

1 GVRP Commands

Command	Function
bridge-frame forwarding protocol gvrp	Enable the transparent transmission function of packets of Generic Attribute Registration Protocol (GARP) VLAN registration protocol (GVRP) bridge protocol data unit (BPDU).
clear gvrp statistics	Clear the statistics of GVRP and restart counting.
gvrp applicant state	Configure the advertising mode of a port.
gvrp dynamic-vlan-creation enable	Enable the function of creating virtual local area network (VLAN) dynamically.
gvrp enable	Enable the GVRP function.
gvrp registration mode	Configure the registration mode of a port.
gvrp timer	Configure the GVRP timer.
l2protocol-tunnel gvrp	Enable the GVRP BPDU tunnel function globally.
l2protocol-tunnel gvrp enable	Enable the GVRP BPDU tunnel function on a port.
l2protocol-tunnel gvrp tunnel-dmac	Configure the tunnel address for transmitting the user's GVRP BPDU.
show gvrp configuration	Display the GVRP configuration.
show gvrp statistics	Display the GVRP statistics.
show gvrp status	Display the GVRP port information.
show l2protocol-tunnel gvrp	Display the configuration of a GVRP BPDU tunnel.

1.1 bridge-frame forwarding protocol gvrp

Function

Run the **bridge-frame forwarding protocol gvrp** command to enable the transparent transmission function of packets of Generic Attribute Registration Protocol (GARP) VLAN registration protocol (GVRP) bridge protocol data unit (BPDU).

Run the **no** form of this command to disable the transparent transmission function of GVRP BPDU packets.

The transparent transmission function of GVRP BPDU packets is disabled by default.

Syntax

bridge-frame forwarding protocol gvrp

no bridge-frame forwarding protocol gvrp

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

15

Usage Guidelines

According to the IEEE 802.1Q standard, GVRP BPDU uses the dedicated address 0180.c200.0021 as the destination MAC address; the device compliant with the IEEE 802.1Q standard will not forward the packets with the destination MAC address 0180.c200.0021. However, in the actual network deployment, devices are required to transparently transmit GVRP BPDU packets in some cases. For example, when GVRP is disabled for a device, GVRP BPDU packets need to be transparently transmitted so that another device interconnected to such a device through GVRP BPDU can normally calculate the GVRP topology.

GVRP transparent transmission takes effect only when GVRP is disabled. If GVRP is enabled, devices do not transparently transmit GVRP BPDU packets.

Examples

The following example enables the transparent transmission function of GVRP BPDU packets.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# bridge-frame forwarding protocol gvrp
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

N/A

1.2 clear gvrp statistics

Function

Run the **clear gvrp statistics** command to clear the statistics of GVRP and restart counting.

Syntax

```
clear gvrp statistics { interface-type interface-number | all }
```

Parameter Description

interface-type interface-number: Interface type and interface number.

Command Modes

Privileged EXEC mode

Default Level

2

Usage Guidelines

N/A

Examples

The following example clears the statistics of GVRP and restarts counting.

```
Hostname> enable
Hostname# clear gvrp statistics all
```

Notifications

N/A

Platform Description

N/A

Related Commands

- [gvrp enable](#)
- [show gvrp status](#)

1.3 gvrp applicant state

Function

Run the **gvrp applicant state** command to configure the advertising mode of a port.

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

The advertising mode of a port is **normal** by default.

Syntax

```
gvrp applicant state { normal | non-applicant }
```

```
no gvrp applicant state
```

Parameter Description

normal: Allows a port to externally send GVRP advertisements to advertise VLAN messages.

non-applicant: Not allows a port to externally send GVRP advertisements to advertise VLAN messages.

Command Modes

Interface configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example configures the GVRP advertising mode of a port as **normal**, namely, GVRP advertisements are sent externally.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# gvrp enable
Hostname(config)# interface gigabitethernet 0/1
Hostname(config-if-GigabitEthernet 0/1)# gvrp applicant state normal
```

Notifications

When the command is configured for a port not in the trunk mode, the following notification will be displayed:

```
It isn't a trunk port; the GVRP applicant type can't be specified.
```

When you try to configure the GVRP advertising mode but do not enable the GVRP function using the **gvrp enable** command in advance, the following notification will be displayed:

```
GVRP is disabled globally. GVRP status of port cannot be changed.
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [gvrp enable](#)
- [show l2protocol-tunnel gvrp](#)

- [show gvrp configuration](#)

1.4 gvrp dynamic-vlan-creation enable

Function

Run the **gvrp dynamic-vlan-creation enable** command to enable the function of creating virtual local area network (VLAN) dynamically.

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

The function of creating VLANs dynamically is disabled by default.

Syntax

```
gvrp dynamic-vlan-creation enable  
no gvrp dynamic-vlan-creation enable
```

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example enables the function of creating VLANs dynamically.

```
Hostname> enable  
Hostname# configure terminal  
Hostname(config)# gvrp dynamic-vlan-creation enable
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [gvrp enable](#)
-
- [show gvrp configuration](#)

1.5 gvrp enable

Function

Run the **gvrp enable** command to enable the GVRP function.

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

The GVRP function is disabled by default.

Syntax

gvrp enable

no gvrp enable

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

14

Usage Guidelines

N/A

Examples

The following example enables the GVRP function.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# gvrp enable
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

-
- [show gvrp configuration](#)

1.6 gvrp registration mode

Function

Run the **gvrp registration mode** command to configure the registration mode of a port.

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

The registration mode of a port is **disable** by default.

Syntax

```
gvrp registration mode { normal | disable }
```

```
no gvrp registration mode
```

Parameter Description

normal: Allows dynamic creation, registration, or deregistration of VLAN on a port.

disable: Not allows dynamic creation, registration, or deregistration of VLAN on a port.

Command Modes

Interface configuration mode

Default Level

2

Usage Guidelines

N/A

Examples

The following example configures the registration mode of a port as **normal**.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# gvrp enable
Hostname(config)# interface gigabitethernet 0/1
Hostname(config-if-GigabitEthernet 0/1)# gvrp registration mode normal
```

Notifications

When the command is configured for a port not in the trunk mode, the following notification will be displayed:

```
It isn't a trunk port; the GVRP applicant type can't be specified.
```

When the GVRP function is not enabled globally using the **gvrp enable** command and you try to configure the GVRP registration mode, the following notification will be displayed:

```
GVRP is disabled globally. GVRP status of port cannot be changed.
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [gvrp enable](#)
-
- [show gvrp configuration](#)

1.7 gvrp timer

Function

Run the **gvrp timer** command to configure the GVRP timer.

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

By default, the maximum delay before a port sends a join or leave message is 200 ms, the waiting time from receiving a leave message by the port to deleting the port from the VLAN is 600 ms, and the minimum time interval for the port to send a LeaveAll message is 10,000 ms.

Syntax

```
gvrp timer { join hold | leave leave | leaveall leaveall }
```

```
no gvrp timer
```

Parameter Description

join *hold*: Configures the maximum delay before a port sends a join or leave message in milliseconds. The value range is from 1 to 200, and the default value is 200. The actual sending interval is in the range from 0 to *hold*.

leave *leave*: Configures the waiting time from receiving a leave message by the port to deleting the port from the VLAN in milliseconds. The value range is from 600 to 9999, and the default value is 600. If the port receives a join message again in this period, the port will not be deleted from the VLAN and the timer will expire; if the join message is not received before the timer times out, the state of the port changes to **Empty** and the port is deleted from the VLAN member list.

leaveall *leaveall*: Configures the minimum time interval for the port to send a LeaveAll message in milliseconds. The value range is from (*leave*+1) to 2147483647, and the default value is 10000. If the port timer times out, the LeaveAll message is sent, and the actual sending interval ranges from *leaveall* to the sum of *leaveall* and *hold*; the LeaveAll message is also sent to the local port to trigger the Leave timer to start counting; if the port receives the LeaveAll message before the timer times out, the timer restarts timing.

Command Modes

Global configuration mode

Default Level

2

Usage Guidelines

The three timers are subject to this relationship: $3 \times \text{Hold} \leq \text{Leave} \leq \text{LeaveAll}$.

Examples

The following example sets the maximum delay before the GVRP port sends an advertisement to 300 ms.


```
Hostname> enable
Hostname# configure terminal
Hostname(config)# gvrp timer join 300
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [gvrp enable](#)
-
- [show gvrp configuration](#)

1.8 I2protocol-tunnel gvrp

Function

Run the **I2protocol-tunnel gvrp** command to enable the GVRP BPDU tunnel function globally.

Run the **no** form of this command to disable the GVRP BPDU tunnel function globally.

The global GVRP BPDU tunnel function is disabled by default.

Syntax

I2protocol-tunnel gvrp

no I2protocol-tunnel gvrp

Parameter Description

N/A

Command Modes

Global configuration mode

Default Level

15

Usage Guidelines

To enable the global GVRP BPDU tunnel function, please also enable the GVRP BPDU tunnel function on the port.

Examples

The following example enables the GVRP BPDU tunnel function globally.

```
Hostname> enable
```

```
Hostname# configure terminal
Hostname(config)# l2protocol-tunnel gvrp
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show l2protocol-tunnel gvrp](#)

1.9 l2protocol-tunnel gvrp enable

Function

Run the **l2protocol-tunnel gvrp enable** command to enable the GVRP BPDU tunnel function on a port.

Run the **no** form of this command to disable the GVRP BPDU tunnel function on a port.

The GVRP BPDU tunnel function on a port is disabled by default.

Syntax

l2protocol-tunnel gvrp enable

no l2protocol-tunnel gvrp enable

Parameter Description

N/A

Command Modes

Interface configuration mode

Default Level

15

Usage Guidelines

The GVRP BPDU tunnel function takes effect only when it is enabled globally and on the port at the same time.

Examples

The following example enables the GVRP BPDU tunnel function globally. The following example enables the GVRP BPDU tunnel function on a port.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# l2protocol-tunnel gvrp
```

```
Hostname(config)# interface gigabitethernet 0/1
Hostname(config-if-GigabitEthernet 0/1)# l2protocol-tunnel gvrp enable
```

Notifications

N/A

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show l2protocol-tunnel gvrp](#)

1.10 l2protocol-tunnel gvrp tunnel-dmac

Function

Run the **l2protocol-tunnel gvrp tunnel-dmac** command to configure the tunnel address for transmitting the user's GVRP BPDU.

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

The default tunnel address for transmitting the user's GVRP BPDU is 01d0.f800.0006.

Syntax

l2protocol-tunnel gvrp tunnel-dmac *gvrp-dmac-address*

no l2protocol-tunnel gvrp tunnel-dmac

Parameter Description

gvrp-dmac-address: Tunnel address for transmitting GVRP packets of the user network. The value range is from 01d0.f800.0006 and 011a.a900.0006, and the default value is 01d0.f800.0006.

Command Modes

Global configuration mode

Default Level

15

Usage Guidelines

To avoid impact on the SP network by GVRP packets of the user network, when GVRP packets of the user network enter an edge device of the SP network, the edge device changes the destination MAC address of the packets from the GVRP dedicated address (0180.c200.0006) to the tunnel address (01d0.f800.0006 by default) before forwarding on the SP network. After the packets are forwarded to an edge device at the other end, the destination MAC address is restored from the tunnel address (01d0.f800.0006 by default) to the GVRP dedicated address (0180.c200.0006), and the packets are forwarded to the user network at the other end. In this way, the GVRP packets of the user network are transmitted through the tunnel of the SP network.

Examples

The following example sets the tunnel address for transmitting the user's GVRP BPDU to 011a.a900.0006.

```
Hostname> enable
Hostname# configure terminal
Hostname(config)# l2protocol-tunnel gvrp tunnel-dmac 011a.a900.0006
```

Notifications

When the configured GVRP tunnel address is not in the above address range, the following notification will be displayed:

```
Optional at the following addresses: 01d0.f800.0006,011a.a900.0006.
```

Common Errors

N/A

Platform Description

N/A

Related Commands

- [show l2protocol-tunnel gvrp](#)

1.11 show gvrp configuration

Function

Run the **show gvrp configuration** command to display the GVRP configuration.

Syntax

```
show gvrp configuration
```

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

2

Usage Guidelines

N/A

Examples

The following example displays the GVRP configuration.

```
Global GVRP Configuration:
GVRP Feature:enabled
GVRP dynamic VLAN creation:enabled
```

```

Join Timers(ms):200
Leave Timers(ms):600
Leaveall Timers(ms):1000
Port based GVRP Configuration:
      PORT                Applicant Status        Registration Mode
-----
GigabitEthernet 0/2        normal                normal

```

Table 1-1 Output Fields of the show gvrp configuration Command

Field	Description
GVRP Feature	Indicates whether GVRP is enabled.
GVRP dynamic VLAN creation	Indicates whether the function of creating VLANs dynamically is enabled.
Join Timers	Indicates the time of the Join timer.
Leave Timers	Indicates the time of the Leave timer.
Leaveall Timers	Indicates the time of the LeaveAll timer.
PORT	Indicates the port.
Applicant Status	Indicates the advertising mode.
Registration Mode	Indicates the registration mode.

Notifications

N/A

Platform Description

N/A

Related Commands

- [gvrp enable](#)

1.12 show gvrp statistics

Function

Run the **show gvrp statistics** command to display the GVRP statistics.

Syntax

```
show gvrp statistics { interface-type interface-number | all }
```

Parameter Description

interface-type interface-number: GVRP statistics of the specified port.

all: Displays the GVRP statistics of all the ports.

Command Modes

All modes except the user EXEC mode

Default Level

2

Usage Guidelines

N/A

Examples

The following example displays the GVRP statistics of the port GigabitEthernet 0/1.

```

Hostname> enable
Hostname# show gvrp statistics gigabitethernet 0/1
Interface          GigabitEthernet 0/1
RecValidGvrpPdu    0
RecInvalidGvrpPdu  0
RecJoinEmpty       0
RecJoinIn          0
RecEmpty           0
RecLeaveEmpty       0
RecLeaveIn          0
RecLeaveAll         0
SentGvrpPdu        0
SentJoinEmpty      0
SentJoinIn         0
SentEmpty          0
SentLeaveEmpty      0
SentLeaveIn         0
SentLeaveAll        0
JoinIndicated      0
LeaveIndicated      0
JoinPropagated     0
LeavePropagated     0

```

Table 1-1 Output Fields of the show gvrp statistics Command

Field	Description
RecValidGvrpPdu	Indicates the number of received valid GPDU packets.
RecInvalidGvrpPdu	Indicates the number of received invalid GPDU packets.
RecJoinEmpty/ SentJoinEmpty	Indicates the number of received/sent JoinEmpty messages.
RecJoinIn/ SentJoinIn	Indicates the number of received/sent JoinIn messages.
RecEmpty/SentEmpty	Indicates the number of received/sent Empty messages.
RecLeaveEmpty/SentLeaveEmpty	Indicates the number of received/sent LeaveEmpty messages.

Field	Description
RecLeaveIn/ SentLeaveIn	Indicates the number of received/sent LeaveIn messages.
RecLeaveAll/SentLeaveAll	Indicates the number of received/sent LeaveAll messages.
SentGvrpPdu	Indicates the total number of sent GPDU messages.
JoinIndicated/ LeaveIndicated	Indicates the number of Join/Leave service requests.
JoinPropagated / LeavePropagated	Indicates the number of Join/Leave topology update requests.

Notifications

N/A

Platform Description

N/A

Related Commands

- [gvrp enable](#)

1.13 show gvrp status

Function

Run the **show gvrp status** command to display the GVRP port information.

Syntax

```
show gvrp status
```

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

2

Usage Guidelines

This command is used to display the GVRP port information of all member ports in a dynamic VLAN and the GVRP port information of dynamic member ports in a static VLAN.

Examples

The following example displays the GVRP information.

```
Hostname> enable
Hostname# show gvrp status
VLAN 1
```

```
Dynamic Ports:
DVLAN 2
Dynamic Ports:
```

Table 1-1Output Fields of the `show gvrp status` Command

Field	Description
VLAN	Indicates a static VLAN.
DVLAN	Indicates a dynamic VLAN.
Dynamic Ports	Indicates dynamic member ports.

Notifications

N/A

Platform Description

N/A

Related Commands

- [gvrp enable](#)

1.14 show l2protocol-tunnel gvrp

Function

Run the `show l2protocol-tunnel gvrp` command to display the configuration of a GVRP BPDU tunnel.

Syntax

```
show l2protocol-tunnel gvrp
```

Parameter Description

N/A

Command Modes

All modes except the user EXEC mode

Default Level

2

Usage Guidelines

N/A

Examples

The following example displays the configuration of a GVRP BPDU tunnel.

```
Hostname> enable
Hostname# show l2protocol-tunnel gvrp
```



```
L2protocol-tunnel: Gvrp Enable
L2protocol-tunnel destination mac address:011a.a900.0006
GigabitEthernet 0/1 l2protocol-tunnel gvrp enable
```

Notifications

N/A

Platform Description

N/A

Related Commands

- [l2protocol-tunnel gvrp](#)
- [l2protocol-tunnel gvrp enable](#)