

欺诈行为图表共同性无线问题

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简介

这是解析的欺诈行为图表通过调试(通常“调试客户端<普通的无线问题的MAC地址>”)。解析通过“显示客户端”，并且调试将要求我们对首先明白一些PEM状态和APF状态。

使用的组件

本文同等适用与所有“AireOS”控制器。那些是，在写入本文的时期，440x，5508，5520，75xx,85xx，2504和vWLC以及Wisms。虽然许多概念是相同的在聚合的访问IOS-XE控制器和交换机，本文不适用于他们作为输出，并且调试是完全不同的。

简要PEM状态显示客户端输出

- **开始**—新的客户端条目的最初的状态。
- **AUTHCHECK** — WLAN 具有要强制执行的 L2 认证策略。
- **8021X_REQD** —客户端必须完成802.1x验证。
- **L2AUTHCOMPLETE** —客户端顺利地完成L2策略。该进程现在可继续执行 L3 策略 (地址识别、Web 认证等)。此时，控制器发送移动声明以从其他控制器获得 L3 信息 (如果这是位于同一移动组中的漫游客户端)。
- **WEP_REQD** —客户端必须完成WEP身份验证。
- **DHCP_REQD** —控制器需要了解从客户端的L3地址，由ARP请求完成，DHCP请求或由从在移动组的其他控制器了解的信息更新，或者。如果 WLAN 上标记有 DHCP Required，则仅使用 DHCP 或移动信息。
- **WEBAUTH_REQD** —客户端必须完成Web验证。(L3 策略)
- **CENTRAL_WEBAUTH_REQD**—客户端必须完成CWA登录，WLC等待接收CoA
- **RAN** —客户端顺利地完成需要的L2和L3策略，并且能当前传输流量到网络。

以下方案将显示普通的误配置的关键调试线路在无线设置，突出显示在**粗体**的关键参数。

情形 1 : WPA/WPA2 PSK验证的不正确的配置的密码短语在客户端

```
(Cisco Controller) >show client detail 24:77:03:19:fb:70

Client MAC Address..... 24:77:03:19:fb:70

Client Username ..... N/A

AP MAC Address..... ec:c8:82:a4:5b:c0

AP Name..... Shankar_AP_1042

AP radio slot Id..... 1

Client State..... Associated

Client NAC OOB State..... Access

Wireless LAN Id..... 5

Hotspot (802.11u)..... Not Supported

BSSID..... ec:c8:82:a4:5b:cb

Connected For ..... 0 secs

Channel..... 44

IP Address..... Unknown

Gateway Address..... Unknown

Netmask..... Unknown

Association Id..... 1

Authentication Algorithm..... Open System

Reason Code..... 1
```

```

Status Code..... 0
Session Timeout..... 0
Client CCX version..... 4
Client E2E version..... 1
QoS Level..... Silver
Avg data Rate..... 0
Burst data Rate..... 0
Avg Real time data Rate..... 0
Burst Real Time data Rate..... 0
802.1P Priority Tag..... 2
CTS Security Group Tag..... Not Applicable
KTS CAC Capability..... No
WMM Support..... Enabled
    APSD ACs..... BK BE VI VO
Power Save..... OFF
Current Rate..... m15
Supported Rates..... 6.0,9.0,12.0,18.0,24.0,36.0,
    ..... 48.0,54.0
Mobility State..... None
Mobility Move Count..... 0
Security Policy Completed..... No

```

Policy Manager State..... 8021X_REQD

```

//This proves client is struggling to clear Layer-2 authentication.
It means we have to move to debug to understand where in L-2 we are failing
Policy Manager Rule
Created..... Yes Audit Session ID..... none AAA
Role Type..... none Local Policy
Applied..... none IPv4 ACL Name..... none
FlexConnect ACL Applied Status..... Unavailable IPv4 ACL Applied
Status..... Unavailable IPv6 ACL Name.....
none IPv6 ACL Applied Status..... Unavailable Layer2 ACL
Name..... none Layer2 ACL Applied Status.....
Unavailable mDNS Status..... Enabled mDNS Profile
Name..... default-mdns-profile No. of mDNS Services
Advertised..... 0 Policy Type..... WPA2
Authentication Key Management..... PSK Encryption
Cipher..... CCMP (AES) Protected Management Frame
..... No Management Frame Protection..... No EAP
Type..... Unknown
Interface..... vlan21
VLAN..... 21 Quarantine
VLAN..... 0 Access VLAN..... 21
Client Capabilities: CF Pollable..... Not implemented CF Poll

```

```

Request..... Not implemented Short Preamble.....
Not implemented PBCC..... Not implemented Channel
Agility..... Not implemented Listen Interval.....
10 Fast BSS Transition..... Not implemented Client Wifi Direct Capabilities:
WFD capable..... No Manged WFD capable..... No
Cross Connection Capable..... No Support Concurrent Operation..... No
Fast BSS Transition Details: Client Statistics: Number of Bytes Received..... 423
Number of Bytes Sent..... 429 Number of Packets Received..... 3
Number of Packets Sent..... 4 Number of Interim-Update Sent..... 0
Number of EAP Id Request Msg Timeouts..... 0 Number of EAP Id Request Msg Failures..... 0
Number of EAP Request Msg Timeouts..... 0 Number of EAP Request Msg Failures..... 0
Number of EAP Key Msg Timeouts..... 0 Number of EAP Key Msg Failures..... 0
Number of Data Retries..... 0 Number of RTS Retries..... 0
Number of Duplicate Received Packets..... 0 Number of Decrypt Failed Packets..... 0
Number of Mic Failed Packets..... 0 Number of Mic Missing Packets..... 0
Number of RA Packets Dropped..... 0 Number of Policy Errors..... 0
Radio Signal Strength Indicator..... -18 dBm Signal to Noise Ratio.....
40 dB Client Rate Limiting Statistics: Number of Data Packets Recieved..... 0 Number of
Data Rx Packets Dropped..... 0 Number of Data Bytes Recieved..... 0 Number of Data
Rx Bytes Dropped..... 0 Number of Realtime Packets Recieved..... 0 Number of Realtime
Rx Packets Dropped..... 0 Number of Realtime Bytes Recieved..... 0 Number of Realtime Rx
Bytes Dropped..... 0 Number of Data Packets Sent..... 0 Number of Data Tx Packets
Dropped..... 0 Number of Data Bytes Sent..... 0 Number of Data Tx Bytes
Dropped..... 0 Number of Realtime Packets Sent..... 0 Number of Realtime Tx
Packets Dropped..... 0 Number of Realtime Bytes Sent..... 0 Number of Realtime Tx
Bytes Dropped..... 0 Nearby AP Statistics: Shankar_AP_1602(slot 0) antenna0: 0 secs
ago..... -25 dBm antennal: 0 secs ago..... -40 dBm
Shankar_AP_1602(slot 1) antenna0: 1 secs ago..... -41 dBm antennal: 1 secs
ago..... -27 dBm Shankar_AP_3502(slot 0) antenna0: 0 secs
ago..... -90 dBm antennal: 0 secs ago..... -83 dBm
Shankar_AP_1042(slot 0) antenna0: 0 secs ago..... -32 dBm antennal: 0 secs
ago..... -41 dBm Shankar_AP_1042(slot 1) antenna0: 0 secs
ago..... -50 dBm antennal: 0 secs ago..... -42 dBm DNS Server
details: DNS server IP ..... 0.0.0.0 DNS server IP
..... 0.0.0.0 Assisted Roaming Prediction List details: Client Dhcp
Required: False Allowed (URL) IP Addresses -----

```

调试客户端分析

```
(Cisco Controller) >debug client 24:77:03:19:fb:70
```

```
*apfMsConnTask_4: May 07 17:03:56.060: 24:77:03:19:fb:70 Association received from mobile on BSSID 08:cc:68:67:1f:fb //Client has initiated association for AP with BSSID 08:cc:68:67:1f:fb
```

```
*apfMsConnTask_4: May 07 17:03:56.060: 24:77:03:19:fb:70 Global 200 Clients are allowed to AP radio
```

```
*apfMsConnTask_4: May 07 17:03:56.060: 24:77:03:19:fb:70 Max Client Trap Threshold: 0 cur: 0
```

```
*apfMsConnTask_4: May 07 17:03:56.060: 24:77:03:19:fb:70 Rf profile 600 Clients are allowed to AP wlan
```

```
*apfMsConnTask_4: May 07 17:03:56.060: 24:77:03:19:fb:70 Applying Interface policy on Mobile, role Unassociated. Ms NAC State 2 Quarantine Vlan 0 Access Vlan 21
```

*apfMsConnTask_4: May 07 17:03:56.060: 24:77:03:19:fb:70 Re-applying interface policy for client

*apfMsConnTask_4: May 07 17:03:56.060: 24:77:03:19:fb:70 0.0.0.0 START (0) Changing IPv4 ACL 'none' (ACL ID 255) ==> 'none' (ACL ID 255) --- (caller apf_policy.c:2202)

*apfMsConnTask_4: May 07 17:03:56.060: 24:77:03:19:fb:70 0.0.0.0 START (0) Changing IPv6 ACL 'none' (ACL ID 255) ==> 'none' (ACL ID 255) --- (caller apf_policy.c:2223)

*apfMsConnTask_4: May 07 17:03:56.060: 24:77:03:19:fb:70 apfApplyWlanPolicy: Apply WLAN Policy over PMIPv6 Client Mobility Type

*apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 In processSsidIE:4795 setting Central switched to TRUE

*apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 In processSsidIE:4798 apVapId = 5 and Split Acl Id = 65535

*apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 Applying site-specific Local Bridging override for station 24:77:03:19:fb:70 - vapId 5, site 'default-group', interface 'vlan21'

*apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 Applying Local Bridging Interface Policy for station 24:77:03:19:fb:70 - vlan 21, interface id 14, interface 'vlan21'

*apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 processSsidIE statusCode is 0 and status is 0

*apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 processSsidIE ssid_done_flag is 0 finish_flag is 0

*apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 STA - rates (8): 140 18 24 36 48 72 96 108 0 0 0 0 0 0 0

*apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 suppRates statusCode is 0 and gotSuppRatesElement is 1

*apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 Processing RSN IE type 48, length 22 for mobile 24:77:03:19:fb:70

*apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 pemApfDeleteMobileStation2: APF_MS_PEM_WAIT_L2_AUTH_COMPLETE = 0.

*apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 0.0.0.0 START (0) Deleted mobile LWAPP rule on AP [ec:c8:82:a4:5b:c0]

*apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 Updated location for station old AP ec:c8:82:a4:5b:c0-1, new AP 08:cc:68:67:1f:f0-1

*apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 Updating AID for REAP AP Client 08:cc:68:67:1f:f0 - AID ==> 1

*apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 0.0.0.0 START (0) Initializing policy

*apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 0.0.0.0 START (0) Change state to AUTHCHECK (2) last state START (0)

***apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 0.0.0.0 AUTHCHECK (2) Change state to 8021X_REQD (3) last state AUTHCHECK (2)//**
Client entering L2 authentication stage *apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70

Central switch is TRUE *apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 Not Using WMM
Compliance code qosCap 00 *apfMsConnTask_4: May 07 17:03:56.061: 24:77:03:19:fb:70 0.0.0.0
8021X_REQD (3) Plumbed mobile LWAPP rule on AP 08:cc:68:67:1f:f0 vapId 5 apVapId 5 flex-acl-
name: *apfMsConnTask_4: May 07 17:03:56.062: 24:77:03:19:fb:70 apfMsAssoStateInc
*apfMsConnTask_4: May 07 17:03:56.062: 24:77:03:19:fb:70 apfPemAddUser2 (apf_policy.c:333)
Changing state for mobile 24:77:03:19:fb:70 on AP 08:cc:68:67:1f:f0 from Disassociated to
Associated *apfMsConnTask_4: May 07 17:03:56.062: 24:77:03:19:fb:70 apfPemAddUser2:session
timeout forstation 24:77:03:19:fb:70 - Session Tout 0, apfMsTimeOut '0' and sessionTimerRunning
flag is 0 *apfMsConnTask_4: May 07 17:03:56.062: 24:77:03:19:fb:70 Stopping deletion of Mobile
Station: (callerId: 48) *apfMsConnTask_4: May 07 17:03:56.062: 24:77:03:19:fb:70 Func:
apfPemAddUser2, Ms Timeout = 0, Session Timeout = 0 *apfMsConnTask_4: May 07 17:03:56.062:
24:77:03:19:fb:70 Sending Assoc Response to station on BSSID 08:cc:68:67:1f:fb (status 0)
ApVapId 5 Slot 1 *apfMsConnTask_4: May 07 17:03:56.062: 24:77:03:19:fb:70 apfProcessAssocReq
(apf_80211.c:8292) Changing state for mobile 24:77:03:19:fb:70 on AP 08:cc:68:67:1f:f0 from
Associated to Associated *spamApTask3: May 07 17:03:56.065: 24:77:03:19:fb:70 Sent 1x initiate
message to multi thread task for mobile 24:77:03:19:fb:70 *Dot1x_NW_MsgTask_0: May 07
17:03:56.065: 24:77:03:19:fb:70 Creating a PKC PMKID Cache entry for station 24:77:03:19:fb:70
(RSN 2) *Dot1x_NW_MsgTask_0: May 07 17:03:56.066: 24:77:03:19:fb:70 Resetting MSCB PMK Cache
Entry 0 for station 24:77:03:19:fb:70 *Dot1x_NW_MsgTask_0: May 07 17:03:56.066:
24:77:03:19:fb:70 Removing BSSID ec:c8:82:a4:5b:cb from PMKID cache of station 24:77:03:19:fb:70
*Dot1x_NW_MsgTask_0: May 07 17:03:56.066: 24:77:03:19:fb:70 Setting active key cache index 0 ---
> 8 *Dot1x_NW_MsgTask_0: May 07 17:03:56.066: 24:77:03:19:fb:70 Setting active key cache index 8
---> 0 *Dot1x_NW_MsgTask_0: May 07 17:03:56.066: 24:77:03:19:fb:70 Adding BSSID
08:cc:68:67:1f:fb to PMKID cache at index 0 for station 24:77:03:19:fb:70 *Dot1x_NW_MsgTask_0:
May 07 17:03:56.066: New PMKID: (16) *Dot1x_NW_MsgTask_0: May 07 17:03:56.066: [0000] d7 57 8e
ff 2b 27 01 4e 93 39 0b 1c 1f 46 d2 da *Dot1x_NW_MsgTask_0: May 07 17:03:56.066:
24:77:03:19:fb:70 Initiating RSN PSK to mobile 24:77:03:19:fb:70 *Dot1x_NW_MsgTask_0: May 07
17:03:56.066: 24:77:03:19:fb:70 EAP-PARAM Debug - eap-params for Wlan-Id :5 is disabled -
applying Global eap timers and retries *Dot1x_NW_MsgTask_0: May 07 17:03:56.066:
24:77:03:19:fb:70 dot1x - moving mobile 24:77:03:19:fb:70 into Force Auth state
*Dot1x_NW_MsgTask_0: May 07 17:03:56.066: 24:77:03:19:fb:70 EAPOL Header: *Dot1x_NW_MsgTask_0:
May 07 17:03:56.066: 00000000: 02 03 00 5f ... *Dot1x_NW_MsgTask_0: May 07 17:03:56.066:
24:77:03:19:fb:70 Found an cache entry for BSSID 08:cc:68:67:1f:fb in PMKID cache at index 0 of
station 24:77:03:19:fb:70 *Dot1x_NW_MsgTask_0: May 07 17:03:56.066: **24:77:03:19:fb:70 Found an
cache entry for BSSID 08:cc:68:67:1f:fb in PMKID cache at index 0 of station 24:77:03:19:fb:70**

***Dot1x_NW_MsgTask_0: May 07 17:03:56.066: Including PMKID in M1 (16)**

***Dot1x_NW_MsgTask_0: May 07 17:03:56.066: [0000] d7 57 8e ff 2b 27 01 4e 93 39 0b 1c 1f 46
d2 da**

***Dot1x_NW_MsgTask_0: May 07 17:03:56.066: 24:77:03:19:fb:70 Starting key exchange to mobile
24:77:03:19:fb:70, data packets will be dropped**

***Dot1x_NW_MsgTask_0: May 07 17:03:56.066: 24:77:03:19:fb:70 Sending EAPOL-Key Message to mobile
24:77:03:19:fb:70**

state INITPMK (message 1), replay counter 00.00.00.00.00.00.00.00

***Dot1x_NW_MsgTask_0: May 07 17:03:56.066: 24:77:03:19:fb:70 Sending EAPOL-Key Message to mobile
24:77:03:19:fb:70**

state INITPMK (message 1), replay counter 00.00.00.00.00.00.00.00

***Dot1x_NW_MsgTask_0: May 07 17:03:56.066: 24:77:03:19:fb:70 Allocating EAP Pkt for
retransmission to mobile 24:77:03:19:fb:70**

***Dot1x_NW_MsgTask_0: May 07 17:03:56.066: 24:77:03:19:fb:70 mscb->apfMsLwappLradNhMac =
b0:fa:eb:b8:f5:12 mscb->apfMsLradSlotId = 1 mscb->apfMsLradJumbo = 0 mscb->apfMsintIfNum = 1**

```

*Dot1x_NW_MsgTask_0: May 07 17:03:56.066: 24:77:03:19:fb:70 mscb->apfMsBssid =
08:cc:68:67:1f:f0 mscb->apfMsAddress = 24:77:03:19:fb:70 mscb->apfMsApVapId = 5

*Dot1x_NW_MsgTask_0: May 07 17:03:56.066: 24:77:03:19:fb:70 dot1xcb->snapOrg = 00 00 00
dot1xcb->eapolWepBit = 0 mscb->apfMsLwappLradVlanId = 0 mscb->apfMsLwappMwarInet.ipv4.addr =
181004965

*Dot1x_NW_MsgTask_0: May 07 17:03:56.066: 24:77:03:19:fb:70 mscb->apfMsLwappMwarPort = 5246
mscb->apfMsLwappLradInet.ipv4.addr = 181004985 mscb->apfMsLwappLradPort = 36690

*Dot1x_NW_MsgTask_0: May 07 17:03:56.069: 24:77:03:19:fb:70 Received EAPOL-Key from mobile
24:77:03:19:fb:70

*Dot1x_NW_MsgTask_0: May 07 17:03:56.069: 24:77:03:19:fb:70 Ignoring invalid EAPOL version (1)
in EAPOL-key message from mobile 24:77:03:19:fb:70

*Dot1x_NW_MsgTask_0: May 07 17:03:56.069: 24:77:03:19:fb:70 Received EAPOL-key in PTK_START
state (message 2) from mobile 24:77:03:19:fb:70

*Dot1x_NW_MsgTask_0: May 07 17:03:56.069: 24:77:03:19:fb:70 Received EAPOL-key M2 with invalid
MIC from mobile 24:77:03:19:fb:70 version 2

*osapiBsnTimer: May 07 17:03:56.364: 24:77:03:19:fb:70 802.1x 'timeoutEvt' Timer expired for
station 24:77:03:19:fb:70 and for message = M2
!--- MIC error due to wrong preshared key
*dot1xMsgTask: May 07 17:03:56.364: 24:77:03:19:fb:70 Retransmit 1 of EAPOL-Key M1 (length 121)
for mobile 24:77:03:19:fb:70

*dot1xMsgTask: May 07 17:03:56.364: 24:77:03:19:fb:70 mscb->apfMsLwappLradNhMac =
b0:fa:eb:b8:f5:12 mscb->apfMsLradSlotId = 1 mscb->apfMsLradJumbo = 0 mscb->apfMsintIfNum = 1

*dot1xMsgTask: May 07 17:03:56.364: 24:77:03:19:fb:70 mscb->apfMsBssid = 08:cc:68:67:1f:f0
mscb->apfMsAddress = 24:77:03:19:fb:70 mscb->apfMsApVapId = 5

*dot1xMsgTask: May 07 17:03:56.365: 24:77:03:19:fb:70 dot1xcb->snapOrg = 00 00 00 dot1xcb-
>eapolWepBit = 0 mscb->apfMsLwappLradVlanId = 0 mscb->apfMsLwappMwarInet.ipv4.addr = 181004965

*dot1xMsgTask: May 07 17:03:56.365: 24:77:03:19:fb:70 mscb->apfMsLwappMwarPort = 5246 mscb-
>apfMsLwappLradInet.ipv4.addr = 181004985 mscb->apfMsLwappLradPort = 36690

*Dot1x_NW_MsgTask_0: May 07 17:03:56.366: 24:77:03:19:fb:70 Received EAPOL-Key from mobile
24:77:03:19:fb:70

*Dot1x_NW_MsgTask_0: May 07 17:03:56.366: 24:77:03:19:fb:70 Ignoring invalid EAPOL version (1)
in EAPOL-key message from mobile 24:77:03:19:fb:70

*Dot1x_NW_MsgTask_0: May 07 17:03:56.366: 24:77:03:19:fb:70 Received EAPOL-key in PTK_START
state (message 2) from mobile 24:77:03:19:fb:70

*Dot1x_NW_MsgTask_0: May 07 17:03:56.366: 24:77:03:19:fb:70 Received EAPOL-key M2 with invalid
MIC from mobile 24:77:03:19:fb:70 version 2

*osapiBsnTimer: May 07 17:03:56.764: 24:77:03:19:fb:70 802.1x 'timeoutEvt' Timer expired for
station 24:77:03:19:fb:70 and for message = M2
!--- MIC error due to wrong preshared key

```

被总结的结论

虽然“timeoutEvt’ M2密钥的可能也归结于driver/NIC错误，一个多数常见问题无法用户输入PSK密码（未接区分大小写/特殊characters的不正确凭证等等）和连接。

方案 2：失败无线的电话Handsets(792x/9971)与“离开服务区域的

”无线产生关联

参考:<https://supportforums.cisco.com/document/12068061/7925g-handsets-failing-association-ap-call-failed-tspec-qos-policy-does-not-match>

拓扑

与Cisco Unified无线IP电话的WLAN

问题详细资料

AIR-CT5508-50-K9 //升级电话的固件，并且无线控制器不会接受电话注册

调试和日志

```
apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx Association received from mobile on AP  
3x:xx:cx:9x:x0:x0
```

```
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx 0.0.0.0 START (0) Changing IPv4 ACL  
'none' (ACL ID xxx) ==> 'none' (ACL ID xxx) --- (caller apf_policy.c:1x09)
```

```
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx 0.0.0.0 START (0) Changing IPv6 ACL  
'none' (ACL ID xxx5) ==> 'none' (ACL ID xxx) --- (caller apf_policy.c:18x6)
```

```
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx Applying site-specific Local Bridging  
override for station 1x:xx:1x:xx:xx:xx - vapId 1, site 'default-group', interface 'xwirex'
```

```
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx Applying Local Bridging Interface Policy  
for station 1x:xx:1x:xx:xx:xx - vlan 510, interface id 12, interface 'xwirex'
```

```
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx processSsidIE statusCode is 0 and  
status is 0
```

```
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx processSsidIE ssid_done_flag is 0  
finish_flag is 0
```

```
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx STA - rates (4): 130 132 139 150 0 0 0 0  
0 0 0 0 0 0 0 0
```

```
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx suppRates statusCode is 0 and  
gotSuppRatesElement is 1
```

```
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx STA - rates (12): 130 132 139 150 12 18  
24 36 48 72 96 108 0 0 0 0
```

```
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx extSuppRates statusCode is 0 and  
gotExtSuppRatesElement is 1
```

```
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx Processing RSN IE type 48, length 22 for  
mobile 1x:xx:1x:xx:xx:xx
```

```
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx CCKM: Mobile is using CCKM
```

```
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx Received RSN IE with 0 PMKIDs from  
mobile 1x:xx:1x:xx:xx:xx
```

```
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx Setting active key cache index 8 ---> 8
```



```
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx unsetting PmkIdValidatedByAp
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx Sending Assoc Response to station on
BSSID 3x:xx:cx:9x:x0:x0 (status 201) ApVapId 1 Slot 0
*apfMsConnTask_1: xx xx xx:50:xx.xxx: 1x:xx:1x:xx:xx:xx Scheduling deletion of Mobile Station:
(callerId: 22) in 3 seconds
```

```
VoIP Call Failure: '1x:xx:1x:xx:xx:xx' client, detected by 'xx-xx-xx' AP on radio type
'802.11b/g'. Reason: 'Call failed: TSPEC QoS Policy does not match'.
Means platinum QoS was not configured on WLAN 1x:xx PM Client Excluded:
MACAddress:1x:xx:1x:xx:xx:xx Base Radio MAC :3x:xx:cx:9x:x0:x0 Slot: 1 User Name: dwpv\mtl7925
Ip Address: xx.xx.x.xx Reason:802.11 Association failed repeatedly. ReasonCode: 2
```

结论

在WLC的调试显示7925G失败关联，当AP返回关联状态码201。

这归结于从拒绝的话筒的一TSPEC (流量规格)请求由于WLAN配置。7925G尝试连接对配置与西尔弗QoS档案的WLAN (0,3)，而不是白金服务(6,7)如所需求。这导致语音流量/操作帧交换的一TSPEC不匹配从话筒通过WLAN和根本地拒绝从AP。

特别地创建与白金服务QoS配置文件的一新的WLAN 7925G话筒的和配置根据已建立最佳实践和如
对7925G部署指南定义：

http://www.cisco.com/en/US/docs/voice_ip_comm/cuipph/7925g/7_0/english/deployment/guide/7925dply.pdf

一旦配置，问题应该是解决的。

情形 3：WPA的为WPA2仅配置的客户机中配置，但是AP

调试客户端<mac addr>

```
Wed May 7 10:51:37 2014: xx.xx.xx.xx.xx.xx Scheduling deletion of Mobile
Station: (callerId: 23) in 5 seconds
Wed May 7 10:51:37 2014: xx.xx.xx.xx.xx.xx apfProcessProbeReq
(apf_80211.c:4057) Changing state for mobile xx.xx.xx.xx.xx.xx on AP
from Idle to Probe
```

```
Controller adds the new client, moving into probing status Wed May 7 10:51:37 2014:
xx.xx.xx.xx.xx.xx Scheduling deletion of Mobile Station: (callerId: 24) in 5 seconds Wed May 7
10:51:38 2014: xx.xx.xx.xx.xx.xx Scheduling deletion of Mobile Station: (callerId: 24) in 5
seconds Wed May 7 10:51:38 2014: xx.xx.xx.xx.xx.xx Scheduling deletion of Mobile Station:
(callerId: 24) in 5 seconds AP is reporting probe activity every 500 ms as configured Wed May 7
10:51:41 2014: xx.xx.xx.xx.xx.xx Scheduling deletion of Mobile Station: (callerId: 24) in 5
seconds Wed May 7 10:51:41 2014: xx.xx.xx.xx.xx.xx Scheduling deletion of Mobile Station:
(callerId: 24) in 5 seconds Wed May 7 10:51:41 2014: xx.xx.xx.xx.xx.xx Scheduling deletion of
Mobile Station: (callerId: 24) in 5 seconds Wed May 7 10:51:41 2014: xx.xx.xx.xx.xx.xx
Scheduling deletion of Mobile Station: (callerId: 24) in 5 seconds Wed May 7 10:51:44 2014:
xx.xx.xx.xx.xx.xx Scheduling deletion of Mobile Station: (callerId: 24) in 5 seconds Wed May 7
10:51:44 2014: xx.xx.xx.xx.xx.xx Scheduling deletion of Mobile Station: (callerId: 24) in 5
```

```
seconds Wed May 7 10:51:44 2014: xx.xx.xx.xx.xx.xx Scheduling deletion of Mobile Station:
(callerId: 24) in 5 seconds Wed May 7 10:51:44 2014: xx.xx.xx.xx.xx.xx Scheduling deletion of
Mobile Station: (callerId: 24) in 5 seconds Wed May 7 10:51:49 2014: xx.xx.xx.xx.xx.xx
apfMsExpireCallback (apf_ms.c:433) Expiring Mobile! Wed May 7 10:51:49 2014: xx.xx.xx.xx.xx.xx
0.0.0.0 START (0) Deleted mobile LWAPP rule on AP [] Wed May 7 10:51:49 2014: xx.xx.xx.xx.xx.xx
Deleting mobile on AP (0) After 5 seconds of inactivity, client is deleted, never moved into
authentication or association phases.
```

场景 4 : 解析AAA返回或答复代码。

是需要的调试收集预计日志的RAN :

```
(思科控制器) >debug MAC地址<mac>
(思科控制器) >debug aaa事件enable (event)
(或)
(思科控制器) >debug客户端<mac>
(思科控制器) >debug aaa事件enable (event)
(思科控制器) >debug aaa错误enable (event)
```

如果陷阱启用，AAA连通性故障将形成SNMP陷阱。

示例debug输出<snipped>

```
*radiusTransportThread: Mar 26 17:54:58.054: 70:f1:a1:69:7b:e7 Invalid RADIUS message
authenticator for mobile 70:f1:a1:69:7b:e7
*radiusTransportThread: Mar 26 17:54:58.054: 70:f1:a1:69:7b:e7 RADIUS message verification
failed from server 10.50.0.74 with id=213. Possible secret mismatch for mobile 70:f1:a1:69:7b:e7
*radiusTransportThread: Mar 26 17:54:58.054: 70:f1:a1:69:7b:e7 Returning AAA Error
'Authentication Failed' (-4) for mobile 70:f1:a1:69:7b:e7
*radiusTransportThread: Mar 26 17:54:58.054: AuthorizationResponse: 0x4259f944
```

Returning AAA Error 'Success' (0) for mobile

Successful Authentication happened, AAA returns access-accept prior to Success (0) to confirm the same. Returning AAA Error 'Out of Memory' (-2) for mobile it's the rare reason. CSCud12582 Processing AAA Error 'Out of Memory' Returning AAA Error 'Authentication Failed' (-4) for mobile its the most common reason seen

可能的来源 :

1. 无效用户帐户和密码
2. 计算机域的不是成员，在AD侧发出。
3. 证书服务工作不正常
4. 超时的服务器证书或不在使用中
5. 不正确地配置的RADIUS
6. 不正确地被输入的访问密钥-区分大小写(因此是SSID)
7. 更新Microsoft补丁。
8. EAP计时器。
9. 在客户端/服务器配置的不正确eap方法。
10. 客户端证书超时或不在使用中。

返回AAA错误'超时' (-5)移动的

AAA服务器不可达的，跟随由客户端death。

示例 :

```
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Max retransmission of Access-Request (id 100) to
155.43.129.216 reached for mobile 00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 [Error] Client requested no retries for mobile
00:13:CE:1A:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Returning AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Processing AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Sent Deauthenticate to mobile on BSSID
00:0b:85:76:d3:e0 slot 1(caller 1x_auth_pae.c:1033) Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41
Scheduling deletion of Mobile Station: (callerId: 65) in 10 seconds
```

返回AAA错误‘内部错误’(-6)移动的

属性不匹配。AAA发送不正确/不相应的属性(错误的长度)没有了解/与WLC兼容。WLC发送‘内部错误’消息跟随的Deauth消息。例如：[CSCum83894](#) AAA ‘内部错误’和验证在访问的失败
w/unknown属性接受

示例：

```
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Max retransmission of Access-Request (id 100) to
155.43.129.216 reached for mobile 00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 [Error] Client requested no retries for mobile
00:13:CE:1A:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Returning AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Processing AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Sent Deauthenticate to mobile on BSSID
00:0b:85:76:d3:e0 slot 1(caller 1x_auth_pae.c:1033) Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41
Scheduling deletion of Mobile Station: (callerId: 65) in 10 seconds
```

返回AAA错误没有服务器(-7)移动的

Radius没有适当地配置和或不支持的配置在使用中

示例：

```
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Max retransmission of Access-Request (id 100) to
155.43.129.216 reached for mobile 00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 [Error] Client requested no retries for mobile
00:13:CE:1A:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Returning AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Processing AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Sent Deauthenticate to mobile on BSSID
00:0b:85:76:d3:e0 slot 1(caller 1x_auth_pae.c:1033) Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41
Scheduling deletion of Mobile Station: (callerId: 65) in 10 seconds
```

场景 5：联合的客户端失败对AP

调试运行了

调试客户端<mac addr>

解析的日志

发送Assoc答复驻防在BSSID 00:26:cb:94:44:c0 (状态0) ApVapId 1 Slot0

- Slot0 = B/G(2.4)无线电

Slot1 = A(5)无线电

- 发送Assoc答复状态0 =成功

任何除状态0之外是失败

同盟会答复状态码可以在<https://supportforums.cisco.com/document/141136/80211-association-status-80211-deauth-reason-codes>找到

场景 6 : 客户端分离由于空闲超时

调试运行了

调试客户端<mac addr>

解析的日志

从AP 00:26:cb:94:44:c0的已接收Idle-timeout , STA的00:1e:8c:0f:a4:57 slot0

apfMsDeleteByMscb删除的日程安排移动与deleteReason 4 , reasonCode 4

移动站点的安排的删除 : (callerId : 30)以1秒

超时莫比尔的apfMsExpireCallback (apf_ms.c:608)!

对移动的发送的解除验证在BSSID 00:26:cb:94:44:c0 slot 0(caller apf_ms.c:5094)

条件

在从客户端接收的没有流量以后发生

默认持续时间是300秒

解决方法

增加空闲超时二者之一全局表WLC GUI>>Controller>>General或每从WLC GUI>>WLAN>>ID>>Advanced的WLAN

场景 7 : 客户端分离由于会话超时

调试运行了

调试客户端<mac addr>

解析的日志

Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Max retransmission of Access-Request (id 100) to 155.43.129.216 reached for mobile 00:13:ce:1a:92:41

```
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 [Error] Client requested no retries for mobile
00:13:CE:1A:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Returning AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Processing AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Sent Deauthenticate to mobile on BSSID
00:0b:85:76:d3:e0 slot 1(caller 1x_auth_pae.c:1033) Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41
Scheduling deletion of Mobile Station: (callerId: 65) in 10 seconds
条件
```

发生在被安排的持续时间(默认1800秒)

再将迫使WEBAUTH用户对WEBAUTH

[解决方法](#)

增加或禁用会话超时每从WLC GUI>>WLAN>>ID>>Advanced的WLAN

方案8：客户端分离由于WLAN更改

调试运行了

调试客户端<mac addr>

解析的日志

```
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Max retransmission of Access-Request (id 100) to
155.43.129.216 reached for mobile 00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 [Error] Client requested no retries for mobile
00:13:CE:1A:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Returning AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Processing AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Sent Deauthenticate to mobile on BSSID
00:0b:85:76:d3:e0 slot 1(caller 1x_auth_pae.c:1033) Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41
Scheduling deletion of Mobile Station: (callerId: 65) in 10 seconds
条件
```

无论如何正在修改在功能失效和Renables WLAN的一WLAN

[解决方法](#)

这是预料之中的行为。当有做的WLAN变动，客户端将取消关联并且重新关联。

方案9：客户端分离由于从WLC的手工的删除

调试运行了

调试客户端<mac addr>

解析的日志

```
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Max retransmission of Access-Request (id 100) to
155.43.129.216 reached for mobile 00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 [Error] Client requested no retries for mobile
00:13:CE:1A:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Returning AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Processing AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Sent Deauthenticate to mobile on BSSID
00:0b:85:76:d3:e0 slot 1(caller 1x_auth_pae.c:1033) Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41
Scheduling deletion of Mobile Station: (callerId: 65) in 10 seconds
条件
```

从GUI：删除客户端

从CLI：设置客户端解除验证<MAC地址>

方案10：客户端分离由于验证超时

调试运行了

调试客户端<mac addr>

解析的日志

```
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Max retransmission of Access-Request (id 100) to
155.43.129.216 reached for mobile 00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 [Error] Client requested no retries for mobile
00:13:CE:1A:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Returning AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Processing AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Sent Deauthenticate to mobile on BSSID
00:0b:85:76:d3:e0 slot 1(caller 1x_auth_pae.c:1033) Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41
Scheduling deletion of Mobile Station: (callerId: 65) in 10 seconds
条件
```

被到达的验证或密钥交换麦斯重新传输

[解决方法](#)

检查/更新客户端驱动程序、安全设置，证书等。

方案11：客户端分离由于重置的AP无线电(电源/信道)

调试运行了

调试客户端<mac addr>

解析的日志

```
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Max retransmission of Access-Request (id 100) to
155.43.129.216 reached for mobile 00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 [Error] Client requested no retries for mobile
00:13:CE:1A:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Returning AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Processing AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Sent Deauthenticate to mobile on BSSID
00:0b:85:76:d3:e0 slot 1(caller 1x_auth_pae.c:1033) Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41
Scheduling deletion of Mobile Station: (callerId: 65) in 10 seconds
```

条件

AP取消关联客户端，但是WLC没有Delete条目

[解决方法](#)

预料之中的行为。

方案12：Symantec与802.1X 'timeoutEvt的'客户端问题

问题

运行Symantec软件的客户端用消息802.1X '为消息= M3超时的为站点和timeoutEvt'计时器取消关联

EAP/Eapol进程在Intel/Broadcom卡不被完成，不考虑A/G无线电使用。没有问题，当曾经wep，WPA-PSK时。

条件

WLC代码不重要。

AP -所有模拟-所有在本地传送方式。

WLAN 3 - WPA2+802.1X PEAP + mshcapv2
ssid广播。

RADIUS服务器NP 2008年

Symantec防病毒软件在所有PCs安装

使用Asus，Broadcom，英特尔- win7，成功XP

受影响的OS - windows 7和xp

受影响的无线适配器- Intel(6205)和Broadcom

受影响的驱动程序/请求方- 15.2.0.19，使用本地请求方。

修正/应急方案：禁用Symantec网络保护和防火墙在win7和xp。它是与Win 7和XP OS的Symantec问题。

Debug输出

```
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Max retransmission of Access-Request (id 100) to
```

```
155.43.129.216 reached for mobile 00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 [Error] Client requested no retries for mobile
00:13:CE:1A:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Returning AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Processing AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Sent Deauthenticate to mobile on BSSID
00:0b:85:76:d3:e0 slot 1(caller 1x_auth_pae.c:1033) Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41
Scheduling deletion of Mobile Station: (callerId: 65) in 10 seconds
```

注意：

在15.2有综合症状(也看到在更早版本)去类似：

-客户端从AP获得M1

-客户端发送M2

-客户端从AP获得M3

在派出M4前， -客户端测量深度成对地新建的密钥

-客户端传送M4加密与新密钥AP，丢弃M4消息作为“解密错误”

- WLC ‘调试客户端’显示我们在M3重新传输时间。明显，这是在Microsoft和Symantec之间的一问题，不是英特尔特定。应急方案是删除Symantec。很可能在windows的这确实是bug，触发由Symantec。调整EAP计时器不调整此问题

关于此问题， Cisco TAC将转发受影响的客户对Symantec和Microsoft。

方案13：空气打印服务不显示为有mDNS的监听的客户端打开了

不能的客户端发现设备提供AirPrint服务在苹果公司手持式客户端设备，当监听的mDNS打开。

条件

运行7.6.100.0的5508 WLC。

当mDNS监听打开，我们有提供AirPrint服务的设备列出在服务部分下在WLC。

各自mDNS配置文件正确地被映射对WLAN &接口。

无法能发现在客户端的AirPrint设备。

调试运行了

调试客户端<mac addr>

调试mdns全部启用

```
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Max retransmission of Access-Request (id 100) to
155.43.129.216 reached for mobile 00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 [Error] Client requested no retries for mobile
00:13:CE:1A:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Returning AAA Error 'Timeout' (-5) for mobile
```



```
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Processing AAA Error 'Timeout' (-5) for mobile
00:13:ce:1a:92:41
Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41 Sent Deauthenticate to mobile on BSSID
00:0b:85:76:d3:e0 slot 1(caller 1x_auth_pae.c:1033) Wed Oct 26 20:08:50 2011: 00:13:ce:1a:92:41
Scheduling deletion of Mobile Station: (callerId: 65) in 10 seconds
```

说明

客户端为‘_universal._sub._ipps._tcp.local会要求’。或者‘_universal._sub._ipp._tcp.local’。而不是‘_ipp._tcp.local’。或者‘_ipp._tcp.local’。字符串。
因此添加AirPrint服务不会工作。它识别将被映射的请求的服务字符串对'HP_Photosmart_Printer_1
同一服务在被映射的配置文件被添加了到WLAN，并且仍有为设备列出的没有服务。

发现由于域名被添附的和查询'dns SD._udp.YVG.local的客户端'。当域名被添附WLC没有能处理
Bonjour数据包作为'dns SD._udp.YVG.local'。在数据库不存在。

识别关于同样的以下增强bug - [CSCuj32157](#)

解决方法

唯一的工作是禁用DHCP选项15 (域名)或删除域名从客户端。

方案14：苹果公司无法IOS的客户端‘加入由于的网络’禁用快速SSID更改

条件

多数苹果公司IOS设备有移动从一WLAN的问题到另一个在同样思科WLC以默认“禁用的快速ssid更改”。

一旦客户端尝试联合到另一个，设置导致控制器解除验证从现有WLAN的客户端。

典型的结果是在IOS设备的一个“无法加入网络”消息

显示客户端

```
(jk-2504-116) >show网络摘要
```

<snip>

快速SSID崔凡吉莱.....禁用

调试运行了

```
(jk-2504-116) >debug client 1c:e6:2b:cd:da:9d
```

```
(jk-2504-116) >*apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Association received
from mobile on BSSID 00:21:a0:e3:fd:be
Apple Client initiating switch from one wlan to another. *apfMsConnTask_7: Jan 30 21:33:14.544:
1c:e6:2b:cd:da:9d Global 200 Clients are allowed to AP radio *apfMsConnTask_7: Jan 30
```

21:33:14.544: 1c:e6:2b:cd:da:9d Max Client Trap Threshold: 0 cur: 1 *apfMsConnTask_7: Jan 30
21:33:14.544: 1c:e6:2b:cd:da:9d Rf profile 600 Clients are allowed to AP wlan ***apfMsConnTask_7:
Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Deleting client immediately since WLAN has changed //WLC
removing apple client from original WLAN**

*apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Scheduling deletion of Mobile Station:
(callerId: 50) in 1 seconds

*osapiBsnTimer: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d apfMsExpireCallback (apf_ms.c:625)
Expiring Mobile!

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d apfMsExpireMobileStation (apf_ms.c:6632)
Changing state for mobile 1c:e6:2b:cd:da:9d on AP 00:21:a0:e3:fd:b0 from Associated to
Disassociated

***apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Sent Deauthenticate to mobile on BSSID
00:21:a0:e3:fd:b0 slot 1(caller apf_ms.c:6726)**

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Found an cache entry for BSSID
00:21:a0:e3:fd:bf in PMKID cache at index 0 of station 1c:e6:2b:cd:da:9d

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Removing BSSID 00:21:a0:e3:fd:bf from
PMKID cache of station 1c:e6:2b:cd:da:9d

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Resetting MSCB PMK Cache Entry 0 for
station 1c:e6:2b:cd:da:9d

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Setting active key cache index 0 ---> 8

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Deleting the PMK cache when de-
authenticating the client.

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Global PMK Cache deletion failed.

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d apfMsAssoStateDec

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d apfMsExpireMobileStation (apf_ms.c:6764)
Changing state for mobile 1c:e6:2b:cd:da:9d on AP 00:21:a0:e3:fd:b0 from Disassociated to Idle

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d pemApfDeleteMobileStation2:
APF_MS_PEM_WAIT_L2_AUTH_COMPLETE = 0.

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d 192.168.165.31 START (0) Deleted mobile
LWAPP rule on AP [00:21:a0:e3:fd:b0]

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d Deleting mobile on AP
00:21:a0:e3:fd:b0(1)

***pemReceiveTask: Jan 30 21:33:15.377: 1c:e6:2b:cd:da:9d 192.168.165.31 Removed NPU entry.**

*apfMsConnTask_7: Jan 30 21:33:23.890: 1c:e6:2b:cd:da:9d Adding mobile on LWAPP AP
00:21:a0:e3:fd:b0(1)
No client activity for > 7 sec due to fat-ssid change disabled *apfMsConnTask_7: Jan 30
21:33:23.890: 1c:e6:2b:cd:da:9d Association received from mobile on BSSID 00:21:a0:e3:fd:bf
*apfMsConnTask_7: Jan 30 21:33:23.890: 1c:e6:2b:cd:da:9d Global 200 Clients are allowed to AP
radio <Snip> ***apfMsConnTask_7: Jan 30 21:33:23.891: 1c:e6:2b:cd:da:9d Sending Assoc Response to
station on BSSID 00:21:a0:e3:fd:bf (status 0) ApVapId 1 Slot 1**

*apfMsConnTask_7: Jan 30 21:33:23.892: 1c:e6:2b:cd:da:9d apfProcessAssocReq (apf_80211.c:8292)
Changing state for mobile 1c:e6:2b:cd:da:9d on AP 00:21:a0:e3:fd:b0 from Associated to

Associated

[解决方法](#)

Enable (event)从WLC GUI>>Controller>>General的法塞特ssid更改

方案15 : 成功的客户端LDAP关联

使用TLS , 安全LDAP帮助保护控制器和LDAP服务器之间的连接。此功能支持与控制器软件版本7.6以上。

有可以由控制器发送到LDAP服务器查询的两种类型 :

1.匿名 :

在此类型 , 当客户端需要获得authenticated时 , 控制器发送认证请求到LDAP服务器。LDAP服务器然后将回应查询的结果。在此交换期间所有信息包括客户端用户名/密码在明文发送。只要捆绑用户名/密码被添加 , LDAP服务器将回应对从任何人的查询。

2. 已验证 :

在此方法控制器配置与使用LDAP服务器验证本身的用户名和密码。密码加密与MD5 SASL和被发送到LDAP服务器在认证过程中。这正确地帮助LDAP服务器识别认证请求的来源。然而 , 即使控制器的标识保护客户端详细信息在明文发送。

LDAP的实际需求在TLS来由于客户端验证数据和处理其余无危险发生的两个这两个方法摆在的安全漏洞。

[要求](#)

运行软件版本7.6的WLC以上

执行LDAP的Microsoft服务器

调试运行了

debug aaa ldap enable (event)

```
(jk-2504-116) >debug client 1c:e6:2b:cd:da:9d
```

```
(jk-2504-116) >*apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Association received from mobile on BSSID 00:21:a0:e3:fd:be
Apple Client initiating switch from one wlan to another. *apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Global 200 Clients are allowed to AP radio *apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Max Client Trap Threshold: 0 cur: 1 *apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Rf profile 600 Clients are allowed to AP wlan *apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Deleting client immediately since WLAN has changed //WLC removing apple client from original WLAN

*apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Scheduling deletion of Mobile Station: (callerId: 50) in 1 seconds

*osapiBsnTimer: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d apfMsExpireCallback (apf_ms.c:625) Expiring Mobile!
```

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d apfMsExpireMobileStation (apf_ms.c:6632)
Changing state for mobile 1c:e6:2b:cd:da:9d on AP 00:21:a0:e3:fd:b0 from Associated to
Disassociated

***apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Sent Deauthenticate to mobile on BSSID
00:21:a0:e3:fd:b0 slot 1(caller apf_ms.c:6726)**

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Found an cache entry for BSSID
00:21:a0:e3:fd:bf in PMKID cache at index 0 of station 1c:e6:2b:cd:da:9d

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Removing BSSID 00:21:a0:e3:fd:bf from
PMKID cache of station 1c:e6:2b:cd:da:9d

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Resetting MSCB PMK Cache Entry 0 for
station 1c:e6:2b:cd:da:9d

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Setting active key cache index 0 ---> 8

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Deleting the PMK cache when de-
authenticating the client.

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Global PMK Cache deletion failed.

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d apfMsAssoStateDec

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d apfMsExpireMobileStation (apf_ms.c:6764)
Changing state for mobile 1c:e6:2b:cd:da:9d on AP 00:21:a0:e3:fd:b0 from Disassociated to Idle

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d pemApfDeleteMobileStation2:
APF_MS_PEM_WAIT_L2_AUTH_COMPLETE = 0.

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d 192.168.165.31 START (0) Deleted mobile
LWAPP rule on AP [00:21:a0:e3:fd:b0]

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d Deleting mobile on AP
00:21:a0:e3:fd:b0(1)

***pemReceiveTask: Jan 30 21:33:15.377: 1c:e6:2b:cd:da:9d 192.168.165.31 Removed NPU entry.**

*apfMsConnTask_7: Jan 30 21:33:23.890: 1c:e6:2b:cd:da:9d Adding mobile on LWAPP AP
00:21:a0:e3:fd:b0(1)

No client activity for > 7 sec due to fat-ssid change disabled *apfMsConnTask_7: Jan 30

21:33:23.890: 1c:e6:2b:cd:da:9d Association received from mobile on BSSID 00:21:a0:e3:fd:bf

*apfMsConnTask_7: Jan 30 21:33:23.890: 1c:e6:2b:cd:da:9d Global 200 Clients are allowed to AP

radio <Snip> ***apfMsConnTask_7: Jan 30 21:33:23.891: 1c:e6:2b:cd:da:9d Sending Assoc Response to
station on BSSID 00:21:a0:e3:fd:bf (status 0) ApVapId 1 Slot 1**

*apfMsConnTask_7: Jan 30 21:33:23.892: 1c:e6:2b:cd:da:9d apfProcessAssocReq (apf_80211.c:8292)
Changing state for mobile 1c:e6:2b:cd:da:9d on AP 00:21:a0:e3:fd:b0 from Associated to
Associated

方案16 : 在LDAP失败的客户端验证

调试运行

debug aaa ldap enable (event)

(jk-2504-116) >debug client 1c:e6:2b:cd:da:9d

(jk-2504-116) >***apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Association received from mobile on BSSID 00:21:a0:e3:fd:be**

Apple Client initiating switch from one wlan to another. *apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Global 200 Clients are allowed to AP radio *apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Max Client Trap Threshold: 0 cur: 1 *apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Rf profile 600 Clients are allowed to AP wlan ***apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Deleting client immediately since WLAN has changed //WLC removing apple client from original WLAN**

*apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Scheduling deletion of Mobile Station: (callerId: 50) in 1 seconds

*osapiBsnTimer: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d apfMsExpireCallback (apf_ms.c:625) Expiring Mobile!

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d apfMsExpireMobileStation (apf_ms.c:6632) Changing state for mobile 1c:e6:2b:cd:da:9d on AP 00:21:a0:e3:fd:b0 from Associated to Disassociated

***apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Sent Deauthenticate to mobile on BSSID 00:21:a0:e3:fd:b0 slot 1(caller apf_ms.c:6726)**

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Found an cache entry for BSSID 00:21:a0:e3:fd:bf in PMKID cache at index 0 of station 1c:e6:2b:cd:da:9d

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Removing BSSID 00:21:a0:e3:fd:bf from PMKID cache of station 1c:e6:2b:cd:da:9d

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Resetting MSCB PMK Cache Entry 0 for station 1c:e6:2b:cd:da:9d

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Setting active key cache index 0 ---> 8

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Deleting the PMK cache when de-authenticating the client.

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Global PMK Cache deletion failed.

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d apfMsAssoStateDec

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d apfMsExpireMobileStation (apf_ms.c:6764) Changing state for mobile 1c:e6:2b:cd:da:9d on AP 00:21:a0:e3:fd:b0 from Disassociated to Idle

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d pemApfDeleteMobileStation2: APF_MS_PEM_WAIT_L2_AUTH_COMPLETE = 0.

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d 192.168.165.31 START (0) Deleted mobile LWAPP rule on AP [00:21:a0:e3:fd:b0]

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d Deleting mobile on AP 00:21:a0:e3:fd:b0(1)

***pemReceiveTask: Jan 30 21:33:15.377: 1c:e6:2b:cd:da:9d 192.168.165.31 Removed NPU entry.**

```
*apfMsConnTask_7: Jan 30 21:33:23.890: 1c:e6:2b:cd:da:9d Adding mobile on LWAPP AP
00:21:a0:e3:fd:b0(1)
No client activity for > 7 sec due to fat-ssid change disabled *apfMsConnTask_7: Jan 30
21:33:23.890: 1c:e6:2b:cd:da:9d Association received from mobile on BSSID 00:21:a0:e3:fd:bf
*apfMsConnTask_7: Jan 30 21:33:23.890: 1c:e6:2b:cd:da:9d Global 200 Clients are allowed to AP
radio <Snip> *apfMsConnTask_7: Jan 30 21:33:23.891: 1c:e6:2b:cd:da:9d Sending Assoc Response to
station on BSSID 00:21:a0:e3:fd:bf (status 0) ApVapId 1 Slot 1

*apfMsConnTask_7: Jan 30 21:33:23.892: 1c:e6:2b:cd:da:9d apfProcessAssocReq (apf_80211.c:8292)
Changing state for mobile 1c:e6:2b:cd:da:9d on AP 00:21:a0:e3:fd:b0 from Associated to
Associated
```

[解决方法](#)

检查LDAP服务器拒绝原因。

方案17：客户端关联问题由于LDAP在WLC被不正确配置

调试运行了

debug aaa ldap enable (event)

```
(jk-2504-116) >debug client 1c:e6:2b:cd:da:9d
```

```
(jk-2504-116) >*apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Association received
from mobile on BSSID 00:21:a0:e3:fd:be
Apple Client initiating switch from one wlan to another. *apfMsConnTask_7: Jan 30 21:33:14.544:
1c:e6:2b:cd:da:9d Global 200 Clients are allowed to AP radio *apfMsConnTask_7: Jan 30
21:33:14.544: 1c:e6:2b:cd:da:9d Max Client Trap Threshold: 0 cur: 1 *apfMsConnTask_7: Jan 30
21:33:14.544: 1c:e6:2b:cd:da:9d Rf profile 600 Clients are allowed to AP wlan *apfMsConnTask_7:
Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Deleting client immediately since WLAN has changed //WLC
removing apple client from original WLAN

*apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Scheduling deletion of Mobile Station:
(callerId: 50) in 1 seconds

*osapiBsnTimer: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d apfMsExpireCallback (apf_ms.c:625)
Expiring Mobile!

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d apfMsExpireMobileStation (apf_ms.c:6632)
Changing state for mobile 1c:e6:2b:cd:da:9d on AP 00:21:a0:e3:fd:b0 from Associated to
Disassociated

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Sent Deauthenticate to mobile on BSSID
00:21:a0:e3:fd:b0 slot 1(caller apf_ms.c:6726)

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Found an cache entry for BSSID
00:21:a0:e3:fd:bf in PMKID cache at index 0 of station 1c:e6:2b:cd:da:9d

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Removing BSSID 00:21:a0:e3:fd:bf from
PMKID cache of station 1c:e6:2b:cd:da:9d

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Resetting MSCB PMK Cache Entry 0 for
station 1c:e6:2b:cd:da:9d
```

```

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Setting active key cache index 0 ---> 8
*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Deleting the PMK cache when de-
authenticating the client.
*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Global PMK Cache deletion failed.
*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d apfMsAssoStateDec
*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d apfMsExpireMobileStation (apf_ms.c:6764)
Changing state for mobile 1c:e6:2b:cd:da:9d on AP 00:21:a0:e3:fd:b0 from Disassociated to Idle

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d pemApfDeleteMobileStation2:
APF_MS_PEM_WAIT_L2_AUTH_COMPLETE = 0.

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d 192.168.165.31 START (0) Deleted mobile
LWAPP rule on AP [00:21:a0:e3:fd:b0]

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d Deleting mobile on AP
00:21:a0:e3:fd:b0(1)

*pemReceiveTask: Jan 30 21:33:15.377: 1c:e6:2b:cd:da:9d 192.168.165.31 Removed NPU entry.

*apfMsConnTask_7: Jan 30 21:33:23.890: 1c:e6:2b:cd:da:9d Adding mobile on LWAPP AP
00:21:a0:e3:fd:b0(1)
No client activity for > 7 sec due to fat-ssid change disabled *apfMsConnTask_7: Jan 30
21:33:23.890: 1c:e6:2b:cd:da:9d Association received from mobile on BSSID 00:21:a0:e3:fd:bf
*apfMsConnTask_7: Jan 30 21:33:23.890: 1c:e6:2b:cd:da:9d Global 200 Clients are allowed to AP
radio <Snip> *apfMsConnTask_7: Jan 30 21:33:23.891: 1c:e6:2b:cd:da:9d Sending Assoc Response to
station on BSSID 00:21:a0:e3:fd:bf (status 0) ApVapId 1 Slot 1

*apfMsConnTask_7: Jan 30 21:33:23.892: 1c:e6:2b:cd:da:9d apfProcessAssocReq (apf_80211.c:8292)
Changing state for mobile 1c:e6:2b:cd:da:9d on AP 00:21:a0:e3:fd:b0 from Associated to
Associated

```

[解决方法](#)

验证在client/WLC和LDAP服务器间的凭证。

方案18：客户端关联问题，当LDAP服务器是不可得到的

调试运行了

debug aaa ldap enable (event)

```
(jk-2504-116) >debug client 1c:e6:2b:cd:da:9d
```

```

(jk-2504-116) >*apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Association received
from mobile on BSSID 00:21:a0:e3:fd:be
Apple Client initiating switch from one wlan to another. *apfMsConnTask_7: Jan 30 21:33:14.544:
1c:e6:2b:cd:da:9d Global 200 Clients are allowed to AP radio *apfMsConnTask_7: Jan 30
21:33:14.544: 1c:e6:2b:cd:da:9d Max Client Trap Threshold: 0 cur: 1 *apfMsConnTask_7: Jan 30
21:33:14.544: 1c:e6:2b:cd:da:9d Rf profile 600 Clients are allowed to AP wlan *apfMsConnTask_7:
Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Deleting client immediately since WLAN has changed //WLC
removing apple client from original WLAN

```

*apfMsConnTask_7: Jan 30 21:33:14.544: 1c:e6:2b:cd:da:9d Scheduling deletion of Mobile Station: (callerId: 50) in 1 seconds

*osapiBsnTimer: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d apfMsExpireCallback (apf_ms.c:625) Expiring Mobile!

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d apfMsExpireMobileStation (apf_ms.c:6632) Changing state for mobile 1c:e6:2b:cd:da:9d on AP 00:21:a0:e3:fd:b0 from Associated to Disassociated

***apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Sent Deauthenticate to mobile on BSSID 00:21:a0:e3:fd:b0 slot 1(caller apf_ms.c:6726)**

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Found an cache entry for BSSID 00:21:a0:e3:fd:bf in PMKID cache at index 0 of station 1c:e6:2b:cd:da:9d

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Removing BSSID 00:21:a0:e3:fd:bf from PMKID cache of station 1c:e6:2b:cd:da:9d

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Resetting MSCB PMK Cache Entry 0 for station 1c:e6:2b:cd:da:9d

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Setting active key cache index 0 ---> 8

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Deleting the PMK cache when de-authenticating the client.

*apfReceiveTask: Jan 30 21:33:15.375: 1c:e6:2b:cd:da:9d Global PMK Cache deletion failed.

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d apfMsAssoStateDec

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d apfMsExpireMobileStation (apf_ms.c:6764) Changing state for mobile 1c:e6:2b:cd:da:9d on AP 00:21:a0:e3:fd:b0 from Disassociated to Idle

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d pemApfDeleteMobileStation2: APF_MS_PEM_WAIT_L2_AUTH_COMPLETE = 0.

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d 192.168.165.31 START (0) Deleted mobile LWAPP rule on AP [00:21:a0:e3:fd:b0]

*apfReceiveTask: Jan 30 21:33:15.376: 1c:e6:2b:cd:da:9d Deleting mobile on AP 00:21:a0:e3:fd:b0(1)

***pemReceiveTask: Jan 30 21:33:15.377: 1c:e6:2b:cd:da:9d 192.168.165.31 Removed NPU entry.**

*apfMsConnTask_7: Jan 30 21:33:23.890: 1c:e6:2b:cd:da:9d Adding mobile on LWAPP AP 00:21:a0:e3:fd:b0(1)

No client activity for > 7 sec due to fat-ssid change disabled *apfMsConnTask_7: Jan 30 21:33:23.890: 1c:e6:2b:cd:da:9d Association received from mobile on BSSID 00:21:a0:e3:fd:bf

*apfMsConnTask_7: Jan 30 21:33:23.890: 1c:e6:2b:cd:da:9d Global 200 Clients are allowed to AP radio <Snip> ***apfMsConnTask_7: Jan 30 21:33:23.891: 1c:e6:2b:cd:da:9d Sending Assoc Response to station on BSSID 00:21:a0:e3:fd:bf (status 0) ApVapId 1 Slot 1**

*apfMsConnTask_7: Jan 30 21:33:23.892: 1c:e6:2b:cd:da:9d apfProcessAssocReq (apf_80211.c:8292) Changing state for mobile 1c:e6:2b:cd:da:9d on AP 00:21:a0:e3:fd:b0 from Associated to Associated

[解决方法](#)

检查WLC和LDAP服务器网络连通性问题。

方案19：漫游问题的苹果公司客户端由于未命中粘贴漫游配置

条件

AIR-CT5508-K9/7.4.100.0

苹果公司设备从使用以下的无线网络断开：

WPA2策略

WPA2加密AES

启用的验证802.1X

认证和授权通过思科ISE

苹果公司设备从广播的SSID周期地将断开。当另一个电话在同一个位置将依然是已连接时，示例是IP电话将丢弃。所以，随机地发生(时间和电话)

笔记本电脑客户端没有问题。他们连接对同样SSID

此问题在正常操作时发生，没有漫游，没有备用模式。

WLAN已经删除可能导致问题的所有可能的设置(Aironet ext)

调试运行了

调试客户端<mac addr>

```
*apfMsConnTask_5: Jun 11 16:12:56.342: f0:d1:a9:bb:2d:fa Received RSN IE with 0 PMKIDs from mobile f0:d1:a9:bb:2d:fa
```

At 16:12:56 in the debugs we see a client re-association. From there the AP is expecting the client to present its old PMKID (Pairwise Master Key Identifiers).

At this point it doesn't! From the above message the AP/WLC didn't receive a PMKID from the iPhone.

This is kind of expected from this type of client.

Apple devices do not use the opportunistic key caching which allows clients to use the SAME PMKID at all Aps.

Apple devices use a key cache method of Sticky Key Caching.

This in turn means that the client has to build a PMKID at EACH AP in order to successfully roam to the AP.

As we can see the client didn't present a PMKID to use so we sent it through layer 2 security/EAP again.

The client then hits a snag in the EAP process where the client fails to respond to the EAP ID or request for credentials until the second attempt

```
*dot1xMsgTask: Jun 11 16:12:56.345:
```

```
f0:d1:a9:bb:2d:fa Sending EAP-Request/Identity to mobile f0:d1:a9:bb:2d:fa (EAP Id 1)
```

```
*osapiBsnTimer: Jun 11 16:13:26.288: f0:d1:a9:bb:2d:fa 802.1x 'txWhen' Timer expired for station f0:d1:a9:bb:2d:fa and for message = M0 After this snag the client is allowed back onto the network all in approx. 1.5 seconds.
```

This is going to be normal and EXPECTED behavior currently with Sticky key cache clients.

[解决方法](#)

什么我们能为有SKC的客户当前执行(粘贴关键高速缓冲存储)客户端并且有WLC代码7.2和更加高是enable (event)漫游SKC的(粘贴关键缓存)支持。

默认情况下仅WLC支持OKC (机会主义的关键高速缓冲存储)。为了允许客户端使用它生成在每个AP的其旧有PMKIDs我们必须通过WLC CLI启用它。

设置WLAN安全WPA wpa2缓存粘贴enable (event) <1>

请记住此不会改善初始漫游由于SKC的本质;然而,它将改进随后漫游对同样Aps (8由书)。步行沿着向下与8 Aps的一楼道的Imagine。第一个初排将包括全双工associations在与大约1-2秒滞后的每个AP。当您到达末端并且走一步客户端将提交8唯一PMKIDs,当移动回到同样Aps,并且不会必须通过一全双工验证,如果SKC支持启用。因而删除滞后和客户端将看上去坚持已连接。

方案20 : 正在验证的法塞特安全漫游(FSR)与CCKM

<http://www.cisco.com/c/en/us/support/docs/wireless-mobility/wireless-lan-wlan/116493-technote-technology-00.html>

调试运行

调试客户端<mac addr>

```
*apfMsConnTask_2: Jun 25 15:43:33.749: 00:40:96:b7:ab:5c CCKM: Received REASSOC REQ IE
*apfMsConnTask_2: Jun 25 15:43:33.749: 00:40:96:b7:ab:5c Reassociation received from mobile on
BSSID 84:78:ac:f0:2a:93
*apfMsConnTask_2: Jun 25 15:43:33.750: 00:40:96:b7:ab:5c

Processing WPA IE type 221, length 22 for mobile 00:40:96:b7:ab:5c
*apfMsConnTask_2: Jun 25 15:43:33.750: 00:40:96:b7:ab:5c
CCKM: Mobile is using CCKM
The Reassociation Request is received from the client, which provides the CCKM information
needed in order to derive the new keys with a fast-secure roam. *apfMsConnTask_2: Jun 25
15:43:33.750: 00:40:96:b7:ab:5c Setting active key cache index 0 ---> 8 *apfMsConnTask_2: Jun 25
15:43:33.750: 00:40:96:b7:ab:5c CCKM: Processing REASSOC REQ IE *apfMsConnTask_2: Jun 25
15:43:33.750: 00:40:96:b7:ab:5c CCKM: using HMAC MD5 to compute MIC
WLC computes the MIC used for this CCKM fast-roaming exchange. *apfMsConnTask_2: Jun 25
15:43:33.750: 00:40:96:b7:ab:5c CCKM: Received a valid REASSOC REQ IE *apfMsConnTask_2: Jun 25
15:43:33.751: 00:40:96:b7:ab:5c CCKM: Initializing PMK cache entry with a new PTK
The new PTK is derived. *apfMsConnTask_2: Jun 25 15:43:33.751: 00:40:96:b7:ab:5c Setting active
key cache index 8 ---> 8 *apfMsConnTask_2: Jun 25 15:43:33.751: 00:40:96:b7:ab:5c Setting active
key cache index 8 ---> 8 *apfMsConnTask_2: Jun 25 15:43:33.751: 00:40:96:b7:ab:5c Setting active
key cache index 8 ---> 0 *apfMsConnTask_2: Jun 25 15:43:33.751: 00:40:96:b7:ab:5c Creating a PKC
PMKID Cache entry for station 00:40:96:b7:ab:5c (RSN 0) on BSSID 84:78:ac:f0:2a:93
The new PMKID cache entry is created for this new AP-to-client association. *apfMsConnTask_2:
Jun 25 15:43:33.751: 00:40:96:b7:ab:5c CCKM: using HMAC MD5 to compute MIC *apfMsConnTask_2: Jun
25 15:43:33.751: 00:40:96:b7:ab:5c Including CCKM Response IE (length 62) in Assoc Resp to
mobile *apfMsConnTask_2: Jun 25 15:43:33.751: 00:40:96:b7:ab:5c Sending Assoc Response to
station on BSSID 84:78:ac:f0:2a:93 (status 0) ApVapId 4 Slot 0
The Reassociation Response is sent from the WLC/AP to the client, which includes the CCKM
information required in order to confirm the new fast-roam and key derivation. *dot1xMsgTask:
Jun 25 15:43:33.757: 00:40:96:b7:ab:5c Skipping EAP-Success to mobile 00:40:96:b7:ab:5c
EAP is skipped due to the fast roaming, and CCKM does not require further key handshakes. The
client is now ready to pass encrypted data frames on the new AP.
```

如显示的,法塞特安全漫游执行,当避免EAP验证帧和更加4方式握手,因为新的加密密钥仍然派生时,但是根据CCKM协商方案。这完成与客户端和WLC和信息早先缓存的漫游再聚集帧。

方案21 : 正在验证的法塞特安全漫游(FSR)与WPA2 PMKID高速缓冲存储

调试运行了

调试客户端<mac addr>

```
*apfMsConnTask_0: Jun 22 00:26:40.787: ec:85:2f:15:39:32 Reassociation received from mobile on BSSID 84:78:ac:f0:68:d2
This is the Reassociation Request from the client. *apfMsConnTask_0: Jun 22 00:26:40.787: ec:85:2f:15:39:32 Processing RSN IE type 48, length 38 for mobile ec:85:2f:15:39:32
The WLC/AP finds an Information Element that claims PMKID Caching support on the Association request that is sent from the client. *apfMsConnTask_0: Jun 22 00:26:40.787: ec:85:2f:15:39:32 Received RSN IE with 1 PMKIDs from mobile ec:85:2f:15:39:32
The Reassociation Request from the client comes with one PMKID. *apfMsConnTask_0: Jun 22 00:26:40.787: Received PMKID: (16) *apfMsConnTask_0: Jun 22 00:26:40.788: [0000] c9 4d 0d 97 03 aa a9 0f 1b c8 33 73 01 f1 18 f5 This is the PMKID that is received *apfMsConnTask_0: Jun 22 00:26:40.788: ec:85:2f:15:39:32 Searching for PMKID in MSCB PMKID cache for mobile ec:85:2f:15:39:32
WLC searches for a matching PMKID on the database. *apfMsConnTask_0: Jun 22 00:26:40.788: ec:85:2f:15:39:32 Found an cache entry for BSSID 84:78:ac:f0:68:d2 in PMKID cache at index 0 of station ec:85:2f:15:39:32 *apfMsConnTask_0: Jun 22 00:26:40.788: ec:85:2f:15:39:32 Found a valid PMKID in the MSCB PMKID cache for mobile ec:85:2f:15:39:32
The WLC validates the PMKID provided by the client, and confirms that it has a valid PMK cache for this client-and-AP pair. *apfMsConnTask_0: Jun 22 00:26:40.788: ec:85:2f:15:39:32 Setting active key cache index 1 ---> 0 *apfMsConnTask_0: Jun 22 00:26:40.788: ec:85:2f:15:39:32 Sending Assoc Response to station on BSSID 84:78:ac:f0:68:d2(status 0) ApVapId 3 Slot 0
The Reassociation Response is sent to the client, which validates the fast-roam with SKC.
*dot1xMsgTask: Jun 22 00:26:40.795: ec:85:2f:15:39:32 Initiating RSN with existing PMK to mobile ec:85:2f:15:39:32
WLC initiates a Robust Secure Network association with this client-and-AP pair based on the cached PMK found. Hence, EAP is avoided as per the next message. *dot1xMsgTask: Jun 22 00:26:40.795: ec:85:2f:15:39:32 Skipping EAP-Success to mobile ec:85:2f:15:39:32 *dot1xMsgTask: Jun 22 00:26:40.795: ec:85:2f:15:39:32 Found an cache entry for BSSID 84:78:ac:f0:68:d2 in PMKID cache at index 0 of station ec:85:2f:15:39:32 *dot1xMsgTask: Jun 22 00:26:40.795: Including PMKID in M1(16)
The hashed PMKID is included on the Message-1 of the WPA/WPA2 4-Way handshake. *dot1xMsgTask: Jun 22 00:26:40.795: [0000] c9 4d 0d 97 03 aa a9 0f 1b c8 33 73 01 f1 18 f5 The PMKID is hashed.
The next messages are the same WPA/WPA2 4-Way handshake messages described thus far that are used in order to finish the encryption keys generation/installation. *dot1xMsgTask: Jun 22 00:26:40.795: ec:85:2f:15:39:32 Sending EAPOL-Key Message to mobile ec:85:2f:15:39:32 state INITPMK (message 1), replay counter 00.00.00.00.00.00.00.00.00 *Dot1x_NW_MsgTask_2: Jun 22 00:26:40.811: ec:85:2f:15:39:32 Received EAPOL-Key from mobile ec:85:2f:15:39:32
*Dot1x_NW_MsgTask_2: Jun 22 00:26:40.812: ec:85:2f:15:39:32 Received EAPOL-key in PTK_START state (message 2) from mobile ec:85:2f:15:39:32 *Dot1x_NW_MsgTask_2: Jun 22 00:26:40.812: ec:85:2f:15:39:32 PMK: Sending cache add *Dot1x_NW_MsgTask_2: Jun 22 00:26:40.812: ec:85:2f:15:39:32 Sending EAPOL-Key Message to mobile ec:85:2f:15:39:32 state PTKINITNEGOTIATING (message 3), replay counter 00.00.00.00.00.00.00.00.01 *Dot1x_NW_MsgTask_2: Jun 22 00:26:40.820: ec:85:2f:15:39:32 Received EAPOL-Key from mobile ec:85:2f:15:39:32 *Dot1x_NW_MsgTask_2: Jun 22 00:26:40.820: ec:85:2f:15:39:32 Received EAPOL-key in PTKINITNEGOTIATING state (message 4) from mobile ec:85:2f:15:39:32
```

方案22 : 正在验证的法塞特安全漫游与积极的关键高速缓冲存储

调试运行了

调试客户端<mac addr>

```
*apfMsConnTask_2: Jun 21 21:48:50.562: 00:40:96:b7:ab:5c Reassociation received from mobile on BSSID 84:78:ac:f0:2a:92
This is the Reassociation Request from the client. *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c Processing RSN IE type 48, length 38 for mobile 00:40:96:b7:ab:5c The WLC/AP
```

finds and Information Element that claims PMKID Caching support on the Association request that is sent from the client. *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c Received RSN IE with 1 PMKIDs from mobile 00:40:96:b7:ab:5c The Reassociation Request from the client comes with one PMKID. *apfMsConnTask_2: Jun 21 21:48:50.563:Received PMKID: (16) *apfMsConnTask_2: Jun 21 21:48:50.563: [0000] 91 65 c3 fb fc 44 75 48 67 90 d5 da df aa 71 e9 *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c Searching for PMKID in MSCB PMKID cache for mobile 00:40:96:b7:ab:5c *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c No valid PMKID found in the MSCB PMKID cache for mobile 00:40:96:b7:ab:5 As the client has never authenticated with this new AP, the WLC cannot find a valid PMKID to match the one provided by the client. However, since the client performs PKC/OKC and not SKC (as per the following messages), the WLC computes a new PMKID based on the information gathered (the cached PMK,the client MAC address, and the new AP MAC address). *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c Trying to compute a PMKID from MSCB PMK cache for mobile 00:40:96:b7:ab:5c *apfMsConnTask_2: Jun 21 21:48:50.563: CCKM: Find PMK in cache: BSSID = (6) *apfMsConnTask_2: Jun 21 21:48:50.563: [0000] 84 78 ac f0 2a 90 *apfMsConnTask_2: Jun 21 21:48:50.563: CCKM: Find PMK in cache: realAA = (6) *apfMsConnTask_2: Jun 21 21:48:50.563: [0000] 84 78 ac f0 2a 92 *apfMsConnTask_2: Jun 21 21:48:50.563: CCKM: Find PMK in cache: PMKID = (16) *apfMsConnTask_2: Jun 21 21:48:50.563: [0000] 91 65 c3 fb fc 44 75 48 67 90 d5 da df aa 71 e9 *apfMsConnTask_2: Jun 21 21:48:50.563: CCKM: AA (6) *apfMsConnTask_2: Jun 21 21:48:50.563: [0000] 84 78 ac f0 2a 92 *apfMsConnTask_2: Jun 21 21:48:50.563: CCKM: SPA (6) *apfMsConnTask_2: Jun 21 21:48:50.563: [0000] 00 40 96 b7 ab 5c *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c Adding BSSID 84:78:ac:f0:2a:92 to PMKID cache at index 0 for station 00:40:96:b7:ab:5c *apfMsConnTask_2: Jun 21 21:48:50.563: New PMKID: (16) *apfMsConnTask_2: Jun 21 21:48:50.563:[0000] 91 65 c3 fb fc 44 75 48 67 90 d5 da df aa 71 e9 *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c Computed a valid PMKID from MSCB PMK cache for mobile 00:40:96:b7:ab:5c The new PMKID is computed and validated to match the one provided by the client, which is also computed with the same information. Hence, the fast-secure roam is possible. *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c Setting active key cache index 0 ---> 0 *apfMsConnTask_2: Jun 21 21:48:50.564: 00:40:96:b7:ab:5c Sending Assoc Response to station on BSSID 84:78:ac:f0:2a:92 (status 0) ApVapId 3 Slot The Reassociation response is sent to the client, which validates the fast-roam with PKC/OKC. *dot1xMsgTask: Jun 21 21:48:50.570: 00:40:96:b7:ab:5c Initiating RSN with existing PMK to mobile 00:40:96:b7:ab:5c WLC initiates a Robust Secure Network association with this client-and AP pair with the cached PMK found. Hence, EAP is avoided, as per the the next message. *dot1xMsgTask: Jun 21 21:48:50.570: 00:40:96:b7:ab:5c Skipping EAP-Success to mobile 00:40:96:b7:ab:5c *dot1xMsgTask: Jun 21 21:48:50.570: 00:40:96:b7:ab:5c Found an cache entry for BSSID 84:78:ac:f0:2a:92 in PMKID cache at index 0 of station 00:40:96:b7:ab:5c *dot1xMsgTask: Jun 21 21:48:50.570: Including PMKID in M1 (16) The hashed PMKID is included on the Message-1 of the WPA/WPA2 4-Way handshake. *dot1xMsgTask: Jun 21 21:48:50.570: [0000] 91 65 c3 fb fc 44 75 48 67 90 d5 da df aa 71 e9 The PMKID is hashed. The next messages are the same WPA/WPA2 4-Way handshake messages described thus far, which are used in order to finish the encryption keys generation/installation. *dot1xMsgTask: Jun 21 21:48:50.570: 00:40:96:b7:ab:5c Sending EAPOL-Key Message to mobile 00:40:96:b7:ab:5c state INITPMK (message 1), replay counter 00.00.00.00.00.00.00.00 *Dot1x_NW_MsgTask_4: Jun 21 21:48:50.589: 00:40:96:b7:ab:5 Received EAPOL-Key from mobile 00:40:96:b7:ab:5c *Dot1x_NW_MsgTask_4: Jun 21 21:48:50.589: 00:40:96:b7:ab:5c Received EAPOL-key in PTK_START state (message 2) from mobile 00:40:96:b7:ab:5c *Dot1x_NW_MsgTask_4: Jun 21 21:48:50.589: 00:40:96:b7:ab:5cPMK: Sending cache add *Dot1x_NW_MsgTask_4: Jun 21 21:48:50.590: 00:40:96:b7:ab:5c Sending EAPOL-Key Message to mobile 00:40:96:b7:ab:5c state PTKINITNEGOTIATING (message 3), replay counter 00.00.00.00.00.00.00.01 *Dot1x_NW_MsgTask_4: Jun 21 21:48:50.610: 00:40:96:b7:ab:5c Received EAPOL-Key from mobile 00:40:96:b7:ab:5c *Dot1x_NW_MsgTask_4: Jun 21 21:48:50.610: 00:40:96:b7:ab:5c Received EAPOL-key in PTKINITNEGOTIATING state (message 4) from mobile 00:40:96:b7:ab:5c

PMKID，在从客户端的再聚集请求接收后，如显示在调试初，必须计算。这是需要的为了验证PMKID和确认被缓存的PMK与WPA2 4方式握手一起使用派生加密密钥和完成法塞特安全漫游。请勿混淆在调试的CCKM条目;这没有用于为了执行CCKM，然而PKC/OKC，如以前解释。此处CCKM是WLC的名称用于那些输出，例如处理值为了计算PMKID功能的名称。

方案23：正在验证的法塞特安全漫游(FSR)与802.11r

调试运行

调试客户端<mac addr>

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*apfMsConnTask_2: Jun 21 21:48:50.562: 00:40:96:b7:ab:5c Reassociation received from mobile on BSSID 84:78:ac:f0:2a:92  
This is the Reassociation Request from the client. *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c Processing RSN IE type 48, length 38 for mobile 00:40:96:b7:ab:5c The WLC/AP finds and Information Element that claims PMKID Caching support on the Association request that is sent from the client. *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c Received RSN IE with 1 PMKIDS from mobile 00:40:96:b7:ab:5c The Reassociation Request from the client comes with one PMKID. *apfMsConnTask_2: Jun 21 21:48:50.563:Received PMKID: (16) *apfMsConnTask_2: Jun 21 21:48:50.563: [0000] 91 65 c3 fb fc 44 75 48 67 90 d5 da df aa 71 e9 *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c Searching for PMKID in MSCB PMKID cache for mobile 00:40:96:b7:ab:5c *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c No valid PMKID found in the MSCB PMKID cache for mobile 00:40:96:b7:ab:5 As the client has never authenticated with this new AP, the WLC cannot find a valid PMKID to match the one provided by the client. However, since the client performs PKC/OKC and not SKC (as per the following messages), the WLC computes a new PMKID based on the information gathered (the cached PMK,the client MAC address, and the new AP MAC address). *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c Trying to compute a PMKID from MSCB PMK cache for mobile 00:40:96:b7:ab:5c *apfMsConnTask_2: Jun 21 21:48:50.563: CCKM: Find PMK in cache: BSSID = (6) *apfMsConnTask_2: Jun 21 21:48:50.563: [0000] 84 78 ac f0 2a 90 *apfMsConnTask_2: Jun 21 21:48:50.563: CCKM: Find PMK in cache: realAA = (6) *apfMsConnTask_2: Jun 21 21:48:50.563: [0000] 84 78 ac f0 2a 92 *apfMsConnTask_2: Jun 21 21:48:50.563: CCKM: Find PMK in cache: PMKID = (16) *apfMsConnTask_2: Jun 21 21:48:50.563: [0000] 91 65 c3 fb fc 44 75 48 67 90 d5 da df aa 71 e9 *apfMsConnTask_2: Jun 21 21:48:50.563: CCKM: AA (6) *apfMsConnTask_2: Jun 21 21:48:50.563: [0000] 84 78 ac f0 2a 92 *apfMsConnTask_2: Jun 21 21:48:50.563: CCKM: SPA (6) *apfMsConnTask_2: Jun 21 21:48:50.563: [0000] 00 40 96 b7 ab 5c *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c Adding BSSID 84:78:ac:f0:2a:92 to PMKID cache at index 0 for station 00:40:96:b7:ab:5c *apfMsConnTask_2: Jun 21 21:48:50.563: New PMKID: (16) *apfMsConnTask_2: Jun 21 21:48:50.563:[0000] 91 65 c3 fb fc 44 75 48 67 90 d5 da df aa 71 e9 *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c Computed a valid PMKID from MSCB PMK cache for mobile 00:40:96:b7:ab:5c The new PMKID is computed and validated to match the one provided by the client, which is also computed with the same information. Hence, the fast-secure roam is possible. *apfMsConnTask_2: Jun 21 21:48:50.563: 00:40:96:b7:ab:5c Setting active key cache index 0 ---> 0 *apfMsConnTask_2: Jun 21 21:48:50.564: 00:40:96:b7:ab:5c Sending Assoc Response to station on BSSID 84:78:ac:f0:2a:92 (status 0) ApVapId 3 Slot The Reassociation response is sent to the client, which validates the fast-roam with PKC/OKC. *dot1xMsgTask: Jun 21 21:48:50.570: 00:40:96:b7:ab:5c Initiating RSN with existing PMK to mobile 00:40:96:b7:ab:5c WLC initiates a Robust Secure Network association with this client-and AP pair with the cached PMK found. Hence, EAP is avoided, as per the the next message. *dot1xMsgTask: Jun 21 21:48:50.570: 00:40:96:b7:ab:5c Skipping EAP-Success to mobile 00:40:96:b7:ab:5c *dot1xMsgTask: Jun 21 21:48:50.570: 00:40:96:b7:ab:5c Found an cache entry for BSSID 84:78:ac:f0:2a:92 in PMKID cache at index 0 of station 00:40:96:b7:ab:5c *dot1xMsgTask: Jun 21 21:48:50.570: Including PMKID in M1 (16) The hashed PMKID is included on the Message-1 of the WPA/WPA2 4-Way handshake. *dot1xMsgTask: Jun 21 21:48:50.570: [0000] 91 65 c3 fb fc 44 75 48 67 90 d5 da df aa 71 e9 The PMKID is hashed. The next messages are the same WPA/WPA2 4-Way handshake messages described thus far, which are used in order to finish the encryption keys generation/installation. *dot1xMsgTask: Jun 21 21:48:50.570: 00:40:96:b7:ab:5c Sending EAPOL-Key Message to mobile 00:40:96:b7:ab:5c state INITPMK (message 1), replay counter 00.00.00.00.00.00.00.00.00 *Dot1x_NW_MsgTask_4: Jun 21 21:48:50.589: 00:40:96:b7:ab:5 Received EAPOL-Key from mobile 00:40:96:b7:ab:5c *Dot1x_NW_MsgTask_4: Jun 21 21:48:50.589: 00:40:96:b7:ab:5c Received EAPOL-key in PTK_START state (message 2) from mobile 00:40:96:b7:ab:5c *Dot1x_NW_MsgTask_4: Jun 21 21:48:50.589: 00:40:96:b7:ab:5cPMK: Sending cache add *Dot1x_NW_MsgTask_4: Jun 21 21:48:50.590: 00:40:96:b7:ab:5c Sending EAPOL-Key Message to mobile 00:40:96:b7:ab:5c state PTKINITNEGOTIATING (message 3), replay counter 00.00.00.00.00.00.00.00.01 *Dot1x_NW_MsgTask_4: Jun 21 21:48:50.610: 00:40:96:b7:ab:5c Received EAPOL-Key from mobile 00:40:96:b7:ab:5c *Dot1x_NW_MsgTask_4: Jun 21 21:48:50.610: 00:40:96:b7:ab:5c Received EAPOL-key in PTKINITNEGOTIATING state (message 4) from mobile 00:40:96:b7:ab:5c
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