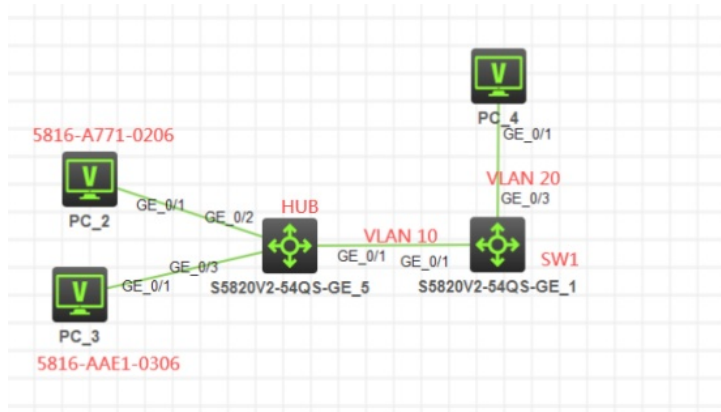# IP+MAC绑定典型案例2（arp static方式）

VLAN　静态ARP　H3C模拟器　**韦家宁**　2020-02-15 发表

组网及说明

组网说明：

本案例采用H3C HCL模拟器来模拟IP+MAC绑定的组网。MAC地址在网络拓扑图中有了明确的标识，PC_2和PC_3接入了一个傻瓜机HUB，同属于VLAN 10。本案例将通过arp static的方式实现IP+MAC的绑定，同时也可以实现防止IP地址冲突而导致两台PC都无法上网。

PC_2绑定到192.168.10.2

配置步骤

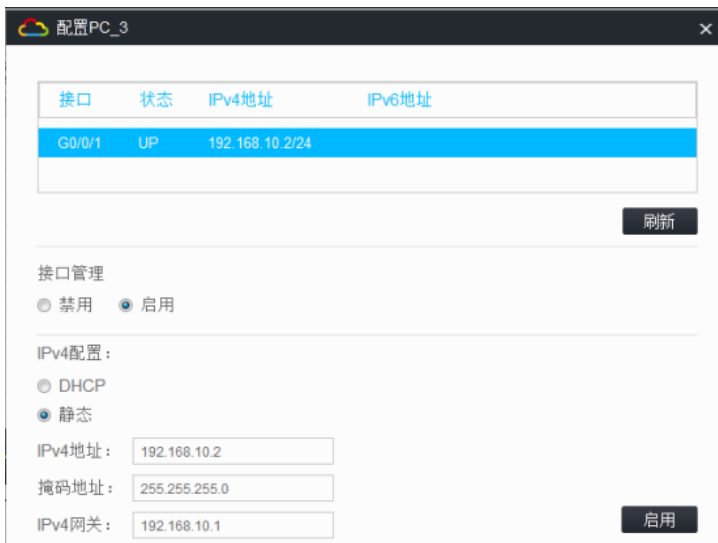1、按照网络拓扑图正确配置VLAN

2、在SW1开启static绑定

配置关键点

SW1：

```
<H3C>sys
System View: return to User View with Ctrl+Z.
[H3C]sysname SW1
[SW1]vlan 10
[SW1-vlan10]quit
[SW1]vlan 20
[SW1-vlan20]quit
[SW1]int Vlan-interface 10
[SW1-Vlan-interface10]ip address 192.168.10.1 24
[SW1-Vlan-interface10]quit
[SW1]int vlan 20
[SW1-Vlan-interface20]ip address 192.168.20.1 24
[SW1-Vlan-interface20]quit
[SW1]int gi 1/0/1
[SW1-GigabitEthernet1/0/1]port link-type access
[SW1-GigabitEthernet1/0/1]port access vlan 10
[SW1-GigabitEthernet1/0/1]quit
[SW1]int gi 1/0/3
[SW1-GigabitEthernet1/0/3]port link-type access
[SW1-GigabitEthernet1/0/3]port access vlan 20
[SW1-GigabitEthernet1/0/3]quit
```
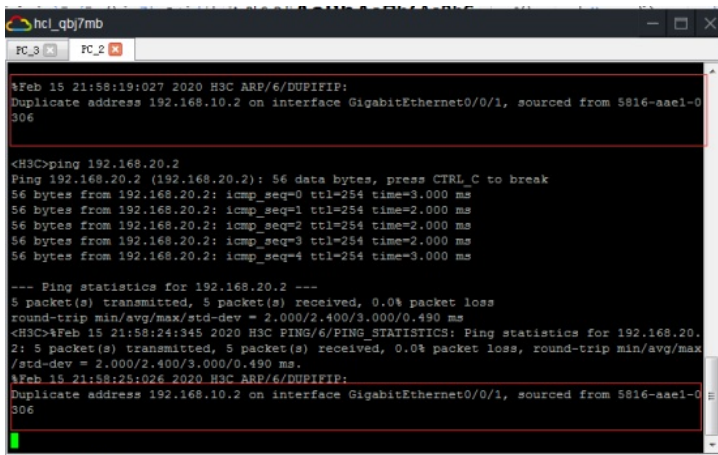
Arp static关键配置点：

```
[SW1]arp static 192.168.10.2 5816-a771-0206
```

测试：

当PC_2和PC_3共同使用192.168.10.2的这个IP地址时，PC_2能正常PING通192.168.20.2，PC_3无法PING通，说明arp static有防止IP地址冲突时而导致两台PC无法上网的情况发生，arp static绑定的表项则会生效：

配置PC_2

接口	状态	IPv4地址	IPv6地址
G0/0/1	UP	192.168.10.2/24	

刷新

接口管理
○ 禁用 ● 启用

IPv4配置：
○ DHCP
● 静态
IPv4地址： 192.168.10.2
掩码地址： 255.255.255.0
IPv4网关： 192.168.10.1

启用

配置PC_3

接口	状态	IPv4地址	IPv6地址
G0/0/1	UP	192.168.10.2/24	

刷新

接口管理
○ 禁用 ● 启用

IPv4配置：
○ DHCP
● 静态
IPv4地址： 192.168.10.2
掩码地址： 255.255.255.0
IPv4网关： 192.168.10.1
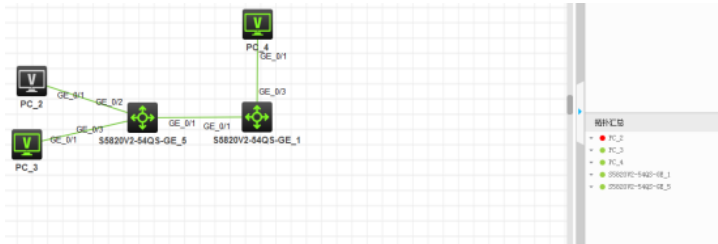
启用

PC_2正常PING通192.168.20.2，虽然提示IP地址冲突，但是可以正常使用网络

PC_3无法正常PING通192.168.20.2，而且还提示IP地址冲突

```
<H3C>ping 192.168.20.2
Ping 192.168.20.2 (192.168.20.2): 56 data bytes, press CTRL_C to break
Request time out
%Feb 15 21:56:24:552 2020 H3C ARP/6/DUPIFIP:
Duplicate address 192.168.10.2 on interface GigabitEthernet0/0/1, sourced from 5816-a771-0
206

Request time out
Request time out
Request time out
%Feb 15 21:56:30:552 2020 H3C ARP/6/DUPIFIP:
Duplicate address 192.168.10.2 on interface GigabitEthernet0/0/1, sourced from 5816-a771-0
206

Request time out

--- Ping statistics for 192.168.20.2 ---
5 packet(s) transmitted, 0 packet(s) received, 100.0% packet loss
<H3C>%Feb 15 21:56:31:621 2020 H3C PING/6/PING_STATISTICS: Ping statistics for 192.168.20.
2: 5 packet(s) transmitted, 0 packet(s) received, 100.0% packet loss.
```

把PC_2断电后，PC_3依然无法PING通192.168.20.2


```
hcl_qbj7mb                                                                    —  □  ×
PC_3 ☒    S5820V2-54QS-GE_1 ☒
*****************************************************************
* Copyright (c) 2004-2017 New H3C Technologies Co., Ltd. All rights reserved.*
* Without the owner's prior written consent,                     *
* no decompiling or reverse-engineering shall be allowed.        *
*****************************************************************

Line con0 is available.


Press ENTER to get started.
<H3C>%Feb 15 22:10:00:529 2020 H3C SHELL/5/SHELL_LOGIN: Console logged in from con0.

<H3C>ping 192.168.20.2
Ping 192.168.20.2 (192.168.20.2): 56 data bytes, press CTRL_C to break
Request time out
Request time out
Request time out
Request time out
Request time out

--- Ping statistics for 192.168.20.2 ---
5 packet(s) transmitted, 0 packet(s) received, 100.0% packet loss
<H3C>%Feb 15 22:10:16:667 2020 H3C PING/6/PING_STATISTICS: Ping statistics for 192.168.20.
2: 5 packet(s) transmitted, 0 packet(s) received, 100.0% packet loss.
```

修改PC_3的IP地址为192.168.10.3，即可PING通192.168.20.2

查看SW1的arp static

至此，IP+MAC绑定典型组网配置案例2（arp static方式）已完成！