Release Notes for Cisco Aironet PCM/LMC/PCI Client Adapter Firmware, Version 4.25.30

Contents

This document contains the following sections:

Introduction

This document describes system requirements, upgrade procedures, new and changed information, and caveats for Cisco Aironet PCM/LMC/PCI client adapter firmware release 4.25.30. This release includes the new information discussed on page 7 and resolves the caveats listed in the "Resolved Caveats" section.

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System Requirements

You must have a Cisco Aironet 340, 350, or 4800 series PC card, LM card, or PCI client adapter to install firmware version 4.25.30.

To take advantage of the new features introduced in client adapter firmware release 4.25.30, you must install Windows ACU version 5.02.005 or greater and Windows PCM/LMC/PCI card driver version 8.2.3 or greater. To benefit from the latest security features, your access points must use firmware version 11.10T or greater.

Note PC, LM, and PCI cards use different drivers and firmware than mini PCI cards.

Note Although firmware version 4.25.30 is compatible with Windows CE, Linux, and Mac OS, the latest client utilities for these operating systems (version 2.20 for Windows CE, version 1.6.7 for Linux, and version 2.1 for Mac OS) do not support the new features introduced in this firmware release.

Network-EAP Authentication Requires Matching 802.1X Protocol Drafts

In order to use Network-EAP authentication on your wireless network, your client devices and infrastructure devices (access points and bridges) must use the same 802.1X protocol draft. Client firmware release 4.25.30 supports draft 10 of the 802.1X protocol standard. Therefore, if client devices use this version of firmware, an access point or bridge to which they associate must also be configured to use draft 10. The table below lists firmware versions for Cisco Aironet products and the drafts with which they comply.

Firmware Version	Draft 8	Draft 10[1]
Client adapters (PCM34x/35x, LMC34x/35x, and PCI34x/35x)		
4.13	x	—
4.16	x	—
4.23	x	—
4.25 and later	—	x
Workgroup bridges (WGB34x/352)		
8.58	x	—
8.61 and later	—	x
Access points (AP34x/35x)		
11.05 and earlier	x	—
11.06 and later[2]	x	x
Bridges (BR352)		
11.06 and later[2]	x	x

1. The functionality in draft 10 is equivalent to the functionality in draft 11, the ratified draft of the 802.1X standard.

2. The default draft setting in access point and bridge firmware version 11.06 and later is draft 10.

If your clients and infrastructure devices do not have matching 802.1X protocol drafts, upgrade the firmware in these devices to versions with the same draft number. However, if your access points or bridges are using firmware version 11.06 or later, you can use their Authenticator Configuration page to select the draft of the 802.1X protocol that they should use. To set the draft for your access points or bridges, follow the instructions in the *Release Notes for Cisco Aironet Access Points* for firmware version 11.06 or greater. You can access these Release Notes at the following URL:

http://www.cisco.com/univercd/cc/td/doc/product/wireless/airo_350/accsspts/ap350rn/index.htm

Upgrading to a New Firmware Release

This section describes how to upgrade to firmware release 4.25.30.

Determining the Firmware Version

To determine the firmware version that your client adapter is currently using, follow the instructions below for your operating system.

In Windows 95, 98, NT, 2000, Me, or XP

Open ACU; then click the **Status** icon or select **Status** from the Commands drop-down menu. The firmware version is displayed in the Status screen.

In Linux

Open ACU; then select **Status** from the Commands drop-down menu. The firmware version is displayed in the Status screen.

In Mac OS

On Mac OS 9.x, open the Macintosh client utility; then select **Status** from the File drop-down menu and the **Link Status** tab. The firmware version is displayed in the Status screen.

On Mac OS X, click the **Status** tab on the Advanced Properties screen. The firmware version is displayed in the Status screen.

In Windows CE

Select **Start** > **Programs** > **Cisco** > **Load New Firmware**. The firmware version is displayed in the Select New Firmware screen.

Upgrade Procedure for Windows, Linux, and Mac OS

To upgrade your client adapter's firmware on Windows 95, 98, NT, 2000, Me, or XP, Linux, or Mac OS, follow the steps below. To upgrade your client adapter's firmware on Windows CE, go to the "Upgrade Procedure for Windows CE" section on page 6.

> ✎ **Note**   If you downloaded a Windows bundled file and extracted its software files to a folder, locate the extracted files, double-click the firmware file (the one that doesn't specify ACU or the Windows operating system), extract its image file (*.img) to a folder, and follow the instructions below beginning with Step 9.

Step 1   Use your computer's web browser to access the following URL:
http://www.cisco.com/public/sw-center/sw-wireless.shtml

Step 2   Locate the section for client adapter firmware.

Step 3   Click the link for your client adapter's series (for example, 350 Series).

Step 4   Click the latest radio firmware file for your client adapter type.

> ✎ **Note**   The firmware for PC, LM, and PCI cards is labeled *PCM-LMC-PCI*.

> ✎ **Note**   If your wireless network uses LEAP authentication, remember to select a radio firmware file of the same draft standard as the access points to which your client adapter will be authenticating.

> ✎ **Note**   If your wireless network uses EAP-TLS or EAP-MD5 authentication, you must select draft 10 of the radio firmware.

Step 5   Read and accept the terms and conditions of the Software License Agreement.

Step 6   Select the firmware file to download it.

Step 7   Save the file to a floppy disk or to your computer's hard drive.

Step 8   Locate the file on your floppy disk or on your computer's hard drive and use an unzip program to extract the image file to a folder.

Step 9   Make sure the client adapter is installed in your computer and is operational.

Step 10   Follow the instructions in one of the subsections below for your specific operating system.

Windows 95, 98, NT, 2000, Me, or XP

Step 1   Open ACU; then click the **Load Firmware** icon or select **Load New Firmware** from the Commands drop-down menu.

Step 2   Find the location of the new firmware in the Open Window's Look in box. The default location is *InstallPath*\Firmware, where *InstallPath* is the directory that ACU was installed in.

Step 3   Click the firmware image file (*.img) so that it appears in the File name box at the bottom of the Open window.

Step 4   Click the **Open** button. A progress bar displays while the selected image is loaded into the client adapter's Flash memory.

Step 5   Click **OK** when the "Firmware Upgrade Complete!" message appears. The OK button cannot be selected until the process is complete or an error occurs.

Linux

Step 1   Select **Load New Firmware** from the Commands drop-down menu.

Step 2   In the File Selection window, find the location of the new firmware in the Files box.

Step 3   Under Files, click the new firmware image (*.img) so it appears in the Selection box at the bottom of the window.

Step 4   Click **OK** to load the firmware image into your client adapter's Flash memory.

Mac OS

Mac OS 9.x

Step 1   Select **Load Firmware** from the Edit drop-down menu.

Step 2   In the Firmware window, select the location of the new firmware under Name (for example, Macintosh HD).

Step 3   Click the new firmware image (*.img).

Step 4   Click the **Open** button to load the firmware image into your client adapter's Flash memory.

Mac OS X

Step 1   Select **Download firmware** from the File drop-down menu. The File Location screen appears.

Step 2   Click the up and down arrows on the right of the From field and select the location (volume and folder) of the new radio firmware file on your hard disk.

Step 3   Click the new firmware image (*.img).

Step 4   Click the **Open** button. A dialog box appears indicating the progress of the download. The selected image is loaded into the client adapter's Flash memory.

Step 5   Click **OK** when a message appears indicating the firmware download was successful.

Upgrade Procedure for Windows CE

Step 1 Use a serial or USB cable to connect your Windows CE device to a laptop or PC running Microsoft ActiveSync. A message appears on the Windows CE device indicating that it is connecting to the host. After the Windows CE device is connected, the New Partnership window appears on the laptop or PC. This window asks if you want to set up a partnership.

Step 2 Perform one of the following:

- If you want to establish a partnership that allows you to synchronize files between the laptop or PC and the Windows CE device, select **Yes**, click **Next**, and follow the instructions on the screen to specify the files to be synchronized and to finish setting up the partnership.

- If you do not want to synchronize files and want to connect as a "guest," select **No** and click **Next**. The screen indicates that you are connected as a guest.

Step 3 Use the laptop or PC's web browser to access the following URL:
http://www.cisco.com/public/sw-center/sw-wireless.shtml

Step 4 Locate the section for client adapter firmware.

Step 5 Click the link for your client adapter's series (for example, 350 Series).

Step 6 Click the latest radio firmware file for your client adapter.

> ✎
> **Note** The firmware for PC, LM, and PCI cards is labeled *PCM-LMC-PCI*.

> ✎
> **Note** If your wireless network uses LEAP authentication, remember to select a radio firmware file of the same draft standard as the access points to which your client adapter will be authenticating.

Step 7 Read and accept the terms and conditions of the Software License Agreement.

Step 8 Select the firmware file to download it.

Step 9 Save the file to a floppy disk or to the hard drive of your laptop or PC.

Step 10 Locate the file using Windows Explorer, double-click it, and extract the image file (*.img) to a folder.

Step 11 In the ActiveSync window on the laptop or PC, click the **Explore** button to view the files on the Windows CE device.

Step 12 Drag and drop the firmware image from Windows Explorer to a location in the ActiveSync window.

> ✎
> **Note** If your Windows CE device is a PPC running Windows CE 3.0, you must copy the firmware image to the My Documents folder or a folder under My Documents.

Step 13 After the file is copied, disconnect the Windows CE device.

Step 14 Make sure the client adapter is installed in your Windows CE device and is operational.

Step 15 On your Windows CE device, select **Start** > **Programs** > **Cisco** > **Load New Firmware**.

Step 16 Click the **Select Firmware** button.

Step 17   Find the location of the new firmware image in the Open window.

Step 18   Click the new firmware image file (*.img) so it appears in the Name box at the bottom of the Open window.

Step 19   Click **OK**. If the selected image is loaded successfully into the client adapter's Flash memory, a "Firmware Upgrade Complete!" message appears on the Load New Firmware screen.

New and Changed Information

This section describes new and changed information for release 4.25.30 of the Cisco Aironet client adapter firmware.

Ability to Periodically Scan for a Better Access Point Added to ACU

Firmware release 4.25.30 enables the client to look for a better access point if its signal strength becomes low and to switch associations if it finds one. This feature is selectable in ACU through the Periodically Scan For A Better Access Point parameter on the RF Network screen.

Note   This parameter is available only if your client adapter is using ACU version 5.02.005 or greater.

Ability to Select Clear Channel Assessment (CCA)

Firmware release 4.25.30 provides the ability to determine whether the channel on which your client adapter will operate is clear prior to the transmission of data. This feature is selectable in ACU through the Clear Channel Assessment parameter on the RF Network screen. The following methods are available from the parameter's drop-down list in ACU:

- **Firmware Default (*XXX*)** - The CCA mechanism reports that the channel is busy based on the default value of the client adapter's firmware. The firmware's CCA default value is shown in parentheses. For example, the CCA default value for PCM/LMC/PCI card firmware is Car/Cor, and the default value for mini PCI card firmware is ED.

- **Carrier/Correlation (Car/Cor)** - The CCA mechanism reports that the channel is busy upon detection of a direct-sequence spread spectrum (DSSS) signal. This signal may be above or below the ED threshold.

- **Energy Detect (ED)** - The CCA mechanism reports that the channel is busy upon detection of any energy above the ED threshold.

- **ED or Car/Cor** - The CCA mechanism reports that the channel is busy upon detection of a DSSS signal or any energy above the ED threshold.

Note   This parameter is available only if your client adapter is using ACU version 5.02.005 or greater.

Resolved Caveats

This section describes resolved caveats for client adapter firmware release 4.25.30.

Roaming Issues with Client Adapters

When a client is associated to an access point and then moves away from the access point and closer to another access point, the client maintains association with the first access point even if the signal strength is very low and the signal quality is poor. If you remove and reinsert the card, the client associates to the second access point, and ACU shows a high signal strength and excellent signal quality (CSCdv68043). This caveat is resolved in firmware release 4.25.30 and ACU release 5.02.005 with the addition of the Periodically Scan For A Better Access Point parameter. When this feature is enabled on the ACU RF Network screen (which is the default value), the client will look for a better access point if its signal strength becomes low and will switch associations if it finds one.

Poor Throughput with 350 Series PC Card in IBM Laptop

If you install a 350 series PC card in an IBM 600E laptop that is running Windows 98 or 2000, the card experiences very poor throughout (CSCdu17477 and CSCdw71765). These caveats are resolved in firmware release 4.25.30.

Wideband Japan Channel Set Displays Incorrect Power Levels

The 4800 series client adapters do not display the correct available power levels when programmed to the wideband Japan channel set (CSCdv57626). This caveat has been closed because wideband Japan is not a valid factory configuration on the 4800A.

Getting Bug Information on Cisco.com

If you are a Cisco registered user, you can use the Cisco TAC Software Bug Toolkit, which consists of three tools (Bug Navigator, Bug Watcher, and Search by Bug ID Number) that help you to identify existing bugs (or caveats) in Cisco software products.

Access the TAC Software Bug Toolkit today at the following URL:

http://www.cisco.com/cgi-bin/Support/Bugtool/launch_bugtool.pl

Troubleshooting

For the most up-to-date, detailed troubleshooting information, refer to the Cisco TAC website at the following URL: http://www.cisco.com/tac. Select **Wireless Technologies** under Top Issues.

Related Documentation

For more information about 340 and 350 series client adapters, refer to the following documents:

- *Cisco Aironet Wireless LAN Client Adapters Installation and Configuration Guide for Windows*
- *Cisco Aironet Wireless LAN Client Adapters Installation and Configuration Guide for Windows CE*
- *Cisco Aironet Wireless LAN Client Adapters Installation and Configuration Guide for Linux*
- *Cisco Aironet Wireless LAN Client Adapters Installation and Configuration Guide for Mac OS*

Obtaining Documentation

The following sections explain how to obtain documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at the following URL:

http://www.cisco.com

Translated documentation is available at the following URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation CD-ROM

Cisco documentation and additional literature are available in a CD-ROM package shipped separately from the Cisco Aironet Wireless LAN Client Adapters CD that shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or as an annual subscription.

Ordering Documentation

Cisco documentation is available in the following ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products MarketPlace:

  http://www.cisco.com/cgi-bin/order/order_root.pl

- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:

  http://www.cisco.com/go/subscription

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco corporate headquarters (California, USA) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

Documentation Feedback

If you are reading Cisco product documentation on Cisco.com, you can submit technical comments electronically. Click the **Fax** or **Email** option under the "Leave Feedback" at the bottom of the Cisco Documentation home page.

You can e-mail your comments to bug-doc@cisco.com.

To submit your comments by mail, use the response card behind the front cover of your document, or write to the following address:

Cisco Systems
Attn: Document Resource Connection
170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain documentation, troubleshooting tips, and sample configurations from online tools by using the Cisco Technical Assistance Center (TAC) Web Site. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC Web Site.

Cisco.com

Cisco.com is the foundation of a suite of interactive, networked services that provides immediate, open access to Cisco information, networking solutions, services, programs, and resources at any time, from anywhere in the world.

Cisco.com is a highly integrated Internet application and a powerful, easy-to-use tool that provides a broad range of features and services to help you to

- Streamline business processes and improve productivity
- Resolve technical issues with online support
- Download and test software packages
- Order Cisco learning materials and merchandise
- Register for online skill assessment, training, and certification programs

You can self-register on Cisco.com to obtain customized information and service. To access Cisco.com, go to the following URL:

http://www.cisco.com

Technical Assistance Center

The Cisco TAC is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two types of support are available through the Cisco TAC: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Inquiries to Cisco TAC are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.

- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.

- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.

- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

Which Cisco TAC resource you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

The Cisco TAC Web Site allows you to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to the following URL:

http://www.cisco.com/tac

All customers, partners, and resellers who have a valid Cisco services contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to the following URL to register:

http://www.cisco.com/register/

If you cannot resolve your technical issues by using the Cisco TAC Web Site, and you are a Cisco.com registered user, you can open a case online by using the TAC Case Open tool at the following URL:

http://www.cisco.com/tac/caseopen

If you have Internet access, it is recommended that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses issues that are classified as priority level 1 or priority level 2; these classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer will automatically open a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to the following URL:

http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled; for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). In addition, please have available your service agreement number and your product serial number.

This document is to be used in conjunction with the documents listed in the "Related Documentation" section.