

- Cisco Wireless LAN Controller 5760 Release 3.2.2 (Next Generation Wiring Closet [NGWC])
- Cisco 3602 Series Lightweight Access Point
- Microsoft Windows XP with Intel PROset Supplicant
- Cisco Secure Access Control Server Release 5.2
- Cisco Catalyst 3560 Series Switch

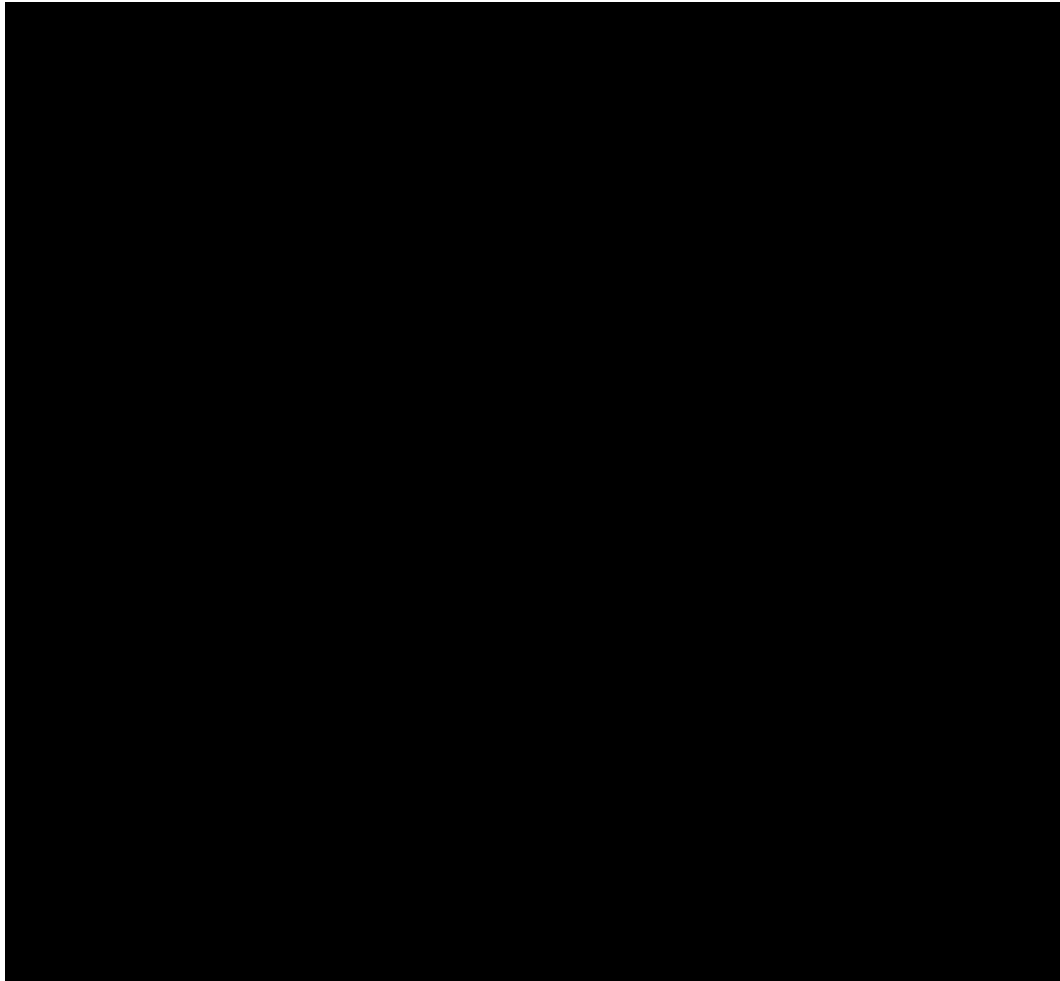
The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, make sure that you understand the potential impact of any command.

Configure

Note: Use the Command Lookup Tool (registered customers only) in order to obtain more information on the commands used in this section.

Network Diagram

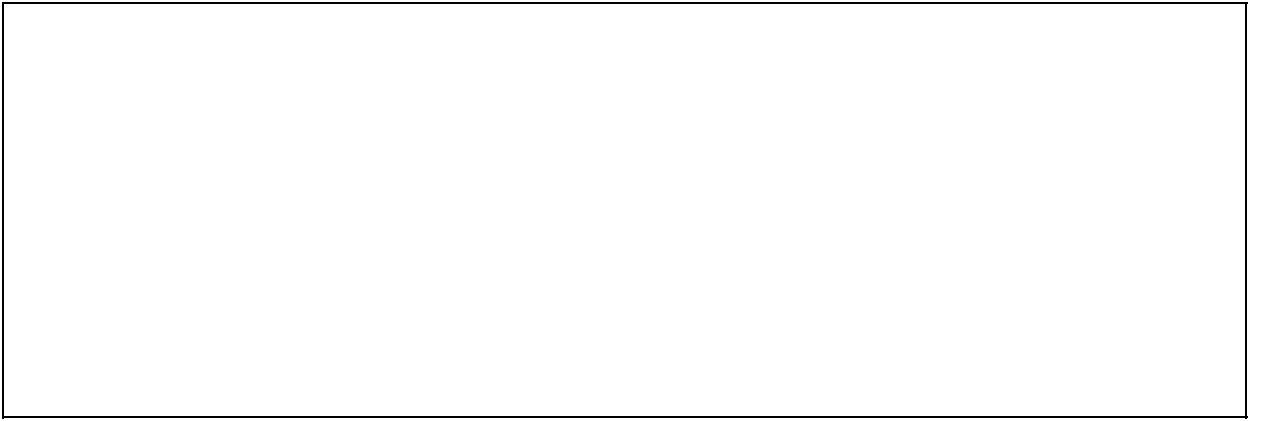
This image provides an example of a network diagram:



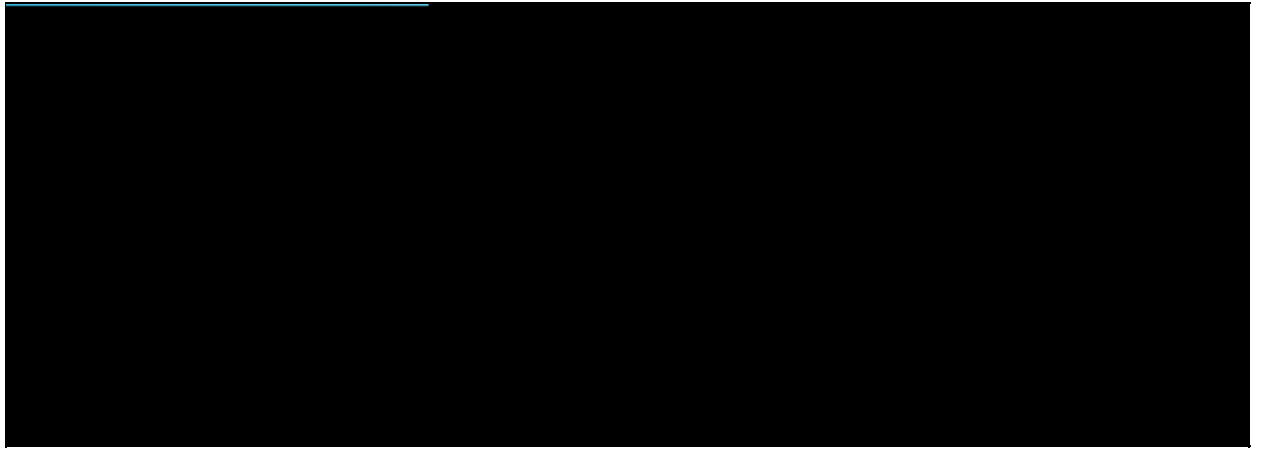
Overview

This configuration is done in two steps.

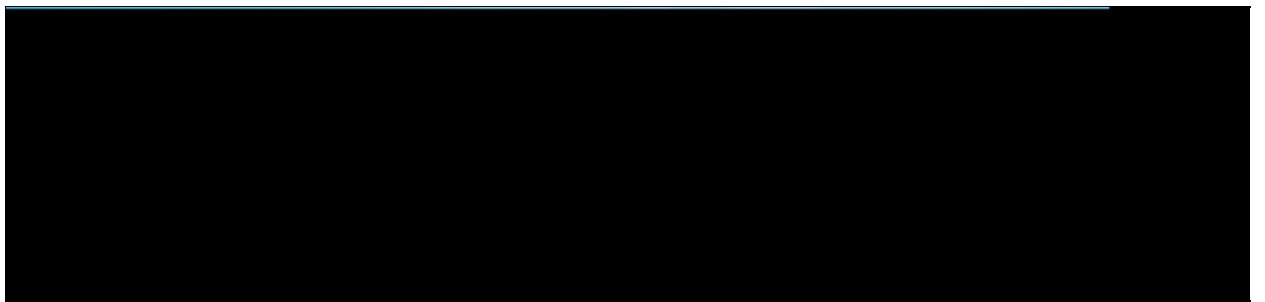
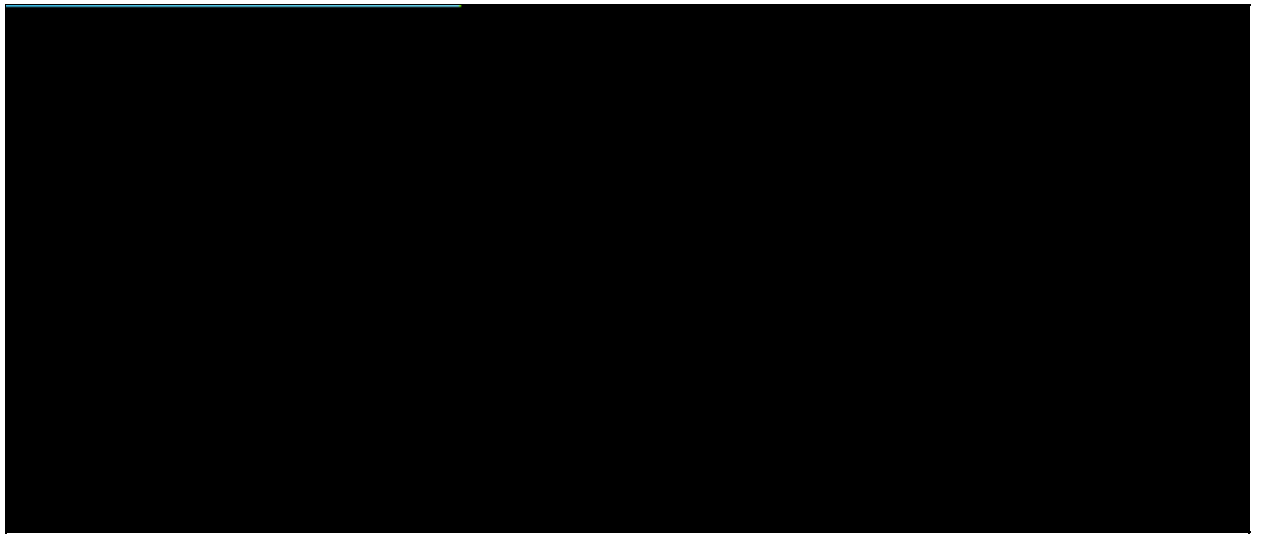
1. Configure WLC 5760/3850 with the command-line interface (CLI) or GUI.

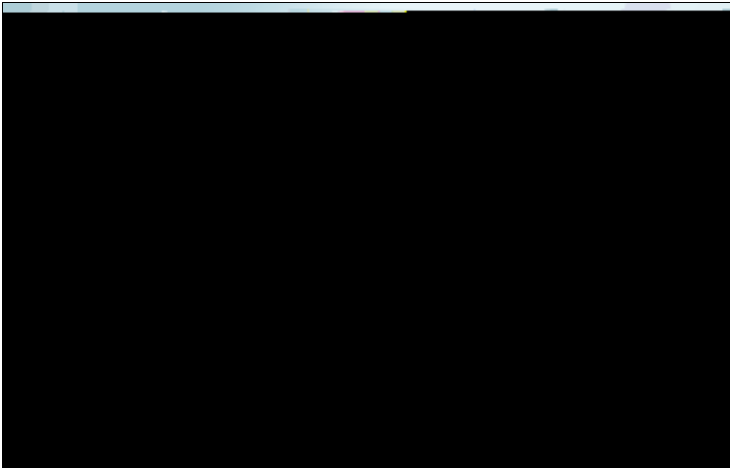


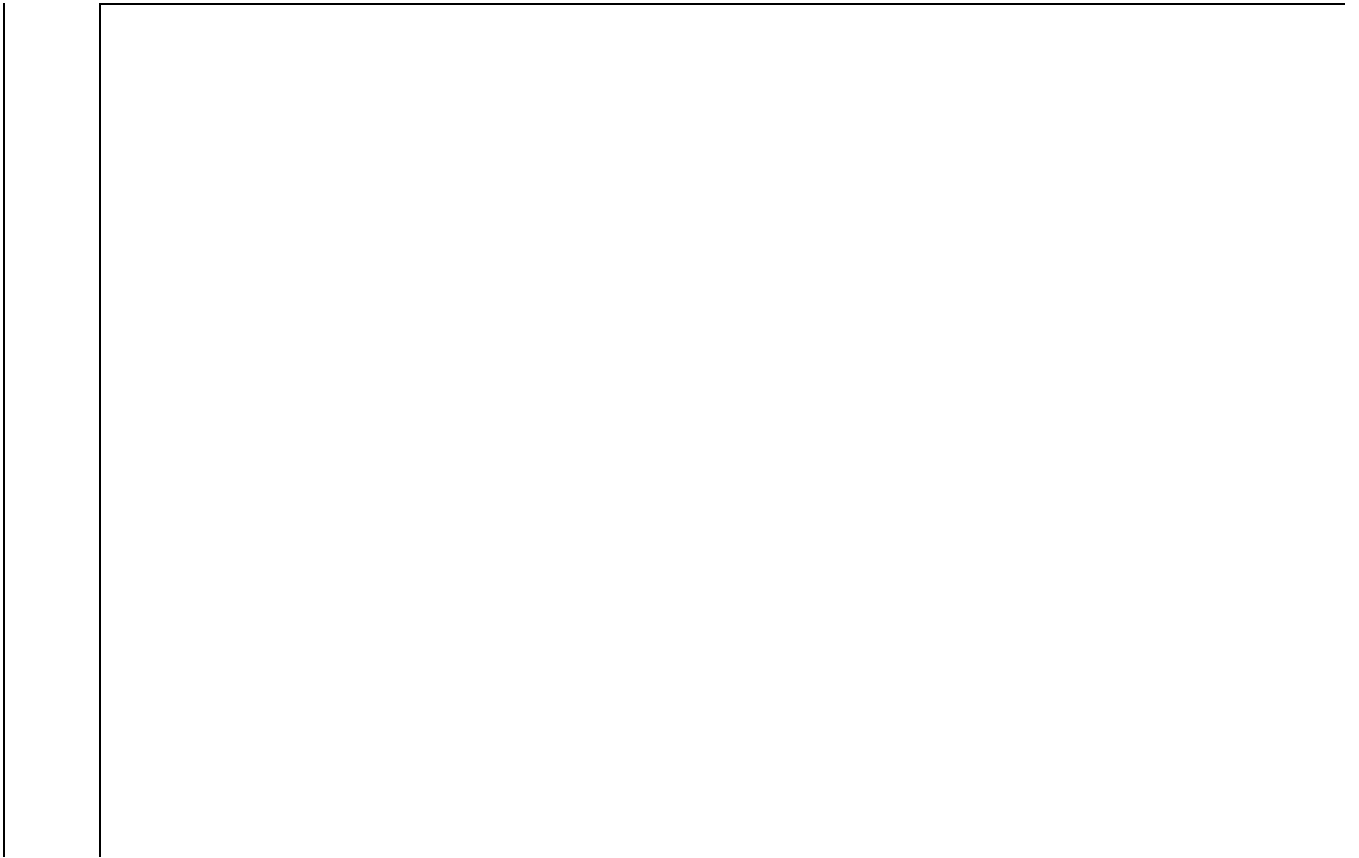
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Navigate to *Method Lists > Authentication*, and map the configured 'ACS' RADIUS server to the Method List, which, rtj /F urntj sp thp'ACthe











Troubleshoot

This section provides information you can use to troubleshoot your configuration.

ACK from WCDB.

*Sep 1 06:00:19.178: 0021.5C8C.C761 WCDB_DELACK: 1 wcm: wcdbAckRecvdFlag updated

```
AP C8F9.F983.4260 vapId 4 apVapId 4for this client 1 wcm: lient 0 assoc 3
mob=Unassoc(0) radio 1 m_vlan 20 ip 0.0.0.0 src 0xb6818000000038 dst 0x0 cid
0x84fd00000000050 glob rsc id 16dhcpsrv 0.0.0.0
*Sep 1 06:00:19.361: 0021.5C8C.C761 Not Using WMM Compliance code qosCap 00 1
wcm: ed on AP C8F9.F983.4260 vapId 4 apVapId 4for this client
*Sep 1 06:00:19.361: 0021.5C8C.C761 0.0.0.0 8021X_REQD (3) Plumbed mobile LWAPP
rule on AP C8F9.F983.4260 vapId 4 apVapId 4 1 wcm: client
*Sep 1 06:00:19.361: 0021.5C8C.C761 apfPemAddUser2 (apf_policy.c: 1 wcm: 161)
Changing state for mobile 0021.5C8C.C761 on AP C8F9.F983.4260 from Idle to
Associated
*Sep 1 06:00:19.361: 0021.5C8C.C761 Stopping deletion of Mobile Station: 1 wcm:
(callerId: 48)
*Sep 1 06:00:19.361: 0021.5C8C.C761 Ms Timeout = 0, Session Timeout = 1800 1 wcm:
llderId: 48)
*Sep 1 06:00:19.361: 0021.5C8C.C761 Sending Assoc Response to station on BSSID
C8F9.F983.4260 (status 0) ApVapId 4 Slot 1 1 wcm: .F983.4260 from Idle to
Associated
*Sep 1 06:00:19.362: 0021.5C8C.C761 apfProcessAssocReq (apf_80211.c: 1 wcm: 5260)
Changing state for mobile 0021.5C8C.C761 on AP C8F9.F983.4260 from Associated
to Associated
*Sep 1 06:00:19.362: WCDB_IIF: 1 wcm: Ack Message ID: 0x84fd00000000050 code 1001
*Sep 1 06:00:21.239: 0021.5C8C.C761 client incoming attribute size are 485 1 wcm:
anging state for .D^Iwle 0021.5C8C.C761 t! w\2105HnJ^IwF983.4260 from
Ass^G$8\227v^K
*Sep 1 06:00:21.258: 0021.5C8C.C761 0.0.0.0 8021X_REQD (3) Change state to
L2AUTHCOMPLETE (4) last state L2AUTHCOMPLETE (4) 1 wcm: ^IwF983.4260 from
Ass^G$8\227v^K
*Sep 1 06:00:21.258: 0021.5C8C.C761 WCDB_CHANGE: 1 wcm: Client 1 m_vlan 20 Radio
iif id 0xbfc0000000003a bssid iif id 0x81fac000000041, bssid C8F9.F983.4260
*Sep 1 06:00:21.258: 0021.5C8C.C761 WCDB_AUTH: 1 wcm: Adding opt82 len 0
*Sep 1 06:00:21.258: 0021.5C8C.C761 WCDB_LLM: 1 wcm: NoRun Prev Mob 0, Curr Mob
0 llmReq 1, return False
*Sep 1 06:00:21.258: 0021.5C8C.C761 auth state 1 mob state 0 setWme 0 wme 1
roam_tDnt 1 wcm:
*Sep 1 06:00:21.258: 0021.5C8C.C761 auth_CHANGE: 1 wcm: Clie sta=L2_: 1 (
```

*Sep 1 06:00:21.258: 0021.5C8C.C761 0.0.0.0 DHCP_REQD (7) Successfully plumbed mobile rule 1 wcm: F9.F983.4260 , slot 1 802.1P = 0^M

*Sep 1 06:00:21.258: PEM rcv processing msg Add SCB(3) 1 wcm: 7) Successfully plumbed mobile rule

*Sep 1 06:00:21.258: 0021.5C8C.C761 Incrementing the Reassociation Count 1 for client (of interface VLAN0020) 1 wcm: lot 1 802.1P = 0^M

*Sep 1 06:00:21.258: 0021.5C8C.C761 0.0.0.0, auth_state 7 mmRole Unassoc !!! 1 wcm: r client (of interface VLAN0020)

*Sep 1 06:00:21.258: 0021.5C8C.C761 0.0.0.0, auth_state 7 mmRole Unassoc, updating wcdb not needed 1 wcm: VLAN0020)

*Sep 1 06:00:21.258: 0021.5C8C.C761 Tclas Plumb needed: 1 wcm: 0

*Sep 1 06:00:21.258: 0021.5C8C.C761 0.0.0.0 DHCP_REQD (7) pemAdvanceState2: 1 wcm: MOBILITY-COMplete with state 7.

*Sep 1 06:00:21.258: 0021.5C8C.C761 0.0.0.0 DHCP_REQD (7) State Update from Mobility-Incomplete to Mobility-Complete, mobility role=Local, client state=APF_MS_STATE_ASSOCIATED 1 wcm: 1 dropd 0

*Sep 1 06:00:21.258: 0021.5C8C.C761 0.0.0.0 DHCP_REQD (7) pemAdvanceState2 3611, Adding TMP rule 1 wcm: o Mobility-Complete, mobility role=Local, client state=APF_MS_STATE_ASSOCIATED

*Sep 1 06:00:21.258: 0021.5C8C.C761 0.0.0.0 DHCP_REQD (7) Replacing Fast Path rule on AP C8F9.F983.4260 , slot 1 802.1P = 0 1 wcm: e=Local, client state=APF_MS_STATE_ASSOCIATED

*Sep 1 06:00:21.258: 0021.5C8C.C761 0.0.0.0 DHCP_REQD (7) Successfully plumbed mobile rule 1 wcm: C8F9.F983.4260 , slot 1 802.1P = 0^M

*Sep 1 06:00:21.258: 0021.5C8C.C761 WCDB_CHANGE: 1 wcm: Client 1 m_vlan 20 Radio iif id 0xbfcfdc00000003a bssid iif id 0x81fac000000041, bssid C8F9.F983.4260

*Sep 1 06:00:21.258: 0021.5C8C.C761 WCDB_AUTH: 1 wcm: Adding opt82 len 0

*Sep 1 06:00:21.258: 0021.5C8C.C761 WCDB_LLM: 1 wcm: NoRun Prev Mob 0, Curr Mob 1 llmReq 1, return False

*Sep 1 06:00:21.258: 0021.5C8C.C761 WCDB_CHANGE: 1 wcm: Suppressing SPI (ACK message not recvd) pemstate 7 state LEARN_IP(2) vlan 20 client_id 0x84fd0000000050 mob=Local(1) ackflag 1 dropd 1

*Sep 1 06:00:21.258: 0021.5C8C.C761 Error updating wcdb on mobility complete 1 wcm: not recvd) pemstate 7 state LEARN_IP(2) vlan 20 client_id 0x84fd0000000050 mob=Local(1) ackflag 1 dropd 1

*Sep 1 06:00:21.258: PEM rcv processing msg Epm spi response(12) 1 wcm: complete

*Sep 1 06:00:21.258: 0021.5C8C.C761 aaa attribute list length is 79 1 wcm: complete

*Sep 1 06:00:21.258: 0021.5C8C.C761 Sending SPI spi_epm_epm_session_create successfull 1 wcm:) pemstate 7 state LEARN_IP(2) vlan 20 client_id 0x84fd0000000050 mob=Local(1) ackflag 1 dropd 1

*Sep 1 06:00:21.258: PEM rcv processing msg Add SCB(3) 1 wcm: pm_session_create successfull

*Sep 1 06:00:21.259: 0021.5C8C.C761 0.0.0.0, auth_state 7 mmRole Local !!! 1 wcm: successfull

*Sep 1 06:00:21.259: 0021.5C8C.C761 0.0.0.0, auth_state 7 mmRole Local, updating wcdb not needed 1 wcm: 7 state LEARN_IP(2) vlan 20 client_id 0x84fd0000000050 mob=Local(1) ackflag 1 dropd 1

*Sep 1 06:00:21.259: 0021.5C8C.C761 Tclas Plumb needed: 1 wcm: 0

*Sep 1 06:00:21.260: EPM: 1 wcm: Session create resp - client handle 84fd0000000050 session f2000027

*Sep 1 06:00:21.260: EPM: 1 wcm: Netflow session create resp - client handle 84fd0000000050 sess f2000027

*Sep 1 06:00:21.260: PEM rcv processing msg Epm spi response(12) 1 wcm: le 84fd0000000050 sess f2000027

*Sep 1 06:00:21.261: 0021.5C8C.C761 Received session_create_response for client handle 37432873367634000 1 wcm: LEARN_IP(2) vlan 20 client_id 0x84fd0000000050 mob=Local(1) ackflag 1 dropd 1

*Sep 1 06:00:21.261: 0021.5C8C.C761 Received session_create_response with EPM session handle 4060086311 1 wcm:

*Sep 1 06:00:21.261: 0021.5C8C.C761 Send request to EPM 1 wcm: ate_response with EPM session handle 4060086311

*Sep 1 06:00:21.261: 0021.5C8C.C761 aaa attribute list length is 485 1 wcm: with EPM session handle 4060086311

*Sep 1 06:00:21.261: 0021.5C8C.C761 Sending Activate request for session handle

4060086311 successful 1 wcm: 1
*Sep 1 06:00:21.261: 0021.5C8C.C761 Post-auth policy request sent! Now wait for
post-auth policy ACK f 0 1 7 m EPMm: 1

1378015224 sec

[09/01/13 11:59:18.282 IST 1572 5933] 0021.5C8C.C761 Scheduling deletion of Mobile
Station: (callerId: 50) in 1 seconds
--More-- [09/01/13 11:59:18.282 IST 1573 5933] 0021.5C8C.C761 econds


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[09/01/13 11:59:19.361 IST 15b4 5933] 0021.5C8C.C761 Received RSN IE with 0 PMKIDs
  from mobile 0021.5C8C.C761
[09/01/13 11:59:19.361 IST 15b5 5933] 0021.5C8C.C761 1XK: Looking for BSSID
  C8F9.F983.426C in PMKID cache
[09/01/13 11:59:19.361 IST 15b6 5933] 0021.5C8C.C761 1XK: Set Link Secure: 0
[09/01/13 11:59:19.361 IST 15b7 5933] 0021.5C8C.C761 new
  capwap_wtp_iif_id b6818000000038, sm capwap_wtp_iif_id 0
[09/01/13 11:59:19.361 IST 15b8 5933] 0021.5C8C.C761 WCDB_ADD: Adding opt82 len 0
[09/01/13 11:59:19.361 IST 15b9 5933] 0021.5C8C.C761 WCDB_ADD: ssid EAPFAST bssid
  C8F9.F983.4260 vlan 20 auth=ASSOCIATION(0) wlan(ap-group/global) 4/4 client 0
  assoc 3 mob=Unassoc(0) radio 1 m_vlan 20 ip 0.0.0.0 src 0xb6818000000038 dst 0x0
  cid 0x84fd0000000050 glob rsc id 16dhcpsrv 0.0.0.0
[09/01/13 11:59:19.361 IST 15ba 5933] 0021.5C8C.C761 Not Using WMM Compliance code
  qosCap 00
--More--          [09/01/13 11:59:19.361 IST 15bb 5933] 0021.5C8C.C761
  apfMsAssoStateInc
[09/01/13 11:59:19.361 IST 15bc 5933] 0021.5C8C.C761 apfPemAddUser2
  (apf_policy.c:161) Changing state for mobile 0021.5C8C.C761 on AP
  C8F9.F983.4260 from Idle to Associated
[09/01/13 11:59:19.361 IST 15bd 5933] 0021.5C8C.C761 Stopping deletion of Mobile
  Station: (callerId: 48)
[09/01/13 11:59:19.361 IST 15be 5933] 0021.5C8C.C761 Ms Timeout = 0, Session
  Timeout = 1800
[09/01/13 11:59:19.361 IST 15bf 5933] 0021.5C8C.C761 Sending Assoc Restn-10.8 T0ssoci-10.8 Td([09
  from m 0 0 0 0 0) r_iif0 s IEch/asicf
```

0021.5c8c.c761
[09/01/13 11:59:19.368 IST 15cc 33] ACCESS-CORE-SM-CLIENT-SPI-NOTF:
[0021.5c8c.c761, Ca1] - eap profile: none
[09/01/13 11:59:19.368 IST 15cd 173] ACCESS-CORE-SM-NOTF: [0021.5c8c.c761, Ca1]

```
[0021.5c8c.c761, Ca1] Client 0021.5c8c.c761, Initialising Method mab state to
'Not run'
[09/01/13 11:59:19.368 IST 15ec 173] ACCESS-CORE-SM-DEB: [0021.5c8c.c761, Ca1]
Adding method mab to runnable list for session 0x32000026
[09/01/13 11:59:19.368 IST 15ed 173] ACCESS-CORE-SM-DEB: [0021.5c8c.c761, Ca1]
Client 0021.5c8c.c761, Initialising Method webauth state to 'Not run'
[09/01/13 11:59:19.368 IST 15ee 173] ACCESS-CORE-SM-DEB: [0021.5c8c.c761, Ca1]
Adding method webauth to runnable list for session 0x32000026
[09/01/13 11:59:19.368 IST 15ef 173] ACCESS-CORE-SM-NOTF: [0021.5c8c.c761, Ca1]
```


Non-SM policy applied for 0x32000026. Authz_attrs not freed
[09/01/13 11:59:21.239 IST 168f 173] ACCESS-CORE-SM-SYNC-NOTF: [0021.5c8c.c761, Ca1]
Delay add/update sync of method for 0021.5c8c.c761 / 0x32000026
[09/01/13 11:59:21.239 IST 1690 173] ACCESS-CORE-SM-CLIENT-DOT11-NOTF:
[0021.5c8c.c761, Ca1] Dot11: authz success signalled for 0021.5c8c.c761

type 274


```
mcast action reqd
[09/01/13 11:59:21.260 IST 16f2 190] [WCDB] Allocating Client LE and waiting for
ACK
[09/01/13 11:59:21.260 IST 16f3 190] [WCDB] wcdb_ffcp_wcdb_client_add_notify:
client (0021.5c8c.c761) id 0x84fd0000000050 ffcp create flags=0x0 iifid
bssid/radio = 0x81fac000000041/0xbfc000000003a, src_intf = 0xb6818000000038
[09/01/13 11:59:21.261 IST 16f4 5933] 0021.5C8C.C761 Received
session_create_response for client handle 37432873367634000
[09/01/13 11:59:21.261 IST 16f5 5933] 0021.5C8C.C761 Received
session_create_response with EPM session handle 4060086311
[09/01/13 11:59:21.261 IST 16f6 5933] 0021.5C8C.C761 Send request to EPM
[09/01/13 11:59:21.261 IST 16f7 5933] 0021.5C8C.C761 aaa attribute list length is
485
[09/01/13 11:59:21.261 IST 16f8 5933] 0021.5C8C.C761 Sending Activate request for
session handle 4060086311 successful
[09/01/13 11:59:21.261 IST 16f9 5933] 0021.5C8C.C761 Post-auth policy request sent!
Now wait for post-auth policy ACK from EPM
[09/01/13 11:59:21.261 IST 16fa 5933] 0021.5C8C.C761 Received
activate_features_resp for client handle 37432873367634000
[09/01/13 11:59:21.261 IST 16fb 5933] 0021.5C8C.C761 Received
activate_features_resp for EPM session handle 4060086311
--More-- [09/01/13 11:59:21.262 IST 16fc 5933] 0021.5C8C.C761 Received
policy_enforcement_response for client handle 37432873367634000
[09/01/13 11:59:21.262 IST 16fd 5933] 0021.5C8C.C761 Received
policy_enforcement_response for EPM session handle 2818572305
[09/01/13 11:59:21.262 IST 16fe 5933] 0021.5C8C.C761 Received response
for _EPM_SPI_ACTIVATE_FEATURES request sent for client
[09/01/13 11:59:21.262 IST 16ff 5933] 0021.5C8C.C761
Received _EPM_SPI_STATUS_SUCCESS for request sent for client
[09/01/13 11:59:21.262 IST 1700 5933] 0021.5C8C.C761 Post-auth policy ACK recvd
from EPM, unset flag on MSCB
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```
update flags = 0x3
[09/01/13 11:59:21.263 IST 1711 190] ACCESS-CORE-SM-CLIENT-DOT11-NOTF:
  [0021.5c8c.c761] WCDB notification (LEARN_IP) for 0021.5c8c.c761
--More--      [09/01/13 11:59:21.263 IST 1712 190] [WCDB]
wcdb_sisf_client_update_notify: Notifying SISF
[09/01/13 11:59:21.263 IST 1713 329] [WCDB] wcdb_ffcp_cb: client (0021.5c8c.c761)
  client (0x84fd0000000050): FFCP operation (UPDATE) return code (0)
[09/01/13 11:59:24.417 IST 1714 264] dhcp pkt processing routine is called for pak
```

```
[09/01/13 11:59:24.427 IST 1733 190] [WCDB] wcdb_ffcp_wcdb_client_update_notify
client (0021.5c8c.c761) id 0x84fd0000000050 ffcpc update with flags=0x18
[09/01/13 11:59:24.427 IST 1734 190] [WCDB] wcdb_client_state_change_notify:
update flags = 0x2
[09/01/13 11:59:24.427 IST 1735 190] ACCESS-CORE-SM-CLIENT-DOT11-NOTF:
[0021.5c8c.c761] Ignore WCDB run notification for 0021.5c8c.c761 as authz complete.
```

```
[09/01/13 11:59:52.803 IST 1751 329] [WCDB] wcdb_ffcp_cb: client (60fa.cd4c.597b)
client (0xa028c00000004c): FFCP operation (UPDATE) return code (0)
[09/01/13 11:59:53.015 IST 1752 190] [WCDB] ==Update event: client (60fa.cd4c.597b)
client id:(0xa028c00000004c) vlan (20->20) global_wlan (2->2) auth_state (RUN->RUN)
mob_state (LOCAL->LOCAL)
[09/01/13 11:59:53.015 IST 1753 190] [WCDB] ===intf src/dst
(0xb6818000000038->0xb6818000000038)/(0x0->0x0)
radio/bssid (0->0)/(c8f9.f983.4260->c8f9.f983.4260) llm_notify (false) addr v4/v6
(0)/(0)
[09/01/13 11:59:53.015 IST 1754 190] [WCDB] wcdb_client_mcast_update_notify: No
mcast action reqd
[09/01/13 11:59:53.015 IST 1755 190] [WCDB] wcdb_ffcp_wcdb_client_update_notify
client (60fa.cd4c.597b) id 0xa028c00000004c ffcp update with flags=0x18
[09/01/13 11:59:53.015 IST 1756 190] [WCDB] wcdb_client_state_change_notify: update
flags = 0x2
--More-- [09/01/13 11:59:53.015 IST 1757 190] [WCDB]
wcdb_sisf_client_update_notify: Notifying SISF
[09/01/13 11:59:53.016 IST 1758 329] [WCDB] wcdb_ffcp_cb: client (60fa.cd4c.597b)
client (0xa028c00000004c): FFCP operation (UPDATE) return code (0)
[09/01/13 11:59:54.045 IST 1759 264] dhcp pkt processing routine is called for pak
with SMAC = 60fa.cd4c.597b and SRC_ADDR = 0.0.0.0
[09/01/13 11:59:54.045 IST 175a 210] sending dhcp packet outafter processing with
SMAC = 60fa.cd4c.597b and SRC_ADDR = 0.0.0.0
[09/01/13 11:59:54.045 IST 175b 144] DHCPD: address 20.20.20.2 mask 255.255.255.0
[09/01/13 12:00:18.830 IST 175c 190] [WCDB] ==Update event: client (60fa.cd4c.597b)
client id:(0xa028c00000004c) vlan (20->20) global_wlan (2->2) auth_state
(RUN->ASSOCIATION) mob_state (LOCAL->LOCAL)
[09/01/13 12:00:18.830 IST 175d 190] [WCDB] ===intf src/dst
(0xb6818000000038->0xb6818000000038)/(0x0->0x0)
radio/bssid (0->0)/(c8f9.f983.4260->c8f9.f983.4260) llm_notify (true) addr v4/v6
(0)/(0)
[09/01/13 12:00:18.830 IST 175e 190] [WCDB] wcdb_client_mcast_update_notify: No
mcast action reqd
[09/01/13 12:00:18.830 IST 175f 190] [WCDB] Ignoring auth state transition
(4 -> 0)
[09/01/13 12:00:18.830 IST 1760 190] [WCDB] wcdb_ffcp_wcdb_client_update_notify
client (60fa.cd4c.597b) id 0xa028c00000004c ffcp update with flags=0x18
[09/01/13 12:00:18.830 IST 1761 190] [WCDB] wcdb_client_state_change_notify:
update flags = 0x2
--More-- [09/01/13 12:00:18.830 IST 1762 190] [WCDB]
wcdb_sisf_client_update_notify: Notifying SISF
[09/01/13 12:00:18.830 IST 1763 329] [WCDB] wcdb_ffcp_cb: client (60fa.cd4c.597b)
client (0xa028c00000004c): FFCP operation (UPDATE) return code (0)
[09/01/13 12:00:19.038 IST 1764 190] [WCDB] ==Update event: client (60fa.cd4c.597b)
client id:(0xa028c00000004c) vlan (20->20) global_wlan (2->2) auth_state (RUN->RUN)
mob_state (LOCAL->LOCAL)
[09/01/13 12:00:19.038 IST 1765 190] [WCDB] ===intf src/dst
(0xb6818000000038->0xb6818000000038)/(0x0->0x0)
radio/bssid (0->0)/(c8f9.f983.4260->c8f9.f983.4260) llm_notify (false) addr v4/v6
(0)/(0)
[09/01/13 12:00:19.038 IST 1766 190] [WCDB] wcdb_client_mcast_update_notify:
No mcast action reqd
[09/01/13 12:00:19.038 IST 1767 190] [WCDB] wcdb_ffcp_wcdb_client_update_notify
client (60fa.cd4c.597b) id 0xa028c00000004c ffcp update with flags=0x18
[09/01/13 12:00:19.038 IST 1768 190] [WCDB] wcdb_client_state_change_notify:
update flags = 0x2
[09/01/13 12:00:19.038 IST 1769 190] [WCDB] wcdb_sisf_client_update_notify:
Notifying SISF
[09/01/13 12:00:19.038 IST 176a 329] [WCDB] wcdb_ffcp_cb: client (60fa.cd4c.597b)
client (0xa028c00000004c): FFCP operation (UPDATE) return code (0)
[09/01/13 12:00:20.108 IST 176b 5933] 0021.5C8C.C761
Client stats update: Time now in sec 1378015280, Last Acct Msg Sent at 1378015224
sec
[09/01/13 12:00:20.590 IST 176c 264] dhcp pkt processing routine is called for pak
with SMAC = 60fa.cd4c.597b and SRC_ADDR = 0.0.0.0
--More-- [09/01/13 12:00:20.590 IST 176d 210] sending dhcp packet outafter
```


processing with SMAC = 60fa.cd4c.597b and SRC_ADDR = 0.0.0.0

