# Examples for using Ping and Traceroute CLI commands



# Examples for IGP or BGP SR Ping and Traceroute

### Using CLI to Execute a Ping with Explicit Outgoing Information

Use the **ping sr-mpls** *fec* **fec-type igp isis** CLI command to execute an IS-IS SR ping and the **ping sr-mpls** *fec* **fec-type bgp** CLI command to execute a BGP ping.

```
switch# ping sr-mpls 11.1.1.3/32 fec-type igp isis

Sending 5, 100-byte MPLS Echos to IGP Prefix SID(IS-IS) FEC 11.1.1.3/32,
     timeout is 2 seconds, send interval is 0 msec:

Codes: '!' - success, 'Q' - request not sent, '.' - timeout,
  'L' - labeled output interface, 'B' - unlabeled output interface,
  'D' - DS Map mismatch, 'F' - no FEC mapping, 'f' - FEC mismatch,
  'M' - malformed request, 'm' - unsupported tlvs, 'N' - no label entry,
  'P' - no rx intf label prot, 'p' - premature termination of LSP,
  'R' - transit router, 'I' - unknown upstream index,
  'X' - unknown return code, 'x' - return code 0

Type Ctrl-C to abort.
!!!!!
Success rate is 100 percent (5/5), round-trip min/avg/max = 2/2/3 ms
 Total Time Elapsed 18 ms

switch# ping sr-mpls 11.1.1.3/32 fec-type igp isis verbose

Sending 5, 100-byte MPLS Echos to IGP Prefix SID(IS-IS) FEC 11.1.1.3/32,
     timeout is 2 seconds, send interval is 0 msec:

Codes: '!' - success, 'Q' - request not sent, '.' - timeout,
  'L' - labeled output interface, 'B' - unlabeled output interface,
  'D' - DS Map mismatch, 'F' - no FEC mapping, 'f' - FEC mismatch,
  'M' - malformed request, 'm' - unsupported tlvs, 'N' - no label entry,
  'P' - no rx intf label prot, 'p' - premature termination of LSP,
  'R' - transit router, 'I' - unknown upstream index,
```

```
  'X' - unknown return code, 'x' - return code 0

Type Ctrl-C to abort.
!    size 100, reply addr 172.18.1.10, return code 3
!    size 100, reply addr 172.18.1.10, return code 3
!    size 100, reply addr 172.18.1.10, return code 3
!    size 100, reply addr 172.18.1.10, return code 3
!    size 100, reply addr 172.18.1.10, return code 3

Success rate is 100 percent (5/5), round-trip min/avg/max = 2/2/3 ms
 Total Time Elapsed 17 ms
```

# Examples for Nil FEC Ping and Traceroute

### Using CLI to Execute a Ping with Explicit Outgoing Information

Use the **ping sr-mpls nil-fec labels** *comma-separated-labels* [**output** {**interface** *tx-interface*} [**nexthop** *nexthop-ip-addr*]] CLI command to execute a ping.

For example, the following command sends an MPLS packet with the outermost two labels in the label stack being 2001 and 2000 out the interface Ethernet 1/1 with a nexthop IP address of 4.0.0.2:

```
switch# ping mpls nil-fec labels 2001,2000 output interface e1/1 nexthop 4.0.0.2
```

It is mandatory that the nexthop is a connected nexthop; it is not recursively resolved.

The above CLI format is a simplified version. The [**output** {**interface** *tx-interface*} [**nexthop** *nexthop-ip-addr*]] is mandatory to be present in the VSH server. For example:

```
switch# ping mpls nil-fec labels 1,2 ?
output Output options
switch# ping mpls nil-fec labels1,2
^
% Invalid command at '^' marker.
```

### Using CLI to Execute a Ping with Outgoing Information from an SRTE Policy

Use the following CLI command to execute a ping:

```
switch# ping mpls nil-fec policy name policy1
switch# ping mpls nil-fec policy endpoint 2.0.0.1 color 16
```

### Using CLI to Execute a Traceroute with Explicit Outgoing Information

Use the following CLI command to execute a traceroute:

```
switch# ping mpls nil-fec labels 2001,2000 output interface e1/1 nexthop 4.0.0.2
```

### Using CLI to Execute a Traceroute with Outgoing Information from an SRTE Policy

Use the following CLI command to execute a traceroute:

```
switch# traceroute mpls nil-fec policy name policy1
switch# traceroute mpls nil-fec policy endpoint 2.0.0.1 color 16
```

# Displaying Show Statistics

Use the following command to display the statistics about the echo requests sent by the local MPLS OAM service:

```
show mpls oam echo statistics
```