Reliability Configuration Commands

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1.1 VRRP Configuration Commands

The VRRP protocol (RFC2338) is supported, and the extended track and preempt delay functions are added.

1.1.1   vrrp associate

To configure basic IP and secondary IP of the VRRP group, and activate VRRP, run **vrrp associate**. To cancel the configured IP and stop VRRP group, run **no vrrp associate**.

[**no**] **vrrp associate** *group-number ip-address netmask* [**secondary**]

no vrrp associate

Parameter

Parameter	Description
group-number	Added VRRP group numberIts default value is 0.
ip-address	Added IP address
netmask	Network address mask
secondary	Means that the currently-configured IP is a secondary IP.

Default

There is no default value.

Command mode

Interface configuration mode

Explanation

The added virtual IP address of VRRP can be the basic IP address of VRRP or the VRRP secondary IP address. This IP address (basic IP or secondary IP) cannot belong to the network segment where any other interface's IP lies, or cannot belong to the network segment where any interface module's IP or global application module's IP lies. Except that basic VRRP IP can be same to the basic IP of the interface where basic vrrp IP lies, the configured VRRP IP cannot be same to the IP of any current interface. However, the IP of the current interface and the configured VRRP IP can be in the same network segment.

You can run **no vrrp [group-number] associate** to cancel all VRRP IP addresses of the current interface group.

When an IP address of a VRRP group is same to the basic IP address of the current interface, VRRP enters the owner state, which is a special master state. The owner state has the following attributes: the precedence of the group is automatically changed to 255; this group must be in master state; the configured track gets ineffective in this case.

Example

The following example shows how to configure basic IP address and secondary IP address on interface ethernet1/0:

interface ethernet1/0

vrrp 3 associate 100.1.1.1

vrrp 3 associate 100.1.1.2 secondary

1.1.2 vrrp description

To configure the description of the interface, run **vrrp *group-number* description WORD**. To cancel the description of the interface, run no **no vrrp description WORD**.

vrrp *group-number* **description WORD**

no vrrp description WORD

Parameter

Parameter	Description
group-number	Group number, whose default value is 0
WORD	Configures the description character string of the group.

Default

There is no default value.

Command mode

Interface configuration mode

Explanation

This command is just to configure a description for an interface and has no effect on other functions of the interface.

Example

vrrp 3 description Shanghai_dial

1.1.3 vrrp priority

To configure the priority of a group, run **vrrp [*group-number*] priority *<1-254>***. To cancel the configured priority of the group and resume its default value, run **no vrrp [*group-number*] priority**.

vrrp [group-number**] priority** *<1-254>*

no vrrp [group-number**] priority**

Parameter

Parameter	Description
group-number	Group number, whose default value is 0
<1-254>	A value between 1 and 254

Default

The default value is 100.

Command mode

Interface configuration mode

Explanation

When the priority of a group is configured in the owner state, the priority can be configured but cannot be used currently for the current priority is 255. When the group is in owner state, its priority automatically changes to 255.

Example

vrrp 3 priority 180

1.1.4 vrrp preempt

To configure the preemption mode of a group, run **vrrp *group-number* preempt**. The preemption delay can also be configured.

[**no**]   **vrrp** *group-number* **preempt**

[**no**] **vrrp** *group-number* **preempt delay** *<1-255>*

Parameter

Parameter	Description
group-number	Group number, whose default value is 0

<1-255>	Configured preemption delay, whose unit is second

Default

It is the preemption mode by default.

Command mode

Interface configuration mode

Explanation

When this group receives an advertise packet with a lower priority in preemption mode, this group would not update the master down timer and the preemption will occur later. If the preemption mode is not configured, the master down timer will carry on update even if this group's priority is higher than the packet's.

The preemption delay means the minimum time which has to wait before the preemption. When a packet with comparatively lower priority is received by this group, the master down timer will be updated as the delay value if the master down timer is shorter than the configured preempt delay.

The preemption is canceled and the preemption delay is set to 0.

Example

vrrp 3 preempt
vrrp 3 preempt delay 10

1.1.5 vrrp track

To track an interface, run **vrrp *group-number* track interface *interface-number* *<1-255>***.
When the tracked interface changes, you can justify its priority.

[**no**]   **vrrp** *group-number* **track interface** *interface-number <1-255>*

Parameter

Parameter	Description
group-number	Group number, whose default value is 0
Interface-number	Interface number, such as f0/0
<1-255>	Configured preemption delay, whose unit is second

Default

There is no default value.

Command mode

Interface configuration mode

Explanation

When a group is configured with a track function and the protocol of the tracked interface changes to **down**, the priority of the group decreases to the configured value; if the protocol of the tracked interface changes to **up**, the priority of the group increases to the configured value.

Currently only the state of the link protocol of the interface can be tracked. The following actions will lead the change of the protocol state: the cut-off of the network cable that the interface connects, interface's shutdown and link protocol's disconnection.

When the group is in owner state, the configured track function will automatically get ineffective.

Example

vrrp 3   track interface ethernet2/1 20
no vrrp 3   track interface ethernet2/1

1.1.6   vrrp authentication

To configure the authentication character string of the VRRP group, run **vrrp** *group-number* **authentication WORD**.

[**no**] **vrrp** *group-number* **authentication WORD**

Parameter

Parameter	Description
group-number	Group number, whose default value is 0
WORD	An eight-byte authentication string

Default

The authentication string is null by default and the authentication is not performed.

Command mode

Interface configuration mode

Explanation

The packet received by a VRRP group is effective only when its authentication string is same to the configured authentication string. Pay attention that multiple masters will exist concurrently if different authentication strings appear in the same group during configuration.

Example

vrrp 3   authentication
no vrrp 3   authentication

1.1.7   vrrp timers

To configure the value of advertisement timer of the VRRP group, run **vrrp timers**.

[**no**] **vrrp** *group-number* **timers advertise** *<1-255>*

[**no**] **vrrp** *group-number* **timers advertise dsec** *<5-360>*

[**no**] **vrrp** *group-number* **timers learn**

Parameter

Parameter	Description
group-number	Group number, whose default value is 0
<1-255>	Configured time of advertise, whose unit is second
<5-360>	Configured time of advertise, whose unit is 0.1 second
learn	Configures the learning mode of advertise.

Default

The default value of the timer is 1 second.

The learning does not perform by default.

Command mode

Interface configuration mode

Explanation

This command is used to configure the value of the advertise timer in second. The value of master down timer is calculated through the advertise timer, and the value is [3*advertise, 3*advertise+256/(256-priority)].

Only when a group has no configured timer value and the learning ability has been set can the group learn the advertise timer value from the master-transmitted packets.

When using this command, you are recommended to use the same value.

Example

vrrp 3 timers advertise 3

vrrp 3 timers advertise dsec 15

no vrrp 3 timers advertise

vrrp 3 timers learn

1.1.8   show vrrp

To display the current running state of VRRP, run the following command:

show vrrp interface interface-numer [detail]

show vrrp brief

show vrrp detial

Parameter

detail：Displays the details about the running state.

Default

There is no default value.

Command mode

Interface command mode/configuration mode/privileged mode

Explanation

This command is used to display the running state of the currently-configured VRRP.

The **brief** mode is to display only the simple state, and the group in init state will not be displayed.

However, the **detail** mode can display more information about the configured group.

Example

show vrrp interface e2/1 detail

show vrrp brief

1.1.9 debug vrrp

To debug VRRP, run the following commands:

debug vrrp interface interface-number group-number all | packets | errors | events

debug vrrp all | packets | errors | events

no debug vrrp

Parameter

Parameter	Description
interface-number	Interface number
group-number	Number of the group

Default

There is no default value.

Command mode

Privileged mode

Explanation

This command can be used to export the debugging information about the error, packet and event of VRRP. The **all** parameter means that all three events will be exported.

Example

debug vrrp interface e2/1 3 all
no debug all