

# 無線LAN控制器模組疑難排解

## 目錄

[簡介](#)

[必要條件](#)

[需求](#)

[採用元件](#)

[慣例](#)

[背景資訊](#)

[疑難排解](#)

[ISR無法識別WLCM](#)

[我能升級WLCM上的快閃記憶體嗎？](#)

[WLCM是否可熱插拔？](#)

[WLCM支援的LAP](#)

[無法訪問WLCM上的快速乙太網](#)

[檢查WLCM的狀態](#)

[如何在CLI配置嚮導中進行更正](#)

[LAP未向ISR WLCM註冊 — WLCM隨附的證書不正確](#)

[LAP未向WLCM註冊 — 未設定系統時間](#)

[WLCM的密碼恢復](#)

[Cisco WLCM LED](#)

[控制器韌體升級失敗](#)

[無法啟用CDP](#)

[使用ip-helper address和ip-forward protocol命令在WLCM中註冊LAP](#)

[WLCM故障排除命令](#)

[相關資訊](#)

## 簡介

本文提供思科無線LAN控制器模組(WLCM)基本問題的疑難排解程式。

## 必要條件

## 需求

思科建議您瞭解以下主題：

- 輕量型存取點通訊協定(LWAPP)知識。
- 有關如何配置WLCM模組以參與思科統一無線網路的基本知識。**註：**如果您是新使用者且未使用WLCM，請參閱[Cisco WLAN控制器網路模組功能指南](#)。

## 採用元件

本文中的資訊係根據以下軟體和硬體版本：

- Cisco 2811整合式服務路由器(ISR)(執行版本12.4(11)T)，以及執行版本3.2.116.21的WLCM
- Cisco 1030和Cisco 1232 AG輕量AP(LAP)
- 執行2.5版的Cisco 802.11a/b/g無線LAN(WLAN)使用者端配接器
- 執行版本3.2的思科安全存取控制伺服器(ACS)

**注意：**此處列出的元件只是用於編寫本文檔的裝置。本文檔的[故障排除](#)部分提供了支援WLCM的ISR和WLCM支援的LAP的完整清單資訊。

本文中的資訊是根據特定實驗室環境內的裝置所建立。文中使用到的所有裝置皆從已清除（預設）的組態來啟動。如果您的網路正在作用，請確保您已瞭解任何指令可能造成的影響。

## 慣例

如需文件慣例的詳細資訊，請參閱[思科技術提示慣例](#)。

## 背景資訊

Cisco WLCM旨在為中小企業(SMB)和企業分支機構客戶提供適用於Cisco 2800和Cisco 3800系列ISR和Cisco 3700系列路由器的802.11無線網路解決方案。

Cisco WLCM使Cisco ISR和Cisco 3700系列路由器能夠管理最多六個無線區域網接入點(AP)，並簡化無線區域網的部署和管理。作業系統管理所有資料客戶端、通訊和系統管理功能，執行無線電資源管理(RRM)功能，使用作業系統安全(OSS)管理系統範圍的移動策略，並使用OSS框架協調所有安全功能。

Cisco WLCM與Cisco Aironet LAP、思科無線控制系統(WCS)和Cisco Wireless Location Appliance配合使用，以支援關鍵任務的無線資料、語音和影片應用。

## 疑難排解

本節討論WLCM基本問題的故障排除過程。

### ISR無法識別WLCM

只有以下ISR平台支援WLCM:

- 思科3725和3745路由器
- Cisco 2811、2821和2851 ISR
- Cisco 3825和3845 ISR

如果出現此清單中指定的其它ISR，則不會檢測到WLCM。確保使用正確的硬體。

**附註：**僅在網路模組插槽中支援WLCM。Cisco 2821和Cisco 2851 ISR提供的EVM插槽不支援此功能。

**注意：**您只能在一個路由器機箱中安裝一個Cisco WLCM。

WLCM也有一些最低軟體要求。

ISR必須使用Cisco IOS<sup>®</sup>軟體版本12.4(2)XA1 ( 路由器軟體 ) 或更高版本才能識別WLCM。

## [我能升級WLCM上的快閃記憶體嗎？](#)

Cisco WLCM隨附並從安裝的256 MB CompactFlash儲存卡啟動。CompactFlash儲存卡包含啟動載入程式、Linux核心、Cisco WLCM和AP執行檔以及Cisco WLCM配置。

Cisco WLCM中的CompactFlash儲存卡不能現場更換。

## [WLCM是否可熱插拔？](#)

並非所有ISR平台上都可以熱插拔WLCM。只有Cisco 3745路由器和Cisco 3845 ISR支援控制器模組的線上插入和移除(OIR)。

## [WLCM支援的LAP](#)

所有支援LWAPP的Cisco Aironet AP均受支援，包括Cisco Aironet 1000、1100和1200系列。不支援HWIC-AP介面卡。

## [無法訪問WLCM上的快速乙太網](#)

這是預期行為。不支援Cisco WLCM面板上的外部快速乙太網埠。NM-WLC ( WLCM模組 ) 只有一個快速乙太網路連線埠在內部連線到主機路由器，且NM面板上的外部快速乙太網路連線埠已停用且無法使用。

## [檢查WLCM的狀態](#)

從ISR發出**show version**命令，以檢查路由器是否識別並正確安裝了WLCM。

```
2800-ISR-TSWEB#show version
```

```
Cisco IOS Software, 2800 Software (C2800NM-ADVSECURITYK9-M), Version 12.4(11)T,  
RELEASE SOFTWARE (fc2)  
Technical Support: http://www.cisco.com/techsupport  
Copyright (c) 1986-2006 by Cisco Systems, Inc.  
Compiled Sat 18-Nov-06 17:16 by prod_rel_team
```

```
ROM: System Bootstrap, Version 12.4(1r) [hqluong 1r], RELEASE SOFTWARE (fc1)
```

```
2800-ISR-TSWEB uptime is 50 minutes  
System returned to ROM by power-on  
System image file is "flash:c2800nm-advsecurityk9-mz.124-11.T.bin"
```

This product contains cryptographic features and is subject to United States and local country laws governing import, export, transfer and use. Delivery of Cisco cryptographic products does not imply third-party authority to import, export, distribute or use encryption. Importers, exporters, distributors and users are responsible for compliance with U.S. and local country laws. By using this product you agree to comply with applicable laws and regulations. If you are unable to comply with U.S. and local laws, return this product immediately.

A summary of U.S. laws governing Cisco cryptographic products may be found at:  
<http://www.cisco.com/wwl/export/crypto/tool/stqrg.html>

If you require further assistance please contact us by sending email to [export@cisco.com](mailto:export@cisco.com).

Cisco 2811 (revision 53.50) with 249856K/12288K bytes of memory.  
Processor board ID FTX1014A34X  
2 FastEthernet interfaces  
1 terminal line  
1 Virtual Private Network (VPN) Module  
**1 cisco Wireless LAN Controller(s)**

DRAM configuration is 64 bits wide with parity enabled.  
239K bytes of non-volatile configuration memory.  
62720K bytes of ATA CompactFlash (Read/Write)

Configuration register is 0x2102

發出**service-module wlan-controller slot/port status**命令以尋找WLCM的狀態。

```
2800-ISR-TSWEB#service-module wlan-controller 1/0 status
Service Module is Cisco wlan-controller1/0
Service Module supports session via TTY line 66
Service Module is in Steady state
Getting status from the Service Module, please wait..
```

Cisco WLAN Controller 3.2.116.21

您還可以發出**service-module wlan-controller 1/0 statistics**命令，以查詢WLCM的模組重置統計資訊

。

```
2800-ISR-TSWEB#service-module wlan-controller 1/0 statistics
Module Reset Statistics:
  CLI reset count = 0
  CLI reload count = 0
  Registration request timeout reset count = 0
  Error recovery timeout reset count = 0
  Module registration count = 4
```

在某些情況下，您會看到以下錯誤：

```
Router#service-module wlan-controller 4/0 status
Service Module is Cisco wlan-controller4/0
Service Module supports session via TTY line 258
Service Module is trying to recover from error
Service Module status is not available
```

Or this:

```
Router#service-module wlan-controller 1/0 status
Service Module is Cisco wlan-controller1/0
Service Module supports session via TTY line 66
Service Module is failed
Service Module status is not available
```

此錯誤的原因可能是硬體問題。建立TAC案例以進一步解決此問題。若要開啟TAC案例，您需要與思科具有有效的合約。請參閱[技術支援](#)以聯絡Cisco TAC。

發出**show sysinfo**命令，以接收有關WLCM的更多資訊。

(Cisco Controller) >**show sysinfo**

```
Manufacturer's Name..... Cisco Systems, Inc
Product Name..... Cisco Controller
Product Version..... 3.2.116.21
RTOS Version..... 3.2.116.21
Bootloader Version..... 3.2.116.21
Build Type..... DATA + WPS

System Name..... WLCM
System Location.....
System Contact.....
System ObjectID..... 1.3.6.1.4.1.14179.1.1.4.5
IP Address..... 60.0.0.2
System Up Time..... 0 days 0 hrs 39 mins 18 secs

Configured Country..... United States

State of 802.11b Network..... Enabled
State of 802.11a Network..... Enabled
Number of WLANs..... 1
3rd Party Access Point Support..... Disabled
Number of Active Clients..... 0
```

## 如何在CLI配置嚮導中進行更正

使用CLI配置嚮導首次配置WLCM時 ( 或重置為預設值後 ) ，將使用-鍵來更正配置。範例如下：

在此，使用者不是輸入**admin**，而是輸入**adminn**進行更正。在下一個提示符下，輸入-，然後按一下enter。系統返回到上一個提示。

(Cisco Controller)

Welcome to the Cisco Wizard Configuration Tool

Use the '-' character to backup

System Name [Cisco\_e8:38:c0]: **adminn**

*!--- The user enters adminn instead of admin.*

Enter Administrative User Name (24 characters max): -

*!--- In order to make the corrections, the user enters -.*

System Name [Cisco\_e8:38:c0] (31 characters max): **admin**

*!--- The user is again prompted for the system name and !--- then enters the correct system name admin.*

## LAP未向ISR WLCM註冊 — WLCM隨附的證書不正確

NM-AIR-WLC6-K9和NM-AIR-WLC6-K9=WLCM隨附的證書不正確。這會導致WLCNM無法由Cisco/Airespace AP進行驗證。2006年2月1日至2006年3月22日期間裝運的WLCM受到影響。製造過程故障未將正確的證書複製到WLCNM裝置。錯誤的證書會導致RSA金鑰不匹配，從而導致基於LWAPP的AP無法加入/關聯/註冊到WLCNM。

請參閱[現場通知：FN - 62379 — 無線LAN控制器網路模組不使用Cisco/Airespace存取點進行驗證 — 硬體升級](#)以瞭解此方面的詳細資訊。本現場通知包含解決方法，以及受影響的網路模組部件號和序列號。

## LAP未向WLCM註冊 — 未設定系統時間

必須使用系統時間和日期配置WLCM。它可以手動完成，也可以將WLCM配置為使用NTP伺服器。如果未設定時間和日期，則LAP不會向WLCM註冊。在CLI嚮導中，系統將提示您輸入系統時間和日期。如果沒有輸入日期和時間，則會看到以下警告消息：

```
Warning! No AP will come up unless the time is set
Please see documentation for more details.
```

從WLCM CLI發出以下命令，以便手動設定時間：

```
(Cisco Controller) >config time manual <MM/DD/YY> <HH:MM:SS>
```

如果您希望WLCM使用NTP伺服器，請發出以下命令：

```
config time ntp server <index> <IP Address>
```

## WLCM的密碼恢復

當登入WLCM的密碼丟失時，進入WLCM的唯一方法是將WLCM重置回預設設定。這也意味著WLCM上的整個組態已重設，必須從頭開始設定。

有關如何將WLCM重設為出廠預設值的資訊，請參閱[將WLCM重設為預設值](#)。

## Cisco WLCM LED

下表列出了Cisco WLCM LED及其含義：

LED	含義
CF	CompactFlash儲存卡處於活動狀態。
ZT	模組已通過自檢，可供路由器使用。
PWR	控制器模組可以通電。

## 控制器韌體升級失敗

在升級過程中，您可能遇到一些影響升級過程的錯誤。本節介紹錯誤訊息的含義，以及如何消除錯誤和升級控制器。

- **Code file transfer failed-No reply from the TFTP server** — 如果TFTP伺服器未使用，便會收到此錯誤訊息。檢查以確定伺服器上是否啟用了TFTP服務。
- **Code file transfer failed - Error from server:找不到檔案。正在中止傳輸** — 如果TFTP伺服器的預設目錄中沒有作業系統檔案，您將收到此錯誤消息。若要消除此錯誤，請將映像檔複製到TFTP伺服器上的預設目錄中。
- **在快閃記憶體中儲存時發生TFTP故障!** — 當TFTP伺服器出現問題時，您會收到此錯誤。有些TFTP伺服器對您可以傳輸的檔案大小有限制。使用不同的TFTP伺服器實用程式。有許多免費的TFTP伺服器實用程式可用。思科建議使用Tftpd32版本2.0 TFTP伺服器。請參閱[Tftpd32](#)以下下載此TFTP伺服器。
- **安裝分割槽被破壞或映像已損壞** — 如果在嘗試升級軟體後仍不成功，則映像可能會損壞。如需協助，請聯絡[思科技術支援](#)。

有關如何升級WLCM上的韌體的詳細資訊，請參閱[升級Cisco WLAN控制器模組軟體](#)。

## [無法啟用CDP](#)

使用者無法在3750 ISR上安裝的WLCM上啟用思科發現協定(CDP)。出現以下消息：

```
(Cisco Controller) >show cdp neighbors
% CDP is not enabled
```

使用者發出`config cdp enable`命令以啟用CDP，但仍然會看到以下相同訊息：

```
(Cisco Controller) >show cdp neighbors
% CDP is not enabled
```

這是因為思科錯誤ID CSCsg67615。雖然3750G整合式無線LAN控制器不支援CDP，但CDP CLI命令可用於此控制器。在4.0.206.0中解決了此問題。

## [使用ip-helper address和ip-forward protocol命令在WLCM中註冊LAP](#)

使用WLCM時，LAP很難通過IP子網廣播發現WLCM。這是因為WLCM如何整合在ISR的後平面上，以及LAP通常如何位於不同的IP子網上（這也是很好的建議）。如果要成功執行IP子網廣播發現，請發出`ip helper-address`和`ip forward-protocol udp 1223`命令。

通常，這些命令的用途是轉發或中繼任何可能的IP廣播幀。此中繼並將其定向到WLC管理介面應足以確保WLC響應回LAP。

必須在LAP所連線的介面下發出`ip helper-address`命令，並且`ip helper-address`命令必須指向WLC的管理介面。

```
ip helper-address <Management Interface of the WLC>
```

`ip forward-protocol`命令是全域性配置命令。

```
ip forward-protocol udp 1223
```

## [WLCM故障排除命令](#)

本節提供`debug`命令，可用於對WLCM配置進行疑難排解。

用於驗證LAP在控制器中註冊的調試命令：

使用以下`debug`命令以驗證LAP是否註冊到WLCM：

- `debug mac addr <AP-MAC-address xx:xx:xx:xx:xx>` — 為LAP配置MAC地址調試。
- `debug lwapp events enable` — 配置LWAPP事件和錯誤消息的調試。
- `debug pm pki enable` — 配置安全策略管理器模組的調試。

以下是LAP向WLCM註冊時`debug lwapp events enable`命令的輸出示例：

```
Mon Mar 12 16:23:39 2007: Received LWAPP DISCOVERY REQUEST from AP 00:0b:85:51:5a:e0
to 00:15:2c:e8:38:c0 on port '1'
```

```
Mon Mar 12 16:23:39 2007: Successful transmission of LWAPP Discovery-Response to
```

AP 00:0b:85:51:5a:e0 on Port 1

Mon Mar 12 16:23:52 2007: Received LWAPP JOIN REQUEST from AP 00:0b:85:51:5a:e0 to 00:15:2c:e8:38:c0 on port '1'

Mon Mar 12 16:23:52 2007: LWAPP Join-Request MTU path from AP 00:0b:85:51:5a:e0 is 1500, remote debug mode is 0

Mon Mar 12 16:23:52 2007: Successfully added NPU Entry for AP 00:0b:85:51:5a:e0 (index 49)Switch IP: 60.0.0.3, Switch Port: 12223, intIfNum 1, vlanId 0 AP IP: 10.77.244.221, AP Port: 5550, next hop MAC: 00:17:94:06:62:98

Mon Mar 12 16:23:52 2007: Successfully transmission of LWAPP Join-Reply to AP 00:0b:85:51:5a:e0

Mon Mar 12 16:23:52 2007: Register LWAPP event for AP 00:0b:85:51:5a:e0 slot 0

Mon Mar 12 16:23:52 2007: Register LWAPP event for AP 00:0b:85:51:5a:e0 slot 1

Mon Mar 12 16:23:53 2007: Received LWAPP CONFIGURE REQUEST from AP 00:0b:85:51:5a:e0 to 00:15:2c:e8:38:c0

Mon Mar 12 16:23:53 2007: Updating IP info for AP 00:0b:85:51:5a:e0 -- static 0, 10.77.244.221/255.255.255.224, gw 10.77.244.220

Mon Mar 12 16:23:53 2007: Updating IP 10.77.244.221 ==> 10.77.244.221 for AP 00:0b:85:51:5a:e0

Mon Mar 12 16:23:53 2007: spamVerifyRegDomain RegDomain set for slot 0 code 0 regstring -A regDfromCb -A

Mon Mar 12 16:23:53 2007: spamVerifyRegDomain RegDomain set for slot 1 code 0 regstring -A regDfromCb -A

Mon Mar 12 16:23:53 2007: spamEncodeDomainSecretPayload:Send domain secret WLCM-Mobility<bc,73,45,ec,a2,c8,55,ef,14,1e,5d,99,75,f2,f9,63,af,74,d9,02> to AP 00:0b:85:51:5a:e0

Mon Mar 12 16:23:53 2007: Successfully transmission of LWAPP Config-Message to AP 00:0b:85:51:5a:e0

Mon Mar 12 16:23:53 2007: Running spamEncodeCreateVapPayload for SSID 'WLCM-TSWEB'

Mon Mar 12 16:23:53 2007: Running spamEncodeCreateVapPayload for SSID 'WLCM-TSWEB'

Mon Mar 12 16:23:53 2007: AP 00:0b:85:51:5a:e0 associated. Last AP failure was due to AP reset

Mon Mar 12 16:23:53 2007: Received LWAPP CHANGE\_STATE\_EVENT from AP 00:0b:85:51:5a:e0

Mon Mar 12 16:23:53 2007: Successfully transmission of LWAPP Change-State-Event Response to AP 00:0b:85:51:5a:e0

Mon Mar 12 16:23:53 2007: Received LWAPP Up event for AP 00:0b:85:51:5a:e0 slot 0!

Mon Mar 12 16:23:53 2007: Received LWAPP CONFIGURE COMMAND RES from AP 00:0b:85:51:5a:e0

Mon Mar 12 16:23:53 2007: Received LWAPP CHANGE\_STATE\_EVENT from AP 00:0b:85:51:5a:e0

Mon Mar 12 16:23:53 2007: Successfully transmission of LWAPP Change-State-Event Response to AP 00:0b:85:51:5a:e0

Mon Mar 12 16:23:53 2007: Received LWAPP Up event for AP 00:0b:85:51:5a:e0 slot 1!

Mon Mar 12 16:23:54 2007: Received LWAPP CONFIGURE COMMAND RES from AP 00:0b:85:51:5a:e0

Mon Mar 12 16:23:54 2007: Received LWAPP CONFIGURE COMMAND RES from AP 00:0b:85:51:5a:e0

Mon Mar 12 16:23:54 2007: Received LWAPP CONFIGURE COMMAND RES from AP 00:0b:85:51:5a:e0

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Mon Mar 12 16:23:54 2007: Received LWAPP CONFIGURE COMMAND RES from AP 00:0b:85:51:5a:e0

以下是LAP向WLCM註冊時debug pm pki enable命令的輸出示例：

Mon Mar 12 16:30:40 2007: sshpmGetIssuerHandles: locking ca cert table

Mon Mar 12 16:30:40 2007: sshpmGetIssuerHandles: calling x509\_alloc() for user cert

Mon Mar 12 16:30:40 2007: sshpmGetIssuerHandles: calling x509\_decode()

Mon Mar 12 16:30:40 2007: sshpmGetIssuerHandles: <subject> C=US, ST=California, L=San Jose, O=airespace Inc, CN=000b85515ae0, MAILTO=support@airespace.com

Mon Mar 12 16:30:40 2007: sshpmGetIssuerHandles: <issuer> C=US, ST=California, L=San Jose, O=airespace Inc, OU=none, CN=ca, MAILTO=support@airespace.com

Mon Mar 12 16:30:40 2007: sshpmGetIssuerHandles: Mac Address in subject is 00:0b:85:51:5a:e0

Mon Mar 12 16:30:40 2007: sshpmGetIssuerHandles: Cert is issued by Airespace Inc.

Mon Mar 12 16:30:40 2007: sshpmGetCID: called to evaluate <bsnDefaultCaCert>



Mon Mar 12 16:30:40 2007: sshpmGetCID: comparing to row 0, CA cert >bsnOldDefaultCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCID: comparing to row 1, CA cert >bsnDefaultRootCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCID: comparing to row 2, CA cert >bsnDefaultCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCertFromCID: called to get cert for CID 2816f436  
Mon Mar 12 16:30:40 2007: sshpmGetCertFromCID: comparing to row 0, certname  
>bsnOldDefaultCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCertFromCID: comparing to row 1, certname  
>bsnDefaultRootCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCertFromCID: comparing to row 2, certname  
>bsnDefaultCaCert<  
Mon Mar 12 16:30:40 2007: ssphmUserCertVerify: calling x509\_decode()  
Mon Mar 12 16:30:40 2007: ssphmUserCertVerify: failed to verify AP cert  
>bsnDefaultCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCID: called to evaluate <bsnOldDefaultCaCert>  
Mon Mar 12 16:30:40 2007: sshpmGetCID: comparing to row 0, CA cert  
>bsnOldDefaultCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCertFromCID: called to get cert for CID 226b9636  
Mon Mar 12 16:30:40 2007: sshpmGetCertFromCID: comparing to row 0, certname  
>bsnOldDefaultCaCert<  
Mon Mar 12 16:30:40 2007: ssphmUserCertVerify: calling x509\_decode()  
Mon Mar 12 16:30:40 2007: ssphmUserCertVerify: user cert verified using  
>bsnOldDefaultCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetIssuerHandles: ValidityString (current):  
2007/03/12/16:30:40  
Mon Mar 12 16:30:40 2007: sshpmGetIssuerHandles: **AP sw version is 0x3027415,**  
**send a Cisco cert to AP.**  
Mon Mar 12 16:30:40 2007: sshpmGetCID: called to evaluate <cscsDefaultIdCert>  
Mon Mar 12 16:30:40 2007: sshpmGetCID: comparing to row 0, CA cert >bsnOldDefaultCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCID: comparing to row 1, CA cert >bsnDefaultRootCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCID: comparing to row 2, CA cert >bsnDefaultCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCID: comparing to row 3, CA cert >bsnDefaultBuildCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCID: comparing to row 4, CA cert  
>cscsDefaultNewRootCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCID: comparing to row 5, CA cert >cscsDefaultMfgCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCID: comparing to row 0, ID cert >bsnOldDefaultIdCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCID: comparing to row 1, ID cert >bsnDefaultIdCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCID: comparing to row 2, ID cert >cscsDefaultIdCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCertFromHandle: calling sshpmGetCertFromCID()  
with CID 0x15b4c76e  
Mon Mar 12 16:30:40 2007: sshpmGetCertFromCID: called to get cert for CID 15b4c76e  
Mon Mar 12 16:30:40 2007: sshpmGetCertFromCID: comparing to row 0, certname  
>bsnOldDefaultCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCertFromCID: comparing to row 1, certname  
>bsnDefaultRootCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCertFromCID: comparing to row 2, certname  
>bsnDefaultCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCertFromCID: comparing to row 3, certname  
>bsnDefaultBuildCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCertFromCID: comparing to row 4, certname  
>cscsDefaultNewRootCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCertFromCID: comparing to row 5, certname  
>cscsDefaultMfgCaCert<  
Mon Mar 12 16:30:40 2007: sshpmGetCertFromCID: comparing to row 0, certname  
>bsnOldDefaultIdCert<  
Mon Mar 12 16:30:44 2007: sshpmGetCertFromCID: comparing to row 1, certname  
>bsnDefaultIdCert<  
Mon Mar 12 16:30:44 2007: sshpmGetCertFromCID: comparing to row 2, certname  
>cscsDefaultIdCert<  
Mon Mar 12 16:30:44 2007: **ssphmPublicKeyEncrypt: called to encrypt 16 bytes**  
Mon Mar 12 16:30:44 2007: **ssphmPublicKeyEncrypt: successfully encrypted, out is 192 bytes**  
Mon Mar 12 16:30:44 2007: sshpmPrivateKeyEncrypt: called to encrypt 196 bytes  
Mon Mar 12 16:30:44 2007: sshpmGetOpensslPrivateKeyFromCID: called to get key for  
CID 15b4c76e  
Mon Mar 12 16:30:44 2007: sshpmGetOpensslPrivateKeyFromCID: comparing to row 0, certname

```

>bsnOldDefaultIdCert<
Mon Mar 12 16:30:44 2007: sshpmGetOpensslPrivateKeyFromCID: comparing to row 1, certname
>bsnDefaultIdCert<
Mon Mar 12 16:30:44 2007: sshpmGetOpensslPrivateKeyFromCID: comparing to row 2, certname
>cscsDefaultIdCert<
Mon Mar 12 16:30:44 2007: sshpmGetOpensslPrivateKeyFromCID: match in row 2
Mon Mar 12 16:30:44 2007: sshpmPrivateKeyEncrypt: calling RSA_private_encrypt
with 196 bytes
Mon Mar 12 16:30:44 2007: sshpmPrivateKeyEncrypt: RSA_private_encrypt returned 256
Mon Mar 12 16:30:44 2007: sshpmPrivateKeyEncrypt: encrypted bytes: 256

```

## 用於驗證Web驗證的Debug命令：

使用以下debug命令以驗證Web驗證是否可在WLCM上按預期運作：

- **debug aaa all enable** — 配置所有AAA消息的調試。
- **debug pem state enable** — 配置策略管理器狀態機的調試。
- **debug pem events enable** — 配置策略管理器事件的調試。
- **debug pm ssh-appgw enable** — 配置應用程式網關的調試。
- **debug pm ssh-tcp enable** — 配置策略管理器tcp處理的調試。

以下是其中一些debug指令的輸出範例：

```
(Cisco Controller) >debug aaa all enable
```

### User user1 authenticated

```

00:40:96:ac:e6:57 Returning AAA Error 'Success' (0) for mobile 00:40:96:ac:e6:57
AuthorizationResponse: 0xbadff97c
  structureSize.....70
  resultCode.....0
  protocolUsed.....0x00000008
  proxyState.....00:40:96:AC:E6:57-00:00
Packet contains 2 AVPs:
  AVP[01] Service-Type.....0x00000001 (1) (4 bytes)
  AVP[02] Airespace / WLAN-Identifier.....0x00000001 (1) (4 bytes)
00:40:96:ac:e6:57 Applying new AAA override for station 00:40:96:ac:e6:57
00:40:96:ac:e6:57 Override values for station 00:40:96:ac:e6:57 source: 48,
valid bits: 0x1 qosLevel: -1, dscp: 0xffffffff, dot1pTag: 0xffffffff, sessionTimeout: -1
dataAvgC: -1, rTAVGC: -1, dataBurstC: -1, rTimeBurstC: -1 vlanIfName: '', aclName:
00:40:96:ac:e6:57 Unable to apply override policy for
station 00:40:96:ac:e6:57 - VapAllowRadiusOverride is FALSE
AccountingMessage Accounting Start: 0xa62700c
Packet contains 13 AVPs:
AVP[01] User-Name.....user1 (5 bytes)
AVP[02] Nas-Port.....0x00000001 (1) (4 bytes)
AVP[03] Nas-Ip-Address.....0x0a4df4d2 (172881106) (4 bytes)
AVP[04] NAS-Identifier.....0x574c4331 (1464615729) (4 bytes)
AVP[05] Airespace / WLAN-Identifier.....0x00000001 (1) (4 bytes)
AVP[06] Acct-Session-Id.....45e84f50/00:40:96:ac:e6:57/9 (28 bytes)
AVP[07] Acct-Authentic.....0x00000002 (2) (4 bytes)
AVP[08] Tunnel-Type.....0x0000000d (13) (4 bytes)
AVP[09] Tunnel-Medium-Type.....0x00000006 (6) (4 bytes)
AVP[10] Tunnel-Group-Id.....0x3330 (13104) (2 bytes)
AVP[11] Acct-Status-Type.....0x00000001 (1) (4 bytes)
AVP[12] Calling-Station-Id.....10.0.0.1 (8 bytes)
AVP[13] Called-Station-Id.....10.77.244.210 (13 bytes)

```

when web authentication is closed by user:

(Cisco Controller) >

AccountingMessage Accounting Stop: 0xa627c78

Packet contains 20 AVPs:

AVP[01] User-Name.....user1 (5 bytes)  
AVP[02] Nas-Port.....0x00000001 (1) (4 bytes)  
AVP[03] Nas-Ip-Address.....0x0a4df4d2 (172881106) (4 bytes)  
AVP[04] NAS-Identifier.....0x574c4331 (1464615729) (4 bytes)  
AVP[05] Airespace / WLAN-Identifier.....0x00000001 (1) (4 bytes)  
AVP[06] Acct-Session-Id.....45e84f50/00:40:96:ac:e6:57/9 (28 bytes)  
AVP[07] Acct-Authentic.....0x00000002 (2) (4 bytes)  
AVP[08] Tunnel-Type.....0x0000000d (13) (4 bytes)  
AVP[09] Tunnel-Medium-Type.....0x00000006 (6) (4 bytes)  
AVP[10] Tunnel-Group-Id.....0x3330 (13104) (2 bytes)  
AVP[11] Acct-Status-Type.....0x00000002 (2) (4 bytes)  
AVP[12] Acct-Input-Octets.....0x0001820e (98830) (4 bytes)  
AVP[13] Acct-Output-Octets.....0x00005206 (20998) (4 bytes)  
AVP[14] Acct-Input-Packets.....0x000006ee (1774) (4 bytes)  
AVP[15] Acct-Output-Packets.....0x00000041 (65) (4 bytes)  
AVP[16] Acct-Terminate-Cause.....0x00000001 (1) (4 bytes)  
AVP[17] Acct-Session-Time.....0x000000bb (187) (4 bytes)  
AVP[18] Acct-Delay-Time.....0x00000000 (0) (4 bytes)  
AVP[19] Calling-Station-Id.....10.0.0.1 (8 bytes)  
AVP[20] Called-Station-Id.....10.77.244.210 (13 bytes)

(Cisco Controller) >**debug pem state enable**

Fri Mar 2 16:27:39 2007: 00:40:96:ac:e6:57 10.0.0.1  
**WEBAUTH\_REQD (8) Change state to START (0)**  
Fri Mar 2 16:27:39 2007: 00:40:96:ac:e6:57 10.0.0.1  
**START (0) Change state to AUTHCHECK (2)**  
Fri Mar 2 16:27:39 2007: 00:40:96:ac:e6:57 10.0.0.1  
**AUTHCHECK (2) Change stateto L2AUTHCOMPLETE (4)**  
Fri Mar 2 16:27:39 2007: 00:40:96:ac:e6:57 10.0.0.1  
L2AUTHCOMPLETE (4) Change state to WEBAUTH\_REQD (8)  
Fri Mar 2 16:28:16 2007: 00:16:6f:6e:36:2b 0.0.0.0  
START (0) Change state to AUTHCHECK (2)  
Fri Mar 2 16:28:16 2007: 00:16:6f:6e:36:2b 0.0.0.0  
AUTHCHECK (2) Change state to L2AUTHCOMPLETE (4)  
Fri Mar 2 16:28:16 2007: 00:16:6f:6e:36:2b 0.0.0.0  
L2AUTHCOMPLETE (4) Change state to DHCP\_REQD (7)  
Fri Mar 2 16:28:19 2007: 00:40:96:ac:e6:57 10.0.0.1  
WEBAUTH\_REQD (8) Change state to WEBAUTH\_NOL3SEC (14)  
Fri Mar 2 16:28:19 2007: 00:40:96:ac:e6:57 10.0.0.1  
WEBAUTH\_NOL3SEC (14) Change state to RUN (20)  
Fri Mar 2 16:28:20 2007: 00:16:6f:6e:36:2b 0.0.0.0  
START (0) Change state to AUTHCHECK (2)  
Fri Mar 2 16:28:20 2007: 00:16:6f:6e:36:2b 0.0.0.0  
AUTHCHECK (2) Change state to L2AUTHCOMPLETE (4)  
Fri Mar 2 16:28:20 2007: 00:16:6f:6e:36:2b 0.0.0.0  
L2AUTHCOMPLETE (4) Change state to DHCP\_REQD (7)  
Fri Mar 2 16:28:24 2007: 00:40:96:af:a3:40 0.0.0.0  
START (0) Change state to AUTHCHECK (2)  
Fri Mar 2 16:28:24 2007: 00:40:96:af:a3:40 0.0.0.0  
AUTHCHECK (2) Change state to L2AUTHCOMPLETE (4)  
Fri Mar 2 16:28:24 2007: 00:40:96:af:a3:40 0.0.0.0  
L2AUTHCOMPLETE (4) Change state to DHCP\_REQD (7)  
Fri Mar 2 16:28:25 2007: 00:40:96:af:a3:40 40.0.0.1  
DHCP\_REQD (7) Change stateto RUN (20)  
Fri Mar 2 16:28:30 2007: 00:16:6f:6e:36:2b 0.0.0.0  
START (0) Change state to AUTHCHECK (2)  
Fri Mar 2 16:28:30 2007: 00:16:6f:6e:36:2b 0.0.0.0  
AUTHCHECK (2) Change state to L2AUTHCOMPLETE (4)

```
Fri Mar 2 16:28:30 2007: 00:16:6f:6e:36:2b 0.0.0.0
L2AUTHCOMPLETE (4) Change state to DHCP_REQD (7)
Fri Mar 2 16:28:34 2007: 00:16:6f:6e:36:2b 30.0.0.2
DHCP_REQD (7) Change state to WEBAUTH_REQD (8)
```

(Cisco Controller) >**debug pem events enable**

```
Fri Mar 2 16:31:06 2007: 00:40:96:ac:e6:57 10.0.0.1
START (0) Initializing policy
Fri Mar 2 16:31:06 2007: 00:40:96:ac:e6:57 10.0.0.1
L2AUTHCOMPLETE (4)Plumbed mobile LWAPP rule on AP 00:0b:85:5b:fb:d0
Fri Mar 2 16:31:06 2007: 00:40:96:ac:e6:57 10.0.0.1
WEBAUTH_REQD (8) Adding TMP rule
Fri Mar 2 16:31:06 2007: 00:40:96:ac:e6:57 10.0.0.1
WEBAUTH_REQD (8) Replacing Fast Path rule
    type = Temporary Entry on AP 00:0b:85:5b:fb:d0, slot 0,
interface = 1 ACL Id = 255,
Jumbo Frames = NO, 802.1P = 0, DSCP = 0, TokenID = 1506
Fri Mar 2 16:31:06 2007: 00:40:96:ac:e6:57 10.0.0.1
WEBAUTH_REQD (8) Successfully plumbed mobile rule (ACL ID 255)
Fri Mar 2 16:31:06 2007: 00:40:96:ac:e6:57 10.0.0.1
WEBAUTH_REQD (8) Deleting mobile policy rule 27
Fri Mar 2 16:31:06 2007: 00:40:96:ac:e6:57
Adding Web RuleID 28 for mobile 00:40:96:ac:e6:57
Fri Mar 2 16:31:06 2007: 00:40:96:ac:e6:57 10.0.0.1
WEBAUTH_REQD (8)Adding TMP rule
Fri Mar 2 16:31:06 2007: 00:40:96:ac:e6:57 10.0.0.1
WEBAUTH_REQD (8)ReplacingFast Path rule type = Temporary Entry
on AP 00:0b:85:5b:fb:d0, slot 0, interface = 1 ACL Id = 255,
Jumbo Frames = NO, 802.1P = 0, DSCP = 0, TokenID = 1506
Fri Mar 2 16:31:06 2007: 00:40:96:ac:e6:57 10.0.0.1
WEBAUTH_REQD (8)Successfully plumbed mobile rule (ACL ID 255)
Fri Mar 2 16:31:06 2007: 00:40:96:ac:e6:57 10.0.0.1 Removed NPU entry.
Fri Mar 2 16:31:06 2007: 00:40:96:ac:e6:57 10.0.0.1 Added NPU entry of type 8
Fri Mar 2 16:31:06 2007: 00:40:96:ac:e6:57 10.0.0.1 Added NPU entry of type 8
```

### 用於驗證DHCP操作的Debug命令：

使用以下debug命令檢查DHCP客戶端和伺服器活動：

- **debug dhcp message enable** — 顯示有關DHCP客戶端活動的調試資訊並監控DHCP資料包的狀態。
- **debug dhcp packet enable** — 顯示DHCP資料包級別資訊。

以下是debug指令的輸出範例：

```
(Cisco Controller) >debug dhcp message enable
00:40:96:ac:e6:57 dhcp option len,including the magic cookie = 64
00:40:96:ac:e6:57 dhcp option: received DHCP REQUEST msg
00:40:96:ac:e6:57 dhcp option: skipping option 61, len 7
00:40:96:ac:e6:57 dhcp option: requested ip = 10.0.0.1
00:40:96:ac:e6:57 dhcp option: skipping option 12, len 3
00:40:96:ac:e6:57 dhcp option: skipping option 81, len 7
00:40:96:ac:e6:57 dhcp option: vendor class id = MSFT5.0 (len 8)
00:40:96:ac:e6:57 dhcp option: skipping option 55, len 11
00:40:96:ac:e6:57 dhcpParseOptions: options end, len 64, actual 64
00:40:96:ac:e6:57 Forwarding DHCP packet (332 octets)from 00:40:96:ac:e6:57
-- packet received on direct-connect port requires forwarding to external DHCP server.
    Next-hop is 10.0.0.50
00:40:96:ac:e6:57 dhcp option len, including the magic cookie = 64
00:40:96:ac:e6:57 dhcp option: received DHCP ACK msg
00:40:96:ac:e6:57 dhcp option: server id = 10.0.0.50
```

```
00:40:96:ac:e6:57 dhcp option: lease time (seconds) =86400
00:40:96:ac:e6:57 dhcp option: skipping option 58, len 4
00:40:96:ac:e6:57 dhcp option: skipping option 59, len 4
00:40:96:ac:e6:57 dhcp option: skipping option 81, len 6
00:40:96:ac:e6:57 dhcp option: netmask = 255.0.0.0
00:40:96:ac:e6:57 dhcp option: gateway = 10.0.0.50
00:40:96:ac:e6:57 dhcpParseOptions: options end, len 64, actual 64
```

```
(Cisco Controller) >debug dhcp packet enable
```

```
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 dhcpProxy: Received packet:
Client 00:40:96:ac:e6:57 DHCP Op: BOOTREQUEST(1), IP len: 300,
switchport: 1, encap: 0xec03
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 dhcpProxy: dhcp request,
client: 00:40:96:ac:e6:57: dhcp op: 1, port: 1, encap 0xec03,
old mscb port number: 1
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 Determing relay for 00:40:96:ac:e6:57
dhcpServer: 10.0.0.50, dhcpNetmask: 255.0.0.0, dhcpGateway: 10.0.0.50,
dhcpRelay: 10.0.0.10 VLAN: 30
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 Relay settings for 00:40:96:ac:e6:57
Local Address: 10.0.0.10, DHCP Server: 10.0.0.50, Gateway Addr: 10.0.0.50,
VLAN: 30, port: 1
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 DHCP Message Type received: DHCP REQUEST msg
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 op: BOOTREQUEST,
htype: Ethernet,hlen: 6, hops: 1
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 xid: 1674228912, secs: 0, flags: 0
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 chaddr: 00:40:96:ac:e6:57
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 ciaddr: 10.0.0.1, yiaddr: 0.0.0.0
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 siaddr: 0.0.0.0, giaddr: 10.0.0.10
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 DHCP request to 10.0.0.50,
len 350,switchport 1, vlan 30
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 dhcpProxy: Received packet:
Client 00:40:96:ac:e6:57 DHCP Op: BOOTREPLY(2), IP len: 300,
switchport: 1, encap: 0xec00
Fri Mar 2 16:06:35 2007: DHCP Reply to AP client: 00:40:96:ac:e6:57,
frame len412, switchport 1
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 DHCP Message Type received: DHCP ACK msg
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 op: BOOTREPLY, htype: Ethernet,
hlen: 6, hops: 0
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 xid: 1674228912, secs: 0, flags: 0
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 chaddr: 00:40:96:ac:e6:57
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 ciaddr: 10.0.0.1, yiaddr: 10.0.0.1
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 siaddr: 0.0.0.0, giaddr: 0.0.0.0
Fri Mar 2 16:06:35 2007: 00:40:96:ac:e6:57 server id: 1.1.1.1
rcvd server id: 10.0.0.50
```

**用於驗證TFTP升級的Debug命令：**

- **show msglog** — 顯示寫入思科無線LAN控制器資料庫的消息日誌。如果條目超過15個，系統將提示您顯示示例中所示的消息。
- **debug transfer trace** — 配置傳輸或升級的調試。

以下是debug transfer trace指令的範例：

```
Cisco Controller) >debug transfer trace enable
```

```
(Cisco Controller) >transfer download start
```

```
Mode..... TFTP
Data Type..... Code
TFTP Server IP..... 172.16.1.1
TFTP Packet Timeout..... 6
```

TFTP Max Retries..... 10  
TFTP Path..... d:\WirelessImages/  
TFTP Filename..... AIR-WLC2006-K9-3-2-78-0.aes

This may take some time.

Are you sure you want to start? (y/n) y

Mon Feb 13 14:06:56 2006: RESULT\_STRING: **TFTP Code transfer starting.**

Mon Feb 13 14:06:56 2006: RESULT\_CODE:1

TFTP Code transfer starting.

Mon Feb 13 14:06:59 2006: Still waiting! Status = 2

Mon Feb 13 14:07:00 2006: Locking tftp semaphore, pHost=172.16.1.1

pFilename=d:\WirelessImages/AIR-WLC2006-K9-3-2-78-0.aes

Mon Feb 13 14:07:00 2006: Semaphore locked, now unlocking, pHost=172.16.1.1

pFilename=d:\WirelessImages/AIR-WLC2006-K9-3-2-78-0.aes

Mon Feb 13 14:07:00 2006: Semaphore successfully unlocked, pHost=172.16.1.1

pFilename=d:\WirelessImages/AIR-WLC2006-K9-3-2-78-0.aes

Mon Feb 13 14:07:02 2006: Still waiting! Status = 1

Mon Feb 13 14:07:05 2006: Still waiting! Status = 1

Mon Feb 13 14:07:08 2006: Still waiting! Status = 1

Mon Feb 13 14:07:11 2006: Still waiting! Status = 1

Mon Feb 13 14:07:14 2006: Still waiting! Status = 1

Mon Feb 13 14:07:17 2006: Still waiting! Status = 1

Mon Feb 13 14:07:19 2006: tftp rc=0, pHost=172.16.1.1 pFilename=d:\WirelessImages/

AIR-WLC2006-K9-3-2-78-0.aes pLocalFilename=/mnt/download/local.tgz

Mon Feb 13 14:07:19 2006: tftp = 6, file\_name=d:\WirelessImages/

AIR-WLC2006-K9-3-2-78-0.aes, ip\_address=172.16.1.1

Mon Feb 13 14:07:19 2006: upd\_get\_code\_via\_tftp = 6 (target=268435457)

Mon Feb 13 14:07:19 2006: RESULT\_STRING: TFTP receive complete... extracting components.

Mon Feb 13 14:07:19 2006: RESULT\_CODE:6

TFTP receive complete... extracting components.

Mon Feb 13 14:07:20 2006: Still waiting! Status = 2

Mon Feb 13 14:07:23 2006: Still waiting! Status = 1

Mon Feb 13 14:07:23 2006: Still waiting! Status = 1

Mon Feb 13 14:07:23 2006: Still waiting! Status = 1

Mon Feb 13 14:07:25 2006: RESULT\_STRING: Executing init script.

Mon Feb 13 14:07:25 2006: RESULT\_STRING: Executing backup script.

Executing backup script.

Mon Feb 13 14:07:26 2006: Still waiting! Status = 2

Mon Feb 13 14:07:29 2006: Still waiting! Status = 1

Mon Feb 13 14:07:31 2006: RESULT\_STRING: **Writing new bootloader to flash disk.**

Writing new bootloader to flash disk.

Mon Feb 13 14:07:32 2006: Still waiting! Status = 2

Mon Feb 13 14:07:33 2006: RESULT\_STRING: Executing install\_bootloader script.

Executing install\_bootloader script.

Mon Feb 13 14:07:35 2006: Still waiting! Status = 2

Mon Feb 13 14:07:35 2006: RESULT\_STRING: Writing new RTOS to flash disk.

Mon Feb 13 14:07:36 2006: RESULT\_STRING: Executing install\_rtos script.

Mon Feb 13 14:07:36 2006: RESULT\_STRING: **Writing new Code to flash disk.**

Writing new Code to flash disk.

Mon Feb 13 14:07:38 2006: Still waiting! Status = 2

Mon Feb 13 14:07:41 2006: Still waiting! Status = 1

Mon Feb 13 14:07:42 2006: RESULT\_STRING: Executing install\_code script.

Executing install\_code script.

Mon Feb 13 14:07:44 2006: Still waiting! Status = 2

Mon Feb 13 14:07:47 2006: Still waiting! Status = 1

Mon Feb 13 14:07:48 2006: RESULT\_STRING: Writing new APIB to flash disk.

```

Writing new APIB to flash disk.
Mon Feb 13 14:07:50 2006: Still waiting! Status = 2
Mon Feb 13 14:07:51 2006: RESULT_STRING: Executing install_apib script.

Executing install_apib script.
Mon Feb 13 14:07:53 2006: Still waiting! Status = 2
Mon Feb 13 14:07:53 2006: Still waiting! Status = 1
Mon Feb 13 14:07:53 2006: Still waiting! Status = 1
Mon Feb 13 14:07:53 2006: Still waiting! Status = 1
Mon Feb 13 14:07:53 2006: Still waiting! Status = 1
Mon Feb 13 14:07:54 2006: RESULT_STRING: Writing new APIB to flash disk.
Mon Feb 13 14:07:56 2006: RESULT_STRING: Executing install_apib script.

Executing install_apib script.
Mon Feb 13 14:07:56 2006: Still waiting! Status = 2
Mon Feb 13 14:07:59 2006: RESULT_STRING: Writing new APIB to flash disk.

Writing new APIB to flash disk.
Mon Feb 13 14:08:00 2006: Still waiting! Status = 2
Mon Feb 13 14:08:00 2006: RESULT_STRING: Executing install_apib script.

Executing install_apib script.
Mon Feb 13 14:08:03 2006: Still waiting! Status = 2
Mon Feb 13 14:08:03 2006: RESULT_STRING: Writing new Cert-patch to flash disk.
Mon Feb 13 14:08:03 2006: RESULT_STRING: Executing install_cert_patch script.
Mon Feb 13 14:08:03 2006: RESULT_STRING: Executing fini script.
Mon Feb 13 14:08:04 2006: RESULT_STRING: TFTP File transfer is successful.
Reboot the switch for update to complete.
Mon Feb 13 14:08:06 2006: Still waiting! Status = 2
Mon Feb 13 14:08:08 2006: ummounting: <umount /mnt/download/> cwd = /mnt/application
Mon Feb 13 14:08:08 2006: finished umounting

```

## 802.1X/WPA/RSN/PMK快取的debug命令：

- **debug dot1x all enable** — 顯示802.1X調試資訊。以下是此指令的輸出範例：  
(Cisco Controller) >**debug dot1x all enable**

```

Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57
Adding AAA_ATT_USER_NAME(1) index=0
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57
Adding AAA_ATT_CALLING_STATION_ID(31) index=1
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57
Adding AAA_ATT_CALLED_STATION_ID(30) index=2
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57
Adding AAA_ATT_NAS_PORT(5) index=3
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57
Adding AAA_ATT_NAS_IP_ADDRESS(4) index=4
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57
Adding AAA_ATT_NAS_IDENTIFIER(32) index=5
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57
Adding AAA_ATT_VAP_ID(1) index=6
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57
Adding AAA_ATT_SERVICE_TYPE(6) index=7
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57
Adding AAA_ATT_FRAMED_MTU(12) index=8
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57
Adding AAA_ATT_NAS_PORT_TYPE(61) index=9
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57
Adding AAA_ATT_EAP_MESSAGE(79) index=10
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57
Adding AAA_ATT_MESS_AUTH(80) index=11
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57
AAA EAP Packet created request = 0xbbdfe944.. !!!!

```

Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
**AAA Message 'Interim Response' received for mobile 00:40:96:ac:e6:57**  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
**Received EAP Attribute (code=1, length=24,id=1, dot1xcb->id = 1)**  
**for mobile 00:40:96:ac:e6:57**  
**Fri Mar 23 21:35:01 2007: 00000000: 01 01 00 18 11 01 00 08 38 93 8c 47 64 99**  
**e1 d0 .....8..Gd...**  
**00000010: 45 41 50 55 53 45 52 31** **EAPUSER1**  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Skipping AVP (0/80) for mobile 00:40:96:ac:e6:57  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_USER\_NAME(1) index=0  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_CALLING\_STATION\_ID(31) index=1  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_CALLED\_STATION\_ID(30) index=2  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_NAS\_PORT(5) index=3  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_NAS\_IP\_ADDRESS(4) index=4  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_NAS\_IDENTIFIER(32) index=5  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_VAP\_ID(1) index=6  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_SERVICE\_TYPE(6) index=7  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_FRAMED\_MTU(12) index=8  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_NAS\_PORT\_TYPE(61) index=9  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_EAP\_MESSAGE(79) index=10  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_MESS\_AUTH(80) index=11  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
AAA EAP Packet created request = 0xbbdfe944.. !!!!  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
AAA Message 'Interim Response' received for mobile 00:40:96:ac:e6:57  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Received EAP Attribute (code=3, length=4,id=1, dot1xcb->id = 1)  
for mobile 00:40:96:ac:e6:57  
Fri Mar 23 21:35:01 2007: 00000000: 03 01 00 04 .....  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57 Skipping AVP (0/80)  
for mobile 00:40:96:ac:e6:57  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_USER\_NAME(1) index=0  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_CALLING\_STATION\_ID(31) index=1  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_CALLED\_STATION\_ID(30) index=2  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_NAS\_PORT(5) index=3  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_NAS\_IP\_ADDRESS(4) index=4  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_NAS\_IDENTIFIER(32) index=5  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_VAP\_ID(1) index=6  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_SERVICE\_TYPE(6) index=7  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_FRAMED\_MTU(12) index=8  
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57  
Adding AAA\_ATT\_NAS\_PORT\_TYPE(61) index=9



```
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57
Adding AAA_ATT_EAP_MESSAGE(79) index=10
Fri Mar 23 21:35:01 2007: 00:40:96:ac:e6:57
Adding AAA_ATT_MESS_AUTH(80) index=11
Fri Mar 23 21:35:05 2007: 00:40:96:ac:e6:57
AAA EAP Packet created request = 0xbbdfe944.. !!!!
Fri Mar 23 21:35:05 2007: 00:40:96:ac:e6:57
AAA Message 'Success' received for mobile 00:40:96:ac:e6:57
```

- **debug dot11 all enable** — 啟用無線電功能的調試。
- **show client summary <mac>** — 按MAC地址顯示客戶端的摘要資訊。以下是此指令的輸出範例

```
:
(Cisco Controller) >show client summary

Number of Clients..... 1

MAC Address          AP Name              Status              WLAN  Auth  Protocol  Port
-----
00:40:96:ac:e6:57   AP0015.63e5.0c7e    Associated          1     Yes   802.11a   1
```

## 相關資訊

- [Cisco無線LAN控制器命令參考](#)
- [Cisco WLAN控制器網路模組功能指南](#)
- [無線LAN控制器模組\(WLCM\)組態範例](#)
- [無線LAN控制器Web驗證組態範例](#)
- [使用WLAN控制器\(WLC\)的EAP驗證組態範例](#)
- [技術支援與文件 - Cisco Systems](#)