Reliability Configuration Commands

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CHAPTER 1 VRRP CONFIGURATION COMMANDS

1.1. VRRP Configuration Commands

1.1.1. vrrp associate

Syntax

To configure the virtual IP address of VRRP, run the following command.

vrrp *vrid* **associate** *virtual-address virtual-mask* **[secondary]**

To return to the default setting, use the no form of this command.

no vrrp *vrid* **associate [***virtual-address virtual-mask***] [secondary]**

Parameter

Parameter	Description
vrid	The virtual route OLT ID. The value ranges from 1 to 255.
virtual-address	The virtual IP address
virtual-mask	The virtual IP address mask

Default Value

Disabled

Command Mode

VLAN interface configuration mode

Usage Guidelines

The virtual IP address must be in the same network range of the interface IP, or the virtural routing switch won't work.

When the virtual IP address is identical to the interface IP address, the system will automatically advance routing switch to 255.

The virtual router OLT may configure multiple IP addresses, among which one is as the master address and the others are as secondary address. The virtual IP secondary address is configured by command with secondary parameters.

Example

The following example shows how to enable vrrp group 1 on interface vlan 1 and the configured virtual IP address is 192.168.20.100:

Switch_config# **interface vlan** *1*

Switch_config_v1#**vrrp** *1* **associate** *192.168.20.100 255.255.255.0*

1.1.2. vrrp authentication

Syntax

To configure simple-text authentication method of interface VRRP, run the following command.

vrrp *vrid* **authentication** *WORD*

To return to the default setting, use the no form of this command.

no vrrp *vrid* **authentication**

Parameter

Parameter	Description
vrid	OLT ID of the virtual route. The value ranges from 1 to 255.
WORD	The verification plaintext. The length cannot exceed 8 characters.

Default Value

no-authen

Command Mode

VLAN interface configuration mode

Usage Guidelines

The OLT group which makes up of the virtual route OLT must have the identical authentication method.

Example

The following example configures authentication method of the virtual routing OLT 1 on interface vlan 1 to simple-text and the authentication character string is test:

Switch_config# **interface vlan** *1*

Switch_config_v1# **vrrp 1 authentication** *test*

1.1.3. vrrp description

Syntax

To configure the description information of VRRP, run the following command:

vrrp *vrid* **description** *WORD*

To return to the default setting, use the no form of this command.

no vrrp *vrid* **description**

Parameter

Parameter	Description

vrid	The virtual route OLT ID, 1 to 255
WORD	The description character string. The length cannot outnumber 64 characters.

Default Value

No description.

Command Mode

VLAN interface configuration mode

Usage Guidelines

None

Example

The following example shows how to configure the description information of the virtual router OLT1 on OLT VLAN1 interface to GROUP1:

Switch_config# **interface vlan** *1*

Switch_config_v1# **vrrp** *1* **description** *GROUP1*

1.1.4. vrrp preempt

Syntax

To configure Virtual Router Redundancy Protocol (VRRP) preempt, run the following command. To return to the default setting, use the no form of this command.

vrrp *vrid* **preempt**

no vrrp *vrid* **preempt**

Parameter

Parameter	Description
vrid	OLT ID of the virtual route. The valid value is from 1 to 255.

Default Value

Enabled

Command Mode

VLAN interface configuration mode

Usage Guidelines

When VRRP preempt is enabled, the high priority OLT in the virtual routing OLT of the same group will preempt that of the low priority. When VRRP preempt is disabled, the high priority OLT will not preempt that of the low priority.

Example

The following example disables preempt of virtual routing OLT 1 on interface vlan 1:

Switch_config# **interface vlan** *1*

Switch_config_v1# **no vrrp** *1* **preempt**

1.1.5. vrrp preempt delay

Syntax

To configure the priority preempt delay of VRRP, run the following command.

vrrp *vrid* **preempt delay** *second*

To return to the default setting, use the no form of this command.

no vrrp *vrid* **preempt delay**

Parameter

Parameter	Description
vrid	The virtual routing OLT ID, 1 to 255
second	The priority preempt delay, 0 to 255, unit: second

Default Value

The priority preempt delay is 0 second.

Command Mode

VLAN interface configuration mode

Usage Guidelines

None

Example

The following example shows how to set the priority preempt delay of the virtual routing OLT 1 on the OLT VLAN interface to 10 seconds.

Switch_config# **interface vlan** *1*

Switch_config_v1# **vrrp** *1* **preempt delay** *10*

1.1.6. vrrp priority

Syntax

To configure Virtual Router Redundancy Protocol (VRRP) priority value, run the following command. To return to the default setting, use the no form of this command.

vrrp vrid priority *value*

no vrrp vrid priority

Parameter

Parameter	Description
vrid	ID of virtual routing OLT. The value ranges from 1 to 255.
value	Priority value. The value ranges from 1 to 254.

Default Value

100

Command Mode

VLAN interface configuration mode

Usage Guidelines

None

Example

The following example configures priority value of the virtual routing OLT 1 on interface vlan 1 to 120.

Switch_config# **interface vlan** *1*

Switch_config_v1# **vrrp** *1* **priority** *120*

1.1.7. vrrp source-mac-use-system

Syntax

To configure the source mac address of the VRRP protocol packet, run the following command. To return to the default setting, use the no form of this command.

vrrp *vrid* **source-mac-use-system**

[no] vrrp *vrid* **source-mac-use-system**

Parameter

Parameter	Description
vrid	The virtual routing OLT ID. The value ranges from 1 to 255.

Default Value

The protocol mac address is used by default.

Command Mode

VLAN interface configuration mode

Usage Guidelines

After the command is configured, VRRP packet will use the system mac as the source mac address of the protocol packet.

Example

The following example shows how the virtual routing OLT1 of VLAN1 interface forwards the protocol packet by the system mac address.

Switch_config# **interface vlan** *1*

Switch_config_v1# **vrrp** *1* **source-mac-use-system**

1.1.8. vrrp timers

Syntax

To configure announce timer of vrrp, run the following command.

vrrp *vrid* **timers advertise {***second* **| dsec** *decisecond* **| csec** *centisecond***}**

To return to the default setting, use the no form of this command.

no vrrp *vrid* **timers advertise**

To configure announce timer to the learning mode, run the following command.

vrrp *vrid* **timers learn**

To return to the default setting, use the no form of this command.

no vrrp *vrid* **timers learn**

Parameter

Parameter	Description
vrid	ID of virtual routing OLT. The value ranges from 1 to 255.
second	Announce timer value; unit: second; the value ranges from 1 to 255.
decisecond	Announce timer value, unit: 0.1s; the value ranges from 5 to 360.
centisecond	Announce timer value, unit: 0.01s; the value ranges from 1 to 3600.

Default Value

1 sec

Command Mode

VLAN interface configuration mode

Usage Guidelines

The timer value will decide the minimum time that the virtual routing OLT recovers from the error. When the link of the master routing OLT is down, the backup routing OLT will transit to master routing OLT in 3*advertisement + skew_time interval. The large value of the advertisement is obviously nor favorable for error recovery. We recommend user to use the default value.

Example

The following command configures announce timer value of virtual routing OLT 1 on interface vlan 1 to 2 seconds:

Switch_config# **interface vlan** *1*

Switch_config_v1# **vrrp** *1* **timers advertise** *2*

1.1.9. vrrp track

Syntax

VLAN interface configuration mode:

vrrp *vrid* **track interface** *intf-id value*

no vrrp *vrid* **track interface** *intf-id*

vrrp *vrid* **track ip** *ip-address value*

no vrrp *vrid* **track ip** *ip-address*

To configure VRRP monitoring function, run the following command. To return to the default setting, use the no form of this command.

Global configuration mode:

To configure BFD static detection, run the following command. If next jump is reachable, the objective node route is reachable.

To return to the default setting, use the no form of this command.

ip route bfd static next-hop

no ip route bfd static next-hop

To configure BFD detection static routing function, run the following command. If the configured gateway address is reachable, the objective node route is reachable. To return to the default setting, use the no form of this command.

ip route bfd static *A.B.C.D*

no ip route bfd static *A.B.C.D*

Parameter

Parameter	Description
vrid	The virtual routing OLT ID. The value ranges from 1 to 255.
intf-id	The concrete physical port of the monitor
ip-address	The IP address of the monitor node
value	The priority penalty value. The value ranges from 1 to 254. The configured penalty value should not be greater than the priority of the current vrrp group.

A.B.C.D	The gateway address when BFD detecting the static routing.

Default Value

None

Command Mode

VLAN interface configuration mode, global configuration mode

Usage Guidelines

With the monitoring function, VRRP group can appropriately adjust its priority according to the link state change and provide an opportunity of switching the main line state to the backup line state. The link state change refers to the destination link passing through VRRP routing OLT is reachable or not, rather than that of VRRP routing OLT itself.

VRRP supports two monitoring objects. First, monitoring interface state. When the monitored interface link state is down, lower the priority itself actively; second, monitor the static routing state of the designated node. When the monitored route is unreachable, lower the priority itself actively. Monitoring the static routing state of the designated node needs BFD static route detection function.

Example

The following example shows how to set vlan1 virtual routing OLT1 monitoring the physical port g5/1. When the physical port g5/1 state is down, lower itself priority 20.

Switch_config# **interface vlan** *1*

Switch_config_v1# **vrrp 1 track interface** *GigaEthernet5/1 20*

The following example shows how vlan1 port virtual routing OLT 1 monitors the static routing state of IP address 1.1.1.254. After the corresponding static route and BFD is configured and the routing state of 1.1.1.254 is unreachable, lower itself priority 20:

Switch_config#**ip route** *1.1.1.254 255.255.255.255 1.1.1.100*

Switch_config#**ip route bfd static next-hop**

Switch_config# **interface vlan** *1*

Switch_config_v1#**vrrp** *1* **track ip** *1.1.1.254 20*

1.1.10.   show vrrp

Syntax

To display Virtual Router Redundancy Protocol (VRRP) information, run the following command. To return to the default setting, use the no form of this command.

show vrrp brief

show vrrp [**interface** *intf-id*] **detail**

Parameter

Parameter	Description
intf-id	The concrete physical interface.

Default Value

Other modes except the user mode

Usage Guidelines

The command is used to show VRRP information.

Example

The following example displays vrrp information on interface vlan 1:

Switch_config# show vrrp interface vlan 1 detail

VLAN1 - Group 1

VRRP State is Master

Virtual IP address: 192.168.20.110/24

Virtual Mac address: 0000.5e00.0101

Current Priority: 100 (Config 100)

VRRP timer: Advertise 1.0 s (default) master_down 3.6 s

VRRP current timer: Advertise 1.0 s master_down 0.0 s preempt after 0.0 s

Authentication string is not set

Preempt is set (delay: 0 s)

Learn Advertise Interval is not set

Master Router IP: 192.168.20.118, priority: 100, advertisment: 1.0 s

1.1.11.　　debug vrrp

Syntax

To enable debugging VRRP information, use the debug vrrp command. Use the no form of this command to disable debugging VRRP information.

debug vrrp [interface *intf-id vrid***] {errors | events | packets | all}**

no debug vrrp

Parameter

Parameter	Description
intf-id	Concrete physical port.
vrid	Virtual routing OLT ID. The value ranges from 0 to 255. The default value is 0.

Default Value

Disabled

Usage Guidelines

Privileged mode

Usage Guidelines

None

Example

The following command shows how to enable VRRP debugging switch:

Switch# **debug vrrp packets**