Contents

Tunnel policy commands

display mpls tunnel

Use **display mpls tunnel** to display tunnel information.

Syntax

display mpls tunnel { **all** | **statistics** | [**vpn-instance** *vpn-instance-name*] **destination** { *ipv4-address* | *ipv6-address* } }

Views

Any view

Predefined user roles

network-admin

network-operator

mdc-admin

mdc-operator

Parameters

all: Displays all tunnels. MPLS TE tunnel information is displayed only when the network layer is up.

statistics: Displays tunnel statistics.

vpn-instance *vpn-instance-name*: Specifies an MPLS L3VPN instance by its name, a case-sensitive string of 1 to 31 characters. If you do not specify a VPN instance, this command displays tunnel information for the public network.

destination: Displays the tunnel destined for the specified address.

ipv4-address: Specifies the tunnel destination IPv4 address.

ipv6-address: Specifies the tunnel destination IPv6 address.

Examples

Display information about all tunnels.

```
<Sysname> display mpls tunnel all
Destination     Type      Tunnel/NHLFE     VPN Instance
2.2.2.2         LSP       NHLFE1024        -
3.3.3.3         CRLSP     Tunnel2          -
```

Table 1 Command output

Field	Description
Destination	Tunnel destination address.
Type	Tunnel type: LSP or CRLSP (MPLS TE tunnel).
Tunnel/NHLFE	Tunnel or NHLFE entry. NHLFE*number* represents the ingress LSP that matches the NHLFE entry with NID of *number*.
VPN Instance	VPN instance name. If the tunnel belongs to the public network, this field displays a hyphen (-).

Display tunnel statistics.
```
<Sysname> display mpls tunnel statistics
LSP  :     1
GRE  :     0
CRLSP:     0
```

Table 2 Command output

Field	Description
LSP	Number of LSP tunnels.
GRE	This field is not supported in the current software version. Number of GRE tunnels.
CRLSP	Number of CRLSP tunnels.

display tunnel-policy

Use **display tunnel-policy** to display tunnel policy information.

Syntax

display tunnel-policy [*tunnel-policy-name*]

Views

Any view

Predefined user roles

network-admin

network-operator

mdc-admin

mdc-operator

Parameters

tunnel-policy-name: Specifies a tunnel policy by its name, a case-sensitive string of 1 to 19 characters. If you do not specify a tunnel policy, this command displays information about all tunnel policies.

Examples

Display information about all tunnel policies.
```
<Sysname> display tunnel-policy
Tunnel policy name  : policy1
Preferred paths     : not configured
  Interface   : not configured
  Tunnel type : not configured
Select-Seq          : CRLSP
Load balance number : 1
Tunnel policy name  : policy2
Preferred paths     :
  Interface   : not configured
  Tunnel type : not configured
Select-Seq          : LSP
Load balance number : 8
```

```
Tunnel policy name  : policy3
Preferred paths     :
  Interface   : Tunnel2
  Tunnel type : TE
Select-Seq          : LSP CRLSP
Load balance number : 1
```

Display information about tunnel policy **policy1**.

```
<Sysname> display tunnel-policy policy1
Tunnel policy name  : policy1
Preferred paths     :
  Interface   : not configured
  Tunnel type : not configured
Select-Seq          : CRLSP
Load balance number : 1
```

Table 3 Command output

Field	Description
Preferred paths	Preferred tunnels information.
Interface	Tunnel interface name of the preferred tunnel.
Tunnel type	Type of the preferred tunnel, which can be TE.
Select-Seq	Tunnel selection order. The tunnel types are displayed in descending order of priority in tunnel selection.
Load balance number	Number of tunnels for load balancing.

preferred-path

Use **preferred-path** to configure a tunnel as a preferred tunnel.

Use **undo preferred-path** to remove the preferred tunnel setting for a tunnel.

Syntax

preferred-path tunnel *number*

undo preferred-path tunnel *number*

Default

No preferred tunnels are configured.

Views

Tunnel policy view

Predefined user roles

network-admin

mdc-admin

Parameters

tunnel *number*: Specifies an MPLS TE tunnel by its tunnel interface number. The value range is 1 to 4095.

Usage guidelines

As a best practice for an MPLS VPN, configure a preferred tunnel and make sure the destination address of the tunnel interface identifies the peer PE. In this method, the local PE forwards traffic destined for the peer PE over the preferred MPLS TE tunnel.

For a tunnel policy to solely use a tunnel, do not configure the tunnel as the preferred tunnel in other tunnel policies.

If you configure multiple preferred tunnels that have the same destination address in a tunnel policy, only the first configured tunnel takes effect. If the first tunnel is not available, the second tunnel is used, and so forth. No load balancing will be performed on these tunnels.

You can configure a maximum of 128 preferred tunnels in a tunnel policy.

Examples

Configure tunnel 1 and tunnel 2 as preferred tunnels for tunnel policy **policy1**.

```
<Sysname> system-view
[Sysname] tunnel-policy policy1
[Sysname-tunnel-policy-policy1] preferred-path tunnel 1
[Sysname-tunnel-policy-policy1] preferred-path tunnel 2
```

select-seq load-balance-number

Use **select-seq load-balance-number** to configure the tunnel selection order and set the number of tunnels for load balancing.

Use **undo select-seq** to restore the default.

Syntax

select-seq { **cr-lsp** | **lsp** } * **load-balance-number** *number*

undo select-seq

Default

The device selects only one tunnel in LSP-CRLSP order.

Views

Tunnel policy view

Predefined user roles

network-admin

mdc-admin

Parameters

cr-lsp: Uses CRLSP tunnels.

lsp: Uses LSP tunnels.

load-balance-number *number*: Specifies the number of tunnels for load balancing. The value range for the *number* argument depends on the **max-ecmp-num** command. Suppose the **max-ecmp-num** command sets the maximum number of ECMP routes to m. The value range for *number* is 1 to m. For more information about the **max-ecmp-num** command, see *Layer 3—IP Routing Command Reference*.

Usage guidelines

A tunnel type closer to the **select-seq** keyword has a higher priority, and only the tunnel types specified in this command can be used. For example, the **select-seq lsp cr-lsp**

load-balance-number 3 command gives LSP higher priority over CRLSP. If no LSP is available or the number of LSPs is less than 3, VPN uses MPLS TE tunnels.

Tunnels selected by this method are not fixed, making it hard to plan VPN traffic. As a best practice, do not use this method.

When you configure both the **select-seq load-balance-number** and **preferred-path** commands for a tunnel policy, the tunnel policy selects tunnels in the following steps:

1. If the destination address of the preferred tunnel identifies a peer PE, the tunnel policy uses the preferred tunnel to forward traffic destined for the peer PE.

2. If not, the tunnel policy selects tunnels as configured by the **select-seq load-balance-number** command.

Examples

Configure tunnel policy **policy1** to use only MPLS TE tunnels, and set the load balancing number to 2.

```
<Sysname> system-view
[Sysname] tunnel-policy policy1
[Sysname-tunnel-policy-policy1] select-seq cr-lsp load-balance-number 2
```

tunnel-policy (system view)

Use **tunnel-policy** to create a tunnel policy and enter its view, or enter the view of an existing tunnel policy.

Use **undo tunnel-policy** to delete a tunnel policy.

Syntax

tunnel-policy *tunnel-policy-name*

undo tunnel-policy *tunnel-policy-name*

Default

No tunnel policies exist.

Views

System view

Predefined user roles

network-admin

mdc-admin

Parameters

tunnel-policy-name: Specifies a name for the tunnel policy, a case-sensitive string of 1 to 19 characters.

Examples

Create tunnel policy **policy1** and enter its view.

```
<Sysname> system-view
[Sysname] tunnel-policy policy1
[Sysname-tunnel-policy-policy1]
```