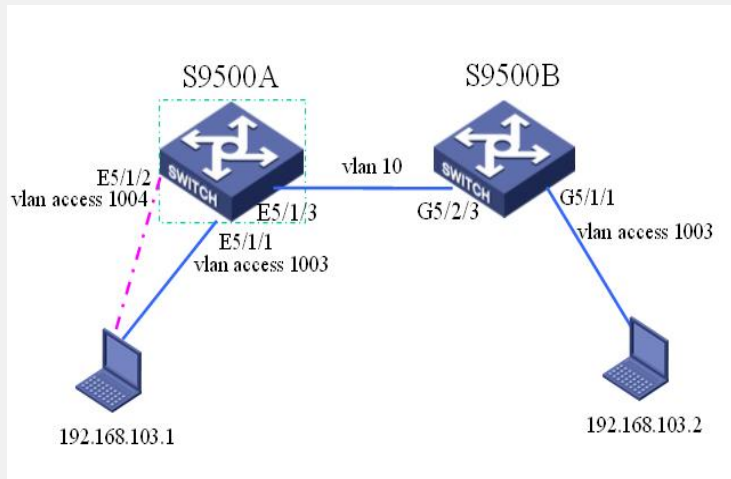


H3C S9500交换机VPLS不同vlan下CE互通典型配置

一、组网需求:

VPLS: Virtual Private Lan Service, VPLS用Martini和Compella两种草案技术采用以太网封装来实现, 目前以Martini方式为主; VPLS可为用户提供二层的多点到多点的VPN隧道; 对于用户而言, VPLS网络可看作一台大型二层交换机, 可透传用户所有的二层报文。

二、组网图



如图所示, 两台S9500分别是PE1、PE2, 之间通过公网vlan10 互联, ce1、ce2统属于一个vpn, CE1先后以VLAN 1003、1004接入PE设备, CE2先后以vlan 1004接入PE设备, 配置vpls实例h3c, 以ldp方式, 即Martini方式。2号槽为VPN板, 5号槽为C类接口板。

三、配置步骤

软件版本: H3C S9500交换机全系列软件E1版本

硬件版本: H3C S9500交换机全系列C、CA类接口板&VPN业务板

1) 配置S9500A

1、使能基本MPLS功能

```
<S9500A>sys
```

```
System View: return to User View with Ctrl+Z.
```

```
[S9500] sysname PE1
```

```
[PE-1] interface loopBack 0
```

```
[PE-1-LoopBack0] ip address 1.1.1.1 255.255.255.255
```

```
[PE-1] mpls lsr-id 1.1.1.1
```

```
[PE-1] mpls
```

```
[PE-1] mpls ldp
```

```
[PE-1] interface Vlan-interface10
```

```
[PE-1-Vlan-interface10] ip address 10.10.1.1 255.255.255.0
```

```
[PE-1-Vlan-interface10] mpls
```

```
[PE-1-Vlan-interface10] mpls ldp enable
```

2、使能公网路由

```
[PE-1]ospf
```

```
[PE-1-ospf-1]area 0
```

```
[PE-1-ospf-1-area-0.0.0.0] network 2.2.2.2 0.0.0.0
```

```
[PE-1-ospf-1-area-0.0.0.0] network 10.10.1.0 0.0.0.255
```

3、使能L2VPN并建立LDP的Remote Peer以交互VPN信息

```
[PE-1] mpls l2vpn
```

```
[PE-1] mpls ldp remote 1
```

```
[PE-1-mpls-remote1] remote-ip 2.2.2.2
```

4、创建VPLS实例

```
[PE-1] vsi h3c static
```

```
[PE-1-vsi-h3c] encapsulation ethernet //指定PW默认封装为RAW模式
```

```
[PE-1-vsi-h3c] pwsignal ldp
```

```

[PE-1-vsi-h3c-ldp] vsi-id 500 //VSI ID, 双方必须一致
[PE-1-vsi-h3c-ldp] peer 2.2.2.2 encapsulation ethernet
5、创建QinQ接入VLAN并把VPLS实例绑定到VLAN接口
[PE-1] vlan 1003
[PE-1-vlan1003] interface Ethernet 5/1/1
[PE-1-Ethernet5/1/1] port access vlan 1003
[PE-1-Ethernet5/1/1] vlan-vpn enable
[PE-1] interface Vlan-interface 1003
[PE-1-Vlan-interface1003] l2 binding vsi h3c access-mode ethernet
[PE-1]vlan 1004
[PE-1-vlan1003]interface Ethernet 5/1/2
[PE-1-Ethernet5/1/2] port access vlan 1004
[PE-1-Ethernet5/1/2] vlan-vpn enable
[PE-1]interface Vlan-interface 1004
[PE-1-Vlan-interface1004] l2 binding vsi h3c access-mode Ethernet
6、将公网返回到PE1的报文重定向到2号槽的VPN板
[PE-1] flow-template user-defined slot 5 ethernet-protocol vlanid
[PE-1] acl number 4000
[PE-1-acl-link-4000] rule 0 permit mpls l2label-range ingress any egress any
[PE-1] interface Ethernet5/1/3
[PE-1-Ethernet5/1/3] port link-type trunk
[PE-1-Ethernet5/1/3] port trunk permit vlan 1 10
[PE-1-Ethernet5/1/3] flow-template user-defined
[PE-1-Ethernet5/1/3] traffic-redirect inbound link-group 4000 rule 0
system-index 2 slot 2 10
2) 配置S9500B
1、使能基本MPLS功能
<S9500B>sys
System View: return to User View with Ctrl+Z.
[S9500] sysname PE2
[PE2] interface loopback 0
[PE2-LoopBack0] ip address 2.2.2.2 255.255.255.255
[PE2] mpls lsr-id 2.2.2.2
[PE2] mpls
[PE2] mpls ldp
[PE2] interface vlan-interface 10
[PE2-Vlan-interface10] ip address 10.10.1.2 255.255.255.0
[PE2-Vlan-interface10] mpls
[PE2-Vlan-interface10] mpls ldp enable
2、使能公网路由
[PE2]ospf
[PE2-ospf-1]area 0
[PE2-ospf-1-area-0.0.0.0] network 2.2.2.2 0.0.0.0
[PE2-ospf-1-area-0.0.0.0] network 10.10.1.0 0.0.0.255
3、使能L2VPN并建立LDP的Remote Peer以交互VPN信息
[PE2] mpls l2vpn
[PE2] mpls ldp remote 1
[PE2-mpls-remote1] remote-ip 1.1.1.1
4、创建VPLS实例
[PE2] vsi h3c static
[PE2-vsi-h3c] encapsulation ethernet
[PE2-vsi-h3c] pwsignal ldp
[PE2-vsi-h3c-ldp] vsi-id 500
[PE2-vsi-h3c-ldp] peer 1.1.1.1 encapsulation ethernet
5、创建QinQ接入VLAN并把VPLS实例绑定到VLAN接口
[PE2] vlan 1003
[PE2-vlan1003] interface GigabitEthernet 5/1/1
[PE2-GigabitEthernet5/1/1] port access vlan 1003
[PE2-GigabitEthernet5/1/1] vlan-vpn enable
[PE2] interface Vlan-interface 1003
[PE2-Vlan-interface1003] l2 binding vsi h3c access-mode ethernet
6、将公网返回到PE2的报文重定向到2号槽的VPN板
[PE2] flow-template user-defined slot 5 ethernet-protocol vlanid
[PE2] acl number 4000

```

```
[PE2-acl-link-4000] rule 0 permit mpls l2label-range ingress any egress any
[PE2] interface GigabitEthernet5/1/3
[PE2-GigabitEthernet5/1/3] port link-type trunk
[PE2-GigabitEthernet5/1/3] port trunk permit vlan 1 10
[PE2-GigabitEthernet5/1/3] flow-template user-defined
[PE2-GigabitEthernet5/1/3] traffic-redirect inbound link-group 4000 rule 0
system-index 2 slot 2 10
```

四、配置关键点：

- 1) PE1、PE2两端的VSI ID必须配置一致
- 2) Vpls功能的实现必须要求有vpn业务板，接口板则至少要求有一块C类、CA类接口板
- 3) 两端的CE即使接在不同的vlan下，只要是绑定在同一个vpn内也能实现互通，但是两端ce的ip地址必须配置在一个网段内