

## 组网及说明

### 1 配置需求或说明

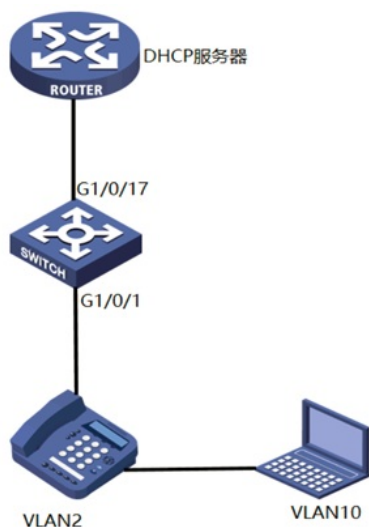
#### 1.1 适用产品系列

本案例适用于如S3100V3-28TP-SI、S3100V3-28TP-EI、S3100V3-20TP-PWR-SI、S3100V3-28TP-PWR-EI等S3100V3系列的交换机。

#### 1.2 配置需求及实现的效果

为了保障语音数据能够优先转发，需要将语音电话和PC地址区分开，将语音电话地址设置成192.168.2网段划分到VLAN2，将PC地址设置成192.168.10网段划分到VLAN10，路由器作为DHCP服务器给语音电话和PC下发IP地址。

## 2 组网图



## 配置步骤

### 3 配置步骤

#### 3.1 配置交换机

#开启POE，为话机供电

```
<H3C>system-view
```

```
[H3C]interface GigabitEthernet1/0/1
```

```
[H3C-GigabitEthernet1/0/1]poe enable
```

```
[H3C-GigabitEthernet1/0/1]quit
```

#创建话机所属VLAN2以及PC所属VLAN10

```
[H3C]vlan 2
```

```
[H3C-vlan2]quit
```

```
[H3C]vlan 10
```

```
[H3C-vlan10]quit
```

#设置允许通过的OUI地址为MAC地址前缀为6ca8-4900-0000，即当报文的前缀为6ca8-4900-0000时，设备会把它当成语音报文来处理

```
[H3C]voice-vlan mac-address 6ca8-4900-0000 mask ffff-ff00-0000 description avaya
```

#将端口GigabitEthernet1/0/1设定为Hybrid端口,开启使能端口Voice VLAN功能

```
[H3C]interface GigabitEthernet 1/0/1
```

```
[H3C-GigabitEthernet1/0/1]port link-type hybrid
```

```
[H3C-GigabitEthernet1/0/1]voice-vlan 2 enable
```

#设置PC所属vlan为vlan10

```
[H3C-GigabitEthernet1/0/1]port hybrid pvid vlan 10
```

```
[H3C-GigabitEthernet1/0/1]port hybrid vlan 10 untagged
```

```
[H3C-GigabitEthernet1/0/1]quit
```

#设备连接dhcp服务器的接口1/0/17,允许VLAN2, VLAN10通过

```
[H3C]interface GigabitEthernet 1/0/17
```

```
[H3C-GigabitEthernet1/0/17]port link-type trunk
```

```
[H3C-GigabitEthernet1/0/17]port trunk permit vlan 2 10
```

```
[H3C-GigabitEthernet1/0/17]quit
```

```
#保存配置
```

```
[H3C]save force
```

### 3.2 配置DHCP服务器

```
#创建VLAN2, VLAN10及其对应的VLAN接口, 为该虚接口配置IP地址
```

```
<H3C> system-view
```

```
[H3C]vlan 2
```

```
[H3C-vlan2]quit
```

```
[H3C]vlan 10
```

```
[H3C-vlan10]quit
```

```
[H3C] interface Vlan-interface 2
```

```
[H3C-Vlan-interface2]ip address 192.168.2.1 255.255.255.0
```

```
[H3C-Vlan-interface2]quit
```

```
[H3C] interface Vlan-interface 10
```

```
[H3C-Vlan-interface10]ip address 192.168.10.1 255.255.255.0
```

```
[H3C-Vlan-interface2]quit
```

```
#设备连接交换机的接口1/0/7,允许VLAN2, VLAN10通过
```

```
[H3C]interface GigabitEthernet 1/0/7
```

```
[H3C-GigabitEthernet1/0/7]port link-type trunk
```

```
[H3C-GigabitEthernet1/0/7]port trunk permit vlan 2 10
```

```
[H3C-GigabitEthernet1/0/7]quit
```

```
#设置话机VLAN2的DHCP地址池
```

```
[H3C]dhcp server ip-pool vlan2
```

```
[H3C-dhcp-pool-vlan2]network 192.168.2.0 mask 255.255.255.0
```

```
[H3C-dhcp-pool-vlan2]gateway-list 192.168.2.1
```

```
[H3C-dhcp-pool-vlan2]quit
```

```
#设置PCVLAN10的DHCP地址池
```

```
[H3C]dhcp server ip-pool vlan10
```

```
[H3C-dhcp-pool-vlan10]network 192.168.10.0 mask 255.255.255.0
```

```
[H3C-dhcp-pool-vlan10]gateway-list 192.168.10.1
```

```
[H3C-dhcp-pool-vlan10]dns-list 114.114.114.114
```

```
[H3C-dhcp-pool-vlan10]quit
```

```
#保存配置
```

```
[H3C]save force
```

### 4 实验结果验证

```
#交换机上查验证结果, 查看话机是否加入到VLAN2
```

```
dis mac-address
```

MAC Address	VLAN ID	STATE	Port/Nickname	AGING
3897-d630-676b	10	Learned	GE1/0/17	Y
3897-d630-676b	2	Learned	GE1/0/17	Y
6ca8-4986-6d59	2	Learned	GE1/0/1	Y
0068-eb95-3683	10	Learned	GE1/0/1	Y

```
#查看voice vlan 配置是否生效
```

```
dis voice-vlan mac-address
```

Oui Address	Mask	Description
0003-6b00-0000	ffff-ff00-0000	Cisco phone
00e0-7500-0000	ffff-ff00-0000	Polycom phone
6ca8-4900-0000	ffff-ff00-0000	avaya

```
#默认voice vlan默认为auto(自动模式)
```

```
dis voice-vlan state
```

```
Current Voice VLANs: 1
```

```
Voice VLAN security mode: Security
```

```
Voice VLAN aging time: 1440 minutes
```

```
Voice VLAN enabled port and its mode:
```

PORT	VLAN	MODE	COS	DSCP
GE1/0/1	2	AUTO	6	46

```
#DHCP服务器上查看话机和PC获取的动作
```

```
%Jan 1 09:19:59:333 2019 DHCP DHCP5/DHCP5_ALLOCATE_IP: DHCP server information: Server IP = 192.168.2.1, DHCP client IP = 192.168.2.2, DHCP client hardware address = 6ca8-4986-6d59, DHCP client lease = 86400.
```

dis dhcp server ip-in-use all

Pool utilization: 0.59%

IP address	Client-identifier/ Hardware address	Lease expiration	Type
192.168.2.2	6ca8-4986-6d59	Jan 9 2013 09:19:59	Auto:COMMITTED
192.168.10.4	0068-eb95-3683	Jan 9 2013 09:19:42	Auto:COMMITTED

配置关键点