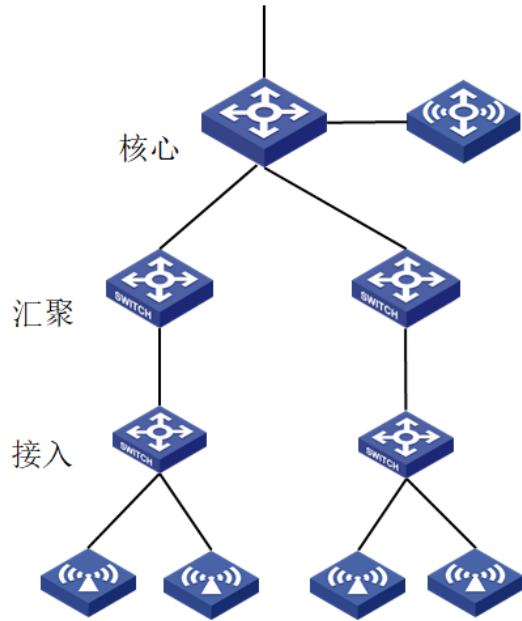


# 知 某局点AP掉线、无法获取地址排查案例

DHCP Snooping AP管理 吴川云 2021-05-31 发表

## 组网及说明

AC旁挂于核心交换机，核心交换机作为网关、DHCP服务器；  
AP三层注册，由核心下发Option 43字段，AP三层访问AC注册上线；



## 问题描述

反馈升级版本后，AP整体呈掉线的趋势，且在线AP数量由1300+逐渐掉至900+，且仍在掉线

Total number of APs: 1347

Total number of connected APs: 704

Total number of connected manual APs: 704

AC侧display logbuffer:

CWS/4/CWS\_AP\_DOWN: CAPWAP tunnel to AP 17D-2F-211 went down. Reason: Neighbor dead timer expired.

APMGR/6/APMGR\_AP\_OFFLINE: AP 17D-2F-211 went offline. State changed to Idle.

CWS/4/CWS\_AP\_DOWN: CAPWAP tunnel to AP MBWY-3FB-314 went down. Reason: Failed to retransmit message.

APMGR/6/APMGR\_AP\_OFFLINE: AP MBWY-3FB-314 went offline. State changed to Idle.

怀疑AP到AC有线链路存在环路、丢包或网络震荡；

## 过程分析

查看AP统计隧道的记录, display wlan ap statistics tunnel-down-record;

Neighbor dead timer expire (较为多数)

Failed to retransmit message

Processed join request in Run state (AP重新上线的情况)

排查有线链路, AP获取地址情况;

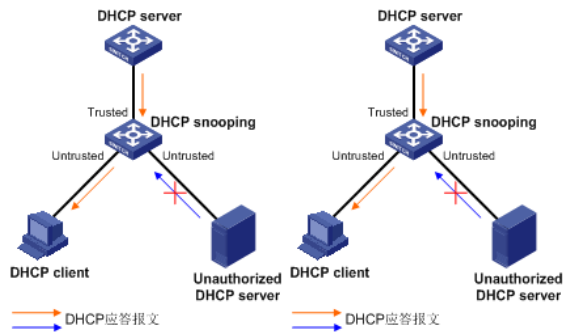
使用一个测试的AP, 将其重新上电, 核心交换机 (DHCP server) 开启debug dhcp server packet:

```
DHCPS/7/PACKET: -MDC=1;
From 0.0.0.0 port 68, interface Vlan-interface4
Message type: REQUEST (1)
Hardware type: 1, Hardware address length: 6
Hops: 0, Transaction ID: 868100501
Seconds: 0, Broadcast flag: 1
Client IP address: 0.0.0.0 Your IP address: 0.0.0.0
Server IP address: 0.0.0.0 Relay agent IP address: 0.0.0.0
Client hardware address: [REDACTED]
Server host name: not configured
Boot file name: not configured
DHCP message type: DHCPDISCOVER (1)

DHCPS/7/PACKET: -MDC=1;
To 255.255.255.255 port 68, interface Vlan-interface4
Message type: REPLY (2)
Hardware type: 1, Hardware address length: 6
Hops: 0, Transaction ID: 868100501
Seconds: 0, Broadcast flag: 1
Client IP address: 0.0.0.0 Your IP address: 172.20.4.113
Server IP address: 0.0.0.0 Relay agent IP address: 0.0.0.0
Client hardware address: [REDACTED]
Server host name: not configured
Boot file name: not configured
DHCP message type: DHCPOFFER (2)
```

发现DHCP服务有回复offer报文, 未收到来自AP的进一步的Request报文, 于是需要去下联的设备, 确认是否有丢包;

接入交换机上发现了丢包, 查看汇聚设备和接入设备的接口下开启了DHCP Snooping;



监听DHCP-Request和DHCP-ACK报文, 记录DHCP Snooping表项; 消耗接入交换机性能, 导致获取地址异常, 未转发DHCP Client的报文;

#### 解决方法

进一步确认PoE交换机性能较弱，开启dhcp snooping后dhcp报文上送CPU被丢弃，导致AP和终端的地址无法获取。

接入和汇聚交换机侧关闭DHCP Snooping，减少设备处理负载；关闭后，获取地址正常，AP上线无线业务恢复。

