



华为ap过核心S10506X注册不上的典型案例

二层转发

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组网及说明

华为的AP 管理vlan 为 210，中间二层透传数据

华为AP <-----> 华为POE交换机 <-----> 新华三核心 **S10506X** <-----> 华为核心无线控制

问题描述

华为POE交换机接入华三交换机上后，AP能正常获取，也能ping通，但无法注册上线。华为POE交换机直接接入（不接105x核心）到原华为无线控制器AP正常上线。

华为ac上查看MAC地址为f063-xxxx-e300的ap为离线

ID	MAC	Name	Group	IP	Type	State	STA	Uptime	ExtraInfo
0									
1									
2									
3									
4									
5									
6	f063-xxxx-e300	300-1-S7706-Master	ap	192.168.210.40	Station	Offline			
7									
8									
9									
10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									
21									

华为ac上ping ap地址正常

```
<SW-D1C2-0001-99.1-S7706-Master>display arp | in
IP ADDRESS      MAC ADDRESS      EXPIRE (M)  TYPE      INTERFACE  VPN-INS
VLAN/CEVLAN
192.168.210.40  f063-xxxx-e300  20          D-0/0     Eth-Trunk127
Total:481      Dynamic:452      Static:0      Interface:29
<SW-D1C2-0001-99.1-S7706-Master>ping 192.168.210.40
PING 192.168.210.40: 56 data bytes, press CTRL_C to break
Request time out
Reply from 192.168.210.40: bytes=56 Sequence=2 ttl=255 time=1 ms
Reply from 192.168.210.40: bytes=56 Sequence=3 ttl=255 time=1 ms
Reply from 192.168.210.40: bytes=56 Sequence=4 ttl=255 time=1 ms
Reply from 192.168.210.40: bytes=56 Sequence=5 ttl=255 time=1 ms
--- 192.168.210.40 ping statistics ---
5 packet(s) transmitted
4 packet(s) received
20.00% packet loss
round-trip min/avg/max = 1/1/1 ms
<SW-D1C2-0001-99.1-S7706-Master>
<SW-D1C2-0001-99.1-S7706-Master>
<SW-D1C2-0001-99.1-S7706-Master>ping 192.168.210.40
PING 192.168.210.40: 56 data bytes, press CTRL_C to break
Reply from 192.168.210.40: bytes=56 Sequence=1 ttl=255 time=1 ms
Reply from 192.168.210.40: bytes=56 Sequence=2 ttl=255 time=1 ms
Reply from 192.168.210.40: bytes=56 Sequence=3 ttl=255 time=1 ms
Reply from 192.168.210.40: bytes=56 Sequence=4 ttl=255 time=1 ms
Reply from 192.168.210.40: bytes=56 Sequence=5 ttl=255 time=1 ms
--- 192.168.210.40 ping statistics ---
5 packet(s) transmitted
```

过程分析

1、在105x互联poe接口抓包发现有capwap协议报文上来，在105x互联华为ac接口抓包没有capwap协议报文

互联poe接口抓包信息

14 6.578641	HuaweiTe_79:e3:00	Broadcast	ARP	60 Who has 192.168.210.40? (ARP)
15 7.515986	HuaweiTe_79:e3:00	Broadcast	ARP	60 ARP Announcement for 192.168.
16 29.470896	192.168.210.40	255.255.255.255	CAPWAP-Control	478 CAPWAP-Control - Discovery R
17 64.487088	192.168.210.40	255.255.255.255	CAPWAP-Control	478 CAPWAP-Control - Discovery R
18 98.086529			DHCPv6	112 Solicit XID: 0xf3837e CID: 0x
19 105.479492	192.168.210.40	255.255.255.255	CAPWAP-Control	478 CAPWAP-Control - Discovery R
20 119.965973	HuaweiTe_79:e3:00	Broadcast	ARP	60 Who has 192.168.210.254? Tel

互联华为ac接口抓包

1 0.800000			DHCPv6	112 Solicit XID: 0xf3837e CID: 0x
2 14.810230	HuaweiTe_79:e3:00	Broadcast	ARP	60 Who has 192.168.210.254? Tel
3 14.989080	HuaweiTe_d3:10:21	HuaweiTe_79:e3:00	ARP	74 192.168.210.254 is at 6c:eb:t
4 17.501043	HuaweiTe_79:e3:00	Broadcast	ARP	60 ARP Announcement for 169.254.
5 17.602738	HuaweiTe_79:e3:00	Broadcast	ARP	60 Gratuitous ARP for 169.254.1.
6 17.694089	HuaweiTe_79:e3:00	Broadcast	ARP	60 Gratuitous ARP for 169.254.1.
7 19.297742	HuaweiTe_79:e3:00	Broadcast	ARP	60 Gratuitous ARP for 169.254.1.
8 19.849398	0.0.0.0	255.255.255.255	DHCP	364 DHCP Discover - Transaction
9 19.854066	192.168.210.254	192.168.210.40	DHCP	342 DHCP Offer - Transaction
10 19.858263	0.0.0.0	255.255.255.255	DHCP	376 DHCP Request - Transaction
11 19.861785	192.168.210.254	192.168.210.40	DHCP	342 DHCP ACK - Transaction
12 19.865669	HuaweiTe_79:e3:00	Broadcast	ARP	60 Who has 192.168.210.40? (ARP)
13 20.266757	HuaweiTe_79:e3:00	Broadcast	ARP	60 Who has 192.168.210.40? (ARP)
14 20.667382	HuaweiTe_79:e3:00	Broadcast	ARP	60 Who has 192.168.210.40? (ARP)
15 21.068122	HuaweiTe_79:e3:00	Broadcast	ARP	60 Who has 192.168.210.40? (ARP)
16 21.468571	HuaweiTe_79:e3:00	Broadcast	ARP	60 Who has 192.168.210.40? (ARP)
17 22.494463	HuaweiTe_79:e3:00	Broadcast	ARP	60 ARP Announcement for 192.168.
18 119.994706			DHCPv6	112 Solicit XID: 0xf3837e CID: 0x
19 124.888273	HuaweiTe_79:e3:00	Broadcast	ARP	60 Who has 192.168.210.254? Tel
20 124.910600	HuaweiTe_d3:10:21	Broadcast_79:e3:00	ARP	74 192.168.210.254 is at 6c:eb:t

2、随后排查发现，S10506X是融合AC，加载了无线特性包，AP的广播注册请求经过S10506X，由于设备启用了无线功能，则交换机收到广播注册请求报文后不再进行二层转发而是直接上送CPU处理，由于交换机上未配置AP序列号，不处理注册请求，同时报文也不会再次进行二层转发，故AP的广播注册请求无法送达AC。

Feature image(s) list:

flash:/S10500X-CMW710-FREERADIUS-R7596P10.bin, version: 7.1.070, Release 7596P10

Compiled Sep 29 2021 11:00:00

flash:/S10500X-CMW710-UWW-R5441P04.bin, version: 7.1.064, Release 5441P04

Compiled May 25 2021 23:00:00

解决方法

- 1、AP采用option 43或者指定wlan ac ip的方式进行单播注册请求，不进行广播注册请求。由于单播的目的地址不是S10506x，故交换机收到报文后不会上送CPU处理，直接进行二层透传。
- 2、交换机直接卸载无线特征包，不启用无线功能，正常放行AP的注册报文。

