T Commands

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

topology

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

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

topology *topology-id*

no topology [*topology-id*]

Syntax Description	*topology-id*	Topology identifier. The range is from 0 to 63.

Command Default   Fabricpath OAM service topology identifier is not configured.

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

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

Usage Guidelines   This command requires an Enhanced Layer 2 license.

Examples   This example shows how to configure a FabricPath IS-IS topology:

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

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

traceroute fabricpath

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

> **traceroute fabricpath switch-id** *switch-id* [**interface** *interface-id*] [**vlan** *vlan-id* | **tag** *tag-id*]
> [**use-host-vlan**] [**verbose**] [**reply mode out-of-band** { **ipv4** *ipv4-addr* | **ipv6** *ipv6-addr*}]
> [**forward flow** *flow-entropy* { **l2** | **l3** }] [**hop** *hop-count*] [**topology** *topology-id*] | [**timeout** *timeout-value*]

Syntax Description

switch-id *switch-id*	Sends a loopback request to the specified switch ID.The range is from 1 to 65,535.
interface *interface-id*	(Optional) Name of the egress interface for PabricPath OAM traceroute.
vlan *vlan-id*	VLAN ID. The range is from 1 to 4094.
tag-tag *tag-id*	FabricPath OAM tag. The range is from 4096 to 0x00FFFFFF.
use-host-vlan	(Optional) Specifies that only VLAN input should be used. Use this keyword when enhanced forwarding is applied and you do not want to use the translated VLAN. Use this option when you specify the ingress interface ID or when you specify the flow entropy through the profile keyword or through forward flow with the IP address of customer traffic.
reply mode out-of-band	By default, all replies for mtrace comes in-band through the Fabricpath network. You have the ability to send these replies reply out-of-band over the UDP/IP network).
ipv4 *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. The range is from 1 to 64. Default is 63.
topology *topologyid*	(Optional) Specifies the topology ID. The range is from 0 to 63. Default is 0.
verbose	(Optional) Displays additional information.
timeout *timeout-value*	(Optional) Specifies the timeout values. The range is from 1 to 36000.

Defaults   None

Command Modes   Privileged EXEC (#)

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

Usage Guidelines   For a synchronous ping, 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   This example shows how to discover the route for FabricPath OAM packets:

```
switch# configure terminal
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# traceroute fabricpath switch-id 10

Codes: '!' - success, 'Q' - request not sent, '.' - timeout,
'D' - Destination Unreachable, 'X' - unknown return code,
'V' - VLAN nonexistent, 'v' - VLAN in suspended state,
'm' - malformed request, 'C' - Cross Connect Error,
'U' - Unknown RBridge nickname, 'n' - Not AF,
'M' -MTU mismatch, 'I' - Interface not in forwarding state,
'S' - Service Tag nonexistent, 's' - Service Tag in suspended state,
Type escape sequence to abort.
0 5 Rcvd on Eth10/23, Next hop RBID - 10(fwd)[1ms]
! 10 [1ms]
```

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

```
Codes: '!' - success, 'Q' - request not sent, '.' - timeout,
'D' - Destination Unreachable, 'X' - unknown return code,
'V' - VLAN nonexistent, 'v' - VLAN in suspended state,
'm' - malformed request, 'C' - Cross Connect Error,
'U' - Unknown RBridge nickname, 'n' - Not AF,
'*' - Success, Optional Tlv incomplete,
'I' - Interface not in forwarding state,
'S' - Service Tag nonexistent, 's' - Service Tag in suspended state,
'c' - Corrupted Data/Test
Sender handle: 1
Hop Code SwitchId Interface State TotalTime PathId DwnSwId Intf State
================================================================================
1 ! 3570 Rcvd on Eth1/3 fwd 3ms

!!!!!specify customer flow entropy
```

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

```
Device# traceroute fabricpath switch-id 3570 forward flow
0011222211110011222222281000000A8903
Codes: '!' - success, 'Q' - request not sent, '.' - timeout,
'D' - Destination Unreachable, 'X' - unknown return code,
'V' - VLAN nonexistent, 'v' - VLAN in suspended state,
'm' - malformed request, 'C' - Cross Connect Error,
'U' - Unknown RBridge nickname, 'n' - Not AF,
'*' - Success, Optional Tlv incomplete,
'I' - Interface not in forwarding state,
'S' - Service Tag nonexistent, 's' - Service Tag in suspended state,
'c' - Corrupted Data/Test
Sender handle: 2
```

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

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

```
switch# traceroute fabricpath

Switch-id(1-65535) [1] 3570
Timeout in seconds [2]
Extended command(y/n) [n] y
OAM Profile(1-1023) [none]
Interface [none]
Ingress Interface [none]
Forward Flow entropy [n] y
Forward Flow entropy type L2/L3 [L2]
Forward Flow source mac address(aaaa.bbbb.cccc) [0001.ccaa.aabb]
Forward Flow destination mac address(aaaa.bbbb.cccc) [0001.ccaa.3abb]
Forward Flow vlan(vlan id or none) [1] 10
Forward Flow stag(1-0xFFFFFF) [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