk I/O per second too high: kilobytes per second</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• fs_mnt - free filesystem space too low: percent of disk space free</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• intf_util - network utilization too high: bytes per second</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• memory_pct_used - too much memory in use: percent of physical memory used</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• paging - paging activity too high: page faults</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• temperature - temperature is too high: degrees</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

### Example

```bash
ufmapl [ mgmt-sa ] (config) # stats alarm cpu_util_indiv clear
```

### Related Commands

- `show stats alarm`

### Notes

- Related Commands
  - `stats alarm <alarm-id> clear`
  - `stats alarm <alarm-id> enable`
  - `no stats alarm <alarm-id> enable`
  - Enables the alarm.
  - The no form of the command disables the alarm. Notifications will not be received.
### Syntax Description

<table>
<thead>
<tr>
<th>alarm-id</th>
<th>Alarms supported by the system, for example:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• cpu_util_indiv - average CPU utilization too high: percent utilization</td>
</tr>
<tr>
<td></td>
<td>• disk_io - operating system disk I/O per second too high: kilobytes per second</td>
</tr>
<tr>
<td></td>
<td>• fs_mnt - free filesystem space too low: percent of disk space free</td>
</tr>
<tr>
<td></td>
<td>• intf_util - network utilization too high: bytes per second</td>
</tr>
<tr>
<td></td>
<td>• memory_pct_used - too much memory in use: percent of physical memory used</td>
</tr>
<tr>
<td></td>
<td>• paging - paging activity too high: page faults</td>
</tr>
<tr>
<td></td>
<td>• temperature - temperature is too high: degrees</td>
</tr>
</tbody>
</table>

### Default

The default is different per alarm ID

### Configuration Mode

config

### History

1.5

### Example

```
ufmapl [ mgmt-sa ] (config) # stats alarm cpu_util_indiv enable
```

### Related Commands

show stats alarm

### Notes

2.17.3 **stats alarm event-repeat**

```
stats alarm <alarm-id> event-repeat [single | while-not-cleared]
no stats alarm <alarm-id> event-repeat
```

**Syntax Description**

<table>
<thead>
<tr>
<th>alarm-id</th>
<th>Alarms supported by the system, for example:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• cpu_util_indiv - average CPU utilization too high: percent utilization</td>
</tr>
<tr>
<td></td>
<td>• disk_io - operating system disk I/O per second too high: kilobytes per second</td>
</tr>
<tr>
<td></td>
<td>• fs_mnt - free filesystem space too low: percent of disk space free</td>
</tr>
<tr>
<td></td>
<td>• intf_util - network utilization too high: bytes per second</td>
</tr>
<tr>
<td></td>
<td>• memory_pct_used - too much memory in use: percent of physical memory used</td>
</tr>
<tr>
<td></td>
<td>• paging - paging activity too high: page faults</td>
</tr>
<tr>
<td></td>
<td>• temperature - temperature is too high: degrees</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>single</th>
<th>Does not repeat events: only sends one event whenever the alarm changes state</th>
</tr>
</thead>
<tbody>
<tr>
<td>while-not-cleared</td>
<td>Repeats error events until the alarm clears</td>
</tr>
</tbody>
</table>

### Default

Single

### Configuration Mode

config

### History

1.5
2.17.4 stats alarm \{rising | falling\}

Stats alarm \<alarm-id\> \{rising | falling\} \{clear-threshold | error-threshold\} \<threshold-value\>
Configure alarms thresholds.

Syntax Description

<table>
<thead>
<tr>
<th>alarm-id</th>
<th>Alarms supported by the system, for example:</th>
</tr>
</thead>
<tbody>
<tr>
<td>rising</td>
<td>Configures alarm for when the statistic rises too high</td>
</tr>
<tr>
<td>falling</td>
<td>Configures alarm for when the statistic falls too low</td>
</tr>
<tr>
<td>error-threshold</td>
<td>Sets threshold to trigger falling or rising alarm</td>
</tr>
<tr>
<td>clear-threshold</td>
<td>Sets threshold to clear falling or rising alarm</td>
</tr>
<tr>
<td>threshold-value</td>
<td>Threshold value, different per alarm</td>
</tr>
</tbody>
</table>

Default
Default is different per alarm ID

Configuration Mode
config

History
1.5

Example

```
ufmapl [ mgmt-sa ] (config) # stats alarm cpu_util_indiv falling clear-threshold 10
```

Related Commands
show stats alarm

Notes
Not all alarms support all four thresholds.

2.17.5 stats alarm rate-limit

Stats alarm \<alarm-id\> rate-limit \[count \<count-type\> \<count\> | reset | window \<window-type\> \<duration\>\]
Configure alarms rate limit.
### Syntax Description

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>alarm-id</td>
<td></td>
<td>Alarms supported by the system, for example:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• cpu_util_indiv - average CPU utilization too high: percent utilization</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• disk_io - operating system disk I/O per second too high: kilobytes per second</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• fs_mnt - free filesystem space too low: percent of disk space free</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• intf_util - network utilization too high: bytes per second</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• memory_pct_used - too much memory in use: percent of physical memory used</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• paging - paging activity too high: page faults</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• temperature - temperature is too high: degrees</td>
</tr>
<tr>
<td>count-type</td>
<td></td>
<td>Long medium, or short count (number of alarms)</td>
</tr>
<tr>
<td>reset</td>
<td></td>
<td>Set the count and window durations to default values for this alarm</td>
</tr>
<tr>
<td>window-type</td>
<td></td>
<td>Long medium, or short count, in seconds</td>
</tr>
</tbody>
</table>

**Default**
- Short window: 5 alarms in 1 hour
- Medium window: 20 alarms in 1 day
- Long window: 50 alarms in 7 days

**Configuration Mode**
- config

**History**
- 1.5

**Example**
```
ufmapl [ mgmt-sa ] (config) # stats alarm paging rate-limit window long 2000
```

**Related Commands**
- show stats alarm

**Notes**
- 2.17.6 stats chd clear

```
stats chd <chd-id> clear
Cuts CHD counters.
```

---

2.17.6 stats chd clear
Syntax Description

<table>
<thead>
<tr>
<th>chd-id</th>
</tr>
</thead>
</table>

CHD supported by the system, for example:
- **cpu_util** - CPU utilization: percentage of time spent
- **cpu_util_ave** - CPU utilization average: percentage of time spent
- **cpu_util_day** - CPU utilization average: percentage of time spent
- **disk_device_io_hour** - storage device I/O read/write statistics for the last hour: bytes
- **disk_io** - operating system aggregate disk I/O average: KB/sec
- **eth_day**
- **eth_hour**
- **fs_mnt_day** - filesystem system usage average: bytes
- **fs_mnt_month** - filesystem system usage average: bytes
- **fs_mnt_week** - filesystem system usage average: bytes
- **ib_day**
- **ib_hour**
- **intf_day** - network interface statistics aggregation: bytes
- **intf_hour** - network interface statistics (same as “interface” sample)
- **intf_util** - aggregate network utilization across all interfaces
- **memory_day** - average physical memory usage: bytes
- **memory_pct** - average physical memory usage
- **paging** - paging activity: page faults
- **paging_day** - paging activity: page faults

Default

| N/A |

Configuration Mode

| config |

History

| 1.5 |

Example

```
ufmap1 (mgmt-sa) (config) # stats chd memory_day clear
```

Related Commands

| show stats chd |

Notes

2.17.7 stats chd enable

```
stats chd <chd-id> enable
no stats chd <chd-id> enable
```

Enables the CHD.
The no form of the command disables the CHD.
<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>chd-id</th>
<th>CHD supported by the system, for example:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>• cpu_util - CPU utilization: percentage of time spent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• cpu_util_ave - CPU utilization average: percentage of time spent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• cpu_util_day - CPU utilization average: percentage of time spent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• disk_device_io_hour - storage device I/O read/write statistics for the last hour: bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• disk_io - operating system aggregate disk I/O average: KB/sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• eth_day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• eth_hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• fs_mnt_day - filesystem system usage average: bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• fs_mnt_month - filesystem system usage average: bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• fs_mnt_week - filesystem system usage average: bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ib_day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ib_hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• intf_day - network interface statistics aggregation: bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• intf_hour - network interface statistics (same as “interface” sample)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• intf_util - aggregate network utilization across all interfaces</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• memory_day - average physical memory usage: bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• memory_pct - average physical memory usage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• paging - paging activity: page faults</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• paging_day - paging activity: page faults</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>Enabled</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td></td>
</tr>
</tbody>
</table>

```
ufmap1 [ mgmt-sa ] (config) # stats chd memory_day enable
```

<table>
<thead>
<tr>
<th>Related Commands</th>
<th>show stats chd</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

2.17.8 stats chd compute time

```
stats chd <chd-id> compute time [interval | range] <time>
```

Sets parameters for when this CHD is computed.
<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>chd-id</th>
<th>CHD supported by the system, for example:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>• cpu_util - CPU utilization: percentage of time spent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• cpu_util_ave - CPU utilization average: percentage of time spent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• cpu_util_day - CPU utilization average: percentage of time spent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• disk_device_io_hour - storage device I/O read/write statistics for the last hour: bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• disk_io - operating system aggregate disk I/O average: KB/sec</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• eth_day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• eth_hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• fs_mnt_day - filesystem system usage average: bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• fs_mnt_month - filesystem system usage average: bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• fs_mnt_week - filesystem system usage average: bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ib_day</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• ib_hour</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• intf_day - network interface statistics aggregation: bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• intf_hour - network interface statistics (same as “interface” sample)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• intf_util - aggregate network utilization across all interfaces</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• memory_day - average physical memory usage: bytes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• memory_pct - average physical memory usage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• paging - paging activity: page faults</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• paging_day - paging activity: page faults</td>
</tr>
</tbody>
</table>

| interval | Specifies calculation interval (how often to do a new calculation) in number of seconds |
| range    | Specifies calculation range, in number of seconds |
| time     | Number of seconds |

Default

Different per CHD

Configuration Mode config

History 1.5

Example

```
ufmapl [ mgmt-sa ] (config) # stats chd memory_day compute time interval 120
```

Related Commands

show stats chd

Notes

2.17.9 stats sample clear

```
stats sample <sample-id> clear
Clears sample history.
```
### Syntax Description

<table>
<thead>
<tr>
<th>sample-id</th>
<th>Possible sample IDs are:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• congested</td>
</tr>
<tr>
<td></td>
<td>• cpu_util - CPU utilization: milliseconds of time spent</td>
</tr>
<tr>
<td></td>
<td>• disk_device_io - storage device I/O statistics</td>
</tr>
<tr>
<td></td>
<td>• disk_io - operating system aggregate disk I/O: KB/sec</td>
</tr>
<tr>
<td></td>
<td>• eth</td>
</tr>
<tr>
<td></td>
<td>• fan - fan speed</td>
</tr>
<tr>
<td></td>
<td>• fs_mnt_bytes - filesystem usage: bytes</td>
</tr>
<tr>
<td></td>
<td>• fs_mnt_inodes - filesystem usage: inodes</td>
</tr>
<tr>
<td></td>
<td>• ib</td>
</tr>
<tr>
<td></td>
<td>• interface - network interface statistics</td>
</tr>
<tr>
<td></td>
<td>• intf_util - network interface utilization: bytes</td>
</tr>
<tr>
<td></td>
<td>• memory - system memory utilization: bytes</td>
</tr>
<tr>
<td></td>
<td>• paging - paging activity: page faults</td>
</tr>
<tr>
<td></td>
<td>• power - power supply usage</td>
</tr>
<tr>
<td></td>
<td>• power-consumption</td>
</tr>
<tr>
<td></td>
<td>• temperature - modules temperature</td>
</tr>
</tbody>
</table>

### Default

| N/A |

### Configuration Mode

| config |

### History

1.5

### Example

```
ufmapl [ mgmt-sa ] (config) # stats sample temperature clear
```

### Related Commands

| show stats sample |

### Notes

2.17.10  `stats sample enable`

<table>
<thead>
<tr>
<th>stats sample &lt;sample-id&gt; enable</th>
</tr>
</thead>
<tbody>
<tr>
<td>no stats sample &lt;sample-id&gt; enable</td>
</tr>
</tbody>
</table>

Enables the sample.
The no form of the command disables the sample.
## Syntax Description

<table>
<thead>
<tr>
<th>sample-id</th>
<th>Possible sample IDs are:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• congested</td>
</tr>
<tr>
<td></td>
<td>• cpu_util - CPU utilization: milliseconds of time spent</td>
</tr>
<tr>
<td></td>
<td>• disk_device_io - storage device I/O statistics</td>
</tr>
<tr>
<td></td>
<td>• disk_io - operating system aggregate disk I/O: KB/sec</td>
</tr>
<tr>
<td></td>
<td>• eth</td>
</tr>
<tr>
<td></td>
<td>• fan - fan speed</td>
</tr>
<tr>
<td></td>
<td>• fs_mnt_bytes - filesystem usage: bytes</td>
</tr>
<tr>
<td></td>
<td>• fs_mnt_inodes - filesystem usage: inodes</td>
</tr>
<tr>
<td></td>
<td>• ib</td>
</tr>
<tr>
<td></td>
<td>• interface - network interface statistics</td>
</tr>
<tr>
<td></td>
<td>• intf_util - network interface utilization: bytes</td>
</tr>
<tr>
<td></td>
<td>• memory - system memory utilization: bytes</td>
</tr>
<tr>
<td></td>
<td>• paging - paging activity: page faults</td>
</tr>
<tr>
<td></td>
<td>• power - power supply usage</td>
</tr>
<tr>
<td></td>
<td>• power-consumption</td>
</tr>
<tr>
<td></td>
<td>• temperature - modules temperature</td>
</tr>
</tbody>
</table>

### Default
- Enabled

### Configuration Mode
- config

### History
- 1.5

### Example

```
ufmapl [ mgmt-sa ] (config) # stats sample temperature enable
```

### Related Commands
- show stats sample

### Notes
- 2.17.11 stats sample interval

### Explanation

`Stats sample <sample-id> interval <time>`

Sets the amount of time between samples for the specified group of sample data.
### Syntax Description

<table>
<thead>
<tr>
<th>sample-id</th>
<th>Possible sample IDs are:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>• congested</td>
</tr>
<tr>
<td></td>
<td>• cpu_util – CPU utilization: milliseconds of time spent</td>
</tr>
<tr>
<td></td>
<td>• disk_device_io - storage device I/O statistics</td>
</tr>
<tr>
<td></td>
<td>• disk_io - operating system aggregate disk I/O: KB/sec</td>
</tr>
<tr>
<td></td>
<td>• eth</td>
</tr>
<tr>
<td></td>
<td>• fan - fan speed</td>
</tr>
<tr>
<td></td>
<td>• fs_mnt_bytes - filesystem usage: bytes</td>
</tr>
<tr>
<td></td>
<td>• fs_mnt_inodes - filesystem usage: inodes</td>
</tr>
<tr>
<td></td>
<td>• ib</td>
</tr>
<tr>
<td></td>
<td>• interface - network interface statistics</td>
</tr>
<tr>
<td></td>
<td>• intf_util - network interface utilization: bytes</td>
</tr>
<tr>
<td></td>
<td>• memory - system memory utilization: bytes</td>
</tr>
<tr>
<td></td>
<td>• paging - paging activity: page faults</td>
</tr>
<tr>
<td></td>
<td>• power - power supply usage</td>
</tr>
<tr>
<td></td>
<td>• power-consumption</td>
</tr>
<tr>
<td></td>
<td>• temperature - modules temperature</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>time</th>
<th>Number of seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Different per sample</td>
</tr>
</tbody>
</table>

**Default**

- Different per sample

**Configuration Mode**

- config

**History**

- 1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # stats sample temperature interval 1
```

**Related Commands**

- show stats sample

**Notes**

---

### 2.17.12 stats clear-all

Clears data for all samples, CHDs, and status for all alarms.

**Syntax Description**

- N/A

**Default**

- N/A

**Configuration Mode**

- config

**History**

- 1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # stats clear-all
```

**Related Commands**

- show stats sample

**Notes**
### 2.17.13 stats export

**Syntax**

\[
\text{stats export } <\text{format}> <\text{report-name}> [(after | before) <yyyy/mm/dd> \<hh:mm:ss>] [filename <filename>] \\
\]

Exports statistics to a file.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>format</th>
<th>Currently the only supported value for &lt;format&gt; is &quot;csv&quot; (comma-separated value)</th>
</tr>
</thead>
</table>
|                     | report-name | Determines dataset to be exported. Possible report names are: 
|                     |         | - memory - memory utilization 
|                     |         | - paging - paging I/O 
|                     |         | - cpu_util - CPU utilization 
|                     | after | Only includes stats collected after or before a specific time |
|                     | yyyy/mm/dd | Date must be between 1970/01/01 and 2038/01/19 |
|                     | hh:mm:ss | Time must be between 00:00:00 and 03:14:07 UTC and is treated as local time |
|                     | filename | Specifies filename to give new report. If a filename is specified, the stats will be exported to a file of that name; otherwise a name will be chosen automatically and will contain the name of the report and the time and date of the export. Any automatically-chosen name will be given a .csv extension. |

**Default**

N/A

**Configuration Mode**

config

**History**

1.5

**Example**

```
ufmapl (mgmt-sa) (config) # stats export csv memory filename mellanoxexample before 2000/08/14 15:59:50 after 2000/08/14 15:01:50
```

Generated report file: mellanoxexample.csv

**Related Commands**

show files stats

**Notes**


### 2.17.14 show stats alarm

**Syntax**

\[
\text{show stats alarm } [<\text{alarm-id}> [rate-limit]] \\
\]

Displays status of all alarms or the specified alarm.
Syntax Description | alarm-id | • cpu_util_indiv - average CPU utilization too high: percent utilization  
• disk_io - operating system disk I/O per second too high: kilobytes per second  
• fs_mnt - free filesystem space too low: percent of disk space free  
• intf_util - network utilization too high: bytes per second  
• memory_pct_used - too much memory in use: percent of physical memory used  
• paging - paging activity too high: page faults  
• temperature - temperature is too high: degrees  

rate-limit | Displays rate limit parameters  

Default | N/A  

Configuration Mode | Any configuration mode  

History | 1.5  

Example

```
uMap1 { mgmt-sa } (conf) # show stats alarm  
Alarm cpu_util_indiv (Average CPU utilization too high): ok  
Alarm disk_io (Operating System Disk I/O per second too high): (disabled)  
Alarm fs_mnt (Free filesystem space too low): ok  
Alarm intf_util (Network utilization too high): (disabled)  
Alarm memory_pct_used (Too much memory in use): (disabled)  
Alarm paging (Paging activity too high): ok  
Alarm temperature (Temperature is too high): ok
```

Related Commands | stats alarm  

Notes

2.17.15 show stats chd

```
show stats chd [<chd-id>]  
Displays configuration of all statistics CHDs.
```
show stats cpu

Displays some basic stats about CPU utilization:
• the current level
• the peak over the past hour
• the average over the past hour

Syntax Description
N/A

Default
N/A

Example
ufmap1 [ mgmt-sa ] (config) # show stats chd disk_device_io_hour
CHD "disk_device_io_hour" (Storage device I/O read/write statistics for the
last hour: bytes):
  Enabled: yes
  Source dataset: sample "disk_device_io"
  Computation basis: data points
  Interval: 1 data point(s)
  Range: 1 data point(s)
### Configuration Mode
Any configuration mode

### History
1.5

### Example
```
ufmap1 [ mgmt-sa ] (config) # show stats cpu
CPU 0
Utilization: 6%
Peak Utilization Last Hour: 16% at 2012/02/28 08:47:32
Avg. Utilization Last Hour: 8%
```

### Related Commands
- `stats sample`

### Notes
- `2.17.17 show stats sample`

```markdown
# show stats sample

The `show stats sample` command displays the sampling interval for all samples, or the specified one.

### Syntax Description
- **Syntax:**
  ```
  show stats sample [<sample-id>]
  ```
- **Description:**
  Displays sampling interval for all samples, or the specified one.

### Syntax Parameters
- **Sample-ID**
  - `sample-id` is a parameter that specifies the sample ID.

### Syntax Description
- **Sample ID:**
  - `congested`
  - `cpu_util` - CPU utilization: milliseconds of time spent
  - `disk_device_io` - storage device I/O statistics
  - `disk_io` - operating system aggregate disk I/O: KB/sec
  - `eth`
  - `fan` - fan speed
  - `fs_mnt_bytes` - filesystem usage: bytes
  - `fs_mnt_inodes` - filesystem usage: inodes
  - `ib`
  - `interface` - network interface statistics
  - `intf_util` - network interface utilization: bytes
  - `memory` - system memory utilization: bytes
  - `paging` - paging activity: page faults
  - `power` - power supply usage
  - `power-consumption`
  - `temperature` - modules temperature

### Default
N/A

### Configuration Mode
Any configuration mode

### History
1.5

### Example
```
ufmap1 [ mgmt-sa ] (config) # show stats sample fan
Sample "fan" (Fan speed):
Enabled: yes
Sampling interval: 1 minute 11 seconds
```

### Related Commands
- `stats sample`

### Notes
2.18 Chassis Management

2.18.1 show version

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>concise</th>
<th>Displays version information for the currently running system image. Fits output onto one line</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

```
ufmapl [ mgmt-sa ] (config) # show version
Product name:      ufm_appliance
Product release:   UFMAPL_1.5.0.14_UFM_4.0.0.19
Build ID:          #1-dev
Build date:        2013-03-03 16:39:17
Target arch:       x86_64
Target hw:         x86_64
Built by:          root@r-build01
Version summary:   ufm_appliance UFMAPL_1.5.0.14_UFM_4.0.0.19
2013-03-03 16:39:17 x86_64
Product model:     x86
Host Id:           c194d88f500e
System serial num: F6qnuuhLcxjG
System GUID:       435a85f4-22cc-e111-a4eb-001e6754a51b
Uptime:            1d 1h 48m 43.424s
CPU load averages: 0.00 / 0.00 / 0.00
Number of CPUs:    24
System memory:     1441 MB used / 30700 MB free / 32141 MB total
Swap:              0 MB used / 1506 MB free / 1506 MB total
```

Related Commands

Notes

2.18.2 show inventory

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
<th>Displays system inventory.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

```
ufmapl [ mgmt-sa ] (config) # show inventory
```

4.3.0 Updated output

4.3.0 Updated output
2.18.3 show chassis health

show chassis health
Displays chassis health status.

Syntax Description
N/A

Default
N/A

Configuration Mode
Any configuration mode

History
1.6

Example

ufmapl [ mgmt-sa ] (config) # show inventory
Inventory refresh. Please wait...

Module        Type          Part number         Serial Number
===============================================================
BOARD         S2600GZ       G11481-352          QSGR2880436
PS1           DPS-750XB A   MUA90-PF          E98791D229075650
PS2           DPS-750XB A   MUA90-PF          E98791D229075651
DRIVE1        SATA (931.012 GB) MUA90-HD     WD-WCAW36161668DC
DRIVE2        SATA (931.012 GB) MUA90-HD     WD-WCAW34679998569DC
HCA            ConnectX-6  MCX653166A-HDAT     MT1234011297

Related Commands

Notes

2.18.4 show memory

show memory
Displays memory status.

Syntax Description
N/A

Default
N/A

Configuration Mode
Any configuration mode

History
1.5
### 2.18.5 show chassis input power

**show chassis input power**
Displays chassis input power information.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [ mgmt-sa ] (config) # show chassis input power
Refreshing input power information. Please wait...
Input Power Supply 1       0 Watts
Input Power Supply 2       116 Watts
```

### 2.18.6 chassis altitude

```
chassis altitude <elevation>
Updates the chassis altitude.
```

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>elevation</th>
<th>Possible chassis altitude values are:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>• 300: 300m or less</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 900: 301m - 900m</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 1500: 901m - 1500m</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• 3000: Higher than 1500m</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [ mgmt-sa ] (config) # chassis altitude 300
```
### 2.18.7 chassis remote-management dhcp

**chassis remote-management dhcp**  
Updates chassis remote-management interface to DHCP

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Example**

```
ufmap1 [ mgmt-sa ] (config) # chassis remote-management dhcp
```

**Related Commands**

**Notes**

### 2.18.8 chassis remote-management ip

**chassis remote-management ip [address <ip> <netmask> | default-gateway <ipv4-address>]**  
Updates chassis remote-management IP address.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>address</th>
<th>Configures IP address and netmask for remote-management</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>default-gateway</td>
<td>Configures a default route for chassis remote management</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
</tbody>
</table>

**History**

| 4.5.0 | Added “default-gateway” parameter |

**Example**

```
ufmap1 [ mgmt-sa ] (config) # chassis remote-management up address 10.10.10.10 /30
```

**Related Commands**

**Notes**

### 2.18.9 chassis remote-management ipv6

**chassis remote-management ipv6 [enable | dhcp | autoconfig | address <ipv6-address> <prefix len 0-128> | default-gateway <ipv6-address>]**  
Updates IPv6 support for chassis remote management.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>enable</th>
<th>Enables IPv6 support for chassis remote management interface</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>dhcp</td>
<td>Sets the chassis remote management interface from which non-interface-specific (resolver) configuration is accepted via DHCPv6</td>
</tr>
</tbody>
</table>

146
<table>
<thead>
<tr>
<th>autoconfig</th>
<th>Enables IPv6 stateless address auto configuration (SLAAC) for the chassis remote management interface</th>
</tr>
</thead>
<tbody>
<tr>
<td>address</td>
<td>Configures a static IPv6 address and prefix length</td>
</tr>
<tr>
<td>default-gateway</td>
<td>Sets a static default gateway for the chassis remote management interface</td>
</tr>
</tbody>
</table>

**Default**

**Configuration Mode**

**History**

**Example**

```
ufmapl [ mgmt-sa ] (config) # chassis remote-management ipv6 dhcp
```

**Related Commands**

- `show chassis remote-management ip`

**Notes**

---

### 2.18.10 chassis remote-management username

chassis remote-management username <username> <password>
Configures the remote-management username and password.

**Syntax Description**

N/A

**Default**

N/A

**Configuration Mode**

config

**History**

1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # chassis remote-management username ufm-test Str0nXP4sS
```

**Related Commands**

**Notes**

---

### 2.18.11 show chassis firmware

show chassis firmware
Displays the BIOS package information.

**Syntax Description**

N/A

**Default**

N/A

**Configuration Mode**

Any configuration mode

**History**

1.5

**Example**

```
ufmapl [ mgmt-sa ] (config) # show chassis firmware
Running chassis image: SE5608.868.01.06.0002
```

**Related Commands**
2.18.12 show chassis remote-management

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Example

```
ufmap1 [ mgmt-sa ] (config) # show chassis remote-management ip
LAN Configuration Settings:
-----------------------------------------------
LAN Channel Selected: 3
LAN Alert Destination Index Selected: None. LAN Alert Configuration will not be displayed.
IP Address Source: DHCP
DHCP Host Name: UFMAPL-00:1E:67:49:CF:BD
LAN Failover Mode: DISABLE
BMC Host IP Address: 172.30.11.214
Subnet Mask: 255.255.0.0
Gateway IP Address: 172.30.0.1
Gateway MAC Address: 00-00-00-00-00-00
Backup Gateway IP Address: 0.0.0.0
Backup Gateway MAC Address: 00-00-00-00-00-00
Community String: public
Gratuitous ARP Enable: DISABLE
Gratuitous ARP Interval (milliseconds): 0
BMC ARP Response Enable: ENABLE
IPV6 Configuration Settings:
-----------------------------------------------
IPV6 Status: DISABLE
IPV6 IP Address Source: STATIC
IPV6 Prefix Length: 64
IPV6 IP Address: 000:000:000:000:000:000:000:000
IPV6 Default Gateway: 000:000:000:000:000:000:000:000
```

Related Commands

- chassis remote-management

Notes

2.18.13 show chassis altitude

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>
Example

ufmapl [ mgmt-sa ] (config) # show chassis altitude
Altitude
Current Value : 301m - 900m
Possible Values
---------------------------
300 : 300m or less
900 : 301m - 900m
1500 : 901m - 1500m
3000 : Higher than 1500m

Related Commands
chassis altitude

Notes

2.18.14 show chassis raid

show chassis raid
Displays the status of the RAID configuration.

Syntax Description
N/A

Default
N/A

Configuration Mode
Any configuration mode

History
1.5

4.3 Updated output

Example

ufmapl [ mgmt-sa ] (config) # show chassis raid
RAID state: Optimal
DRIVE1 state: Online,SpunUp
DRIVE2 state: Online,SpunUp

Related Commands

Notes

2.18.15 show chassis raid rebuild-status

show chassis raid rebuild-status [drive1 | drive2]
Displays the status of “rebuilding” process for the selected drive.

Syntax Description
N/A

Default
N/A

Configuration Mode
Any configuration mode

History
1.5

4.3 Updated “HDD” to “drive”
Example

ufmapl [ mgmt-sa ] (config) # show chassis rebuild-status
drive1
Rebuild progress of physical drivers....
Enclosure: Slot Percent Complete Time Elaps
---:00  #***********35%***************** 00:06:13
Press <ESC> key to quit....

Related Commands
Notes

2.19 Cryptography (X.509, IPSec)

2.19.1 crypto ipsec ike

crypto ipsec ike [clear sa [peer [any | <ipv4v6-address>] local <ip- address>] | restart]
Manage the IKE (ISAKMP) process or database state.

Syntax Description

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>clear</td>
<td>Clears IKE (ISAKMP) peering state</td>
</tr>
<tr>
<td>sa</td>
<td>Clears IKE generated ISAKMP and IPSec security associations (remote peers are affected)</td>
</tr>
<tr>
<td>peer</td>
<td>Clears security associations for the specified IKE peer (remote peers are affected).</td>
</tr>
<tr>
<td></td>
<td>• all - clears security associations for all IKE peerings with a specific local address (remote peers are affected)</td>
</tr>
<tr>
<td></td>
<td>• IPv4 or IPv6 address - clears security associations for specific IKE peering with a specific local address (remote peers are affected)</td>
</tr>
<tr>
<td>local</td>
<td>Clear security associations for the specified/all IKE peering (remote peer is affected)</td>
</tr>
<tr>
<td>restart</td>
<td>Restarts the IKE (ISAKMP) daemon (clears all IKE state, peers may be affected)</td>
</tr>
</tbody>
</table>

Default
N/A

Configuration Mode
config

History
1.1.0

Example

ufmapl [ mgmt-sa ] (config) # crypto ipsec ike restart

Related Commands
Notes
### 2.19.2 crypto ipsec peer local

```plaintext
crypto ipsec peer <ipv4v6-address> local <ipv4v6-address> {enable | keying {ike [auth [hmac-md5 | hmac-sha1 | hmac-sha256 | null] | dh-group | disable | encrypt | exchange-mode | lifetime | local-identity | mode | peer-identity | pfs-group | preshared-key | prompt-preshared-key | transform-set] | manual [auth | disable | encrypt | local-spi | mode | remote-spi]}}
```

Configures IPsec in the system.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>enable</th>
<th>Enables IPsec peering</th>
</tr>
</thead>
<tbody>
<tr>
<td>ike</td>
<td></td>
<td>Configures IPsec peering using IKE ISAKMP to manage SA keys.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• auth - configures the authentication algorithm for IPsec peering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• dh-group - configures the phase1 Diffie-Hellman group proposed for secure IKE key exchange</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• disable - configures this IPsec peering administratively disabled</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• encrypt - configures the encryption algorithm for IPsec peering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• exchange-mode - configures the IKE key exchange mode to propose for peering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• lifetime - configures the SA lifetime to propose for this IPsec peering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• local-identity - configures the ISAKMP payload identification value to send as local endpoint’s identity</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• mode - configures the peering mode for this IPsec peering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• peer-identity - configures the identification value to match against the peer’s ISAKMP payload identification</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• pfs-group - configures the phase2 PFS (Perfect Forwarding Secrecy) group to propose for Diffie-Hellman exchange for this IPsec peering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• preshared-key - configures the IKE pre-shared key for the IPsec peering</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• prompt-preshared-key - prompts for the pre-shared key, rather than entering it on the command line</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• transform-set - configures transform proposal parameters</td>
</tr>
</tbody>
</table>
```
Configures key management for this IPSec peering:
- `auth` - configures the authentication algorithm for this IPSec peering
- `disable` - configures this IPSec peering administratively disabled
- `encrypt` - configures the encryption algorithm for this IPSec peering
- `local-spi` - configures the local SPI for this manual IPSec peering
- `mode` - configures the peering mode for this IPSec peering
- `remote-spi` - configures the remote SPI for this manual IPSec peering

Configures IPSec peering using manual keys

Default: N/A

Configuration Mode: `config`

History: 1.1.0

Example:
```
ufmap1 [ mgmt-sa ] (config) # crypto ipsec peer 10.10.10.10 local 10.7.34.139 enable
```

Related Commands

---

2.19.3 `crypto certificate ca-list`

crypto certificate ca-list [default-ca-list [name [<-CA list name> | system-self-signed]]]
no crypto certificate ca-list [default-ca-list [name [<-cert-name> | system-self-signed]]]

Adds the specified CA certificate to the default CA certificate list. The no form of the command removes the certificate from the default CA certificate list.

Syntax Description:
- `cert-name`: Name of the certificate

Default: N/A

Configuration Mode: `config`

History: 1.1.0

Example:
```
ufmap1 [ mgmt-sa ] (config) # crypto certificate ca-list default-ca-list name test
```

Related Commands
Two certificates with the same subject and issuer fields cannot both be placed onto the CA list
The no form of the command does not delete the certificate from the certificate database
Unless specified otherwise, applications that use CA certificates will still consult the well-known certificate bundle before looking at the default-ca-list

<table>
<thead>
<tr>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Two certificates with the same subject and issuer fields cannot both be placed onto the CA list</td>
</tr>
<tr>
<td>• The no form of the command does not delete the certificate from the certificate database</td>
</tr>
<tr>
<td>• Unless specified otherwise, applications that use CA certificates will still consult the well-known certificate bundle before looking at the default-ca-list</td>
</tr>
</tbody>
</table>

### 2.19.4 crypto certificate default-cert

Designates the named certificate as the global default certificate role for authentication of this system to clients.
The no form of the command reverts the default-cert name to "system-self-signed" (the "cert-name" value is optional and ignored).

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>cert-name</th>
<th>Name of the certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.1.0</td>
<td></td>
</tr>
</tbody>
</table>

**Example**

```
ufmap1 [ mgmt-sa ] (config) # crypto certificate default-cert name test
```

<table>
<thead>
<tr>
<th>Related Commands</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>• A certificate must already be defined before it can be configured in the default-cert role</td>
</tr>
<tr>
<td>• If the named default-cert is deleted from the database, the default-cert automatically becomes reconfigured to the factory default, the &quot;system-self-signed&quot; certificate</td>
</tr>
</tbody>
</table>

### 2.19.5 crypto certificate generation

Configures default values for certificate generation.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>country-code</th>
<th>Configures the default certificate value for country code with a two-alphanumeric-character code or - for none</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>days-valid</td>
<td>Configures the default certificate valid days. Default: 365 days.</td>
</tr>
<tr>
<td></td>
<td>email-addr</td>
<td>Configures the default certificate value for email address</td>
</tr>
<tr>
<td></td>
<td>key-size-bits</td>
<td>Configures the default certificate value for private key size. (Private key length in bits - at least 1024, but 2048 is strongly recommended.)</td>
</tr>
<tr>
<td>locality</td>
<td>Configures the default certificate value for locality</td>
<td></td>
</tr>
<tr>
<td>----------</td>
<td>------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>org-unit</td>
<td>Configures the default certificate value for organizational unit</td>
<td></td>
</tr>
<tr>
<td>organization</td>
<td>Configures the default certificate value for the organization name</td>
<td></td>
</tr>
<tr>
<td>state-or-prov</td>
<td>Configures the default certificate value for state or province</td>
<td></td>
</tr>
</tbody>
</table>

Default  
N/A

Configuration Mode  
config

History  
1.1.0

Example

```
uimapl [ mgmt-sa ] (config) # crypto certificate generation default days-valid
```

Related Commands

Notes

---

**2.19.6 crypto certificate name**

crypto certificate name [<name> | system-self-signed] [comment <new comment> | generate self-signed [comment <cert-comment> | common-name <domain> | country-code <code> | days-valid <days> | email-addr <address> | key-size-bits <bits> | locality <name> | org-unit <name> | organization <name> | serial-num <number> | state-or-prov <name>]] | private-key pem <PEM string> | prompt-private-key | public-cert [comment <comment string> | pem <PEM string>] | regenerate days-valid <days> | rename <new name>]

no crypto certificate name <cert-name>

Configures default values for certificate generation.
The no form of the command clears/deletes certain certificate settings.

**Syntax Description**

<p>| cert-name | Unique name by which the certificate is identified |
| comment | Specifies a certificate comment |</p>
<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
</table>
| generate self-signed  | Generates certificates. This option has the following parameters which may be entered sequentially in any order:
|                       | • comment: specifies a certificate comment (free string)                   |
|                       | • common-name: specifies the common name of the issuer and subject (e.g. a domain name) |
|                       | • country-code: specifies the country code following the - character (e.g. a domain name) |
|                       | • days-valid: specifies the number of days the certificate is valid         |
|                       | • email-addr: specifies the email address                                  |
|                       | • key-size-bits: specifies the size of the private key in bits (private key length in bits - at least 1024 but 2048 is strongly recommended) |
|                       | • locality: specifies the locality name                                    |
|                       | • org-unit: specifies the organizational unit name                        |
|                       | • organization: specifies the organization name                          |
|                       | • serial-num: specifies the serial number for the certificate (a lower-case hexadecimal serial number prefixed with “0x”) |
|                       | • state-or-prov: specifies the state or province name                     |
| private-key pem       | Specifies certificate contents in PEM format                              |
| prompt-private-key    | Prompts for certificate private key with secure echo                      |
| public-cert           | Installs a certificate                                                    |
| regenerate            | Regenerates the named certificate using configured certificate generation default values for the specified validity period |
| rename                | Renames the certificate                                                   |

**Default**

N/A

**Configuration Mode**

config

**History**

1.1.0

**Example**

```plaintext
ufmapl [ mgmt-sa ] (config) # crypto certificate name system-self-signed
generate self-signed key-size-bits 2048
```

**Related Commands**

**Notes**

**2.19.7 crypto certificate system-self-signed**

```plaintext
crypto certificate system-self-signed regenerate [days-valid <days>]
```

Configures default values for certificate generation.
### Syntax Description

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>days-valid</th>
<th>Specifies the number of days the certificate is valid</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th>config</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>1.1.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufmtap1 [ mgmt-sa ] (config) # crypto certificate system-self-signed regenerate days-valid 3</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Related Commands</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Notes</th>
</tr>
</thead>
</table>

#### 2.19.8 show crypto certificate

```
show crypto certificate [detail | public-pem | default-cert [detail | public-pem] | [name <cert-name> [detail | public-pem] | ca-list [default-ca-list]]
```

Displays information about all certificates in the certificate database.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>ca-list</th>
<th>Specifies the number of days the certificate is valid</th>
</tr>
</thead>
<tbody>
<tr>
<td>default-ca-list</td>
<td>Displays information about the currently configured default certificates of the CA list</td>
<td></td>
</tr>
<tr>
<td>default-cert</td>
<td>Displays information about the currently configured default certificate</td>
<td></td>
</tr>
<tr>
<td>detail</td>
<td>Displays all attributes related to the certificate</td>
<td></td>
</tr>
<tr>
<td>name</td>
<td>Displays information about the certificate specified</td>
<td></td>
</tr>
<tr>
<td>public-pem</td>
<td>Displays the uninterpreted public certificate as a PEM formatted data string</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th>Any configuration mode</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>1.1.0</td>
</tr>
</tbody>
</table>
Example

ufmapl [ mgmt-sa ] (config) # show crypto certificate
Certificate with name 'system-self-signed' (default-cert)
Comment: system-generated self-signed
Certificate Key: present
Serial Number: Oxe40c953511bcafc2iac8ae8249f60b0844
SHA-1 Fingerprint:
feed5f2d2691976b2b244f626b49268063c5f
Validity:
Starts: 2012/12/02 13:46:08
Expires: 2013/12/02 13:45:08
Subject:
Common Name: IBM-DEV-Bay4
Country: IS
State or Province: 
Locality: 
Organization: 
Organizational Unit: 
E-mail Address: 
Issuer:
Common Name: IBM-DEV-Bay4
Country: IS
State or Province: 
Locality: 
Organization: 
Organizational Unit: 
E-mail Address:

Related Commands

Notes

2.19.9 show crypto ipsec

show crypto ipsec [brief | configured | ike | policy | sa]
Displays information ipsec configuration.

Syntax Description
N/A

Default
N/A

Configuration Mode
Any configuration mode

History
1.1.0

Example

ufmapl [ mgmt-sa ] (config) # show crypto ipsec
IPSec Summary
-----------------
Crypto IKE is using pluto (Openswan) daemon.
Daemon process state is stopped.
No IPSec peers configured.

IPSec IKE Peering State
-----------------------
Crypto IKE is using pluto (Openswan) daemon.
Daemon process state is stopped.
No active IPSec IKE peers.

IPSec Policy State
------------------
No active IPSec policies.

IPSec Security Association State
--------------------------------
No active IPSec security associations.

Related Commands

Notes
# 2.20 Docker Container

## 2.20.1 docker

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
</tr>
<tr>
<td>Example</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ufm [ mgmt-sa ] (config) # docker</td>
</tr>
<tr>
<td></td>
<td>ufm [ mgmt-sa ] (config docker) #</td>
</tr>
<tr>
<td>Related Commands</td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

Enables dockers then enters docker configuration context. The no form of the command disables dockers, removes configuration, and deletes all containers and docker images.

## 2.20.2 commit

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>container-name</th>
<th>Name of the running container to commit (limited to 180 characters)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>image-name</td>
<td>Name of the new image to be created</td>
</tr>
<tr>
<td></td>
<td>image-version</td>
<td>Version of the new image to be created</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config docker</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>ufm [ mgmt-sa ] (config docker) # commit mycontainer test latest</td>
<td></td>
</tr>
<tr>
<td>Related Commands</td>
<td>docker</td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Creates a new image from a running container.
### 2.20.3 remove image

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
<th>Default</th>
<th>Configuration Mode</th>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>image-name</td>
<td>Name of the new image to be deleted</td>
<td>N/A</td>
<td>config docker</td>
<td>4.3.0</td>
</tr>
<tr>
<td>image-version</td>
<td>Version of the new image to be deleted</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Example**

```
ufm [ mgmt-sa ] (config docker) # remove image test latest
```

**Related Commands**

docker

**Notes**

### 2.20.4 exec

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
<th>Default</th>
<th>Configuration Mode</th>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>container-name</td>
<td>Name of the running container to commit (limited to 180 characters)</td>
<td>N/A</td>
<td>config docker</td>
<td>4.3.0</td>
</tr>
<tr>
<td>program-executable</td>
<td>Linux command</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Example**

```
ufm [ mgmt-sa ] (config docker) # exec mycontainer "ls -la"
```

**Related Commands**

docker

**Notes**

### 2.20.5 file fetch

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
<th>Default</th>
<th>Configuration Mode</th>
<th>History</th>
</tr>
</thead>
<tbody>
<tr>
<td>url</td>
<td>Download a docker file from a remote host or a USB device. FTP, TFTP, SCP and SFTP are supported (e.g. scp://username[:password]@hostname-or-ip/path/filename)</td>
<td>N/A</td>
<td>config docker</td>
<td>4.3.0</td>
</tr>
</tbody>
</table>

**Default**

N/A

**Configuration Mode**

cfg docker

**History**

4.3.0
### 2.20.6 image upload

```
image upload <filename> <upload_url>
```

Uploads an image file to a remote host.

**Syntax Description**

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>filename</td>
<td>Name of file</td>
</tr>
<tr>
<td>upload_url</td>
<td>FTP, TFTP, SCP and SFTP are supported (e.g. scp://username[:password]@hostname-or-ip/path/filename)</td>
</tr>
</tbody>
</table>

**Default**

N/A

**Configuration Mode**

config docker

**History**

4.3.0

**Example**

```
ufm [ mgmt-sa ] (config docker) # image upload centos.img.gz scp://username:password@10.10.10.10/var/www/html/<image_name>
```

**Related Commands**

docker

**Notes**

2.20.7 file image upload

```
file image upload <filename> <upload_url>
```

Uploads a file to a remote host.

**Syntax Description**

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>filename</td>
<td>Name of file</td>
</tr>
<tr>
<td>upload_url</td>
<td>FTP, TFTP, SCP and SFTP are supported (e.g. scp://username[:password]@hostname-or-ip/path/filename)</td>
</tr>
</tbody>
</table>

**Default**

N/A

**Configuration Mode**

config docker

**History**

4.3.0

**Example**

```
ufm [ mgmt-sa ] (config docker) # file image upload centos.img.gz scp://username:password@10.10.10.10/var/www/html/<image_name>
```

**Related Commands**

docker

**Notes**
### 2.20.8 label

<table>
<thead>
<tr>
<th>label &lt;label-name&gt;</th>
<th>Creates a label which can be used as a shared storage between containers. The no form of the command removes the label.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntax Description</td>
<td>label-name Name of label</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config docker</td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
</tr>
<tr>
<td>Example</td>
<td>ufm [ mgmt-sa ] (config docker) # label new_label</td>
</tr>
</tbody>
</table>

**Related Commands**

- docker

**Notes**

### 2.20.9 label-fetch

<table>
<thead>
<tr>
<th>label-fetch &lt;url&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Downloads label output files from a remote host or USB device.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>url FTP, TFTP, SCP and SFTP are supported (e.g. scp://username[:password]@hostname-or-ip/path/filename)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config docker</td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
</tr>
<tr>
<td>Example</td>
<td>ufm [ mgmt-sa ] (config docker) # label-fetch scp://root:******@r-ufm208/tmp/telemetry.1.config.zip telemetry.1.config 100.0% [################################################]</td>
</tr>
</tbody>
</table>

**Related Commands**

- docker

**Notes**

### 2.20.10 label-upload

<table>
<thead>
<tr>
<th>label-upload &lt;url&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Uploads label output files to a remote host or USB device.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>url FTP, TFTP, SCP and SFTP are supported (e.g. scp://username[:password]@hostname-or-ip/path/filename)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config docker</td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
</tr>
</tbody>
</table>
### 2.20.11 pull

Pulls a docker image from a docker repository.

#### Syntax Description

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>image-name</td>
<td>Name of image</td>
</tr>
<tr>
<td>image-version</td>
<td>Version of image</td>
</tr>
<tr>
<td>filename</td>
<td>Name of file in which to save image</td>
</tr>
</tbody>
</table>

#### Default

N/A

#### Configuration Mode

config docker

#### History

4.3.0

#### Example

```conf
ufm [ mgmt-sa ] (config docker) # pull test
Using default tag: latest
latest: Pulling from library/test
45a2e64576c: Pull complete
Digest: sha256:577af3197aadceedf79c3a204cd7f493c8e07f9f07f88f7500000038799
Status: Downloaded newer image for test:latest
```

#### Related Commands

docker

docker load

#### Notes

- **2.20.12 save**

Saves an image to a TAR archive.

#### Syntax Description

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>image-name</td>
<td>Name of image</td>
</tr>
<tr>
<td>image-version</td>
<td>Version of image</td>
</tr>
<tr>
<td>filename</td>
<td>Name of file in which to save image</td>
</tr>
</tbody>
</table>

#### Default

N/A

#### Configuration Mode

config docker

#### History

4.3.0

#### Example

```conf
ufm [ mgmt-sa ] (config docker) # save busybox latest my_image
Saving and compressing image: busybox version: latest
this could take a while...
```

#### Related Commands

docker
docker load
2.20.13 shutdown

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>shutdown</td>
<td>no shutdown</td>
</tr>
<tr>
<td></td>
<td>Stops all docker containers, and deletes all non-auto containers.</td>
</tr>
<tr>
<td></td>
<td>The no form of the command enables the docker Linux service and runs all configured auto-start containers.</td>
</tr>
</tbody>
</table>

### Default

N/A

### Configuration Mode

config docker

### History

4.3.0

### Example

```
ufm [ mgmt-sa ] (config docker) # no shutdown
```

### Related Commands

docker

### Notes

After the file is created, the filename gets appended a *.gz suffix.

2.20.14 start

```
start <image-name> <image-version> <container-name> <starting-point> [privileged [network | events-forwarder | ufm-licenses]] [cpus <max-cpu-resources>] [memory <max-memory>] [usb-mount] [label <label-name>] [cmd <command>]
no start <container-name>
```

Starts a new container from an image. The no form of the command stops a running docker container (and removes the container if it is not persistent).

### Syntax Description

#### image-name
Name of the new image to start

#### image-version
Version of the image to start

#### container-name
Name of the running container to commit (limited to 180 characters)

#### starting-point

- init - persistent, start the container after boot, when system initialization is done
- now - start the container now, this is not persistent
- now-and-init - starts the container now and after boot, when system configuration is done
- **privileged**
  - network - adds network privileges to the container (``--privileged`` flag)
  - events-forwarder - adds required mounts to use events forwarder
  - ufm-licenses - adds required mounts to use license file

- **cpus**
  - Sets how much of the available CPU resources a container can use (e.g. "cpus 1.5" guarantees at most one and a half of the available CPUs for the container)

- **memory**
  - Sets the maximum amount of memory the container can use in MB. The minimum amount of memory to configure is 4MB.

- **usb-mount**
  - Enables USB mount to the docker container

- **label**
  - Creates one or two labels to use as a shared storage between containers

- **cmd**
  - Executes specified command inside the docker

**Default**
N/A

**Configuration Mode**
config docker

**History**
4.3.0

**Example**
```
ufm [ mgmt-sa ] (config docker) # start centos latest test now
Starting docker container. Please wait (this can take a minute)...
switch (config) # docker start imagename latestver containername init cpus 0.2 memory 25
```

**Related Commands**
docker

**Notes**
Only one of the privileged options (i.e. events-forwarder, ufm-licenses) can be used

### 2.20.15 show docker containers

- **show docker containers <container-name>**
  - Displays set parameters on containers already running, and containers planned to run in the future.

**Syntax Description**
N/A

**Default**
N/A

**Configuration Mode**
Any configuration mode

**History**
4.3.0
**Example**

```
ufm [ mgmt-sa ] (config) # show docker containers
cont_example:
  image       : busybox
  version     : latest
  status      : running
  start point : data-path-ready
  cpu limit   : 0.2
  memory limit: 10m
  labels      : -
  privileges  : network, sdk
  usb mount   : enabled
another_container:
  image       : busybox
  version     : latest
  status      : -
  start point : init
  cpu limit   : 0.2
  memory limit: 10m
  labels      : my_label
  privileges  : network, sdk
  usb mount   : disabled
```

**Related Commands**

**Notes**
- If a container is already started, the status field displays its current status.
- If a container is configured to run on the next boot, the start point field displays when it will start.
- If there is a mismatch between the configuration of a running container and its next-boot configuration, two entries for the container are shown with both of the configurations.

---

**2.20.16 show docker images**

```
ufm [ mgmt-sa ] (config) # show docker images
```

<table>
<thead>
<tr>
<th>Image</th>
<th>Version</th>
<th>Created</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>ubuntu</td>
<td>latest</td>
<td>Less than a second ago</td>
<td>117MB</td>
</tr>
<tr>
<td>ubuntu-sdk</td>
<td>v1</td>
<td>41 seconds ago</td>
<td>215MB</td>
</tr>
</tbody>
</table>

**Syntax Description**

N/A

**Default**

N/A

**Configuration Mode**

Any configuration mode

**History**

4.3.0

**Example**

```
ufm [ mgmt-sa ] (config) # show docker images
```

**Related Commands**

**Notes**
### 2.20.17 show docker labels

<table>
<thead>
<tr>
<th>show docker labels</th>
<th>Displays docker labels.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntax Description</td>
<td>N/A</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
</tr>
</tbody>
</table>

**Example**

```
ufm [ mgmt-sa ] (config) # show docker labels
Storage label : label_name1
configured containers list : cont_name2
active containers list : cont_name1
Storage label : label_name2
```

**Related Commands**

**Notes**

### 2.20.18 show docker ps

<table>
<thead>
<tr>
<th>show docker ps</th>
<th>Display docker containers.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntax Description</td>
<td>N/A</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
</tr>
</tbody>
</table>

**Example**

```
ufm [ mgmt-sa ] (config) # show docker ps
---------------------------------------------------------------------------------
Container           Image:Version           Created                Status
---------------------------------------------------------------------------------
my_ubuntu_app       ubuntu:latest           56 seconds ago         Up 50 seconds
```

**Related Commands**

**Notes**
3 UFM Commands

- General
- License
- UFM Configuration Management
- Database Management
- Data Management
- High Availability
- Telemetry
- UFM Multi-site Portal
- UFM External Subnet Manager
- UFM Process Commands
- UFM Firmware Management
- UFM Running Modes
- UFM Logs
- Advanced Subnet Manager Configuration
- UFM Web Client
- Management Interface Monitoring
- AHX Monitoring
- UFM Events Forwarder
- UFM Virtualization
- UFM Agent
- Unhealthy Ports
- UFM Audit
- UFM Plugin Commands
- Fabric Discovery

3.1 General

3.1.1 ufm start

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufm start</td>
<td>Starts UFM. The no form of the command stops UFM.</td>
</tr>
<tr>
<td>no ufm start</td>
<td>The no form of the command stops UFM.</td>
</tr>
</tbody>
</table>

Syntax Description: N/A
Default: N/A
Configuration Mode: config
History: 1.5
Example:

```
ufm [ mgmt-a | (config) ] # ufm start
```

Related Commands: show ufm status
Notes:
### 3.1.2 show ufm status

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>1.7</td>
</tr>
<tr>
<td></td>
<td>4.4.0</td>
</tr>
<tr>
<td></td>
<td>4.5.0</td>
</tr>
<tr>
<td></td>
<td>4.7.0</td>
</tr>
</tbody>
</table>

#### Example

```plaintext
r-ufm237 [ mgmt-ha-active ] (config) # show ufm status
UFM mode: Management
Local - r-ufm237 (10.209.36.86)
UFM RUNNING
SM RUNNING
Health RUNNING
UnhealthyPorts RUNNING
DailyReport RUNNING
SHARP N/A
DRBD Running Primary
DRBD State ConnectionState = Connected - DiskState = UpToDate
Heartbeat Running (Master)
HA Interface eth0 (connected to 10.209.36.89)
Mgmt. Interface eth0 (up)
Peer - r-ufm238 (10.209.36.89)
UFM Stopped
SM Stopped
Health Stopped
UnhealthyPorts Stopped
DailyReport N/A
SHARP N/A
DRBD Running Secondary
DRBD State ConnectionState = Connected - DiskState = UpToDate
Heartbeat Running (Slave)
HA Interface eth0 (connected to 10.209.36.86)
Mgmt. Interface eth0 (up)
Virtual IP - 10.209.36.199
High Availability Status: OK
r-ufm237 [ mgmt-ha-active ] (config) #
```

#### Related Commands

- ufm start

#### Notes

- The output example above is taken from a high-availability setup.
- If working in HA mode, you will receive information on the HA status and virtual IP.
- The status for events forwarder is displayed only if the feature is enabled.
- The process status can be one of the below:
  - Running - the process is running
  - Stopped - the process is not running
  - N/A - the process status is not applicable (e.g. NVIDIA SHARP is disabled, status on the standby node, etc...)
### 3.1.3 ufm counters

configure settings for UFM counters.

**Syntax Description**

- **ext-ports-only**
  - Configures settings for UFM ext ports only

- **interval**
  - Configures settings for UFM counters interval. The settings can be:
    - sec - number of seconds 30 - 3600
    - never - disable settings for UFM counters interval

- **max-files**
  - Configures the UFM counters maximum number of files (0-72)

- **upload**
  - Uploads the UFM counters file to a remote host or a USB device.
    - filename: UFM counters filename
    - Upload URL: The URL path from where the counters file can be uploaded. http, https, ftp, tftp, scp, sftp and usb are supported. Example: scp://username[:password]@hostname/path/filename, usb:/path/filename

**Default** N/A

**Configuration Mode** config

**History** 1.6

**Example**

```bash
ufm [ mgmt-sa ] (config) # ufm counters max-files 25
```

**Related Commands**

- show ufm counters

**Notes**

### 3.1.4 show ufm counters

Displays UFM counters settings.

**Syntax Description**

N/A

**Default** N/A

**Configuration Mode** config

**History** 1.6

**Example**

```bash
ufmapl [ mgmt-sa ] (config) # show ufm counters
counters interval          = never
max files                  = 5
ext ports only             = disable
```

**Related Commands**

- ufm counters

**Notes**
### 3.2 License

#### 3.2.1 ufm license install

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>url</td>
<td>Installs a UFM license file from a remote host or a USB device.</td>
</tr>
</tbody>
</table>

**Example**

```plaintext
ufmapl [ mgmt-sa ] (config) # ufm license install ftp://admin@192.168.11.1/home/admin/licenses/volt-ufm-advanced.lic
```

**Related Commands**

- ufm license delete
- show ufm license

**Notes**

- The license format must be as follow: volt_*.lic
- Duplicate license are not permitted. You must delete the previous license before installing the new one.

#### 3.2.2 ufm license delete

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>filename</td>
<td>UFM license filename</td>
</tr>
</tbody>
</table>

**Example**

```plaintext
ufmapl [ mgmt-sa ] (config) # ufm license delete volt-ufm-advanced.lic
```

**Related Commands**

- ufm license install
- show ufm license

#### 3.2.3 show ufm license

**Syntax Description**

- show ufm license
- Displays UFM license information.

**Notes**

- N/A
3.3 UFM Configuration Management

3.3.1 ufm configuration delete

```
ufm configuration delete <zip-file>
```
Deletes a configuration zip file from the hard drive.

**Syntax Description**
- **zip-file**: Zip filename to delete

**Default**
N/A

**Configuration Mode**
config

**History**
1.5

**Example**
```
ufmapl [ mgmt-sa ] (config) # ufm configuration delete ufm-config-20121128-180857.zip
```

**Related Commands**
- ufm configuration upload
- ufm configuration import
- ufm configuration export
- ufm configuration fetch

**Notes**

3.3.2 ufm configuration export

```
ufm configuration export [-zip-file]
```
Exports UFM configuration to a file (a zip archive).

**Syntax Description**
- **zip-file**: UFM configuration of exporting the zip file

**Default**
N/A

**Configuration Mode**
config

**History**
1.5
Example

```
ufmapl [ mgmt-sa ] (config) # ufm configuration export
```

Related Commands

- ufm configuration upload
- ufm configuration import
- ufm configuration delete
- ufm configuration fetch

Notes

If no zip file is provided, a zip archive is created with the name: ufm-config-<date>-<time>.zip (e.g. ufm-config-20130327-153314.zip)

3.3.3 ufm configuration fetch

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>url</td>
<td>The URL path from where the configuration file can be downloaded. http, https, ftp, tftp, scp, sftp and usb are supported. Example: scp://username[:password]@hostname/path/filename, usb:/path/filename.</td>
</tr>
</tbody>
</table>

Default: N/A

Configuration Mode: config

History

1.5

Example

```
ufmapl [ mgmt-sa ] (config) # ufm configuration fetch usb:/ufmapp/ufmconf1.zip
```

Related Commands

- ufm configuration upload
- ufm configuration import
- ufm configuration export
- ufm configuration delete

Notes

3.3.4 ufm configuration import

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>zip-file [upgrade]</td>
<td>Zip filename from which to import UFM-SDN Appliance configuration from a previous version and upgrades it to the latest one</td>
</tr>
</tbody>
</table>

Default: N/A

Configuration Mode: config

History

1.5

1.6 Added the “upgrade” parameter
Example

ufmapl [ mgmt-sa ] (config) # ufm configuration import ufm-config-20121128-180857.zip

Related Commands

ufm configuration upload
ufm configuration export
ufm configuration delete
ufm configuration fetch

Notes

3.3.5 ufm configuration upload

**ufm configuration upload <filename> <url>**

Uploads UFM configuration to a remote host or a USB device (a zip archive).

**Syntax Description**

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>filename</strong></td>
<td>The UFM configuration of uploading the file name</td>
</tr>
<tr>
<td><strong>url</strong></td>
<td>The URL path from where the configuration file can be uploaded. Supported formats: http, https, ftp, tftp, scp, sftp and usb. Example: scp://username[:password]@hostname/path/filename, usb:/path/filename.</td>
</tr>
</tbody>
</table>

**Default**

N/A

**Configuration Mode**

config

**History**

1.5

Example

ufmapl [ mgmt-sa ] (config) # ufm configuration upload ufm-config-20121128-180857.zip scp://mlnx:123456@172.30.3.201/tmp

**Related Commands**

ufm configuration export
ufm configuration import
ufm configuration delete

**Notes**

3.4 Database Management

3.4.1 ufm database import

**ufm database import [<zip-file>]**

Imports UFM database files.

**Syntax Description**

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>zip-file</strong></td>
<td>Imported UFM database zip file</td>
</tr>
</tbody>
</table>

**Default**

N/A

**Configuration Mode**

config

**History**

1.5
### Example

```
ufmap1 [ mgmt-sa ] (config) # ufm database import ufm-db-20130328-125141.zip
```

### Related Commands
- `ufm database delete`
- `ufm database upload`

### Notes
- If the "zip-file" parameter is not provided, a zip archive is created with the name: `ufm-db-<date>_<time>.zip` (e.g. `ufm-db-20130328-125141.zip`)
- UFM must be stopped before running this command

#### 3.4.2 ufm database export

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>ufm database export [-zip-file]</code></td>
<td>Exports UFM database (to a zip archive).</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Zipfile to export</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>zip-file</code></td>
<td>Zipfile to export</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th><code>config</code></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>History</th>
<th>1.5</th>
</tr>
</thead>
</table>

#### Example

```
ufmap1 [ mgmt-sa ] (config) # ufm database export
```

### Related Commands
- `ufm database delete`
- `ufm database upload`

### Notes
- If the "zip-file" parameter is not provided, a zip archive is created with the name: `ufm-db-<date>_<time>.zip` (e.g. `ufm-db-20130328-125141.zip`)

#### 3.4.3 ufm database delete

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Explanation</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>ufm database delete &lt;zip-file&gt;</code></td>
<td>Deletes a UFM database archive from the hard drive.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Zipfile to delete</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>zip-file</code></td>
<td>Zipfile to delete</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th><code>config</code></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>History</th>
<th>1.5</th>
</tr>
</thead>
</table>

#### Example

```
ufmap1 [ mgmt-sa ] (config) # ufm database delete ufm-database-180857.zip
```

### Related Commands
- `ufm database export`
- `ufm database upload`

### Notes
### 3.4.4 ufm database upload

**ufm database upload <zip-file> <url>**

Uploads UFM database to a remote host or a USB device (a zip archive).

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>zip-file</th>
<th>Zipfile to delete</th>
</tr>
</thead>
</table>

**Default**
N/A

**Configuration Mode**
config

**History**
1.5

**Example**
```
ufmapi [ mgmt-sa ] (config) # ufm database upload ufm-database-180857.zip scp://mlnx:1234Kb@172.30.3.201/tmp
```

**Related Commands**
ufm database export
ufm database delete

**Notes**

### 3.5 Data Management

#### 3.5.1 ufm data backup

**ufm data backup [backup-file][with-telemetry]**

Backs up UFM data files.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>backup file</th>
<th>Backup file name to be generated</th>
</tr>
</thead>
<tbody>
<tr>
<td>with-telemetry</td>
<td>with-telemetry</td>
<td>Backup UFM historical telemetry</td>
</tr>
</tbody>
</table>

**Default**
N/A

**Configuration Mode**
config

**History**
4.6.0

**Example**
```
ufmapi [ mgmt-sa ] (config) # ufm data backup ufm-backup.zip
```

**Related Commands**

**Notes**

#### 3.5.2 ufm data delete

**ufm data delete <zip file>**

Deletes a UFM data archive from the hard drive.
### 3.5.3 ufm data fetch

**Syntax Description**

`ufm data fetch <URL>`

Deletes a UFM data archive from the hard drive.

**Syntax Description**

URL

Supported formats: http, https, ftp, tftp, scp, sftp and usb. (e.g., `scp://username[:password]@hostname/path/filename`, `usb:/path/filename`)

**Default**

N/A

**Configuration Mode**

config

**History**

4.6.0

**Example**

```
ufmap1 [ mgmt-sa ] (config) # ufm data fetch scp://mlnx:1234Kb@172.30.3.201/tmp
```

**Related Commands**

**Notes**

3.5.4 ufm data reset

**Syntax Description**

`ufm data reset`

Resets the UFM data (both the configuration and the database data).

**Default**

N/A

**Configuration Mode**

config

**History**

1.5

**Example**

```
ufmap1 [ mgmt-sa ] (config) # ufm data reset
```

**Related Commands**

**Notes**
### 3.5.5 `ufm data restore`

<table>
<thead>
<tr>
<th><strong>ufm data restore &lt;zip file&gt;</strong></th>
<th>Restores UFM data files.</th>
</tr>
</thead>
</table>

**Syntax Description**

| N/A |

**Default**

| N/A |

**Configuration Mode**

| config |

**History**

| 4.6.0 |

**Example**

```
ufmapl [ mgmt-sa | (config) # ufm data restore ufm-backup-20210716-122851.zip
```

**Related Commands**

| Notes |

### 3.5.6 `ufm data upload`

<table>
<thead>
<tr>
<th><code>ufm data upload &lt;zip file&gt; &lt;URL&gt;</code></th>
<th>Uploads UFM data files to a remote host or a USB device.</th>
</tr>
</thead>
</table>

**Syntax Description**

<table>
<thead>
<tr>
<th>URL</th>
<th>Supported formats: http, https, ftp, tftp, scp, sftp and usb. (e.g., <code>scp://username[:password]@hostname/path/filename</code>, <code>usb:/path/filename</code>)</th>
</tr>
</thead>
</table>

**Default**

| N/A |

**Configuration Mode**

| config |

**History**

| 4.6.0 |

**Example**

```
ufmapl [ mgmt-sa | (config) # ufm data upload ufm-backup-20210716-130311.zip scp://mlnx:1234Kb@172.30.3.201/tmp
```

**Related Commands**

| Notes |

### 3.6 High Availability

#### 3.6.1 `ufm ha configure`

|-------------------------------------------------------------|-------------------------------------------------|

**Syntax Description**

<table>
<thead>
<tr>
<th>peer-ip</th>
<th>Management IP address of peer machine</th>
</tr>
</thead>
<tbody>
<tr>
<td>virtual-ip</td>
<td>Virtual IP used for accessing the active (master) machine</td>
</tr>
</tbody>
</table>

**Related Commands**

| Notes |

---

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interface  Sets the working interface. The interface can be eth0...eth3, if no interface is assigned, eth0 is assumed to be the chosen interface.

Default  N/A

Configuration Mode  config

History

<table>
<thead>
<tr>
<th>Version</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>1.6</td>
<td>Added the &quot;interface&quot; parameter</td>
</tr>
</tbody>
</table>

Example

```
ufmapl [ mgmt-sa ] (config) # ufm ha configure 172.30.30.24 172.30.30.100
Please enter admin password for peer machine: ******
Configuring high availability, please wait...
High availability is now configured. Please wait a few minutes for UFM machines to synchronize the configuration partition (DRBD).
Please make sure all local UFM users on both machines have the same capabilities and passwords.
```

Related Commands

Notes

### 3.6.2 ufm ha configure dual-subnet

```
ufm ha [ipv6] configure dual-subnet <local-ip> <peer-ip> <interface>
no ufm ha dual-subnet
Applies HA configuration for dual-subnet. The no form of the command reverts the appliance to a standalone configuration.
```

Syntax Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>local-ip</td>
<td>Management IP address of the local machine</td>
</tr>
<tr>
<td>peer-ip</td>
<td>Management IP address of peer machine</td>
</tr>
<tr>
<td>interface</td>
<td>Sets the working interface. The interface can be eth0...eth3, if no interface is assigned, eth0 is assumed to be the chosen interface.</td>
</tr>
</tbody>
</table>

Default  N/A

Configuration Mode  config

History 4.1.5

Example

```
```

Related Commands

Notes

### 3.6.3 ufm ha

```
ufm ha [failover | takeover]
Performs High Availability failover/takeover operations.
```

Syntax Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>failover</td>
<td>Failover can be performed only on master (active) machine</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>takeover</th>
<th>Takeover can be performed only on slave (standby) machine</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td>ufnapl [ mgmt-sa ] (config) # ufm ha takeover</td>
</tr>
</tbody>
</table>

### 3.7 Telemetry

#### 3.7.1 telemetry target enable

<table>
<thead>
<tr>
<th>telemetry target &lt;target-name&gt; enable</th>
<th>no telemetry target &lt;target-name&gt; enable</th>
<th>Configures the target collector for the telemetry data. The no form of the command removes target collector configuration.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntax Description</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Default</td>
<td>Disabled</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>4.5.0</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td>ufnapl [ mgmt-sa ] (config) # telemetry target example-target enable</td>
<td></td>
</tr>
</tbody>
</table>

| Related Commands                      | show telemetry                          | show telemetry target                                                                                           |

| Notes |

#### 3.7.2 telemetry target import-filter-file

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntax Description</td>
<td>counters</td>
<td>Specifies counters file</td>
</tr>
<tr>
<td></td>
<td>fields</td>
<td>Specifies fields file</td>
</tr>
<tr>
<td></td>
<td>download-url</td>
<td>Supported protocols: http, https, ftp, tftp, scp, sftp, and usb. For example: scp://username[:password]@hostname/path/filename, usb:/path/filename</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>

179
<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th>config</th>
</tr>
</thead>
<tbody>
<tr>
<td>History</td>
<td>4.5.0</td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [ mgmt-sa ] (config) # telemetry target ufm-enterprise import-filter-file counters scp://user:password@host/tmp/aaa
```

**Related Commands**
- telemetry target enable
- show telemetry
- show telemetry target

**Notes**
If configuration exists for the specified target, then rerunning the command will overwrite the existing configuration.

### 3.7.3 telemetry target ip port

```
telemetry target <target-name> ip <ipv4-address> port <port-id> [message-type {custom | standard}]
```

Configures IP address and port number to use for communication with telemetry target.

**Syntax Description**
- **ip**: IPv4 address of the target
- **port**: Port number of the target
- **message-type**: Supported types:
  - extended
  - custom

**Default**
N/A

**Configuration Mode**
config

**History**
4.5.0

**Example**

```
ufmapl [ mgmt-sa ] (config) # telemetry target ufm-enterprise ip 10.10.10.10 port 443 message-type standard
```

**Related Commands**
- telemetry target enable
- show telemetry
- show telemetry target

**Notes**
If configuration exists for the specified target, then rerunning the command will overwrite the existing configuration.

### 3.7.4 telemetry target message type

```
telemetry target <target-name> message type {custom | standard}
```

Configures telemetry target message type.

**Syntax Description**
N/A

**Default**
standard

**Configuration Mode**
config

**History**
4.5.0
Example

```
ufmapl [ mgmt-sa ] (config) # telemetry target ufm-enterprise message-type extended
```

Related Commands
- show telemetry
- show telemetry target

Notes

### 3.7.5 telemetry streaming enable

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>Disabled</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.5.0</td>
</tr>
</tbody>
</table>

Example

```
ufmapl [ mgmt-sa ] (config) # telemetry streaming enable
```

Related Commands
- show telemetry

Notes

### 3.7.6 show telemetry

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.5.0</td>
</tr>
</tbody>
</table>

Example

```
ufmapl [ mgmt-sa ] (config) # show telemetry
Enabled:     Yes
Telemetry Targets:
  Name:       ufm-enterprise
  Enabled:    Yes
  Host:       127.0.0.1
  Port:       25225
  Message Type: Standard
  Counters filter file: Yes
  Fields filter file: Yes
```

Related Commands
- telemetry target enable

Notes
### 3.7.7 show telemetry target

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.5.0</td>
</tr>
</tbody>
</table>

#### Example

```
ufmap1 [ mgmt-sa ] (config) # show telemetry target ufm-enterprise
Enabled:     Yes
Name:                   ufm-enterprise
Enabled:                Yes
Host:                   127.0.0.1
Port:                   25225
Message Type:           Standard
Counters filter file:   Yes
Fields filter file:     Yes
```

#### Related Commands
- telemetry target enable

#### Notes

### 3.7.8 ufm low-frequency-telemetry enable

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.10.0</td>
</tr>
</tbody>
</table>

#### Example

```
ufmap1 [ mgmt-ha-active ] (config) # ufm low-frequency-telemetry enable
```

#### Related Commands
- show ufm low-frequency-telemetry

#### Notes

### 3.7.9 show ufm low-frequency-telemetry

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
</tbody>
</table>
3.8 UFM Multi-site Portal

3.8.1 ufm multi-site enable

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufm multi-site enable</td>
<td>Enables UFM multi-site. The no form of the command disables UFM multi-site.</td>
</tr>
<tr>
<td>no ufm multi-site enable</td>
<td></td>
</tr>
</tbody>
</table>

Syntax Description: N/A
Default: Disable
Configuration Mode: config
History: 4.3.0
Example:
```
ufm [ mgmt-sa ] (config) # ufm multi-site enable
```
Related Commands: show ufm multi-site
Notes:

3.8.2 ufm multi-site interval

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufm multi-site interval &lt;time&gt;</td>
<td>Configures multi-site refresh interval. The no form of the command resets this parameter to its default value.</td>
</tr>
<tr>
<td>no ufm multi-site interval</td>
<td></td>
</tr>
</tbody>
</table>

Syntax Description:
```
<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>time</td>
<td>60-300 seconds</td>
</tr>
</tbody>
</table>
```
Default: 60
Configuration Mode: config
History: 4.3.0
Example:
```
ufm [ mgmt-sa ] (config) # ufm multi-site interval 100
```
Related Commands: show ufm multi-site
Notes:
### 3.8.3 ufm multi-site port

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufm multi-site port &lt;port-id&gt;</td>
<td>Configures the port for the multi-site user. The no form of the command resets this parameter to its default value.</td>
</tr>
<tr>
<td>no ufm multi-site port</td>
<td></td>
</tr>
</tbody>
</table>

**Syntax Description**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>port-id</td>
<td>ID of port to use</td>
</tr>
</tbody>
</table>

**Default**

443

**Configuration Mode**

config

**History**

4.3.0

**Example**

```plaintext
ufm \[ mgmt-sa \] (config) # ufm multi-site port 100
```

**Related Commands**

show ufm multi-site

**Notes**


### 3.8.4 ufm multi-site server

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufm multi-site server {ip &lt;ipv4-address&gt;</td>
<td>ipv6 &lt;ipv6-address&gt;</td>
</tr>
<tr>
<td>no ufm multi-site server {ip</td>
<td>ipv6</td>
</tr>
</tbody>
</table>

**Syntax Description**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ip</td>
<td>Configures IPv4 address for server</td>
</tr>
<tr>
<td>ipv6</td>
<td>Configures IPv6 address for server</td>
</tr>
<tr>
<td>hostname</td>
<td>Configures hostname for server</td>
</tr>
</tbody>
</table>

**Default**

N/A

**Configuration Mode**

config

**History**

4.3.0

**Example**

```plaintext
ufm \[ mgmt-sa \] (config) # ufm multi-site server ipv6 ::1
```

**Related Commands**

show ufm multi-site

**Notes**


### 3.8.5 ufm multi-site site-name

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufm multi-site site-name &lt;site-name&gt;</td>
<td>Sets name for multi-site portal. The no form of the command clears name for the multi-site portal.</td>
</tr>
<tr>
<td>no ufm multi-site site-name</td>
<td></td>
</tr>
</tbody>
</table>

**Syntax Description**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>site-name</td>
<td>Name of site</td>
</tr>
</tbody>
</table>

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3.8.6 ufm multi-site username password

ufm multi-site username <name> password
no ufm multi-site username [password]

Configures value for username.
The no form of the command deletes multi-site user.

Syntax Description

<table>
<thead>
<tr>
<th>name</th>
<th>Username</th>
</tr>
</thead>
<tbody>
<tr>
<td>password</td>
<td>Configures the login password for the multi-site portal user</td>
</tr>
</tbody>
</table>

Default

Default password: 123456

Configuration Mode

config

History

4.3.0

Example

ufm [ mgmt-sa ] (config) # ufm multi-site username root password
Please enter multi site password:******

Related Commands

show ufm multi-site

Notes

3.8.7 show ufm multi-site

show ufm multi-site
Displays UFM multi-site configuration.

Syntax Description

N/A

Default

N/A

Configuration Mode

Any configuration mode

History

4.5.0

Example

ufm [ mgmt-sa ] (config) # show ufm multi-site
Enabled: Yes
Site name: 
Server: 
Port: 443
Protocol: https
Interval: 60

Related Commands
3.9 UFM External Subnet Manager

3.9.1 ufm safe-stop

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufm safe-stop</td>
<td>Stops UFM after remote UFM-SM take mastership.</td>
</tr>
</tbody>
</table>

Syntax Description: N/A
Default: N/A
Configuration Mode: mgmt-allow-sm-sa
mgmt-allow-sm-ha-active
History: 1.5
Example:
```
ufmapl [ mgmt-allow-sm-ha-active ](config) # ufm safe-stop
```
Related Commands:
- show ufm external-sm
- show ufm external-sm status
Notes: This command is available on the standby machine only.

3.9.2 ufm external-sm trust

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufm external-sm trust [ip &lt;IPv4&gt;</td>
<td>ipv6 &lt;IPv6&gt;]</td>
</tr>
<tr>
<td>no ufm external-sm trust [ip &lt;IPv4&gt;</td>
<td>ipv6 &lt;IPv6&gt;]</td>
</tr>
<tr>
<td>Creates a trust relationship when in HA mode between the standby and the external SM machines.</td>
<td></td>
</tr>
<tr>
<td>The no form of the command breaks a trust relationship between the standby and the external SM machines.</td>
<td></td>
</tr>
</tbody>
</table>

Syntax Description:
- ip IPv4 address used to access the external SM machine
- ipv6 IPv6 address used to access the external SM machine

Default: N/A
Configuration Mode: mgmt-allow-sm-sa
mgmt-allow-sm-ha-active
History: 1.5
4.2.0 Added “ip” and “ipv6” parameters
Example:
```
ufmapl [ ha-standby ] (config) # ufm external-sm trust ip 172.30.30.20
```
Related Commands:
- show ufm external-sm
- show ufm external-sm status
Notes: This command is available on the standby machine only.
### 3.9.3 ufm external-sm register

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ip</td>
<td>IPv4 address used to access the external SM machine</td>
</tr>
<tr>
<td>ipv6</td>
<td>IPv6 address used to access the external SM machine</td>
</tr>
</tbody>
</table>

**Default**: N/A

**Configuration Mode**: `mgmt-allow-sm-sa`, `mgmt-allow-sm-ha-active`

**History**:
- 1.5
- 4.2.0 Added "ip" and "ipv6" parameters

**Example**

```plaintext
ufmapl [mgmt-allow-sm-sa] (config) # ufm external-sm register ip 10.30.30.101
Please enter admin password for external SM machine: *
Configuring external SM, please wait...
```

*Note: when working in HA configuration, you must create trust between the standby machine and the external-SM machine by running the `ufm external-sm trust` command on the standby machine.*

**Related Commands**
- `show ufm external-sm`
- `show ufm external-sm status`

**Notes**

### 3.9.4 show ufm external-sm

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show ufm external-sm</td>
<td>Displays UFM external SM machines.</td>
</tr>
</tbody>
</table>

**Default**: N/A

**Configuration Mode**: `mgmt-allow-sm-sa`, `mgmt-allow-sm-ha-active`

**History**: 1.5

**Example**

```plaintext
ufmapl [mgmt-allow-sm-sa] (config) # show ufm external-sm
10.30.30.101
```

**Related Commands**
- `show ufm external-sm status`
- `ufm external-sm trust`
- `ufm external-sm register`

**Notes**
### 3.9.5 show ufm external-sm status

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>mgmt-allow-sm-sa, mgmt-allow-sm-ha-active</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ufm external-sm, ufm external-sm trust, ufm external-sm register</td>
</tr>
</tbody>
</table>

### 3.10 UFM Process Commands

#### 3.10.1 ufm process health start

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td>ufm process health start, ufm process health restart, no ufm process health start</td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ufm status</td>
</tr>
</tbody>
</table>

Starts/restarts the UFM health process. The no form of the command stops the UFM health process.
### 3.10.2 ufm process model start

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ufmpl [ mgmt-sa ] (config) # ufm process model start</td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ufm status</td>
</tr>
<tr>
<td>Notes</td>
<td>When stopping the UFM ModelMain process, the UFM health is also stopped in order not to start the UFM ModelMain process.</td>
</tr>
</tbody>
</table>

### 3.10.3 ufm process telemetry start

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.10.0</td>
</tr>
<tr>
<td>Example</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ufmpl [ mgmt-sa ] (config) # ufm process telemetry start</td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ufm status</td>
</tr>
<tr>
<td>Notes</td>
<td>When stopping the UFM telemetry process, the UFM health is also stopped in order not to start the UFM telemetry process.</td>
</tr>
</tbody>
</table>
3.10.4 ufm process sharp start

ufm process sharp start
ufm process sharp restart
no ufm process sharp start

Starts/restarts the NVIDIA SHARP Aggregation Manager process. The no form of the command stops the NVIDIA SHARP Aggregation Manager process.

Syntax Description

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
</table>

Configuration Mode

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
</table>

History

<table>
<thead>
<tr>
<th>Default</th>
<th>4.10.0</th>
</tr>
</thead>
</table>

Example

```
UFM-APL [ mgmt-ha-active ] (config) # ufm process sharp start
```

Related Commands

<table>
<thead>
<tr>
<th>Default</th>
<th>show ufm status</th>
</tr>
</thead>
</table>

Notes

When stopping the SHARP AM process, the UFM health is also stopped in order not to start the SHARP AM process.

3.11 UFM Firmware Management

3.11.1 ufm firmware fetch

ufm firmware fetch <URL>
Downloads firmware archive ZIP file from a remote host or a USB device

Syntax Description

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>URL</th>
<th>HTTP, HTTPS, FTP, TFTP, SCP, SFTP and USB are supported</th>
</tr>
</thead>
</table>

Example

```
scp://username[:password]@hostname/path/
```

File name

```
usb:/path/filename
```

Default

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
</table>

Configuration Mode

<table>
<thead>
<tr>
<th>Default</th>
<th>config</th>
</tr>
</thead>
</table>

History

```
Ufmapl [ mgmt-ha-active ] (config) # ufm firmware fetch scp://root@10.0.1.11/tmp/switch-fw.zip
```

Related Commands

<table>
<thead>
<tr>
<th>Default</th>
<th>ufm firmware delete ufm firmware import</th>
</tr>
</thead>
</table>

Notes

Refer to In-Band Firmware Upgrade
3.11.2  

**ufm firmware import**

```plaintext
ufm firmware import <zip-file>
Imports switch FW from a firmware archive ZIP file.
```

**Syntax Description**

<table>
<thead>
<tr>
<th>zip-file</th>
<th>ZIP file from which to import the switch firmware</th>
</tr>
</thead>
</table>

**Default**

N/A

**Configuration Mode**

config

**History**

**Example**

```
Ufmapl [ mgmt-ha-active ] (config) # ufm firmware import switch-fw.zip
```

**Related Commands**

ufm firmware fetch
ufm firmware delete

**Notes**

3.11.3  

**ufm firmware delete**

```plaintext
ufm firmware delete <zip-file>
Deletes a firmware archive ZIP file from the hard drive
```

**Syntax Description**

<table>
<thead>
<tr>
<th>zip-file</th>
<th>ZIP file to delete</th>
</tr>
</thead>
</table>

**Default**

N/A

**Configuration Mode**

config

**History**

**Example**

```
Ufmapl [ mgmt-ha-active ] (config) # ufm firmware delete switch-fw.zip
```

**Related Commands**

ufm firmware fetch
ufm firmware import

**Notes**

3.12  

**UFM Running Modes**

3.12.1  

**ufm mode**

```plaintext
ufm mode [mgmt | mgmt-allow-sm | mon | remote-mon | sm-only]
Changes the UFM working mode.
```

**Syntax Description**

<table>
<thead>
<tr>
<th>mgmt</th>
<th>Changes UFM mode to management</th>
</tr>
</thead>
<tbody>
<tr>
<td>mgmt-allow-sm</td>
<td>Changes UFM mode to management allow-other-sm</td>
</tr>
<tr>
<td>mon</td>
<td>Changes UFM mode to monitoring</td>
</tr>
</tbody>
</table>

**History**

**Example**

```
Ufmapl [ mgmt-ha-active ] (config) # ufm mode mgmt-allow-sm
```

**Related Commands**

ufm firmware fetch
ufm firmware delete
### remote-mon
Changes UFM mode to remote monitoring only

<table>
<thead>
<tr>
<th>sm-only</th>
<th>Changes UFM mode to sm-only</th>
</tr>
</thead>
</table>

**Default**
N/A

**Configuration Mode**
cfg

**History**
1.5
1.7 Added remote-mon mode

**Example**
```
ufmapl [mgmt-sa] (config) # ufm mode mgmt-allow-sm
```

**Related Commands**

**Notes**

---

### 3.13 UFM Logs

#### 3.13.1 ufm logging files delete oldest

```
ufm logging files delete oldest [console | event | opensm | sharp | ufm | ufmhealth] [<number>]
```

**Delete log files.**

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>console</th>
<th>Delete the oldest console log files</th>
</tr>
</thead>
<tbody>
<tr>
<td>event</td>
<td>Delete the oldest event log files</td>
<td></td>
</tr>
<tr>
<td>opensm</td>
<td>Delete the oldest OpenSM log files</td>
<td></td>
</tr>
<tr>
<td>sharp</td>
<td>Delete the oldest NVIDIA® Scalable Hierarchical Aggregation and Reduction Protocol (SHARP)™ log files</td>
<td></td>
</tr>
<tr>
<td>ufm</td>
<td>Delete the oldest UFM log files</td>
<td></td>
</tr>
<tr>
<td>ufmhealth</td>
<td>Delete the oldest UFM health log files</td>
<td></td>
</tr>
<tr>
<td>number</td>
<td>Specifies the number of log files to delete</td>
<td></td>
</tr>
</tbody>
</table>

**Default**
If no number is specified, the command deletes the oldest log file only

**Configuration Mode**
cfg

**History**
4.6.0

**Example**
```
ufmapl [mgmt-sa] (config) # ufm logging files delete console 3
```

**Related Commands**
show ufm logging

**Notes**
### 3.13.2 ufm logging files rotation criteria

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>frequency daily</th>
<th>Rotates log files once per day at midnight</th>
</tr>
</thead>
<tbody>
<tr>
<td>size</td>
<td>size</td>
<td>Rotates log files when they pass a size threshold</td>
</tr>
</tbody>
</table>

**Default**: 100 MB  
**Configuration Mode**: config  
**History**: 4.6.0  

**Example**

```bash
ufmapl [mgmt-sa] (config) # ufm logging files rotation criteria size 100
```

**Related Commands**

show ufm logging  

**Notes**

### 3.13.3 ufm logging files rotation max-num

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>number</th>
<th>Range: 1-999999</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>4.6.0</td>
<td></td>
</tr>
</tbody>
</table>

**Example**

```bash
ufmapl [mgmt-sa] (config) # ufm logging files rotation criteria size 13
```

**Related Commands**

show ufm logging  

**Notes**

### 3.13.4 ufm logging level

| Syntax Description | log-level | • CRITICAL - critical conditions  
|--------------------|-----------| • DEBUG - debug-level messages  
|                    |           | • ERROR - error conditions  
|                    |           | • INFO - informational messages  
|                    |           | • WARNING - warning conditions |
| Default            | WARNING   |                 |
| Configuration Mode | config    |                 |
### 3.13.5 ufm logging syslog

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>port</th>
<th>Remote syslog hostname and port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
<td></td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [mgmt-sa] (config) # ufm logging syslog 172.30.36.120:514
```

This change will take effect after UFM restart.

**Related Commands**

**Notes**

This change takes effect after UFM restart.

---

### 3.13.6 ufm logging syslog level

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>log-level</th>
<th>Sets the severity level of certain log messages.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>WARNING</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
<td></td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [mgmt-sa] (config) # ufm logging syslog level WARNING
```

This change will take effect after UFM restart.

**Related Commands**

**Notes**

This change takes effect after UFM restart.
### 3.13.7 ufm logging syslog enable

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufm logging syslog enable&lt;br no ufm logging syslog enable</td>
<td>Enable sending UFM logs to syslog.&lt;br The no form of the command disables sending UFM logs to syslog.</td>
</tr>
</tbody>
</table>

**Syntax Description**
N/A

**Default**
Disabled

**Configuration Mode**
config

**History**
1.6

**Example**
```
ufmapl [mgmt-sa] (config) # ufm logging syslog enable
```

This change will take effect after UFM restart.

**Related Commands**

**Notes**
This change takes effect after UFM restart.

### 3.13.8 ufm logging syslog ufm-events enable

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufm logging syslog ufm-events enable&lt;br no ufm logging syslog ufm-events enable</td>
<td>Send UFM event log messages to a syslog server.&lt;br The no form disables the ability to log UFM event messages to syslog locally and remotely.</td>
</tr>
</tbody>
</table>

**Syntax Description**
N/A

**Default**
N/A

**Configuration Mode**
config

**History**
1.6

**Example**
```
ufmapl [mgmt-sa] (config) # ufm logging syslog ufm-events enable
```

This change will take effect after UFM restart.

**Related Commands**

**Notes**
This change takes effect after UFM restart.

### 3.13.9 show ufm console log

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show ufm console log [matching &lt;regex&gt;</td>
<td>not matching &lt;regex&gt;]</td>
</tr>
</tbody>
</table>

**Syntax Description**

<table>
<thead>
<tr>
<th>Description</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>matching</td>
<td>Displays new console log messages that match a given regular expression</td>
</tr>
<tr>
<td>not matching</td>
<td>Displays new console log messages that do not match a given regular expression</td>
</tr>
</tbody>
</table>

**Default**
N/A
### 3.13.10 show ufmapl console log continuous

**Syntax**

```
show ufmapl console log continuous [matching <regex> | not matching <regex>]
```

**Description**

Displays new event log messages as they arrive.

**Syntax Description**

- **matching**: Displays new console log messages that match a given regular expression.
- **not matching**: Displays new console log messages that do not match a given regular expression.

**Default**

N/A

**Configuration Mode**

Any configuration mode

**History**

4.6.0

**Example**

```
ufmapl (mgmt-sa) (config) # show ufmapl console log continuous matching CRITICAL
```

**Related Commands**

- show ufmapl console log

**Notes**

- 3.13.11 show ufmapl console log files

### 3.13.11 show ufmapl console log files

**Syntax**

```
show ufmapl console log files [<file-number> [matching <regex> | not matching <regex>]]
```

**Description**

Lists all archived log files available.

**Syntax Description**

- **file-number**: Displays the selected archived event log file.
- **matching**: Displays entries from the selected log file that match a given regular expression.
- **not matching**: Displays entries from the selected log file that do not match a given regular expression.

**Default**

- N/A

**Configuration Mode**

Any configuration mode

**History**

4.6.0

**Example**

```
ufmapl (mgmt-sa) (config) # show ufmapl console log files
```

**Related Commands**

- show ufmapl console log

**Notes**
### show ufm event log

#### Syntax Description

- **matching**: Displays new event log messages that match a given regular expression.
- **not matching**: Displays new event log messages that do not match a given regular expression.

#### Default

N/A

#### Configuration Mode

Any configuration mode

#### History

4.6.0

#### Example

```bash
ufmapl [ mgmt-sa ] (config) # show ufm event log matching INFO
...
```

#### Related Commands

- `show ufm console log`

#### Notes

3.13.13

#### show ufm event log continuous

#### Syntax Description

- **matching**: Displays new event log messages that match a given regular expression.
- **not matching**: Displays new event log messages that do not match a given regular expression.

#### Default

N/A

#### Configuration Mode

Any configuration mode
### 4.6.0

**History**

**Example**

```
ufmapl [ mgmt-sa ] (config) # show ufm event log continuous not matching
```

```
INFO
Failed to get sysinfo for switch 0002c903005dd830
(default:6) / Switch: switch-system / NA / NA [dev_id: 0002c903005dd830]:
Module PS 2 on switch-system(10.10.10.10) status is fatal
Process periodic_report_runner is down.
```

**Related Commands**

- show ufm console event log

**Notes**

#### 3.13.14 show ufm event log files

**show ufm event log files [<file-number> [matching <regex> | not matching <regex>]]**

Lists all archived log files available.

**Syntax Description**

- **file-number**: Displays the selected archived event log file
- **matching**: Displays entries from the selected log file that match a given regular expression
- **not matching**: Displays entries from the selected log file that do not match a given regular expression

**Default**

- N/A

**Configuration Mode**

- Any configuration mode

**History**

- 4.6.0

**Example**

```
ufmapl [ mgmt-sa ] (config) # show ufm event log files
```

**Related Commands**

- show ufm event log

**Notes**

#### 3.13.15 show ufm logging

**show ufm logging**

Displays logging configuration.

**Syntax Description**

- N/A

**Default**

- N/A

**Configuration Mode**

- Any configuration mode

**History**

- 1.6
- 4.6.0 Updated command output
Example

ufmapl [ mgmt-sa ] (config) # show ufm logging
Number of archived log files to keep: 10
Log rotation size threshold: 100 megabytes

Ufm-log level: WARNING
Syslog:
Enabled: No
Server: Local
Level: WARNING
Ufm-log enabled: No
Ufm-events enabled: No

Related Commands

Notes

3.13.16 show ufm log

show ufm log [continuous | files | matching | not]
Displays UFM event log.

Syntax Description

continuous Displays new event log messages as they arrive
files Displays archived log files
matching Displays event logs that match a given regular expression
not Displays event logs that do not meet certain criteria

Default
N/A

Configuration Mode
Any configuration mode

History
1.6

Example

ufmapl [ mgmt-sa ] (config) # show ufm log
2013-09-03 14:34:00.407 ufm INIT Request Polling Delta Fabric
2013-09-03 14:34:30.411 ufm INIT Request Polling Delta Fabric
2013-09-03 14:35:00.413 ufm INIT Request Polling Delta Fabric
2013-09-03 14:35:30.416 ufm INIT Request Polling Delta Fabric
2013-09-03 14:36:00.419 ufm INIT Request Polling Delta Fabric
2013-09-03 14:36:06.016 ufm ACTION user ufmsystem called
triggerExternalEvent with params:
<ws.UMF_services_types.ExternalEvent_Holder instance at 0x6ffe440>
2013-09-03 14:36:30.423 ufm INIT Request Polling Delta Fabric
2013-09-03 14:37:00.426 ufm INIT Request Polling Delta Fabric
2013-09-03 14:37:30.428 ufm INIT Request Polling Delta Fabric
2013-09-03 14:38:00.431 ufm INIT Request Polling Delta Fabric
2013-09-03 14:38:02.175 ufm WARNING Failed to parse host response from
host 172.30.105.153 message type 10
2013-09-03 14:38:02.193 ufm WARNING Failed to parse host response from
host 172.30.11.161 message type 10
2013-09-03 14:38:02.489 ufm WARNING Failed to parse host response from
host 172.30.112.23 message type 10
2013-09-03 14:38:02.723 ufm WARNING Failed to parse host response from
host 172.30.112.24 message type 10
2013-09-03 14:38:02.768 ufm WARNING Failed to parse host response from
host 172.30.49.89 message type 10
2013-09-03 14:38:30.435 ufm INIT Request Polling Delta Fabric

Related Commands

Notes
3.13.17 show ufmhealth log

Syntax Description

- **continuous**
  Displays new event log messages as they arrive.

- **files**
  Displays archived log files.

- **matching**
  Displays event logs that match a given regular expression.

- **not**
  Displays event logs that do not meet certain criteria.

Default: N/A

Configuration Mode: Any configuration mode

History: 1.6

Example

```
ufmapl [ mgmt-sa ] (config) # show ufmhealth log
2013-09-03 14:36:30.423 ufm INIT Request Polling Delta Fabric
2013-09-03 14:37:00.426 ufm INIT Request Polling Delta Fabric
2013-09-03 14:37:30.428 ufm INIT Request Polling Delta Fabric
2013-09-03 14:38:00.431 ufm INIT Request Polling Delta Fabric
2013-09-03 14:38:02.175 ufm WARNING Failed to parse host response from host 172.30.105.153 message type 10
2013-09-03 14:38:02.193 ufm WARNING Failed to parse host response from host 172.30.11.161 message type 10
```

Related Commands

Notes

3.14 Advanced Subnet Manager Configuration

The UFM must be restarted for this configuration to take effect.

3.14.1 ib sm <hm-action>

**ib sm <hm-action> <value>**
Enables unhealthy ports configuration.
The value parameter can be set to report, ignore or isolate the action.

Syntax Description

- **hm-ca-flapping-action**

- **hm-ca-illegal-action**

- **hm-ca-manual-action**

- **hm-ca-noisy-action**

- **hm-ca-reboot-action**
### hm-ca-seterr-action
Unhealthy Ports SetErr condition options. Default: ignore.

### hm-ca-unresponsive-action

### hm-sw-flapping-action
Switch flapping action. Default: report.

### hm-sw-illegal-action
Switch illegal action. Default: report.

### hm-sw-manual-action

### hm-sw-noisy-action
Switch noisy action. Default: report.

### hm-sw-reboot-action

### hm-sw-seterr-action
Switch seterr action. Default: ignore.

### hm-sw-unresponsive-action
Switch unresponsive action. Default: report.

**Default**
See Syntax Description

**Configuration Mode**
config

**History**
1.7

**Example**
```
ufmapl [mgmt-sa ] (config) # ib sm hm-ca-flapping-action ignore
```

**Related Commands**
show ib sm hm-unhealthy-ports

**Notes**

---

### 3.14.2 ib sm <hm-num>

**Syntax Description**

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>hm-num-flapping-sweeps</th>
<th>The number of sweeps in which the link was flapping. Default: 5.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>hm-num-flapping-sweeps-</td>
<td>The number of sweeps of which any port exceeding hm_num_flapping_sweeps is declared unhealthy. Default: 10.</td>
</tr>
<tr>
<td>window</td>
<td>hm-num-illegal</td>
<td>Number of illegal SMPs a port may return to be declared unhealthy. Default: 1.</td>
</tr>
<tr>
<td></td>
<td>hm-num-no-resp-sweeps</td>
<td>The number of sweeps that had that port unresponsive. Default: 5.</td>
</tr>
<tr>
<td></td>
<td>window</td>
<td>The number of sweeps of which any port exceeding. Default: 7.</td>
</tr>
<tr>
<td></td>
<td>hm-num-reboots</td>
<td>Number of reboots in period to declare a node as unhealthy. Default: 10.</td>
</tr>
<tr>
<td></td>
<td>hm-num-set-err-sweeps</td>
<td>The number of sweeps that had that port report back an error for a Set. Default: 5.</td>
</tr>
<tr>
<td></td>
<td>window</td>
<td>The number of sweeps of which any port exceeding hm_num_set_err_sweeps is declared unhealthy. Default: 7.</td>
</tr>
</tbody>
</table>

---
| **hm-num-traps** | Number of traps received in period to declare the port as unhealthy. Default: 250. |
| **hm-num-traps-period** | The period for counting number of received traps in seconds. Default: 60. |

**Default:** See Syntax Description

**Configuration Mode:** `config`

**History:** 1.7

**Example**

```bash
ufmapl [ mgmt-sa ] (config) # ib sm hm-num-flapping-action 5
```

**Related Commands:** `show ib sm hm-unhealthy-ports`

**Notes**

**3.14.3 ib sm hm-reboots-period**

| `ib sm hm-reboots-period <time>` | Number of reboots in period to declare a node as unhealthy. |
| **Syntax Description** | time | Range: 60-86400 seconds |

**Default:** 900

**Configuration Mode:** `config`

**History:** 1.7

**Example**

```bash
ufmapl [ mgmt-sa ] (config) # ib sm hm-reboots-period 60
```

**Related Commands:** `show ib sm hm-unhealthy-ports`

**Notes**

**3.14.4 ib sm hm-unhealthy-ports-checks enable**

| `ib sm hm-unhealthy-ports-checks enable` | Enables unhealthy ports configuration. |
| **Syntax Description** | N/A |

**Default:** Enabled

**Configuration Mode:** `config`

**History:** 1.7

**Example**

```bash
ufmapl [ mgmt-sa ] (config) # ib sm hm-unhealthy-ports-checks enable
```

**Related Commands:** `show ib sm hm-unhealthy-ports`

**Notes**
### 3.14.5 show ib sm hm-unhealthy-ports

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>1.7</td>
</tr>
</tbody>
</table>

#### Example
```
ufmap1 [ mgmt-sa ] (config) # show ib sm hm-unhealthy-ports
hm_unhealthy_ports_checks       enable
hm_ca_reboot_action             report
hm_ca_reboot_action             report
hm_num_reboots                  10
hm_reboots_period_secs         900
hm_ca_unresponsive_action      report
hm_sw_unresponsive_action      report
hm_num_no_resp_sweeps_window   7
hm_ca_noisy_action             report
hm_sw_noisy_action             report
hm_num_traps                   256
hm_num_traps_period_secs       60
hm_ca_seterr_action            ignore
hm_sw_seterr_action            ignore
hm_num_set_err_sweeps_window   5
hm_ca_flapping_sweeps_window   10
hm_ca_illegal_action           report
hm_sw_illegal_action           report
hm_num_illegal                 1
hm_ca_manual_action            report
```

### Related Commands
- `ib sm opensm-health-policy-merge`

### Notes
- SM must be running for this command to work.

### 3.14.6 ib sm opensm-health-policy-merge

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.7</td>
</tr>
</tbody>
</table>

#### Example
```
ufmap1 [ mgmt-ha-active ] (config) # ib sm opensm-health-policy-merge
```

#### Related Commands
- `ib sm opensm-health-policy-merge`

#### Notes
- SM must be running for this command to work.
### 3.14.7 ib sm reassign-lids

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.6.0</td>
</tr>
<tr>
<td>Example</td>
<td><code>ufmapl mgmt-ha-active (config) # ib sm reassign-lids</code></td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ib sm reassign-lids</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

Enables SM ability to reassign active LIDs. The no form of the command disables SM ability to reassign LIDs.

### 3.14.8 show ib sm reassign-lids

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any command mode</td>
</tr>
<tr>
<td>History</td>
<td>4.6.0</td>
</tr>
<tr>
<td>Example</td>
<td><code>ufmapl mgmt-ha-active (config) # show ib sm reassign-lids disable</code></td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ib sm reassign-lids</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

Displays SM LID reassignment policy.

### 3.15 UFM Web Client

#### 3.15.1 ufm web-client mode

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>http</th>
<th>HTTP access</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>https</td>
<td>HTTPS access</td>
</tr>
<tr>
<td></td>
<td>https-client-authentication</td>
<td>HTTPS access with client authentication</td>
</tr>
</tbody>
</table>

Configures Access mode to the UFM web clients.
3.15.2 ufm web-client client-authentication ca-cert fetch

```
ufm web-client client-authentication ca-cert fetch <download-url>
no ufm web-client client-authentication ca-cert fetch <download-url>
```

Downloads a root/intermediate certificates file from a remote host or a USB device.
The no form of the command deletes the root/intermediate certificate file from the hard disk.

**Syntax Description**
- **download-url**: The URL path from where the image file can be downloaded. Supported protocols: http, https, ftp, tftp, scp, sftp and usb. Example: scp://username[:password]@hostname/path/filename, usb:/path/filename.

**Default**
N/A

**Configuration Mode**
config

**History**
1.5

**Example**
```
ufmapl [mgmt-ha-active] (config) # ufm web-client client-authentication certificate fetch scp://root@10.10.32.12/tmp/ca-intermediate.crt
```

**Related Commands**
- show ufm web-client
- ufm web-client client-authentication
- ufm web-client associate-user

**Notes**
- The new mode is applied upon UFM start.

3.15.3 ufm web-client client-authentication associate-user

```
ufm web-client client-authentication associate-user <san> <username>
no ufm web-client client-authentication associate-user <san> <username>
```

Associates client certificate subject alternative name with a UFM user.
The no form of the command disassociates client certificate subject alternative name from a UFM user.

**Syntax Description**
- **san**: Client certificate subject alternative name
- **username**: User name

**Default**
N/A

**Configuration Mode**
config

**History**
1.5

**Example**
```
```

**Related Commands**
- show ufm web-client
- ufm web-client client-authentication
- ufm web-client associate-user

**Notes**
### 3.15.4 show ufm web-client

**show ufm web-client**

Displays UFM web client settings.

**Syntax Description**

N/A

**Default**

N/A

**Configuration Mode**

Any configuration mode

**History**

1.5

**Example**

```bash
ufmap1 [mgmt-ha-active] (config) # show ufm web-client
Mode: HTTPS
Client authentication: Yes
Bootstrap certificate file: Present
CA certificate file: Present
Server certificate file: Present
Server certificate hostname: ufm.mellanoxhpc.net
User Associations:
  SAN: ufm.mellanoxhpc.net
  User: ufmsysadmin
Certificate Auto-refresh:
  Enabled: Yes
  CA certificate URL: https://mellanox.com/cacert
  Server certificate URL: https://mellanox.com/servercerts
  Server certificate thumbprint: 2268BDD79DF7FD9C818EB97F1F158F13DD223A15
Last checked: 2019-04-28 20:57:21
Last update: 2019-04-20 20:57:21
```

**Related Commands**

- ufm web-client mode
- ufm web-client client-authentication
- ufm web-client associate-user

**Notes**

3.15.5 ufm web-client server-cert hostname

```
ufm web-client server-cert hostname <hostname>
no ufm web-client server-cert hostname <hostname>
```

Sets the hostname used to access the UFM web client. The no form of the command deletes the server certificate hostname used to access the UFM web client.
### Syntax Description

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>hostname</th>
<th>Hostname used to access the UFM web client</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td></td>
<td>ufmapi [mgmt-ha-active] (config) # ufm web-client server-cert hostname ufm.mellanoxhpc.net</td>
</tr>
</tbody>
</table>

**Related Commands**
show ufm web-client

**Notes**
Multiple hostnames may be configured.

### 3.15.6 ufm web-client server-cert fetch

```
ufmapl [mgmt-ha-active] (config) # ufm web-client server-cert fetch scp://admin@192.168.1.10/tmp/certs/server.pfx
```

**Syntax Description**

download-url  
The URL path from where the image file can be downloaded. Supported protocols: http, https, ftp, tftp, scp, sftp and usb. Example: scp://username[:password]@hostname/path/filename, usb:/path/filename.

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [mgmt-ha-active] (config) # ufm web-client server-cert fetch scp://admin@192.168.1.10/tmp/certs/server.pfx
```

**Related Commands**
show ufm web-client

**Notes**

### 3.15.7 ufm web-client client-authentication cert-refresh enable

```
ufmapl [mgmt-ha-active] (config) # ufm web-client client-authentication cert-refresh enable
```

**Syntax Description**

N/A

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>
### 3.15.8 ufm web-client client-authentication cert-refresh ca-cert

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>download-url</th>
<th>Download URL for root/intermediate certificate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ufm web-client</td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Syntax Description
- `download-url`: Download URL for root/intermediate certificate.

- `http`, `https`, `ftp`, `tftp`, `scp`, `sftp` and `usb` are supported. Example: `scp://username[:password@hostname/path/filename, usb:/path/filename`.  

#### Default
- `N/A`

#### Configuration Mode
- `config`

#### History
- `1.5`
Example

```
ufmapl [mgmt-ha-active] (config) # ufm web-client client-authentication cert-refresh self-client-cert password-file fetch scp://admin@192.168.1.10/tmp/certs/bootstrap.pfx
```

Related Commands

- `show ufm web-client`
- `ufm web-client client-authentication cert-refresh self-client-cert password-file fetch`

Notes

3.15.10 ufm web-client client-authentication cert-refresh self-client-cert password-file fetch

```
ufm web-client client-authentication cert-refresh self-client-cert password-file fetch <download-uri>
no ufm web-client client-authentication cert-refresh self-client-cert password-file fetch <download-uri>
```

Fetches a bootstrap certificate password file (containing a password to be used to open a bootstrap certificate) rather than having to supply a cleartext password while fetching the bootstrap certificate. The no form on the command deletes the bootstrap certificate password file from the hard disk.

Syntax Description

- `download-uri`

Default

N/A

Configuration Mode

config

History

4.3.0

Example

```
ufmapl [mgmt-ha-active] (config) # ufm web-client client-authentication cert-refresh self-client-cert password-file fetch scp://admin@192.168.1.10/tmp/certs/bootstrap.txt
```

Related Commands

- `show ufm web-client`
- `ufm web-client client-authentication cert-refresh self-client-cert fetch`

Notes

3.15.11 ufm web-client client-authentication cert-refresh server-cert

```
ufm web-client client-authentication cert-refresh server-cert-cert <url> <thumbprint>
no ufm web-client client-authentication cert-refresh server-cert-cert <url> <thumbprint>
```

Sets the download URL for server and bootstrap certificates. The no form of the command clears the server and bootstrap certificates auto-refresh settings.
### Syntax Description

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>thumbprint</strong></td>
<td>Server certificate thumbprint</td>
</tr>
</tbody>
</table>

| Default | N/A |
| Configuration Mode | config |

| History | 1.5 |

#### Example

```plaintext
ufmapl [mgmt-ha-active] (config) # ufm web-client client-authentication cert-refresh server-cert "https://mellanox.com/servercerts" 2268BD79DF7F9CB18EB97F315AE0F3S3D223A15
```

#### Related Commands
- show ufm web-client

#### Notes
- 3.15.12 ufm web-client client-authentication cert-refresh run-now

#### Syntax Description

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ufm web-client client-authentication cert-refresh run-now</strong></td>
<td>Refreshes the server and root/intermediate certificates manually.</td>
</tr>
</tbody>
</table>

| Default | N/A |
| Configuration Mode | config |

| History | 1.5 |

#### Example

```plaintext
ufmapl [mgmt-ha-active] (config) # ufm web-client client-authentication cert-refresh run-now
```

#### Related Commands
- show ufm web-client

#### Notes
- 3.15.13 ufm ws-address

#### Syntax Description

<table>
<thead>
<tr>
<th>Field</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ufm ws-address &lt;address&gt;</strong></td>
<td>Sets the web server external address.</td>
</tr>
</tbody>
</table>

| Default | N/A |
| Configuration Mode | config |

| History | 1.6 |

#### Example

```plaintext
ufmapl [mgmt-ac] (config) # ufm ws-address 172.10.30.16
```
3.15.14 show ufm ws-address

<table>
<thead>
<tr>
<th>Related Commands</th>
<th>show ufm ws-address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

Syntax Description

show ufm ws-address <address>
Displays the web server external address.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>address</th>
<th>Web server external address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
<td></td>
</tr>
</tbody>
</table>

Example

ufmapl [mgmt-sa] (config) # show ufm ws-address
Web server external address: UNDEFINED

Related Commands

ufm ws-address

Notes

3.16 Management Interface Monitoring

3.16.1 ufm mgmt-interface monitor enable

ufm mgmt-interface monitor enable
no ufm mgmt-interface monitor enable
Enables monitoring of the management interface.
The no form of the command disables monitoring of the management interface.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>http</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.1.5</td>
</tr>
</tbody>
</table>

Example

ufmapl [mgmt-ha-active] (config) # ufm mgmt-interface monitor enable

Related Commands

ufm mgmt-interface monitor interval
ufm mgmt-interface
show ufm mgmt-interface

Notes

3.16.2 ufm mgmt-interface monitor interval

ufm mgmt-interface monitor interval <time>
Configures the management interface monitoring interval.
### Syntax Description

<table>
<thead>
<tr>
<th>time</th>
<th>The management interface monitoring interval. Range: 5-180 seconds.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>10 seconds</td>
</tr>
</tbody>
</table>

### Configuration Mode

- **config**

### History

- 4.1.5

### Example

```
ufmapl [ mgmt-ha-active ] (config) # ufm mgmt-interface monitor interval 15
```

### Related Commands

- `ufm mgmt-interface monitor enable`
- `ufm mgmt-interface`
- `show ufm mgmt-interface`

### Notes

- The interface is automatically set when invoking the command "ufm ha configure".

### 3.16.3 ufm mgmt-interface

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Interface</th>
<th>Management interface to be monitored (e.g. eth0, eth1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>eth0</td>
<td></td>
</tr>
</tbody>
</table>

### Configuration Mode

- **config**

### History

- 4.1.5

### Example

```
ufmapl [ mgmt-ha-active ] (config) # ufm mgmt-interface eth0
```

### Related Commands

- `ufm mgmt-interface monitor enable`
- `ufm mgmt-interface monitor interval`
- `show ufm mgmt-interface`

### Notes

- The interface is set automatically when invoking the command "ufm ha configure".

### 3.16.4 show ufm mgmt-interface

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
</tbody>
</table>

### Configuration Mode

- Any configuration mode

### History

- 4.1.5
### Example

```
ufmap1 [ mgmt-ha-active ] (config) # show ufm mgmt-interface
Management interface monitoring:
  Interface name:         eth0
  Enabled:                Yes
  Monitoring interval:   10 seconds
```

### Related Commands
- `ufm mgmt-interface monitor enable`
- `ufm mgmt-interface monitor interval`
- `ufm mgmt-interface`

### Notes

3.17 AHX Monitoring

#### 3.17.1 `ib managed-switch ahx-monitor enable`

Enables AHX monitoring.
The no form of the command disables AHX monitoring.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.2</td>
</tr>
</tbody>
</table>

```
ufmap1 [ mgmt-ha-active ] (config) # ib managed-switch ahx-monitor enable
```

### Related Commands
- `show ib managed-switch ahx-monitor`

### Notes

3.17.2 `managed-switch ahx-monitor interval`

Configures AHX monitoring interval.
The no form of the command resets the AHX monitoring interval to default.

```
ib managed-switch ahx-monitor interval <time>
no ib managed-switch ahx-monitor interval
```

```
### Syntax Description

<table>
<thead>
<tr>
<th>time</th>
<th>Monitoring interval values:</th>
</tr>
</thead>
<tbody>
<tr>
<td>1m</td>
<td>1 minute</td>
</tr>
<tr>
<td>5m</td>
<td>5 minutes</td>
</tr>
<tr>
<td>10m</td>
<td>10 minutes</td>
</tr>
<tr>
<td>15m</td>
<td>15 minutes</td>
</tr>
<tr>
<td>20m</td>
<td>20 minutes</td>
</tr>
<tr>
<td>30m</td>
<td>30 minutes</td>
</tr>
<tr>
<td>1h</td>
<td>1 hour</td>
</tr>
<tr>
<td>2h</td>
<td>2 hours</td>
</tr>
<tr>
<td>3h</td>
<td>3 hours</td>
</tr>
<tr>
<td>4h</td>
<td>4 hours</td>
</tr>
<tr>
<td>6h</td>
<td>6 hours</td>
</tr>
<tr>
<td>8h</td>
<td>8 hours</td>
</tr>
<tr>
<td>12h</td>
<td>12 hours</td>
</tr>
<tr>
<td>24h</td>
<td>24 hours</td>
</tr>
</tbody>
</table>

**Default**

1m

**Configuration Mode**

config

**History**

4.2

**Example**

```
ufmapl [ mgmt-ha-active ] (config) # ib managed-switch ahx-monitor interval 10m
```

**Related Commands**

show ib managed-switch ahx-monitor

**Notes**

3.17.3 ib managed-switch ahx-monitor device

```
ib managed-switch ahx-monitor device <switch-name> <ip | ipv6> <primary-ip-address> <secondary-ip-address> [<AHX alternative switch name>]
no ib managed-switch ahx-monitor device <switch-name>
```

Adds AHX device to monitoring. The no form of the command removes AHX device from monitoring.

**Syntax Description**

<table>
<thead>
<tr>
<th>switch-name</th>
<th>AHX switch name</th>
</tr>
</thead>
<tbody>
<tr>
<td>alternative-switch-name</td>
<td>AHX alternative switch name</td>
</tr>
<tr>
<td>ip</td>
<td>ipv6</td>
</tr>
<tr>
<td>primary-ip-address</td>
<td>AHX primary IP address</td>
</tr>
<tr>
<td>secondary-ip-address</td>
<td>AHX secondary IP address</td>
</tr>
</tbody>
</table>

**Default**

**Configuration Mode**

config

**History**

4.2

**Example**

```
ufmapl [ mgmt-ha-active ] (config) # ib managed-switch ahx-monitor device ahx_switch01 ip 10.10.10.10 10.10.10.11
```

**Related Commands**

show ib managed-switch ahx-monitor

**Notes**
### 3.17.4 show ib managed-switch ahx-monitor

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.2</td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [ mgmt-ha-active | (config) # show ib managed-switch ahx-monitor
AHX Monitoring:
  Enabled : Yes
  Interval: 10m
AHX Devices:
  Switch name : ahx_switch01
  Primary IP address : 10.1.1.11
  Secondary IP address: 10.1.2.11
```

**Related Commands**

- `ib managed-switch ahx-monitor enable`
- `managed-switch ahx-monitor interval`
- `ib managed-switch ahx-monitor device`

**Notes**

---

### 3.18 UFM Events Forwarder

### 3.18.1 ufm events-forwarder enable

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.4.0</td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [ mgmt-sa ] (config) # ufm events-forwarder enable
```

**Related Commands**

- `ufm events-forwarder server`
- `show ufm events-forwarder`

**Notes**
3.18.2 ufm events-forwarder server

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.4.0</td>
</tr>
</tbody>
</table>

**Example**

```
ufmap1 [ mgmt-sa ] (config) # ufm events-forwarder server ip 2.2.2.2 port 300
```

**Related Commands**

- ufm events-forwarder enable
- show ufm events-forwarder

**Notes**

This configuration can be done only if UFM is stopped

3.18.3 show ufm events-forwarder

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.4.0</td>
</tr>
</tbody>
</table>

**Example**

```
ufmap1 [ mgmt-sa ] (config) # show ufm events-forwarder
Enabled: Yes
Server: 2.2.2.2  Port: 300
```

**Related Commands**

- ufm events-forwarder enable
- ufm events-forwarder server

3.18.4 ufm events max-restored

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>max-restored-value</th>
<th>Maximum number of restored events</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>4.8.0</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td>\texttt{ufmapl { mgmt-sa } (config) # ufm events max-restored 70}</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td></td>
</tr>
</tbody>
</table>
| Related Commands | ufm events persistency enable  
show ufm events |
| Notes | |

### 3.18.5 ufm events persistency enable

| ufm events persistency enable  
no ufm persistency enable  
Enables events persistency  
The no form of the command disables UFM persistency |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntax Description</td>
<td>N/A</td>
</tr>
<tr>
<td>Default</td>
<td>Disabled</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.8.0</td>
</tr>
<tr>
<td>Example</td>
<td>\texttt{ufmapl { mgmt-sa } (config) # ufm events persistency enable}</td>
</tr>
</tbody>
</table>
| Related Commands | show ufm events  
ufm events max-restored |
| Notes | |

### 3.18.6 show ufm events

| show ufm events  
Displays UFM events |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntax Description</td>
<td>N/A</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.8.0</td>
</tr>
</tbody>
</table>
| Example | \texttt{ufmapl \{ mgmt-sa \} (config) \# show ufm events  
Events persistency: No  
Max restored: 50} |
| Related Commands | ufm events persistency enable  
ufm events max-restored |
| Notes | |
3.19 UFM Virtualization

3.19.1 ufm virtualization enable

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
<th>Default</th>
<th>Disable</th>
<th>Configuration Mode</th>
<th>config</th>
<th>History</th>
<th>4.5.0</th>
<th>Example</th>
<th>ufm [ mgmt-sa ]</th>
<th>(config) # ufm virtualization enable</th>
</tr>
</thead>
</table>

Enables discovery of all the virtual ports in the fabric.
The no form of the command disables discovery of virtual ports in the fabric.

3.19.2 ufm virtualization interval

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>seconds</th>
<th>Range: 5-86400 seconds</th>
<th>Default</th>
<th>60</th>
<th>Configuration Mode</th>
<th>config</th>
<th>History</th>
<th>4.5.0</th>
<th>Example</th>
<th>ufm [ mgmt-sa ]</th>
<th>(config) # ufm virtualization interval 300</th>
</tr>
</thead>
</table>

Sets the virtual ports discovery interval.
The no form of the command resets this parameter to its default.

3.19.3 show ufm virtualization

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
<th>Default</th>
<th>N/A</th>
<th>Configuration Mode</th>
<th>Any configuration mode</th>
<th>History</th>
<th>4.5.0</th>
</tr>
</thead>
</table>

Displays UFM virtualization settings.
Example

ufmapl [ mgmt-ha-active | (config) # show ufm virtualization
Enabled : No

Related Commands
ufm virtualization enable

Notes

3.20 UFM Agent

3.20.1 ufm agent interface

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufm agent interface {eth0</td>
<td>eth1}</td>
</tr>
<tr>
<td>no ufm agent interface {eth0</td>
<td>eth1}</td>
</tr>
<tr>
<td>Sets UFM agent interface.</td>
<td></td>
</tr>
<tr>
<td>The no form of the command removes the settings for UFM agent interface.</td>
<td></td>
</tr>
</tbody>
</table>

Syntax Description

- eth0: Adds/removes UFM agent interface to eth0
- eth1: Adds/removes UFM agent interface to eth1

Default

N/A

Configuration Mode

config

History

1.6

Example

ufmapl [ mgmt-sa ] (config) interface eth0) # ufm agent interface eth1

Related Commands

ufm agent

Notes

3.20.2 show ufm agent

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show ufm agent</td>
<td>Displays the configured settings for UFM agent.</td>
</tr>
</tbody>
</table>

Syntax Description

N/A

Default

N/A

Configuration Mode

Any configuration mode

History

1.6

Example

ufmapl [ mgmt-sa ] (config) # show ufm agent interface eth0

Related Commands

ufm agent

Notes
### 3.21 Unhealthy Ports

#### 3.21.1 ufm unhealthy-ports isolate-high-ber isolation-mode

| Syntax Description | mode | - all - isolates switch-to-switch and switch-to-host unhealthy high-BER ports  
|                    |      | - switch-switch isolates switch-to-switch unhealthy high-BER ports  
|                    |      | - switch-host isolates switch-to-host unhealthy high-BER ports  

**Default**

switch-switch

**Configuration Mode**

config

**History**

4.7.0

**Example**

```
ufmapl [ mgmt-ha-active ] (config) # ufm high-ber-ports isolate-high-ber isolation-mode switch-switch
```

**Related Commands**

- show ufm unhealthy-ports
- ufm unhealthy-ports isolate-high-ber enable

**Notes**

#### 3.21.2 ufm unhealthy-ports isolate-high-ber enable

- Enable automatically marking high-BER ports as unhealthy.
- The no form of the command stops automatically marking high-BER ports as unhealthy.

**Syntax Description**

N/A

**Default**

Disabled

**Configuration Mode**

config

**History**

4.6.0

**Example**

```
ufmapl [ mgmt-ha-active ] (config) # ufm unhealthy-ports isolate-high-ber enable
```

**Related Commands**

- show ufm unhealthy-ports

**Notes**

Please stop UFM before performing attempting to change the event query interval value.

#### 3.21.3 ufm unhealthy-ports switch-ports-threshold

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>threshold</th>
<th>0-99 percent</th>
</tr>
</thead>
</table>
3.21.4 ufm high-ber-ports enable-warnings

ufm high-ber-ports enable-warnings
no ufm high-ber-ports enable-warnings

Enables high BER ports warnings.
The no form of the command disables the UFM high BER ports warnings.

Syntax Description
N/A

Default
Disabled

Configuration Mode
config

History
4.7.0

Example

ufmapl [ mgmt-ha-active ] (config) # ufm high-ber-ports enable-warnings

Related Commands
show ufm high-ber-ports

Notes

3.21.5 show ufm unhealthy-ports

show ufm unhealthy-ports
Displays UFM unhealthy ports settings.

Syntax Description
N/A

Default
N/A

Configuration Mode
Any configuration mode

History
4.6.0
4.7.0

Updated output

Example

ufmapl [ mgmt-ha-active ] (config) # show ufm unhealthy-ports
Enabled: NO
Isolation Mode: switch-switch
Switch Ports Event Threshold: 20 percent

Related Commands
ufm unhealthy-ports isolate-high-ber enable
ufm unhealthy-ports isolate-high-ber isolation-mode

Notes
3.21.6  show ufm high-ber-ports

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.7.0</td>
</tr>
</tbody>
</table>
| Example            | `ufmap1 [ mgmt-ha-active ] (config) # show ufm high-ber-ports
Enable Warnings: No` |
| Related Commands   | ufm high-ber-ports enable-warnings |
| Notes              |             |

3.21.7  ufm network-fast-recovery enable

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.12.0</td>
</tr>
<tr>
<td>Example</td>
<td><code>ufmap1 [ mgmt-ha-active ] (config) # ufm network-fast-recovery enable</code></td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ufm network-fast-recovery</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

3.21.8  show ufm network-fast-recovery

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.12.0</td>
</tr>
</tbody>
</table>
3.22 UFM Audit

3.22.1 ufm track-conf-changes enable

ufm track-conf-changes enable
no ufm track-conf-changes enable
Enables UFM configuration changes tracking
The no form of the command disables UFM configuration changes tracking

Syntax Description
N/A
Default
Enabled
Configuration Mode
config
History
4.8 First Release
4.9 Modified command names as follows:
  - From "ufm track-sm-conf-change enable" to "ufm track-conf-changes enable"
  - From "no ufm track-sm-conf-change enable" to "no ufm track-conf-changes enable"

Example

ufmapl [ mgmt-ha-active ] (config) # ufm track-conf-changes enable

Related Commands
show ufm track-conf-changes

Notes

3.22.2 show ufm track-conf-changes

show ufm track-conf-changes
Displays UFM configuration changes tracking settings

Syntax Description
N/A
Default
N/A
Configuration Mode
config
History
4.8 First release
4.9 Modified command name from "show ufm track-sm-conf-change" to "show ufm track-conf-changes"

Example

ufmapl [ mgmt-ha-active ] (config) # show ufm
Track UFM configuration changes: No
3.23 UFM Plugin Commands

### 3.23.1 ufm plugin

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufm plugin <code>&lt;plugin-name&gt;</code> {add [tag <code>&lt;tag name&gt;</code>]</td>
<td>enable</td>
</tr>
<tr>
<td>no ufm plugin <code>&lt;plugin-name&gt;</code> enable</td>
<td></td>
</tr>
<tr>
<td>Add UFM plugin manages UFM plugin.</td>
<td></td>
</tr>
<tr>
<td>The no form of the command disables UFM plugin.</td>
<td></td>
</tr>
</tbody>
</table>

**Syntax Description**

- **add**: Adds UFM plugin
- **enable**: Enables UFM plugin
- **remove**: Removes UFM plugin

**Default**

- N/A

**Configuration Mode**

- `config`

**History**

- 4.7

**Example**

```
ufmapl (mgmt-sa) (config) # ufm plugin ndt add tag 1.0.0-3
```

**Related Commands**

- `show ufm plugin`

**Notes**

- The plugin can be added, removed, enabled or disabled while UFM is running.
- The plugin will be started upon UFM startup.
- Disabling the plugin will only stop it.
- Removing the plugin also clears all its folders and files (including configuration and logs).

### 3.23.2 show ufm plugin

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>show ufm plugin</td>
<td>Displays UFM plugin</td>
</tr>
</tbody>
</table>

**Syntax Description**

- N/A

**Default**

- enabled

**Configuration Mode**

- `config`

**History**

- 4.7
### Related Commands

<table>
<thead>
<tr>
<th>Command</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufm plugin add</td>
</tr>
<tr>
<td>ufm plugin remove</td>
</tr>
<tr>
<td>ufm plugin enable</td>
</tr>
<tr>
<td>no ufm plugin enable</td>
</tr>
</tbody>
</table>

### Notes

#### Fabric Discovery

### 3.24 ufm discovered-switch-ip-version

#### 3.24.1 Syntax Description

- ipv4: Discover switch IPv4 address
- ipv6: Discover switch IPv6 address

#### Default

- IPv4

#### Configuration Mode

- `config`

#### History

- 4.10.0

#### Example

```bash
ufmapl [ mgmt-ha-active ] (config) # show ufm discovered-switch-ip-version
Discovered Switch IP Version: IPv4
```

#### Related Commands

- ufm discovered-switch-ip-version

#### Notes
4 InfiniBand Commands

- InfiniBand Utilities
- OpenSM
- InfiniBand Router
- NVIDIA SHARP
- Partition
- Switch Auto-provisioning
- Fabric Topology
- SA Key
- MKey
- HCA Commands

4.1 InfiniBand Utilities

4.1.1 ib ibdiagnet

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ib ibdiagnet [&lt;-ibdiagnet-options&gt;]</td>
<td>Scans the fabric using directed route packets and extracts all the available information regarding its connectivity and devices.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>config</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntax Description</td>
<td>N/A</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td>ufmapi1 { mgmt-ha-active } (config) # ib ibdiagnet</td>
</tr>
</tbody>
</table>

Related Commands

Notes
- For further information on the command, please run "ib ibdiagnet --help".
- Running this command with the "upload" parameter uploads the last execution of the command.

4.1.2 ib ibdiagnet gmp-window

<table>
<thead>
<tr>
<th>ib ibdiagnet gmp-window &lt;value&gt;</th>
<th>no ib ibdiagnet gmp-window</th>
</tr>
</thead>
<tbody>
<tr>
<td>Set the maximum number of GMPs sent in parallel. The no form of the command resets the parameter to its default.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>value</th>
<th>Range: 0-16384</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>128</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
<td></td>
</tr>
</tbody>
</table>
### 4.1.3 `show ib ibdiagnet gmp-window`

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
</tr>
</tbody>
</table>

#### Example

```
ufm [ mgmt-sa ] (config) # show ib ibdiagnet gmp-window
```

#### Related Commands

- `ib ibdiagnet gmp-window`

#### Notes

- `show ib ibdiagnet gmp-window`

### 4.1.4 `ib ibdiagnet smp-window`

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>value</th>
<th>Range: 0-256</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
<td></td>
</tr>
</tbody>
</table>

#### Example

```
ufm [ mgmt-sa ] (config) # ib ibdiagnet smp-window 10
```

#### Related Commands

- `show ib ibdiagnet smp-window`

#### Notes

- `show ib ibdiagnet smp-window`

### 4.1.5 `show ib ibdiagnet smp-window`

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
</table>

#### Example

```
ufm [ mgmt-sa ] (config) # show ib ibdiagnet gmp-window
```

#### Related Commands

- `ib ibdiagnet gmp-window`
Default | N/A
---|---
Configuration Mode | Any configuration mode
History | 4.3.0
Example | `ufm [ mgmt-sa ] (config) # show ib ibdiagnet smp-window 10`
Related Commands | ib ibdiagnet smp-window
Notes | 

### 4.1.6 ib ibdiagnet upload

```
ib ibdiagnet upload <upload-url>
```

Uploads ibdiagnet output files to a remote host or a USB device.

**Syntax Description**
- **upload-url**

**Default** | N/A
**Configuration Mode** | config
**History** | 1.5
**Example** |
```
ufm [ mgmt-sa ] (config) # ib ibdiagnet upload scp://root@10.10.1.11/tmp
```
**Related Commands** | 
**Notes** | Prior to running this command, you must run the "ib ibdiagnet" command. For further information on the command, please run: "ib ibdiagnet --help".

### 4.1.7 ib ibdiagpath

```
ib ibdiagpath <ibdiagpath-options>
```

Scans the fabric using directed route packets and extracts all the available information regarding its connectivity and devices.

**Syntax Description** | 
**Default** | N/A
**Configuration Mode** | config
**History** | 1.5
**Example** |
```
ufm [ mgmt-sa ] (config) #
```
**Related Commands** |
Notes

- For further information on the command, please run "ib ibdiagpath --help".
- Running this command with the "upload" parameter uploads the last execution of the command.

### 4.1.8 ib ibdiagpath upload

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ib ibdiagpath upload &lt;upload-url&gt;</td>
<td>Uploads ibdiagpath output files to a remote host or a USB device.</td>
</tr>
</tbody>
</table>

#### Syntax Description

- **upload-url**
  - Formats supported: ftp, tftp, scp, sftp and usb. For example: scp://username[:password]@hostname/path/filename, usb:/path/filename.

#### Default

- N/A

#### Configuration Mode

- config

#### History

- 1.5

#### Example

```bash
ufmapl [ mgmt-sa ] (config) # ib ibdiagpath upload scp://root@10.10.1.11/tmp
```

#### Related Commands

#### Notes

Prior to running this command, you must run the command "ib ibdiagpath". For further information on the command, please run "ib ibdiagpath --help".

### 4.1.9 ib perfquery

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ib perfquery &lt;perfquery-options&gt;</td>
<td>Dumps (and optionally clears) the performance counters of the destination port (including error counters).</td>
</tr>
</tbody>
</table>

#### Syntax Description

- N/A

#### Default

- N/A

#### Configuration Mode

- config

#### History

- 1.5

#### Example

```bash
ufm [ mgmt-sa ] (config) #
```

#### Related Commands

#### Notes

For further information on the command, please run "ib perfquery --help".

### 4.1.10 ib ibtracert

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ib ibtracert &lt;ibtracert-options&gt;</td>
<td>Displays unicast or multicast route from source to destination.</td>
</tr>
</tbody>
</table>

#### Syntax Description

- N/A
### 4.1.11 ib ibportstate

<table>
<thead>
<tr>
<th><strong>Syntax</strong></th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Gets the logical and physical port states of an InfiniBand port or disables or enables the port (only on a switch).</td>
</tr>
<tr>
<td><strong>Default</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Configuration Mode</strong></td>
<td>config</td>
</tr>
<tr>
<td><strong>History</strong></td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Example</strong></td>
<td><code>ufm [ mgmt-sa ] (config) #</code></td>
</tr>
</tbody>
</table>

**Related Commands**

For further information on the command, please run "ib ibportstate --help".

---

### 4.1.12 ib smpquery

<table>
<thead>
<tr>
<th><strong>Syntax</strong></th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td>Enables a basic subset of standard SMP queries including the following: node info, node description, switch info, port info. Fields are displayed in human readable format.</td>
</tr>
<tr>
<td><strong>Default</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Configuration Mode</strong></td>
<td>config</td>
</tr>
<tr>
<td><strong>History</strong></td>
<td>1.5</td>
</tr>
<tr>
<td><strong>Example</strong></td>
<td><code>ufm [ mgmt-sa ] (config) #</code></td>
</tr>
</tbody>
</table>

**Related Commands**

For further information on the command, please run "ib smpquery --help".
### 4.1.13 ib sminfo

**ib sminfo** `<sminfo-options>`
Queries the SMInfo attribute on a node.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Example**
```
ufm [ mgmt-sa ] | (config) #
```

**Related Commands**

**Notes**
For further information on the command, please run "ib sminfo --help".

### 4.1.14 ib smpdump

**ib smpdump** `<smpdump-options>`
A general purpose SMP utility which gets SM attributes from a specified SMA. The result is dumped in hex by default.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

**Example**
```
ufm [ mgmt-sa ] | (config) #
```

**Related Commands**

**Notes**
For further information on the command, please run "ib smpdump --help".

### 4.1.15 ib ibqueryerrors

**ib ibqueryerrors** `<ibqueryerrors-options>`
Queries and reports non-zero IB port counters.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>
### 4.1.16 ib ibroute

**Syntax**

```
ib ibroute <ibroute-options>
```

**Description**
Displays unicast and multicast forwarding tables of the switches.

**Example**
```
ufm [ mgmt-sa ] (config) #
```

**Related Commands**

**Notes**
For further information on the command, please run "ib ibqueryerrors --help".

### 4.1.17 ib ibrouters

**Syntax**

```
ib ibrouters <ibrouters-options>
```

**Description**
Shows InfiniBand router nodes in topology.

**Example**
```
ufm [ mgmt-sa ] (config) # ib routers
```

**Related Commands**

**Notes**
For further information on the command, please run "ib ibrouters --help".

### 4.1.18 ib ibnetdiscover

**Syntax**

```
ib ibnetdiscover [matching <expression> [count]]
```

**Description**
Assists to match more ibnetdiscover information.

**Example**
```
ufm [ mgmt-sa ] (config) # ib discover
```

**Related Commands**

**Notes**
For further information on the command, please run "ib ibnetdiscover --help".
### count
The number of times the matching expression appears

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td></td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>Updated the command's format and added new parameters</td>
</tr>
</tbody>
</table>

#### Example
```
ufmapl [ mgmt-sa ] (config) # ib ibnetdiscover
```

#### Related Commands

#### Notes
For further information on the command, please run "ib ibnetdiscover --help".

### 4.1.19 ib ibnetdiscover upload

```
ib ibnetdiscover upload <upload-url>
Upload ibnetdiscover output file to a remote host or a USB device.
```

#### Syntax Description

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
</tbody>
</table>

#### Example
```
ufmapl [ mgmt-sa ] (config) # ib ibnetdiscover upload scp://root@10.10.1.11/tmp
```

#### Related Commands

#### Notes
- For further information on the command, please run "ib ibnetdiscover --help".
- Running this command with the “upload” parameter uploads the last execution of the command.

### 4.1.20 ib ibstat

```
ib ibstat <ibstat options>
Shows the host adapters status.
```

#### Syntax Description
- N/A

#### Default
- N/A

#### Configuration Mode
- config

#### History
- 1.5

#### Example
```
ufm [ mgmt-sa ] (config) #
```
<table>
<thead>
<tr>
<th>Related Commands</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>For further information on the command, please run &quot;ib ibstat --help&quot;</td>
<td></td>
</tr>
</tbody>
</table>

### 4.1.21  ib ibstatus

| ib ibstatus <ibstatus-options> Queries basic status of InfiniBand device(s). |
|------------------|----------------------------------|
| Syntax Description | N/A |
| Default           | N/A |
| Configuration Mode | config |
| History            | 1.5 |
| Example            | ufm [ mgmt-sa ] (config) # |

<table>
<thead>
<tr>
<th>Related Commands</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>For further information on the command, please run &quot;ib ibstatus --help&quot;</td>
<td></td>
</tr>
</tbody>
</table>

### 4.1.22  ib ibnodes

| ib ibnodes <ibnodes-options> Scans the net or uses existing net topology file and lists all nodes. |
|------------------|-----------------------------------------------|
| Syntax Description | N/A |
| Default           | N/A |
| Configuration Mode | config |
| History            | 1.5 |
| Example            | ufm [ mgmt-sa ] (config) # |

<table>
<thead>
<tr>
<th>Related Commands</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>For further information on the command, please run &quot;ib ibnodes --help&quot;</td>
<td></td>
</tr>
</tbody>
</table>

### 4.1.23  ib saquery

| ib saquery <saquery-options> Queries InfiniBand subnet administration attributes. |
|------------------|-----------------------------------------------|
| Syntax Description | N/A |
| Default           | N/A |
| Configuration Mode | config |
| History            | 1.5 |
### 4.1.24 ib ibhosts

**Syntax**

```
ib ibhosts [matching <expression> [count]]
```

Scans the net or uses existing net topology file and lists all hosts.

#### Syntax Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>matching</td>
<td>A matching expression in a form of a string to ease the information search</td>
</tr>
<tr>
<td>count</td>
<td>The number of times the matching expression appears</td>
</tr>
</tbody>
</table>

#### Default

N/A

#### Configuration Mode

config

#### History

<table>
<thead>
<tr>
<th>Version</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
<td>1.6 Updated the command's format and added new parameters</td>
</tr>
</tbody>
</table>

#### Example

```
ufm [ mgmt-sa ] (config) 
```

#### Related Commands

#### Notes

For further information on the command, please run "ib ibhosts --help"

---

### 4.1.25 ib ibswitches

**Syntax**

```
ib ibswitches [matching <expression> [count]]
```

Scans the net or uses existing net topology file and lists all switches.

#### Syntax Description

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>matching</td>
<td>A matching expression in a form of a string to ease the information search</td>
</tr>
<tr>
<td>count</td>
<td>The number of times the matching expression appears</td>
</tr>
</tbody>
</table>

#### Default

N/A

#### Configuration Mode

config

#### History

<table>
<thead>
<tr>
<th>Version</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.5</td>
<td>1.6 Updated the command's format and added new parameters</td>
</tr>
</tbody>
</table>

#### Example

```
ufm [ mgmt-sa ] (config) 
```

#### Related Commands

#### Notes

For further information on the command, please run "ib ibswitches --help"
### 4.1.26 ib iblinkinfo

| ib iblinkinfo [iblinkinfo-options] [matching <expression>] [count] |
| Reports link info for each port in an IB fabric, node by node. Optionally, iblinkinfo can do partial scans and limit its output to parts of a fabric. |

| Syntax Description | matching | A matching expression in a form of a string to ease the information search |
| count | The number of times the matching expression appears |

| Default | N/A |
| Configuration Mode | config |
| History | 1.5 |
| 1.6 | Updated the command's format and added new parameters |

| Example | ufm [ mgmt-sa ] (config) # |

| Related Commands | |
| Notes | For further information on the command, please run "ib iblinkinfo --help" |

### 4.1.27 ib vendstat

| ib vendstat <vendstat-options> |
| Uses vendor specific MADs to access beyond the IB spec vendor specific functionality. |

| Syntax Description | N/A |
| Default | N/A |
| Configuration Mode | config |
| History | 1.5 |

| Example | ufm [ mgmt-sa ] (config) # |

| Related Commands | |
| Notes | For further information on the command, please run "ib vendstat --help" |

### 4.1.28 ib ibaddr

| ib ibaddr <ibaddr options> |
| Shows the LID range and default GID of the target. |

| Syntax Description | N/A |
| Default | The local port. |
| Configuration Mode | config |
| History | 4.10.0 |
### 4.1.29 ib ibping

**Syntax**

```
ib ibping <ibping options>
```

**Description**

Uses vendor MADs to validate connectivity between InfiniBand nodes. On exit, (IP) ping-like output is shown.

**Default**

N/A

**Configuration Mode**

config

**History**

4.10.0

**Example**

```
ufmapl [ mgmt-ha-active ] (config) # ib ibping -c 3 5
--- (Lid 5) ibping statistics ---
3 packets transmitted, 0 received, 100% packet loss, time 3000 ms
rtt min/avg/max = 0.000/0.000/0.000 ms
```

**Related Commands**

N/A

**Notes**

For further information on the command, please run "ib ibping --help"

---

### 4.1.30 ib ibsysstat

**Syntax**

```
ib ibsysstat <ibsysstat options>
```

**Description**

Obtains basic information for the specific node which may be remote. This information includes: hostname, CPUs, memory utilization.

**Default**

N/A

**Configuration Mode**

config

**History**

4.10.0

**Example**

```
ufmapl [ mgmt-ha-active ] (config) # ib ibsysstat 5
sysstat ping succeeded
```

**Related Commands**

N/A

**Notes**

For further information on the command, please run "ib ibsysstat --help"
4.1.31  ib smparquery

`ib smparquery <smparquery options>`
Queries adaptive-routing related settings from a particular switch.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.10.0</td>
</tr>
<tr>
<td>Example</td>
<td></td>
</tr>
<tr>
<td></td>
<td><code>ufmapl [ mgmt-ha-active ] (config) # smparquery argroupable 1</code></td>
</tr>
</tbody>
</table>

| Related Commands  |             |
| Notes             | For further information on the command, please run “ib smparquery --help” |

4.2  OpenSM

4.2.1  ib qos

`ib qos [enable]`
Manages advanced SM QoS options.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>enable</th>
<th>Enables advanced QoS management on this node</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td><code>ufmapl [ mgmt-ha-active ] (config) #</code></td>
<td></td>
</tr>
</tbody>
</table>

| Related Commands  |             |
| Notes             |             |

4.2.2  ib sm allow-both-pkeys

`ib sm allow-both-pkeys`
`no ib sm allow-both-pkeys`
Enables having both a full and limited membership on the same partition.
The no form of the command disables having both full and limited memberships on the same partition.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>Disabled</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>--------------------</td>
<td>--------</td>
</tr>
<tr>
<td>History</td>
<td>2.6</td>
</tr>
<tr>
<td>Example</td>
<td></td>
</tr>
</tbody>
</table>

**Example**

```
ufmapl [mgmt-ha-active] (config) # ib sm allow-both-pkeys
```

**Related Commands**

show ib sm allow-both-pkeys
ib partition management defmember

**Notes**

### 4.2.3 show ib sm allow-both-pkeys

**Syntax Description**

show ib sm allow-both-pkeys
Displays if both full and limited memberships on the same partition are enabled or not.

**Default**

N/A

**Configuration Mode**

Any configuration mode

**History**

2.6

**Example**

```
ufmapl [mgmt-ha-active] (config) # show ib sm allow-both-pkeys
disable
```

**Related Commands**

ib sm allow-both-pkeys

**Notes**

### 4.2.4 ib sm ar-sl-mask

```
ib sm ar-sl-mask <mask>
no ib sm ar-sl-mask
```

Configures the adaptive routing SL mask.
The no form of the command rests the mask value to default.

**Syntax Description**

<table>
<thead>
<tr>
<th>mask</th>
<th>Range: 0x0000-0xffff</th>
</tr>
</thead>
</table>

**Default**

0xffff

**Configuration Mode**

config

**History**

4.2.0

**Example**

```
UFM-APL [ mgmt-ha-active ] (config) # ib sm ar-sl-mask 0xfffe
```

**Related Commands**

show ib sm ar-sl-mask

**Notes**
### 4.2.5 show ib sm ar-sl-mask

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.2.0</td>
</tr>
</tbody>
</table>

**Example**

```
UFM-APL [ mgmt-ha-active ] (config) # show ib sm ar-sl-mask
0xffffffff
```

**Related Commands**

- `ib sm ar-sl-mask`

**Notes**

None.

### 4.2.6 ib sm configuration import

```
```

Imports the Subnet Manager configuration.
The no form of the command deletes the imported configuration files.

**Syntax Description**

N/A

**Default**

N/A

**Configuration Mode**

config

**History**

- 1.6
- 4.3.0 Added congestion-control parameter

**Example**

```
UFM-APL [ mgmt-ha-active ] (config) # ib sm configuration import
```

**Related Commands**

- `show ib sm configuration import`

**Notes**

None.

### 4.2.7 show ib sm configuration import

```
show ib sm configuration import
```

Displays imported subnet manager configuration files.

**Syntax Description**

N/A

**Default**

N/A

**Configuration Mode**

Any configuration mode
### 4.2.8 ib sm congestion-control

**Syntax**
```
ib sm congestion-control {enable | ignore}
no ib sm congestion-control enable
```

Configure congestion control.
The no form of the command disables congestion control configuration.

**Syntax Description**
- `enable`: Enables congestion control
- `ignore`: Ignores congestion control configuration

**Default**
- Disabled

**Configuration Mode**
- `config`

**History**
- 4.3.0

**Example**
```
ufmapl [ mgmt-ha-active | (config) ] # ib sm congestion-control enable
```

**Related Commands**
- `show ib sm congestion-control`

**Notes**

### 4.2.9 show ib sm congestion-control

```
show ib sm congestion-control
```

Displays congestion control configuration.

**Syntax Description**
- N/A

**Default**
- N/A

**Configuration Mode**
- Any configuration mode
4.2.10  ib sm dfp max-cas-on-spine

```
ib sm dfp max-cas-on-spine <int>
no ib sm dfp max-cas-on-spine
```

Configures maximum number of CAs on the switch before it is considered a spine instead of leaf. The no form of the command resets the parameter to its default.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>int</th>
<th>Range: 1-126</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
<td></td>
</tr>
</tbody>
</table>

Example
```
ufm [ mgmt-sa ] (config) # ib sm dfp max-cas-on-spine 20
```

Related Commands
```
show ib sm dfp max-cas-on-spine
```

Notes

4.2.11  show ib sm dfp max-cas-on-spine

```
show ib sm dfp max-cas-on-spine
```

Displays maximum number of CAs on the switch before it is considered a spine instead of leaf.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
</tr>
</tbody>
</table>

Example
```
ufm [ mgmt-sa ] (config) # show ib sm dfp max-cas-on-spine 20
```

Related Commands
```
ib sm dfp max-cas-on-spine
```

Notes
### 4.2.12 ib sm dfp down-up-turns-mode

**Syntax**

ib sm dfp down-up-turns-mode [allow-in-intermediate-groups | allow-turns-through-intermediate-spine | disable]

**Description**

Configures whether to allow turns through intermediate spine.

**Default**

Disabled

**Configuration Mode**

config

**History**

4.3.0

**Example**

```bash
ufm [ mgmt-sa ] (config) # ib sm dfp down-up-turns-mode allow-in-intermediate-groups
```

**Related Commands**

show ib sm dfp down-up-turns-mode

**Notes**


### 4.2.13 show ib sm dfp down-up-turns-mode

**Syntax**

show ib sm dfp down-up-turns-mode

**Description**

Displays mode of taking down up-turns in intermediate groups with DF+ routing engine.

**Default**

N/A

**Configuration Mode**

Any configuration mode

**History**

4.3.0

**Example**

```bash
ufm [ mgmt-sa ] (config) # show ib sm dfp down-up-turns-mode allow down up turns in intermediate groups
```

**Related Commands**

ib sm dfp down-up-turns-mode

**Notes**


### 4.2.14 ib sm files opensm-dump delete

**Syntax**

ib sm files opensm-dump delete

**Description**

Deletes OpenSM dump files.

**Default**

N/A

**Configuration Mode**

config

**History**

4.6.0
### 4.2.15 ib sm force-log-flush

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>enable</th>
<th>Enables force log flush after every write</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
<td></td>
</tr>
</tbody>
</table>

**Example**
```
ufmap1 [ mgmt-ha-active | (config) ] # ib sm force-log-flush enable
```

**Related Commands**

**Notes**

### 4.2.16 ib sm force-link-speed

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
<th>Sets SM behavior for port speed on switch ports.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
<td></td>
</tr>
</tbody>
</table>

**Example**
```
ufmap1 [ mgmt-ha-active | (config) ] #
```

**Related Commands**

**Notes**

### 4.2.17 ib sm keep-pkey-indexes

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>ib sm keep-pkey-indexes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>no ib sm keep-pkey-indexes</td>
</tr>
</tbody>
</table>

Preserves PKey indexes belonging to the historical PKeys configured on the port when generating PKey tables for a certain port. The no form of the command calculates PKey indexes belonging to the historical PKeys configured on the port.
### Syntax

<table>
<thead>
<tr>
<th>Description</th>
<th>N/A</th>
</tr>
</thead>
</table>

| Default | Enabled |

| Configuration Mode | config |

| History | 2.6 |

| Example | `ufmapl [mgmt-ha-active] (config) # no ib sm keep-pkey-indexes` |

| Related Commands | show ib sm keep-pkey-indexes ib sm allow-both-pkeys |

| Notes | |

### 4.2.18 show ib sm keep-pkey-indexes

**show ib sm keep-pkey-indexes**

Displays whether PKey indexes belonging to the historical PKeys configured on the port are preserved or not.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
</table>

| Default | N/A |

| Configuration Mode | Any configuration mode |

| History | 2.6 |

| Example | `ufmapl [mgmt-ha-active] (config) # show ib sm keep-pkey-indexes enable` |

| Related Commands | ib sm keep-pkey-indexes |

| Notes | |

### 4.2.19 ib sm log-flags

**ib sm log-flags [all | debug | error | frames | funcs | info | none | routing | verbose]**

Configures all log-files.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>all</th>
<th>Error info verbose debug funcs frames routing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>debug</td>
<td>Logs diagnostic messages, high volume</td>
</tr>
<tr>
<td></td>
<td>error</td>
<td>Logs error messages</td>
</tr>
<tr>
<td></td>
<td>frames</td>
<td>Logs all SMP and GMP frames</td>
</tr>
<tr>
<td></td>
<td>funcs</td>
<td>Logs function entry/exit, very high volume</td>
</tr>
<tr>
<td></td>
<td>info</td>
<td>Logs basic messages, low volume</td>
</tr>
<tr>
<td></td>
<td>none</td>
<td>Turns off all logging flags</td>
</tr>
</tbody>
</table>
### 4.2.20 show ib sm log

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>continuous</th>
<th>Displays new event log messages as they arrive</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>files</td>
<td>Displays archived log files</td>
</tr>
<tr>
<td></td>
<td>matching</td>
<td>Displays event logs that match a given regular expression</td>
</tr>
<tr>
<td></td>
<td>not</td>
<td>Displays event logs that do not meet certain criteria</td>
</tr>
</tbody>
</table>

**Default**

N/A

**Configuration Mode**

Any configuration mode

**History**

1.6

**Example**

```
ufmap1 [ mgmt-ha-active ] (config) #
```

**Related Commands**

**Notes**

4.2.21 ib sm partition-config-merge

Merges the partitions.conf.user_ext into the partitions.conf and starts the heavy sweep on the SM. To use after importing the specific file or importing all configuration files.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
</table>

**Default**

N/A

**Configuration Mode**

config

**History**

2.6
Example

```
ufmapl [mgmt-ha-active] (config) # ib sm partition-config-merge
```

<table>
<thead>
<tr>
<th>Related Commands</th>
<th>ib sm configuration import partition-config-user-ext</th>
</tr>
</thead>
</table>

Notes

The SM must be running for this command to work.

### 4.2.22 `ib sm root-guid`

```
ib sm root-guid <guid>
no ib sm root-guid <guid>
```

Adds a root GUID for the SM.
The no form of the command removes the GUID from the SM.

#### Syntax Description

<table>
<thead>
<tr>
<th>guid</th>
<th>The root GUID number in hexadecimal notation For example: 0x0002c903006ad830</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th>config</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>History</th>
<th>2.6</th>
</tr>
</thead>
</table>

**Example**

```
ufmapl [mgmt-ha-active] (config) # ib sm root-guid 0x0002c903006ad830
```

<table>
<thead>
<tr>
<th>Related Commands</th>
<th>show ib sm root-guid</th>
</tr>
</thead>
</table>

Notes

The list of root GUIDs are relevant when the routing algorithm is up-down or fat-tree.

### 4.2.23 `show ib sm root-guid`

```
show ib sm root-guid
```

Displays all configured root GUIDs for the SM.

#### Syntax Description

<table>
<thead>
<tr>
<th>N/A</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th>Any configuration mode</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>History</th>
<th>2.6</th>
</tr>
</thead>
</table>

**Example**

```
ufmapl [mgmt-ha-active] (config) # show ib sm root-guid
0x0002c903006ad830
0x0002c903006ae120
0x0002c903006af520
```

<table>
<thead>
<tr>
<th>Related Commands</th>
<th>ib sm root-guid</th>
</tr>
</thead>
</table>

Notes
4.2.24 ib sm routing-engines

ib sm routing-engines [dfsssp | dor | file | ftree | minhop | torus-2QoS | updn | chain | pqft]

Sets the routing engine of the SM. Multiple routing engines can be specified separated by a space so that specific ordering of routing algorithms is tried if earlier routing engines fail.

Syntax Description

- dfsssp: Includes 'dfsssp' (EXPERIMENTAL) engine in selection of routing engines
- dor: Includes 'dor' engine in selection of routing engines
- file: Includes 'file' engine in selection of routing engines
- ftree: Includes 'ftree' engine in selection of routing engines
- minhop: Includes 'minhop' engine in selection of routing engines
- none: No routing engines specified; use SM default(s)
- sssp: Includes 'sssp' (EXPERIMENTAL) engine in selection of routing engines
- torus-2QoS: Includes 'torus-2QoS' engine in selection of routing engines
- updn: Includes 'updn' engine in selection of routing engines
- chain: Includes 'chain' engine in selection of routing engines
- pqft: Default N/A

Configuration Mode

config

History

1.6

Example

ufmapl [ mgmt-ha-active ] (config) #

Related Commands

Notes

4.2.25 ib sm routing-threads-num

ib sm routing-threads-num <int>
no ib sm routing-threads-num

Configures number of CPUs to use for parallel calculations. The no form of the command resets the parameter to its default.

Syntax Description

- int: Range: 1-8

Default

1

Configuration Mode

config
### 4.2.26 show ib sm routing-threads-num

<table>
<thead>
<tr>
<th>show ib sm routing-threads-num</th>
<th>Displays number of CPUs configured to use for parallel calculations.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntax Description</td>
<td>N/A</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
</tr>
<tr>
<td>Example</td>
<td>ufm [ mgmt-sa ] (config) # show ib sm routing-threads-num 5</td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ib sm routing-threads-num</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

### 4.2.27 ib sm scatter-ports

<table>
<thead>
<tr>
<th>ib sm scatter-ports</th>
<th>Assigns ports in a random order instead of round-robin.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntax Description</td>
<td>N/A</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
</tr>
<tr>
<td>Example</td>
<td>ufm [ mgmt-ha-active ] (config) #</td>
</tr>
<tr>
<td>Related Commands</td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

### 4.2.28 ib sm smp-window

<table>
<thead>
<tr>
<th>ib sm smp-window &lt;value&gt;</th>
<th>Sets the maximum number of SMPs sent in parallel. The no form of the command resets this parameter to its default.</th>
</tr>
</thead>
<tbody>
<tr>
<td>no ib sm smp-window</td>
<td></td>
</tr>
<tr>
<td>Related Commands</td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>
Syntax Description | value | 0-256
--- | --- | ---
Default | 8 |
Configuration Mode | config |
History | 2.6 |
Example | UFM-APL (config) # ib sm smp-window 10 |
Related Commands | show ib sm smp-windows |
Notes |

### 4.2.29 show ib sm smp-window

**Syntax Description**

show ib sm smp-window
Displays the maximum number of SMPs sent in parallel.

**Default**

N/A

**Configuration Mode**

Any configuration mode

**History**

2.6

**Example**

UFM-APL (config) # show ib sm smp-window 10

**Related Commands**

ib sm smp-window

**Notes**


### 4.2.30 ib sm ufm-events

```bash
ib sm ufm-events [all | security]
no ib sm ufm-events
```

Configures which traps the SM sends to the UFM. The no form of the command configures that no traps are sent to the UFM (i.e. "none").

**Syntax Description**

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>all</td>
<td>Sends all traps to the UFM</td>
</tr>
<tr>
<td>security</td>
<td>Sends security traps to the UFM only</td>
</tr>
</tbody>
</table>

**Default**

0xffff

**Configuration Mode**

config

**History**

4.2.0

**Example**

UFM-APL [ mgmt-ha-active ] (config) # ib sm ufm-events security

**Related Commands**

show ib sm ufm-events

**Notes**
### 4.2.31 show ib sm ufm-events

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.2.0</td>
</tr>
</tbody>
</table>

**Example**

```bash
UFM-APL [ mgmt-ha-active ] (config) # show ib sm ufm-events
Determines which Subnet Manager traps will be sent to UFM: security
```

**Related Commands**

- ib sm ufm-events

**Notes**

### 4.2.32 ib sm use-ucast-cache enable

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
</tr>
</tbody>
</table>

**Example**

```bash
ufmapl [ mgmt-ha-active ] (config) #
```

**Related Commands**

**Notes**

### 4.2.33 ib sm virtualization enable

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>2.6</td>
</tr>
</tbody>
</table>

**Example**

```bash
UFM-APL [ mgmt-ha-active ] (config) # ib sm virtualization enable
```
### 4.2.34 ib sm virtualization ignore

<table>
<thead>
<tr>
<th>Command:</th>
<th>ib sm virtualization ignore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntax Description</td>
<td>N/A</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>2.6</td>
</tr>
</tbody>
</table>

**Example**

```
UFM-APL [ mgmt-ha-active ] (config) # ib sm virtualization ignore
```

**Related Commands**

- show ib sm virtualization

**Notes**

It is not possible to modify the virtualization support in case OpenSM or UFM are running.

### 4.2.35 show ib sm virtualization

<table>
<thead>
<tr>
<th>Command:</th>
<th>show ib sm virtualization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntax Description</td>
<td>N/A</td>
</tr>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>2.6</td>
</tr>
</tbody>
</table>

**Example**

```
UFM-APL [ mgmt-ha-active ] (config) # show ib sm virtualization ignore
```

**Related Commands**

- ib sm virtualization enable
- ib sm virtualization ignore

**Notes**

- It is not possible to modify the virtualization support in case OpenSM or UFM are running.

### 4.2.36 ib sm virt-max-ports-in-process

<table>
<thead>
<tr>
<th>Command:</th>
<th>ib sm virt-max-ports-in-process &lt;value&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Syntax Description</td>
<td>value</td>
</tr>
<tr>
<td>Default</td>
<td>64</td>
</tr>
</tbody>
</table>

**Description**

Sets the maximum number of ports to be processed simultaneously. The no form of the command resets this parameter to its default.
### Configuration Mode
- **config**

### History
- **2.6**

### Example
- **UFM-APL [ mgmt-ha-active ]** (config) # ib sm virt-max-ports-in-process 20

### Related Commands
- `show ib sm virt-max-ports-in-process`

### Notes

#### 4.2.37 `show ib sm virt-max-ports-in-process`
- **Syntax Description**
  - Displays the maximum number of ports to be processed simultaneously.
- **Default**
  - N/A
- **Configuration Mode**
  - Any configuration mode
- **History**
  - **2.6**
- **Example**
  - **UFM-APL (config) # show ib sm virt-max-ports-in-process**
    - 20

### Related Commands
- `ib sm virt-max-ports-in-process`

### Notes

#### 4.2.38 `ufm multi-port-sm`
- **Syntax Description**
  - Enables configuring OpenSM with multiple GUIDs.
  - The no form of the command disables configuring OpenSM with multiple GUIDs.
- **Default**
  - Disabled
- **Configuration Mode**
  - **config**
- **History**
  - **4.3.0**
- **Example**
  - **ufm ( mgmt-sa | (config) # ufm multi-port-sm enable**

### Related Commands
- `show ufm multi-port-sm`

### Notes
### 4.2.39 show ufm multi-port-sm

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
</tr>
</tbody>
</table>

**Example**

```plaintext
ufm [ mgmt-sa ] (config) # show ufm multi-port-sm
```

**Related Commands**

- ufm multi-port-sm enable

**Notes**

---

### 4.2.40 ufm sm-static-lid

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>Assigned by the SM</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.5.0</td>
</tr>
</tbody>
</table>

**Example**

```plaintext
ufm [ mgmt-sa ] (config) # ufm sm-static-lid 20
```

**Related Commands**

- show ufm sm-static-lid

**Notes**

---

### 4.2.41 show ufm sm-static-lid

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>Assigned by the SM</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>4.5.0</td>
</tr>
</tbody>
</table>

**Example**

```plaintext
ufm [ mgmt-sa ] (config) # show ufm sm-static-lid
```

**Related Commands**

- show ufm sm-static-lid

**Notes**
### 4.3 InfiniBand Router

#### 4.3.1 ib router set-num-of-subnets

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>hostname</td>
<td>IB router hostname or IP address</td>
</tr>
<tr>
<td>username</td>
<td>IP router username</td>
</tr>
<tr>
<td>password</td>
<td>IB router user password</td>
</tr>
<tr>
<td>num-of-subnets</td>
<td>Specified number of subnets (AKA SWIDs) to be initialized by the system. Range: 2-6.</td>
</tr>
</tbody>
</table>

**Default**: N/A

**Configuration Mode**: config

**History**: 1.6

**Example**
```
UFM-APL [ mgmt-ha-active | (config) # ib router set-num-of-subnets --hostname 10.10.1.12 --username admin --password admin --num-of-subnets 6
```

**Related Commands**

**Notes**: As a result of running this command, reboot is performed and all configuration is removed.

#### 4.3.2 ib router add-interfaces-to-subnet

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>hostname</td>
<td>IB router hostname or IP address</td>
</tr>
<tr>
<td>username</td>
<td>IP router username</td>
</tr>
<tr>
<td>password</td>
<td>IB router user password</td>
</tr>
<tr>
<td>interface</td>
<td>Single IB interface or range of IB interfaces. Single IB interface: 1/&lt;interface&gt; Range of IB interfaces: 1/&lt;interface&gt;-1/&lt;interface&gt;</td>
</tr>
<tr>
<td>subnet</td>
<td>Name of IB subnet (i.e. SWID): infiniband-default, infiniband-1...infiniband-5</td>
</tr>
</tbody>
</table>

**Default**: N/A

**Configuration Mode**: config

**History**: 1.6
### 4.3.3 ib router remove-interfaces-from-subnet

**Syntax Description**

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>hostname</td>
<td>IB router hostname or IP address</td>
</tr>
<tr>
<td>username</td>
<td>IP router username</td>
</tr>
<tr>
<td>password</td>
<td>IB router user password</td>
</tr>
<tr>
<td>interface</td>
<td>Single IB interface or range of IB interfaces. Single IB interface: 1/(&lt;interface&gt;) Range of IB interfaces: 1/(&lt;interface&gt;-1/(&lt;interface&gt;)</td>
</tr>
</tbody>
</table>

**Default**

N/A

**Configuration Mode**

config

**History**

1.6

**Example**

```
UFM-APL [ mgmt-ha-active | (config) # ib router remove-interfaces-from-subnet
--hostname 10.10.1.12 --username admin --password admin --interface
1/1-1/6 --subnet infiniband-1
```

**Related Commands**

Notes

### 4.3.4 ib router add-subnet-to-router

**Syntax Description**

<table>
<thead>
<tr>
<th>Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>hostname</td>
<td>IB router hostname or IP address</td>
</tr>
<tr>
<td>username</td>
<td>IP router username</td>
</tr>
<tr>
<td>password</td>
<td>IB router user password</td>
</tr>
<tr>
<td>subnet</td>
<td>Name of IB subnet (i.e. SWID): infiniband-default, infiniband-1...infiniband-5</td>
</tr>
</tbody>
</table>

**Default**

N/A

**Configuration Mode**

config

**History**

1.6
Example

```
UFM-APL [ mgmt-ha-active ] (config) # ib router add-subnet-to-router --hostname 10.10.1.12 --username admin --password admin --subnet infiniband-3
```

Related Commands

Notes
As a result of running his command, the set of commands that allow control of IB router functionality will be enabled.

### 4.3.5 ib router remove-subnet-from-router

**Syntax**

```
ib router remove-subnet-from-router <command-options>
```

**Description**

Destroys routing on IB subnet interface after routing on that interface has been disabled.

**Syntax Description**

- `hostname`
  - IB router hostname or IP address
- `username`
  - IP router username
- `password`
  - IB router user password
- `subnet`
  - Name of IB subnet (i.e. SWID): infiniband-default, infiniband-1,...infiniband-5

**Default**

N/A

**Configuration Mode**

config

**History**

1.6

**Example**

```
UFM-APL [ mgmt-ha-active ] (config) # ib router remove-subnet-from-router --hostname 10.10.1.12 --username admin --password admin --subnet infiniband-default
```

**Related Commands**

**Notes**

### 4.3.6 ib router set-ufm-sm-router-support

**Syntax**

```
ib router set-ufm-sm-router-support <command-options>
```

**Description**

Configures OpenSM with IB subnet prefix.

**Syntax Description**

- `-c <subnet prefix>]
  - Configure new IB subnet prefix. Should be followed by new IB router subnet prefix value.
- `-r`
  - Reset to default
- `-h`
  - Show help

**Default**

N/A

**Configuration Mode**

config

**History**

1.6

**Example**

```
UFM-APL [ mgmt-ha-active ] (config) # ib router set-ufm-sm-router-support -c 0xfec0000000001234
```
### Related Commands

| Notes | • `-c <subnet prefix>` is used for updating OpenSM configuration file with a new subnet prefix and forces OpenSM to re-read configuration  
• `-r` is used for resetting OpenSM configuration to default value and canceling IB routing |

---

### 4.4 NVIDIA SHARP

- SHARP Aggregation Manager
- SHARP Configuration in OpenSM
- SHARP API

#### 4.4.1 SHARP Aggregation Manager

##### 4.4.1.1 ib sharp enable

| ib sharp enable  
no ib sharp enable  
Enables NVIDIA® Scalable Hierarchical Aggregation and Reduction Protocol (SHARP)™.  
The no form of the command disables NVIDIA SHARP. |

| Syntax Description | N/A |
| Default            | N/A |
| Configuration Mode | config |
| History            | 1.6 |

**Example**

```
UFM-APL [ mgmt-ha-active ] (config) # ib sharp enable
```

**Related Commands**

- show ib sharp

**Notes**

---

##### 4.4.1.2 ib sharp allocation enable

| ib sharp allocation enable  
no ib sharp allocation enable  
Enables NVIDIA SHARP allocation reservation.  
The no form of the command disables NVIDIA SHARP allocation reservation. |

| Syntax Description | N/A |
| Default            | N/A |
| Configuration Mode | config |
| History            | 4.3.0 |

**Example**

```
UFM-APL [ mgmt-ha-active ] (config) # ib sharp allocation enable
```

**Related Commands**

- show ib sharp
### 4.4.1.3 ib sharp job-pkey-on-tree enable

Enable setting job PKEY on the aggregation tree allocated for the job. The no form of the command disables setting job PKEY on the aggregation tree allocated for the job.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>Disabled</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.5.0</td>
</tr>
<tr>
<td>Example</td>
<td>UFM-APL [ mgmt-ha-active ] (config) # ib sharp job-pkey-on-tree enable</td>
</tr>
</tbody>
</table>

### 4.4.1.4 ib sharp smx-protocol

Configures network protocol to be used by SMX. The no form of the command resets this parameter to its default value.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>sockets</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
</tr>
<tr>
<td>Example</td>
<td>UFM-APL [ mgmt-ha-active ] (config) # ib sharp smx-protocol ucx</td>
</tr>
</tbody>
</table>

### 4.4.1.5 ib sharp smx-sock-interface

Sets the socket interface to be used by SMX. The no form of the command resets this parameter to its default value.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>The first interface found in UP state is used</td>
</tr>
<tr>
<td>---------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>4.5.0</td>
</tr>
<tr>
<td>Example</td>
<td>UFM-APL [ mgmt-ha-active ] (config) # ib sharp smx-sock-interface eth0</td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ib sharp</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

**4.4.1.6 ib sharp smx-sock-port**

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>6126</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>4.5.0</td>
</tr>
<tr>
<td>Example</td>
<td>UFM-APL [ mgmt-ha-active ] (config) # ib sharp smx-sock-interface 636</td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ib sharp</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

**4.4.1.7 ib sharp smx-ucx-interface**

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.5.0</td>
</tr>
<tr>
<td>Example</td>
<td>UFM-APL [ mgmt-ha-active ] (config) # ib sharp smx-ucx-interface ib0</td>
</tr>
</tbody>
</table>

The first interface found in UP state is used.

Configuration Mode: config

History: 1.6  | First release
4.5.0  | Updated command from `ib sharp interface` to `ib sharp smx-sock-interface`

Example: UFM-APL [ mgmt-ha-active ] (config) # ib sharp smx-sock-interface eth0

Related Commands: show ib sharp

Notes:
4.4.1.8 ib sharp topology-api enable

**Syntax Description**
N/A

**Default**
Disabled

**Configuration Mode**
cfg

**History**
4.5.1

**Example**
ufm-apl [ mgmt-ha-active ] (config) # ib sharp topology-api enable

**Related Commands**
show ib sharp

**Notes**

4.4.1.9 show ib sharp

**Syntax Description**
N/A

**Default**
N/A

**Configuration Mode**
cfg

**History**
1.6
4.3.0 Updated output
4.5.0 Updated output
4.5.1 Updated output

**Example**
ufm-apl [ mgmt-ha-active ] (config) # show ib sharp

SHArP Aggregation Manager:
  Enabled: No
  Allocation: No
  SMX socket interface: default
  SMX UCX interface: default
  SMX socket port: 6126
  SMX protocol: sockets
  Job PKEY on tree: No
  Topology API: No

**Related Commands**

**Notes**
### 4.4.1.10 show ib sharp log

**show ib sharp log**
Displays NVIDIA SHARP log file in a scrollable pager.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.6.0</td>
</tr>
</tbody>
</table>

**Example**

```
ufm-apl [ mgmt-ha-active ] (config) # show ib sharp log
```

**Related Commands**

**Notes**

### 4.4.1.11 show ib sharp log continuous

**show ib sharp log continuous**
Displays new NVIDIA SHARP log messages as they happen.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.6.0</td>
</tr>
</tbody>
</table>

**Example**

```
ufm-apl [ mgmt-ha-active ] (config) # show ib sharp log continuous
```

**Related Commands**

**Notes**

### 4.4.1.12 show ib sharp log files

**show ib sharp log files**
Displays archived log files.

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.6.0</td>
</tr>
</tbody>
</table>

**Example**

```
ufm-apl [ mgmt-ha-active ] (config) # show ib sharp log files
```

**Related Commands**

**Notes**
4.4.1.13 show ib sharp log matching

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.6.0</td>
</tr>
</tbody>
</table>

Example

```
ufm-apl [ mgmt-ha-active ] (config) # show ib sharp log matching error
```

Related Commands

Notes

4.4.1.14 show ib sharp log not matching

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.6.0</td>
</tr>
</tbody>
</table>

Example

```
ufm-apl [ mgmt-ha-active ] (config) # show ib sharp log not matching error
```

Related Commands

Notes

4.4.2 SHARP Configuration in OpenSM

4.4.2.1 ib sm sharp enable

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Enables NVIDIA® Scalable Hierarchical Aggregation and Reduction Protocol (SHARP)™ on all supporting switches. The no form disables NVIDIA SHARP on all supporting switches.
### 4.4.2.2 ib sm sharp ignore

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
</tr>
<tr>
<td>Example</td>
<td>UFM-APL [ mgmt-ha-active ] (config) # ib sm sharp ignore</td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ib sm sharp</td>
</tr>
<tr>
<td>Notes</td>
<td>It is not possible to modify the NVIDIA SHARP support parameter in case OpenSM is running.</td>
</tr>
</tbody>
</table>

### 4.4.2.3 show ib sm sharp

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
</tr>
<tr>
<td>Example</td>
<td>UFM-APL [ mgmt-ha-active ] (config) # show ib sm sharp ignore</td>
</tr>
<tr>
<td>Related Commands</td>
<td>ib sm sharp enable, ib sm sharp ignore</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>
4.4.3 SHARP API

4.4.3.1 ufm sharp-api event-query-interval

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>value</th>
<th>Range: 1-1000 seconds</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>5 seconds</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>4.6.0</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td>UFM-APL [ mgmt-ha-active ] (config) # ufm sharp-api event-query-interval 10</td>
<td></td>
</tr>
</tbody>
</table>

Related Commands: show ufm sharp-api
Notes: Please stop UFM before performing attempting to change the event query interval value.

4.4.3.2 ufm sharp-api event-query-retries

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>value</th>
<th>Range: 1-1000</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>4.6.0</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td>UFM-APL [ mgmt-ha-active ] (config) # ufm sharp-api event-query-retries 11</td>
<td></td>
</tr>
</tbody>
</table>

Related Commands: show ufm sharp-api
Notes: Please stop UFM before performing attempting to change the event query interval value.

4.4.3.3 show ufm sharp-api

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
</tbody>
</table>

show ufm sharp-api
Displays UFM SHARP API settings
### 4.5 Partition

#### 4.5.1 ib partition management defmember

| Syntax Description | type | • full - full membership  
|                    |      | • limited - limited membership  
|                    |      | • both - both full and limited membership  

- **Default**: Full membership  
- **Configuration Mode**: config  
- **History**: 1.6

**Example**

```bash
UFM-APL [ mgmt-ha-active ] (config) # ib partition management defmember limited
```

**Related Commands**

- show ib partition  

**Notes**

- The defmember setting controls the ability of end nodes to communicate over the management partition  
- It is not possible to modify the defmember in case OpenSM or UFM are running

#### 4.5.2 show ib partition

| Syntax Description | N/A  
| Default            | N/A  
| Configuration Mode | Any configuration mode  
| History            | 1.6

**Example**

```bash
UFM-APL [ mgmt-ha-active ] (config) # show ib partition
```
### 4.5.3 ib partition management mtu-limit <2K|4K>

| Syntax Description | mtu-limit | 2K|4K |
|---------------------|-----------|-----|
| Default             |           |     |
| Configuration Mode  | config    |     |
| History             | 4.12.0    |     |

**Example**

```
UFM-APL [ mgmt-ha-active ] (config) # no ib partition management mtu-limit 4K
```

**Related Commands**

N/A

**Notes**

N/A

### 4.6 Switch Auto-provisioning

#### 4.6.1 ib managed-switch image ppc fetch

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>download-url</th>
<th>The URL path from where the image file can be downloaded. Supported protocols: http, https, ftp, tftp, scp, sftp and usb. Example: scp://username[:password]@hostname/path/filename, usb:/path/filename.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
</tbody>
</table>

**Example**

```
UFM-APL [ mgmt-ha-active ] (config) # ib managed-switch image ppc fetch <download-url>
```

Downloads a PPC switch image file from a remote host or a USB device. The no form deletes the PPC switch image file from the hard disk.

**Related Commands**

N/A

**Notes**

N/A
# ib managed-switch image ppc fetch

Example

```plaintext
ufmapl [ mgmt-ha-active ] (config) # ib managed-switch image ppc fetch scp://
root@10.10.32.12/tmp/image-PPC_M460EX-3.6.3130.img
Password (if required): ********
100.0%[###############################################################]
```

Related Commands

Notes

- If the downloaded image file is invalid (not an image file/has wrong architecture), it will be deleted from the hard disk.
- The last file downloaded will always overwrite the existing file.

## 4.6.2 ib managed-switch image x86 fetch

### Syntax Description


Default

N/A

Configuration Mode

`config`

### History

1.5

### Example

```plaintext
ufmapl [ mgmt-ha-active ] (config) # ib managed-switch image x86 fetch scp://
root@10.10.32.12/tmp/image-X86_64-3.6.3130.img
Password (if required): ********
100.0%[###############################################################]
```

Related Commands

Notes

- If the downloaded image file is invalid (not an image file/has wrong architecture), it will be deleted from the hard disk.
- The last file downloaded will always overwrite the existing file.

## 4.6.3 ib managed-switch configuration global fetch

### Syntax Description


Default

N/A

Configuration Mode

`config`
### 4.6.4 ib managed-switch list fetch

**Syntax**
```
ib managed-switch list fetch <download-url>
no ib managed-switch list
```

Downloads a switch list file from a remote host or a USB device. The no form deletes the switch list file from the hard disk.

**Syntax Description**
- **download-url**: The URL path from where the image file can be downloaded. Supported protocols: http, https, ftp, tftp, scp, sftp and usb. Example: `scp://username[:password]@hostname/path/filename`, `usb:/path/filename`.

**Default**
N/A

**Configuration Mode**
config

**History**
1.5

**Example**
```
ufmap1 [ mgmt-ha-active ] (config) # ib managed-switch list fetch scp://
root@10.10.32.12/tmp/switch_ips.txt
Password (if required): ********
100.0%[###############################################################]
```

### Related Commands

**Notes**
The last file downloaded will always overwrite the existing file.

### 4.6.5 ib managed-switch settings fetch

**Syntax**
```
ib managed-switch settings fetch <download-url>
```

Downloads a switch-auto-provisioning-settings file from a remote host or a USB device.

**Syntax Description**
- **download-url**: The URL path from where the image file can be downloaded. Supported protocols: http, https, ftp, tftp, scp, sftp and usb. Example: `scp://username[:password]@hostname/path/filename`, `usb:/path/filename`.

**Default**
N/A

**Configuration Mode**
config

**History**
1.5

**Example**
```
ufmap1 [ mgmt-ha-active ] (config) # ib managed-switch settings fetch scp://
root@10.10.32.12/tmp/auto-provisioning_settings.txt
Password (if required): ********
100.0%[###############################################################]
```

**Related Commands**

**Notes**
The last file downloaded will always overwrite the existing file.
Example

```
ufmap1 [ mgmt-ha-active ] (config) # ib managed-switch settings fetch scp://
root@10.10.32.12/tmp/switch_auto_provisioning.ini
Password (if required): ********
```

Related Commands

Notes

The last file downloaded will always overwrite the existing file.

---

4.6.6 ib managed-switch settings upload

```
ib managed-switch settings upload <upload-url>
```

Uploads the switch-auto-provisioning-settings file to a remote host or a USB device.

Syntax Description

| upload-url | The URL path from where the image file can be uploaded. Supported protocols: http, https, ftp, tftp, scp, sftp and usb. Example: scp://username[:password]@hostname/path/filename, usb:/path/filename. |

Default

N/A

Configuration Mode

config

History

1.5

Example

```
ufmap1 [ mgmt-ha-active ] (config) # ib managed-switch settings upload scp://
root@10.10.32.12/tmp/switch_auto_provisioning.ini
Password (if required): ********
```

Related Commands

Notes

---

4.6.7 ib managed-switch settings admin-password

```
ib managed-switch settings admin-password <password>
```

Sets the admin password to use with switch auto provisioning. The no form resets the admin password used for switch auto provisioning to its default.

Syntax Description

| password | The admin password to use with switch auto provisioning |

Default

admin

Configuration Mode

config

History

1.5

Example

```
ufmap1 [ mgmt-ha-active ] (config) # ib managed-switch settings admin-
password
Password: ********
Confirm: ********
```

Related Commands
The password argument can either be provided as a clear text, or as encrypted text.

### 4.6.8 ib managed-switch settings reboot-timeout

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>time</th>
<th>Switch reboot timeout. Range: 10-180 minutes.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>30</td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td>ufmap1 [ mgmt-ha-active ] (config) # ib managed-switch settings reboot-timeout 60</td>
<td></td>
</tr>
</tbody>
</table>

Related Commands: show ib managed-switch settings

Notes:

### 4.6.9 ib managed-switch settings upgrade-both-partitions

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>upgrade-both-partitions</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.5</td>
</tr>
<tr>
<td>Example</td>
<td>ufmap1 [ mgmt-ha-active ] (config) # ib managed-switch settings upgrade-both-partitions</td>
</tr>
</tbody>
</table>

Related Commands: show ib managed-switch settings

Notes:

### 4.6.10 ib managed-switch auto-provisioning start

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
</tbody>
</table>

Notes:
### Configuration Mode

<table>
<thead>
<tr>
<th>Configuration Mode</th>
<th>config</th>
</tr>
</thead>
</table>

### History

<table>
<thead>
<tr>
<th>1.5</th>
</tr>
</thead>
</table>

### Example

```plaintext
ufmap1 [ mgmt-ha-active ] (config) # ib managed-switch auto-provisioning start
```

### Related Commands

<table>
<thead>
<tr>
<th>Notes</th>
</tr>
</thead>
</table>

## 4.6.11 show ib managed-switch settings

### Syntax Description

Displays the switch auto provisioning settings.

### Default

N/A

### Configuration Mode

<table>
<thead>
<tr>
<th>config</th>
</tr>
</thead>
</table>

### History

<table>
<thead>
<tr>
<th>1.5</th>
</tr>
</thead>
</table>

### Example

```plaintext
ufmap1 [ mgmt-ha-active ] (config) # show ib managed-switch settings
Switch List:                Loaded
Software Image X86:         3.6.3130
Software Image PPC:         3.6.3130
Global Configuration File:  Loaded
SNMP Community:             mlnxpublic
Admin Password:             Default Password set
Reboot Timeout              30
Upgrade Both Boot Partitions Yes
```

### Related Commands

<table>
<thead>
<tr>
<th>Notes</th>
</tr>
</thead>
</table>

## 4.6.12 show ib managed-switch auto-provisioning status

### Syntax Description

Displays switch auto provisioning status and progress.

### Default

N/A

### Configuration Mode

<table>
<thead>
<tr>
<th>config</th>
</tr>
</thead>
</table>

### History

<table>
<thead>
<tr>
<th>1.5</th>
</tr>
</thead>
</table>

### Example

```plaintext
ufmap1 [ mgmt-ha-active ] (config) # show ib managed-switch auto-provisioning status
Started: 2017-03-15 08:00:30 UTC
Status: Completed
IP Address         TAG               SW Upgrade          Configuration
------------       ----              ----------          -------------
10.10.37.84        MT1452X05493      Updated             Updated
10.10.37.85        leaf01            Up-to-Date          Not-Required
```

### Related Commands

<table>
<thead>
<tr>
<th>Notes</th>
</tr>
</thead>
</table>
4.6.13  show ib managed-switch list

show ib managed-switch list
Displays the content of the switch list file.

Syntax Description  N/A
Default  N/A
Configuration Mode  config
History  1.5
Example
ufmapl [ mgmt-ha-active ] (config) # show ib managed-switch list
10.10.37.84
10.10.37.85,leaf01

Related Commands
Notes

4.7  Fabric Topology

4.7.1  ib topo-file generate

ib topo-file generate
Generates a fabric topology file and if relevant, generates IBNL files.

Syntax Description  N/A
Default  N/A
Configuration Mode  config
History  1.6
Example
ufmapl [ mgmt-ha-active ] (config) # ib topo-file generate

Related Commands  ib topo-file upload
Notes

4.7.2  ib topo-file upload

ib topo-file upload <upload-url>
Uploads the fabric topology file to a remote host or a USB device.

Syntax Description  upload-url
<table>
<thead>
<tr>
<th>Default</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
</tr>
<tr>
<td>Example</td>
<td></td>
</tr>
</tbody>
</table>

```plaintext
ufmapi [ mgmt-ha-active ] (config) # ib topo-file upload scp://root@192.168.1.100/tmp
Password (if required): ******
```

**Related Commands** ib topo-file generate

**Notes** The fabric topology file name is fabric.topo.

### 4.7.3 ib fabric-split generate

```
ib fabric-split generate <num-of-groups> [refresh-topology]
Generates an archive file containing ibdiagnet scope files.
```

**Syntax Description**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>num-of-groups</td>
<td>Number of groups for fabric division. Range: 2-10.</td>
</tr>
<tr>
<td>refresh-topology</td>
<td>Re-discover the IB fabric before division</td>
</tr>
</tbody>
</table>

**Default** N/A

**Configuration Mode** config

**History** 4.3.0

**Example**

```plaintext
ufmapi [ mgmt-ha-active ] (config) # ib fabric-split generate 3
```

**Related Commands** ib fabric-split upload

**Notes**

### 4.7.4 ib fabric-split upload

```
ib fabric-split upload <upload-url>
Uploads the fabric split archive file to a remote host or a USB device.
```

**Syntax Description**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
</table>

**Default** N/A

**Configuration Mode** config

**History** 4.3.0

**Example**

```plaintext
ufmapi [ mgmt-ha-active ] (config) # ib fabric-split upload scp://root@10.10.1.11/tmp
```

**Related Commands** ib fabric-split generate

**Notes**
4.7.5 ib fabric-split delete

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>4.3.0</td>
</tr>
<tr>
<td>Example</td>
<td>ufmapl [ mgmt-ha-active</td>
</tr>
<tr>
<td>Related Commands</td>
<td>ib fabric-split generate</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

4.8 SA_Key

- SAETM
- UFM Configuration

4.8.1 SAETM

4.8.1.1 ib sm sa-enhanced-trust-model

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>Disabled</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
</tr>
<tr>
<td>Example</td>
<td>ufmapl [ mgmt-ha-active</td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ib sm sa-enhanced-trust-model</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

4.8.1.2 ib sm sa-etm-max-num-event-sub

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>ib sm sa-etm-max-num-event-sub &lt;event-subscriptions&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>no ib sm sa-etm-max-num-event-sub</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
</tr>
<tr>
<td>History</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td></td>
</tr>
<tr>
<td>Related Commands</td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

Sets the SAETM maximum number of event subscriptions. The no form of the command resets to the default value.
### Syntax Description

<table>
<thead>
<tr>
<th>event-subscriptions</th>
<th>SAETM maximum number of event subscriptions. Range: 1-4294967295; 0=unlimited.</th>
</tr>
</thead>
</table>

**Default** 32

**Configuration Mode** `config`

**History** 1.6

**Example**

```
ufnap1 [ mgmt-ha-active ] (config) # ib sm sa-etm-max-num-event-subs 64
```

**Related Commands** `show ib sm sa-etm-max-num-event-subs`

**Notes**

---

### 4.8.1.3 ib sm sa-etm-max-num-mcast-groups

```
ib sm sa-etm-max-num-mcast-groups <multicast-groups>
no ib sm sa-etm-max-num-mcast-groups
```

Sets the SAETM maximum number of multicast groups.

The no form of the command resets to the default value.

**Syntax Description**

<table>
<thead>
<tr>
<th>multicast-groups</th>
<th>SAETM maximum number of multicast groups. Range: 1-4294967295; 0=unlimited.</th>
</tr>
</thead>
</table>

**Default** 128

**Configuration Mode** `config`

**History** 1.6

**Example**

```
ufnap1 [ mgmt-ha-active ] (config) # ib sm sa-etm-max-num-mcast-groups 256
```

**Related Commands** `show ib sm sa-etm-max-num-mcast-groups`

**Notes**

---

### 4.8.1.4 ib sm sa-etm-max-num-services

```
ib sm sa-etm-max-num-services <number-of-services>
no ib sm sa-etm-max-num-services
```

Sets the SAETM maximum number of services.

The no form of the command resets to the default value.

**Syntax Description**

<table>
<thead>
<tr>
<th>number-of-services</th>
<th>SAETM maximum number of services Range: 1-4294967295; 0=unlimited.</th>
</tr>
</thead>
</table>

**Default** 32

**Configuration Mode** `config`

**History** 1.6

**Example**

```
ufnap1 [ mgmt-ha-active ] (config) # ib sm sa-etm-max-num-services 64
```
<table>
<thead>
<tr>
<th>Related Commands</th>
<th>show ib sm sa-etm-max-num-services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

### 4.8.1.5 show ib sm sa-enhanced-trust-model

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Example

```
ufmapl [ mgmt-ha-active ] (config) # show ib sm sa-enhanced-trust-model
disable
```

<table>
<thead>
<tr>
<th>Related Commands</th>
<th>ib sm sa-enhanced-trust-model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

### 4.8.1.6 show ib sm sa-etm-max-num-event-subss

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
</tr>
</tbody>
</table>

Example

```
ufmapl [ mgmt-ha-active ] (config) # show ib sm sa-etm-max-num-event-subss
32
```

<table>
<thead>
<tr>
<th>Related Commands</th>
<th>ib sm sa-etm-max-num-event-subss</th>
</tr>
</thead>
<tbody>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

### 4.8.1.7 show ib sm sa-etm-max-num-mcast-groups

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
</tr>
</tbody>
</table>

4.8.1.8  show ib sm sa-etm-max-num-services

show ib sm sa-etm-max-num-services
Displays the SAETM maximum number of services.

Syntax Description  N/A
Default  N/A
Configuration Mode  Any configuration mode
History  1.6
Example

ufmapl [ mgmt-ha-active | (config) ] # show ib sm sa-etm-max-num-services
32

Related Commands  ib sm sa-etm-max-num-services
Notes

4.8.2  UFM Configuration

4.8.2.1  ufm randomize-sa-key

ufm randomize-sa-key
no ufm randomize-sa-key
Enables SA key randomization.
The no form disables the SA key randomization.

Syntax Description  N/A
Default  N/A
Configuration Mode  config
History  1.6
Example

ufmapl [ mgmt-ha-active | (config) ] # ufm randomize-sa-key

Related Commands  show ufm randomize-sa-key
Notes
### 4.8.2.2 show ufm randomize-sa-key

<table>
<thead>
<tr>
<th>show ufm randomize-sa-key</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displays the state of the SA key randomization (Enabled/Disabled).</td>
</tr>
</tbody>
</table>

**Syntax Description**  
N/A

**Default**  
N/A

**Configuration Mode**  
config

**History**  
1.6

**Example**

```
ufmapl [ mgmt-ha-active | (config) ] # show ufm randomize-sa-key
disable
```

**Related Commands**
ufm randomize-sa-key

**Notes**

### 4.9 MKey

#### 4.9.1 ufm mkey-per-port

<table>
<thead>
<tr>
<th>ufm mkey-per-port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enables MKey per port enforcement. The no form of the command disables the feature.</td>
</tr>
</tbody>
</table>

**Syntax Description**  
N/A

**Default**  
Disabled

**Configuration Mode**  
config

**History**  
1.6

**Example**

```
ufmapl [ mgmt-ha-active | (config) ] # ufm mkey-per-port
```

**Related Commands**
show ufm mkey-per-port

**Notes**

#### 4.9.2 show ufm mkey-per-port

<table>
<thead>
<tr>
<th>show ufm mkey-per-port</th>
</tr>
</thead>
<tbody>
<tr>
<td>Displays MKey per port enforcement state.</td>
</tr>
</tbody>
</table>

**Syntax Description**  
N/A

**Default**  
N/A

**Configuration Mode**  
Any configuration mode

**History**  
1.6
### 4.9.3 ufm mkey-global-seed

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Description</th>
<th>Default</th>
<th>Configuration Mode</th>
<th>History</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>ufm mkey-global-seed &lt;seed&gt;</td>
<td>Sets the seed for the global MKey used by SM. The no form of the command resets the seed for the global MKey to the default value.</td>
<td>0x0000000000000000</td>
<td>config</td>
<td>1.6</td>
<td>ufmapi [mgmt-ha-active] (config) # ufm mkey-global-seed 0x0000000000000000a12c30</td>
</tr>
</tbody>
</table>

**Related Commands**
- ufm mkey-global-seed

**Notes**

### 4.9.4 show ufm mkey-global-seed

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>Default</th>
<th>Configuration Mode</th>
<th>History</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>show ufm mkey-global-seed</td>
<td>N/A</td>
<td>Any configuration mode</td>
<td>1.6</td>
<td>ufmapi [mgmt-ha-active] (config) # show ufm mkey-global-seed 0x0000000000000000a12c30</td>
</tr>
</tbody>
</table>

**Related Commands**
- ufm mkey-global-seed

**Notes**
### 4.9.5 ib sm mkey-lease-period

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>time</th>
<th>Lease period used when MKey is non-zero. Range: 1-65535 seconds; 0=unlimited.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>60</td>
<td>seconds</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>config</td>
<td></td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td>90</td>
<td>ufmapl [ mgmt-ha-active ] (config) # ib sm mkey-lease-period 90</td>
</tr>
<tr>
<td>Related Commands</td>
<td>show ib sm mkey-lease-period</td>
<td></td>
</tr>
<tr>
<td>Notes</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### 4.9.6 show ib sm mkey-lease-period

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td>N/A</td>
</tr>
<tr>
<td>Configuration Mode</td>
<td>Any configuration mode</td>
</tr>
<tr>
<td>History</td>
<td>1.6</td>
</tr>
<tr>
<td>Example</td>
<td>show ib sm mkey-lease-period 90</td>
</tr>
<tr>
<td>Related Commands</td>
<td>ib sm mkey-lease-period</td>
</tr>
<tr>
<td>Notes</td>
<td></td>
</tr>
</tbody>
</table>

### 4.10 HCA Commands

#### 4.10.1 ib hca-smp-window

<table>
<thead>
<tr>
<th>Syntax Description</th>
<th>value</th>
<th>Range: 0-256</th>
</tr>
</thead>
<tbody>
<tr>
<td>Default</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Configuration Mode</td>
<td></td>
<td></td>
</tr>
<tr>
<td>History</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Example</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Default: 128

Configuration Mode: config

History: 4.4.0

Example:
```
UFM-APL [ mgmt-ha-active ] (config) # ib hca-smp-window 128
```

Related Commands: show ib hca-smp-window

Notes: UFM system must be rebooted to apply the new configuration

---

**4.10.2 ib hca-vl15-window**

```
ib hca-vl15-window <value>
no ib hca-vl15-window
```

Sets the HCA VL15 port receive buffer size. The no form of the command resets this parameter to its default.

**Syntax Description**

- **value**: 1,2,4,8,16,32,64,128

**Default**: 1

**Configuration Mode**: config

**History**: 4.4.0

**Example**:
```
UFM-APL [ mgmt-ha-active ] (config) # ib hca-vl15-window 1
```

**Related Commands**: show ib hca-vl15-window

**Notes**: UFM system must be rebooted to apply the new configuration

---

**4.10.3 ufm hca-grouping enable**

```
ufm hca-grouping enable
no ufm hca-grouping enable
```

Enables HCA grouping.

The no form of the command disables HCA grouping.

**Syntax Description**: N/A

**Default**: Disabled

**Configuration Mode**: config

**History**: 4.5.0

**Example**:
```
UFM-APL [ mgmt-ha-active ] (config) # ufm hca-grouping enable
WARNING: Enabling multi-NIC grouping will cause reset of your fabric network configuration (PKEY and QoS configuration).
You will have to redefine your network PKEYs and QoS configuration (PKEY->GUIDs and QoS->GUIDs association) after applying the script.
Are you sure you wish to proceed? [yes/no] yes
```

---
4.10.4 show ib hca-smp-window

```
show ib hca-smp-window
Displays the configured maximum number of SMPs sent in HCA.
```

Syntax Description: N/A
Default: N/A
Configuration Mode: Any configuration mode
History: 4.4.0

Example
```
UFM-APL [ mgmt-ha-active ] (config) # show ib hca-smp-window
Running configuration: 128
User configuration: 256
Please reload machine to load new configurations.
```

Related Commands: ib hca-smp-window

Notes: The example shows an instance where the system has not been rebooted after implementing new configuration.

4.10.5 show ib hca-vl15-window

```
show ib hca-vl15-window
Displays the configured HCA VL15 port receive buffer size.
```

Syntax Description: N/A
Default: N/A
Configuration Mode: Any configuration mode
History: 4.4.0

Example
```
UFM-APL [ mgmt-ha-active ] (config) # show ib hca-vl15-window
Running configuration: 1
User configuration: 64
Please reload machine to load new configurations.
```

Related Commands: ib hca-vl15-window

Notes: The example shows an instance where the system has not been rebooted after implementing new configuration.

Notes: To use this capability, it is recommended for users to use this command after performing software upgrade.
### 4.10.6 show ufm hca-grouping

|                  | show ufm hca-grouping  
|------------------|-------------------------|
|                  | Displays UFM HCA grouping configuration.  
| Syntax Description | N/A                   
| Default           | N/A                    
| Configuration Mode | Any configuration mode  
| History           | 4.5.0                  
| Example           | UFM-APL (mgmt-ha-active) (config) # show ufm hca-grouping  
|                  | HCA grouping: Yes      
| Related Commands  | ufm hca-grouping enable  
| Notes             |                        |
## 5 Document Revision History 1

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<td>Jan 5, 2024</td>
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<td>• show ib partition</td>
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<td>• ib partition management mtu-limit &lt;2K &gt;</td>
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<td>Feb 6, 2023</td>
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<td>Updated example in show ufm unhealthy-ports</td>
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<td>• ufm process telemetry restart</td>
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