VLAN Super Vlan **韦家宁** 2019-12-10 发表

组网及说明

某局点的某部门目前使用了一个业务VLAN来实现网络通信,由于业务扩展的需要,增加了一个新的部门,为了使新部门更方便的接入网络,网络管理员想让新部门使用原来的业务VLAN的IP,但是又想两个部门处在不同的广播域,因此希望采用supervlan技术,实现两个部门使用不同的VLAN,但是使用同一个业务地址段。



部门1使用VLAN 100,部门2使用VLAN 200,共同使用192.168.10.0/24的这个业务网段上网。

配置步骤

1、分别给交换机命名

2、在SW1交换机创建VLAN 10,指定为supervlan,创建VLAN 10,VLAN 20,指定为VLAN 10的subvl an

- 3、给VLAN 10配置IP地址
- 4、SW1交换机与SW2、SW3交换机的互联接口开启trunk,仅trunk相应的VLAN
- 5、分别在SW2、SW3交换机创建业务VLAN,并与SW1互联的接口开启trunk,仅trunk相应的VLAN

配置关键点

SW1:

[H3C]sysname SW1
[SW1]vlan 100
[SW1-vlan100]quit
[SW1-vlan200]quit
[SW1-vlan200]quit
[SW1-vlan10]supervlan //将VLAN 10配置为supervlan
[SW1-vlan10]subvlan 100 //将VLAN 100配置为subvlan
[SW1-vlan10]subvlan 200 //将VLAN 200配置为subvlan
[SW1-vlan10]quit

[SW1]int gi 1/0/1

[SW1-GigabitEthernet1/0/1]port link-type trunk [SW1-GigabitEthernet1/0/1]undo port trunk permit vlan 1 [SW1-GigabitEthernet1/0/1]port trunk permit vlan 100 [SW1-GigabitEthernet1/0/1]description <connect to SW2> [SW1-GigabitEthernet1/0/1]quit

[SW1]int gi 1/0/2

[SW1-GigabitEthernet1/0/2]port link-type trunk [SW1-GigabitEthernet1/0/2]undo port trunk permit vlan 1 [SW1-GigabitEthernet1/0/2]port trunk permit vlan 200 [SW1-GigabitEthernet1/0/2]description <connect to SW3> [SW1-GigabitEthernet1/0/2]quit [SW1-Vlan-interface10]ip address 192.168.10.254 255.255.255.0 //给VLAN 10配置IP地址 [SW1-Vlan-interface10]undo shutdown [SW1-Vlan-interface10]quit

SW2: [H3C]sysname SW2 [SW2]vlan 100 [SW2-vlan100]quit [SW2-GigabitEthernet1/0/1]port link-type trunk [SW2-GigabitEthernet1/0/1]port trunk permit vlan 1 [SW2-GigabitEthernet1/0/1]port trunk permit vlan 100 [SW2-GigabitEthernet1/0/1]description <connect to SW1> [SW2-GigabitEthernet1/0/1]quit [SW2-GigabitEthernet1/0/1]quit [SW2-if-range]port link-type access [SW2-if-range]port access vlan 100 [SW2-if-range]quit

SW3:

[H3C]sysname SW3 [SW3]vlan 200 [SW3-vlan200]quit [SW3]int gi 1/0/1 [SW3-GigabitEthernet1/0/1]port link-type trunk [SW3-GigabitEthernet1/0/1]port trunk permit vlan 1 [SW3-GigabitEthernet1/0/1]port trunk permit vlan 200 [SW3-GigabitEthernet1/0/1]quit quit [SW3-GigabitEthernet1/0/1]quit [SW3-GigabitEthernet1/0/1]quit [SW3-GigabitEthernet1/0/24 [SW3-if-range]port link-type access [SW3-if-range]port access vlan 200 [SW3-if-range]quit

测试:

PC_4和PC_5分别设置IP地址,在SW1交换机看能否学习到了ARP和MAC

C	▲ 配置PC_4								
	接口	状态	IPv4地址	IPv6地址					
	G0/0/1	UP	192.168.10.2/24						
					同新				
	接口管理								
	◎ 禁用 🍳)启用							
	IPv4配置:								
	DHCP								
	◎ 静态								
	IPv4地址:	192.168.1	10.2						
	掩码地址:	255.255.2	255.0						
	IPv4网关:	192.168.1	10.254		启用				

接口	状态	IPv4地址	IPv6地址	
G0/0/1	UP	192.168.10.3	24	
				刷新
安口管理				
◎ 禁用 🏾 🔍	启用			
Pv4配置:				
DHCP				
静态				
Pv4地址:	192.168.1	10.3		
电码地址:	255.255.2	255.0		
Pv4网关:	192.168.1	10.254		启用
ldis arp				
pe: S-Stati	c D-Dy	mamic 0-0	penflow R-Rule M-Multipor	t I-Invalid
1dress 168.10.2	MAC ac 3c15-e	dress 5V	D GE1/0/1	Aging Type 20 D
168.10.3	3c15-e	6bf-0506 20	GE1/0/2	
-				
]dis mac-a	ddress	TD State	Port /Nickmana	Acipo
Address	100	Learn	ed GE1/0/1	Y
5-elae-0406				

[SW1]dis supervlan //查看supervlan的信息 Super VLAN ID: 10 Sub-VLAN ID: 100, 200

VLAN ID: 10

へ 配置PC 5

VLAN type: Static It is a super VLAN. Route interface: Configured IPv4 address: 192.168.10.254 IPv4 subnet mask: 255.255.255.0 Description: VLAN 0010 Name: VLAN 0010 Tagged ports: None Untagged ports: None

VLAN ID: 100

VLAN type: Static It is a sub-VLAN. Route interface: Configured IPv4 address: 192.168.10.254 IPv4 subnet mask: 255.255.255.0 Description: VLAN 0100 Name: VLAN 0100 Tagged ports: [SW1]dis supervlan 10 Super VLAN ID: 10 Sub-VLAN ID: 100, 200

VLAN ID: 10

VLAN type: Static It is a super VLAN. Route interface: Configured IPv4 address: 192.168.10.254 IPv4 subnet mask: 255.255.255.0 Description: VLAN 0010 Name: VLAN 0010 Tagged ports: None Untagged ports: None VLAN ID: 100 VLAN type: Static It is a sub-VLAN. Route interface: Configured IPv4 address: 192.168.10.254 IPv4 subnet mask: 255.255.255.0 Description: VLAN 0100 Name: VLAN 0100 Tagged ports: GigabitEthernet1/0/1 Untagged ports: None

VLAN ID: 200

VLAN type: Static It is a sub-VLAN. Route interface: Configured IPv4 address: 192.168.10.254 IPv4 subnet mask: 255.255.255.0 Description: VLAN 0200 Name: VLAN 0200 Tagged ports: GigabitEthernet1/0/2 Untagged ports: None

[SW1]