

1 IP Routing Basic Commands

Command	Function
clear ip route	Clear the routing table cache. You can run this command in privileged EXEC mode.
ip recur-route fastswitch-nexthop	Enable fast convergence of recursive routing.
ip recur-route over default-route disable	Configure the function of forbidding recursion to the default route.
ip route arp-to-host delay-time	Configure the delayed redistribution of ARP-to-host route.
ip route arp-to-host interface	Enable ARP-to-host conversion on the specified interface.
ip route arp-to-host tag	Configure the tag attribute of the host route converted by ARP.
ip route notify delete always	Configure direct deletion of the Border Gateway Protocol (BGP) route during graceful restart (GR).
ip routing	Enable the IP routing function of a device.
ipv6 recur-route fastswitch-nexthop	Enable fast convergence of recursive routing.
ipv6 route nd-to-route delay-time	Configure delayed redistribution of the routes converted by neighbor discovery (ND).
ipv6 route nd-to-route interface	Enable ND conversion to a route with fixed-length mask on the specified interface.
ipv6 route nd-to-route tag	Configure the tag attribute of the ND-converted route.
ipv6 route nd-to-route warning-ignore	Configure the function of ignoring warning log of ND conversion to a route of specified length.
ipv6 unicast-routing	Enable the IPv6 routing function of a device.
maximum-paths	Configure the number of equal-cost routes.
show ip route	Display IP routing table information, as well as the equal-cost multi-path routing (ECMP) attribute of routes.
show ip route recursive	Display the recursive information of an IP route.

show ip route static bfd	Display the BFD correlation information of an IP route.
show ip route summary	Display the statistics of a single routing table.
show ip route track-table	Display the track correlation information of an IP route.
show ipv6 route	Display the routing information of an IPv6 route.
show ipv6 route static bfd	Display the BFD correlation information of an IPv6 route.
show ipv6 route summary	Display the statistics of a single IPv6 routing table.
show route-res usage	Display the usage of routing resources.

1.1 clear ip route

Function

Run the **clear ip route** command to clear the routing table cache. You can run this command in privileged EXEC mode.

Syntax

```
clear ip route [ vrf vrf-name ] { * | network [ mask ] }
```

Parameter Description

vrf *vrf-name*: Clears the route cache of the specified VRF instance. If virtual routing and forwarding (VRF) is not specified, the command is executed on all VRFs.

*: Clears all the route caches.

network: Network or subnet address for cache clearing.

mask: Network mask. When no mask is specified, the *network* value is used to match the longest route entry in the routing table and clear the cache.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

Clearing route cache will delete the corresponding route, and then trigger relearning of the routing protocol. Note that, if the cache of the whole routing table is cleared, the communication of the entire network will be interrupted temporarily.

Examples

The following example clears the cache of the longest routing table entry matched with 192.168.12.0.

```
Hostname> enable
Hostname# clear ip route 192.168.12.0
```

Notifications

N/A

Platform Description

N/A

1.2 ip recur-route fastswitch-nexthop

Function

Run the **ip recur-route fastswitch-nexthop** command to enable fast convergence of recursive routing.

Run the **no** form of this command to disable fast convergence of recursive routing.

Run the **default** form of this command to restore the default configuration.

The fast convergence function of recursive routing is disabled by default.

Syntax

ip recur-route fastswitch-nexthop

no ip recur-route fastswitch-nexthop

default ip recur-route fastswitch-nexthop

Parameter Description

N/A

Command Modes

Global configuration mode

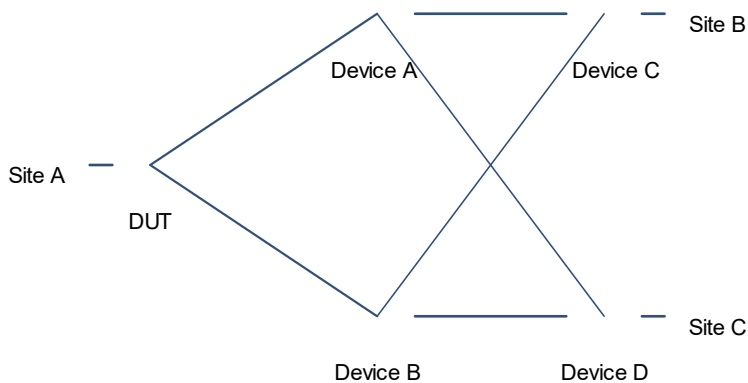
Default Level

14

Usage Guidelines

When link discovery changes or is interrupted, the recursive routing query of dynamic route may converge 2 seconds later. The convergence time is intolerable in some scenarios with high reliability requirements. When the fast convergence function of recursive routing is enabled, the intermediate next hop information will be added to the route sending information. Even if the intermediate link fails, it can be sensed by routing management to shorten the convergence time.

Figure 1-1 Fast Convergence Diagram of IPv4 Recursive Routing



As shown in [Figure 1-1](#), the device under test (DUT) establishes an Intermediate System to Intermediate System (IS-IS) neighbor relationship with Device A and Device B respectively, Device A and Device B establish an IS-IS neighbor relationship with Device C and Device D respectively, and DUT establishes an Internal Border Gateway Protocol (IBGP) neighbor relationship with Device C and Device D respectively. Service sites access the network via External Border Gateway Protocol (EBGP).

In the scenario shown above, BGP routes may be recursed to IS-IS routes. When the link between Device A and Device C is disconnected, the IS-IS route will change and the BGP route that relies on the IS-IS route needs to be re-calculated. Before the calculation result is delivered to the forwarding plane, the BGP traffic

from Site A to Site B still goes through the disconnected link between Device A and Device C, resulting in traffic interruption. Traffic interruption duration = Link down time + Time required by the local IS-IS system to learn route deletion information + Time required by the local NSM system to receive IS-IS routing information + Time required for calculating the BGP route and delivering the result to the forwarding plane + Link switching time. The switching cannot be completed within 1 second.

If the fast convergence function of recursive routing is enabled, the traffic that needs to go through the disconnected link between Device A and Device C can be switched to a normal link within 1 second.

Examples

The following example enables the fast convergence function of recursive routing.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip recur-route fastswitch-nexthop
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.3 ip recur-route over default-route disable

Function

Run the **ip recur-route over default-route disable** command to configure the function of forbidding recursion to the default route.

Run the **no** form of this command to disable the function of forbidding recursion to the default route.

Run the **default** form of this command to restore the default configuration.

Recursion to the default route is allowed by default.

Syntax

ip recur-route over default-route disable

no ip recur-route over default-route disable

default ip recur-route over default-route disable

Parameter Description

N/A

Command Modes

Global configuration mode

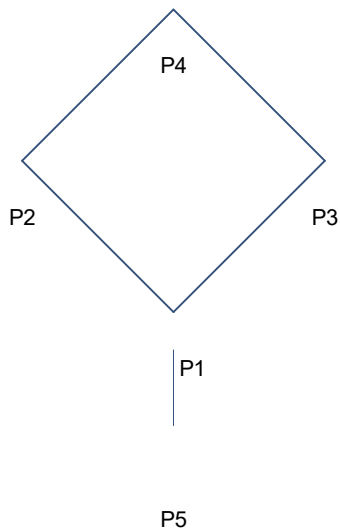
Default Level

14

Usage Guidelines

When you do not want to use the default route for service traffic, you can configure this command to not select the default route egress in recursive routing.

Figure 1-1Diagram for Forbidding Recursion to Default Route



As shown in [Figure 1-1](#), P1 establishes a non-direct EBGP neighbor relationship with P2 and P3 respectively, service traffic on P1 is balanced and distributed to P4 through P2 and P3. The default route configured on P1 is used to access the Internet through the P1-P5 link egress. When the link between P1 and P2 is faulty, it is expected that service traffic be switched to P3. However, some service traffic is guided to the P1-P5 egress due to the existence of the default route. The P1-P5 egress is not a service egress. As a result, some service traffic is lost and the convergence cannot be completed within 1 second.

With this command, when the link between P1 and P2 is faulty, traffic is completely switched to P3 and is not guided to P5, achieving convergence within 1 second.

Note: When the egress of a default route is not the expected service egress, this command must be configured.

Examples

The following example forbids recursion to the default route.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip recur-route over default-route disable
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.4 ip route arp-to-host delay-time

Function

Run the **ip route arp-to-host delay-time** command to configure the delayed redistribution of ARP-to-host route.

Run the **no** form of this command to delete the delayed redistribution of ARP-to-host route.

Run the **default** form of this command to restore the default configuration.

The delayed redistribution function of ARP-to-host route is disabled by default.

Syntax

ip route arp-to-host delay-time *time-number*

no ip route arp-to-host delay-time

default ip route arp-to-host delay-time

Parameter Description

time-number: Delayed redistribution time of ARP-to-host route, in seconds. The value range is from 1 to 1000, and the default value is 0.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

To prevent route jitter caused by change to an Address Resolution Protocol (ARP) entry, you can delay conversion of the ARP entry into a route.

Note

After delayed redistribution is configured, redistribution of a route with effective ARP will be delayed according to the specified delay time. For a route with invalid ARP, advertising of the redistribution withdrawal route is not controlled, and the route will be advertised immediately.

Examples

The following example configures delayed redistribution of the ARP-to-host route.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip route arp-to-host delay-time 10
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.5 ip route arp-to-host interface

Function

Run the **ip route arp-to-host interface** command to enable ARP-to-host conversion on the specified interface.

Run the **no** form of this command to disable ARP-to-host conversion on the specified interface.

Run the **default** form of this command to restore the default configuration.

The ARP-to-host conversion function is disabled on an interface by default.

Syntax

ip route arp-to-host interface *interface-type interface-number*

no ip route arp-to-host interface *interface-type interface-number*

default ip route arp-to-host interface *interface-type interface-number*

Parameter Description

interface-type interface-number: Interface type and interface number.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

 **Note**

When configuring this command, make sure that the interface is a Layer-3 interface.

Examples

The following example enables ARP-to-host conversion on the interface of VLAN 40.


```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip route arp-to-host interface vlan 40
```

Notifications

N/A

Common Errors

If the Layer-3 interface is not up, this function is unavailable.

Platform Description

N/A

Related Commands

N/A

1.6 ip route arp-to-host tag

Function

Run the **ip route arp-to-host tag** command to configure the tag attribute of the host route converted by ARP.

Run the **no** form of this command to delete the tag attribute of the host route converted by ARP.

Run the **default** form of this command to restore the default configuration.

The tag attribute function of the host route is disabled by default.

Syntax

```
ip route arp-to-host tag tag-number
no ip route arp-to-host tag tag-number
default ip route arp-to-host tag tag-number
```

Parameter Description

tag-number: Tag attribute value of the host route converted by ARP. The value range is from 1 to 4294967295, and the default value is 0.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When the tag attribute value is configured for the host route converted by ARP, the route map can match the tag attribute to implement route control.

Examples

The following example configures the tag attribute of the host route converted by ARP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip route arp-to-host tag 5
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.7 ip route notify delete always

Function

Run the **ip route notify delete always** command to configure direct deletion of the Border Gateway Protocol (BGP) route during graceful restart (GR).

Run the **no** form of this command to disable direct deletion of the BGP route during GR.

Run the **default** form of this command to restore the default configuration.

Direct deletion of the BGP route during GR is disabled by default.

Syntax

ip route notify delete always

no ip route notify delete always

default ip route notify delete always

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

If the function is enabled, the BGP route deletion configuration takes effect immediately during GR to prevent routing black hole.

Examples

The following example configures direct deletion of the BGP route during GR.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip route notify delete always
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.8 ip routing

Function

Run the **ip routing** command to enable the IP routing function of a device.

Run the **no** form of this command to disable the IP routing function.

Run the **default** form of this command to restore the default configuration.

The IP routing function is enabled by default.

Syntax**ip routing****no ip routing****default ip routing****Parameter Description**

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When a device functions only as a bridge or VoIP gateway, the IP routing and forwarding function of the device is not required. In this case, the IP routing function of the device can be disabled.

After the IP routing function is disabled, the device functions as a common host. The device can send and receive packets but cannot forward packets. All route-related configurations will be deleted except the static route configuration. A large number of static routes may be configured. If a user runs the **no ip routing** command, the configuration of a large number of static routes may be lost. To prevent this situation, the static

route configuration will be hidden temporarily when the **no ip routing** command is run. If the **ip routing** command is run again, the static route configuration can be restored.

Note that if the process or whole system restarts when the **no ip routing** command is run, the static route configuration will not be reserved.

Examples

The following example disables the IP routing function of the device.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# no ip routing
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.9 ipv6 recur-route fastswitch-nexthop

Function

Run the **ipv6 recur-route fastswitch-nexthop** command to enable fast convergence of recursive routing.

Run the **no** form of this command to disable fast convergence of recursive routing.

Run the **default** form of this command to restore the default configuration.

The fast convergence function of recursive routing is disabled by default.

Syntax

```
ipv6 recur-route fastswitch-nexthop
no ipv6 recur-route fastswitch-nexthop
default ipv6 recur-route fastswitch-nexthop
```

Parameter Description

N/A

Command Modes

Global configuration mode

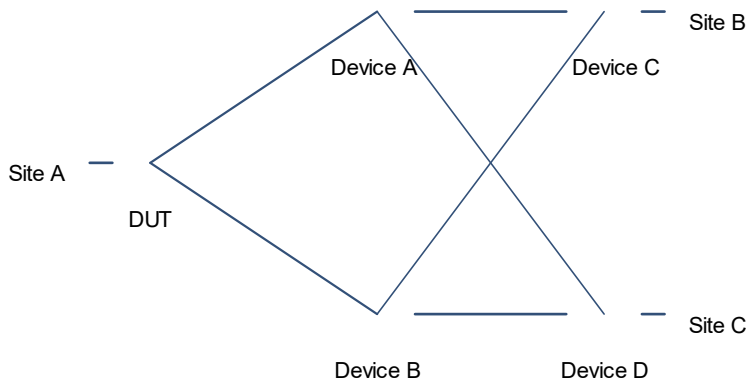
Default Level

14

Usage Guidelines

When link discovery changes or is interrupted, the recursive routing query of dynamic route may converge 2 seconds later. The convergence time is intolerable in some scenarios with high reliability requirements. When the fast convergence function of recursive routing is enabled, the intermediate next hop information will be added to the route sending information. Even if the intermediate link fails, it can be sensed by routing management to shorten the convergence time.

Figure 1-1 Fast Convergence Diagram of IPv6 Recursive Routing



As shown in [Figure 1-1](#), the DUT establishes an IS-IS neighbor relationship with Device A and Device B respectively, Device A and Device B establish an IS-IS neighbor relationship with Device C and Device D respectively, and DUT establishes an IBGP neighbor relationship with Device C and Device D respectively. Service sites access the network via EBGP.

In the scenario shown above, BGP routes may be recursed to IS-IS routes. When the link between Device A and Device C is disconnected, the IS-IS route will change and the BGP route that relies on the IS-IS route needs to be re-calculated. Before the calculation result is delivered to the forwarding plane, the BGP traffic from Site A to Site B still goes through the disconnected link between Device A and Device C, resulting in traffic interruption. Traffic interruption duration = Link down time + Time required by the local IS-IS system to learn route deletion information + Time required by the local NSM system to receive IS-IS routing information + Time required for calculating the BGP route and delivering the result to the forwarding plane + Link switching time. The switching cannot be completed within 1 second.

If the fast convergence function of recursive routing is enabled, the traffic that needs to go through the disconnected link between Device A and Device C can be switched to a normal link within 1 second.

Examples

The following example enables the fast convergence function of recursive routing.

```

Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 recur-route fastswitch-nexthop

```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.10 ipv6 route nd-to-route delay-time

Function

Run the **ipv6 route nd-to-route delay-time** command to configure delayed redistribution of the routes converted by neighbor discovery (ND).

Run the **no** form of this command to delete delayed redistribution of the routes converted by ND.

Run the **default** form of this command to restore the default configuration.

The delayed redistribution function of the routes converted by ND is disabled by default. The delayed redistribution time is 0 seconds.

Syntax

ipv6 route nd-to-route delay-time

no ipv6 route nd-to-route delay-time

default ipv6 route nd-to-route delay-time

Parameter Description

delay-time: Delayed redistribution time of the routes converted by ND, in seconds. The value range is from 1 to 1000.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

To prevent route jitter caused by change to an ND entry, you can delay conversion of the ND entry into a route. After delayed redistribution is configured, redistribution of a route with effective ND will be delayed according to the specified delay time. For a route with invalid ND, advertising of the redistribution withdrawal route is not controlled, and the route will be advertised immediately.

Examples

The following example configures redistribution of the routes converted by ND to the protocol module after a delay of 10 seconds.

```
Hostname> enable
```

```
Hostname# configure terminal
Hostname(config)# ipv6 route nd-to-route delay-time 10
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.11 ipv6 route nd-to-route interface

Function

Run the **ipv6 route nd-to-route interface** command to enable ND conversion to a route with fixed-length mask on the specified interface.

Run the **no** form of this command to disable ND-to-route conversion on the specified interface.

Run the **default** form of this command to restore the default configuration.

The ND-to-route conversion function is disabled on a specified interface by default.

Syntax

```
ipv6 route nd-to-route interface interface-type interface-number [ ipv6-prefix X:X:X:X/<0-128> ] [ prefix-len masklen ]
```

```
no ipv6 route nd-to-route interface interface-type interface-number [ ipv6-prefix X:X:X:X:<0-128> ] [ prefix-len ]
```

```
default ipv6 route nd-to-route interface interface-type interface-number [ ipv6-prefix X:X:X:X/<0-128> ] [ prefix-len ]
```

Parameter Description

interface-type interface-number: Interface name.

X:X:X:X/<0-128>: IPv6 network segment. If the ND entries match this network segment, the route is converted according to the mask specified by this network segment. If the network segment does not specify any mask, the default mask is **128**.

masklen: Mask length value of the ND-to-route. If an IPv6 network segment is specified, it is longer than the mask length of configured network segment. If no IPv6 network segment is specified, it is longer than the mask length of IPv6 address on the interface. Otherwise, the configuration fails. The value range is from 0 to 128, and the default value is **128**.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

Note

When configuring this command, make sure that the interface is a Layer-3 interface.

Parameter configuration rules:

- If neither the IPv6 network segment nor the IPv6 prefix is specified, the ND learned on the interface generates a 128-bit route by default.
- If no IPv6 network segment is specified and only IPv6 prefix is specified, all NDs on the interface generate the specified IPv6 prefix.
- If the IPv6 network segment is specified but no IPv6 prefix is specified, this network segment generates a 128-bit route by default.
- If both the network segment and IPv6 prefix are specified, when ND is learned, the prefix will be checked to find out the network segment it matches, and the configured IPv6 prefix is generated after the specified network segment matched is found.
- If both the network segment and IPv6 prefix are specified and the IPv6 prefix of an unspecified network segment is configured at the same time, a route will be generated according to the IPv6 prefix of the network segment if the network segment is matched, and a route will be generated according to the IPv6 prefix without network segment if the network segment is not matched.
- If you configure the IPv6 address of an interface before configuring the IPv6 prefix for the network segment of this interface address to generate a route with fixed-length mask, a configuration error occurs when the prefix-len is shorter than or equal to the mask of the IPv6 address. In addition, the IPv6 prefix command for the network segment of this interface address fails. For example, if you first configure IPv6 address 10::1/64 on the interface of VLAN 40, and then configure **ipv6 route nd-to-route interface vlan 40 ipv6-prefix 10::1/58 prefix-len 60** in global configuration mode, the configuration fails.
- If you configure the IPv6 address of an interface before configuring the IPv6 prefix of an unspecified network segment, a configuration error occurs when the IPv6 prefix length is shorter than or equal to the mask length of any of the IPv6 addresses on the interface. In addition, the IPv6 prefix configuration command for the unspecified network segment fails. For example, if you first configure IPv6 address 10::1/64 on the interface of VLAN 40, and then configure **ipv6 route nd-to-route interface vlan 40 prefix-len 60** in global configuration mode, the configuration fails.
- If you configure the IPv6 prefix of an unspecified network segment before configuring the IPv6 address of this interface, syslog is displayed and the IPv6 prefix configuration of the unspecified network segment is canceled when the mask length of one of the IPv6 addresses is longer than or equal to the IPv6 prefix of the unspecified network segment. For example, if you first configure **ipv6 route nd-to-route interface vlan 40 prefix-len 60** in global configuration mode, and then configure address 10::1/64 on the interface of VLAN 40, syslog alarm is displayed and the configuration **ipv6 route nd-to-route interface vlan 40 prefix-len 60** is deleted.
- If you configure the IPv6 prefix of the specified network segment and then configure the IPv6 address of the corresponding network segment of the interface, syslog is displayed and the IPv6 prefix configuration of the

specified network segment is canceled when the IPv6 address mask of the corresponding network segment is longer than or equal to the IPv6 prefix of the specified network segment. For example, if you first configure **ipv6 route nd-to-route interface vlan 40 ipv6-prefix 10::1/58 prefix-len 60** in global configuration mode, and then configure the address 10::1/64 on the interface of VLAN 40, the syslog alarm is displayed and the configuration **ipv6 route nd-to-route interface vlan 40 ipv6-prefix 10::1/58 prefix-len 60** is deleted.

- If you configure the IPv6 prefix of an unspecified network segment and the IPv6 prefix of the specified network segment, and then configure the IPv6 address of the interface, please check whether the mask of each IPv6 address is longer than or equal to the IPv6 prefix of the specified/unspecified network segment. If so, syslog is displayed and the IPv6 prefix configuration of the corresponding network segment is canceled. For example, if you first configure **ipv6 route nd-to-route interface vlan 40 prefix-len 62** and **ipv6 route nd-to-route interface vlan 40 ipv6-prefix 10::1/58 prefix-len 60** in global configuration mode, and then configure address 10::1/64 on the interface of VLAN 40, the syslog alarm is displayed and two configurations are deleted.

Examples

The following example enables ND-to-route conversion on the specified interface of VLAN 40 so that the ND matching the 10::1/58 network segment is converted to a route with a mask length of 110 bits, the ND matched to the 20::1/56 network segment is converted to a route with a mask length of 128 bits, and the remaining NDs are converted to routes with a mask length of 120 bits.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 route nd-to-route interface vlan 40 prefix-len 120
Hostname(config)# ipv6 route nd-to-route interface vlan 40 ipv6-prefix 10::1/58
prefix-len 110
Hostname(config)# ipv6 route nd-to-route interface vlan 40 ipv6-prefix 20::1/56
prefix-len 128
```

Notifications

N/A

Common Errors

If the Layer-3 interface is not up, this function is unavailable.

Platform Description

N/A

Related Commands

N/A

1.12 ipv6 route nd-to-route tag

Function

Run the **ipv6 route nd-to-route tag** command to configure the tag attribute of the ND-converted route.

Run the **no** form of this command to delete the tag attribute of the ND-converted route.

Run the **default** form of this command to restore the default configuration.

The tag attribute function of the ND-converted route is disabled by default.

Syntax

```
ipv6 route nd-to-route tag tag-number
```

```
no ipv6 route nd-to-route
```

```
default ipv6 route nd-to-route tag
```

Parameter Description

tag-number: Tag attribute value of the ND-converted route. The value range is from 1 to 4294967295, and the default value is 0.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When the tag attribute value is configured for the host route converted by ND, the route map can match the tag attribute to implement route control.

Examples

The following example sets the tag attribute of the ND-converted route to 5.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ipv6 route nd-to-route tag 5
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.13 ipv6 route nd-to-route warning-ignore

Function

Run the **ipv6 route nd-to-route warning-ignore** command to configure the function of ignoring warning log of ND conversion to a route of specified length.

Run the **no** form of this command to delete the function of ignoring warning log of ND conversion to a route of specified length.

Run the **default** form of this command to restore the default configuration.

The function of ignoring warning log of ND conversion to a route of specified length is disabled by default.

Syntax

```
ipv6 route nd-to-route warning-ignore  
no ipv6 route nd-to-route warning-ignore  
default ipv6 route nd-to-route warning-ignore
```

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

After you configure the function of ignoring warning log of ND conversion to a route of specified length, the alarm that the same PORT ND generates the same network segment route is ignored. If this command is not configured, the warning log that the same Port ND generates the same network segment route is printed (only once). The alarm that different ports generate the same network segment route is not controlled by this command.

Examples

The following example configures the function of ignoring warning log of ND conversion to a route of specified length.

```
Hostname> enable  
Hostname# configure terminal  
Hostname(config)# ipv6 route nd-to-route warning-ignore
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.14 ipv6 unicast-routing

Function

Run the **ipv6 unicast-routing** command to enable the IPv6 routing function of a device.

Run the **no** form of this command to disable the IPv6 routing function.

Run the **default** form of this command to restore the default configuration.

The IPv6 routing function is enabled by default.

Syntax

ipv6 unicast-routing

no ipv6 unicast-routing

default ipv6 unicast-routing

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

When a device functions only as a bridge or VoIP gateway, the IPv6 routing and forwarding function of the device is not required. In this case, the IPv6 routing function of the device can be disabled.

Examples

The following example disables the IPv6 routing function of the device.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# no ipv6 unicast-routing
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.15 maximum-paths

Function

Run the **maximum-paths** command to configure the number of equal-cost routes.

Run the **no** form of this command to configure the default number of equal-cost routes.

Run the **default** form of this command to restore the default configuration.

32 equal-cost routes can be configured by default.

Syntax

maximum-paths *path-number*

no maximum-paths

default maximum-paths

Parameter Description

path-number: Number of equal-cost routes. The value range is from 1 to 32.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

After the number of equal-cost routes is configured by running the **maximum-paths** command, the number of load-sharing channels in load-sharing mode will not exceed the number of configured equal-cost routes. You can run the **show running config** command to display the number of configured equal-cost routes.

This command is valid for both IPv4 and IPv6 addresses. After this command is configured, the maximum number of equal-cost routes to an IPv4 or IPv6 destination is equal to the configured value.

Examples

The following example sets the maximum number of equal-cost routes to **10**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# maximum-paths 10
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show ip route](#)

1.16 show ip route

Function

Run the **show ip route** command to display IP routing table information, as well as the equal-cost multi-path routing (ECMP) attribute of routes.

Syntax

```
show ip route [ [ vrf vrf-name ] [ arphost | aggregate | count | [ ecmp | fast-reroute | normal ] [ network [ mask ] ] | network [ mask [ longer-prefix ] ] | route-protocol [ process-id ] | weight | tag ]
```

Parameter Description

vrf vrf-name: Displays the routing information only of the specified VRF. The routing information of global VRFs is displayed by default.

arphost: Displays the routing information of ARP conversion.

network: Target network to which the routing information is displayed. If no routing information of the target network is matched, the default route will be displayed. All routes are displayed by default.

mask: Mask whose target network routing information is displayed. The route matching the longest matching rule is displayed by default.

longer-prefix: Displays all the detailed routes matched with the specified prefix range.

count: Displays the number of current routes (the ECMP/WCMP route is calculated as one route). The statistics of the number of routes are not displayed by default.

route-protocol: Routing protocol or keywords: **connected**, **static**; to display a specific protocol route, use the following keywords: **bgp**, **isis**, **ospf**, **rip**. All protocols are displayed by default.

process-id: Routing protocol process ID. All the processes are displayed by default.

weight: Displays only routes with non-default weight. The routes of all weights are displayed by default.

normal: Displays normal routes, but not equal-cost routes and fast re-routes. All types of routes are displayed by default.

ecmp: Displays only equal-cost routes. All types of routes are displayed by default.

fast-reroute: Displays the primary/backup route of fast re-route only. All types of routes are displayed by default.

tag: Displays only routes of non-default tag. The routes of all tags are displayed by default.

aggregate: Displays only routes with type set to aggregated route. All types of routes are displayed by default.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

The command can be used to flexibly display the specified routing information according to the options.

The **show ip route** command is used to display the actual table entries that can be used for forwarding. To display the table entries of different attributes, specify the **normal | ecmp | fast-reroute** parameter.

Examples

The following example displays the IP routing table information, as well as the ECMP attribute of routes.

```

Hostname> enable
Hostname# show ip route
Codes: C - Connected, L - Local, S - Static
       R - RIP, O - OSPF, B - BGP, I - IS-IS, V - Overflow route
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       SU - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       IA - Inter area, EV - BGP EVPN, A - Arp to host
LA - Local aggregate route
     * - candidate default
Gateway of last resort is no set
S    20.0.0.0/8 is directly connected, VLAN 1
S    22.0.0.0/8 [1/0] via 20.0.0.1
O E2 30.0.0.0/8 [110/20] via 192.1.1.1, 00:00:06, VLAN 1
R    40.0.0.0/8 [120/20] via 192.1.1.2, 00:00:23, VLAN 1
B    50.0.0.0/8 [120/0] via 192.1.1.3, 00:00:41
C    192.1.1.0/24 is directly connected, VLAN 1
C    192.1.1.254/32 is local host.
LA   1.1.1.0/24 [1/0] via 0.0.0.0, Null 0

```

The following example displays normal routes, but not equal-cost routes and fast re-routes.

```

Hostname> enable
Hostname# show ip route normal
Codes: C - Connected, L - Local, S - Static
       R - RIP, O - OSPF, B - BGP, I - IS-IS, V - Overflow route
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       SU - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       IA - Inter area, * - candidate default
Gateway of last resort is no set
S    20.0.0.0/8 is directly connected, VLAN 1
S    22.0.0.0/8 [1/0] via 20.0.0.1
O E2 30.0.0.0/8 [110/20] via 192.1.1.1, 00:00:06, VLAN 1
R    40.0.0.0/8 [120/20] via 192.1.1.2, 00:00:23, VLAN 1
B    50.0.0.0/8 [120/0] via 192.1.1.3, 00:00:41
C    192.1.1.0/24 is directly connected, VLAN 1
C    192.1.1.254/32 is local host

```

The following example displays equal-cost routes.

```

Hostname> enable
Hostname# show ip route ecmp
Codes: C - Connected, L - Local, S - Static
       R - RIP, O - OSPF, B - BGP, I - IS-IS, V - Overflow route
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       SU - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       IA - Inter area, * - candidate default
Gateway of last resort is 192.168.1.2 to network 0.0.0.0
S*   0.0.0.0/0 [1/0] via 192.168.1.2
           [1/0] via 192.168.2.2
O IA 192.168.10.0/24 [110/1] via 35.1.10.2, 00:38:26, VLAN 1
           [110/1] via 35.1.30.2, 00:38:26, VLAN 3
    
```

The following example displays the primary/backup route of fast re-route.

```

Hostname> enable
Hostname# show ip route fast-reroute
Codes: C - Connected, L - Local, S - Static
       R - RIP, O - OSPF, B - BGP, I - IS-IS, V - Overflow route
       N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
       E1 - OSPF external type 1, E2 - OSPF external type 2
       SU - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
       IA - Inter area, * - candidate default
Status codes: m - main entry, b - backup entry, a - active entry
Gateway of last resort is 192.168.1.2 to network 0.0.0.0
S*   0.0.0.0/0 [ma] via 192.168.1.2
           [b] via 192.168.2.2
O IA 192.168.10.0/24 [m] via 35.1.10.2, 00:38:26, VLAN 1
           [ba] via 35.1.30.2, 00:38:26, VLAN 3
    
```

Table 1-1Output Fields of the show ip route Command

Field	Description
O	Indicates the source routing protocol of the route. Value options of the field: C : Indicates direct route. L : Indicates local route. S : Indicates static route. R : Indicates RIP route. B : Indicates BGP route. O : Indicates OSPF route. I : Indicates IS-IS route.
E2	Indicates route type. Value options of the field: E1 : Indicates OSPF external route type 1.

Field	Description
	E2 : Indicates OSPF external route type 2. N1 : Indicates OSPF NSSA external route type 1. N2 : Indicates OSPF NSSA external route type 2. SU : Indicates IS-IS summary route. L1 : Indicates IS-IS Level-1 route. L2 : Indicates IS-IS Level-2 route. IA : Indicates internal route of routing domain.
20.0.0.0/8	Indicates the network address and mask length of the destination network.
[1/0]	Indicates the management distance/metric.
Via 20.0.0.1	Indicates the next-hop IP address.
00:00:06	Indicates the time to live (TTL) of protocol routing.
VLAN 1	Indicates the next-hop forwarding interface.

The following example displays the information of routing to the target network 30.0.0.0.

```

Hostname> enable
Hostname# show ip route 30.0.0.0
Routing entry for 30.0.0.0/8
Distance 110, metric 20
Routing Descriptor Blocks:
192.1.1.1, 00:01:11 ago, via VLAN 1, generated by OSPF, extern 2

```

Table 1-2Output Fields of the show ip route 30.0.0.0 Command

Field	Description
Distance	Indicates the route management distance.
metric	Indicates the metric of the route.
Routing Descriptor Blocks	Displays the next-hop IP address, routing source, update time, interface passed by, source routing protocol, type, BGP community attribute value of routing information.
00:01:11 ago	Indicates the TTL of protocol routing.
extern 2	Indicates the route type of source routing protocol of the route.

The following example displays the number of current routes.

```

Hostname> enable
Hostname# show ip route count
--- route info ---
the num of active route: 5(include ecmp: 9)

```

Table 1-3Output Fields of the show ip route count Command

Field	Description
the num of active route	Indicates the total number of currently active routes.
include ecmp	Indicates the number of ECMPs in the total routes.

The following example displays routes of non-default weight.

```

Hostname> enable
Hostname# show ip route weight
----[distance/metric/weight]----
S    23.0.0.0/8 [1/0/2] via 192.1.1.20
S    172.0.0.0/16 [1/0/4] via 192.0.0.1

```

Table 1-4Output Fields of the show ip route weight Command

Field	Description
S	Indicates the source routing protocol of the route.
distance	Indicates the route management distance.
metric	Indicates the metric of the route.
weight	Indicates the weight value of the route.

The following example displays the primary/backup route of fast re-route to 30.0.0.0.

```

Hostname> enable
Hostname# show ip route fast-reroute 30.0.0.0
Routing entry for 30.0.0.0/8
Distance 110, metric 20
Routing Descriptor Blocks:
[m] 192.1.1.1, 00:01:11 ago, via VLAN 1, generated by OSPF, extern 2
[ba]192.1.1.1, 00:01:11 ago, via VLAN 1, generated by OSPF, extern 2

```

Table 1-5Output Fields of the show ip route fast-reroute 30.0.0.0 Command

Field	Description
Distance	Indicates the route management distance.
metric	Indicates the metric of the route.
Routing Descriptor Blocks	Displays the next-hop IP address, routing source, update time, interface passed by, source routing protocol, type, BGP community attribute value of routing information.
[m]	Identifies the primary route.
[ba]	Identifies the backup route.
00:01:11 ago	Indicates the TTL of protocol routing.

Field	Description
extern 2	Indicates the route type of source routing protocol of the route.

The following example displays routes of non-default tag.

```

Hostname# show ip route tag
----[distance/metric/tag]----
S    23.0.0.0/8 [1/0/10] via 192.1.1.20
S    172.0.0.0/16 [1/0/20] via 192.0.0.1

```

Table 1-6Output Fields of the show ip route tag Command

Field	Description
S	Indicates the source routing protocol of the route.
distance	Indicates the route management distance.
metric	Indicates the metric of the route.
tag	Indicates the label value of the route.

The following example displays aggregated routes.

```

Hostname(config)#show ip rou aggregate
LA    20.0.0.0/8 [1/0] via 0.0.0.0, Null 0
LA    21.0.0.0/8 [1/0] via 0.0.0.0, Null 0

```

Table 1-7Output Fields of the show ip route aggregate Command

Field	Description
LA	Indicates a local aggregated route.

Notifications

N/A

Platform Description

N/A

1.17 show ip route recursive

Function

Run the **show ip route recursive** command to display the recursive information of an IP route.

Syntax

```
show ip route [ [ vrf vrf-name ] recursive ipv4-network/mask-length
```

Parameter Description

vrf vrf-name: Displays the routing information only of the specified VRF. The routing information of global VRFs is displayed by default.

network/mask-length: Network address/length of subnet mask.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

You can display the detailed recursive information of an IP route, that is, all the routes that the IP route can be recursed to are listed according to the longest matching principle.

Examples

The following example displays the recursive information of an IP route.

```

Hostname> enable
Hostname# show ip route recursive 50.1.1.1/32
Codes: C - Connected, L - Local, S - Static
        R - RIP, O - OSPF, B - BGP, I - IS-IS, V - Overflow route
        N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
        E1 - OSPF external type 1, E2 - OSPF external type 2
        SU - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
        IA - Inter area, EV - BGP EVPN, * - candidate default
S      50.1.1.1/32 [1/0] via 50.1.3.2
O IA   50.1.1.0/24 [m] via 35.1.10.2, 00:38:26, VLAN 1
S*    0.0.0.0/0 is directly connected, Null 0

```

Table 1-1 Output Fields of the show ip route recursive Command

Field	Description
O	Indicates the source routing protocol of the route. Value options of the field: C: Indicates direct route. L: Indicates local route. S: Indicates static route. R: Indicates RIP route. B: Indicates BGP route. O: Indicates OSPF route. I: Indicates IS-IS route.
E2	Indicates route type. Value options of the field: E1: Indicates OSPF external route type 1. E2: Indicates OSPF external route type 2.

Field	Description
	<p>N1: Indicates OSPF NSSA external route type 1.</p> <p>N2: Indicates OSPF NSSA external route type 2.</p> <p>SU: Indicates IS-IS summary route.</p> <p>L1: Indicates IS-IS Level-1 route.</p> <p>L2: Indicates IS-IS Level-2 route.</p> <p>IA: Indicates internal route of routing domain.</p>
50.1.1.1/3 2	Indicates the network address and mask length of the destination network.
[1/0]	Indicates the management distance/metric.
50.1.3.2	Indicates the next-hop IP address.
00:38:26	Indicates the TTL of protocol routing.
VLAN 1	Indicates the next-hop forwarding interface.
Blocks	Displays the next-hop IP address, routing source, update time, interface passed by, source routing protocol, type, BGP community attribute value of routing information.

Notifications

N/A

Platform Description

N/A

1.18 show ip route static bfd

Function

Run the **show ip route static bfd** command to display the BFD correlation information of an IP route.

Syntax

```
show ip route [ vrf vrf-name ] static bfd
```

Parameter Description

vrf *vrf-name*: Displays the routing information only of the specified VRF. The routing information of global VRFs is displayed by default.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

You can display the BFD correlation information of an IP route.

Examples

The following example displays the BFD correlation information of an IP route.

```

Hostname> enable
Hostname# show ip route static bfd
S      10.0.0.0/8 via 100.100.100.25, GigabitEthernet 0/3, BFD state is Up
S      20.0.0.0/8 via 200.100.100.25, GigabitEthernet 0/4, BFD state is Admin

```

Table 1-1 Output Fields of the show ip route static bfd Command

Field	Description
S	Indicates static route.
BFD state	Indicates the associated BFD state of static route.

Notifications

N/A

Platform Description

N/A

1.19 show ip route summary

Function

Run the **show ip route summary** command to display the statistics of a single routing table.

Run the **show ip route summary all** command to display the statistics of all the routing tables.

Syntax

```
show ip route [ vrf vrf-name ] summary
```

```
show ip route summary all
```

Parameter Description

vrf *vrf-name*: Specifies the name of the VRF where this command is executed. If VRF is not specified, the command is executed on all VRFs.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display the statistics of routing tables.

Examples

The following example displays the statistics of a single routing table.

```

Hostname> enable
Hostname# show ip route summary
Codes:  NORMAL - Normal route  ECMP - ECMP route  FRR - Fast-Reroute route
      Memory: 2000 bytes
Entries: 22, based on route prefixes
Entries: 29, based on route nexthops
: : :  NORMAL  ECMP    FRR    TOTAL
: Connected  3      0      0      3
: Static     2      1      1      4
: RIP        1      2      1      4
: OSPF       2      1      1      4
: ISIS       1      2      0      3
: BGP        2      1      1      4
: TOTAL      11     7      4      22

```

The following example displays the statistics of all the routing tables.

```

Hostname> enable
Hostname# show ip route summary all
Codes:  NORMAL - Normal route  ECMP - ECMP route  FRR - Fast-Reroute route
IP routing table count:2
Total
Memory: 4000 bytes
Entries: 44, based on route prefixes
      Entries: 44, based on route nexthops
: : :  NORMAL  ECMP    FRR    TOTAL
: Connected  6      0      0      6
: Static     4      2      2      8
: RIP        2      4      2      8
: OSPF       4      2      2      8
: ISIS       2      4      0      6
: BGP        4      2      2      8
: TOTAL      22     14     8      44
Global
Memory: 2000 bytes
Entries: 22, based on route prefixes
      Entries: 29, based on route nexthops
: : :  NORMAL  ECMP    FRR    TOTAL
: Connected  3      0      0      3
: Static     2      1      1      4
: RIP        1      2      1      4
: OSPF       2      1      1      4
: ISIS       1      2      0      3
: BGP        2      1      1      4
: TOTAL      11     7      4      22

```

```

VRF1
  Memory: 2000 bytes
Entries: 22, based on route prefixes
  Entries: 29, based on route nexthops
: : :   NORMAL  ECMP    FRR    TOTAL
: Connected  3      0      0      3
: Static     2      1      1      4
: RIP        1      2      1      4
: OSPF       2      1      1      4
: ISIS       1      2      0      3
: BGP        2      1      1      4
: TOTAL     11     7      4     22

```

Table 1-1 Output Fields of the show ip route summary Command

Field	Description
NORMAL	<p>Indicates the classified entry type. Value options of the field:</p> <ul style="list-style-type: none"> ● NORMAL: Indicates normal routing table entry (non-ECMP or FRR routing). ● ECMP: Indicates equal-cost multi-path routing table entry. ● FRR: Indicates fast re-route table entry. ● TOTAL: Indicates total of table entries of all types.
Memory	Indicates the size of the memory occupied by the current routing table.
Entries: x, based on route prefixes	Indicates the table entries contained in the current routing table (based on the prefix entries of table entries, not next hop entries)
Entries: x, based on route nexthops	Indicates the table entries contained in the current routing table (based on the next hop entries of table entries)
Connected	<p>Indicates the protocol type of the table entry in this line. Value options of the field:</p> <p>Connected: Indicates table entries of direct route.</p> <p>Static: Indicates table entries of static route.</p> <p>RIP: Indicates table entries of RIP route.</p> <p>OSPF: Indicates table entries of OSPF route.</p> <p>ISIS: Indicates table entries of IS-IS route.</p> <p>BGP: Indicates table entries of BGP route.</p> <p>TOTAL: Indicates total of table entries in all protocols.</p>
IP routing table count	Indicates the number of routing tables.
Global	<p>Indicates the name of the current routing table. Value options of the field:</p> <p>Global: Indicates global (default VRF).</p> <p>VRF1: Indicates VRF name.</p> <p>TOTAL: Indicates total information of all the VRF routing tables.</p>

Notifications

N/A

Platform Description

N/A

1.20 show ip route track-table

Function

Run the **show ip route track-table** command to display the track correlation information of an IP route.

Syntax

```
show ip route [ vrf vrf-name ] track-table
```

Parameter Description

vrf *vrf-name*: Displays the routing information only of the specified VRF. The routing information of global VRFs is displayed by default.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

You can display the track correlation information of an IP route.

Examples

The following example displays the track correlation information of an IP route.

```
Hostname> enable
Hostname# show ip route track-table
ip route 10.0.0.0 255.0.0.0 GigabitEthernet 0/0 track 2 state is [up]
ip route 20.0.0.0 255.0.0.0 GigabitEthernet 0/0 2 track 3 state is [down]
```

Table 1-1 Output Fields of the show ip route track-table Command

Field	Description
track	Indicates the track object index.
state	Indicates the track object state.

Notifications

N/A

Platform Description

N/A

1.21 show ipv6 route

Function

Run the **show ipv6 route** command to display the routing information of an IPv6 route.

Syntax

```
show ipv6 route [ [ vrf vrf-name ] [ [ fast-reroute ] ipv6-prefix / prefix-length [ longer-prefixes ] | route-protocol [ process-id ] | weight ] ]
```

Parameter Description

vrf *vrf-name*: Specifies the name of the VRF where this command is executed. If VRF is not specified, the command is executed on all VRFs.

fast-reroute: Displays the primary/backup route of fast re-route only. All types of routes are displayed by default.

ipv6-prefix/prefix-length: Specified prefix of the IPv6 route to be exactly matched. All the routes are displayed by default.

longer-prefixes: Displays the longest IPv6 route that matches the specified prefix. All the routes are displayed by default.

route-protocol: Routing protocol or keywords: **connected**, **local**, **static**; to display a specific protocol route, use the following keywords: **bgp**, **isis**, **ospf**, **rip**. The routes of all protocols are displayed by default.

process-id: Routing protocol process ID. The routes of all the processes are displayed by default.

weight: Displays only routes with non-default weight. The routes of all weights are displayed by default.

tag: Displays only routes of non-default tag. The routes of all tags are displayed by default.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display the information of IPv6 routing tables.

Examples

The following example displays the routing information of IPv6.

```
Hostname> enable
Hostname# show ipv6 route
IPv6 routing table - Default - 7 entries
Codes: C - Connected, L - Local, S - Static
       R - RIP, O - OSPF, B - BGP, I - IS-IS, V - Overflow route
```

```

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2
E1 - OSPF external type 1, E2 - OSPF external type 2
SU - IS-IS summary, L1 - IS-IS level-1, L2 - IS-IS level-2
IA - Inter area
C 10::/64 via Loopback 1, directly connected
L 10::1/128 via Loopback 1, local host
S 20::/64 [20/0] via 10::4, Loopback 1C
C FE80::/10 via Null 0, directly connected
C FE80::/64 via Loopback 1, directly connected
L FE80::2D0:F8FF:FE22:33AB/128 via Loopback 1, local host
    
```

Table 1-1Output Fields of the show ipv6 route Command

Field	Description
S	Indicates the source routing protocol of the route. Value options of the field: C : Indicates direct route. L : Indicates local route. S : Indicates static route. R : Indicates RIP route. B : Indicates BGP route. O : Indicates OSPF route. I : Indicates IS-IS route.
E2	Indicates route type. Value options of the field: E1 : Indicates OSPF external route type 1. E2 : Indicates OSPF external route type 2. N1 : Indicates OSPF NSSA external route type 1. N2 : Indicates OSPF NSSA external route type 2. SU : Indicates IS-IS summary route. L1 : Indicates IS-IS Level-1 route. L2 : Indicates IS-IS Level-2 route. IA : Indicates internal route of routing domain.
20::/64	Indicates the network address and mask length of the destination network.
[20/0]	Indicates the management distance/metric.
via 10::4	Indicates the next-hop IPv6 address.
Loopback 1	Indicates the next-hop forwarding interface.

Notifications

N/A

Platform Description

N/A

1.22 show ipv6 route static bfd**Function**

Run the **show ipv6 route static bfd** command to display the BFD correlation information of an IPv6 route.

Syntax

```
show ipv6 route [ vrf vrf-name ] static bfd
```

Parameter Description

vrf *vrf-name*: Displays the routing information of the specified VRF only. The routing information of global VRFs is displayed by default.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

You can display the BFD correlation information of an IPv6 route.

Examples

The following example displays the BFD correlation information of an IPv6 route.

```
Hostname> enable
Hostname# show ip route static bfd
S      25::/64 via 100::25, GigabitEthernet 0/3, BFD state is Up
S      26::/64 via 200::25, GigabitEthernet 0/4, BFD state is Admin
```

Table 1-1 Output Fields of the show ip route static bfd Command

Field	Description
S	Indicates static route.
BFD state	Indicates the associated BFD state of static route.

Notifications

N/A

Platform Description

N/A

1.23 show ipv6 route summary

Function

Run the **show ipv6 route summary** command to display the statistics of a single IPv6 routing table.

Run the **show ipv6 route summary all** command to display the statistics of all the IPv6 routing tables.

Syntax

```
show ipv6 route [ vrf vrf-name ] summary
```

```
show ipv6 route summary all
```

Parameter Description

vrf *vrf-name*: Specifies the name of the VRF where this command is executed. If VRF is not specified, the command is executed on all VRFs.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display the statistics of IPv6 routing tables.

Examples

The following example displays the statistics of a single IPv6 routing table.

```
Hostname> enable
Hostname# show ipv6 route summary
IPv6 routing table name is - Default(0) global scope - 5 entries
IPv6 routing table default maximum-paths is 32
Local                2
Connected            3
Static                0
RIP                  0
OSPF                  0
BGP                   0
Total                 5
```

The following example displays the statistics of all the IPv6 routing tables.

```
Hostname> enable
Hostname# show ipv6 route summary all
IPv6 routing table count: 2
Total
  Memory: 2000 bytes
  Entries: 20
    Local:2, Connected:2, Static:8, RIP:2, OSPF:2, ISIS:2, BGP:2
Global
```

```

Memory: 1000 bytes
Entries: 10
Local:1,Connected:1,Static:4,RIP:1,OSPF:1,ISIS:1,BGP:1
VRF1
Memory: 1000 bytes
Entries: 10
Local:1,Connected:1,Static:4,RIP:1,OSPF:1,ISIS:1,BGP:1

```

Table 1-1Output Fields of the show ipv6 route summary Command

Field	Description
Memory	Indicates the size of the memory occupied by the current routing table.
Entries	Indicates the table entries contained in the current routing table (based on the prefix entries of table entries, not next hop entries)
Connected	Indicates the protocol type of the table entry in this line. Value options of the field: Connected : Indicates table entries of direct route. Static : Indicates table entries of static route. RIP : Indicates table entries of RIP route. OSPF : Indicates table entries of OSPF route. ISIS : Indicates table entries of IS-IS route. BGP : Indicates table entries of BGP route. TOTAL : Indicates total of table entries in all protocols.
IPv6 routing table count	Indicates the number of routing tables.
Global	Indicates the name of the current routing table. Value options of the field: Global : Indicates global (default VRF). VRF1 : Indicates VRF name. TOTAL : Indicates total information of all the VRF routing tables.

Notifications

N/A

Platform Description

N/A

1.24 show route-res usage**Function**Run the **show route-res usage** command to display the usage of routing resources.

Syntax

```
show route-res usage [ all | slot slot-id ]
```

Parameter Description

all: Displays the routing information of all the slots.

slot slot-id: Specifies the slot for viewing routing resource information.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

The command is used to display the routing resource information of the specified slot.

Examples

The following example displays the usage of routing resources of all the slots.

```

Hostname> enable
Hostname# show route-res usage all
Switch  Slot      Switch Mode Current:
-----
1       0          default
-----
L3 Software Statistics:
-----
Switch  Slot      Chip      Name              Used      Description
-----
1       0          0         IPv4_LPM           1         ipv4 route in lpm table
1       0          0         IPv4_HOST          0         ipv4 route in l3_entry table
1       0          0         IPv6_64_LPM        0         ipv6-64 route in lpm table
1       0          0         IPv6_128_LPM       0         ipv6-65-128 route in lpm table
1       0          0         IPv6_HOST          0         ipv6 route in l3_entry table
-----
Switch  Slot      Chip      Name              Used      Max      Description
-----
1       0          0         NEXTHOP            1         18432   nexthop number
1       0          0         ECMP_GROUP         0         75      ecmp group number
1       0          0         ENCAP              0         0       encap number
-----
L3 Forwarding Statistics:
-----
Switch  Slot      Chip      Resource          Service      Max      Used[   %]
Remain

```

Table 1-1Output Fields of the show route-res usage Command

Field	Description
Switch	Indicates device ID.
Slot	Indicates slot ID.
Switch Mode Current	Indicates the current UFT mode.
Chip	Indicates the switching chip ID.
Name	Indicates the entry name.
Used	Indicates the used quantity.
Description	Indicates the description information.
Max.	Indicates the maximum value.
Resource	Indicates the resource name.
Remain	Indicates the remaining capacity.

Notifications

N/A

Platform Description

N/A

Related Commands

N/A