

## Chapter 10

# Monitoring L2VPNs

This chapter describes the commands you can use to monitor and troubleshoot Layer 2 Virtual Private Networks (L2VPNs) on E-series routers.

This chapter contains the following sections:

- Clearing BGP Attributes for the L2VPN or VPWS Address Family on page 611
- Monitoring BGP-Related Settings for L2VPNs on page 612
- Monitoring BGP Next Hops for L2VPNs on page 616
- Monitoring L2VPN Connections on page 617
- Monitoring L2VPN Instances on page 619
- Monitoring L2VPN Interfaces on page 622
- Monitoring MPLS Forwarding State for L2VPN (VPWS) Instances on page 624



**NOTE:** The E120 router and E320 router output for **monitor** and **show** commands is identical to output from other E-series routers, except that the E120 and E320 router output also includes information about the adapter identifier in the interface specifier (*slot/adapter/port*).

## Clearing BGP Attributes for the L2VPN or VPWS Address Family

You can use **clear ip bgp** commands to clear BGP attributes for the L2VPN address family and, in one case, for the VPWS address family associated with a specific L2VPN (VPWS) instance.

For more information about using these commands, see *Chapter 1, Configuring BGP Routing*.

**Purpose** Clear BGP attributes for the L2VPN address family or the VPWS address family.

**Action** To clear BGP reachability information for the L2VPN address family:

```
host1#clear ip bgp l2vpn soft in
```

To clear route flap dampening information for the L2VPN address family, or for the VPWS address family associated with the specified L2VPN (VPWS) instance.

```
host1#clear ip bgp l2vpn dampening
host1#clear ip bgp vpws l2vpnA dampening
```

To clear the wait for receiving and End-of-RIB marker from the peer for the L2VPN address family:

```
host1#clear ip bgp l2vpn wait-end-of-rib
```

## Related Topics

- `clear ip bgp` command
- `clear ip bgp dampening` command
- `clear ip bgp wait-end-of-rib` command

## Monitoring BGP-Related Settings for L2VPNs

This section provides examples of some of the **show ip bgp** commands that you can use to monitor L2VPN configurations.

You can use the **show ip bgp** commands listed in Table 61 to display BGP-related settings for L2VPN (VPWS) instances in the L2VPN address family.

**Table 61: Commands for Monitoring BGP Settings for the L2VPN Address Family**

<code>show ip bgp advertised-routes</code>	<code>show ip bgp neighbors received-routes</code>
<code>show ip bgp l2vpn all</code>	<code>show ip bgp neighbors routes</code>
<code>show ip bgp neighbors</code>	<code>show ip bgp peer-group</code>
<code>show ip bgp neighbors dampened-routes</code>	

You can use the **show ip bgp** commands listed in Table 62 to display BGP-related settings for L2VPN (VPWS) instances in the VPWS address family.

**Table 62: Commands for Monitoring BGP Settings for the VPWS Address Family**

<code>show ip bgp</code>	<code>show ip bgp l2vpn vpws</code>
<code>show ip bgp community</code>	<code>show ip bgp next-hops</code>
<code>show ip bgp community-list</code>	<code>show ip bgp paths</code>
<code>show ip bgp dampened-paths</code>	<code>show ip bgp quote-regexp</code>
<code>show ip bgp filter-list</code>	<code>show ip bgp regexp</code>
<code>show ip bgp flap-statistics</code>	<code>show ip bgp summary</code>

For more information about using the **show ip bgp** commands that are not described in this section, see *Chapter 1, Configuring BGP Routing* and *Chapter 3, Configuring BGP-MPLS Applications*.

**Purpose** Display layer 2 NLRI for L2VPN (VPWS) instances. The **l2vpn vpws** keywords display layer 2 NLRI for a particular L2VPN (VPWS) instance in the VPWS address family.

The **l2vpn all** keywords display layer 2 NLRI for all L2VPN (VPWS) instances in the L2VPN address family. The output for this version of the command also includes information about any VPLS instances configured in the L2VPN address family.

The **site-id** and **block-offset** keywords display layer 2 NLRI for the route that matches a specified prefix (site ID and block offset) in the L2VPN address family or in the VPWS address family.

**Action** To display information for a particular L2VPN instance in the L2VPN address family:

```
host1:pe1#show ip bgp l2vpn vpws l2vpn1
Local BGP identifier 10.1.1.1, local AS 100
  2 routes (152 bytes)
  2 destinations (152 bytes) of which 2 have a route
  2 routes selected for route tables installation
  0 unicast/multicast routes selected for route table installation
  0 unicast/multicast tunnel-usable routes selected for route table installation
  0 tunnel-only routes selected for tunnel-route table installation
  4 path attribute entries (608 bytes)
Local-RIB version 6. FIB version 6.
```

Status codes: > best, \* invalid, s suppressed, d dampened, r rejected,  
a auto-summarized

Prefix	Peer	Next-hop	MED	LocPrf	Weight	Origin
> 1:1	0.0.0.0	self			0	IGP
> 2:1	12.2.2.2	12.2.2.2	100		0	IGP

To display summary information for a particular L2VPN instance in the VPWS address family; only the BGP operational state is useful:

```
host1:pe1#show ip bgp l2vpn vpws l2vpn1 summary
Local router ID 10.1.1.1, local AS 100
  Administrative state is Start
  BGP Operational state is Up
  Shutdown in overload state is disabled
  Default local preference is 100
  Default originate is disabled
  Always compare MED is disabled
  Compare MED within confederation is disabled
  Advertise inactive routes is disabled
  Advertise best external route to internal peers is disabled
  Enforce first AS is disabled
  Missing MED as worst is disabled
  Route flap dampening is disabled
  Log neighbor changes is disabled
  Fast External Fallover is disabled
  No maximum received AS-path length
  BGP administrative distances are 20 (ext), 200 (int), and 200 (local)
  Client-to-client reflection is enabled
  Cluster ID is not configured (local router ID used)
  Route-target filter is enabled
  Default IPv4-unicast is enabled
  Redistribution of iBGP routes is disabled
  Graceful restart is globally disabled
  Global graceful-restart restart time is 120 seconds
  Global graceful-restart stale paths time is 360 seconds
```

```
Graceful-restart path selection defer time is 360 seconds
Graceful-restart is not ready to switch to the standby SRP
The last restart was not graceful
Local-RIB version 6. FIB version 6.
```

(No neighbors are configured)

To display information for the route that matches the specified prefix (2:1) for an L2VPN instance named customer1 in the VPWS address family:

```
host1#show ip bgp l2vpn vpws customer1 site-id 2 block-offset 1
```

```
BGP route information for prefix 2:1
Received route learned from internal peer 10.2.2.2 (best route)
Leaked route
Route placed in IP forwarding table
Best to advertise to external peers
Address Family Identifier (AFI) is layer2
Subsequent Address Family Identifier (SAFI) is unicast
Route Distinguisher (RD) is 100:11
Original Route Distinguisher (RD) is 100:21
MPLS in-label is none
MPLS in-label block size is 0
MPLS out-label is 46
MPLS out-label block size is 20
Next hop IP address is 2.2.2.2 (metric 3)
Multi-exit discriminator is not present
Local preference is 100
Weight is 0
Origin is IGP
AS path is empty
Extended communities RT:100:1 Layer 2:19:00:0
```

**Meaning** Table 63 lists the **show ip bgp l2vpn** command output fields

**Table 63: show ip bgp l2vpn Output Fields**

Field Name	Field Description
Local BGP identifier	IP address of the local PE router
local AS	Autonomous system number
Local-RIB version	Version number of the local routing information base
FIB version	Version number of the forwarding information base
Status codes	Status codes for the route
Prefix	Route prefix in the format <i>siteID:blockOffset</i>
Peer	IP address of the peer from which the route was learned
Next-hop (or Next hop IP address)	IP address of the next router that is used when a packet is forwarded to the destination network
MED	Multiexit discriminator for the route
LocPrf	Local preference for the route
Weight	Weight of the route
Origin	Origin of the route
BGP Operational state	Operational state, up or down

***Related Topics***

- `show ip bgp` command
- `show ip bgp advertised-routes` command
- `show ip bgp community` command
- `show ip bgp community-list` command
- `show ip bgp dampened-paths` command
- `show ip bgp filter-list` command
- `show ip bgp flap-statistics` command
- `show ip bgp neighbors` command
- `show ip bgp neighbors dampened-routes` command
- `show ip bgp neighbors received-routes` command
- `show ip bgp neighbors routes` command
- `show ip bgp next-hops` command
- `show ip bgp paths` command
- `show ip bgp peer-group` command
- `show ip bgp quote-regexp` command
- `show ip bgp regexp` command
- `show ip bgp summary` command

## Monitoring BGP Next Hops for L2VPNs

- Purpose** Display information about BGP next hops in the L2VPN address family or in the VPWS address family.
- Action** To display BGP next hop information that matches the specified indirect next-hop address (2.2.2.2) in the L2VPN address family:

```

host1#show ip bgp l2vpn all next-hops 10.2.2.2
Indirect next-hop 10.2.2.2
  Resolution in IP route table of VR
    IP indirect next-hop index 2
    Reachable (metric 3)
    Number of direct next-hops is 1
      Direct next-hop ATM2/0.10 (10.10.10.2)
  Resolution in IP tunnel-route table of VR
    MPLS indirect next-hop index 19
    Reachable (metric 3)
    Number of direct next-hops is 1
      Direct next-hop 0000000c
  Reference count is 2

```

- Meaning** Table 64 lists the `show ip bgp l2vpn all next-hops` command output fields.

**Table 64: show ip bgp l2vpn all next-hops Output Fields**

Field Name	Field Description
Indirect next-hop	BGP next-hop attribute received in the BGP update message
Resolution	Describes where the indirect next hop is resolved (the IP routing table, the IP tunnel routing table, or both) and whether this is in a VR or VRF
IP indirect next-hop index	Index number of the IP indirect next hop that corresponds to the BGP indirect next hop and its resolution
MPLS indirect next-hop index	Index number of the MPLS indirect next hop that corresponds to the BGP indirect next hop and its resolution
Reachable	Indicates whether or not the indirect next hop is reachable. For more information about the reachability rules that apply for various route types, see the command description for <code>show ip bgp next-hops</code> on page 469.
metric	Metric number of the BGP indirect next hop
Number of direct next-hops	Number of the equal-cost legs of direct next hops to which this indirect next hop resolves
Direct next-hop	MPLS next-hop index that resolves the MPLS indirect next hop
Reference count	Number of label mappings of BGP routes that use this next hop

### Related Topics

- `show ip bgp next-hops` command

## Monitoring L2VPN Connections

**Purpose** Display configuration and status information for L2VPN connections configured on the router. The **details** keyword displays detailed information about L2VPN connections.

**Action** To display detailed information about all L2VPN connections for all L2VPN instances:

```
host1:pe1#show l2vpn connections details
```

```
L2VPN: l2vpn1
  Encapsulation Type Ethernet
  Use of control word is preferred
  Send sequence numbers
  Route Distinguisher 100:11
  Site Range 10
  Sites:
    Site Name boston Site Id 1
  Route Targets:
    Route Target: RT:100:1 both
```

Interface	Local-Site-Id	Remote-Site-Id	Admin state	Oper state
FastEthernet4/1	1	2	enabled	up

Connections status code:

```
UP = Operational
SC = Local and Remote Site Identifier Collision
EM = Encapsulation Mismatch
OR = Out of Range
DN = VC Down because Remote PE Unreachable
LD = Local Site Down
RD = Remote Site Down
AS = Max BGP AS path length exceeded
OL = No Out Label
CM = Control Word Mismatch
```

Local Site	Remote Site	State	Remote PE	In-label	Out-label	MPLS NH Idx	Up-down Time
1	2	UP	2.2.2.2	25	74	0000001d	01:49:12

```
L2VPN: l2vpn2
```

```
  Encapsulation Type ATM AAL5 SDU VCC transport
  Use of control word is preferred
  Send sequence numbers
  Route Distinguisher 100:12
  Site Range 20
  Sites:
    Site Name westford Site Id 1
    Site Name boston Site Id 3
  Route Targets:
    Route Target: RT:100:2 both
```

Interface	Local-Site-Id	Remote-Site-Id	Admin state	Oper state
ATM2/0.122	1	2	enabled	up
ATM2/0.123	1	3	enabled	up
ATM2/0.124	3	1	enabled	up
ATM2/0.121	3	2	enabled	up

## Connections status code:

UP = Operational

SC = Local and Remote Site Identifier Collision

EM = Encapsulation Mismatch

OR = Out of Range

DN = VC Down because Remote PE Unreachable

LD = Local Site Down

RD = Remote Site Down

AS = Max BGP AS path length exceeded

OL = No Out Label

CM = Control Word Mismatch

Local Site	Remote Site	State	Remote PE	In-label	Out-label	MPLS NH Idx	Up-down Time
1	2	UP	2.2.2.2	35	84	0000001d	01:50:40
1	3	UP		implicit-null	implicit-null	2d000008	02:24:45
3	1	UP		implicit-null	implicit-null	2d000007	02:24:45
3	2	UP	2.2.2.2	55	86	0000001d	01:50:40

To display detailed information about L2VPN connections for a specific L2VPN instance:

```
host1#show l2vpn connections instance l2vpn1 details
```

```
L2VPN: l2vpn1
```

```
Encapsulation Type ATM AAL5 SDU VCC transport
```

```
Use of control word is preferred
```

```
Send sequence numbers
```

```
Route Distinguisher 100:11
```

```
Site Range 10
```

```
Sites:
```

```
Site Name westford Site Id 1
```

```
Route Targets:
```

```
Route Target: RT:100:2 both
```

Interface	Local-Site-Id	Remote-Site-Id	Admin state	Oper state
ATM2/0.100	1	2	enabled	up
ATM2/0.12	1	3	enabled	up

## Connections status code:

UP = Operational

SC = Local and Remote Site Identifier Collision

EM = Encapsulation Mismatch

OR = Out of Range

DN = VC Down because Remote PE Unreachable

LD = Local Site Down

RD = Remote Site Down

AS = Max BGP AS path length exceeded

OL = No Out Label

CM = Control Word Mismatch



Site	State	Remote PE	In-label	Out-label	MPLS NH Idx	Up-down Time
----	-----	-----	-----	-----	-----	-----
2	UP	2.2.2.2	17	801024	00000014	1d 08:45:34
3	UP	2.2.2.2	18	801028	00000014	1d 08:45:34

**Meaning** Table 65 lists the **show l2vpn connections** command output fields.

**Table 65: show l2vpn connections Output Fields**

Field Name	Field Description
L2VPN	Name of the L2VPN instance
Encapsulation Type	Encapsulation type configured for the L2VPN instance
Use of control word	Local preference for control word, preferred or not preferred
sequence numbers	Local preference for sequence number, send or don't send
Route Distinguisher	Route distinguisher configured for the L2VPN instance
Site Range	Maximum number of customer sites allowed in the L2VPN instance
Sites	Site name and site ID for each customer site in the L2VPN instance
Route Targets	Route targets configured for the L2VPN instance
Interface	Layer 2 interface that is a member of the L2VPN instance
Local-Site-Id	Local customer site ID configured on the layer 2 interface
Remote-Site-Id	Remote customer site ID configured on the layer 2 interface

## Related Topics

- **show l2vpn connections** command

## Monitoring L2VPN Instances

**Purpose** To display configuration and status information for L2VPN instances configured on the router. You can display information for all L2VPN instances or information about a particular L2VPN instance. The **detail** keyword displays detailed information about the specified L2VPN instance or all L2VPN instances.

**Action** To display information about all L2VPN instances:

```
host1#show l2vpn all
L2VPN: l2vpn1
  Encapsulation Type Ethernet
  Use of control word is preferred
  Send sequence numbers
  Route Distinguisher 100:11
  Site Range 10
  Sites:
    Site Name boston Site Id 1
  Route Targets:
    Route Target: RT:100:1 both
```

```

L2VPN: l2vpn2
  Encapsulation Type ATM AAL5 SDU VCC transport
  Use of control word is preferred
  Send sequence numbers
  Route Distinguisher 100:12
  Site Range 20
  Sites:
    Site Name westford Site Id 1
    Site Name boston Site Id 3
  Route Targets:
    Route Target: RT:100:2 both

```

To display detailed information about all L2VPN interfaces:

```
host1#show l2vpn instance all detail
```

```

L2VPN: l2vpn1
  Encapsulation Type Ethernet
  Use of control word is preferred
  Send sequence numbers
  Route Distinguisher 100:11
  Site Range 10
  Sites:
    Site Name boston Site Id 1
  Route Targets:
    Route Target: RT:100:1 both

```

Interface	Local-Site-Id	Remote-Site-Id	Admin state	Oper state
-----	-----	-----	-----	-----
FastEthernet4/1	1	2	enabled	up

```

L2VPN: l2vpn2
  Encapsulation Type ATM AAL5 SDU VCC transport
  Use of control word is preferred
  Send sequence numbers
  Route Distinguisher 100:12
  Site Range 20
  Sites:
    Site Name westford Site Id 1
    Site Name boston Site Id 3
  Route Targets:
    Route Target: RT:100:2 both

```

Interface	Local-Site-Id	Remote-Site-Id	Admin state	Oper state
-----	-----	-----	-----	-----
ATM2/0.122	1	2	enabled	up
ATM2/0.123	1	3	enabled	up
ATM2/0.124	3	1	enabled	up
ATM2/0.121	3	2	enabled	up

To display detailed information about a particular L2VPN instance:

```
host1#show l2vpn instance l2vpn1 detail
L2VPN: l2vpn1
  Encapsulation Type ATM AAL5 SDU VCC transport
  Use of control word is preferred
  Send sequence numbers
  Route Distinguisher 100:11
  Site Range 10
  Sites:
    Site Name westford Site Id 1
  Route Targets:
    Route Target: RT:100:2 both
```

Interface	Local-Site-Id	Remote-Site-Id	Admin state	Oper state
ATM2/0.100	1	2	enabled	up
ATM2/0.12	1	3	enabled	up

**Meaning** Table 66 lists the **show l2vpn instance** command output fields.

**Table 66: show l2vpn instance Output Fields**

Field Name	Field Description
L2VPN	Name of L2VPN instance
Encapsulation Type	Encapsulation type configured for the L2VPN instance
Use of control word	Local preference for control word, preferred or not preferred
sequence numbers	Local preference for sequence number, send or don't send
Route Distinguisher	Route distinguisher configured for the L2VPN instance
Site Range	Maximum number of customer sites allowed in the L2VPN instance
Sites	Site name and site ID for each customer site in the L2VPN instance
Route Targets	Route targets configured for the L2VPN instance
Interface	Layer 2 interface that is a member of the L2VPN instance
Local-Site-Id	Local customer site ID configured on the layer 2 interface
Remote-Site-Id	Remote customer site ID configured on the layer 2 interface
Admin state	Administrative state of the connection, disabled or enabled
Oper state	Operational state of the connection, up or down

## Related Topics

- **show l2vpn instance** command

## Monitoring L2VPN Interfaces

**Purpose** Display configuration and status information for interfaces on the router that are configured to be members of L2VPNs in the current VR. You can display information on a specific L2VPN interface, for all L2VPN interfaces in the specified L2VPN instance, or for all L2VPN interfaces in all L2VPN instances. The **detail** keyword displays detailed information about the specified L2VPN interface or all L2VPN interfaces.

**Action** To display L2VPN interface information for a particular L2VPN:

```
host1#show l2vpn interface instance l2vpn1
MPLS shim interface ATM2/0.100
  ATM circuit type is AAL5
  Member of L2VPN instance l2vpn1
  Local site ID is 1
  Remote site ID is 2
  Control word is preferred by default
  Do send sequence numbers by default
  Relay format is atm-aal5-sdu-vcc by default
  Administrative state is enabled
  Operational state is up
  Operational MTU is 9180
  MPLS shim interface UID is 0x2d000007
  Lower interface UID is 0x0b000005
  Condensed location is 0x00020000
  Received:
    3 packets
    204 bytes
    19 errors
    0 discards
  Sent:
    0 packets
    0 bytes
    0 errors
    0 discards
  queue 0: traffic class best-effort, bound to atm-vc ATM2/0.100
    Queue length 0 bytes
    Forwarded packets 0, bytes 0
    Dropped committed packets 0, bytes 0
    Dropped conformed packets 0, bytes 0
    Dropped exceeded packets 0, bytes 0
```

**Meaning** Table 67 lists the **show l2vpn interface** command output fields.

**Table 67: show l2vpn interface Output Fields**

Field Name	Field Description
MPLS shim interface	Type and specifier for MPLS shim interface
ATM circuit type	Type of ATM circuit
Member of L2VPN instance	Name of the L2VPN instance to which the interface belongs
Local site ID	Local customer site ID configured on the interface
Remote site ID	Remote customer site ID configured on the interface
Control word	Local preference for the control word, preferred or not preferred
send sequence numbers	Local preference for sequence numbers, send or don't send

**Table 67: show l2vpn interface Output Fields (continued)**

Field Name	Field Description
Relay format	Type of signaling and encapsulation used by the router for layer 2 traffic
Administrative state	Administrative state of the interface, enabled or disabled
Operational state	Operational state of the interface, up or down
Operational MTU	Maximum allowable size in bytes of the maximum transmission unit for the interface
MPLS shim interface UID	UID automatically assigned to the MPLS shim interface when it is created
Lower interface UID	UID automatically assigned to the MPLS major interface when it is created
Condensed location	Internal, platform-dependent, 32-bit representation of the interface location, used by Juniper Networks Customer support for troubleshooting.
Received	Number of packets, bytes, errors and discards received on the interface
Sent	Number of packets, bytes, errors and discards sent from the interface
queue	Number of messages queued to be sent on the interface
traffic-class	Type of traffic class configured for traffic on the interface
bound to	ATM virtual circuit to which the interface is bound
Queue length	Length of all messages queued to be sent to on this connection, in bytes
Forwarded	Number of packets and bytes that have been forwarded
Dropped committed	Number of committed packets and bytes that have been dropped
Dropped conformed packets	Number of conformed packets and bytes that have been dropped
Dropped exceeded	Number of exceeded packets and bytes that have been dropped

## Related Topics

- **show l2vpn interface** command

## Monitoring MPLS Forwarding State for L2VPN (VPWS) Instances

**Purpose** Display information about MPLS labels that are being used for forwarding. The **brief** keyword displays summary information for the MPLS labels.

**Action** To display MPLS forwarding information for a particular label:

```
host1#show mpls forwarding label 17
In label: 17
Label space: platform label space
Owner: bgp
Spoof check: router erx-pe
Action:
    MPLS next-hop: 28, l2transport to ATM2/0.100
Statistics:
    0 in pkts
    0 in Octets
    0 in errors
    0 in discard pkts
```

To display brief information about MPLS forwarding for all labels:

```
host1:pe1#show mpls forwarding brief
```

In Label	Owner	Action
17	bgp	l2transport to ATM2/0.100
18	bgp	l2transport to ATM2/0.12
26	ldp	lookup on inner header/label
27	ldp	swap to 39 on ATM2/0.20, nbr 20.20.20.2
28	ldp	swap to 41 on ATM2/0.20, nbr 20.20.20.2
29	ldp	lookup on inner header/label
30	ldp	swap to 43 on ATM2/0.20, nbr 20.20.20.2
31	ldp	swap to 44 on ATM2/0.20, nbr 20.20.20.2
46	ldp	swap to 40 on ATM2/0.20, nbr 20.20.20.2

L2transport

Interface	Owner	Action
ATM2/0.12	bgp	swapt to 801028, push 39 on ATM2/0.20, nbr 20.20.20.2
ATM2/0.100	bgp	swap to 801024, push 39 on ATM2/0.20, nbr 20.20.20.2

To display MPLS forwarding information for a particular interface:

```
host1:pe#show mpls forwarding interface atm2/0.100
In label: n/a, ATM2/0.100
Owner: bgp
Spoof check: router erx-pe
Action:
    MPLS next-hop: 27, label 801024, resolved by MPLS next-hop 8
    MPLS next-hop: 8, resolved by MPLS next-hop 9, peer 10.3.2.2
    MPLS next-hop: 9, label 39 on ATM2/0.20, nbr 10.20.20.2
Statistics: Disabled
```

**Meaning** Table 68 lists the **show mpls forwarding** command output fields.

**Table 68: show mpls forwarding Output Fields**

Field Name	Field Description
In label	Label sent to upstream neighbor for route
Out label	Label received from downstream neighbor for route
Label space	Label space in which the label is assigned
Owner	Signaling protocol that placed the label in the forwarding table: BGP, LDP, or RSVP-TE
Spoof check	Type and location of spoof checking performed on the MPLS packet, router, or interface
Action	Action taken for MPLS packets arriving with that label
in pkts	Number of packets sent with the label
in Octets	Number of octets sent with the label
in errors	Number of packets that are dropped for some reason before being sent
in discardPkts	Number of packets that are discarded due to lack of buffer space before being sent
Interface	Layer 2 interface that is a member of an L2VPN

## Related Topics

- **show mpls forwarding** command

