PoE+ Series Switches Voice VLAN Configuration Guide

Models: S3150-8T2FP
S3260-8T2FP
S3260-16T4FP
S3400-24T4FP
S3400-48T4SP

Content

VLAN Based on MAC Address

1. Principle Description

OUI refers to the first 24 bits (binary) of the MAC address and can be used to represent a MAC address segment. It is a globally unique identifier assigned by the IEEE to different equipment vendors. Each vendor allocates 24 bits from this address segment to obtain a 48-bit MAC address.

So the principle of identifying an IP phone through OUI is based on the MAC address segment of the IP phone. In this way, it is identified which messages belong to the voice message.

The OUI in the Voice VLAN is different from the OUI in the usual sense. The OUI is configured by the user and can use a mask, that is, it does not need to be a 24-bit mask. The mask length can be specified by the user. The value of the OUI is the result of the negotiation between the mac-address and mask parameters in the 'Voice VLAN mac-address' command.

2. Configuration Command

2.1 Voice VLAN MAC Address

[no] Voice VLAN mac-address *mac-addr* **mask** *mask-addr*

Add/delete a Voice VLAN entry based on the MAC address.

Parameter

Parameter	Parameter Description
mac-addr	MAC address corresponding to the Voice VLAN entry.
mask-addr	MAC mask corresponding to the Voice VLAN entry.

Default

There are no Voice VLAN entries.

Command Mode

Global configuration mode.

Instructions for use

Configure the OUI of the Voice VLAN:

The so-called OUI in the Voice VLAN is different from the above-mentioned OUI. The OUI is configured by the user and can use a mask, that is, it does not need to be a 24-bit mask. The mask length can be specified by the user. The value of the OUI is the result of the

mac-address and mask parameters in the Voice VLAN mac-address command. Currently, 16 OUIs are supported, that is, only 16 commands can be configured in the system. When the number of commands configured for the OUI reaches 16, the configuration cannot be increased.

Example

Switch_config#Voice VLAN mac-address 00e0.0f5e.22f6 mask ffff.ffff.0000

Switch_config#no Voice VLAN mac-address 00e0.0f5e.22f6 mask ffff.ffff.0000

2.2 Switchport Voice VLAN

switchport Voice VLAN *vlan value* **[cos** *cos-value* |**dscp** *dscp-value* **]**

[no] switchport Voice VLAN

Enable/disable the Voice VLAN function on the port.

Parameter

Parameter	Parameter Description
vlan value	Voice VLAN ID value, range 2-4094.
cos-value	Voice VLAN cos priority, ranging from 0 to 7. The default value is 6.
dscp-value	Voice VLAN dscp priority, ranging from 0 to 63. The default value is 0.

Default

The port disables the Voice VLAN function.

Command Mode

Port configuration mode.

Instructions for use

Enable the Voice VLAN function on the port and specify the VLAN as the Voice VLAN:

To ensure the normal use of the functions, you need to configure the port as trunk. You must assign different VLAN IDs to the Voice VLAN and port PVID. The VLAN corresponding to the Voice VLAN needs to be manually created. Only one VLAN can be set to a Voice VLAN on an interface at the same time.

Example

Switch_config_g0/1#switchport Voice VLAN 5

Switch_config_g0/1#no switchport Voice VLAN

3. Configuration Example

As shown in Figure 1 below, after receiving the untagged packet sent by the PC and the IP phone, the switch performs the folbwing processing: If the source MAC address matches the OUI configured on the switch (the source MAC address and the OUI mask are calculated to be equal to the OUI), the tag of the Voice VLAN is added to the packet, and the packet priority is increased. If not, The VLAN tag of the PVID is added to ensure the priority of voice packets.
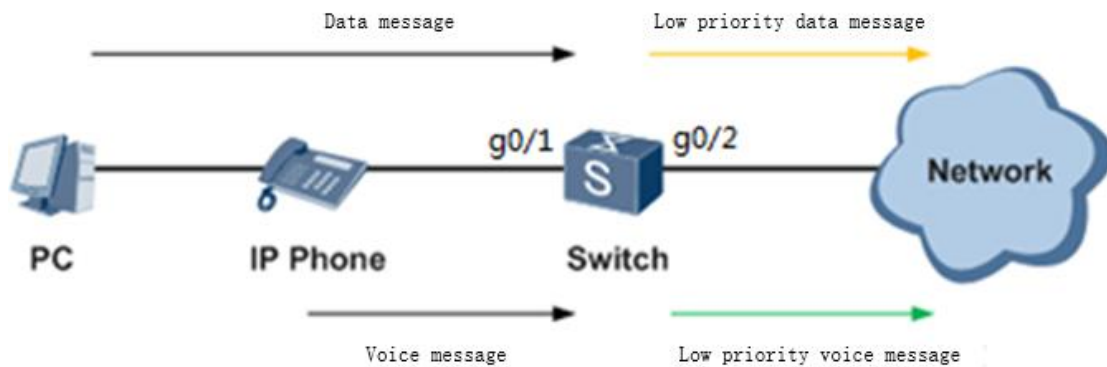

Figure-1 Schematic diagram of a Voice VLAN based on a MAC address

Configuration:

interface GigaEthernet0/1

   switchport mode trunk

   switchport Voice VLAN 5

!

interface GigaEthernet0/2

   switchport mode trunk

!

VLAN 1, 5

Voice VLAN mac-address 00e0.0f5e.22f6 mask ffff.ffff.0000

Supplement:

If the IP phone cannot process the TAG message, please configure the Voice VLAN connected to IP phone port g0/1 in the vlan-untagged range.

Switch_config_g0/1#switchport trunk vlan-untagged add 5