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QinQ commands

This document uses the following terms:

- **CVLAN**—Customer network VLANs, also called inner VLANs, refer to VLANs that a customer uses on the private network.
- **SVLAN**—Service provider network VLANs, also called outer VLANs, refer to VLANs that a service provider uses to transmit VLAN tagged traffic for customers.

display qinq

Use `display qinq` to display QinQ-enabled interfaces.

Syntax

```
display qinq [ interface interface-type interface-number ]
```

Views

Any view

Predefined user roles

network-admin
network-operator

Parameters

interface interface-type interface-number: Specifies an interface by its type and number. If you do not specify an interface, this command displays all QinQ-enabled interfaces.

Usage guidelines

If QinQ is not enabled on any interfaces, this command does not provide any output.

Examples

Enable QinQ on GigabitEthernet 1/0/1. Then, verify that QinQ is enabled on the interface.

```
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] qinq enable
[Sysname-GigabitEthernet1/0/1] display qinq interface gigabitethernet 1/0/1
Interface
  GigabitEthernet1/0/1
```

Enable QinQ on GigabitEthernet 1/0/1 and GigabitEthernet 1/0/3. Then, verify that QinQ is enabled on the interfaces.

```
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] qinq enable
[Sysname-GigabitEthernet1/0/1] quit
[Sysname] interface gigabitethernet 1/0/3
[Sysname-GigabitEthernet1/0/3] qinq enable
[Sysname-GigabitEthernet1/0/3] display qinq
Interface
  GigabitEthernet1/0/1
  GigabitEthernet1/0/3
```

Related commands

`qinq enable`

qinq enable

Use `qinq enable` to enable QinQ on an interface.

Use `undo qinq enable` to disable QinQ on an interface.

Syntax

`qinq enable`

`undo qinq enable`

Default

QinQ is disabled on interfaces.

Views

Layer 2 Ethernet interface view

Layer 2 aggregate interface view

Predefined user roles

network-admin

Examples

```
# Enable QinQ on GigabitEthernet 1/0/1.
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] qinq enable
```

Related commands

`display qinq`

qinq ethernet-type (interface view)

Use `qinq ethernet-type` to set the TPID value in SVLAN tags on an interface.

Use `undo qinq ethernet-type` to restore the default TPID value in SVLAN tags on an interface.

Syntax

`qinq ethernet-type service-tag hex-value`

`undo qinq ethernet-type service-tag`

Default

The TPID value in SVLAN tags is 8100 in hexadecimal notation.

Views

Layer 2 Ethernet interface view

Layer 2 aggregate interface view

Predefined user roles

network-admin

Parameters

service-tag: Sets the TPID value in the SVLAN tag.

hex-value: Sets a hexadecimal TPID value in the range of 1 to ffff, excluding the reserved EtherType values listed in [Table 1](#).

Table 1 Reserved EtherType values

Protocol type	Value
ARP	0x0806
PUP	0x0200
RARP	0x8035
IP	0x0800
IPv6	0x86dd
PPPoE	0x8863/0x8864
MPLS	0x8847/0x8848
IPX/SPX	0x8137
IS-IS	0x8000
LACP	0x8809
LLDP	0x88cc
802.1X	0x888e
802.1ag	0x8902
Cluster	0x88a7
Reserved	0xfffd/0xfffe/0xffff

Usage guidelines

A port without QinQ enabled uses the SVLAN TPID to match incoming tagged frames. The port modifies the TPID in the SVLAN tag of outgoing frames as the configured value.

Examples

```
# Set the TPID value in SVLAN tags to 9100 (hexadecimal) on GigabitEthernet 1/0/1.
<Sysname> system-view
[Sysname] interface gigabitethernet 1/0/1
[Sysname-GigabitEthernet1/0/1] qinq ethernet-type service-tag 9100
```

Related commands

qinq ethernet-type (system view)

qinq ethernet-type (system view)

Use **qinq ethernet-type** to set the TPID value in CVLAN tags.

Use **undo qinq ethernet-type** to restore the default TPID value in CVLAN tags.

Syntax

```
qinq ethernet-type customer-tag hex-value
undo qinq ethernet-type customer-tag
```

Default

The TPID value in CVLAN tags is 8100 in hexadecimal notation.

Views

System view

Predefined user roles

network-admin

Parameters

customer-tag: Sets the TPID value in the CVLAN tag.

hex-value: Sets a hexadecimal TPID value in the range of 1 to ffff, excluding the reserved EtherType values listed in [Table 2](#).

Table 2 Reserved EtherType values

Protocol type	Value
ARP	0x0806
PUP	0x0200
RARP	0x8035
IP	0x0800
IPv6	0x86dd
PPPoE	0x8863/0x8864
MPLS	0x8847/0x8848
IPX/SPX	0x8137
IS-IS	0x8000
LACP	0x8809
LLDP	0x88cc
802.1X	0x888e
802.1ag	0x8902
Cluster	0x88a7
Reserved	0xffff/0xfffe/0xffff

Examples

```
# Set the TPID value in CVLAN tags to 8200 (hexadecimal).
```

```
<Sysname> system-view
```

```
[Sysname] qinq ethernet-type customer-tag 8200
```

Related commands

```
qinq ethernet-type (interface view)
```

qinq transparent-vlan

Use **qinq transparent-vlan** to enable transparent transmission for a list of VLANs on a port.

Use **undo qinq transparent-vlan** to disable transparent transmission for a list of VLANs on a port.

Syntax

```
qinq transparent-vlan vlan-id-list  
undo qinq transparent-vlan { vlan-id-list | all }
```

Default

Transparent transmission is disabled for all VLANs.

Views

Layer 2 Ethernet interface view

Layer 2 aggregate interface view

Predefined user roles

network-admin

Parameters

vlan-id-list: Specifies a space-separated list of up to 10 VLAN items. Each item specifies a single VLAN ID or a VLAN ID range in the form of *vlan-id1* to *vlan-id2*. The value range for VLAN IDs is 1 to 4094. The end VLAN ID must be equal to or greater than the start VLAN ID.

all: Specifies all VLANs.

Usage guidelines

By default, QinQ tags all incoming frames with the PVID on a port. This command disables QinQ to tag incoming traffic from a list of VLANs. These VLANs are called transparent VLANs.

You can repeat this command to add VLANs to the list of transparent VLANs.

To ensure successful transmission for a transparent VLAN, follow these configuration guidelines:

- Set the link type of the port to trunk or hybrid, and assign the port to the transparent VLAN.
- Do not configure any other VLAN manipulation actions for the transparent VLAN on the port.
- Make sure all ports on the traffic path permit the transparent VLAN to pass through.
- If you use both transparent VLANs and VLAN mappings on an interface, the transparent VLANs cannot be the original or translated VLANs of one-to-one or one-to-two VLAN mappings.

Examples

Configure GigabitEthernet 1/0/1 as a trunk port, and assign the port to VLAN 2, VLAN 3, and VLANs 50 through 100. Enable QinQ on GigabitEthernet 1/0/1, and configure the port to transparently transmit frames from VLAN 2.

```
<Sysname> system-view  
[Sysname] interface gigabitethernet 1/0/1  
[Sysname-GigabitEthernet1/0/1] port link-type trunk  
[Sysname-GigabitEthernet1/0/1] port trunk permit vlan 2 3 50 to 100  
[Sysname-GigabitEthernet1/0/1] qinq enable  
[Sysname-GigabitEthernet1/0/1] qinq transparent-vlan 2
```