CHAPTER 5

# Advanced FabricPath Features

This chapter describes how to configure advanced FabricPath features, such as using the Intermediate System-to-Intermediate System (IS-IS) protocol on Cisco NX-OS devices.

This chapter includes the following sections:


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# Information About FabricPath Advanced Features

**Note** You must have an F Series module in your chassis to run FabricPath.

This section includes the following sections:


- Information About Advanced FabricPath Layer 2 IS-IS Configurations, page 5-1
- High Availability, page 5-2
- Virtual Device Contexts, page 5-2


## Information About Advanced FabricPath Layer 2 IS-IS Configurations

**Note** See Chapter 2, "Configuring FabricPath Switching" for information on the default Layer 2 IS-IS behavior with FabricPath.

We recommend that you run the FabricPath network using the default Layer 2 IS-IS configurations.

Optionally, you can also change many of the IS-IS settings. You change these settings as follows:

- Globally on the entire device and on each device in the FabricPath network
- On specified FabricPath interfaces within the FabricPath network

If you do change any of the FabricPath Layer 2 IS-IS settings, ensure that you make the same changes for those global parameters on every device in the FabricPath network and for those interface parameters on every applicable FabricPath interface in the network.

Layer 2 IS-IS is based on Layer 3 IS-IS with enhancements to run on Layer 2. The commands for Layer 2 IS-IS and Layer 3 IS-IS are not the same**.** Layer 2 IS-IS is the control plane in FabricPath and a single protocol controls all unicast and multicast traffic. From a forwarding standpoint, FabricPath Layer 2 IS-IS forwards traffic for unicast, unknown unicast, broadcast, and multicast frames. Using Layer 2 IS-IS, the system maintains loop-free paths throughout the FabricPath network. (see Chapter 2, “Configuring FabricPath Switching”, for information on default FabricPath Layer 2 IS-IS behavior and Chapter 4, “FabricPath Forwarding”, for information on FabricPath forwarding.)

You can use these advanced FabricPath Layer 2 IS-IS configurations to fine-tune the operation of the FabricPath network.

# High Availability

The FabricPath topologies retain their configuration through ISSU.

See the *Cisco Nexus 7000 Series NX-OS High Availability and Redundancy Guide, Release 5.x*, for more information on high availability.

# Virtual Device Contexts

All the interfaces for one FabricPath network on the same device must be in the same Virtual Device Context (VDC).

You must install the FabricPath feature set before you enable FabricPath on the switch. See the *Configuring Feature Set for FabricPath* guide for information on installing the FabricPathfeature set.

Because of the multiple FEs on the F Series modules, the following port pairs must be in the same VDC:

- Ports 1 and 2
- Ports 3 and 4
- Ports 5 and 6
- Ports 7 and 8
- Ports 9 and 10
- Ports 11 and 12
- Ports 13 and 14
- Ports 15 and 16
- Ports 17 and 18
- Ports 19 and 20
- Ports 21 and 22
- Ports 23 and 24
- Ports 25 and 26
- Ports 27 and 28

- Ports 29 and 30
- Ports 31 and 32

See the *Virtual Device Context Configuration Guide, Cisco DCNM for LAN, Release 5.x*, for more information on VDCs.

# Licensing Requirements for FabricPath Advanced Features

The following table shows the licensing requirements for this feature:

| Product | License Requirement |
|---|---|
| Cisco NX-OS | FabricPath requires an Enhanced Layer 2 license. For a complete explanation of the Cisco NX-OS licensing scheme, see the *Cisco Nexus 7000 Series Licensing Guide*. |

# Prerequisites for FabricPath Advanced Features

FabricPath switching has the following prerequisites:

- You should have a working knowledge of Classical Ethernet Layer 2 functioning.
- You must install the FabricPath feature set in the default and non-default VDC before you enable FabricPath on the switch. See *Configuring Feature-Set for FabricPath* for complete information on installing and enabling the FabricPath feature set.
- The FabricPath feature set operation may cause the standby supervisor to reload if it is in an unstable state, such as following a service failure or powering up.
- You are logged onto the device.
- Ensure that you have installed the Enhanced Layer 2 license.
- You are in the correct virtual device context (VDC). A VDC is a logical representation of a set of system resources. You can use the **switchto vdc** command with a VDC number.
- You are working on the F Series module.

# Guidelines and Limitations for FabricPath Advanced Features

FabricPath has the following configuration guidelines and limitations:

- FabricPath interfaces carry only FabricPath-encapsulated traffic.
- You must enable FabricPath on each device before you can view or access the commands. Enter the **feature-set fabricpath** command to enable FabricPath on each device.
- STP does not run inside a FabricPath network.
- The F Series modules do not support multiple SPAN destination ports or virtual SPAN. If a port on the F Series module is in a VDC and that VDC has multiple SPAN destination ports, that SPAN session is not brought up.
- The following guidelines apply to private VLAN configuration when you are running FabricPath:

  - All VLANs in a private VLAN must be in the same VLAN mode; either CE or FP. If you attempt to put different types of VLANs into a private VLAN, these VLANs will not be active in the Private VLAN. The system remembers the configurations, and if you change the VLAN mode later, that VLAN will now become active in the specified private VLAN.
  - FabricPath ports cannot be put into a private VLAN.
- The system does not support hierarchical static MAC addresses. That is, you cannot configure static FabricPath ODAs or OSAs; you can only configure Classical Ethernet static MAC addresses.
- On the F Series modules, user-configured static MAC addresses are programmed on all forwarding engines (FEs) that have ports in that VLAN.

# Setting Advanced FabricPath Layer 2 IS-IS Parameters

**Note** You must have FabricPath enabled on the F Series module before you can see any of these commands.

Although the Layer 2 IS-IS protocol works automatically once you enable FabricPath, you can optionally configure parameters. Some FabricPath Layer 2 IS-IS parameters you configure globally and some you configure per interface. This section includes the following topics:

- Setting Advanced FabricPath Layer 2 IS-IS Parameters Globally (Optional), page 5-4
- Setting Advanced FabricPath Layer 2 IS-IS Parameters per Interface (Optional), page 5-8
- Clearing Advanced FabricPath Layer 2 IS-IS Counters, page 5-11

## Setting Advanced FabricPath Layer 2 IS-IS Parameters Globally (Optional)

Although the FabricPath Layer 2 IS-IS protocol works automatically once you enable FabricPath, you can optionally configure the global parameters.

### BEFORE YOU BEGIN

Ensure that you are working on an F Series module.

Ensure that you have installed the Enhanced Layer 2 license.

Ensure that you have enabled the FabricPath feature set.

### SUMMARY STEPS

1. **config terminal**
2. **fabricpath domain default**
3. (Optional) **authentication-check**
4. (Optional) **authentication key-chain** *auth-key-chain-name*
5. (Optional) **authentication type** {**cleartext** | **md5**}
6. (Optional) **log-adjacency-changes**
7. (Optional) **lsp-gen-interval** *msecs* [*msecs msecs*]
8. (Optional) **lsp-mtu** *mtu*

9. (Optional) **max-lsp-lifetime** *secs*
10. (Optional) **maximum-paths** *max-paths*
11. (Optional) **reference-bandwidth** {*ref-mbps* [**Mbps**] | *ref-gbps* [**Gbps**]}
12. (Optional) **spf-interval** *msecs* [*msecs msecs*]
13. (Optional) **graceful-restart** [**t3 manual** *secs*]
14. (Optional) **hostname dynamic**
15. (Optional) **root-priority** *value*
16. **exit**
17. **exit**
18. (Optional) **show running-config**
19. (Optional) **copy running-config startup-config**

## DETAILED STEPS

| Command | Purpose |
|---|---|
| **config terminal**<br><br>**Example**:<br>switch#config terminal | Enters global configuration mode. |
| **fabricpath domain default**<br><br>**Example**:<br>switch(config)# fabricpath domain default<br>switch(config-fabricpath-isis)# | Enters the global FabricPath Layer 2 IS-IS configuration mode. |
| **authentication-check**<br><br>**Example:**<br>switch(config-fabricpath-isis)#<br>authentication-check<br>switch(config-fabricpath-isis)# | (Optional) Configures authentication check on PDU reception. To turn the authentication check off, enter the **no** form of this command.<br>**Note** The default is ON. |
| **authentication key-chain**<br>*auth-key-chain-name*<br><br>**Example:**<br>switch(config-fabricpath-isis)#<br>authentication key-chain trees<br>switch(config-fabricpath-isis)# | (Optional) Configures the authentication keychain. To clear this parameter, enter the **no** form of this command. See the *Security Configuration Guide, Cisco DCNM for LAN, Release 5.x*, for information about key chains. |
| **authentication-type** {**cleartext** \| **md5**}<br><br>**Example:**<br>switch(config-fabricpath-isis)#<br>authentication-type md5<br>switch(config-fabricpath-isis)# | (Optional) Configures the authentication type. To clear this parameter, enter the **no** form of this command. |
| **log-adjacency-changes**<br><br>**Example:**<br>switch(config-fabricpath-isis)# log-<br>adjacency-changes<br>switch(config-fabricpath-isis)# | (Optional) Sets the device to send a log message when the state of a FabricPath Layer 2 IS-IS neighbor changes. To stop the log messages, enter the **no** form of this command. The default is Off. |

| Command | Purpose |
|---|---|
| **lsp-gen-interval** *msecs* [*msecs msecs*]<br><br>**Example:**<br>`switch(config-fabricpath-isis)# lsp-gen-interval 100`<br>`switch(config-fabricpath-isis)#` | (Optional) Configures the LSP generation interval. To return to the default values, enter the **no** form of this command. The optional parameters are as follows:<br>• **max-wait**—The initial wait between the trigger and LSP generation. The range is from 50 to 12000 milliseconds, and the default value is 8000 milliseconds.<br>• **lsp-initial-wait**—The initial wait between the trigger and LSP generation. The range is from 50 to 12000 milliseconds, and the default value is 50 milliseconds.<br>• **lsp-second-wait**—The second wait used for LSP throttle during backoff. The range is from 50 to 12000 milliseconds, and the default value is 50 milliseconds. |
| **lsp-mtu** *mtu*<br><br>**Example:**<br>`switch(config-fabricpath-isis)# lsp-mtu 2000`<br>`switch(config-fabricpath-isis)#` | (Optional) Sets the LSP MTU. To return to the default values, enter the **no** form of this command. The range is from 128 to 4352, and the default value is 1492. |
| **max-lsp-lifetime** *secs*<br><br>**Example:**<br>`switch(config-fabricpath-isis)# max-lsp-lifetime 1000`<br>`switch(config-fabricpath-isis)#` | (Optional) Sets the maximum LSP lifetime in seconds. To return to the default values, enter the **no** form of this command. The range is from 128 to 4352, and the default value is 1492. |
| **maximum-paths** *max-paths*<br><br>**Example:**<br>`switch(config-fabricpath-isis)# maximum-paths 4`<br>`switch(config-fabricpath-isis)#` | (Optional) Sets the maximum number of paths per destination. To return to the default values, enter the **no** form of this command. The range is from 1 to 16, and the default value is 16. |
| **reference-bandwidth** {*ref-mbps* [**Mbps**] \| *ref-gbps* [**Gbps**]}<br><br>**Example:**<br>`switch(config-fabricpath-isis)# reference-bandwidth 200000`<br>`switch(config-fabricpath-isis)#` | (Optional) Configures the reference bandwidth, which is used to assign the FabricPath Layer 2 IS-IS cost. The default value is 400000 Mbps. To return to the default values, enter the **no** form of this command. The optional parameters are as follows:<br>• **ref-mbps**—The range is from 1 to 400000, and the default value is 400000.<br>• **ref-gbps**—The range is from 1 to 4000, and the default value is 400. |

| Command | Purpose |
|---|---|
| **spf-interval** *msecs* [*msecs msecs*]<br><br>**Example**:<br>switch(config-fabricpath-isis)# spf-interval 10000<br>switch(config-fabricpath-isis)# | (Optional) Configures the interval between LSA arrivals. To return to the default values, enter the **no** form of this command. The optional parameters are as follows:<br>• **spf-max-wait**—The maximum wait between the trigger and SPF computation. The range is from 50 to 120000 milliseconds, and the default value is 8000 milliseconds.<br>• **spf-initial-wait**—The initial wait between the trigger and SPF computation. The range is from 50 to 120000 milliseconds, and the default value is 50 milliseconds.<br>• **spf-second-wait**—The second wait used for SPF computation during backoff. The range is from 50 to 120000 milliseconds, and the default value is 50 milliseconds. |
| **graceful-restart** [**t3 manual** *secs*]<br><br>**Example**:<br>switch(config-fabricpath-isis)# graceful-restart<br>switch(config-fabricpath-isis)# | (Optional) Enables graceful restart for the FabricPath Layer 2 IS-IS protocol. To disable graceful restart, enter the **no** form of this command. Use the **t3 manual** parameter to set the graceful-restart timer; the range is from 30 to 65535, and the default value is 60.<br><br>This feature is On by default. |
| **hostname dynamic**<br><br>**Example:**<br>switch(config-fabricpath-isis)# hostname-dynamic<br>switch(config-fabricpath-isis)# | (Optional) Enables dynamic hostname for the FabricPath Layer 2 IS-IS protocol. To disable the dynamic hostname, enter the **no** form of this command. |
| **root-priority** *value*<br><br>**Example:**<br>switch(config-fabricpath-isis)# root-priority 100<br>switch(config-fabricpath-isis)# | (Optional) Sets the priority for which node becomes the Layer 2 IS-IS protocol root in the FabricPath network. The highest numerical value for the priority is likely to become the root. To return to the default values, enter the **no** form of this command. The range is from 1 to 255, and the default value is 64. |
| **exit**<br><br>**Example:**<br>switch(config-fabricpath-isis)# exit<br>switch(config)# | Exits global FabricPath Layer 2 IS-IS configuration mode. |
| **exit**<br><br>**Example:**<br>switch(config)# exit<br>switch# | Exits global configuration mode. |

| Command | Purpose |
|---|---|
| **show running-config**<br><br>**Example:**<br>switch# show running-config<br>switch# | (Optional) Displays the running configuration. |
| **copy running-config startup-config**<br><br>**Example:**<br>switch# copy running-config startup-config | (Optional) Copies the running configuration to the startup configuration. |

See the *Cisco Nexus 7000 Series NX-OS Unicast Routing Configuration Guide, Release 5.x*, for more information on IS-IS commands.

# Setting Advanced FabricPath Layer 2 IS-IS Parameters per Interface (Optional)

Although the FabricPath Layer 2 IS-IS protocol works automatically once you enable FabricPath, you can optionally configure the interface parameters.

## BEFORE YOU BEGIN

Ensure that you are working on an F Series module.

Ensure that you have installed the Enhanced Layer 2 license.

Ensure that you have enabled the FabricPath feature set.

## SUMMARY STEPS

1. **config terminal**
2. **interface** {**ethernet** *mod/slot* | **port-channel** *channel-number*}
3. (Optional) **fabricpath isis authentication-check**
4. (Optional) **fabricpath isis authentication key-chain** *auth-key-chain-name*
5. (Optional) **fabricpath isis authentication type** {**cleartext** | **md5**}
6. (Optional) **fabricpath isis csnp-interval** *seconds*
7. (Optional) **fabricpath isis hello-interval** *seconds*
8. (Optional) **fabricpath isis hello-multiplier** *multiplier*
9. (Optional) **fabricpath isis hello-padding**
10. (Optional) **fabricpath isis lsp-interval** *milliseconds*
11. (Optional) **fabricpath isis metric** *metric*
12. (Optional) **fabricpath isis retransmit-interval** *seconds*
13. (Optional) **fabricpath isis retransmit-throttle- interval** *milliseconds*
14. **exit**
15. (Optional) **show running-config**
16. (Optional) **copy running-config startup-config**

## DETAILED STEPS

| Command | Purpose |
|---|---|
| **config terminal**<br><br>**Example**:<br>switch# config<br>switch(c0nfig)# | Enters configuration mode. |
| **interface** {**ethernet** *mod/slot* \| **port-channel** *channel-number*}<br><br>**Example**:<br>switch(config)# interface ethernet 5/2<br>switch(config-if)# | Enters interface configuration mode. |
| **fabricpath isis authentication-check**<br><br>**Example**:<br>switch(config-if)# fabricpath isis authentication-check<br>switch(config-if)# | (Optional) Enables authentication checking on incoming FabricPath Layer 2 IS-IS hello PDUs. The default is ON. To disable authentication, enter the **no** form of the command.<br><br>**Note** Level specification is not required. |
| **fabricpath isis authentication key-chain** *auth-key-chain-name*<br><br>**Example**:<br>switch(config-if)# fabricpath isis authentication key-chain trees<br>switch(config-if)# | (Optional) Assigns a password to authentication hello PDUs. To remove this password, enter the **no** form of the command.<br><br>**Note** Level specification is not required. See the *Security Configuration Guide, Cisco DCNM for LAN, Release 5.x*, for information about key chains. |
| **fabricpath isis authentication-type** {**cleartext** \| **md5**}<br><br>**Example**:<br>switch(config-if)# fabricpath isis authentication-type md5<br>switch(config-if)# | (Optional) Specifies the authentication type for an interface for FabricPath Layer 2 IS-IS hello PDUs. To remove this type, enter the **no** form of the command.<br><br>**Note** Level specification is not required. |
| **fabricpath isis csnp-interval** *seconds*<br><br>**Example**:<br>switch(config-if)# fabricpath isis csnp-interval 60<br>switch(config-if)# | (Optional) Specifies the interval between CSNP PDUs sent on the interface. To return to the default value, enter the **no** form of this command. The range is from 1 to 65535, and the default value is 10. |
| **fabricpath isis hello-interval** *seconds*<br><br>**Example**:<br>switch(config-if)# fabricpath isis hello-interval 20<br>switch(config-if)# | (Optional) Sets the hello interval between PDUs sent on the interface. To return to the default value, enter the **no** form of this command. The range is from 1 to 65535, and the default value is 10.<br><br>**Note** Level specification is not required. |

| Command | Purpose |
|---|---|
| **fabricpath isis hello-multiplier** *multiplier*<br><br>**Example:**<br>`switch(config-if)# fabricpath isis hello-multiplier 20`<br>`switch(config-if)#` | (Optional) Specifies the multiplier used to calculate the interval within which hello PDUs must be received or adjacency goes down. To return to the default value, enter the **no** form of this command. The range is from 3 to 1000. The default is 3.<br><br>**Note** Level specification is not required. |
| **fabricpath isis hello-padding**<br><br>**Example:**<br>`switch(config-if)# fabricpath hello-padding`<br>`switch(config-if)#` | (Optional) Enables padding on the hello PDUs. The default is ON. To disable authentication, enter the **no** form of the command.<br><br>**Note** If you enter the **always** keyword with the **no** form of this command, the padding is always on. |
| **fabricpath isis lsp-interval** *milliseconds*<br><br>**Example:**<br>`switch(config-if)# fabricpath isis lsp-interval 100`<br>`switch(config-if)#` | (Optional) Sets the interval in milliseconds between LSPs sent on this interface during flooding. To return to the default value, enter the **no** form of this command. The range is from 10 to 65535. The default is 33. |
| **fabricpath isis metric** *metric*<br><br>**Example:**<br>`switch(config-if)# fabricpath isis metric 100`<br>`switch(config-if)#` | (Optional) Configures the FabricPath Layer 2 IS-IS metric for this interface. The range is from 0 to 16777215. To return to the default value, enter the **no** form of this command. The default values are as follows (the default interface for the F Series module is 10 GB):<br>• 1 GB—400<br>• 10 GB—40 |
| **fabricpath isis retransmit-interval** *seconds*<br><br>**Example:**<br>`switch(config-if)# fabricpath isis retransmit-interval 100`<br>`switch(config-if)#` | (Optional) Sets the interval between initial LSP retransmissions. To return to the default value, enter the **no** form of this command. The range is from 1 to 65535. The default is 5. |
| **fabricpath isis retransmit-throttle-interval** *milliseconds*<br><br>**Example:**<br>`switch(config-if)# fabricpath isis retransmit-throttle-interval 100`<br>`switch(config-if)#` | (Optional) Sets the interval between subsequent LSP retransmissions. To return to the default value, enter the **no** form of this command. The range is from 20 to 65535. The default is 66. |
| **exit**<br><br>**Example:**<br>`switch(config-if)# exit`<br>`switch(config)#` | Exits interface configuration mode. |

| Command | Purpose |
|---|---|
| **show running-config**<br><br>**Example:**<br>switch(config)# show running-config<br>switch(config)# | (Optional) Displays the running configuration. |
| **copy running-config startup-config**<br><br>**Example:**<br>switch(config)# copy running-config startup-config<br>switch(config)# | (Optional) Copies the running configuration to the startup configuration. |

See the *Cisco Nexus 7000 Series NX-OS Unicast Routing Configuration Guide, Release 5.x*, for more information on IS-IS commands.

# Clearing Advanced FabricPath Layer 2 IS-IS Counters

You can clear the FabricPath Layer 2 IS-IS counters.

## BEFORE YOU BEGIN

Ensure that you are working on an F Series module.

Ensure that you have installed the Enhanced Layer 2 license.

Ensure that you have enabled the FabricPath feature set.

## SUMMARY STEPS

- (Optional) **clear fabricpath isis adjacency** [* | **system-id** | **interface** {**ethernet** *mod/slot* | **port-channel** *channel-number*}]
- (Optional) **clear fabricpath isis statistics ***
- (Optional) **clear fabricpath isis traffic** [* | **interface** {**ethernet** *mod/slot* | **port-channel** *channel-number*}]

## DETAILED STEPS

| Command | Purpose |
|---|---|
| **clear fabricpath isis adjacency** [* \| **system-id** \| **interface** {**ethernet** *mod/slot* \| **port-channel** *channel-number*}]<br><br>**Example:**<br>switch# clear fabricpath isis adjacency<br>switch# | (Optional) Clears the FabricPath Layer 2 IS-IS adjacency state.<br><br>**Note** If you enter the * variable, you affect forwarding which might interrupt traffic; this command tears down all adjacencies. |

| Command | Purpose |
|---|---|
| **clear fabricpath isis statistics ***<br><br>**Example:**<br>switch# clear fabricpath statistics *<br>switch# | (Optional) Clears all FabricPath Layer 2 IS-IS protocol statistics. |
| **clear fabricpath isis traffic** [***** \| **interface** {**ethernet** *mod/slot* \| **port-channel** *channel-number*}]<br><br>**Example:**<br>switch# clear fabricpath traffic<br>switch# | (Optional) Clears FabricPath Layer 2 IS-IS traffic information. |

# Verifying the FabricPath Advanced Configurations

To display FabricPath information for advanced configurations perform one of the following tasks:

| Command | Purpose |
|---|---|
| **show fabricpath isis adjacency** [**interface** {**ethernet** *mod/slot* \| **port-channel** *channel-number*} \| **system-id** \| **detail** \| **summary**] | Displays the FabricPath Layer 2 IS-IS adjacency database. |
| **show fabricpath isis database** [*level*] [**mgroup**] [**detail** \| **summary**] [*lid*] {**zero-seq** \| **router-id** \| **adjacency**}[*SID.XX-XX*] | Displays the FabricPath Layer 2 IS-IS database. |
| **show fabricpath isis hostname** [**detail**} | Displays the FabricPath Layer 2 IS-IS dynamic hostname exchange information. |
| **show fabricpath isis interface** [**ethernet** *mod/slot* \| **port-channel** *channel-number*] [**brief**] | Displays the FabricPath Layer 2 IS-IS related interface information. |
| **show fabricpath isis route** [**summary** \| **detail**] | Displays the FabricPath Layer 2 IS-IS routing table for unicast routes. |
| **show fabricpath isis spf-log** [**detail**] | Displays the FabricPath Layer 2 IS-IS SPF calculation statistics. |
| **show fabricpath isis** [**statistics**] | Displays the FabricPath Layer 2 IS-IS event counters. |
| **show fabricpath isis ftag** [**multidestination** *tree_id*] | Displays the FTag values associated with the trees in the topology. |
| **show fabricpath isis vlan-range** | Displays the congruent VLAN-set to topology mapping. |
| **show fabricpath isis trees** [**multidestination** *tree_id*] | Displays the nodes in the trees. |
| **show fabricpath isis switch-id** | Displays the switch IDs and reachability information for the topology. |
| **show fabricpath isis ip redistribute mroute** [**vlan** [**group** [**source**]]] | Displays the locally learned multicast routes. |

| Command | Purpose |
|---|---|
| **show fabricpath isis ip mroute** [**vlan** *vlan-id* [**group** *group-id* [**source** *source-id*]]] | Displays the multicast routes learned from neighbors. |
| **show fabricpath isis** [**protocol**] | Displays the FabricPath Layer 2 IS-IS process level information. |
| **show fabricpath isis rrm** [**gm**] **interface** {**ethernet** *mod/slot* \| **port-channel** *channel-number*} | Displays the FabricPath Layer 2 IS-IS retransmit-routing-message information. |
| **show fabricpath isis srm** [**gm**] **interface** {**ethernet** *mod/slot* \| **port-channel** *channel-number*} | Displays the FabricPath Layer 2 IS-IS send-routing-message information. |
| **show fabricpath isis topology summary** | Displays the FabricPath Layer 2 IS-IS topology database. |
| **show fabricpath isis traffic** [**interface** {**ethernet** *mod/slot* \| **port-channel** *channel-number*}] | Displays the FabricPath Layer 2 IS-IS traffic information. |
| **show fabricpath isis ssn** [**gm**] **interface** {**ethernet** *mod/slot* \| **port-channel** *channel-number*} | Displays the FabricPath Layer 2 IS-IS send-sequence-number information. |

# Feature History for Configuring FabricPath Advanced Features Using the CLI

Table 5-1 lists the release history for these features.

*Table 5-1 Feature History for FabricPath*

| Feature Name | Releases | Feature Information |
|---|---|---|
| FabricPath | 5.1(1) | These features were introduced. |