

# 融合接入控制器/NGWC AP加入问题使用跟踪进行故障排除

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## 简介

本文档介绍用于排除融合接入控制器上接入点(AP)加入问题的跟踪命令，并介绍AP加入失败的一些常见原因。

## 先决条件

## 要求

Cisco 建议您具有以下主题的基础知识：

- 轻量接入点协议(LWAPP)/无线接入点控制和调配(CAPWAP)
- 轻量接入点(LAP)和无线LAN控制器(WLC)配置，用于基本操作

## 使用的组件

本文档中的信息基于运行软件版本3.3.0 SE的Cisco Catalyst 3850系列交换机。

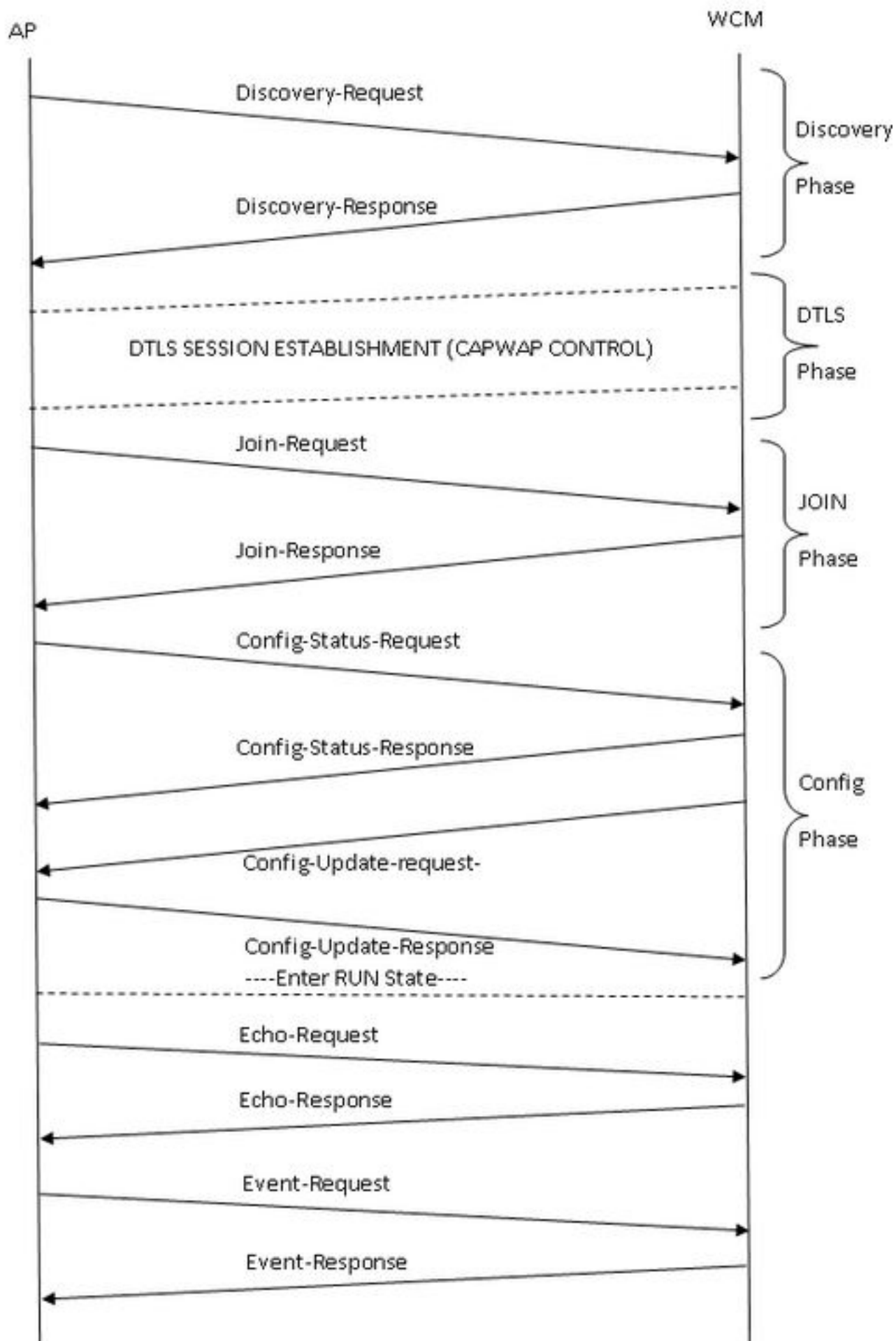
本文档中的信息都是基于特定实验室环境中的设备编写的。本文档中使用的所有设备最初均采用原始（默认）配置。如果您使用的是真实网络，请确保您已经了解所有命令的潜在影响。

## 相关产品

本文档适用于所有融合接入控制器。

- 思科5760系列无线控制器
- Cisco Catalyst 3560 系列交换机
- Cisco Catalyst 3850 系列交换机

## AP加入顺序



# 故障排除

## 基本步骤

要排除融合接入控制器上的AP加入问题，请完成以下步骤：

1. 确认AP能够提取IP地址。从AP插入的交换机输入：

```
#show cdp neighbor detail
```

**注意：**对于Catalyst 3850系列交换机，AP必须直接连接到Catalyst 3850系列交换机，并且交换机端口配置应为：

```
接口Gig <>
```

```
Switchport mode access
```

```
Switchport access vlan x >>，其中x是在Catalyst 3850系列交换机上配置的无线管理接口vlan X。
```

2. 确保WLC能ping通IP地址，反之亦然。
3. 检验网络上是否配置了无线移动控制器(MC)。如果您登录到移动代理，请确保隧道移动控制器处于活动状态。

```
#show wireless mobility summary
```

4. 确保MC上已启用AP许可证：

```
#show license right-to-use summary
```

5. 确认已启用正确的国家/地区代码：

```
#show wireless country configured
```

## 从控制器跟踪

在正确配置到位后，如果AP发生故障，可以利用trace命令进行进一步诊断。控制器上提供以下跟踪命令以排除CAPWAP和AP加入故障：

- #设置跟踪capwap
- #设置跟踪capwap ap
- #设置跟踪组ap

根据对跟踪输出的检查，group-ap跟踪为AP加入故障排除提供了更相关的输出。因此，本文档将详细讨论此跟踪（未过滤）。有关过滤选项和此跟踪限制的详细信息，请参阅本文档的“一般技术提示”部分。

**注意：**包含capwap和capwap ap的示例输出（已过滤和未过滤）以供参考。

- 要查看跟踪的默认设置，请输入：

```
#show trace settings group-ap
```

```
Buffer Properties:
```

```
Feature-Name
```

```
Size          Level
```

```
-----  
-----
```

```
capwap/ap/event                                0          warning  
  
dtls/ap/event  
0          warning  
iosd-wireless/capwap  
0          warning
```

```
Feature-Name: capwap/ap/event
```

```
Filters: None
```

```
Feature-Name: dtls/ap/event
```

```
Filters: None
```

```
Feature-Name: iosd-wireless/capwap
```

```
Filters: None
```

**注意：**默认情况下，任何跟踪上都未设置过滤器。

- 要清除与group-ap跟踪对应的跟踪缓冲区，请输入

```
#set trace control group-ap clear
```

- 要设置group-ap跟踪的跟踪级别，请输入：

```
#set trace group-ap level ?
```

```
debug      Debug-level messages (7)
```

```
default    Unset Trace Level Value
```

```
err        Error conditions (3)
```

```
info       Informational (6)
```

```
warning    Warning conditions (4)
```

在排除故障时，请使用#set trace group-ap level debug。

- 要验证跟踪级别，请输入：

```
# show trace settings group-ap
```

```
Buffer Properties:
```

```
Feature-Name
```

```
Size          Level
```

```
-----  
-----
```

```
capwap/ap/event  
0          debug  
dtls/ap/event  
0          debug  
iosd-wireless/capwap  
0          debug
```

```
Feature-Name: capwap/ap/event
```

```
Filters: None
Feature-Name: dtls/ap/event
Filters: None
Feature-Name: iosd-wireless/capwap
Filters: None
```

- 要查看跟踪输出，请输入：

```
# show trace messages group-ap
```

## 发现请求/响应

```
[11/14/13 14:50:17.484 UTC 702f4a 8528] f84f.57ca.3860 Discovery Request from
10.201.234.24:18759

[11/14/13 14:50:17.484 UTC 702f4b 8528] f84f.57ca.3860 Discovery apType = 0,
apModel = AIR-CAP2602I-A-K9, Discovery supportedRadios = 0, incomingRadJoinPriority
= 1, Discovery versionNum = 167863296

[11/14/13 14:50:17.484 UTC 702f4c 8528] f84f.57ca.3860 Join Priority Processing
status =0, Incoming Ap's Priority 1, MaxLrads = 50, joined Aps =0

[11/14/13 14:50:17.484 UTC 702f4d 8528] f84f.57ca.3860 Validated Discovery request
with dest ip : 255.255.255.255 from AP 10.201.234.24. Response to be sent using
ip : 10.201.234.4

[11/14/13 14:50:17.484 UTC 702f4e 8528] Encode static AP manager 10.201.234.4,
AP count 0

[11/14/13 14:50:17.484 UTC 702f4f 8528] acEncodeMwarTypePayload encode mwarType = 0
in capwapMwarTypePayload.

[11/14/13 14:50:17.484 UTC 702f50 8528] f84f.57ca.3860 Discovery Response sent to
10.201.234.24:18759

[11/14/13 14:50:27.484 UTC 57 8528] Connection not found in hash table - Table empty.
```

## DTLS握手

**注意：**这是从AP的角度，因此只能看到AP发送的消息。

```
[11/14/13 14:50:27.484 UTC 702f51 8528] DTLS connection not found, creating new
connection for 10:201:234:24 (18759) 10:201:234:4 (5246)

[11/14/13 14:50:27.484 UTC 702f52 8528] acDtlsCallback: entering...

[11/14/13 14:50:27.484 UTC 702f53 8528] acDtlsCallback: cb->code 10

[11/14/13 14:50:27.484 UTC 58 8528] Certificate installed for PKI based
authentication.

[11/14/13 14:50:27.484 UTC 59 8528] Incremented concurrent handshaking count 1
```

[11/14/13 14:50:27.484 UTC 5a 8528] f84f.57ca.3860 record=Handshake epoch=0 seq=0

[11/14/13 14:50:27.484 UTC 5b 8528] f84f.57ca.3860 **msg=ClientHello** len=44 seq=0 frag\_off=0 frag\_len=44

[11/14/13 14:50:27.485 UTC 5c 8528] f84f.57ca.3860 Handshake in progress...

[11/14/13 14:50:27.489 UTC 5d 8528] f84f.57ca.3860 record=Handshake epoch=0 seq=1

[11/14/13 14:50:27.489 UTC 5e 8528] f84f.57ca.3860 **msg=ClientHello** len=76 seq=1 frag\_off=0 frag\_len=76 **(with cookie)**

[11/14/13 14:50:27.490 UTC 5f 8528] f84f.57ca.3860 Handshake in progress...

[11/14/13 14:50:27.670 UTC 60 8528] f84f.57ca.3860 record=Handshake epoch=0 seq=2

[11/14/13 14:50:27.670 UTC 61 8528] f84f.57ca.3860 **msg=Certificate** len=1146 seq=2 frag\_off=0 frag\_len=519

[11/14/13 14:50:27.670 UTC 62 8528] f84f.57ca.3860 Handshake in progress...

[11/14/13 14:50:27.670 UTC 63 8528] f84f.57ca.3860 record=Handshake epoch=0 seq=3

[11/14/13 14:50:27.670 UTC 64 8528] f84f.57ca.3860 msg=Certificate len=1146 seq=2 frag\_off=519 frag\_len=519

[11/14/13 14:50:27.670 UTC 65 8528] f84f.57ca.3860 Handshake in progress...

[11/14/13 14:50:27.670 UTC 66 8528] f84f.57ca.3860 record=Handshake epoch=0 seq=4

[11/14/13 14:50:27.670 UTC 67 8528] f84f.57ca.3860 msg=Certificate len=1146 seq=2 frag\_off=1038 frag\_len=108

[11/14/13 14:50:27.671 UTC 702f54 8528] acDtlsCallback: entering...

[11/14/13 14:50:27.671 UTC 702f55 8528] acDtlsCallback: cb->code 3

[11/14/13 14:50:27.672 UTC 68 8528] Verify X.509 certificate from wtp 7c69.f604.9460

[11/14/13 14:50:27.673 UTC 702f56 8528] acDtlsCallback Cert validation PENDING

[11/14/13 14:50:27.673 UTC 69 8528] f84f.57ca.3860 Certificate verification - pending...

[11/14/13 14:50:27.673 UTC 6a 8528] f84f.57ca.3860 Handshake in process.. awaiting certificate verification result..

[11/14/13 14:50:27.673 UTC 6b 8528] f84f.57ca.3860 record=Handshake epoch=0 seq=5

[11/14/13 14:50:27.673 UTC 6c 8528] f84f.57ca.3860 **msg=ClientKeyExchange** len=130 seq=3 frag\_off=0 frag\_len=130

[11/14/13 14:50:27.673 UTC 702f57 8528] acDtlsCallback: entering...

[11/14/13 14:50:27.673 UTC 702f58 8528] acDtlsCallback: cb->code 3

[11/14/13 14:50:27.674 UTC 6d 8528] Verify X.509 certificate from wtp 7c69.f604.9460

[11/14/13 14:50:27.675 UTC 702f59 8528] acDtlsCallback Cert validation PENDING

[11/14/13 14:50:27.675 UTC 6e 8528] f84f.57ca.3860 Certificate verification - pending...

[11/14/13 14:50:27.675 UTC 6f 8528] f84f.57ca.3860 Handshake in process.. awaiting certificate verification result..

[11/14/13 14:50:27.675 UTC 70 8528] f84f.57ca.3860 record=Handshake epoch=0 seq=6

[11/14/13 14:50:27.675 UTC 71 8528] f84f.57ca.3860 **msg=CertificateVerify** len=258 seq=4 frag\_off=0 frag\_len=258

[11/14/13 14:50:27.675 UTC 702f5a 8528] acDtlsCallback: entering...

[11/14/13 14:50:27.675 UTC 702f5b 8528] acDtlsCallback: cb->code 3

[11/14/13 14:50:27.676 UTC 72 8528] Verify X.509 certificate from wtp 7c69.f604.9460

[11/14/13 14:50:27.676 UTC 702f5c 8528] acDtlsCallback Cert validation PENDING

[11/14/13 14:50:27.676 UTC 73 8528] f84f.57ca.3860 Certificate verification - pending...

[11/14/13 14:50:27.676 UTC 74 8528] f84f.57ca.3860 Handshake in process.. awaiting certificate verification result..

[11/14/13 14:50:27.677 UTC 75 8528] f84f.57ca.3860 **record=ChangeCipherSpec** epoch=0 seq=7

[11/14/13 14:50:27.677 UTC 702f5d 8528] acDtlsCallback: entering...

[11/14/13 14:50:27.677 UTC 702f5e 8528] acDtlsCallback: cb->code 3

[11/14/13 14:50:27.677 UTC 76 8528] Verify X.509 certificate from wtp 7c69.f604.9460

[11/14/13 14:50:27.678 UTC 702f5f 8528] acDtlsCallback Cert validation PENDING

[11/14/13 14:50:27.678 UTC 77 8528] f84f.57ca.3860 Certificate verification - pending...

[11/14/13 14:50:27.678 UTC 78 8528] f84f.57ca.3860 Handshake in process.. awaiting certificate verification result..

[11/14/13 14:50:27.678 UTC 79 8528] f84f.57ca.3860 record=Handshake epoch=1 seq=0

[11/14/13 14:50:27.678 UTC 7a 8528] f84f.57ca.3860 **msg=Unknown or Encrypted**

[11/14/13 14:50:27.679 UTC 702f60 8528] acDtlsCallback: entering...

[11/14/13 14:50:27.679 UTC 702f61 8528] acDtlsCallback: cb->code 3

[11/14/13 14:50:27.679 UTC 7b 8528] Verify X.509 certificate from wtp 7c69.f604.9460

[11/14/13 14:50:27.680 UTC 702f62 8528] acDtlsCallback Cert validation PENDING

[11/14/13 14:50:27.680 UTC 7c 8528] f84f.57ca.3860 Certificate verification - pending...

[11/14/13 14:50:27.680 UTC 7d 8528] f84f.57ca.3860 Handshake in process.. awaiting certificate verification result..

[11/14/13 14:50:27.681 UTC 7e 8528] Tickling the connection: 10.201.234.4:5246 <-> 10.201.234.24:18759.

[11/14/13 14:50:27.681 UTC 702f63 8528] acDtlsCallback: entering...



[11/14/13 14:50:27.681 UTC 702f64 8528] acDtlsCallback: cb->code 3

[11/14/13 14:50:27.682 UTC 7f 8528] **Verify X.509 certificate from wtp 7c69.f604.9460 >> AP Ethernet mac**

[11/14/13 14:50:27.683 UTC 702f65 8528] acDtlsCallback Cert validation SUCCESS.

[11/14/13 14:50:27.683 UTC 80 8528] f84f.57ca.3860 **Certificate verification - passed!**

[11/14/13 14:50:27.706 UTC 81 8528] f84f.57ca.3860 **Connection established!**

[11/14/13 14:50:27.706 UTC 702f66 8528] acDtlsCallback: entering...

[11/14/13 14:50:27.706 UTC 702f67 8528] acDtlsCallback: cb->code 0

[11/14/13 14:50:27.706 UTC 82 8528] f84f.57ca.3860 **DTLS Connection 0x5789a5e0 established on local port 5246**

[11/14/13 14:50:27.706 UTC 83 8528] f84f.57ca.3860 Setting DTLS MTU for link to peer 10.201.234.24:18759

[11/14/13 14:50:27.706 UTC 84 8528] Load Balancer: Platform Not supported, Exiting from ctrl\_tunnel\_lb

[11/14/13 14:50:27.706 UTC 85 8528] Capwap Control DTLS key plumbing: Get SA resources from LB for AP IP 10.201.234.24, rc = 4

[11/14/13 14:50:27.706 UTC 86 8528] Plumbing DTLS keys for local 10.201.234.4:5246 and peer 10.201.234.24:18759, anc\_sw\_id 0, anc\_asic\_id 0, res\_sw\_id 0, res\_asic\_id 0

[11/14/13 14:50:27.706 UTC 87 8528] Created CAPWAP control DTLS engine session 10.201.234.4:5246 <-> 10.201.234.24:18759.

[11/14/13 14:50:27.706 UTC 88 8528] f84f.57ca.3860 Sending Finished using epoch 1

[11/14/13 14:50:27.706 UTC 702f68 8528] DTLS Session established server (10.201.234.4:5246), client (10.201.234.24:18759)

[11/14/13 14:50:27.706 UTC 702f69 8528] Starting wait join timer for AP: 10.201.234.24:18759

[11/14/13 14:50:27.707 UTC 30e2 267] %DTLS: entering dtls\_add\_dtls\_session\_db\_entry

[11/14/13 14:50:27.707 UTC 30e3 267] %DTLS: sip = 0xac9ea04 dip = 0xac9ea18 sport =5246 dport=18759

[11/14/13 14:50:27.707 UTC 30e4 267] %DTLS: dtls\_add\_dtls\_session\_db\_entry: anchor\_port iifd : 1088ec00000003b : capwap\_iifd : 0 : session type : 0 : sw\_num : 0 : asic : 0

[11/14/13 14:50:27.707 UTC 30e5 267] %DTLS: bk\_sw\_num : 0 bk\_asic : 0

[11/14/13 14:50:27.710 UTC 89 8528] Received DTLS engine action feedback for CAPWAP connection

[11/14/13 14:50:27.711 UTC 8a 8528] DTLS Engine Add Success received for connection 10.201.234.4:5246 / 10.201.234.24:18759

[11/14/13 14:50:27.711 UTC 8b 8528] Key plumb succeeded

[11/14/13 14:50:27.711 UTC 8c 8528] Decrement concurrent handshaking count 0

[11/14/13 14:50:27.711 UTC 8d 8528] Updating state for wtp f84f.57ca.3860 ip 10.201.234.24

[11/14/13 14:50:27.711 UTC 8e 8528] CAPWAP WTP entry not yet created.

[11/14/13 14:50:27.712 UTC 702f6a 8528] Unable to find the First RCB index.  
Return Value: 2

## 加入请求 — 响应

[11/14/13 14:50:27.712 UTC 702f6b 8528] f84f.57ca.3860 **Join Request** from 10.201.234.24:18759

[11/14/13 14:50:27.712 UTC 702f6c 8528] f84f.57ca.3860 For phy port iif id 0x01088ec00000003b, control session - anc sw id 0, anc asic id 0, res sw id 0, res asic id 0 in RCB for AP 10.201.234.24

[11/14/13 14:50:27.712 UTC 8f 8528] Creating WTP 0x3823a0f0 for AP f84f.57ca.3860 with hardware encryption flag = TRUE

[11/14/13 14:50:27.712 UTC 702f6d 8528] f84f.57ca.3860 Deleting AP entry 10.201.234.24:18759 from temporary database.

[11/14/13 14:50:27.712 UTC 702f6e 8528] CAPWAP Interface-Name CAPWAP WCM Client f84f57ca3860 used for IIF ID allocation

[11/14/13 14:50:27.712 UTC 702f6f 8528] **CAPWAP IIF ID Allocation Successful! ID:0x00d2a98000000796** for AP 10.201.234.24, AP hash 1 **[This indicates generation of a capwapx interface seen in show ip interface brief]**

[11/14/13 14:50:27.712 UTC 702f70 8528] Adding Node to AVL Tree with IIF Id:0xd2a98000000796

[11/14/13 14:50:27.712 UTC 702f71 8528] WTP IIF ID Type: 0

[11/14/13 14:50:27.712 UTC 702f72 8528] Timer created successfully for WTP IIF ID: 0xd2a98000000796

[11/14/13 14:50:27.712 UTC 702f73 8528] Added IIF ID to AVL Tree Database 0xd2a98000000796

[11/14/13 14:50:27.712 UTC 702f74 8528] f84f.57ca.3860 Join Version: = 167863296

[11/14/13 14:50:27.712 UTC 702f75 8528] Encode static AP manager 10.201.234.4, AP count 0

[11/14/13 14:50:27.712 UTC 702f76 8528] f84f.57ca.3860 Join resp: CAPWAP Maximum Msg element len = 87

[11/14/13 14:50:27.712 UTC 702f77 8528] f84f.57ca.3860 **Join Response sent** to 10.201.234.24:18759

[11/14/13 14:50:27.712 UTC 702f78 8528] f84f.57ca.3860 **CAPWAP State: Join**

[11/14/13 14:50:27.712 UTC 702f79 8528] f84f.57ca.3860 capwap\_ac\_platform.c:767 - Operation State 0 ==> 4

[11/14/13 14:50:27.713 UTC 702f7a 8528] f84f.57ca.3860 Register LWAPP event for AP f84f.57ca.3860 slot 0

[11/14/13 14:50:27.713 UTC 702f7b 8528] capwap\_iif\_client\_action\_func: myid = 1, myid\_len=1

[11/14/13 14:50:27.713 UTC 702f7c 8528] CAPWAP Interface ID Acked  
Id=0x00d2a98000000796 by IIF - IIF status = 0x1001, for AP 10.201.234.24,  
rcb->ap\_registered = 1

[11/14/13 14:50:27.713 UTC 702f7d 8528] f84f.57ca.3860 Not ready to send  
Config Status Response to AP 10.201.234.24 as SPI ACK is not received

[11/14/13 14:50:27.713 UTC 702f7e 8528] Unable to find entry for PhyIifId:  
0x1088ec000000003b from AVL Tree

[11/14/13 14:50:27.713 UTC 702f7f 8528] Adding Node to Physical Iif Id AVL Tree  
with PhyIifId:0x1088ec000000003b

[11/14/13 14:50:27.713 UTC 702f80 8528] Unable to find entry for PhyIifId:  
0x1088ec000000003b from AVL Tree

[11/14/13 14:50:27.713 UTC 702f81 8528] f84f.57ca.3860 Register LWAPP event for  
AP f84f.57ca.3860 slot 1

[11/14/13 14:50:27.713 UTC 702f82 8528] Added PhyIifId: 0x1088ec000000003b to AVL  
Tree Database

[11/14/13 14:50:27.714 UTC 702f83 8528] Get the Interface name from the  
Phy-Port-IIF-ID:0x1088ec000000003b

[11/14/13 14:50:27.714 UTC 702f84 8528]

---Phy-IIF-ID = 0x1088ec000000003b-----

[11/14/13 14:50:27.714 UTC 702f85 8528] f84f.57ca.3860 Not ready to send Config  
Status Response to AP 10.201.234.24 as SPI ACK is not received

[11/14/13 14:50:27.714 UTC 702f86 8528] CSM-SPAM:Input monitor name after copying  
from vapcb to vap data is wireless-avc-basic

[11/14/13 14:50:27.714 UTC 702f87 8528] CSM-SPAM:Output monitor name after copying  
from vapcb to vapdata is wireless-avc-basic

[11/14/13 14:50:27.714 UTC 702f88 8528] CSM-SPAM:Input monitor name after copying  
from vapcb to vap data is wireless-avc-basic

[11/14/13 14:50:27.714 UTC 702f89 8528] CSM-SPAM:Output monitor name after copying  
from vapcb to vapdata is wireless-avc-basic

[11/14/13 14:50:27.714 UTC 702f8a 8528] RSN Capabilities: (26)

[11/14/13 14:50:27.714 UTC 702f8b 8528] [0000] 30 18 01 00 00 0f ac 02 02  
00 00 0f ac 02 00 0f

[11/14/13 14:50:27.714 UTC 702f8c 8528] [0016] ac 04 01 00 00 0f ac 02 28 00

[11/14/13 14:50:27.714 UTC 702f8d 8528] WARP IEs: (12)

[11/14/13 14:50:27.714 UTC 702f8e 8528] [0000] dd 0a 00 c0 b9 01 00 00  
00 08 01 01

[11/14/13 14:50:27.714 UTC 702f8f 8528] f84f.57ca.3860 Not ready to send Config  
Status Response to AP 10.201.234.24 as SPI ACK is not received

[11/14/13 14:50:27.715 UTC 702f90 8528] Physical interface Info: IIF-ID =

0x1088ec00000003b, Message Code = 0x802, Interface Name ->gigabitethernet1/0/24, Interface Type = 0x92, Client N<truncated>

[11/14/13 14:50:27.715 UTC 702f91 8528] Updated AVL entry for phyIifid: 0x1088ec00000003b macAddr:f84f.57ca.3860, phyIfName: gigabitethernet1/0/24 Number of APs on this Phy <truncated>

[11/14/13 14:50:27.725 UTC 702f92 8528] capwap opaque data f84f.57ca.3860 length = 0

[11/14/13 14:50:27.725 UTC 702f93 8528] No update; will insert f84f.57ca.3860

## 配置状态请求 — 响应/更新请求 — 响应

[11/14/13 14:50:27.869 UTC 702f94 8528] f84f.57ca.3860 **Configuration Status from** 10.201.234.24:18759

[11/14/13 14:50:27.870 UTC 702f95 8528] f84f.57ca.3860 **CAPWAP State: Configure**

[11/14/13 14:50:27.870 UTC 702f96 8528] f84f.57ca.3860 New unsupported Payload 254 in message from AP f84f.57ca.3860, Return SUCCESS

[11/14/13 14:50:27.870 UTC 702f97 8528] f84f.57ca.3860 Decoding new unsupported Payload 254 in message from AP f84f.57ca.3860, Return SUCCESS

[11/14/13 14:50:27.870 UTC 702f98 8528] Invalid channel 11 spacificied for the AP AP2602I-1, slotId = 0

[11/14/13 14:50:27.870 UTC 702f99 8528] Invalid channel 56 spacificied for the AP AP2602I-1, slotId = 1

[11/14/13 14:50:27.870 UTC 702f9a 8528] f84f.57ca.3860 Updating IP info for AP f84f.57ca.3860 -- static 0, 10.201.234.24/255.255.255.224, gw 10.201.234.2

[11/14/13 14:50:27.870 UTC 702f9b 8528] f84f.57ca.3860 Updating IP 10.201.234.24 ==> 10.201.234.24 for AP f84f.57ca.3860

|

[11/14/13 14:50:27.870 UTC 702fab 8528] f84f.57ca.3860 LWAPP message validation failed for SPAM Vendor Specific Payload(104) in message of len=7 from AP f84f.57ca.3860

[11/14/13 14:50:27.870 UTC 702fac 8528] f84f.57ca.3860 Failed to validate vendor specific message element

[11/14/13 14:50:27.871 UTC 702fad 8528] f84f.57ca.3860 **Setting MTU to 1485**

[11/14/13 14:50:27.871 UTC 702fae 8528] f84f.57ca.3860 Platform not Supported, exiting Load Balancer function

[11/14/13 14:50:27.871 UTC 702faf 8528] load balancer rc=4 for AP 10.201.234.24, IIF ID:0x00d2a98000000796

[11/14/13 14:50:27.871 UTC 702fb0 8528] opaque data size 0 with capwap interface create f84f.57ca.3860

[11/14/13 14:50:27.871 UTC 702fb1 8528] spiCapwapParams-> data\_tunnel.opaque\_data.opaque\_data\_len: 0

[11/14/13 14:50:27.871 UTC 702fb2 8528] f84f.57ca.3860 Data Tunnel Create timer started for 240 seconds timeout

[11/14/13 14:50:27.871 UTC 702fb3 8528] f84f.57ca.3860 **Data Tunnel created - tunnel type NON\_CRYPTO**, load balancer support Not supported, tunnel mtu 1449,

anc\_sw\_id 0, anc\_asic\_id 0, res\_sw\_id 0, res\_asic\_id 0

anc\_wp\_iif\_id 0x0000000000000000, res\_wp\_iif\_id 0x0000000000000000

[11/14/13 14:50:27.871 UTC 702fb4 8528] f84f.57ca.3860 Not ready to send Config Status Response to AP 10.201.234.24 as SPI ACK is not received

[11/14/13 14:50:27.871 UTC 702fb5 8528] f84f.57ca.3860 AP f84f.57ca.3860 associated. Last AP failure was due to Configuration changes,reason: controller reboot command

[11/14/13 14:50:27.871 UTC 30e6 260] [CAPWAP]: CAPWAP data tunnel create message.

[11/14/13 14:50:27.871 UTC 30e7 260] [CAPWAP]: capwap\_data\_tunnel\_create called

[11/14/13 14:50:27.871 UTC 30e8 260] [CAPWAP]: Data tunnel id = 0xd2a98000000796

[11/14/13 14:50:27.871 UTC 30e9 260] [CAPWAP]: Tunnel Entry not found for AP (10.201.234.24, 18759)

[11/14/13 14:50:27.873 UTC 30ea 260] [CAPWAP]: CAPWAP IDB init complete

[11/14/13 14:50:27.882 UTC 30eb 260] [CAPWAP]: capwap\_interface\_status\_update: tunnel 0xd2a98000000796 status 0

[11/14/13 14:50:27.882 UTC 30ec 260] [CAPWAP]: csb pd flag 0 opaque\_data\_len 0 attr opaque\_data 0x00000000

[11/14/13 14:50:27.882 UTC 30ed 260] [CAPWAP]: Send capwap\_data\_tunnel\_status\_update 0 Slot-Unit 1 Unit 1 for iif\_id 0xd2a98000000796 to WCM.

[11/14/13 14:50:27.882 UTC 30ee 260] [CAPWAP]: (capwap\_process\_fed\_results) CAPWAP FED result (0) for IIF ID: 0xd2a98000000796

[11/14/13 14:50:27.882 UTC 702fb6 8528]

Received CAPWAP Tunnel SPI update opaque size 0

[11/14/13 14:50:27.882 UTC 702fb7 8528] opaque data len 0 with capwap server update

[11/14/13 14:50:27.883 UTC 702fb8 8528] f84f.57ca.3860 SPI ACK : Capwap Data Tunnel create successful for iifid:0x00d2a98000000796 AP:10.201.234.24

[11/14/13 14:50:27.883 UTC 702fb9 8528]

Received CAPWAP interface update opaque len 0

[11/14/13 14:50:27.883 UTC 702fba 8528] **SPI IifId ACK: Capwap Data Tunnel Created Successfully for IifId: 0x00d2a98000000796 AP: 10.201.234.24**

[11/14/13 14:50:27.883 UTC 702fbb 8528] f84f.57ca.3860 **OK to send Config Status Response to AP** 10.201.234.24

[11/14/13 14:50:27.888 UTC 30ef 260] [CAPWAP]: Notify PM (done).

[11/14/13 14:50:27.888 UTC 30f0 260] [CAPWAP]: SNMP Register: Cal HWIDB 32f44570

[11/14/13 14:50:27.888 UTC 30f1 260] [CAPWAP]: capwap\_port\_hashitem added: slot 1

slotunit 24 vlan 1104

[11/14/13 14:50:27.888 UTC 30f2 260] [CAPWAP]: 7c69.f604.9460 is AP's mac addr

[11/14/13 14:50:27.932 UTC 702fbc 8528] Sending multicast payload to ap AP2602I-1, mcast\_mode 0, mcast group 0.0.0.0

[11/14/13 14:50:27.933 UTC 702fbd 8528] f84f.57ca.3860 Config status response sent to 10.201.234.24:18759

[11/14/13 14:50:27.933 UTC 702fbe 8528] f84f.57ca.3860 Configuration Status Response sent to 10:201:234:24

[11/14/13 14:50:27.933 UTC 702fbf 8528] f84f.57ca.3860 Configuration update request for Band Select Cfg sent to 10.201.234.24:18759

[11/14/13 14:50:27.933 UTC 702fc0 8528] f84f.57ca.3860 Configuration update request for HaConfig message sent to 10.201.234.24:18759

[11/14/13 14:50:27.934 UTC 702fc1 8528] f84f.57ca.3860 Configuration update request for AP NGWC Qos sent to 10.201.234.24:18759

[11/14/13 14:50:28.121 UTC 702fc2 8528] f84f.57ca.3860 Change State Event Request from 10.201.234.24:18759

[11/14/13 14:50:28.122 UTC 702fc3 8528] f84f.57ca.3860 Received LWAPP Up event for AP f84f.57ca.3860 slot 0!

[11/14/13 14:50:28.122 UTC 702fc4 8528] f84f.57ca.3860 Radio state change for slot: 0 state: 2 cause: 0 detail cause: 0

[11/14/13 14:50:28.122 UTC 702fc5 8528] f84f.57ca.3860 Change State Event Response sent to 10.201.234.24:18759

[11/14/13 14:50:28.122 UTC 702fc6 8528] f84f.57ca.3860 CAPWAP State: Run

[11/14/13 14:50:28.122 UTC 702fc7 8528] f84f.57ca.3860 Sending the remaining config to AP 10.201.234.24:18759

[11/14/13 14:50:28.122 UTC 702fc8 8528] f84f.57ca.3860 AP Going to RUN 10.201.234.24: ConcurrentJoins: 0

[11/14/13 14:50:28.122 UTC 702fc9 8528] f84f.57ca.3860 **Configuration update request** for Init VAP-DATA for slot 1 sent to 10.201.234.24:18759

[11/14/13 14:50:28.122 UTC 702fca 8528] f84f.57ca.3860 Configuration update request for configuring association limit params sent to 10.201.234.24:18759

[11/14/13 14:50:28.122 UTC 702fcb 8528] f84f.57ca.3860 Configuration update request for Band Select Cfg sent to 10.201.234.24:18759

[11/14/13 14:50:28.122 UTC 702fcc 8528] f84f.57ca.3860 Configuration update request for HaConfig message sent to 10.201.234.24:18759

[11/14/13 14:50:28.123 UTC 702fcd 8528] CAPWAP: No update, will insert f84f.57ca.3860

[11/14/13 14:50:28.123 UTC 702fce 8528] capwap opaque data f84f.57ca.3860 length = 0

[11/14/13 14:50:28.124 UTC 702fcf 8528] CAPWAP HA insert f84f.57ca.3860

[11/14/13 14:50:28.124 UTC 702fd0 8528] CAPWAP HA insert f84f.57ca.3860

[11/14/13 14:50:28.124 UTC 702fd1 8528] f84f.57ca.3860 Configuration update request for PHY payload sent to 10:201:234:24

[11/14/13 14:50:28.126 UTC 702fd2 8528] f84f.57ca.3860 **Configuration Update Response** from 10.201.234.24:18759

[11/14/13 14:50:28.126 UTC 702fd3 8528] f84f.57ca.3860 Configuration update request for RrmInterferenceCtrl payload sent to 10:201:234:24

[11/14/13 14:50:28.126 UTC 702fd4 8528] f84f.57ca.3860 Configuration update request for RrmNeighbourCtrl payload sent to 10.201.234.24

[11/14/13 14:50:28.126 UTC 702fd5 8528] f84f.57ca.3860 Configuration update request for RrmReceiveCtrl payload sent to 10:201:234:24

[11/14/13 14:50:28.126 UTC 702fd6 8528] f84f.57ca.3860 Configuration update request for CcxRmMeas payload sent to 10.201.234.24

[11/14/13 14:50:28.132 UTC 702fd7 8528] f84f.57ca.3860 Change State Event Request from 10.201.234.24:18759

[11/14/13 14:50:28.132 UTC 702fd8 8528] f84f.57ca.3860 Radio state change for slot: 1 state: 2 cause: 0 detail cause: 0

[11/14/13 14:50:28.132 UTC 702fd9 8528] f84f.57ca.3860 Change State Event Response sent to 10.201.234.24:18759

[11/14/13 14:50:28.132 UTC 702fda 8528] f84f.57ca.3860 CAPWAP State: Run

[11/14/13 14:50:28.132 UTC 702fdb 8528] f84f.57ca.3860 Sending the remaining config to AP 10.201.234.24:18759

[11/14/13 14:50:28.133 UTC 702fdc 8528] f84f.57ca.3860 Configuration update request for qos pm payload payload sent to 10.201.234.24:18759

[11/14/13 14:50:28.133 UTC 702fdd 8528] f84f.57ca.3860 Received LWAPP Up event for AP f84f.57ca.3860 slot 1!

[11/14/13 14:50:28.133 UTC 702fde 8528] f84f.57ca.3860 Configuration update request for PHY payload sent to 10:201:234:24

[11/14/13 14:50:28.133 UTC 702fdf 8528] f84f.57ca.3860 Configuration update request for RrmInterferenceCtrl payload sent to 10:201:234:24

[11/14/13 14:50:28.133 UTC 702fe0 8528] f84f.57ca.3860 Configuration update request for RrmNeighbourCtrl payload sent to 10.201.234.24

[11/14/13 14:50:28.134 UTC 702fe1 8528] f84f.57ca.3860 Configuration update request for RrmReceiveCtrl payload sent to 10:201:234:24

[11/14/13 14:50:28.134 UTC 702fe2 8528] f84f.57ca.3860 Configuration update request for CcxRmMeas payload sent to 10.201.234.24

[11/14/13 14:50:28.188 UTC 702fe3 8528] f84f.57ca.3860 Configuration Update Response from 10.201.234.24:18759

[11/14/13 14:50:28.188 UTC 702fe4 8528] f84f.57ca.3860 Change State Event Request from 10.201.234.24:18759

[11/14/13 14:50:28.188 UTC 702fe5 8528] f84f.57ca.3860 Change State Event Response sent to 10.201.234.24:18759

[11/14/13 14:50:28.188 UTC 702fe6 8528] f84f.57ca.3860 CAPWAP State: Run

```
[11/14/13 14:50:28.188 UTC 702fe7 8528] f84f.57ca.3860 Sending the remaining config to AP 10.201.234.24:18759
```

```
[11/14/13 14:50:28.194 UTC 702fe8 8528] f84f.57ca.3860 Configuration Update Response from 10.201.234.24:18759
```

```
[11/14/13 14:50:28.194 UTC 702fe9 8528] f84f.57ca.3860 WTP Event Request from 10.201.234.24:18759
```

```
[11/14/13 14:50:28.194 UTC 702fea 8528] f84f.57ca.3860 WTP Event Response sent to 10.201.234.24:18759
```

## AP加入失败的常见原因

本节介绍AP加入失败的常见原因。

### 问题 1：Catalyst 3850系列交换机上的AP不在无线管理VLAN中。

```
# show run interface gig1/0/22
```

```
interface GigabitEthernet1/0/22
  description AP
  switchport access vlan 25
  switchport mode access
```

```
#show run | inc wireless
```

```
wireless mobility controller
wireless management interface Vlan1104
```

#显示日志

```
*%CAPWAP-3-DISC_WIRELESS_INTERFACE_ERR1: 1 wcm: Unable to process discovery request from AP 0019.0737.f630 , VLAN (25) scrIp (10.10.25.13) dstIp (255.255.255.255), could not get wireless interface belonging to this network AP位于VLAN 25中，并且没有VLAN 25的无线管理接口配置。
```

### 问题 2：不支持AP型号。

这是AP1131的测试。

#显示日志

```
*%CAPWAP-3-JOIN_UNSUPP_AP: 1 wcm: Received a join request from an unsupported AP 0019.0737.f630 AP8-1131AG-eb:66 (model AIR-AP1131AG-A-K9)
```

### 问题 3：控制器上未启用AP计数许可证。

```
# show license right-to-use summ
```



License Name	Type	Count	Period left
ipservices	permanent	N/A	Lifetime
apcount	base	0	Lifetime
apcount	adder	0	Lifetime

License Level In Use: ipservices

License Level on Reboot: ipservices

Evaluation AP-Count: Disabled

Total AP Count Licenses: 0

AP Count Licenses In-use: 0

AP Count Licenses Remaining: 0

### #显示日志

```
*%LWAPP-3-AP_LICENSE_REQUEST_ERR: 1 wcm: License request failed for AP
0c:68:03:eb:9b:20 - Check for Controller Licenses
```

```
*%CAPWAP-3-AP_DB_ALLOC: 1 wcm: Unable to alloc AP entry in database for
10.201.234.xx:29817
```

### 问题 4 : 管制范围不匹配。

#### #show wireless country configured

```
Configured Country.....: BE - Belgium
```

Configured Country Codes

```
BE - Belgium : 802.11a Indoor,Outdoor/ 802.11b / 802.11g
```

### #显示日志

```
*%LWAPP-3-RD_ERR8: 1 wcm: Country code (US ) not configured for AP 0c:68:03:eb:9b:20
```

```
*%LWAPP-3-RD_ERR4: 1 wcm: Invalid regulatory domain 802.11bg:-E
802.11a:-E for AP 0c:68:03:eb:9b:20
```

### 问题 5 : 未定义无线移动控制器。

#### #显示无线移动摘要

Mobility Agent Summary:

Mobility Role

: Mobility Agent

```
Mobility Protocol Port : 16666
Mobility Switch Peer Group Name :
Multicast IP Address : 0.0.0.0
DTLS Mode : Enabled
Mobility Domain ID for 802.11r : 0xac34
Mobility Keepalive Interval : 10
Mobility Keepalive Count : 3
Mobility Control Message DSCP Value : 0
Switch Peer Group Members Configured : 0
```

Link Status is Control Link Status : Data Link Status

The status of Mobility Controller:

IP	Public IP	Link Status
0.0.0.0	0.0.0.0	- : -

### #显示日志

```
*%LWAPP-3-AP_LICENSE_REQUEST_ERR: 1 wcm: License request failed for AP
0c:68:03:eb:9b:20 - AP License Request timedout, ensure MC link is up, Resettting AP
```

## 问题 6 : AP上有网状代码。

```
*%CAPWAP-3-SPI_TUNNEL_CREATE_ACK_NOT_REC: 1 wcm: Dropping discovery request from AP
0c68.03eb.9b20 - SPI Tunnel Create Ack not received[...It occurred 3 times/sec!.]
```

此消息相当一般，不表示当前问题。要进一步诊断，直到为此特定问题添加其他日志记录，请检查AP控制台日志。

## 问题 7 : AP3700连接到运行3.3.0SE的Catalyst 3850系列交换机。

### #显示日志

```
*%CAPWAP-3-DISC_UNSUPPORTED_AP: 1 wcm: Rejecting discovery request from unsupported AP
08cc.68b4.4780 [...It occurred 2 times/sec!.]
```

## 问题 8 : 控制器时间在AP证书有效间隔之外。

### #显示时钟

```
*00:14:59.459 GMT0:0 Thu Jan 1 1970
```

### #显示日志

```
*Jan 1 00:05:51.338: %PKI-3-CERTIFICATE_INVALID_NOT_YET_VALID: Certificate chain
validation has failed. The certificate (SN: 17978AAD00000036823E) is not yet valid
Validity period starts on 04:25:46 GMT0:0 Jun 8 2013
```

```
*Jan 1 00:05:51.344: *%DTLS-4-BAD_CERT: 1 wcm: Certificate verification failed.
Peer IP: 10.201.234.21
```

```
*Jan 1 00:05:51.344: *%DTLS-3-HANDSHAKE_FAILURE: 1 wcm: Failed to complete DTLS handshake
with peer 10.201.234.21 Reason: no certificate returned
```

## 问题 9 : AP授权列表在WLC上启用 ; AP不在授权列表中。

### # show ap auth-list

```
Authorize MIC APs against AAA : Enabled
Authorize LSC APs against Auth-List : Disabled

APs Allowed to Join:

  AP with Manufacturing Installed Certificate : Enabled
  AP with Self-Signed Certificate : Disabled
  AP with Locally Significant Certificate : Disabled
```

### #显示日志

```
*%LWAPP-3-RADIUS_ERR: 1 wcm: Could not send join reply, AP authorization failed;
AP:0c:68:03:eb:9b:20

*%CAPWAP-3-DATA_TUNNEL_DELETE_ERR2: 1 wcm: Failed to delete CAPWAP data tunnel
with interface id: 0x0 from internal database. Reason: AVL database entry not found
```

## 问题 10 : MIC AP策略已禁用。

### # show ap auth-list

```
Authorize MIC APs against AAA : Disabled
```

根据身份验证列表授权LSC AP:禁用

允许加入的AP:

具有制造安装证书的AP:禁用

具有自签名证书的AP:禁用

具有本地重要证书的AP:禁用

### #显示日志

```
*%LOG-3-Q_IND: 1 wcm: Validation of SPAM Vendor Specific Payload failed - AP
f8:4f:57:3b:8c:d0
*%CAPWAP-3-ALREADY_IN_JOIN: 1 wcm: Dropping join request from AP f84f.573b.8cd0 -
AP is already in joined state
*%CAPWAP-3-DATA_TUNNEL_DELETE_ERR2: 1 wcm: Failed to delete CAPWAP data tunnel
with interface id: 0x0 from internal database. Reason: AVL database entry not found
此消息不有助于查找问题的根本原因。但是，跟踪显示此消息。
```

### # show trace messages group-ap

|

MIC AP is not allowed to join by config

|

## 一般技术提示

本节提供一些有用提示。

- 启动故障排除过程时，清除之前收集的特定功能的跟踪。在本例中，为capwap、group-ap和所有过滤的跟踪。

**#设置跟踪控制capwap#设置跟踪控制组 — ap**

**# 设置跟踪控制sys-filtered-trace >>**这将清除已过滤的跟踪，并且无法按功能运行

- 融合接入控制器上的AP加入使用AP的无线MAC地址。因此，当您为跟踪设置过滤器时，请使用AP的无线电或基本MAC地址。输入**show ap join stats summary**命令以查找无线电MAC地址。

- 证书问题由IOSd处理，需要使用调试（而非跟踪）进行进一步诊断。

**#debug crypto pki API#debug crypto pki callbacks#debug crypto pki server#debug crypto pki transactions#debug crypto pki消息**