Cisco Dynamic Fabric Automation Command Reference

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

CONTENTS

A through M

aaa group server radius

To create a RADIUS server group and enter RADIUS server group configuration mode, use the **aaa group server radius** command in global configuration mode. To delete a RADIUS server group, use the **no** form of this command.

aaa group server radius *group-name*

no aaa group server radius *group-name*

Syntax Description

group-name	RADIUS server group name. The name is alphanumeric and case-sensitive. The maximum length is 64 characters.

Command Default

A RADIUS server group is not configured.

Command Modes

Global configuration (config)

Command History

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

Examples

The following example shows how to create a RADIUS server group and enter RADIUS server configuration mode:

```
Device# configure terminal
Device(config)# aaa group server radius RadServer
Device(config-radius)#
```

The following example shows how to delete a RADIUS server group:

```
Device# configure terminal
Device(config)# no aaa group server radius RadServer
```

address-family

To configure multicast VPN (MVPN) for IPv4 or IPv6, use the **address-family** command in router configuration mode or neighbor configuration mode. To disable MVPN configuration, use the **no** form of this command.

address-family {**ipv4 | ipv6**} **mvpn**

no address-family {**ipv4 | ipv6**} **mvpn**

Syntax Description

ipv4	Configures the IPv4 address-family.
ipv6	Configures the IPv6 address-family.
mvpn	Configures Multicast VPN .

Command Default

No MVPN provisioning support is enabled.

Command Modes

Router configuration (config-router)

Neighbor configuration (config-router-neighbor)

Command History

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

Usage Guidelines

This command places the router in address family configuration mode (prompt: config-router-af), from which you can configure routing sessions that support Multicast VPN provisioning for IPv4 or IPv6.

Examples

The following example shows how to configure multicast VPN for IPv4:

```
Device> enable
Device# configure terminal
Device(config)# router bgp 100
Device(config-router)# address-family ipv4 mvpn
Device(config-router-af)# exit
```

The following example shows how to configure multicast VPN for IPv6:

```
Device> enable
Device# configure terminal
Device(config)# router bgp 100
Device(config-router)# address-family ipv6 mvpn
Device(config-router-af)# exit
```

aggregate-address

To create a summary address in a Border Gateway Protocol (BGP) routing table, use the **aggregate-address** command. To remove the summary address, use the **no** form of this command.

aggregate-address *address/length* [**advertise-map** *map-name*][**as-set**][**attribute-map** *map-name*][**summary-only**][**suppress-map** *map-name*]

no aggregate-address *address/length* [**advertise-map** *map-name*][**as-set**][**attribute-map** *map-name*][**summary-only**][**suppress-map** *map-name*]

Syntax Description

address/length	Specifies aggregate IP address and mask length. Valid values for length are as follows: • IPv4 addresses from1 to 32 • IPv6 addresses from 1 to 128
advertise-map *map-name*	(Optional) Specifies the name of the route map used to select attribute information from specific routes.
as-set	(Optional) Generates the autonomous system set path information and community information from the contributing paths.
attribute-map *map-name*	(Optional) Specifies the name of the route map used to set the attribute information for specific routes. The map-name is an alphanumeric string up to 63 characters.
summary-only	(Optional) Filters all more-specific routes from updates.
suppress-map *map-name*	(Optional) Specifies the name of the route map used to conditionally filter more specific routes. The map-name is an alphanumeric string up to 63 characters.

Command Default

The atomic aggregate attribute is set automatically when an aggregate route is created with this command unless the **as-set** keyword is specified.

Command Modes

Address-family configuration mode

Neighbor address-family configuration mode

Router BGP configuration mode

Command History

Release	Modification
- -	This command was introduced in an earlier Cisco NX-OS release.

Usage Guidelines

You can implement aggregate routing in BGP and mBGP either by redistributing an aggregate route into BGP or mBGP, or by using the conditional aggregate routing feature.

Using the **aggregate-address** command with no keywords will create an aggregate entry in the BGP or mBGP routing table if any more-specific BGP or mBGP routes are available that fall within the specified range. (A longer prefix which matches the aggregate must exist in the RIB.) The aggregate route will be advertised as coming from your autonomous system and will have the atomic aggregate attribute set to show that information might be missing. (By default, the atomic aggregate attribute is set unless you specify the **as-set** keyword.)

Using the **as-set** keyword creates an aggregate entry using the same rules that the command follows without this keyword, but the path advertised for this route will be an AS_SET consisting of all elements contained in all paths that are being summarized. Do not use this form of the **aggregate-address** command when aggregating many paths, because this route must be continually withdrawn and updated as autonomous system path reachability information for the summarized routes changes.

Using the **summary-only** keyword not only creates the aggregate route (for example, 192.*.*.*) but also suppresses advertisements of more-specific routes to all neighbors. If you want to suppress only advertisements to certain neighbors, you may use the **neighbor distribute-list** command, with caution. If a more-specific route leaks out, all BGP or mBGP routers will prefer that route over the less-specific aggregate you are generating (using longest-match routing).

Using the **suppress-map** keyword creates the aggregate route but suppresses advertisement of specified routes. You can use the match clauses of route maps to selectively suppress some more-specific routes of the aggregate and leave others unsuppressed. IP access lists and autonomous system path access lists match clauses are supported.

Using the **advertise-map** keyword selects specific routes that will be used to build different components of the aggregate route, such as AS_SET or community. This form of the **aggregate-address** command is useful when the components of an aggregate are in separate autonomous systems and you want to create an aggregate with AS_SET, and advertise it back to some of the same autonomous systems. You must remember to omit the specific autonomous system numbers from the AS_SET to prevent the aggregate from being dropped by the BGP loop detection mechanism at the receiving router. IP access lists and autonomous system path access lists match clauses are supported.
Using the **attribute-map** keyword allows attributes of the aggregate route to be changed. This form of the **aggregate-address** command is useful when one of the routes forming the AS_SET is configured with an attribute such as the community no-export attribute, which would prevent the aggregate route from being exported. An attribute map route map can be created to change the aggregate attributes.

This command requires the Enterprise Services license.

Examples

AS-Set Example

In This example, an aggregate BGP address is created in router configuration mode. The path advertised for this route will be an AS_SET consisting of all elements contained in all paths that are being summarized.

```
Device(config)# router bgp 64496
Device(config-router)# aggregate-address 10.0.0.0 255.0.0.0 as-set
```

Summary-Only Example

In This example, an aggregate BGP address is created in address family configuration mode and applied to the multicast database (SAFI) under the IP Version 4 address family. Because the **summary-only** keyword is configured, more-specific routes are filtered from updates.

```
Device(config)# router bgp 64496
Device(config-router)# address-family ipv4 multicast
Device(config-router-af)# aggregate-address 10.0.0.0 255.0.0.0 summary-only
```

Conditional Aggregation Example

In This example, a route map called MAP-ONE is created to match on an as-path access list. The path advertised for this route will be an AS_SET consisting of elements contained in paths that are matched in the route map.

```
Device(config)# ip as-path access-list 1 deny ^1234_
Device(config)# ip as-path access-list 1 permit .*
Device(config)# !
Device(config)# route-map MAP-ONE
Device(config-route-map)# match ip as-path 1
Device(config-route-map)# exit
Device(config)# router bgp 64496
Device(config-router)# address-family ipv4
Device(config-router-af)# aggregate-address 10.0.0.0 255.0.0.0 as-set advertise-map MAP-ONE
Device(config-router-af)# end
```

apply profile

To apply a configuration profile to configure hosts, use the **apply profile** command in global configuration mode. To remove the configuration profile use the **no** form of this command.

apply profile *profile-name* [**include-instance** *include-instance*] [**param-instance** *instance-name*]

no apply profile *profile-name* [**include-instance** *include-instance*] [**param-instance** *instance-name*]

Syntax Description

profile-name	Name of the profile that is created using the **configure profile** command.
include-instance *include-instance*	(Optional) Specifies the include instance name.
param-instance *instance-name*	(Optional) Specifies the parameter instance name.

Command Default

The port profile is not applied.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Configuration profiles provide an infrastructure to configure hosts based on a set of user-defined templates. You can define different templates for different types of hosts and enable them appropriately based on an event, such as host discovery. You can apply different profiles to different hosts and apply different values for the configuration for different hosts.

Use the **apply profile** command to apply a configuration profile on a host.

Use the **configure profile** command to create a configuration profile and add a parameter list and a parameter-list instance. You can either create one parameterized profile for each host or create one profile with parameterized argument and apply it with host-specific arguments. The parameter-list instance provides the actual values that are added in the configuration profile before the profile is applied. The parameter name in the instance must match the parameter name in the profile.

Examples

The following example shows how to create a configuration profile and apply it to a host instance, named HOST-1, to expand the profile and configure a new host:

```
Device(config)# configure profile sample
Device(conf-profile)# vlan $vlanId
Device(conf-profile-vlan)# vn-segment $segmentId
Device(conf-profile-vlan)# interface vlan $vlanId
```

```
Device(conf-profile-if-verify)# ip address $ipv4addr/$netmask1
Device(conf-profile-if-verify)# ipv6 address $ipv6addr/$netmask2
Device(conf-profile-if-verify)# ip access-group $aclnum out
Device(conf-profile-if-verify)# configure terminal
Device(config)# apply profile sample param-instance HOST-1
Device(config)# end
```

Related Commands

Command	Description
configure profile	Configures a profile.

autodiscovery bgp signaling ldp

To enable autodiscovery using Label Distribution Protocol (LDP) in a Layer 2 virtual forwarding interface (VFI), use the **autodiscovery bgp signaling ldp** command in L2 VFI configuration mode. To disable autodiscovery, use the **no** form of this command.

autodiscovery bgp signaling ldp

no autodiscovery bgp signaling ldp

This command has no arguments or keywords.

Command Default

Layer 2 VFI autodiscovery is disabled.

Command Modes

L2 VFI configuration (config-vfi)

Command History

Release	Modification
- -	This command was introduced in an earlier Cisco NX-OS release.

Examples

The following example shows how to enable Layer 2 VFI as having BGP autodiscovered pseudowire members and specify that LDP signaling should be used for autodiscovery:

```
Device(config)# l2vpn vfi context vfi1
Device(config-vfi)# vpn id 100
Device(config-vfi)# autodiscovery bgp signaling ldp
Device(config-vfi-autodiscovery)#
```

boot poap

To reboot a device and apply the changes after you configure the device or install a new image, use the **boot poap** command in global configuration mode. To avoid rebooting the device, use the **no** form of this command.

boot poap [**enable**]

no boot poap

Syntax Description

enable	(Optional) Enables the boot POAP (Power On Auto Provisioning) functionality.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Rebooting the device is required in the following situations:

- If the configuration is supported only on the new image.
- If you configure the device after rebooting it.

You can avoid rebooting the device in the following situations:

- If there is no change in the image or in the configuration of device.
- If you want to apply only specific configuration updates on the device.

Examples

This example shows how to reboot a device after configuring the device or installing a new image:

```
Device# configure terminal
Device(config)# boot poap enable
```

Related Commands

Command	Description
copy scheduled-config	Configures a file that contains CLI commands and applies on the next reboot of the device.

bridge-domain

To enter bridge-domain configuration mode and configure a bridge domain, use the **bridge-domain** command. To remove the bridge-domain configurations, use the **no** form of this command.

bridge-domain *domain-id*

no bridge-domain *domain-id*

Syntax Description

domain-id	Specifies the Bridge-domain ID. The range is defined by the system-bridge-domain configuration.

Command Default

None

Command Modes

Global configuration mode

Command History

Release	Modification
- -	This command was introduced in an earlier Cisco NX-OS release.

Usage Guidelines

Removing the bridge-domain configuration does not remove the underlying VLAN. If a VLAN is associated with a bridge domain, you cannot remove the VLAN without first removing the bridge domain. To remove the underlying VLAN, use the no vlan command after you remove the bridge domain. This command requires the MPLS Services license.

Examples

This example shows how to enter bridge-domain configuration mode and configure a bridge domain:

```
Device# configure terminal
Device(config)# bridge-domain 200
Device(config)#
```

checkpoint

To configure the rollback checkpoint, use the **checkpoint** command. To delete the checkpoint, use the **no** form of this command.

checkpoint {*name* | **description** *description* | **file** *name*}

no checkpoint

Syntax Description

name	Specifies the checkpoint name that is used in the checkpoint database. The name can contain any alphanumeric string up to 80 characters, without any spaces.
description *description*	Specifies the checkpoint description. The description can contain up to 80 alphanumeric characters, including space.
file *name*	Specifies the filename that is used to save the checkpoint.

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
--	This command was introduced in an earlier Cisco NX-OS release.

Usage Guidelines

If you use the **checkpoint** command without a name, Cisco NX-OS software creates the file with the name auto-x, where x is a decimal number that increments each time you create an unnamed checkpoint file.

This command does not require a license.

Examples

This example shows how to configure the rollback checkpoint:

```
Device# checkpoint stable
```

This example shows how to delete the checkpoint file:

```
Device# no checkpoint
```

clear evb

To clear information associated with Edge Virtual Bridging (EVB), use the **clear evb** command in global configuration mode.

clear evb {**hosts**| **vsi**} **[force-standby]** [**interface ethernet** *slot-number*] [**ip** *ipv4-address*] [**ipv6** *ipv6-address*] [**mac** *mac-address*] [**vlan** *vlan-id*] [**vni** *vni-id*]

Syntax Description

hosts	Clears information about hosts in an EVB session.
vsi	Clears information about the Virtual Station Interface (VSI) in an EVB session.
force-standby	(Optional) Forces to clear standby entries in an EVB session.
interface ethernet *slot-number*	(Optional) Clears hosts or VSI entries by filtering interface.
ip *ipv4-address*	(Optional) Clears information about hosts or the VSI by filtering the IPv4 address.
ipv6 *ipv6-address*	(Optional) Clears information about hosts or the VSI by filtering the IPv6 address.
mac *mac-address*	(Optional) Clears information about hosts or the VSI by filtering the MAC address.
vlan *vlan-id*	(Optional) Clears information about hosts or the VSI by filtering the VLAN.
vni *vni-id*	(Optional) Clears information about hosts or the VSI by filtering the Virtual Network Identifier (VNI).

Command Default

None

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Use the **feature evb** command to enable the EVB session.

Examples

This example shows how to clear information associated with an EVB session:

```
Device(config)# feature evb
Device(config)# clear evb hosts ip 192.0.2.1
```

Related Commands

Command	Description
feature evb	Enables the EVB session on a device.
clear evb statistics	Clears Edge Virtual Bridge (EVB) statistic counters.

clear evb statistics

To clear Edge Virtual Bridge (EVB) statistic counters, use the **clear evb statistics** command in global configuration mode.

clear evb statistics

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Use the **feature evb** command to enable the EVB session. This command does not require a license.

Examples

This example shows how to clear an EVB statistic counter:

```
Device(config)# feature evb
Device(config)# clear evb statistics
```

Related Commands

Command	Description
clear evb	Clears information associated with Edge Virtual Bridging (EVB).
feature evb	Enables the EVB session on a device.

clear fabric access

To clear specific user sessions and disconnect specific user from the Extensible Messaging and Presence Protocol (XMPP) server, or to clear fabric access statistics, use the **clear fabric access** command in privileged EXEC mode.

clear fabric access {**statistics** | **user** *username*}

Syntax Description

statistics	Clears user statistics such as ping parameters.
user *username*	Clears the specified user connection.

Command Default

No statistics are cleared, and no session is cleared.

Command Modes

Privileged EXEC (#)

Command History

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

Examples

The following example show how to clear access statistics of the XMPP server:

```
Device# clear fabric access statistics
```

The following example show how to clear specific user sessions and disconnect a user specified as "spines":

```
Device# clear fabric access user spines
```

Related Commands

Command	Description
fabric access attach device	Attaches a remote device in the fabric network to an XMPP server.
fabric access attach group	Attaches a group of devices in the fabric network to an XMPP server.
fabric access create group	Creates one or more groups of devices on the fabric access network using the XMPP server.

clear fabric connectivity cable-plan

To clear the current cable plan, use the **clear fabric connectivity cable-plan** command in privileged EXEC mode.

clear fabric connectivity cable-plan

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
6.0(2)N3(1)	This command was introduced.

Usage Guidelines

Before you import a new cable plan, use this command to clear the existing one.

To clear a cable plan that is already saved to the startup configuration, specify this command and then configure the **copy running-config startup-config** command.

Examples

The following example shows how to clear an existing cable plan:

```
Device(config)# feature lldp
Device(config)# feature cable-management
Device(config)# exit
Device# fabric connectivity cable-plan import bootflash:cp.xml

Success: Imported cable-plan:  /bootflash/cp.xml
Device# clear fabric connectivity cable-plan
```

clear fabric connectivity neighbors

To clear all information about neighbors or subset of neighbors from the neighbor cache, use the **clear fabric connectivity neighbors** command in privileged EXEC mode.

clear fabric connectivity neighbors [**interface** {**ethernet** *slot-number/port-number* | **mgmt** *interface-number*}| **stale**]

Syntax Description

interface	(Optional) Clears cache of neighbors connected to an interface.
ethernet	(Optional) Specifies the Ethernet interface.
slot-number/port-number	(Optional) Slot number and port number.
mgmt *interface-number*	(Optional) Specifies the management interface and the interface number.
stale	(Optional) Clears neighbor cache information for stale or purged neighbors.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

Use this command to delete a single entry, all entries, or all error entries from the network neighbor cache. You should manually clear an already secured port in the neighbor cache if recabling is desired to immediately remove old or stale entries. If you have a switch that was previously in the network but has since gone stale (because it was removed or taken down), the only way to completely remove it from the neighbor cache is by using this command. You have to enable the cable management feature using the **feature cable-management** command to be able to use the **clear fabric connectivity neighbors** command.

Examples

The following example shows how to clear neighbor cache from the Ethernet interface:

```
Device# clear fabric connectivity neighbors interface ethernet 1/1
```

Related Commands

Command	Description
errdisable recovery cause	Enables automatic recovery of an application from an error-disabled state.
fabric connectivity cable-plan import	Imports a cable plan from a local or a remote location.

Command	Description
fabric connectivity mismatch action delay	Delays the port error-disable action on detecting cabling errors for a specified time.
fabric connectivity tier	Configures the tier level of a device.

clear fabric database statistics

To clear the external database statistics such as number of messages sent or received, pending requests, access errors, and access timeouts, use the **clear fabric database statistics** command in privileged EXEC mode.

Using LDAP or RADIUS

clear fabric database statistics [**type** {**network | cabling | profile**} [**server-proto** {**ldap | radius**} {**host** *hostname* | **ip** *ip-address*} [**port** *port-number*]]]

Using XMPP

clear fabric database statistics [**type** {**network | cabling | profile**} [**server-proto xmpp** {**host** *hostname* | **ip** *ip-address*} [**port** *port-number*] **db-jid** *jid*]]

Syntax Description

type	(Optional) Specifies the type of database.
network	(Optional) Specifies a network database.
cabling	(Optional) Specifies a cable management database.
profile	(Optional) Specifies a port or switch profile database.
server-proto	(Optional) Specifies a database protocol.
ldap	(Optional) Specifies the use of Lightweight Directory Access Protocol (LDAP).
radius	(Optional) Specifies the use of RADIUS.
xmpp	(Optional) Specifies the use of Extensible Messaging and Presence Protocol (XMPP).
host *hostname*	(Optional) Specifies the hostname of the server.
ip *ip-address*	(Optional) Specifies the IP address of the server.
port *port-number*	(Optional) Specifies the port number of the server.
db-jid *jid*	(Optional) Specifies the Jabber ID of the database.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

The **clear fabric database statistics** command is used to reset the database statistics counters to zero. But this command does not delete existing statistics memory. You can use the **show fabric database statistics** command to display per-server statistics including number of messages sent or received, pending requests, access errors, and timeouts.

Examples

The following example shows how to clear the database statistics of Jabber ID db@domain.com from the XMPP server:

```
Device# clear fabric database statistics type asset server-proto xmpp db-jid db@domain.com
```

Related Commands

Command	Description
show fabric database statistics	Displays fabric database statistics.

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** *session-handle*] | **session** *session-handle* | **statistics** [**session** *session-handle* | **summary**]}

Syntax Description

database	Clears information about FabricPath OAM loopback database.
session *session-handle*	Clears information about the FabricPath OAM loopback for a specific session.
statistics	Clears information about FabricPath OAM loopback statistics.
summary	Clears summary information about fabricpath OAM loopback statistics.

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

The following example shows how to clear the FabricPath OAM loopback statistics.

```
Device# clear fabricpath oam loopback statistics
```

Related Commands

Command	Description
show fabricpath oam loopback	Shows statistics for FabricPath OAM loopback.

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** *session-handle*] | **statistics** [**summary**]}

Syntax Description

database	Clears information about the FabricPath OAM mtrace database.
session *session-handle*	(Optional) Clears information about the FabricPath OAM mtrace for a specific session.
statistics	Clears FabricPath OAM mtrace statistics.
summary	(Optional) Clears FabricPath OAM mtrace statistics summary.

Command Modes

Privileged EXEC (#)

Command History

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

Examples

The following example shows how to clear the FabricPath OAM mtrace statistics command.

```
Device# clear fabricpath OAM mtrace statistics
```

Related Commands

Command	Description
show fabricpath oam mtrace	Shows statistics for fabricpath OAM mtrace.

clear fabripath oam notification

To clear information about FabricPath Operation, Administration, and Maintenance (OAM) notification, 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.

Examples

The following example shows how to clear the FabricPath OAM notification statistics command.

```
Device(#) clear fabricpath OAM notification statistics
```

Related Commands

Command	Description
show fabricpath oam notification	Shows information about for FabricPath OAM notification.

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** *session-handle*] | **statistics** [**summary**]}

Syntax Description

database	Clears information about FabricPath OAM traceroute database.
session *session-handle*	(Optional) Clears information about for FabricPath OAM traceroute for a specific session.
statistics	Clears FabricPath OAM traceroute statistics.
summary	(Optional) Clears FabricPath OAM traceroute statistics summary.

Command Modes

Privileged EXEC (#)

Command History

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

Examples

The following example shows how to clear the FabricPath OAM traceroute statistics command.

```
Device# clear fabricpath OAM traceroute statistics
```

Related Commands

Command	Description
show fabric oam traceroute	Shows statistics for FabricPath OAM traceroute.

configure profile

To configure a profile, use the **configure profile** command in privileged EXEC mode. To remove a configured profile, use the **no** form of this command.

configure profile *profile-name*

no configure profile *profile-name*

Syntax Description

profile-name	Name of the profile to be configured.

Command Default

A profile is not configured.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
6.0(2)N3(1)	This command was introduced.

Usage Guidelines

You can specify a maximum of 80 characters for the *profile-name* argument. Once you configure a profile name, this profile is available in the list of profiles that can be used to configure profile parameters. Use the **show running-config** command to display all configured profiles and their parameters.

When you configure a profile, the command mode changes to configuration profile mode. You can configure profile parameters into a template in the configuration profile mode.

Use the **show config-profile** command to view the list of configured profiles.

Examples

The following example shows how to configure a profile named pname:

```
Device# configure profile pname
Device(config-profile)#
```

The following example shows how to configure profile parameters in the configuration profile mode:

```
Device# configure profile sample
Device(config-profile)# vrf context sample-vrf
Device(config-profile-vrf)# end
```

copy scheduled-config

To configure a file containing CLI commands that you want to apply on the next reboot of the device, use the **copy scheduled-config** command in any command mode.

copy *filename* **scheduled-config**

Syntax Description

filename	Name of the configuration file .
scheduled-config	Specifies the schedule of the configuration at the specified source to apply on the next reboot of the device.

Command Default

None

Command Modes

Any command mode

Supported User Roles

network-admin

vdc-admin

Command History

Release	Modification
--	This command was introduced in an earlier Cisco NX-OS release.

Usage Guidelines

The **copy scheduled-config** command specifies the schedule of the configuration at the specified source to apply on the next reboot of the device. This command must be called explicitly within the POAP (Power On Auto Provisioning) script to allow the POAP boot process to continue at the next reboot. When PowerOn Auto Provisioning (POAP) is in progress, any important information or errors are displayed over the serial console, aiding the administrator to troubleshoot in case of problems.

This command does not require a license.

Note This command is used in POAP script.

Examples

This example shows how to specify that the abc file to be applied to the running configuration when the device next reloads:

```
Device# configure terminal
Device(config)# copy abc scheduled-config
```

db-jid

To configure the Jabber ID of the database using Extensible Messaging and Presence Protocol (XMPP), use the **db-jid** command in fabric database server configuration mode. To remove the Jabber ID of the database, use the **no** form of this command.

db-jid *jid* [**key-type** *key-type-value*]

no db-jid *jid* [**key-type** *key-type-value*]

Syntax Description

jid	Jabber ID of the database.
key-type *key-type-value*	(Optional) Specifies the key type for the database queries. The valid value is 1.

Command Default

Jabber ID of the database is not configured.

Command Modes

Fabric database server configuration (config-fabric-db-server)

Command History

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

Usage Guidelines

You can specify the Jabber ID to which the database manager sends search queries by using the **db-jid** command.

Examples

The following example shows how to configure the Jabber ID db@domain.com using XMPP:

```
Device# configure
Device(config)# fabric database type asset
Device(config-fabric-db)# server protocol xmpp host host1
Device(config-fabric-db-server)# db-jid db@domain.com key-type 1
```

Related Commands

Command	Description
db-table	Configures a database table using LDAP.
user-jid	Configures the Jabber ID and password of the switch that is used to connect to the server.

db-security

To configure a database security, use the **db-security** command in fabric database server configuration mode.

db-table user *username* **password** *password*[**shared-secret** *name*]

no db-table user *username* **password** *password*[**shared-secret** *name*]

Syntax Description

user *username*	User ID.
password *password*	Password.
shared-secret *name*	Shared secret.

Command Default

The database security is not configured.

Command Modes

Fabric database server configuration (config-fabric-db-server)#

Command History

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

Usage Guidelines

You can specify the database security mechanism by using the **db-security** command.

Examples

```
device# configure
device(config)# fabric database type network
device(config-fabric-db)# server protocol ldap host host1
device(config-fabric-db-server)# db-table ou=networks,dc=host,dc=com key-type 1
device(config-fabric-db-server)# db-security user cn=admin,dc=cisco,dc=com password cisco123
```

Related Commands

Command	Description
db-jid	Configures the Jabber ID of the database using XMPP.
db-table	Configures a database table using LDAP.

db-table

To configure a database table using Lightweight Directory Access Protocol (LDAP), use the **db-table** command in fabric database server configuration mode. To remove the database table, use the **no** form of this command.

db-table *table-name* [**key-type** *key-type-value*]

no db-table *table-name* [**key-type** *key-type-value*]

Syntax Description

table-name	Name of the database table.
key-type *key-type-value*	(Optional) Specifies the key type for the database queries. The valid value is 1.

Command Default

The database table is not configured.

Command Modes

Fabric database server configuration (config-fabric-db-server)

Command History

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

Usage Guidelines

You can specify the database table name to which the database manager sends search queries by using the **db-table** command.

Examples

The following example shows how to configure a database table using LDAP:

```
Device# configure terminal
Device(config)# fabric database type network
Device(config-fabric-db)# server protocol ldap host host1
Device(config-fabric-db-server)# db-table ou=networks,dc=host,dc=com key-type 1
```

Related Commands

Command	Description
db-jid	Configures the Jabber ID of the database using XMPP.

debug evb

To enable debugging of events associated with an Edge Virtual Bridging (EVB) session, use the **debug evb** command in privileged EXEC mode. To disable debugging, use the **no** form of this command.

debug evb {**all** | **cli** | **errors** | **events** | **ha** | **periodic** | **pss** | **trace** | **verbose**}

no debug evb {**all** | **cli** | **errors** | **events** | **ha** | **periodic** | **pss** | **trace** | **verbose**}

Syntax Description

all	Enables debugging of all events in an EVB session.
cli	Enables debugging of CLI command processing events only.
errors	Enables debugging of only errors in an EVB session.
events	Enables debugging of only general events in an EVB session.
ha	Enables debugging of only High Availability (HA) related events in an EVB session.
periodic	Enables debugging of only periodic events in an EVB session.
pss	Enables debugging of only persistent storage service (PSS) related events in an EVB session.
trace	Enables debugging of detailed processing traces in an EVB session.
verbose	Enables debugging of verbose mode in an EVB session.

Command Default

Debugging of events in an EVB session is disabled.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

Use the **feature evb** command to enable the EVB session. This, in turn, enables the **debug evb** command on the device.

Examples

The following example shows how to enable debugging of detail processing traces in an EVB session:

```
Device# configure terminal
Device(config)# feature evb
Device(config)# end
Device# debug evb errors events
```

The following is sample output from the **show debug evb** command in an EVB session:

```
Device# show debug evb

Debugs Enabled: errors events
```

default-information originate

To configure a Border Gateway Protocol (BGP) routing process to distribute a default route (network 0.0.0.0), use the **default-information originate** command in address family configuration mode. To disable the advertisement of a default route, use the **no** form of this command.

default-information originate

no default-information originate

Syntax Description

This command has no arguments or keywords.

Command Modes

Address family configuration (config-router-af)

Command History

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

Usage Guidelines

The **default-information originate** command is used to configure a BGP routing process to advertise a default route (network 0.0.0.0). A redistribution statement must also be configured to complete this configuration or the default route will not be advertised.

Examples

The following example configuration shows how to originate and redistribute a default route (0.0.0.0/0) in BGP:

```
Device(config)# router bgp 100
Device(config-router)# address-family ipv4 unicast
Device(config-router-af)# default-information originate
Device(config-router-af)# end
```

Related Commands

Command	Description
address-family	Configures multicast VPN.

define

To create user-defined parameters for a parameter list, use the **define** command in parameter list configuration mode. To remove user-defined parameters from a parameter list, use the **no** form of this command.

define *parameter-name* [**integer**|**ipaddr**|**ipv6addr**|**mac-addr**|**string**] [*value*]

no define *parameter-name* [**integer**|**ipaddr**|**ipv6addr**|**mac-addr**|**string**] [*value*]

Syntax Description

parameter-name	Parameter name.
integer	(Optional). Specifies the data type as an integer.
ipaddr	(Optional). Specifies the address as an IPv4 address.
ipv6addr	(Optional). Specifies the address as an IPv6 address.
mac-addr	(Optional). Specifies the address as a MAC address.
string	(Optional). Specifies the data type as a string.
value	(Optional). Parameter data type or address type value or parameter description. • Use the *value* argument with the parameter name to describe the parameter. • Use the *value* argument with a data type or address type to assign a value.

Command Default

User-defined parameters are not created.

Command Modes

Parameter list configuration (config-param-list)

Command History

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

Usage Guidelines

User-defined parameters that you create using the **define** command are associated with a parameter list. A parameter list can be created using the **param-list** command.

You can use existing user-defined parameters and associate values (such as integer, IP address, and MAC address) to them.

Examples

The following example shows how to create a user-defined parameter param1 within the specified parameter list List1:

```
Device# configure terminal
Device(config)# param-list List1
Device(config-param-list)# define param1 integer 100
Device(config-param-list)# exit
```

Related Commands

Command	Description
instance	Configures a parameter list instance.

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

description	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

The following shows how to configure a description for a FabricPath OAM profile.

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

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.

dot1q (fabricpath-oam)

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

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

no dot1q

Syntax Description

vlan-id	Specifies the flow profile VLAN ID.
cos *service-value*	(Optional) Specifies the 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

The following example shows how to configure a FabricPath OAM flow profile and specify a 802.1Q tag.

```
Device(config)# fabricpath oam profile 100
Device (config-fp-oam-profile)# flow forward
Device (config-fp-oam-profile-flow)# dot1q 100 cos 5
```

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.
flow (fabricpath-oam)	Configures the direction FabricPath OAM flow entropy.

encapsulation dot1Q

To enable IEEE 802.1Q encapsulation of traffic on a specified subinterface in a virtual LAN (VLAN), use the **encapsulation dot1q** command. To disable encapsulation, use the **no** form of this command.

encapsulation dot1Q *vlan-id*

no encapsulation dot1Q *vlan-id*

Syntax Description

vlan-id	Specifies the VLAN to set when the interface is in access mode. The range is from 1 to 4094 except for the VLANs reserved for internal switch use.

Command Default

No encapsulation

Command Modes

Subinterface configuration mode

Command History

Release	Modification
- -	This command was introduced in an earlier Cisco NX-OS release.

Usage Guidelines

IEEE 802.1Q encapsulation is configurable on Ethernet interfaces. IEEE 802.1Q is a standard protocol for interconnecting multiple switches and routers and for defining VLAN topologies.

Use the **encapsulation dot1q** command in subinterface range configuration mode to apply a VLAN ID to the subinterface.

This command does not require a license.

Examples

This example shows how to enable dot1Q encapsulation on a subinterface for VLAN 30:

```
Device(config-if)# interface fastethernet 4/1.100
Device(config-subif)# encapsulation dot1q 30
```

errdisable detect cause

To enable error-disable (errdisable) detection for an application, use the **errdisable detect cause** command in global configuration mode. To disable error-disable detection, use the **no** form of this command.

errdisable detect cause {**acl-exception** | **all** | **link-flap** | **loopback** | **miscabling**}

no errdisable detect cause {**acl-exception** | **all** | **link-flap** | **loopback** | **miscabling**}

Syntax Description

acl-exception	Enables error-disabled detection for access-list installation failures.
all	Enables error-disabled detection for all causes.
link-flap	Enables error-disabled detection on link-state flapping.
loopback	Enables error-disabled detection on loopback detected by unidirectional link detection (UDLD).
miscabling	Enables error-disabled detection on a miscabled port.

Command Default

Error-disable detection is enabled.

Command Modes

Global configuration (config)

Command History

Release	Modification
—	This command was introduced in a release earlier than Cisco NX-OS Release 7.0(0)N1(1).
7.0(0)N1(1)	This command was modified. The **miscabling** keyword was added.

Examples

The following example shows how to disable error-disabled detection on a miscabled port:

```
Device# configure terminal
Device(config)# no errdisable detect cause miscabling
```

Related Commands

Command	Description
errdisable recovery cause	Enables automatic recovery of an application from an error-disabled state.

Command	Description
errdisable recovery interval	Configures the error disable recovery timer.
fabric connectivity cable-plan import	Imports a cable plan from a local or a remote location.
show interface status err-disabled	Displays information about interfaces that are in error-disabled state.

errdisable recovery cause

To enable automatic recovery of an application from an error-disabled (errdisable) state, use the **errdisable recovery cause** command in global configuration mode. To return to the default setting, use the **no** form of this command.

errdisable recovery cause{**all | bpduguard | failed-port-state | link-flap | loopback | miscabling | psecure-violation | security-violation | storm-control | udld | vpc-peerlink**}

errdisable recovery cause{**all | bpduguard | failed-port-state | link-flap | loopback | miscabling | psecure-violation | security-violation | storm-control | udld | vpc-peerlink**}

Syntax Description

all	Enables the timer to recover from all causes.
bpduguard	Enables the timer to recover from the bridge protocol data unit (BPDU) guard error disable state.
failed-port-state	Enables the timer to recover from the Spanning Tree Protocol (STP) set port state failure.
link-flap	Enables the timer to recover from link-state flapping.
loopback	Enables timer to recover from the loopback error disabled state detected by Unidirectional Link Detection (UDLD).
miscabling	Enables the timer to automatically recover miscabled ports from an error-disabled state.
psecure-violation	Enables the timer to recover from the psecure-violation disable state.
security-violation	Enables the timer to recover from the 802.1x violation disable state.
storm-control	Enables the timer to recover from the storm control error-disabled state.
udld	Enables the timer to recover from the UDLD error-disabled state.
vpc-peerlink	Enables the timer to recover from an inconsistent virtual port channel (vPC) peer-link error-disabled state.

Command Default

Automatic recovery of any application from an error-disabled state is disabled.

Command Modes

Global configuration (config)

Command History

Release	Modification
—	This command was introduced in a release earlier than Cisco NX-OS Release 7.0(0)N1(1).
7.0(0)N1(1)	This command was modified. The **miscabling** keyword was added.

Usage Guidelines

Use the **errdisable recovery cause** command to enable an automatic recovery of an application on the interface from an error-disabled state. This command tries to bring the interface out of the error-disabled state once all the causes have timed out. The interface automatically tries to come up again after 300 seconds. To change this interval, use the **errdisable recovery interval** command.

This command does not require a license.

Examples

This example shows how to automatically recover miscabled ports from an error-disabled state:

```
Device# configure terminal
Device(config)# errdisable recovery cause miscabling
```

Related Commands

Command	Description
errdisable detect cause	Enables error-disable detection for an application.
errdisable recovery interval	Configures the error disable recovery timer.
fabric connectivity cable-plan import	Imports a cable plan from a local or a remote location.
show interface status err-disabled	Displays information about interfaces that are in error-disabled state.

errdisable recovery interval

To configure the error disable recovery timer, use the **errdisable recovery interval** in global configuration mode. To remove this configuration, use the **no** form of this command.

errdisable recovery interval *interval*

no errdisable recovery interval

Syntax Description

interval	Timer interval in seconds. The range is from 30 to 65535.

Command Default

The default is 300 seconds.

Command Modes

Global configuration (config)

Command History

Release	Modification
—	This command was introduced in a release earlier than Cisco NX-OS Release 7.0(0)N1(1).

Usage Guidelines

Use the **errdisable recovery interval** command to configure the recovery timer. This command does not require a license.

Examples

This example shows how to configure the recovery timer:

```
Device# configure terminal
Device(config)# errdisable recovery interval 32
```

Related Commands

Command	Description
errdisable detect cause	Enables error-disable detection for an application.
errdisable recovery cause	Enables automatic recovery of an application from an error-disabled state.
fabric connectivity cable-plan import	Imports a cable plan from a local or a remote location.
show interface status err-disabled	Displays information about interfaces that are in error-disabled state.

ether-type (fabricpath-oam)

To configure the FabricPath Operation, Administration, and Maintenance (OAM) flow profile ether-type, 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

ether-type	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 configuration (config-fp-oam-profile)

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

The following shows how to configure a description for a FabricPath OAM profile.

```
Device(config)# fabricpath oam profile 100
Device (config-fp-oam-profile)# ether-type 0x8903
```

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.

evb mac

To configure the Virtual Station Interface (VSI) Discovery and Configuration Protocol (VDP) multicast MAC address for the Edge Virtual Bridge (EVB) feature on a device, use the **evb mac** command in global configuration mode. To return to the default, use the **no** form of this command.

evb mac *mac-address*

no evb mac *mac-address*

Syntax Description

mac-address	VDP multicast MAC address.

Command Default

The VDP multicast MAC address for EVB is not configured.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

To configure the device to use a VDP multicast MAC address, the EVB feature needs to be enabled globally on the device using the **feature evb** command.

Examples

This example shows how to configure a VDP multicast MAC address:

```
Device(config)# feature evb
Device(config)# evb mac 01-23-45-67-89-ab
```

Related Commands

Command	Description
feature evb	Enables the EVB session on a device.

evb reinit-keep-alive

To configure the Virtual Station Interface (VSI) Discovery and Configuration protocol (VDP) keepalive parameter for the Edge Virtual Bridging (EVB) feature on a device, use the **evb reinit-keep-alive** command in global configuration mode. To return to the default, use the **no** form of this command.

evb reinit-keep-alive *timer*

no evb reinit-keep-alive *timer*

Syntax Description

timer	Timer exponent to calculate the keepalive time in seconds. The range is from 20 to 31.

Command Default

The default reinit-keep-alive timer exponent is 22.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Use the **feature evb** command to enable the EVB feature globally on the device before configuring the keepalive parameter. After a VDP request is successful, a refresh request is expected within the keep-alive time. If the refresh request is not received within the keepalive time, device revokes the configuration changes. You must configure the correct reinit-keepalive EVB parameter to align with the network scale as each virtual machine contributes a refresh message as per the keepalive time.

Examples

The following examples shows how to configure the keepalive parameter for EVB:

```
Device(config)# feature evb
Device(config)# evb reinit-keep-alive 21
```

Related Commands

Command	Description
evb resource-wait-delay	Configures the resource wait delay parameter for EVB.
feature evb	Enables the EVB session on a device.

evb resource-wait-delay

To configure the Virtual Station Interface (VSI) Discovery and Configuration protocol (VDP) resource wait delay parameter for the Edge Virtual Bridge (EVB) feature on a device, use the **evb resource-wait-delay** command in global configuration mode. To return to the default, use the **no** form of this command.

evb resource-wait-delay *timer*

no evb resource-wait-delay *timer*

Syntax Description

timer	Timer exponent to calculate the actual delay in seconds. The range is from 20 to 31.

Command Default

The default resource wait delay timer exponent is 20.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Use the **feature evb** command to enable the EVB feature globally on the device before configuring the resource wait delay parameter.

When a VDP request is received, a series of configuration changes are triggered on the device. The resource-wait-delay parameter indicates the maximum waiting time for a device to complete the configuration change. If the change is not completed within the wait delay parameter, then the VDP request fails. You can configure the resource-wait-delay EVB parameter to align with specific configuration scale and requirement.

Examples

The following example shows how to configure the VDP resource wait delay parameter:

```
Device(config)# feature evb
Device(config)# evb resource-wait-delay 25
```

Related Commands

Command	Description
evb reinit-keep-alive	Configures the keepalive parameter for EVB.
feature evb	Enables the EVB session on a device.

fabric access attach device

To attach a remote device in the fabric network to an Extensible Messaging and Presence Protocol (XMPP) server, use the **fabric access attach device** command in privileged EXEC mode.

fabric access attach device *device-name*

Syntax Description

device-name	Name of the remote device in the fabric network.

Command Default

The remote device is not attached.

Command Modes

Privileged EXEC (#)

Command History

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

Examples

The following example shows how to attach a remote device to the XMPP server:

```
Device# fabric access attach device device1
```

Related Commands

Command	Description
clear fabric access	Clears specific user sessions and disconnect a specific user from the XMPP server, or clears fabric access statistics.
fabric access attach group	Attaches a group of devices in the fabric network to an XMPP server.
fabric access create group	Creates one or more groups of devices on the fabric access network using the XMPP server.

fabric access attach group

To attach a group of devices in the fabric network to an Extensible Messaging and Presence Protocol (XMPP) server, use the **fabric access attach group** command in privileged EXEC mode.

fabric access attach group *group-name*

Syntax Description

group-name	Name of the group of devices.

Command Default

The group of devices in the fabric network is not attached to the XMPP server.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

A group may consist of only one device.

Examples

The following example shows how to attach a group of devices to the fabric network though the XMPP server:

```
Device# fabric access attach group group1
```

Related Commands

Command	Description
clear fabric access	Clears specific user sessions and disconnect a specific user from the XMPP server, or clears fabric access statistics.
fabric access attach device	Attaches a remote device in the fabric network to an XMPP server.
fabric access attach group	Attaches a group of devices in the fabric network to an XMPP server.
fabric access create group	Creates one or more groups of devices on the fabric access network using the XMPP server.

fabric access create group

To create one or more groups of devices on the fabric access network using the Extensible Messaging and Presence Protocol (XMPP) server, use the **fabric access create group** command in privileged EXEC mode. To remove one or more groups of devices from the fabric access network, use the **no** form of this command.

fabric access create group *group-name1* [*group-name2, group-name3...*]

no fabric access create group *group-name1* [*group-name2, group-name3...*]

Syntax Description

group-name1	Name of the group of devices.
[*group-name2, group-name3...*]	[Optional] Names of additional groups.

Command Default

A fabric access group is not created.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

A group may consist of only one device.

Examples

The following example shows how to create a group on the fabric access network using the XMPP server:

```
Device# fabric access create group group1
```

Related Commands

Command	Description
clear fabric access	Clears specific user sessions and disconnect a specific user from the XMPP server, or clears fabric access statistics.
fabric access attach device	Attaches a remote device in the fabric network to an XMPP server.

fabric access group

To configure a group to which the switch needs to join or subscribe to in a fabric access network, use the **fabric access group** command in global configuration mode. To remove the switch from a group, use the **no** form of this command.

fabric access group *group-name-1* [*group-name-2, group-name-3*,...]

no fabric access group

Syntax Description

group-name-1	Name of the group to which the switch needs to join or subscribe to.
[*group-name-2, group-name-3, ...*]	(Optional) Name of the additional groups.

Command Default

A switch in a fabric access network is not joined to any group.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Switches do not join all the groups in a fabric access network by default. The **fabric access group** command should be configured on all or required switches across the network in order to enable the switches to join the specified group(s) in a network.

Examples

The following example shows how to configure a switch to subscribe to group “spines” and group “rr”:

```
Device(config)#  fabric access group spines rr
```

Related Commands

Command	Description
fabric access local-help	Gets the online command syntax help using the currently logged-in switch.
fabric access login	Logs in to a fabric access server.

fabric access local-help

To get the online command syntax help using the currently logged-in local switch instead of remote switches accessed via the fabric access group chat, use the **fabric access local-help** command in privileged EXEC mode. To disable the online help on the currently logged-in local switch, use the **no** form of this command.

fabric access local-help

no fabric access local-help

Syntax Description

This command has no arguments or keywords.

Command Default

Online help is not enabled for the currently logged-in local switch in the fabric access group chat mode.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

Online help can be used to find the available options after typing in a keyword. By default, online help is executed on the remote devices that generate several keyword options for each device in a network. To retrieve only those keywords related to the currently logged in device, the **fabric access local-help** command is used.

Examples

The following example shows how to enable the online-help option only for the currently logged-in local device in the fabric access group chat mode:

```
Device(config)# fabric access local-help
```

fabric access login

To log in to the fabric access server, use the **fabric access login** command in privileged EXEC mode. To log out of the server, use the **no** form of this command.

fabric access login *password*

no fabric access login

Syntax Description

password	Password for users to log in to the fabric access server. A password can contain any combination of alphanumeric characters.

Command Default

Users are not logged in to the fabric access server.

Command Modes

Privileged EXEC (#)

Command History

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

Examples

The following example shows how to log in to the fabric access server:

```
Device# fabric access login cisco123
```

Related Commands

Command	Description
fabric access local-help	Gets the online command syntax help using the currently logged-in switch.
fabric access group	Configures a group to which the switch needs to join or subscribe to in a fabric access network.

fabric access ping

To check the network reachability of the switch to the fabric access server and to enable the Extensible Messaging and Presence Protocol (XMPP) ping, use the **fabric access ping** command in global configuration mode. To disable the ping, use the **no** form of this command.

fabric access ping [**interval** *seconds* **response** *seconds* **retry** *time*]

no fabric access ping

Syntax Description

interval *seconds*	(Optional) Specifies the frequency of XMPP ping messages that are sent out. The default interval is 60 seconds. The range is from 30 to 180.
response *seconds*	(Optional) Specifies the expected time to receive a ping response from the fabric access server. The default response value is 10 seconds. The range is from 3 to 30.
retry *time*	(Optional) Specifies the number of ping messages that are sent without receiving a successful response from the fabric access server. The default retry value is 5. The range is from 1 to 5.

Command Default

The network connectivity of the fabric access server is not verified.

Command Modes

Global configuration (config)

Command History

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

Examples

The following example shows how to configure the switch to send XMPP ping message to the fabric access server at a 120-second interval, with a 20-second response time expectancy and with and three retries:

```
Device(config)# fabric access ping interval 120 response 20 retry 3
```

Related Commands

Command	Description
fabric access group	Configures a group to which the switch needs to join or subscribe to in a fabric access network.

fabric access prepend-id

To enable the display of the device ID in the response message of a remote device in the fabric access group chat, use the**fabric access prepend-id** command in global configuration mode. To remove the device ID in the response message, use the **no** form of this command.

fabric access prepend-id

no fabric access prepend-id

Syntax Description

This command has no arguments or keywords.

Command Default

The device ID of a remote device is not displayed in the response message.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

The **fabric access prepend-id** command enables the user to identify the device ID of a remote device from where the response was generated. This identification enables the local grep to find information about a specific device in a network using the device ID.

Examples

The following example shows how to enable the device ID being displayed in the response message of a remote device:

```
Device(config)# fabric access prepend-id
```

Related Commands

Command	Description
fabric access group	Configures a group to which the switch needs to join or subscribe to in a fabric access network.

fabric access send device

To send a command to a host device or a list of host devices without entering the fabric access group chat mode, use the **fabric access send device** command in privileged EXEC mode.

fabric access send device *device-jid1* [*device-jid2...device-jidn*] "*cli-command*"

Syntax Description

device-jid	The Jabber ID (JID) of the single peer device to be addressed. Multiple device JIDs (*device-jid2...device-jidn*) can also be specified.
"*cli-command*"	The command to be executed at the device(s) whose JID(s) are listed as the recipient(s) of this command. • The CLI command must be within quotation marks.

Command Default

A command is not sent to the host device.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

To ensure the remote device is in the correct mode to accept the command(s), start the message to be sent with an "**end**" keyword followed by a space, semicolon, and the command. If there are multiple commands to be sent, each command should be separated by a space and semicolon.

Examples

The following example shows how to send a command to a host device with the JID p3-ac13-64t to enable "**feature lldp**" on that device:

```
Device(config)# fabric access send device p3-ac13-64t "end; conf; feature lldp"
```

The following example shows how to send a command to "**show host name**" on a list of host devices with the JIDs p1-sp1-48p, p1-sp2-48p, and p3-ac13-64t:

```
Device(config)# fabric access send device p1-sp1-48p p1-sp2-48p p3-ac13-64t "show hostname"
```

Related Commands

Command	Description
fabric access send group	Sends a CLI command to a group of devices without entering fabric access group chat mode.

fabric access send group

To send a CLI command to a group of devices without entering fabric access group chat mode, use the **fabric access send group** command in EXEC mode.

fabric access send group *group-name "cli-command"*

Syntax Description

group-name	Name of the group in the fabric access network to which messages are sent.
"cli-command"	CLI command to be executed for a group of devices in a fabric access network. **Note** The CLI command must be within quotation marks.

Command Default

No command is sent.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

Use the **fabric access send group** command to send CLI commands to a group in a fabric access network without entering fabric access group chat mode.

Note You need to enable the fabric access feature to use the **fabric access send group** command. Use the **feature fabric access** command to enable fabric access on a device.

Examples

This example shows how to send CLI commands to a group with the group name “spines” in a fabric access network:

```
Device(config)# feature fabric access
Device(config)# exit
Device# fabric access send group spines "show hostname"
```

Related Commands

Command	Description
feature fabric access	Enables the fabric access feature for a fabric network.

Command	Description
fabric access send device	Sends a command to a host device or a list of host devices without entering the fabric access group chat mode.

fabric access server

To configure the fabric access server to be connected to from a device, use the **fabric access server** command in global configuration mode. To disconnect the device from the fabric access server, use the **no** form of this command.

fabric access server *dns-name* [**vrf** {*vrf-name*| **default** | **management**}] [**device** *device-name*] [**password** *password-name*]

no fabric access server

Syntax Description

dns-name	Fabric network server domain name.
vrf	(Optional) Configures virtual routing and forwarding (VRF) information for a fabric access server.
vrf-name	(Optional) Name of the VRF.
default	(Optional) Configures the default VRF name.
management	(Optional) Configures the management VRF name.
device	(Optional) Configures the device in the fabric network.
device-name	(Optional) Name of the device to be configured in the fabric network.
password	(Optional) Configures the password for a device in the fabric network.
password-name	(Optional) Password for the device.

Command Default

A fabric access server is not configured in a fabric network.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Use the **fabric access server** command to configure the fabric access server to be connected from the device that needs to be added to the fabric network. You need to configure the device name and password for the

device in the fabric access server. The device name has to be a unique name in the network on a fabric access server.

Note You need to enable the fabric access feature to access and view the **fabric access server** command. Use the **feature fabric access** command to enable the fabric access feature on a device.

Examples

This example shows how to configure a fabric access server in a fabric network:

```
Device(config)# feature fabric access
Device(config)# fabric access server host1.cisco.com management password test
```

Related Commands

Command	Description
feature fabric access	Enables the fabric access feature for a fabric network.
show fabric access connections	Displays the connection status of a device or a user that is connected in the fabric access network.

fabric connectivity cable-plan enforce

To enforce an imported cable plan, use the **fabric connectivity cable-plan enforce** command in global configuration mode. To stop enforcing a cable plan, use the **no** form of this command.

fabric connectivity cable-plan enforce

no fabric connectivity cable-plan enforce

Syntax Description

This command has no arguments or keywords.

Command Default

A cable plan is not enforced.

Command Modes

Global configuration (config)

Command History

Release	Modification
6.0(2)N3(1)	This command was introduced.

Usage Guidelines

When the **fabric connectivity cable-plan enforce** command is configured, all type, length, value (TLV) fields received on a device are checked against the enforced cable plan. If no cable plan is enforced, checks are ignored.

After importing a cable plan if the cable plan is not enforced or if the **no fabric connectivity cable-plan enforce** command is configured, all cable plan checks are disabled. However, the imported cable plan will remain in the device.

Use the **show fabric connectivity cable-plan** command to view the currently enforced cable plan.

Examples

The following example shows how to enforce an already imported cable plan:

```
Device(config)# fabric connectivity cable-plan enforce
```

Related Commands

Command	Description
feature cable-management	Enables the cable management feature for a network

fabric connectivity cable-plan generate

To automatically generate a cable plan based on the topology of the data center neighbors, use the **fabric connectivity cable-plan generate** command in privileged EXEC mode.

fabric connectivity cable-plan generate [*plan-name*]

Syntax Description

plan-name	(Optional) Filename of the newly generated cable plan.

Command Default

A cable plan is not automatically generated.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
6.0(2)N3(1)	This command was introduced.

Usage Guidelines

The **fabric connectivity cable-plan generate** command creates a valid cable plan from the output of the **show fabric connectivity neighbors** command. You can modify the autogenerated cable plan to suit the link or connectivity endpoints within your data center.

If you do not specify a *plan-name*, then the filename is a generic time-stamped name.

Note Before configuring this command you must enable the **feature lldp** command and then the **feature cable-management** command in global configuration mode.

Examples

The following example shows how to autogenerate a cable plan named cplan1:

```
Device# fabric connectivity cable-plan generate cplan1
```

Related Commands

Command	Description
feature cable-management	Enables the cable management feature for a network
show fabric connectivity neighbors	Displays cache information about fabric connectivity neighbors.

fabric connectivity cable-plan import

To import a cable plan from a local or a remote location, use the **fabric connectivity cable-plan import** command in privileged EXEC mode.

fabric connectivity cable-plan import [**ftp: | scp: | sftp: | tftp:**] **bootflash:** [**vrf** *vrf-name*] [**update**] [**verbose**]

Syntax Description

ftp:	(Optional) Imports a cable plan from a remote FTP location.
scp:	(Optional) Imports a cable plan from a remote Secure Copy Protocol location.
sftp:	(Optional) Imports a cable plan from a remote Secure FTP location.
tftp:	(Optional) Imports a cable plan from a remote TFTP location.
bootflash:	Imports a cable plan from the local location.
vrf *vrf-name*	(Optional) Displays information about the specified virtual routing and forwarding instance.
update	(Optional) Updates the existing cable plan with a newly imported cable plan.
verbose	(Optional) Prints all errors regarding the cable plan file import to the console.

Command Default

Cable plans are not imported.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
6.0(2)N3(1)	This command was introduced.

Usage Guidelines

When you copy a cable plan from a remote location, you must specify the local location to save the file. If a remote import fails, the downloaded file is deleted automatically.

Once you configure the command, you have to enter the name of the source cable plan file and the destination cable plan file.

When you specify the **fabric connectivity cable-plan import bootflash:** command, the local cable plan file that exists in the bootflash is imported. Imported cable plans are stored in the device memory. Once imported, cable plans are persistent across reboots if you configure the **copy running-config startup-config** command.

Examples

The following example shows how the cp.xml file is imported from the local location:

```
Device# fabric connectivity cable-plan import bootflash:cp.xml

Success: Imported cable-plan:  /bootflash/cp.xml
Device#
```

The following sample output from the **fabric connectivity cable-plan import bootflash: verbose** command displays cable plan import failures:

```
Device# fabric connectivity cable-plan import bootflash:cp_failure.xml verbose

/bootflash/cp_failure.xml:6: element LINK_INFO: Schemas validity error : Element
'{http://www.cisco.com/cableplan/Schema2}LINK_INFO',
 attribute 'destPort': [facet 'pattern'] The value 'Eth11' is not accepted by the pattern
'Eth[0-9]{1,3}/[0-9]{1,3}'.
/bootflash/cp_failure.xml:6: element LINK_INFO: Schemas validity error : Element
'{http://www.cisco.com/cableplan/Schema2}LINK_INFO',
attribute 'destPort': 'Eth11' is not a valid value of the atomic type
'{http://www.cisco.com/cableplan/Schema2}portType'.
/bootflash/cp_failure.xml:7: element LINK_INFO: Schemas validity error : Element
'{http://www.cisco.com/cableplan/Schema2}LINK_INFO',
attribute 'destPort': [facet 'pattern'] The value 'Et1/1' is not accepted by the pattern
'Eth[0-9]{1,3}/[0-9]{1,3}'.
/bootflash/cp_failure.xml:7: element LINK_INFO: Schemas validity error : Element
'{http://www.cisco.com/cableplan/Schema2}LINK_INFO',
attribute 'destPort': 'Et1/1' is not a valid value of the atomic type
'{http://www.cisco.com/cableplan/Schema2}portType'.
/bootflash/cp_failure.xml:11: element LINK_INFO: Schemas validity error : Element
'{http://www.cisco.com/cableplan/Schema2}LINK_INFO',
attribute 'destPort': [facet 'pattern'] The value 'Eth18881/2' is not accepted by the pattern
 'Eth[0-9]{1,3}/[0-9]{1,3}'.
/bootflash/cp_failure.xml:11: element LINK_INFO: Schemas validity error : Element
'{http://www.cisco.com/cableplan/Schema2}LINK_INFO',
attribute 'destPort': 'Eth18881/2' is not a valid value of the atomic type
'{http://www.cisco.com/cableplan/Schema2}portType'.
/bootflash/cp_failure.xml:13: element LINK_INFO: Schemas validity error : Element
'{http://www.cisco.com/cableplan/Schema2}LINK_INFO',
attribute 'destPort': [facet 'pattern'] The value 'th1/2' is not accepted by the pattern
'Eth[0-9]{1,3}/[0-9]{1,3}'.
/bootflash/cp_failure.xml:13: element LINK_INFO: Schemas validity error : Element
'{http://www.cisco.com/cableplan/Schema2}LINK_INFO',
attribute 'destPort': 'th1/2' is not a valid value of the atomic type
'{http://www.cisco.com/cableplan/Schema2}portType'.

Error: Failed to import cable-plan: Invalid cable-plan
Device#
```

The following is a sample cable plan for a data center with two spine devices and three leaf devices. This cable plan describes a data center that contains the following switches: spine1, spine2, leaf1, leaf2, and leaf3. The sourceChassis, spine2 is connected to destChassis, leaf1 through Ethernet 1/1. If your data center network has more interfaces than the ones described in the cable plan, a warning about the absence is logged.

```
<?xml version="1.0" encoding="UTF-8"?>
<CISCO_NETWORK_TYPES version="1.0" xmlns="http://www.cisco.com/cableplan/Schema2"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.cisco.com/cableplan/Schema2 nxos-cable-plan-schema.xsd ">
  <DATA_CENTER networkLocation="san-jose" idFormat="hostname">
    <CHASSIS_INFO sourceChassis="spine1" type="n7k">
      <LINK_INFO sourcePort="Eth2/1" destChassis="leaf1" destPort="Eth2/1"/>
      <LINK_INFO sourcePort="Eth2/2" destChassis="leaf2" destPort="Eth2/1"/>
      <LINK_INFO sourcePort="Eth2/3" destChassis="leaf3" destPort="Eth2/1"/>
    </CHASSIS_INFO>

    <CHASSIS_INFO sourceChassis="spine2.cisco.com" type="n7k">
      <LINK_INFO sourcePort="Eth1/1" destChassis="leaf1" destPort="Eth1/2"/>
      <LINK_INFO sourcePort="Eth1/2" destChassis="leaf2" destPort="Eth1/2"/>
      <LINK_INFO sourcePort="Eth1/3" destChassis="leaf3" destPort="Eth1/2"/>
```

```
    </CHASSIS_INFO>
  </DATA_CENTER>
</CISCO_NETWORK_TYPES>
```

The following paragraphs describe the lines and the XML tags and attributes associated with each line in the cable plan. These lines are required headings for XML processing and Cisco-specific headers that denote that this is a Cisco cable plan. The format must be exactly the same as shown in the following example for all cable plans. Failure to adhere to the format results in a rejected cable plan.

The CISCO_NETWORK_TYPES tag is required and it is the parent tag for the entire XML cable plan. The entire cable plan must be within this tag.

```
<?xml version="1.0" encoding="UTF-8"?>
<CISCO_NETWORK_TYPES version="1.0" xmlns="http://www.cisco.com/cableplan/Schema2"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
xsi:schemaLocation="http://www.cisco.com/cableplan/Schema2 nxos-cable-plan-schema.xsd ">
```

The DATA_CENTER tag is required and it houses all information about each chassis in the plan. The networkLocation tag is required and it specifies the location of the data center. The idFormat tag is required and it specifies the format in which IDs are present in subsequent entries. In the Cisco NX-OS Release 6.0(2)N3(1), the only supported format is "hostname". Cable plans that do not use "hostname" as the format are rejected.

```
<DATA_CENTER networkLocation="san-jose" idFormat="hostname">
```

The CHASSIS_INFO tag is required and it describes one single chassis. All interfaces that belong to the sourceChassis that administrators want to include in the cable plan must be within this tag. The sourceChassis tag is required and it describes the chassis that all subsequent interfaces (described below by LINK_INFO tags) belong to.

Include all details about the interfaces on a device inside the CHASSIS_INFO tag. If you need to check interfaces on another device, include them inside another CHASSIS_INFO tag. There is no limit to the number of unique CHASSIS_INFO tags in a cable plan.

In the following example, all interfaces within the CHASSIS_INFO tag belong to spine1 chassis. The specified chassis name must be the fully qualified domain name of the device. If a domain name is configured for the hostname, the hostname must be followed by the domain name. For example, spine1.cisco.com if spine1 is configured with the domain name, cisco.com.

The type tag is required and it specifies the type of chassis. In the Cisco NX-OS Release 6.0(2)N3(1), only Cisco Nexus switches are supported. This tag is not case sensitive. Cable plans that do not adhere to the "n#k" format are rejected.

```
<CHASSIS_INFO sourceChassis="spine1" type="n7k">
```

The LINK_INFO tag is required and it describes an interface connection from the sourceChassis to the destChassis. In the following example, the spine1 source port on Ethernet 2/1 is connected to the leaf1 destination port on Ethernet2/1, spine1 source port on Ethernet 2/2 is connected to leaf2 destination port on Ethernet 2/1, and so on.

The sourcePort tag is required and it denotes the port on the sourceChassis. Source ports must be unique per chassis. For example, spine1 must not specify multiple connections that come from port Ethernet 2/1. The cable plan import will not fail if you do not specify unique ports. However, a warning is displayed on the console and only the first entry is read and checked by the cable plan.

The destChassis tag is required and it denotes the destination chassis that the sourceChassis is connected to. The destChassis name must be the fully qualified domain name.

The destPort tag is required and it denotes the port on the destination chassis. Like the sourcePort, the destPort must be unique to the destChassis.

```
<LINK_INFO sourcePort="Eth2/1" destChassis="leaf1" destPort="Eth2/1"/>
<LINK_INFO sourcePort="Eth2/2" destChassis="leaf2" destPort="Eth2/1"/>
<LINK_INFO sourcePort="Eth2/3" destChassis="leaf3" destPort="Eth2/1"/>
```

Related Commands

Command	Description
clear fabric connectivity cable-plan	Clears the current cable plan.
feature cable-management	Enables the cable management feature for a network
show fabric connectivity cable-plan	Displays the cable plan available in the system memory.

fabric connectivity mismatch action delay

To delay the port error-disable action on detecting cabling errors for a specified time, use the **fabric connectivity mismatch action delay** command in global configuration mode. To remove this configuration, use the **no** form of this command

fabric connectivity mismatch action delay *time*

no fabric connectivity mismatch action delay *time*

Syntax Description

time	Time in seconds to delay action. The range is from 30 to 3600.

Command Default

Delayed action on mismatched errors is not configured.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Use this command to delay, by seconds, any action caused by mismatched errors. For example, if you set the action delay to 30 seconds and have errors configured to error-disable ports, then in case an error is detected at a network port, the port is error-disabled after a period of 30 seconds. If a valid entry is received within the wait period of 30 seconds, the port will remain open and not be error-disabled. You have to enable the cable management feature using the **feature cable-management** command to be able to configure the **fabric connectivity mismatch action delay** command.

Examples

The following example shows how to configure a time period to delay action caused by mismatch errors. Here the time to delay action is set to 35 seconds.

```
Device# configure terminal
Device(conf)# feature cable-management
Device(conf)# fabric connectivity mismatch action delay 35
```

Related Commands

Command	Description
show fabric connectivity neighbors	Displays cache information about fabric connectivity neighbors.
fabric connectivity cable-plan import	Imports a cable plan from a local or a remote location.
fabric connectivity tier	Configures the tier level of a device.

fabric connectivity tier

To configure the tier level of a device in the Dynamic Fabric Automation (DFA) fabric, use the **fabric connectivity tier** command in global configuration mode. To remove this configuration, use the **no** form of this command.

fabric connectivity tier *tier-level*

no fabric connectivity tier *tier-level*

Syntax Description

tier-level	Tier level of the device. The range is from 1 to 16, where 1 indicates a leaf, 2 indicates a level 1 spine, 3 indicates a level 2 spine, and so on.

Command Default

Tier level of the device is not configured.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

To detect and resolve miscabling issues in a Clos network, DFA provides the user the functionality to assign a sequential number (called the tier number) at each stage of the network topology. Every device in a stage can be associated with the corresponding tier level number assigned to the stage the device is in. All leaf switches (in the lowest level of the Clos stage) are provisioned with a tier level of 1, the next higher-level stage devices (1st stage of spine switches) are provisioned with a tier level value of 2, and the next higher-level stage devices (2nd stage of spine switches) are provisioned with a tier level of 3, and so on. Use the **fabric connectivity tier** command to assign the tier-level number for a specific device in the fabric. You have to enable the cable management feature using the **feature cable-management** command to be able to configure the **fabric connectivity tier** command.

Examples

The following example shows how you can assign a tier number to a specific device in the topology:

```
Device# configure terminal
Device(config)# feature cable-management
Device(config)# fabric connectivity tier 2
```

Related Commands

Command	Description
clear fabric connectivity neighbors	Clears all information about neighbors from the neighbor cache.

Command	Description
fabric connectivity cable-plan import	Imports a cable plan from a local or a remote location.
fabric connectivity mismatch action delay	Delays the port error-disable action on detecting cabling errors for a specified time.

fabric database mobility-domain

To configure the mobility domain name, use the **fabric database mobility-domain** command in global configuration mode. To remove the mobility domain name, use the **no** form of this command.

fabric database mobility-domain *domain-name*

no fabric database mobility-domain *domain-name*

Syntax Description

domain-name	Mobility domain name up to 128 characters.

Command Default

The mobility domain name is not configured.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Use the **fabric database mobility-domain** command to configure the mobility domain name that is used to get the profile name if the profiles are stored remotely.

Examples

The following example shows how to configure the mobility domain name:

```
Device> enable
Device# configure terminal
Device(config)# install feature-set fabric
Device(config)# feature-set fabric
Device(config)# fabric database mobility-domain profile
```

Related Commands

Command	Description
feature-set fabric	Enables configuring host mobility-specific commands.

fabric database type

To configure the external database, use the **fabric database type** command in global configuration mode. To remove this configuration, use the **no** form of this command

fabric database type {**network**| **profile**}

no fabric database type {**network**| **profile**}

Syntax Description

network	Configures the network database.
profile	Configures the config-profile database.

Command Default

The external database is not configured.

Command Modes

Global configuration (config)

Command History

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

Examples

The following example shows how to configure a database type:

```
Device# configure terminal
Device(config)# fabric database type network
Device(config)# fabric database type profile
```

Related Commands

Command	Description
clear fabric database statistics	Clears the external database statistics such as number of messages sent or received, pending requests, access errors, and access timeouts
show fabric database statistics	Displays fabric database statistics.

fabric forwarding anycast-gateway-mac

To specify the MAC address of the server facing ports across all leaf nodes, use the **fabric forwarding anycast-gateway-mac** command in global configuration mode. To disable the anycast gateway MAC address, use the **no** form of this command.

fabric forwarding anycast-gateway-mac *mac-address*

no fabric forwarding anycast-gateway-mac *mac-address*

Syntax Description

mac-address	Anycast gateway MAC address of the switch.

Command Default

The anycast gateway MAC address is not configured.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

The anycast gateway MAC address is used per interface; hence, it is replicated across all the switch virtual interfaces (SVI) that are supporting proxy gateway or anycast gateway.

Examples

The following example shows how to configure the anycast gateway MAC address:

```
Device> enable
Device# configure terminal
Device(config)# install feature-set fabric
Device(config)# feature-set fabric
Device(config)# fabric forwarding anycast-gateway-mac EE:EE:EE:EE:EE:EE
```

Related Commands

Command	Description
feature-set fabric	Enables configuring host mobility-specific commands.

fabric forwarding control-segment

To configure a control segment under a switched virtual interface (SVI) in a default virtual routing and forwarding (VRF) instance, use the **fabric forwarding control-segment** command in interface configuration mode.

fabric forwarding control-segment

Syntax Description

This command has no arguments or keywords.

Command Default

A control segment is not configured.

Command Modes

Interface configuration (config-if)

Command History

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

Usage Guidelines

Use the **fabric forwarding control-segment** command to specify an SVI interface to be a fabric control VLAN interface on which adjacencies are established in the default VRF. You can configure only one SVI interface in the default VRF as a fabric control VLAN interface.

Note You can also configure a control segment under a bridge domain.

Examples

The following example shows how to specify an SVI interface to be a fabric control VLAN interface:

```
Device> enable
Device# configure terminal
Device(config)# interface vlan 2
Device(config-if)# fabric forwarding control-segment
```

Related Commands

Command	Description
feature-set fabric	Enables configuring host mobility-specific commands.

fabric forwarding conversational-aging

To configure the conversational aging timeout value, use the **fabric forwarding conversational-aging** command in global configuration mode. To remove the aging timeout value, use the **no** form of this command.

fabric forwarding conversational-aging *timeout*

no fabric forwarding conversational-aging *timeout*

Syntax Description

timeout	Conversational aging timeout value in minutes. The range is from 15 to 1800. The default is 30.

Command Default

The timeout value is set to 30 minutes.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Use the **fabric forwarding conversational-aging** command to configure the aging timeout value that determines if a conditional route must be aged or not.

Examples

The following example shows how to set the conversational learning aging timeout value to 50 minutes:

```
Device> enable
Device# configure terminal
Device(config)# install feature-set fabric
Device(config)# feature-set fabric
Device(config)# fabric forwarding conversational-aging 50
```

Related Commands

Command	Description
feature-set fabric	Enables configuring host mobility-specific commands.

fabric forwarding conversational-learning

To enable Layer 3 conversational learning-based route download into the forwarding information base (FIB), use the **fabric forwarding conversational-learning** command in global configuration mode. To disable the conversational learning-based FIB route download, use the **no** form of this command.

fabric forwarding conversational-learning [all]

no fabric forwarding conversational-learning

Syntax Description

all	(Optional) Enables conversational learning for all virtual routing and forwarding (VRF) instances.

Command Default

Conversational learning is disabled.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Use the **fabric forwarding conversational-learning** command to enable Layer 3 conversational learning. After conversational learning is enabled, the host routes are downloaded into the FIB when a conversation is detected.

Note If you use this command without the **all** keyword, it specifies that conversational learning is used for the default VRF.

Examples

The following example shows how to enable Layer 3 conversational learning for all VRFs:

```
Device> enable
Device# configure terminal
Device(config)# install feature-set fabric
Device(config)# feature-set fabric
Device(config)# fabric forwarding conversational-learning all
```

Related Commands

Command	Description
feature-set fabric	Enables configuring host mobility-specific commands.

fabric forwarding identifier

To specify a fabric forwarding identifier, use the **fabric forwarding identifier** command in global configuration mode. To remove this configuration, use the **no** form of this command.

fabric forwarding identifier *id*

no fabric forwarding identifier *id*

Syntax Description

identifier *id*	Specifies a fabric forwarding identifier number. The range is from 1 to 65535.

Command Default

A fabric forwarding identifier is not specified.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Use this command to configure a fabric forwarding identifier.

Examples

The following example shows how to configure a fabric forwarding identifier:

```
Device# configure terminal
Device(config)# fabric forwarding identifier 1
```

fabric forwarding switch-role

To specify the role of a device in the network, use the **fabric forwarding switch-role** command in global configuration mode. To disable the role specified for a device, use the **no** form of the command.

fabric forwarding switch-role {**border** [**leaf** | **spine**] | **leaf** [**border**] | **spine** [**border**]}

no fabric forwarding switch-role

Syntax Description

border	Sets border as the role of a device.
leaf	Sets leaf as the role of a device.
spine	Sets spine as the role of a device.

Command Default

A device is configured as a leaf.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Use the **fabric forwarding switch-role** command to specify the role of a device. You can configure a device to act like a border, a spine or a leaf. A device sends notifications to registered components whenever there is a change in the role of a device. You can specify a combination of a border and a leaf or a spine on a device. Both Border Gateway Protocol (BGP) and Intermediate System-to-Intermediate System (ISIS) protocol restart when the role of a device changes.

Examples

The following example shows how to specify the role of a device to be a border and a spine:

```
Device> enable
Device# configure terminal
Device(config)# install feature-set fabric
Device(config)# feature-set fabric
Device(config)# fabric forwarding switch-role border spine
```

The following example shows how to specify the role of a device to be a border and a leaf.

```
Device> enable
Device# configure terminal
Device(config)# install feature-set fabric
Device(config)# feature-set fabric
Device(config)# fabric forwarding switch-role border leaf
```

Related Commands

Command	Description
feature-set fabric	Enables configuring host mobility-specific commands.

fabricpath isis bfd

To enable the FabricPath Bidirectional Forwarding (BFD) feature on an Intermediate System-to-Intermediate System (IS-IS) interface, use the **fabricpath isis bfd** command in interface configuration mode. To disable the FabricPath BFD feature on the IS-IS interface, use the **no** form of this command.

fabricpath isis bfd [**disable**]

no fabricpath isis bfd [**disable**]

Syntax Description

disable	(Optional) Disables the FabricPath feature on the IS-IS interface.

Command Default

The FabricPath feature is not enabled on the IS-IS interface.

Command Modes

Interface configuration (config-if)

Command History

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

Usage Guidelines

The **no fabricpath isis bfd** command disables the BFD on the interface, but if global BFD is configured, the interface inherits the global BFD and BFD is remains enabled on that interface.

The **no fabricpath isis bfd disable** command disables the BFD on the interface even if global BFD is configured. This command overrides the global BFD configuration. No BFD is configured on that interface .

Examples

This example shows how to enable the FabricPath feature on an IS-IS interface:

```
Device(config-if)# fabricpath isis bfd
```

Related Commands

Command	Description
show fabricpath isis	Displays information about FabricPath IS-IS.
show fabricpath isis interface	Displays information about the FabricPath Intermediate System-to-Intermediate System (IS-IS) interface.

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

profile-id	Profile ID. The range is from 1 to 1023.

Command Default

A FabricPath OAM profile is not configured.

Command Modes

Global configuration (config)

Command History

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

The following example shows how to configure a FabricPath OAM profile with a profile ID of 100.

```
Device# configure terminal
Device(config)# fabricpath oam profile 100
Device(config-fp-oam-profile)#
```

Related Commands

Command	Description
show fabricpath oam loopback	Shows statistics for FabricPath OAM loopback.
show fabricpath oam mtrace	Shows statistics for fabricpath OAM mtrace.
show fabricpath oam notification	Shows information about for FabricPath OAM notification.
show fabric oam traceroute	Shows statistics for FabricPath OAM traceroute.

feature cable-management

To enable the cable management feature for a network, use the **feature cable-management** command in global configuration mode. To disable the feature, use the **no** form of this command.

feature cable-management

no feature cable-management

Syntax Description

This command has no arguments or keywords.

Command Default

Disabled

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Use the **feature cable-management** command to enable the cable management feature. This command does not require a license.

Note Enable the Link Layer Discovery Protocol (LLDP) by using the **feature lldp** command prior to enabling the cable management feature.

Examples

This example shows how to enable the cable management feature:

```
Device# configure terminal
Device(config)# feature lldp
Device(config)# feature cable-management
Device(config)# exit
```

This example shows how to disable the cable management feature:

```
Device(config)# no feature cable-management
```

feature evb

To enable the Edge Virtual Bridging (EVB) feature on a device, use the **feature evb** command in global configuration mode. To disable EVB feature, use the **no** form of this command.

feature evb

no feature evb

Syntax Description

This command has no arguments or keywords.

Command Default

EVB is disabled.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

You can enable or disable EVB globally on a device. You must use the **feature evb** command to enable and configure the EVB parameters.

Examples

This example shows how to enable the EVB feature on a device:

```
Device(config)# feature evb
```

Related Commands

Command	Description
evb reinit-keep-alive	Configures the keepalive parameter for EVB.
evb resource-wait-delay	Configures the resource wait delay parameter for EVB.
show evb	Displays information associated with Edge Virtual Bridging (EVB).

feature fabric

To enable fabric network services on a device, use the **feature fabric** command in global configuration mode. To disable the fabric network services, use the **no** form of this command.

feature fabric {**access**| **forwarding**| **multicast**}

no feature fabric {**access**| **forwarding**| **multicast**}

Syntax Description

access	Enables single point of access in an Extensible Messaging and Presence Protocol (XMPP) client for a fabric network.
forwarding	Enables the Host Mobility Manager (HMM) and release-specific HMM configuration commands.
multicast	Enables the Next-Gen Multicast VPN (NGMVPN) features associated with the fabric network services.

Command Default

Fabric network services are disabled.

Command Modes

Global configuration (config)

Command History

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

Examples

This example shows how to enable the fabric network services on a device:

```
Device# configure terminal
Device(config)# feature fabric access
Device(config)# feature fabric forwarding
Device(config)# feature fabric multicast
Device(config)# end
```

feature fabric access

To enable the fabric access feature for a fabric network, use the **feature fabric access** command in global configuration mode. To disable the fabric access feature, use the **no** form of this command.

feature fabric access

no feature fabric access

Syntax Description

This command has no arguments or keywords.

Command Default

Disabled

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

You must use the **feature fabric access** command to enable the fabric access feature. This command does not require a license.

Examples

This example shows how to enable the fabric access feature on a device:

```
Device(config)# feature fabric access
```

This example shows how to disable the fabric access feature on a device:

```
Device(config)# no feature fabric access
```

Related Commands

Command	Description
show fabric access connections	Displays the connection status of a device or a user that is connected in the fabric access network.

feature fabric multicast

To enable the Next-Generation Multicast VPN (NG-MVPN) features on a device, use the **feature fabric multicast** command in global configuration mode. To disable the NG-MVPN features on a device, use the **no** form of this command.

feature fabric multicast

no feature fabric multicast

This command has no arguments or keywords.

Command Default

The NG-MVPN features are disabled.

Command Modes

Global configuration (config)

Command History

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

Examples

The following example shows how to enable NG-MVPN features on a device:

```
Device(config)# feature fabric multicast
```

The following example shows how to disable NG-MVPN features on a device:

```
Device(config)# no feature fabric multicast
```

Related Commands

Command	Description
feature-set fabric	Enables configuring host mobility-specific commands.

feature-set fabric

To enable configuring host mobility-specific commands, use the **install feature-set fabric** command in global configuration mode.

feature-set fabric

Syntax Description

This command has no arguments or keywords.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

This command needs to be configured before configuring host mobility-specific commands.

Examples

The following example shows how to enable configuring host mobility-specific commands:

```
Device> enable
Device# configure terminal
Device(config)# feature-set fabric
```

Related Commands

Command	Description
install feature-set fabric	Enables configuring host mobility-specific commands.

feature vn-segment-vlan-based

To enable the (VLAN)-based virtual network (VN) segment feature on a device, use the **feature vn-segment-vlan-based** command in global configuration mode. To disable VLAN-based VN segment feature, use the **no** form of this command.

feature vn-segment-vlan-based

no feature vn-segment-vlan-based

Syntax Description

This command has no arguments or keywords.

Command Default

The VLAN-based virtual network segment is disabled.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

You can enable or disable the VLAN-based VN segment feature globally on a device. The VLAN-based VN segment feature is enabled only if the feature-set fabricpath is enabled on the device.

Examples

This example shows how to enable the VLAN-based VN segment feature on a device:

```
Device(config)# feature vn-segment-vlan-based
```

Related Commands

Command	Description
vn-segment	Configures the segment identifier of the VLAN.
vni	Configures the virtual network identifier.

flow (fabricpath-oam)

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

The following example shows how to configure the forward flow entropy for FabricPath OAM.

```
Device# configure terminal
Device(config)# fabricpath oam profile 100
Device(config-fb-oam-profile)# flow forward
Device(config-fb-oam-profile-flow)#
```

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.
protocol (fabricpath-oam)	Configures the FabricPath OAM flow protocol number.

hop (fabricpath-oam)

To configure the hop limit for a FabricPath OAM service packet protocol header, use the **hop** command in FabricPath OAM profile configuration mode. To restore the hop limit to the default value, use the **no** form of this command.

hop *hop-limit*

no hop

Syntax Description

hop-limit	Hop limit. Range is from 1 to 255. Default is 64.

Command Default

The hop limit for FabricPath OAM service packets is 64 hops.

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

Examples

The following example shows how to configure a FabricPath OAM service packet hop limit of 25.

```
Device# configure terminal
Device(config)# fabricpath oam profile 100
Device(config-fb-oam-profile)# hop 25
```

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.
protocol (fabricpath-oam)	Configures the FabricPath OAM flow protocol number.

include profile

To configure a set of VLAN profile instances to refer to a common virtual routing and forwarding (VRF) instance, use the **include profile** command in profile configuration mode. To remove the reference to a common VRF instance, use the **no** form of this command.

include profile *profile-name*

no include profile *profile-name*

Syntax Description

profile-name	Name of the profile. The maximum number of characters allowed is 80.

Command Default

VLAN profile instances do not refer to a common VRF instance.

Command Modes

Profile configuration (config-profile)

Command History

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

Usage Guidelines

Use the **include profile** command to configure a set of VRF profile instances to refer to a common VRF instance. For example, a set of VLANs can refer to the same VLAN VRF instance. Any configuration after you configure the first VLAN VRF instance will increment the reference count of the include instance. The configuration related to the VRF stays until the last instance referring to the VRF is present.

Examples

The following example shows how to configure a set of VLAN profile instances to refer to a common VRF instance:

```
Device> enable
Device# configure profile p1
Device(config-profile)# configure profile p2
Device(config-profile)# include profile p1
```

Related Commands

Command	Description
configure profile	Configures a profile.

install feature-set fabric

To enable configuring host mobility-specific commands, use the **install feature-set fabric** command in global configuration mode.

install feature-set fabric

Syntax Description

This command has no arguments or keywords.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

This command needs to be configured before configuring host mobility-specific commands.

Examples

The following example shows how to enable configuring host mobility-specific commands:

```
Device> enable
Device# configure terminal
Device(config)# install feature-set fabric
```

Related Commands

Command	Description
feature-set fabric	Enables configuring host mobility-specific commands.

instance

To create an instance of a user-defined parameter list, use the **instance** command in parameter list configuration mode. To remove an instance of a user-defined parameter list, use the **no** form of this command.

instance *instance-name*

no instance *instance-name*

Syntax Description

instance-name	Parameter-list instance name.

Command Default

A user-defined parameter-list instance is not created.

Command Modes

Parameter list configuration (config-param-list)

Command History

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

Usage Guidelines

You can create instances of a parameter list for different hosts with various values. When you create an instance of a parameter list using the **instance** command, the device enters parameter instance configuration (config-param-inst) mode. The following options are available in this mode:

- set - Sets the parameter value.
- this - Displays information about the instance.
- verify - Verifies the instance with the specified device-profile.
- end - Exits parameter instance configuration mode and returns to EXEC mode.
- exit - Exits parameter instance configuration mode and returns to parameter list configuration mode.
- pop - Pops the mode from the stack or restores it from the specified name.
- push - Pushes the current mode to the stack or saves it with the specified name.
- where - Displays instance-related details (such as parameter-list name, instance name, and so on).

Examples

The following example shows to create an instance inst1 under the user-defined parameter list List1:

```
Device# configure terminal
Device(config)# param-list List1
Device(config-param-list)# instance inst1
```

```
Device(config-param-list)# exit
```

Related Commands

Command	Description
define	Creates user-defined parameters for the specified parameter list.

interface (fabricpath-oam)

To configure a FabricPath Operation, Administration, and Maintenance (OAM) egress interface, use the **interface** command in FabricPath OAM profile configuration mode. To remove the egress interface configuration, 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.
slot-number/*port-number*	Interface ID or interface range.

Command Default

A FabricPath OAM egress interface 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

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

The following example shows how to configure an egress ethernet interface.

```
Device# configure terminal
Device(config)# fabricpath oam profile 100
Device(config-fb-oam-profile)# interface Ethernet 1/1-1/3
```

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.

ip (fabricpath-oam)

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.
ip-address	IP address.

Command Default

The IPv4 flow address is not configured.

Command Modes

FabricPath OAM profile flow configuration (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 flow IPv4 destination address.

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

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.
flow (fabricpath-oam)	Configures the direction FabricPath OAM flow entropy.

ip arp rarp fabric-forwarding

To enable forwarding of Reverse Address Resolution Protocol (RARP) messages from a host to the fabric, and to set a rate-limit for the messages being forwarded, use the **ip arp rarp fabric-forwarding** command in global configuration mode. To disable forwarding of RARP messages from a host to the fabric, use the **no** form of this command.

ip arp rarp fabric-forwarding [**rate-limit** *rate-limit*]

no ip arp rarp fabric-forwarding [**rate-limit** *rate-limit*]

Syntax Description

rate-limit *rate-limit*	(Optional) Specifies the forwarding rate of the RARP frames.

Note The default forwarding rate is 200 RARP frames per second. You can specify a forwarding rate in the range of 200 to 400 RARP frames per second.

Command Default

Forwarding of RARP messages from a host to the fabric is disabled.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

If you want to enable forwarding of RARP messages and set the rate to the default value of 200 RARP frames per second, then use the **ip arp rarp fabric-forwarding** command.

If you want to enable forwarding of RARP messages and set the rate to a specific value, then include the use the **rate-limit** keyword and the *rate-limit* value.

Examples

The following example shows how to enable forwarding of RARP messages from a host to the fabric:

```
Device# configure terminal
Device(config)# ip arp rarp fabric-forwarding rate-limit 201
Device(config)# exit
```

ip multicast fabric-forwarding

To enable multicast enhanced fabric forwarding for a particular Virtual Routing and Forwarding (VRF), use the **ip multicast fabric-forwarding** command in global configuration mode. To disable fabric forwarding for the VRF, use the **no** form of this command.

{ip | ipv6} multicast fabric-forwarding

no {ip | ipv6} multicast fabric-forwarding

Syntax Description

ip	Enables IPv4 multicast fabric forwarding.
ipv6	Enables IPv6 multicast fabric forwarding.

Command Default

Multicast forwarding is disabled.

Command Modes

Global configuration (config)

Command History

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

Examples

The following example shows how to enable the fabric forwarding feature:

```
Device# configure terminal
Device(config)# ip multicast fabric-forwarding
Device(config)# ipv6 multicast fabric-forwarding
```

Related Commands

Command	Description
show fabric multicast globals	Displays the global state associated with the fabric multicast process.

ipv6 (fabricpath-oam)

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.
ip-address	IP address.

Command Default

The IPv6 flow address is not configured.

Command Modes

FabricPath OAM profile flow configuration (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 flow IPv6 destination address.

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

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.
flow (fabricpath-oam)	Configures the direction FabricPath OAM flow entropy.

logging level evb

To enable the system log (syslog) filter level for an Edge Virtual Bridging (EVB) session, use the **logging level evb** command in global configuration mode. To disable the syslog filter level for EVB, use the **no** form of this command.

logging level evb *log-level*

no logging level evb *log-level*

Syntax Description

log-level	Sets the severity for the syslog filter level. The level values ranges from 0 to 7. The severity associated with the values are: • 0-emerg—Sets severity levels for emergencies. • 1-alert—Sets severity levels for alerts. • 2-crit—Sets severity levels for critical issues. • 3-err—Sets severity levels for errors. • 4-warn—Sets severity levels for warnings. • 5-notif—Sets severity levels for notifications. • 6-inform—Sets severity levels for session information. • 7-debug—Sets severity levels for debugs.

Command Default

Syslog filter level with severity value 5 is enabled.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Use the **feature evb** command to enable the EVB session. This, in turn, enables the **evb** keyword in the **logging level** command on the device.

Examples

The following example shows how to set a syslog filter level of 4 for an EVB session:

```
Device# configure terminal
```

```
Device(config)# feature evb
Device(config)# logging level evb 4
Device(config)# end
```

The following example displays the default severity level and the user-defined syslog filter level for an EVB session:

```
Device# show logging level evb

Facility        Default Severity        Current Session Severity
--------        ----------------        ------------------------
evb                     5                       4

0(emergencies)          1(alerts)       2(critical)
3(errors)               4(warnings)     5(notifications)
6(information)          7(debugging)
```

mac-address (fabricpath-oam)

To specify a 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.
mac-address	MAC address.

Command Default

The MAC flow address is not configured.

Command Modes

FabricPath OAM profile flow configuration (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 MAC address.

```
Device# configure terminal
Device(config)# fabricpath oam profile 100
Device(config-fb-oam-profile)# flow forward
Device(config-fb-oam-profile-flow)# mac-address destination 00-14-22-01-23-45
```

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.
flow (fabricpath-oam)	Configures the direction FabricPath OAM flow entropy.

match (VLAN access-map)

To specify an access control list (ACL) for traffic filtering in a VLAN access map, use the **match** command in VLAN access-map configuration mode. To remove a **match** command from a VLAN access map, use the **no** form of this command.

match {ip | ipv6 | mac} address *access-list-name*

no match {ip | ipv6 | mac} address *access-list-name*

Syntax Description

ip	Specifies that the ACL is an IPv4 ACL.
ipv6	Specifies that the ACL is an IPv6 ACL.
mac	Specifies that the ACL is a MAC ACL.
access-list-name	Specifies the ACL by name, which can be up to 64 alphanumeric, case-sensitive characters.

Command Default

None

Command Modes

VLAN access-map configuration

Command History

Release	Modification
—	This command was introduced in a release earlier than Cisco NX-OS Release 7.0(0)N1(1).

Usage Guidelines

You can specify one or more **match** commands per entry in a VLAN access map.

By default, the device classifies traffic and applies IPv4 ACLs to IPv4 traffic, IPv6 ACLs to IPv6 traffic, and MAC ACLs to all other traffic.

This command does not require a license.

Examples

This example shows how to create a VLAN access map named vlan-map-01 and add two entries that each have two **match** commands and one **action** command:

```
Device(config-access-map)# vlan access-map vlan-map-01
Device(config-access-map)# match ip address ip-acl-01
switch(config-access-map)# action forward
switch(config-access-map)# match mac address mac-acl-00f
switch(config-access-map)# vlan access-map vlan-map-01
switch(config-access-map)# match ip address ip-acl-320
switch(config-access-map)# match mac address mac-acl-00e
switch(config-access-map)# action drop
switch(config-access-map)# show vlan access-map
Vlan access-map vlan-map-01 10
        match ip: ip-acl-01
        match mac: mac-acl-00f
        action: forward
Vlan access-map vlan-map-01 20
        match ip: ip-acl-320
        match mac: mac-acl-00e
        action: drop
```

mtrace fabricpath

To trace the path from a source to a destination branch for FabricPath OAM, use the **mtrace fabricpath** command in privileged EXEC mode.

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* | **dot1q** *dot1q-id intf-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** *sw-id*] **[verbose]**

Syntax Description

tree *id*	(Optional) Specifies the ID of the multicast tree to be verified.
ftag *ftag-id*	(Optional) Specifies the multicast Forwarding Tag (FTag) ID.
profile *profile-id*	Specifies the profile ID.
mac dst *dst-mac*	Specifies the destination MAC address.
etype *etype*	Specifies the ether type.
ip dst *dst-ip*	Specifies the destination IP address.
src *src-ip*	Specifies the source IP address.
forward flow *flow-ent*	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 *if-id*	(Optional) Specifies the ingress interface ID.
vlan *vlan-id*	Specifies the VLAN ID for the multicast tree to be verified.
tag *tag-id*	Specifies the tag ID. **Note** The VLAN ID and tag ID are mutually exclusive.

dot1q *dot1q-id intf-id*	Specifies the 802.1Q tag ID. **Note** The **dot1q** option is not available on Cisco Nexus 5000 series and 6000 series switches; it is available only on the Cisco Nexus 7000 series switches.
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 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 IP address of customer traffic.
topology *t-id*	(Optional) Specifies the topology ID. Range is from 0 to 63. Default is 0.
reply mode out-of-band	(Optional) Specifies that the FabricPath OAM reply mode is out of band. By default, FabricPath OAM is replied in band (on the FabricPath network). Use the **reply mode out-of-band** keyword to change the mode of reply to out of band for input IPv4 or IPv6 addresses. For routing, only the default VRF is used.
ipv4 *ip-addr*	(Optional) Specifies the input IPv4 address for out-of-band reply.
ipv6 *ipv6-addr*	(Optional) Specifies the input IPv6 address for out-of-band reply.
data pattern *data*	(Optional) Specifies the data pattern.
size *size*	(Optional) Specifies the padding size of data TLV or test TLV. The total size must not be greater than the MTU of the egress interface.
validate	(Optional) Validates the **ping** command.
repeat *repeat-count*	(Optional) Specifies the repeat value.
interval *interval-value*	(Optional) Specifies the minimum send delay between requests, in milliseconds. The range is from 100 to 3600000. Default is 0 for synchronous ping, 1000 for asynchronous ping.
timeout *timeout-value*	(Optional) Specifies the timeout values in seconds. Range is from 1 to 36000.
hop *hop-count*	(Optional) Specifies the FabricPath OAM ping hop count. Range is from 1 to 64. Default is 63.

switch-id *sw-id*	(Optional) Sends an mtrace request to the specified switch ID.
verbose	(Optional) Displays additional information.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

For a synchronous ping, traceroute, 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.

The following rules are apply:

- If a tree ID is specified, an ether type cannot be specified.
- If a Layer 2 tree is specified, a source MAC cannot be specified.
- If a Layer 3 tree is specified, a source and destination MAC addresses cannot be specified.
- If flow entropy is specified, type of flow, either Layer 2 or Layer 3, must be specified. If the flow is Layer 2, the source MAC address is overwritten. If the flow is Layer 3, the source and destination MAC addresses are overwritten.

Examples

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

```
Device# 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
```

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

```
Device(#) 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
```

The following example shows how to specify FTag instead of tree.

```
Device(#) 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
```

The following example shows how to specify a pair of trees.

```
Device(#) 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,
'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
ping fabricpath	Tests the FabricPath OAM reachability.
traceroute fabricpath	Discovers the FabricPath route.

N through Z

packet (fabricpath-oam)

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 characters. **Note** Enter the packet information starting with the Ethernet header in hexadecimal string format. For example: 00156dc4274b5404a63ced2b81000001080045000028 3e8a400080069bd2c0a80260e

Command Default

Packet flow and payload information is not specified.

Command Modes

FabricPath OAM profile flow configuration (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. All characters beyond the maximum limit are treated as 0.

Examples

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

```
Device# configure terminal
Device(config)# fabricpath oam profile 100
Device(config-fb-oam-profile)# flow forward
Device(config-fb-oam-profile-flow)# packet
00156dc4274b5404a63ced2b81000001080045000028 3e8a400080069bd2c
```

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.
flow (fabricpath-oam)	Configures the direction FabricPath OAM flow entropy.

param-list

To create a user-defined parameter list or to configure parameters and parameter list instances for an existing parameter list, use the **param-list** command in global configuration mode. To delete a user-defined parameter list, use the **no** form of this command.

param-list *parameter-list-name*

no param-list *parameter-list-name*

Syntax Description

parameter-list-name	Name of the parameter list.

Note The *parameter-list-name* argument can be used to create a new parameter list or configure parameters and parameter list instances for an existing parameter list. To view existing parameter lists, type **param-list ?** in global configuration mode.

Command Default

No parameter lists are predefined.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

When you create a parameter list using the **param-list** command, the device enters parameter list configuration mode (config-param-list). In parameter list configuration mode, you can:

- Create parameters for the specified parameter list using the **define** option.
- Create an instance of a parameter list using the **instance** option.

Note To view the **define** and **instance** options, type **?** in parameter list configuration mode.

To configure parameters and parameter list instances for an existing parameter list, use the **param-list** *parameter-list-name* command, where *parameter-list-name* corresponds to an existing parameter list.

Examples

The following example shows how to create a user-defined parameter list named List1 and create a parameter named param1 within the list:

```
Device# configure terminal
Device(config)# param-list List1
```

```
Device(config-param-list)# define param1 integer 100
Device(config-param-list)# exit
```

The following examples shows how to view existing parameter lists:

```
Device# configure terminal
Device(config)# param-list ?


WORD                Enter the name of the parameter list (Max Size 80)
List2 (no abbrev)
List3 (no abbrev)
```

In the above example, List2 and List3 are the existing parameter lists. The following example shows how to add a parameter named param2 to List2:

```
Device(config)# param-list List2
Device(config-param-list)# define param2 integer 100
Device(config-param-list)# exit
```

Related Commands

Command	Description
define	Creates user-defined parameters for the specified parameter list.
instance	Configures a parameter list instance.

password secure-mode

To configure a password for the user, use the **password secure-mode** command in global configuration mode. To disable the password configuration, use the **no** form of this command.

password secure-mode

no password secure-mode

Syntax Description

This command has no arguments or keywords.

Command Default

No password is configured.

Command Modes

Global configuration (config)

Command History

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

Examples

This example shows how to enable secure mode while changing the password:

```
Device# configure terminal
Device(config)# password secure-mode
Device(config)# exit
```

path (fabricpath-oam)

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 *ecmp-value*	Configures the Equal-Cost Multipath (ECMP) value in hexadecimal values. The range is 0 to 255.
switch-id *switch-id-value*	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 configuration (config-fb-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

The following example shows how to configure the control plane forward path verification request.

```
Device# configure terminal
Device(config)# fabricpath oam profile 100
Device(config-fb-oam-profile)# path forward ecmp 0xC0 switch-id 100
```

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.

payload (fabricpath-oam)

To configure a 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*}

payload {**pad** | **test pattern-type**}

Syntax Description

pad *pad-value*	Configures a FabricPath OAM payload pad value. The range is from 0x0 to 0xffff.
test	Configures FabricPath OAM payload test information.
pattern-type *pattern-id*	Configures a FabricPath OAM payload test pattern ID. The range is from 0 to 255.

Command Default

A fabricPath OAM payload pattern 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

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

The below table lists the various FabricPath OAM payload test patterns.

Table 1: 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.

Pattern ID	
4-255	Reserved for future standardization.

Examples

The following example shows how to configure the forward flow entropy for FabricPath OAM.

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

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.

ping fabricpath

To test the FabricPath Operation, Administration, Maintenance reachability, use the **ping fabricpath** command in privileged EXEC mode.

ping fabricpath [**switch-id** *switch-id* [**profile** *profile-id*] [**interface** *interface-id*] [**ingress** *if-id*] {**vlan** *vlan-id* | **tag** *tag-id* | **dot1q** *dot1q-id intf-id*} **[use-host-vlan]** [**reply mode out-of-band** {**ipv4** *ipv4-addr* | **ipv6** *ipv6-addr* }] [**forward flow** *flow-entropy* [**l2 | l3**]] [**hop** *hop-count*] [**topology** *topology-id*] [**size** *size* | **sweep** *min-size max-size*] [**payload** {**test pattern-type** *test-id* | **pad** *pad-val*}] [**repeat** *repeat-count*] **[validate] [verbose]** [**timeout** *timeout-val*] [**interval** *interval-val*] [**asynchronous** [**database** *database-id*] [**threshold** *threshold-val*]]]

Syntax Description

switch-id *switch-id*	(Optional) Sends a loopback request to the specified switch ID.
profile *profile-id*	(Optional) Specifies FabricPath OAM profile.
interface *interface-id*	(Optional) Name of the egress interface for FabricPath OAM ping. The allowed interfaces are Ethernet and Port Channel. The interface range is allowed for asynchronous ping so that multiple sessions per interface are created.
ingress *if-id*	(Optional) Name of the ingress interface. (Required for SVI when used for enhanced forwarding. The ingress SVI and IP address from flow entropy is used to determine which segment packet exits out of the device.)
vlan *vlan-id*	VLAN ID. The range is from 1 to 4094.
tag *tag-id*	FabricPath OAM tag. The range is from 4096 to 0x00FFFFFF.
dot1q *dot1q-id intf-id*	Specifies the FabricPath OAM 802.1Q interface ID. **Note** Dot1q option is not available on Cisco Nexus 5000 series and 6000 series switches and it's only applicable to N7k.
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 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 IP address of customer traffic.

reply mode out-of-band	(Optional) Specifies that the FabricPath OAM reply mode is out of band. By default, FabricPath OAM is replied in band (on the FabricPath network). Use the **reply mode out-of-band** keyword to change the mode of reply to out of band for input IPv4 or IPv6 addresses. For routing, only default VRF is used.
ipv4 *ipv4-addr*	(Optional) Specifies the input IPv4 address for out-of-band reply.
ipv6 *ipv6-addr*	(Optional) Specifies the input IPv6 address for out-of-band reply.
forward flow *flow-entropy*	(Optional) Specifies input flow entropy (128 bytes) from actual user data traffic so that FabricPath OAM packet takes the same path as user traffic.
l2	(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.
l3	(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 *hop-count*	(Optional) Specifies the FabricPath OAM ping hop count. Range is from 1 to 64. Default is 63.
topology *topology-id*	(Optional) Specifies the topology ID. Range is from 0 to 63. Default is 0.
size *size*	(Optional) Specifies the data padding size of data Type Length Value (TLV) or test TLV. The total size must not be greater than the MTU of the egress interface.
sweep *min-size max-size*	(Optional) Specifies the FabricPath OAM minimum or maximum data or test TLV size in a sweep scenario.
payload	(Optional) Specifies the FabricPath OAM payload pattern.
test pattern-type *test-id*	(Optional) Specifies the FabricPath OAM test pattern ID.

pad *pad-value*	(Optional) Specifies the padding of the packet with the specified data pattern. The range is from 0 to 0-0xFFFF.
repeat *repeat-count*	(Optional) Specifies the repeat value.
validate	(Optional) Validates the **ping** command.
verbose	(Optional) Displays additional information.
timeout *timeout-value*	(Optional) Specifies the timeout values in seconds. Range is from 1 to 36000.
interval *interval-val*	(Optional) Specifies the minimum send delay between requests, in milliseconds. The range is from 100 to 3600000. Default is 0 for synchronous ping, 1000 for asynchronous ping.
asynchronous *database-id*	(Optional) Specifies the database ID for storing asynchronous FabricPath OAM ping output.
threshold *threshold-value*	(Optional) Specifies the threshold for number of timeouts that can occur before the information is captured in syslogs or SNMP traps. The range is from 1 to 10.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

For an synchronous ping, traceroute, 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.

For Asynchronous ping, multiple sessions are automatically created for each interface option unless the you overwrite the inferface option using the **interface** keyword.

Examples

The following examples show how to ping a switch ID.

```
Device# 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
```

The following examples show how to ping a switch ID with the keyword **verbose**.

```
Device# 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
```

The following example shows how to ping FabricPath switch ID when data TLV is included.

```
Device# ping fabricpath switch-id 3570 vlan 10 size 100 payload pad 0xAABB 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
! size 274, reply switch-id 3570


Success rate is 100 percent (1/1), round-trip min/avg/max = 5/5/5 ms
Total time elapsed 6 ms
```

The following example shows how to ping FabricPath switch ID with enhanced forwarding.

```
Device# ping fabricpath switch-id 3570 ingress vlan 20 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: 7
!

Success rate is 100 percent (1/1), round-trip min/avg/max = 3/3/3 ms
Total time elapsed 5 ms
```

The following example shows interactive ping with control plane forward and control plane reverse verification request.

```
Device# ping fabricpath

Switch-id(1-65535) [1] 3570
Repeat count(1-429967295) [5]
Timeout in seconds [2]
Interval in ms [1000]
Extended command(y/n) [n] y
OAM Profile(1-1023) [none]
Interface [none]
Ingress Interface [none]
Forward Flow entropy [n]
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] y
Control path forward ecmp [1]
Control path forward switch-id(1-65535) [1] 3570
Control path reverse request [n] y
Control path reverse ecmp [1]
Control path reverse switch-id(1-65535) [1] 2021

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: 8
!!!!!

Success rate is 100 percent (5/5), round-trip min/avg/max = 3/7/19 ms
Total time elapsed 4071 ms
```

The following example shows how to ping FabricPath switch ID when flow entropy is specified.

```
Device# ping fabricpath switch-id 3570 forward flow 00112222111100222222333381000000A8904
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: 10
!

Success rate is 100 percent (1/1), round-trip min/avg/max = 14/14/14 ms
Total time elapsed 15 ms
```

Related Commands

Command	Description
mtrace fabricpath	Traces the path from a source to a destination branch for FabricPath OAM.
traceroute fabricpath	Discovers the FabricPath route.

port (fabricpath-oam)

To configure a destination or source flow port address, use the **port** command in FabricPath OAM profile flow configuration mode. To remove the configured address for 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 destination flow port address.
source	Specifies the source flow port address.
port-number	The source or destination port address. The range is from 0 to 65535.

Command Default

A flow port address is not configured.

Command Modes

FabricPath OAM profile flow configuration (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.

```
Device# configure terminal
Device(config)# fabricpath oam profile 100
Device(config-fb-oam-profile)# flow forward
Device(config-fb-oam-profile-flow)# port destination 300
```

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.
flow (fabricpath-oam)	Configures the direction FabricPath OAM flow entropy.

protocol (fabricpath-oam)

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 *protocol-number*

no protocol

Syntax Description

protocol-number	Flow protocol number. The range is from 0 to 255.

Command Default

A flow protocol number is not configured.

Command Modes

FabricPath OAM profile flow configuration (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

The following example shows how to configure the flow protocol number.

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

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.
flow (fabricpath-oam)	Configures the direction FabricPath OAM flow entropy.

redistribute hmm route-map

To enable redistribution of IPv4 and IPv6 Host Mobility Manager (HMM) routes through specified route maps, use the **redistribute hmm route-map** command in address-family configuration mode. To disable redistribution of HMM routes through specified route maps, use the **no** form of this command.

redistribute hmm route-map *map-name*

no redistribute hmm route-map *map-name*

Syntax Description

map-name	Route-map name. **Note** Redistribution does not work if an access list is used as a match option in route-maps.

Command Default

HMM routes are redistributed by default.

Command Modes

Address-family configuration (config-router-af)

Command History

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

Examples

The following example shows how to enable redistribution of HMM IPv4 routes filtered through route-map1:

```
Device# configure terminal
Device(config)# router bgp 100
Device(config-router)# address-family ipv4 unicast
Device(config-router-af)# redistribute hmm route-map route-map1
Device(config-router-af)# exit
```

reply mode out-of-band

To configure the 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.
ip-address	IPv4 or IPv6 address.
port-number	Port number. The range is from 0 to 65535.

Command Default

An out-of-band service reply mode 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.

Usage Guidelines

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

Examples

```
Device(#) configure terminal
Device(config)# fabricpath oam profile 100
Devie(config-fp-oam-profile)# reply mode out-of-band ipv6 10.1.1.7 500
```

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.

restart fabric_mcast

To restart the fabric multicast process in a controlled way, use the **restart fabric_mcast** in privileged EXEC mode.

restart fabric_mcast

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

You can restart the fabric multicast process only if the process is already running. You can start the fabric multicast process using the **ipv4 multicast fabric-forwarding** or **ipv6 multicast fabric-forwarding** command.

Examples

The following example shows how to restart a fabric multicast process:

```
Device# restart fabric_mcast
```

route-reflector-group affinity

To specify the route reflector group affinity to peer with, use the **route-reflector-group affinity** command in router configuration mode.

route-reflector-group affinity *group-id*

Syntax Description

group-id	Route reflector group ID. The range is from 1 to 65535.

Command Default

The route reflector group affinity is not configured.

Command Modes

Router configuration (config-router)

Command History

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

Examples

The following example shows how to configure a route reflector group affinity:

```
Device# configure terminal
Device(config)# router bgp 100
Device(config-router)# route-reflector-group affinity 100
```

Related Commands

Command	Description
feature-set fabric	Enables configuring host mobility-specific commands.

server protocol

To configure Lightweight Directory Access Protocol (LDAP) or Extensible Messaging and Presence Protocol (XMPP) for a server group, use the **server protocol** command in fabric database configuration mode. To remove the configuration use the **no** form of this command.

server protocol {**ldap | xmpp**} {**ip** *ip-address* | **host** *hostname*} [**port** *port-number*] [**vrf** *vrf-name*]

no server protocol {**ldap | xmpp**} {**ip** *ip-address* | **host** *hostname*} [**port** *port-number*] [**vrf** *vrf-name*]

Syntax Description

ldap	Specifies that LDAP is configured.
xmpp	Specifies that XMPP is configured.
ip *ip-address*	Specifies the IP address of the server.
host *hostname*	Specifies the hostname of the server.
port *port-number*	(Optional) Specifies the TCP or UDP port number on the server.
vrf *vrf-name*	(Optional) Specifies the VRF context to use to connect to the server.

Command Default

The protocol for a server group is not configured.

Command Modes

Fabric database configuration (config-fabric-db)

Command History

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

Usage Guidelines

Use this command along with the **fabric database type** command to configure an external database using XML or XMPP.

Examples

The following example shows how to configure a profile database using LDAP:

```
Device(config)# fabric database type profile
Device(config-fabric-db)# server protocol ldap ip 10.0.0.1
Device(config-fabric-db-server)# db-table db-profile-db
```

The following example shows how to configure an asset database using XMPP and segment ID as key.

```
Device(config)# fabric database type asset
Device(config-fabric-db)# server protocol xmpp host server.cisco.com
Device(config-fabric-db-server)# db-jid db@cisco.com key-type 1
```

```
Device(config-fabric-db-server)# user-jid leaf1@cisco.com password pwd
```

Related Commands

Command	Description
db-jid	Configures the Jabber ID of the database using XMPP.
fabric database type	Configures the external database.
user-jid	Configures the Jabber ID and password of the switch that is used to connect to the server.

server protocol radius

To configure a RADIUS server protocol for a an authentication, authorization, and accounting (AAA) server group, use the **server protocol radius** command in fabric database configuration mode. To remove the configuration, use the **no** form of this command.

server protocol radius group *group-name*

no server protocol radius group *group-name*

Syntax Description

group *group-name*	Specifies a RADIUS protocol using an authentication, authorization, and accounting (AAA) server group.

Command Default

The RADIUS server protocol for a AAA server group is not configured.

Command Modes

Fabric database configuration (config-fabric-db)

Command History

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

Usage Guidelines

Use this command along with the **fabric database type** command to configure an external database.

Examples

The following example shows how to configure an asset database using RADIUS:

```
Device(config)# fabric database type asset
Device(config-fabric-db)# server protocol radius group group1
Device(config-fabric-db-server)# key-type 2
```

Related Commands

Command	Description
fabric database type	Configures the external database.

service tag (fabricpath-oam)

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

tag-id	Service tag ID. The range is from 4096 to 16777215.

Command Default

A FabricPath OAM service 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

The service tag identifies the segment ID.

Examples

The following example shows how to configure the flow service.

```
Device# configure terminal
Device(config)# fabricpath oam profile 100
Device(config-fb-oam-profile)# service tag 4096
```

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.

set

To specify a value for a configured parameter, use the **set** command in parameter instance configuration mode.

set *param-name param-value*

Syntax Description

param-name	The name of the parameter. • The maximum number of characters is 80.
param-value	The value of the parameter. • The maximum number of characters is 80.

Command Default

No value is specified for the configured parameter.

Command Modes

Parameter instance configuration (config-param-inst)

Command History

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

Examples

The following example shows how to specify a value for a configured parameter:

```
Device> enable
Device# configure terminal
Device(config)# param-list param-prof1-list
Device(config-param-list)# define ipaddr ipaddr
Device(config-param-list)# define prog1 string
Device(config-param-list)# define segid integer
Device(config-param-list)# define vlan_num integer
Device(config-param-list)# instance param-prof1-inst1
Device(config-param-inst)# set ipaddr 192.0.2.1/24
Device(config-param-inst)# set prog1 vrf-300
Device(config-param-inst)# set segid 6300
Device(config-param-inst)# set vlan_num 300
Device(config-param-inst)# end
```

Related Commands

Command	Description
define	Creates user-defined parameters for the specified parameter list.
instance	Configures a parameter list instance.

show clock

To display the clock configuration, use the **show clock** command in any command mode.

show clock [detail]

Syntax Description

detail	(Optional) Displays the summer-time (daylight saving time) offset configuration.

Command Default

Displays all configured command alias variables.

Command Modes

Any command mode

Command History

Release	Modification
—	This command was introduced in a release earlier than Cisco NX-OS Release 7.0(0)N1(1).

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display the clock setting:

```
Device# show clock

Fri Jun 13 02:19:20 PDT 2008
```

This example shows how to display the clock setting and the summer-time (daylight saving time) configuration:

```
Device# show clock detail

Fri Jun 13 02:19:20 PDT 2008

summer-time configuration:
--------------------------
timezone name: PDT
starts       : 1 Sunday March at 02:00 hours
Ends         : 1 Sunday November at 02:00 hours
Minute offset: 60
```

show config-profile

To display details of created and applied profiles, use the **show config-profile** in privileged EXEC mode.

show config-profile

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

Use the **configure profile** command to create profiles and to assign a list of commands to the profile in the device. Once a profile is created with a valid parameter list and parameter instances, apply the profile using the **apply profile** command. Use > to redirect the configuration profile to a file and >> to redirect it to a file in append mode.

Examples

The following sample output from the **show config-profile** command displays details of the param-prof1 profile:

```
Device(config)# show config-profile param-prof1

config-profile param-prof1
  interface vlan $vlan_num
   ip local-proxy-arp
   ip proxy-arp
   fabric forwarding mode proxy-gateway
   ip address $ipaddr
   no ip redirects
   vrf member $prog1
   no shutdown
  vlan $vlan_num
   vn-segment $segid
 applied: param-prof1-inst1
```

Related Commands

Command	Description
apply profile	Applies a configuration profile to configure hosts.
configure profile	Configures a profile.
verify profile	Verifies if all configurations are correct for a configured profile.

show evb

To display information associated with Edge Virtual Bridging (EVB), use the **show evb** command in privileged EXEC mode.

show evb [[**hosts** | **vsi**] [**detail** | **summary**] [**interface ethernet** *slot-number*] [**ip** *ipv4-address*] [**ipv6** *ipv6-address*] [**mac** *mac-address*] [**vlan** *vlan-id*] [**vni** *vni-id*]]

Syntax Description

hosts	(Optional) Displays information about hosts in an EVB session.
vsi	(Optional) Displays information about Virtual Station Interface (VSI) in an EVB session.
detail	(Optional) Displays detailed information about hosts or VSI in an EVB session.
summary	(Optional) Displays summarized information about hosts or VSI in an EVB session.
interface	(Optional) Displays information about hosts or VSI by the interface in an EVB session.
ethernet *slot-number*	(Optional) Specifies information about the Ethernet IEEE 802.3z interface.
ip *ipv4-address*	(Optional) Displays information about hosts or VSI by the IPv4 address in an EVB session.
ipv6 *ipv6-address*	(Optional) Displays information about hosts or VSI by the IPv6 address in an EVB session.
mac *mac-address*	(Optional) Displays information about hosts or VSI by the MAC address in an EVB session.
vlan *vlan-id*	(Optional) Displays information about hosts or VSI by the VLAN in an EVB session.
vni *vni-id*	(Optional) Displays information about hosts or VSI by the Virtual Network Identifier (VNI) in an EVB session.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

Use the **feature evb** command to enable the EVB session. This, in turn, enables the **evb** keyword in the **show** command on the device.

Examples

The following is sample output from the **show evb** command:

```
Device# show evb

EVB (Edge Virtual Bridge)

Role                            : VDP bridge
VDP MAC address                 : 0180.c200.0000 (Nearest Bridge)
                                  0123.4567.89ab (User)
Resource wait init              : 21 (~ 20 sec)
Keep-alive init                 : 21 (~ 20 sec)
No. received vdpdu              : 0
No. dropped  vdpdu              : 0
No. received tlv                : 0
No. received mgr tlv            : 0
No. received assoc tlv          : 0
No. received cmd                : 0
```

Related Commands

Command	Description
feature evb	Enables the EVB session on a device.

show fabric access connections

To display the connection status of a device or a user in the fabric access network, use the **show fabric access connections** command in privileged EXEC mode.

show fabric access connections

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

Use the **show fabric access connections** command to view the status of devices and users in the fabric access network. The fabric access ping parameters include status, interval, response time, and retry.

Examples

This example shows how to display the connection status of the device and user in the fabric access network:

```
Device# show fabric access connections

XMPP Ping :
  Status = Enabled
  Interval = 60 second(s)
  Response = 10 second(s)
  Retry = 5 time(s)
Device Connection :
  JID      = device1@host1.com
  State    = CLOSED
```

The following table describes the significant fields shown in the display.

Table 2: show fabric access connections Field Description

Field	Descriptions
Status	Specifies whether the fabric access connection is reachable or unreachable.
Interval	Specifies how often fabric access ping messages are sent out to the server.
Response	Specifies the expected response time to receive a ping response from the server.

Field	Descriptions
Retry	Specifies the number of ping messages sent without receiving a successful response from the server before declaring the server dead.
Device Connection:	Specifies the details of a device.
JID	Specifies the Jabber ID details.
State	Specifies the state of the device connection.

Related Commands

Command	Description
show fabric access group	Displays the groups that a device or user is currently subscribed to or a list of members existing in a particular group.
show fabric access statistics	Checks which remote devices failed to respond to the CLI requests sent through the single point of management feature.

show fabric access group

To display the groups that a device or user is currently subscribed to or a list of members existing in a particular group, use the **show fabric access group** command in privileged EXEC mode.

show fabric access group [**device** | **members** *group-name* | **user**]

Syntax Description

device	(Optional) Lists the groups that the currently logged-in device belongs to.
members *group-name*	(Optional) Lists the members belonging to a group.
user	(Optional) Lists the groups that the currently logged-in user belongs to.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

The **show fabric access group** command is part of the single point of management feature and helps the device or user find the names of existing groups to join. You can also create a group in the Extensible Messaging and Presence Protocol (XMPP) server using the **fabric access create group** *group-name* command.

Examples

The following sample output from the **show fabric access group** command displays all the groups that the device or user is currently subscribed to:

```
Device# show fabric access group

group1
group2
group3
group4
group5
Total 5 groups
```

The following sample output from the **show fabric access group device** command displays the groups that the currently logged-in device is subscribed to:

```
Device# show fabric access group device
```

```
group3
group4
```

The following sample output from the **show fabric access group members** command displays the members belonging to group2:

```
Device# show fabric access group members group2

admin@host-1.com
device3@host-2.com
Total 2 members
```

Related Commands

Command	Description
fabric access login	Logs in to a fabric access server.
show fabric access group	Displays the groups that a device or user is currently subscribed to or a list of members existing in a particular group.
show fabric access statistics	Checks which remote devices failed to respond to the CLI requests sent through the single point of management feature.

show fabric access statistics

To check which remote devices failed to respond to the CLI requests sent through the single point of management feature, use the **show fabric access statistics** command in privileged EXEC mode.

show fabric access statistics

Syntax Description

This command has no arguments or keywords.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

Use the **fabric access attach** command or the **fabric access send** command to send CLI requests to a specified device or group.

Examples

The following sample output from the **show users** command displays the remote device "spom2-test2@host1.com" that did not respond to the **show users** command.

```
Device# show fabric access statistics

Device not replied(1) to CLI "sh users" on 2013-04-18 18:27:53
    spom2-test2@host1.com/(fabric-access-device)
```

Related Commands

Command	Description
fabric access send device	Sends a command to a host device or a list of host devices without entering the fabric access group chat mode.
fabric access send group	Sends a CLI command to a group of devices without entering fabric access group chat mode.
show fabric access connections	Displays the connection status of a device or a user that is connected in the fabric access network.

show fabric connectivity cable-plan

To display the cable plan available in the system memory, use the **show fabric connectivity cable-plan** command in privileged EXEC mode.

show fabric connectivity cable-plan

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
6.0(2)N3(1)	This command was introduced.

Usage Guidelines

This command displays information specific to the cable plan that is imported. The cable plan information includes the location of the imported file, mismatch delay configuration values, cable-plan-check enable values, and details of all entries that are related to the device.

If no cable plan is imported, the output of the command will not display anything.

Configure the **feature lldp** command before enabling cable management.

The following table provides a list of cable plan status codes:

Table 3: Cable Plan Status Codes

Status Code	Description
Ok	Everything works as per the configured cable plan checks; the cable-plan check is a success.
Unkn	Unable to determine the status. Usually happens when a cable plan is not enforced or there is no link between peers.
ErrC	The port is error-disabled due to a mismatch (the peer does not match the entry in the cable plan).
S	Specified at the end of a status. Usually happens when the port is stale in the device because the neighboring port interface is in an error-disabled mode.
Enp	An entry is not present in the cable plan. Usually happens when there is no cable plan record; however, there is a link between peers.

Examples

The following is sample output from the **show fabric connectivity cable-plan** command:

```
Device# show fabric connectivity cable-plan

--------------------------------------------------------------------------------
Cable-Plan Enforce:     Enforced       File:                            No File
Mismatch Delay Config:  Disabled       Mismatch Delay Timeout:               0
DeviceID:           host1.spine1       Last Deployed:
Md5:                                   Size:                                 0
--------------------------------------------------------------------------------
         Codes: (Ok) Normal, (ErrC) Cabling Plan error, (S) Stale entry
                (Unkn) Unknown, (Enp) Entry not present in Cable-Plan
Current Cable-Plan:
--------------------------------------------------------------------------------
lChassisId              lPortId     rChassisId              rPortId     Status
```

The following example shows how to enable cable management and import a cable plan from the local location. If a cable plan is not imported the output of the **show fabric connectivity cable-plan** will not display anything:

```
Device# configure terminal
Device(config)# feature lldp
Device(config)# feature cable-management
Device(config)# exit
Device# fabric connectivity cable-plan import bootflash:cp.xml

Success: Imported cable-plan: /bootflash/cp.xml
Device#
```

Related Commands

Command	Description
fabric connectivity cable-plan import	Imports a cable plan from a local or a remote location.

show fabric connectivity neighbors

To display cache information about fabric connectivity neighbors, use the **show fabric connectivity neighbors** command in privileged EXEC mode.

show fabric connectivity neighbors [**errors** | **interface** {**ethernet** *slot*/*chassis* | **mgmt** *interface-number*}| **tier** {**lower | upper** }]

Syntax Description

errors	(Optional) Displays information about neighbors that are in cabling error state.
interface	(Optional) Displays the list of neighbors connected to an interface.
ethernet *slot*/*chassis*	(Optional) Displays information about the specified Ethernet 802.3z interface. The range for the *slot*/*chassis* argument is from 1 to 253.
mgmt *interface-number*	(Optional) Displays information about the specified management interface.
tier	(Optional) Displays the neighbors connected to an adjacent tier.
lower	(Optional) Displays the neighbors connected to an adjacent lower tier.
upper	(Optional) Displays the neighbors connected to an adjacent upper tier.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
6.0(2)N3(1)	This command was introduced.

Usage Guidelines

This command displays the data received by a device via the Link Layer Discovery Protocol (LLDP) type, length, values (TLVs). The command also displays the local chassis and port IDs, remote chassis and port ID, the tier levels of the remote chassis, the expected cable-plan entry, and status of the configuration.

Examples

The following is sample output from the **show fabric connectivity neighbors** command:

```
Device# show fabric connectivity neighbors

------------------------------------------------------------------------------
Local System:
Device Tier Config:          Enabled       Device Tier Level:               2
Mismatch Delay Config:       Disabled      Mismatch Delay Timeout:          0
Cable-Plan Enforce:          Enabled
DeviceID:  host1                           ChassisID:  000a.0001.0008
------------------------------------------------------------------------------
         Codes: (Ok) Normal, (ErrT) Tier error , (ErrC) Cable-Plan error,
```

```
                (V) VPC Peer connection, (S) Stale entry, (Unkn) Unknown,
                (Enp) Entry not present in Cable-Plan, (Tl) Tier level
Neighbor Table:
--------------------------------------------------------------------------------
Local      DeviceID              PortID     Tl  Cable-Plan            Status
Intf                                           Entry

Eth2/1     leaf0                 Eth2/2     Unk Unkn                  Ok
Eth2/2     leaf1                 Eth2/2     Unk Unkn                  Ok
Eth2/3     leaf2                 Eth2/2     Unk Unkn                  Ok,S
Eth2/4     stewong-1             Eth2/2     Unk Unkn                  Ok
Eth2/5     leaf4                 Eth2/2     Unk Unkn                  Ok
Eth2/6     leaf5                 Eth2/2     Unk Unkn                  Ok
Eth2/7     leaf6                 Eth2/2     Unk Unkn                  Ok,S
Eth2/8     leaf7                 Eth2/2     Unk Unkn                  Ok

Total entries displayed: 8
```

Related Commands

Command	Description
clear fabric connectivity neighbors	Clears all information about neighbors from the neighbor cache.

show fabric database statistics

To display fabric database statistics, use the **show fabric database statistics** command in privileged EXEC mode.

show fabric database statistics [**type** | {**asset | cabling | profile** }]

Syntax Description

type	(Optional) Defines the type of statistics to display.
asset	(Optional) Displays statistics of asset databases.
cabling	(Optional) Displays statistics of cabling databases.
profile	(Optional) Displays statistics of profile databases.

Command Default

Displays statistics of all databases.

Command Modes

Privileged EXEC (#)

Command History

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

Examples

The following is sample output from the **show fabric database statistics** command where statistics for all databases are displayed. The fields are self-explanatory.

```
Device# show fabric database statistics
Global Stats:
DB-Type         Requests    Dispatched  Not dispatched  Re-dispatched
------------------------------------------------------------------------
Asset                  3             1               2              0
Cabling                0             0               0              0
Profile                1             1               0              0
------------------------------------------------------------------------
TOTAL                  4             2               2              0

Per Database stats:
T Prot Server/DB                          Reqs     OK  NoRes    Err  TmOut   Pend
------------------------------------------------------------------------------------
A LDAP host91                                1      0      1      0      0      0
       ou=segments,dc=cisco,dc=com
P LDAP host91                                1      1      0      0      0      0
       ou=profiles,dc=cisco,dc=com
Legend:
  T-Type (A-Asset, C-Cabling, P-Profile)
```

Related Commands

Command	Description
fabric database type	Configures the external database.

show fabric forwarding

To display information about the host databases and configuration of the host mobility manager (HMM) component, use the **show fabric forwarding** command in privileged EXEC mode.

show fabric forwarding {**host-db** | **internal** {**af** | **buffers** | **clients** | **debug** | **event-history** {**auto-config** | **errors** | **events** | **msgs** | **packets** | **periodic** | **trace**} | **intf** {**local-host-db** | **remote-host-db**} | **mac-bd local-host-db** | **mem-stats** | **migration-vips** | **state** | **svi-info** | **work-info**} | {**ip** | **ipv6**} {**aggregate-subnet-prefix** | **local-host-db** | **remote-host-db**}}

Syntax Description

host-db	Displays host database information.
internal	Displays internal HMM information.
af	Displays address family information.
buffers	Displays the internal buffer state maintained by HMM.
clients	Displays RPM clients.
debug	Displays internal debug information maintained by HMM.
event-history	Displays HMM event logs.
auto-config	Displays auto-configuration events of the HMM process.
errors	Displays HMM error logs.
events	Displays HMM process events.
msgs	Displays HMM message logs.
packets	Displays HMM process packet events.
periodic	Displays HMM process periodic events.
trace	Displays processing logs of HMM commands.
intf	Displays interface on which local host is learnt.

local-host-db	Displays HMM local host database information.
remote-host-db	Displays HMM remote host database information.
mac-bd	Displays MAC-Bridge Domain (MAC-BD) information.
mem-stats	Displays dynamic memory statistics.
migration-vips	Displays HMM VIPs DB for migration.
state	Displays internal state information maintained by HMM.
svi-info	Displays switched virtual interface (SVI) information.
work-info	Displays internal HMM worker thread information.
ip	Displays IP information.
ipv6	Displays IPv6 information.
aggregate-subnet-prefix	Displays HMM aggregate subnet prefix information.

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

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

Examples

This command shows how to display host database information:

```
Device# show fabric forwarding host-db
```

This command shows how to display address family information:

```
Device# show fabric forwarding internal af
Number of URIB buffers in use/xid   : 0/0
```

```
Number of U6RIB buffers in use/xid  : 0/0
Number of VRFs in Update RIB List   : 0
Update RIB event signalled count    : 0
Update RIB thread wake up count     : 0
```

This command shows how to display the internal buffer state maintained by HMM:

```
Device# show fabric forwarding internal buffers
HMM buffers information
```

This command shows how to display RPM clients:

```
Device# show fabric forwarding internal clients
Name            Uuid       Sap        Flags      Stats(R/A/N/F)
mrib            0x113      256        0x40       1/1/0/0
arp             0x10c      279        0xce80     1/1/0/0
adjmgr          0x108      252        0x680      1/1/0/0
fwm             0x28c      602        0x7aa2     1/1/0/0
ISIS_L2MP       0x118      432        0x1ff0     1/1/0/0
IP              0x221      263        0xc3a0     1/1/0/0
ICMPv6          0x10e      282        0xcec0     1/1/0/0
```

This command shows how to display internal debug information maintained by HMM:

```
Device# show fabric forwarding internal debug
HMM Debug information
Debug Flags                    : Off
Debug-filters                  : Off
```

This command shows how to display auto-configuration events of HMM process:

```
Device# show fabric forwarding internal event-history auto-config
Process auto-config logs of HMM
1) Event:E_DEBUG, length:65, at 382460 usecs after Mon Dec 23 10:53:29 2013
    [126] [10937]: Decrement outstanding PPM request (1/10) -> (0/10)

2) Event:E_DEBUG, length:65, at 376938 usecs after Mon Dec 23 10:53:29 2013
    [126] [10937]: Decrement outstanding PPM request (2/10) -> (1/10)

3) Event:E_DEBUG, length:65, at 375093 usecs after Mon Dec 23 10:53:29 2013
    [126] [10937]: Decrement outstanding PPM request (3/10) -> (2/10)

4) Event:E_DEBUG, length:65, at 373241 usecs after Mon Dec 23 10:53:29 2013
    [126] [10937]: Decrement outstanding PPM request (4/10) -> (3/10)
--More--
```

This command shows how to display HMM error logs:

```
Device# show fabric forwarding internal event-history errors
Error events for HMM Process
```

This command shows how to display HMM process events:

```
Device# show fabric forwarding internal event-history events
Process Event logs of HMM
1) Event:E_DEBUG, length:58, at 788428 usecs after Sun Jan 12 09:44:36 2014
    [117] [10937]: Received L3_PROTOCOL_STATE change msg, num 1
2) Event:E_DEBUG, length:58, at 786919 usecs after Sun Jan 12 09:44:36 2014
    [117] [10937]: Received L3_PROTOCOL_STATE change msg, num 1
3) Event:E_DEBUG, length:58, at 784142 usecs after Sun Jan 12 09:44:36 2014
    [117] [10937]: Received L3_PROTOCOL_STATE change msg, num 1
4) Event:E_DEBUG, length:51, at 777076 usecs after Sun Jan 12 09:44:36 2014
    [117] [10937]: Received IF_CREATED change msg, num 1
--More--
```

This command shows how to display HMM message logs:

```
Device# show fabric forwarding internal event-history msgs
Msg events for HMM Process
1) Event:E_DEBUG, length:45, at 602003 usecs after Mon Jan 13 05:14:48 2014
    [100] [32706]: nvdb: transient thread created

2) Event:E_DEBUG, length:83, at 601402 usecs after Mon Jan 13 05:14:48 2014
    [100] [10944]: comp-mts-rx opc - from sap 27057 cmd hmm_show_internal_event_
hist_cmd
```

```
3) Event:E_DEBUG, length:42, at 918941 usecs after Mon Jan 13 05:14:15 2014
    [100] [32699]: nvdb: terminate transaction

4) Event:E_DEBUG, length:45, at 896918 usecs after Mon Jan 13 05:14:15 2014
    [100] [32699]: nvdb: transient thread created
--More--
```

This command shows how to display HMM process packet events:

```
Device# show fabric forwarding internal event-history packets
Process packet logs of HMM
```

This command shows how to display HMM process periodic events:

```
Device# show fabric forwarding internal event-history periodic
Process periodic event logs of HMM
1) Event:E_DEBUG, length:44, at 786068 usecs after Mon Jan 13 05:16:01 2014
    [123] [10942]: HMM cleanup thread in progress
2) Event:E_DEBUG, length:44, at 785935 usecs after Mon Jan 13 05:15:56 2014
    [123] [10942]: HMM cleanup thread in progress
3) Event:E_DEBUG, length:43, at 62257 usecs after Mon Jan 13 05:15:55 2014
    [123] [10936]: Invoke profile bookkeeping...
4) Event:E_DEBUG, length:44, at 785801 usecs after Mon Jan 13 05:15:51 2014
    [123] [10942]: HMM cleanup thread in progress
--More--
```

This command shows how to display processing logs of HMM commands:

```
Device# show fabric forwarding internal event-history trace
Trace logs of HMM
1) Event:E_DEBUG, length:58, at 210400 usecs after Mon Dec 23 10:53:29 2013
    [119] [10935]: mts data queue bind success dynamic_sap=3137
```

This command shows how to display HMM local host database information:

```
Device# show fabric forwarding internal intf local-host-db
```

This command shows how to display HMM remote host database information:

```
Device# show fabric forwarding internal intf remote-host-db
```

This command shows how to display MAC-BD information:

```
Device# show fabric forwarding internal mac-bd local-host-db
```

This command shows how to display dynamic memory statistics:

```
Device# show fabric forwarding internal mem-stats
Mem stats for HMM Process

Private Mem stats for UUID : Malloc track Library(103) Max types: 5
-------------------------------------------------------------------------------
Curr alloc: 1728 Curr alloc bytes: 120844(118k)


Private Mem stats for UUID : Non mtrack users(0) Max types: 161
-------------------------------------------------------------------------------
Curr alloc: 740 Curr alloc bytes: 75035(73k)


Private Mem stats for UUID : libsdwrap(115) Max types: 22
-------------------------------------------------------------------------------
Curr alloc: 34 Curr alloc bytes: 2441304(2384k)


Private Mem stats for UUID : Associative_db library(175) Max types: 14
-------------------------------------------------------------------------------
Curr alloc: 156 Curr alloc bytes: 4400(4k)


Private Mem stats for UUID : Event sequence library(158) Max types: 4
-------------------------------------------------------------------------------
Curr alloc: 0 Curr alloc bytes: 0(0k)
```

```
--More--
```

This command shows how to display the HMM VIPs DB for migration:

```
Device# show fabric forwarding internal migration-vips
```

This command shows how to display internal state information maintained by HMM:

```
Device# show fabric forwarding internal state
HMM Internal Global State

Start reason                    : configuration
Sup state                       : Active
Restart type                    : Stateless
All core components up          : Yes
      Comp       Uuid       Up         Dynamic    Init
      clis       261        True       False      True
      ifmgr      318        True       False      True
      adjmgr     264        True       False      True
      arp        268        True       False      True
      icmpv6     270        True       False      True
      netstack   545        True       False      True
      l3vm       445        True       False      True
      urib       273        True       False      True
      u6rib      274        True       False      True
      unknown    652        True       False      True
      rpm        305        True       False      True
      unknown    593        False      True       False
      bgp        283        False      True       False
      unknown    406        False      True       False
      unknown    68         False      True       False
      pktmgr     263        True       False      True
      unknown    1210       True       True       True
      unknown    704        True       True       True
Libraries registered            : IP IPv6
HMM thread                      : 0x68b2cb90
Debug Flags                     : Off
```

This command shows how to display SVI information:

```
Device# show fabric forwarding internal svi-info
HMM Global config information
Fabric id                       : 0
Conversational Learning         : False
Urib/U6rib Conv Aging Timeout   : 1800/1800 (secs)
Switch role                     : leaf
Anycast Gateway mac             : 0000.0000.0000
Fabric control segment/Notify   : -/False
Migration count                 : 0
Migration                       : False
Port tracking                   : -


HMM SVI information
AM thread halted/count          : No/0
#RARP on Mgmt intf              : 407
#Recvd non Ether pkts           : 0
#Recvd non RARP pkts            : 0
#Hosts with same mac-bd         : 0
```

This command shows how to display internal HMM worker thread information:

```
Device# show fabric forwarding internal work-info
HMM Worker information

Work in Progress                        : False
Remote Hosts cleanup pending/progress   : False/False
Fabric ID change pending/progress       : False/False
#Worker walk                            : 0
#No work                                : 0
#Signal worker thread                   : 0
```

This command shows how to display IP HMM aggregate subnet prefix information:

```
Device# show fabric forwarding ip aggregate-subnet-prefix
```

This command shows how to display IP HMM local host database information:

```
Device# show fabric forwarding ip local-host-db
```

This command shows how to display IP HMM remote host database information:

```
Device# show fabric forwarding ip remote-host-db
```

This command shows how to display IPv6 HMM aggregate subnet prefix information:

```
Device# show fabric forwarding ipv6 aggregate-subnet-prefix
```

This command shows how to display IPv6 HMM local host database information:

```
Device# show fabric forwarding ipv6 local-host-db
```

This command shows how to display IPv6 HMM remote host database information:

```
Device# show fabric forwarding ipv6 remote-host-db
```

Related Commands

Command	Description
feature-set fabric	Enables configuring host mobility-specific commands.

show fabric multicast

To display routes of the fabric multicast process, use the **show fabric multicast** command in privileged EXEC mode.

show fabric multicast {**ipv4 | ipv6**} {**mroute | rp-grange | ssm-range**} **vrf** {*vrf-name* | **all | default | management**}

Syntax Description

ipv4	Displays IPv4 information.
ipv6	Displays IPv6 information.
mroute	Displays fabric multicast routes.
rp-grange	Displays rendezvous point (RP) group ranges.
ssm-range	Displays source specific multicast (SSM) ranges.
vrf	Displays VRF information.
vrf-name	VRF name.
all	Displays information about all VRFs learnt by the fabric multicast process.
default	Displays information about the default VRFs learnt by the fabric multicast process.
management	Displays information about the management learnt by the fabric multicast process.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

The fabric multicast process has three kind of routes: multicast routes, RP group ranges, and SSM ranges.

Examples

The following is sample output from the **show fabric multicast ipv4 mroute vrf all** command:

```
Device# show fabric multicast ipv4 mroute vrf all

Fabric mroute Database for VRF "default" VNI: 0
```

```
Fabric Mroute: (*, *)
  Interested Fabric Nodes:
    1.1.0.5 (real)

Fabric mroute Database for VRF "vpn1" VNI: 5002

Fabric Mroute: (*, *)
  Interested Fabric Nodes:
    This node
    1.1.0.1 (real)

Fabric Mroute: (*, 0.0.0.1/32)
  Interested Fabric Nodes:
    1.1.0.1 (aggr)

Fabric Mroute: (18.18.18.18/32, 0.0.0.1/32)
  Interested Fabric Nodes:
    1.1.0.1 (real)

Fabric mroute Database for VRF "vpn2" VNI: 5003

Fabric Mroute: (*, *)
  Interested Fabric Nodes:
    This node
    1.1.0.1 (real)

Fabric mroute Database for VRF "vpn3" VNI: 5004

Fabric Mroute: (*, *)
  Interested Fabric Nodes:
    This node
    1.1.0.1 (real)


Fabric mroute Database for VRF "vpn4" VNI: 5005

Fabric Mroute: (*, *)
  Interested Fabric Nodes:
    This node
    1.1.0.1 (real)
```

The following is sample output from the **show fabric multicast ipv4 rp-grange vrf all** command:

```
Device# show fabric multicast ipv4 rp-grange vrf all

RP Grange Database for VRF "default" VNI: 0

RP Grange Database for VRF "vpn1" VNI: 5002

RP: 18.18.18.18 Group Range: 238.0.0.0/16
RP: 19.19.19.19 Group Range: 239.0.0.0/16
RP Grange Database for VRF "vpn2" VNI: 5003

RP Grange Database for VRF "vpn3" VNI: 5004

RP Grange Database for VRF "vpn4" VNI: 5005
```

The following is sample output from the **show fabric multicast ipv4 ssm-range vrf all** command:

```
Device# show fabric multicast ipv4 ssm-range vrf all

SSM Range Database for VRF "default" VNI: 0

SSM Group Range: 232.0.0.0/8
SSM Range Database for VRF "vpn1" VNI: 5002

SSM Group Range: 232.0.0.0/8
SSM Range Database for VRF "vpn2" VNI: 5003

SSM Group Range: 232.0.0.0/8
SSM Range Database for VRF "vpn3" VNI: 5004

SSM Group Range: 232.0.0.0/8
```

```
SSM Range Database for VRF "vpn4" VNI: 5005
SSM Group Range: 232.0.0.0/8
```

Related Commands

Command	Description
ip multicast fabric-forwarding	Enables multicast enhanced fabric forwarding for a particular VRF.
show fabric multicast globals	Displays the global state associated with the fabric multicast process.
show fabric multicast vrf	Displays the VRFs learned by the fabric multicast process and VNIs configured under the VRFs.

show fabric multicast globals

To display the global state associated with the fabric multicast process, use the **show fabric multicast globals** command in privileged EXEC mode.

show fabric multicast globals

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

Use this command to display the global state of the fabric multicast process of the device.

Examples

The following is sample output from the **show fabric multicast global** command:

```
Device# show fabric multicast globals

`show fabric multicast globals`
Pruning: segment-based
Switch role: border
Fabric Control Seg: Vlan1
```

Related Commands

Command	Description
ip multicast fabric-forwarding	Enables multicast enhanced fabric forwarding for a particular VRF.

show fabric multicast vrf

To display the virtual routing and forwarding (VRFs) learned by the fabric multicast process and virtual network identifiers (VNI) configured under the VRFs, use the **show fabric multicast vrf** command in privileged EXEC mode.

show fabric multicast vrf [*vrf-name* | **all** | **default** | **management**]

Syntax Description

vrf-name	(Optional) VRF name.
all	(Optional) Displays all VRFs learned by the fabric multicast process and the VNIs configured under the VRFs.
default	(Optional) Displays VNIs configured under the default VRF.
management	(Optional) Displays VNIs configured under the management VRF.

Command Modes

Privileged EXEC (#)

Command History

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

Examples

The following is sample output from the **show fabric multicast vrf all** command:

```
Device> enable
Device# show fabric multicast vrf all

VRF Name                VRF       VN-Seg
                        ID        ID
default                 1         0
vpn1                    4         5002
vpn2                    5         5003
vpn3                    6         5004
vpn4                    7         5005
```

Related Commands

Command	Description
ip multicast fabric-forwarding	Enables multicast enhanced fabric forwarding for a particular VRF.
show fabric multicast	Displays routes of the fabric multicast process.
show fabric multicast globals	Displays the global state associated with the fabric multicast process.

show fabricpath isis

To display information about FabricPath Intermediate System-to-Intermediate System (IS-IS), use the **show fabricpath isis** command in privileged EXEC or global configuration mode.

show fabric isis

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Global configuration (config)

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.
7.0(0)N1(1)	This command was modified in Cisco NX-OS Release 7.0(0)N1(1). The following fields were included in the display: • Graceful Restart Holding • LSP Lifetime • L1 LSP GEN interval • L1 SPF Interval • Max-Path

Usage Guidelines

This command requires an Enhanced Layer 2 license. You can store the output of the command in an external file by including the > symbol after the command, followed by the name of the file and the type of storage location. You can add the output from the command to an existing file using the >> symbol.

Examples

The following example shows how to display information about FabricPath IS-IS in privileged EXEC mode:

```
Device(config)# show fabricpath isis

Fabricpath IS-IS domain : default
  System ID : 547f.eea9.f73c  IS-Type : L1 Fabric-Control SVI: Unknown
  SAP : 432  Queue Handle : 11
  Maximum LSP MTU: 1492
  Graceful Restart enabled. State: Inactive
  Last graceful restart status : none
  Graceful Restart holding time:60
  Metric-style : advertise(wide), accept(wide)
  Start-Mode: Complete [Start-type configuration]
  Area address(es) :
    00
  Process is up and running
```

```
CIB ID: 1
Interfaces supported by Fabricpath IS-IS :
Level 1
Authentication type and keychain not configured
Authentication check specified
LSP Lifetime: 1200
L1 LSP GEN interval- Max:8000 Initial:50      Second:50
L1 SPF Interval- Max:8000     Initial:50      Second:50
MT-0 Ref-Bw: 400000
      Max-Path: 16
Address family Swid unicast :
  Number of interface : 0
  Distance : 115
L1 Next SPF: Inactive
```

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 in privileged EXEC or global configuration mode.

show fabric isis interface{**brief** | **ethernet** *slot/port* | **port-channel** *channel-number*}

Syntax Description

brief	Displays brief information about the IS-IS interface.
ethernet	Displays information about the Ethernet interface.
slot/	Slots from 1 to 8. • Slots 1 to 4 are fixed Linecard Expansion Modules (LEMs). • Slots 5 to 8 are hot-swappable LEMs.
port	Port number within a particular slot. Range is from 1 to 128.
port-channel	Displays the information about port-channel interface.
channel-number	Port-channel number. Range is from 1 to 4096.

Command Modes

Privileged EXEC (#)

Global configuration (config)

Command History

Release	Modification
6.0(2)N1(1)	This command was introduced.
7.0(0)N1(1)	This command was modified in Cisco NX-OS Release 7.0(0)N1(1). The *QSFP-module* argument was removed.

Usage Guidelines

The **show fabricpath isis interface** command requires an Enhanced Layer 2 license. You can store the output of the command in an external file by including the > symbol after the command, followed by the name of the file and the type of storage location. You can add the output from the command to an existing file using the >> symbol.

Examples

This example shows how to display brief information about the FabricPath IS-IS interface:

```
Device# show fabricpath isis interface brief

Interface    Type  Idx State       Circuit   MTU  Metric  Priority  Adjs/AdjsUp
```

```
--------------------------------------------------------------------------------
Ethernet7/1  P2P   1     Up/Ready   0x01/L1   1500 400     64          1/1
Ethernet7/13 P2P   2     Up/Ready   0x01/L1   1500 400     64          1/1
Ethernet7/18 P2P   3     Up/Ready   0x01/L1   1500 40      64          1/1
```

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 the FabricPath OAM loopback database.
statistics	Displays FabricPath OAM loopback statistics.
summary	(Optional) Displays FabricPath OAM loopback statistics summary.
status	Displays FabricPath OAM loopback status.
session *session-handle*	(Optional) Displays information about 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

The following is sample output 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
```

The following is sample output from the **show fabricpath OAM loopback statistics summary** command.

```
Device# show fabricpath OAM loopback statistics summary

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

The following is sample output from the **show fabricpath OAM loopback status** command.

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

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

The following is sample output from the **show fabricpath OAM loopback database** command.

```
Device(#) 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
clear fabricpath oam loopback	Clears statistics for FabricPath OAM loopback.
fabricpath oam profile	Configures a FabricPath OAM profile.
ping fabricpath	Tests the FabricPath OAM reachability.

show fabricpath oam mtrace

To display information about fabricpath Operation, Administration, and Maintenance (OAM) mtrace, 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 fabricpath OAM mtrace statistics.
summary	(Optional) Displays fabricpath OAM mtrace statistics summary.

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

The following is sample output from the **show fabricpath oam mtrace statistics** command.

```
Device(#) 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)
```

The following is sample output from the **show fabricpath oam mtrace statistics summary** command.

```
Device(#) show fabricpath OAM mtrace statistics summary

Mtrace Requests: sent (5)/received (0)/timeout (0)/unsent (0)
Mtrace Replies: sent (0)/received (25)/unsent (0)
```

The following is sample output from the **show fabricpath oam mtrace database** command.

```
Device(#) 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
clear FabricPath oam mtrace	Clears statistics for FabricPath OAM mtrace.
fabricpath oam profile	Configures a FabricPath OAM profile.
mtrace fabricpath	Traces the path from a source to a destination branch for FabricPath OAM.

show fabricpath oam notification

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

show fabricpath oam notification {**database** | **statistics**}

Syntax Description

database	Displays information about the FabricPath OAM notification database.
statistics	Displays information about FabricPath OAM notification statistics.

Command Modes

Privileged EXEC (#)

Command History

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

Examples

The following is the sample output from the **show fabricpath OAM notification statistics** command.

```
Device(#) show fabricpath OAM notification statistics

Last Clearing of Statistics: Never
Notfication Received: 0
Time Expiry: 0
Destination Unreachable: 0
Parameter Problem: 0
```

Related Commands

Command	Description
clear fabripath oam notification	Clears statistics for FabricPath OAM notification.
fabricpath oam profile	Configures a FabricPath OAM profile.

show fabric 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 *session-handle*	(Optional) Displays information about for FabricPath OAM traceroute for a specific session.
statistics	Displays information about FabricPath OAM traceroute statistics.
summary	(Optional) Displays FabricPath OAM traceroute statistics summary.

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

The following is sample output from the **show fabricpath OAM traceroute statistics** command.

```
Device# 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)
```

The following is sample output from the **show fabricpath OAM traceroute statistics summary** command.

```
Device# 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)
```

The following is sample output from the **show fabricpath OAM traceroute database** command.

```
Device# 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
clear fabricpath oam traceroute	Clears statistics for FabricPath OAM traceroute.
fabricpath oam profile	Configures a FabricPath OAM profile.
traceroute fabricpath	Discovers the FabricPath route.

show interface ethernet

To display the Energy Efficient Ethernet (EEE) status on an interface, use the **show interface ethernet** command.

show interface ethernet *slot/chassis*

Syntax Description

slot/chassis	Slot or chassis number. The range is from 1 to 253.

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
6.0(2)N3(1)	This command was introduced in an earlier NX-OS release.

Usage Guidelines

This command does not require a license.

Examples

The following sample output shows the EEE status on an interface:

```
Device#  show interface ethernet 2/6

Ethernet2/6 is down (Link not connected)
admin state is up, Dedicated Interface
  Hardware: 10000 Ethernet, address: 0022.5579.de41 (bia 001b.54c1.af5d)
  MTU 1500 bytes, BW 10000000 Kbit, DLY 10 usec
  reliability 255/255, txload 1/255, rxload 1/255
  Encapsulation ARPA, medium is broadcast
  auto-duplex, auto-speed, media type is 10G
  Beacon is turned off
  Auto-Negotiation is turned off
  Input flow-control is off, output flow-control is off
  Auto-mdix is turned off
  Rate mode is shared
  Switchport monitor is off
  EtherType is 0x8100
  EEE (efficient-ethernet) : n/a
  Last link flapped never
  Last clearing of "show interface" counters never
  0 interface resets
  30 seconds input rate 0 bits/sec, 0 packets/sec
```

```
  30 seconds output rate 0 bits/sec, 0 packets/sec
  Load-Interval #2: 5 minute (300 seconds)
    input rate 0 bps, 0 pps; output rate 0 bps, 0 pps
  L3 in Switched:
    ucast: 0 pkts, 0 bytes - mcast: 0 pkts, 0 bytes
.
.
.
```

show interface status err-disabled

To display information about interfaces that are in error-disabled state, use the **show interface status err-disabled** command in privileged EXEC mode.

show interface status err-disabled

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

Release	Modification
6.0(2)N3(1)	This command was introduced.

Usage Guidelines

Miscabling interfaces, or interfaces in error-disabled state, prevent all traffic from leaving these interfaces. Error disabling is one way of bringing down an interface via software.

Examples

The following is sample output from the **show interface status err-disabled** command:

```
Device# show interface status err-disabled

--------------------------------------------------------------------------------
Port          Name               Status             Reason
--------------------------------------------------------------------------------
Eth2/1         --                down               fabric tier-mismatch
```

Related Commands

Command	Description
errdisable detect cause	Enables error-disable detection for an application.
errdisable recovery cause	Enables automatic recovery of an application from an error-disabled state.
errdisable recovery interval	Configures the error disable recovery timer.

show ip arp internal event-history

To view Address Resolution Protocol (ARP) event log messages, use the **show ip arp internal event-history** command in privileged EXEC mode.

show ip arp internal event-history {**cli** | **client-errors** | **client-event** | **control** | **errors** | **event** | **ha** | **ip-sync-event** | **lcache** | **lcache-errors** | **msgs** | **packet** | **snmp** | **sync-event**}

Syntax Description

cli	Displays ARP CLI-related event log messages.
client-errors	Displays ARP client error log messages.
client-event	Displays ARP client event log messages.
control	Displays ARP control event log messages.
errors	Displays ARP error log messages.
event	Displays ARP event log messages.
ha	Displays ARP High Availability (HA)-related log messages.
ip-sync-event	Displays ARP-related layer 3 (L3) routing traffic over virtual port channel (vPC) event log messages.
lcache	Displays ARP lcache log messages.
lcache-errors	Displays ARP lcache error log messages.
msgs	Displays ARP log messages.
packet	Displays ARP packet log messages.
snmp	Displays Simple Network Management Protocol (SNMP) log messages.
sync-event	Displays ARP-related Cisco Fabric Services (CFS) and multichassis EtherChannel Manager (MCECM) log messages.

Command Modes

Privileged EXEC (#)

Command History

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

Examples

The following sample output displays ARP error log messages:

```
Device# show ip arp internal event-history errors

 1)Event :E_DEBUG, length:40, at 763259 usecs after Wed Oct 9 16:37:49
2013

  [120] [4174]: Zero Ip on iod Ethernet2/1

 2)Event:E_DEBUG, length:40, at 755456 usecs after Wed Oct 9 16:37:48
2013

  [120] [4174]: Zero Ip on iod Ethernet2/2

 3)Event:E_DEBUG, length:34, at 52925 usecs after Wed Oct 9 16:21:37 2013


  [120] [4174]: Zero Ip on iod mgmt0
```

Related Commands

Command	Description
show ip arp internal event-history buffer-size	Displays current buffer size of ARP event log message types.
show ip arp statistics	Displays ARP statistics.

show ip arp internal event-history buffer-size

To view the current buffer size of Address Resolution Protocol (ARP) event log message types, use the **show ip arp internal event-history buffer-size** command in privileged EXEC mode.

show ip arp internal event-history buffer-size {**all** | **cli** | **client-errors** | **client-event** | **control** | **errors** | **event** | **ha** | **ip-sync-event** | **lcache** | **lcache-errors** | **packet** | **snmp** | **sync-event**}

Syntax Description

all	Displays the current buffer size for all ARP event log message types.
cli	Displays the current buffer size for the ARP CLI-related event log messages.
client-errors	Displays the current buffer size for the ARP client error log messages.
client-event	Displays the current buffer size for the ARP client event log messages.
control	Displays the current buffer size for the ARP control event log messages.
errors	Displays the current buffer size for the ARP error log messages.
event	Displays the current buffer size for the ARP event log messages.
ha	Displays the current buffer size for the ARP High Availability (HA)-related log messages.
ip-sync-event	Displays the current buffer size for the ARP-related layer 3 (L3) routing traffic over virtual port channel (vPC) event log messages.
lcache	Displays the current buffer size for the ARP lcache log messages.
lcache-errors	Displays the current buffer size for the ARP lcache error log messages.
packet	Displays the current buffer size for the ARP packet log messages.
snmp	Displays the current buffer size for the Simple Network Management Protocol (SNMP) log messages.
sync-event	Displays the current buffer size for the ARP-related Cisco Fabric Services (CFS) and multichassis EtherChannel Manager (MCECM) log messages.

Command Modes

Privileged EXEC (#)

Command History

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

Examples

The following sample output displays the buffer size for all ARP event log message types:

```
Device# show ip arp internal event-history buffer-size all


packet buffer size = 16384
errors buffer size = 16384
event buffer size = 8388608
CFS and MCEC event buffer size = 8388608
Layer peering  buffer size = 0
ARP control event buffer size = 8388608
ha buffer size = 16384
snmp buffer size = 16384
lcache buffer size = 16384
lcache error buffer size = 16384
cli buffer size = 16384
client-event buffer size = 16384
client error buffer size = 16384
```

Related Commands

Command	Description
show ip arp internal event-history	Displays ARP event log messages.
show ip arp statistics	Displays ARP statistics.

show ip arp statistics

To view Address Resolution Protocol (ARP) statistics, use the **show ip arp statistics** command in privileged EXEC mode.

show ip arp statistics [**ethernet** *interface-number* [**.***sub-interface-number*] | **loopback** *interface-number* | **mgmt** *management-interface-number*] [**interface-all**] [**vrf** {*vrf-name* | **all** | **default** | **management**}]

Syntax Description

ethernet *interface-number*	(Optional) Displays ARP statistics for the specified ethernet interface.
.*sub-interface-number*	(Optional) Subinterface number for which ARP statistics will be displayed. **Note** The period (.) needs to precede the *sub-interface-number* argument value.
loopback *interface-number*	(Optional) Displays ARP statistics for the specified loopback interface.
mgmt *management-interface-number*	(Optional) Displays ARP statistics for the specified management interface.
interface-all	(Optional) Displays ARP statistics for all interfaces.
vrf *vrf-name*	(Optional) Displays ARP statistics for the specified VRF instance.
vrf all	(Optional) Displays ARP statistics for all VRF instances.
vrf default	(Optional) Displays ARP statistics for the default VRF instance.
vrf management	(Optional) Displays ARP statistics for the management VRF instance.

Command Modes

Privileged EXEC (#)

Command History

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

Examples

The following sample output shows ARP statistics for an Ethernet subinterface:

```
Device# show ip arp statistics ethernet 2/1.1

 ARP packet statistics for interface: Ethernet2/1.1

 Sent:

  Total 0, Requests 0, Replies 0, Requests on L2 0, Replies on L2 0,
```

```
  Gratuitous 0, Tunneled 0, Dropped 0 from Server Port 0, from Fabric
Port 0,

  fixup core 0, fixup server 0, fixup rarp 0, modified anycast glean 0

  Send packet drops details:

       MBUF operation failed : 0

       Context not yet created : 0

       Invalid context : 0

       Invalid ifindex : 0

       Invalid SRC IP : 0

       Invalid DEST IP : 0

       Destination is our own IP : 0

       Unattached IP : 0

       Adjacency Couldn't be added : 0

       Null Source IP : 0

       Null Source MAC : 0

       Client Enqueue Failed : 0

       Dest. not reachable for proxy arp : 0

       Dest. unreachable for enhanced proxy: 0

       Dest. on L2 port being tracked : 0

       Invalid Local proxy arp : 0

       Invalid proxy arp : 0

       VIP is not active : 0


  Received:

   Total 0, Requests 0, Replies 0, Requests on L2 0, Replies on L2 0

   Proxy arp 0, Local-Proxy arp 0, Enhanced Proxy arp 0, Anycast proxy
Proxy arp 0,  L2 Port-track Proxy arp 0,  Tunneled 0,
   Fastpath 0, Snooped 0, Dropped 0, on Server Port 0

   Received packet drops details:

       Appeared on a wrong interface : 0

       Incorrect length : 0

       Invalid protocol packet : 0
```

```
Invalid context : 0
Context not yet created : 0
Invalid layer 2 address length : 0
Invalid layer 3 address length : 0
Invalid source IP address : 0
Source IP address is our own : 0
No mem to create per intf structure : 0
Source address mismatch with subnet : 0
Directed broadcast source : 0
Invalid destination IP address : 0
Non-local destination IP address : 0
Non-active FHRP dest IP address. Learn and drop : 0
Invalid source MAC address : 0
Source MAC address is our own : 0
Received before arp initialization : 0
```

Related Commands

Command	Description
show ip arp internal event-history	Displays ARP event log messages.
show ip arp internal event-history buffer-size	Displays current buffer size of ARP event log message types.

show logging level evb

To display the system log (syslog) filter level for an Edge Virtual Bridging (EVB) session, use the **show logging level evb** command in privileged EXEC mode.

show logging level evb

Command Default

None

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

Use the **feature evb** command to enable the EVB session. This, in turn, enables the **evb** keyword in the **logging level** command and the **show logging level** command on the device. Use the **show logging level evb** command to identify the default and the current severity levels of the EVB session.

Examples

The following is sample output from the **show logging level evb** command in which, for an EVB session, the default severity level is 5 and the user-defined syslog filter level is 4:

```
Device# show logging level evb

Facility        Default Severity        Current Session Severity
--------        ----------------        ------------------------
evb                     5                       4

0(emergencies)          1(alerts)       2(critical)
3(errors)               4(warnings)     5(notifications)
6(information)          7(debugging)
```

Related Commands

Command	Description
feature evb	Enables the EVB session on a device.
logging level evb	Enables the system log (syslog) filter level for an Edge Virtual Bridging (EVB) session

show logging logfile

To display messages in the log file that were timestamped within the configured time duration, use the **show logging logfile** command.

show logging logfile [**start-time** *yyyy mmm dd hh:mm:ss*] [**end-time** *yyyy mmm dd hh:mm:ss*]

Syntax Description

start-time	(Optional) Enter a start time to log messages in the format *yyyy mmm dd hh:mm:ss*. Use three characters for the month (*mmm)* field, digits for the year (*yyyy*) and day (*dd*) fields, and digits separated by colons for the time (*hh:mm:ss*) field.
end-time	(Optional) Enter an end time to log messages in the format *yyyy mmm dd hh:mm:ss*. Use three characters for the month (*mmm*) field, digits for the year (*yyyy*) and day (*dd*) fields, and digits separated by colons for the time (*hh:mm:ss*) field.

Command Modes

Any command mode

Supported User Roles

network-admin

network-operator

vdc-admin

vdc-operator

Command History

Release	Modification
6.0(2)N3(1)	This command was introduced in an earlier Cisco NX-OS release.

Usage Guidelines

If you do not enter an end time, the current time is used.

This command does not require a license.

Examples

This example shows how to display the messages in the log file that were timestamped within the span shown:

```
Device# show logging logfile start-time 2008 mar 11 12:10:00
Device#
```

show param-list

To display all user-defined parameter lists configured in a device, use the **show param-list** command in privileged EXEC mode.

show param-list [**param-list-name** *list-name*] **[show-instance]**

Syntax Description

param-list-name *list-name*	(Optional) Displays details of a specific user-defined parameter.
show-instance	(Optional) Displays details of instances created for user-defined parameters.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

The **show param-list** command displays all parameter lists configured in the device. To view the instances of all the parameter lists, use the **show param-list show-instance** command. To view the instances of a specific user-defined parameter list, use the **show param-list param-list-name** *list-name* **show-instance** command.

Examples

The following sample output from the **show param-list** command displays all parameter lists configured in the device:

```
Device(config)# show param-list

Param List Name : param-prof1-list
        Name : ipaddr   Type : ipaddr
        Name : prog1    Type : string
        Name : segid    Type : integer
        Name : vlan_num Type : integer
Param List Name : param-prof2-list
        Name : l2-segid Type : integer
        Name : l3-segid Type : integer
        Name : ipv4addr Type : ipaddr
        Name : ipv6addr Type : ipaddr
```

The following sample output from the **show param-list show-instance** command displays instances of all parameter lists available in the device:

```
Device(config)# show param-list show-instance

Param List Name : param-prof1-list
        Name : ipaddr   Type : ipaddr
        Name : prog1    Type : string
        Name : segid    Type : integer
        Name : vlan_num Type : integer
```

```
        Param Instance Name : param-prof1-inst1
        Name : ipaddr   Value : 192.0.2.12
        Name : prog1    Value : vrf-300
        Name : segid    Value : 6300
        Name : vlan_num Value : 300
        Param Instance Name : param-prof1-inst2
        Name : ipaddr   Value : 192.0.2.10
        Name : prog1    Value : 330-vrf-2
        Name : segid    Value : 6301
        Name : vlan_num Value : 301
Param List Name : param-prof2-list
        Name : l2-segid Type : integer
        Name : l3-segid Type : integer
        Name : ipv4addr Type : ipaddr
        Name : ipv6addr Type : ipaddr
        Param Instance Name : param-prof2-inst1
        Name : l2-segid Value : 6305
        Name : l3-segid Value : 6306
        Name : ipv4addr Value : 192.0.2.5
        Name : ipv6addr Value : 2001:DB8::1
        Param Instance Name : param-prof2-inst2
        Name : l2-segid Value : 6307
        Name : l3-segid Value : 6308
        Name : ipv4addr Value : 192.0.2.8
        Name : ipv6addr Value : 2001:DB8::1
```

The following sample output from the **show param-list param-list-name** *list-name* **show-instance** command displays instances of the param-prof1-list parameter list:

```
Device(config)# show param-list param-list-name param-prof1-list show-instance

Param List Name : param-prof1-list
        Name : ipaddr   Type : ipaddr
        Name : prog1    Type : string
        Name : segid    Type : integer
        Name : vlan_num Type : integer
        Param Instance Name : param-prof1-inst1
        Name : ipaddr   Value : 192.0.2.12
        Name : prog1    Value : vrf-300
        Name : segid    Value : 6300
        Name : vlan_num Value : 300
        Param Instance Name : param-prof1-inst2
        Name : ipaddr   Value : 192.0.2.10
        Name : prog1    Value : 330-vrf-2
        Name : segid    Value : 6301
        Name : vlan_num Value : 301
```

Related Commands

Command	Description
instance	Configures a parameter list instance.
show running-config param-list	Displays the statistical information about the running configuration of a parameter list.
show startup-config param-list	Displays the statistical information about the startup configuration of a parameter list.

show running-config evb

To display the currently running configuration of an Edge Virtual Bridging (EVB) session, use the **show running-config evb** command in privileged EXEC mode.

show running-config evb [**all**]

Syntax Description

all	(Optional) Displays the currently running configuration of an EVB session including all defaults.

Command Default

Displays the current configuration of the EVB session without any defaults.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

Use the **feature evb** command to enable the EVB session. This, in turn, enables the **evb** keyword in the **show running-config** command on the device.

Examples

The following is sample output from the **show running-config evb** command in an EVB session:

```
Device# show running-config evb

!Command: show running-config evb
!Time: Thu Oct 10 20:26:42 2013

version 6.2(1)
feature evb

logging level evb 6

evb reinit-keep-alive 21
evb resource-wait-delay 21
evb mac 0123.4567.89AB
```

Related Commands

Command	Description
feature evb	Enables the EVB session on a device.

show running-config fabric multicast

To display the running configurations made for the fabric multicast process, use the **show running-config fabric multicast** command in privileged EXEC mode.

show running-config fabric multicast [**all**]

Syntax Description

all	(Optional) Display all configurations made for the fabric multicast process.

Command Modes

Privileged EXEC (#)

Command History

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

Examples

The following is sample output from the **show running-config fabric multicast** command:

```
Device# show running-config fabric multicast all

!Command: show running-config fabric multicast all
!Time: Tue Oct 22 02:17:35 2013

version 6.2(1)
feature fabric multicast
ip multicast fabric-forwarding
```

Related Commands

Command	Description
ip multicast fabric-pruning	Sets the multicast fabric-pruning to a desired level.

show running-config param-list

To display the configurations of a parameter list saved to the running configuration file of a configured parameter list, use the **show running-config param-list** command in privileged EXEC mode.

show running-config param-list [*param-list-name*]

Syntax Description

param-list-name	(Optional) The name of the parameter list. • The maximum number of characters is 80.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

Use this command to display configured commands in the running configuration of a parameter list.

Examples

The following is sample output from the **show running-config param-list** command after configuring a parameter list:

```
! Configuring a Parameter list
Device> enable
Device# configure terminal
Device(config)# param-list param-prof1-list
Device(config-param-list)# define ipaddr ipaddr
Device(config-param-list)# define prog1 string
Device(config-param-list)# define segid integer
Device(config-param-list)# define vlan_num integer
Device(config-param-list)# instance param-prof1-inst1
Device(config-param-inst)# set ipaddr 192.0.2.1/24
Device(config-param-inst)# set prog1 vrf-300
Device(config-param-inst)# set segid 6300
Device(config-param-inst)# set vlan_num 300
Device(config-param-inst)# instance param-prof1-inst2
Device(config-param-inst)# set ipaddr 192.0.2.2/24
Device(config-param-inst)# set prog1 330-vrf-2
Device(config-param-inst)# set segid 6301
Device(config-param-inst)# set vlan_num 301
Device(config-param-inst)# exit
Device(config-param-list)# exit

! Displaying the running configuration of a parameter list
Device(config)# show running-config param-list param-prof1-list

!Command: show running-config param-list param-prof1-list
!Time: Thu Nov 28 00:37:25 2013
```

```
version 6.2(1)
param-list param-prof1-list
  define ipaddr ipaddr
  define prog1 string
  define segid integer
  define vlan_num integer
  instance param-prof1-inst1
    set ipaddr 192.0.2.1/24
    set prog1 vrf-300
    set segid 6300
    set vlan_num 300
  instance param-prof1-inst2
    set ipaddr 192.0.2.2/24
    set prog1 330-vrf-2
    set segid 6301
    set vlan_num 301


Device(config)# end
```

Related Commands

Command	Description
define	Creates user-defined parameters for the specified parameter list.
show param-list	Displays all user-defined parameter lists configured in a device.

show startup-config evb

To display the configuration of an Edge Virtual Bridging (EVB) session stored in the NVRAM that will be used at the next device startup, use the **show startup-config evb** command in privileged EXEC mode.

show startup-config evb [**all**]

Syntax Description

all	(Optional) Displays the configuration of an EVB session from the NVRAM, including all defaults.

Command Default

Displays the configuration of the EVB session from the NVRAM without any defaults.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

Use the **feature evb** command to enable the EVB session. This, in turn, enables the **evb** keyword in the **show startup-config** command on the device.

Examples

The following is sample output from the **show startup-config evb** command in an EVB session:

```
Device# show startup-config evb

!Command: show startup-config evb
!Time: Thu Oct 10 20:28:36 2013
!Startup config saved at: Thu Oct 10 20:24:00 2013

version 6.2(1)
feature evb

logging level evb 6

evb reinit-keep-alive 21
evb resource-wait-delay 21
evb mac 0123.4567.89AB
```

Related Commands

Command	Description
feature evb	Enables the EVB session on a device.

show startup-config param-list

To display the configurations of a parameter list saved to the startup configuration file of a configured parameter list, use the **show startup-config param-list** command in privileged EXEC mode.

show startup-config param-list [*param-list-name*]

Syntax Description

param-list-name	(Optional) The name of the parameter list. • The maximum number of characters is 80.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

Use this command to display configured parameters saved to the startup configuration of a parameter list.

Examples

The following is sample output from the **show startup-config param-list** command after configuring a parameter list:

```
! Configuring a Parameter list
Device> enable
Device# configure terminal
Device(config)# param-list param-prof1-list
Device(config-param-list)# define ipaddr ipaddr
Device(config-param-list)# define prog1 string
Device(config-param-list)# define segid integer
Device(config-param-list)# define vlan_num integer
Device(config-param-list)# instance param-prof1-inst1
Device(config-param-inst)# set ipaddr 192.0.2.1/24
Device(config-param-inst)# set prog1 vrf-300
Device(config-param-inst)# set segid 6300
Device(config-param-inst)# set vlan_num 300
Device(config-param-inst)# instance param-prof1-inst2
Device(config-param-inst)# set ipaddr 192.0.2.2/24
Device(config-param-inst)# set prog1 330-vrf-2
Device(config-param-inst)# set segid 6301
Device(config-param-inst)# set vlan_num 301
Device(config-param-inst)# exit
Device(config-param-list)# exit
Device(config)#  copy running-config startup-config
[########################################] 100%
Copy complete.

! Displaying the startup configuration of a parameter list
Device(config)# show startup-config param-list param-prof1-list
```

```
!Command: show startup-config param-list param-prof1-list
!Time: Thu Nov 28 02:51:51 2013
!Startup config saved at: Thu Nov 28 02:51:30 2013

version 6.2(1)
param-list param-prof1-list
  define ipaddr ipaddr
  define prog1 string
  define segid integer
  define vlan_num integer
  instance param-prof1-inst1
    set ipaddr 192.0.2.1/24
    set prog1 vrf-300
    set segid 6300
    set vlan_num 300
  instance param-prof1-inst2
    set ipaddr 192.0.2.2/24
    set prog1 330-vrf-2
    set segid 6301
    set vlan_num 301

Device(config)# end
```

Related Commands

Command	Description
define	Creates user-defined parameters for the specified parameter list.
show param-list	Displays all user-defined parameter lists configured in a device.

show tech-support fabric multicast

To display all **show** commands and event histories associated with fabric multicast process, use the **show tech-support fabric multcast** command in virtual services configuration mode.

show tech-support fabric_mcast

Syntax Description

This command has no arguments or keywords.

Command Modes

Privileged EXEC (#)

Command History

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

Examples

The following is sample output from the **show tech-support fabric multicast** command:

```
Device# show tech-support fabric multicast

`show running-config fabric multicast`

!Command: show running-config fabric multicast
!Time: Tue Oct 22 16:42:32 2013

version 6.2(1)
feature fabric multicast

ip multicast fabric-forwarding


`show system internal sysmgr service name fabric_mcast`
Service "fabric_mcast" ("fabric_mcast", 119):
        UUID = 0x4B3, PID = 14139, SAP = 1241
        State: SRV_STATE_HANDSHAKED (entered at time Tue Oct 22 16:42:03 2013).
        Restart count: 2
        Time of last restart: Tue Oct 22 16:42:03 2013.
        The service never crashed since the last reboot.
        Tag = N/A
        Plugin ID: 1

`show system internal feature-mgr feature state | include fabric_mcast`
fabric_mcast          0x000004b3  enabled   SUCCESS
`show processes threads fabric_mcast`
Thread-name                    Pid      Stack-base Stack-size Bytes used MaxTime
`show fabric multicast vrf all`
Note:  process currently not running
`show fabric multicast globals`
Note:  process currently not running
`show fabric multicast ipv4 mroute vrf all`
Note:  process currently not running
`show fabric multicast ipv6 mroute vrf all`
Note:  process currently not running
`show fabric multicast ipv4 ssm-range vrf all`
Note:  process currently not running
`show fabric multicast ipv6 ssm-range vrf all`
Note:  process currently not running
```

```
`show fabric multicast ipv4 rp-grange vrf all`
Note:  process currently not running
`show fabric multicast ipv6 rp-grange vrf all`
Note:  process currently not running
`show system internal fabric multicast ipv4 nexthop mapping`
Note:  process currently not running
`show system internal fabric multicast ipv6 nexthop mapping`
Note:  process currently not running
`show fabric multicast internal txlist detail vrf all`
Note:  process currently not running
`show fabric multicast internal client-buffers`
Note:  process currently not running
`show fabric multicast internal statistics`
Note:  process currently not running
`show fabric multicast internal event-history errors`
Note:  process currently not running
`show fabric multicast internal event-history msgs`
```

system fabric core-vlans

To specify the VLAN ID or range of VLAN IDs used for core-facing interfaces, use the **system fabric core-vlans** command in global configuration mode. To remove the specified VLAN ID or range of VLAN IDs, use the **no** form of this command.

system fabric core-vlans *vlan-id-or-range*

no system fabric core-vlans

Syntax Description

vlan-id-or-range	VLAN ID or range. You can specify VLAN IDs from 1 to 4094. The VLAN range is 1-5, 10 or 2-5, and 7-19.

Command Default

No default range of VLAN IDs is specified.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Use the **system fabric core-vlans** command to specify the set of VLANs that are used for core-facing interfaces. You can specify only those VLANs that are a subset of the fabric-reserved VLANs defined using the **system fabric dynamic-vlans** command. You an use the **system fabric core-vlans** command only after you have enabled the **feature fabric forwarding** command.

Note There can be no existing VLANS in the range you specify by using the **system fabric core-vlans** command.

Examples

The following example shows how to specify a VLAN ID or a range of VLAN IDs for a device:

```
Device> enable
Device# configure terminal
Device(config)# install feature-set fabric
Device(config)# feature-set fabricpath
Device(config)# feature-set fabric
Device(config)# feature fabric forwarding
Device(config)# system fabric dynamic-vlans 7-19
Device(config)# system fabric core-vlans 5
```

Related Commands

Command	Description
feature-set fabric	Enables configuring host mobility-specific commands.

system fabric dynamic-vlans

To specify the VLAN ID or range of core and server and core or host-facing VLANs for a device, use the **system fabric dynamic-vlans** command in global configuration mode. To remove the specified VLAN ID or range of VLAN IDs, use the **no** form of this command.

system fabric dynamic-vlans *vlan-id-or-range*

no system fabric dynamic-vlans

Syntax Description

vlan-id-or-range	VLAN ID or range. You can specify VLAN IDs from 1 to 4094. The VLAN range is 1-5, 10 or 2-5, and 7-19.

Command Default

No default range of VLAN IDs is specified.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

Use the **system fabric dynamic-vlans** command to specify the VLAN IDs or the complete range of core and server or host-facing VLANs for a device. You an use this command only after you have enabled the **feature fabric forwarding** command. We recommend specifying a contiguous range of VLAN IDs.

Note There can be no existing VLANS in the range you specify by using the **system fabric dynamic-vlans** command.

Examples

The following example shows how to specify a VLAN ID or range of VLAN IDs for a device:

```
Device> enable
Device# configure terminal
Device(config)# install feature-set fabric
Device(config)# feature-set fabricpath
Device(config)# feature-set fabric
Device(config)# feature fabric forwarding
Device(config)# system fabric dynamic-vlans 2
Device(config)# system fabric dynamic-vlans 7-19
```

Related Commands

Command	Description
feature-set fabric	Enables configuring host mobility-specific commands.

topology (fabricpath-oam)

To configure a 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.

topology *topology-id*

no topology

Syntax Description

topology-id	Topology identifier. The range is from 0 to 63.

Command Default

A FabricPath OAM service topology identifier 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.

Examples

The following example shows how to configure a FabricPath OAM topology identifier.

```
Device# configure terminal
Device(config)# fabricpath oam profile 100
Device(config-fb-oam-profile)# topology 15
```

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.

traceroute fabricpath

To discover the FabricPath Operation, Administration, and Maintenance (OAM) route, use the **traceroute fabricpath** in privileged EXEC mode.

traceroute fabricpath switch-id *switch-id* [**interface** *interface-id*] [**vlan** *vlan-id* | **tag** *tag-id* | **dot1q** *dot1q-id intf-id*] **[use-host-vlan]** [**reply mode out-of-band** {**ipv4** *ipv4-addr* | **ipv6** *ipv6-addr*}] [**forward flow** *flow-entropy* {**l2 | l3**}] [**hop** *hop-count*] [**topology** *topology-id*] **verbosetimeout** *timeout-value*

Syntax Description

switch-id *switch-id*	Sends a loopback request to the specified switch ID.
interface *interface-id*	(Optional) Name of the egress interface for FabricPath OAM traceroute.
vlan *vlan-id*	VLAN ID. The range is from 1 to 4094.
tag *tag-id*	FabricPath OAM tag. The range is from 4096 to 0x00FFFFFF.
dot1q *dot1q-id intf-id*	Specifies the FabricPath OAM 802.1Q interface ID. **Note** The Dot1q option is not available on Cisco Nexus 5000 series and 6000 series switches; it is available only on the Cisco Nexus 7000 series.
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	(Optional) Specifies that the FabricPath OAM reply mode is out of band. By default, FabricPath OAM is replied in band (on the FabricPath network). Use the **reply mode out-of-band** keyword to change the mode of reply to out of band for input IPv4 or IPv6 addresses. For routing, only the default VRF is used.
ipv4 *ipv4-addr*	(Optional) Specifies the input IPv4 address for out-of-band reply.
ipv6 *ipv6-addr*	(Optional) Specifies the input IPv6 address for out-of-band reply.

forward flow *flow-entropy*	(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.
l2	(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.
l3	(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 *hop-count*	(Optional) Specifies the FabricPath OAM ping hop count. Range is from 1 to 64. Default is 63.
topology *topology-id*	(Optional) Specifies the topology ID. Range is from 0 to 63. Default is 0.
verbose	(Optional) Displays additional information.
timeout *timeout-value*	(Optional) Specifies the timeout values. Range is from 1 to 36000.

Command Modes

Privileged EXEC (#)

Command History

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

Usage Guidelines

For a synchronous ping, traceroute, 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

The following example shows how to discover the route for FabricPath OAM packets.

```
Device# traceroute fabricpath switch-id 10

Sender handle: 3
Tracing 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]
```

The following example shows how to discover the route for FabricPath OAM packets with for a specific switch ID when the keyword **verbose** is included.

```
Device#  traceroute fabricpath switch-id 3570 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: 1
Hop Code SwitchId Interface State TotalTime PathId DwnSwId Intf State
================================================================================
1 ! 3570 Rcvd on Eth1/3 fwd 3ms


!!!!!specify customer flow entropy
```

The following example shows how to discover the route for FabricPath OAM packets with for a specific switch ID for forward flow.

```
Device#  traceroute 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
```

The following example shows interactive traceroute with user specified layer 2 flow entropy

```
Device#  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(1-0xFFFFFF) [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
mtrace fabricpath	Traces the path from a source to a destination branch for FabricPath OAM.
ping fabricpath	Tests the FabricPath OAM reachability.

use-vrf

To specify a virtual routing and forwarding instance (VRF) name for a RADIUS, TACACS+, or LDAP server group, use the **use-vrf** command in the appropriate command mode. To remove the VRF name, use the **no** form of this command.

use-vrf *vrf-name*

no use-vrf *vrf-name*

Syntax Description

vrf-name	VRF name. The name is case sensitive.

Command Default

No VRF name is specified.

Command Modes

RADlUS server group configuration (config-radius)

TACACS+ server group configuration (config-tacacs+)

LDAP server group configuration (config-ldap)

Command History

Release	Modification
—	This command was introduced in an earlier Cisco NX-OS release.

Usage Guidelines

You can configure only one VRF instance for a server group.

Use the **aaa group server radius** command to enter RADIUS server group configuration mode, the **aaa group server tacacs+** command to enter TACACS+ server group configuration mode, or the **aaa group server ldap** command to enter LDAP server group configuration mode.

If the server is not found, use the **radius-server host** command, the **tacacs-server host** command, or the **ldap-server host** command to configure the server.

Note You must use the **feature tacacs+** command before you configure TACACS+ or the **feature ldap** command before you configure LDAP.

This command does not require a license.

Examples

This example shows how to specify a VRF name for a RADIUS server group:

```
Device# configure terminal
Device(config)# aaa group server radius RadServer
Device(config-radius)# use-vrf vrf1
```

This example shows how to specify a VRF name for a TACACS+ server group:

```
Device(config)# feature tacacs+
Device(config)# aaa group server tacacs+ TacServer
Device(config-tacacs+)# use-vrf vrf2
```

This example shows how to remove the VRF name from a TACACS+ server group:

```
Device(config)# feature tacacs+
Device(config)# aaa group server tacacs+ TacServer
Device(config-tacacs+)# no use-vrf vrf2
```

This example shows how to specify a VRF name for an LDAP server group:

```
Device(config)# feature ldap
Device(config)# aaa group server ldap LdapServer
Device(config-ldap)# use-vrf vrf3
```

This example shows how to remove the VRF name from an LDAP server group:

```
Device(config)# feature ldap
Device(config)# aaa group server ldap LdapServer
Device(config-ldap)# no use-vrf vrf3
```

Related Commands

Command	Description
aaa group server radius	Creates a RADIUS server group and enters RADIUS server group configuration mode.

user-jid

To configure Jabber ID and password of the switch that is used to connect to the server, use the **user-jid** command in fabric database server configuration mode. To remove the Jabber ID and password, use the **no** form of this command.

user-jid *jid* **password** *password*

no user-jid *jid* **password** *password*

Syntax Description

jid	Jabber ID of the switch.
password *password*	Specifies the password for the Jabber ID.

Command Default

The Jabber ID and password are not configured.

Command Modes

Fabric database server configuration (config-fabric-db-server)

Command History

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

Usage Guidelines

Use the **user-jid** command to configure the Jabber ID and password for the switch that is used to connect to the Extensible Messaging and Presence Protocol (XMPP) server. Use this command with the **fabric database type asset** command to configure the external database using Extensible Markup Language (XML) and XMPP.

Examples

The following example shows how to configure a Jabber ID and password:

```
Device(config)# fabric database type asset
Device(config-fabric-db)# server protocol xmpp host xcp-server.cisco.com
Device(config-fabric-db-server)# db-jid asset-db@cisco.com key-type 1
Device(config-fabric-db-server)# user-jid leaf1@cisco.com password pwd
```

Related Commands

Command	Description
db-jid	Configures the Jabber ID of the database using XMPP.
fabric database type	Configures the external database.

vdc switch

To create or specify a virtual device context (VDC) for a switch and enter VDC configuration mode, use the **vdc switch** command.

vdc switch [**id 1** | **type storage**]

Syntax Description

id 1	(Optional) Forces the VDC into a specific ID 1.
type storage	(Optional) Specifies a VDC for storage.

Command Default

No VDC is specified.

Command Modes

Global configuration (config)

Command History

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

Usage Guidelines

You can use the **vdc switch** command only with the specific Virtual Device Context (VDC) identifier value of 1. The VDC type storage cannot be the default VDC, and it can be only one of the VDCs. You cannot have two type storage VDCs on the device. When you create or specify a VDC, the Cisco NX-OS software allocates the internal resources for the VDC. This process can take a few minutes to complete depending on the amount of internal resource you have requested for the VDC.

Examples

The following example shows how to specify a Virtual Device Context (VDC) for a switch:

```
Device> enable
Device# configure terminal
Device (config)# vdc switch
Device(config-vdc)# end
```

The following example shows how to force a VDC into a specific ID <1>:

```
Device> enable
Device# configure terminal
Device (config)#  vdc switch id 1
Device(config-vdc)# end
```

The following example shows how to force a VDC into a specific ID <1>:

```
Device> enable
Device# configure terminal
```

```
Device(config)# vdc switch type storage
Device(config)# end
```

verify profile

To verify a configured profile, use the **verify profile** command in parameter instance configuration mode.

verify profile *profile-name*

Syntax Description

profile-name	The name of the configured profile. • The maximum number of characters is 80.

Command Modes

Parameter instance configuration (config-param-inst)

Command History

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

Usage Guidelines

If the profile configurations are incorrect, the **verify profile** command displays an error.

Examples

The following example shows how to verify a profile using the **verify profile** command after configuring a profile:

```
! Configuring a profile
Device> enable
Device# configure terminal
Device(config)# configure profile Profile1
Device(config-profile)# bridge-domain 10
Device(config-profile-bdomain)# vlan 1-5
Device(config-profile-vlan)# end

! Verifying a configured profile
Device# configure terminal
Device(config)# param-list Marksheet
Device(config-param-list)# instance Instance1
Device(config-param-inst)# verify profile Profile1
Device(config-param-inst)# end
```

Related Commands

Command	Description
configure profile	Configures a profile.
instance	Configures a parameter list instance.
show config-profile	Displays details of created and applied profiles.

vlan (fabricpath-oam)

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

vlan *vlan-id*

no vlan

Syntax Description

vlan-id	VLAN identifier. Range is from 1 to 3967.

Command Default

A FabricPath OAM VLAN 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.

Examples

The following example shows how to configure the a FabricPath OAM VLAN.

```
Device# configure terminal
Device(config)# fabricpath oam profile 100
Device(config-fb-oam-profile)# vlan 100
```

Related Commands

Command	Description
fabricpath oam profile	Configures a FabricPath OAM profile.

vlan access-map

To create a new VLAN access-map entry or to configure an existing VLAN access-map entry on a device, use the **vlan access-map** command in global configuration mode. To remove a VLAN access-map entry, use the **no** form of this command.

vlan access-map *map-name*

no vlan access-map *map-name*

Syntax Description

map-name	Name of the VLAN access map that you want to create or configure. The *map-name* argument can be up to 64 alphanumeric, case-sensitive characters.

Command Default

A VLAN access-map is not configured.

Command Modes

Global configuration (config)

Command History

Release	Modification
—	This command was introduced in a release earlier than Cisco NX-OS Release 7.0(0)N1(1).
7.0(0)N1(1)	This command was modified. The *sequence-number* argument was removed.

Usage Guidelines

Each VLAN access-map entry can include one **action** command and one or more **match** commands. Use the **statistics per-entry** command to configure the device to record statistics for a VLAN access-map entry.

Use the **vlan access-map** command to enter the access-map configuration mode (config-access-map) to enable receiving of packets on any port on the switch. PowerOn Auto Provisioning (POAP) uses access control 3ists (ACL) to selectively receive packets. All line cards supported by N7K support Layer 2 ports. Therefore, for the purpose of PoAP, all ports are configured as Layer 2 ports. To simplify configuration of ACLs, a common VLAN is allowed on all the ports and the VLAN ACL (VACL) configured on this common VLAN.

The VACL is configured in two phases. Initially, the VACL will be configured to permit just the DHCP requests and responses and redirect these to the supervisor. All other packets will be dropped. The permit rules match DHCP requests and responses. They make use of the fact that DHCP uses UDP and fixed L4 port numbers for the server (67) and client (68). Once the PoAP process receives the appropriate DHCP packets and an IP address is assigned to the switch, the VACL will be modified to permit all packets destined to the newly assigned IP address.

This command does not require a license.

Examples

The following example shows how to enable and configure a VLAN access-map entry:

```
Device> enable
Device# configure terminal
Device(config)# ip access-list testacl
Device(config-acl)# 20 permit udp any any eq 67
Device(config-acl)# 30 permit udp any any eq 68
Device(config-acl)# 40 permit udp any eq 67 any
Device(config-acl)# 50 permit udp any eq 68 any
Device(config-acl)# 60 deny ip any any
Device(config-acl)# exit
Device(config)# vlan access-map poapvacl
Device(config-access-map)# match ip address testacl
Device(config-access-map)# end
```

Related Commands

Command	Description
vlan filter	Applies a VLAN access map to one or more VLANs.

vlan filter

To apply a VLAN access map to one or more VLANs, use the **vlan filter** command in global configuration mode. To unapply a VLAN access map, use the **no** form of this command.

vlan filter *map-name* **vlan-list** *vlan-list*

no vlan filter *map-name* **vlan-list** *vlan-list*

Syntax Description

map-name	Name of the VLAN access map that you want to create or configure.
vlan-list *vlan-list*	Specifies the ID of one or more VLANs that the VLAN access map filters. Valid VLAN IDs are from 1 to 3967. Use a hyphen (-) to separate the beginning and ending IDs of a range of VLAN IDs; for example, use 70-100. Use a comma (,) to separate individual VLAN IDs and ranges of VLAN IDs; for example, use 20,70-100,142. **Note** When you use the **no** form of this command, the VLAN-list argument is optional. If you omit this argument, the device removes the access map from all VLANs where the access map is applied.

Command Default

None

Command Modes

Global configuration (config)

Command History

Release	Modification
—	This command was introduced in a release earlier than Cisco NX-OS Release 7.0(0)N1(1).

Usage Guidelines

You can apply a VLAN access map to one or more VLANs. You can apply only one VLAN access map to a VLAN.

The **no** form of this command enables you to unapply a VLAN access map from all or part of the VLAN list that you specified when you applied the access map. To unapply an access map from all VLANs where it is applied, you can omit the *vlan-list* argument. To unapply an access map from a subset of the VLANs where it is currently applied, use the *vlan-list* argument to specify the VLANs where the access map should be removed.

This command does not require a license.

Examples

The following example shows how to specify access control for packets on a VLAN access control list (VACL):

```
Device> enable
Device# configure terminal
Device(config)# ip access-list testacl
Device(config-acl)# 20 permit udp any any eq 67
Device(config-acl)# 30 permit udp any any eq 68
Device(config-acl)# 40 permit udp any eq 67 any
Device(config-acl)# 50 permit udp any eq 68 any
Device(config-acl)# 60 deny ip any any
Device(config-acl)# exit
Device(config)# vlan access-map poapvacl
Device(config-access-map)# match ip address testacl
Device(config-access-map)# exit
Device(config)# vlan filter poapvacl vlan-list 1
Device(config)# end
```

Related Commands

Command	Description
vlan access-map	Creates and configures VLAN access-map entry on a device.

vn-segment

To configure the virtual network (VN) segment ID of the virtual LAN (VLAN), use the **vn-segment** command in VLAN configuration mode. To remove a configured VN segment ID, use the **no** form of this command.

vn-segment *segment-id*

no vn-segment

Syntax Description

segment-id	Configures the VN segment identifier of the VLAN. The range is from 4096 to 16773119.

Command Default

The virtual network segment identifier is not configured.

Command Modes

VLAN configuration (config-vlan)

Command History

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

Usage Guidelines

You must enable feature-set fabricpath and VLAN-based VN segment features on the device before configuring the VN segment ID.

Examples

This example shows how to configure the VN segment ID of the VLAN on a device:

```
Device(config)# feature-set fabricpath
Device(config)# feature vn-segment-vlan-based
Device(config)# vlan 10
Device(config-vlan)# vn-segment 4099
```

Related Commands

Command	Description
feature vn-segment-vlan-based	Enables a VLAN-based VN segment on a device.

vni

To configure the virtual network identifier (VNI), use the **vni** command in global configuration or VRF configuration mode. To remove the VNI, use the **no** form of this command.

vni [*vni-id* | [*-vni-id*]]

no vni [*vni-id* | [*-vni-id*]]

Syntax Description

vni-id	(Optional) Configures the unique identifier. The range is from 4096 to 16773119.
- vni-id	(Optional) Configures the unique identifier range. The range is from 4096 to 16773119. **Note** You can specify a single ID or a range. For example, 4099, 5000-5005.

Command Default

Virtual network identifier is not configured.

Command Modes

For spine devices—Global configuration (config)

For leaf devices—VRF configuration (config-vrf)

Command History

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

Examples

This example shows how to configure VNI on a spine device:

```
Device(config)# vni 4099
```

This example shows how to configure VNI on a leaf device:

```
Device(config)# vrf context testvrf
Device(config-vrf)# vni 5000
```

Related Commands

Command	Description
feature vn-segment-vlan-based	Enables a VLAN-based VN segment on a device.
vn-segment	Configures the segment identifier of the VLAN.