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 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 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 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 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

auth-key-chain-name	Authentication keychain. The maximum size is 63 alphanumeric characters.

Command Default

None

Command Modes

Interface configuration mode

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 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.

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)#
```

Related Commands

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 configuration mode

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

seconds	CSNP interval value. The range is from 1 to 65535.

Command Default

10 seconds

Command Modes

Interface 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 a CSNP interval value:

```
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)#
```

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

seconds	Hello interval value. The range is from 1 to 65535.

Command Default

10 seconds

Command Modes

Interface 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 a hello interval in seconds:

```
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)#
```

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

multiplier	Hello interval value. The range is from 3 to 1000.

Command Default

The default value is 3.

Command Modes

Interface configuration mode

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 set a hello interval in seconds:

```
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)#
```

Related Commands

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 configuration mode

Command History

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:

```
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)#
```

Related Commands

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

fabricpath isis lsp-interval

To set a transmisssion 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

msec	LSP transmission interval in milliseconds. The range is from 10 to 65535.

Command Default

33 milliseconds

Command Modes

Interface 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 an LSP transmission interval:

```
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)#
```

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

metric	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 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 metrics for each interface:

```
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)#
```

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

seconds	Interval between retransmissions of the same LSP in seconds. The range is from 1 to 65535.

Command Default

5 seconds

Command Modes

Interface 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 an interval between initial LSP retransmissions for a P2P interface:

```
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)#
```

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

seconds	Interval between retransmissions of the same LSP, in seconds. The range is from 20 to 65535.

Command Default

66 milliseconds

Command Modes

Interface 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 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

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 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 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 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

switch-id	FabricPath switch ID. The range is from 1 to 4094.

Command Default

None

Command Modes

Global configuration mode

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)#
```

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

switch-id	FabricPath switch ID. The range is from 1 to 4094.

Command Default

None

Command Modes

vPC domain configuration mode

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.
sec	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 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 delay for a new switch ID to be propagated throughout the network before that value becomes available and permanent:

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

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:

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

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

To configure a FabricPath topology, use the **fabricpath topology** 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 *topology_number*

no fabricpath topology [*topology_number*]

Syntax Description

topology_number	Topology ID. The range is from 1 to 63.

Command Default

None

Command Modes

Interface 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 FabricPath topology:

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

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.