RIPng Configuration Commands

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1.1   aggregate-address

To designate the aggregation route of the RIPNG instances, run the following first one of the commands:

aggregate-address *X:X:X::X/<0-128>*

no aggregate-address *X:X:X::X/<0-128>*

Parameter

X:X:X::X/<0-128>   Designates the prefix of IPv6 aggregation network.

Default value

There is no aggregation route.

Command mode

RIPNG configuration mode

Instruction

None

Example

The following example shows how to aggregate the sub-route of 2006:4:5::/35：

Router_config_ripng_r1#aggregate-address 2006:4:5::/35

Related command

None

1.2 debug ipv6 rip

To open the RIPNG debug switch, run the first one of the following two commands:

debug ipv6 rip [word] **[** events | send | receive |database | all **]**

no debug ipv6 rip

Parameter

word   Stands for the name of the RIPNG instance.

events

Displays the RIP event.

send   Displays the transmitted RIP packets.

receive   Displays the received RIP packets.

database   Displays the detailed change of the RIPNG route.

all   Opens all debug items.

Default value

All debug items are disabled.

Command mode

EXEC

Instruction

This command can be used to trace the main procedures of RIPNG.

Example

router# debug ipv6 rip r1 event

The example shows how to enable the debugging switch of the RIPNG event.

Related command

None

1.3 default-information

To notify the default route, run the following command:

default-information {only | originate} [metric_value]

no default-information {only | originate} [metric_value]

Parameter

metric_value   It is an optional parameter, which is used to specify the default metric value of the default route.

Default value

There is no default route and the default metric value is 1.

Command mode

RIPNG configuration mode

Instruction

No matter whether a default route exists in the main routing table, another default route will be generated in the RIPNG routing table; and if the following parameters exist, you have to know their meaning respectively:

only: only the default route is notified.

originate: both the current route and the default route are notified.

Example

The following example shows how to generate the default route and how to notify only the default route:

Router_config_ripng_r1# default-information only

Related command

None

1.4 default-metric

To designate the default metric of the forward-route, run the first one of the following commands:

default-metric value

no default-metric

Parameter

value

It is used to specify the default metric value of the forward-route, which ranges between 1 and 15. .

Default value

The default metric of the forward-route is 1.

Command mode

RIPNG configuration mode

Instruction

The metric ranges between 1 and 15 and it is used to specify the default metric when RIPNG forwards other protocols and RIPNG instances.

Example

Router_config_ripng_r1#default-metric 3

The above-mentioned example shows how to set the metric of route forwarding to 3.

Related command

       redistribute

1.5 connect-metric

To specify the default metric of the directly-connected route, run the first one of the following commands:

       connect-metric value

       no connect-metric

Parameter

       value

       It is used to specify the default metric value of the directly-connected route, which ranges between 1 and 15. .

Default value

       The default metric the directly-connected route is 1.

Command mode

       RIPNG configuration mode

Instruction

       The metric ranges between 1 and 15 and is used to specify the default metric of the RIPNG directly-connected route.

Example

       Router_config_ripng_r1#connect-metric 3

       The above-mentioned example shows how to set the metric of the directly-connected route to 3.

Related command

       redistribute

1.6 distance

To set the management distance, run the first one of the following two commands:

       distance *weight* [*X:X:X:X::X/*<0-128> [Acc-list_name]

       no distance *weight* [*X:X:X:X::X/*<0-128> [Acc-list_name]

Parameter

Parameter	Remarks
Weight	Stands for the management distance, ranging between 1 and 255. It is recommended to set it to a value between 10 and 255. If the parameter is used alone, the router will take it as the default management distance if the router does not have relative regulations about a routing information. When the management distance of a route is 255, this route will not be added to the routing table.
X:X:X:X/<0-128>	This parameter is optional. It stands for the prefix of the source IPv6.
Acc-list_name	This parameter is optional. It stands for the IP access control list.

Default value

The default RIPNG management distance is 120.

Command mode

RIPNG configuration mode

Instruction

The management distance is an integer from 0 to 255. In general, the bigger the value is, the more incredible the value is. If the optional parameter, **access-list-name**, is used in the command, the access control list is applied when a one-hop route is added to the routing table. In this way, you can filter the paths of some network according to the address of the router provided by the routing information.

Example

The following example shows that the distance of the route received from network **af::/64** is set to 100.

router ripng r1

distance 100 af::/64

Related command

None

1.7 filter

To set the filtration for RIPNG route reception and transmission, run the first one of the following two commands.

filter *interface-type interface-number* **{in | out}** access-list | gateway | prefix-list

no filter *interface-type interface-number* **{in | out}** access-list | gateway | prefix-list

Parameter

Parameter	Remarks
interface-type	Designates the interface type.
interface-number	Designates the port ID.
in	Filters the input RIPng routes.
out	Filters the output RIPng routes.
access-list	Uses the ACL to filter routes.
gateway	Uses the ACL to filter gateways.
prefix-list	Uses the prefix list to filter routes.

Default value

None

Command mode

RIPNG configuration mode

Instruction

This command is used to filter those received and to-be-transmitted RIPng routes.

Example

The following example shows how the routes, received by the RI instance from interface e1/1, are filtered by ACL and added to the routing table if they meet the already configured condition or deleted if they do not meet the above-mentioned condition.

Router_config_ripng_r1#filter e1/1 in acc acc-name

Related command

None

1.8 ipv6 rip enable

To enable a RIPng instance on a port, run the first one of the following two commands:

ipv6 rip *word* **enable**

no ipv6 rip *word* **enable**

Parameter

word

It stands for the name of the routing process instance.

Default value

None

Command mode

Port configuration mode

Instruction

This command is used to enable a RIPng instance on a port. If no RIPng instance exists and the number of the current instances is less than the maximum, a new instance will be generated and then be enabled.

Example

Router_config# int e2/1

Router_config_e2/1# ipv6 rip r1 enable

Related command

Show ipv6 rip

1.9 ipv6 rip passive

To set the passive port and cancel route update on a port, run the first one of the following two commands:

ipv6 rip passive

no ipv6 rip passive

Parameter

None

Default value

None

Command mode

Port configuration mode

Instruction

If a port is set to be a passive one, the transmission of update packets will be canceled on this port and the update packets will continually be transmitted out from other ports.

Example

The following example shows how to set port e2/1 to be the passive port to receive updated routes but not to transmit them.

R142_config_e2/1# ipv6 rip passive

Related command

None

1.10 ipv6 rip poision-reverse

To apply poison reverse on a port, run the first one of the following two commands:

ipv6 rip poision-reverse

no ipv6 rip poision-reverse

Parameter

word

It stands for the name of the routing process instance.

poision-reverse

It means to enable poison reverse on a port.

Default value

The poison reverse is disabled by default.

Command mode

Port configuration mode

Instruction

This command is used to enable the **word** RIPng instance to enable poison reverse on this port.

Example

The following example shows that the R1 RIPng instance enables poison reverse on port e2/1:

R142_config_e2/1# ipv6 rip poision-reverse

Related command

None

1.11 ipv6 rip split-horizon

To apply horizontal split on a port, run the first one of the following two commands:

ipv6 rip split-horizon

no ipv6 rip split-horizon

Parameter

word   Standing for the name of the routing process instance

split-horizon   Meaning to apply horizontal split on a port

Default value

The horizontal split is enabled by default.

Command mode

Port configuration mode

Instruction

In the default settings, all instances enable the horizontal split.

Example

The following example shows that the R1 RIPng instance enables the horizontal split on port e2/1:

R142_config_e2/1# ipv6 rip split-horizon

Related command

None

1.12 router ripng

To set a RIPng instance globally, run the first one of the following two commands:

router ripng *word*

no router ripng *word*

Parameter

Word   Standing for the name of the RIPng instance

Default value

None

Command mode

> Global configuration mode

Instruction

> In the default settings, up to 4 RIPng instances can be generated.

> After the configuration command is entered, the router prompt changes to **Router_config_ripng_r1#**.

Example

> Router_config#router ripng r1

> Router_config_ripng_r1#

Related command

> ipv6 rip word enable

1.13 max-path

To set the number of equivalent routes allowed by the RIPng instance, run the first one of the following two commands:

> **max-path** *value*

> **no max-path**

Parameter

> Value

> Setting the number of equivalent routes allowed by the RIPng instance

Default Value

> 4

Command mode

> RIPNG configuration mode

Instruction

> This command is used to set the maximum of equivalent routes in a RIPng instance and the maximum of equivalent routes is 6.

Example

> The following example shows how to set the maximum of equivalent routes in the R1 RIPng instance to 5.

Router_config_ripng_r1#max-path 5

Related command

None

1.14 neighbor

To specify a neighbor and transmit updates to this specified neighbor, run the first one of the following two commands:

neighbor *ipv6-addr interface interface-number*

no neighbor *ipv6-addr interface interface-number*

Parameter

ipv6-addr	Standing for the IPv6 address
interface	Designating an interface
interface-number	Standing for a port ID

Default value

None

Command mode

RIPNG configuration mode

Instruction

You can use this command to specify an address to be the neighbor of a specific interface and then the routing information transmitted from this port will be sent in the unicast form to the neighbor.

Example

The following example shows how to set neighbor **fe::2** on port f0/0.

Router_config# router ripng r1

Router_config_ripng_r1#neighbor fe::2 f0/0

Related command

None

1.15 offset

To set the in/out metric of a RIPng instance on a port, run the first one of the following two commands:

offset *interface-type interface-number* **{in | out}** acl-name *value*

no offset *interface-type interface-number* **{in | out}**

Parameter

Parameter	Remarks
interface-type	Designates the interface type.
interface-numb er	Designates the port ID.
in	Adds the metric for an incoming RIPng route.
out	Adds the metric for an outgoing RIPng route.
acl-name	**Stands for the IP access control list.**
value	**Adds the specified metric for the received RIPng route.**

Default value

The default value of the **in** parameter is 1.

The default value of the **out** parameter is 0.

Command mode

RIPNG configuration mode

Instruction

This command is used to specify the metric for those received and to-be-transmitted RIPng routes.

Example

The following example shows that the routes received by the R1 instance from port e1/1 are added with a metric, 8, after ACL filtration and then added to the routing table.

Router_config_ripng_r1#offset e1/1 in acc 8

Related command

None

1.16 port

To set a specific UDP port for the RIPng instance, run the following command:

port *port-number*

Parameter

port-number

Standing for the UDP port ID, which is a value between 521 and 65535

Default value

521

Command mode

RIPNG configuration mode

Instruction

You can use this command to specify the UDP port of the Ripng instance. The default value of the UDP port ID is 521.When two instances are enabled on a same port, the UDP port cannot be the same.

Example

The following example shows how to set the ID of the UDP port of the R1 instance to 555:

Router_config# router ripng r1

Router_config_rip_r1# port 555

Related command

None

1.17 redistribute

To enable other routing domains to forward routes to RIPng, run the first one of the following two commands:

redistribute protocol [*protocol-id | instance name]* [**route-map** *map-name*]

no redistribute protocol [*protocol-id | instance name]* [**route-map** map-name]

Parameter

Protocol	Standing for the type of the forwarded protocol
protocol-id	Standing for the ID of the forwarded process
instance name	Standing for the name of the forwarded RIPng instance

Default value

disable

Command mode

RIPNG configuration mode

Instruction

This command is used to forward the routes from other routing domains and other RIPng instances. The metric of a forwarded route is set by the **default-metric** command and its default value is 1.

Example

The following example shows how to forward the BGP route whose AS ID is 4.

Router_config_ripng_r1#redis bgp 4 route-map rm

Related command

None

1.18 show ipv6 rip

To display the RIPng related information, run the following command:

show ipv6 rip [name] [**database** | **summary | interface**]

Parameter

Name	Standing for the name of the RIPng instance
Database	Displaying the detailed information about the routes of a designated RIPng instance
summary	Displaying the detailed statistics information about the routes of a designated RIPng instance
interface	Displaying where the RIPng instance is enabled

Default value

None

Command mode

Any non-user mode

Instruction

None

Example

The following example shows on which port the R1 instance is enabled:

router#sho ipv6 rip r1 interface

ripng instance r1/1 enable on: FastEthernet0/0 , FastEthernet0/1

Related command

None

1.19 timers

To adjust the timeout value in each clocks in RIPng, run the first one of the following two commands:

timers *update/holddown/garbage value*

no timers *update/holddown/garbage*

Parameter

Update	Standing for the interval of regular updates
Holddown	Standing for the timeout time of the invalid timer
Garbage	Standing for the waiting time of route deletion

Default value

Update	30s
Holddown	180s
Garbage	120s

Command mode

RIPNG configuration mode

Instruction

Do not adjust the value of each timer randomly. If necessary to do so, you have to note the relationships between 3 timers.

Example

None

Related command

None