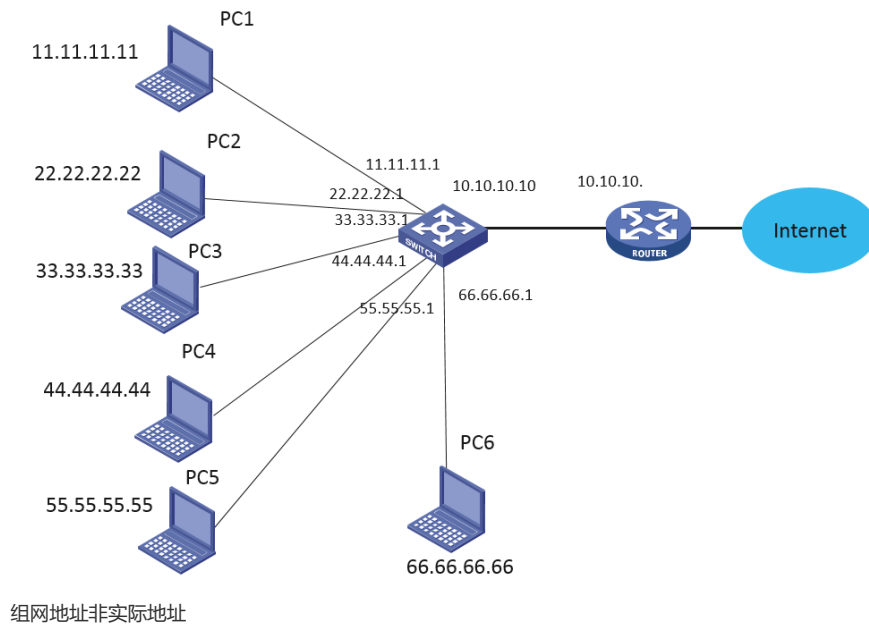


组网及说明



问题描述

BRAS使能IPOE web认证, 有三层认证、二层认证、静态会话、DHCP触发

所有用户突然无法上网了, 通过排查发现10.100.1.44和192.168.99.16 这两个dns服务器不通了导致所有用户无法上网, 这两个ip正常情况是从3层认证过来的, 接口为 ragg1.2, 但查看IPOE会话发现, 会话接口为ragg.1.800,此接口为二层认证接口

过程分析

查看设备在线信息

```
[zcmu-bras]dis ip subscriber session ip 192.168.99.16
Type: D-DHCP S-Static U-Unclassified-IP N-NDRS
Interface      IP address      MAC address     Type State
              IPv6 address    SVLAN/CVLAN   VXLAN
              IPv6 PD prefix  Username
RAGG1.800      192.168.99.16  542b-dedf-4201 S/-  Online
              -              800/-         -
              -              192.168.99.16
```

```
[zcmu-bras]dis ip subscriber session ip 192.168.99.16 ver
[zcmu-bras]dis ip subscriber session ip 192.168.99.16 verbose
```

Basic:

```
Description      : server
Username         : 192.168.99.16
Authorization domain : auth-free
Authentication domain : auth-free
VPN instance     : N/A
IP address       : 192.168.99.16
User address type : N/A
MAC address      : 542b-dedf-4201
Service-VLAN/Client-VLAN : 800/-
Access interface : RAGG1.800
User ID          : 0x3822df06
VPI/VCI(for ATM) : -/-
VSI Index       : -
VSI link ID     : -
VXLAN ID        : -
DNS servers     : N/A
IPv6 DNS servers : N/A
DHCP lease      : N/A
DHCP remain lease : N/A
Access time     : Mar 8 06:25:10 2021
Online time(hh:mm:ss) : 03:43:55
Service node    : Slot 1 CPU 0
Authentication type : Web pre-auth
IPv4 access type : Static
IPv4 detect state : Detecting
State          : Online
```

此时查看BRAS ARP,MAC地址依旧是与三层认证ragg1.2互联的核心交换机三层接口MAC, 会话MAC也是这个mac, 即使确实存在终端漫游或者IP地址冲突的情况, 新产生的会话MAC地址也应该是终端的实际mac才对, 现场ragg1.2口IPOE认证功能关闭后, 清空192.168.99.16的IPOE会话, 还是会产生新的会话, 接口是ragg.1800,将接口1.800 shutdown在开启来之后, 99.16这个ip的IPOE会话就不产生了

```
<zcmu-bras>dis arp | include 542b-dedf-4201
192.168.255.254 542b-dedf-4201 -- RAGG1.1 13 D
192.168.254.249 542b-dedf-4201 -- RAGG1.2 13 D
10.100.1.44 542b-dedf-4201 -- RAGG1.800 -- R
172.20.176.76 542b-dedf-4201 -- RAGG1.800 -- R
192.168.99.16 542b-dedf-4201 -- RAGG1.800 -- R
```

Basic:

```
Description      : server
Username         : 192.168.99.16
Authorization domain : auth-free
Authentication domain : auth-free
VPN instance     : N/A
IP address       : 192.168.99.16
User address type : N/A
```

MAC address : 542b-dedf-4201

Service-VLAN/Customer-VLAN : 800/-

解决方法
Access interface : RAGG1.800

造成冲突的原因是下联二层放通的接口混乱，同一个终端可以从多个接口到达设备，造成多个接口均生成ipoe会话

现场在绑定全局静态会话中指明接口，从其他接口上来的报文不处理规避，后续可排查交换机二层放通的情况里有覆规划接口放通的vlan

```
%@89457%Mar 8 06:25:10:563 2021 zcmu-bras ARP/4/ARP_HOST_IP_CONFLICT: The host 192.168.99.16 connected to interface Route-Aggregation1.800 cannot communicate correctly, because it uses the same IP address as the host connected to interface Route-Aggregation1.2.
```

这个现象一直存在，是因为DNS的会话异常导致全部用户无法上网，才发现这个问题，另外看日志报地址冲突的IP全都是静态会话的IP地址

后把 1.2 接口认证开起来了，发现还是有会话冲突的情况，例如172.16.46.1 同时从 ragg1.2 和 xg0/0/4.1 上来了，0/0/4.1 下面是接的一个测试的交换机（没有用户），不可能有这个ip段的。ipoe会话匹配错了

```
<zcmu-bras>dis ip subscriber session ip 172.16.46.1
Type: D-DHCP S-Static U-Unclassified-IP N-NDRS
Interface IP address MAC address Type State
          IPv6 address SVLAN/CVLAN VXLAN
          IPv6 PD prefix Username
RAGG1.2 172.16.46.1 542b-dedf-4201 S/- Online
- 300/- -
- DHCP-I3defpre
XGE0/0/4.1 172.16.46.1 4077-a921-d71c S/- Online
- 4000/- -
- DHCP-I3defpre
```

```
<zcmu-bras>dis ip rou
```

```
<zcmu-bras>dis ip routing-table 172.16.46.1
```

Summary count : 2

Destination/Mask	Proto	Pre	Cost	NextHop	Interface
0.0.0.0/0	Static	60	0	192.168.255.70	RAGG1.1
172.16.0.0/12	Static	60	0	192.168.254.249	RAGG1.2

```
%Mar 8 13:47:42:802 2021 zcmu-bras ARP/4/ARP_HOST_IP_CONFLICT: The host 172.20.10.2 connected to interface Route-Aggregation1.805 cannot communicate correctly, because it uses the same IP address as the host connected to interface Route-Aggregation1.815.
```

```
%Mar 8 13:49:52:283 2021 zcmu-bras SHELL/6/SHELL_CMD: -Line=vty1-IPAddr=172.16.127.16-User=admin; Command is ip subscriber routed enable
```

```
%Mar 8 13:49:52:378 2021 zcmu-bras ARP/4/ARP_HOST_IP_CONFLICT: The host 172.16.41.90 connected to interface Route-Aggregation1.2 cannot communicate correctly, because it uses the same IP address as the host connected to interface Ten-GigabitEthernet0/0/4.1.
```

```
%Mar 8 13:49:52:420 2021 zcmu-bras ARP/4/ARP_HOST_IP_CONFLICT: The host 172.16.46.1 connected to interface Route-Aggregation1.2 cannot communicate correctly, because it uses the same IP address as the host connected to interface Ten-GigabitEthernet0/0/4.1.
```

后续排查总结如下

1、诊断中多处dns指定为remote-server，这个是配错了还是dns同时也作为dhcp服务器。

```
dhcp server ip-pool vlan-2110
gateway-list 10.100.16.254 export-route
remote-server 192.168.99.16 10.100.1.44
#
dhcp server ip-pool vlan-2111
gateway-list 10.100.17.254 export-route
remote-server 192.168.99.16 10.100.1.44
dhcp server ip-pool vlan-110
gateway-list 172.19.191.254 export-route
network 172.19.128.0 mask 255.255.192.0
```

dns-list 10.100.1.44 192.168.99.16

#