1 BGP Commands

Command	Function
address port	Configure the address and port number of a BGP Monitoring Protocol (BMP) server.
address-family ipv4	Enter the IPv4 address family mode of Border Gateway Protocol (BGP).
address-family ipv4 vrf	Enter the IPv4 VRF address family mode of BGP and enable the exchange function of VRF routing information.
address-family ipv6	Enter the IPv6 address family mode of BGP and enable the exchange function of IPv6 routing information of BGP.
address-family ipv6 vrf	Enter the IPv6 VRF address family mode and enable the exchange function of IPv6 routing information of a VRF instance.
adj-rib-in post-policy	Configure BMP to monitor the routing information received from a peer after the routing policy is applied.
adj-rib-in pre-policy	Configure BMP to monitor the unchanged routing information received from a peer.
adj-rib-out post-policy	Configure BMP to monitor the routes sent to a peer after the routing policy is applied.
aggregate-address	Configure a route aggregation entry of BGP.
bgp additional-paths select	Enable the selection function of alternative additional paths (ADD-PATH) routes.
bgp advertise lowest-priority on-startup	Adjust the priority of routes advertised during device restart to the lowest level.
bgp advertise non-transitive extcommunity	Add the non-transmissive extended community attribute when BGP advertises routes to an External BGP (EBGP) neighbor.
bgp advertise-map	Match a global routing policy with sent routes.
bgp always-compare-med	Enable the Multi Exit Discriminator (MED)

	comparison function of BGP.
bgp asnotation dot	Display 4-byte AS numbers in dot mode and match regular expressions. Two decimals are separated by dot, for example 65535.65535.
bgp bestpath aigp ignore	Disable AIGP metric value comparison when the optimal path is selected.
bgp bestpath as-path ignore	Not compare AS path length when the optimal path is selected.
bgp bestpath as-path multipath-relax	Enable AS-PATH loose comparison of multiple paths in load balancing mode for BGP.
bgp bestpath compare-confed-aspath	Compare AS path length when the optimal path is selected.
bgp bestpath compare-routerid	Compare path router IDs when the optimal path is selected.
bgp bestpath igp-metric ignore	Not compare the next-hop IGP metric values when the optimal path is selected.
bgp bestpath med confed	Compare path MED values from the same AS alliance when the optimal path is selected.
bgp bestpath med missing-as-worst	Set the priority of a path without the MED attribute to the lowest level when the optimal path is selected.
bgp bestpath multipath-compare-routerid	Enable the function of comparing router IDs of multiple paths in load balancing mode.
bgp bmp-active	Enable all BMP servers to monitor all BGP neighbors.
bgp client-to-client reflection	Enable the route reflection function between device clients.
bgp cluster-id	Configure the cluster ID for a route reflector.
bgp confederation identifier	Configure an ID for an AS alliance.
bgp confederation peers	Configure a member AS for an AS alliance.
bgp dampening	Enable the route dampening function and configure dampening parameters.
bgp default ipv4-unicast	Configure the default address family as the IPv4 unicast address family.
bgp default local-preference	Configure the default LOCAL_PREF attribute.

bgp default route-target filter	Enable the Route-Target filtering function.
bgp deterministic-med	Preferentially compare path MED values for peers from the same AS.
bgp dmzlink-bw	Advertise bandwidth of a specified interface as an extended attribute.
bgp enforce-first-as	Configure a device to check the first AS number of the AS_PATH field in update packets.
bgp fast-external-fallover	Enable the fast link detection function of EBGP neighbors.
bgp fast-reroute	Enable the fast rerouting (FRR) function of BGP.
bgp fast-withdraw	Enable the fast withdrawal function of a specified BGP route.
bgp graceful-restart	Enable the function of global BGP graceful restart (GR).
bgp graceful-restart disable	Disable the GR function of a specified BGP address family.
bgp graceful-restart restart-time	Configure the GR time of BGP.
bgp graceful-restart stalepath-time	Configure the hold time of a stale route by a GR Helper during BGP GR.
bgp initial-advertise-delay	Enable the function of BGP delayed advertisement upon system restart.
bgp install standby-path	Enable the function of standby path installation of BGP.
bgp link-state-group up-delay	Configure the delay time to unbind the downlink port in the link state tracking group associated with the BGP neighbors.
bgp log-neighbor-changes	Configure a device to record BGP state changes without enabling the debugging function.
bgp maxas-limit	Limit the quantity of AS numbers in the AS_PATH attribute for BGP routes.
bgp maximum-neighbor	Configure the maximum number of BGP neighbors.
bgp maximum-prefix	Configure the maximum number of route entries in global configuration mode or for specified VRF instances.
bgp mp-error-handle session-retain	Configure BGP to retain BGP sessions when it

	detects a multiprotocol route error.
bgp nexthop trigger delay	Configure a delay of updating the routing table after the next hop of a BGP route changes.
bgp nexthop trigger enable	Enable the function of next hop trigger update.
bgp notify unsupport-capability	Enable the detection function of neighbor address family capability.
bgp nsr	Enable the global non-stop routing (NSR) function of BGP.
bgp recursion host	Enable BGP routes to recurse to only host routes.
bgp redistribute-internal	Configure BGP to allow the routes received from IBGP neighbors to be redistributed to Interior Gateway Protocol (IGP).
bgp route-reflector attribute-change	Allow the route reflector to modify route attributes.
bgp router-id	Configure a router ID when the BGP is running.
bgp scan-rib disable	Update the routing table in event triggering mode.
bgp scan-time	Configure the interval of regular scanning of BGP.
bgp shutdown	Actively shut down all connections.
bgp sourced-paths	Import routes with multiple paths or multiple next hops from other protocol modules.
bgp tcp-source-check disable	Disable the function of TCP source address checking of BGP.
bgp timer accuracy-control	Enable the strict execution function of internal timers of BGP.
bgp upgrade-cli	Configure the CLI display mode of BGP as address family configuration mode or scope configuration mode.
bmp server	Configure a BMP server instance and enter the BMP configuration mode.
buffer-size	Configure the maximum number of packets or bytes in the buffer of a BMP instance.
clear bgp advertise lowest-priority on-startup	Restore the priority of advertised routes to BGP neighbors to the level before the configuration of the **bgp advertise lowest-priority on-startup** command.
clear bgp all	Clear all the address families of BGP.

clear bgp all peer-group	Clear a specified peer group of BGP.
clear bgp all update-group	Clear the sessions of all members in an update group.
clear bgp ipv4 unicast	Clear the specified sessions of an IPv4 unicast address family.
clear bgp ipv4 unicast dampening	Clear the route flapping information of an IPv4 unicast address family and remove route dampening.
clear bgp ipv4 unicast external	Clear the EBGP connections of all IPv4 unicast address families.
clear bgp ipv4 unicast flap-statistics	Clear the statistics about route flapping of an IPv4 unicast address family.
clear bgp ipv4 unicast peer-group	Clear the sessions of all members of a peer group in an IPv4 unicast address family.
clear bgp ipv4 unicast table-map	Clear and update the Table-map configuration of an IPv4 unicast address family of BGP.
clear bgp ipv4 unicast update-group	Clear the sessions of all members of an update group in an IPv4 unicast address family.
clear bgp ipv6 unicast	Clear the specified sessions of an IPv6 unicast address family of BGP.
clear bgp ipv6 unicast dampening	Clear the route flapping information and route dampening of an IPv6 unicast address family.
clear bgp ipv6 unicast external	Clear all the EBGP connections of an IPv6 unicast address family.
clear bgp ipv6 unicast flap-statistics	Clear the statistics about route flapping of an IPv6 unicast address family.
clear bgp ipv6 unicast peer-group	Clear the sessions of all members of a peer group in an IPv6 unicast address family.
clear bgp ipv6 unicast table-map	Clear and update the Table-map configuration of an IPv6 unicast address family.
clear bgp ipv6 unicast update-group	Clear all the member sessions of an update group in an IPv6 unicast address family.
clear bmp	Reset BMP.
clear ip bgp	Clear the specified sessions of an IPv4 unicast address family of BGP.

clear ip bgp dampening	Clear the route flapping information and route dampening of an IPv4 unicast address family.
clear ip bgp external	Clear EBGP connections of all IPv4 unicast address families.
clear ip bgp flap-statistics	Clear statistics about route flapping of an IPv4 unicast address family.
clear ip bgp peer-group	Clear sessions of all members in a peer group in an IPv4 unicast address family.
clear ip bgp table-map	Clear old information and update the Table-map's routing information in an IPv4 unicast address family.
clear ip bgp update-group	Clear sessions of all members in a peer group in an IPv4 unicast address family.
default-information originate	Configure BGP to advertise redistributed default routes.
default-metric	Use the manually configured metric value for a redistributed route of BGP.
description	Configure description information of a BMP instance.
distance bgp	Configure the administrative distance of a BGP route.
exit-address-family	Exit the address family configuration mode of BGP.
failure-retry-delay	Configure the time to reestablish a connection with a BMP server.
import path selection	Configure a route import policy.
maximum-paths	Configure EBGP/IBGP multipath load balancing and specify the number of equivalent paths.
maximum-prefix	Configure the maximum number of route prefixes in a routing information base under an address family.
neighbor activate	Activate neighbors or peer groups in current address mode.
neighbor additional-paths	Enable the ADD-PATH function of the specified peer.
neighbor advertise additional-paths	Advertise the specific type of alternative ADD-PATH routes to peers.

neighbor advertisement-interval	Configure the route update interval of BGP.
neighbor aigp	Enable the AIGP function of BGP neighbors.
neighbor allowas-in	Allow the local device to receive update packets that carry the AS number of the local device.
neighbor as-loop-check out	Enable the loop detection function in the outbound direction of a BGP neighbor.
neighbor as-origination-interval	Configure the interval of advertising the local initial BGP route to a specified peer.
neighbor as-override	Configure a PE device to overwrite the AS number of a site.
neighbor bmp-active	Configure a specified BMP server to monitor neighbors.
neighbor default-fast-withdraw	Allow a BGP speaker to quickly withdraw the default route from a peer (group).
neighbor default-originate	Allow a BGP speaker to advertise the default route to a peer (group).
neighbor description	Configure the description statement of a specified peer (group).
neighbor distribute-list	Implement an ACL-based routing policy when routing information is sent to and received from a specified BGP peer.
neighbor dmzlink-bw	Carry the link bandwidth attribute in the specified neighbor's routes sent to IBGP neighbors.
neighbor domain	Configure a domain group for a specified BGP peer.
neighbor domain-unsuppress	Disable the domain group of a specified BGP peer from suppressing detailed routes.
neighbor ebgp-multihop	Establish BGP connections with non-directly-connected EBGP peers.
neighbor fall-over bfd	Correlate BGP with Bidirectional Forwarding Detection (BFD).
neighbor filter-list	Apply the AS path filtering rule to the routing information received from and sent to a specified BGP peer (group).
neighbor global-nexthop-replace-local	Use the local address of a BGP IPv6 link as the global next hop address when IPv6 routing information is sent to the local peer (group) of the

	BGP IPv6 link.
neighbor ha-mode nsr	Enable the nonstop routing (NSR) function for a specified BGP peer (group).
neighbor link state group	Associate a BGP peer (group) with a link state tracking group.
neighbor local-as	Configure the local AS number for a specified BGP peer (group).
neighbor maximum-prefix	Configure the maximum number of prefixes received from a specified BGP peer.
neighbor next-hop-self	Configure the next hop of a route advertised to a specified BGP peer as the local device.
neighbor next-hop-unchanged	Retain the next hop of a route advertised to a specified peer (group).
neighbor password	Enable TCP MD5 authentication and configure a password when a BGP connection is established with a specified BGP peer.
neighbor peer-group (assigning members)	Configure a specified BGP peer as a member of a BGP peer group.
neighbor peer-group (creating)	Create a BGP peer group.
neighbor pic-disable	Disable the private PIC processing on routes distributed to and received from specified BGP peers.
neighbor prefix-list	Implement the prefix list-based routing policy for routing information sent to and received from the specified BGP peers.
neighbor remote-as	Configure a BGP peer (group).
neighbor remove-private-as	Remove the private AS number from the AS_PATH attribute of the routes sent to a specified EBGP peer.
neighbor route-map	Match a received or an advertised route with a route map.
neighbor route-reflector-client	Configure the local device as a route reflector and specify a client for it.
neighbor send-community	Advertise community attributes to a specified BGP neighbor.

neighbor shutdown	Shut down the connection of a specified peer.
neighbor soft-reconfiguration inbound	Save original routing information sent by a specified BGP peer.
neighbor soo	Configure the Site-of-Origin (SoO) attribute of a neighbor.
neighbor timers	Configure the duration of Keepalive, Hold-Time, and Connect-Retry timers that are used to establish a BGP connection with a specified BGP peer.
neighbor transport connection-mode	Configure the connection establishment mode of BGP neighbors.
neighbor ttl-security hops	Configure GTSM security check for BGP neighbors.
neighbor unsuppress-map	Selectively advertise the routing information that is suppressed by route aggregation.
neighbor update-delay	Delay the advertisement of BGP peers.
neighbor update-source	Configure a network interface used to establish a BGP connection with a specified IBGP peer.
neighbor version	Configure the BGP version number for a specified BGP peer.
neighbor weight	Configure a weight value for a specified BGP peer.
network	Add static routing entries to a BGP routing table and advertise them to peers.
network synchronization	Synchronize a device with the local route to advertise the routing information configured by the network command.
overflow memory-lack	Configure BGP to enter the overflow state when the memory is insufficient.
redistribute	Redistribute the routing information of another routing protocol to a BGP instance.
redistribute isis	Redistribute the routing information of the IS-IS routing protocol to a BGP instance.
redistribute ospf	Redistribute the routing information of the Open Shortest Path First (OSPF) routing protocol to a BGP instance.
route mirroring	Enable the function of BGP packet mirroring.

router bgp	Enable the BGP protocol, configure a local AS number, and enter the BGP configuration mode.
scope	Enter the scope configuration mode and associate a VRF instance with BGP.
show bgp all	Display all the routing information of BGP.
show bgp bmp	Display BMP server information.
show bgp develop	Display the development information of BGP.
show bgp grst	Display GR information.
show bgp hash-peer	Display the hash table information of all neighbors.
show bgp ipv4 unicast	Display the IPv4 unicast routing information in BGP routing information.
show bgp ipv4 unicast dampening	Display the BGP IPv4 unicast route flapping information.
show bgp ipv4 unicast neighbors	Display the IPv4 unicast neighbor information of BGP.
show bgp ipv4 unicast paths	Display the IPv4 unicast path information in a routing information base.
show bgp ipv4 unicast summary	Display the BGP IPv4 unicast summary information.
show bgp ipv4 unicast update-group	Display the BGP IPv4 unicast update group information.
show bgp ipv6 unicast	Display the IPv6 unicast routing information in BGP routing information.
show bgp ipv6 unicast dampening	Display the IPv6 unicast route flapping parameters configured by BGP.
show bgp ipv6 unicast neighbors	Display the IPv6 unicast neighbor information of BGP.
show bgp ipv6 unicast paths	Display the IPv6 unicast path information in a routing information base.
show bgp ipv6 unicast summary	Display the BGP IPv6 unicast summary information.
show bgp ipv6 unicast update-group	Display the BGP IPv6 unicast update group information.
show bgp log-info	Display BGP log information.
show bgp log-warn	Display BGP alarm information.
show bgp memory	Display BGP memory information.

show bgp nsr	Display NSR information.
show bgp route-block	Display black hole route statistics.
show bgp rpi	Display RPI policy information.
show bgp statistics	Display BGP statistics.
show ip bgp	Display the routing information of an IPv4 unicast address family of BGP.
stats-reporting-period	Configure the interval of regularly sending state statistics by BGP.
synchronization	Enable the function of routing information synchronization between BGP and IGP.
table-map	Control the routing information sent to the core routing table by BGP.
timers bgp	Configure the duration of BGP timers.
update-source	Configure a network interface used to establish a TCP connection with a specified BMP server.

1.1 address port

Function

Run the **address port** command to configure the address and port number of a BGP Monitoring Protocol (BMP) server.

Run the **no** form of this command to remove this configuration.

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

No BMP server is configured with address or port number by default.

Syntax

address { *bmp-server-ipv4-address* | *bmp-server-ipv6-address* } **port** *port-number*

no address { *bmp-server-ipv4-address* | *bmp-server-ipv6-address* } **port** *port-number*

default address { *bmp-server-ipv4-address* | *bmp-server-ipv6-address* } **port** *port-number*

Parameter Description

bmp-server-ipv4-address: IPv4 address of a specified BMP server.

bmp-server-ipv6-address: IPv6 address of a specified BMP server.

port-number: Listening port number of a specified BMP server.

Command Modes

BMP configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example sets the address of the specified BMP server to 10.0.0.1 and the port number to 12345.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# bmp server 1
Hostname(config-bmpsrvr)# address 10.0.0.1 port 12345
```

Notifications

N/A

Common Errors

The address of the BMP server is a local address.

```
% Cannot configure the local system as bmp server
```

Platform Description

N/A

Related Commands

- **bmp server**

1.2 address-family ipv4

Function

Run the **address-family ipv4** command to enter the IPv4 address family mode of Border Gateway Protocol (BGP).

Run the **no** form of this command to remove this configuration.

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

BGP is configured with the IPv4 unicast address family mode by default.

Syntax

address-family ipv4 [**unicast**]

no address-family ipv4 [**unicast**]

default address-family ipv4 [**unicast**]

Parameter Description

unicast: Enters the IPv4 unicast address family mode. If this parameter is not specified, BGP enters the IPv4 unicast address family mode.

Command Modes

BGP configuration mode

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

You can enter the configuration mode of the IPv4 address family of BGP to configure routes and neighbors of the IPv4 address family. Or, you can configure IPv4 neighbors in the BGP configuration mode, and activate them in the configuration mode of the IPv4 address family.

The **exit-address-family** command is configured to exit the configuration mode of the IPv4 address family.

Examples

The following example enters the IPv4 unicast address family mode of BGP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# address-family ipv4 unicast
Hostname(config-router-af)#
```

Notifications

If configuration is completed in the scope Virtual Routing Forwarding (VRF) mode and the IPv4 address family is not activated by a VRF instance, the following notification will be displayed:

```
% Invalid address family ipv4 unicast vrf vrf-name.
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **exit-address-family**

1.3 address-family ipv4 vrf

Function

Run the **address-family ipv4 vrf** command to enter the IPv4 VRF address family mode of BGP and enable the exchange function of VRF routing information.

Run the **no** form of this command to remove this configuration and disable this function.

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

No IPv4 VRF address family of BGP is configured by default.

Syntax

address-family ipv4 vrf *vrf-name*

no address-family ipv4 vrf *vrf-name*

default address-family ipv4 vrf *vrf-name*

Parameter Description

vrf-name: VRF name.

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

In the IPv4 VRF address family mode of BGP, you can configure Provider Edge (PE) or Multi-VPN-Instance Customer Edge (MEC) devices to exchange BGP routing information with Customer Edge (CE) devices.

The **exit-address-family** command is configured to exit the configuration mode of the IPv4 VRF address family.

Note

If the **scope** command is not configured to associate a VRF instance with BGP, the **neighbor** command configured in the **address-family ipv4 vrf** command is displayed in the **address-family ipv6 vrf** command.

Examples

The following example enables the exchange function of routing information for VRF VPN 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# address-family ipv4 vrf vpn1
```

Notifications

If no VRF instance is configured, the following notification will be displayed:

```
% VRF vrf-name does not exist!
```

If the VRF instance is not configured with an RD, the following notification will be displayed:

```
% VRF vrf-name does not have an RD configured.
```

If the VRF instance does not activate the IPv4 address family, the following notification will be displayed:

```
% Invalid address family ipv4 unicast vrf %s.
```

If the BGP instance does not automatically obtain a router ID, the following notification will be displayed:

```
%Warning: The router identifier is 0.0.0.0, use 'bgp router-id' to configure a
valid identifier.
```

If the command configuration fails due to other reasons, the following notification will be displayed:

```
% Can not bind vrf!
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **exit-address-family**

1.4 address-family ipv6

Function

Run the **address-family ipv6** command to enter the IPv6 address family mode of BGP and enable the exchange function of IPv6 routing information of BGP.

Run the **no** form this command to remove this configuration and disable this function.

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

No IPv6 address family of BGP is configured by default.

Syntax

address-family ipv6 [**unicast**]

no address-family ipv6 [**unicast**]

default address-family ipv6 [**unicast**]

Parameter Description

unicast: Enters the configuration mode of the IPv6 unicast address family. This parameter is optional. If this parameter is not specified, BGP enters the IPv6 unicast address family mode.

Command Modes

BGP configuration mode

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

You can enter the configuration mode of the IPv6 address family of BGP to configure routes and neighbors of the IPv6 address family. Or, you can configure IPv6 neighbors in the BGP configuration mode, and activate them in the configuration mode of the IPv6 address family.

The **exit-address-family** command is configured to exit the configuration mode of the IPv6 address family.

Examples

The following example enters the IPv6 address family mode of BGP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# address-family ipv6
```

Notifications

If the global IPv6 unicast routing capability is not activated, the following notification will be displayed:

```
% IPv6 routing not enabled, BGP process can't configure
```

If configuration is completed in the scope VRF mode and the IPv6 address family is not activated by a VRF instance, the following notification will be displayed:

```
% Invalid address family ipv6 unicast vrf vrf-name.
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **exit-address-family**

1.5 address-family ipv6 vrf

Function

Run the **address-family ipv6 vrf** command to enter the IPv6 VRF address family mode and enable the exchange function of IPv6 routing information of a VRF instance.

Run the **no** form of this command to remove this configuration and disable this function.

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

No IPv6 VRF address family is configured by default.

Syntax

address-family ipv6 vrf *vrf-name*

no address-family ipv6 vrf *vrf-name*

default address-family ipv6 vrf *vrf-name*

Parameter Description

vrf-name: VRF name.

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

In the IPv6 VRF address family mode of BGP, you can configure PE or MEC devices to exchange BGP routing information with CE devices.

The **exit-address-family** command is configured to exit the configuration mode of the IPv6 VRF address family.

Note

If the **scope** command is not configured to associate a VRF instance with BGP, the **neighbor** configured in the **address-family ipv6 vrf** command in global configuration mode is displayed in the **address-family ipv4 vrf** command. Commands configured for single address families are displayed in the address family mode only configured by the commands.

Examples

The following example enables the IPv6 routing exchange capability for VRF VPN 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# address-family ipv6 vrf vpn1
```

Notifications

If no VRF instance is configured, the following notification will be displayed:

```
% VRF vrf-name does not exist!
```

If the VRF instance is not configured with a Route Distinguisher (RD), the following notification will be displayed:

```
% VRF vrf-name does not have an RD configured.
```

If the VRF instance does not activate the IPv6 address family, the following notification will be displayed:

```
% Invalid address family ipv6 unicast vrf %s.
```

If the global IPv6 unicast routing capability is not activated, the following notification will be displayed:

```
% IPv6 routing not enabled,BGP IPv6 can't configure
```

If the BGP instance does not automatically obtain a router ID, the following notification will be displayed:

```
% Warning: The router identifier is 0.0.0.0, use 'bgp router-id' to configure a valid identifier.
```

If the command configuration fails due to other reasons, the following notification will be displayed:

```
% Can not bind vrf!
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- **exit-address-family**

1.6 adj-rib-in post-policy

Function

Run the **adj-rib-in post-policy** command to configure BMP to monitor the routing information received from a peer after the routing policy is applied.

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

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

BMP is not enabled to monitor the routing information received from a peer after the routing policy is applied.

Syntax

adj-rib-in post-policy

no adj-rib-in post-policy

default adj-rib-in post-policy

Parameter Description

N/A

Command Modes

BMP configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example configures BMP to monitor the routes received from a peer after the routing policy is applied.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# bmp server 1
Hostname(config-bmpsrvr)# adj-rib-in post-policy
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.7 adj-rib-in pre-policy

Function

Run the **adj-rib-in pre-policy** command to configure BMP to monitor the unchanged routing information received from a peer.

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

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

BMP is not configured to monitor the unchanged routing information received from a peer.

Syntax

adj-rib-in pre-policy

no adj-rib-in pre-policy

default adj-rib-in pre-policy

Parameter Description

N/A

Command Modes

BMP configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example configures BMP to monitor the unchanged routing information received from a peer.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# bmp server 1
Hostname(config-bmpsrvr)# adj-rib-in pre-policy
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.8 adj-rib-out post-policy

Function

Run the **adj-rib-out post-policy** command to configure BMP to monitor the routes sent to a peer after the routing policy is applied.

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

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

BMP is not configured to monitor the function of sending routes to a peer after the routing policy is applied.

Syntax

adj-rib-out post-policy

no adj-rib-out post-policy

default adj-rib-out post-policy

Parameter Description

N/A

Command Modes

BMP configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example configures BMP to monitor the routes sent to a peer after the routing policy is applied.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# bmp server 1
Hostname(config-bmpsrvr)# adj-rib-out post-policy
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.9 aggregate-address

Function

Run the **aggregate-address** command to configure a route aggregation entry of BGP.

Run the **no** form of this command to remove this configuration.

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

No route aggregation entry of BGP is configured by default.

Syntax

aggregate-address { *ipv4-address mask* | *prefix* } [**advertise-map** route-map-name | **as-set** | **attribute-map** *route-map-name* | **summary-only** | **suppress-map** route-map-name] *

no aggregate-address { *ipv4-address mask* | *prefix* }

default aggregate-address { *ipv4-address mask* | *prefix* }

Parameter Description

ipv4-address: Aggregated IPv4 address.

mask: Mask of an aggregated IPv4 address.

prefix: Prefix of an aggregated IPv4 address.

advertise-map *route-map-name*: Configures a policy to generate route aggregation. *route-map-name* is the name of a route map and does not exceed 32 characters in length.

as-set: Reserves the AS path information within the aggregate address range. If this parameter is not specified, the AS path information within the aggregate address range is not reserved.

attribute-map *route-map-name*: Configures a route policy to control route aggregation attributes. *route-map-name* is the name of a route map and does not exceed 32 characters in length.

summary-only: Advertises only aggregate paths. If this parameter is not specified, all paths are advertised.

suppress-map *route-map-name*: Suppresses the route map of a specified route. *route-map-name* is the name of a route map and does not exceed 32 characters.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 address family of BGP

Configuration mode of the IPv6 unicast address family of BGP

Configuration mode of the IPv4 VRF address family of BGP

Configuration mode of the IPv6 VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

All path information before and after aggregation is advertised by default. If only path information after aggregation needs to be advertised, specify the **summary-only** parameter during configuration.

Examples

The following example configures IPv4 route aggregation entries and reserves the AS path information within the aggregate path range.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# aggregate-address 10.0.0.0 255.0.0.0 as-set
```

Notifications

If the entered network address is invalid, the following notification will be displayed:

```
% Invalid network address
```

When the configured route aggregation entry is already configured, the following notification will be displayed:

```
% The same object already exists
```

If configuration is completed in the scope VRF mode and the IPv4 address family is not activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name inactive.
```

If configuration is completed in the scope VRF mode and the IPv4 VRF mode is first activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name enabled.
```

If the deleted route aggregation entry is not configured, the following notification will be displayed:

```
% Unknown object, configure first
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.10 bgp additional-paths select

Function

Run the **bgp additional-paths select** command to enable the selection function of alternative additional paths (ADD-PATH) routes.

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

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

The selection function of alternative ADD-PATH routes is disabled by default.

Syntax

bgp additional-paths select { **all** | **best** *best-number* | **ecmp** }

no bgp additional-paths select

default bgp additional-paths select

Parameter Description

all: Selects all valid routes as alternative ADD-PATH routes of the "all" type.

best *best-number*: Selects the next-best routes as alternative ADD-PATH routes of the "best number" type. The value of *best-number* is **2** or **3**.

ecmp: Selects the Equal-Cost Multipath Routing (ECMP) routes as alternative ADD-PATH routes of the "ECMP" type. You also need to select ECMP routes.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast address family of BGP

Configuration mode of the IPv4 VRF address family of BGP

Configuration mode of the IPv6 unicast address family of BGP

Configuration mode of the IPv6 VRF address family of BGP

Default Level

14

Usage Guidelines

To advertise alternative ADD-PATH routes, you need to run the **neighbor advertise additional-paths** and **neighbor additional-paths** commands.

Examples

The following example selects the next-best routes as alternative ADD-PATH routes of the "best number" type.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp additional-paths select best 2
```

The following example selects the alternative ADD-PATH routes of the "ECMP" type.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# maximum-paths ibgp 8
Hostname(config-router)# bgp bestpath as-path multipath-relax
Hostname(config-router)# bgp additional-paths select ecmp
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- neighbor additional-paths
- neighbor advertise additional-paths

1.11 bgp advertise lowest-priority on-startup

Function

Run the **bgp advertise lowest-priority on-startup** command to adjust the priority of routes advertised during device restart to the lowest level.

Run the **no** form of this command to remove this configuration.

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

BGP does not modify the priority of advertised routes by default.

Syntax

bgp advertise lowest-priority on-startup [*recover-time*]

no bgp advertise lowest-priority on-startup

default bgp advertise lowest-priority on-startup

Parameter Description

recover-time: Timer time in seconds at which the priority of advertised routes is restored. The value range is from 1 to 65535, and the default value is **600**.

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

You can run this command to restore the priority of advertised routes to the original level before adjustment.

Examples

The following example configures BGP to adjust the priority of advertised routes to the lowest level upon device restart.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp advertise lowest-priority on-startup
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.12 bgp advertise non-transitive extcommunity

Function

Run the **bgp advertise non-transitive extcommunity** command to add the non-transmissive extended community attribute when BGP advertises routes to an External BGP (EBGP) neighbor.

Run the **no** form of this command to remove this configuration.

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

BGP does not carry the non-transmissive extended community attribute when it advertises routes to an EBGP neighbor.

Syntax

bgp advertise non-transitive extcommunity

no bgp advertise non-transitive extcommunity

default bgp advertise non-transitive extcommunity

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

A device does not advertise the non-transmissive extended community attribute to a neighbor when it advertises routes to an EBGP peer. This command is configured to forcibly advertise the non-transmissive extended community attribute.

Routing information advertised to EBGP neighbors and Internal BGP (IBGP) neighbors of an alliance carries the non-transmissive extended community attribute.

Examples

The following example configures BGP to carry the non-transmissive extended community attribute when it advertises routes to an EBGP peer.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp advertise non-transitive extcommunity
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- show bgp all

1.13 bgp advertise-map

Function

Run the **bgp advertise-map** command to match a global routing policy with sent routes.

Run the **no** form of this command to remove this configuration.

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

No global routing policy matches routes sent to neighbors by default.

Syntax

bgp advertise-map *route-map-name*

no bgp advertise-map

default bgp advertise-map

Parameter Description

route-map-name: Name of a matched route map.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast address family of BGP

Configuration mode of the IPv4 VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

When the **bgp advertise-map** and **neighbor route-map out** commands are configured, the two policies take effect. However, the policy configured in the **bgp advertise-map** command has a higher priority than the other one.

Examples

The following example matches sent routes with a route map named MAP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp advertise-map MAP
```

Related Commands

N/A

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

1.14 bgp always-compare-med

Function

Run the **bgp always-compare-med** command to enable the Multi Exit Discriminator (MED) comparison function of BGP.

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

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

The MED comparison function is disabled by default.

Syntax

bgp always-compare-med

no bgp always-compare-med

default bgp always-compare-med

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

Only MED values of paths of peers from the same AS are compared by default. You can run this command to force devices to compare MED values of different AS paths. If there are multiple valid paths to the same destination address, the path with a smaller MED value has a higher priority.

This command is not recommended unless different ASs in the network use the same IGP and route selection methods.

Examples

The following example compares MED attributes during BGP route calculation.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp always-compare-med
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.15 bgp asnotation dot

Function

Run the **bgp asnotation dot** command to display 4-byte AS numbers in dot mode and match regular expressions. Two decimals are separated by dot, for example 65535.65535.

Run the **no** form of this command to configure BGP to display 4-byte AS numbers in decimal notation mode.

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

AS numbers are expressed in decimal notation mode by default.

Syntax

bgp asnotation dot

no bgp asnotation dot

default bgp asnotation dot

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

4-byte AS numbers support two expression modes: decimal notation mode and dot mode. The decimal notation mode is the same as the original expression mode, that is, the 4 bytes of an AS number are expressed in decimal notation. The conversion between the dot mode and decimal notation mode is as follows: 4-byte decimal AS number = x * 65536 + Y. For example:

- For an AS number 65534 in decimal mode, it is 65,534 in dot mode. An AS number smaller than 65536 is the same in decimal mode and dot mode.
- For an AS number 65536 in decimal mode, it is 1.0 in dot mode.
- For an AS number 65538 in decimal mode, it is 1.2 in dot mode.

The display mode of 4-byte AS numbers does not affect the expression mode of the 4-byte AS numbers in BGP commands. The decimal notation and dot modes are supported in BGP commands. The display mode of 4-byte AS numbers in a regular expression must be consistent with the current display mode. Otherwise, the regular expression cannot be matched.

After this command is configured, you must run the **clear ip bgp *** command to reset peers and match regular expressions again according to filtering conditions.

Examples

The following example displays 4-byte AS numbers in dot mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp asnotation dot
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- clear ip bgp

1.16 bgp bestpath aigp ignore

Function

Run the **bgp bestpath aigp ignore** command to disable AIGP metric value comparison when the optimal path is selected.

Run the **no** form of this command to enable AIGP metric value comparison when the optimal path is selected.

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

The AIGP metric value is compared by default when the optimal path is selected.

Syntax

bgp bestpath aigp ignore

no bgp bestpath aigp ignore

default bgp bestpath aigp ignore

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

The AIGP metric value is compared when the optimal path is selected. The route with a smaller value has a higher priority.

Examples

The following example does not compare AIGP metric values during BGP route calculation.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp bestpath aigp ignore
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.17 bgp bestpath as-path ignore

Function

Run the **bgp bestpath as-path ignore** command to not compare AS path length when the optimal path is selected.

Run the **no** form of this command to compare AS path length when the optimal path is selected.

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

The AS path length is compared by default when the optimal path is selected.

Syntax

bgp bestpath as-path ignore

no bgp bestpath as-path ignore

default bgp bestpath as-path ignore

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

The AS path length is compared when the optimal path is selected. The router with a shorter length has a higher priority.

Examples

The following example disables AS path length comparison when the optimal path is selected.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp bestpath as-path ignore
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.18 bgp bestpath as-path multipath-relax

Function

Run the **bgp bestpath as-path multipath-relax** command to enable AS-PATH loose comparison of multiple paths in load balancing mode for BGP.

Run the **no** form of this command to enable AS-PATH precise comparison of multiple paths in load balancing mode for BGP.

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

AS-PATH loose comparison of multiple paths in load balancing mode is not configured for BGP by default.

Syntax

bgp bestpath as-path multipath-relax

no bgp bestpath as-path multipath-relax

default bgp bestpath as-path multipath-relax

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

BGP must accurately compare AS-PATH attributes by default while selecting equal-cost multipath. Equal-cost multipath can be selected only when the AS-PATH attribute is identical. As a result, load balancing cannot be implemented for the paths. After AS-PATH loose comparison is enabled, load balancing can be implemented for multiple paths if the AS-PATH length is compared.

Examples

The following example enables AS-PATH loose comparison for multiple paths in load balancing mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp bestpath as-path multipath-relax
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.19 bgp bestpath compare-confed-aspath

Function

Run the **bgp bestpath compare-confed-aspath** command to compare AS path length when the optimal path is selected.

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

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

The AS-PATH attributes of internal EBGP routes from an alliance are not compared by default when the optimal path is selected. Routes are selected based on other conditions.

Syntax

bgp bestpath compare-confed-aspath

no bgp bestpath compare-confed-aspath

default bgp bestpath compare-confed-aspath

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

When the same routes learned from EBGP neighbors in an alliance are selected, the AS path length is not compared by default. After this command is run, a device compares AS path length during route selection. The route with a shorter AS path has a higher priority.

If a route is not configured with the AS-PATH attribute, the device cannot compare the AS path length of this route.

Examples

The following example compares AS path length when the optimal path is selected.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp bestpath compare-confed-aspath
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.20 bgp bestpath compare-routerid

Function

Run the **bgp bestpath compare-routerid** command to compare path router IDs when the optimal path is selected.

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

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

During selection of the optimal path, if two paths with the same path attributes are received from different EBGP peers, the first received path is the optimal path by default.

Syntax

bgp bestpath compare-routerid

no bgp bestpath compare-routerid

default bgp bestpath compare-routerid

Parameter Description

N/A

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

During selection of the optimal path, if two paths with the same path attributes are received from different EBGP peers, the first received path is the optimal path by default. You can configure this command to select the path with the smallest router ID as the optimal path.

Examples

The following example compares Router IDs of paths when the optimal path is selected.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp bestpath compare-routerid
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.21 bgp bestpath igp-metric ignore

Function

Run the **bgp bestpath igp-metric ignore** command to not compare the next-hop IGP metric values when the optimal path is selected.

Run the **no** form of this command to compare the next-hop IGP metric values when the optimal path is selected.

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

The next-hop IGP metric values are compared by default when the optimal path is selected.

Syntax

bgp bestpath igp-metric ignore

no bgp bestpath igp-metric ignore

default bgp bestpath igp-metric ignore

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

A device compares the next-hop IGP metric values when it selects the optimal path. The route with a smaller value has a higher priority.

Examples

The following example does not compare next-hop IGP metric values during BGP route calculation.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp bestpath igp-metric ignore
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.22 bgp bestpath med confed

Function

Run the **bgp bestpath med confed** command to compare path MED values from the same AS alliance when the optimal path is selected.

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

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

The function of comparing path MED values from the same AS alliance is not enabled by default when the optimal path is selected.

Syntax

bgp bestpath med confed [**missing-as-worst**]

no bgp bestpath med confed [**missing-as-worst**]

default bgp bestpath med confed [**missing-as-worst**]

Parameter Description

missing-as-worst: Sets the priority of a path without the MED attribute to the lowest level. If this parameter is not specified, the path without the MED attribute has a lower priority.

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

When a device compares path attributes, the path with a smaller MED value has a higher priority.

Examples

The following example compares the path MED values of peers from the same AS alliance when the optimal path is selected.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp bestpath med confed
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.23 bgp bestpath med missing-as-worst

Function

Run the **bgp bestpath med missing-as-worst** command to set the priority of a path without the MED attribute to the lowest level when the optimal path is selected.

Run the **no** form of this command to set the priority of a path without the MED attribute to the highest level when the optimal path is selected.

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

The priority of a path without the MED attribute is set to the highest level by default when the optimal path is selected.

Syntax

bgp bestpath med missing-as-worst

no bgp bestpath med missing-as-worst

default bgp bestpath med missing-as-worst

Parameter Description

N/A

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

When a device compares path attributes, the path with a smaller MED value has a higher priority.

Examples

The following example sets the priority of a path without the MED attribute to the lowest level when the optimal path is selected.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65530
Hostname(config-router)# bgp bestpath med missing-as-worst
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.24 bgp bestpath multipath-compare-routerid

Function

Run the **bgp bestpath multipath-compare-routerid** command to enable the function of comparing router IDs of multiple paths in load balancing mode.

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

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

The function of comparing router IDs of multiple paths in load balancing mode is disabled by default.

Syntax

bgp bestpath multipath-compare-routerid

no bgp bestpath multipath-compare-routerid

default bgp bestpath multipath-compare-routerid

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

When a device receives multiple pieces of routing information from the same router ID, load balancing can be implemented for the routes.

Examples

The following example compares router IDs of multiple paths in load balancing mode of BGP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp bestpath multipath-compare-routerid
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.25 bgp bmp-active

Function

Run the **bgp bmp-active** command to enable all BMP servers to monitor all BGP neighbors.

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

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

The function of enabling all BMP servers to monitor all neighbors is disabled by default.

Syntax

bgp bmp-active

no bgp bmp-active

default bgp bmp-active

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example enables all BGP servers to monitor all neighbors in BGP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp bmp-active
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.26 bgp client-to-client reflection

Function

Run the **bgp client-to-client reflection** command to enable the route reflection function between device clients.

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

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

The route reflection function between clients is enabled by default.

Syntax

bgp client-to-client reflection

no bgp client-to-client reflection

default bgp client-to-client reflection

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

Generally, you do not need to create connections between the clients of a route reflector because the route reflector can reflect the routes between the clients. If a full mesh of connections is established among all clients, you can cancel the function of client route reflection of the route reflector.

Examples

The following example disables the route reflection function between clients of a device.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# no bgp client-to-client reflection
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.27 bgp cluster-id

Function

Run the **bgp cluster-id** command to configure the cluster ID for a route reflector.

Run the **no** form of this command to configure BGP to use a local router ID as the cluster ID.

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

The cluster ID of a route reflector is used as the route ID of the route reflector by default.

Syntax

bgp cluster-id [*cluster-id* | *ipv4-address*]

no bgp cluster-id

default bgp cluster-id

Parameter Description

cluster-id: Cluster ID of a route reflector. The value range is from 1 to 4294967295.

ipv4-address: Cluster ID of a route reflector.

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

Generally, only one route reflector is configured in a cluster. In this case, you can use the router ID of the route reflector to identify this cluster. To increase reliability, you can configure multiple route reflectors in a cluster. In this case, you must configure the cluster ID to ensure that the route reflector can identify route update messages from other route reflectors in the cluster.

Examples

The following example configures the cluster ID of a route reflector as 10.0.0.1.

```
Hostname> enable
```

```
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp cluster-id 10.0.0.1
```

Notifications

If the entered cluster ID is invalid, the following notification will be displayed:

```
% Invalid cluster-id
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.28 bgp confederation identifier

Function

Run the **bgp confederation identifier** command to configure an ID for an AS alliance.

Run the **no** form of this command to remove this configuration.

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

No ID is configured for an AS alliance of BGP by default.

Syntax

bgp confederation identifier *as-number*

no bgp confederation identifier

default bgp confederation identifier

Parameter Description

as-number: ID of an AS alliance. The value range is from 1 to 65535. A device can be configured with a 4-byte AS number. That is, the new AS number range is from 1 to 4294967295, or from 1 to 65535.65535 in dot mode.

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

An alliance is method of reducing the IBGP peer connections within an AS.

An AS is divided into multiple sub ASs and configured with a unified alliance ID (namely, AS number) for these sub ASs to form an alliance. Outside the alliance, the entire alliance is still considered as an AS and only the

AS number of the alliance is visible. Inside the alliance, a full mesh of IBGP peers is established for BGP speakers within a sub AS, and EBGP peer connections are established for BGP speakers in different sub ASs. Though EBGP connections are established between BGP speakers in different sub ASs, the next hop, MED, local priority and other information keep unchanged when information is exchanged.

Examples

The following example sets the ID of an AS alliance to **65000**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp confederation identifier 65000
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.29 bgp confederation peers

Function

Run the **bgp confederation peers** command to configure a member AS for an AS alliance.

Run the **no** form of this command to remove this configuration.

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

No member AS is configured for an AS alliance by default.

Syntax

bgp confederation peers *as-number*&<1-n>

no bgp confederation peers *as-number*&<1-n>

default bgp confederation peers *as-number*&<1-n>

Parameter Description

as-number&<1-n>: Member AS within an alliance. A 4-byte AS number can be configured. That is, the AS number range is from 1 to 4294967295, or from 1 to 65535.65535 in dot mode. & <1-n> specifies that 1 to *n* members ASs can be configured for an alliance.

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

An alliance is method of reducing the IBGP peer connections within an AS.

An AS is divided into multiple sub ASs and configured with a unified alliance ID (namely, AS number) for these sub ASs to form an alliance. Outside the alliance, the entire alliance is still considered as an AS and only the AS number of the alliance is visible. Inside the alliance, a full mesh of IBGP peers is established for BGP speakers within a sub AS, and EBGP peer connections are established for BGP speakers in different sub ASs. Though EBGP connections are established between BGP speakers in different sub ASs, the next hop, MED, local priority and other information keep unchanged when information is exchanged.

Examples

The following example configures members ASs 65000 and 65100 for an alliance.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp confederation peers 65000 65100
```

Notifications

If the entered member AS number is consistent with the local AS number, the following notification will be displayed:

```
% Local member-AS not allowed in confed peer list
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.30 bgp dampening

Function

Run the **bgp dampening** command to enable the route dampening function and configure dampening parameters.

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

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

The route dampening function is disabled by default.

Syntax

bgp dampening [*half-life* [*reusing suppressing maximun-supress-time*] [**withdrawal-ignore**] | **route-map** *route-map-name*]

no bgp dampening

default bgp dampening

Parameter Description

half-life: Half life time. When the life time in minutes reaches this value, the penalty is halved. The value range is from 1 to 45, and the default value is **15**.

reusing: Reuse Limit. When the penalty is reduced to this value, the route is activated again. The value range is from 1 to 10000, and the default value is **750**.

suppressing: Suppress limit. When the penalty is greater than this value, the route is suppressed. The value range is from 1 to 20000, and the default value is **2000**.

maximun-supress-time: Maximum time of route suppression. When the time in minutes exceeds this value, the route is activated. The value range is from 1 to 255, and the default value is **60**.

withdrawal-ignore: Specifies that the penalty does not increase when the route is activated again.

route-map *route-map-name*: Calls a route map to apply the route dampening function to a specific route. Route dampening is applied to all routes by default.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast address family of BGP

Configuration mode of the IPv4 VRF address family of BGP

Configuration mode of the IPv6 unicast address family of BGP

Configuration mode of the IPv6 VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command is used to suppress unstable EBGP routes and does not apply to IBGP routes.

Penalty is used to describe route stability. A greater penalty indicates a more unstable route. The penalty increases by 1000 each time route flapping occurs once (a withdraw packet is received). The penalty does not increase after it reaches a value. This value is called the upper limit of penalty. The value is subject to the configured *maximun-supress-time*. The formula is as follows: Upper limit of penalty = 2 ^ (*maximun-supress-time*/*half-life*) * *reusing.* Because the upper limit of penalty cannot exceed 20000, the values of *maximun-supress-time*, *half-life*, and *reusing* must be adjusted based on the network status.

1. Relationship between *Half-time and maximun-supress-time*: *half-time* ≤ *maximum-supress-time*

2. Relationship between *reusing*, *suppressing*, and upper limit of penalty: *reusing* ≤ *suppressing* ≤ upper limit of penalty

Users can specify only the *half-life* value. In this case, the value of *maximun-supress-time* is (*half-life* × 4), and the values of *reusing* and *suppressing* are 750 and 2000 respectively.

If the penalty of an EBGP route exceeds the value of *suppressing*, the route is suppressed. A suppressed route is neither used during BGP route selection nor advertised to other BGP peers. If the suppressed routes go on flapping, the penalty rises to the upper limit of penalty.

If the *half-life* of a suppressed route passes, the penalty is halved. If the penalty decreases to the value of *reusing*, the route of update packets is selected by BGP again at the last update. If the penalty decreases to the value 0, the route of withdraw packets is removed from the BGP routing table at the last update.

By default, the penalty value increases by 1000 when a route is reactivated and increases by 500 when a route is updated.

Route suppression information is recalculated during active/standby switchover in the Virtual Switching Unit (VSU) environment.

Examples

The following example sets the **Half-life-time** to **30** minutes, **Reuse Limit** to **1200**, **Suppress Limit** to **10000**, and **Max-suppress-time** to **120** minutes.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp dampening 30 1200 10000 120
```

Notifications

If configuration is completed in the scope VRF mode and the IPv4 address family is not activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name inactive.
```

If configuration is completed in the scope VRF mode and the IPv4 VRF mode is first activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name enabled.
```

If configuration is completed in the scope VRF mode and the IPv6 VRF mode is first activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv6 unicast of vrf vrf-name enabled.
```

If the configured **maximun-supress-time** value is smaller than the **Half-life-time** value, the following notification will be displayed:

```
% Maximum suppress time cannot be less than half life time.
```

If the configured **Suppress Limit** value is smaller than the **Reuse Limit** value, the following notification will be displayed:

```
% Suppress value cannot be less than reuse value.
```

If the upper limit of the penalty obtained based on the configured parameters is greater than 10000, the following notification will be displayed:

```
% Either maximun-supress-time time or reusing value is too large.
```

If the upper limit of the penalty obtained based on the configured parameters is smaller than the **Suppress Limit** value, the following notification will be displayed:

```
% Either maximun-supress-time time or reusing value is too small.
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.31 bgp default ipv4-unicast

Function

Run the **bgp default ipv4-unicast** command to configure the default address family as the IPv4 unicast address family.

Run the **no** form of this command to remove this configuration.

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

The default address family by default is the IPv4 unicast address family.

Syntax

bgp default ipv4-unicast

no bgp default ipv4-unicast

default bgp default ipv4-unicast

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example configures the default address family as the IPv4 unicast address family.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp default ipv4-unicast
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.32 bgp default local-preference

Function

Run the **bgp default local-preference** command to configure the default LOCAL_PREF attribute.

Run the **no** form of this command to restore the default LOCAL_PREF attribute.

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

The default LOCAL_PREF value is **100**.

Syntax

bgp default local-preference *local-preference-value*

no bgp default local-preference

default bgp default local-preference

Parameter Description

local-preference-value: Attribute value of a local priority. The value range is from 0 to 4294967295, and the default value is **100**.

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

BGP uses the LOCAL_PREF attribute as a basis for comparing priorities of paths learned from IBGP peers. A path with a larger LOCAL_PREF value has a higher priority.

When sending external routes to IBGP peers, a BGP speaker adds the LOCAL_PREF attribute.

Examples

The following example sets the default LOCAL_PREF value to **200**.

```
Hostname> enable
Hostname# configure terminal
```

```
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp default local-preference 200
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.33 bgp default route-target filter

Function

Run the **bgp default route-target filter** command to enable the Route-Target filtering function.

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

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

The Route-Target filtering function is enabled by default.

Syntax

bgp default route-target filter

no bgp default route-target filter

default bgp default route-target filter

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

After the **no bgp default route-target filter** command is run, BGP receives all VPN routes whether the Route-Target of the local VRF instance is filtered or not.

When a PE route reflector client is configured for BGP, the device receives all VPN routes, regardless of the configuration of this command.

Examples

The following example disables the Route-Target filtering function.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# no bgp default route-target filter
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.34 bgp deterministic-med

Function

Run the **bgp deterministic-med** command to preferentially compare path MED values for peers from the same AS.

Run the **no** form of this command to remove this configuration.

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

Path MED values for peers from the same AS are not compared by default.

Syntax

bgp deterministic-med

no bgp deterministic-med

default bgp deterministic-med

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

By default, a device compares path MED values based on the sequence of the received paths by default when the optimal path is selected.

Examples

The following example preferentially compares path MED values for peers from the same AS.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp deterministic-med
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.35 bgp dmzlink-bw

Function

Run the **bgp dmzlink-bw** command to advertise bandwidth of a specified interface as an extended attribute.

Run the **no** form of this command to remove this configuration.

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

No bandwidth of a specified interface is advertised as an extended attribute.

Syntax

bgp dmzlink-bw

no bgp dmzlink-bw

default bgp dmzlink-bw

Parameter Description

N/A

Command Modes

BGP configuration mode

IPv4 unicast address family mode of BGP

IPv6 unicast address family mode of BGP

IPv4 VRF address family mode of BGP

IPv6 VRF address family mode of BGP

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

This command is used to configure links for directly connected EBGP peers. After the **neighbor send-community** command is configured, the extended community attribute of link bandwidth is transmitted to IBGP peers. This command is used with the **maximum-paths { ebgp | ibgp }** *maximum-paths-number* command to configure load balancing for multiple paths on links with unequal bandwidth. This command takes effect only when each directly connected EBGP peer carries the extended community attribute of link bandwidth.

Examples

The following example advertises the bandwidth of a specified interface as an extended attribute in the IPv4 address family.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 100
Hostname(config-router)# address-family ipv4
Hostname(config-router-af)# bgp dmzlink-bw
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.36 bgp enforce-first-as

Function

Run the **bgp enforce-first-as** command to configure a device to check the first AS number of the AS_PATH field in update packets.

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

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

A device checks the first AS number of the AS_PATH field in update packets by default.

Syntax

bgp enforce-first-as

no bgp enforce-first-as

default bgp enforce-first-as

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

A device obtains routing information by receiving update packets. When the device attempts to advertise the routing information learned from the update packets to other devices:

- If the routing information is advertised to EBGP peers, the device adds the local AS number to the AS_PATH field as the first AS number. The EBGP peers can know the ASs that the packets need to pass before they reach the destination address based on the AS_PATH attribute in this routing information.
- If the routing information is advertised to IBGP peers, the AS_PATH attribute remains unchanged.

After this command is configured, the device determines the first AS number of the AS_PATH attribute in update packets when it receives the update packets from EBGP peers. If the first AS number is not the AS number of the EBGP peers, the packets are directly discarded.

Examples

The following example configures a device to check the first AS number of the AS_PATH field in update packets.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 100
Hostname(config-router)# bgp enforce-first-as
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.37 bgp fast-external-fallover

Function

Run the **bgp fast-external-fallover** command to enable the fast link detection function of EBGP neighbors.

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

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

The fast link detection function of EBGP neighbors is enabled by default.

Syntax

bgp fast-external-fallover

no bgp fast-external-fallover

default bgp fast-external-fallover

Parameter Description

N/A

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

This command is effective to only directly connected EBGP peers. After this command is configured, the BGP session connection is disabled immediately if the network interface used to establish a connection with the directly connected EBGP neighbors fails.

Examples

The following example enables the fast link detection function of EBGP neighbors.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 100
Hostname(config-router)# bgp fast-external-fallover
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.38 bgp fast-reroute

Function

Run the **bgp fast-reroute** command to enable the fast rerouting (FRR) function of BGP.

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

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

The FRR function is disabled by default.

Syntax

bgp fast-reroute

no bgp fast-reroute

default bgp fast-reroute

Parameter Description

N/A

Command Modes

BGP configuration mode

IPv4 unicast address family mode of BGP

IPv6 unicast address family mode of BGP

IPv4 VRF address family of BGP

IPv6 VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

The FRR function of BGP is restricted by the following:

- Only one backup route is generated and the next hop of the backup route cannot be the same as that of the preferred route.
- A backup next hop cannot be generated for an Equal-Cost Multi-Path Routing (ECMP) route.
- The FRR function of BGP has a lower priority than that of VPN. That is, if VPN FRR is enabled in the VRF mode, the FRR function of BGP can take effect only when VPN FRR fails to calculate a backup route.
- This command and the **bgp install standby-path** command cannot be configured concurrently.

Examples

The following example enables the FRR function of BGP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65530
Hostanme(config-router)# bgp fast-reroute
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.39 bgp fast-withdraw

Function

Run the **bgp fast-withdraw** command to enable the fast withdrawal function of a specified BGP route.

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

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

The fast withdrawal function for a specified BGP route is disabled by default.

Syntax

bgp fast-withdraw { **access-list** { *access-list-number* | *access-list-name* } | **prefix-list** *prefix-list-name* | **route-map** *route-map-name* }

no bgp fast-withdraw { **access-list** | **prefix-list** | **route-map** }

default bgp fast-withdraw { **access-list** | **prefix-list** | **route-map** }

Parameter Description

access-list-number: Number of an Access Control List (ACL). The value range is from 1 to 199 or from 1300 to 2699.

access-list-name: Name of an ACL.

prefix-list-name: Name of a prefix list.

route-map-name: Name of a matched route map rule.

Command Modes

BGP configuration mode

IPv4 unicast address family mode of BGP

IPv6 unicast address family mode of BGP

IPv4 VRF address family of BGP

IPv6 VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

The fast withdrawal function of a specified BGP route is restricted by the following:

- Either the **prefix-list** or **access-list** keyword takes effect.

Examples

The following example enables the fast withdrawal function of a specified BGP route.

```
Hostname> enable
```

```
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostanme(config-router)# bgp fast-withdraw route-map bgp-filter
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.40 bgp graceful-restart

Function

Run the **bgp graceful-restart** command to enable the function of global BGP graceful restart (GR).

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

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

The function of global BGP GR is enabled by default.

Syntax

bgp graceful-restart

no bgp graceful-restart

default bgp graceful-restart

Parameter Description

N/A

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

BGP GR enables a device to keep the BGP routing table valid and continue to forward data during restart. After this command is configured, the device can execute GR or help neighbors execute GR.

The BGP GR capability is advertised through the capability field in an open message and negotiated in the initial establishment of connections between a device and its peer. Both the device and its peer must support the GR capability. If neither of them support GR, the route device does not correctly implement GR.

After this command is configured, it does not take effect to all established BGP connections. Therefore, to negotiate immediately about the GR capability on these BGP connections, forcibly restart the BGP connections to renegotiate about GR capability between the local device and its peer. You can run the **clear ip bgp** command to restart the BGP connections between peers.

BGP detects neighbor GR based on TCP failure messages. If a TCP failure occurs in non-GR scenario, for example, the **shutdown** command is run in interface configuration mode, BGP enters the GR Helper state and retains neighbor routes, and converges the routes after GR times out or a connection with the neighbor is reestablished.

Examples

The following example enables the global BGP GR function.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 500
Hostanme(config-router)# bgp graceful-restart
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.41 bgp graceful-restart disable

Function

Run the **bgp graceful-restart disable** command to disable the GR function of a specified BGP address family.

Run the **no** form of this command to enable the GR function of a specified BGP address family.

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

When the global BGP GR function is enabled, the GR function of each BGP address family is enabled by default.

Syntax

bgp graceful-restart disable

no bgp graceful-restart disable

default bgp graceful-restart disable

Parameter Description

N/A

Command Modes

BGP configuration mode

IPv4 unicast address family mode of BGP

IPv4 VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

When the BGP GR function is enabled, this activates the GP capability of address families by default, except those that do not support GR. You can run this command in address family configuration mode to disable the GR capability of the specified address family. If this command is configured in BGP mode, it acts on IPv4 unicast address families.

When the BGP GR function is disabled, the GR capability of all address families is disabled.

Examples

The following example disables the GR capability of the IPv4 unicast address family of BGP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostanme(config-router)# bgp graceful-restart
Hostanme(config-router)# address-family ipv4
Hostanme(config-router-af)# bgp graceful-restart disable
```

Notifications

If the GR capability is not supported in the current address family, the following notification will be displayed:

```
% The address family does not support graceful restart
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.42 bgp graceful-restart restart-time

Function

Run the **bgp graceful-restart restart-time** command to configure the GR time of BGP.

Run the **no** form of this command to remove this configuration.

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

The GR time is **120** seconds by default.

Syntax

bgp graceful-restart restart-time *restart-time*

no bgp graceful-restart restart-time

default bgp graceful-restart restart-time

Parameter Description

restart-time: Expected maximum wait time before the establishment of a connection between the GR Helper and the GR Restarter, in seconds. The value range is from 1 to 3600.

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

The restart time is advertised by the GR Restarter to the GR Helper, which indicates the expected maximum wait time before the establishment of a connection between the GR Helper and the GR Restarter. If no BGP connection is established between the GR Helper and GR Restarter after this timer expires, the BGP connection request fails. A normal BGP restart process is performed. During this process, all routes of this neighbor are deleted and data forwarding is affected.

This value is advertised in the GR capability field of the Open message of BGP. You are advised to configure the same GR restart time for the devices at both ends of a session.

This command does not take immediately effect to all established BGP connections. Therefore, you must forcibly disconnect and reestablish the BGP connections to renegotiate the GR capability and advertise the latest restart time to the GR Helper. You can run the **clear ip bgp** command to forcibly disconnect and reestablish a BGP connection. The configured restart time should not be greater than the Hold Time of the BGP peer; otherwise, the Hold Time is used as the restart time and advertised to the BGP peer during GR capability advertisement.

Examples

The following example sets the GR time of BGP to **150** seconds.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 500
Hostanme(config-router)# bgp graceful-restart
Hostanme(config-router)# bgp graceful-restart restart-time 150
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.43 bgp graceful-restart stalepath-time

Function

Run the **bgp graceful-restart stalepath-time** command to configure the hold time of a stale route by a GR Helper during BGP GR.

Run the **no** form of this command to restore the default configuration.

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

The default hold time of a stale route by a GR Helper during BGP GR is **360** seconds.

Syntax

bgp graceful-restart stalepath-time *stalepath-time*

no bgp graceful-restart stalepath-time

default bgp graceful-restart stalepath-time

Parameter Description

stalepath-time: Maximum hold time in seconds of a stale route after a connection with a GR device is recovered. The value range is from 1 to 3600.

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

This command applies to GR Helpers.

StalePath-time specifies the maximum wait time of the EOR flag from the GR Restarter after a connection is recovered between the GR Helper and the GR Restarter. Upon detecting the disconnection from the GR Restarter, the GR Helper marks the original routes to the GR Restarter as Stale, but uses these routes to calculate and forward routes. The GR Helper updates route information based on the route update message received from the GR Restarter and removes the Stale mark from the routes. In the stalepath-time, the stale routes are deleted if they are not updated. This mechanism is used to ensure route convergence if the GR Helper does not receive the EOR flag for a long time.

Examples

The following example sets the hold time of a stale route by a GR Helper during BGP GR to **240** seconds.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 500
Hostanme(config-router)# bgp graceful-restart
Hostanme(config-router)# bgp graceful-restart stalepath-time 240
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.44 bgp initial-advertise-delay

Function

Run the **bgp initial-advertise-delay** command to enable the function of BGP delayed advertisement upon system restart.

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

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

The function of BGP delayed advertisement upon system restart is disabled by default.

Syntax

bgp initial-advertise-delay { *delay-time* [*startup-time*] [**wait-for-controller**] | **prefix-list** *prefix-list-name* }

no bgp initial-advertise-delay [**prefix-list**]

default bgp initial-advertise-delay [**prefix-list**]

Parameter Description

delay-time: Interval in seconds of route advertisement after the BGP neighborship is established upon system restart. The value range is from 1 to 1800, and the default value is **1**.

startup-time: Time range in seconds for system restart. In this range, neighbors use the delayed advertisement mechanism of routes. The value range is from 5 to 58400, and the default value is **600**.

wait-for-controller: Waits for the controller to deliver messages and triggers route advertisement.

prefix-list: Immediately sends routes that match the prefix list upon system restart.

prefix-list-name: Name of a prefix list. The name does not exceed 255 characters.

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

Users can adjust the BGP route advertisement upon system restart according to the hardware conditions, neighbor number, route number, and deployment requirements of devices.

Generally, after a connection is established between the local device and its neighbor, a first route is advertised immediately, and later routes are advertised at the default interval (for details, see the **neighbor advertisement-interval** command). This command can modify BGP peers to advertise routes to neighbors upon system restart. After this command is configured, BGP advertises routes to neighbors at an interval *delay-time* within the *startup-time* of the device after system restart.

If the **wait-for-controller** keyword is configured, the device waits for the controller to deliver route advertisement messages and trigger route advertisement upon receiving EOR messages from neighbors. In the *startup-time*, if no message is received, routes are sent forcibly.

After this command is configured, routes that are advertised at a normal interval are affected. You can specify the **prefix-list** parameter to prevent routes that match the prefix list from being affected by the delayed advertisement mechanism and send the routes at the default interval. For the range of address families applicable to the prefix list, see the **neighbor pic-disable** command.

Examples

The following example configures BGP to send routes at an interval of 60 seconds within 500 seconds upon system restart, and to send routes that match the prefix list aa at a normal interval.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 500
Hostanme(config-router)# bgp initial-advertise-delay 60 500
Hostanme(config-router)# bgp initial-advertise-delay prefix-list aa
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **neighbor advertisement-interval**
- **neighbor prefix-list**

1.45 bgp install standby-path

Function

Run the **bgp install standby-path** command to enable the function of standby path installation of BGP.

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

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

The function of standby path installation is disabled by default.

Syntax

bgp install standby-path

no bgp install standby-path

default bgp install standby-path

Parameter Description

N/A

Command Modes

BGP configuration mode

IPv4 unicast address family mode of BGP

IPv6 unicast address family mode of BGP

IPv4 VRF address family of BGP

IPv6 VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This function and the FRR function of BGP cannot be enabled concurrently.

Examples

The following example enables the function of standby path installation of BGP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 500
Hostanme(config-router)# bgp install standby-path
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.46 bgp link-state-group up-delay

Function

Run the **bgp link-state-group up-delay** command to configure the delay time to unbind the downlink port in the link state tracking group associated with the BGP neighbors.

Run the **no** form of this command to remove this configuration.

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

The default delay time to unbind the downlink port in the link state tracking group associated with the BGP neighbors is **5** seconds.

Syntax

bgp link-state-group up-delay *delay-time*

no bgp link-state-group up-delay

default bgp link-state-group up-delay

Parameter Description

delay-time: Delay time in seconds to unbind the downlink port in the link state tracking group associated with the BGP neighbors. The value range is from 1 to 30.

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

N/A

Examples

The following example sets the default delay time to unbind the downlink port in the link state tracking group associated with the BGP neighbors to **10** seconds.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 500
Hostname(config-router)# bgp link-state-group up-delay 10
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.47 bgp log-neighbor-changes

Function

Run the **bgp log-neighbor-changes** command to configure a device to record BGP state changes without enabling the debugging function.

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

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

A device records the BGP state changes without enabling the debugging function by default.

Syntax

bgp log-neighbor-changes

no bgp log-neighbor-changes

default bgp log-neighbor-changes

Parameter Description

N/A

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

You can run the **debug bgp** command to record BGP state changes but consumes many device resources. You are advised to configure this command to record BGP state changes.

Examples

The following example records BGP state changes without enabling the debugging function.

```
Hostname> enable
Hostname# configure terminal
```

```
Hostname(config)# router bgp 500
Hostname(config-router)# bgp log-neighbor-changes
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.48 bgp maxas-limit

Function

Run the **bgp maxas-limit** command to limit the quantity of AS numbers in the AS_PATH attribute for BGP routes.

Run the **no** form of this command to remove this configuration.

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

The quantity of AS numbers in the AS_PATH attribute for routes is not limited by default.

Syntax

bgp maxas-limit *maxas-limit-number*

no bgp maxas-limit

default bgp maxas-limit

Parameter Description

maxas-limit-number: Maximum quantity of AS numbers carried in the AS_PATH attribute. The value range is from 1 to 512.

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

After this command is configured, this routing information is discarded if the quantity of AS numbers in the AS_PATH attribute in the routing information received from a peer exceeds the specified upper threshold.

After you change the configuration, you must manually run the **clear ip bgp** command to reset neighbors so as to validate the command.

Examples

The following example sets the maximum allowable quantity of AS numbers in the AS_PATH attribute for a BGP route to **100**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp maxas-limit 100
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.49 bgp maximum-neighbor

Function

Run the **bgp maximum-neighbor** command to configure the maximum number of BGP neighbors.

Run the **no** form of this command to remove this configuration.

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

The maximum number of neighbors is not configured by default.

Syntax

bgp maximum-neighbor *maximum-neighbor-numbers* **warning-only**

no bgp maximum-neighbor

default bgp maximum-neighbor

Parameter Description

maximum-neighbor-numbers: Maximum number of neighbors. The value range is from 1 to 15000.

warning-only: Gives an alarm only.

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Usage Guidelines

When the number of BGP neighbors exceeds the specified maximum value, the device gives an alarm.

Examples

The following example sets the maximum number of BGP neighbors to **1000** in global configuration mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 100
Hostname(config-router)# bgp maximum-neighbor 1000 warning-only
```

Related Commands

N/A

Notifications

N/A

Usage Guidelines

N/A

Platform Description

N/A

1.50 bgp maximum-prefix

Function

Run the **bgp maximum-prefix** command to configure the maximum number of route entries in global configuration mode or for specified VRF instances.

Run the **no** form of this command to remove this configuration.

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

The function of route entry limit is disabled in global configuration mode or for specified VRF instances by default.

Syntax

bgp maximum-prefix *maximum-prefix-numbers* [**vrf** *vrf-name*]

no bgp maximum-prefix [**vrf** *vrf-name*]

default bgp maximum-prefix [**vrf** *vrf-name*]

Parameter Description

maximum-neighbor-numbers: Maximum number of route entries. The value range is from 1 to 4294967295.

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, the route entry limit function is enabled in global configuration mode.

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Usage Guidelines

The prefix information of BGP routes may be imported by configuring the **redistribute** command, learned from neighbors, or imported from other VRF instances. In any scenario, if the imported prefix information of BGP routes in an address family enables the routes in global configuration mode or for specified VRF instances to reach the upper limit, the route prefix information of this address family is not added. In this case, the table of this address family and all neighbors in this address family enters the overflow state. In this case, the device prompts that BGP enters the overflow state in global configuration mode or for specified VRF instances.

You can run the **show bgp** { *address-family* | **all** } **summary** command to display the state of the routing information base.

To clear this state, you need to reconfigure BGP or run the **clear bgp** *address-family* ***** command to reset the address family. If the address family enters the overflow state because the prefix information of BGP routes reaches the maximum number of entries, you can configure the *maximum-prefix-numbers* parameter to change the setting.

For IPv4 unicast routes, even if the address family reaches the overflow state, route prefixes may be received in the following scenarios:

- The routing information with same prefixes is configured in the routing information base.
- A route overwriting the prefix (except for the default route) is configured in the routing information base and the next hop of this route is different from that of the newly received route.

Examples

The following example sets the maximum number of prefixes of BGP routes to **100** in global configuration mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 100
Hostname(config-router)# bgp maximum-prefix 100
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.51 bgp mp-error-handle session-retain

Function

Run the **bgp mp-error-handle session-retain** command to configure BGP to retain BGP sessions when it detects a multiprotocol route error.

Run the **no** form of this command to configure BGP to terminate BGP sessions when it detects a multiprotocol route error.

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

BGP terminates BGP sessions by default when it detects a multiprotocol route error.

Syntax

bgp mp-error-handle session-retain [**refresh-timer** *refresh-timer*]

no bgp mp-error-handle session-retain

default bgp mp-error-handle session-retain

Parameter Description

refresh-timer *refresh-timer*: Configures the wait time in seconds for automatic route recovery. The value range is from 10 to 65535, and the default value is **120**.

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

Upon receiving Update packets from a neighbor, the device terminates the BGP session if it detects a multiprotocol route error. This will cause flapping of the routes in all address families of this neighbor. That is, the routing error in an address family affects the route stability in other address families. After this command is configured, only the routing information related to this address family is deleted, and BGP sessions and other address families are not affected if an error occurs in the routing attribute of an address family. This enhances the stability of BGP.

You can specify the **refresh-timer** keyword to configure the wait time for automatic route recovery. But a neighbor must support the route-refresh capability. After the *refresh-timer* times out, BGP sends the route update messages of the address family to the neighbor and re-advertises all routing information of the address family to this neighbor. If the **refresh-timer** keyword is not specified during the command configuration, the default value is **120** seconds.

Examples

The following example configures BGP to retain BGP sessions when it detects a multiprotocol route error.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 100
Hostname(config-router)# bgp mp-error-handle session-retain
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.52 bgp nexthop trigger delay

Function

Run the **bgp nexthop trigger delay** command to configure a delay of updating the routing table after the next hop of a BGP route changes.

Run the **no** form of this command to restore the default configuration.

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

The default delay of updating the routing table is **5** seconds after the next hop of a BGP route changes.

Syntax

bgp nexthop trigger delay *delay-time*

no bgp nexthop trigger delay

default bgp nexthop trigger delay

Parameter Description

delay-time: Delay in seconds of updating the routing table after the next hop of a BGP route changes. The value range is from 0 to 100.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command can take effect only when the **bgp nexthop trigger enable** command is configured.

Examples

The following example sets the delay of updating the routing table to **30** seconds after the next hop of a BGP route changes.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 100
Hostname(config-router)# bgp nexthop trigger delay 30
```

Notifications

If configuration is completed in the scope VRF mode and the IPv4 address family is not activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name inactive.
```

If configuration is completed in the scope VRF mode and the IPv4 VRF mode is first activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name enabled.
```

If the function of next hop trigger update is disabled, the following notification will be displayed:

```
% Can't disable scan-rib, please enable nexthop trigger first
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- bgp nexthop trigger enable

1.53 bgp nexthop trigger enable

Function

Run the **bgp nexthop trigger enable** command to enable the function of next hop trigger update.

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

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

The function of next hop trigger update is enabled by default.

Syntax

bgp nexthop trigger enable

no bgp nexthop trigger enable

default bgp nexthop trigger enable

Parameter Description

N/A

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

Next hop update of BGP is triggered by events. After this function is enabled, the device notifies BGP of this change when a device updates the next hop in the routing information base (RIB). This shortens the response time of BGP to the next hop change in the RIB routes and improves the overall convergence performance of BGP.

Examples

The following example enables the function of next hop trigger update.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 100
Hostname(config-router)# bgp nexthop trigger enable
```

Notifications

If this function is disabled in the scope VRF mode and the IPv4 address family is not activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name inactive.
```

If this function is disabled in the scope VRF mode and the IPv4 VRF mode is first activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name enabled.
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.54 bgp notify unsupport-capability

Function

Run the **bgp notify unsupport-capability** command to enable the detection function of neighbor address family capability.

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

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

The detection function of neighbor address family capability is disabled by default.

Syntax

bgp notify unsupport-capability

no bgp notify unsupport-capability

default bgp notify unsupport-capability

Parameter Description

N/A

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

If the neighbor address family capability of BGP on the local device is not consistent with that on the neighbor, neighbor connections can still be established by default. After this command is configured, a notification packet carrying the unsupported address family is sent to the neighbor if the address family capability is supported only on the local device.

Examples

The following example enables the detection function of neighbor address family capability of BGP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp notify unsupport-capability
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.55 bgp nsr

Function

Run the **bgp nsr** command to enable the global non-stop routing (NSR) function of BGP.

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

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

The global NSR function of BGP is disabled by default.

Syntax

bgp nsr

no bgp nsr

default bgp nsr

Parameter Description

N/A

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

After this command is configured, the NSR function for all neighbors is enabled.

Examples

The following example enables the global NSR function of BGP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp nsr
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.56 bgp recursion host

Function

Run the **bgp recursion host** command to enable BGP routes to recurse to only host routes.

Run the **no** form of this command to remove this configuration.

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

BGP routes use the optimal matching mode for route recursion by default.

Syntax

bgp recursion host

no bgp recursion host

default bgp recursion host

Parameter Description

N/A

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command is effective to only non-directly-connected BGP routes.

Examples

The following example enables BGP routes to recurse to only host routes.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp recursion host
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.57 bgp redistribute-internal

Function

Run the **bgp redistribute-internal** command to configure BGP to allow the routes received from IBGP neighbors to be redistributed to Interior Gateway Protocol (IGP).

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

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

BGP allows the routes received from IBGP neighbors to be redistributed to IGP.

Syntax

bgp redistribute-internal

no bgp redistribute-internal

default bgp redistribute-internal

Parameter Description

N/A

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command is used to determine whether to allow IBGP routes to be redistributed to IGP, including Routing Information Protocol (RIP), Open Shortest Path First (OSPF), and Intermediate System-to-Intermediate System (IS-IS).

Examples

The following example allows routes received from IBGP neighbors to be redistributed to IGP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp redistribute-internal
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.58 bgp route-reflector attribute-change

Function

Run the **bgp route-reflector attribute-change** command to allow the route reflector to modify route attributes.

Run the **no** form of this command to disable this feature.

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

No route reflector is allowed to modify route attributes by default.

Syntax

bgp route-reflector attribute-change

no bgp route-reflector attribute-change

default bgp route-reflector attribute-change

Parameter Description

N/A

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

Generally, the route reflector cannot modify route attributes through routing policies, because this may cause a routing loop. After this command is configured, the route reflector can forcibly modify route attributes through routing policies. This command is used to replan network traffic.

Examples

The following example allows the route reflector to modify route attributes.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp route-reflector attribute-change
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.59 bgp router-id

Function

Run the **bgp router-id** command to configure a router ID when the BGP is running.

Run the **no** form of this command to restore the default configuration.

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

The loopback interface of a device is preferred as the router ID by default. If no loopback interface is available, the router ID of the local device is used.

Syntax

bgp router-id *ipv4-address*

no bgp router-id

default bgp router-id

Parameter Description

ipv4-address: Specified router ID in the format of an IPv4 address.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 VRF address family of BGP

Configuration mode of the IPv6 VRF address family of BGP

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

The ID of each device in an AS must be unique.

Examples

The following example sets the router ID to 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp router-id 10.0.0.1
```

Notifications

If the entered router ID is invalid, the following notification will be displayed:

```
% Invalid router-id
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.60 bgp scan-rib disable

Function

Run the **bgp scan-rib disable** command to update the routing table in event triggering mode.

Run the **no** form of this command to update the routing table in regular scanning mode.

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

BGP updates the routing table in regular scanning mode by default.

Syntax

bgp scan-rib disable

no bgp scan-rib disable

default bgp scan-rib disable

Parameter Description

N/A

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

BGP provides two route update mechanisms: regular-scanning update and event-triggering update.

- Regular-scanning update specifies that BGP updates the routing table based on an internal timer.
- Event-triggering update specifies that BGP updates the routing table when the BGP configuration commands are changed due to user configuration or when the next hop of a BGP route changes.

Examples

The following example configures the routing table update mode as event triggering.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp scan-rib disable
```

Notifications

If configuration is completed in the scope VRF mode and the IPv4 address family is not activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name inactive.
```

If configuration is completed in the scope VRF mode and the IPv4 VRF mode is first activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name enabled.
```

If regular scanning is disabled while BGP route synchronization is enabled, the following notification will be displayed:

```
% Can't disable scan-rib, please disable synchronization first
```

If regular scanning is disabled while next hop trigger update is disabled, the following notification will be displayed information:

```
% Can't disable scan-rib, please enable nexthop trigger first
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.61 bgp scan-time

Function

Run the **bgp scan-time** command to configure the interval of regular scanning of BGP.

Run the **no** form of this command to configure the interval of regular scanning of BGP to a default value.

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

The default interval of regular scanning is **60** seconds.

Syntax

bgp scan-time *scan-time*

no bgp scan-time

default bgp scan-time

Parameter Description

scan-time: Interval in seconds of regular scanning. The value range is from 5 to 60.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command is used to configure the interval of regular scanning. The configuration takes effect when the route update mechanism of BGP is configured as regular scanning.

Examples

The following example sets the interval of regular scanning to **30** seconds.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp scan-time 30
```

Notifications

If configuration is completed in the scope VRF mode and the IPv4 address family is not activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name inactive.
```

If configuration is completed in the scope VRF mode and the IPv4 VRF mode is first activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name enabled.
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.62 bgp shutdown

Function

Run the **bgp shutdown** command to actively shut down all connections.

Run the **no** form of this command to remove this configuration.

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

All connections of BGP are not shut down actively by default.

Syntax

bgp shutdown [**graceful** [**community** *community-value*] [**delay** *delay-time*]]

no bgp shutdown

default bgp shutdown

Parameter Description

graceful: Shuts down BGP connections in smooth manner.

community *community-value*: Specifies the community attribute value in a route sent to neighbors, in the format of AA:NN (AS number: 2-byte number) or a numeric. The value range is from 0 to 4294967295. If this parameter is not specified, the community attribute value is not carried.

delay *delay-time*: Specifies the delay time in seconds for shutting down BGP connections. The value range is from 1 to 65535. If this parameter is not specified, BGP connections are shut down on time.

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

This command is used to shut down valid BGP connections and delete all related routing information. If this command is configured in BGP configuration mode or scope configuration mode of BGP, all BGP connections are disabled in global configuration mode. If this command is configured in the configuration mode of the IPv4 VRF address family or the IPv6 VRF address family of BGP, all BGP connections in the corresponding VRF instances are shut down.

If BGP connections are shut down in smooth manner, the device sends a route carrying the LOCAL_PREF or MED attribute to its neighbors. Upon receiving the route update information, the neighbors adjust the service traffic route to bypass this device. After a period (this period is automatically calculated based on the number of advertised routes or it is specified), the device actively shuts down BGP connections with neighbors.

Examples

The following example shuts down all the BGP connections in global configuration mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp shutdown
```

The following example shuts down all the BGP connections in global configuration mode in smooth manner.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp shutdown graceful
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.63 bgp sourced-paths

Function

Run the **bgp sourced-paths** command to import routes with multiple paths or multiple next hops from other protocol modules.

Run the **no** form of this command to import routes with single path or single next hop from other protocol modules.

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

BGP imports routes with single path or single next hop by default from other protocol modules.

Syntax

bgp sourced-paths *protocol-type* **all**

no bgp sourced-paths *protocol-type* **all**

default bgp sourced-paths *protocol-type* **all**

Parameter Description

protocol-type: Source protocol type of a redistributed route.

- **arp-host**: Specifies a host route converted from ARP.
- **isis**: Specifies an IS-IS route.
- **ospf**: Specifies an OSPF route.
- **rip**: Specifies an RIP route.
- **static**: Specifies a static route.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command needs to be used with the **redistribute** command to import routes with multiple next hops from other protocols to BGP.

Examples

The following example imports static routes with multiple paths or multiple next hops.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp sourced-paths static all
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **redistribute**

1.64 bgp tcp-source-check disable

Function

Run the **bgp tcp-source-check disable** command to disable the function of TCP source address checking of BGP.

Run the **no** form of this command to enable this function.

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

The function of TCP source address checking is enabled by default.

Syntax

bgp tcp-source-check disable

no bgp tcp-source-check disable

default bgp tcp-source-check disable

Parameter Description

N/A

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

After the function of TCP source address checking is disabled, BGP receives all TCP connection requests. After a TCP connection is established, a notification packet is sent to reject this connection if the local device is not configured with peers.

Examples

The following example disables the function of TCP source address checking of BGP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp tcp-source-check disable
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.65 bgp timer accuracy-control

Function

Run the **bgp timer accuracy-control** command to enable the strict execution function of internal timers of BGP.

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

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

The strict execution function of internal timers of BGP is disabled by default.

Syntax

bgp timer accuracy-control

no bgp timer accuracy-control

default bgp timer accuracy-control

Parameter Description

N/A

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

Internal timers of BGP can generate a random offset at a specified time by default. Therefore, you try not to allow excessive timers to time out concurrently. You can configure this command to allow BGP timers to strictly execute their functions according to the specified time. Unless in a special requirement, you are advised not to enable this function.

Examples

The following example enables the strict execution function of internal timers of BGP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# bgp timer accuracy-control
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.66 bgp upgrade-cli

Function

Run the **bgp upgrade-cli** command to configure the CLI display mode of BGP as address family configuration mode or scope configuration mode.

Run the **no** form of this command to configure the CLI display mode of BGP as automatic identification based on user configuration.

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

The CLI display mode of BGP is configured as address family configuration mode by default.

Syntax

bgp upgrade-cli vrf { **af-mode** | **scope-mode** }

no bgp upgrade-cli vrf { **af-mode** | **scope-mode** }

default bgp upgrade-cli vrf { **af-mode** | **scope-mode** }

Parameter Description

af-mode: Configures the CLI display mode of BGP as address family configuration mode.

scope-mode: Configures the CLI display mode of BGP as scope configuration mode.

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

You can run this command to switch the CLI display mode of BGP. The CLI display modes of BGP include address family configuration mode and scope configuration mode.

- If the CLI display mode is configured as address family configuration mode, all CLI commands are displayed in address family configuration mode.
- If the CLI display mode is configured as scope configuration mode, all CLI commands are displayed in scope configuration mode or address family configuration mode of the scope.

Examples

The following example configures the CLI display mode of BGP as scope configuration mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 500
Hostname(config-router)# bgp upgrade-cli scope-mode
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.67 bmp server

Function

Run the **bmp server** command to configure a BMP server instance and enter the BMP configuration mode.

Run the **no** form of this command to remove this configuration.

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

No BMP server instance is configured by default.

Syntax

bmp server *bmp-server-number*

no bmp server *bmp-server-number*

default bmp server *bmp-server-number*

Parameter Description

bmp-server-number: Number of a configured BMP server instance. The value range is from 1 to 8.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example configures BMP server instance 1 and enters the BMP configuration mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# bmp server 1
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.68 buffer-size

Function

Run the **buffer-size** command to configure the maximum number of packets or bytes in the buffer of a BMP instance.

Run the **no** form of this command to remove this configuration.

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

The number of packets or bytes in the buffer of a BMP instance is not limited by default.

Syntax

buffer-size *buffer-size-maximum*

no buffer-size

default buffer-size

Parameter Description

buffer-size-maximum: Maximum number of packets or bytes in the buffer of a BMP instance, in bytes. The value range is from 40960 to 4294967295.

Command Modes

BMP configuration mode

Default Level

14

Usage Guidelines

When a server cannot receive BMP packets due to insufficient memory or other reasons, the monitor packets on the server cannot be sent out and occupy the memory space. Therefore, you must limit the maximum number of packets or bytes in the buffer. When the number of packets or bytes in the buffer reaches the limit, the session with the BMP server is reset to release the cached packets.

Examples

The following example sets the maximum number of packets or bytes in the buffer of BMP instance 1 to **409600000**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# bmp server 1
Hostname(config-bmpsrvr)# buffer-size 409600000
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.69 clear bgp advertise lowest-priority on-startup

Function

Run the **clear bgp advertise lowest-priority on-startup** command to restore the priority of advertised routes to BGP neighbors to the level before the configuration of the **bgp advertise lowest-priority on-startup** command**.**

Syntax

clear bgp advertise lowest-priority on-startup

Parameter Description

N/A

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

If the **bgp advertise lowest-priority on-startup** command is configured for a device, the device adjusts the priority of advertised routes to the lowest level after restart. You can run the **clear bgp advertise lowest-priority on-startup** command to restore the priority of advertised routes to the level before such adjustment.

Examples

The following example restores the route priority to the level before adjustment.

```
Hostname> enable
Hostname# clear bgp advertise lowest-priority on-startup
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.70 clear bgp all

Function

Run the **clear bgp all** command to clear all the address families of BGP.

Syntax

clear bgp all [*as-number*] [**soft**] [**in** | **out**]

Parameter Description

as-number: Specified AS in which the sessions of all peers are reset. A 4-byte AS number can be configured. That is, the new AS number range is from 1 to 4294967295, or from 1 to 65535.65535 in dot mode.

soft: Performs a soft reset on routing information.

in: Resets received routing information.

out: Resets distributed routing information.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

This command is used to reset the sessions of all supported address families, including sessions in the VRF instances of each address family. If the **soft** and **in** or **out** keywords are not specified, this command directly resets BGP sessions.

Examples

The following example clears all the address families of BGP.

```
Hostname> enable
Hostname# clear bgp all
```

Notifications

N/A

Platform Description

N/A

1.71 clear bgp all peer-group

Function

Run the **clear bgp all peer-group** command to clear a specified peer group of BGP.

Syntax

clear bgp all peer-group *peer-group-name* [**soft**] [**in** | **out**]

Parameter Description

peer-group-name: Specified peer group to be reset.

soft: Performs a soft reset on routing information.

in: Resets received routing information.

out: Resets distributed routing information.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

This command is used to reset the sessions of all supported address families, including session connections in the VRF instances of each address family. If no optional parameter is specified, this command directly resets BGP sessions.

Examples

The following example clears all the connections of all BGP peers in the peer group **test**.

```
Hostname> enable
Hostname# clear bgp all peer-group test
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.72 clear bgp all update-group

Function

Run the **clear bgp all update-group** command to clear the sessions of all members in an update group.

Syntax

clear bgp all update-group [*neighbor-ipv4-address* | *neighbor-ipv6-address* | *update-group-index*] [**soft**] [**in** | **out**]

Parameter Description

neighbor-ipv4-address: IPv4 address of the specified neighbor to be reset.

neighbor-ipv6-address: IPv6 address of the specified neighbor to be reset.

update-group-index: Index of a specified update group to be reset.

soft: Performs a soft reset on routing information.

in: Resets received routing information.

out: Resets distributed routing information.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

This command is used to reset the BGP sessions of all members in the update group. If the **soft** and **in** or **out** keywords are not specified, this command directly resets BGP sessions.

Examples

The following example clears the routing information received by all peers of all update groups that the neighbor 1.1.1.1 belongs to.

```
Hostname> enable
Hostname# clear bgp all update-group 1.1.1.1 in
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.73 clear bgp ipv4 unicast

Function

Run the **clear bgp ipv4 unicast** command to clear the specified sessions of an IPv4 unicast address family.

Syntax

clear bgp ipv4 unicast [**vrf** vrf-name] { ***** | *as-number* | *neighbor-ipv4-address* | *neighbor-ipv6-address* } [**soft**] [**in** | **out**]

Parameter Description

vrf-name: Specified VRF name. If this parameter is not specified, global VRF instances are specified.

*****: Resets all the peer sessions in the address family.

as-number: Specified AS in which all member sessions are reset. A 4-byte AS number can be configured. That is, the new AS number range is from 1 to 4294967295, or from 1 to 65535.65535 in dot mode.

neighbor-ipv4-address: IPv4 address of the specified peer whose BGP sessions are reset.

neighbor-ipv6-address: IPv6 address of the specified peer whose BGP sessions are reset.

soft: Performs a soft reset on routing information.

in: Resets received routing information.

out: Resets distributed routing information.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

If the **soft** and **in** or **out** keywords are not specified, this command directly resets BGP sessions.

Examples

The following example clears all sessions of an IPv4 unicast address family of BGP.

```
Hostname> enable
Hostname# clear bgp ipv4 unicast *
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.74 clear bgp ipv4 unicast dampening

Function

Run the **clear bgp ipv4 unicast dampening** command to clear the route flapping information of an IPv4 unicast address family and remove route dampening.

Syntax

clear bgp ipv4 unicast [**vrf** *vrf-name*] **dampening** [*ipv4-address* [*mask*]]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all route flapping information is cleared.

ipv4-address: IPv4 route address. If this parameter is not specified, the route flapping information and route dampening of all IPv4 addresses is cleared.

mask: Mask. If this parameter is not specified, the route flapping information and route dampening of a specified IPv4 address is cleared.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

This command is used to clear the route flapping information of BGP to remove route dampening.

Examples

The following example clears the route flapping of the IPv4 unicast address family 192.168.0.0/16 and removes route dampening.

```
Hostname> enable
Hostname# clear bgp ipv4 unicast dampening 192.168.0.0 255.255.0.0
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.75 clear bgp ipv4 unicast external

Function

Run the **clear bgp ipv4 unicast external** command to clear the EBGP connections of all IPv4 unicast address families.

Syntax

clear bgp ipv4 unicast [**vrf** *vrf-name*] **external** [**soft**] [**in** | **out**]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, global VRF instances are specified.

soft: Performs a soft reset on routing information.

in: Resets received routing information.

out: Resets distributed routing information.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

If the **soft** and **in** or **out** keywords are not specified, BGP sessions are directly reset.

Examples

The following example resets routes received by all EBGP neighbors of an IPv4 unicast address family.

```
Hostname> enable
Hostname# clear bgp ipv4 unicast external in
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.76 clear bgp ipv4 unicast flap-statistics

Function

Run the **clear bgp ipv4 unicast flap-statistics** command to clear the statistics about route flapping of an IPv4 unicast address family.

Syntax

clear bgp ipv4 unicast [**vrf** *vrf-name*] **flap-statistics** [ipv4-*address* [*mask*]]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, global VRF instances are specified.

ipv4-address: IPv4 route address. If this parameter is not specified, the statistics about route flapping of all IPv4 addresses is cleared.

mask: Mask. If this parameter is not specified, the statistics about route flapping of a specified IPv4 address is cleared.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

This command is used to only clear the statistics about routes that are not dampened, but is not used to release dampened routes. To clear the statistics about all routes and release dampened routes, you can run the **clear ip bgp dampening** command.

Examples

The following example clears the statistics about route flapping of all IPv4 unicast address families.

```
Hostname> enable
Hostname# clear bgp ipv4 unicast flap-statistics
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.77 clear bgp ipv4 unicast peer-group

Function

Run the **clear bgp ipv4 unicast peer-group** command to clear the sessions of all members of a peer group in an IPv4 unicast address family.

Syntax

clear bgp ipv4 unicast [**vrf** *vrf-name*] **peer-group** *peer-group-name* [**soft**] [**in** | **out**]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, global VRF instances are specified.

peer-group-name: Name of a peer group.

soft: Performs a soft reset on routing information.

in: Resets received routing information.

out: Resets distributed routing information.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

If the **soft** and **in** or **out** keywords are not specified, BGP sessions are directly reset.

Examples

The following example resets routing information received by all peers of the peer group my-group in an IPv4 unicast address family.

```
Hostname> enable
Hostname# clear bgp ipv4 unicast peer-group my-group in
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.78 clear bgp ipv4 unicast table-map

Function

Run the **clear bgp ipv4 unicast table-map** command to clear and update the Table-map configuration of an IPv4 unicast address family of BGP.

Syntax

clear bgp ipv4 unicast [**vrf** *vrf-name*] **table-map**

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, global VRF instances are specified.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

The Table-map configuration is reapplied to update the delivered core routing table.

Examples

The following example clears and updates the Table-map configuration of an IPv4 unicast address family.

```
Hostname> enable
Hostname# clear bgp ipv4 unicast table-map
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.79 clear bgp ipv4 unicast update-group

Function

Run the **clear bgp ipv4 unicast update-group** command to clear the sessions of all members of an update group in an IPv4 unicast address family.

Syntax

clear bgp ipv4 unicast [**vrf** *vrf-name*] **update-group** [*neighbor-ipv4-address* | *neighbor-ipv6-address* | *update-group-index*] [**soft**] [**in** | **out**]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, global VRF instances are specified.

neighbor-ipv4-address: IPv4 address of a specified neighbor to be reset in the update group.

neighbor-ipv6-address: IPv6 address of a specified neighbor to be reset in the update group.

update-group-index: Index of a specified update group to be reset.

soft: Performs a soft reset on routing information.

in: Resets received routing information.

out: Resets distributed routing information.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

If the **soft** and **in** or **out** keywords are not specified, BGP sessions are directly reset.

Examples

The following example resets the routing information received by all peers in the update group that the local device configured in the IPv4 unicast address family 1.1.1.1 belongs to.

```
Hostname> enable
Hostname# clear bgp ipv4 unicast update-group 1.1.1.1 in
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.80 clear bgp ipv6 unicast

Function

Run the **clear bgp ipv6 unicast** command to clear the specified sessions of an IPv6 unicast address family of BGP.

Syntax

clear bgp ipv6 unicast [**vrf** *vrf-name*] { ***** | *as-number* | *neighbor-ipv4-address* | *neighbor-ipv6-address* } [**soft**] [**in** | **out**]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, global VRF instances are specified.

*****: Resets all the peer sessions in the address family.

as-number: Specified AS in which the sessions of all members are reset. A 4-byte AS number can be configured. That is, the new AS number range is from 1 to 4294967295, or from 1 to 65535.65535 in dot mode.

neighbor-ipv4-address: IPv4 address of the specified peer whose BGP sessions are reset.

neighbor-ipv6-address: IPv6 address of the specified peer whose BGP sessions are reset.

soft: Performs a soft reset on routing information.

in: Resets received routing information.

out: Resets distributed routing information.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

If the **soft** and **in** or **out** keywords are not specified, BGP sessions are directly reset.

Examples

The following example clears all the sessions of an IPv6 unicast address family of BGP.

```
Hostname> enable
Hostname# clear bgp ipv6 unicast *
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.81 clear bgp ipv6 unicast dampening

Function

Run the **clear bgp ipv6 unicast dampening** command to clear the route flapping information and route dampening of an IPv6 unicast address family.

Syntax

clear bgp ipv6 unicast [**vrf** *vrf-name*] **dampening** [*ipv6-address/prefix-length*]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all route flapping information is cleared.

ipv6-address/prefix-length: IPv6 route address and its prefix. If this parameter is not specified, the route flapping information and route dampening of all IPv6 addresses is cleared.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

This command is used to clear the route flapping information of BGP to remove route dampening.

Examples

The following example clears the route flapping and dampening state of the IPv6 unicast address family 1::1/96.

```
Hostname> enable
Hostname# clear bgp ipv6 unicast dampening 1::1/96
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.82 clear bgp ipv6 unicast external

Function

Run the **clear bgp ipv6 unicast external** command to clear all the EBGP connections of an IPv6 unicast address family.

Syntax

clear bgp ipv6 unicast [**vrf** *vrf-name*] **external** [**soft**] [**in** | **out**]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, global VRF instances are specified.

soft: Performs a soft reset on routing information.

in: Resets received routing information.

out: Resets distributed routing information.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

If the **soft** and **in** or **out** keywords are not specified, BGP sessions are directly reset.

Examples

The following example resets all the EBGP routes received by all EBGP neighbors of an IPv6 unicast address family.

```
Hostname> enable
Hostname# clear bgp ipv6 unicast external in
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.83 clear bgp ipv6 unicast flap-statistics

Function

Run the **clear bgp ipv6 unicast flap-statistics** command to clear the statistics about route flapping of an IPv6 unicast address family.

Syntax

clear bgp ipv6 unicast [**vrf** *vrf-name*] **flap-statistics** [*ipv6-address/prefix-length*]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, global VRF instances are specified.

ipv6-address/prefix-length: IPv6 route address and its prefix. If this parameter is not specified, the statistics about route flapping of all IPv6 addresses is cleared.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

This command is used to only clear the statistics about routes that are not dampened, but is not used to release dampened routes. To clear the statistics about all routes and release dampened routes, you can run the **clear bgp ipv4 unicast dampening** command.

Examples

The following example clears the statistics about route flapping of all IPv6 unicast address families.

```
Hostname> enable
Hostname# clear bgp ipv6 unicast flap-statistics
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.84 clear bgp ipv6 unicast peer-group

Function

Run the **clear bgp ipv6 unicast peer-group** command to clear the sessions of all members of a peer group in an IPv6 unicast address family.

Syntax

clear bgp ipv6 unicast [**vrf** *vrf-name*] **peer-group** *peer-group-name* [**soft**] [**in** | **out**]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, global VRF instances are specified.

peer-group-name: Name of a peer group.

soft: Performs a soft reset on routing information.

in: Resets received routing information.

out: Resets distributed routing information.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

If the **soft** and **in** or **out** keywords are not specified, BGP sessions are directly reset.

Examples

The following example resets the routing information received by all peers of the peer group my-group in an IPv6 unicast address family.

```
Hostname> enable
Hostname# clear bgp ipv6 unicast peer-group my-group in
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.85 clear bgp ipv6 unicast table-map

Function

Run the **clear bgp ipv6 unicast table-map** command to clear and update the Table-map configuration of an IPv6 unicast address family.

Syntax

clear bgp ipv6 unicast [**vrf** *vrf-name*] **table-map**

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, global VRF instances are specified.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example clears and updates the Table-map configuration of an IPv6 unicast address family.

```
Hostname> enable
Hostname# clear bgp ipv6 unicast table-map
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.86 clear bgp ipv6 unicast update-group

Function

Run the **clear bgp ipv6 unicast update-group** command to clear all the member sessions of an update group in an IPv6 unicast address family.

Syntax

clear bgp ipv6 unicast [**vrf** *vrf-name*] **update-group** [*neighbor-ipv4-address* | *neighbor-ipv6-addres* | *update-group-index*] [**soft**] [**in** | **out**]

Parameter Description

vrf *vrf-name*: Specifies a Virtual Routing Forwarding (VRF) name. If this parameter is not specified, global VRF instances are specified.

neighbor-ipv4-address: IPv4 address of the specified neighbor to be reset in the update group.

neighbor-ipv6-address: IPv6 address of the specified neighbor to be reset in the update group.

update-group-index: Index of the specified update group to be reset.

soft: Performs a soft reset on routing information.

in: Resets received routing information.

out: Resets distributed routing information.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

If the **soft** and **in** or **out** keywords are not specified, BGP sessions are directly reset.

Examples

The following example resets the routing information received by all peers of the update group that the IPv6 unicast address family neighbor 1.1.1.1 belongs to.

```
Hostname> enable
Hostname# clear bgp ipv6 unicast update-group 1.1.1.1 in
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.87 clear bmp

Function

Run the **clear bmp** command to reset BMP.

Syntax

clear bmp { **all** | **server** *server-number* }

Parameter Description

all: Resets all BMP servers.

server *server-number*: Resets the BMP server of a specified instance number. The value range is from 1 to 8.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

This command is used to terminate and reconnect sessions with a BMP server.

Examples

The following example resets BMP.

```
Hostname> enable
Hostname# clear bmp all
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.88 clear ip bgp

Function

Run the **clear ip bgp** command to clear the specified sessions of an IPv4 unicast address family of BGP.

Syntax

clear ip bgp [**vrf** *vrf-name*] { ***** | *as-number* | *neighbor-ipv4-address* | *neighbor-ipv6-address* } [**soft**] [**in** | **out**]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

*****: Resets all peer sessions in the address family.

as-number: Specified AS in which the BGP sessions of all members are reset. A 4-byte AS number can be configured. That is, the new AS number range is from 1 to 4294967295, or from 1 to 65535.65535 in dot mode.

neighbor-ipv4-address: IPv4 address of a specified peer whose BGP sessions are reset.

neighbor-ipv6-address: IPv6 address of a specified peer whose BGP sessions are reset.

soft: Performs a soft reset on routing information.

in: Reset received routing information.

out: Resets distributed routing information.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

If the **soft**, **in** or **out** parameter is not specified, BGP sessions are directly reset.

When a routing policy or BGP configuration changes, you can terminate and reestablish a BGP connection to execute the new routing policy or configuration. By configuring soft reset of BGP, you can execute a new routing policy without terminating a BGP session connection.

This command requires all connected BGP neighbors to support the routing update function. You can run the **show ip bgp neighbors** command to determine whether BGP peers support this function. If the BGP peers do not support this function, you can run the **neighbor soft-reconfiguration inbound** command to save original routing information for each specified BGP peer on the local BGP speaker. Saving routing information consumes device resources.

Examples

The following example resets sessions of all peers in an IPv4 unicast address family of BGP.

```
Hostname> enable
Hostname# clear ip bgp *
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.89 clear ip bgp dampening

Function

Run the **clear ip bgp dampening** command to clear the route flapping information and route dampening of an IPv4 unicast address family.

Syntax

clear ip bgp [**vrf** *vrf-name*] **dampening** [*ipv4-address* [*mask*]]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all route flapping information is cleared.

If the optional parameter is not carried, all route flapping information is cleared.

ipv4-address: IPv4 address. If this parameter is not specified, the route flapping information and route dampening of all IPv4 addresses is cleared.

mask: Mask. If this parameter is not specified, the route flapping information and route dampening of a specified IPv4 address is cleared.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

This command is used to clear the route flapping information of BGP to remove route dampening.

Examples

The following example clears the flapping and dampening state of routes of the IPv4 unicast address family 192.168.0.0/16.

```
Hostname> enable
Hostname# clear ip bgp dampening 192.168.0.0 255.255.0.0
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.90 clear ip bgp external

Function

Run the **clear ip bgp external** command to clear EBGP connections of all IPv4 unicast address families.

Syntax

clear ip bgp [**vrf** *vrf-name*] **external** [**soft**] [**in** | **out**]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

soft: Performs a soft reset on routing information.

in: Reset received routing information.

out: Resets distributed routing information.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

If the **soft**, **in** or **out** parameter is not specified, BGP sessions are directly reset.

Examples

The following example resets routes received by all EBGP neighbors of an IPv4 unicast address family.

```
Hostname> enable
Hostname# clear ip bgp external in
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.91 clear ip bgp flap-statistics

Function

Run the **clear ip bgp flap-statistics** command to clear statistics about route flapping of an IPv4 unicast address family.

Syntax

clear ip bgp [**vrf** *vrf-name*] **flap-statistics** [*ipv4-address* [*mask*]]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

address: IPv4 address. If this parameter is not specified, the statistics about route flapping of all IPv4 addresses is cleared.

mask: Mask. If this parameter is not specified, the statistics about route flapping of a specified IPv4 address is cleared.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

This command is used to only clear statistics about routes that are not dampened but is not used to release dampened routes. To clear statistics about all routes and release dampened routes, you can run the **clear ip bgp dampening** command.

Examples

The following example clears statistics about route flapping of all IPv4 unicast address families.

```
Hostname> enable
Hostname# clear ip bgp flap-statistics
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.92 clear ip bgp peer-group

Function

Run the **clear ip bgp peer-group** command to clear sessions of all members in a peer group in an IPv4 unicast address family.

Syntax

clear ip bgp [**vrf** *vrf-name*] **peer-group** *peer-group-name* [**soft**] [**in** | **out**]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

peer-group-name: Name of a peer group.

soft: Performs a soft reset on routing information.

in: Reset received routing information.

out: Resets distributed routing information.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

If the **soft**, **in** or **out** parameter is not specified, BGP sessions are directly reset.

Examples

The following example resets routing information received by all peers of the peer group my-group in an IPv4 unicast address family.

```
Hostname> enable
Hostname# clear ip bgp peer-group my-group in
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.93 clear ip bgp table-map

Function

Run the **clear ip bgp table-map** command to clear old information and update the Table-map's routing information in an IPv4 unicast address family.

Syntax

clear ip bgp [**vrf** *vrf-name*] **table-map**

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example updates the Table-map's routing information in an IPv4 unicast address family.

```
Hostname> enable
Hostname# clear ip bgp table-map
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.94 clear ip bgp update-group

Function

Run the **clear ip bgp update-group** command to clear sessions of all members in a peer group in an IPv4 unicast address family.

Syntax

clear ip bgp [**vrf** *vrf-name*] **update-group** [*neighbor-ipv4-address* | *neighbor-ipv6-address* | *update-group-index*] [**soft**]] [**in** | **out**]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

neighbor-ipv4-address: IPv4 address of a specified neighbor to be reset in the update group.

neighbor-ipv6-address: IPv6 address of a specified neighbor to be reset in the update group.

update-group-index: Index of a specified update group to be reset.

soft: Performs a soft reset on routing information.

in: Reset received routing information.

out: Resets distributed routing information.

Command Modes

Privileged EXEC mode

Default Level

14

Usage Guidelines

If the **soft**, **in** or **out** parameter is not specified, BGP sessions are directly reset.

Examples

The following example resets the routing information received by all peers in the update group that the local device configured in the IPv4 unicast address family 1.1.1.1 belongs to.

```
Hostname> enable
Hostname# clear ip bgp update-group 1.1.1.1 in
```

Notifications

N/A

Platform Description

N/A

Related Commands

N/A

1.95 default-information originate

Function

Run the **default-information originate** command to configure BGP to advertise redistributed default routes.

Run the **no** form of this command to remove this configuration.

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

BGP does not advertise redistributed default routes by default.

Syntax

default-information originate

no default-information originate

default default-information originate

Parameter Description

N/A

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast address family of BGP

Configuration mode of the IPv6 unicast address family of BGP

IPv4 VRF configuration mode of BGP

IPv6 VRF configuration mode of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command and the **redistribute** command must be configured at the same time. This command takes effect only when the redistributed routes contain default routes.

This command is similar to the **network** command. When you configure the **default-information originate** command, you must run the **redistribute** command to redistribute default routes so as to validate such default routes. To configure the **network** command, you need to only configure default routes for Interior Gateway Protocol (IGP).

Examples

The following example configures BGP to advertise redistributed default routes.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 100
Hostname(config-router)# default-information originate
```

Notifications

If configuration is completed in the scope VRF mode and the IPv4 address family is not activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name inactive.
```

If configuration is completed in the scope VRF mode and the IPv4 VRF mode is first activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name enabled.
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.96 default-metric

Function

Run the **default-metric** command to use the manually configured metric value for a redistributed route of BGP.

Run the **no** form of this command to use the default metric value for a redistributed route of BGP.

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

The default metric value is used for a redistributed route of BGP.

Syntax

default-metric *metric-value*

no default-metric

default default-metric

Parameter Description

metric-value: Manually configured metric value. The value range is from 1 to 4294967295.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command is used to configure the metric value for a redistributed route of BGP to ensure the complete metric value of the redistributed route.

The metric value configured by this command cannot overwrite the metric value configured by the **redistribute metric** command.

If this command is run for redistributed connected routes, the metric value is **0**.

Examples

The following example sets the default metric value of a BGP redistributed route to **45**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 100
Hostname(config-router)# default-metric 45
```

Notifications

If configuration is completed in the scope VRF mode and the IPv4 address family is not activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name inactive.
```

If configuration is completed in the scope VRF mode and the IPv4 VRF mode is first activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name enabled.
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.97 description

Function

Run the **description** command to configure description information of a BMP instance.

Run the **no** form of this command to remove this configuration.

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

No description information is configured for a BMP instance by default.

Syntax

description *description-text*

no description

default description

Parameter Description

description-text: Text describing this BMP instance. A maximum of 80 characters are entered.

Command Modes

BMP configuration mode

Default Level

14

Usage Guidelines

You can run this command to add description characters to a BMP instance so that users can mark the characteristics of this BMP instance.

Examples

The following example configures description information of a BMP instance.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# bmp server 1
Hostname(config-bmpsrvr)# description test
```

Notifications

If over 80 characters are entered, the following notification will be displayed:

```
The description length exceed 80, please reconfig
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.98 distance bgp

Function

Run the **distance bgp** command to configure the administrative distance of a BGP route.

Run the **no** form of this command to restore the administrative distance of a BGP route to a default value.

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

The default administrative distance of a route learned by BGP from an EBGP peer is **20** and that of a route learned by BGP from an IBGP peer is **200**.

Syntax

distance bgp *external-distance internal-distance local-distance*

no distance bgp

default distance bgp

Parameter Description

external-distance: Administrative distance of routes learned from EBGP peers. The value range is from 1 to 255.

internal-distance: Administrative distance of routes learned from IBGP peers. The value range is from 1 to 255.

local-distance: Administrative distance of routes learned from peers, including better routes that can be learned from IGP. Generally, these routes are indicated by the **network backdoor** command. The value range is from 1 to 255, and the default value is **200**.

Command Modes

BGP configuration mode

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

You are not advised to change the administrative distance of BGP routes. If it needs change, follow the rules below when configuring this command:

- The *external-distance* must be smaller than that of other IGP routing protocols such as OSPF and RIP.
- The *internal-distance* and *local-distance* must be greater than that of other IGP routing protocols.

Examples

The following example configures the administrative distance of a BGP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 100
Hostname(config-router)# distance bgp 20 20 200
```

Notifications

If configuration is completed in the scope VRF mode and the IPv4 address family is not activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name inactive.
```

If configuration is completed in the scope VRF mode and the IPv4 VRF mode is first activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name enabled.
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.99 exit-address-family

Function

Run the **exit-address-family** command to exit the address family configuration mode of BGP.

Each address family is configured with an exit mode by default.

Syntax

exit-address-family

Parameter Description

N/A

Command Modes

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

You can run this command to exit from different address family configuration modes to the BGP configuration mode.

Examples

The following example exits the current address family configuration mode of BGP.

```
Hostname> enable
```

```
Hostname# configure terminal
Hostname(config)# router bgp 100
Hostname(config-router)# address-family ipv4 unicast
Hostname(config-router-af)# exit-address-family
Hostname(config-router)#
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.100 failure-retry-delay

Function

Run the **failure-retry-delay** command to configure the time to reestablish a connection with a BMP server.

Run the **no** form of this command to remove this configuration.

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

The time to reestablish a connection with a BMP server is not configured by default.

Syntax

failure-retry-delay *retry-delay-interval*

no failure-retry-delay

default failure-retry-delay

Parameter Description

retry-delay-interval: Interval in seconds to reestablish a connection with a BMP server. The value range is from 30 to 720.

Command Modes

BMP configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example sets the time to reestablish a connection with a BMP server to **60** seconds.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# bmp server 1
Hostname(config-bmpsrvr)# failure-retry-delay 60
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.101 import path selection

Function

Run the **import path selection** command to configure a route import policy.

Run the **no** form of this command to remove this configuration.

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

Only preferred routes are imported by default.

Syntax

import path selection { **all** | **bestpath** | **multipath** }

no import path selection

default import path selection

Parameter Description

all: Imports all routes with next hops.

bestpath: Imports preferred routes with next hops.

multipath: Imports preferred and equivalent routes with next hops.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

You can use this command to import routing entries between different VRF instances.

Examples

The following example imports all routes with next hops to a global IPv4 routing table.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65530
Hostname(config-router)# import path selection all
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.102 maximum-paths

Function

Run the **maximum-paths** command to configure EBGP/IBGP multipath load balancing and specify the number of equivalent paths.

Run the **no** form of this command to remove this configuration.

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

EBGP/IBGP multipath load balancing is not configured by default.

Syntax

maximum-paths { **ebgp** | **ibgp** } *maximum-paths-number*

no maximum-paths { **ebgp** | **ibgp** }

default maximum-paths { **ebgp** | **ibgp** }

Parameter Description

ebgp: Configures the number of equivalent paths of the EBGP multipath load balancing function.

ibgp: Configures the number of equivalent paths of the IBGP multipath load balancing function.

maximum-paths-number: Maximum number of equivalent paths. The value range is from 1 to 32. If the value is **1**, the function of EBGP multipath load balancing is disabled.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast address family of BGP

Configuration mode of the IPv6 unicast address family of BGP

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

If you specify the **ebgp** keyword when configuring this command, you can configure the function of multipath load balancing for routes of alliance EBGP and local VRF instances and specify the number of equivalent routes.

Note

This command does not allow IBGP and EBGP routes to form equivalent routes.

Examples

The following example configures EBGP load balancing and sets the maximum number of equivalent paths to **2**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65530
Hostname(config-router)# maximum-paths ebgp 2
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.103 maximum-prefix

Function

Run the **maximum-prefix** command to configure the maximum number of route prefixes in a routing information base under an address family.

Run the **no** form of this command to remove this configuration.

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

The number of route prefixes in a BGP routing information base under an address family is not limited by default.

Syntax

maximum-prefix *maximum-prefix-number*

no maximum-prefix

default maximum-prefix

Parameter Description

maximum-prefix-number: Maximum number of route prefixes in a BGP routing information base under an address family. The value range is from 1 to 4294967295.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

The route prefixes of a BGP address family may be configured by the **redistribute** command, learned from neighbors, or imported from other VRF instances. When the number of route prefixes of this BGP address family reaches the threshold, the route prefixes of this address family do not increase. In this case, the table of this address family and all neighbors in this address family enter the overflow state. To clear this state, you must reconfigure BGP or run the **clear bgp** *addressfamily* ***** command to reset the address family.

You can run the **show bgp** { *addressfamily* | **all** } **summary** command to display the state of the routing information base.

Note

If an address family enters the overflow state because the number of BGP route prefixes reaches the threshold, you can configure the **maximum-prefix** parameter to change the state of the address family.

For IPv4 unicast routes, even if the address family reaches the overflow state, it can still receive route prefixes in the following scenarios:

- The routing information with same route prefixes is configured in the routing information base.
- The prefix of a route (except for the default route) is configured in the routing information base and the next hop of this route differs from that of the newly received route.

Examples

The following example sets the maximum number of prefixes in a BGP routing information base under an IPv4 unicast address family to **65535**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
```

```
Hostname(config-router)# address-family ipv4
Hostname(config-router-af)# maximum-prefix 65535
```

Notifications

If configuration is completed in the scope VRF mode and the IPv4 address family is not activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name inactive.
```

If configuration is completed in the scope VRF mode and the IPv4 VRF mode is first activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name enabled.
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.104 neighbor activate

Function

Run the **neighbor activate** command to activate neighbors or peer groups in current address mode.

Run the **no** form of this command to remove this configuration.

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

No neighbor or peer group is activated by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **activate**

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **activate**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **activate**

Parameter Description

neighbor-ipv6-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

After the **neighbor remote-as** command is configured in an IPv4 Unicast address family of BGP or BGP configuration mode for the specified peer, the system automatically configures the **neighbor activate** command for this peer. In other address family configuration modes, the **neighbor activate** command must be manually configured.

Examples

The following example activates the route interaction capability of the neighbor 10.0.0.1 in the configuration mode of the IPv4 address family.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# neighbor 10.0.0.1 remote-as 100
Hostname(config-router)# address-family ipv4
Hostname(config-router-af)# neighbor 10.0.0.1 activate
```

Notifications

If configuration is completed in the scope VRF mode and the IPv4 address family is not activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name inactive.
```

If configuration is completed in the scope VRF mode and the IPv4 VRF mode is first activated by a VRF instance, the following notification will be displayed:

```
% Address family ipv4 unicast of vrf vrf-name enabled.
```

If the IPv6 unicast routing capability is not activated in global configuration mode and the neighbor address family capability of the IPv6 address is not configured or the neighbor is not activated, the following notification will be displayed:

```
% Can't activate ipv6 neighbor, please use ipv6 unicast routing first!
```

If the IPv6 routing capability for a neighbor is activated in an address family that does not support IPv6 addresses, the following notification will be displayed:

```
% IPv6 neighbor not supported in the address-family
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.105 neighbor additional-paths

Function

Run the **neighbor additional-paths** command to enable the ADD-PATH function of the specified peer.

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

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

The ADD-PATH function is disabled by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **additional-paths** { **send** [**receive**] | **receive** }

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **additional-paths** { **send** [**receive**] | **receive** }

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **additional-paths** { **send** [**receive**] | **receive** }

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

send: Enables the ADD-PATH route sending capability on a device. Only when the ADD-PATH receiving capability is enabled on peers can the device advertise ADD-PATH routes.

receive: Enables the ADD-PATH route receiving capability on a device. Only when the ADD-PATH sending capability is enabled on peers can the local device receive ADD-PATH routes.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Default Level

14

Usage Guidelines

The local device can advertise ADD-PATH routes only when the ADD-PATH sending capability is enabled on the local device and the ADD-PATH receiving capability is enabled on peers.

This command is effective to IBGP neighbors only. After this command is configured, BGP neighbor relationship is reestablished.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command.

Examples

The following example enables the ADD-PATH function for the peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# neighbor 10.0.0.1 additional-paths send
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **bgp additional-paths select**
- **neighbor advertise additional-paths**

1.106 neighbor advertise additional-paths

Function

Run the **neighbor advertise additional-paths** command to advertise the specific type of alternative ADD-PATH routes to peers.

Run the **no** form of this command to remove this configuration.

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

A device does not advertise alternative ADD-PATH routes to peers by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **advertise additional-paths** { **all** | **best** *best-number* | **ecmp** }

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **advertise additional-paths**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **advertise additional-paths**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

all: Advertises "all" types of alternative ADD-PATH routes.

best *best-number*: Advertises the "best number" type of alternative ADD-PATH routes. The value of the best number is **2** or **3**.

ecmp: Advertises the "ecmp" type of alternative ADD-PATH routes.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Default Level

14

Usage Guidelines

You can select a specific type of ADD-PATH routes by configuring the **bgp additional-paths select** command. When the type of the selected alternative ADD-PATH routes is different from that of the ones to be advertised, the device does not advertise the alternative ADD-PATH routes, but only the optimal route.

The local device can advertise ADD-PATH routes only when the ADD-PATH sending capability is enabled on the local device and the ADD-PATH receiving capability is enabled on peers.

This command is effective to IBGP neighbors only.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command.

Examples

The following example configures neighbor 10.0.0.1 to advertise the "best number" type of routes as alternative ADD-PATH routes if permitted.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# neighbor 10.0.0.1 advertise additional-paths best 2
```

Related Commands

N/A

Notifications

N/A

Common Errors

N/A

Platform Description

- **bgp additional-paths select**
- **neighbor additional-paths**

1.107 neighbor advertisement-interval

Function

Run the **neighbor advertisement-interval** command to configure the route update interval of BGP.

Run the **no** form of this command to restore the default configuration.

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

The default route update interval of BGP is **0** seconds for IBGP connections and **30** seconds for EBGP connections.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **advertisement-interval** *advertisement-interval*

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **advertisement-interval**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **advertisement-interval**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

advertisement-interval: Route update interval, in seconds. The value range is from 0 to 600.

Command Modes

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command.

Examples

The following example sets the interval of sending BGP route updates to the peer 10.0.0.1 to **10** seconds.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# neighbor 10.0.0.1 remote-as 100
Hostname(config-router)# neighbor 10.0.0.1 advertisement-interval 10
```

Notifications

If a specified peer is a member of a peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.108 neighbor aigp

Function

Run the **neighbor aigp** command to enable the AIGP function of BGP neighbors.

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

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

The AIGP function of BGP neighbors is disabled by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **aigp** [**send med**]

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **aigp**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **aigp**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

send med: Converts AIGP Metric values to MED values when routes are advertised to a specified neighbor.

Command Modes

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Default Level

14

Usage Guidelines

If this command is not configured for a specified neighbor, the device neither receives AIGP attributes of this neighbor nor sends routes carrying the AIGP attributes to this neighbor.

If the neighbor device does not support the AIGP function, you can specify the **send med** keyword to convert the AIGP value to the MED value.

If the 64-bit AIGP Metric value is greater than 4294967295, the 32-bit MED value is 4294967295 after conversion.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command.

Examples

The following example creates a neighbor and enables the AIGP function for this neighbor in the configuration mode of the BGP IPv4 VRF address family.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# address-family ipv4 vrf vpn1
Hostname(config-router-af)# neighbor 10.0.0.1 remote-as 100
Hostname(config-router-af)# neighbor 10.0.0.1 aigp
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If configuration is completed for the members in a peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.109 neighbor allowas-in

Function

Run the **neighbor allowas-in** command to allow the local device to receive update packets that carry the AS number of the local device.

Run the **no** form of this command not to receive update packets that carry the AS number of the local device.

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

No update packets that carry the AS number of the local device are allowed to be received by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **allowas-in** [*occurrence-number*]

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **allowas-in**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **allowas-in**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

occurrence-number: Occurrence times of an AS number. The value range is from 1 to 10, and the default value is **3**.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

After this command is configured on a PE device in the Hub-Spoke network, the PE device can receive update packets that carry the AS number of the local device. The PE device is configured with two VRF instances. Here, one VRF instance is used to receive routing information of all PE devices and advertise the information to a CE device. The other VRF instance is used to receive routing information of the CE device and advertise the information to all PE devices.

When this command is configured, a specified peer can be an IBGP or EBGP peer.

Examples

The following example creates a neighbor 10.0.0.1 in IPv4 VRF configuration mode of BGP and allows the local device to receive update packets that carry the AS number of the local device.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# address-family ipv4 vrf vpn1
Hostname(config-router-af)# neighbor 10.0.0.1 remote-as 100
Hostname(config-router-af)# neighbor 10.0.0.1 allowas-in
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.110 neighbor as-loop-check out

Function

Run the **neighbor as-loop-check out** command to enable the loop detection function in the outbound direction of a BGP neighbor.

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

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

The loop detection function in the outbound direction of a BGP neighbor is disabled by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **as-loop-check out**

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **as-loop-check out**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **as-loop-check out**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

When the loop detection function in the outbound direction of a BGP neighbor is enabled, a device filters routes that carry the AS number of this neighbor in the AS_PATH attribute when it advertises routes to this neighbor.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command.

Examples

The following example creates a neighbor in IPv4 VRF configuration mode of BGP and enables the loop detection function in the outbound direction of this neighbor.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# address-family ipv4 vrf vpn1
Hostname(config-router-af)# neighbor 10.0.0.1 remote-as 100
```

```
Hostname(config-router-af)# neighbor 10.0.0.1 as-loop-check out
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If configuration is completed for the members in a peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.111 neighbor as-origination-interval

Function

Run the **neighbor as-origination-interval** command to configure the interval of advertising the local initial BGP route to a specified peer.

Run the **no** form of this command to restore the default configuration.

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

The default interval of advertising the local initial BGP route to a specified peer is **1** second.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **as-origination-interval** *seconds*

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **as-origination-interval**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **as-origination-interval**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

as-origination-interval: Interval in seconds of advertising the local initial BGP route. The value range is from 1 to 65535.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command.

Examples

The following example creates a neighbor in IPv4 VRF configuration mode of BGP and sets the interval of advertising the local initial BGP route to the neighbor to **10** seconds.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# address-family ipv4 vrf vpn1
Hostname(config-router-af)# neighbor 10.0.0.1 remote-as 100
Hostname(config-router-af)# neighbor 10.0.0.1 as-origination-interval 10
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If configuration is completed for the members in a peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.112 neighbor as-override

Function

Run the **neighbor as-override** command to configure a PE device to overwrite the AS number of a site.

Run the **no** form of this command to remove this configuration.

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

No PE is configured to overwrite the AS number of a site by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **as-override**

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **as-override**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **as-override**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

Normally, BGP does not receive any routing information that has the same AS number as the local AS number. You can run this command to overwrite the AS number so that BGP can receive any routing information that is sent from the same AS number.

In a VPN, if two CE devices share the same AS number, they cannot receive peer information each other. After this command is configured on a PE device, the PE device overwrites the AS number of the CE devices so that they can receive routing information each other.

This command applies to only the specified EBGP peers.

Examples

The following example creates a neighbor in the configuration mode of the IPv4 VRF address family of BGP and overwrites the AS number of this neighbor site.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# address-family ipv4 vrf vpn1
Hostname(config-router-af)# neighbor 10.0.0.1 remote-as 100
Hostname(config-router-af)# neighbor 10.0.0.1 as-override
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If configuration is completed for the members in a peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.113 neighbor bmp-active

Function

Run the **neighbor bmp-active** command to configure a specified BMP server to monitor neighbors.

Run the **no** form of this command to remove this configuration.

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

No neighbor is monitored by any BMP server by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **bmp-active** { **all** | **server** *server-number*&<1-8> }

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **bmp-active** { **all** | **server** *server-number*&<1-8> }

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **bmp-active** { **all** | **server** *server-number*&<1-8> }

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

all: Specifies all BMP servers.

server-number&<1-8>: Instance number of a specified BMP server. The value range is from 1 to 8. &<1-8> specifies that the instance numbers of 1 to 8 specified BMP servers can be entered.

Command Modes

BGP configuration mode

IPv4 VRF configuration mode of BGP

IPv6 VRF configuration mode of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

If you do not configure this command, no neighbor is monitored by any BMP server.

Examples

This command creates a neighbor in BGP configuration mode and specifies this neighbor to be monitored by all BMP servers.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# neighbor 10.0.0.1 remote-as 100
Hostname(config-router)# neighbor 10.0.0.1 bmp-active all
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If configuration is completed for the members in a peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.114 neighbor default-fast-withdraw

Function

Run the **neighbor default-fast-withdraw** command to allow a BGP speaker to quickly withdraw the default route from a peer (group).

Run the **no** form of this command to disable a BGP speaker from quickly withdrawing the default route from a peer (group).

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

No BGP speaker quickly withdraws the default route from a peer (group) by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **default-fast-withdraw**

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **default-fast-withdraw**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **default-fast-withdraw**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

After this command is configured, a device advertises a default route withdrawal message to this neighbor and then reselects a route if the original preferred route or equivalent route is not configured or is invalid.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command. If this command is configured for a member in the peer group, this command overwrites the peer group-based configuration.

Examples

The following example allows a BGP speaker to send a default route withdraw message to the peer 10.1.1.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# neighbor 10.1.1.1 remote-as 80
Hostname(config-router)# neighbor 10.1.1.1 default-fast-withdraw
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.115 neighbor default-originate

Function

Run the **neighbor default-originate** command to allow a BGP speaker to advertise the default route to a peer (group).

Run the **no** form of this command to disable a BGP speaker from advertising the default route to a peer (group).

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

No BGP speaker is allowed to advertise the default route to a peer (group) by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **default-originate** [**route-map** *map-tag*]

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **default-originate** [**route-map** *map-tag*]

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **default-originate** [**route-map** *map-tag*]

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

route-map *map-tag*: Name of a route-map. The route-map-name does not exceed 32 characters.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command allows the routing table of the local device to have a default route. After this command is configured, the device sends a default route with the next hop being the local device to its neighbors.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command. If this command is configured for a member in the peer group, this command overwrites the peer group-based configuration.

Examples

The following example configures a BGP speaker to advertise the default route to the peer 10.1.1.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# neighbor 10.1.1.1 remote-as 80
Hostname(config-router)# neighbor 10.1.1.1 default-originate
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.116 neighbor description

Function

Run the **neighbor description** command to configure the description statement of a specified peer (group).

Run the **no** form of this command to remove this configuration.

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

No description statement is configured for a specified peer (group) by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **description** *text*

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **description**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **description**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

text: Text that describes this peer (group). A maximum of 80 characters are entered.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

N/A

Examples

The following example configures the description statement of the peer 10.1.1.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# neighbor 10.1.1.1 remote-as 80
Hostname(config-router)# neighbor 10.1.1.1 description xyz.com
```

Notifications

If over 80 characters are entered, the following notification will be displayed:

```
The description length exceed 80, please reconfig
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.117 neighbor distribute-list

Function

Run the **neighbor distribute-list** command to implement an ACL-based routing policy when routing information is sent to and received from a specified BGP peer.

Run the **no** form of this command to remove this configuration.

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

No ACL-based routing policy is implemented by default when routing information is sent to and received from a specified BGP peer.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **distribute-list** { *access-list-name* | *access-list-number* } { **in** | **out** }

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **distribute-list** { *access-list-name* | *access-list-number* } { **in** | **out** }

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **distribute-list** { *access-list-name* | *access-list-number* } { **in** | **out** }

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

access-list-name: ACL name.

access-list-number: Number of an ACL. The value range is from 1 to 199 or from 1300 to 2699.

in: Applies the ACL to received routing information.

out: Applies the ACL to distributed routing information.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command is configured based on address families. You can configure different filtering policies in different address families to control routing.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command. If this command is configured for a member in the peer group, this command overwrites the peer group-based configuration.

Examples

The following example filters the routes received from the peer 10.1.1.1 according to an ACL named **in**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# neighbor 10.1.1.1 remote-as 80
Hostname(config-router)# neighbor 10.1.1.1 distribute-list bgp-filter in
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If an outbound policy is configured for the members in the peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

If a prefix filtering list is configured for this peer (group), the following notification will be displayed:

```
% Prefix/distribute list can not co-exist, update the prefix/distribute list
config
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.118 neighbor dmzlink-bw

Function

Run the **neighbor dmzlink-bw** command to carry the link bandwidth attribute in the specified neighbor's routes sent to IBGP neighbors.

Run the **no** form of this command to remove this configuration.

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

No link bandwidth attribute is carried in the specified neighbor's routes sent to IBGP neighbors by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **dmzlink-bw**

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **dmzlink-bw**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **dmzlink-bw**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command applies to only EBGP neighbors with a specified single hop.

To send the extended community attribute of link bandwidth to IBGP neighbors, you must run the **neighbor send-community** command to enable the function of sending the extended community attribute.

Examples

The following example advertises to IBGP neighbors the extended community attribute of link bandwidth in IPv4 routes sent from an EBGP peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 remote-as 65100
Hostname(config-router)# neighbor 10.0.0.1 dmzlink-bw
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- **neighbor send-community**
- **show bgp all**

1.119 neighbor domain

Function

Run the **neighbor domain** command to configure a domain group for a specified BGP peer.

Run the **no** form of this command to remove this configuration.

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

No domain group is configured for a specified BGP peer.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **domain** *domain-name*

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **domain**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **domain**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

domain-name: Name of a domain group.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

N/A

Examples

The following example classifies the peer 10.1.1.1 into the Domain test group.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# neighbor 10.1.1.1 remote-as 80
Hostname(config-router)# neighbor 10.1.1.1 domain test
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.120 neighbor domain-unsuppress

Function

Run the **neighbor domain-unsuppress** command to disable the domain group of a specified BGP peer from suppressing detailed routes.

Run the **no** form of this command to remove this configuration.

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

No domain group of a specified BGP peer is configured to suppress detailed routes.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **domain-unsuppress**

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **domain-unsuppress**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **domain-unsuppress**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

N/A

Examples

The following example disables the domain group of the peer group test from suppressing detailed routes.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# neighbor test peer-group
Hostname(config-router)# neighbor test remote-as 80
Hostname(config-router)# neighbor test domain-unsuppress
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.121 neighbor ebgp-multihop

Function

Run the **neighbor ebgp-multihop** command to establish BGP connections with non-directly-connected EBGP peers.

Run the **no** form of this command not to establish BGP connections with non-directly-connected EBGP peers.

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

No BGP connections are established with non-directly-connected EBGP peers.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **ebgp-multihop** [*ttl*]

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **ebgp-multihop**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **ebgp-multihop**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

ttl: Maximum number of hops. The value range is from 1 to 255. If this parameter is not specified, the maximum number of hops is **255**.

Command Modes

BGP configuration mode

IPv4 VRF configuration mode of BGP

IPv6 VRF configuration mode of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

To avoid route loop and flapping, you must configure a route (except the default route) between the EBGP peers that are connected through multiple hops.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command. If this command is configured for a member in the peer group, this command overwrites the peer group-based configuration.

Examples

The following example establishes a BGP connection with the non-directly-connected EBGP peer 10.0.0.1 and sets the maximum number of hops to **255**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 remote-as 65100
Hostname(config-router)# neighbor 10.0.0.1 ebgp-multihop 255
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.122 neighbor fall-over bfd

Function

Run the **neighbor fall-over bfd** command to correlate BGP with Bidirectional Forwarding Detection (BFD).

Run the **no** form of this command to remove this configuration.

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

BGP is not correlated with BFD by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **fall-over bfd**

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **fall-over bfd**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **fall-over bfd**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

Command Modes

BGP configuration mode

IPv4 VRF configuration mode of BGP

IPv6 VRF configuration mode of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

You can run this command to detect changes of a specific neighbor and accelerate BGP convergence.

Before configuration, you must configure the BFD session parameters for the interface of the IP address of the neighbor.

Examples

The following example enables BGP correlation with BFD and uses Bidirectional Forwarding Detection (BFD) to detect the forwarding route to the neighbor 172.16.0.2.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 45000
Hostname(config-router)# neighbor 172.16.0.2 remote-as 45001
Hostname(config-router)# neighbor 172.16.0.2 fall-over bfd
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.123 neighbor filter-list

Function

Run the **neighbor filter-list** command to apply the AS path filtering rule to the routing information received from and sent to a specified BGP peer (group).

Run the **no** form of this command to remove this configuration.

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

No AS path filtering rule is applied to the routing information received from and sent to a specified AS peer (group) by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **filter-list** *as-path-access-list-number* { **in** | **out** }

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **filter-list** *as-path-access-list-number* { **in** | **out** }

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **filter-list** *as-path-access-list-number* { **in** | **out** }

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

neighbor filter-list: Number of the AS path filtering list. The value range is from 1 to 500.

in: Applies the AS path filtering list to received routing information.

out: Applies the AS path filtering list to distributed routing information.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command is configured based on address families. You can configure different filtering policies in different address families to control routing.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command. If this command is configured for a member in the peer group, this command overwrites the peer group-based configuration.

Examples

The following example applies the AS path filtering list 1 to the routing information sent to the peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip as-path access-list 1 deny _123_
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 remote-as 65100
Hostname(config-router)# neighbor 10.0.0.1 filter-list 1 out
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If an outbound policy is configured for the members in the peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.124 neighbor global-nexthop-replace-local

Function

Run the **neighbor global-nexthop-replace-local** command to use the local address of a BGP IPv6 link as the global next hop address when IPv6 routing information is sent to the local peer (group) of the BGP IPv6 link.

Run the **no** form of this command to remove this configuration.

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

The local address of a BGP IPv6 link is not used as the global next hop address by default when IPv6 routing information is sent to the local peer (group) of the BGP IPv6 link.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **global-nexthop-replace-local**

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **global-nexthop-replace-local**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **global-nexthop-replace-local**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

Command Modes

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

By default, two next hop addresses, namely, the global address and local address, are carried in the IPv6 routing information that is sent to the local peer (group) of the BGP IPv6 link. If this command is configured for the peer (group), the global next hop address advertised to this peer (group) is replaced with the local address of the next hop link.

This command is not effective to the non-link local peer (group).

Examples

The following example uses the local address of a link as the global next hop address when a route is advertised to the peer FE80::1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# address-family ipv6
Hostname(config-router-af)# neighbor FE80::1%vlan101 remote-as 1
Hostname(config-router-af)# neighbor FE80::1%vlan101 global-nexthop-replace-local
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.125 neighbor ha-mode nsr

Function

Run the **neighbor ha-mode nsr** command to enable the nonstop routing (NSR) function for a specified BGP peer (group).

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

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

The NSR function for a BGP peer (group) is disabled by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **ha-mode nsr**

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **ha-mode nsr**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **ha-mode nsr**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

ha-mode: Specifies the high availability (HA) mode.

nsr: Enables the NSR mode.

Command Modes

BGP configuration mode

IPv4 VRF configuration mode of BGP

IPv6 VRF configuration mode of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

The NSR function synchronizes state and data information between the active BGP and standby BGP of VSU. When the active BGP fails, the standby BGP can take over the BGP services to keep route availability.

A neighbor can enable multiple address families. The BGP NSR function is supported in only the IPv4/IPv6 Unicast address families. If a neighbor activates other address families, the NSR function cannot be enabled.

Examples

The following example enables the NSR function for the peer 10.0.0.1.

```
Hostname> enable
```

```
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 remote-as 65100
Hostname(config-router)# neighbor 10.0.0.1 ha-mode nsr
```

Notifications

N/A

Common Errors

N/A

Platform Description

Related Commands

N/A

1.126 neighbor link state group

Function

Run the **neighbor link state group** command to associate a BGP peer (group) with a link state tracking group.

Run the **no** form of this command to remove this configuration.

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

No BGP peer (group) is associated with any link state tracking group by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **link state group** *link-state-group-number*

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **link state group**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **link state group**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

link-state-group-number: ID of a link state tracking group.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

N/A

Examples

The following example associates the peer 10.0.0.1 with the link state tracking group 1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 remote-as 65100
Hostname(config-router)# neighbor 10.0.0.1 link state group 1
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.127 neighbor local-as

Function

Run the **neighbor local-as** command to configure the local AS number for a specified BGP peer (group).

Run the **no** form of this command to remove this configuration.

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

No local AS number is configured for a BGP peer (group) by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **local-as** *as-number* [**no-prepend** [**replace-as** [**dual-as**]]]

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **local-as**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **local-as**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

as-number: Configured local AS number. The value range is from 1 to 65535. A 4-byte AS number can be configured. That is, the new AS number range is from 1 to 4294967295, or from 1 to 65535.65535 in dot mode.

no-prepend: Does not add the local AS number to the AS-PATH attribute in the routing information received from a peer. If this parameter is not specified, the local AS number is added to the AS-PATH attribute in the routing information received from a peer.

replace-as: Replaces the BGP AS number with the local AS number in the AS-PATH attribute of the routing information sent to a peer. If this parameter is not specified, the BGP AS number is not replaced with the local AS number in the AS-PATH attribute of the routing information sent to a peer.

dual-as: Enables a peer to use the BGP AS number or local AS number to establish a BGP connection with a device. If this parameter is not specified, the peer can use only the local AS number to establish a BGP connection with the local device.

Command Modes

BGP configuration mode

IPv4 VRF configuration mode of BGP

IPv6 VRF configuration mode of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command applies to only the specified EBGP peers. If the attributes of the peers change, for example, the EBGP peers change to IBGP peers or alliance EBGP peers, the local AS number and options configured for these peers are deleted. The configured local AS number must be different from the BGP AS number and the remote AS number of the peers. If an alliance is configured, the local AS number must differ from the alliance ID. If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command. Users are not allowed to separately configure a local AS number for a member in the peer group.

After this command is configured, a peer device can use this local AS number as a remote AS number to establish a BGP connection with the local device. If you do not specify any optional item for this command, the peer device can use only the local AS number to establish a BGP connection with the local device. The peer device also adds the local AS number to the AS-PATH attribute of the received routing information before routing information is sent to the peer.

Examples

The following example sets the local AS number of the peer 10.0.0.1 to **23**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 remote-as 65100
Hostname(config-router)# neighbor 10.0.0.1 local-as 23
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.128 neighbor maximum-prefix

Function

Run the **neighbor maximum-prefix** command to configure the maximum number of prefixes received from a specified BGP peer.

Run the **no** form of this command to remove this configuration.

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

The number of prefixes received from a specified BGP peer is not limited by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **maximum-prefix** *maximum-prefix-value* [*maximum-prefixthreshold*] [**restart-time** *restart-time* | **warning-only** [**suppress**]]

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **maximum-prefix**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **maximum-prefix**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

maximum-prefix-value: Maximum number of prefixes that can be received. The value range is from 1 to 4294967295.

maximum-prefix-threshold: Percentage of the prefix number that triggers an alarm to the maximum number of prefixes. The value range is from 1 to 100, and the default value is **75**.

restart-time: Specifies the time of restoring the state machine of the neighbor after the local device enters the idle state because the number of route prefixes exceeds the upper limit.

restart-time: Time of restoring the state machine of a specified neighbor. The value range is from 1 to 65535.

warning-only: Generates a log without terminating a BGP connection when the number of route entries reaches the upper limit.

suppress: Stops learning entries when the number of route entries reaches the upper limit.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

When the received routing information exceeds the configured upper limit, the device terminates the BGP connection by default. If the **warning-only** keyword is specified when this command is configured, the device can retain the BGP connection when the received routing information exceeds the configured upper limit.

If the **suppress** keyword is specified when this command is configured, the device can stop learning route entries when the received routing information exceeds the configured upper limit. In this case, real route entries exceed the configured upper limit of the device. Because the route learning sequence may change before and after the reestablishment of neighbor relationships, the learned entries may be inconsistent.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command. If this command is configured for a member in the peer group, this command overwrites the peer group-based configuration.

Examples

The following example sets the maximum number of IPv4 unicast routes that are received by the peer 10.0.0.1 to **1000**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 maximum-prefix 1000
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.129 neighbor next-hop-self

Function

Run the **neighbor next-hop-self** command to configure the next hop of a route advertised to a specified BGP peer as the local device.

Run the **no** form of this command to restore the default configuration.

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

The next hop of a route advertised to an EBGP peer is configured as the local BGP speaker, and the next hop of a route advertised to an IBGP peer is not changed by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **next-hop-self**

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **next-hop-self**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **next-hop-self**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command is used in non-full-mesh networks such as Frame Relay and X.25. In this type of networks, the BGP speakers in the same subnet may not access each other directly.

If you specify a BGP peer group, all members in the peer group inherit the configuration of this command.

Examples

The following example configures the next hop of an IPv4 unicast route advertised to the peer 10.0.0.1 as the local BGP speaker.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 next-hop-self
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If configuration is completed for the members in a peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

If a peer (group) is configured with an unchanged next hop, the following notification will be displayed:

```
% Cannot co-exist with next-hop-unchanged, Deconfigure first
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.130 neighbor next-hop-unchanged

Function

Run the **neighbor next-hop-unchanged** command to retain the next hop of a route advertised to a specified peer (group).

Run the **no** form of this command to restore the default configuration.

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

The next hop of a route advertised to an EBGP peer is changed to the local BGP speaker, and the next hop of a route advertised to an IBGP peer is not changed.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **next-hop-unchanged**

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **next-hop-unchanged**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **next-hop-unchanged**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

next-hop-unchanged: Retains the next hop of a route sent to a BGP peer (group).

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast address family of BGP

Configuration mode of the IPv6 unicast address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command is not configured on a route reflector. If you configure this command on the client of a route reflector, you cannot run the **neighbor next-hop-self** command on the client to modify the next hop of the route.

Examples

The following example advertises an IPv4 route to the peer 10.1.1.1 without changing the next hop of the route.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# address-family ipv4
Hostname(config-router-af)# neighbor 10.1.1.1 next-hop-unchanged
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If configuration is completed for the members in a peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

If a peer (group) is configured with a next hop being itself, the following notification will be displayed:

```
% Cannot co-exist with next-hop-self, Deconfigure first
```

If a peer (group) is not a multi-hop EBGP neighbor, the following notification will be displayed:

```
% Can propagate the nexthop only to multi-hop EBGP neighbor
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.131 neighbor password

Function

Run the **neighbor password** command to enable TCP MD5 authentication and configure a password when a BGP connection is established with a specified BGP peer.

Run the **no** form of this command to remove this configuration.

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

TCP MD5 authentication is not enabled by default when a BGP connection is established with a specified BGP peer.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **password** [**0** | **7**] *password-string*

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **password**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **password**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

0: Displays an unencrypted password.

7: Displays an encrypted password.

password-string: Password used for TCP MD5 authentication. A maximum of 80 characters are entered.

Command Modes

BGP configuration mode

IPv4 VRF configuration mode of BGP

IPv6 VRF configuration mode of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command calls TCP MD5 authentication. Therefore, you must configure the same password for the peers that have established a BGP connection with the local device. Otherwise, the neighbor relationship cannot be established. After this command is configured, the local device reestablishes a BGP connection with the BGP peers.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command. If this command is configured for a member in the peer group, this command overwrites the peer group-based configuration.

You can configure one password only for each neighbor. In any address family configuration mode or BGP configuration mode, the configured password for a specified neighbor overwrites the original one.

Examples

The following example sets the password for TCP MD5 authentication of the peer 10.0.0.1 to **test**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
```

```
Hostname(config-router)# neighbor 10.0.0.1 password test
```

Notifications

If the configured plaintext password exceeds 80 characters, the following notification will be displayed:

```
% Password length too large, must be less or equal than 80
```

If the configured cyphertext password exceeds 162 characters, the following notification will be displayed:

```
% Password length too large, must be less or equal than 162
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.132 neighbor peer-group (assigning members)

Function

Run the **neighbor peer-group** command to configure a specified BGP peer as a member of a BGP peer group.

Run the **no** form of this command to remove this configuration.

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

No specified BGP peer is configured as a member of a BGP peer group.

Syntax

neighbor { neighbor-ipv4-address | neighbor-ipv6-address } **peer-group** *peer-group-name*

no neighbor { neighbor-ipv4-address | neighbor-ipv6-address } **peer-group** *peer-group-name*

default neighbor { neighbor-ipv4-address | neighbor-ipv6-address } **peer-group** *peer-group-name*

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

A member of a peer group can inherit all configurations of a peer.

You can separately configure commands for each member in the peer group to overwrite unified configuration of the peer group. The configured commands do not include those configurations that influence route update. Each member in the peer group inherits the following configurations of the peer group:
remote-as, **update-source**, **local-as**, **reconnect-interval**, **times**, **advertisemet-interval**, **default-originate**, **next-hop-self**, **remove-private-as**, **send-community**, **distribute-list out**, **filter-list out**, **prefix-list out**, **route-map-name out**, **unsuppress-map**, **route-reflector-client**, and **as-origination-interval**.

Note

You may not put neighbors in different address families into the same peer group, nor add IBGP peers and EBGP peers to the same peer group.

Examples

The following example adds the peer 10.0.0.1 to the peer group **test**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor test peer-group
Hostname(config-router)# neighbor 10.0.0.1 peer-group test
```

Notifications

If the configured neighbor has the same address as the local interface, the following notification will be displayed:

```
% Cannot configure the local system as neighbor
```

When the IPv6 unicast routing capability is not activated in global configuration mode, if an IPv6 neighbor is configured, the following notification will be displayed:

```
% Cannot configure IPv6 neighbor, please use ipv6 unicast-routing first!
```

If the peer group is not configured, the following notification will be displayed:

```
% Configure the peer-group first
```

If no Remote AS is configured for the peer group and members are created in the peer group, the following notification will be displayed:

```
% Specify remote-as or peer-group remote AS first
```

If a configured peer belongs to another peer group, the following notification will be displayed:

```
% Cannot change the peer-group. Deconfigure first
```

If a member in the peer group and a configured peer belong to different types, the following notification will be displayed:

```
% Peer with AS as-number cannot be in this peer-group, members must be all
internal or all external
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.133 neighbor peer-group (creating)

Function

Run the **neighbor peer-group** command to create a BGP peer group.

Run the **no** form of this command to remove this configuration.

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

The function of a BSP peer group is disabled by default.

Syntax

neighbor *peer-group-name* **peer-group**

no neighbor *peer-group-name* **peer-group**

default neighbor *peer-group-name* **peer-group**

Parameter Description

peer-group-name: Name of a specified peer group.

Command Modes

BGP configuration mode

IPv4 VRF configuration mode of BGP

IPv6 VRF configuration mode of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

If BGP peers share the same distribution list, update source or route filtering policy, you can assign these peers to the same peer group to simplify configuration and improve calculation update efficiency.

Examples

The following example creates a peer group **test**.

```
Hostname> enable
```

```
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor test peer-group
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.134 neighbor pic-disable

Function

Run the **neighbor pic-disable** command to disable the private PIC processing on routes distributed to and received from specified BGP peers.

Run the **no** form of this command to enable the private PIC process for routes advertised to and received from BGP peers.

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

A device performs the private PIC processing on routes sent to and received from BGP peers by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **pic-disable**

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **pic-disable**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **pic-disable**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

The CF type and E1 subtype of extended community attributes are used as the extended community attributes of the private PIC processing. This command is configured to disable the private PIC processing to ensure the compatibility of the extended community attributes for device connection with products of other vendors.

Examples

The following example disables the private PIC processing for the peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 pic-disable
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.135 neighbor prefix-list

Function

Run the **neighbor prefix-list** command to implement the prefix list-based routing policy for routing information sent to and received from the specified BGP peers.

Run the **no** form of this command to remove this configuration.

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

No prefix list-based routing policy is implemented for routing information sent to and received from the specified BGP peers by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **prefix-list** *prefix-list-name* { **in** | **out** }

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **prefix-list** *prefix-list-name* { **in** | **out** }

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **prefix-list** *prefix-list-name* { **in** | **out** }

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

prefix-list-name: Name of a prefix list. It contains not more than 32 characters.

in: Applies the prefix list to received routing information.

out: Applies the prefix list to distributed routing information.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command is configured based on address families. You can configure different filtering policies in different address families to control routing.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command. If this command is configured for a member in the peer group, this command overwrites the peer group-based configuration.

Examples

The following example configures a prefix list bgp-filter to filter routes received from the BGP peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# ip prefix-list bgp-filter deny 10.0.0.1/16
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 prefix-list bgp-filter in
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If an outbound policy is configured for the members in the peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.136 neighbor remote-as

Function

Run the **neighbor remote-as** command to configure a BGP peer (group).

Run the **no** form of this command to remove this configuration.

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

No BGP peer (group) is configured by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **remote-as** *as-number*

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **remote-as**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **remote-as**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

as-number: AS number of a BGP peer (group). A 4-byte AS number can be configured. That is, the new AS number range is from 1 to 4294967295, or from 1 to 65535.65535 in dot mode.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command.

Examples

The following example creates an EBGP peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 remote-as 80
```

Notifications

If the address of a BGP neighbor is a local IPv6 link address, the following notification will be displayed:

```
% Using IPv6 link-local address as peer address must specify update-source
interface
```

Common Errors

The address of a BGP neighbor is a local address.

```
% Cannot configure the local system as neighbor
```

IGBP neighbors are configured in BGP IPv4 VRF or BGP IPv6 VRF configuration mode.

```
% PE - CE peering must be EBGP.
```

Platform Description

N/A

Related Commands

N/A

1.137 neighbor remove-private-as

Function

Run the **neighbor remove-private-as** command to remove the private AS number from the AS_PATH attribute of the routes sent to a specified EBGP peer.

Run the **no** form of this command to remove this configuration.

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

The private AS number is not removed from the AS_PATH attribute of the routes sent to a specified EBGP peer by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **remove-private-as** [**force** [**ignore-remote-as**]] [**replace-as**]

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **remove-private-as**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **remove-private-as**

Parameter Description

neighbor-ipv4-address: IPv4 address of the specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

force: Forcibly removes the private AS number.

ignore-remote-as: Ignores the private AS number.

replace-as: Replaces the private AS number with the local AS number.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command is effective to EBGP peers only.

The AS number range is from 1 to 4294967295. The range of private AS numbers is from 64512 to 65534 or from 4200000000 to 4294967294, and they are used for specific private applications. Normally, you can configure this command to prevent the private AS number from being leaked to a public network.

If the following conditions are met, the software does not remove the private AS number from the AS_PATH attribute of routes:

- The AS_PATH attribute contains both the private AS number and public AS number.
- The private AS number contained in the AS_PATH attribute will be sent to an EBGP peer to prevent route loop.

If the preceding two conditions are met, you can specify the **force** parameter to forcibly remove a private AS number.

When the private AS number is removed forcibly, you can specify the **force ignore-remote-as** parameter to ignore the neighbor AS number.

You can specify the **replace-as** parameter to replace the private AS number with the local AS number to prevent the AS path from being shortened and thus avoid selecting a wrong route.

Examples

The following example removes the private AS from the AS-PATH attribute of routes advertised to the EBGP peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 remove-private-as
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If configuration is completed for the members in a peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

If configuration is completed for an IBGP peer, the following notification will be displayed:

```
% Private AS cannot be removed for IBGP peers
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.138 neighbor route-map

Function

Run the **neighbor route-map** command to match a received or an advertised route with a route map.

Run the **no** form of this command to remove this configuration.

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

By default, no route map is configured to match a received or an advertised route.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **route-map** *map-tag* { **in** | **out** }

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **route-map** *map-tag* { **in** | **out** }

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **route-map** *map-tag* { **in** | **out** }

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

map-tag: Name of a route map.

in: Applies a route map to received routes.

out: Applies a route map to advertised routes.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command can apply different rules to filter routes received from or sent to different neighbors to purify and control routing.

This command is configured based on address families. You can configure different filtering policies in different address families.

Examples

The following example filters routes received from the peer 10.0.0.1 by using the route map map-tag.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 route-map map-tag in
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If an outbound policy is configured for the members in the peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.139 neighbor route-reflector-client

Function

Run the **neighbor route-reflector-client** command to configure the local device as a route reflector and specify a client for it.

Run the **no** form of this command to remove this configuration.

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

The local device is not configured as a route reflector by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **route-reflector-client**

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **route-reflector-client**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **route-reflector-client**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of the specified peer group.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

All IGBP speakers in an AS must establish a full mesh of neighbor relationships by default. To avoid route loop, a BGP speaker does not forward a learned IBGP route to other IGBP peers.

After this command is configured, all IGBP speakers in the AS do not need to establish a full mesh of neighbor relationships, and the route reflector forwards the learned IBGP route to the client of the route reflector.

Examples

The following example configures the peer 10.0.0.1 as the client of a route reflector.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 route-reflector-client
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If configuration is completed for the members in a peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

If configuration is completed for an EBGP peer (group), the following notification will be displayed:

```
% Invalid command. Not an internal neighbor
```

If this capability is configured for a peer group and disabled for the members in the peer group, the following notification will be displayed:

```
% This peer is a peer-group member.  Please change peer-group configuration
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.140 neighbor send-community

Function

Run the **neighbor send-community** command to advertise community attributes to a specified BGP neighbor.

Run the **no** form of this command to remove this configuration.

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

No community attribute is advertised to a specified BGP neighbor by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **send-community** [**both** | **standard** | **extended**]

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **send-community** [**both** | **standard** | **extended**]

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **send-community** [**both** | **standard** | **extended**]

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

both: Transmits standard and extended community attributes.

both: Transmits only standard community attributes.

both: Transmits only extended community attributes.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

You can configure this command to transmit specified community attributes to a specified neighbor or a group of neighbors.

Examples

The following example carries the community attributes in the routes advertised to the peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 send-community both
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If configuration is completed for the members in a peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

If configuration is completed for an EBGP peer (group), the following notification will be displayed:

```
% Invalid command. Not an internal neighbor
```

If this capability is configured for a peer group and disabled for the members in the peer group, the following notification will be displayed:

```
% This peer is a peer-group member.  Please change peer-group configuration
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.141 neighbor shutdown

Function

Run the **neighbor shutdown** command to shut down the connection of a specified peer.

Run the **no** form of this command to remove this configuration.

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

The function of a specified BGP peer is enabled by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **shutdown** [**graceful** [**community** *community-value*] [**delay** *delay-time*]]

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **shutdown**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **shutdown**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

graceful: Shuts down BGP connections in smooth manner.

community *community-value*: Specifies the community attribute value carried in a route sent to a neighbor. It follows the format of AA:NN (AS number: 2-byte number) or the value is a numeric. The value range is from 0 to 4294967295.

delay *delay-time*: Specifies the delay time for shutting down BGP connections. The value range is from 1 to 65535.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 VRF address family of BGP

Configuration mode of the IPv6 VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command is used to shut down the valid connection established with a specified peer (group) and delete all related routing information. The software retains any configuration of this specified peer (group).

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command. If this command is configured for a member in the peer group, this command overwrites the peer group-based configuration.

If a BGP connection is shut down in smooth manner, the device sends a route carrying the Community, LOCAL_PREF, or MED attribute to a specified neighbor. After the neighbor receives the route update information.

After a period (this period is automatically calculated based on the number of advertised routes or it is specified), the device actively shuts down BGP connections with neighbors.

Examples

The following example actively shuts down the connection with the peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# neighbor 10.0.0.1 shutdown
```

The following example shuts down the connection with the peer 10.0.0.1 in a smooth manner.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 60
Hostname(config-router)# neighbor 10.0.0.1 shutdown graceful
```

Notifications

If this function is enabled on a peer group and configuration of group members is deleted, the following notification will be displayed:

```
% Peer-group has been shutdown. Activate the peer-group first
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.142 neighbor soft-reconfiguration inbound

Function

Run the **neighbor soft-reconfiguration inbound** command to save original routing information sent by a specified BGP peer.

Run the **no** form of this command not to save original routing information of a specified BGP peer.

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

No original routing information of a specified BGP peer is saved by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **soft-reconfiguration inbound**

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **soft-reconfiguration inbound**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **soft-reconfiguration inbound**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command causes a BGP session to restart and retains the unchanged routing information sent by a BGP peer (group).

Configuring this command consumes more memory. If the local device and BGP peer support the route update function, you do not need to configure this command. You can run the **show ip bgp neighbors** command to judge whether a BGP peer supports the route update function.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command. If this command is configured for a member in the peer group, this command overwrites the peer group-based configuration.

Examples

The following example retains the original routing information of the peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 soft-reconfiguration inbound
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If this capability is configured for a peer group and disabled for the members in the peer group, the following notification will be displayed:

```
% This peer is a peer-group member.  Please change peer-group configuration
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.143 neighbor soo

Function

Run the **neighbor soo** command to configure the Site-of-Origin (SoO) attribute of a neighbor.

Run the **no** form of this command to remove this configuration.

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

No neighbor is configured with the SoO attribute by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **soo** *soo-value*

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **soo**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **soo**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

soo-value: Value of the SoO attribute. *soo-value* can be set as follows:

- *soo-value=as-number*: *nn*

  as-number is a public 2-byte AS number. *nn* is user-defined in the range from 0 to 4294967295.

- *soo-value=ip-address*: *nn*

  ip-address must be a global IP address. *nn* is user-defined in the range from 0 to 65535.

- *soo-value=as4-number*: *nn*

  as4-number is a public 4-byte AS number. *nn* is user-defined in the range from 0 to 65535.

Command Modes

Configuration mode of the IPv4 VRF address family of BGP

Configuration mode of the IPv6 VRF address family of BGP

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

When multiple CE devices of a VPN site use a BGP protocol to be connected with different PE devices, VPN routes sent from the CE devices to the PE devices may go back to this site. This situation causes a route loop in the site.

After this command is configured, if a PE device receives a route from a CE device, the PE device adds the SoO attribute to the route before forwarding the route to other PE devices. The other PE devices check the SoO attribute before they advertise the route to the CE device. If this attribute is consistent with that configured locally, the PE devices do not advertise the route to the CE device.

Examples

The following example configures the SoO attribute for the peer 10.0.0.1 in a VRF instance.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# address-family ipv4 vrf vpn1
Hostname(config-router-af)# neighbor 10.0.0.1 remote-as 100
Hostname(config-router-af)# neighbor 10.0.0.1 soo 100:100
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If configuration is completed for the members in a peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.144 neighbor timers

Function

Run the **neighbor timers** command to configure the duration of Keepalive, Hold-Time, and Connect-Retry timers that are used to establish a BGP connection with a specified BGP peer.

Run the **no** form of this command to restore the default configuration.

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

The Keepalive timer duration is **60** seconds, Hold-Time timer duration is **180** seconds, and Connect-Retry timer duration is **15** seconds by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **timers** { *keepalive-interval holdtime* [*minimum-holdtime*] | **connect** *connect-retry* }

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **timers** [**connect**]

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **timers** [**connect**]

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

keepalive-interval: Interval in seconds to send Keepalive messages to a specified BGP peer. The value range is from 0 to 65535, and the default value is **60**.

holdtime: Valid interval in seconds of a BGP peer. The value range is from 0 to 65535, and the default value is **180**.

minimum-holdtime: Minimum hold time in seconds of an advertisement from a neighbor. The value range is from 0 to 65535, and the value **0** specifies no limit.

connect: Specifies the reconnection time.

connect-retry: Interval in seconds to initiate a reconnection to a specified BGP peer. The value range is from 1 to 65535, and the default value is **15**.

Command Modes

BGP configuration mode

IPv4 VRF configuration mode of BGP

IPv6 VRF configuration mode of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

The *keepalive-interval* value cannot be greater than 1/3 of the *holdtime*.

If time is configured for a single peer or peer group, this peer or peer group is connected with peers based on the configured time other than the globally configured time.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command. If this command is configured for a member in the peer group, this command overwrites the peer group-based configuration.

If you remove this command or restore the default configuration and specify the **connect** parameter, the command takes effect to the reconnection time. If you do not specify the **connect** parameter, the command takes effect to the sending interval and hold time of Keepalive messages.

Examples

The following example configures the sending interval and hold time of Keepalive messages of the BGP peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 timers 80 240
```

The following example configures the reconnection time of the BGP peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 timers connect 100
```

Notifications

If configuration is completed for the members in a peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

If the configured hold time is smaller than 3 but not equal to 0, the following notification will be displayed:

```
% Hold time must be 0 or greater than 2 seconds
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.145 neighbor transport connection-mode

Function

Run the **neighbor transport connection-mode** command to configure the connection establishment mode of BGP neighbors.

Run the **no** form of this command to restore the connection establishment mode of BGP neighbors to a default value.

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

A BGP neighbor can actively or passively establish connections by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **transport connection-mode** { **active-only** | **both** | **passive-only** }

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **transport connection-mode**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **transport connection-mode**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

active-only: Specifies a neighbor to only actively establish connections.

Both: Specifies a neighbor to actively or passively establish connections.

passive-only: Specifies a neighbor to only passively establish connections.

Command Modes

BGP configuration mode

IPv4 VRF configuration mode of BGP

IPv6 VRF configuration mode of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

You cannot concurrently configure the **active-only** or **passive-only** parameter for two devices that work as peers mutually.

Neighbors in a network segment can passively establish connections only, and their connection modes are not controlled by this command.

Examples

The following example configures only active connections for the BGP peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 45000
Hostname(config-router)# neighbor 10.0.0.1 remote-as 45001
Hostname(config-router)# neighbor 10.0.0.1 transport connection-mode active-only
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.146 neighbor ttl-security hops

Function

Run the **neighbor ttl-security hops** command to configure GTSM security check for BGP neighbors.

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

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

The function of GTSM security check is not configured by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **ttl-security hops** *hop-count*
no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **ttl-security hops**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **ttl-security hops**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

hop-count: Maximum number of hops from a specified local device to a specified peer. The value range is from 1 to 255.

Command Modes

BGP configuration mode

IPv4 VRF configuration mode of BGP

IPv6 VRF configuration mode of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

After this command is configured, the packets from a specified peer can be passed if their TTL values are within the specified range. Otherwise, the packets are discarded.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command. If this command is configured for a member in the peer group, this command overwrites the peer group-based configuration.

Examples

The following example enables the function of GTSM security check for BGP packets of the peer 10.0.0.1 and sets the maximum number of hops from a specified peer to a local device to **1**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 ttl-security hops 1
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.147 neighbor unsuppress-map

Function

Run the **neighbor unsuppress-map** command to selectively advertise the routing information that is suppressed by route aggregation.

Run the **no** form of this command to remove this configuration.

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

Routing information suppressed by route aggregation is not selectively advertised by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **unsuppress-map** *map-tag*

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **unsuppress-map** *map-tag*

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **unsuppress-map** *map-tag*

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

map-tag: Name of a route map. It contains not more than 32 characters.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command can advertise the specified suppressed routes.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command. If this command is configured for a member in the peer group, this command overwrites the peer group-based configuration.

Examples

The following example uses the route map unspress-route to filter routes advertised to the peer 10.0.0.1 and advertises the matched routing information suppressed by route aggregation.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 unsuppress-map unspress-route
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

If configuration is completed for the members in a peer group, the following notification will be displayed:

```
% Invalid command for a peer-group member
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.148 neighbor update-delay

Function

Run the **neighbor update-delay** command to delay the advertisement of BGP peers.

Run the **no** form of this command to remove this configuration.

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

The advertisement of BGP peers is not delayed by default.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **update-delay** *update-delay-time*

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **update-delay**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **update-delay**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

update-delay-time: Delay time in seconds of first route advertisement of a specified BGP peer. The value range is from 0 to 3600, and the value **0** specifies no limit.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 VRF address family of BGP

Configuration mode of the IPv6 VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

You can configure this command to specify the delay time of route advertisement during the first establishment of a connection with the BGP peer 10.0.0.1.

After BGP is enabled, neighbors will negotiate to reach the established state and send update packets to each other. If you configure this command, the local device sends routes received from a specified neighbor to other neighbors after a specified delay time. If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command.

Examples

The following example sets the delay time of first route advertisement to **60** seconds during the first establishment of a connection with the BGP peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 update-delay 60
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.149 neighbor update-source

Function

Run the **neighbor update-source** command to configure a network interface used to establish a BGP connection with a specified IBGP peer.

Run the **no** form of this command to remove this configuration.

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

The optimal local interface is used as the output interface by default.

Syntax

neighbor { *neighbor-ipv4-address* | *peer-group-name* } **update-source** { *interface-type interface-number* | *source-ipv4-address* }

neighbor { *neighbor-ipv6-address* | *peer-group-name* } **update-source** { *interface-type interface-number* | *source-ipv6-address* }

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **update-source**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **update-source**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

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

source-ipv4-address: IPv4 address of the network interface used to establish a BGP connection.

source-ipv6-address: IPv6 address of the network interface used to establish a BGP connection.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 VRF address family of BGP

Configuration mode of the IPv6 VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

Note

You are advised to use this command to specify a source address if you establish multiple peer relationships between two devices through multiple links.

You can run this command to establish a BGP connection with BGP peers through the loopback interface.

If you directly specify a network interface to establish a BGP connection, the address of the network interface must be a local valid one. Otherwise, the BGP connection cannot be established.

If this command is configured for a specified BGP peer group, all members in the peer group inherit the configuration of this command. If a network interface is specified, a member in a peer group can inherit the configuration of this command only when the peer address of the member has the same type as the network interface address.

If you want to use a local IPv6 link address to establish BGP neighborship, you must use the local link address for the local device and peer. The BGP neighborship can be established only when the outbound interface address of the peer device is consistent with the local specified neighbor address. You can configure the same local link address for different interfaces. Therefore, you can but specify the interface name.

The local IPv6 link address can be used to establish only single-hop BGP neighborship.

Examples

The following example uses loopback 1 as a TCP source address during the establishment of a BGP connection with the peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.0.0.1 update-source loopback 1
```

Notifications

If the configured source address is invalid, the following notification will be displayed:

```
% Invalid host address: ipv4-address
```

If the source address of a peer group is configured as an IPv4 address, the following notification will be displayed:

```
% Source address %s is valid for IPv4 address members only
```

If the source address of a peer group is configured as an IPv6 address, the following notification will be displayed:

```
% Source address %s is valid for IPv6 address members only
```

If the neighbor relationship of a local link address is established and the local interface address is configured as the source address of a local link, the following notification will be displayed:

```
% % IPv6 link-local peer does not support IPv6 address as the update-source
```

If the source address is configured as a local IPv6 link address, the following notification will be displayed:

```
% Specify IPv6 link-local address as the update-source can't identify the only
link
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.150 neighbor version

Function

Run the **neighbor version** command to configure the BGP version number for a specified BGP peer.

Run the **no** form of this command to remove this configuration.

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

No BGP version number is configured for a specified BGP peer.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **version 4**

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **version**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **version**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

4: Specifies the BGP version number as **4**.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 VRF address family of BGP

Configuration mode of the IPv6 VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

After this command is configured, the version negotiation function of BGP becomes invalid.

Examples

The following example sets the BGP version number of peers to **4**.

```
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.1.1.1 version 4
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.151 neighbor weight

Function

Run the **neighbor weight** command to configure a weight value for a specified BGP peer.

Run the **no** form of this command to remove this configuration.

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

No weight value is configured for a specified BGP peer by default. The initial weight value of routes learned from neighbors is **0**, and the initial weight value of routes generated locally is **32768**.

Syntax

neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **weight** *weight-value*

no neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **weight**

default neighbor { *neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-group-name* } **weight**

Parameter Description

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-group-name: Name of a specified peer group.

weight-value: Weight value of a neighbor. The value range is from 0 to 65535.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

After this command is configured, routes received from a specified neighbor use the specified value as the initial weight value. A greater weight value indicates a higher priority of a route.

Running the **set weight** command in the route map of a neighbor overwrites the configured weight value of this command.

Examples

The following example sets the weight value of routes received from the peer 10.1.1.1 to **73**.

```
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# neighbor 10.1.1.1 weight 73
```

Notifications

If this neighbor is not activated in this address family, the following notification will be displayed:

```
% Activate the neighbor for the address family first
```

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.152 network

Function

Run the **network** command to add static routing entries to a BGP routing table and advertise them to peers.

Run the **no** form of this command to remove this configuration.

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

No static routing entry is added to a BGP routing table and advertised to peers by default.

Syntax

network *network-number* [**mask** *mask*] [**route-map** *map-tag*] [**backdoor**]

no network *network-number* [**mask** *mask*] [**route-map** *map-tag*] [**backdoor**]

default network *network-number* [**mask** *mask*] [**route-map** *map-tag*] [**backdoor**]

Parameter Description

network-number: Network number.

mask: Subnet mask.

route-map *map-tag*: Specifies the name of a route map. The value cannot exceed 32 characters.

backdoor: Specifies the route as a backdoor route.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command allows IGP routes to be added to a BGP routing table. The advertised route information includes directly connected routes, static routes, and dynamic routes.

When this command is run, you can specify a route map. The route map allows you to modify the advertised route information.

Examples

The following example configures a BGP speaker to advertise the route 10.0.0.0/16.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# network 10.0.0.1 mask 255.255.0.0
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.153 network synchronization

Function

Run the **network synchronization** command to synchronize a device with the local route to advertise the routing information configured by the **network** command.

Run the **no** form of this command to configure a device to directly advertise the routing information configured by the **network** command, whether the local route is synchronized or not.

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

By default, a device synchronizes with the local route to advertise the routing information configured by the **network** command.

Syntax

network synchronization

no network synchronization

default network synchronization

Parameter Description

N/A

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

You can run this command to modify the device action on the routing information configured by the **network** command in advertisement. You are not advised to configure a device to directly advertise routing information configured by the **network** command, because this may cause a route black hole.

Examples

The following example configures a BGP speaker to synchronize with the local route to advertise routing information configured by the **network** command.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# network synchronization
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.154 overflow memory-lack

Function

Run the **overflow memory-lack** command to configure BGP to enter the overflow state when the memory is insufficient.

Run the **no** form of this command to disable BGP from entering the overflow state when the memory is insufficient.

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

BGP enters the overflow state by default when the memory is insufficient.

Syntax

overflow memory-lack

no overflow memory-lack

default overflow memory-lack

Parameter Description

N/A

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

After entering the overflow state, BGP discards learned routes. This ensures that the memory does not increase.

After this command is run, a route loop may occur on the entire network if the BGP address family enters the overflow state and discards learned routes. To reduce the occurrence of this problem, BGP generates a default route toward the null interface. This route always exists in the overflow state.

You can run the **clear bgp** { *addressfamily* | **all** } command to reset the BGP session and clear the overflow state of the BGP address family.

You can run the **no** form of this command to disable BGP from entering the overflow state when the memory is insufficient. This may consume memory resources. When the memory usage exceeds the threshold of the software, all BGP neighbors are disconnected and all learned routes are removed.

Examples

The following example disables BGP from entering the overflow state when the memory is insufficient.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# no overflow memory-lack
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.155 redistribute

Function

Run the **redistribute** command to redistribute the routing information of another routing protocol to a BGP instance.

Run the **no** form of this command to remove this configuration.

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

No routing information of another routing protocol is redistributed to a BGP instance by default.

Syntax

redistribute *protocol-type* [**metric** *metric-value* | **route-map** *map-tag*] *

no redistribute *protocol-type* [**metric** | **route-map**] *

default redistribute *protocol-type* [**metric** | **route-map**] *

Parameter Description

protocol-type: Source protocol type of a redistributed route. The parameter can be set to one of the following values:

- **arp-host**: Specifies a host route converted from ARP.
- **connected**: Specifies a directly connected route.
- **rip**: Specifies an RIP route.
- **static**: Specifies a static route.

route-map *map-tag*: Specifies the name of an associated route map. No route map is associated by default.

metric *metric-value*: Specifies the default metric value for a redistributed route. The value range is from 0 to 4294967295.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

If you specify an optional parameter during the configuration of the **no** form of this command, you remove only the configuration of the parameter, but do not remove the redistribution of routing information.

The metric values of routes are processed in the following order:

(1) If you work out a route map during the configuration of this command, the software applies the route map to process the metric value of a redistributed route. If you configure metric processing for the route map, you use the processed metric value.

(2) If you do not configure metric processing for the route or you only specify the **metric** parameter and *metric-value* during the configuration of this command, you use the *metric-value*.

(3) If no metric processing method is configured and no parameter is specified, the software directly uses the value of the redistributed route.

Examples

The following example configures BGP to redistribute static routes and filters the redistributed routes according to the route map static-rmap.

```
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# redistribute static route-map-name static-rmap
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.156 redistribute isis

Function

Run the **redistribute isis** command to redistribute the routing information of the IS-IS routing protocol to a BGP instance.

Run the **no** form of this command to remove this configuration.

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

No routing information of the IS-IS routing protocol is redistributed to a BGP instance by default.

Syntax

redistribute isis [*isis-tag*] [{ **level-1** | **level-1-2** | **level-2** } | **metric** *metric-value* | **route-map** *map-tag*] *
no redistribute isis [*isis-tag*] [{ **level-1** | **level-1-2** | **level-2** } | **metric** | **route-map**] *

default redistribute isis [*isis-tag*] [{ **level-1** | **level-1-2** | **level-2** } | **metric** | **route-map**] *

Parameter Description

isis-tag: Process name of a redistributed IS-IS route.

level-1: Redistributes only level 1 routing information of IS-IS.

level-1-2: Redistributes both level 1 and level 2 routing information of IS-IS.

level-2: Redistributes only level 2 routing information of IS-IS. This is the default configuration of IS-IS route redistribution.

metric: Configures the default metric value of a redistributed route.

metric-value: Default metric value of a redistributed route. The value range is from 0 to 4294967295.

route-map: Configures an associated route map. If this parameter is not specified, no route map is associated.

map-tag: Name of a route map.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

If you specify an optional parameter during the configuration of the **no** form of this command, you remove only the configuration of the parameter, but do not remove the redistribution of routing information. After all subtypes of routes are deleted, the default type of routes are redistributed.

The IS-IS routes are filtered in the following order:

(1) First, IS-IS route types are filtered based on the configured **level** parameter.

(2) Then, they are filtered based on the rule of a route map.

The metric values of routes are processed in the following order:

(3) If you work out a route map during the configuration of this command, the software applies the route map to process the metric value of a redistributed route. If you configure metric processing for the route map, you use the processed metric value.

(4) If you do not configure metric processing for the route map or you only specify the **metric** parameter and *metric-value* during the configuration of this command, you use the *metric-value*.

(5) If no metric processing method is configured and no parameter is specified, the software directly uses the value of the redistributed route.

Examples

The following example configures BGP to redistribute IS-IS routes and filters the redistributed routes based on the route map static-rmap.

```
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# redistribute isis route-map-name static-rmap
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.157 redistribute ospf

Function

Run the **redistribute ospf** command to redistribute the routing information of the Open Shortest Path First (OSPF) routing protocol to a BGP instance.

Run the **no** form of this command to remove this configuration.

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

No routing information of the OSPF routing protocol is redistributed to a BGP instance by default.

Syntax

redistribute ospf *process-id* [**match** { { **external** | { **external 1** | **external 2** }* } | **internal** | { **nssa-external** | { **nssa-external 1** | **nssa-external 2** } * } } * | **metric** *metric-value* | **route-map** *map-tag*] *

no redistribute ospf *process-id* [**match** { { **external** | { **external 1** | **external 2** }* } | **internal** | { **nssa-external** | { **nssa-external 1** | **nssa-external 2** } * } } * | **metric** | **route-map**] *

default redistribute ospf *process-id* [**match** { { **external** | { **external 1** | **external 2** }* } | **internal** | { **nssa-external** | { **nssa-external 1** | **nssa-external 2** } * } } * | **metric** | **route-map**] *

Parameter Description

process-id: Process ID of a redistributed OSPF route.

match: Specifies the subtype of a matched OSPF route.

external: Specifies the external types of OSPF routes, including type 1 and type 2.

external 1: Specifies the external type 1 of OSPF routes.

external 2: Specifies the external type 2 of OSPF routes.

internal: Specifies the internal subtype of OSPF routes, which is the default value of the **match** keyword for redistributed OSPF routes.

nssa-external: Specifies the NSSA external types of OSPF routes, including type 1 and type 2.

nssa-external 1: Specifies the NSSA external type 1 of OSPF routes.

nssa-external 2: Specifies the NSSA external type 2 of OSPF routes.

metric: Configures the default metric value of a redistributed route.

metric-value: Default metric value of a redistributed route. The value range is from 0 to 4294967295.

route-map: Configures an associated route map. If this parameter is not specified, no route map is associated.

map-tag: Name of a route map.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

If you specify an optional parameter during the configuration of the **no** form of this command, you remove only the configuration of the parameter, but do not remove the redistribution of routing information. After all subtypes of routes are deleted, the default type of routes are redistributed.

The OSPF routes are filtered in the following order:

(1) First, OSPF route types are filtered based on the configured **match** parameter.

(2) Then, they are filtered based on the rule of a route map.

The metric values of routes are processed in the following order:

(3) If you work out a route map during the configuration of this command, the software applies the route map to process the metric value of a redistributed route. If you configure metric processing for the route map, you use the processed metric value.

(4) If you do not configure metric processing for the route map or you only specify the **metric** parameter and *metric-value* during the configuration of this command, you use the *metric-value*.

(5) If no metric processing method is configured and no parameter is specified, the software directly uses the value of the redistributed route.

Examples

The following example configures BGP to redistribute routes of the OSPF process 2 and filters the redistributed routes based on the route map static-rmap.

```
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# redistribute ospf 2 route-map-name static-rmap
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.158 route mirroring

Function

Run the **route mirroring** command to enable the function of BGP packet mirroring.

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

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

The function of BGP packet mirroring is disabled by default.

Syntax

route mirroring

no route mirroring

default route mirroring

Parameter Description

N/A

Command Modes

BMP configuration mode

Default Level

14

Usage Guidelines

Mirrored packets are sent to a BMP server. Mirroring BGP packets affects BGP performance.

Examples

The following example enables the function of BGP packet mirroring of BMP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# bmp server 1
Hostname(config-bmpsrvr)# route mirroring
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.159 router bgp

Function

Run the **router bgp** command to enable the BGP protocol, configure a local AS number, and enter the BGP configuration mode.

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

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

BGP is disabled by default.

Syntax

router bgp *as-number*

no router bgp *as-number*

default router bgp *as-number*

Parameter Description

as-number: AS number. A 4-byte AS number can be configured. That is, the new AS number range is from 1 to 4294967295, or from 1 to 65535.65535 in dot mode.

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

You can configure this command to enable the BGP protocol.

RFC 4893 defines a newly reserved AS number 23456, and the number cannot be used as a private AS number. The value range of the original private AS numbers from 64512 to 65534 remains valid, and 65535 is reserved for special purposes.

RFC 5398 defines two groups of AS numbers, their value ranges are from 64496 to 64511 and from 65536 to 65551.

Examples

The following example enables the BGP protocol and sets the local AS number to **65000**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.160 scope

Function

Run the **scope** command to enter the scope configuration mode and associate a VRF instance with BGP.

Run the **no** form of this command to remove this configuration.

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

No scope address family is configured by default.

Syntax

scope vrf *vrf-name*

no scope vrf *vrf-name*

default scope vrf *vrf-name*

Parameter Description

vrf *vrf-name*: VRF name.

Command Modes

BGP configuration mode

Default Level

14

Usage Guidelines

You can run the **exit** command to exit the scope configuration mode.

Note

In the scope configuration mode, commands configured in the BGP configuration mode are converted to scope command mode. To restore the scope command mode to the original command mode, you can configure the **no router bgp** command and reconfigure the commands.

Examples

The following example enters the scope VRF configuration mode.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# scope vrf VRF
Hostname(config-router-scope)#
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.161 show bgp all

Function

Run the **show bgp all** command to display all the routing information of BGP.

Syntax

show bgp all [**aggregate** | **community** [*community-number* [**exact-match**]] | **community-list** *community-name*&<1-n> [**extact-match**] | **extcommunity-list** *extcommunity-name* [**exact-match**] | **filter-list** *path-list-number* | **inconsistent-as** | **quote-regexp** *regexp* | **regexp** *regexp*]

show bgp all dampening { **dampened-paths** | **flap-statistics** | **parameters** }

show bgp all neighbors [{ *neighbor-ipv4-address* | *neighbor-ipv6-address* } [**advertised-routes** [**check**] | **ha-mode** [**adj-in** [**detail**] | **adj-out**] | **hide-info** | **policy** [**detail**] | **received-routes** | **routes**]]

show bgp all paths

show bgp all summary

show bgp all update-group [*neighbor-ipv4-address* | *neighbor-ipv6-address* | *update-group-index*] [**ha-mod adj-out** | **summary**]

Parameter Description

aggregate: Displays the routing aggregation information.

community: Displays the routing information that contains the specified community number.

community-number: Specified community number. This parameter can be entered for multiple times. This parameter follows the format of AA:NN (AS number: 2-byte number) or is set to one of the following community names:

- **gshut**
- **internet**
- **local-as**
- **no-advertise**
- **no-export**

exact-match: Specifies the routing information that exactly matches community values or a community list.

community-list *community-name*: Displays the BGP routing information that matches a specified community list. *community-name* specifies the name of a community list.

extcommunity-list *extcommunity-name*: Displays the BGP routing information that contains the name of a specified extended community list or the number of a community list. *extcommunity-name* specifies the name of an extended community list or the number of a community list.

filter-list *path-list-number*: Displays the routing information that matches the filtering list. *path-list-number* is the number of a filtering list. The value range is from 1 to 500.

inconsistent-as: Displays the inconsistent routing information of the source AS.

quote-regexp *regexp*: Displays the BGP routing information that matches a regular expression within the specified double quotation marks in the AS-PATH attribute.

regexp *regexp*: Displays the BGP routing information that matches a specified regular expression in the AS-PATH attribute.

dampening: Displays route suppression information.

dampened-paths: Displays suppressed routing information.

flap-statistics: Displays route flapping statistics.

parameters: Displays route flapping parameters.

neighbors: Displays BGP neighbor information.

neighbor-ipv4-address: IPv4 address of a specified neighbor.

neighbor-ipv6-address: IPv6 address of a specified neighbor.

advertised-routes: Displays all the routing information sent to a specified peer.

check: Displays route filtering debugging information.

hide-info: Displays BGP NSR information.

adj-in: Displays the routing information received by the BGP neighbor NSR.

detail: Displays detailed information.

adj-out: Displays the routing information sent by the BGP neighbor NSR.

hide-info: Displays internal information.

policy: Displays the routing policy information about the BGP neighbor.

received-routes: Displays all the routing information received from a specified peer, including received routes and rejected routes.

routes: Displays all the routing information received from peers.

paths: Displays the routing information in a routing information base.

summary: Displays BGP neighbor information.

update-group: Displays update group information.

update-group-index: Index of a specified update group.

ha-mod adj-out: Displays the routing information sent by the BGP neighbor NSR.

summary: Displays summary information.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

You can run this command to display all the family address information in the BGP routing information.

Examples

The following example displays all neighbor information.

```
Hostname> enable
Hostname# show bgp all
For address family: IPv4 Unicast
BGP table version is 1, local router ID is 1.2.3.4
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete
   Network          Next Hop            Metric      LocPrf      Weight Path
*> 1.0.0.0          0.0.0.0                  0                   32768     ?
Total number of prefixes 1
For address family: IPv6 Unicast
BGP table version is 1, local router ID is 1.2.3.4
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete
   Network          Next Hop            Metric      LocPrf      Weight Path
*> 5750:1::/120     ::                       0                   32768     ?
Total number of prefixes 1
```

Table 1-1Output Fields of the show bgp all Command

Field	Description
For address family	BGP address family information
BGP table version	BGP table version
local router ID	Local router ID, which is a loopback address generally
Status codes	Status code of a BGP route
s	Suppressed route
d	Route flapping shielding
h	Historic route, unavailable route
*	Valid route
>	Optimal route
i	IBGP route
r	RIB failed to install a routing table
S	Stale route
Origin Codes	Original code of a BGP route
i	IGP originating route in a BGP routing table
e	EGP originating route in a BGP routing table
?	Unable to determine the source of a route in a BGP routing table
Network	Network routing information in the format of aa:bb. aa specifies a site ID and bb specifies a label block offset.
Next hop	IP address of a next hop
Metric	Metric value of a route
LocPrf	Local priority
Weight	Weight. The weight of a locally generated route is 32768.
Path	AS path that reaches the destination network

Notifications

N/A

Platform Description

N/A

1.162 show bgp bmp

Function

Run the **show bgp bmp** command to display BMP server information.

Syntax

show bgp bmp { **neighbor** | **server** [*server-number*] [**detail**] | **summary** }

Parameter Description

neighbor: Displays the neighbors monitored by a BMP server.

server: Displays BMP server instance information.

server-number: ID of a specified BMP server instance.

detail: Displays the detailed information of a BMP server instance.

summary: Display the summary information about connection establishment of a BMP server.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays the BMP server instance information.

```
Hostname> enable
Hostname# show bgp bmp server 1
BMP server 1
  BMP state = Idle
  up time        Never
  BGP monitor neighbors: 4
  route mirroring
```

The following example displays the neighbors monitored by a BMP server.

```
Hostname> enable
Hostname# show bgp bmp neighbor
Neighbor        CfgSvr#           ActSvr#
3.3.3.1         1                 1
3.3.3.2         1                 1
```

Table 1-1Output Fields of the show bgp bmp neighbor Command

Field	Description
Neighbor	Address of a monitored neighbor
CfgSvr#	Instance ID of the configured BMP server that monitors this neighbor
ActSvr#	Instance ID of the BMP server that is activated to monitor this neighbor

The following example displays the summary information about connection establishment of a BMP server.

```
Hostname> enable
Hostname# show bgp bmp summary
ID    Host                 Port     State        Time        NBRs
1     123.123.123.123      12345    Active       Never       4
```

Table 1-2Output Fields of the show bgp bmp summary Command

Field	Description
ID	Address of a monitored neighbor
Host	Instance ID of the configured BMP server that monitors this neighbor
Port	Listening port of a BMP server
State	Connection state of a BMP server
Time	Connection or disconnection time of a BMP server
NBRs	Number of neighbors monitored by a BMP server

Notifications

N/A

Platform Description

N/A

1.163 show bgp develop

Function

Run the **show bgp develop** command to display the development information of BGP.

Syntax

show bgp develop { **bgp-instance** | **cap** | **connected** | **evi-rd-hash** | **ifx-link-group** | **interface nd** [*ifx-number*] | **io-process** [**log-info** | **log-warn** | **master** | **memory** | **peer** [*neighbor-ipv4-address* | *neighbor-ipv6-address* | *peer-id*]] | **link-state-group** | **mom** | **peer-as** | **pic-info** | **route-shake** | **thread** | **vr** | **vrf-rd-hash** }

Parameter Description

bgp-instance: Displays specific information of a BGP instance.

cap: Displays state information of a BGP capability.

connected: Displays BGP neighbor connection information.

evi-rd-hash: Displays RD information of all EVI instances.

ifx-link-group: Displays link group information.

interface nd: Displays IPv6 neighbor information.

ifx-number: Interface IFX number. The value range is from 1 to 16777215.

io-process: Displays all IO processes or a single IO process.

log-info: Displays the log information of all IO processes or a single IO process.

log- warn: Displays the alarm information of all IO processes or a single IO process.

master: Displays the main information of all IO processes or a single IO process.

memory: Displays the memory information of all IO processes or a single IO process.

peer: Displays the IO statistics about a peer.

neighbor-ipv4-address: IPv4 address of a specified peer.

neighbor-ipv6-address: IPv6 address of a specified peer.

peer-id: ID of a specified peer.

link-state-group: Displays the BGP link state group information.

mom: Displays the MOM connection state.

peer-as: Displays the number of neighbors.

pic-info: Displays the PIC information of BGP.

route-shake: Displays the route flapping information.

thread: Displays all BGP thread information.

vr: Displays global VR details.

vrf-rd-hash: Displays the VRF RD information of BGP.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to locate faults.

Examples

The following example displays the RD information of all VRF instances.

```
Hostname> enable
Hostname# show bgp develop vrf-rd-hash
```

```
VRF RD Hash:
  rd: 2:2, owner: VRF(v2)
  rd: 1:1, owner: VRF(v1)
```

Notifications

N/A

Platform Description

N/A

1.164 show bgp grst

Function

Run the **show bgp grst** command to display GR information.

Syntax

show bgp grst { **bfd** | **label** | **label-set** | **mdc** | **peer-info** | **status** }

Parameter Description

bfd: Displays the BFD information of neighbors.

label: Displays label information.

label-set: Displays the set label information.

mdc: Displays Multicast Distribution Controller (MDC) information.

peer-info: Displays neighbor information.

status: Displays the GR state.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

N/A

Notifications

N/A

Platform Description

N/A

1.165 show bgp hash-peer

Function

Run the **show bgp hash-peer** command to display the hash table information of all neighbors.

Syntax

show bgp hash-peer

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays the hash table information of all neighbors.

```
Hostname> enable
Hostname# show bgp hash-peer
peer address hash table:
 vrf_id          prefix                          peer
 0               172.20.91.118                   172.20.91.118
 0               10.0.0.3                        10.0.0.3
 0               10.0.0.5                        10.0.0.5
```

Notifications

N/A

Platform Description

N/A

1.166 show bgp ipv4 unicast

Function

Run the **show bgp ipv4 unicast** command to display the IPv4 unicast routing information in BGP routing information.

Syntax

show bgp ipv4 unicast [*prefix-ipv4-address* [*network-mask* [**longer-prefixes**]] | **aggregate** | **cidr-only** | **community** [*community-number*&<1-n> [**exact-match**]] | **community-list** *community-name* [**exact-match**]

| **extcommunity-list** *extcommunity-name* [**exact-match**] | **filter-list** *path-list-number* | **global-vrf detail** | **inconsistent-as** | **prefix-list** *ip-prefix-list-name* | **quote-regexp** *regexp* | **regexp** *regexp* | **route-map** *map-tag*]

show bgp ipv4 unicast vrf *vrf-name* [*prefix-ipv4-address* [*network-mask* [**longer-prefixes**]] | **aggregate** | **cidr-only** | **community** [*community-number*&<1-n> [**exact-match**]] | **community-list** *community-name* [**exact-match**] | **extcommunity-list** *extcommunity-name* [**exact-match**] | **filter-list** *path-list-number* | **inconsistent-as** | **prefix-list** *ip-prefix-list-name* | **quote-regexp** *regexp* | **regexp** *regexp* | **route-map** *map-tag*]]

Parameter Description

prefix-ipv4-address: IPv4 address of a specified prefix.

network-mask: Mask of a specified network prefix.

longer-prefixes: Displays the specific routing information included in a specified prefix.

aggregate: Displays the detailed information of an aggregate route.

cidr-only: Displays the classless routing information.

community: Displays the routing information that contains the specified community number.

community-number&<1-n>: Specified community number. &<1-n> specifies that this parameter can be entered *n* times. This parameter follows the format of AA:NN (AS number: 2-byte number) or is set to one of the following community names:

- **gshut**
- **internet**
- **local-as**
- **no-advertise**
- **no-export**

exact-match: Specifies the routing information that exactly matches community values or a community list.

community-list *community-name*: Displays the BGP routing information that matches a specified community list. *community-name* specifies the name of a community list.

extcommunity-list *extcommunity-name*: Displays the BGP routing information that contains the name of a specified extended community list or the number of a community list. *extcommunity-name* specifies the name of an extended community list or the number of a community list.

filter-list *path-list-number*: Displays the routing information that matches the filtering list. *path-list-number* is the number of the filtering list. The value range is from 1 to 500.

global-vrf detail: Displays global VRF information.

inconsistent-as: Displays the inconsistent routing information of the source AS.

prefix-list *ip-prefix-list-name*: Displays the routing information that matches a specified prefix filtering list.

quote-regexp *regexp*: Displays the routing information that matches a regular expression within the specified double quotation marks in the AS-PATH attribute.

regexp *regexp*: Displays the routing information that matches a specified regular expression in the AS-PATH attribute.

route-map *map-tag*: Displays the routing information that matches the filtering condition of a specified route map. *map-tag*: Name of a route map.

vrf *vrf-name*: Specifies a VRF name.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

You can use this command to display the BGP IPv4 unicast routing information. By specifying parameters, you can filter routing information that matches the specified conditions.

Examples

The following example displays the routing information of an IPv4 unicast address family of BGP.

```
Hostname> enable
Hostname# show bgp ipv4 unicast
BGP table version is 2, local router ID is 192.168.183.1
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete
   Network          Next Hop               Metric      LocPrf  Path
*>i44.0.0.0         192.168.195.183          0         100      i
*>i64.12.0.0/16     192.168.195.183          0         100      i
*>i172.16.0.0/24    192.168.195.183          0         100      i
*>i202.201.0.0      192.168.195.183          0         100      i
*>i202.201.1.0      192.168.195.183          0         100      i
*>i202.201.2.0      192.168.195.183          0         100      i
*>i202.201.3.0      192.168.195.183          0         100      i
*>i202.201.18.0     192.168.195.183          0         100      i
Total number of prefixes 8
```

The following example displays the BGP IPv4 routing information that contains the specified community attributes.

```
Hostname> enable
Hostname# show bgp ipv4 unicast community 11:2222
111:12345
BGP table version is 2, local router ID is 192.168.183.1
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete
   Network          Next Hop               Metric      LocPrf  Path
*>i202.201.0.0      192.168.195.183          0         100      i
*>i202.201.1.0      192.168.195.183          0         100      i
*>i202.201.2.0      192.168.195.183          0         100      i
*>i202.201.3.0      192.168.195.183          0         100      i
Total number of prefixes 4
```

The following example displays the BGP IPv4 routing information that matches the filtering conditions.

```
Hostname> enable
Hostname# show bgp ipv4 unicast filter-list 5
BGP table version is 2, local router ID is 192.168.183.1
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete
   Network          Next Hop              Metric      LocPrf  Path
*>192.168.88.0      0.0.0.0               32768 ?
Total number of prefixes 1
```

The following example displays the classless routing information in BGP IPv4 routing information.

```
Hostname> enable
Hostname# show bgp ipv4 unicast cidr-only
BGP table version is 2, local router ID is 192.168.183.1
Status codes: s suppressed, d damped, h history, * valid, > best, i - internal,
              S Stale
Origin codes: i - IGP, e - EGP, ? - incomplete
   Network          Next Hop              Metric      LocPrf  Path
*>i64.12.0.0/16     192.168.195.183          0          100      i
*>i172.16.0.0/24    192.168.195.183          0          100      i
Total number of prefixes 2
```

Table 1-1Output Fields of the show bgp ipv4 unicast Command

Field	Description
BGP table version	BGP table version
local router ID	Local router ID, which is a loopback address generally
Status codes	Status code of a BGP route
s	Suppressed route
d	Route flapping shielding
h	Historic route, unavailable route
*	Valid route
>	Optimal route
i	IBGP route
S	Stale route
Origin Codes	Original code of a BGP route
i	IGP originating route in a BGP routing table
e	EGP originating route in a BGP routing table
?	Unable to determine the source of a route in a BGP

Field	Description
	routing table
Network	Network routing information in the format of aa:bb. aa specifies a site ID and bb specifies a label block offset.
Next hop	IP address of a next hop
Metric	Metric value of a route
LocPrf	Local priority
Path	AS path that reaches the destination network

Notifications

N/A

Platform Description

N/A

1.167 show bgp ipv4 unicast dampening

Function

Run the **show bgp ipv4 unicast dampening** command to display the BGP IPv4 unicast route flapping information.

Syntax

show bgp ipv4 unicast [**vrf** *vrf-name*] **dampening** { **dampened-paths** | **flap-statistics** | **parameters** }

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

dampened-paths: Displays the suppressed routes in the IPv4 routing information of BGP.

flap-statistics: Displays the route flapping statistics in the IPv4 routing information of BGP.

parameters: Displays the parameters of the IPv4 unicast route flapping information configured by BGP.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display the parameters of an IPv4 unicast route flapping information of BGP.

Examples

The following example displays the route flapping and damping parameters of an IPv4 unicast address family of BGP.

```
Hostname> enable
Hostname# show bgp ipv4 unicast dampening parameters
dampening 10 750 2000 40
Dampening Control Block(s):
Reachability Half-Life time    : 10 min
Reuse penalty                  : 750
Suppress penalty               : 2000
Max suppress time              : 40 min
Max penalty (ceil)             : 12000
```

Table 1-1Output Fields of the show bgp ipv4 unicast dampening parameters Command

Field	Description
dampening	Route flapping parameter
Reachability Half-Life time	Half-life time
Reuse penalty	A route is damped when the penalty is reduced to this value.
Suppress penalty	A route is damped when the penalty reaches this value.
Max suppress time	Maximum route suppression time
Max penalty (ceil)	Maximum penalty

Notifications

N/A

Platform Description

N/A

1.168 show bgp ipv4 unicast neighbors

Function

Run the **show bgp ipv4 unicast neighbors** command to display the IPv4 unicast neighbor information of BGP.

Syntax

show bgp ipv4 unicast [**vrf** *vrf-name*] **neighbors** [{ *neighbor-ipv4-address* | *neighbor-ipv6-address* } [**advertised-routes** [**check**] | **ha-mode** [**adj-in** [**detail**] | **adj-out**] | **hide-info** | **policy** [**detail**] | **received-routes** | **routes**]]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

neighbor-ipv4-address: IPv4 address of a specified neighbor.

neighbor-ipv6-address: IPv6 address of a specified neighbor.

advertised-routes: Displays all the routing information sent to a specified peer.

check: Displays route filtering debugging information.

ha-mode: Displays BGP NSR information.

adj-in: Displays the routing information received by the BGP neighbor NSR.

detail: Displays detailed information.

adj-out: Displays the routing information sent by the BGP neighbor NSR.

hide-info: Displays internal information.

policy: Displays the routing policy information about the BGP neighbor.

received-routes: Displays all the routing information received from a specified peer, including received routes and rejected routes.

routes: Displays all the routing information received from peers.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display the IPv4 unicast neighbor connection information of BGP.

Examples

The following example displays the neighbor information of an IPv4 unicast address family of BGP.

```
Hostname> enable
Hostname# show bgp ipv4 unicast neighbors
BGP neighbor is 192.168.195.183, remote AS 23, local AS 23, internal link
  BGP version 4, remote router ID 44.0.0.1
  BGP state = Established, up for 00:06:37
  Last read 00:06:37, hold time is 180, keepalive interval is 60 seconds
  Neighbor capabilities:
    Route refresh: advertised and received (old and new)
Address family IPv4 Unicast: advertised and received
Graceful restart: advertised and received
Remote Restart timer is 120 seconds
  Received 14 messages, 0 notifications, 0 in queue
    open message:1 update message:4 keepalive message:9
    refresh message:0 dynamic cap:0 notifications:0
  Sent 12 messages, 0 notifications, 0 in queue
```

```
    open message:1 update message:3 keepalive message:8
    refresh message:0 dynamic cap:0 notifications:0
  Route refresh request: received 0, sent 0
  Minimum time between advertisement runs is 0 seconds
 For address family: IPv4 Unicast
  BGP table version 2, neighbor version 1
  Index 2, Offset 0, Mask 0x4
  Inbound soft reconfiguration allowed
  8 accepted prefixes
  0 announced prefixes
 Connections established 2; dropped 1
Local host: 192.168.195.239, Local port: 1074
Foreign host: 192.168.195.183, Foreign port: 179
Nexthop: 192.168.195.239
Nexthop global: ::
Nexthop local: ::
BGP connection: non shared network
Last Reset: 00:06:43, due to BGP Notification sent
Notification Error Message: (Cease/Unspecified Error Subcode)
Using BFD to detect fast fallover
```

Table 1-1Output Fields of the show bgp ipv4 unicast neighbors Command

Field	Description
BGP neighbor	Address of a BGP peer
remote AS	Remote AS number
local AS	Local AS number
internal link	IBGP peer
BGP version	BGP version number after negotiation
remote router ID	Router ID of remote BGP
BGP state	State machine state of a peer
Neighbor capabilities	Capability negotiation state of a peer
For address family: IPv4 Unicast	Statistics about IPv4 unicast address family of a peer

Notifications

N/A

Platform Description

N/A

1.169 show bgp ipv4 unicast paths

Function

Run the **show bgp ipv4 unicast paths** command to display the IPv4 unicast path information in a routing information base.

Syntax

show bgp ipv4 unicast [**vrf** *vrf-name*] **paths**

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display the path information in a routing database.

Examples

The following example displays the path information of an IPv4 unicast address family of BGP.

```
Hostname> enable
Hostname# show bgp ipv4 unicast paths
Address        Refcnt Path
[0x1d7806a0:0] (67)
[0x1d7389a0:13] (20) 10
```

Table 1-1Output Fields of the show bgp ipv4 unicast paths Command

Field	Description
Address	Memory address of an AS path
Refcnt	Reference count of an AS path
Path	AS path information

Notifications

N/A

Platform Description

N/A

1.170 show bgp ipv4 unicast summary

Function

Run the **show bgp ipv4 unicast summary** command to display the BGP IPv4 unicast summary information.

Syntax

show bgp ipv4 unicast [**vrf** *vrf-name*] **summary**

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display the BGP IPv4 unicast neighbor information.

Examples

The following example displays the neighbor summary information of an IPv4 unicast address family of BGP.

```
Hostname> enable
Hostname# show bgp ipv4 unicast summary
BGP router identifier 192.168.183.1, local AS number 23
BGP table version is 2
2 BGP AS-PATH entries
1 BGP community entries
Neighbor         V    AS   MsgRcvd  MsgSent  TblVer  InQ  OutQ  Up/Down
State/PfxRcd
192.168.195.79   4    24      0        0        0     0    0    never
Active
192.168.195.183  4    23      17       15       1     0    0    00:09:04    8
Total number of neighbors 2
```

Table 1-1Output Fields of the show bgp ipv4 unicast summary Command

Field	Description
BGP router identifier	Router ID of BGP
local AS number	Local AS number of BGP
BGP table version	Routing table version of BGP
BGP AS-PATH entries	Number of AS path entries
BGP community entries	Number of community attribute entries

Field	Description
Neighbor	Peer address
V	Protocol version number
AS	Remote AS number
MsgRcvd	Number of received packets
MsgSent	Number of sent packets
State/PfxRcd	State machine state of a neighbor or number of received route entries

Notifications

N/A

Platform Description

N/A

1.171 show bgp ipv4 unicast update-group

Function

Run the **show bgp ipv4 unicast update-group** command to display the BGP IPv4 unicast update group information.

Syntax

show bgp ipv4 unicast [**vrf** *vrf-name*] **update-group** [*neighbor-ipv4-address* | *neighbor-ipv6-address* | *update-group-index*] [**ha-mod adj-out** | **summary**]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

neighbor-ipv4-address: IPv4 address of a specified neighbor.

neighbor-ipv6-address: IPv6 address of a specified neighbor.

update-group-index: Specific update group information.

ha-mod adj-out: Displays the routing information sent by the BGP neighbor NSR.

summary: Displays neighbor summary information.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display the BGP IPv4 unicast update group information.

Examples

The following example displays the update group information of an IPv4 unicast address family of BGP.

```
Hostname> enable
Hostname# show bgp ipv4 update-group
BGP version 4 update-group 1(ref 2), internal, Address Family: IPv4 Unicast
  Update message formated 2, replicated 2
  Minimum route advertisement interval is 0 seconds
  Minimum AS origination interval is 1 seconds
  Format state: Current working
                Refresh blocked
  Has 1 members:
   192.168.195.183
```

Table 1-1Output Fields of the show bgp ipv4 unicast update-group Command

Field	Description
BGP version	BGP version number
update-group	BGP route update group
internal	IBGP route
Address Family	Address family information
Update message formated	Format of an update message
replicated	Replicate message
Minimum route advertisement interval	Minimum route advertisement interval
Minimum AS origination interval	Minimum sending interval of an update message in which the AS route of the BGP speaker resides changes
Format state	Format state
members	Neighbor information

The following example displays the neighbor summary information of update group 1 in an IPv4 unicast address family of BGP.

```
Hostname> enable
Hostname# show bgp ipv4 unicast update-group 1 summary
BGP router identifier 192.168.183.1, local AS number 23
BGP table version is 2
2 BGP AS-PATH entries
1 BGP community entries
Neighbor         V    AS   MsgRcvd  MsgSent  TblVer  InQ  OutQ  Up/Down
State/PfxRcd
```

```
192.168.195.79   4    24      0        0        0     0     0    never
Active
192.168.195.183  4    23      17       15       1     0     0    00:09:04    8
Total number of neighbors 2
```

Table 1-2Output Fields of the show bgp ipv4 unicast update-group 1 summary Command

Field	Description
BGP router identifier	Router ID of BGP
local AS number	Local AS number of BGP
BGP table version	Routing table version of BGP
BGP AS-PATH entries	Number of AS path entries
BGP community entries	Number of community attribute entries
Neighbor	Peer address
V	Protocol version number
AS	Remote AS number
MsgRcvd	Number of received packets
MsgSent	Number of sent packets
State/PfxRcd	State machine state of a neighbor or number of received route entries

Notifications

N/A

Platform Description

N/A

1.172 show bgp ipv6 unicast

Function

Run the **show bgp ipv6 unicast** command to display the IPv6 unicast routing information in BGP routing information.

Syntax

show bgp ipv6 unicast [*prefix-ipv6-address/prefix-length* [**longer-prefixes**] | **aggregate** | **community** [*community-number*&<1-n> [**exact-match**]] | **community-list** *community-name* [**exact-match**] | **extcommunity-list** *extcommunity-name* [**exact-match**] | **filter-list** *path-list-number* | **global-vrf detail** | **inconsistent-as** | **prefix-list** *ip-prefix-list-name* | **quote-regexp** *regexp* | **regexp** *regexp* | **route-map** *map-tag*]]

show bgp ipv6 unicast vrf *vrf-name* [*prefix-ipv6-address/prefix-length* [**longer-prefixes**] | **aggregate** | **community** [*community-number*&<1-n> [**exact-match**]] | **community-list** *community-name* [**exact-match**] | **extcommunity-list** *extcommunity-name* [**exact-match**] | **filter-list** *path-list-number* | **inconsistent-as** | **prefix-list** *ip-prefix-list-name* | **quote-regexp** *regexp* | **regexp** *regexp* | **route-map** *map-tag*]

Parameter Description

prefix-ipv6-address/prefix-length: Specific IPv6 route prefix in a routing table.

longer-prefixes: Displays the specific routing information included in a specified prefix.

aggregate: Displays the detailed information of an aggregate route.

community: Displays the routing information that contains the specified community number.

community-number&<1-n>: Specified community number. &<1-n> specifies that this parameter can be entered *n* times. This parameter follows the format of AA:NN (AS number: 2-byte number) or is set to one of the following community names:

- **gshut**
- **internet**
- **local-as**
- **no-advertise**
- **no-export**

exact-match: Specifies the routing information that exactly matches community values or a community list.

community-list *community-name*: Displays the BGP routing information that matches a specified community list. *community-name* specifies the name of a community list.

extcommunity-list *extcommunity-name*: Displays the BGP routing information that contains the name of a specified extended community list or the number of a community list. *extcommunity-name* specifies the name of an extended community list or the number of a community list.

filter-list *path-list-number*: Displays the routing information that matches the filtering list. *path-list-number* is the number of a filtering list. The value range is from 1 to 500.

global-vrf detail: Displays the global VRF information.

inconsistent-as: Displays the inconsistent routing information of the source AS.

prefix-list *ip-prefix-list-name*: Displays the routing information that matches a specified prefix filtering list.

quote-regexp *regexp*: Displays the routing information that matches a regular expression within the specified double quotation marks in the AS-PATH attribute.

regexp *regexp*: Displays the routing information that matches a specified regular expression in the AS-PATH attribute.

route-map *map-tag*: Displays the routing information that matches the filtering condition of a specified route map. *map-tag*: Name of a route map.

vrf *vrf-name*: Specifies a VRF name.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

You can run this command to display the IPv6 unicast routing information of BGP. By specifying parameters, you can filter the routing information that matches the specified conditions.

Examples

N/A

Notifications

N/A

Platform Description

N/A

1.173 show bgp ipv6 unicast dampening

Function

Run the **show bgp ipv6 unicast dampening** command to display the IPv6 unicast route flapping parameters configured by BGP.

Syntax

show bgp ipv6 unicast [**vrf** *vrf-name*] **dampening** { **dampened-paths** | **flap-statistics** | **parameters** }

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

dampened-paths: Displays the suppressed routes in the BGP IPv6 routing information.

flap-statistics: Displays the route flapping statistics in the BGP IPv6 routing information.

parameters: Displays the IPv6 unicast route flapping parameters configured by BGP.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display the parameters of the BGP IPv6 unicast route flapping information.

Examples

N/A

Notifications

N/A

Platform Description

N/A

1.174 show bgp ipv6 unicast neighbors

Function

Run the **show bgp ipv6 unicast neighbors** command to display the IPv6 unicast neighbor information of BGP.

Syntax

show bgp ipv6 unicast [**vrf** *vrf-name*] **neighbors** [{ *neighbor-ipv4-address* | *neighbor-ipv6-address* } [**advertised-routes** [**check**] | **ha-mode** [**adj-in** [**detail**] | **adj-out**] | **hide-info** | **policy** [**detail**] | **received-routes** | **routes**]]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

neighbor-ipv4-address: IPv4 address of a specified neighbor.

neighbor-ipv6-address: IPv6 address of a specified neighbor.

advertised-routes: Displays all the routing information sent to a specified peer.

check: Displays route filtering debugging information.

ha-mode: Displays BGP NSR information.

adj-in: Displays the routing information received by the BGP neighbor NSR.

detail: Displays detailed information.

adj-out: Displays the routing information sent by the BGP neighbor NSR.

hide-info: Displays internal information.

policy: Displays the routing policy information about the BGP neighbor.

received-routes: Displays all the routing information received from a specified peer, including received routes and rejected routes.

routes: Displays all the routing information received from peers.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display the IPv6 unicast neighbor connection information of BGP.

Examples

N/A

Notifications

N/A

Platform Description

N/A

1.175 show bgp ipv6 unicast paths

Function

Run the **show bgp ipv6 unicast paths** command to display the IPv6 unicast path information in a routing information base.

Syntax

show bgp ipv6 unicast [**vrf** *vrf-name*] **paths**

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display the path information in a routing database.

Examples

The following example displays the path information of an IPv6 unicast address family of BGP.

```
Hostname> enable
Hostname# show bgp ipv6 unicast paths
Address           Refcnt Path
[0x1d7806a0:0]   (67)
[0x1d7389a0:13]  (20)   10
```

Table 1-1Output Fields of the show bgp ipv6 unicast paths Command

Field	Description
Address	Memory address of an AS path
Refcnt	Reference count of an AS path
Path	AS path information

Notifications

N/A

Platform Description

N/A

1.176 show bgp ipv6 unicast summary

Function

Run the **show bgp ipv6 unicast summary** command to display the BGP IPv6 unicast summary information.

Syntax

show bgp ipv6 unicast [**vrf** *vrf-name*] **summary**

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display the BGP IPv6 unicast neighbor information.

Examples

N/A

Notifications

N/A

Platform Description

N/A

1.177 show bgp ipv6 unicast update-group

Function

Run the **show bgp ipv6 unicast update-group** command to display the BGP IPv6 unicast update group information.

Syntax

show bgp ipv6 unicast [**vrf** *vrf-name*] **update-group** [*neighbor-ipv4-address* | *neighbor-ipv6-address* | *update-group-index*] [**ha-mod adj-out** | **summary**]

Parameter Description

vrf *vrf-name*: Specifies a VRF name. If this parameter is not specified, all VRF instances are specified.

neighbor-ipv4-address: IPv4 address of a specified neighbor.

neighbor-ipv6-address: IPv6 address of a specified neighbor.

update-group-index: Specific update group information.

ha-mod adj-out: Displays the routing information sent by the BGP neighbor NSR.

summary: Displays neighbor summary information.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

This command is used to display the IPv6 unicast update group information of BGP.

Examples

The following example displays the update group information of an IPv6 unicast address family of BGP.

```
Hostname> enable
Hostname# show bgp ipv6 update-group
BGP version 4 update-group 1(ref 2), internal, Address Family: IPv6 Unicast
  Update message formated 2, replicated 2
  Minimum route advertisement interval is 0 seconds
  Minimum AS origination interval is 1 seconds
  Format state: Current working
                Refresh blocked
  Has 1 members:
   192:168:195::183
```

Table 1-1Output Fields of the show bgp ipv6 update-group Command

Field	Description
BGP version	BGP version number
update-group	BGP route update group
internal	IBGP route
Address Family	Address family information
Update message formated	Format of an update message
replicated	Replicate message
Minimum route advertisement interval	Minimum route advertisement interval
Minimum AS origination interval	Minimum sending interval of an update message in which the AS

Field	Description
	route of the BGP speaker resides changes
Format state	Format state
members	Neighbor information

The following example displays the neighbor summary information of update group 1 in an IPv6 unicast address family of BGP.

```
Hostname> enable
Hostname# show bgp ipv6 unicast update-group 1 summary
BGP router identifier 192.168.183.1, local AS number 23
BGP table version is 2
2 BGP AS-PATH entries
1 BGP community entries
Neighbor         V    AS   MsgRcvd  MsgSent  TblVer  InQ  OutQ  Up/Down
State/PfxRcd
192:168:195::79   4    24      0        0        0     0    0    never
Active
192:168:195::183  4    23      17       15       1     0    0    00:09:04    8
Total number of neighbors 2
```

Table 1-2Output Fields of the show bgp ipv6 unicast update-group 1 summary Command

Field	Description
BGP router identifier	Router ID of BGP
local AS number	Local AS number of BGP
BGP table version	Routing table version of BGP
BGP AS-PATH entries	Number of AS path entries
BGP community entries	Number of community attribute entries
Neighbor	Peer address
V	Protocol version number
AS	Remote AS number
MsgRcvd	Number of received packets
MsgSent	Number of sent packets
State/PfxRcd	State machine state of a neighbor or number of received route entries

Notifications

N/A

Platform Description

N/A

1.178 show bgp log-info

Function

Run the **show bgp log-info** command to display BGP log information.

Syntax

show bgp log-info

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays BGP log information.

```
Hostname> enable
Hostname# show bgp log-info
************  start to print LOG in file
"/tmp/vsd/0/ucast/bgp/debug_info.log0new"***********.
```

Notifications

N/A

Platform Description

N/A

1.179 show bgp log-warn

Function

Run the **show bgp log-warn** command to display BGP alarm information.

Syntax

show bgp log-warn

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays BGP alarm information.

```
Hostname> enable
Hostname# show bgp log-warn
************  start to print LOG in file
"/data/.nos/vsd/0/ucast/bgp/debug_warn.log0"***********.
*Aug 28 2019 03:20:30.825: :[WARN][@bgp_unset_sysha-162] [BGP-SYSHA]: echo -17
> /proc/4925/oom_adj
*Aug 28 2019 03:20:30.825: :[WARN][@bgp_unset_sysha-171] [BGP-SYSHA]: echo -1000
> /proc/4925/oom_score_adj
*Aug 28 2019 03:20:35.508: :[WARN][@bgp_nsm_recv_nsr_aa_cap-5058] [MOM]: nsm to
bgp nsr aa.
*Aug 28 2019 03:24:11.693: :[WARN][@bgp_ha_sync_req_check-5463] [BGP-WARN]: Lib
ha sync is not ready.
*Aug 28 2019 03:24:17.162: :[WARN][@bgp_nsm_recv_nsr_aa_cap-5064] [MOM]: nsm to
bgp nsr as.
```

Notifications

N/A

Platform Description

N/A

1.180 show bgp memory

Function

Run the **show bgp memory** command to display BGP memory information.

Syntax

show bgp memory

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays BGP memory information.

```
Hostname> enable
Hostname# show bgp memory
memory statistics:
name                    malloc      free        inuse       max         min
TMP                     456         55          401         2112        4
HASH                    82          0           82          40          40
HASH_INDEX              82          0           82          8192        1024
HASH_BUCKET             111         4           107         24          24
LINK_LIST               2815        2444        371         40          40
LIST_NODE               2567        2444        123         24          24
PREFIX_IPV4             6           0           6           8           8
PREFIX_IPV6             4           0           4           20          20
ROUTE_TABLE             18          0           18          16          16
ROUTE_NODE              87          0           87          96          96
LS_TABLE                100         0           100         24          24
VECTOR                  117         0           117         16          16
VECTOR_INDEX            117         0           117         4096        8
SNMP_SUBTREE            5           0           5           544         544
SMUX_MIBMAP             1           1           0           536         536
CONFIG                  1           0           1           2           2
CONFIG_MOTD             1           0           1           100         100
IF                      15          0           15          368         368
```

Notifications

N/A

Platform Description

N/A

1.181 show bgp nsr

Function

Run the **show bgp nsr** command to display NSR information.

Syntax

show bgp nsr { **info** | **sock-cb** [*sock-cb-id*] | **sock-list** | **status** }

Parameter Description

info: Displays NSR basic information.

sock-cb: Displays the socket CB information of BGP.

sock-cb-id: Specified socket CB information of BGP. The value range is from 0 to 4294967295.

sock-list: Displays saved socket handle information.

status: Displays NSR state information.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

N/A

Notifications

N/A

Platform Description

N/A

1.182 show bgp route-block

Function

Run the **show bgp route-block** command to display black hole route statistics.

Syntax

show bgp route-block

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays black hole route statistics.

```
Hostname> enable
Hostname# show bgp route-block
wait for controller: 0
 recv controller msg: 0
BGP NSM route block message information:
 recv route block count:0
 recv route unblock count:0
 recv route block max time:0
 recv route block last time:0
BGP self route block message information:
 recv self route block count:0
 recv self route unblock count:0
 size in: 0
 to recv: 0
 send msg count: 59
 recv msg count: 0
 send queue len: 0
```

Notifications

N/A

Platform Description

N/A

1.183 show bgp rpi

Function

Run the **show bgp rpi** command to display RPI policy information.

Syntax

show bgp rpi { **acl** [**detail**] | **as-path-access-list** | **community-list** | **extcommunity-list** | **ip-prefix-list** | **ipv6-prefix-list** | **route-map** }

Parameter Description

acl: Displays the ACL information of an RPI policy.

detail: Displays the ACL details of an RPI policy.

as-path-access-list: Displays the AS path information of an RPI policy.

community-list: Displays the attribute configuration information of an RPI policy.

extcommunity-list: Displays the extended attribute configuration information of an RPI policy.

ip-prefix-list: Displays the IPv4 route filtering information of an RPI policy.

ipv6-prefix-list: Displays the IPv6 route filtering information of an RPI policy.

route-map: Displays the route map information of an RPI policy.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

N/A

Notifications

N/A

Platform Description

N/A

1.184 show bgp statistics

Function

Run the **show bgp statistics** command to display BGP statistics.

Syntax

show bgp statistics [**vrf** *vrf-name*]

Parameter Description

vrf *vrf-name*: Displays the BGP statistics of a VRF instance. If this parameter is not specified, global BGP statistics information is displayed.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example displays BGP statistics.

```
Hostname> enable
```

```
Hostname# show bgp statistics
Local as 100, Router id 1.1.1.1
  Total neighbor 10, Established neighbor 9, Admin-Down neighbor 1
  IBGP neighbor 8, Established IBGP neighbor 8, Admin-Down IBGP neighbor 0
  EBGP neighbor 2, Established EBGP neighbor 1, Admin-Down EBGP neighbor 1
  AS-PATH entries 1, Community entries 1, Extended-Community entries 0
  For address family: IPv4 Unicast
Activated neighbor 9, Unactivated neighbor 0
Activated IBGP neighbor 8, Unactivated IBGP neighbor 0
Activated EBGP neighbor 1, Unactivated EBGP neighbor 0
  For address family: IPv6 Unicast
Activated neighbor 0, Unactivated neighbor 9
Activated IBGP neighbor 0, Unactivated IBGP neighbor 0
Activated EBGP neighbor 0, Unactivated EBGP neighbor 0
```

Table 1-1Output Fields of the show bgp statistics Command

Field	Description
Router id	BGP router ID
Total neighbor	Total number of neighbors
Established neighbor	Number of established neighbors
Admin-Down neighbor	Number of admin-down neighbors
IBGP neighbor	Number of IBGP neighbors
Established IBGP neighbor	Number of established IBGP neighbors
Admin-Down IBGP neighbor	Number of admin-down IBGP neighbors
EBGP neighbor	Number of EBGP neighbors
AS-PATH entries	Number of AS-PATH entries
Community entries	Number of community entries
Extended-Community	Number of extended community entries
Established EBGP neighbor	Number of established EBGP neighbors
Admin-Down EBGP neighbor	Number of admin-down EBGP neighbors
Activated neighbor	Number of activated neighbors
Unactivated neighbor	Number of unactivated neighbors, excluding unestablished neighbors
Activated IBGP neighbor	Number of activated IBGP neighbors
Unactivated IBGP neighbor	Number of unactivated IBGP neighbors, excluding unestablished neighbors
Activated EBGP neighbor	Number of activated EBGP neighbors

Field	Description
Unactivated EBGP neighbor	Number of unactivated EBGP neighbors, excluding unestablished neighbors

Notifications

N/A

Platform Description

N/A

1.185 show ip bgp

Function

Run the **show ip bgp** command to display the routing information of an IPv4 unicast address family of BGP.

Syntax

show ip bgp [*prefix-ipv4-address* [*network-mask* [**longer-prefixes**]] | **aggregate** | **cidr-only** | **community** [*community-number*&<1-n> [**exact-match**]] | **community-list** *community-name* [**exact-match**] | **extcommunity-list** *extcommunity-name* [**exact-match**] | **filter-list** *path-list-number* | **global-vrf detail** | **inconsistent-as** | **prefix-list** *ip-prefix-list-name* | **quote-regexp** *regexp* | **regexp** *regexp* | **route-map** *map-tag*]

show ip bgp vrf *vrf-name* [*prefix-ipv4-address* [*network-mask* [**longer-prefixes**]] | **aggregate** | **cidr-only** | **community** [*community-number*&<1-n> [**exact-match**]] | **community-list** *community-name* [**exact-match**] | **extcommunity-list** *extcommunity-name* [**exact-match**] | **filter-list** *path-list-number* | **inconsistent-as** | **prefix-list** *ip-prefix-list-name* | **quote-regexp** *regexp* | **regexp** *regexp* | **route-map** *map-tag*]]

show ip bgp [**vrf** *vrf-name*] **dampening** { **dampened-paths** | **flap-statistics** | **parameters** }

show ip bgp [**vrf** *vrf-name*] **neighbors** [{ *neighbor-ipv4-address* | *neighbor-ipv6-address* } [**advertised-routes** [**check**] | **ha-mode** [**adj-in** [**detail**] | **adj-out**] | **hide-info** | **policy** [**detail**] | **received-routes** | **routes**]]

show ip bgp [**vrf** *vrf-name*] **paths**

show ip bgp [**vrf** *vrf-name*] **summary**

show ip bgp [**vrf** *vrf-name*] **update-group** [*neighbor-ipv4-address* | *neighbor-ipv6-address* | *update-group-index*] [**ha-mod adj-out** | **summary**]

Parameter Description

prefix-ipv4-address: IPv4 address of a specified prefix.

network-mask: Mask of a specified network prefix.

longer-prefixes: Displays the specific routing information included in a specified prefix.

aggregate: Displays the detailed information of an aggregate route.

cidr-only: Displays the classless routing information.

community: Displays the routing information that contains the specified community number.

community-number&<1-n>: Specified community attribute number. &<1-n> specifies that this parameter can be entered *n* times. This parameter follows the format of AA:NN (AS number: 2-byte number) or is set to one of the following community names:

- **gshut**
- **internet**
- **local-as**
- **no-advertise**
- **no-export**

exact-match: Specifies the routing information that exactly matches community values or a community list.

community-list *community-name*: Displays the BGP routing information that matches a specified community list. *community-name* specifies the name of a community list.

extcommunity-list *extcommunity-name*: Displays the BGP routing information that contains the name of a specified extended community list or the number of a community list. *extcommunity-name* specifies the name of an extended community list or the number of a community list.

filter-list *path-list-number*: Displays the routing information that matches the filtering list. *path-list-number* is the number of a filtering list. The value range is from 1 to 500.

global-vrf detail: Displays the global VRF information.

inconsistent-as: Displays the inconsistent routing information of the source AS.

prefix-list *ip-prefix-list-name*: Displays the routing information that matches a specified prefix filtering list.

quote-regexp *regexp*: Displays the routing information that matches a regular expression within the specified double quotation marks in the AS-PATH attribute.

regexp *regexp*: Displays the routing information that matches a specified regular expression in the AS-PATH attribute.

route-map *map-tag*: Displays the routing information that matches the filtering condition of a specified route map. *map-tag*: Name of a route map.

vrf *vrf-name*: Specifies a VRF name.

dampening: Displays the IPv4 unicast route flapping information configured by BGP.

dampened-paths: Displays the suppressed routes in the BGP IPv4 routing information.

flap-statistics: Displays the route flapping statistics in the BGP IPv4 routing information.

parameters: Displays the parameters of the IPv4 unicast route flapping information configured by BGP.

neighbors: Displays the BGP IPv4 unicast neighbor information.

neighbor-ipv4-address: IPv4 address of a specified neighbor.

neighbor-ipv6-address: IPv6 address of a specified neighbor.

advertised-routes: Displays all the routing information sent to a specified peer.

check: Displays route filtering debugging information.

ha-mode: Displays BGP NSR information.

adj-in: Displays the routing information received by the BGP neighbor NSR.

adj-out: Displays the routing information sent by the BGP neighbor NSR.

hide-info: Displays internal information.

policy: Displays the routing policy information about the BGP neighbor.

received-routes: Displays all the routing information received from a specified peer, including received routes and rejected routes.

routes: Displays all the routing information received from peers.

paths: Displays IPv4 unicast routing information in a routing information base.

summary: Displays BGP IPv4 unicast summary information.

update-group: Displays BGP IPv4 unicast update group information.

update-group-index: Specific update group information.

ha-mod adj-out: Displays the routing information sent by the BGP neighbor NSR.

Command Modes

All modes except the user EXEC mode

Default Level

14

Usage Guidelines

The **show ip bgp** command has the same function as the **show bgp ipv4 unicast** command. All the parameters in the latter command can be used in the former command.

Examples

N/A

Notifications

N/A

Platform Description

N/A

1.186 stats-reporting-period

Function

Run the **stats-reporting-period** command to configure the interval of regularly sending state statistics by BGP.

Run the **no** form of this command to remove this configuration.

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

BMP does not regularly send state statistics by default.

Syntax

stats-reporting-period *report-time*

no stats-reporting-period

default stats-reporting-period

Parameter Description

report-time: Automatic scanning interval, in seconds. The value range is from 30 to 65535.

Command Modes

BMP configuration mode

Default Level

14

Usage Guidelines

This command is used to configure the interval of regularly sending state statistics by BGP. If the statistics count result is 0, no information is sent. If this command is not configured, each change in the statistics count causes the software to send state statistics. Frequent change in the count causes the software to send much state statistics, which wastes device resources.

Examples

The following example sets the interval of regularly sending state statistics by BMP to **30** seconds.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# bmp server 1
Hostname(config-bmpsrvr)# stats-reporting-period 30
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.187 synchronization

Function

Run the **synchronization** command to enable the function of routing information synchronization between BGP and IGP.

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

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

The function of routing information synchronization between BGP and IGP is disabled by default.

Syntax

synchronization

no synchronization
default synchronization

Parameter Description

N/A

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

BGP and IGP synchronization aims to prevent any possible route black hole.

In the following situations, users can disable synchronization to fast converge routing information:

- No routing information passes through this local AS. Generally, this AS is a stub AS.
- All devices within the AS run BGP. A full mesh of connections is established among all BGP speakers (a neighbor relationship is established between each two BGP speakers).

Examples

The following example enables the function of routing information synchronization between BGP and IGP.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# synchronization
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.188 table-map

Function

Run the **table-map** command to control the routing information sent to the core routing table by BGP.

Run the **no** form of this command to remove this configuration.

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

BGP does not modify the attribute of routing information sent to the core routing table by default.

Syntax

table-map *route-map-name*

no table-map

default table-map

Parameter Description

route-map-name: Name of an applied route map.

Command Modes

BGP configuration mode

Configuration mode of the IPv4 unicast/VRF address family of BGP

Configuration mode of the IPv6 unicast/VRF address family of BGP

Scope configuration mode of BGP

Default Level

14

Usage Guidelines

This command is effective to only IPv4 address families.

You can run this command to control the routing information sent to the core routing table by BGP. You can run this command to modify the attribute of routing information sent to the core routing table. If the route is matched, BGP modifies the attribute of the routing information and sends the route. If the route is not matched or route matching is denied, BGP does not modify the attribute of the routing information, but still sends the route.

Changes in the configuration of this command are not reflected in the core routing table immediately, but reflected a moment later. To update the routing table immediately, you can run the **clear ip bgp** [**vrf** *vrf-name*] **table-map** command. You run the **clear ip bgp** [**vrf** *vrf-name*] **table-map** command to not change the routes sent to the core routing table. If you run the **table-map** command, you do not result in forwarding flapping.

Examples

The following example configures BGP to filter and update routes to the core routing table based on the route map bgp_tm.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# table-map bgp_tm
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.189 timers bgp

Function

Run the **timers bgp** command to configure the duration of BGP timers.

Run the **no** form of this command to restore the default configuration.

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

The default sending interval and hold time of Keepalive messages are **60** seconds and **180** seconds respectively. The minimum hold time is not limited.

Syntax

timers bgp *keepalive-time holetime* [*minimum-holdtime*]

no timers bgp

default timers bgp

Parameter Description

keepalive-time: Interval in seconds of sending Keepalive messages to a specified BGP peer. The value range is from 0 to 65535, and the default value is **60**.

holdtime: Valid interval in seconds of a BGP peer. The value range is from 0 to 65535, and the default value is **180**.

minimum-holdtime: Minimum hold time in seconds of a neighbor advertisement. The value range is from 0 to 65535, and the value **0** specifies no limit.

Command Modes

BGP configuration mode

Scope VRF configuration mode of BGP

Default Level

14

Usage Guidelines

The *keepalive-interval* value cannot be greater than 1/3 of the *holdtime*.

If time is configured for a single peer or peer group, this peer or peer group is connected with peers based on the configured time other than the globally configured time.

Examples

The following example sets the sending interval and hold time of Keepalive messages to **80** seconds and **240** seconds respectively.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# router bgp 65000
Hostname(config-router)# timers bgp 80 240
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.190 update-source

Function

Run the **update-source** command to configure a network interface used to establish a TCP connection with a specified BMP server.

Run the **no** form of this command to remove this configuration.

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

The optimal local interface is used as the output interface by default.

Syntax

update-source *interface-type interface-number*

no update-source

default update-source

Parameter Description

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

Command Modes

BMP configuration mode

Default Level

14

Usage Guidelines

You can run this command to establish a TCP connection with BMP servers through the loopback interface.

If you directly specify a network interface to establish a TCP connection, the address of the network interface must be a local valid one. Otherwise, the TCP connection cannot be established.

Examples

The following example uses loopback 1 interface as a TCP source address to establish a connection with the BGP peer 10.0.0.1.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# bmp server 1
Hostname(config-bmpsrvr)# update-source loopback 1
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A