



M Commands

This chapter describes the Cisco NX-OS FabricPath commands that begin with M.

mac-address

To specify fabricpath OAM flow destination or source MAC address, use the **mac-address** command in fabricpath OAM profile flow configuration mode. To remove the MAC address use the **no** form of this command.

mac-address { **destination** | **source** } *mac-address*

no mac-address { **destination** | **source** }

Syntax Description

destination	Specifies the fabricpath OAM profile flow destination MAC address.
source	Specifies the fabricpath OAM profile flow source MAC address.
<i>mac-address</i>	MAC address.

Defaults

The MAC flow address is not configured.

Command Modes

Fabricpath oam profile flow (config-fp-oam-profile-flow)

Command History

Release	Modification
7.0(0)N1(1)	This command was introduced.

Examples

This example shows how to configure the FabricPath OAM flow destination MAC address:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# fabricpath oam profile 100
switch(config-fp-oam-profile)# flow forward
switch(config-fp-oam-profile-flow)# mac-address destination 00-14-22-01-23-45
```

maximum-paths (FabricPath)

To configure the maximum number of paths per destination, use the **maximum-paths** command. To return to the default setting, use the **no** form of this command.

maximum-paths *paths*

no maximum-paths *paths*

Syntax Description	<i>paths</i>	Maximum number of paths per destination. The range is from 1 to 16.
---------------------------	--------------	---

Defaults	The default value is 16.
-----------------	--------------------------

Command Modes	FabricPath IS-IS topology (config-fabricpath-isis-topo)
----------------------	---

Command History	Release	Modification
	5.2(1)N1(1)	This command was introduced.

Usage Guidelines	This command requires an Enhanced Layer 2 license.
-------------------------	--

Examples	This example shows how to configure the maximum number of paths per destination:
-----------------	--

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# fabricpath domain default
switch(config-fabricpath-isis)# topology 1
switch(config-fabricpath-isis-topo)# maximum-paths 1
switch(config-fabricpath-isis-topo)#
```

Related Commands	Command	Description
	show fabricpath isis	Displays FabricPath Layer 2 IS-IS.

max-lsp-lifetime (FabricPath)

To configure a lifetime for a maximum link-state packet (LSP), use the **max-lsp-lifetime** command. To return to the default setting, use the **no** form of this command.

max-lsp-lifetime *value*

no max-lsp-lifetime *value*

Syntax Description	<i>value</i> Maximum LSP lifetime in seconds. The range is from 1 to 65535.	
Command Default	1200 seconds	
Command Modes	FabricPath IS-IS (config-fabricpath-isis)	
Command History	Release	Modification
	5.2(1)N1(1)	This command was introduced.
Usage Guidelines	The maximum LSP lifetime must be greater than the LSP refresh interval. This command requires an Enhanced Layer 2 license.	
Examples	This example shows how to set the maximum time that the link-state packets persists to 11,000 seconds: <pre>switch# configure terminal Enter configuration commands, one per line. End with CNTL/Z. switch(config)# fabricpath domain default switch(config-fabricpath-isis)# max-lsp-lifetime 1300 switch(config-fabricpath-isis)#</pre>	
Related Commands	Command	Description
	show fabricpath isis	Displays FabricPath Layer 2 IS-IS.

mode (FabricPath)

To configure VLANs as FabricPath VLANs for FabricPath forwarding, use the **mode** command. To remove the FabricPath VLANs, use the **no** form of this command.

mode { ce | fabricpath }

no mode { ce | fabricpath }

Syntax Description	ce	Enables the VLAN as a Classical IEEE 802.1Q Ethernet (CE) VLAN. This is the default VLAN mode.
	fabricpath	Enables the VLAN as a FabricPath VLAN.

Command Default The default VLAN mode is **ce**.

Command Modes VLAN (config-vlan)

Command History	Release	Modification
	5.2(1)N1(1)	This command was introduced.

Usage Guidelines Ensure that you have enabled the FabricPath feature set.



Note

You must have already created the VLANs before you can set the VLAN mode using FabricPath.

You designate those VLANs that you want to carry FabricPath traffic on the network by configuring them as FabricPath VLANs. By default, all FabricPath VLANs and FabricPath interfaces are added to the default FabricPath topology.

All FabricPath VLANs use conversational learning only if the switch virtual interface (SVI) is not enabled on the VLANs; otherwise, FabricPath VLANs use traditional learning.

Only FabricPath VLANs support conversational learning. CE VLANs support only traditional learning.

This command requires an Enhanced Layer 2 license.

Examples This example shows how to configure a VLAN as a FabricPath VLAN:

```
switch# configure terminal
switch(config)# vlan 5
switch(config-vlan)# mode fabricpath
switch(config-vlan)# exit
```

This example shows how to remove a FabricPath VLAN:

```
switch# configure terminal
switch(config)# vlan 5
```

■ mode (FabricPath)

```
switch(config-vlan) # no mode fabricpath
switch(config-vlan) # exit
switch#
```

Related Commands

Command	Description
feature-set fabricpath	Enables the FabricPath feature set on the switch.
show fabricpath topology vlans	Displays information about the FabricPath Intermediate System-to-Intermediate System (IS-IS) topology, including the VLANs in the Layer 2 topology.

mtrace fabricpath

To verify the multicast forwarding tree, use the **mtrace fabricpath** command.

```
mtrace fabricpath [tree id | ftag ftag-id] {profile profile-id} | mac dst dst-mac etype etype | ip dst dst-ip src src-ip | forward flow flow-ent { l2 | l3 } } [ingress if-id] {vlan vlan-id | tag tag-id | [use-host-vlan] [topology t-id] [reply mode out-of-band {ipv4 ip-addr | ipv6 ipv6-addr } } [data pattern data] [size size] [validate] [repeat repeat-count] [switch-id swid] [verbose]
```

Syntax Description	
tree <i>id</i>	(Optional) Specifies the ID of the multicast tree to be verified.
ftag <i>ftag-id</i>	(Optional) Specifies the multicast Forwarding Tag (FTag) ID.
profile <i>profile-id</i>	OAM multicast profile. The range is from 1 to 1023.
mac dst <i>dst-mac</i>	Destination MAC address. The value of <i>dst-mac</i> can be in the form of one of the following: - E.E.E - EE-EE-EE-EE-EE-EE - EE:EE:EE:EE:EE:EE - EEEE.EEEE.EEEE
etype <i>etype</i>	Ether type of 128 byte flow entropy after VLAN or VNI tags. The range is from 0x0 to 0xFFFF.
ip dst <i>dst-ip</i>	Destination IP address of flow entropy portion.
src <i>src-ip</i>	Source IP address of flow entropy.
forward flow <i>flow-ent</i>	Specifies the input flow entropy (128 bytes) from actual user data traffic so that FabricPath OAM packet takes the same path as user traffic.
l2	Specifies that the input flow entropy must be terminated until only Layer 2 entries are used. For example, MAC address, VLAN, and e-type. We recommend that you use only one string option.
l3	Specifies that the input flow entropy must be terminated until only Layer 3 entries are used.
	Note Only IPv4 and IPv6 entries can be processed.
ingress <i>ifid</i>	Ingress SVI information to determine whether the packet is enhanced forwarded. The value of <i>ifid</i> can be one of the following: - enternet <i>slot/chassis number</i>—The range is from 1 to 255. - port-channel <i>port-channel-number</i>—The range is from 1 to 4096. - vlan <i>vlan-interface-number</i>—The range is from 1 to 4094.
vlan <i>vlan-id</i>	Specify <i>vlan-id</i> for which multicast tree is to be verified. (<i>stag-id</i> and <i>vlan-id</i> are mutually exclusive). The range is from 1 to 3967 and 4048 to 4093.
tag <i>tag-id</i>	Specifies the service tag. The range is from 4096 to 1,677,7215.
use-host-vlan	Supresses automatic translation and uses the VLAN you entered.
	Note Read limitations before using.

reply mode out-of-band	By default, all replies for mtrace comes in-band through the Fabricpath network. You have the ability to send these replies reply out-of-band over the UDP/IP network).
ipv4 <i>ip-addr</i>	Enter IPv4 address of receiver of out-of-band replies.
ipv6 <i>ipv6-addr</i>	Enter IPv6 address of receiver of out-of-band replies.
data pattern <i>data</i>	Specifies the data pattern for data TLV carried by mtrace request. The range is from 0 to 65,535.
size <i>data-size</i>	Size of data TLV. The range is from 0 to 9600.
validate	Validate data TLV response.
repeat <i>rep</i>	Repeat mtrace request count. The range is from 1 to 4,294,967,295.
interval <i>ival</i>	Interval between each mtrace request. The range is from 0 to 60,000ms.
timeout <i>tout</i>	Timeout for replies received for each mtrace request. The range is from 1 to 3600.
hop <i>tll</i>	TTL value for mtrace request. The range is from 1 to 255.
switch-id <i>swid</i>	Specify switch IDs from which you want to listen to replies. Other switches ignore request and do not reply. The range is from 1 to 65,535.
verbose	Provides detailed description for mtrace replies.

Command Modes

Global configuration (config)

Command History

Release	Modification
7.0(0)N1(1)	This command was introduced.

Usage Guidelines

The **mtrace** command can inherit the configuration of the **fabricpath oam profile id** command. For example, the **fabricpath oam profile 1 vlan 10** command is entered. By subsequently entering the **mtrace fabricpath profile 1** command, the **mtrace EXEC** command inherits the configuration of the **profile** command.

Examples

This example shows how to specify a FabricPath mtrace for all trees.

```
switch# mtrace fabricpath vlan 10
Codes: '!' - success, 'Q' - request not sent, '.' - timeout,
'D' - Destination Unreachable, 'X' - unknown return code,
'V' - VLAN nonexistent, 'v' - VLAN in suspended state,
'm' - malformed request, 'C' - Cross Connect Error,
'U' - Unknown RBridge nickname, 'n' - Not AF,
'*' - Success, Optional Tlv incomplete,
'I' - Interface not in forwarding state,
'S' - Service Tag nonexistent, 's' - Service Tag in suspended state,
'c' - Corrupted Data/Test
Sender handle: 3
FabricPath mtrace for multicast ftag 1, vlan 10
Code SwitchId Interface State TotalTime
=====
! 320 Rcvd on Eth1/48 fwd 2ms
! 3498 Rcvd on Eth1/47 fwd 2ms
```

```

FabricPath mtrace for multicast ftag 2, vlan 10
Code SwitchId Interface State TotalTime
=====
! 320 Rcvd on Eth1/48 fwd 2ms
! 3498 Rcvd on Eth1/47 fwd 2ms
FabricPath mtrace for multicast ftag 1, vlan 10
Code SwitchId Interface State TotalTime
=====
! 320 Rcvd on Eth1/48 fwd 2ms
! 3498 Rcvd on Eth1/47 fwd 2ms
FabricPath mtrace for multicast ftag 2, vlan 10
Code SwitchId Interface State TotalTime
=====
! 320 Rcvd on Eth1/48 fwd 2ms
! 3498 Rcvd on Eth1/47 fwd 3ms
FabricPath mtrace for multicast ftag 1, vlan 10
Code SwitchId Interface State TotalTime
=====
! 320 Rcvd on Eth1/48 fwd 2ms
! 3498 Rcvd on Eth1/47 fwd 3ms

```

This example shows how to specify FabricPath mtrace for a specific tree.

```

switch(#) mtrace fabricpath tree 1 vlan 10 repeat 1
Codes: '!' - success, 'Q' - request not sent, '.' - timeout,
'D' - Destination Unreachable, 'X' - unknown return code,
'V' - VLAN nonexistent, 'v' - VLAN in suspended state,
'm' - malformed request, 'C' - Cross Connect Error,
'U' - Unknown RBridge nickname, 'n' - Not AF,
'*' - Success, Optional Tlv incomplete,
'I' - Interface not in forwarding state,
'S' - Service Tag nonexistent, 's' - Service Tag in suspended state,
'c' - Corrupted Data/Test
Sender handle: 4
FabricPath mtrace for multicast ftag 1, vlan 10
Code SwitchId Interface State TotalTime
=====
! 3498 Rcvd on Eth1/47 fwd 2ms
! 320 Rcvd on Eth1/48 fwd 3ms

```

This example shows how to specify FTag instead of tree.

```

switch(#) mtrace fabricpath ftag 1 vlan 10 repeat 1 verbose
Codes: '!' - success, 'Q' - request not sent, '.' - timeout,
'D' - Destination Unreachable, 'X' - unknown return code,
'V' - VLAN nonexistent, 'v' - VLAN in suspended state,
'm' - malformed request, 'C' - Cross Connect Error,
'U' - Unknown RBridge nickname, 'n' - Not AF,
'*' - Success, Optional Tlv incomplete,
'I' - Interface not in forwarding state,
'S' - Service Tag nonexistent, 's' - Service Tag in suspended state,
'c' - Corrupted Data/Test
Sender handle: 6
FabricPath mtrace for multicast ftag 1, vlan 10
Code SwitchId Interface State TotalTime DownSwitchId Intf State
=====
! 3498 Rcvd on Eth1/47 fwd 2ms
! 320 Rcvd on Eth1/48 fwd 3ms

```

This example shows how to specify a pair of trees:

```

switch(#) mtrace fabricpath ip dst 224.1.1.1 src 10.1.1.1 vlan 10 repeat 1
Codes: '!' - success, 'Q' - request not sent, '.' - timeout,
'D' - Destination Unreachable, 'X' - unknown return code,
'V' - VLAN nonexistent, 'v' - VLAN in suspended state,

```

■ mtrace fabricpath

```

'm' - malformed request, 'C' - Cross Connect Error,
'U' - Unknown RBridge nickname, 'n' - Not AF,
'*' - Success, Optional Tlv incomplete,
'I' - Interface not in forwarding state,
'S' - Service Tag nonexistent, 's' - Service Tag in suspended state,
'c' - Corrupted Data/Test
Sender handle: 7
FabricPath mtrace for multicast ftag 1, vlan 10
Code SwitchId Interface State TotalTime
=====
! 320 Rcvd on Eth1/48 fwd 2ms

```

Related Commands#

Command	Description