

FSOS

PPPoE Plus Configuration

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1. PPPoE Plus

1.1 Overview for PPPoE Plus

Point-to-Point Protocol over Ethernet (PPPoE) is a network tunneling protocol that encapsulates Point-to-Point Protocol (PPP) in an Ethernet frame. Because PPP is integrated in the protocol, it can implement the functions of authentication, encryption and compression that cannot be provided by traditional Ethernet. It can also be used for protocol architecture that provides access services for users by Ethernet protocol, such as cable modem and digital subscriber line (DSL) and so forth.

The PPPoE Plus function means that the physical information of the user side (the connected port, the VLAN where it resides, the MAC address of the local Switch and so forth) is added to the Sub-tag field in the PPPoE protocol packet by the Switch directly connected to the end-user. In this way, the authentication server can read the information to know the location of the user in the network in order to manage, maintain and service users.

Note that this function requires a server that supports PPPoE Plus to work with.

1.2 PPPoE Plus Configuration

1.2.1 Enable/disable PPPoE Plus

By default, the pppoe plus function is disabled. When you need to use the function, you must configure it as follows:

- a. Enable the pppoe plus function on the port;
- b. The port connecting to the pppoe-server is configured as a trusted port (all ports are untrusted by default).

Enable/disable PPPoE Plus

Operation	Command	Remarks
Enter port configuration mode	interface ethernet <i>port-number</i>	-
Enable/disable the function	[no] pppoeplus	Required The default is off
Configure the uplink port as a trusted port	[no] pppoeplus trust	Required The default is

		untrust
View the configuration information	show pppoeplus interface ethernet port-number	optional

1.2.2 Configure the Option Processing Strategy

If the PPPOE downlink port is directly connected to a PC or an Switch with PPPoE disabled, the DUT receives the PPPOE packet with no options. The DUT processes the packet according to the standard. If the downlink port is connected to an Switch with PPPoE enabled, the received PPPOE packet may already contain the option contents. In this case, the administrator needs to specify how the DUT handles the option contents. Allow three processing strategies: drop, keep and replace, the default use the replace strategy.

Configure the Option Processing Strategy

Operation	Command	Remarks
Enter port configuration mode	interface ethernet port-number	-
Configure the option processing strategy	[no] pppoeplus strategy { drop keep replace }	Optional The no command recovers the default strategy : replace
View the configuration information	show pppoeplus interface ethernet port-number	optional

1.2.3 Discard padi/pado Packet

In some specific cases, you may not want the port to process the received PPPOE padi / pado packets. The DUT provides the drop function and is disabled by default.

Configure to Discard padi / pado Packets

Operation	Command	Remarks
Enter port configuration mode	interface ethernet port-number	-
Configure the option processing strategy	[no] pppoeplus drop { padi pado }	Optional

		The default is processing
View the configuration information	show pppoeplus interface ethernet <i>port-number</i>	optional

1.2.4 Configure the Packet Type

The PPPOE packet needs to be added with the option contents before the packet is forwarded. the option contents can be determined in a number of ways.

You can specify the option contents in port mode.

If no content is specified, the configuration is performed according to the configuration rules, and the type is configured using the pppoe plus type. When the type is self-defined, you need to determine whether the format is in binary format or text format. The text format also needs to determine the connection symbol format.

The Switch provides three modes for PPPoE Plus packets:

a. Standard mode: User-side information includes the connected port, VLAN, and local Switch MAC. Encoding is as follows:

“0 0/0/0:4096.VID Switch MAC/0/0/slot/subslot/port”

b. HuaWei mode: Support connecting with HuaWei BRAS. User-side information includes the connected port, VLAN, the hostname of local Switch, and local Switch MAC. Encoding is as follows:


“0 0/0/0:4096.VID Switch MAC/hostname/0/slot/sub-slot/port”

c. Self-defined mode: Support user-defined message format.

Configure the Packet Type

Operation	Command	Remarks
Enter global configuration mode	configure terminal	-
Configure the packet type	[no]pppoeplus type { huawei standard self-defined { circuit-id { [<i>circuit-string</i>] [vlan] [port] [switch-mac] [hostname] [client-mac] } remote-id { [<i>remote-string</i>] [switch-mac] [hostname] [client-mac] } }	Optional The no command recovers the default type:standard
Configure the format	[no]pppoeplus format { binary ascii }	Optional The no command

		recovers the default format: binary
Configure the delimiter	[no]pppoeplus delimiter { colon dot slash space }	Optional The no command recovers the default configuration: space
Enter the port configuration mode	interface ethernet <i>port-number</i>	-
Configure the circuit-id	[no] pppoeplus circuit-id <i>circuit-string</i>	Optional The default is no configuration
View the configuration information	show pppoeplus interface ethernet <i>port-number</i>	Optional

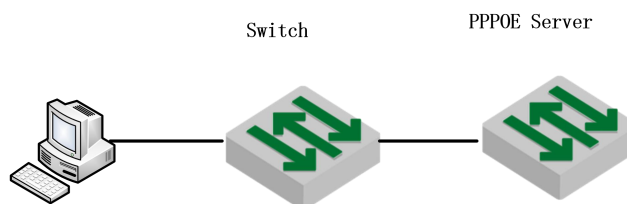
 Note:

If both global and port are configured with circuit-id, the port takes precedence.

1.3 Configuration Example

1. Network requirements

The pppoe+ function is enabled on the Switch and is configured with self-defined type. Configure the circuit-id and remote-id contents, and verify that the PC pppoe dial-up is successful and that the options in the pppoe packet are correct.



sketch map of pppoe+

2. Configuration steps

Enable the pppoe plus function on the port connected to the client PC;

```
switch(config)#interface ethernet 0/0/1
switch(config-if-ethernet-0/0/1)#pppoeplus
```

The port connected to the server is configured as a pppoe plus trusted port;

```
switch(config-if-ethernet-0/0/1)#interface ethernet 0/0/3
switch(config-if-ethernet-0/0/3)#pppoeplus trust
```

Configure self-defined type and configure the circuit-id and remote-id contents

```
switch(config-if-ethernet-0/0/3)#exit
switch(config)#pppoeplus type self-defined circuit-id test
switch(config)#pppoeplus type self-defined remote-id hostname client-mac switch-mac
switch(config)#pppoeplus format ascii
```

3.Result validation

(1) PC through pppoe dialing success;

(2) The circuit-id and remote-id fields of the mirrored trust port and padi packets are consistent with the configuration:

```

  PPP-over-Ethernet Discovery
    0001 .... = Version: 1
    .... 0001 = Type: 1
    Code: Active Discovery Initiation (PADI) (0x09)
    Session ID: 0x0000
    Payload Length: 64
  PPPoE Tags
    Host-Uniq: 0700000007000000
    Vendor id: 3561
  Vendor Specific PPPoE Tags
    Circuit ID: test
    Remote ID: switch 00e04c493092 000000001199
```