

组网及说明

AP跨公网注册

问题描述

现场新采购的AC，型号WX2560H，部署后发现所有AP都无法上线，且AP都能够获取管理地址，能ping通AC；

过程分析

- 1、经确认现场AC license充足；
- 2、查看现场AC版本为R5208P03，与现场AP配套；
- 3、在AC与AP上同时开启debug wlan capwap all，抓取ap注册的debug信息

AP debug:

```
*Jan 1 00:08:00:296 2014 H3C CWC/7/EVENT: Discovered AC by method of IPv4 dhcp option successfully.
```

```
*Jan 1 00:08:00:296 2014 H3C CWC/7/EVENT: AP selected AC IP 172.16.10.253 Priority 4 successfully.
```

```
*Jan 1 00:08:00:300 2014 H3C CWC/7/ERROR: Failed to load SSL certificates,uiAPID = 1.
```

```
*Jan 1 00:08:00:301 2014 H3C CWC/7/FSM: Enter Sulking state.
```

```
*Jan 1 00:08:02:296 2014 H3C CWC/7/TMR: Silent Interval timer expired.
```

```
*Jan 1 00:08:02:297 2014 H3C CWC/7/FSM: Enter Idle state.
```

AP注册初始阶段报错，提示加载SSL证书失败；CAPWAP隧道缺省不加密，检查AC配置

#

```
wlan ap-group 1f
```

tunnel encryption enable

```
provision auto-update enable
```

```
ap ap1
```

```
ap ap2
```

```
ap ap3
```

```
ap ap4
```

```
ap ap5
```

```
ap ap6
```

```
ap ap7
```

```
ap ap8
```

```
ap ap9
```

```
vlan 1
```

```
ap-model WA4320-ACN
```

```
radio 1
```

```
radio enable
```

```
service-template 1 vlan 101
```

```
rrm
```

```
calibrate-channel self-decisive enable
```

```
calibrate-power self-decisive enable
```

```
radio 2
```

```
radio enable
```

```
service-template 1 vlan 101
```

```
rrm
```

```
calibrate-channel self-decisive enable
```

```
calibrate-power self-decisive enable
```

```
gigabitethernet 1
```

#

发现现场在AP group组视图下开启了 tunnel encryption enable（隧道加密功能），将隧道加密功能关闭后，AP仍然无法上线；

- 4、再次采集debug信息，AP注册卡在下发配置阶段；

AC debug:

```
*Oct 15 09:27:55:895 2018 Core-H3C-HBYZ-WX5560H-IRF CWS/7/FSM: Enter Join state.
```

```
*Oct 15 09:27:55:909 2018 Core-H3C-HBYZ-WX5560H-IRF CWS/7/RCV_PKT: Received configurati
```

on request with SeqNum 2 from AP at 172.16.13.153:47495.

*Oct 15 09:27:55:909 2018 Core-H3C-HBYZ-WX5560H-IRF CWS/7/RCV_PKT: Received configuration request from AP at 172.16.13.153:47495, Length=506.//**收到AP的下发配置请求**

*Oct 15 09:27:55:911 2018 Core-H3C-HBYZ-WX5560H-IRF CWS/7/SND_PKT: Sent fragment1 of configuration response with SeqNum 2 to AP at 172.16.13.153:47495.//**AC响应AP报文由于过大分3片发送**

*Oct 15 09:27:55:911 2018 Core-H3C-HBYZ-WX5560H-IRF CWS/7/SND_PKT: Sent fragment1 of configuration response to AP at 172.16.13.153:47495, Length=1448.//**第一片**

*Oct 15 09:27:55:912 2018 Core-H3C-HBYZ-WX5560H-IRF CWS/7/SND_PKT: Sent fragment2 of configuration response with SeqNum 2 to AP at 172.16.13.153:47495.

*Oct 15 09:27:55:912 2018 Core-H3C-HBYZ-WX5560H-IRF CWS/7/SND_PKT: Sent fragment2 of configuration response to AP at 172.16.13.153:47495, Length=1448.//**第二片**

*Oct 15 09:27:55:913 2018 Core-H3C-HBYZ-WX5560H-IRF CWS/7/SND_PKT: Sent fragment3 of configuration response with SeqNum 2 to AP at 172.16.13.153:47495.

*Oct 15 09:27:55:913 2018 Core-H3C-HBYZ-WX5560H-IRF CWS/7/SND_PKT: Sent fragment3 of configuration response to AP at 172.16.13.153:47495, Length=805.//**第三片**

*Oct 15 09:27:55:913 2018 Core-H3C-HBYZ-WX5560H-IRF CWS/7/SND_PKT: Sent all fragments of configuration response with SeqNum 2 to AP at 172.16.13.153:47495.

*Oct 15 09:27:55:913 2018 Core-H3C-HBYZ-WX5560H-IRF CWS/7/FSM: Enter Config state.

AP debug:

*Oct 14 18:32:36:350 2018 H3C CWC/7/SND_PKT: Sent configuration request with SeqNum 2 to AC 172.16.218.1:5246.//**发送给AC配置下发请求**

*Oct 14 18:32:36:350 2018 H3C CWC/7/SND_PKT: Verbose info for configuration request sent to AC 172.16.218.1:5246, length=414.

*Oct 14 18:32:36:363 2018 H3C CWC/7/RCV_PKT: Received a fragment from AC at 172.16.218.1:5246.

*Oct 14 18:32:36:363 2018 H3C CWC/7/RCV_PKT: Verbose info for a fragment from AC 172.16.218.1:5246, length=805.//**收到一个805长度的分片**

*Oct 14 18:32:39:349 2018 H3C CWC/7/TMR: Retransmission Timer of TunnelId:1 expired. uiSeqNum = 0, uilPCMsgType = 0x0, enPattern = 0.

*Oct 14 18:32:39:350 2018 H3C CWC/7/SND_PKT: Sent configuration request with SeqNum 2 to AC 172.16.218.1:5246.

*Oct 14 18:32:39:350 2018 H3C CWC/7/SND_PKT: Verbose info for configuration request sent to AC 172.16.218.1:5246, length=414.

*Oct 14 18:32:39:402 2018 H3C CWC/7/RCV_PKT: Received a fragment from AC at 172.16.218.1:5246.

*Oct 14 18:32:39:402 2018 H3C CWC/7/RCV_PKT: Verbose info for a fragment from AC 172.16.218.1:5246, length=805.//**收到一个805长度的分片**

*Oct 14 18:32:42:349 2018 H3C CWC/7/TMR: Retransmission Timer of TunnelId:1 expired. uiSeqNum = 0, uilPCMsgType = 0x0, enPattern = 0.

*Oct 14 18:32:42:349 2018 H3C CWC/7/ERROR: **Failed to retransmit configuration request and tore down the tunnel: Number of retransmissions exceeded the limit 3.//AP发送给AC的配置请求报文因重传3次达到上限而失败**

从AP与AC的debug信息可以看到，AC发送给AP的configuration response报文总共分3片，但AP侧只收到了805的分片，而2片1448的分片并没有收到；最后因重传次数达上限注册失败，由此断定前两片报文在中间链路被丢弃；

由于现场是跨公网注册，走的GRE VPN链路，猜测分片报文再封装一层GRE报文后过大导致在中间链路被丢弃，于是尝试将公网接口MTU值改大，AP成功上线；

1、关闭隧道加密功能 **tunnel encryption disable**

2、确保AC与AP间能够正常通信，包括：

AP与AC间CAPWAP隧道的**UDP 5246、5247**端口号可达，LWAPP隧道的**UDP 12222、12223**端口号可达；

AP与AC间的报文正常交互，不会被中间链路阻断丢弃；