



Cisco Nexus 5500 Series NX-OS FabricPath Command Reference

Cisco NX-OS Release 7.x

First Published: January 29, 2014

Americas Headquarters

Cisco Systems, Inc.
170 West Tasman Drive
San Jose, CA 95134-1706
USA
<http://www.cisco.com>
Tel: 408 526-4000
800 553-NETS (6387)
Fax: 408 527-0883

Text Part Number: OL-30888-01

THE SPECIFICATIONS AND INFORMATION REGARDING THE PRODUCTS IN THIS MANUAL ARE SUBJECT TO CHANGE WITHOUT NOTICE. ALL STATEMENTS, INFORMATION, AND RECOMMENDATIONS IN THIS MANUAL ARE BELIEVED TO BE ACCURATE BUT ARE PRESENTED WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. USERS MUST TAKE FULL RESPONSIBILITY FOR THEIR APPLICATION OF ANY PRODUCTS.

THE SOFTWARE LICENSE AND LIMITED WARRANTY FOR THE ACCOMPANYING PRODUCT ARE SET FORTH IN THE INFORMATION PACKET THAT SHIPPED WITH THE PRODUCT AND ARE INCORPORATED HEREIN BY THIS REFERENCE. IF YOU ARE UNABLE TO LOCATE THE SOFTWARE LICENSE OR LIMITED WARRANTY, CONTACT YOUR CISCO REPRESENTATIVE FOR A COPY.

The Cisco implementation of TCP header compression is an adaptation of a program developed by the University of California, Berkeley (UCB) as part of UCB's public domain version of the UNIX operating system. All rights reserved. Copyright © 1981, Regents of the University of California.

NOTWITHSTANDING ANY OTHER WARRANTY HEREIN, ALL DOCUMENT FILES AND SOFTWARE OF THESE SUPPLIERS ARE PROVIDED "AS IS" WITH ALL FAULTS. CISCO AND THE ABOVE-NAMED SUPPLIERS DISCLAIM ALL WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, WITHOUT LIMITATION, THOSE OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT OR ARISING FROM A COURSE OF DEALING, USAGE, OR TRADE PRACTICE.

IN NO EVENT SHALL CISCO OR ITS SUPPLIERS BE LIABLE FOR ANY INDIRECT, SPECIAL, CONSEQUENTIAL, OR INCIDENTAL DAMAGES, INCLUDING, WITHOUT LIMITATION, LOST PROFITS OR LOSS OR DAMAGE TO DATA ARISING OUT OF THE USE OR INABILITY TO USE THIS MANUAL, EVEN IF CISCO OR ITS SUPPLIERS HAVE BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

Cisco and the Cisco logo are trademarks or registered trademarks of Cisco and/or its affiliates in the U.S. and other countries. To view a list of Cisco trademarks, go to this URL: www.cisco.com/go/trademarks. Third-party trademarks mentioned are the property of their respective owners. The use of the word partner does not imply a partnership relationship between Cisco and any other company. (1110R)

Any Internet Protocol (IP) addresses and phone numbers used in this document are not intended to be actual addresses and phone numbers. Any examples, command display output, network topology diagrams, and other figures included in the document are shown for illustrative purposes only. Any use of actual IP addresses or phone numbers in illustrative content is unintentional and coincidental.

Cisco Nexus 5500 Series NX-OS FabricPath Command Reference
© 2014 Cisco Systems, Inc. All rights reserved.



Preface vii

Audience vii

Document Conventions vii

Related Documentation viii

Documentation Feedback ix

Obtaining Documentation and Submitting a Service Request ix

A Commands 1-1

authentication-check (FabricPath) 1-2

authentication key-chain (FabricPath) 1-3

authentication-type (FabricPath) 1-4

C Commands 2-5

clear fabricpath isis adjacency 2-6

clear fabricpath isis statistics 2-7

clear fabricpath isis traffic 2-8

clear fabricpath oam loopback 2-9

clear fabricpath oam mtrace 2-10

clear fabricpath oam notification 2-11

clear fabricpath oam traceroute 2-12

D Commands 3-13

description (FabricPath) 3-14

description (fabricpath-oam) 3-15

dot1q 3-16

E Commands 4-1

ether-type 4-2

F Commands 5-3

fabricpath domain default 5-4

fabricpath graceful-merge 5-5

fabricpath isis authentication key-chain 5-6

fabricpath isis authentication-check 5-7

fabricpath isis authentication-type	5-8
fabricpath isis csnp-interval	5-10
fabricpath isis hello-interval	5-11
fabricpath isis hello-multiplier	5-12
fabricpath isis hello-padding	5-13
fabricpath isis lsp-interval	5-14
fabricpath isis metric	5-15
fabricpath isis retransmit-interval	5-16
fabricpath isis retransmit-throttle-interval	5-17
fabricpath load-balance	5-18
fabricpath oam profile	5-20
fabricpath switch-id (FabricPath)	5-21
fabricpath switch-id (vPC)	5-23
fabricpath timers	5-24
fabricpath topology-member	5-26
feature-set fabricpath	5-28
flow	5-30

H Commands 6-31

hop	6-32
hostname dynamic (FabricPath)	6-33

I Commands 7-35

install feature-set fabricpath	7-36
interface	7-37
ip	7-38
ipv6	7-39

L Commands 8-41

log-adjacency-changes (FabricPath)	8-42
lsp-gen-interval (FabricPath)	8-43
lsp-mtu (FabricPath)	8-44

M Commands 9-45

mac-address	9-46
maximum-paths (FabricPath)	9-47
max-lsp-lifetime (FabricPath)	9-48
mode (FabricPath)	9-49

[mtrace fabricpath](#) 9-51

P Commands 10-55

[packet](#) 10-56

[path](#) 10-57

[payload](#) 10-58

[ping](#) 10-60

[port](#) 10-64

[protocol](#) 10-65

R Commands 11-67

[reference-bandwidth \(FabricPath\)](#) 11-68

[reply mode out-of-band](#) 11-69

[root-priority \(FabricPath\)](#) 11-70

S Commands 12-71

[service tag](#) 12-72

12-73

[spf-interval](#) 12-74

[switchport mode fabricpath](#) 12-75

[system default switchport fabricpath](#) 12-77

Show Commands 13-79

[show fabricpath conflict](#) 13-80

[show fabricpath ftag](#) 13-81

[show fabricpath isis](#) 13-82

[show fabricpath isis adjacency](#) 13-84

[show fabricpath isis database](#) 13-85

[show fabricpath isis ftag](#) 13-87

[show fabricpath isis hostname](#) 13-88

[show fabricpath isis interface](#) 13-89

[show fabricpath isis ip mroute](#) 13-90

[show fabricpath isis ip redistribute mroute](#) 13-91

[show fabricpath isis protocol](#) 13-92

[show fabricpath isis route](#) 13-94

[show fabricpath isis rrm](#) 13-95

[show fabricpath isis spf-log](#) 13-96

[show fabricpath isis srm](#) 13-97

show fabricpath isis ssn	13-98
show fabricpath isis statistics	13-99
show fabricpath isis switch-id	13-100
show fabricpath isis topology summary	13-101
show fabricpath isis traffic	13-102
show fabricpath isis trees	13-103
show fabricpath isis vlan-range	13-104
show fabricpath load-balance	13-105
show fabricpath load-balance multicast	13-106
show fabricpath load-balance unicast	13-107
show fabricpath oam loopback	13-109
show fabricpath oam mtrace	13-111
show fabricpath oam notification	13-113
show fabricpath oam traceroute	13-114
show fabricpath route	13-116
show fabricpath switch-id	13-118
show fabricpath system-id	13-119
show fabricpath timers	13-120
show fabricpath topology	13-121
show feature-set	13-123
show mroute	13-124
show multicast trees	13-126
show running-config fabricpath	13-127

T Commands 14-129

topology	14-130
traceroute fabricpath	14-131

V Commands 15-135

vlan	15-136
------	--------



Preface

This preface describes the audience, organization, and conventions of the *Cisco Nexus 5500 Series NX-OS FabricPath Command Reference*. It also provides information on how to obtain related documentation.

This preface includes the following sections:

- [Audience, page vii](#)
- [Document Conventions, page vii](#)
- [Documentation Feedback, page ix](#)
- [Obtaining Documentation and Submitting a Service Request, page ix](#)

Audience

This publication is for experienced users who configure and maintain Cisco NX-OS devices.

Document Conventions

Command descriptions use these conventions:

Convention	Description
boldface font	Commands and keywords are in boldface.
italic font	Arguments for which you supply values are in italics.
[]	Elements in square brackets are optional.
{ x y z }	Alternative keywords are grouped in braces and separated by vertical bars.
[x y z]	Optional alternative keywords are grouped in brackets and separated by vertical bars.
string	A nonquoted set of characters. Do not use quotation marks around the string or the string will include the quotation marks.

Screen examples use these conventions:

<code>screen font</code>	Terminal sessions and information that the switch displays are in screen font.
boldface screen font	Information you must enter is in boldface screen font.
<i>italic screen font</i>	Arguments for which you supply values are in italic screen font.
< >	Nonprinting characters, such as passwords, are in angle brackets.
[]	Default responses to system prompts are in square brackets.
!, #	An exclamation point (!) or a pound sign (#) at the beginning of a line of code indicates a comment line.

This document uses the following conventions:



Note

Means reader *take note*. Notes contain helpful suggestions or references to material not covered in the manual.



Caution

Means reader *be careful*. In this situation, you might do something that could result in equipment damage or loss of data.

Related Documentation

Documentation for Cisco Nexus 5000 Series Switches and Cisco Nexus 2000 Series Fabric Extenders is available at the following URL:

http://www.cisco.com/en/US/products/ps9670/tsd_products_support_series_home.html

The documentation set includes the following types of documents:

- Licensing Information Guide
- Release Notes
- Installation and Upgrade Guides
- Configuration Guides
- Configuration Examples and TechNotes
- Programming Guides
- Operations Guides
- Error and System Message Guides
- Field Notices
- Security Advisories, Responses and Notices
- Troubleshooting Guide
- Command References
- MIB Reference Guide

Documentation Feedback

To provide technical feedback on this document or to report an error or omission, please send your comments to nexus5k-docfeedback@cisco.com. We appreciate your feedback.

Obtaining Documentation and Submitting a Service Request

For information on obtaining documentation, submitting a service request, and gathering additional information, see *What's New in Cisco Product Documentation* at:

<http://www.cisco.com/en/US/docs/general/whatsnew/whatsnew.html>.

Subscribe to *What's New in Cisco Product Documentation*, which lists all new and revised Cisco technical documentation, as an RSS feed and deliver content directly to your desktop using a reader application. The RSS feeds are a free service.



A Commands

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

authentication-check (FabricPath)

To enable an authentication check on received protocol data units (PDUs), use the **authentication-check** command. To return to the default setting, use the **no** form of this command.

authentication-check

no authentication-check

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	Enabled
------------------------	---------

Command Modes	FabricPath IS-IS configuration mode
----------------------	-------------------------------------

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 enable an authentication check on received PDUs:
-----------------	--

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# fabricpath domain default
switch(config-fabricpath-isis)# authentication-check
switch(config-fabricpath-isis)#
```

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

authentication key-chain (FabricPath)

To configure an authentication keychain between FabricPath devices, use the **authentication key-chain** command. To return to the default setting, use the **no** form of this command.

authentication key-chain *auth-key-chain-name*

no authentication key-chain *auth-key-chain-name*

Syntax Description	<i>keychain-name</i> Authentication keychain. The maximum size is 63 alphanumeric characters.
--------------------	---

Defaults	None
----------	------

Command Modes	FabricPath IS-IS configuration mode
---------------	-------------------------------------

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

Usage Guidelines	Use the authentication key-chain command to assign a password in the authentication of a hello protocol data unit. Only one authentication key-chain is applied to an IS-IS interface at one time. If you configure a second authentication command, the first is overridden. You can specify authentication for an entire instance of IS-IS instead of at the interface level by using the authentication command.
------------------	--

See the *Cisco Nexus NX-OS Security Configuration Guide* for your platform for information about keychains.

This command requires an Enhanced Layer 2 license.

Examples	This example shows how to configure an authentication keychain string for edge device authentication:
----------	---

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# fabricpath domain default
switch(config-fabricpath-isis)# authentication key-chain fabrickeys
switch(config-fabricpath-isis)#
```

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

authentication-type (FabricPath)

To configure an authentication type, use the **authentication-type** command. To return to the default setting, use the **no** form of this command.

authentication-type { cleartext | md5 }

no authentication-type { cleartext | md5 }

Syntax Description

cleartext	Specifies the cleartext authentication method.
md5	Specifies the Message Digest (MD5) authentication.

Command Default

Enabled

Command Modes

FabricPath IS-IS configuration mode

Command History

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

Usage Guidelines

Use the **authentication-type** command to configure the authentication type for hello protocol data units (PDUs) on an interface.

This command requires an Enhanced Layer 2 license.

Examples

This example shows how to specify cleartext authentication:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# fabricpath domain default
switch(config-fabricpath-isis)# authentication-type cleartext
switch(config-fabricpath-isis)#
```

This example shows how to specify Message Digest (MD5) authentication:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# fabricpath domain default
switch(config-fabricpath-isis)# authentication-type md5
switch(config-fabricpath-isis)#
```

Related Commands

Command	Description
show fabricpath isis	Displays FabricPath IS-IS information.



C Commands

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

clear fabricpath isis adjacency

To clear the FabricPath Layer 2 Intermediate-System to Intermediate-System (IS-IS) adjacency state, use the **clear fabricpath isis adjacency** command.

clear fabricpath isis adjacency [* | **ethernet** *module/slot* | **port-channel** *port_channel_number* | **system-id** *sid*]

Syntax Description

*	(Optional) Specifies the IS-IS adjacencies on all interfaces.
ethernet	(Optional) Specifies the IS-IS adjacencies on an Ethernet interface.
<i>module/slot</i>	(Optional) Module and slot number. The module range is from 1 to 255 and the slot is from 1 to 128.
port-channel	(Optional) Specifies the IS-IS adjacencies on a port-channel interface.
<i>port_channel_number</i>	(Optional) Port-channel number. The range is from 1 to 4096.
system-id	(Optional) Specifies the system ID.
<i>sid</i>	(Optional) System ID in the form of XXXX.XXXX.XXXX.

Command Default

None

Command Modes

Privileged EXEC(#)

Command History

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

Usage Guidelines



Note

If you enter the * variable, you will affect forwarding by entering this command and might interrupt traffic; this command tears down all adjacencies.

This command requires an Enhanced Layer 2 license.

Examples

This example shows how to clear the FabricPath Layer 2 adjacency state:

```
switch# clear fabricpath isis adjacency *
switch#
```

Related Commands

Command	Description
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

clear fabricpath isis statistics

To clear all FabricPath Intermediate System-to-Intermediate System (IS-IS) protocol statistics, use the **clear fabricpath isis statistics** command.

clear fabricpath isis statistics *

Syntax Description	* Specifies the IS-IS adjacencies on all interfaces.	
Command Default	None	
Command Modes	Privileged EXEC(#)	
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 clear FabricPath IS-IS protocol statistics: switch# clear fabricpath isis statistics * switch#	
Related Commands	Command	Description
	fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

clear fabricpath isis traffic

To clear Intermediate System-to-Intermediate System (IS-IS) traffic information, use the **clear fabricpath isis traffic** command.

clear fabricpath isis traffic [***** | **ethernet** *module/slot* | **port-channel** *port_channel_number*]

Syntax Description	*	(Optional) Specifies the IS-IS traffic on all interfaces.
	ethernet	(Optional) Specifies the IS-IS traffic on an Ethernet interface.
	<i>module/slot</i>	(Optional) Module and slot number. The module range is from 1 to 255 and the port is from 1 to 128.
	port-channel	(Optional) Specifies the IS-IS traffic on a port-channel interface.
	<i>port_channel_number</i>	Port-channel number. The range is from 1 to 4096.

Command Default	None
-----------------	------

Command Modes	Privileged EXEC (#)
---------------	---------------------

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 clear FabricPath IS-IS traffic information:
	<pre>switch# clear fabricpath isis traffic * switch#</pre>

Related Commands	Command	Description
	fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

clear fabricpath oam loopback

To clear information about fabricpath Operation, Administration, and Maintenance (OAM) loopback, use the **clear fabricpath oam loopback** command in privileged EXEC mode.

```
clear fabricpath oam loopback {database [session ses-hdl] | session ses-hdl | statistics | {session ses-hdl | summary}}
```

Syntax Description	database	Clears information about fabricpath OAM loopback database.
	session <i>ses-hdl</i>	(Optional) Clears information about fabricpath OAM loopback for a specific session. The range is from 1 to 65,535.
	statistics	Clears information about fabricpath OAM loopback statistics.
	summary	Clears information about fabricpath OAM loopback statistics summary.

Command Default	None
-----------------	------

Command Modes	Privileged EXEC(#)
---------------	--------------------

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

Usage Guidelines	To clear statistics for all sessions, use the clear fabricpath oam loopback statistics command. To clear statistics for a particular session, use the clear fabricpath oam loopback statistics session command. To clear summary statistics, use the clear fabricpath oam loopback statistics summary command.
------------------	---

Examples	This example shows how to clear the fabricpath OAM loopback statistics:
----------	---

```
switch# clear fabricpath oam loopback statistics
switch#
```

Related Commands	Command	Description

clear fabricpath oam mtrace

To clear information about fabricpath Operation, Administration, and Maintenance (OAM) mtrace, use the **clear fabricpath oam mtrace** command in privileged EXEC mode.

clear fabricpath oam mtrace { **database** [**session** *ses-hdl*] | **session** *ses-hdl* **statistics** [**summary**] }

Syntax Description

database	Clears information about fabricpath OAM mtrace database.
session <i>ses-hdl</i>	(Optional) Clears information about fabricpath OAM mtrace for a specific session.
statistics	Clears information about fabricpath OAM mtrace statistics.
summary	(Optional) Clears information about fabricpath OAM mtrace statistics summary.

Command Default

None

Command Modes

Privileged EXEC(#)

Command History

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

Usage Guidelines

Use this command to clear the loopback/traceroute/mtrace database and to clear the loopback/traceroute/mtrace statistics. Both of these tasks can be done on a per-session basis or across all sessions.

Examples

This example shows how to clear the fabricpath OAM mtrace statistics:

```
switch# clear fabricpath oam mtrace statistics
switch#
```

Related Commands

Command	Description

clear fabricpath oam notification

To clear information about fabricpath Operation, Administration, and Maintenance (OAM) mtrace, use the **clear fabricpath OAM notification** command in privileged EXEC mode.

clear fabricpath oam notification {database | statistics}

Syntax Description

database	Clears information about fabricpath OAM notification database.
statistics	Clears information about fabricpath OAM notification statistics.

Command Modes

Privileged EXEC(#)

Command History

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

Usage Guidelines

Notifications are data packet errors. If a data packet cannot be forwarded due to TTL expiry, it generates a notification. Notifications are kept globally. The notification database contains entries for all data packets that generate notifications. There is a maximum of 500 entries.

Examples

This example shows how to clear the fabricpath OAM notification statistics:

```
switch# clear fabricpath oam notification statistics
```

Related Commands

Command	Description

clear fabricpath oam traceroute

To clear information about fabricpath Operation, Administration, and Maintenance (OAM) traceroute, use the **clear fabricpath oam traceroute** command in privileged EXEC mode.

clear fabricpath oam traceroute {**database** [**session** *ses-hdl*] | **statistics** [**summary**]}

Syntax Description

database	Clears information about fabricpath OAM traceroute database.
session <i>ses-hdl</i>	(Optional) Clears information about for fabricpath OAM traceroute for a specific session.
statistics	Clears information about fabricpath OAM traceroute statistics.
summary	(Optional) Clears information about fabricpath OAM traceroute statistics summary.

Command Modes

Privileged EXEC(#)

Command History

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

Usage Guidelines

Examples

This example shows how to clear the fabricpath OAM traceroute statistics:

```
switch# clear fabricpath oam traceroute statistics
```

Related Commands

Command	Description



D Commands

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

description (FabricPath)

To configure the topology description, use the **description** command.

description *desc*

no description *desc*

Syntax Description	<i>desc</i>	Line description. The maximum size is 64 characters.
--------------------	-------------	--

Command Default	None	
-----------------	------	--

Command Modes	Global configuration mode (config)	
---------------	------------------------------------	--

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 topology description: switch# configure terminal switch#(config) fabricpath topology 50 switch#(config-fp-topology) # description FabricPath Topology 50 Configuration	
----------	--	--

Related Commands	Command	Description
	fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

description (fabricpath-oam)

To configure a description for a FabricPath Operation, Administration, and Maintenance (OAM) profile, use the **description** command in FabricPath OAM profile configuration mode. To remove the FabricPath OAM profile description, use the **no** form of this command.

description *description*

no description

Syntax Description

<i>description</i>	The description for the FabricPath OAM profile. The range is 1 to 64 characters.
--------------------	--

Command Default

A description for the FabricPath OAM profile is not configured.

Command Modes

FabricPath OAM profile configuration (config-fp-oam-profile)

Command History

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

Examples

This exampleshows how to configure a description for a FabricPath OAM profile:

```
switch(config)# fabricpath oam profile 100  
switch(config-fp-oam-profile)# description profile-description
```

Related Commands

Command	Description

dot1q

To specify that a fabricpath Operation, Administration, and Maintenance (OAM) flow profile must include a dot1q tag, use the **dot1q** command. To remove the dot1q tag, use the **no** form of this command.

dot1q *vlan-id* [*cos service-value*]

no dot1q

Syntax Description	<i>vlan-id</i>	Specifies the flow profile VLAN ID. The range is from 1 to 4094.
	cos service-value	(Optional) Specifies class of service (CoS). The range is from 0 to 7.

Command Default	Dot1q tag is not included in the FabricPath OAM flow profile.
-----------------	---

Command Modes	FabricPath OAM flow profile (config-fp-oam-profile-flow)
---------------	--

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

Usage Guidelines	802.1Q tunneling enables service providers to use a single VLAN to support customers who have multiple VLANs, while preserving customer VLAN IDs and keeping traffic in different customer VLANs segregated. Use this command to enter 802.1Q or 802.1ad configuration with CoS value.
------------------	--

Examples	This example shows how to configure a fabricpath OAM flow profile and specify a 802.1Q tag.
----------	---

```
switch# configure terminal
switch#(config)fabricpath oam profile 1
switch#(config-fp-oam-profile)flow forward
switch#(config-fp-oam-profile-flow)dot1q 20 cos 3
```

Related Commands	Command	Description



E Commands

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

ether-type

To configure the fabricpath Operation, Administration, and Maintenance (OAM) flow profile ether type (payload of an Ethernet Frame), use the **ether-type** command in fabricpath OAM flow profile configuration mode. To remove the ether-type, use the **no** form of this command.

ether-type *ether-type*

no ether-type

Syntax Description	<i>ether-type</i> The flow profile ether-type. The range is from 0x0 to 0xffff.	
Command Default	Flow profile ether-type 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.
Usage Guidelines	Ether-type is the payload of an Ethernet Frame. In the FabricPath OAM packet header, the ether type comes after VLAN.	
Examples	This example shows how to configure a description for a fabricpath OAM profile: <pre> 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)# ether-type 0x0 </pre>	
Related Commands	Command	Description



F Commands

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

fabricpath domain default

To enter the global FabricPath Layer 2 Intermediate System-to-Intermediate System (IS-IS) configuration mode, use the **fabricpath-domain default** command.

fabricpath-domain default

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	None
------------------------	------

Command Modes	Global configuration (config)
----------------------	-------------------------------

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 enter the global FabricPath Layer 2 IS-IS configuration mode:
-----------------	---

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

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

fabricpath graceful-merge

To disable a graceful merge of the FabricPath feature, use the **fabricpath graceful-merge** command. To reenable this feature, enter the **no** form of the command.

fabricpath graceful-merge

no fabricpath graceful-merge

Syntax Description This command has no arguments or keywords.

Command Default Enabled

Command Modes Global configuration (config)

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 disable FabricPath graceful merges on the switch:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# fabricpath graceful-merge
switch(config)#
```

This example shows how to enable FabricPath graceful merges on the switch:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# no fabricpath graceful-merge
switch(config)#
```

Related Commands	Command	Description
	feature-set fabricpath	Enables the FabricPath feature set on the switch.
	show running-config fabricpath	Displays the running system FabricPath configuration information.

fabricpath isis authentication key-chain

To assign a password to authentication hello protocol data units (PDUs) per interface, use the **fabricpath isis authentication key-chain** command. To return to the default setting, use the **no** form of this command.

fabricpath isis authentication key-chain *auth-key-chain-name*

no authentication isis authentication key-chain *auth-key-chain-name*

Syntax Description	<i>auth-key-chain-name</i> Authentication keychain. The maximum size is 63 alphanumeric characters.
---------------------------	---

Command Default	None
------------------------	------

Command Modes	Interface (config-if)
----------------------	-----------------------

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

Usage Guidelines

Use the **authentication** command to assign a password in the authentication of a hello protocol data unit. Only one authentication keychain is applied to an IS-IS interface at one time. If you configure a second **authentication** command, the first is overridden. You can specify authentication for an entire instance of IS-IS instead of at the interface level by using the **authentication** command.

See the *Cisco Nexus NX-OS Security Configuration Guide* for your platform for information about key-chains.



Note

A level specification is not required.

This command requires an Enhanced Layer 2 license.

Examples

This example shows how to configure an authentication keychain string for edge device authentication:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# interface ethernet 5/5
switch(config-if)# fabricpath isis authentication key-chain trees
switch(config-if)#
```

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

fabricpath isis authentication-check

To assign a password to check authentication link-state packet (LSP) protocol data units (PDUs) per interface, use the **fabricpath isis authentication-check** command. To return to the default setting, use the **no** form of this command.

fabricpath isis authentication-check

no fabricpath isis authentication-check

Syntax Description This command has no arguments or keywords.

Command Default ON

Command Modes Interface (config-if)

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

Usage Guidelines This command requires an Enhanced Layer 2 license.



Note Level specification is not required.

Examples This example shows how to check authentication on received LSP PDUs:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# interface ethernet 5/2
switch(config-if)# fabricpath isis authentication-check
switch(config-if)#
```

Command	Description
show fabricpath isis	Displays FabricPath IS-IS information.

fabricpath isis authentication-type

To assign a password to Intermediate System-to-Intermediate System (IS-IS) authentication hello protocol data units (PDUs) per interface, use the **fabricpath isis authentication-type** command. To return to the default setting, use the **no** form of this command.

fabricpath isis authentication-type {cleartext | md5}

no fabricpath isis authentication-type {cleartext | md5}

Syntax Description	cleartext	Specifies the cleartext authentication method.
	md5	Specifies the Message Digest (MD5) authentication.

Command Default	Enabled
-----------------	---------

Command Modes	Interface (config-if)
---------------	-----------------------

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

Usage Guidelines



Note

A level specification is not required.

This command requires an Enhanced Layer 2 license.

Examples

This example shows how to specify cleartext authentication when you are assigning a password:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# interface ethernet 5/2
switch(config-if)# fabricpath isis authentication-type cleartext
switch(config-if)#
```

This example shows how to specify Message Digest (MD5) authentication when you are assigning a password:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# interface ethernet 5/2
switch(config-if)# fabricpath isis authentication-type md5
switch(config-if)#
```

Related Commands

Command	Description
show fabricpath isis	Displays FabricPath IS-IS information.

fabricpath isis csnp-interval

To set an Intermediate System-to-Intermediate System (IS-IS) Complete Sequence Number PDU (CSNP) interval in seconds per interface, use the **fabricpath isis csnp-interval** command. To return to the default setting, use the **no** form of this command.

fabricpath isis csnp-interval *seconds*

no fabricpath isis csnp-interval *seconds*

Syntax Description	<i>seconds</i> CSNP interval value. The range is from 1 to 65535.	
Command Default	10 seconds	
Command Modes	Interface (config-if)	
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 set a CSNP interval value: <pre>switch# configure terminal Enter configuration commands, one per line. End with CNTL/Z. switch(config)# interface ethernet 5/2 switch(config-if)# fabricpath isis csnp-interval 60 switch(config-if)#</pre>	
Related Commands	Command	Description
	show fabricpath isis	Displays FabricPath IS-IS information.

fabricpath isis hello-interval

To set a hello interval Intermediate System-to-Intermediate System (IS-IS) in seconds per interface, use the **fabricpath isis hello-interval** command. To return to the default setting, use the **no** form of this command.

fabricpath isis hello-interval *seconds*

no fabricpath isis hello-interval *seconds*

Syntax Description	<i>seconds</i> Hello interval value. The range is from 1 to 65535.	
Command Default	10 seconds	
Command Modes	Interface (config-if)	
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 set a hello interval in seconds:	
	<pre>switch# configure terminal Enter configuration commands, one per line. End with CNTL/Z. switch(config)# interface ethernet 5/5 switch(config-if)# fabricpath isis hello-interval 20 switch(config-if)#</pre>	
Related Commands	Command	Description
	show fabricpath isis	Displays FabricPath IS-IS information.

fabricpath isis hello-multiplier

To set an Intermediate System-to-Intermediate System (IS-IS) multiplier for a hello holding time per interface, use the **fabricpath isis hello-multiplier** command. To return to the default setting, use the **no** form of this command.

fabricpath isis hello-multiplier *multiplier*

no fabricpath isis hello-multiplier *multiplier*

Syntax Description	<i>multiplier</i> Hello interval value. The range is from 3 to 1000.					
Command Default	The default value is 3.					
Command Modes	Interface (config-if)					
Command History	<table><tr><th>Release</th><th>Modification</th></tr><tr><td>5.2(1)N1(1)</td><td>This command was introduced.</td></tr></table>		Release	Modification	5.2(1)N1(1)	This command was introduced.
Release	Modification					
5.2(1)N1(1)	This command was introduced.					
Usage Guidelines	 Note A level specification is not required. This command requires an Enhanced Layer 2 license.					
Examples	This example shows how to set a hello interval in seconds: <pre>switch# configure terminal Enter configuration commands, one per line. End with CNTL/Z. switch(config)# interface ethernet 5/5 switch(config-if)# fabricpath isis hello-multiplier 20 switch(config-if)#</pre>					
Related Commands	<table><tr><th>Command</th><th>Description</th></tr><tr><td>show fabricpath isis</td><td>Displays FabricPath IS-IS information.</td></tr></table>		Command	Description	show fabricpath isis	Displays FabricPath IS-IS information.
Command	Description					
show fabricpath isis	Displays FabricPath IS-IS information.					

fabricpath isis hello-padding

To set FabricPath Intermediate System-to-Intermediate System (ISIS) hello protocol data unit (PDU) padding per interface, use the **fabricpath isis hello-padding** command. To return to the default setting, use the **no** form of this command.

fabricpath isis hello-padding

no fabricpath isis hello-padding [always]

Syntax Description	always (Optional) Padding for hello PDUs that is always on.				
Command Default	ON				
Command Modes	Interface (config-if)				
Command History	<table> <tr> <th>Release</th><th>Modification</th></tr> <tr> <td>5.2(1)N1(1)</td><td>This command was introduced.</td></tr> </table>	Release	Modification	5.2(1)N1(1)	This command was introduced.
Release	Modification				
5.2(1)N1(1)	This command was introduced.				
Usage Guidelines	 Note If you enter the always keyword with the no form of this command, the padding is always on. This command requires an Enhanced Layer 2 license.				
Examples	This example shows how to set the FabricPath IS-IS hello PDU padding: <pre>switch# configure terminal Enter configuration commands, one per line. End with CNTL/Z. switch(config)# interface ethernet 5/2 switch(config-if)# fabricpath isis hello-padding switch(config-if)#</pre>				
Related Commands	<table> <tr> <th>Command</th><th>Description</th></tr> <tr> <td>show fabricpath isis</td><td>Displays FabricPath IS-IS information.</td></tr> </table>	Command	Description	show fabricpath isis	Displays FabricPath IS-IS information.
Command	Description				
show fabricpath isis	Displays FabricPath IS-IS information.				

fabricpath isis lsp-interval

To set a transmission interval between Intermediate System-to-Intermediate System (IS-IS) link-state packet (LSP) protocol data units (PDUs) for each interface, use the **fabricpath isis lsp-interval** command. To return to the default setting, use the **no** form of this command.

fabricpath isis lsp-interval *msec*

no fabricpath isis lsp-interval *msec*

Syntax Description	<i>msec</i> LSP transmission interval in milliseconds. The range is from 10 to 65535.	
Command Default	33 milliseconds	
Command Modes	Interface (config-if)	
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 set an LSP transmission interval:	
	<pre>switch# configure terminal Enter configuration commands, one per line. End with CNTL/Z. switch(config)# interface ethernet 5/2 switch(config-if)# fabricpath isis lsp-interval 100 switch(config-if)#</pre>	
Related Commands	Command	Description
	show fabricpath isis	Displays FabricPath IS-IS information.

fabricpath isis metric

To configure Intermediate System-to-Intermediate System (IS-IS) metrics for each interface, use the **fabricpath isis metric** command. To return to the default setting, use the **no** form of this command.

fabricpath isis metric *metric*

no fabricpath isis metric *metric*

Syntax Description	<i>metric</i> Default metric. The range is from 0 to 16777215.	
Command Default	Defaults (the default interface for the F Series module is 10 GB): 1 GB—400 10 GB—40	
Command Modes	Interface (config-if)	
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 metrics for each interface: <pre>switch# configure terminal Enter configuration commands, one per line. End with CNTL/Z. switch(config)# interface ethernet 5/2 switch(config-if)# fabricpath isis metric 100 switch(config-if)#</pre>	
Related Commands	Command	Description
	show fabricpath isis	Displays FabricPath IS-IS information.

fabricpath isis retransmit-interval

To set an interval between initial Intermediate System-to-Intermediate System (IS-IS) link-state packet (LSP) retransmissions for a peer-to-peer (P2P) interface, use the **fabricpath isis retransmit-interval** command. To return to the default setting, use the **no** form of this command.

fabricpath isis retransmit-interval *seconds*

no fabricpath isis retransmit-interval *seconds*

Syntax Description	<i>seconds</i> Interval between retransmissions of the same LSP in seconds. The range is from 1 to 65535.	
Command Default	5 seconds	
Command Modes	Interface (config-if)	
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 set an interval between initial LSP retransmissions for a P2P interface: <pre>switch# configure terminal Enter configuration commands, one per line. End with CNTL/Z. switch(config)# interface ethernet 5/2 switch(config-if)# fabricpath isis retransmit-interval 65532 switch(config-if)#</pre>	
Related Commands	Command	Description
	show fabricpath isis	Displays FabricPath IS-IS information.

fabricpath isis retransmit-throttle-interval

To set the interval between subsequent link-state packet (LSP) retransmissions, use the **fabricpath isis retransmit-throttle-interval** command. To return to the default setting, use the **no** form of this command.

fabricpath isis retransmit-throttle-interval *seconds*

no fabricpath isis retransmit-throttle-interval *seconds*

Syntax Description	<i>seconds</i> Interval between retransmissions of the same LSP, in seconds. The range is from 20 to 65535.					
Command Default	66 milliseconds					
Command Modes	Interface (config-if)					
Command History	<table><tr><th>Release</th><th>Modification</th></tr><tr><td>5.2(1)N1(1)</td><td>This command was introduced.</td></tr></table>		Release	Modification	5.2(1)N1(1)	This command was introduced.
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 set the minimum delay value between LSP retransmissions: switch# configure terminal Enter configuration commands, one per line. End with CNTL/Z. switch(config)# interface ethernet 5/2 switch(config-if)# fabricpath isis retransmit-throttle-interval 65532 switch(config-if)#					
Related Commands	<table><tr><th>Command</th><th>Description</th></tr><tr><td>show fabricpath isis</td><td>Displays FabricPath IS-IS information.</td></tr></table>		Command	Description	show fabricpath isis	Displays FabricPath IS-IS information.
Command	Description					
show fabricpath isis	Displays FabricPath IS-IS information.					

fabricpath load-balance

To configure FabricPath load-balancing parameters, use the **fabricpath load-balance** command. To return to the default FabricPath unicast load-balancing scheme, use the **no** form of this command.

```
fabricpath load-balance unicast [{destination | source | source-destination}] [{layer 2 | layer3 | layer4 | mixed} [include-vlan]]

no fabricpath load-balance unicast [{destination | source | source-destination}] [{layer 2 | layer3 | layer4 | mixed} [include-vlan]]
```

Syntax Description

unicast	Specifies that the load-balancing parameters are configured for the unicast load-balancing scheme.
destination	(Optional) Specifies that the load-balancing parameters include destination parameters.
source	(Optional) Specifies that the load-balancing parameters include source parameters.
source-destination	(Optional) Specifies that the load-balancing parameters include source and destination parameters.
layer2	(Optional) Specifies that the load-balancing parameters only include Layer 2 parameters.
layer3	(Optional) Specifies that the load-balancing parameters only include Layer 3 parameters.
layer4	(Optional) Specifies that the load-balancing parameters only include Layer 4 parameters.
mixed	(Optional) Specifies that the load-balancing parameters include a mix of Layer 3 and Layer 4 parameters. This is the default configuration.
include-vlan	(Optional) Specifies that the load-balancing parameters use VLAN.

Command Default

Includes a mix of Layer 3 and Layer 4 parameters.

Command Modes

Global (config)

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 FabricPath source load-balancing parameters:

switch# configure terminal
switch(config)# fabricpath load-balance unicast source
```

```
switch(config)#
```

This example shows how to remove the FabricPath load-balancing parameters:

```
switch# configure terminal  
switch(config)# no fabricpath load-balance unicast source  
switch(config)#
```

Related Commands	Command	Description
	show fabricpath load-balance	Displays the FabricPath load-balancing information.

fabricpath oam profile

To configure a fabricpath Operation, Administration, and Maintenance (OAM) profile and enter fabricpath OAM profile configuration mode, use the **fabricpath oam profile** command in global configuration mode. To remove the fabricpath OAM profile, use the **no** form of this command.

fabricpath oam profile *profile-id*

no fabricpath oam profile *profile-id*

Syntax Description	<i>profile-id</i> Profile ID. The range is from 1 to 1023.					
Command Default	A FabricPath OAM profile is not configured.					
Command Modes	Global (config)					
Command History	<table><tr><th>Release</th><th>Modification</th></tr><tr><td>7.0(0)N1(1)</td><td>This command was introduced.</td></tr></table>		Release	Modification	7.0(0)N1(1)	This command was introduced.
Release	Modification					
7.0(0)N1(1)	This command was introduced.					
Usage Guidelines	All FabricPath OAM profiles have default values. To display the FabricPath OAM profiles, use the show run all command. A FabricPath OAM profile with a profile ID of 1 is created by default, when the FabricPath feature is enabled.					
Examples	This example shows how to configure a FabricPath OAM profile with a profile ID of 100: switch# configure terminal switch(config)# Enter configuration commands, one per line. End with CNTL/Z. switch(config)# fabricpath oam profile 100 switch(config-fp-oam-profile)#					
Related Commands	<table><tr><th>Command</th><th>Description</th></tr><tr><td> </td><td> </td></tr></table>		Command	Description		
Command	Description					

fabricpath switch-id (FabricPath)

To configure the FabricPath switch ID, use the **fabricpath switch-id** command. To remove the statically configured switch ID, use the **no** from of this command.

fabricpath switch-id *switch-id*

no fabricpath switch-id

Syntax Description	<i>switch-id</i>	FabricPath switch ID. The range is from 1 to 4094.
--------------------	------------------	--

Command Default	None
-----------------	------

Command Modes	Global (config)
---------------	-----------------

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

Usage Guidelines	You do not have to manually assign a switch ID unless you are running a virtual port channel plus (vPC+) because the system assigns a switch ID for you when you enable FabricPath.
------------------	---



Note

For more information about vPC+, see the **fabricpath switch-id (vpc-domain configuration mode)** command.

This command requires an Enhanced Layer 2 license.

Examples	This example shows how to configure a switch ID on a FabricPath-enabled device:
----------	---

```
switch# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# fabricpath switch-id 40
switch(config)#
```

This example shows how to configure a switch ID on a FabricPath-enabled device:

```
switch# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# no fabricpath switch-id 40
switch(config)#
```

■ fabricpath switch-id (FabricPath)

Related Commands	Command	Description
	show fabricpath switch-id	Displays information about switch IDs.

fabricpath switch-id (vPC)

To configure a virtual port channel plus (vPC+) switch ID, use the **fabricpath switch-id** command. To remove the FabricPath switch from a vPC domain, use the **no** form of this command.

fabricpath switch-id *switch-id*

no fabricpath switch-id [*switch-id*]

Syntax Description	<i>switch-id</i> FabricPath switch ID. The range is from 1 to 4094.
---------------------------	---

Command Default	None
------------------------	------

Command Modes	vPC domain (config-vpc-domain)
----------------------	--------------------------------

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

Usage Guidelines	You do not have to manually assign a switch ID (unless you are running a vPC+); the system assigns a switch ID for you when you enable FabricPath.
-------------------------	--



Note

You must assign the same vPC+ switch ID to each of the two vPC+ peer devices before they can form an adjacency.

This command requires an Enhanced Layer 2 license.

Examples	This example shows how to configure a vPC+ switch ID on a FabricPath-enabled device:
-----------------	--

```
switch# configure terminal
switch(config)# vpc domain 1
switch(config-vpc-domain)# fabricpath switch-id 1
Configuring fabricpath switch id will flap vPCs. Continue (yes/no)? [no]
```

Related Commands	Command	Description
	show running-config fabricpath	Displays the running system FabricPath configuration information.
	show vpc	Displays information about a vPC.

fabricpath timers

To configure FabricPath timers, use the **fabricpath timers** command. To remove the FabricPath timers, use the **no** form of this command.

fabricpath timers {**allocate-delay** *sec* | **linkup-delay** *sec* | **transition-delay** *sec*}

no fabricpath timers {**allocate-delay** | **linkup-delay** | **transition-delay**}

Syntax Description	allocate-delay	Specifies the time delay for a new resource to be propagated throughout the network.
	<i>sec</i>	Timer value in seconds. The range is from 1 to 1200 seconds.
	linkup-delay	Specifies the time delay for a link bringup to detect conflicts.
	transition-delay	Specifies the time delay for a transitioned value to be propagated throughout the network.

Command Default	- allocate-delay—10 seconds - linkup-delay—10 seconds - transition-delay—10 seconds
------------------------	---

Command Modes	Global (config)
----------------------	-----------------

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 delay for a new switch ID to be propagated throughout the network before that value becomes available and permanent: <pre>switch# configure terminal switch(config)# fabricpath timers allocate-delay 600 switch(config)#</pre>
	This example shows how to configure the link bringup delay to detect conflicts in the switch ID. If the system finds a conflict, the system takes some time to resolve the conflict and to bring FabricPath to an operational state: <pre>switch# configure terminal switch(config)# fabricpath timers linkup-delay 600 switch(config)#</pre>

This example shows how to configure the delay for propagating a transitioned value in the network; during this period, all old and new switch ID values exist in the network. This transition lasts only until the link comes up and the system checks to see if the network has two identical switch IDs.

```
switch# configure terminal  
switch(config)# fabricpath timers transition-delay 600  
switch(config)#
```

Related Commands

Command	Description
show fabricpath timers	Displays information about the FabricPath timers.

fabricpath topology-member

To configure a FabricPath topology, use the **fabricpath topology-member** command. To remove a FabricPath topology, use the **no** form of this command.



Note

Cisco Nexus 5500 Series switch only supports 2 topologies; the default or base topology (topology 0), and another topology (for example, topology 1).

```
fabricpath topology-member topology-member
no fabricpath topology-member [topology-member]
```

Syntax Description

<i>topology-member</i>	The range is from 1 to 63.
------------------------	----------------------------

Command Default

None

Command Modes

Interface (config-if)

Command History

Release	Modification
7.0(0)N1(1)	Variable name was changed. Command keywords were modified.
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 a FabricPath topology:

```
switch# configure terminal
switch(config)# interface ethernet 1/5
switch(config-if)# fabricpath topology-member 1
switch(config-if)#
```

This example shows how to remove all FabricPath topologies configured on the switch:

```
switch# configure terminal
switch(config)# interface ethernet 1/5
switch(config-if)# no fabricpath topology-member
switch(config-if)#
```

Related Commands	Command	Description
	show fabricpath route	Displays the FabricPath routing topology.
	show fabricpath topology	Displays information about the FabricPath Intermediate System-to-Intermediate System (IS-IS) topology.

feature-set fabricpath

To enable a FabricPath feature set, use the **feature-set fabricpath** command. To disable the FabricPath feature, use the **no** form of this command.

feature-set fabricpath
no feature-set fabricpath

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Global (config)

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

Usage Guidelines



Note The FabricPath feature is supported only on the Cisco Nexus 5500 Series switches.

You cannot view or access any FabricPath commands until you enable FabricPath on the device.



Note You must install the FabricPath feature set before you enable FabricPath on the switch.

This command requires an Enhanced Layer 2 license.

Examples

This example shows how to enable the FabricPath feature on the switch:

```
switch# configure terminal
switch(config)# feature-set fabricpath
switch(config)#
```

This example shows how to disable the FabricPath feature on the switch:

```
switch# configure terminal
switch(config)# no feature-set fabricpath
switch(config)#
```

Related Commands	Command	Description
	feature fabric-binding	Enables or disables fabric binding on the switch.
	install feature-set fabricpath	Installs the FabricPath feature set on the switch.
	show feature-set	Displays the status of the feature.

flow

To configure the direction of fabricpath Operation, Administration, and Maintenance (OAM) packet flow and enter fabricpath OAM profile flow configuration mode, use the **flow** command in fabricpath OAM profile configuration mode. To remove the flow configuration use the **no** form of this command.

flow {forward | reverse}

no flow {forward | reverse}

Syntax Description	forward	Configures the fabricpath OAM forward flow.
	reverse	Configures the fabricpath OAM reverse flow.

Command Default	The direction of FabricPath OAM packet flow is not configured.
-----------------	--

Command Modes	FabricPath oam profile configuration (config-fb-oam-profile)
---------------	--

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

Usage Guidelines	Use the flow command to configure the direction of flow entropy, forward or reverse, and enter FabricPath OAM profile flow configuration mode. You can configure specific information for forward or reverse flow entropy from FabricPath OAM profile flow configuration mode.
------------------	---

Examples	This example shows how to configure the forward flow entropy for FabricPath OAM. <pre>switch# configure terminal switch(config)# 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)#</pre>
----------	---

Related Commands	Command	Description



H Commands

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

hop

To configure the hop limit for fabricpath OAM service packets in the Transparent Interconnection of Lots of Links (TRILL) protocol header, use the **hop** command in fabricpath OAM profile configuration mode. To revert the hop limit to the default value, use the **no** form of the command.

hop *val*

no hop

Syntax Description

<i>val</i>	Hop limit. The range is from 1 to 255. Default is 64.
------------	---

Command Default

The hop limit for fabricpath OAM service packtes is 64 hops.

Command Modes

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

Command History

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

Usage Guidelines

Use the hop count specified in the FabricPath OAM packet header to determine the hop limit to address issues caused by infinite loops.

Examples

This example shows how to configure a FabricPath OAM service packet hop limit of 25:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# fabricpath oam profile 100
switch(config-fp-oam-profile)# hop 25
```

Related Commands

Command	Description

hostname dynamic (FabricPath)

To configure a dynamic hostname exchange for Intermediate-System-to-Intermediate System (IS-IS), use the **hostname dynamic** command. To return to the default setting, use the **no** form of this command.

hostname dynamic

no hostname dynamic

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	ON
------------------------	----

Command Modes	FabricPath IS-IS configuration mode
----------------------	-------------------------------------

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 a dynamic hostname exchange for IS-IS:
-----------------	--

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# fabricpath domain default
switch(config-fabricpath-isis)# hostname dynamic
switch(config-fabricpath-isis)#
```

Related Commands	Command	Description
	show hostname	Displays the system's hostname.



I Commands

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

install feature-set fabricpath

To install the FabricPath feature set on the switch, use the **install feature-set fabricpath** command. To remove the FabricPath feature set, use the **no** form of this command.

install feature-set fabricpath

no install feature-set fabricpath

Syntax Description This command has no arguments or keywords.

Command Default Disabled

Command Modes Global configuration (config)

Command History

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

Usage Guidelines



Note

The FabricPath feature is supported only on the Cisco Nexus 5500 Series switches.

This command requires an Enhanced Layer 2 license.

Examples

This example shows how to install the FabricPath features on the switch:

```
switch# configure terminal
switch(config)# install feature-set fabricpath
switch(config)#
```

Related Commands

Command	Description
feature fabric-binding	Enables or disables fabric binding on the switch.
feature-set fabricpath	Enables the FabricPath feature set on the switch.
show running-config	Displays the running system configuration information.

interface

To configure fabricpath Operation, Administration, and Maintenance (OAM) egress interface, use the **interface** command in fabricpath OAM profile configuration mode. To remove the egress interface, use the **no** form of this command.

interface ethernet *slot-number/port-number* [*-slot-number/port-number*]

no interface

Syntax Description

ethernet	Specifies that the egress interface is an Ethernet interface.
<i>slot-number/port-number</i>	Interface ID or interface range.
<i>er</i>	

Command Default

A FabricPath OAM egress interface is not configured.

Command Modes

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

Command History

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

Usage Guidelines

You can configure multiple egress interfaces to create an interface list in the fabric OAM profile. You can also enter a range of interface addresses of the same interface type. You can configure Ethernet or PortChannel interfaces.

Examples

This example shows how to configure an egress ethernet interface:

```
switch# configure terminal
switch(config)# fabricpath oam profile 100
switch(config-fp-oam-profile)# interface ethernet 1/1
```

ip

To configure a Layer 3 flow destination or source IPv4 address, use the **ip** command in fabricpath OAM profile flow configuration mode. To remove the IPv4 flow address, use the **no** form of this command.

```
ip { destination | source } ip-address

no ip { destination | source }
```

Syntax Description

destination	Specifies the fabricpath OAM profile flow destination address.
source	Specifies the fabricpath OAM profile flow source address.
<i>ip-address</i>	IPv4 address.

Command Default

The IPv4 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 flow IPv4 destination address:

```
switch# configure terminal
switch(config)# fabricpath oam profile 100
switch(config-fp-oam-profile)# flow forward
switch(config-fp-oam-profile-flow)# ip destination 172.31.10.10
```

ipv6

To configure a Layer 3 flow destination or source IPv6 address, use the **ipv6** command in fabricpath OAM profile flow configuration mode. To remove the IPv6 flow address, use the **no** form of this command.

```
ipv6 {destination | source} ip-address
```

```
no ipv6 {destination | source}
```

Syntax Description

destination	Specifies the fabricpath OAM profile flow destination address.
source	Specifies the fabricpath OAM profile flow source address.
<i>ip address</i>	IPv6 address.

Command Default

The IPv6 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 flow IPv6 destination address.

```
switch# configure terminal  
switch(config)# fabricpath oam profile 100  
switch(config-fp-oam-profile)# flow forward  
switch(config-fp-oam-profile-flow)# ipv6 destination 2001:DB8:1::1
```




L Commands

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

log-adjacency-changes (FabricPath)

To configure the log changes in the adjacency state, use the **log-adjacency-changes** command. To return to the default setting, use the **no** form of this command.

log-adjacency-changes

no log-adjacency-changes

Syntax Description This command has no arguments or keywords.

Command Default ON

Command Modes FabricPath IS-IS configuration mode

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 log changes in the adjacency state:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# fabricpath domain default
switch(config-fabricpath-isis)# log-adjacency-changes
switch(config-fabricpath-isis)#
```

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

lsp-gen-interval (FabricPath)

To configure a link-state packet (LSP) generation interval, use the **lsp-gen-interval** command. To return to the default setting, use the **no** form of this command.

lsp-gen-interval { *lsp-max-wait* | *lsp-initial-wait* | *lsp-second-wait* }

no lsp-gen-interval { *lsp-max-wait* | *lsp-initial-wait* | *lsp-second-wait* }

Syntax Description

<i>lsp-max-wait</i>	Maximum interval (in seconds) between two consecutive occurrences of an LSP being generated. The range is from 50 to 120000. The default is 8000.
<i>lsp-initial-wait</i>	Initial LSP generation delay (in milliseconds). The range is from 50 to 120000. The default is 50.
<i>lsp-second-wait</i>	Hold time between the first and second LSP generation (in milliseconds). The range is from 50 to 120000. The default is 50.

Command Default

The defaults are as follows:

- lsp-max-wait: 8000
- lsp-initial-wait: 50
- lsp-second-wait: 50

Command Modes

FabricPath IS-IS configuration mode

Command History

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

Usage Guidelines

You can enter the **lsp-gen-interval** command to control the rate of LSP packets being generated, transmitted, and retransmitted.

This command requires an Enhanced Layer 2 license.

Examples

This example shows how to configure an LSP-generation interval:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# fabricpath domain default
switch(config-fabricpath-isis)# lsp-gen-interval 9000 60 70
switch(config-fabricpath-isis)#
```

Related Commands

Command	Description
show fabricpath isis	Displays FabricPath IS-IS information.

lsp-mtu (FabricPath)

To configure a link-state packet (LSP) maximum transmission unit (MTU) that is generated by the Cisco Nexus 5500 software, use the **lsp-mtu** command. To return to the default setting, use the **no** form of this command.

lsp-mtu *bytes*

no lsp-mtu *bytes*

Syntax Description	<i>bytes</i> Maximum LSP size in bytes. The range is from 128 to 4352.	
Command Default	1492 bytes	
Command Modes	FabricPath IS-IS configuration mode	
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 set the maximum LSP size to 1500 bytes: <pre>switch# configure terminal Enter configuration commands, one per line. End with CNTL/Z. switch(config)# fabricpath domain default switch(config-fabricpath-isis)# lsp-mtu 1500 switch(config-fabricpath-isis)#</pre>	
Related Commands	Command	Description
	show fabricpath isis	Displays FabricPath Layer 2 IS-IS.



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
```

```
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



P Commands

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

packet

To specify packet flow and payload information in hexadecimal string format, use the **packet** command in fabricpath OAM profile flow configuration mode. To remove the packet information, use the **no** form of this command.

packet *hex-string*

no packet

Syntax Description

hex-string Packet flow and payload information in hexadecimal string format. The maximum limit is 256.

Note Enter the packet information starting with the ethernet header in hexadecimal string format. For example:
00156dc4274b5404a63ced2b810000010800450000283e8a400080069bd2c0a80260e

Command Default

Packet flow and payload information is not specified.

Command Modes

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

Command History

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

Usage Guidelines

You can specify a string value up to the maximum length of 256 characters. The string value is converted to a hex-string value at the backend. All characters beyond the maximum limit are treated as 0.

Examples

The following example shows how specify the value for packet value and payload:

```
switch# configure terminal
switch(config)# fabricpath oam profile 100
switch(config-fb-oam-profile)# flow forward
switch(config-fb-oam-profile-flow)# packet
00156dc4274b5404a63ced2b810000010800450000283e8a400080069bd2c
```

Related Commands

Command	Description
---------	-------------

path

To configure the control plane forward or reverse path verification request, use the **path** command in fabricpath OAM profile configuration mode. To remove the path verification request, use the **no** form of this command.

path {**forward** | **reverse**} **ecmp** *ecmp-value* **switch-id** *switch-id-value*

no path {**forward** | **reverse** }

Syntax Description

forward	Configures the control plane forward path.
reverse	Configures the control plane reverse path.
ecmp <i>ecmp-value</i>	Configures the Equal-Cost Multipath (ECMP) value in hexadecimal values. The range is 0 to 255.
switch-id <i>switch-id-value</i>	Configures the switch ID. The range is from 1 to 65535.

Command Default

The control plane path verification request is not configured.

Command Modes

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

Command History

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

Usage Guidelines

Use the **path** command to allow FabricPath OAM to carry a Type Length Value (TLV) with this request over the network, to query for the ECMP number and switch ID, and to return results.

To configure all ECMP, use 0xFF as the ECMP value.

Examples

This example shows how to configure the control plane forward path verification request:

```
switch# configure terminal
switch(config)# fabricpath oam profile 100
switch(config-fp-oam-profile)# path forward ecpm 0x0 switch-id 100
```

Related Commands

Command	Description

payload

To configure fabricpath Operation, Administration, and Maintenance (OAM) payload pattern, use the **payload** command in fabricpath OAM profile configuration mode. To remove the fabricpath OAM payload pattern use the **no** form of this command.

payload {**pad** *pad-value* **test** **pattern-type** *pattern-id*

no payload {**pad** | **test** **pattern-type**}

Syntax Description

pad <i>pad-value</i>	Configures fabricpath OAM payload pad value. The range is from 0x0 to 0xffff.
test	Configures fabricpath OAM payload test information.
pattern-type <i>pattern-id</i>	Configures a fabricpath OAM payload test pattern ID. The range is from 0 to 255.

Command Default

The fabricpath OAM payload pattern is not configured.

Command Modes

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

Command History

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

Usage Guidelines

The test patterns that are currently valid are 0, 1, 2, and 3.

The following table lists the various FabricPath OAM payload test patterns:

Pattern ID	
0	Null signal without Cyclic Redundancy Check (CRC)-32.
1	Null signal with CRC-32.
2	Pseudo-Random Bit Sequence (PRBS) 2 ³¹ -1 without CRC-32.
3	PRBS 2 ³¹ -1 with CRC-32.
4-255	Reserved for future standization.

Examples

This example shows how to configure the forward flow entropy for fabricpath OAM:

```
switch# configure terminal
switch(config)# fabricpath oam profile 100
switch(config-fp-oam-profile)# payload test pattern-type 81
```

Related Commands

Command	Description

ping

To send a FabricPath OAM Loopback Request message to the egress RBridge ID, use the **ping** command.

```
ping fabricpath [switch-id switch-id] [profile profile-id] [interface interface-id] [ingress ifid]
  {{[vlan vlan-id] | [tag stag-id]} [use-host-vlan]} [reply mode out-of-band { ipv4 ipv4-addr |
  ipv6 ipv6-addr }}] [forward flow flow-entropy [ 12 | 13 ]] [hop hop-count] [topology topologyid]
  [size size | sweep min-size max-size] [repeat repeat-count] [payload { test pattern-type test-id
  | pad pad-val}] [validate] [verbose] [timeout timeout-val] [interval
  interval-val][asynchronous [database database-id] [threshold threshold val]]]
```

Syntax Description

switch-id <i>switch-id</i>	The range is from 1 to 65535. FabricPath values are 1 to 4094.
profile <i>profile-id</i>	The range is from 1 to 1023.
interface <i>interface-id</i>	Specifies the egress interface for a FabricPath OAM ping. - Ethernet - prt-channel
ingress <i>ifid</i>	Specifies the name of the ingress interface.
vlan <i>vlan-id</i>	Specifies the VLAN. The range is from 1 to 4094.
tag <i>stag-id</i>	The range is from 4096 to 0x00FFFFFF.
use-host-vlan	Supresses automatic translation and uses the VLAN you entered. Note Read limitations before using.
reply mode-out-of-band	By default FPOAM is replied in-band on the FabricPath network. With the reply keyword, you can change the mode of reply to out-of-band to input and IPv4 or IPv6 address. For routing only, default vrf is used.
ipv4 <i>ipv4-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.
forward flow <i>flow-entropy</i>	Forward flow allows you to input <i>flow-entropy</i> (128 bytes) from actual user data traffic so that the FPOAM packet takes exact same path as user traffic.
12	Specifies the forward flow as Layer 2.
13	Specifies the forward flow as Layer 3.
hop <i>hop-count</i>	Specifies the hop count. The range is from 1 to 255. The default is 63.
topology <i>topologyid</i>	Specifies the topology ID. The range is from 0 to 63.
size <i>size</i>	Specifies the data padding size. The range is from 1 to 9600.
sweep	The sweep keyword is required to be used in conjunction with the size and payload keywords. The three keywords combined allow you to send the first packet with data or test TLV increasing the size by an increment of 1.
<i>min-size</i>	FabricPath OAM sweep scenario minimum data or test TLV size. The range is from 0 to 9600.
<i>max-size</i>	FabricPath OAM sweep scenario maximum data or test TLV size. The range is from 0 to 9600.
repeat <i>repeat-count</i>	Specifies the Repeat mtrace request count. The range is from 1 to 4,294,967,295.
payload	Configures the FabricPath OAM ping payload (Date TLV or Test TLV) to cary. .

test pattern-type <i>test-id</i>	Specifies the test pattern type for test TLV carried by loopback request. It can be one of the following values: • 0: Null signal without CRC-32 • 1: Null signal with CRC-32 • 2: PRBS 2³¹-1 without CRC-32 • 3: PRBS 2³¹-1 with CRC-32 • 4-255 Reserved for future standardization.
pad <i>pad-val</i>	Configures fabricpath OAM payload pad value. The range is from 0x0 to 0xFFFF.
validate	Validate data TLV response.
verbose	Provides detailed description for mtrace replies.
timeout <i>timeout-val</i>	Specifies the timeout value. The range is from 1 to 3600 seconds.
interval <i>interval-val</i>	Length of interval in seconds. The range is from 100 to 3,600,000.
asynchronous	Runs the command in the background allowing the configuration of multiple probes.
database <i>database-val</i>	Specifies the size of the database for the probe.
threshold <i>threshold val</i>	Specifies how many timeouts need to occur before a syslog is generated.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

The OAM profile allows you to inherit the profile information. Options are still shown so that if a few of the profile options need to be overwritten, it can be done on the console.

The **asynchronous** keyword moves the loopback request and response into the background and you need to use **show** commands to get results using the session ID displayed on the console.

For synchronous ping/traceroute/mtrace—If a profile has multiple interfaces, only one is chosen. It can be overwritten by the **interface** option and only one session is started.

For asynchronous ping—Multiple sessions are automatically created for each interface option if it is not overwritten by the **interface** keyword in the command.

Examples

This example shows how to ???:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch# ping fabricpath switch-id 10
sender handle: 1
```

```

Sending 5, 300-byte Loopback Request to switch-id 10,
Timeout is 5 seconds, send interval is 0 msec:
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, 'm' - unsupported tlvs, 'C' - Cross Connect Error,
'U' - Unknown RBridge nickname, 'n' - Not AF,
'E' -MTU mismatch, 'I' - Interface not in forwarding state,
'S' - Service Tag nonexistent, 's' - Service Tag in suspended state
't' - trace route in progress to get hop count'
Type escape sequence to abort.
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
Total Time Elapsed 5 ms

```

This example shows how to ???:

```

switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch# ping fabricpath switch-id 10 verbose
Sending 5, 300-byte Loopback Request to switch-id 10,
Timeout is 5 seconds, send interval is 0 msec:
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,
'M' -MTU mismatch, 'I' - Interface not in forwarding state,
'S' - Service Tag nonexistent, 's' - Service Tag in suspended state,
't' - trace route in progress to get hop count
Type escape sequence to abort.
! size 300, reply switch-id 10
! size 300, reply switch-id 10
! size 300, reply switch-id 10
! size 300, reply switch-id 10
! size 300, reply switch-id 10
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
Total Time Elapsed 5 ms

```

This example shows how to ???: Need description.

```

switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch# ping fabricpath
Switch-id [1]: 10
Repeat Count [5]:
Datagram Size [100]:
Timeout in seconds [2]:
Send Interval in ms [0]:
Extended commands [n]: y
Oam-profile[none]:Interface[none]:
Forward flow[n]: y
Flow type[l2]: l3
Flow destination mac-address[default]: 0023.eb18.0002
Flow source mac-address[:]:0023.0018.0002
Flow vlan[1]: 100
Ether type[0x8000]:
Flow destination ip[:]: 2.2.2.2
Flow source ip[:]: 23.23.23.23
Flow destination port[TBD]:
Flow source port[:]:
Reverse flow[n]:
Control path forward request[n]:
Reverse path forward request[n]:y
Ecmp[0]:

```

```
Vlan [1] : 10
Service tag [none]:
Reply mode out-of-band[n]:
Verbose[n]:
Hop count[64]:3
topology[0]:Validate Reply Data? [n]:
Test TLV? [n]:
Data Pattern [0xFFFF]
Sweep ranges of size[n]:
Sender handle: 2
Sending 5, 100-byte Loopback Request to switch-id 10,
Timeout is 5 seconds, send interval is 0 msec:
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,
'M' -MTU mismatch, 'I' - Interface not in forwarding state,
'S' - Service Tag nonexistent, 's' - Service Tag in suspended state,
't' - trace route in progress to get hop count
Type escape sequence to abort.
!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 1/1/1 ms
Total Time Elapsed 4 ms
```

Related Commands

port

To configure destination or source flow port address, use the **port** command in fabricpath OAM profile flow configuration mode. To remove the source or destination port, use the **no** form of this command.

port { **destination** | **source** } *port-number*

no port { **destination** | **source** }

Syntax Description

destination	Specifies the flow port destination port address .
source	Specifies the flow source port address.
<i>port-number</i>	The source or destination port address. The range is from 0 to 65535.

Command Default

Flow port 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

The following example shows how to configure the fabricpath OAM flow destination port 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)# port destination 300
```

Related Commands

Command	Description

protocol

To configure the fabricpath Operation, Administration, and Maintenance (OAM) flow protocol number, use the **protocol** command in fabricpath OAM profile flow configuration mode. To remove the flow protocol number, use the **no** form of this command.

protocol *num*

no protocol

Syntax Description

<i>num</i>	Flow protocol number. An integer. The range is from 0 to 255.
------------	---

Command Default

Flow protocol number 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.

Usage Guidelines

The only protocol numbers implemented are 6 and 17 (TCP and UDP).

Examples

This example shows how to configure the flow protocol number:

```
switch# configure terminal
switch(config)# fabricpath oam profile 100
switch(config-fp-oam-profile)# flow forward
switch(config-fp-oam-profile-flow)# protocol 6
```

Related Commands

Command	Description
---------	-------------



R Commands

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

reference-bandwidth (FabricPath)

To change the reference bandwidth used for setting an interface, use the **reference bandwidth** command. To return to the default setting, use the **no** form of this command.

reference-bandwidth *bandwidth* {Mbps | Gbps}

no reference-bandwidth *bandwidth* {Mbps | Gbps}

Syntax Description

<i>bandwidth</i>	Specifies the bandwidth in Mbps and Gbps. The range is from 1 to 400000 in Mbps and from 1 to 400 in Gbps.
Mbps	Specifies the bandwidth in Mbps.
Gbps	Specifies the bandwidth in Gbps.

Command Default

The defaults are as follows:

- Gbps: 400
- Mbps: 400000

Command Modes

FabricPath IS-IS configuration mode

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 change the reference bandwidth for a Gbps interface:

```
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)# reference-bandwidth 500 Gbps
switch(config-fabricpath-isis-topo)#
```

Related Commands

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

reply mode out-of-band

To configure fabricpath OAM out-of-band service reply mode, use the **reply mode out-of-band** command in fabricpath OAM profile configuration mode. To remove the out-of-band service reply mode, use the **no** form of this command.

reply mode out-of-band {ipv4 | ipv6} *ip-address* *port-number*

no reply mode out-of-band

Syntax Description

ipv4	Specifies the IPv4 address.
ipv6	Specifies the IPv6 address.
<i>ip-address</i>	An IPv4 or IPv6 address.
<i>port-number</i>	Port number. The range is from 0 to 65,535.

Command Default

The out-of-band reply mode is not configured.

Command Modes

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

Command History

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

Usage Guidelines

Use the **reply mode out-of-band** command to configure reply mode information.

Examples

This example shows how to enter reply mode information:

```
switch(#) configure terminal
switch(config) # fabricpath oam profile 100
switch(config-fp-oam-profile) # reply mode out-of-band 10.1.1.7 500
```

Related Commands

Command	Description

root-priority (FabricPath)

To set the priority for which node becomes the root, use the **root-priority** command. To return to the default setting, use the **no** form of this command.

root-priority *value*

no root-priority *value*

Syntax Description	<i>value</i>	Root priority value per topology. The range is from 1 to 255. The default is 64.
---------------------------	--------------	--

Command Default	The default value is 64.
------------------------	--------------------------

Command Modes	FabricPath IS-IS configuration mode
----------------------	-------------------------------------

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

Usage Guidelines	The highest numerical value for the priority is likely to become root. This command requires an Enhanced Layer 2 license.
-------------------------	--

Examples	This example shows how to set the priority for which node becomes the root:
-----------------	---

```
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)# root-priority 1
switch(config-fabricpath-isis-topo)#
```

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



S Commands

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

service tag

To configure a fabricpath OAM service, use the **service tag** command in fabricpath OAM profile configuration mode. To remove the fabricpath OAM service, use the **no** form of this command.

service tag *tag-id*

no service tag *tag-id*

Syntax Description	<i>tag-id</i> Service tag ID. The range is from 4096 to 16,777,215.	
Command Default	Fabricpath OAM service is not configured.	
Command Modes	Fabricpath OAM profile (config-fp-oam-profile)	
Command History	Release	Modification
	7.0(0)N1(1)	This command was introduced.
Usage Guidelines	The service tag identifies the segment ID.	
Examples	The following example shows how to configure the flow service:	
	<pre>switch# configure terminal switch(config)# fabricpath oam profile 100 switch(config-fp-oam-profile)# service tag 4096</pre>	
Related Commands	Command	Description

spf-interval

To configure an interval for shortest-path-first (SPF) generation, use the **spf-interval** command. To return to the default setting, use the **no** form of this command.

spf-interval { *spf-max-wait* | *spf-initial-wait* | *spf-second-wait* }

no spf-interval { *spf-max-wait* | *spf-initial-wait* | *spf-second-wait* }

Syntax Description

<i>spf-max-wait</i>	Maximum interval (in seconds) between two consecutive occurrences of a link-state packet (LSP) being generated. The range is from 50 to 120000.
<i>spf-initial-wait</i>	Initial LSP generation delay (in milliseconds). The range is from 50 to 120000.
<i>spf-second-wait</i>	Hold time between the first and second LSP generation (in milliseconds). The range is from 50 to 120000.

Command Default

The defaults are as follows:

- spf-max-wait: 8000
- spf-initial-wait: 50
- spf-second-wait: 50

Command Modes

FabricPath IS-IS configuration mode

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 an interval for SPF generation:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# fabricpath domain default
switch(config-fabricpath-isis)# spf-interval 9000 60 70
switch(config-fabricpath-isis)#
```

Related Commands

Command	Description
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

switchport mode fabricpath

To configure interfaces as FabricPath ports, use the **switchport mode fabricpath** command. To return the interfaces to the default settings, use the **no** form of this command.

switchport mode fabricpath

no switchport mode

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	None
------------------------	------

Command Modes	Interface configuration mode Virtual Ethernet interface configuration mode
----------------------	---

Command History	<table border="1"><thead><tr><th>Release</th><th>Modification</th></tr></thead><tbody><tr><td>5.2(1)N1(1)</td><td>This command was introduced.</td></tr></tbody></table>	Release	Modification	5.2(1)N1(1)	This command was introduced.
Release	Modification				
5.2(1)N1(1)	This command was introduced.				

Usage Guidelines



Note

The **no** keyword returns the interface to the default Classical IEEE 802.1Q Ethernet (CE) switchport access interface. The FabricPath ports carry traffic only for those VLANs configured as FabricPath VLANs.

This command requires an Enhanced Layer 2 license.

Examples

This example shows how to configure specific interfaces as FabricPath ports:

```
switch# configure terminal
switch(config)# interface ethernet 2/11-15
switch(config-if)# switchport mode fabricpath
switch(config-if)# no shutdown
switch(config-if)#
```

This example shows how to configure a virtual Ethernet interface as a FabricPath port:

```
switch# configure terminal
switch(config)# interface vethernet 1
switch(config-if)# switchport mode fabricpath
switch(config-if)# no shutdown
switch(config-if)#
```

Related Commands	Command	Description
	show interface brief	Displays a brief summary of the interface status and information.

system default switchport fabricpath

To configure the default port mode as FabricPath, use the **system default switchport fabricpath** command. To return to the default settings, use the **no** form of this command.

system default switchport fabricpath

no system default switchport fabricpath

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	None
------------------------	------

Command Modes	Global configuration mode
----------------------	---------------------------

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 default port mode as FabricPath:
-----------------	--

```
switch# configure terminal
switch(config)# system default switchport fabricpath
switch(config)#
```

Related Commands	Command	Description
	show running-config	Displays the running system configuration information.



Show Commands

This chapter describes the Cisco NX-OS FabricPath **show** commands.

show fabricpath conflict

To display information about the conflicts in the FabricPath network, use the **show fabricpath conflict** command.

show fabricpath conflict { **all** [**detail**] | **link** [**detail**] | **switch-id** [**detail**] | **transitions** [**detail**] }

Syntax Description

all	Displays all the conflicts.
detail	(Optional) Displays the details.
link	Displays all the links.
switch-id	Displays the switch IDs.
transitions	Displays the transitions.

Command Default

None

Command Modes

Any command mode

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 display detailed information about the conflicts in the FabricPath network:

```
switch# show fabricpath conflict all detail
No Ports under Fabricpath control
No Switch id Conflicts
No transitions in progress
switch#
```

Related Commands

Command	Description
show running-config fabricpath	Displays current FabricPath configuration.

show fabricpath ftag

To display information about the FabricPath FTAG, use the **show fabricpath ftag** command.

show fabricpath ftag

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	None
------------------------	------

Command Modes	Any command mode
----------------------	------------------

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 display the information about the FabricPath FTAG: <pre>switch# show fabricpath ftag No ftag values present switch#</pre>
-----------------	--

Related Commands	Command	Description
	show running-config fabricpath	Displays the current FabricPath configuration.

show fabricpath isis

To display the FabricPath Intermediate System-to-Intermediate System (IS-IS) adjacency database, use the **show fabricpath isis** command.

show fabricpath isis

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	None
------------------------	------

Command Modes	Global configuration mode
----------------------	---------------------------

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 display detailed information about the IS-IS adjacency:
-----------------	---

```
switch# show fabricpath isis

Fabricpath IS-IS domain : default
  System ID : 0005.73a3.ba3c  IS-Type : L1
  SAP : 432  Queue Handle : 11
  Maximum LSP MTU: 1492
  Graceful Restart enabled. State: Inactive
  Last graceful restart status : none
  Metric-style : advertise(wide), accept(wide)
  Start-Mode: Complete [Start-type configuration]
  Area address(es) :
    00
  Process is up and running
  CIB ID: 4
  Interfaces supported by Fabricpath IS-IS :
  Level 1
  Authentication type and keychain not configured
  Authentication check specified
  MT-0 Ref-Bw: 400000
  Address family Swid unicast :
    Number of interface : 0
    Distance : 115
  L1 Next SPF: Inactive
switch#
```

Related Commands	Command	Description
	fabricpath domain default	Enables FabricPath Layer 2 IS-IS.
	show running-config fabricpath	Displays the FabricPath running system configuration information.

show fabricpath isis adjacency

To display the FabricPath Intermediate System-to-Intermediate System (IS-IS) adjacency database, use the **show fabricpath isis adjacency** command.

show fabricpath isis adjacency [**interface** {**ethernet** *module/slot* | **port-channel** *channel-number*} | **detail** | **summary** | **system-id** *sid*]

Syntax Description	
interface	(Optional) Displays the interface status.
ethernet	Displays the Ethernet interface.
<i>module/slot</i>	Module and slot number. The module number is from 1 to 255 and the port number is from 1 to 128.
port-channel	Displays the port-channel interface.
<i>channel-number</i>	Port-channel number. The range is from 1 to 4096.
detail	(Optional) Displays the IS-IS adjacency detailed information.
summary	(Optional) Displays the IS-IS adjacency summary information.
system-id	(Optional) Displays the system ID.
<i>sid</i>	Hostname or system ID in the format XXXX.XXXX.XXXX.

Command Default	None
------------------------	------

Command Modes	Global configuration mode
----------------------	---------------------------

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 display detailed information about the IS-IS adjacency:
-----------------	---

```
switch# show fabricpath isis adjacency detail
switch#
```

Related Commands	Command	Description
	fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath isis database

To display information about the FabricPath Intermediate System-to-Intermediate System (IS-IS) link-state packet (LSP) database, use the **show fabricpath isis database** command.

```
show fabricpath isis database [l1] [level-1] [mgroup] [detail | summary] [sid] {[zero-sequence]
| [router-id] | [adjacency]}
```

Syntax Description	l1	(Optional) Displays the IS-IS Level-1 routing link state database.
	level-1	(Optional) Displays the IS-IS Level-1 routing link state database.
	mgroup	(Optional) Displays the IS-IS GM database information.
	detail	(Optional) Displays the detailed IS-IS information.
	summary	(Optional) Displays the summary IS-IS information.
	<i>sid</i>	(Optional) LSP ID in the format XXXX.XXXX.XXXX.XX-XX.
	zero-sequence	(Optional) Displays the LSP with a zero sequence number.
	router-id	(Optional) Displays the router ID filter.
	adjacency	(Optional) Displays the adjacency filter.

Command Default	None
------------------------	------

Command Modes	Global configuration mode
----------------------	---------------------------

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 display information about the FabricPath IS-IS LSP database:

```
switch# show fabricpath isis database
Fabricpath IS-IS domain: default LSP database
  LSPID           Seq Number   Checksum   Lifetime    A/P/O/T
  O2-48_Mgmt-2.00-00 * 0x00000008 0x2F9D     1073       0/0/0/1
switch#
```

This example shows how to display the IS-IS Level-1 routing link state database:

```
switch# show fabricpath isis database level-1
Fabricpath IS-IS domain: default LSP database
  LSPID           Seq Number   Checksum   Lifetime    A/P/O/T
  O2-48_Mgmt-2.00-00 * 0x00000008 0x2F9D     1041       0/0/0/1
switch#
```

 show fabricpath isis database**Related Commands**

Command	Description
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath isis ftag

To display Intermediate System-to-Intermediate System (IS-IS) FTAG values associated with the trees in the topology, use the **show fabricpath isis ftag** command.

show fabricpath isis ftag [**multidestination** *tree-id*]

Syntax Description

multidestination	(Optional) Displays the multidestination information.
<i>tree-id</i>	Tree identifier. The range is from 1 to 2.

Command Default

None

Command Modes

Global configuration mode

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 display IS-IS FTAG multidestination information:

```
switch# show fabricpath isis ftag multidestination 1
Fabricpath IS-IS domain: default
Fabricpath IS-IS Ftag Database
  Legend: C - Confirmed, T - tentative

MT-0
      PrimaryTree
Multidestination-2  0 [C]
switch#
```

Related Commands

Command	Description
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath isis hostname

To display FabricPath Intermediate System-to-Intermediate System (IS-IS) hostname table information, use the **show fabricpath isis hostname** command.

show fabricpath isis hostname [detail]

Syntax Description	detail (Optional) Displays the detailed IS-IS information.
--------------------	---

Command Default	None
-----------------	------

Command Modes	Global configuration mode
---------------	---------------------------

Command History	<table><tr><th>Release</th><th>Modification</th></tr><tr><td>5.2(1)N1(1)</td><td>This command was introduced.</td></tr></table>	Release	Modification	5.2(1)N1(1)	This command was introduced.
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 display information about the FabricPath IS-IS hostname table: <pre>Switch# show fabricpath isis hostname detail Fabricpath IS-IS domain: default dynamic hostname table Level LSP ID Dynamic hostname 1 0005.73a3.ba3c.00-00* 02-48_Mgmt-2 switch#</pre>
----------	---

Related Commands	<table><tr><th>Command</th><th>Description</th></tr><tr><td>fabricpath domain default</td><td>Enables FabricPath Layer 2 IS-IS.</td></tr></table>	Command	Description	fabricpath domain default	Enables FabricPath Layer 2 IS-IS.
Command	Description				
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.				

show fabricpath isis interface

To display information about the FabricPath Intermediate System-to-Intermediate System (IS-IS) interface, use the **show fabricpath isis interface** command.

show fabricpath isis interface { **brief** | **ethernet** *slot*[/*QSFP-module*]/*port* | **port-channel** *channel-number* }

Syntax Descriptions	brief	Displays brief information about the IS-IS interface.
	ethernet	Displays the Ethernet interface.
	<i>slot/port</i>	Slot/chassis number and the port number. The slot number is from 1 to 255 and the port number is from 1 to 128.
	<i>QSFP-module</i>	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
	port-channel	Displays the port-channel interface.
	<i>channel-number</i>	Port-channel number. The range is from 1 to 4096.
Command Default	None	
Command Modes	Global configuration mode	
Command History	Release	Modification
	6.0(2)N1(2)	Support for QSFP+ GEM.
	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 display the brief information about the FabricPath IS-IS interface:	
	switch1# show fabricpath isis interface brief	
	This example shows how to display the FabricPath IS-IS interface information for an Ethernet interface:	
	switch1# show fabricpath isis interface ethernet 1/2	
Related Commands	Command	Description
	fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath isis ip mroute

To display information about the FabricPath Intermediate System-to-Intermediate System (IS-IS) multicast route, use the **show fabricpath isis ip mroute** command.

show fabricpath isis ip mroute [**vlan** *vlan-id* [**group** *group-id* [**source** *source-id*]]]

Syntax Description

vlan	(Optional) Displays the IS-IS VLAN information.
<i>vlan-id</i>	VLAN ID. The range is from 1 to 4094.
group	(Optional) Displays the group information.
<i>group-id</i>	Group ID information in the format <i>A.B.C.D</i> .
source	(Optional) Displays the source information.
<i>source-id</i>	Source ID in the format <i>A.B.C.D</i> .

Command Default

None

Command Modes

Global configuration mode

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 display information about the IS-IS mroute:

```
switch# show fabricpath isis ip mroute
```

Related Commands

Command	Description
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath isis ip redistribute mroute

To display the FabricPath Intermediate System-to-Intermediate System (IS-IS) redistribute multicast route information, use the **show fabricpath isis ip redistribute mroute** command.

show fabricpath isis ip redistribute mroute [**vlan** *vlan-id* [**group** *group-id* [**source** *source-id*]]]

Syntax Description

vlan	(Optional) Displays the IS-IS VLAN information.
<i>vlan-id</i>	Displays the VLAN ID. The range is from 1 to 4094.
group	(Optional) Displays the group information.
<i>group-id</i>	Group ID information in the format <i>A.B.C.D</i> .
source	(Optional) Displays the source information.
<i>source-id</i>	Source ID in the format <i>A.B.C.D</i> .

Command Default

None

Command Modes

Global configuration mode

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 display the FabricPath IS-IS redistribute mroute information:

```
switch# show fabricpath isis ip redistribute mroute
```

Related Commands

Command	Description
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath isis protocol

To display information about the FabricPath Intermediate System-to-Intermediate System (IS-IS) protocol, use the **show fabricpath isis protocol** command.

show fabricpath isis protocol

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	None
------------------------	------

Command Modes	Global configuration mode
----------------------	---------------------------

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 display information about the FabricPath IS-IS protocol:
-----------------	--

```
switch1# show fabricpath isis protocol

Fabricpath IS-IS domain : default
  System ID : 0005.73a3.ba3c  IS-Type : L1
  SAP : 432  Queue Handle : 11
  Maximum LSP MTU: 1492
  Graceful Restart enabled. State: Inactive
  Last graceful restart status : none
  Metric-style : advertise(wide), accept(wide)
  Start-Mode: Complete [Start-type configuration]
  Area address(es) :
    00
  Process is up and running
  CIB ID: 4
  Interfaces supported by Fabricpath IS-IS :
  Level 1
  Authentication type and keychain not configured
  Authentication check specified
  MT-0 Ref-Bw: 400000
  Address family Swid unicast :
    Number of interface : 0
    Distance : 115
  L1 Next SPF: Inactive
switch#
```

Related Commands

Command	Description
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath isis route

To display the FabricPath Intermediate System-to-Intermediate System (IS-IS) routing table for unicast routes, use the **show fabricpath isis route** command.

show fabricpath isis route [**summary** | **detail**]

Syntax Description

summary	(Optional) Displays a summary of the IS-IS adjacency information.
detail	(Optional) Displays the detailed IS-IS adjacency detail information.

Command Default

None

Command Modes

Global configuration mode

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 display detailed information about the IS-IS route:

```
switch# show fabricpath isis route detail
Fabricpath IS-IS domain: default MT-0
Topology 0, Tree 0, Swid routing table

switch#
```

Related Commands

Command	Description
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath isis rrm

To display information about the FabricPath Intermediate System-to-Intermediate System (IS-IS) Retransmit-Routing-Message (RRM), use the **show fabricpath isis rrm** command.

show fabricpath isis rrm [**gm**] { **ethernet** *slot*[/*QSF**P-module*]/*port* | **port-channel** *channel-number*}

Syntax Description	gm	(Optional) Displays the IS-IS GM-Send-Sequence-Number information.
	ethernet	Displays the IS-IS RRM information for an Ethernet interface.
	<i>slot/port</i>	Slot or chassis number and the port number. The slot number is from 1 to 2555 and the port number is from 1 to 128.
	<i>QSF</i> <i>P-module</i>	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
	port-channel	Displays the IS-IS RRM information for a port-channel interface.
	<i>channel-number</i>	Port-channel number. The range is from 1 to 4096.

Command Default None

Command Modes Global configuration mode

Command History	Release	Modification
	6.0(2)N1(2)	Support for the QSFP+ GEM.
	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 display the FabricPath IS-IS RRM information:

```
switch# show fabricpath isis rrm gm ethernet 2/2
```

Related Commands	Command	Description
	fabricpath domain default	Enables the FabricPath Layer 2 IS-IS.

show fabricpath isis spf-log

To display information about FabricPath Intermediate System-to-Intermediate System (IS-IS) shortest-path-first (SPF) calculation statistics, use the **show fabricpath isis spf-log** command.

show fabricpath isis spf-log [detail]

Syntax Description	detail (Optional) Displays the detailed IS-IS SPF information.				
Command Default	None				
Command Modes	Global configuration mode				
Command History	<table> <tr> <th>Release</th><th>Modification</th></tr> <tr> <td>5.2(1)N1(1)</td><td>This command was introduced.</td></tr> </table>	Release	Modification	5.2(1)N1(1)	This command was introduced.
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 display the detailed information about the FabricPath IS-IS SPF: <pre>switch1# show fabricpath isis spf-log detail Fabricpath IS-IS domain: default SPF information Total number of SPF calculations: 1 Log entry (current/max): 1/20 Log entry: 01, Ago: 02:32:37, Date: Tue Oct 25 03:41:00 2011 Level Instance Init SPF IS Update URIB Update Total 1 0x00000001 0.000062 0.000009 0.000009 0.000009 0.000411 Level Node Count Changed Reason 1 1 2 0 Switch-id updated switch#</pre>				
Related Commands	<table> <tr> <th>Command</th><th>Description</th></tr> <tr> <td>fabricpath domain default</td><td>Enables FabricPath Layer 2 IS-IS.</td></tr> </table>	Command	Description	fabricpath domain default	Enables FabricPath Layer 2 IS-IS.
Command	Description				
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.				

show fabricpath isis srm

To display information about the FabricPath Intermediate System-to-Intermediate System (IS-IS) Send-Routing-Message (SRM), use the **show fabricpath isis srm** command.

show fabricpath isis srm [**gm**] { **ethernet** *slot*[/*QSFP-module*]/*port* | **port-channel** *channel-number* }

Syntax Description	gm	(Optional) Displays the IS-IS GM-Send-Sequence-Number information.
	ethernet	Displays the Ethernet interface.
	<i>slot/port</i>	Slot or chassis number and the port number. The slot number is from 1 to 255 and the port number is from 1 to 128.
	<i>QSFP-module</i>	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
	port-channel	Displays the port-channel interface.
	<i>channel-number</i>	Port-channel number. The range is from 1 to 4096.

Command Default None

Command Modes Global configuration mode

Command History	Release	Modification
	6.0(2)N1(2)	Support for the QSFP+ GEM.
	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 display information about the FabricPath IS-IS SRM:

```
switch# show fabricpath isis srm gm ethernet 2/2
```

Related Commands	Command	Description
	fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath isis ssn

To display information about the FabricPath Intermediate System-to-Intermediate System (IS-IS) Send-Sequence-Number (SSN), use the **show fabricpath isis ssn** command.

show fabricpath isis ssn [**gm**] {**ethernet** *slot*[/*QSFP-module*[/*port*] | **port-channel** *channel-number*}

Syntax Description

gm	(Optional) Displays the IS-IS GM-Send-Sequence-Number information.
ethernet	Displays the Ethernet interface.
<i>slot/port</i>	Slot or chassis number and the port number. The slot number is from 1 to 255 and the port number is from 1 to 128.
<i>QSFP-module</i>	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
port-channel	Specifies the port-channel interface.
<i>channel-number</i>	Port-channel number. The range is from 1 to 4096.

Command Default

None

Command Modes

Global configuration mode

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 display FabricPath IS-IS Send-Sequence-Number information:

```
switch# show fabricpath isis ssn gm port-channel 400
```

Related Commands

Command	Description
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath isis statistics

To display information about the FabricPath Intermediate System-to-Intermediate System (IS-IS) protocol statistics, use the **show fabricpath isis statistics** command.

show fabricpath isis statistics

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	None
------------------------	------

Command Modes	Global configuration mode
----------------------	---------------------------

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 display information about the FabricPath IS-IS protocol statistics:
-----------------	---

```
switch# show fabricpath isis statistics
Fabricpath IS-IS domain:      default
SPF calculations:           1
LSPs sourced:                2
LSPs refreshed:             18
LSPs purged:                 0
Buffers U2RIB:               0
Buffers M2RIB:               0
Buffers PIXM:                0
Swid Updates:                2
Ftag Updates:                0

switch#
```

Related Commands	Command	Description
	fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath isis switch-id

To display switch IDs and reachability information in the topology, use the **show fabricpath isis switch-id** command.

show fabricpath isis switch-id

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Global configuration mode

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 display the switch ID database:

```
switch# show fabricpath isis switch-id
```

```
Fabricpath IS-IS domain: default
```

```
Fabricpath IS-IS Switch-ID Database
```

```
Legend: C - Confirmed, T - tentative, W - swap
```

```
        S - sticky, E - Emulated Switch
```

```
        '*' - this system
```

```
System-ID      Primary  Secondary  Reachable  Bcast-Priority
```

```
MT-0
```

```
0005.73a3.ba3c* 2590[C]      0[C]  Yes      64
```

```
switch#
```

Related Commands	Command	Description
	fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath isis topology summary

To display information about the Intermediate System-to-Intermediate System (IS-IS) summary topology, use the **show fabricpath isis topology summary** command.

show fabricpath isis topology summary

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	None
------------------------	------

Command Modes	Global configuration mode
----------------------	---------------------------

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 display information about the FabricPath IS-IS summary topology:
-----------------	--

```
switch# show fabricpath isis topology summary
Fabricpath IS-IS domain: default FabricPath IS-IS Topology Summary
MT-0
  Configured interfaces:
  Number of trees: 2
    Tree id: 1, ftag: 0, root system: 0000.0000.0000, 0
    Tree id: 2, ftag: 0, root system: 0000.0000.0000, 0
switch#
```

Related Commands	Command	Description
	fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath isis traffic

To display information about the FabricPath Intermediate System-to-Intermediate System (IS-IS) traffic, use the **show fabricpath isis traffic** command.

show fabricpath isis traffic {**ethernet** *slot*[/*QSFP-module*]/*port* | **port-channel** *channel-number*}

Syntax Description

ethernet	Displays the Ethernet interface.
<i>slot/port</i>	Slot or chassis number and the port number. The slot number is from 1 to 255 and the port number is from 1 to 128.
<i>QSFP-module</i>	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
port-channel	Displays the port-channel interface.
<i>channel-number</i>	Port-channel number. The range is from 1 to 4096.

Command Default

None

Command Modes

Global configuraion mode

Command History

Release	Modification
6.0(2)N1(2)	Support for the QSFP+ GEM.
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 display information about the FabricPath IS-IS traffic:

```
switch1# show fabricpath isis traffic
Fabricpath IS-IS domain: default
Fabricpath IS-IS Traffic:
PDU           Received      Sent   RcvAuthErr  OtherRcvErr  ReTransmit
P2P-IIH        0             0       0            0            n/a
CSNP           0             0       0            0            n/a
PSNP           0             0       0            0            n/a
LSP            0             0       0            0            0

switch#
```

Related Commands

Command	Description
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath isis trees

To display information about the FabricPath Intermediate System-to-Intermediate System (IS-IS) trees, use the **show fabricpath isis trees** command.

show fabricpath isis trees [**multidestination** *tree-id*]

Syntax Description

multidestination	(Optional) Displays the multidestination information.
<i>tree-id</i>	Tree identifier. The range is from 1 to 2.

Command Default

None

Command Modes

Any command mode

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 display information about the FabricPath IS-IS tree multidestination:

```
switch# show fabricpath isis trees multidestination 1
Fabricpath IS-IS domain: default
Note: The metric mentioned for multidestination tree is from the root of that tree to that switch-id

MT-0
Topology 0, Tree 1, Swid routing table

switch#
```

Related Commands

Command	Description
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath isis vlan-range

To display VLANs in the FabricPath Intermediate System-to-Intermediate System (IS-IS) topology, use the **show fabricpath isis vlan-range** command.

show fabricpath isis vlan-range

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Any command mode

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 display VLANs in the FabricPath IS-IS topology:

```
switch# show fabricpath isis vlan-range
Fabricpath IS-IS domain: default
MT-0
switch#
```

Related Commands	Command	Description
	fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show fabricpath load-balance

To display FabricPath load-balancing information, use the **show fabricpath load-balance** command.

show fabricpath load-balance

Syntax Description	This command has no arguments or keywords.
---------------------------	--

Command Default	None
------------------------	------

Command Modes	Any command mode
----------------------	------------------

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

Usage Guidelines

**Note**

The **show fabricpath load-balance** cannot be executed by any users without admin privileges.

This command requires an Enhanced Layer 2 license.

Examples

This example shows how to display FabricPath load-balancing information:

```
switch# show fabricpath load-balance
ECMP load-balancing configuration:
L3/L4 Preference: Mixed (L2, L3 and L4)
Hash Control: Symmetric
Rotate amount: 7 bytes
Use VLAN: TRUE
```

```
switch#
```

Related Commands	Command	Description
	fabricpath load-balance	Displays FabricPath load-balancing parameters.

show fabricpath load-balance multicast

To display FabricPath load-balancing information for the multicast load-balancing scheme, use the **show fabricpath load-balance multicast** command.

show fabricpath load-balance multicast ftag-selected *vlan* *vlan-ID* **macg** *MAC-addr*

Syntax Description	ftag-selected	Displays the multicast load-balancing parameters for the FabricPath FTAG.
	vlan <i>vlan-ID</i>	Displays load-balancing for FabricPath VLANs. The range is from 1 to 4094.
	macg <i>MAC-addr</i>	Displays the load-balancing parameters for the multicast group MAC address. The format is EEEE.EEEE.EEEE.
Command Default	None	
Command Modes	Any command mode	
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 display FabricPath load-balancing forwarding information for the multicast load-balancing scheme:	
	switch# show fabricpath load-balance multicast ftag-selected vlan 10 macg 0100.5E10.1010	
Related Commands	Command	Description
	fabricpath load-balance	Displays FabricPath load-balancing parameters.

show fabricpath load-balance unicast

To display FabricPath load-balancing information for the unicast load-balancing scheme, use the **show fabricpath load-balance unicast** command.

```
show fabricpath load-balance unicast forwarding-path ftag ftag-ID switchid switch-ID src-mac
MAC-addr dst-mac MAC-addr [dst-ip ip-addr] [dst-ipv6 ipv6-addr] [l4-dst-port l4-dest-port]
[l4-src-port l4-src-port] [src-ip ip-addr] [src-ipv6 ipv6-addr] [vlan vlan-ID]
```

Syntax Description		
forwarding-path		Identifies the FabricPath that forwards the packet.
ftag <i>ftag-ID</i>		Displays the load-balancing parameters for the FabricPath FTAG. The FTAG value is from 0 to 4,294,967,295.
switchid <i>switch-ID</i>		Displays the load-balancing parameters for a specific FabricPath switch ID. The switch ID is from 0 to 4,294,967,295.
src-mac		Displays the load-balancing parameters for the source MAC address.
<i>MAC-addr</i>		MAC address. The format is EE:EE:EE:EE:EE:EE.
dst-mac		Displays the load-balancing parameters for the destination MAC address.
dst-ip		(Optional) Displays the load-balancing parameters for the destination IPv4 address.
<i>ip-addr</i>		IPv4 address. The format is A.B.C.D.
dst-ipv6		(Optional) Displays the load-balancing destination hash parameters.
<i>ipv6-addr</i>		IPv6 address. The format is EE:EE::EE:EE.
l4-dst-port <i>l4-dest-port</i>		(Optional) Displays the destination TCP or UDP port information used in hashing. The port number is from 0 to 65535.
l4-src-port <i>l4-src-port</i>		(Optional) Displays the source TCP or UDP port information used in hashing. The port number is from 0 to 65535.
src-ip		(Optional) Displays the load-balancing parameters for the source IPv4 address.
src-ipv6		(Optional) Displays the load-balancing source hash parameters.
vlan <i>vlan-ID</i>		(Optional) Displays the load-balancing information for FabricPath VLANs. The range is from 1 to 4094.

Command Default None

Command Modes Any command mode

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 display FabricPath load-balancing forwarding information for the unicast load-balancing scheme:

```
switch# show fabricpath load-balance unicast forwarding-path ftag 1 switchid 200 src-mac
00:10:20:30:40:50 dst-mac 00:30:40:50:60:70 vlan 200
```

This example shows how to display FabricPath load-balance hashing information for the unicast load-balancing scheme:

```
switch# show fabricpath load-balance unicast forwarding-path ftag 1 switchid 232 src-mac
0000.1234.5678 dst-mac 0000.3452.4567 src-ipv6 12:34::56:78 dst-ipv6 01:34::56:78
14-dst-port 100 14-src-port 435 vlan 200
```

Missing params will be substituted by 0's.

```
crc8_hash: 229
```

```
This flow selects interface Po400
```

```
switch#
```

Related Commands

Command	Description
fabricpath load-balance	Displays FabricPath load-balancing parameters.

show fabricpath oam loopback

To display information about fabricpath Operation, Administration, and Maintenance (OAM) loopback, use the **show fabricpath OAM loopback** command in privileged EXEC mode.

show fabricpath oam loopback {**database** | **statistics** [**summary**] **status**} [**session** *session-handle*]

Syntax Description		
database		Displays information about fabricpath OAM loopback database.
statistics		Displays information about fabricpath OAM loopback statistics.
summary		(Optional) Displays information about fabricpath OAM loopback statistics summary.
status		Displays information about for fabricpath OAM loopback status.
session <i>session-handle</i>		(Optional) Displays information about for fabricpath OAM loopback for a specific session.

Command Modes Privileged EXEC (#)

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

Usage Guidelines When a **ping** command returns errors and the details are not available in the command output, you can use the **show fabricpath OAM loopback database** command to see the details.

A session is an auto-generated identifier for a proactive loopback request.

Examples This example shows the display from the **show fabricpath OAM loopback statistics** command.

Device(#) **show fabricpath OAM loopback statistics**

```
Sender Handle: 10
Last Clear of Statistics: Never
Loopback Reply/notification return code distribution:
  V - VLAN nonexistent (0)                - 0
  v - VLAN in suspended state (1)         - 0
  C - Cross Connect Error (2)              - 0
  U - Unknown RBridge nickname (3)        - 0
  n - Not AF (4)                          - 0
  M - MTU mismatch (5)                    - 0
  I - Interface not in forwarding state (6) - 0
  S - Service Tag nonexistent (7)          - 0
  s - Service Tag in suspended state (8)   - 0
  ! - success                             - 5
  m - malformed request                    - 0
  Q - request not sent                     - 0
  . - timeout                             - 0
  D - Destination unreachable              - 0
  X - Unknown return code                  - 0
```

This example shows the display from the **show fabricpath OAM loopback statistics summary** command:

```
switch(#) show fabricpath OAM loopback statistics summary
```

```
Loopback Requests: sent (5)/received (0)/timeout (0)/unsent (0)
```

```
Loopback Replies: sent (0)/received (5)/unsent (0)
```

This example shows the display from the **show fabricpath OAM loopback status** command:

```
switch(#) show fabricpath OAM loopback status
```

Sender Handle	Type	State
1	on demand	completed
10	Asynchronous	running(No Error)

This example shows the display from the **show fabricpath OAM loopback database** command:

```
switch(#) show fabricpath OAM loopback database
```

```
Loopback Request from switch-id 10
```

```
Sender handle: 1
```

```
Last Clear of Statistics: Never
```

```
Start time: 00:00:10
```

```
End time: NA
```

```
Id: sent: 5 timeout: 0 unsent: 0 Interface: NA
```

```
Hop limit: 2 Flags: 0 switch-id: 10
```

```
Forward Flow Entropy: Default
```

```
Reverse Flow Entropy: NA
```

```
Service Tag: NA Vlan: 10 out of band: No
```

```
Reverse Path Req(ecmp/nickname): NA
```

```
Control Plane Verification Req(ecmp/nickname):NA
```

```
Reply: received (5)
```

```
Reverse Resp (ecmp cnt: 1, (ecmp id: 0xFFFF, ifindex: 32, slot:0, port:0, state:10, state:fwd))
```

```
Forward Resp (ecmp cnt: 1, (ecmp id: 0xFFFF, ifindex: 32, slot:0, port:0, state:10, state:fwd))
```

Related Commands

Command	Description
---------	-------------

show fabricpath oam mtrace

To display information about fabricpath Operation, Administration, and Maintenance (OAM) loopback, use the **show fabricpath oam mtrace** command in privileged EXEC mode.

show fabricpath oam mtrace {database | statistics [summary]}

Syntax Description	database	Displays information about fabricpath OAM mtrace database.
	statistics	Displays information about fabricpath OAM mtrace statistics.
	summary	(Optional) Displays information about fabricpath OAM mtrace statistics summary.

Command Default None

Command Modes Privileged EXEC (#)

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

Usage Guidelines When the **mtrace** command returns errors and the details are not available in the command output, you can use the **show fabricpath OAM mtrace database** command to see the details.

Examples This example shows the display from the **show fabricpath OAM mtrace statistics** command. :

```
switch# show fabricpath oam mtrace statistics

Mtrace Reply/notification return code distribution:
  V - VLAN nonexistent (0)                - 0
  v - VLAN in suspended state (1)         - 0
  C - Cross Connect Error (2)             - 0
  U - Unknown RBridge nickname (3)        - 0
  n - Not AF (4)                          - 0
  M - MTU mismatch (5)                   - 0
  I - Interface not in forwarding state (6) - 0
  S - Service Tag nonexistent (7)         - 0
  s - Service Tag in suspended state (8)  - 0
  ! - success                             - 5
  m - malformed request                   - 0
  Q - request not sent                    - 0
  . - timeout                             - 0
  D - Destination unreachable             - 0
  X - Unknown return code                  - 0
Mtrace Requests: sent (5)/received (0)/timedout (0)/unsent (0)
Mtrace Replies: sent (0)/received (25)/unsent (0)
```

This example shows the display from the **show fabricpath OAM mtrace statistics summary** command:

```
switch# show fabricpath oam mtrace statistics summary
Mtrace Requests: sent (5)/received (0)/timeout (0)/unsent (0)
Mtrace Replies: sent (0)/received (25)/unsent (0)
```

This example shows the display from the **show fabricpath OAM database summary** command:

```
switch# show fabricpath oam mtrace database summary
Mtrace request from switch-id 10
Id: sent: 5 timeout: 0 unsent: 0
Tree ID: 1 Vlan : 5 Hop limit: 2
Forward Flow Entropy: Default
Reverse Flow Entropy: NA
Service Tag: NA Vlan: 10 out of band: No
Control Plane Verification Req(ecmp/nickname):1/15
Reply: received (2)
```

This example shows the display from the **show fabricpath OAM mtrace database** command:

```
switch# show fabricpath oam mtrace database
Sender handle: 2
Mtrace request from switch-id 10
Id: sent: 1 timeout: 0 unsent: 0
Tree ID: 1 Vlan : 5 Hop limit: 2
Forward Flow Entropy: Default
Reverse Flow Entropy: NA
Service Tag: NA Vlan: 10 out of band: No
Control Plane Verification Req(ecmp/nickname):1/15
Reply: received (2)
Control Plane Resp from switch-id 112
2 next hop Rbridges
Switch-id 11 ifindex 0x00010023 Slot 3 Port 5 Speed 10M State - forwarding no error
Switch-id 789 ifindex 0x00230782 Slot 5 Port 11 Speed 1G State - forwarding no error
ecmp cnt: 1, (ecmp id: 0xFFFF, ifindex: 32, slot:0, port:0, state:10, state:fwd)
Control Plane Resp from switch-id 13
ecmp cnt: 1, (ecmp id: 0xFFFF, ifindex: 32, slot:0, port:0, state:10, state:fwd)
```

Related Commands

Command	Description

show fabricpath oam notification

To display information about fabricpath Operation, Administration, and Maintenance (OAM) notification, use the **show fabricpath OAM notification** command in privileged EXEC mode..

show fabricpath oam notification {database | statistics}

Syntax Description	database	Displays information about fabricpath OAM notification database.
	statistics	Displays information about fabricpath OAM notification statistics.

Command Default	None
-----------------	------

Command Modes	Privileged EXEC (#)
---------------	---------------------

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

Examples	This example shows the display from the show fabricpath oam notification statistics command: <pre>switch# show fabricpath oam notification statistics Last Clearing of Statistics:Never Notification Received : 0 Time Expiry : 0 Destination Unreachable : 0 Parameter Problem : 0</pre>
----------	---

Related Commands	Command	Description

show fabricpath oam traceroute

To display information about FabricPath Operation, Administration, and Maintenance (OAM), use the **show fabricpath oam traceroute** command in privileged EXEC mode.

show fabricpath oam traceroute {**database** [**session** *session-handle*] | **statistics** [**summary**]}

Syntax Description

database	Displays information about fabricpath OAM traceroute database.
session <i>session-handle</i>	Displays information about fabricpath OAM traceroute for a specific session.
statistics	Displays information about fabricpath OAM traceroute statistics.
summary	Displays information about fabricpath OAM traceroute statistics summary.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

When a **traceroute** command returns errors and the details are not available in the command output, you can use the **show fabricpath OAM traceroute database** command to see the details.

A session is an auto-generated identifier for a proactive traceroute request.

Examples

This example shows the display from the **show fabricpath OAM traceroute statistics** command:

```
switch# show fabricpath oam traceroute statistics
Last Clear of Statistics: Never
Traceroute Reply/notification return code distribution
  V - VLAN nonexistent (0)                - 0
  v - VLAN in suspended state (1)         - 0
  C - Cross Connect Error (2)              - 0
  U - Unknown RBridge nickname (3)         - 0
  n - Not AF (4)                           - 0
  M - MTU mismatch (5)                     - 0
  I - Interface not in forwarding state (6) - 0
  S - Service Tag nonexistent (7)          - 0
  s - Service Tag in suspended state (8)   - 0
  ! - success                             - 5
  m - malformed request                    - 0
  Q - request not sent                     - 0
  . - timeout                             - 0
  D - Destination unreachable              - 0
  X - Unknown return code                  - 0
Path Trace Requests: sent (5)/received (0)/timedout (0)/unsent (0)
Path Trace Replies: sent (0)/received (5)/unsent (0)
```

This example shows the display from the **show fabricpath OAM traceroute statistics summary** command:

```
switch# show fabricpath oam traceroute statistics summary
```

```
Path Trace Requests: sent (5)/received (0)/timeout (0)/unsent (0)
```

```
Path Trace Replies: sent (0)/received (5)/unsent (0)
```

This example shows the display from the **show fabricpath OAM traceroute database** command.:

```
switch# show fabricpath oam traceroute database
```

```
Sender handle: 2
```

```
Path Trace Request from switch-id 10
```

```
Id: sent: 5 timeout: 0 unsent: 0 Interface: NA
```

```
Hop limit: 2 Flags: 0 switch-id: 10
```

```
Forward Flow Entropy: Default
```

```
Reverse Flow Entropy: NA
```

```
Service Tag: NA Vlan: 10 out of band: No
```

```
Reverse Path Req(ecmp/nickname): NA
```

```
Control Plane Verification Req(ecmp/nickname):NA
```

```
Reply: received (5)
```

```
Reverse Resp (ecmp cnt: 1, (ecmp id: 0xFFFF, ifindex: 32, slot:0, port:0, state:10, state:fwd))
```

```
Forward Resp (ecmp cnt: 1, (ecmp id: 0xFFFF, ifindex: 32, slot:0, port:0, state:10, state:fwd))
```

Related Commands

Command	Description
---------	-------------

show fabricpath route

To display FabricPath route information, use the **show fabricpath route** command.

```
show fabricpath route [detail [hex] | hex | topology {topology_ID [switchid switch-ID] | all}
[detail | hex]]
```

Syntax Description

detail	(Optional) Displays detailed information.
hex	(Optional) Displays the switch IDs in hexadecimal.
topology <i>topology_ID</i>	(Optional) Displays the topology information. The topology value is from 0 to 63.
switchid	(Optional) Displays the switch ID.
<i>switch-ID</i>	Switch ID value. The range is from 0 to 16383.

Command Default

None

Command Modes

Any command mode

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 display the detailed information about the FabricPath route:

```
switch# show fabricpath route detail
FabricPath Unicast Route Table
'a/b/c' denotes ftag/switch-id/subswitch-id
'[x/y]' denotes [admin distance/metric]
ftag 0 is local ftag
subswitch-id 0 is default subswitch-id
```

```
FabricPath Unicast Route Table for Topology-Default
```

```
0/2590/0, number of next-hops: 0
    via ---- , [60/0], 0 day/s 02:57:18, local
switch#
```

This example shows how to display the information about the FabricPath route:

```
switch# show fabricpath route
FabricPath Unicast Route Table
'a/b/c' denotes ftag/switch-id/subswitch-id
'[x/y]' denotes [admin distance/metric]
ftag 0 is local ftag
```

```

subswitch-id 0 is default subswitch-id

FabricPath Unicast Route Table for Topology-Default

0/2590/0, number of next-hops: 0
    via ---- , [60/0], 0 day/s 02:58:05, local
switch#
  
```

Related Commands

Command	Description
show running-config fabricpath	Displays the current FabricPath configuration.

show fabricpath switch-id

To display the FabricPath switch ID, use the **show fabricpath switch-id** command.

show fabricpath switch-id [local]

Syntax Description	local (Optional) Displays the local switch ID information.
---------------------------	---

Command Default	None
------------------------	------

Command Modes	Any command mode
----------------------	------------------

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 display the FabricPath switch ID:
-----------------	---

```
switch# show fabricpath switch-id
                        FABRICPATH SWITCH-ID TABLE
Legend: '*' - this system
=====
SWITCH-ID      SYSTEM-ID      FLAGS      STATE      STATIC      EMULATED
-----+-----+-----+-----+-----+-----
*2590          0005.73a3.ba3c    Primary    Confirmed    No          No
Total Switch-ids: 1
O2-48_Mgmt-2(config)#
O2-48_Mgmt-2(config)# show fabricpath s?
  switch-id  Switch ID
  system-id  System-id

switch#
```

This example shows how to display the local FabricPath switch ID:

```
switch# show fabricpath switch-id local
Switch-Id: 2590
System-Id: 0005.73a3.ba3c
switch#
```

Related Commands	Command	Description
	fabricpath switch-id (FabricPath)	Displays the FabricPath switch ID.

show fabricpath system-id

To display information about the FabricPath network by the system ID, use the **show fabricpath system-id** command.

show fabricpath system-id {*mac-address*}

Syntax Description	<i>mac-address</i>	MAC address.
--------------------	--------------------	--------------

Command Default	None
-----------------	------

Command Modes	Any command mode
---------------	------------------

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 display information about the FabricPath network by the system ID: <pre>switch# show fabricpath system-id 0005.73a3.ba3c Switch-Id: 2590 State: Confirmed switch#</pre>
----------	--

Related Commands	Command	Description
	show running-config fabricpath	Displays information about the current FabricPath configuration.

show fabricpath timers

To display settings for the allocate-delay, linkup-delay, and transition-delay timers for the FabricPath network by the system ID, use the **show fabricpath timers** command.

show fabricpath timers

Syntax Description This command has no arguments or keywords.

Command Default None

Command Modes Any command mode

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 display FabricPath timers:

```
switch# show fabricpath timers
Allocate Delay Timer      :   10
Transition Delay Timer    :   10
Link-up Delay Timer       :   10
switch#
```

Related Commands	Command	Description
	fabricpath timers	Configures the FabricPath timers.

show fabricpath topology

To display information about the FabricPath Intermediate System-to-Intermediate System (IS-IS) topology, use the **show fabricpath topology** command.



Note

Cisco Nexus 5500 Series switch only supports 2 topologies; the default or base topology (topology 0), and another optional topology (for example, topology 1).

```
show fabricpath topology [topology-ID {ftag [active | multicast | unicast] | interface [ethernet
slot[/QSFP-module]/port | port-channel channel-number] | vlan [active]} | detail | ftag [active
| multicast | unicast] | interface [ethernet slot[/QSFP-module]/port | port-channel
channel-number | vlan [active]] | vlan [active]]
```

Syntax Description

<i>topology-ID</i>	FabricPath topology ID. The range is from 0 to 63.
detail	(Optional) Displays the detailed FabricPath topology information.
ftag	(Optional) Displays the forwarding tag (FTAG) of a graph.
active	(Optional) Displays the active multicast FTAGs.
multicast	(Optional) Displays the multicast FTAGs.
unicast	(Optional) Displays the unicast FTAGs.
interface	Displays the interface topology information.
ethernet	(Optional) Displays the Ethernet interface.
<i>slot</i> / <i>port</i>	Slot or chassis number and the port number. The slot number is from 1 to 255 and the port number is from 1 to 128.
<i>QSFP-module</i>	(Optional) The QSFP+ port on the Generic Expansion Module (GEM). The port numbers are from 1 to 4.
port-channel	(Optional) Displays the port-channel interface number.
<i>channel-number</i>	Port-channel number. The range is from 1 to 4096.
vlan	(Optional) Displays the VLANs in the Layer 2 topology.

Command Default

None

Command Modes

Any command mode

Command History

Release	Modification
6.0(2)N1(2)	Support for the QSFP+ GEM.
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 display VLANs in a Layer 2 topology:

```
switch# show fabricpath topology 0 vlan
Topo-Description      TPG-ID    Configured VLAN List
-----
0                      0         1-4095
switch#
```

This example shows how to display interface topology information:

```
switch# show fabricpath topology 0 interface
```

This example shows how to display active multicast FTAGs:

```
switch# show fabricpath topology 0 ftag
```

This example shows how to display the FabricPath topology interface VLANs:

```
switch# show fabricpath topology interface ethernet 2/1 vlan
```

Related Commands

Command	Description
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

show feature-set

To display the status of all feature sets on the switch, use the **show feature-set** command.

show feature-set [**services** *feature-set-name*]

Syntax Description	services	Displays the services associated with a feature set.
	<i>feature-set-name</i>	Name of the service or feature set.

Command Default	None
------------------------	------

Command Modes	Any command mode
----------------------	------------------

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 display the status of a feature set:

```
switch# show feature-set
Feature Set Name      ID      State
-----
fabricpath            2       enabled
virtualization        4       uninstalled
switch#
```

This example shows how to display the services associated with the FabricPath feature set:

```
switch# show feature-set services fabricpath
u2rib
drap
isis_fabricpath
3 services in feature set fabricpath
switch#
```

Related Commands	Command	Description
	feature-set fabricpath	Enables the FabricPath feature set on the switch.

show mroute

To display the Layer 2 (l2) or FabricPath multicast route database, use the **show mroute** command.

```
show {l2 | fabricpath} mroute {[vdc_omf] | [vlan vlanid] {[[omf] | [flood] | [source {srcaddr |
ipv6srcaddr}]} [group {groupaddr | ipv6groupaddr}]} [resolved] [ftag ftag-id] [hex]]}
```

Syntax Description

l2	Displays Layer 2 information.
fabricpath	Displays FabricPath information.
vdc_omf	(Optional) Displays the virtual device context (VDC) Optimized Multicast Flooding (OMF) route.
vlan	(Optional) Displays the VLAN ID.
<i>vlan-id</i>	(Optional) VLAN ID. The range is from 1 to 4096.
omf	(Optional) Displays the VLAN OMF route.
flood	(Optional) Displays the VLAN flood routes.
source	(Optional) Displays the source IP address.
<i>srcaddr</i>	IPv4 source address.
<i>ipv6srcaddr</i>	IPv6 source address.
group	(Optional) Displays the group address.
<i>groupaddr</i>	IPv4 group address.
<i>ipv6groupaddr</i>	IPv6 group address.
resolved	(Optional) Displays the resolved switch ID next hop's underlying interfaces.
ftag	(Optional) Displays the FTAG number.
<i>ftag-id</i>	Forwarding tag (FTAG) ID. The range is from 1 to 1024.
hex	(Optional) Displays the switch IDs in hexadecimal.

Command Default

None

Command Modes

Any command mode

Command History

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

Usage Guidelines



Note

l2 can be used interchangeably with FabricPath.

This command requires an Enhanced Layer 2 license.

Examples

This example shows how to display the VLAN flood routes in the FabricPath multicast route database:

```
switch# show fabricpath mroute flood
```

This example shows how to display the resolved switch ID of the next hop's underlying interfaces:

```
switch# show 12 mroute resolved
```

Related Commands

Command	Description
fabricpath load-balance	Displays FabricPath load-balancing parameters.
show running-config fabricpath	Displays the current FabricPath configuration.

show multicast trees

To display the Layer 2 (l2) or FabricPath multicast tree database, use the **show multicast trees** command.

show [**l2** | **fabricpath**] **multicast trees** [**topo** *topo-id*] [**ftag** *ftag-id*] [**hex**]

Syntax Description

l2	Displays Layer 2 information.
fabricpath	Displays FabricPath information.
topo	(Optional) Displays the topology instance.
<i>topo-id</i>	Topology ID. The range is from 0 to 64.
ftag	(Optional) Displays the FTAG number.
<i>ftag-id</i>	Forwarding tag (FTAG) ID. The range is from 1 to 1024.
hex	(Optional) Displays the switch IDs in hexadecimal.

Command Default

None

Command Modes

EXEC mode

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 display the FabricPath multicast tree database:

```
switch# show fabricpath multicast trees
```

This example shows how to display the FTAG number of the Layer 2 multicast trees:

```
switch# show l2 multicast trees ftag 1
```

This example shows how to display the Layer 2 multicast tree database:

```
switch# show l2 multicast trees
```

Related Commands

Command	Description
show l2 route	Displays FabricPath route information.
show fabricpath route	Displays FabricPath route information.

show running-config fabricpath

To display FabricPath running system configuration information, use the **show running-config fabricpath** command.

show running-config fabricpath [domain default | switch-id | topology | oam] [all]

Syntax Description	domain	(Optional) Displays the FabricPath Intermediate System-to-Intermediate System (IS-IS) domain configuration information.
	default	(Optional) Displays the FabricPath IS-IS default FabricPath domain information.
	switch-id	(Optional) Displays the FabricPath switch ID configuration information.
	topology	(Optional) Displays the FabricPath topology information.
	oam	(Optional) Displays the FabricPath oam configuration.
	all	(Optional) Displays the running configuration, including the defaults.

Command Default	None
-----------------	------

Command Modes	Any command mode
---------------	------------------

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 display FabricPath running system configuration information:
----------	--

```
switch# show running-config fabricpath

!Command: show running-config fabricpath
!Time: Tue Oct 25 07:55:05 2011

version 5.2(1)N1(1)
install feature-set fabricpath
feature-set fabricpath

vpc domain 1
fabricpath domain default

switch#
```

 show running-config fabricpath**Related Commands**

Command	Description
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.



T Commands

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

topology

To configure fabricpath Operation, Administration, and Maintenance (OAM) service topology identifier, use the **topology** command in fabricpath OAM profile configuration mode. To remove the service topology, use the **no** form of this command.



Note

Cisco Nexus 5500 Series switch only supports 2 topologies; the default or base topology (topology 0), and another optional topology (for example, topology 1).

topology *topology-id*

no topology [*topology-id*]

Syntax Description

<i>topology-id</i>	Topology identifier. The range is from 0 to 63.
--------------------	---

Command Default

Fabricpath OAM service topology identifier is not configured.

Command Modes

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

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 a FabricPath IS-IS topology:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# fabricpath domain profile
switch(config-fabricpath-isis)# topology 15
switch(config-fabricpath-isis)#
```

Related Commands

Command	Description
fabricpath domain default	Enables FabricPath Layer 2 IS-IS.

traceroute fabricpath

To send a FP OAM Path Trace Request message to the egress switch ID, use the **traceroute fabricpath** command. To return to the default setting, use the **no** form of this command.

```
traceroute fabricpath switch-id [interface interface-id] [vlan vlan-id | tag tag-id]
[use-host-vlan] [verbose] [reply mode out-of-band { ipv4 ipv4-addr | ipv6 ipv6-addr }]
[forward flow flow-entropy { I2 | I3 }] [hop hop-count] [topology topology-id] | [timeout
timeout-value]
```

Syntax Description	
switch-id <i>switch-id</i>	Sends a loopback request to the specified switch ID. The range is from 1 to 65,535.
interface <i>interface-id</i>	(Optional) Name of the egress interface for FabricPath OAM traceroute.
vlan <i>vlan-id</i>	VLAN ID. The range is from 1 to 4094.
tag-tag <i>tag-id</i>	FabricPath OAM tag. The range is from 4096 to 0x00FFFFFF.
use-host-vlan	(Optional) Specifies that only VLAN input should be used. Use this keyword when enhanced forwarding is applied and you do not want to use the translated VLAN. Use this option when you specify the ingress interface ID or when you specify the flow entropy through the profile keyword or through forward flow with the IP address of customer traffic.
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>ipv4-addr</i>	(Optional) Specifies the input IPv4 address for out-of-band reply.
ipv6 <i>ipv6-addr</i>	(Optional) Specifies the input IPv6 address for out-of-band reply.
forward flow <i>flow-entropy</i>	(Optional) Specifies input flow entropy (128 bytes) from actual user data traffic so that the FabricPath OAM packet takes the exact same path as the user traffic.
I2	(Optional) 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.
I3	(Optional) 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.
hop <i>hop-count</i>	(Optional) Specifies the FabricPath OAM ping hop count. The range is from 1 to 64. Default is 63.
topology <i>topologyid</i>	(Optional) Specifies the topology ID. The range is from 0 to 63. Default is 0.
verbose	(Optional) Displays additional information.
timeout <i>timeout-value</i>	(Optional) Specifies the timeout values. The range is from 1 to 36000.

Defaults None

Command Modes Privileged EXEC (#)

Command History

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

Usage Guidelines

For a synchronous ping, tracertoute, or mtrace, if the profile has multiple interfaces, only the first interface is selected. Use the **interface** keyword to overwrite the selected interface. Only one session is created.

Examples

This example shows how to discover the route for FabricPath OAM packets:

```
switch# configure terminal
Enter configuration commands, one per line. End with CNTL/Z.
switch(config)# tracertoute fabricpath switch-id 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,
'M' -MTU mismatch, 'I' - Interface not in forwarding state,
'S' - Service Tag nonexistent, 's' - Service Tag in suspended state,
Type escape sequence to abort.
0 5 Rcvd on Eth10/23, Next hop RBID - 10(fwd)[1ms]
! 10 [1ms]
```

This example shows how to discover the route for FabricPath OAM packets with for a specific switch ID when the keyword verbose is included:

```
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: 1
Hop Code SwitchId Interface State TotalTime PathId DwnSwId Intf State
=====
1 ! 3570 Rcvd on Eth1/3 fwd 3ms

!!!!specify customer flow entropy
```

This example shows how to discover the route for FabricPath OAM packets with for a specific switch ID for forward flow:

```
Device# tracertoute fabricpath switch-id 3570 forward flow
00112222111100112222222281000000A8903
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: 2
```

```
Hop Code SwitchId Interface State TotalTime PathId
=====
1 ! 3570 Rcvd on Eth1/3 fwd 3ms
!!!!Interactive traceroute with user specified layer 2 flow entropy
```

This example shows interactive traceroute with user specified layer 2 flow entropy:

```
switch# traceroute fabricpath

Switch-id(1-65535) [1] 3570
Timeout in seconds [2]
Extended command(y/n) [n] y
OAM Profile(1-1023) [none]
Interface [none]
Ingress Interface [none]
Forward Flow entropy [n] y
Forward Flow entropy type L2/L3 [L2]
Forward Flow source mac address(aaaa.bbbb.cccc) [0001.ccaa.aabb]
Forward Flow destination mac address(aaaa.bbbb.cccc) [0001.ccaa.3abb]
Forward Flow vlan(vlan id or none) [1] 10
Forward Flow stag(1-0xFFFFF) [none]
Forward Flow ether type [0x9100]
Reverse Flow entropy [n]
Reply mode out of band [n]
Verbose [n]
Hop count(1-63) [63]
Topology id [0]
Use host vlan [n]
Vlan(vlan id or none) [1] 10
Control path forward request [n]
Control path reverse request [n]
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
Hop Code SwitchId Interface State TotalTime PathId
=====
1 ! 3570 Rcvd on Eth1/3 fwd 3ms
```

Related Commands

Command	Description



V Commands

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

vlan

To configure fabricpath Operation, Maintenance, Administration (OAM) VLAN, use the **vlan** command in fabricpath OAM profile configuration mode. To remove the VLAN information, use the **no** form of this command.

vlan *vlan-id*

no vlan

Syntax Description	<i>vlan-id</i>	An integer. The range is from 1 to 3967.
--------------------	----------------	--

Command Default	The fabricpath OAM VLAN is not configured.	
-----------------	--	--

Command Modes	Fabricpath oam profile (config-fb-oam-profile)	
---------------	--	--

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

Examples	This example shows how to configure a VLAN: <pre>switch# configure terminal Enter configuration commands, one per line. End with CNTL/Z. switch(config)# fabricpath oam profile 100 switch(config-fp-oam-profile)# vlan 100</pre>	
----------	---	--

Related Commands	Command	Description