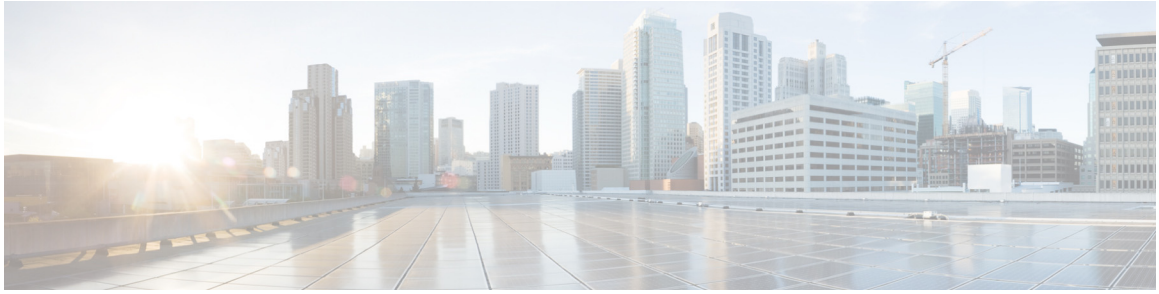

Show Commands

This chapter describes the Cisco NX-OS Multiprotocol Label Switching commands that begin with Show.

show bgp unicast neighbors vrf

To display information about Border Gateway Protocol (BGP) neighbors, use the **show bgp unicast neighbors vrf** command.

show bgp {**ipv4** | **ipv6**} **unicast neighbors vrf** *vrf-name*

Syntax Description

vrf-name	VRF name that is any case-sensitive, alphanumeric string up to 32 characters.
ipv4	Specifies the IPv4 MPLS network.
ipv6	Specifies the IPv6 MPLS network.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display information about BGP neighbors:

```
switch(config-router-vrf-neighbor-af)# show bgp ipv4 unicast neighbors vrf vpn1
switch(config-router-vrf-neighbor-af)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show bridge-domain

To display information about bridge domains that are configured on the device, use the **show bridge-domain** command.

show bridge-domain BD-LIST

Syntax Description

BD-LIST	Displays the bridge-domain range.

Defaults

None

Command Modes

Any command mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
6.2.2	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display information about bridge domains that are configured on the device:

```
switch# show bridge-domain
```

Related Commandss

Command	Description
bridge-domain	Enters bridge-domain configuration mode and configures a bridge domain.
system bridge-domain	Identifies the IDs that are available for bridge-domain configurations.

show ethernet service instance

To display information about service instances that are configured on the device, use the **show ethernet service instance** command.

show ethernet service instance [**detail**]

Syntax Description

detail	Displays detailed information about the service instances.

Defaults

None

Command Modes

Any command mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
6.2.2	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display information about service instances that are configured on the device:

```
switch# show ethernet service instance detail
switch#
```

Related Commandss

Command	Description
show ethernet service instance interface ethernet	Displays information about service instances that are configured on an interface.

show ethernet service instance interface ethernet

To display information about service instances that are configured on an interface, use the **show ethernet service instance interface ethernet** command.

show ethernet service instance interface ethernet *slot/port* [**detail**]

Syntax Description

slot/port	Slot and port.
detail	(Optional) Displays detailed information about the service instances that are configured on an interface.

Defaults

None

Command Modes

Any command mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
6.2.2	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display detailed information about the service instances that are configured on an interface:

```
switch# show ethernet service instance interface ethernet 5/1 detail
switch#
```

Related Commandss

Command	Description
show ethernet service instance	Displays information about service instances that are configured on the device.

show ethernet service instance id interface ethernet

To display information about a specific service instance that is configured on an interface, use the **show ethernet service instance id interface ethernet** command.

show ethernet service instance id *service-instance-id* **interface ethernet** *slot/port* [**detail**]

Syntax Description

service-instance-id	Bridge-domain ID.
slot/port	Slot and port.
detail	(Optional) Displays detailed information about a specific service instance.

Defaults

None

Command Modes

Any command mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
6.2.2	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display detailed information about about a specific service instance configured on an interface:

```
switch# show ethernet service instance id 10 interface ethernet 5/3 detail
switch#
```

Related Commandss

Command	Description
show ethernet service instance	Displays information about service instances that are configured on the device.
show ethernet service instance interface ethernet	Displays information about service instances that are configured on an interface.

show forwarding

To display the contents of the IP Forwarding Information Base (FIB), use the **show forwarding** command.

show forwarding [**route** | **mpls** | **adjacency mpls stats**]

Syntax Description

route	(Optional) Display the IP routing table.
mpls	(Optional) Displays MPLS forwarding.
adjacency mpls stats	(Optional) Displays MPLS adjacency statistics.

Defaults

None

Command Modes

Any command mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
6.2.2	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display the contents of the IP FIB:

```
switch# show forwarding adjacency mpls stats
slot  4
=======


slot  6
=======


next-hop         rewrite info   tx packets    tx bytes       Label info
----------------------------------------------------------------------


slot  7
=======


next-hop         rewrite info   tx packets    tx bytes       Label info
----------------------------------------------------------------------
```

```
slot  8
=======


next-hop         rewrite info   tx packets    tx bytes       Label info
----------------------------------------------------------------------

switch#
```

Related Commandss

Command	Description
show mpls switching	Displays the contents of the MPLS LFIB.

show ip ospf

To display information about Open Shortest Path First (OSPF), use the **show ip ospf** command.

show ip ospf *instance-tag* **vrf** *vrf-name*

Syntax Description

instance-tag	Instance tag that is a case-sensitive, alphanumeric string up to 20 characters.
vrf	Displays the virtual routing and forwarding (VRF) instance.
vrf-name	VRF name that is any case-sensitive, alphanumeric string up to 32 characters.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display information about OSPF:

```
switch(config)# show ip ospf test1 vrf vpn1

 Routing Process test1 with ID 0.0.0.0 VRF vpn1
 Stateful High Availability enabled
 Graceful-restart is configured
   Grace period: 60 state: Inactive
   Last graceful restart exit status: None
 Supports only single TOS(TOS0) routes
 Supports opaque LSA
 Administrative distance 110
 Reference Bandwidth is 40000 Mbps
 SPF throttling delay time of 200.000 msecs,
   SPF throttling hold time of 1000.000 msecs,
   SPF throttling maximum wait time of 5000.000 msecs
 LSA throttling start time of 0.000 msecs,
   LSA throttling hold interval of 5000.000 msecs,
   LSA throttling maximum wait time of 5000.000 msecs
 Minimum LSA arrival 1000.000 msec
 LSA group pacing timer 10 secs
 Maximum paths to destination 8
```

```
 Number of external LSAs 0, checksum sum 0
 Number of opaque AS LSAs 0, checksum sum 0
 Number of areas is 0, 0 normal, 0 stub, 0 nssa
 Number of active areas is 0, 0 normal, 0 stub, 0 nssa
switch(config)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip ospf mpls ldp interface

To display the configuration status of the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP) Interior Gateway Protocol (IGP) synchronization on the Open Shortest Path First (OSPF) interfaces, use the **show ip ospf mpls ldp interface** command.

show ip ospf mpls ldp interface [**ethernet** *slot/port*]

Syntax Description

ethernet	(Optional) Specifies an Ethernet interface.
slot/port	(Optional) Slot or chassis number. The range is from 1 to 253 characters.

Defaults

None

Command Modes

Interface configuration mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the configuration status of the MPLS LDP and IGP synchronization on the OSPF interfaces:

```
switch# config t
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# interface ethernet 7/1
switch(config-if)# show ip ospf mpls ldp interface ethernet 7/1
switch(config-if)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip pim mdt

To display the Protocol Independent Multicast (PIM) data multicast distribution tree (MDT) information, use the **show ip pim mdt** command.

show ip pim mdt [**vrf** {*vrf-name* | **all**}]

Syntax Description

vrf	(Optional) Displays the virtual routing and forwarding VRF instance.
vrf-name	(Optional) VRF name. The maximum size is 32 alphanumeric characters.
all	(Optional) Displays information for all VRFs.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the MDT information for VRF instances:

```
switch(config-vrf)# show ip pim mdt vrf vpn4
MVPN Status Information for VRF "vpn4" : MTI(mti6) Up
  Default MDT group 235.1.1.1 (Mode - ASM Shared)
    MTU: 1476
    Configured tunnel source interface:
    Default BGP tunnel source interface: loopback1
    PIM Hello Interval: 30000 milliseconds
    PIM JP Interval: 60 seconds
    Data MDT Join Interval: 60 seconds
    Data MDT Switchover Interval: 3 seconds
    Data MDT Holddown Interval: 60 seconds
    Data MDT Timeout Interval: 180 seconds
    MDT Source address: 22.22.0.1 (iod loopback1)
    BGP RD: 400:4 (set)
     Data MDT: 232.8.8.0/24 threshold: 10
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip pim mdt receive

To display the Protocol Independent Multicast (PIM) data multicast data tree (MDT) information, use the **show ip pim mdt receive** command.

show ip pim mdt receive [**detail**] [**vrf** *vrf name*]

Syntax Description

detail	(Optional) Displays the detailed information.
vrf	(Optional) Displays the virtual routing and forwarding (VRF) instance.
vrf-name	(Optional) VRF name. The maximum size is 32 alphanumeric characters.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the data MDT advertisements that this specified router has received:

```
switch# show ip pim mdt receive vrf all
MDT Data Groups Received List for vrf: vpn1
C-Source        C-Group         MDT Source      MDT Group       Uptime
10.0.0.1       232.1.1.1         11.0.0.l       225.1.1.1       2d17h
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip pim mdt send

To display the Protocol Independent Multicast (PIM) data multicast distribution tree (MDT) join send information, use the **show ip pim mdt send** command.

show ip pim mdt send [**detail**] [**vrf** {*vrf-name* | **all**}]

Syntax Description

detail	(Optional) Displays the detailed information.
vrf	(Optional) Displays the virtual routing and forwarding (VRF) instance.
vrf-name	(Optional) VRF name. The maximum size is 32 alphanumeric characters.
all	(Optional) Displays the information for all VRFs.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the data multicast distribution tree (MDT) join send information:

```
switch# show ip pim mdt send vrf all
MDT Data Groups Send List for vrf: vpn1
C-Source        C-Group         MDT Source      MDT Group       Uptime
 10.0.0.1     232.1.1.1         11.0.0.l        225.1.1.1       2d17h
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip prefix-list

To display the contents of all current IP prefix lists or of a specified prefix list, use the **show ip prefix-list** command.

show ip prefix-list [*prefix-list*]

Syntax Description

prefix-list	(Optional) Prefix list. The maximum length is 63 alphanumeric characters.

Defaults

None

Command Modes

Interface configuration mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

It is important that you enter this command to see how the prefix list is defined; otherwise, you cannot verify MPLS label filtering.

This command requires the MPLS Services license.

Examples

This example shows how to display the contents of all current IP prefix lists:

```
switch(config)# mpls ldp configuration
switch(config-ldp)# show ip prefix-list p1
switch(config-ldp)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rip vrf

To display information about the Routing Information Protocol (RIP), use the **show ip rip vrf** command.

show ip rip vrf *vrf-name*

Syntax Description

vrf-name	VRF name that is any case-sensitive, alphanumeric string up to 32 characters.

Defaults

None

Command Modes

Global configuration mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display information about RIP:

```
switch(config)# show ip rip vrf vpn1
Process Name "rip-test1" VRF "vpn1"
RIP port 520, multicast-group 224.0.0.9
Admin-distance: 120
Updates every 30 sec, expire in 180 sec
Collect garbage in 120 sec
Default-metric: 1
Max-paths: 8
Process is up and running
  Interfaces supported by ipv4 RIP :
  Redistributing :
    bgp-65536       policy bagpipe
switch(config)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rsvp

To display the global Resource Reservation Protocol (RSVP) information, use the **show ip rsvp** command.

show ip rsvp

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the global RSVP information:

```
switch# show ip rsvp
RSVP Process
        Supervisor State: Active
        Start Type: configuration [stateless]
        High Availability: Enabled [ok]
        Graceful Restart: enabled
        Hello State Timeout: disabled
        Router id: 0.0.0.0
        Patherr State Removal: Disabled
        Local Epoch: 0x74b530

Registered RSVP Clients
        MPLS-TE [Service-Access-Point 288, ID 1, Batch-Time 50 msec]

Message Bundling
        Disabled [Transmit-delay 50 msec, Max-Size 4096 bytes]

Refresh Parameters
        Interval 45 sec, Miss-Limit 4

Refresh-Reduction
        Disabled [Initial-Retransmit-Delay 5000 msec]
        [Rapid-Retransmit Enabled, Ack-Delay 400 msec]
```

```
Rate-Limit
--More-
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rsvp authentication

To display the authentication for the Resource Reservation Protocol (RSVP), use the **show ip rsvp authentication** command.

show ip rsvp authentication [**interface** *name*] [**neighbor** *ip-address* [detail]

Syntax Description

interface	(Optional) Specifies the authentication interface information.
name	(Optional) Authentication name.
neighbor	(Optional) Specifies the authentication neighbor information.
ip-address	IP address.
detail	(Optional) Specifies the detailed authentication information.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the RSVP authentication information:

```
switch# config t
switch(config)# ip rsvp
switch(config-ip-rsvp)# show ip rsvp authentication


Codes: S - static, D - dynamic, C - chain,
        G - global, N - neighbor, I - interface,
From            To              Neighbor        I/F    Mode Key-Src Key-ID Code
4.5.4.5         10.10.10.14     4.5.4.4         Eth2/3 SEND key1    4660   SGC
5.5.1.5         10.10.10.10     5.5.1.1         Eth2/6 SEND key1    4660   SGC
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rsvp counters

To display the Resource Reservation Protocol (RSVP) packet counters, use the **show ip rsvp counters** command.

show ip rsvp counters [**interface** *name* | **teardown** | **all**]

Syntax Description

interface	(Optional) Specifies the interface RSVP packet counters.
name	(Optional) Name of the counters.
teardown	(Optional) Specifies the RSVP teardown counters.
all	(Optional) Specifies all counters.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display all the RSVP counters:

```
switch# show ip rsvp counters all
Teardown Reason                Path       Resv
UNSPECIFIED                    0          0
PATH TIMEOUT                   0          0
RESV TIMEOUT                   0          0
SIGNALED                       0          0
MGMT                           0          0
POLICY                         0          0
PROXY                          0          0
NO_RESOURCES                   0          0
PREEMPTED                      0          0
MSG_ERROR                      0          0
INTERNAL                       0          0
TRAFFIC_CONTROL                0          0
POLICY_SYNC                    0          0
GR_TIMEOUT                     0          0
LINK_NBOR_DOWN                 0          0
LOCAL-SEND_PERR_PSR            0          0
```

```
NETWORK_PERR_PSR                0           0
HST_TIMEOUT                     0           0
PLR BACKUP DELETE               0           0
CLI-CLEAR                       0           0
RESTART-COMMAND                 0           0
INTERFACE-DELETE                0           0
Sent:
--More--
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rsvp fast-reroute

To display the Resource Reservation Protocol (RSVP) Fast Reroute (FRR) information, use the **show ip rsvp fast-reroute** command.

show ip rsvp fast-reroute [**detail**]

Syntax Description

detail	(Optional) Specifies the detailed fast reroute information.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display RSVP fast reroute information:

```
switch# config t
switch(config)# interface ethernet 6/1
switch(config-if)# show ip rsvp fast-reroute
    A - Active      R - Ready      U - Unassigned
Destination     TunID Source          Backup         Protected-I/f   Hop   State
10.10.10.10     20    10.10.10.15     tunnel-te200   tunnel-te200    NNhop A

Fast-Reroute Summary:
  Total Reroutable Paths: 2
    Active: 2, Ready: 0, Unassigned: 0
dc3rtg-x5(config-if)# show ip rsvp fast-reroute detail
Session type: LSP4
Primary Tunnel: Dest 10.10.10.10, ID 20, Source 10.10.10.15
Backup Tunnel: tunnel-te200 [ifid 0x221000c8]
Merge-Point: 10.10.10.10
Merge-Point in ERO: 2.4.1.1
Hop-Protection: NNhop
FRR-State: Active
Protected Interface: tunnel-te200
Bandwidth-Protect: Enabled
FRR-Bandwidth/Protect-Level: 100/2
Desired-Bit: 0x0
BSelect Priority: 7
```

```
Backup Source/Tail Address: 10.10.10.15/10.10.10.10
Backup Physical Interface: Ethernet2/6 [Addr 5.5.1.5, mtu 1500]
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rsvp hello client lsp

To display the Resource Reservation Protocol (RSVP) hello client label switched path (LSP) database, use the show **ip rsvp hello client lsp** command.

show ip rsvp hello client lsp [**detail**]

Syntax Description

detail	(Optional) Specifies the detailed LSP information.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the RSVP hello client LSP database:

```
switch(config-if)# show ip rsvp hello client lsp

Local           Remote          tun_id lsp_id subgrp_orig     subgrp_id FLAGS
10.10.10.15     10.10.10.10     20     2074   0.0.0.0         0         48
10.10.10.15     10.10.10.10     200    16     0.0.0.0         0         48
10.10.10.15     10.10.10.14     10     2059   0.0.0.0         0         48
10.10.10.15     10.10.10.14     100    10     0.0.0.0         0         48
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rsvp hello client neighbor

To display the Resource Reservation Protocol (RSVP) hello neighbor information, use the **show ip rsvp hello client neighbor** command.

show ip rsvp hello client neighbor [**detail**]

Syntax Description

detail	(Optional) Specifies the detailed hello neighbor information.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display RSVP hello neighbor information:

```
switch(config-if)# show ip rsvp hello client neighbor

 Remote          Type    NBR_STATE    HI_STATE   LSPs
 10.10.10.10     GR      Normal       Up         1
 10.10.10.14     GR      Normal       Up         3
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rsvp hello instance

To display the Resource Reservation Protocol (RSVP) hello instance information, use the **show ip rsvp hello instance** command.

show ip rsvp hello instance [**detail**]

Syntax Description

detail	(Optional) Specifies the detailed hello instance information.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display RSVP hello instance information:

```
switch(config-if)# show ip rsvp hello instance

Active Instances:
 Client  Neighbor        I/F                  State      LostCnt LSPs Interval
 GR      10.10.10.10     Any                  Up         0       1     10000
 GR      10.10.10.14     Any                  Up         0       3     10000
Passive Instances:
  - None -
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rsvp interface

To display Resource Reservation Protocol (RSVP) interface information, use the **show ip rsvp interface** command.

show ip rsvp interface [*name*] [**detail | backup-tunnel**]

Syntax Description

name	(Optional) Interface name for the specified interface.
detail	(Optional) Specifies the detailed interface information.
backup-tunnel	(Optional) Specifies the backup tunnel information known to RSVP.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to verify the RSVP interface:

```
switch(config-ip-rsvp)# show ip rsvp interface
Interface          Ifindex    IOD    MPLS     Config   State
Ethernet2/2        0x1a081000 37     enabled  None     Up
switch(config-ip-rsvp)# show ip rsvp interface detail
Ethernet2/2 (IOD 37, IfIndex 0x1a081000, Address 1.5.4.4/24):
  MPLS: enabled, Configuration:
  Dynamic Owner: No, Keepalive flag: Not Set
  State: Up [Flags 271458], MTU 1500
  Dynamic Cleanup timer: stopped
  Signalling DSCP: 48, Hello DSCP: 48
  Databases:
    Traffic Control State Count: 1
    Neighbor Count: 0, Incoming States Count 0
  Refresh:
    Refresh Reduction Disabled (Srefresh size config 0, max 1500)
    Refresh Timer stopped, Srefresh timer stopped (Interval 45000ms)
    Expiry Timer stopped (Interval 30000ms, Refresh Misses 4)
  Message Bundling:
    Disabled (Max size 1500)
  Reliable Messaging:
```

```
  Disabled (Ack Timer stopped, Initial Retransmit 5000ms, Delay 400ms)
  Ack Config Size 0, Max Size 1500
  Reliable Srefresh: Disabled
Pacing:
  Disabled (Pace Timer stopped, Interval 1000msec, Limit 100)
  Pace List Count 0, Total Deferred 0
Authentication : Disabled
Hello State Timeout : Disabled
  Interval 2000, Acks Miss Limit 4
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rsvp internal

To display internal counters, event history buffers, memory statistics or persistent store Resource Reservation Protocol (RSVP) information, use the **show ip rsvp internal** command.

show ip rsvp internal [**counters** | **event-history** | **mem-stat** | **pss**]

Syntax Description

counters	(Optional) Specifies the RSVP statistics.
event-history	(Optional) Specifies the event history buffer content.
mem-stat	(Optional) Specifies the RSVP memory statistics.
pss	(Optional) Specifies persistent store information.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the RSVP internal information:

```
switch# show ip rsvp internal counters
Signaling RX Error              Path       Resv
Confirm                         0          0
Admit-Error-Delay-Bound         0          0
Admit-Error-BW-Unavail          0          0
Admit-Error-MTU                 0          0
Admit-Error-Unknown             0          0
Admin-Error-Info                0          0
Admin-Error-Warn                0          0
Admin-Error-Unknown             0          0
Admin-Error-Reject              0          0
Admin-Error-Exceed              0          0
Admin-Error-Preempt             0          0
Admin-Error-Expired             0          0
Admin-Error-Replaced            0          0
Admin-Error-Merge               0          0
Admin-Error-Pop                 0          0
Admin-Error-Server              0          0
```

```
Admin-Error-PD-Syntax          0          0
Admin-Error-PD-Intgr           0          0
Admin-Error-PE-Bad             0          0
Admin-Error-PD-Miss            0          0
Admin-Error-No-Rsc             0          0
Admin-Error-RSVP               0          0
Admin-Error-Service            0          0
--More--
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rsvp neighbor

To display Resource Reservation Protocol (RSVP) neighbor information, use the **show ip rsvp neighbor** command.

show ip rsvp neighbor [*ip-address*] [**detail**]

Syntax Description

ip-address	(Optional) IP address.
detail	(Optional) Specifies the detailed neighbor information.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display RSVP neighbor information:

```
switch# show ip rsvp neighbor
Address     Interface      RouterID    State   Expiry     LastSend
3.0.206.6   Ethernet1/7    1.1.1.6     UP,RR   14 minutes 4 sec
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rsvp reservation

To display detailed Resource Reservation Protocol (RSVP) reservations, use the **show ip rsvp reservation** command.

show ip rsvp reservation [**destination** *ip-address*] [**sender** *ip-address*] [**dst-port** *port*] [**src-port** *port*] [**detail**]

Syntax Description

destination	(Optional) Specifies the destination IP address information.
ip-address	IP address.
sender	(Optional) Specifies the source IP address information.
dst-port	(Optional) Specifies the destination port information.
port	(Optional) Destination port value. The range is from 0 to 2147483647.
src-port	(Optional) Specifies the source port information.
detail	(Optional) Specifies the detailed RSVP status.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the detailed RSVP reservation status:

```
switch# show ip rsvp reservation detail
Reservation:
Tun Dest: 10.1.1.1 Tun ID: 1 Ext Tun ID: 172.16.1.1
Tun Sender: 172.16.1.1 LSP ID: 104
Next Hop: 172.17.1.2 on Eth1/0
Label: 18 (outgoing)
Reservation Style is Shared-Explicit, QoS Service is Controlled-Load
Average Bitrate is 0 bits/sec, Maximum Burst is 1K bytes
Min Policed Unit: 0 bytes, Max Pkt Size: 0 bytes
RRO:
172.18.1.1/32, Flags:0x1 (Local Prot Avail/to NHOP)
Label subobject: Flags 0x1, C-Type 1, Label 18
```

```
172.19.1.1/32, Flags:0x0 (Local Prot Avail/In Use/Has BW/to NHOP)
Label subobject: Flags 0x1, C-Type 1, Label 16
172.19.1.2/32, Flags:0x0 (No Local Protection)
Label subobject: Flags 0x1, C-Type 1, Label 0
Resv ID handle: CD000404.
Policy: Accepted. Policy source(s): MPLS/TE
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rsvp sender

To display the Resource Reservation Protocol (RSVP) path status, use the **show ip rsvp sender** command.

show ip rsvp sender [**destination** *ip-address*] [**sender** *ip-address*] [**dst-port** *port*] [**src-port** *port*] [**detail**]

Syntax Description

destination	(Optional) Specifies the path based on a destination IP address.
ip-address	Destination IP address.
sender	(Optional) Specifies the path based on a source IP address.
ip-address	Source IP address.
dst-port	(Optional) Specifies the path based on a destination port.
port	Destination port value. The range is from 0 to 2147483647.
src-port	(Optional) Specifies the path based on a source port.
port	Source port value. The range is from 0 to 2147483647.
detail	(Optional) Specifies the detailed RSVP status.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the detailed RSVP path status:

```
switch# show ip rsvp sender detail
PATH:
Tun Dest: 10.10.0.6 Tun ID: 100 Ext Tun ID: 10.10.0.1
Tun Sender: 10.10.0.1 LSP ID: 31
Path refreshes:
arriving: from PHOP 10.10.7.1 on Et0/0 every 30000 msecs
Session Attr:
Setup Prio: 7, Holding Prio: 7
Flags: (0x7) Local Prot desired, Label Recording, SE Style
```

```
session Name: R1_t100
ERO: (incoming)
10.10.7.2 (Strict IPv4 Prefix, 8 bytes, /32)
10.10.0.6 (Strict IPv4 Prefix, 8 bytes, /32)
RRO:
10.10.7.1/32, Flags:0x0 (No Local Protection)
10.10.4.1/32, Flags:0x9 (Local Prot Avail/to NNHOP) !Available to NNHOP
10.10.1.1/32, Flags:0x0 (No Local Protection)
Traffic params - Rate: 10K bits/sec, Max. burst: 1K bytes
Min Policed Unit: 0 bytes, Max Pkt Size 4294967295 bytes
Fast-Reroute Backup info:
Inbound FRR: Not active
Outbound FRR: No backup tunnel selected
Path ID handle: 50000416.
Incoming policy: Accepted. Policy source(s): MPLS/TE
Status: Proxy-terminated
```

This example shows how to display the path-based destination port value:

```
switch# show ip rsvp sender dst-port 2
Total Sender States: 0
To              From            Pro DPort Sport Prev Hop        I/F
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rsvp session

To display the Resource Reservation Protocol (RSVP) session information, use the **show ip rsvp session** command.

show ip rsvp session [**destination** *ip-address*]

Syntax Description

destination	(Optional) Specifies the session based on a destination IP address.
ip-address	Destination IP address.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the RSVP session information:

```
switch# config t
switch(config)# interface ethernet 6/1
switch(config-if)# show ip rsvp session
Total Sessions: 4
Type Destination     DPort Proto/ExtTunID  PSBs  RSBs  Reqs  PXSBs RXSBs
LSP4 10.10.10.10     20    10.10.10.15     1     1     0     1     0
LSP4 10.10.10.10     200   10.10.10.15     1     1     0     1     0
LSP4 10.10.10.14     10    10.10.10.15     1     1     0     1     0
LSP4 10.10.10.14     100   10.10.10.15     1     1     0     1     0
Total Sessions: 0
Type Destination     DPort Proto/ExtTunID  PSBs  RSBs  Reqs  PXSBs RXSBs
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rsvp signalling rate-limit

To display the Resource Reservation Protocol (RSVP) globally configured signalling rate limit information, use the **show ip rsvp signalling rate-limit** command.

show ip rsvp signalling rate-limit

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the RSVP signalling rate limit parameters:

```
switch# show ip rsvp signalling rate-limit
Rate-Limiting: Disabled
  Limit: 100
  Interval (msec): 1000
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ip rsvp signalling refresh

To display the Resource Reservation Protocol (RSVP) signalling refresh information, use the **show ip rsvp signalling refresh** command.

show ip rsvp signalling refresh {**interval** | **misses** | **reduction**}

Syntax Description

interval	Specifies the interval for refresh messages.
misses	Specifies the misses required to trigger a state timeout.
reduction	Specifies the refresh reduction parameters.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the RSVP globally configured refresh interval information:

```
switch# show ip rsvp signalling refresh interval
Refresh interval (sec): 45
switch#
```

This example shows how to display the RSVP globally configured refresh misses information:

```
switch# show ip rsvp signalling refresh misses
Refresh misses: 4
switch#
```

This example shows how to display the RSVP globally configured refresh reduction information:

```
switch# show ip rsvp signalling refresh reduction
Refresh Reduction: Disabled
  ACK delay (msec): 400
  Initial retransmit delay (msec): 5000
  Local epoch: 0x74b530
  Message IDs: in use 0, total allocated 0, freed 0
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show ipv6 route static vrf

To display information about a static virtual routing and forwarding (VRF) route, use the **show ipv6 route static vrf** command.

show ipv6 route static vrf *vrf-name*

Syntax Description

vrf-name	VRF name that is any case-sensitive, alphanumeric string up to 32 characters.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display information about a static VRF route:

```
switch# show ipv6 route statistics vrf vrf1
IPv6 Routing Table for VRF "vrf1"
'*' denotes best ucast next-hop
'**' denotes best mcast next-hop
'[x/y]' denotes [preference/metric]

Could not resolve "statistics"
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show l2vpn atom vc detail

To display detailed information about Any Transport over MPLS (AToM) virtual circuits (VCs) and static pseudowires that have been enabled to route Layer 2 packets on a device, use the **show l2vpn atom vc detail** command.

show l2vpn atom vc detail

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

Any command mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
6.2.2	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display detailed information about Any Transport over MPLS (AToM) virtual circuits (VCs) and static pseudowires that have been enabled to route Layer 2 packets on a device:

```
switch# show l2vpn atom vc detail

pseudowire100002 is down, VC status is down
  Create time: 4w6d, last status change time: 5w5d
    Last label FSM state change time: 4w6d
  Destination address: 10.0.0.4 VC ID: 80
    Output interface: none, imposed label stack {}
    Preferred path: not configured
    Default path: no route
    No adjacency
  Member of vfi service vpls-80
    Service id: 0xc3000001
  Signaling protocol: LDP, peer unknown
    Targeted Hello: 0.0.0.0(LDP Id) -> 10.0.0.4, LDP is DOWN, no binding
    Graceful restart: not configured and not enabled
    Non stop routing: not configured and not enabled
    PWid FEC (128), VC ID: 80
    Status TLV support (local/remote)         : enabled/None (no remote binding)
      LDP route watch                         : enabled
      Label/status state machine              : provisioned, LndRnd
      Local dataplane status received         : No fault
```

```
    BFD dataplane status received           : Not sent
    BFD peer monitor status received        : No fault
    Status received from access circuit     : DOWN(hard-down, not-ready)
    Status sent to access circuit           : Not sent
    Status received from pseudowire i/f     : No fault
    Status sent to network peer             : No status
    Status received from network peer       : None (no remote binding)
    Adjacency status of remote peer         : None (no remote binding)
Sequencing: receive disabled, send disabled
Bindings
  Parameter    Local                          Remote
  ------------ ------------------------------ ------------------------------
  Label        unassigned                     unassigned
  Group ID     unknown                        unknown
  Interface    unknown                        unknown
  MTU          unknown                        unknown
  Control word off (configured: autosense)    unknown
  PW type      unknown                        unknown
  VCCV CV type unknown                        unknown
  VCCV CC type unknown                        unknown
  Status TLV   enabled                        None (no remote binding)
Rx Counters
  0 input transit packets, 0 bytes
  0 drops, 0 seq err
Tx Counters
  0 output transit packets, 0 bytes
  0 drops
```

Related Commands

Command	Description
show l2vpn atom	Displays the Any Transport over MPLS (AtoM) information.

show l2vpn atom

To display the Any Transport over MPLS (AtoM) information, use the **show l2vpn atom** command.

show l2vpn atom {**binding** | **fsm** | **summary** | **vc**}

Syntax Description

binding	Displays the AToM label binding information.
fsm	Displays the finite state machine counter.
summary	Displays the summary of Layer 2 transport.
vc	Displays AToM virtual circuit information.

Defaults

None

Command Modes

Any command mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
6.2.2	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display the AToM VC information:

```
switch# show l2vpn atom vc

                                        Service
Interface Dest Address    VC ID      Type   Name                     Status
--------- --------------- ---------- ------ ------------------------ ---------
pw100002  10.0.0.4        80         vfi    vpls-80                  DOWN
switch #
```

Related Commands

Command	Description
show l2vpn atom vc detail	Displays detailed information about Any Transport over MPLS (AToM) virtual circuits (VCs) and static pseudowires that have been enabled to route Layer 2 packets on a device.

show l2vpn service vfi

To display Layer 2 VPN (L2VPN) virtual forwarding interface (VFI) service information, use the **show l2vpn service vfi** command.

show l2vpn service vfi {all | interface | name | peer}

Syntax Description

all	(Optional) Displays all VPLS service entries.
interface	(Optional) Displays all services by the member interface.
name	(Optional) Displays a specific service by its name.
peer	(Optional) Displays all services by the peer IP address.

Defaults

None

Command Modes

Any command mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
6.2.2	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display all the L2VPN VFI service entries:

```
switch# show l2vpn service vfi all

Legend: St=State    XC St=State in the L2VPN Service      Prio=Priority
        UP=Up       DN=Down            AD=Admin Down      IA=Inactive
        SB=Standby  HS=Hot Standby     RV=Recovering      NH=No Hardware
        m=manually selected

  Interface          Group       Encapsulation                   Prio  St  XC St
  ---------          -----       -------------                   ----  --  -----
VPLS name: vpls-80, State: DN
  vfi100001                      vpls-80(VFI)                    0     DN  DN
switch#
```

Related Commandss

Command	Description
show l2vpn vfi	Displays L2VPN VFI information.

show l2vpn vfi

To display Layer 2 VPN (L2VPN) virtual forwarding interface (VFI) information, use the **show l2vpn vfi** command.

show l2vpn service vfi {**name** | **vpc**}

Syntax Description

name	Displays a specific VFI by name.
vpc	Displays virtual port channel (vPC) VPLS Redundancy information.

Defaults

None

Command Modes

Any command mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
6.2.2	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display L2VPN VFI information:

```
switch# show l2vpn vfi vpc
VFI name: vpls-80
   Mode: primary
   State: VFI Primary
   BD Id: 0

switch#
```

Related Commandss

Command	Description
show l2vpn service vfi	Displays L2VPN VFI service information.

show l2vpn service xconnect all

To display the status information about the specified XConnect service, use the **show l2vpn service xconnect all** command.

show l2vpn service xconnect {**all** | **interface** | **name** | **peer**}

Syntax Description

all	Displays all VPLS service entries.
interface	Displays all services by the member interface.
name	Displays a specific service by its name.
peer	Displays all services by the peer IP address.

Defaults

None

Command Modes

Any command mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
6.2.2	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display the status information about the specified XConnect service:

```
switch# show l2vpn service xconnect all
switch#
```

show mpls forwarding statistics

To display the Multiprotocol Label Switching Label Distribution Protocol (LDP) traffic forwarding statistics, use the **show mpls forwarding statistics** command.

show mpls forwarding statistics

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

LDP configuration mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the MPLS LDP traffic forwarding statistics:

```
switch# config t
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# mpls ldp configuration
switch(config-ldp)# show mpls forwarding statistics
MPLS software forwarding stats summary:
    Packets/Bytes sent           : 0/0
    Packets/Bytes received       : 0/0
    Packets/Bytes forwarded      : 0/0
    Packets/Bytes originated     : 0/0
    Packets/Bytes consumed       : 0/0
    Packets/Bytes input dropped  : 0/0
    Packets/Bytes output dropped : 0/0
switch(config-ldp)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls ldp neighbor graceful-restart

To display the graceful-restart information for the Label Distribution Protocol (LDP) sessions, use the **show mpls ldp neighbor graceful-restart** command.

show mpls ldp neighbor graceful-restart

Syntax Description

This command does not have any arguments or keywords.

Defaults

None

Command Modes

Any command mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
6.2.2	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display the graceful-restart information for the LDP sessions:

```
switch# show mpls ldp neighbor graceful-restart
switch#
```

Related Commandss

Command	Description
show mpls ldp graceful-restart	Displays graceful- restart sessions and session parameters.
show run mpls ldp all	Displays information about all of the running LDP sessions.

show mpls interface detail

To display details about the configuration status of the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP) on the interface, use the **show mpls interface detail** command.

show mpls interface detail

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

Interface configuration mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how display details about the configuration status of MPLS LDP on the interface:

```
switch# config t
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# show mpls interface detail
Interface Ethernet2/2:
        ldp enabled
        MPLS operational
        Label space id 0x10000001
        MPLS sub-layer Ethernet2/2-mpls layer(0x26000002)
Interface tunnel-te1:
        mpls te vif enabled
        MPLS is not operational
        Label space id 0x10000001
        MPLS sub-layer tunnel-te1-mpls layer(0x26000001)
switch(config)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls interfaces

To display the Multiprotocol Label Switching (MPLS) interfaces, use the **show mpls interfaces** command.

show mpls interfaces {**detail** | **ethernet** *slot/port subinterface* **statistics** | **internal** | **loopback** *virtual interface number* **statistics** | **port-channel** *port channel number sub interface* **statistics** | **tunnel-te** *TE interface number* **statistics**}

Syntax Description

detail	Displays detailed information about the interface.
ethernet	Displays the Ethernet interface.
slot/port	Slot or port number. The range is from 1 to 253.
subinterface	Sub interface separator.
statistics	Displays the statistics information.
internal	Displays the internal information.
loopback	Displays the loopback interfaces.
virtual interface number	Virtual interface number. The range is from 0 to 1023.
port-channel	Port channel interface.
port channel number	Port channel number. The range is from 1 to 4096.
tunnel-te	Displays the traffic engineering interface.
TE interface number	Traffic engineering interface number. The range is from 0 to 65503.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the traffic engineering statistics interface information:

```
switch# show mpls interfaces tunnel-te 1 statistics
tunnel-te1
       MPLS disabled
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls ip bindings

To display the Multiprotocol Label Switching (MPLS) IP Label Information Base, use the **show mpls ldp bindings** command.

show mpls ip bindings *destination-prefix* [**advertisement-prefix-list** | **detail** | **local** | **local-label** [*number*] | **neighbor** *addr* | **remote-label** [*number*] | **summary**]

Syntax Description

destination-prefix	Destination prefix.
advertisement-prefix-list	(Optional) Displays the advertisement prefix list.
detail	(Optional) Displays the detailed information.
local	(Optional) Displays only locally assigned label values.
local-label	(Optional) Displays the locally assigned label values.
number	(Optional) Displays the label value. The range is from 1 to 2147483647.
neighbor	Displays the label from LDP neighbor.
addr	Neighbor IP address.
remote-label	(Optional) Displays remotely assigned label values.
summary	(Optional) Displays the summary information.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the LDP summary information:

```
switch# show mpls ip bindings summary
Total number of prefixes: 2
Total tib route info allocated: 1
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls label range

To display the range of local labels available for use on packet interfaces, use the show mpls label range command.

show mpls label range

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the range of local labels available for use on packet interfaces:

```
switch# show mpls label range
Downstream Generic label region: Min/Max label: 16/471804
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls ldp backoff

To display information about the configured session setup backoff parameters and any potential Label Distribution Protocol (LDP) peers with which session setup attempts are being throttled, use the **show mpls ldp backoff** command.

show mpls ldp backoff

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the LDP session setup backoff table:

```
switch# mpls ldp
switch# show mpls ldp backoff
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls ldp capabilities

To display Label Distribution Protocol (LDP) capabilities information, use the **show mpls ldp capabilities** command.

show mpls ldp capabilities

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the LDP capabilities information:

```
switch# show mpls ldp capabilities

DP Capabilities - [<description> (<type>)]
-------------------------------------------------------
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls ldp checkpoint

To display Label Distribution Protocol (LDP) checkpoint information, use the **show mpls ldp checkpoint** command.

show mpls ldp checkpoint

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the LDP checkpoint information:

```
switch# show mpls ldp checkpoint
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls ldp discovery

To display the status of the Label Distribution Protocol (LDP) discovery process including the transport address, use the **show mpls ldp discovery detail** command.

show mpls ldp discovery [**detail**]

Syntax Description

detail	(Optional) Displays the detailed LDP discovery information.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the status of the LDP discovery process including the transport address:

```
switch# show mpls ldp discovery
Local LDP Identifier:
    10.0.0.30:0
    Discovery Sources:
    Interfaces:
        Ethernet2/2 (ldp): xmit
            Enabled: Interface config
            Hello interval: 333 ms; Transport IP addr: 10.0.0.30
            Clients: IPv4
switch(config-if)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls ldp graceful-restart

To display the graceful-restart parameters for a router's sessions with its Label Distribution Protocol (LDP) neighbors, use the **show mpls ldp graceful-restart** command.

show mpls ldp graceful-restart

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the graceful-restart parameters for a router's sessions with its LDP neighbors:

```
switch# show mpls ldp graceful-restart
LDP Graceful Restart is enabled
Neighbor Liveness Timer: 120 seconds
Max Recovery Time: 120 seconds
Forwarding State Holding Time: 600 seconds
Down Neighbor Database (0 records):
Graceful Restart-enabled Sessions:
switch(config-ldp)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls ldp igp sync

To display the configuration status of the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP) Interior Gateway Protocol (IGP) synchronization on the specified interface, use the **show mpls ldp igp sync** command.

show mpls ldp igp sync [**interface ethernet** *slot/chassis number*]

Syntax Description

interface ethernet	(Optional) Specifies an Ethernet interface.
slot/chassis number	(Optional) Slot or chassis number. The range is from 1 to 253 characters.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the delay time configuration for the MPLS LDP and IGP synchronization on the specified interface:

```
switch# show mpls ldp igp sync interface ethernet 6/1
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls ldp neighbor

To display Label Distribution Protocol (LDP) neighbors, use the **show mpls ldp neighbor** command.

show mpls ldp neighbor [**capabilities** | **detail** | **graceful-restart** | **password**]

Syntax Description

capabilities	(Optional) Displays the neighbor capability information.
detail	(Optional) Displays the detailed neighbor information.
graceful-restart	(Optional) Displays graceful restart neighbor information.
password	(Optional) Displays neighbor password information.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the neighbor capability information:

```
switch# show mpls ldp neighbor capabilities
switch#
```

This example shows how to display graceful restart neighbor information:

```
switch# show mpls ldp neighbor graceful-restart
switch#
```

This example shows how to display detailed neighbor information:

```
switch# show mpls ldp neighbor detail
switch#
```

This example shows how to display neighbor password information:

```
switch# show mpls ldp neighbor password
Peer LDP Ident: 10.0.0.22:0; Local LDP Ident 10.0.0.13:0
TCP connection: 10.0.0.22.20954 - 10.0.0.13.646
Password: not required, neighbor, stale
```

```
Adj pwd Rx/Tx: [nil]/[nil]
TCP pwd Rx/Tx: [nil]/[nil]
State: Oper; Msgs sent/rcvd: 36/39
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls ldp parameter

To display the current Label Distribution Protocol (LDP) configuration parameters, including the session hold time, use the **show mpls ldp parameter** command.

show mpls ldp parameter

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the LDP configuration parameter:

```
switch# config t
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# mpls ldp configuration
switch(config-ldp)# show mpls ldp parameter
LDP Feature Set Manager: State Initialized
  LDP features:
    Basic
    IP-over-MPLS
    TDP
    IGP-Sync
    Auto-Configuration
    TCP-MD5-Rollover
    LLAF
Protocol version: 1
Session hold time: 180 sec; keep alive interval: 60 sec
Discovery hello: holdtime: 1 sec; interval: 5 sec
Discovery targeted hello: holdtime: 1 sec; interval: 1 sec
Accepting targeted hellos; peer acl: a
Downstream on Demand max hop count: 255
LDP for targeted sessions
LDP initial/maximum backoff: 15/120 sec
LDP loop detection: off
switch(config-ldp)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls oam

To display the MPLS operations and management (OAM) information, use the **show mpls oam** command.

show mpls oam {**echo statistics summary** | **internal mem-stats detail no libs**}

Syntax Description

echo	Specifies the echo request information.
statistics	Specifies the detailed echo packet statistics.
summary	Specifies the echo packet statistics summary.
internal	Specifies OAM internal information.
mem-stats	Specifies memory allocation statistics.
detail	Specifies the detailed information.
no libs	Specifies to exclude libraries.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the detailed echo packet statistics:

```
switch# show mpls oam echo statistics

Cisco TLV version: RFC 4379 Compliant
Echo Reply return code distribution:
    x - No return code (0)                        - 0
    M - Malformed Echo request (1)                - 0
    m - Unsupported TLVs (2)                      - 0
    ! - Success (3)                               - 0
    F - No FEC mapping (4)                        - 0
    D - DS Map mismatch (5)                       - 0
    I - Unknown Upstream Interface index (6)      - 0
    U - Reserved (7)                              - 0
    L - Labeled output interface (8)              - 0
    B - Unlabeled output interface (9)            - 0
```

```
    f - FEC mismatch (10)                        - 0
    N - No label entry (11)                      - 0
    P - No receive interface label protocol (12) - 0
    p - Premature termination of LSP (13)        - 0
    X - Undefined return code                    - 0
Echo Requests: sent (0)/received (0)/timedout (0)/unsent (0)
Echo Replies: sent (0)/received (0)/unsent (0)
switch#
```

This example shows how to display the echo packet statistics summary:

```
switch# show mpls oam echo statistics summary

Cisco TLV version: RFC 4379 Compliant
Echo Requests: sent (0)/received (0)/timedout (0)/unsent (0)
Echo Replies: sent (0)/received (0)/unsent (0)
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls static binding ipv4

To display the Multiprotocol Label Switching (MPLS) configured static IPv4 labels, use the **show mpls static binding ipv4** command.

show mpls static binding ipv4

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

Interface configuration mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the MPLS static IPv4 labels:

```
switch# config t
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config)# mpls ldp configuration
switch(config-ldp)# show mpls static binding ipv4
switch(config-ldp)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls static binding ipv4 vrf

To display the configured Multiprotocol Label Switching (MPLS) static virtual routing and forwarding (VRF) binding for IPv4, use the **show mpls static binding ipv4 vrf** command.

show mpls static binding ipv4 vrf *vrf-name*

Syntax Description

vrf-name	VRF name. The maximum size is 32 alphanumeric characters.

Defaults

None

Command Modes

Interface configuration mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

You must configure the MPLS VPN and VRFs before creating VRF-aware static labels.

This command requires the MPLS Services license.

Examples

This example shows how to display the MPLS VRF static bindings for IPv4:

```
switch# config t
Enter configuration commands, one per line.  End with CNTL/Z.
switch(config-ldp)# show mpls static binding ipv4 vrf vrf100----need to get the output
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls switching

To display the contents of the Multiprotocol Label Switching (MPLS) Unified Label Information Base (ULIB), use the **show mpls switching** command.

show mpls switching {*ip prefix* | *ipv6 prefix*}

Syntax Description

ipv4-prefix	Specifies the IPv4 prefix or mask.
ipv6-prefix	Specifies the IPv6 prefix or mask.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(5) and higer including 6.1(1)	Changed the command output.
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the MPLS label switching database:

```
switch(config)# show mpls switching
Legend:
(P)=Protected, (F)=FRR active, (*)=more labels in stack.
In-Label Out-Label FEC name Out-Interface Next-Hop
VRF default
106 3 10.1.1.2/32 Eth2/19 19.20.0.2
106 None 10.1.1.2/32 Eth2/9 9.10.0.2
VRF vpn1
101 None 92.168.1.0/24 Eth2/26.1 110.0.1.2
VRF vpn2
100 None 92.168.2.0/24 Eth2/26.2 110.0.2.2
VRF vpn3
102 None 92.168.3.0/24 Eth2/26.3 110.0.3.2
VRF vpn4
103 None 92.168.4.0/24 Eth2/26.4 110.0.4.2
VRF vpn5
104 None 92.168.5.0/24 Eth2/26.5 110.0.5.2
VRF vpn6
105 None 92.168.6.0/24 Eth2/26.6 110.0.6.2
```

```
In-Label VRF
492287 vpn
492288 vpn4
492289 vpn5
492290 vpn6
Tunnel-Headend Out-Label Out-Interface Next-Hop
tunnel-te101 0 0.0.0.0
tunnel-te201 3 Eth2/19 19.20.0.2
switch(config)#
```

This example shows how to display the IP prefix :

```
switch(config)# show mpls switching 10.1.1.2/32

Legend:
(P)=Protected, (F)=FRR active, (*)=more labels in stack.

In-Label   Out-Label  FEC name           Out-Interface      Next-Hop
VRF default

106        Pop Label 10.1.1.2/32        Eth2/19            19.20.0.2
106        No Label 10.1.1.2/32        Eth2/9             9.10.0.2
switch(config)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls switching aggregate

To display the aggregate-related information, use the **show mpls switching aggregate** command**.**

show mpls switching aggregate

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the aggregate related information:

```
switch# show mpls switching aggregate
Legend:
(P)=Protected, (F)=FRR active, (*)=more labels in stack.
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls switching aggregate detail

To display the detailed aggregate-related information, use the **show mpls switching aggregate detail** command**.**

show mpls switching aggregate detail {**vrf** *vrf name*}

Syntax Description

vrf	Displays the virtual routing and forwarding (VRF) instance.
vrf name	VRF name. The maximum size is alphanumeric 32 characters.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the detailed aggregate-related information for a VRF instance:

```
switch# show mpls switching aggregate detail vrf vrf1
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls switching aggregate ipv4

To display the IPv4 aggregate-related information, use the **show mpls switching aggregate ipv4** command**.**

show mpls switching aggregate ipv4{**detail vrf** *vrf name* | **vrf** *vrf name*}

Syntax Description

detail	Displays the detailed information.
vrf	Displays the virtual routing and forwarding (VRF) instance.
vrf name	VRF name. The maximum size is 32 alphanumeric characters.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the IPv4 aggregate-related information for a VRF instance:

```
switch# show mpls switching aggregate ipv4 detail vrf vrf1
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls switching aggregate ipv6

To display the IPv6 aggregate-related information, use the **show mpls switching aggregate ipv6** command**.**

show mpls switching aggregate ipv6 {**detail vrf** *vrf name* | **vrf** *vrf name*}

Syntax Description

detail	Displays the detailed information.
vrf	Displays the virtual routing and forwarding (VRF) instance.
vrf name	VRF name. The maximum size is 32 alphanumeric characters.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the IPv6 aggregate-related information for a VRF instance:

```
switch# show mpls switching aggregate ipv6 detail vrf vrf1
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls switching aggregate vrf

To display the per virtual routing and forwarding (VRF) aggregate-related information, use the **show mpls switching aggregate vrf** command**.**

show mpls switching aggregate ipv6 {**vrf** *vrf name*}

Syntax Description

vrf	Displays the virtual routing and forwarding (VRF) instance.
vrf name	VRF name. The maximum size is 32 alphanumeric characters.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the per-VRF aggregate-related information:

```
switch# show mpls switching aggregate vrf vrf1
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls switching clients

To display the Unified Label Information Base (ULIB) client components, use the **show mpls switching clients** command.

show mpls switching clients

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the UILB client components:

```
switch# show mpls switching clients
CLIENT: mpls te lif Index: 1
    UUID: 120, SAP: 288, Stale time: 180000
    Flags: 0x00000000
  Messages received:
    Register:    1, Convergence:    0
    FEC Messages: 0
      FEC Additions:    0, ILE Additions:    0
      FEC Deletions:    0, ILE Deletions:    0
    Last XID: 0
  Messages sent:
    FEC Ack Messages: 0

CLIENT: LDP-Dynamic Index: 2
    UUID: 123, SAP: 285, Stale time: 600
    Flags: 0x00000000
  Messages received:
    Register:    1, Convergence:    0
    FEC Messages: 0
      FEC Additions:    0, ILE Additions:    0
      FEC Deletions:    0, ILE Deletions:    0
    Last XID: 0
  Messages sent:
```

```
    FEC Ack Messages: 0

--More--
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls switching detail

To display the detailed information, use the **show mpls switching detail** command**.**

show mpls switching detail vrf *vrf name*

Syntax Description

vrf	Displays the virtual routing and forwarding (VRF) instance.
vrf name	VRF name. The maximum size is 32 alphanumeric characters.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the detailed information for a VRF instance:

```
switch# show mpls switching detail vrf vrf1
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls switching interface

To display the information for the specified outgoing interface, use the **show mpls switching interface** command**.**

show mpls switching interface {**ethernet** *slot/port* **detail vrf** *vrf name* **vrf** *vrf name*}

Syntax Description

slot/port	Slot or port number. The slot range is from 1 to 253 and the port range is from 1 to 128.
detail	Displays the detailed information.
vrf	Displays the virtual routing and forwarding (VRF) instance.
vrf name	VRF name. The maximum size is 32 alphanumeric characters.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the information for the specified outgoing interface:

```
swtch# show mpls switching interface ethernet 6/1 vrf vrf1
Legend:
(P)=Protected, (F)=FRR active, (*)=more labels in stack.
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls switching labels

To display label-related information, use the **show mpls switching label** command**.**

show mpls switching labels [*label 1 label 2*] **detail vrf** *vrf name* **vrf** *vrf name*}

Syntax Description

label1	Low label value. The range is from 0 to 524286.
label 2	High label value. The range is from 0 to 524286.
detail	Specifies the detailed information.
vrf	Displays the virtual routing and forwarding (VRF) instance.
vrf name	VRF name. The maximum size is 32 alphanumeric characters.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the label-related information for the VRF instance:

```
swtch# show mpls switching labels vrf vrf1
Legend:
(P)=Protected, (F)=FRR active, (*)=more labels in stack.
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls switching traffic-eng lsp ipv4

To display the traffic engineering label switched path (LSP) IPv4-related entries, use the **show mpls switching traffic-eng lsp ipv4** command**.**

show mpls switching traffic-eng lsp ipv4 {*TE ingress address* | **detail vrf** *vrf name* | **vrf** *vrf name*}

Syntax Description

TE ingress address	Traffic engineering (TE) ingress address.
detail	Displays the detailed information.
vrf	Displays the virtual routing and forwarding (VRF) instance.
vrf name	VRF name. The maximum size is 32 alphanumeric characters.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the traffic engineering LSP IPV4 per VRF related entries:

```
swtch# show mpls switching traffic-eng lsp ipv4 vrf vrf1
Legend:
(P)=Protected, (F)=FRR active, (*)=more labels in stack.
switch#
```

This example shows how to display the traffic engineering LSP IPV4 ingress address:

```
switch# show mpls switching traffic-eng lsp ipv4 10.1.1.1 101

Legend:
(P)=Protected, (F)=FRR active, (*)=more labels in stack.

In-Label   Out-Label  Tunnel                 Out        Next-Hop
                      Midpoint               Interface
18         18         10.1.1.1/10.1.1.4/-101 Eth2/27    27.28.0.2        P


switch#
```

This example shows how to display the traffic engineering LSP IPV4 detailed information:

```
switch# show mpls switching traffic-eng lsp ipv4 detail
IPv4 TE LSP
 In-Label                       : 18
 Out-Label stack                : 18
 Source address                 : 10.1.1.1
 Destination address            : 10.1.1.4
 Tunnel ID                      : 101
 Extended tunnel id             : 10.1.1.1
 Tunnel Instance                : 27
 Out interface                  : Eth2/27
 Next hop                       : 27.28.0.2
 FRR status                     : Protected
 Input traffic statistics       : 0 packets, 0 bytes
 Output statistics per label    : label 18, 0 bytes, 0 packets
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls switching traffic-eng tunnels

To display the traffic engineering head end information, use the **show mpls switching traffic-eng** command**.**

show mpls switching traffic-eng tunnels

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the traffic engineering head end information:

```
switch# show mpls switching traffic-eng tunnels

Legend:
(P)=Protected, (F)=FRR active, (*)=more labels in stack.


Tunnel-Headend             Out-Label  Out-Interface   Next-Hop
tunnel-te105               3          Eth2/1          1.7.0.2
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls switching vrf

To display the Multiprotocol Label Switching (MPLS) virtual routing and forwarding (VRF) instance, use the **show mpls switching vrf** command**.**

show mpls switching vrf *vrf name*

Syntax Description

vrf name	VRF name. The maximum size is 32 alphanumeric characters.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the per VRF information:

```
switch(config)# show mpls switching vrf vpn4

Legend:
(P)=Protected, (F)=FRR active, (*)=more labels in stack.

In-Label   Out-Label  FEC name           Out-Interface      Next-Hop
VRF vpn4
103        None       92.168.4.0/24      Eth2/26.4          110.0.4.2

In-Label   VRF
492288     vpn4
switch(config)#
switch(config)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls traffic-eng autoroute

To display the autorouted tunnel destination information, use the **show mpls traffic-eng autoroute** command.

show mpls traffic-eng autoroute [*ipaddr*]

Syntax Description

ipaddr	(Optional) Destination IP address for the autorouted tunnels.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the autorouted tunnel destination information:

```
switch# show mpls traffic-eng autoroute 10.1.1.2
MPLS TE autorouting enabled
  destination 0001.0001.0002.00, area isis-p1 level-2, has 1 tunnels
    tunnel-te3000 (nexthop 10.1.1.2)
                (flags: Announce)
```

Related Commands

Command	Description
show mpls traffic-eng forwarding-adjacency	Displays the forwarding adjacency tunnel destination information.

show mpls traffic-eng exp

To display the Multiprotocol Label Switching (MPLS) traffic engineering (TE) tunnel expression information, use the **show mpls traffic-eng exp** command.

show mpls traffic-eng exp [*ipaddr*]

Syntax Description

ipaddr	(Optional) Destination IP address for the master tunnels.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the Multiprotocol Label Switching (MPLS) traffic engineering (TE) tunnel expression information:

```
switch# show mpls traffic-eng exp 10.1.1.1
Destination: 10.1.1.1
Master: tunnel-te1           Status: up
Members         Status               Conf Exp        Actual Exp
   tunnel-te2      up  (Active)         Default         Default
   tunnel-te3      up  (Active)         3               3
switch#
```

Related Commands

Command	Description
show mpls traffic-eng autoroute	Displays the autorouted tunnel destination information.

show mpls traffic-eng forwarding-adjacency

To display the forwarding adjacency tunnel destination information, use the **show mpls traffic-eng forwarding-adjacency** command.

show mpls traffic-eng forwarding-adjacency [*ipaddr*]

Syntax Description

ipaddr	(Optional) Destination IP address for forwarding adjacency tunnels.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the forwarding adjacency tunnel destination information:

```
switch# show mpls traffic-eng forwarding-adjacency 10.1.1.2
destination 0001.0001.0002.00, area isis-p1 level-2, has 1 tunnels
    tunnel-te3000 (nexthop 10.1.1.2)
                (flags: Announce Forward-Adjacency, holdtime 0)
switch#
```

Related Commands

Command	Description
show mpls traffic-eng autoroute	Displays the autorouted tunnel destination information.

show mpls traffic-eng high-availability

To display the Multiprotocol Label Switching (MPLS) traffic engineering (TE) high availability information, use the **show mpls traffic-eng high-availability** command.

show mpls traffic-eng high-availability {**database** | **shared-database**}

Syntax Description

database	Displays the MPLS TE checkpoint database.
shared-database	Displays the MPLS TE shared database.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the MPLS TE shared database:

```
switch# show mpls traffic-eng high-availability shared-database
Local Link Ethernet2/2
    I/F IOD 0x1a081000, Area 2, Protocol IS-IS, Node Type Router
    Flags 0xbaeeb:
      Rtr_Id, Area, Proto, Handle, Addr, Nbr_ID, Adm_Wt,
      Max_BW, Max_Res, Max_ResSub, TX_BW_Un, Affin, Sub_T, IGP_Wt,
    System Id 0001.0001.0001.00, TE Router Id 10.1.1.1
    IP Address 12.12.1.2
    Neighbor: Protocol IS-IS, Node Type Network
              System Id 0001.0001.0002.00, IP Address 0.0.0.0
    TE Metric 4294967295, IGP Metric 400
    Link Max: BW 1262402592, Reserved 0, Reserved Subpool 0
    Affinity 0, Subnet Type Broadcast
    Pri  Pool 0 BW (kbps)
    ---  ----------------
      0                 0
      1                 0
      2                 0
      3                 0
      4                 0
      5                 0
```

```
      6                 0
      7                 0
    Is not Deleted
  Tunnel tunnel-te3000
    I/F handle 0x32, Area 2, Protocol IS-IS, Node Type Router
    Flags 0x3: Announce
               Is Autoroute, Is Forwarding Adjacency
    System Id 0001.0001.0002.00, Dest 10.1.1.2
    IGP Metric 0, Metric Mode 0
switch#
```

Related Commands

Command	Description
show mpls traffic-eng link-management advertisements	Displays the link management advertisements information.

show mpls traffic-eng link-management

To display the link management information, use the **show mpls traffic-eng link management** command.

show mpls traffic-eng link-management {**admission-control** [*intfc*] | **advertisement** | **bandwidth-allocation** [**summary**] [*intfc*] | **igp-neighbors** [**igp-id** *isis nsapaddr* | **ospf** *ipaddr*] | [**ip** *ipaddr*] | [*intfc*] | **interfaces** [*intfc*] | **statistics** [*intfc*] | **summary** [*intfc*]}

Syntax Description

admission-control	Displays the link management admission control.
intfc	(Optional) Interface number.
advertisement	Displays the link management advertisements.
bandwidth-allocation	Specifies the link management bandwidth allocation.
summary	(Optional) Displays the link management summary.
igp-neighbors	Displays the link management IP neighbors.
igp-id	(Optional) Displays the link management Interior Gateway Protocol (IGP) neighbors by the IGP ID.
isis	Intermediate System-to-System (IS-IS) node ID.
nsapaddr	(Optional) Neighbors IP address.
ospf	(Optional) Displays the neighbors with the matching Open Shortest Path First (OSPF) node ID.
ipaddr	(Optional) Neighbor's IP address.
ip	(Optional) Displays the neighbor's IP address.
interfaces	Displays the link management traffic engineering interfaces.
statistics	Displays the link management traffic engineering statistics.
summary	Displays the link management summary.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the link management advertisements:

```
switch# show mpls traffic-eng link-management advertisements
Flooding Status:      ready
Configured Areas:     1
IGP Area[1] ID::  isis-p1 level-2
  System Information::
    Flooding Protocol:    ISIS
  Header Information::
    IGP System ID:        0001.0001.0001.00
    MPLS TE Router ID:    10.1.1.1
    Flooded Links:        4
  Link ID::  0 (Ethernet2/2)
    Link Subnet Type:     Broadcast
    Link IP Address:      12.12.1.2
    Designated Router:    0001.0001.0002.00
    TE metric:            4294967295
    IGP metric:           400
    Physical Bandwidth:   100000 kbits/sec
    Res. Global BW:       0 kbits/sec
    Downstream::
                                Global Pool
                                -----------
      Reservable Bandwidth[0]:            0 kbits/sec
      Reservable Bandwidth[1]:            0 kbits/sec
      Reservable Bandwidth[2]:            0 kbits/sec
      Reservable Bandwidth[3]:            0 kbits/sec
      Reservable Bandwidth[4]:            0 kbits/sec
      Reservable Bandwidth[5]:            0 kbits/sec
      Reservable Bandwidth[6]:            0 kbits/sec
      Reservable Bandwidth[7]:            0 kbits/sec
    Attribute Flags:      0x0
switch#
```

Related Commands

Command	Description
show mpls traffic-eng topology	Displays the Multiprotocol Label Switching (MPLS) traffic engineering (TE) topology information.

show mpls traffic-eng lsp attributes

To display information about configured label switched path (LSP) attribute lists, use the **show mpls traffic-eng lsp attributes** command.

show mpls traffic-eng lsp attributes [*name*] [**string**]

Syntax Description

name	(Optional) Attribute list name.
string	(Optional) Specifies the attribute list name. The range is from 1 to 63 alphanumeric characters.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

Use the **show mpls traffic-eng lsp attributes** command to view the LSP attribute lists configured on the switch.

This command requires the MPLS Services license.

Examples

This example shows how to display information about configured LSP attribute lists:

```
switch# show mpls traffic-eng lsp attributes name test
LIST test
    bandwidth 100
    protection fast-reroute
    record-route
switch#
```

Related Commands

Command	Description
lsp attribute	Configures the label switched path (LSP) attribute information.

show mpls traffic-eng topology

To display the traffic engineering (TE) topology, use the **show mpls traffic-eng topology** command.

show mpls traffic-eng topology [*ipaddr* | [**area** *area* | **level-1** | **level-2**] **igp-id isis** *nsap-address* | **ospf** *ip-address*] [**brief**]

Syntax Description

ipaddr	Interface IP address.
area	Displays the restricted output to an OSPF area.
area	Open Shortest Path First (OSPF) area ID as a decimal value. The range is from 0 to 4294967295.
level-1	Displays the restricted output to an Intermediate System-to-System (IS-IS) level 1.
level-2	Displays the restricted output to an Intermediate System-to-System (IS-IS) level 2.
igp-id	Displays the topology based on the Interior Gateway Protocol (IGP) ID.
isis	Displays the topology based on the IS-IS IGP ID.
nsap-address	IP address.
ospf	Displays the traffic engineering topology based on the OSPF IGP ID.
ip-address	IP address.
brief	Displays the brief format.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the topology based on the IGP ID:

```
switch# sho mpls traffic-eng topology 10.1.1.1 brief
My_System_id: 0001.0001.0001.00 (isis-p1 level-2)
Signalling error holddown: 10 sec Global Link Generation 8402
IGP Id: 0001.0001.0001.00, MPLS TE Id:10.1.1.1 Router Node  (isis-p1 level-2)
```

```
      link[0]: Broadcast, DR: 0001.0001.0001.04, nbr_node_id:4, gen:8395
      frag_id: 0, Intf Address: 12.12.1.2
      TE metric: MaxLinkMetric, IGP metric: 400, attribute flags: 0x0

      link[1]: Broadcast, DR: 0001.0001.0001.03, nbr_node_id:2, gen:8395
      frag_id: 0, Intf Address: 13.13.1.3
      TE metric: 400, IGP metric: 400, attribute flags: 0x0

      link[2]: Broadcast, DR: 0001.0001.0001.02, nbr_node_id:9, gen:8395
      frag_id: 0, Intf Address: 14.14.1.4
      TE metric: 10, IGP metric: 40, attribute flags: 0x0

      link[3]: Broadcast, DR: 0001.0001.0001.01, nbr_node_id:7, gen:8395
      frag_id: 0, Intf Address: 14.2.1.4
      TE metric: 10, IGP metric: 40, attribute flags: 0x0
switch#
```

Related Commands

Command	Description
show mpls traffic-eng link-management advertisements	Displays the Multiprotocol Label Switching (MPLS) traffic engineering (TE) link management advertisements information.

show mpls traffic-eng tunnels backup

To display if fast reroute backup protection is provided by the tunnels, use the **show mpls traffic-eng tunnels backup** command.

show mpls traffic-eng tunnels backup

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

The command allows you to verify the following:

- The backup tunnel exists—Verify that there is a backup tunnel that terminates at this label switched path (LSP) next-hop (NHOP) or next-next-hop (NNHOP). Look for the LSP's next-hop NHOP or NNHOP in the Dest field.
- The backup tunnel is up—Verify that the backup tunnel is up by looking for Up in the State field.
- The backup tunnel is associated with the LSP's interface—Verify that the interface for the LSP is allowed to use this backup tunnel. Look for the LSP's output interface in the protects field list.
- The backup tunnel has sufficient bandwidth—If you restrict the amount of bandwidth that a backup tunnel can hold, verify that the backup tunnel has sufficient bandwidth to hold the LSPs that would use this backup tunnel if there is a failure. The bandwidth of an LSP is defined by the line bandwidth at the headend of the LSP. To determine the available bandwidth on a backup tunnel, look at the cfg and inuse fields. If there is insufficient backup bandwidth to accommodate the LSPs that would use this backup tunnel if a failure occurs, create an additional backup tunnel or increase the backup bandwidth of the existing tunnel by using the **bandwidth** command.

This command requires the MPLS Services license.

Note To make a backup tunnel to be operational, the LSP must be reroutable. At the headend of the LSP, enter the **show run int tunnel tunnel-number** command. The output should include the **fast-reroute** command.

Examples

This example shows how to display that fast reroute backup protection is provided by tunnels:

```
show# show mpls traffic-eng tunnels backup
LSP Head, tunnel-te2001, Admin: up, Oper: up
  Src 10.1.1.1, Dest 10.1.1.2, Instance 61
  Fast Reroute Backup Provided:
    Protected i/fs: Eth2/2
    Protected lsps: 4999 Active lsps: 0
    Backup BW: any pool unlimited; inuse: 0 kbps
switch#
```

Related Commands

Command	Description
interface tunnel-te	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mpls traffic-eng tunnels fast-reroute

To display the Multiprotocol Label Switching (MPLS) label switched paths (LSPs) that are protected by Fast Reroute (FRR), use the **show mpls traffic-eng tunnels fast-reroute** command.

show mpls traffic-eng tunnels fast-reroute [**summary**]

Syntax Description

summary	(Optional) Displays fast reroute information.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display MPLS traffic engineering (TE) fast reroute information:

```
switch# show mpls traffic-eng tunnels fast-reroute summary
Fast Reroute Summary:
  Protected interfaces    : 1
  Protected LSPs/Sub-LSPs : 4999
  Backup tunnels          : 1
  Active interfaces       : 0
```

This example shows how to display the LSPs that are protected by FRR:

```
switch# show mpls traffic-eng tunnels fast-reroute
P2P Head LSPs          Protect   Bandwidth  Backup
src tun_id [lspid]     I/F       (kbps)     Tunnel         State Level     Type
---------------------  --------- ---------- -------------- ----- --------- -----

P2P Mid LSPs           Protect   Bandwidth  Backup
src tun_id [lspid]     I/F       (kbps)     Tunnel         State Level     Type
---------------------  --------- ---------- -------------- ----- --------- -----
10.1.1.4 1000 [258]    Eth2/2             0 tunnel-te2001  Ready any-unlim nhop
10.1.1.4 1001 [258]    Eth2/2             0 tunnel-te2001  Ready any-unlim nhop
10.1.1.4 1002 [258]    Eth2/2             0 tunnel-te2001  Ready any-unlim nhop
10.1.1.4 1003 [258]    Eth2/2             0 tunnel-te2001  Ready any-unlim nhop
10.1.1.4 1004 [258]    Eth2/2             0 tunnel-te2001  Ready any-unlim nhop
10.1.1.4 1005 [258]    Eth2/2             0 tunnel-te2001  Ready any-unlim nhop
```

```
10.1.1.4 1006 [257]    Eth2/2            0 tunnel-te2001  Ready any-unlim nhop
```

Related Commands

Command	Description
interface tunnel-te	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mvpn bgp mdt-safi

To display multicast virtual private network (MVPN) multicast distribution tree (MDT) Subaddress Family Identifier SAFI information, use the **show mvpn bgp mdt-safi** command.

show mvpn bgp mdt-safi

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the MPLS MVPN MDT SAFI information:

```
[switch]# show mvpn bgp mdt-safi
BGP RDPE AddressMDT Default-Local
100:1 21.21.0.1 232.1.1.1
200:2 21.21.0.1 224.1.1.1
300:3 21.21.0.1 239.1.1.1
400:4 21.21.0.1 235.1.1.1
100:1 22.22.0.1 232.1.1.1 *
200:2 22.22.0.1 224.1.1.1 *
300:3 22.22.0.1 239.1.1.1 *
400:4 22.22.0.1 235.1.1.1 *)
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mvpn mdt encap vrf

To display the Multiprotocol Label Switching (MPLS) multicast virtual private network (MVPN) multicast distribution tree (MDT) encapsulation information, use the **show mvpn mdt encap vrf** command.

show mvpn mdt encap vrf *vrf-name*

Syntax Description

vrf-name	VRF name that is any case-sensitive, alphanumeric string up to 32 characters.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the MPLS MVPN MDT encapsulation information:

```
switch# show mvpn mdt encap vrf vpn1
MVPN MDT Encap Information for VRF "vpn1"
Encap Index MDT Group MDT Source MDT Source Intf
1232.1.1.1 22.22.0.1 loopback1
MVPN MDT Encap Information for VRF "vpn2"
Encap Index MDT Group MDT Source MDT Source Intf
1 224.1.1.1 22.22.0.1 loopback1
MVPN MDT Encap Information for VRF "vpn3"
Encap Index MDT Group MDT Source MDT Source Intf
1 239.1.1.1 22.22.0.1 loopback1
MVPN MDT Encap Information for VRF "vpn4"
Encap Index MDT Group MDT Source MDT Source Intf
1235.1.1.1 22.22.0.1 loopback1
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show mvpn mdt route

To display the Multiprotocol Label Switching (MPLS) multicast virtual private networks (MVPN) multicast distribution tree (MDT) route information, use the **show mvpn mdt route** command.

show mvpn mdt route

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the MPLS MVPN MDT route information:

```
switch(config-router-vrf-af)# show mvpn mdt route
MVPN MDT(Global) Route information for VRF "vpn1":
(21.21.0.1, 232.1.1.1) [Refcount: 0]
(22.22.0.1, 232.1.1.1) [Refcount: 0]
(22.22.0.1, 232.2.2.0) [Refcount: 1]
MVPN MDT(Global) Route information for VRF "vpn2":
(21.21.0.1, 224.1.1.1) [Refcount: 0]
(22.22.0.1, 224.1.1.1) [Refcount: 0]
MVPN MDT(Global) Route information for VRF "vpn3":
(*, 239.1.1.1) [Refcount: 0]
MVPN MDT(Global) Route information for VRF "vpn4":
(*, 235.1.1.1) [Refcount: 0]
(21.21.0.1, 235.1.1.1) [Refcount: 0]switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show route static vrf

To display information about a static virtual routing and forwarding (VRF) route, use the **show route static vrf** command.

show {**ipv4** | **ipv6**} **route static vrf** *vrf-name*

Syntax Description

vrf-name	VRF name that is any case-sensitive, alphanumeric string up to 32 characters.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display information about a static VRF route:

```
switch# show ipv6 route static vrf vpn1
IPv6 Routing Table for VRF "vrf1"
'*' denotes best ucast next-hop
'**' denotes best mcast next-hop
'[x/y]' denotes [preference/metric]
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show routing

To display the routing information used for various multicast distribution trees (MDTs) in the Multicast Routing Information Base (MRIB), use the **show routing** command.

show routing [**ip**] **multicast mdt encapsulation**

Syntax Description

ip	(Optional) Displays the IP information.
multicast	Displays the multicast information.
mdt	Displays the multicast distribution tree.
encapsulation	Displays the encapsulation information.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the encapsulation table in the MRIB:

```
switch(config)# vrf context vrf1
switch(config-vrf)# show routing multicast mdt encapsulation vrf vpn4
MDT Encapsulation Information for vrf "vpn4" [Entry Count 3]
  Index  MDT Group         MDT Source        Mroute-Count
      1  235.1.1.1         22.22.0.1                    3
      2  235.4.4.0         22.22.0.1                    0
      3  232.8.8.0         22.22.0.1                    1
switch(config-vrf)#
```

Related Commands

Command	Description
show ip route detail	Displays the details of the unicast routing tables.

show running-config interface

To display the running configuration for the tunnel interface, use the **show running-config interface** command.

show running-config interface [**tunnel** *number* | **tunnel-te** *number*]

Syntax Description

tunnel	(Optional) Displays the tunnel interface.
number	Tunnel interface number. The range is from 0 to 4095.
tunnel-te	(Optional) Displays the traffic engineering interface (TE).
number	Traffic engineering interface number. The range is from 0 to 65503.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the running configuration for the tunnel interface:

```
switch# show running-config interface tunnel-te 1
!Command: show running-config interface tunnel-te1
!Time: Wed Nov 24 04:58:56 2010
version 5.0(1)
interface tunnel-te1
  ip unnumbered loopback0
  mpls ip
  no shutdown
switch(config)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show running-config isis

To display information about the Intermediate System-to-Intermediate System (IS-IS) configuration, use the **show running-config isis** command.

show running-config isis

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

Router configuration mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display information about the IS-IS configuration:

```
switch(config)# router isis
switch(config-router)# show running-config isis
!Command: show running-config isis
!Time: Sat Jul  2 05:38:15 2011

version 5.2(1)
feature isis

router isis 1
router isis 2
router isis 20
router isis p1
switch(config-router)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show running-config l3vm

To display the running configuration for the Layer 3 virtual machine (L3VM), use the **show running-config l3vm** command.

show running-config l3vm

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the running configuration for the Layer 3 virtual machine (L3VM):

```
switch# show running-config l3vm
switch# show running-config l3vm

!Command: show running-config l3vm
!Time: Sat May 28 23:58:35 2011

version 5.2(1)
vrf context vrf1
vrf context management

interface Ethernet8/1
  vrf member vrf1

switch#
```

Related Commands

Command	Description
show mpls forwarding statistics	Displays the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP) traffic forwarding statistics.

show running-config mpls ldp

To display the configuration status of the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP) on the device, use the **show running-config mpls ldp** command.

show running-config mpls ldp

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the running configuration status of MPLS LDP on the device:

```
switch# show running-config mpls ldp

!Command: show running-config mpls ldp
!Time: Mon Mar 14 01:49:48 2011

version 5.2(1)
feature mpls ldp


interface Ethernet8/1
  mpls ip
mpls ldp configuration
  discovery hello interval 2
  discovery hello holdtime 10
```

Related Commands

Command	Description
show mpls forwarding statistics	Displays the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP) traffic forwarding statistics.

show running-config mpls traffic-eng

To display the configuration status of the Multiprotocol Label Switching (MPLS) traffic engineering (TE) on the device, use the **show running-config mpls traffic-eng** command.

show running-config mpls traffic-eng

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the running configuration status of MPLS TE on the device:

```
switch# show running-config mpls traffic-eng

!Command: show running-config mpls traffic-eng
!Time: Wed Apr 13 11:37:30 2011

version 5.2(1)
feature mpls traffic-eng

mpls traffic-eng configuration
  explicit-path name backup
    next-address 13.13.1.3
    next-address 23.23.3.2
  explicit-path name foo
    next-address 12.12.1.2
    next-address 12.12.2.1
    next-address 10.1.1.2


interface tunnel-te112
  destination 10.1.1.2
  path-option 10 dynamic

interface tunnel-te212
```

```
  destination 10.1.1.2
  path-option 10 explicit name foo

interface tunnel-te2001
  destination 10.1.1.2
  path-option 10 explicit name backup

interface Ethernet2/2
  mpls traffic-eng tunnels
  mpls traffic-eng administrative-weight 10
  mpls traffic-eng backup-path tunnel-te2001

interface Ethernet2/3
  mpls traffic-eng tunnels

interface Ethernet2/4
  mpls traffic-eng tunnels
  mpls traffic-eng administrative-weight 10

interface Ethernet2/6
  mpls traffic-eng tunnels
  mpls traffic-eng administrative-weight 10
```

Related Commands

Command	Description
show mpls forwarding statistics	Displays the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP) traffic forwarding statistics.

show run mpls ldp all

To display information about all of the running Label Distribution Protocol (LDP) sessions, use the **show run mpls ldp all** command.

show run mpls ldp all

Syntax Description

This command does not have any arguments or keywords.

Defaults

None

Command Modes

Any command mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
6.2.2	This command was introduced.

Usage Guidelines

This command does not require a license.

Examples

This example shows how to display information about all of the running LDP sessions:

```
switch# show run mpls ldp all
switch #
```

Related Commandss

Command	Description
show mpls ldp graceful-restart	Displays graceful-restart sessions and session parameters.

show running-config ospf

To display information about the Open Shortest Path First (OSPF) configuration, use the **show running-config ospf** command.

show running-config ospf

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

Router configuration mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display information about the OSPF configuration:

```
switch(config)# router isis
switch(config-router)# show running-config ospf
!Command: show running-config ospf
!Time: Sat Jul  2 06:16:08 2011

version 5.2(1)
feature ospf

 1
 foo
 p1
 process-name
switch(config-router)#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show running-config vrf

To display virtual routing and forwarding (VRF) information, use the **show running-config vrf** command.

show running-config vrf *vrf-name*

Syntax Description

vrf-name	VRF name.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display VRF information:

```
switch# show running-config vrf vrf1

!Command: show running-config vrf vrf1
!Time: Tue Mar 15 01:53:18 2011

version 5.2(1)
address-family ipv4 unicast
    maximum routes 2
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show startup-config mpls traffic-eng

To display startup configuration for traffic engineering (TE), use the **show startup-config mpls traffic-eng** command.

show startup-config mpls traffic-eng [**all**]

Syntax Description

all	Displays the startup configuration with defaults.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the startup configuration for TE:

```
switch# show startup-config mpls traffic-eng
list port-channels: Communication could not be established with the process

!Command: show startup-config mpls traffic-eng
!Time: Tue Apr 19 06:52:45 2011
!Startup config saved at: Mon Apr 18 20:15:25 2011

version 5.2(1)
feature mpls traffic-eng

mpls traffic-eng configuration
  fast-reroute timers promotion 4
  link-management timers bandwidth-hold 200
  logging lsp setups
  path-selection overload allow head
  reoptimize timers delay installation 3000
  topology holddown sigerr 200
  shutdown
  lsp attributes 1
--More--
switch#
```

Related Commands

Command	Description
show running-config mpls traffic-eng	Displays the configuration status of the Multiprotocol Label Switching (MPLS) traffic engineering (TE) on the device.

show startup-config vrf

To display virtual routing and forwarding (VRF) startup system information, use the **show startup-config vrf** command.

show startup-config vrf *vrf-name*

Syntax Description

vrf-name	VRF name.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display VRF startup system information:

```
switch# show startup-config vrf1

!Command: show startup-config vrf vrf1
!Time: Tue Mar 15 01:58:31 2011

version 5.2(1)
vrf context vrf1
  address-family ipv4 unicast
    maximum routes 2

switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show tech-support mpls manager

To display troubleshooting information for the MultiProtocol Label Switching (MPLS) manager, use the **show tech-support mpls manager** command.

show tech-support mpls manager

Syntax Description

This command has no arguments or keywords.

Defaults

None

Command Modes

EXEC

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display troubleshooting information for the MPLS manager:

```
switch# show tech-support mpls manager
`show mpls interface`
`show mpls interface detail`
`show system internal mpls manager sdb`
---------------------------
SDB entries by Label space id:
Label space ID         LS type               data count            data

0x10000001             0x1                    0x1                    0x00000001
---------------------------
SDB entries by client pib index:
pib_index    Client name           Client UUID  Client MTS SAP  Stale time
1             mpls-static           0            0              0
2             mplsfwd               545          275            60
3             mpls te lif           288          288            180000
4             ldp                   291          285            60
5             mpls te vif           288          288            60
---------------------------
SDB entries by Interface:
if_index          Label space ID        MPLS sublayer         Client pib index

---------------------------
SDB entries by TTL:
```

```
TTL subtype            Flags                  exp count
0x1                    0x0                     0x0
--More--
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show vrf

To display information about a virtual routing and forwarding (VRF) instance, use the **show vrf** command.

show vrf *vrf-name*

Syntax Description

vrf-name	VRF name that is any case-sensitive, alphanumeric string up to 32 characters.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display the information about a VRF instance:

```
switch# show vrf vrf1
VRF-Name                           VRF-ID State   Reason
switch#                                 3 Up      --
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).

show vrf interface

To display information about interfaces associated with a virtual routing and forwarding (VRF) instance, use the **show vrf interface** command.

show vrf *vrf-name* **interface**

Syntax Description

vrf-name	VRF name that is any case-sensitive, alphanumeric string up to 32 characters.

Defaults

None

Command Modes

EXEC mode

SupportedUserRoles

network-admin
vdc-admin

Command History

Release	Modification
5.2(1)	This command was introduced.

Usage Guidelines

This command requires the MPLS Services license.

Examples

This example shows how to display information about interfaces that are associated with a VRF:

```
switch# show vrf vrf1 interface
Interface        VRF-Name                        VRF-ID  Site-of-Origin
switch#
```

Related Commands

Command	Description
mpls ldp configuration	Configures the Multiprotocol Label Switching (MPLS) Label Distribution Protocol (LDP).