Table of Contents

Chapter 1 BGP Configuration Commands

BGP configuration commands include:

- address-family ipv4
- aggregate-address
- bgp always-compare-med
- bgp asnotation dot
- bgp bestpath med
- bgp client-to-client reflection
- bgp cluster-id
- bgp confederation identifier
- bgp confederation peers
- bgp dampening
- bgp default local-preference
- bgp deterministic-med
- bgp fast-external-fallover
- bgp graceful-restart
- bgp log-neighbor-changes
- bgp update-delay
- bgp maxas-limit
- bgp router-id
- bgp update-delay
- clear ip bgp
- debug ip bgp
- distance
- filter
- maximum-paths
- neighbor activate

- neighbor advertisement-interval
- neighbor allowas-in
- neighbor capability orf prefix-list
- neighbor default-originate
- neighbor description
- neighbor distribute-list
- neighbor ebgp-multihop
- neighbor fall-over
- neighbor filter-list
- neighbor local-as
- neighbor maximum-prefix
- neighbor next-hop-self
- neighbor password
- neighbor peer-group
- neighbor prefix-list
- neighbor remote-as
- neighbor remove-private-AS
- neighbor route-map
- neighbor route-reflector-client
- neighbor route-refresh
- neighbor send-community
- neighbor send-label
- neighbor shutdown
- neighbor soft-reconfiguration
- neighbor timers
- neighbor ttl-security-hop
- neighbor update-source
- neighbor weight
- network (BGP)

- redistribute（BGP）
- router bgp
- show ip bgp
- show ip bgp community
- show ip bgp neighbors
- show ip bgp paths
- show ip bgp prefix-list
- show ip bgp regexp
- show ip bgp summary
- synchronization
- table-map
- timers

1.1.1 address-family ipv4

Run the command “address-family ipv4” and enter bgp ipv4 address-family mode:

address-family ipv4 {mdt | multicast | unicast | vrf} [name]

Parameters

Parameters	Description
mdt	Enter ipv4 mdt configuration mode, which is used for mvpn.
multicast	Enter ipv4 multicast configuration mode, which is used for multicast rpf check.
unicast	Enter ipv4 unicast configuration mode, which is used for ipv4 unicast.
name	the configuration parameters of address-family ipv4 vrf which means entering vpn configuration mode.

Default value

None

Command mode

BGP configuration mode

Instruction

Expand BGP configuration mode.

Example

activate neighbor 1.1.1.1 ipv4 mdt routing advertising:

```
router bgp 1
 bgp log-neighbor-changes
 neighbor 1.1.1.1 remote-as 1

 address-family ipv4 mdt
 neighbor 1.1.1.1 activate
 exit-address-family
```

Related command

exit-address-family

1.1.2 aggregate-address

To create the aggregation address in the BGP routing table, run aggregate-address. To disable the function of creating the aggregation address in the BGP routing table, run no aggregate-address.

aggregate-address A.B.C.D/n [as-set] [**summary-only**] [**route-map** *map-name*]

no aggregate-address A.B.C.D/n [as-set] [**summary-only**] [**route-map** *map-name*]

Parameters

Parameters	Description
A.B.C.D/n	Aggregated network
as-set	It includes AS set path properties (AS-SET) of aggregated route.
summary-only	Supress all more concrete route.
route-map	Designate the attribute of route-map setting aggregation route.
map-name	route mapping name

Default value

None

Command mode

BGP configuration mode

Instruction

There are three methods to add the routes to the BGP routing table: 1. Dynamically add the routes through the redistribute command. 2. Statically add the routes through the network command. 3. Statically add the routes through the aggregate command. The routes generated through the three methods are thought to be the locally-generated routes which can be notified of other peers but cannot be added to the IP routing table.

The aggregation route is adopted to reduce the number of routes in the routing table and to improve the efficiency of route index and the stability of the routes. The BGP aggregation route functions in the BGP routing table. The aggregation route will not add the locally-generated routes to the routing table but can be seen in the BGP routing table. The aggregate-address command with same prefix will replace the original configuration.

The aggregation route always aggregates the existing routes according to certain rules. The existence of the aggregation route depends on the state of the source route which generates the aggregation route. The BGP aggregation route depends on the routes with the same prefix or much more precise routes. The aggregation route is effective when at least one route with the same prefix or one more precise route exists in the BGP routing table. The valid aggregation route can be displayed through the show ip bgp command, with label " *> " The aggregation route can constrain the source route. If the source route is constrained, it is marked with label "s".

In case of as-set item is not used, the forming of aggregation route as-path properties complies with following rules:

All items appearing in as-sequence must be reappear in aggregated as-path.

All items appearing in as-set must at least reappear in one type of aggregated as-path.

The longest same item appears in as-sequence will be acted as as-sequence after aggregation;

other items will be acted as as-set.

All as-path properties existed in route of as-set item appears in aggregation route as-path as as-set type.

If the summary-only option is used(for instance, 193.*.*.*), the aggregation route can be created and the more detailed route can be constrained.

The route-map option can be used to modify the properties of the route when the aggregation route is generated.

The maximum configuration times for the aggregate command is up to the source of the router, such as the configured RAM.

Example

The following example shows how to establish the aggregation address:

router bgp 5

aggregate-address 193.0.0.0/8

Related command

route-map

1.1.3 bgp always-compare-med

To enable BGP to always compare the MED, run “bgp always-compare-med”.To disable the function, run “no bgp always-compare-med”

bgp always-compare-med

no bgp always-compare-med

Parameters

None

Default value

The MED of routes from different autonomous systems is not compared by default.

Command mode

BGP configuration mode

Instruction

In general, the MED of two routes from the same autonomous system can be compared. If the bgp always-comapre-med command is used, BGP always compares MED no matter whether the routes are from the same autonomous system. In this way, the process of the route selection can be modified.

Example

The following example shows how to enable BGP to compare MED:

router bgp 5
bgp always-compare-med

Related command

bgp bestpath med

bgp deterministic-med

1.1.4 bgp asnotation dot

Enable asdot mode:

bgp asnotation dot

no bgp asnotation dot

Parameters

None

Default value

asplain mode

Command mode

BGP configuration mode

Instruction

Configure as display form of “as” will be displayed in form of “asdot” only when as is greater than 65535. The command shall take effect with “clear ip bgp*”.

Example

The following example shows how to enable BGP to compare MED:

router bgp 100
bgp asnotation dot

Related command

router bgp

show ip bgp

1.1.5 bgp bestpath med

To modify the method for BGP to process the MED of the route, run bgp bestpath med. To resume the default method for BGP to process the MED of the route, run no bgp bestpath med.

Parameters

Parameters	Description

Confed	Compares the MED properties of the autonomous system ally.
missing-as-worst	Views the route without the MED property is the worst when the MED property is compared.

Default value

None

Command mode

BGP configuration mode

Instruction

By default, if the MED property need be compared when the MED property of the BGP route is not configured, the MED is always thought to be 0, that is, the MED value is the smallest and the MED has the highest priority. After the missing-as-worst option is configured, the MED is thought to have the biggest value and has the lowest priority if the MED property of the BGP route is not configured but the MED need be configured.

By default, the same routes released by different BGP routers in the same autonomous system have their MED compared, while the same routes released by different autonomous systems do not have their MED compared. After the confed option is configured, the regulation can be modified to enable the routes of the same type in an autonomous system ally to compare MED.

Example

Route 100 and route 200 are not from the same autonomous sub-system and they do not compare the MED by default. After bgp bestpath med confed is configured, route 100 and route 200 compare MED because they are respectively from autonomous sub-system 100 and autonomous sub-system 200 in the same autonomous system ally.

Related command

bgp always-compare-med

bgp deterministic-med

1.1.6 bgp client-to-client reflection

To enable the route reflection from client to client, run bgp client-to-client reflection. To disable the route reflection from client to client, run no bgp client-to-client reflection.

bgp client-to-client reflection

no bgp client-to-client reflection

Parameters

None

Default value

After the route reflector is configured, it will reflect the route of one client to other clients by default.

Command mode

BGP configuration mode

Instruction

If the radiator or the autonomous ally is not configured, all IBGP's in the autonomous system must be completely connected and the neighbor will not report the route received from the IBGP neighbor. The routing loops can thus be prevented. If the route reflector is used, all IBGP's need not be fully connected. After all IBGP's in the autonomous system becomes fully-connected, the route reflection is not required. To disable the function with the command.

Example

In following example, the local router is a route reflector. When three neighbors are fully connected, the route reflection will be closed.

```
router bgp 5
neighbor 192..168.20.190 router-reflector-client
neighbor 192..168.20.191 router-reflector-client
neighbor 192..168.20.192 router-reflector-client
no bgp client-to-client reflection
```

Related command

neighbor route-reflector-client

bgp cluster-id

1.1.7 bgp cluster-id

bgp cluster-id *cluster-id*

no bgp cluster-id *cluster-id*

Parameters

Parameters	Description

cluster-id	ID of BGP route reflection cluster, which may be in the format of the IP address or number and is up to four bytes

Default value

If only one route reflector exists in the BGP route reflection cluster, the ID of the router is the ID of the route reflection cluster.

Command mode

BGP configuration mode

Instruction

A BGP route reflection cluster consists of one or multiple route reflectors and client machines. In general, a BGP route reflection cluster only has one route reflector. In this case, the ID of the router which acts as the route reflector in the cluster is the ID of the route reflection cluster. To increase the redundancy and prevent the failure of a single node, a cluster may have multiple route reflectors. When you configure the route reflector in the reflection cluster, you must set it with the 4-byte cluster ID so as to the route reflector can identify the update information about other route reflectors in the same cluster.

If a cluster has multiple route reflectors, the command is to configure the ID of the BGP route reflection cluster. All route reflectors in the same cluster must be set to the same ID.

Example

In following example, the local router acts as the route reflector of the reflection cluster. The BGP reflection cluster ID is to identify the cluster. Neighbor 198.92.70.24 is the route reflection client.

```
router bgp 5
neighbor 198.92.70.24 route-reflector-client
bgp cluster-id 50000
```

Related command

neighbor route-reflector-client

show ip bgp summary

1.1.8 bgp confederation identifier

To designate a BGP autonomous system ID, run bgp confederation identifier. To cancel the BGP autonomous system ID, run no bgp confederation identifier.

bgp confederation identifier autonomous-system

no bgp confederation identifier autonomous-system

Parameters

Parameters	Description
autonomous-system	ID of the autonomous system in the autonomous system ally

Default value

None

Command mode

BGP configuration mode

Instruction

One method to reduce the IBGP connections is to divide an autonomous system into multiple autonomous sub-systems and then combine them as a single autonomous system ally. The fact that one AS can be divided into several sub-AS's is the base of the autonomous system ally. In each AS, all IBGP regulations can be applied. For example, all IBGP neighbors must combine the fully-connected architecture. EBGP must run among AS's because each AS has a different AS number. However, the routing choice in the ally is similar to the IBGP routing choice in a single AS. That is, the information about nexthop, MED and Localpreference will be reserved. As to the outside, the whole ally seems like a single AS.

The identifier of the autonomous system ally is a number shown to the outside. All BGP routers in the same autonomous system ally must be set to the same identifier of the autonomous system ally.

To configure the identifier of the autonomous system ally, you need recreate the BGP connection.

Example

In following example, the AS is divided into seven sub-AS's: 4001, 4002, 4003, 4004, 4005, 4006 and 4007; the seven sub-AS's are identified with 5, the identifier of the confederation. The local AS is 4001. Neighbor 1.2.3.4 is in the autonomous system ally, while neighbor 3.4.5.6 is outide of the autonomous system ally. As to neighbor 3.4.5.6, your AS is the one identified by the number 5.

```
router bgp 4001
bgp confederation identifier 5
bgp confederation peers 4002 4003 4004 4005 4006 4007
neighbor 1.2.3.4 remote-as 4002
neighbor 3.4.5.6 remote-as 510
```

Related command

bgp confederation peers

show ip bgp summary

1.1.9 bgp confederation peers

To configure AS belonging to the autonomous system ally, run bgp confederation peers. To delete AS from the autonomous system ally, run no bgp confederation peers.

bgp confederation peers autonomous-system [**autonomous-system**]

no bgp confederation peers autonomous-system [**autonomous-system**]

Parameters

Parameters	Description
autonomous-system	Number of the autonomous system

Default value

None

Command mode

BGP configuration mode

Instruction

The fact that one AS can be divided into several sub-AS's is the base of the autonomous system ally. In each AS, all IBGP regulations can be applied. For example, all IBGP neighbors must combine the fully-connected architecture. EBGP must run among AS's because each AS has a different AS number. However, the routing choice in the ally is similar to the IBGP routing choice in a single AS. That is, the information about nexthop, MED and Localpreference will be reserved. As to the outside, the whole ally seems like a single AS.

The autonomous system specified by the command is an autonomous subsystem in the same autonomous system ally as to the local autonomous system. Each autonomous subsystem is inward fully-connected.

The bgp confederation identifier command is to specify which autonomous system ally the local AS belongs to.

The command configuration requires reestablishing the BGP connection.

Example

The following example shows how to classify AS1090, 1091, 1092 and 1093 into a single confederation.

```
router bgp 1090
bgp confederation identifier 23
bgp confederation peers 1091 1092 1093
```

Related command

bgp confederation identifier

show ip bgp summary

1.1.10 bgp dampening

To configure BGP routing dampening control, run bgp dampening [route-map name] | [half-time resuse-value suppress-value hold-time]. To cancel the BGP routing dampening control function, run no bgp dampening.

bgp dampening [*half-time resuse-value suppress-value hold-time*]

no bgp dampening [*half-time resuse-value suppress-value hold-time*]

Parameters

Parameters	Description
half-time	Means the half punishment time of route attenuation.
reuse-value	Reuses the punishment value of the route.
suppress-value	Suppresses the value of route punishment.
hold-time	Constrains the maximum hold time of the route (unit: minute).

Default value

half-time： 15 mins

reuse-value： 750

suppress-value： 2000

hold-time： 60 mins

Command mode

BGP configuration mode

Instruction

Route fluctuation control has different effects on the routes in different states, that is, there are effects on whether the routes can be aggregated and whether the route can be added to the main routing table. The fluctuation procedure of the route is described as follows:

A stable route is punished because of its fluctuation. When its punishment value is smaller than the value of the suppress parameter, the route can continuously notify the neighbor and can be aggregated. When the punishment value of the route is larger than the value of the suppress parameter, the route stops to notify the neighbor and cannot be aggregated. When the route stabilized, the punishment value can decrease along with the time. When the punishment value is larger than the value of the reuse parameter, the route is always in the control state and it cannot notify the neighbor and cannot be aggregated. If the punishment value decreases to a value which is smaller than the value of the reuse parameter, the route validates and it can notify the neighbor and be aggregated.

Example

You can enable the BGP route fluctuation control function through the bgp dampening command and use the default parameter configuration.

Router bgp 100

bgp dampening

Related command

None

1.1.11 bgp default local-preference

To set the default parameters for the BGP process, run bgp default local-preference <0-4294967295>. To resume the default settings, run no bgp default local-preference.

bgp default local-preference <*0-4294967295*>

no bgp default local-preference <*0-4294967295*>

Parameters

Parameters	Description
local-preference	Sets the default parameter of the local priority.
<0-4294967295>	Means the default value of the local priority.

Default value

The default value of the local priority is 100.

Command mode

BGP configuration mode

Instruction

BGP sets the routes from the IBGP neighbor to the local priority. The default value is 100. The priority value can be modified through the command.

Example

The following example shows how to set the local priority value of the route from IBGP neighbor to 200.

router bgp 100

bgp default local-preference 200

Related command

None

1.1.12 bgp deterministic-med

To change the process mode for BGP to process the MED feature, run bgp deterministic-med. To resume the default value, run no bgp deterministic-med.

bgp deterministic-med

no bgp deterministic-med

Parameters

None

Default value

None

Command mode

BGP configuration mode

Instruction

By default, BGP compares the MED of routes from different BGP neighbors in the same autonomous system. The command is to compare the MED of routes from different BGP neighbours in the same autonomous system.

Example

None

Related command

bgp bestpath med

bgp always-compare-med

1.1.13 bgp fast-external-fallover

Enable fast-external-fallover function, and disable the function with “no bgp fast-external-fallover”.

bgp fast-external-fallover

no bgp fast-external-fallover

Parameters

None

Default value

fast-external-fallover is enabled by default.

Command mode

BGP configuration mode

Instruction

fast-external-fallover is enabled by default.BGP dialogue of external neighbor directly connecting to the interface will be immediately cleared when the interface status turns to "Down".

Example

None

Related command

router bgp

clear ip bgp

1.1.14 bgp graceful-restart

Configure bgp graceful restart

bgp graceful-restart [**restart-time** value] | [**stalepath-time** value]

no bgp graceful-restart

Parameters

Parameters	Description
restart-time	Configure neighbor up max restart-time. The default is 120s.
stalepath-time	Configure aging route max stalepath-time after neighbor restart-up. The default is 360s.

Default value

bgp graceful restart is not enabled.

Command mode

BGP configuration mode

Instruction

The command is to configure “bgp graceful-restart restart-time”. The device informs such configuration to the other end at the disposal of Receiving Speaker.

bgp graceful-restart stalepath-time is time for keeping aging route.

Example

None

Related command

bgp update-delay

clear ip bgp

1.1.15 bgp log-neighbor-changes

prompt neighbor up/down

bgp log-neighbor-changes

no bgp log-neighbor-changes

Parameters

None

Default value

The routes obtained from IBGP are not inserted to IGP.

Command mode

BGP configuration mode

Instruction

When you configure the command, pay attention to the configuration among the routers, or the route loop may occur. After the command is configured, you need run clear ip bgp * to reset BGP.

Example

The following example shows that the routes obtained from IBGP will be inserted by BGP into OSPF 3.

```
router ospf 3
 redistribute bgp 2
!
router bgp 2
 bgp redistribute-internal
!
```

Related command

None

1.1.16 bgp maxas-limit

bgp maxas-limit

bgp maxas-limit <value>

no bgp maxas-limit

Parameters

Parameters	Description

value	Value range: 1-500

Default value

None

Command mode

BGP configuration mode

Instruction

Run bgp log-neighbor-changes to enable bgp neighbor up/down log prompt function. Run no bgp log-neighbor-changes disable bgp neighbor up/down log prompt function.

Example

None

Related command

clear ip bgp

1.1.17 bgp router-id

Configure bgp router identifier.

bgp router-id <A.B.C.D>

no bgp router-id

Parameters

Parameters	Description
A.B.C.D	Need to be configured ID.

Default value

None

Command mode

BGP configuration mode

Instruction

Configure new router ID. peer in the status of “established” will automatically reset to BGP.

Example

None

Related command

clear ip bgp

show ip bgp

1.1.18 bgp update-delay

bgp update-delay

bgp update-delay <value>

no bgp update-delay

Parameters

Parameters	Description
value	The value range of bgp update-delay time is: 1-3600s.

Default value

The default value is 360s.

Command mode

BGP configuration mode

Instruction

BGP update-delay shall take effect only when BGP supports GR. After BGP protocol GR restart up, BGP will not inform local RIB until timer set by bgp update-delay is overtime. BGP will not forward the first update packet until BGP restarts up.

There is also another condition (BGP can deal with the route update without waiting for the bgp update time is overtime.) Refer to file “bgp graceful restart configuration” for more detail.

Example

None

Related command

bgp graceful-restart

clear ip bgp

1.1.19 bgp redistribute-internal

To allow the routes obtained from IBGP to be added to IGP, such as RIP route or OSPF route, run bgp redistribute-internal.

bgp redistribute-internal

no bgp redistribute-internal

Parameters

None

Default value

The routes obtained from IBGP are not inserted to IGP.

Command mode

BGP configuration mode

Instruction

When you configure the command, pay attention to the configuration among the routers, or the route loop may occur. After the command is configured, you need run clear ip bgp * to reset BGP.

Example

The following example shows that the routes obtained from IBGP will be inserted by BGP into OSPF 3.

```
router ospf 3
 redistribute bgp 2
!
router bgp 2
 bgp redistribute-internal
!
```

Related command

None

1.1.20 clear ip bgp

To reset the BGP connection with BGP, run the following command:

clear ip bgp {***** | *ip-address* | *as-number* | **peer-group** *name* | **aggregates** | **networks** | **redistribute}** [**soft** [**in** [prefix-filter]| **out]**]

Parameters

Parameters	Description
*****	Resets all current BGP sessions.
ip-address	Resets only the designated BGP neighbor.
AS	Resets the neighbor with the designated autonomous system.
peer-group-name	Resets the designated BGP peer group.
aggregates	Resets all aggregation routes.
networks	Resets all static network routes.
redistribute	Resets all forwarding routes.
soft	Means soft re-configuration.
in | out	Means soft re-configuration for the incoming or outgoing route.
prefix-filter	ORF's soft re-configuration for the incoming or outgoing route.

Command mode

EXEC

Instruction

Some BGP strategy configuration cannot validate immediately because the route is transmitted only once in a BGP session. To reset the BGP session, the routing information need be retransmitted.

If the BGP soft reconfiguration designated by the soft keyword is passed, the session will not be reset and the router will retransmit the update information about all routes. To prevent the update information of the incoming route from being generated by BGP session resetting, the local BGP session should receive all unchanged update information through the neighbor soft-reconfiguration command no matter whether the update information is allowed by the incoming strategy. Because the whole process takes a large storage volume, the whole process should be avoid as much as possible. The outgoing BGP soft configuration does not require extra memory cost. You can trigger an outgoing reconfiguration at the peer of the BGP session to validate new incoming strategy.

When the aggregates/networks/redistribute option is used, the soft option cannot be used because the aggregates/networks/redistribute option can delete the route with designated type and regenerate routes to validate the new configuration.

Example

The following example shows how to reset all current BGP sessions.

clear ip bgp *

Related command

neighbor soft-reconfiguration

show ip bgp

1.1.21 debug ip bgp

To enable the BGP trace function, run debug ip bgp. To disable the BGP trace function, run no debug ip bgp.

debug ip bgp {**all | fsm | keepalive | open | update**}

no debug ip bgp {**all | fsm | keepalive | open | update**}

Parameters

Parameters	Description
all	Enable all trace functions of BGP.
dampening	Enable the BGP routing fluctuation control trace.
event	Enable the event trace of BGP.
fsm	Enable the state machine trace of BGP.
keepalive	Opens the Keepalive trace of BGP.
notify	Opens the Notify packet trace of BGP.
open	Opens the trace of the open packet.
update	Opens the trace of the update packet.

Default value

All trace functions are closed.

Command mode

EXEC

Instruction

The trace functions are globally effective. After the trace functions are enabled, the trace information will be displayed at the monitor port. If other VTYs open the terminal monitor function, the trace information will also be displayed. In this case, you can run no terminal monitor to disable the function to forbid displaying the trace information.

The debug ip bgp all function is to open all BGP trace functions, including dampening, fsm, keepalive, open and update. You can run no debug ip bgp all to close all opened BGP trace functions.

Example

The following example shows how an BGP connection is established. T he trace information shows that the router initiates a connection to the BGP neighbor 10.1.1.3. The connection starts with the idle state and finally ends with the established state which means that the connection is established. All received and forwarded

The format of the trace information consists of several key parts. The initial part is the time formation if the systematic configuration allows the time information in the trace information. The real BGP information is the BGP header, the address of the BGP neighbor and relative BGP events.

BGP: 10.1.1.3 start connecting to peer
BGP: 10.1.1.3 went from Idle to Connect
BGP: 10.1.1.3 went from Connect to OpenSent
BGP: 10.1.1.3 send OPEN, length 41
BGP: 10.1.1.3 recv OPEN, length 41
BGP: 10.1.1.3 went from OpenSent to OpenConfirm
BGP: 10.1.1.3 send KEEPALIVE, length 19
BGP: 10.1.1.3 recv KEEPALIVE, length 19
BGP: 10.1.1.3 went from OpenConfirm to Established
BGP: 10.1.1.3 send KEEPALIVE, length 19
BGP: 10.1.1.3 send UPDATE, length 43
BGP: 10.1.1.3 send UPDATE, length 43
BGP: 10.1.1.3 recv KEEPALIVE, length 19
BGP: 10.1.1.3 recv KEEPALIVE, length 19

1.1.22 distance

To modify the management distance of the default external/internal/local route and realize the management strategy, run distance bgp external-distance internal-distance local-distance. To resume the default values, run no distance bgp.

distance bgp *external-distance internal-distance local-distance*

no distance bgp

Parameters

Parameters	Description

external-distance	Means the management distance of the external BGP route which is the best route learned by the external route from the external AS neighbor. The external BGP route which is the best route learned by the external route from the external AS neighbor. The default value is 20.
internal-distance	Means the management distance of the internal BGP route which is the route learned by the internal route from other BGP entities in the same AS. The default value is 200. The default value is 200 seconds.
local-distance	Means the management distance of the external BGP route. The backdoor route configured by the network command is the local route. The default value is 200.

Default value

external-distance: 20

external-distance: 200

local-distance: 200

Command mode

BGP configuration mode

Instruction

Through the distance command, you can modify the management distance of the route, the priority of the route and the routing choice and thus change the route strategy.

It is dangerous to modify the management distance of the route until you have the clear purpose. The routing table may become identical and the route may be damaged.

Example

In following example, the already known internal route is more appreciate than that learned through IGP. That's why the management distance is set.

```
router bgp 109
network 131.108.0.0
neighbor 129.140.6.6 remote-as 123
neighbor 128.125.1.1 remote-as 47
distance 20 20 200
```

Related command

set metric

set tag

1.1.23 filter

To enable the port-based route filtration, run filter. To disable it, run no filter.

filter interface <**in | out**> **access-list** *access-list-name* **gateway** *access-list-name* **prefix-list** *prefix-list-name*

no filter interface <**in | out**> **access-list** *access-list-name* **gateway** *access-list-name* **prefix-list** *prefix-list-name*

Parameters

Parameters	Description
interface	Name of the port The symbol (*) stands for all ports.
in | out	Filtrates the received or transmitted routes.
access-list	Designates the access list which is to filtrate the routes.
access-list-name	Name of the access list
gateway	Designates the gateway where the access list is to filtrate the routes.
access-list-name	Name of the access list
prefix-list	Designates the prefix list to filtrate the routes.
prefix-list-name	Name of the prefix list

Default value

None

Command mode

BGP configuration mode

Instruction

The access-list option is to designate the access list to filtrate the network prefix information of the route. The gateway option is to designate the access list to filtrate the next hop of the route and the prefix-list option is to designate the prefix list to filtrate the network prefix information.

The access-list option and the prefix-list option can not be used concurrently. They can be used together with the gateway option. The route, however, need pass through two examinations in this case.

The symbol (*) stands for all interfaces. To configure the filtration regulations on a specific interface and then on all interfaces, the route must meet all filtration regulations.

If the inexistent prefix-list option and access-list option are designated, all routes are allowed to pass.

Example

In following example, the received routes on all ports are filtrated through the prefix-list and gateway options.

router bgp 109
filter * in prefix-list prefix-guize gateway gateway-guize

Related command

neighbor distribute-list

neighbor filter-list

neighbor route-map

1.1.24 maximum-paths

Run maximum-paths to allow bgp supporting

maximum-paths [value] | [**ibgp** value]

no maximum-paths [**ibgp**]

Parameters

Parameters	Description
value	BGP supports maximum number of equivalent routes

Default value

None

Command mode

BGP configuration mode

Instruction

Run command “maximum-paths” and BGP can support modification of number of equivalent routes. Modification of EBGP equivalent route without ibgp parameters has no influence on optimal route.

Example

Set 3 ibgp equivalent routes in following example:

router bgp 100
maximum-paths ibgp 3

Related command

clear ip bgp

show ip bgp

1.1.25 neighbor activate

Run command “neighbor activate” and designate neighbor address-family.

neighbor {*ip-address*| *X:X::X:X* | *peer-group-name*} **activate**

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **activate**

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group

Default value

ipv4 neighbor discovery is activated by default.

Command mode

BGP address discovery configuration

Instruction

Activate support for routing information of neighbor on address family.

Example

Related command

neighbor remote-as

1.1.26 neighbor advertisement-interval

Run command “neighbor advertisement-interval” to forward the minimum interval of update information. Run command “no neighbor advertisement-interval” to resume default setting.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **advertisement-interval value**

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **advertisement-interval**

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group
Value	<1-600>，unit: second.

Default value

ibgp: default interval is 1s; ebgp: default interval is 30s.

Command mode

BGP configuration mode

Instruction

Set the minimum interval of forwarding UPDATE information.

Example

In following example, set the interval of neighbor 10.10.10.11 forwarding UPDATE information as 15s.

router bgp 1

neighbor 10.10.10.11 remote-as 2

neighbor 10.10.10.11 advertisement-interval 15

Related command

neighbor remote-as

1.1.27 neighbor allowas-in

Run command “neighbor allowas-in” and BGP can receive the route including local as from the aspath property of the neighbor learning; run command “no neighbor allowas-in” and similar routes cannot be received.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **allowas-in** value

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **allowas-in**

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group
Value	<1-10>, set times of local as appearing in aspath properties. The default is 3.

Default value

The command does not allow the route information of aspath property including in local as.

Command mode

BGP configuration mode

Instruction

BGP can receive the route including local as from the aspath property of the neighbor learning

Example

In following example, set neighbor 10.10.10.11 and allow it to receive and handle the route information of aspath property including local as (at most 3 times.):

router bgp 1

neighbor 10.10.10.11 remote-as 2

neighbor 10.10.10.11 allowas-in

Related command

neighbor remote-as

1.1.28 neighbor capability orf prefix-list

Run command “neighbor capability orf prefix-list” and enable ORF function; run command “no neighbor capability orf prefix-list” to disable the function.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **capability orf prefix-list** {both| receive| send}

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **capability orf prefix-list** {both| receive| send}

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group

Default value

Non-support of ORF.

Command mode

BGP configuration mode

Instruction

The command alllows BGP to support ORF. ORF, based on the *prefix-list* filtration mode, informs the neighbor to inform local needed route and reduce unnecessary update packet. The command is used with command “neighbor prefix-list in”. The command shall take effect with “clear ip bgp *”.

Example

In following example, set neighbor 10.10.10.11 output route filtration function (receive and forward):

router bgp 100

neighbor 10.10.10.11 remote-as 2

neighbor 10.10.10.11 capability orf prefix-list both

Related command

neighbor prefix-list in

clear ip bgp in prefix-filter

1.1.29 neighbor default-originate

To enable the BGP session party (local router) to transmit default route 0.0.0.0 to the designated neighbor, run neighbor default-originate; to disable the default route to be transmitted, run no neighbor default-originate.

neighbor {*ip-address* | *X:X::X:X* |*peer-group-name*} **default-originate** [route-map *map-name*]

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **default-originate** [route-map *map-name*]

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group
route-map	Sets the route's attribute through the route map.
map-name	Stands for the name of the route map.

Default value

The default route us not transmitted to the neighbor.

Command mode

BGP configuration mode

Instruction

The command is to forward default route to the neighbor immediately.

The command has nothing to do with whether 0.0.0.0 route is created in BGP routing table.

Example

In following example, default route will inform neighbor 160.89.2.3, but not neighbor 160.89.2.1:

router bgp 109
network 160.89.0.0
neighbor 160.89.2.1 remote-as 100
neighbor 160.89.2.3 remote-as 200
neighbor 160.89.2.3 default-originate

Related command

neighbor ebgp-multihop

1.1.30 neighbor description

To describe the neighbor, run neighbor description. To delete the command description, run no neighbor description.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **description LINE**

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **description LINE**

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group
line	Neighbor description line

Default value

There is no description about the neighbor.

Command mode

BGP configuration mode

Instruction

The description can make the configuration more accessible.

Example

In following example, the description of the neighbor is the peer of abc.com.

router bgp 109

network 160.89.0.0

neighbor 160.89.2.3 description peer with abc.com

1.1.31 neighbor distribute-list

To filtrate the incoming/outgoing routes of the BGP neighbor through the access list, run neighbor distribute-list. To delete the previous configuration, run no neighbor distribute-list.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **distribute-list** {*access-list name* } {**in | out**}

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **distribute-list** {*access-list name* } {**in | out**}

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor

peer-group-name	Name of the BGP peer group
access-list name	Name of the IP access control list
In	Means that the access list is to filtrate the incoming routes.
Out	Means that the access list is to filtrate the outgoing routes.

Default value

None

Command mode

BGP configuration mode

Instruction

One method is to use the access-list option to filtrate the network prefix information of the BGP route through the neighbor distribute-lists command; one method is to use the aspath-list option to filtrate the AS_PATH feature of the BGP route through the neighbor filter-list command; the other method is to use the prefix-list option to filtrate the network prefix information of the BGP route through the neighbor prefix-list command.

If the inexistent access list is designated, all routes are allowed.

If the peer-group-name parameter is to designate the BGP peer group, all members of the peer group will inherit all the features configured by the command. The command to designate the IP address will replace the values inherited from the peer group.

Example

The following example shows how to apply the Beijing list for filtrating the incoming routes of neighbor 120.23.4.1.

```
router bgp 109
network 131.108.0.0
neighbor 120.23.4.1 distribute-list beijing in
```

Related command

ip aspath-list

neighbor filter-list

ip prefix-list 1

neighbor prefix-list

1.1.32 neighbor ebgp-multihop

To permit EBGP neighbors in the indirectly-connected network, run neighbor ebgp-multihop. To resume the default settings, run no neighbor ebgp-multihop.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **ebgp-multihop** [*ttl*]

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **ebgp-multihop**

Parameters

Parameters	Description
ip-address	IP address of the BGP session neighbor
X:X::X:X	IP address of the BGP session neighbor ipv6
peer-group-name	Name of the BGP peer group
ttl	Number of hops ranging between 1 and 255

Default value

The EBGP neighbor only allows the direct connection. The value of TTL is 1 and the value of the TTL neighbor is 255.

Command mode

BGP configuration mode

Instruction

By default, the EBGP neighbor must be in the directly-connected network, or the BGP connection cannot be established. The maximum number of hops of the EBGP neighbor can be set through the neighbor ebgp-multihop command.

If the value of TTL is not specified by the command, the value of TTL is 255.

If the peer-group-name parameter is to designate the BGP peer group, all members of the peer group will inherit all the features configured by the command.

Example

The following example shows the connection with neighbor 131.108.1.1 is allowed though the neighbor is not in the directly-connected network.

```
router bgp 109
neighbor 131.108.1.1 ebgp-multihop
```

Related command

neighbor default-originate

1.1.33 neighbor fall-over

Run command “neighbor fall-over bfd” to activate bfd link detection function of neighbor; run command “no neighbor fall-over bfd” to disable the function.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **fall-over bfd**

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **fall-over bfd**

Parameters

Parameters	Description
ip-address	IP address of the BGP session neighbor
X:X::X:X	IP address of the BGP session neighbor ipv6
peer-group-name	Name of the BGP peer group

Default value

Non-support bfd detection function.

Command mode

BGP configuration mode

Instruction

The command enables bfd link detection when the correspondent interface activates bfd function. When the link is in trouble, bfd informs bgp to update the route.

Example

Related command

neighbor remote-as

bfd enable

1.1.34 neighbor filter-list

To configure the AS-PATH list to filtrate the incoming/outgoing routes of the BGP neighbor, run neighbor filter-list. To forbid the previous function, run no neighbor filter-list.

neighbor {*ip-address* | *X:X::X:X* |*peer-group-name*} **filter-list** *as-path-list name* {**in | out** }

no neighbor {*ip-address* | *X:X::X:X* |*peer-group-name*} **filter-list** *as-path-list name* {**in | out** }

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group
as-path-list name	Name of the AS-PATH list which can be defined by the ip as-path-list command
In	Filtrates the incoming routes.
Out	Filtrates the outgoing routes.

Default value

None

Command mode

BGP configuration mode

Instruction

One method is to use the access-list option to filtrate the network prefix information of the BGP route through the neighbor distribute-lists command; one method is to use the aspath-list option to filtrate the AS_PATH feature of the BGP route through the neighbor filter-list command; the other method is to use the prefix-list option to filtrate the network prefix information of the BGP route through the neighbor prefix-list command.

If the inexistent access list is designated, all routes are allowed.

If the peer-group-name parameter is to designate the BGP peer group, all members of the peer group will inherit all the features configured by the command. The command to designate the IP address will replace the values inherited from the peer group.

Example

In following example, the routes forwarded through or coming from AS123 are not reported to neighbor 128.125.1.1.

```
ip as-path-list shanghai deny _123_
ip as-path-list shanghai deny ^123$

router bgp 109
network 131.108.0.0
```

neighbor 129.140.6.6 remote-as 123
neighbor 128.125.1.1 remote-as 47
neighbor 128.125.1.1 filter-list shanghai out

Related command

ip aspath-list

neighbor distribute-list

ip prefix-list 1

neighbor prefix-list

1.1.35 neighbor maximum-prefix

To control the maximum number of network prefixes obtained from the neighbor, run neighbor maximum-prefix. To forbid the function, run no neighbor maximum-prefix.

neighbor {*ip-address* | *X:X::X:X* |*peer-group-name*} **maximum-prefix** *maximum*

no neighbor {*ip-address* | *X:X::X:X* |*peer-group-name*} **maximum-prefix**

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group
Maximum	Maximum number of network prefixes obtained from the neighbor

Default value

There is no limitation to the number of network prefixes.

Command mode

BGP configuration mode

Instruction

The command allows to configure the maximum number of network prefixes obtained by the BGP router from the peer and provide a mechanism to control the prefix reception.

When the number of the received prefixes reaches the configured maximum number, the router terminates the session.

Example

The following example shows that the maximum number of prefixes obtained from neighbor 129.140.6.6 is set to 1000.

router bgp 109

network 131.108.0.0

neighbor 129.140.6.6 maximum-prefix 1000

Related command

clear ip bgp

1.1.36 neighbor next-hop-self

To activate the next-hop process of the BGP update and set itself as the address of the next hop, run neighbor next-hop-self. To disable the function, run no neighbor next-hop-self.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **next-hop-self**

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **next-hop-self**

Parameters

Parameters	Description
ip-address	IP address of the BGP session neighbor
X:X::X:X	IP address of the BGP session neighbor ipv6
peer-group-name	Name of the BGP peer group

Default value

The function is disabled by default.

Command mode

BGP configuration mode

Instruction

The Nexthop process in BGP is more complicated than that in IGP. During the process, three regulations must be followed: 2. As to the IBGP session, if the route is generated locally, when the route is transmitted, the nexthop should be set to the local IP address of the BGP connection; if the route is obtained by EBGP, write the nexthop feature to the package without any change when the route is transmitted. 3. If the IP address of the nexthop feature of the route belongs to the network where the BGP session resides, the nexthop features are always the features of the previous nexthop.

The command is useful in the NBMA network because the BGP neighbor in the NBMA network probably cannot access other neighbors on the same IP subnet.

If the peer-group-name parameter is to designate the BGP peer group, all members of the peer group will inherit all the features configured by the command. The command to designate the IP address will replace the values inherited from the peer group.

Example

The following example shows that the next hop' addresses of all route updates which is mandatorily transmitted to router 131.108.1.1 are set to the routes themselves.

```
router bgp 109
neighbor 131.108.1.1 next-hop-self
```

Related command

set ip next-hop 18

1.1.37 neighbor password

To enable the MD5 option of TCP to perform the password authentication between the BGP neighbors, run neighbor password. To cancel the authentication, run no neighbor password.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **password** *[type] LINE*

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **password**

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group
password	Performs the MD5 authentication.
type	password encapsulation type: 0, 6, 7 0 represents that both configuration and display are clear text; 6 represents the clear text is used in configuration and ciphertext in display; 7 represents that both configuration and display are ciphertext; Note: Type 0 is adopted if there is no type set.
LINE	Text password

Default value

None

Command mode

BGP configuration mode

Instruction

Before the command is used, the neighbors must be designated by the neighbor remote-as command.

The command must be configured on the two neighborhood parties and the same password must be set. In this case, the neighbor connection can be established through MD5 authentication. The password contains any character except space and the length of the password must range between 1 and 100 characters(type 7 is 202).

If the peer-group-name parameter is to designate the BGP peer group, all members of the peer group will inherit all the features configured by the command.

Example

The following example shows how to set the authentication password of neighbor 120.23.4.1 to abcd:

router bgp 109

neighbor 120.23.4.1 remote-as 108

neighbor 120.23.4.1 password abcd

Related command

neighbor remote-as

1.1.38 neighbor peer-group

Run command “neighbor *peer-group-name* peer-group” to configure peer group. Run command “neighbor *peer-group-name* peer-group” to delete peer group.

Run command “neighbor *ip-address peer-group-name*” to configure neighbor peer group. Run command “no neighbor *ip-address* peer-group *peer-group-name*” to delete neighbor peer group.

neighbor *peer-group-name* **peer-group**

no neighbor *peer-group-name* **peer-group**

neighbor {*ip-address* | *X:X::X:X*} **peer-group** *peer-group-name*

no neighbor {*ip-address* | *X:X::X:X*} **peer-group** *peer-group-name*

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group

Default value

None

Command mode

BGP configuration mode

Instruction

Run command “neighbor *peer-group-name* peer-group” to configure peer group.

Run command “neighbor *ip-address peer-group-name*” to configure neighbor peer group. The autonomous system number (ASN) of the peer group needs to be configured at first if the neighbor has no configuration before.

Example

In following example, configure neighbor group named “group” and configure neighbor 10.1.1.1 to peer group.

router bgp 1

neighbor group peer-group

neighbor group remote-as 2

neighbor 10.1.1.1 peer-group group

Related command

neighbor remote-as

1.1.39 neighbor prefix-list

To configure the prefix list to filtrate the route update of the neighbor, run neighbor prefix-list. To delete the previous configuration, run no neighbor prefix-list.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **prefix-list** *prefix-listname* {**in | out**}

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **prefix-list** *prefix-listname* {**in | out**}

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	ipv6 address of the neighbor
peer-group-name	Name of the BGP peer group
prefix-list	Applies the prefix list to the route update of the neighbor.
prefix-listname	Prefix list name
In	Applies the incoming route update to the neighbor.
Out	Applies the outgoing route update to the neighbor.

Default value

None

Command mode

BGP configuration mode

Instruction

One method is to use the access-list option to filtrate the network prefix information of the BGP route through the neighbor distribute-lists command; one method is to use the aspath-list option to filtrate the AS_PATH feature of the BGP route through the neighbor filter-list command; the other method is to use the prefix-list option to filtrate the network prefix information of the BGP route through the neighbor prefix-list command.

If the inexistent access list is designated, all routes are allowed.

If the peer-group-name parameter is to designate the BGP peer group, all members of the peer group will inherit all the features configured by the command. The command to designate the IP address will replace the values inherited from the peer group.

Example

The following example shows how to apply prefix list abc to the incoming route update of neighbor 120.23.4.1.

router bgp 109

network 131.108.0.0

neighbor 120.23.4.1 prefix-list abc in

The following example shows how to apply prefix list CustomerA to the incoming route update of neighbor 120.23.4.1.

router bgp 109

network 131.108.0.0

neighbor 120.23.4.1 prefix-list CustomerA in

Related command

ip prefix-list

ip prefix-list description

ip prefix-list sequence-number

show ip prefix-list

clear ip prefix-list

neighbor filter-list

1.1.40 neighbor remote-as

To establish the BGP neighbor and designate its autonomous system number, run neighbor remote-as. To cancel the neighbor and its configuration, run no neighbor remote-as.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **remote-as** *number* [passive]

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **remote-as** *number*

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group
Number	Number indicating which AS the neighbor belongs to
passive	The parameter indicates the configuration is passive, that is, no active tcp connection.

Default value

None

Command mode

BGP configuration mode

Instruction

The neighbor with the same AS number designated by the router bgp command is considered as IBGP, or the neighbor is considered as EBGP. The neighbor remote-as

command is to create the neighbor. Only after the neighbor is created, other commands relative with the neighbor can be configured. Modification of the ASN when the neighbor has configured may cause BGP connection reset.

If the peer-group-name parameter is to designate the BGP peer group, all members of the peer group will inherit all the features configured by the command.

Example

In following example, the local autonomous system is 109. neighbors 131.108.200.1, 131.108.234.2 and 150.136.64.19 are configured and their autonomous systems are 167, 109 and 99.

```
router bgp 109
network 131.108.0.0
network 192.31.7.0
neighbor 131.108.200.1    remote-as 167
neighbor 131.108.234.2    remote-as 109
neighbor 150.136.64.19 remote-as 99
```

Related command

neighbor peer-group (creating)

1.1.41 neighbor remove-private-AS

Run command “neighbor remove-private-AS”: delete aspath property when informing route to ebgp neighbor. Run command “no neighbor remove-private-AS” to disable the function.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **remove-private-AS**

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **remove-private-AS**

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group

Default value

None

Command mode

BGP configuration mode

Instruction

The command is to inform ebgp neighbor to delete the route if as number in aspath property of the route information is private.

Example

In following example, local autonomous system is 100, configuration neighbor 10.1.1.1, 20.1.1.1; inform ebgp neighbor 20.1.1.1 to delete private aspath property when learning route from 10.1.1.1.

```
router bgp 100
neighbor 10.1.1.1   remote-as 64512
neighbor 20.1.1.1   remote-as 200
neighbor 20.1.1.1   remove-private-AS
```

Related command

neighbor remote-as

1.1.42 neighbor route-map

To set the route map to filtrate the incoming and outgoing routes of the neighbor, run neighbor route-map. To cancel the configuration, run no neighbor route-map.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **route-map** *map-name* {*in* | *out*}

no neighbor {*ip-address* |*X:X::X:X* | *peer-group-name*} **route-map** *map-name* {*in* | *out*}

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group
map-name	route mapping name
In	Means that the command is applied to the incoming routes.
Out	Means that the command is applied to the outgoing routes.

Default value

None

Command mode

BGP configuration mode

Instruction

The commands distribute-list, prefix-list and as-path-list can filtrate the routes based on the neighbors, while the route-map command can not only filtrate the routes based on the neighbor but also change the features of the route, enabling flexible routing strategies.

Different routes have different features and the route map can change the features of various routes. If the match-up regulation is configured for the route features that are not supported by the BGP route or the regulations are set and applied to the BGP route, these regulations will be omitted. Effective rules for BGP route: match aspath-list, match community-list, match ip address, match ip nexthop, match ip prefix-list, match metric, match tag, set aggregator, set as-path, set atomic-aggregate, set community, set community-additive, set ip nexthop, set local-preference, set metric, set origin, set tag, set weight.

If the inexistent route map is configured, all routes are allowed and have no changes.

If the peer-group-name parameter is to designate the BGP peer group, all members of the peer group will inherit all the features configured by the command. The command to designate the IP address will replace the values inherited from the peer group.

Example

The following example shows how to apply the internal-map route map to the incoming route from neighbor 198.92.70.24.

```
router bgp 5
neighbor 198.92.70.24 route-map internal-map in
route-map internal-map
match as-path abc
set local-preference 100
```

Related command

neighbor peer-group (creating)

route-map

1.1.43 neighbor route-reflector-client

To set the local router to be the BGP route reflector and designate the neighbor as the client, run neighbor route-reflector-client. To cancel the created client, run no neighbor route-reflector-client. When all clients are invalid, the local router is not the route reflector any more.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name* } **route-reflector-client**

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name* }| **route-reflector-client**

Parameters

Parameters	Description
ip-address	IP address of the BGP neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group

Default value

There is no route reflector.

Command mode

BGP configuration mode

Instruction

By default, all IBGP session parties in AS are fully-connected; BGP session parties do not report the routes learned from the IBGP neighbor.

If the route reflector is used, all IBGP session parties need not be fully-connected. In route reflector mode, the route reflector transmits the route (learned from IBGP) to the clients. The solution deserts the necessity for each router to communicate with other routers.

The neighbor route-reflector-client command is used to set the local router to be the BGP route reflector and designate the neighbor as one client. All neighbors configured by the command are the members of the client group. The left IBGP peers are the members of the non-client group in the local route reflector.

Example

In following example, the local router is a route reflector which transmits the learned IBGP route to neighbor 198.92.70.24.

```
router bgp 5
neighbor 198.92.70.24 route-reflector-client
```

Related command

bgp cluster-id

show ip bgp

1.1.44 neighbor route-refresh

To activate the route refresh function of the neighbor, run neighbor route-refresh. To disable the route refresh function, run no neighbor route-refresh.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name* } **route-refresh**

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name* } **route-refresh**

Parameters

Parameters	Description
ip-address	IP address of the BGP neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group

Default value

The route refresh function is not run by default.

Command mode

BGP configuration mode

Instruction

By default, the BGP route is only exchanged once when the connection is created and afterwards only the modified route is exchanged. If the configuration of the route strategy is modified, it cannot validate immediately. In general, there are two methods: resetting the BGP connection and activating the soft-reconfiguration function. The first method is slow and the route change may be big; the second method requires plenty of storage space and takes more time. The two methods are not so good as route refreshing.

Route refreshing is a negotiation option during BGP connection establishment which is to require neighbors retransmitting all UPDATE packets through sending the route refresh request. In this case, resetting BGP connection or storing lots of routes is not required.

Example

In following example, neighbor 198.92.70.24 is allowed to activate route refreshing.

```
router bgp 5
neighbor 198.92.70.24 route-refresh
```

Related command

show ip bgp neighbors

1.1.45 neighbor send-community

To allow the route updates with the community attribute to be sent to the BGP neighbor, run neighbor send-community.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name* } **send-community** {standard | extended | both}

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name* }**send-community** {standard | extended | both}

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group

Default value

The route update transmitted to the neighbor doesn't own the community attributes.

Command mode

BGP configuration mode

Instruction

You can run neighbor send-community to forward the routes with community attributes to be sent to the neighbor.

The community attributes of the routes can be set through the route-map command or the set community command, or come from the route notification of the neighbor.

You can run show ip bgp neighbors to check whether the community attributes are allowed to send to the neighbor.

If the peer-group-name parameter is to designate the BGP peer group, all members of the peer group will inherit all the features configured by the command.

Example

In following example, the router belongs to AS109 and configures COMMUNITIES and EXTCOMMUNITIES attributes to neighbor 198.92.70.23.

```
router bgp 109
no neighbor 198.92.70.23 send-community both
```

Related command

match community-list 4

neighbor peer-group (creating)

set community 15

set community-additive 17

1.1.46 neighbor send-label

Run command “neighbor send-label” to activate neighbor or equivalent group NLRI with label. Run command “no neighbor send-label” to disable the function.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name* } **send-label**

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name* }**send-label**

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group

Default value

None

Command mode

BGP configuration mode

Instruction

The command “neighbor send-label” is to activate nlri with mpls label information, which is usually applied in vpn optionC solution. Combining the command with route-map, bgp can distribute mpls label for public route.

Related command

neighbor remote-as

neighbor route-map

show ip bgp neighbors

1.1.47 neighbor shutdown

To invalidate neighbors or peer groups, run neighbor shutdown. To reactivate neighbors or peer groups, run no neighbor shutdown.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name* } **shutdown**

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name* }**shutdown**

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group

Default value

None

Command mode

BGP configuration mode

Instruction

The neighbor shutdown command is used to shut down the session of the designated neighbor or the peer group and delete all relative routing information. In the case of peer groups, it means that a lot of sessions terminate abruptly.

You can run show ip bgp summary or show ip bgp neighbors to check the information about the BGP neighbors and the peer groups. The neighbor which is closed by the neighbor shutdown command is in the shutdown state.

Related command

show ip bgp summary

show ip bgp neighbors

1.1.48 neighbor soft-reconfiguration

To enable the route update storage function, run neighbor soft-reconfiguration. To delete the route update and stop storing the route update, run no neighbor soft-reconfiguration.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name* } **soft-reconfiguration** [**inbound**]

no neighbor {*ip-address*|*X:X::X:X*|*peer-group-name*} **soft-reconfiguration** [**inbound**]

Parameters

Parameters	Description
ip-address	IP address of the BGP session neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group
inbound	Stores the incoming route update.

Default value

The incoming route update is not stored but the outgoing route update is stored.

Command mode

BGP configuration mode

Instruction

The outgoing route updates are always stored, while the incoming route updates are stored only after relative configuration is performed. The stored route updates can validate after the routing strategy is modified without BGP session resetting. The BGP session resetting will bring lots of data exchange and many routes will therefore fluctuate, while soft-reconfiguration can avoid the previous shortness.

The outgoing route updates are always stored, while the incoming route updates are not stored by default. To validate the new configuration after the local configuration strategy is modified, you can adopt the following methods:

Firstly, resetting related BGP sessions; secondly, locally conducting the soft reconfiguration of the incoming route, clear ip bgp a.b.c.d soft in; thirdly, the peer conducting the soft reconfiguration of the outgoing route, clear ip bgp a.b.c.d soft out.

If the peer-group-name parameter is to designate the BGP peer group, all members of the peer group will inherit all the features configured by the command.

Example

The following example shows that the inbound soft-reconfiguration of neighbor 131.108.1.1 is activated and all route updates received from the neighbor will be stored without any change.

```
router bgp 100
neighbor 131.108.1.1 remote-as 200
neighbor 131.108.1.1 soft-reconfiguration inbound
```

Related command

clear ip bgp

neighbor peer-group (creating)

1.1.49 neighbor timers

To set the timer for a detailed BGP peer or peer group, run neighbor timers. To cancel the timer of a detailed BGP peer or peer group, run no neighbor timers.

neighbor {*ip-address|X:X::X:X|peer-group-name}* **timers** keepalive *holdtime Idleholdtime*

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **timers** keepalive *holdtime Idleholdtime*

Parameters

Parameters	Description
ip-address	IP address of the BGP peer
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group
Keepalive	Value of the keepalive timer whose unit is second
Holdtime	Value of the Holdtime timer whose unit is second, which is 0 or a value larger than 3
Idleholdtime	idle hold time timer, unit: second

Default value

keepalive is 30 s

holdtime is 90 s

Idleholdtime is 0

Command mode

BGP configuration mode

Instruction

The timer of a detailed neighbor or peer group replaces the timer of the default BGP neighbor. In general, the holdtime parameter is set to a value three times of the value of the keepalive parameter. If the keepalive parameter and the holdtime parameter are set to 0, the keepalive packets are forbidden to forward. In this case, the TCP

connection administrator is required to notify the BGP module of the connection's state change.

Idle hold time is set not be 0, enable Damp Peer Oscillation; when bgp peer group is connected or disconnected for 10 times in 5 mins, enable idleholdtimer suppression function and bgp peer group is in idle state. The hold time is configured idleholdtime.

When Idleholdtime is 0, disable DampPeerOscillation function.

Example

The following example shows how to respectively set the keepalive timer and the holdtime timer of BGP peer 192.98.47.10 to 70 seconds and 210 seconds.

router bgp 109

neighbor 192.98.47.10 timers 70 210

1.1.50 neighbor ttl-security-hop

Run command "neighbor ttl-security-hop" to set BGP connection ttl hop limit; run command "no neighbor ttl-security-hop" to disable the function.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **ttl-security-hop** *valude*

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **ttl-security-hop** *value* | <cr>

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group
value	Hop limit ranges: 1-254

Default value

None

Command mode

BGP configuration mode

Instruction

Configure max hop bgp neighbor supported. bgp connection cannot be established when the hop exceeds the max number.

Example

In following example, configure ttl hop of 10.1.1.2 neighbor to 1:

```
router bgp 100
 neighbor 10.1.1.2 ttl-security-hop 1
```

Related command

neighbor peer-group (creating)

neighbor remote-as

1.1.51 neighbor update-source

To allow the BGP session to create the TCP connection through the designated interface, run neighbor update-source. To resume the autonomously-selected interface, run no neighbor update-source.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **update-source interface**

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **update-source interface**

Parameters

Parameters	Description
ip-address	IP address of the BGP session neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group
Interface	Port name

Default value

The IP address of the local interface which is calculated by the route is used to create the TCP connection.

Command mode

BGP configuration mode

Instruction

By default, the IP module decides the local IP address of the TCP connection when BGP triggers the connection. The IP module decides the outgoing interface through the route and then binds the main IP address of the interface and takes it as the local address of the TCP connection. The update-source function can be used to bind the main IP address of the designated local interface when the TCP connection is established.

Loopback port is usually designated to be used, as loopback port protocol state is always up. Thus BGP dialogue is stable.

If the peer-group-name parameter is to designate the BGP peer group, all members of the peer group will inherit all the features configured by the command.

Example

The following example shows the BGP connection of the neighbor is designated to use the IP address of the loopback interface.

router bgp 110

network 160.89.0.0

neighbor 160.89.2.3 remote-as 110

neighbor 160.89.2.3 update-source Loopback0

Related command

neighbor peer-group (creating)

1.1.52 neighbor weight

To endow the BGP connection with a weight value, run neighbor weight. To delete the endowed weight value, run no neighbor weight.

neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **weight** *weight*

no neighbor {*ip-address* | *X:X::X:X* | *peer-group-name*} **weight** *weight*

Parameters

Parameters	Description
ip-address	IP address of the neighbor
X:X::X:X	IP address of the neighbor
peer-group-name	Name of the BGP peer group
Weight	Weight value, ranging from 0 to 65535

Default value

The default weight value of the route which is obtained from the BGP peer is 0, while the default weight value of the route generated by the local router is 32768.

Command mode

BGP configuration mode

Instruction

The weight value of the BGP route is an important element to consider when you choose the route. The default weight values of all neighbor-learned routes are 0. Through the command, you can set the weight value for a route from a neighbor. The route map is another method to modify the weight value.

If the peer-group-name parameter is to designate the BGP peer group, all members of the peer group will inherit all the features configured by the command.

Example

The following example shows that the weight value of the route learned by neighbor 151.23.12.1 is set to 50:

```
router bgp 109
 neighbor 151.23.12.1 weight 50
```

Related command

neighbor peer-group (creating)

set weight 23

1.1.53 network (BGP)

To insert the network route into BGP, run network. To cancel the configuration, run no network.

network A.B.C.D/n route-map *map-name* **backdoor**

no network A.B.C.D/n route-map *map-name* **backdoor**

Parameters

Parameters	Description
A.B.C.D/n	Adds the network prefix to BGP.
route-map	Designates the route map.
map-name	Stands for the name of the route map.
backdoor	Stands for backdoor network.

Default value

By default, no network prefix is added to BGP.

Command mode

BGP configuration mode

Instruction

There are three methods to add the routes to the BGP routing table: 1. Dynamically add the routes through the redistribute command. 2. Statically add the routes through the network command. 3. Statically add the routes through the aggregate command. The routes generated through the three methods are thought to be the locally-generated routes which can be notified of other peers but cannot be added to the IP routing table.

The premise for the network configured by the network command to validate is that a same route exists in the main IP routing table.

The premise for the network configured by the network command to validate is that at least one more accurate route or a same route exists in the local BGP routing table.

If the mask's length is not designated, the length will be generated according to the settings of the standard network type.

The route-map can be used to set the attributes of the route when the route is generated.

The backdoor network is not used to generate the route, but to modify the distance of the route. The default distance of the route from the neighbor is changed to the distance of the local route whose default value is 200.

The maximum configuration times for the network command is up to the source of the router, such as the configured NVRAM or RAM.

Example

The following example shows how to add route 131.108.0.0/8 to BGP:

router bgp 120
network 131.108.0.0/8

Related command

redistribute (BGP)

aggregate-address

1.1.54 redistribute（BGP）

To add a route to BGP, run redistribute. To forbid the route to be added to ISIS, run no distribute.

redistribute protocol [*process-id*] [route-map *map-name*] {[match internal | external | nssa-external][1 | 2 | 1-2]}

no redistribute protocol [*process-id*] [route-map *map-name*] {[match internal | external | nssa-external][1 | 2 | 1-2]}

Parameters

Parameters	Description
protocol	Stands for the type of a routing protocol.
process-id	The process ID of route protocol, for instance, the process ID of ospf. The process ID doesn't need to be configured when the protocol is connected.
route-map	Sets the route's attribute through the route map.
map-name	Stands for the name of the route map.
match	Sub type of matching opsf route (internal, external, nssa-external)

Default value

The route forwarding is forbidden.

Command mode

BGP configuration mode

Instruction

There are three methods to add the routes to the BGP routing table: 1. Dynamically add the routes through the redistribute command. 2. Statically add the routes through the network command. 3. Statically add the routes through the aggregate command. The routes generated through the three methods are thought to be the locally-generated routes which can be notified of other peers but cannot be added to the IP routing table.

You can run redistribute command to dynamically add the route to BGP. The change of the route source will be autonomously reflected in BGP. Other neighbors will be notified of the dynamically-added routes. The routes of the designated type in the routing table will be rechecked after the redistribute command is set.

The route-map can be used to set the attributes of the route when the route is generated.

Example

The following example shows how to forward OSPF process 23 to BGP:

```
router bgp 109
redistribute ospf 23
```

Related command

route-map 1

1.1.55 router bgp

To start the BGP process or enter the BGP mode, run router bgp. To disable the BGP process, run no router bgp.

router bgp *as-number*

no router bgp *as-number*

Parameters

Parameters	Description
as-number	Number of the autonomous system

Default value

The BGP process is shut down by default.

Command mode

Global configuration mode

Instruction

Only one BGP process can be configured in the system. The BGP task in the system is created when the system is initialized. After the BGP process is started, the BGP task is activated. If the BGP process is not configured, the BGP task only receives the information from the command module, which has no relation with the routing module and other modules. Relative commands show and clear are invalid.

The BGP process can be deleted through the no router bgp command. At the same time, the other configurations such as neighbors will also be deleted. The BGP route in the routing table should also be deleted.

After the BGP process is configured, you can run show running or show ip bgp summary to observe it.

Example

The following example shows how to start the BGP process and designate the autonomous system's number to 200.

```
router bgp 200
```

Related command

neighbor remote-as

1.1.56 show ip bgp

To display the items in the BGP routing table, run show ipv4 bgp.

show ip bgp [**network**]

Parameters

Parameters	Description
network	Display designated routing information

Command mode

EXEC

Instruction

If the network is not designated, the whole BGP routing table is not displayed. After the network is designated, only the information about the network is displayed.

Example

The information about a BGP group is displayed in the following. The first two lines shows some identification information.

Status code shows the meaning of the mark in front of the route; the letter “s” means that the route is restrained by the aggregation configuration (the restrained route is an invalid route); the letter “H” stands for the history route which is saved because of the route fluctuation (In fact, a real route does not exist. The history route is also not a valid route); the mark “*” stands for a valid route which can be selected as the optimal route; the mark “>” stands for the optimal route which is chosen from all valid routes; the letter “i” stands for an internal route which is from the IBGP neighbor.

Origin codes show the origin attribute of the route. The letter “i” stands for IGP, the letter “e” stands for EGP and the mark “?” stands for uncertainty.

The following attributes of each route will be displayed: state, destination address, gateway’s address, MED, local-preference, weight and AS path. The gateway address of the locally-generated route is 0.0.0.0. If the metric is not well configured, it will not be displayed, or its value will be displayed. The default value of the local-preference parameter for the IBGP route is 100. The other local preference parameters which are not displayed also contain the default value or the set value will be displayed. The weight of the locally-generated route is 32768, set value or 0. The AS Path domain will display the AS Path attribute of the route including the AS list and the origin attribute. The content in the bracket is AS-set or the sub autonomous system in the autonomous system ally.

The last line shows how many routes are displayed, including all invalid or valid routes.

```
B3710_118#show ip bgp
Status codes: s suppressed, d damped, h history, * valid, > best, i internal
Origin codes: i - IGP, e - EGP, ? - incomplete
```

```
     Network          Next Hop            Metric LocPrf Weight Path
*    192.168.10.0/24  192.168.69.5                      0 10 400 i
*>i192.168.10.0/24    192.168.69.14            100       0 (65030) 400 i
*>i192.168.11.0/24    192.168.69.14            100       0 (65030) 400 i
*    192.168.65.0/30  192.168.69.1             100       0 (65020) 10 ?
*> 192.168.65.0/30    192.168.69.5                       0 10 ?
*    192.168.65.4/30  192.168.69.1             100       0 (65020) 10 ?
*> 192.168.65.4/30    192.168.69.5                       0 10 ?
*    192.168.65.8/30  192.168.69.1             100       0 (65020) 10 ?
*> 192.168.65.8/30    192.168.69.5                       0 10 ?
*    192.168.66.0/30  192.168.66.2             100       0 (65020) ?
*> 192.168.66.0/30    0.0.0.0                            32768 ?
* i192.168.66.4/30    192.168.66.6             100       0 ?
*> 192.168.66.4/30    0.0.0.0                            32768 ?
*>i192.168.66.8/30    192.168.66.6             100       0 ?
*>i192.168.67.0/30    192.168.69.18     200    100       0 500 ?
```

Number of displayed routes: 15

Related command

show ip bgp community

show ip bgp neighbors

show ip bgp paths

show ip bgp prefix-list

show ip bgp regexp

show ip bgp summary

1.1.57 show ip bgp community

To display the statistics information about the BGP community structure, run show ip bgp community.

show ip bgp community

Parameters

None

Command mode

EXEC

Instruction

The command is used to display the statistics information about the BGP community structure.

Related command

show ip bgp

show ip bgp neighbors

show ip bgp paths

show ip bgp prefix-list

show ip bgp regexp

show ip bgp summary

1.1.58 show ip bgp ipv6 unicast

To display the items in the BGP routing table, run show ipv6 bgp.

show ip bgp ipv6 unicast[**network**]

Parameters

Parameters	Description
network	Display designated routing information

Command mode

EXEC

Instruction

If the network is not designated, the whole ipv6 BGP routing table is not displayed. After the network is designated, only the information about the network is displayed.

Example

The information about a BGP group is displayed in the following. The first two lines shows some identification information.

Status code shows the meaning of the mark in front of the route; the letter “s” means that the route is restrained by the aggregation configuration (the restrained route is an invalid route); the letter “H” stands for the history route which is saved because of the route fluctuation (In fact, a real route does not exist. The history route is also not a valid route); the mark “*” stands for a valid route which can be selected as the optimal

route; the mark “>” stands for the optimal route which is chosen from all valid routes; the letter “i” stands for an internal route which is from the IBGP neighbor.

Origin codes show the origin attribute of the route. The letter “i” stands for IGP, the letter “e” stands for EGP and the mark “?” stands for uncertainty.

The following attributes of each route will be displayed: state, destination address, gateway’s address, MED, local-preference, weight and AS path. The gateway address of the locally-generated route is 0.0.0.0. If the metric is not well configured, it will not be displayed, or its value will be displayed. The default value of the local-preference parameter for the IBGP route is 100. The other local preference parameters which are not displayed also contain the default value or the set value will be displayed. The weight of the locally-generated route is 32768, set value or 0. The AS Path domain will display the AS Path attribute of the route including the AS list and the origin attribute. The content in the bracket is AS-set or the sub autonomous system in the autonomous system ally.

The last line shows how many routes are displayed, including all invalid or valid routes.

Related command

1.1.59 show ip bgp neighbors

To display information about the neighbors, run show ip bgp neighbors.

show ip bgp neighbors [*ip-address*] [**received-routes | routes** | **advertised-routes**]

Parameters

Parameters	Description
ip-ddress	IP address of the neighbor If the parameter is omitted, all neighbors will be displayed.
received-routes	Displays all routes received from the designated neighbor (received or declined).
routes	Displays all routes which are accepted after they are received from the designated neighbor.
advertised-routes	Displays all routes which are reported by the router to the neighbor.

Command mode

EXEC

Instruction

You can check the detailed information about the neighbor, its current state, and some configuration information. The routes relative with the neighbor will be displayed after corresponding keywords are designated.

Related command

show ip bgp

show ip bgp community

show ip bgp paths

show ip bgp prefix-list

show ip bgp regexp

show ip bgp summary

1.1.60 show ip bgp paths

To display the statistics information about the BGP path's structure, run show ip bgp paths.

show ip bgp paths

Parameters

None

Command mode

EXEC

Instruction

The command is used to display the statistics information about the BGP path's structure.

Related command

show ip bgp

show ip bgp community

show ip bgp neighbors

show ip bgp prefix-list

show ip bgp regexp

show ip bgp summary

1.1.61 show ip bgp prefix-list

To display the BGP routing information which matches the designated prefix list, run show ipv4 bgp prefix-list.

show ip bgp prefix-list {*prefix-list name*}

Parameters

Parameters	Description
prefix-list name	Name of the prefix list

Command mode

EXEC

Instruction

The command is used to filter the content displayed by the show ip bgp command through designating the prefix list. Only the routes which match the prefix list can be displayed.

Related command

show ip bgp

show ip bgp community

show ip bgp neighbors

show ip bgp prefix-list

show ip bgp regexp

show ip bgp summary

ip prefix-list

ip prefix-list description

ip prefix-list sequence-number

show ip prefix-list

clear ip prefix-list

1.1.62 show ip bgp regexp

To display the routes which match the designated regular express, run the following command:

show ip bgp regexp regular-expression

Parameters

Parameters	Description
regular-expression	Regular express of the AS path

Command mode

EXEC

Instruction

The command can filter the content displayed by the show ip bgp command through the designated regular expression of the AS path. The routes which match the regular expression can be displayed.

Related command

show ip bgp

show ip bgp community

show ip bgp neighbors

show ip bgp prefix-list

show ip bgp regexp

show ip bgp summary

1.1.63 show ip bgp summary

To display the summary information about all BGP connections, run show ip bgp summary.

show ip bgp summary

Parameters

The command has no parameters or keywords.

Command mode

EXEC

Instruction

You can run show ip bgp summary to check the global configuration of the BGP protocol. For example, global distance configuration, IGP synchronization configuration, identified AS number of AS league, AS league member, routing reflection cluster identifier, local ASN, local router-id, the summary of all neighbors.

Example

The following information is displayed after the show ip bgp summary command is run.

router bgp 4
BGP local AS is 4
Router ID is 192.168.20.72
IGP synchronization is enabled
Distance: external 20 internal 200

Neighbor	V	AS	MsgRcvd	MsgSent	TblVer	InQ	OutQ	Up/Down	State/Pref
192.168.20.12	4	5	0	0	0	0	0	never	Connect

Related command

show ip bgp

show ip bgp community

show ip bgp neighbors

show ip bgp paths

show ip bgp prefix-list

show ip bgp regexp

show ip bgp summary

1.1.64 synchronization

Run command “synchronization” to enable BGP and IGP synchronization.

synchronization

no synchronization

Parameters

None

Default value

No synchronization configuration

Command mode

BGP configuration mode

Instruction

IGP synchronization means that a route which is received by BGP from IBGP will be reported to other EBGP neighbors after the route appears in the routing table in form of IGP. If the IGP synchronization does not work, the route received by BGP from IBGP will be reported to other EBGP neighbors no matter whether the route is in form of BGP. The IGP referred here include the straight-through route, static route, RIP route, OSPF route and routes relative with other internal gateway protocols.

IGP synchronization function is disabled by default.

Example

The following example shows that the router will not broadcast the routes until IGP synchronized.

```
router bgp 120
synchronization
```

Related command

router bgp

1.1.65 table-map

To set the route-map which is added to the routing table and modify some attributes of the route, run table-map. To delete the configuration, run no table-map.

table-map <*name*>

no table-map <*name*>

Parameters

Parameters	Description
name	Name of the route map

Default value

None

Command mode

BGP configuration mode

Instruction

Through setting the table map, you can filter the routes or modify their attributes when BGP adds the routes to the routing table.

Example

None

Related command

None

1.1.66 timers

To modify the default timers of the BGP neighbor, run timers bgp <keepalive> <holdtime>. To resume the default value, run no timers bgp <keepalive> <holdtime>.

timers bgp <*keepalive*> <*holdtime*>

no timers bgp <*keepalive*> <*holdtime*>

Parameters

Parameters	Description
keepalive	Default keepalive interval of the BGP neighbor
Holdtime	Default holdtime interval of the BGP neighbor
Idleholdtime	Default Idlehold interval of the BGP neighbor

Default value

Keepalive: 30s

Holdtime: 90s

Idleholdtime: 0

Command mode

BGP configuration mode

Instruction

You can modify the default timer settings by globally configuring the timer of the BGP neighbor. The neighbor's settings are prior to the global settings.

Example

The following example shows that the default timer is set to 10 and 40

```
router bgp 100
timers bgp 10 40
```

Related command

neighbor timers