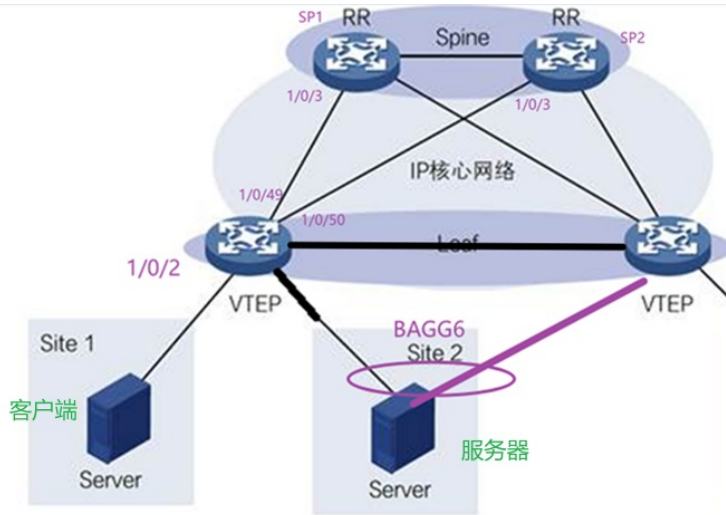


某局点S6800设备AC口下挂客户端无法完成PXE安装系统

ARP STP 刘倩 2022-11-22 发表

组网及说明

组网大致如下：



告警信息

不涉及

问题描述

现场客户端机制为需要先从服务器侧获取地址，然后进行PXE安装系统，在此过程中，可以正常获取地址，但是获取地址后无法安装系统，客户端上提示PXE-E11 ARP timeout

过程分析

1.根据客户端上提示的arp timeout查询了一下关于此提示的意义: 客户端重试四遍ARP请求,如果无法获取任何有效的ARP答复,将出现此信息。所以怀疑网关设备没有回复arp应答报文给客户端。

2.在设备上开启debug arp报文查看, 交换机平台收到了客户端发来的arp广播请求同时交换机立刻回复了arp应答报文。

```
*Nov 18 15:24:50:159 2022 B3.IAAS.RT.LF.X27 ARP/7/ARP_RCV: Received an ARP message, operation: 1, sender MAC: b405-5d1a-affd, sender IP: 172.30.0.64, target MAC: 0000-0000-0000, target IP: 172.30.0.1
```

```
*Nov 18 15:24:50:162 2022 B3.IAAS.RT.LF.X27 ARP/7/ARP_SEND: Sent an ARP message, operation: 2, sender MAC: 005e-edaf-0001, sender IP: 172.30.0.1, target MAC: b405-5d1a-affd, target IP: 172.30.0.64
```

```
*Nov 18 15:24:50:706 2022 B3.IAAS.RT.LF.X27 ARP/7/ARP_RCV: Received an ARP message, operation: 1, sender MAC: b405-5d1a-affd, sender IP: 172.30.0.64, target MAC: 0000-0000-0000, target IP: 172.30.0.1
```

```
*Nov 18 15:24:50:706 2022 B3.IAAS.RT.LF.X27 ARP/7/ARP_SEND: Sent an ARP message, operation: 2, sender MAC: 005e-edaf-0001, sender IP: 172.30.0.1, target MAC: b405-5d1a-affd, target IP: 172.30.0.64
```

```
*Nov 18 15:24:51:750 2022 B3.IAAS.RT.LF.X27 ARP/7/ARP_RCV: Received an ARP message, operation: 1, sender MAC: b405-5d1a-affd, sender IP: 172.30.0.64, target MAC: 0000-0000-0000, target IP: 172.30.0.1
```

```
*Nov 18 15:24:51:750 2022 B3.IAAS.RT.LF.X27 ARP/7/ARP_SEND: Sent an ARP message, operation: 2, sender MAC: 005e-edaf-0001, sender IP: 172.30.0.1, target MAC: b405-5d1a-affd, target IP: 172.30.0.64
```

```
*Nov 18 15:24:53:782 2022 B3.IAAS.RT.LF.X27 ARP/7/ARP_RCV: Received an ARP message, operation: 1, sender MAC: b405-5d1a-affd, sender IP: 172.30.0.64, target MAC: 0000-0000-0000, target IP: 172.30.0.1
```

```
*Nov 18 15:24:53:782 2022 B3.IAAS.RT.LF.X27 ARP/7/ARP_SEND: Sent an ARP message, operation: 2, sender MAC: 005e-edaf-0001, sender IP: 172.30.0.1, target MAC: b405-5d1a-affd, target IP: 172.30.0.64
```

3.但是现象来看客户端没有收到arp回应报文所以才连续发送了四个, 进一步打印驱动发包未发现打印出来报文。

4.查看丢包原因为STP check failed。驱动走指定端口发包逻辑会检查当前端口的STP状态, 若端口不是forwarding状态则将报文丢弃不转发。

```
Tx: STP check failed, drop 1706 pkts
```

```
-----  
0000 b4 05 5d 1a af fd 00 5e ed af 00 01 08 06 00 01  
0010 08 00 06 04 00 02 00 5e ed af 00 01 ac 1e 00 01  
0020 b4 05 5d 1a af fd ac 1e 00 40 00 00 00 00 00 00  
0030 00 00 00 00 00 00 00 00 00 00 00 00 00 00  
-----
```

在服务器dhcp获取地址后, 请求设备网关ARP前, 设备连接服务器的端口1/0/24会down/up 一次由于未开启边缘端口, UP起来后端口要收敛30S才能恢复转发状态, 所以导致arp回包丢弃。

```
%Nov 18 15:24:45:011 2022 B3.IAAS.RT.LF.X27 IFNET/3/PHY_UPDOWN: Physical state on the interface Ten-GigabitEthernet1/0/24 changed to down.
```

```
%Nov 18 15:24:45:012 2022 B3.IAAS.RT.LF.X27 IFNET/5/LINK_UPDOWN: Line protocol state on the interface Ten-GigabitEthernet1/0/24 changed to down.
```

```
%Nov 18 15:24:45:758 2022 B3.IAAS.RT.LF.X27 IFNET/3/PHY_UPDOWN: Physical state on the interface Ten-GigabitEthernet1/0/24 changed to up.
```

```
%Nov 18 15:24:45:759 2022 B3.IAAS.RT.LF.X27 IFNET/5/LINK_UPDOWN: Line protocol state on the interface Ten-GigabitEthernet1/0/24 changed to up.
```

```
%Nov 18 15:24:47:507 2022 B3.IAAS.RT.LF.X27 LLDP/6/LLDP_CREATE_NEIGHBOR: Nearest bridge agent neighbor created on port Ten-GigabitEthernet1/0/24 (IfIndex 24), neighbor's chassis ID is b405-5d1a-affd, port ID is b405-5d1a-affd.
```

解决方法

设备与服务器链接端口配置边缘端口

```
stp edged-port
```

