



# Release Notes for Cisco Aironet 802.11a/b/g Client Adapters (CB21AG and PI21AG) Install Wizard 3.5

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# Introduction

This document describes system requirements, important notes, new and changed information, installation and upgrade procedures, and caveats for CB21AG and PI21AG client adapter Install Wizard release 3.5 and the following software included in the Install Wizard file:

- CB21AG and PI21AG client adapter driver release 3.5
- Aironet Desktop Utility (ADU) release 3.5
- Cisco Aironet Site Survey Utility release 1.4.01

## System Requirements

You need the following items in order to install Install Wizard 3.5 and use its software components:

- One of the following Cisco Aironet client adapters:
  - CB21AG PC-Cardbus card
  - PI21AG PCI card
- A computer running the Windows 2000 or XP operating system


**Note**


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Cisco recommends a 300-MHz (or greater) processor.

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- Service Pack 2 for Windows XP (Professional, Home); Service Pack 4 for Windows 2000.
- 20 MB of free hard disk space (minimum)
- 128 MB of RAM or greater (recommended)
- If your wireless network uses EAP-TLS or PEAP authentication, Certificate Authority (CA) and user certificates for EAP-TLS authentication or CA certificate for PEAP authentication
- If your wireless network uses PEAP (EAP-GTC) authentication with a One-Time Password (OTP) user database:
  - A hardware token device from OTP vendors or the Secure Computing SofToken program (version 2.1 or later)
  - Your hardware or software token password
- The Microsoft 802.1X supplicant, if your client adapter is installed on a Windows 2000 device and uses PEAP (EAP-MSCHAPV2) with machine authentication
- All necessary infrastructure devices (such as access points, servers, gateways, user databases, etc.) must be properly configured for any authentication type you plan to enable on the client.
- The following information from your system administrator:
  - The logical name for your workstation (also referred to as *client name*)
  - The protocols necessary to bind to the client adapter, such as TCP/IP
  - The case-sensitive service set identifier (SSID) for your RF network
  - If your network setup does not include a DHCP server, the IP address, subnet mask, and default gateway address of your computer

- The wired equivalent privacy (WEP) keys of the access points with which your client adapter will communicate, if your wireless network uses static WEP for security
- The username and password for your network account
- Protected access credentials (PAC) file if your wireless network uses EAP-FAST authentication with manual PAC provisioning

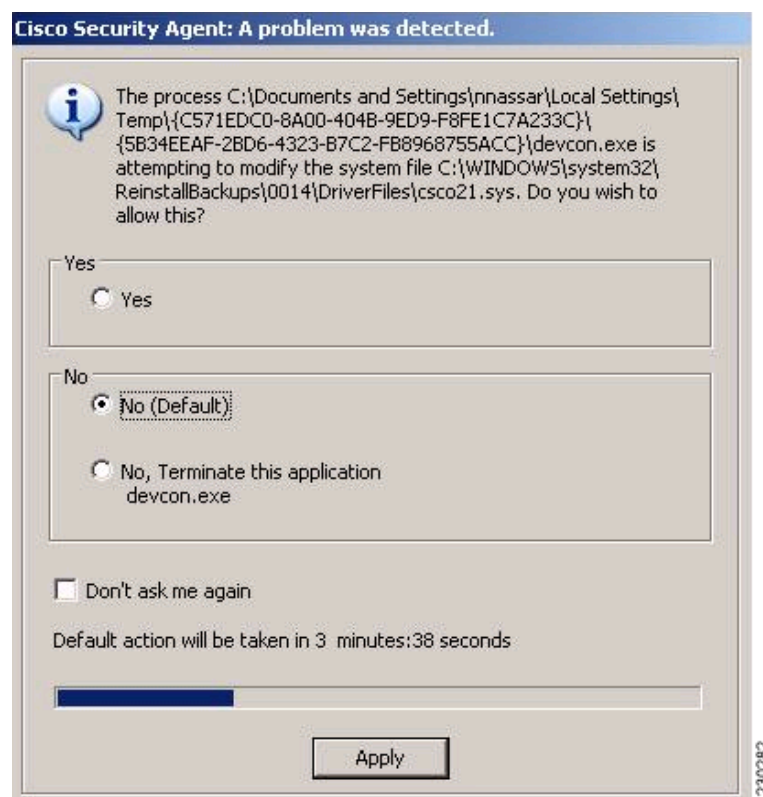
## Important Notes

### Conflict between Cisco Security Agent Version 5.0 and the Install Wizard for the CB21AG or PI21AG

If you have Cisco Security Agent (CSA) version 5.0 installed on your computer and you attempt to run release 3.5 of the Install Wizard (setup.exe) for the Cisco Aironet CB21AG or PI21AG wireless client, you might encounter one of two conditions that prevents the completion of software installation.

When you run setup.exe, the CSA opens the following dialog box (see [Figure 1](#)).

**Figure 1** Cisco Security Agent Dialog Box



The following are the two conditions:

- If you click **No**, you are instructing the CSA to disallow devcon.exe of the client installation software from executing its tasks. The installation then appears to stall. The installation does not complete, and the computer must be rebooted. To avoid this behavior, disable the CSA before installing the wireless client software. This condition is tracked by CSCsg83510.
- If you click **Yes**, you are instructing the CSA to allow devcon.exe of the client installation software to execute its tasks. However, the CSA might block cmd.exe from executing without notice. The installation then appears to stall, and the computer must be rebooted. This condition is tracked by CSCsh16031.

## Mismatch between HP DC5 100 PCI Bus Controller and PCI Key Cache Register on PI21AG Chip

A mismatch exists between the HP DC5100 PCI bus controller and the PCI key cache register on the chip of the PI21AG. The key cache uses a 48-bit register in which the PI21AG sends out two writes on the PCI bus back to back (DWORD and WORD). The controller on the device cannot handle two consecutive write cycles on the bus, which causes a fatal error on the PCI bus.

You should slow down the write operations to the key cache by performing a register read before and after a register write. To slow down the write operations, install registry key "singleWriteKC=1." The path of the "singleWriteKC=1" registry key is the following:

```
HKEY_LOCAL_MACHINE\SYSTEM\CurrentControlSet\Control\Class\{4D36E972-E325-11CE-BF
C1-08002bE10318}
```

You should not see any system degradation or performance hits, as the key cache is only changed every few minutes. An additional read before the second write cycle only lasts a few micro seconds in the PCI space.

## Installing the CB21AG Intermediate Driver Manually

In some instances, the installation of the CB21AG software might not work as expected because the intermediate driver might not have installed correctly. In this situation, the installer might not detect this condition, and the rest of the software will not function correctly.

The CB21AG intermediate driver must be installed manually. To install the intermediate driver manually, follow these steps:

- 
- Step 1** Insert the client adapter.
  - Step 2** Click **Network Connections** in the Start > Settings menu in Windows XP, or right click **My Network Places** in Windows 2000. Find the CB21AGg instance.
  - Step 3** Right click the **Cisco CB21AG** instance, and left click **Properties**.
  - Step 4** Choose the **Install** option and then add a new service.
  - Step 5** Click **Have disk**. Go to the \windows\system32 directory and choose **wsimd.inf**.
  - Step 6** Select **Wireless Intermediate Driver** and click **OK**. The wireless IMD is bound to the adapter.
  - Step 7** Reboot system.
-

## Incompatibility between PACs Created by ACS Version 3.x.xx and ACS Version 4.0.xx

PACs that are created by ACS version 3.x.xx are not compatible with ACS version 4.0.xx. Client stations must import new PACs. If you select auto-provisioning, new PACs will automatically be generated and used. However, if you select manual provisioning, you must manually export new PACs to the client stations.

If a user wants to authenticate to ACS version 4.0.xx and version 3.x.xx at different times, both PACs must remain on the client station. The ADU is capable of automatically selecting the appropriate PAC.

However, if you experiences authentication failures after upgrading the software, delete all the PACs provisioned from the 3.x.xx server.

## Conflict with Third-Party Supplicants

When using release 3.5, you might encounter a conflict with third-party supplicants (such as the Juniper Odyssey) that causes the Cisco client adapter to lose connection. If you encounter such a conflict, disable third-party supplicants.

## Customized Installation Images (Notice to IT Professionals)



**Caution**

Use caution when bundling the client adapter software into a customized installation image. If the registry settings are modified, the software may not install and uninstall properly.

## Client Adapter Software Compatibility



**Caution**

Cisco Aironet CB21AG and PI21AG client adapter software is incompatible with other Cisco Aironet client adapter software. The Aironet Desktop Utility (ADU) must be used with CB21AG and PI21AG cards, and the Aironet Client Utility (ACU) must be used with all other Cisco Aironet client adapters.

## Installing the Novell Client

If you are going to use the Novell Client, be sure to install it on your computer prior to installing the client adapter software.

## Enabling CCKM Fast Secure Roaming

If you want to enable CCKM on the client adapter, you must choose the WPA/WPA2/CCKM security option, regardless of whether you want the adapter to use WPA or WPA2. The configuration of the access point to which your client adapter associates determines whether CCKM will be used with 802.1x, WPA, or WPA2.

## Access Point Setting for LEAP or EAP-FAST Authentication

Access points must be set for both Network-EAP and open authentication in order to associate to CB21AG and PI21AG client adapters running LEAP with WPA/WPA2/CCKM or EAP-FAST.

## EAP-FAST Fails When Access Point Configured as Local RADIUS Server

The client adapter fails to authenticate using EAP-FAST when the access point is running Cisco IOS Release 12.3(2)JA2 and is configured as a local RADIUS server. The following message appears: “Unable to EAP-FAST authenticate the wireless user in the specified amount of time. Network infrastructure might be down.”

## GINA Error on Bootup

If your computer ever experiences a GINA error on bootup, boot to the safe mode command prompt. Then copy the msgina.dll file in the WinNT\System32 directory (Windows 2000) or Windows\System32 directory (Windows XP) over to a file named cscogina.dll. The **copy** command enables you to copy a source file (msgina.dll) to a destination file (cscogina.dll) within the same directory.

## Reboot Required When Uninstalling ACU and ADU



### Caution

When you uninstall ACU and ADU, be sure to reboot your computer when prompted. Otherwise, the system may be rendered unable to boot, displaying the message “The Logon User Interface DLL cswGina.dll failed to load. Contact your system administrator to replace the DLL or restore the original DLL.”

## Uninstalling Software Components

All profiles and stored PAC files are deleted if you use the Uninstall the previous installation option on the Previous Installation Detected Install Wizard window to uninstall the client adapter software. Cisco recommends that you use the Profile Manager’s export feature to save your profiles before uninstalling the software.

## Profiles for PC-Cardbus Cards

The profiles for PC-Cardbus cards are tied to the slot in which the card is inserted. Therefore, you must always insert your PC-Cardbus card into the same slot, create profiles for both slots, or export the profiles for one slot and import them for the other slot.

## Auto Profile Selection Enables Scan of Wireless Modes in Auto-Selected Profiles

When you enable auto profile selection, the client adapter ignores the selected profile's wireless mode setting and scans the wireless modes specified by all the profiles in the auto profile selection list for an available network. With this method, the client does not need to disassociate or to change the current profile while looking for networks in other profiles.

## ASTU Exit Option

The Exit option on the Aironet System Tray Utility (ASTU) pop-up menu closes both ASTU and ADU.

## Windows Wireless Network Connection Icon Shows Unavailable Connection (Windows XP Only)

If your computer is running Windows XP and you configured your client adapter using ADU, the Windows Wireless Network Connection icon in the Windows system tray may be marked with a red X and show an unavailable connection even though a wireless connection exists. This condition is caused by a conflict between ADU and Windows XP wireless network settings. Simply ignore the Windows icon and use the ASTU icon to check the status of your client adapter's wireless connection.

## Supporting Documentation

The *Cisco Aironet 802.11a/b/g Wireless LAN Client Adapters (CB21AG and PI21AG) Installation and Configuration Guide* (OL-4211-06) pertains specifically to CB21AG and PI21AG client adapters. If you are using a Cisco Aironet 340, 350, or CB20A client adapter, refer to the installation and configuration guide for that client adapter and your computer's operating system.

## New and Changed Information

### Changing Client Transmit Power Settings

The user can choose the power level for 802.11a and for 802.11b/g in the Advanced tab of the Profile Management window. The available power levels are as follows:

- 802.11a: 40, 25, 20, 13, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1 mW
- 802.11b/g: 100, 63, 50, 32, 20, 10, 9, 8, 7, 6, 5, 4, 3, 2, 1 mW

In software release 3.5, the 1-9 mW range was added.

## Selecting Software to Manage Client Adapter

You can select the software that you would like to use to configure and display information about your wireless device. You can choose from Windows software, the Aironet Desktop Utility, or a third-party tool.

For more information about the new updates, refer to the *Cisco Aironet 802.11a/b/g Wireless LAN Client Adapters (CB21AG and PI21AG) Installation and Configuration Guide*, OL-4211-06.

## PAC Export

In the previous version, when an EAP-FAST profile is exported or imported, the PAC data linked with the profile was getting ignored. To solve this problem, version 3.5 of ADU supports the exporting of PAC data using .PAC files.

## Installing or Upgrading Client Adapter Software

This section describes how to initially install or upgrade to CB21AG and PI21AG Install Wizard 3.5 on a computer running Windows 2000 or XP. If the client adapter software is not installed on your computer, follow the instructions in the [“Installing or Upgrading Client Adapter Software”](#) section below. If you are upgrading your client adapter software to release 3.5, follow the instructions in the [“Upgrading the Client Adapter Software”](#) section on page 20.

## Installing the Client Adapter Software

This section describes how to install Cisco Aironet CB21AG or PI21AG client adapter driver and utilities from a single executable file named *WinClient-802.11a-b-g-Ins-Wizard-vx.exe*, where *x* represents the release number. Follow these steps to install these client adapter software components on a computer running Windows 2000 or XP.



### Caution

Cisco Aironet CB21AG and PI21AG client adapter software is incompatible with other Cisco Aironet client adapter software. The Aironet Desktop Utility (ADU) must be used with CB21AG and PI21AG cards, and the Aironet Client Utility (ACU) must be used with all other Cisco Aironet client adapters.



### Caution

Do not eject your client adapter at any time during the installation process, including during the reboot.



### Note

This procedure is meant to be used the first time the Cisco Aironet CB21AG or PI21AG client adapter software is installed on your computer. If this software is already installed on your computer, follow the instructions in Chapter 9 to upgrade the client adapter software.



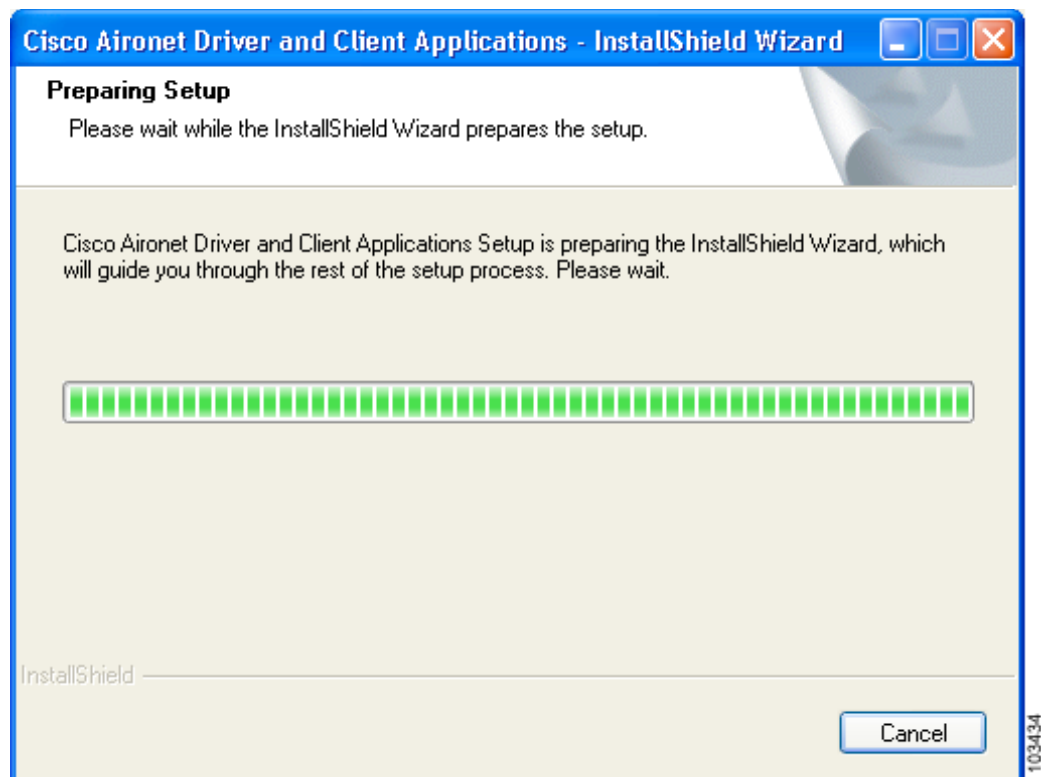
### Note

Only one CB21AG or PI21AG client adapter can be installed and used at a time. The software does not support the use of multiple CB21AG or PI21AG cards.

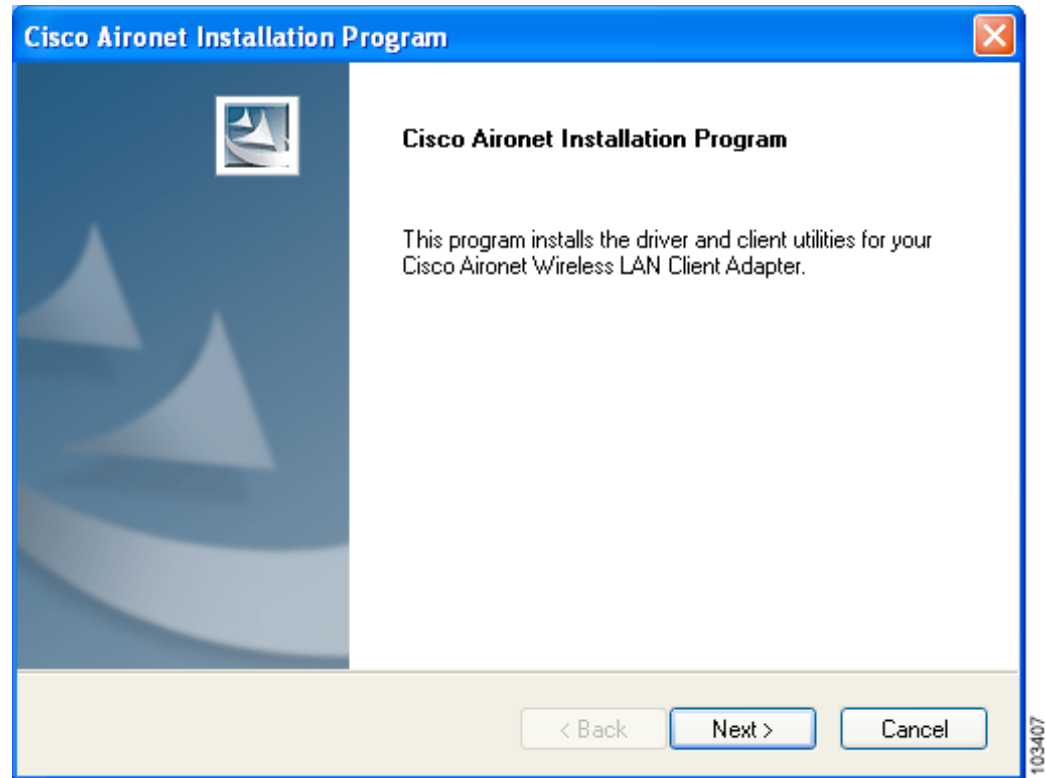


- 
- Step 1** Make sure the client adapter is inserted into your computer.
- Step 2** Make sure that you have a Cisco Connection Online (CCO) username and password.
- Step 3** If you do not have a CCO username and password, go to Cisco's main page (<http://www.cisco.com>) and click **Register** (top). Then, follow the instructions to create a CCO username and password.
- Step 4** Browse to the following location:  
<http://www.cisco.com/public/sw-center/>
- Step 5** Click **Wireless Software**.
- Step 6** Click **Wireless LAN Access**.
- Step 7** Click **Cisco Wireless LAN Client Adapters**.
- Step 8** Click **Cisco Aironet Wireless LAN Client Adapters**.
- Step 9** Perform one of the following steps:
- If you are using a PC-Cardbus card, click **Cisco Aironet 802.11a/b/g CardBus Wireless LAN Client Adapter (CB21AG)**.
  - If you are using a PCI card, click **Cisco Aironet 802.11a/b/g PCI Wireless LAN Client Adapter (PI21AG)**.
- Step 10** When prompted, enter your CCO username and password, and click **OK**.
- Step 11** Click **Aironet Client Installation Wizard (Firmware, Driver, Utility)**.
- Step 12** Click **Windows 2000 or Windows XP**.
- Step 13** Click the link with the latest release number.
- Step 14** Click the Install Wizard file (**WinClient-802.11a-b-g-Ins-Wizard-vxx.exe**, where **xx** is the version number).
- Step 15** If prompted, enter your CCO username and password, and click **OK**.
- Step 16** Complete the encryption authorization form, read and accept the terms and conditions of the Software License Agreement, select the file again to download it, and save the file on your computer's Desktop.
- Step 17** Use Windows Explorer to find the installer.
- Step 18** Double-click the installer. The "Starting InstallShield Wizard" message appears followed by the Preparing Setup window (see [Figure 2](#)) and the Cisco Aironet Installation Program window (see [Figure 3](#)).

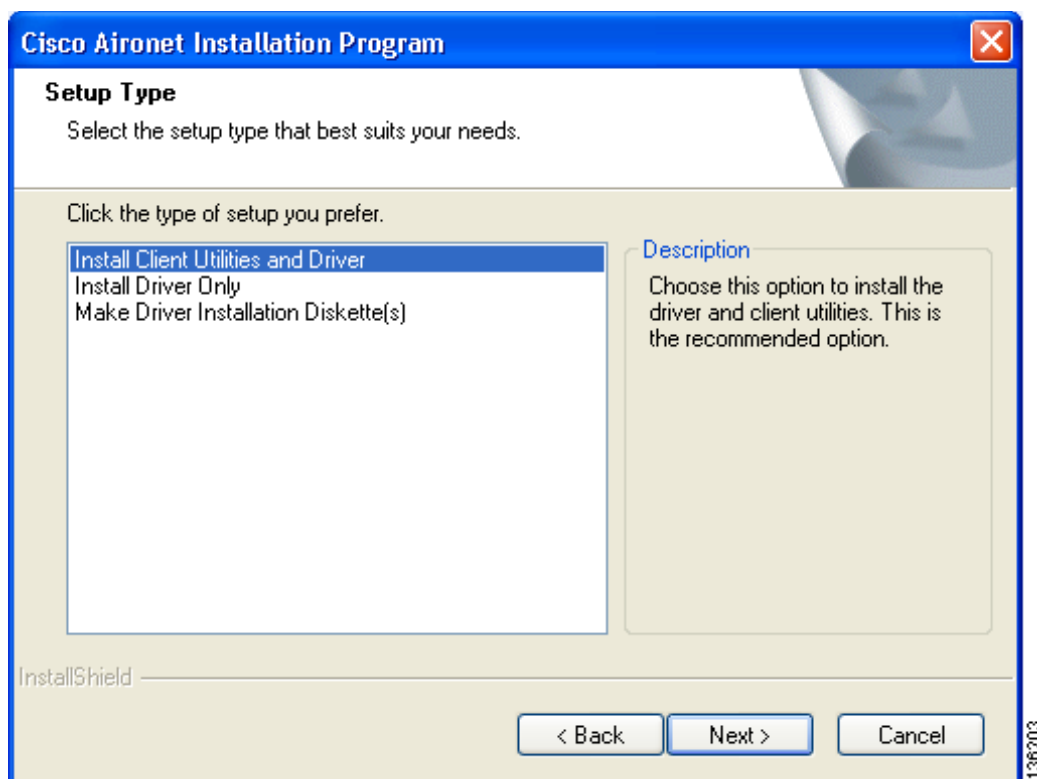
**Figure 2** *Preparing Setup Window*



**Figure 3** Cisco Aironet Installation Program Window



**Step 19** Click **Next**. The Setup Type window appears (see [Figure 4](#)).

**Figure 4**      **Setup Type Window**

**Step 20** Choose one of the following options and click **Next**:



**Note** To ensure compatibility among software components, Cisco recommends that you install the client utilities and driver.

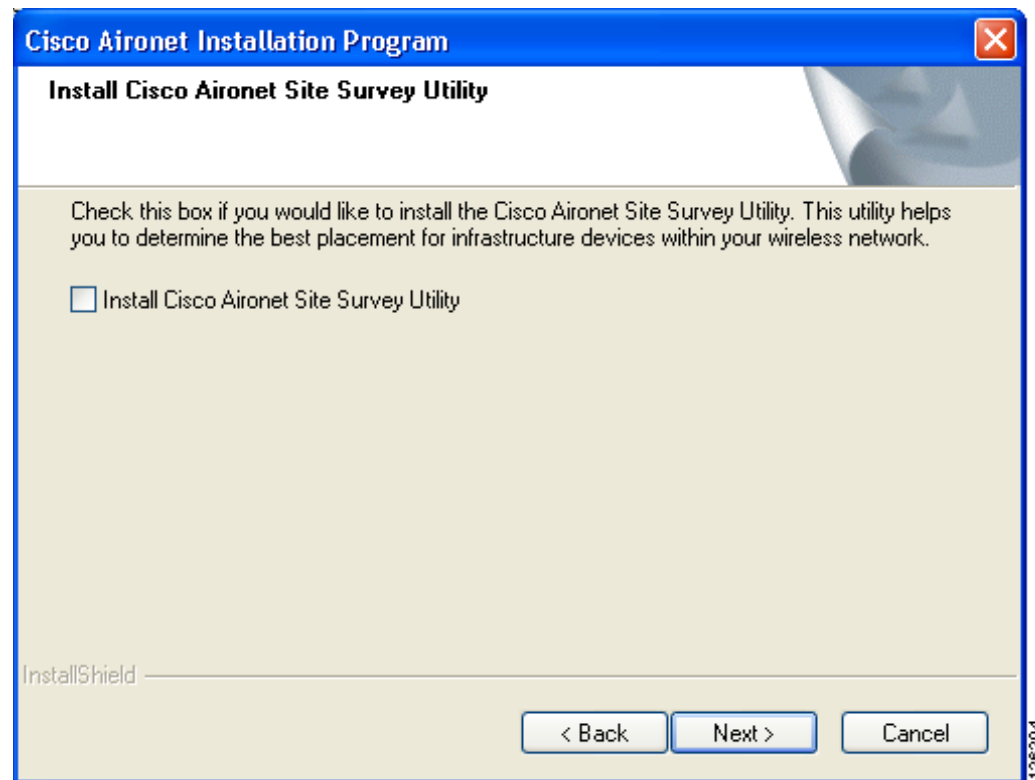
- **Install Client Utilities and Driver**—Installs the client adapter driver and client utilities.
- **Install Driver Only**—Installs only the client adapter driver. If you choose this option, click **Next** and go to [Step 32](#).
- **Make Driver Installation Diskette(s)**—Enables you to create driver installation diskettes that can be used to install drivers using the Windows Device Manager.



**Note** If you choose one of the first two options and a client adapter is not inserted into your computer, the following message appears: “The device may not be present or could have been ejected/unplugged from the system. Insert or reinsert it now.” Insert the client adapter and click **OK**. If you proceed without the client adapter inserted, the installation continues, but the driver installation is incomplete. You must manually install the driver later using the Update Device Driver Wizard. See Chapter 9 of the *Cisco Aironet 802.11a/b/g Wireless LAN Client Adapters (CB21AG and PI21AG) Installation and Configuration Guide* for instructions.

- Step 21** When the Install Cisco Aironet Site Survey Utility window appears (see [Figure 5](#)), check the **Install Cisco Aironet Site Survey Utility** check box if you want to install a utility that helps you to determine the best placement of infrastructure devices within your wireless network. Click **Next**.

**Figure 5** *Install Cisco Aironet Site Survey Utility Window*



**Note** See Appendix F of the *Cisco Aironet 802.11a/b/g Wireless LAN Client Adapters (CB21AG and PI21AG) Installation and Configuration Guide* for instructions on using the utility.

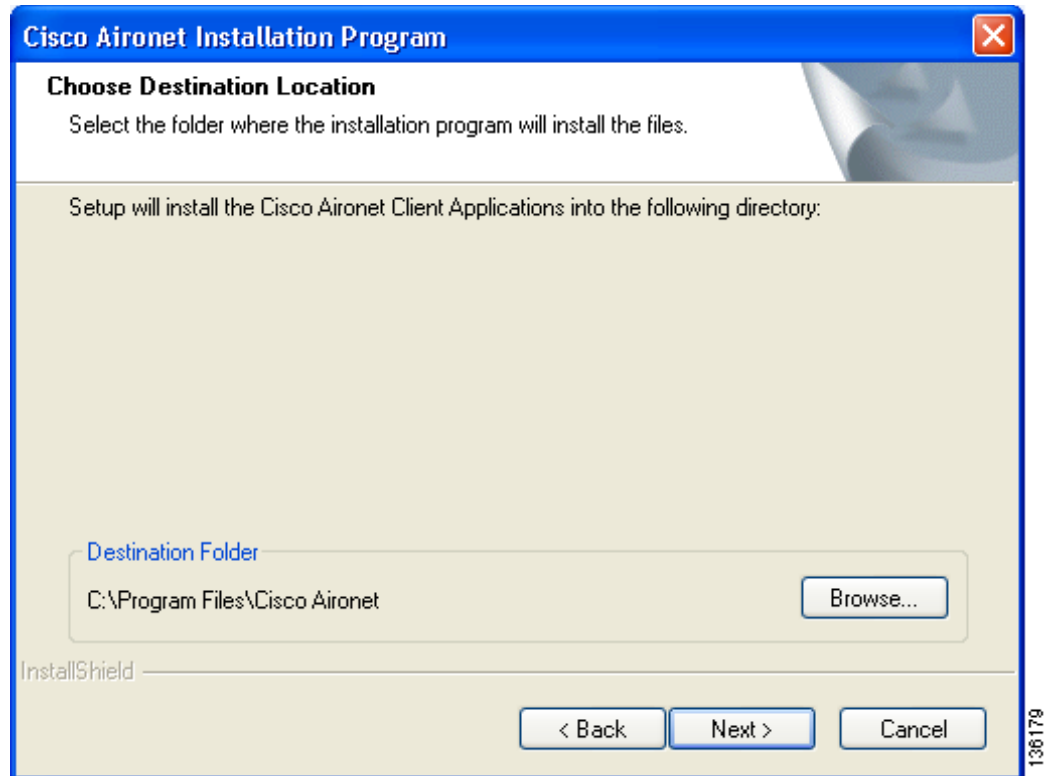
- Step 22** If a message appears indicating that you are required to restart your computer at the end of the installation process, click **Yes**.



**Note** If you click **No**, you are asked to confirm your decision. If you proceed, the installation process terminates.

The Choose Destination Location window appears (see [Figure 6](#)).

**Figure 6** *Choose Destination Location Window*



**Step 23** Perform one of the following:

- If you chose the first option in [Step 20](#), click **Next** to install the client utility files in the C:\Program Files\Cisco Aironet directory.



**Note**

If you want to install the client utilities in a different directory, click **Browse**, choose a different directory, click **OK**, and click **Next**.

- If you chose the Make Driver Installation Diskette(s) option in [Step 20](#), insert a floppy disk into your computer and click **Next** to copy the driver to the diskette. Go to [Step 32](#).

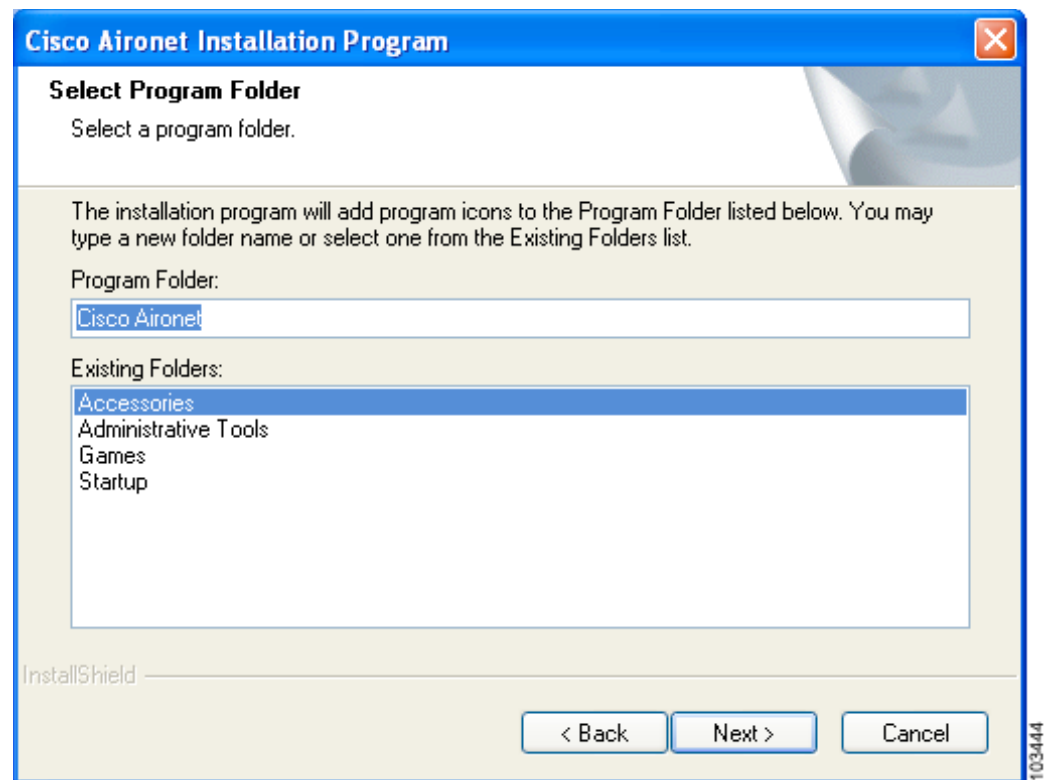


**Note**

If you want to copy the driver to a different drive or directory, click **Browse**, choose a new location, click **OK**, and click **Next**.

**Step 24** The Select Program Folder window appears (see [Figure 7](#)).

**Figure 7**      **Select Program Folder Window**



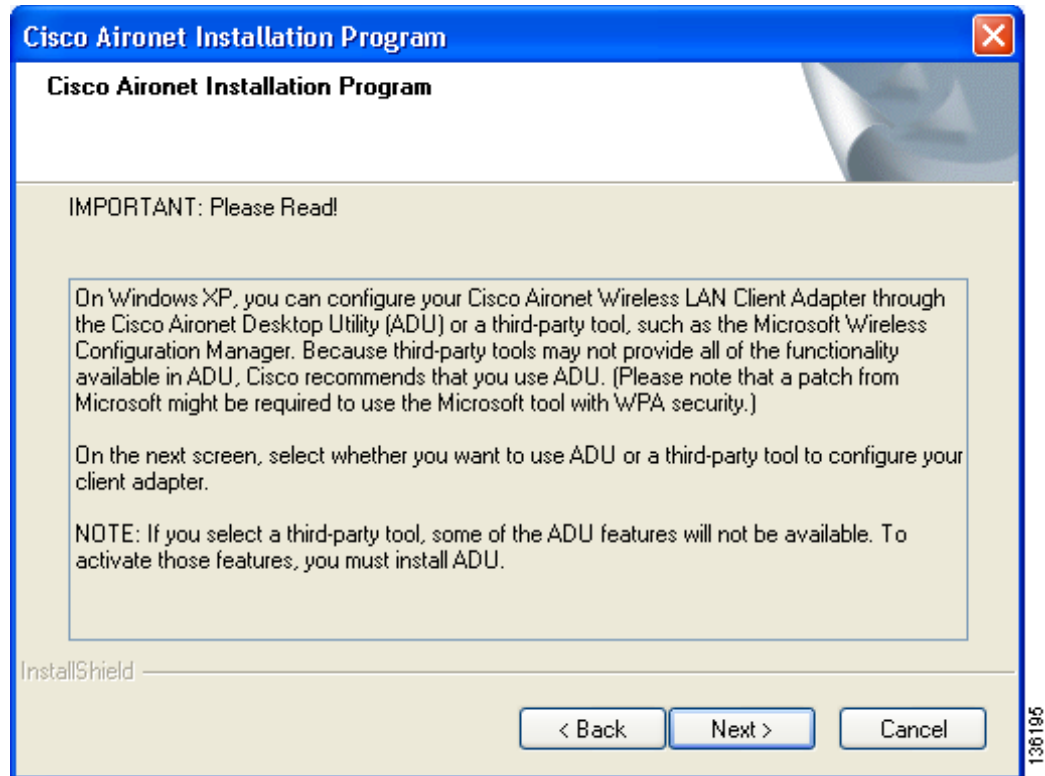
**Step 25** Click **Next** to add program icons to the Cisco Aironet program folder.



**Note** If you want to specify a different program folder, choose a folder from the Existing Folders list or type a new folder name in the Program Folder field and click **Next**.

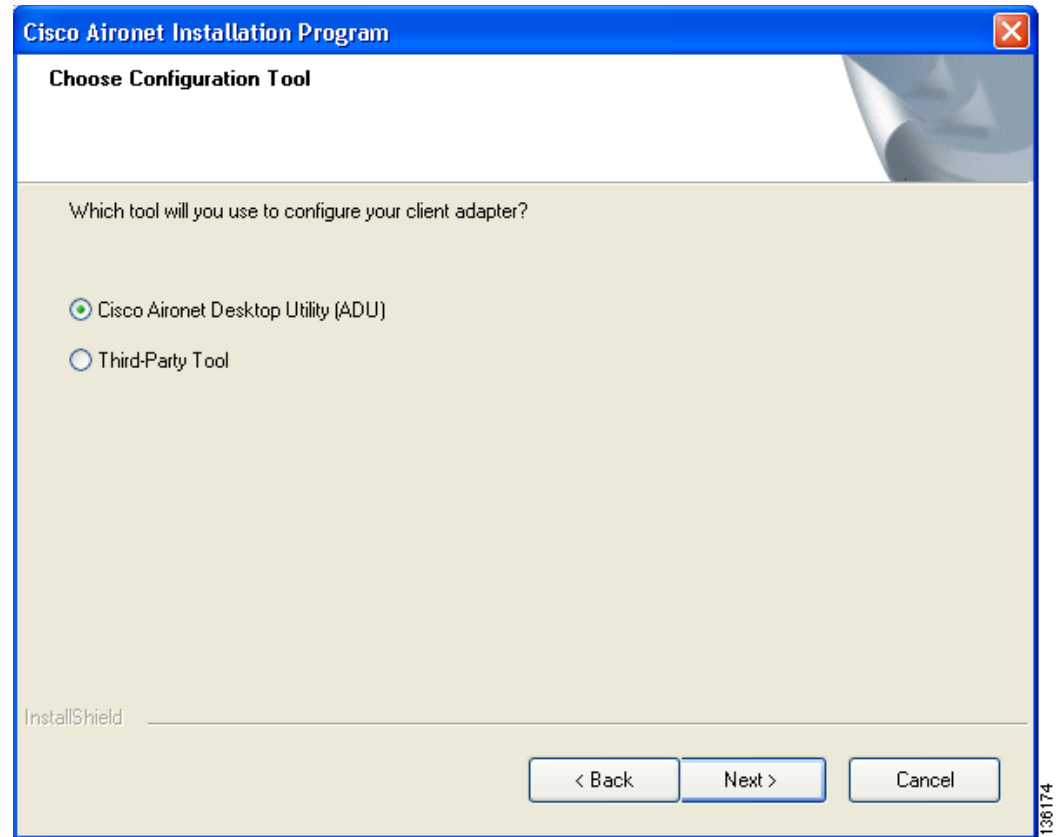
**Step 26** If your computer is running Windows 2000, go to [Step 32](#). If your computer is running Windows XP, the window titled IMPORTANT: Please Read! appears (see [Figure 8](#)).

**Figure 8** *IMPORTANT: Please Read! Window*



- Step 27** Read the information displayed and click **Next**. The Choose Configuration Tool window appears (see [Figure 9](#)).



**Figure 9** Choose Configuration Tool Window

**Step 28** Choose one of the following options:

- **Cisco Aironet Desktop Utility (ADU)**—Enables you to configure your client adapter using ADU.
- **Third-Party Tool**—Enables you to configure your client adapter using a third-party tool such as the Microsoft Wireless Configuration Manager in Windows XP.

Table 1 compares Windows XP and ADU client adapter features.

**Table 1** Comparison of Windows XP and ADU Client Adapter Features

Feature	Windows XP	ADU
Configuration parameters	Limited	Extensive
Capabilities		
Create profiles	Yes	Yes
Enable/disable radio	No	Yes

**Table 1**      **Comparison of Windows XP and ADU Client Adapter Features (continued)**

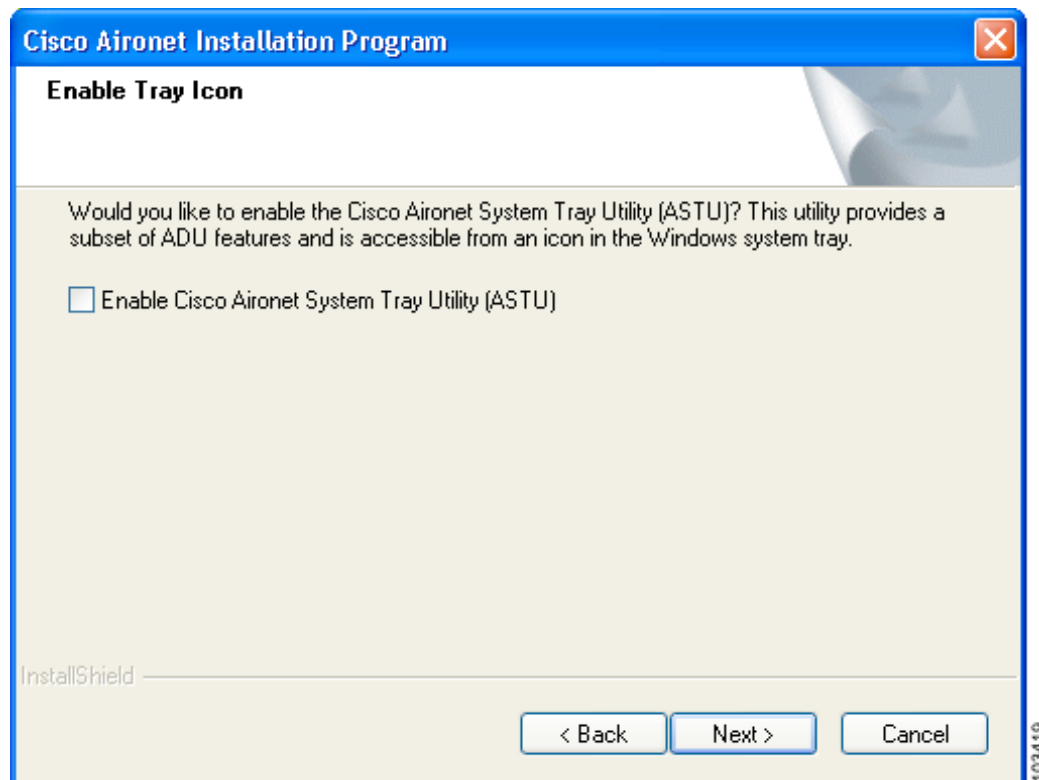
Feature	Windows XP	ADU
Security		
Static WEP	Yes	Yes
LEAP or EAP-FAST authentication with dynamic WEP	No	Yes
EAP-TLS or PEAP authentication	Yes	Yes
Status and statistics		
Status window	Limited	Extensive
Statistics window (transmit & receive)	No	Yes

**Note**

If you choose Cisco Aironet Desktop Utility (ADU) above, the Microsoft Wireless Configuration Manager is disabled. If you ever manually enable it, you are prompted to disable it whenever ADU is activated.

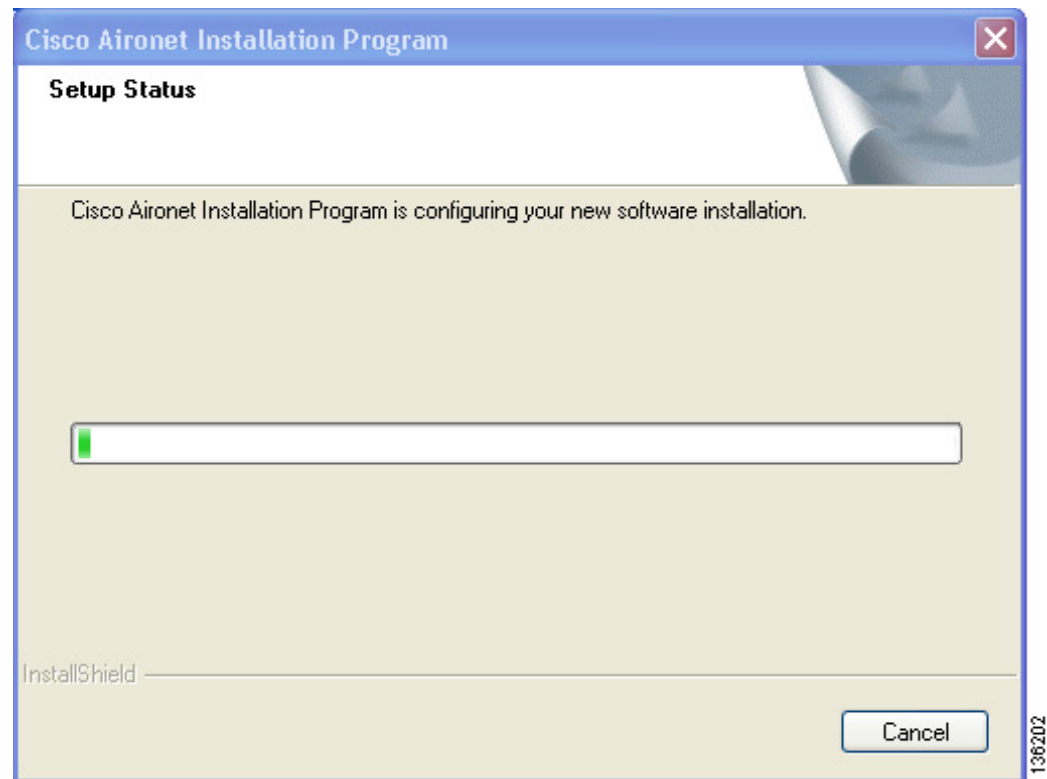
**Step 29** Click **Next**.

**Step 30** If you chose Cisco Aironet Desktop Utility (ADU) in [Step 28](#), go to [Step 32](#). If you chose Third-Party Tool, the Enable Tray Icon window appears (see [Figure 10](#)).

**Figure 10**      **Enable Tray Icon Window**

- Step 31** Check the **Enable Cisco Aironet System Tray Utility (ASTU)** check box if you want to be able to use ASTU even though you have chosen to configure your client adapter through a third-party tool instead of ADU. Click **Next**.
- Step 32** When prompted to insert your client adapter, click **OK**. The Setup Status window appears (see Figure 11).

**Figure 11** Setup Status Window



The installation process begins, and you are notified as each software component is installed.

- Step 33** When a message appears indicating that your computer needs to be rebooted, click **OK** and allow your computer to restart.
- Step 34** If the Windows Found New Hardware Wizard appears after your computer reboots, click **Next**, allow the wizard to install the software for the client adapter, and click **Finish**.
- Step 35** If your network setup does not include a DHCP server and you plan to use TCP/IP, follow these steps for your operating system.
- **Windows 2000**
    - a. Double-click **My Computer**, **Control Panel**, and **Network and Dial-up Connections**.
    - b. Right-click **Local Area Connection x** (where *x* represents the number of the connection).
    - c. Click **Properties**.
    - d. In the Components Checked Are Used by This Connection field, click **Internet Protocol (TCP/IP)** and **Properties**.

- e. Choose **Use the following IP address** and enter the IP address, subnet mask, and default gateway address of your computer (which can be obtained from your system administrator).
- f. Click **OK** to close each open window.
- **Windows XP**
  - a. Double-click **My Computer**, **Control Panel**, and **Network Connections**.
  - b. Right-click **Wireless Network Connection x** (where *x* represents the number of the connection).
  - c. Click **Properties**.
  - d. In the This Connection Uses the Following Items field, click **Internet Protocol (TCP/IP)** and **Properties**.
  - e. Choose **Use the following IP address** and enter the IP address, subnet mask, and default gateway address of your computer (which can be obtained from your system administrator).
  - f. Click **OK** to close each open window.

**Step 36** If you are prompted to restart your computer, click **Yes**.

**Step 37** Now that your client adapter is properly installed, it is ready to be configured.

- If you are planning to configure your client adapter through ADU, go to Chapter 4 of the *Cisco Aironet 802.11a/b/g Wireless LAN Client Adapters (CB21AG and PI21AG) Installation and Configuration Guide* for more information.
- If you are planning to configure your client adapter through the Windows XP Wireless Configuration Manager, go to Appendix E of the *Cisco Aironet 802.11a/b/g Wireless LAN Client Adapters (CB21AG and PI21AG) Installation and Configuration Guide* for more information.
- If you are planning to configure your client adapter through another third-party tool, refer to the documentation for that application.



**Note**

If you want to be able to use ADU's Group Policy Delay parameter, follow the instructions in the next section to download and install a necessary hot fix before configuring your client adapter.



**Note**

If you experienced problems during or after installation, refer to Chapter 10 of the *Cisco Aironet 802.11a/b/g Wireless LAN Client Adapters (CB21AG and PI21AG) Installation and Configuration Guide* for more information for troubleshooting information.

## Upgrading the Client Adapter Software

Follow these steps to upgrade your CB21AG or PI21AG client adapter software to release 3.5 using the settings that were selected during the last installation.

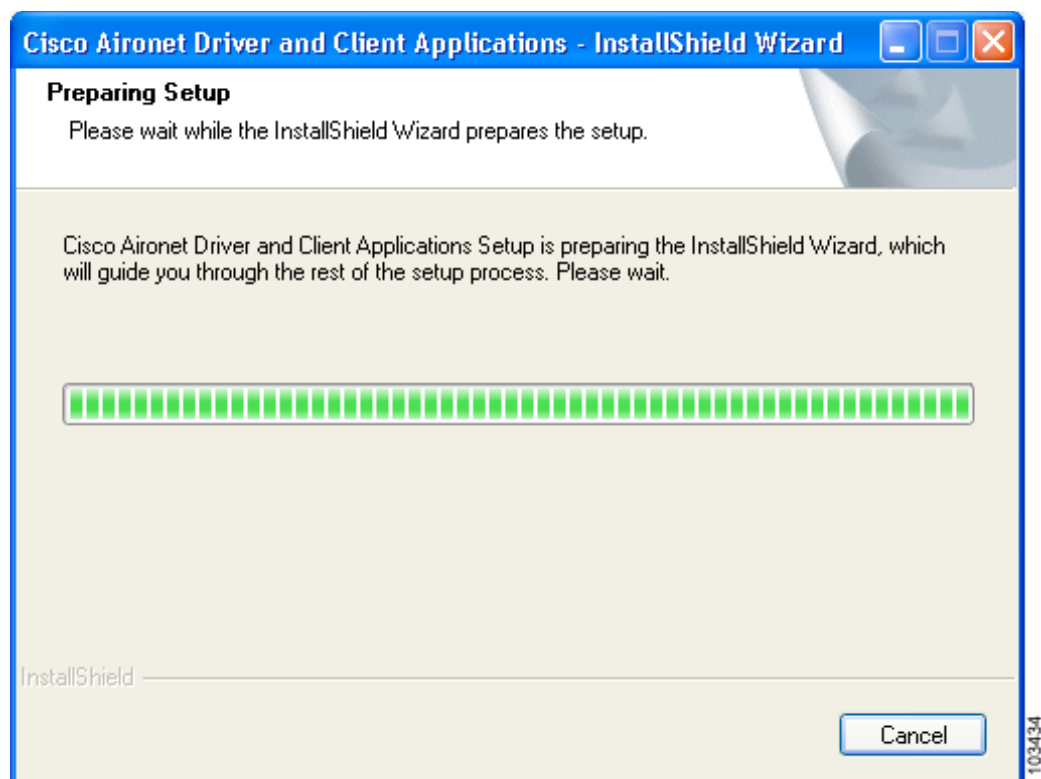


**Note**

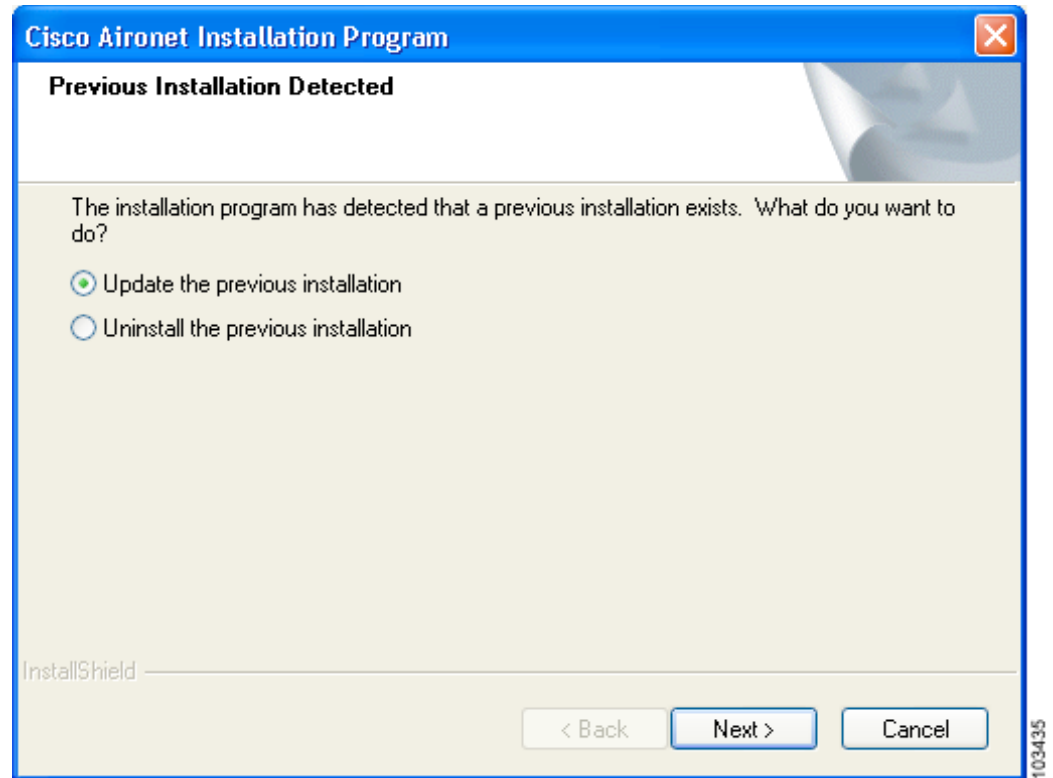
If you want to upgrade your client adapter software using new installation settings, you must uninstall the previous installation [see the instructions in Chapter 9 of the *Cisco Aironet 802.11a/b/g Wireless LAN Client Adapters (CB21AG and PI21AG) Installation and Configuration Guide*] and then follow the instructions in the [“Installing the Client Adapter Software” section on page 8](#) to install the new software.

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- Step 1** Make sure the client adapter is inserted into your computer.
- Step 2** Make sure that you have a Cisco Connection Online (CCO) username and password.
- Step 3** If you do not have a CCO username and password, go to Cisco's main page (<http://www.cisco.com>) and click **Register** (top). Then, follow the instructions to create a CCO username and password.
- Step 4** Browse to the following location:  
<http://www.cisco.com/public/sw-center/>
- Step 5** Click **Wireless Software**.
- Step 6** Click **Wireless LAN Access**.
- Step 7** Click **Cisco Wireless LAN Client Adapters**.
- Step 8** Click **Cisco Aironet Wireless LAN Client Adapters**.
- Step 9** Perform one of the following steps:
- If you are using a PC-Cardbus card, click **Cisco Aironet 802.11a/b/g CardBus Wireless LAN Client Adapter (CB21AG)**.
  - If you are using a PCI card, click **Cisco Aironet 802.11a/b/g PCI Wireless LAN Client Adapter (PI21AG)**.
- Step 10** When prompted, enter your CCO username and password, and click **OK**.
- Step 11** Click **Aironet Client Installation Wizard (Firmware, Driver, Utility)**.
- Step 12** Click **Windows 2000 or Windows XP**.
- Step 13** Click the link with the greatest release number.
- Step 14** Click the Install Wizard file (**WinClient-802.11a-b-g-Ins-Wizard-vxx.exe**, where **xx** is the version number).
- Step 15** If prompted, enter your CCO username and password, and click **OK**.
- Step 16** Complete the encryption authorization form, read and accept the terms and conditions of the Software License Agreement, select the file again to download it, and save the file on your computer's Desktop.
- Step 17** Use Windows Explorer to find the installer.
- Step 18** Double-click the installer. The "Starting InstallShield Wizard" message appears followed by the Preparing Setup window (see [Figure 12](#)) and the Cisco Aironet Installation Program window (see [Figure 13](#)).

**Figure 12**      *Preparing Setup Window*



**Figure 13**      *Previous Installation Detected Window*



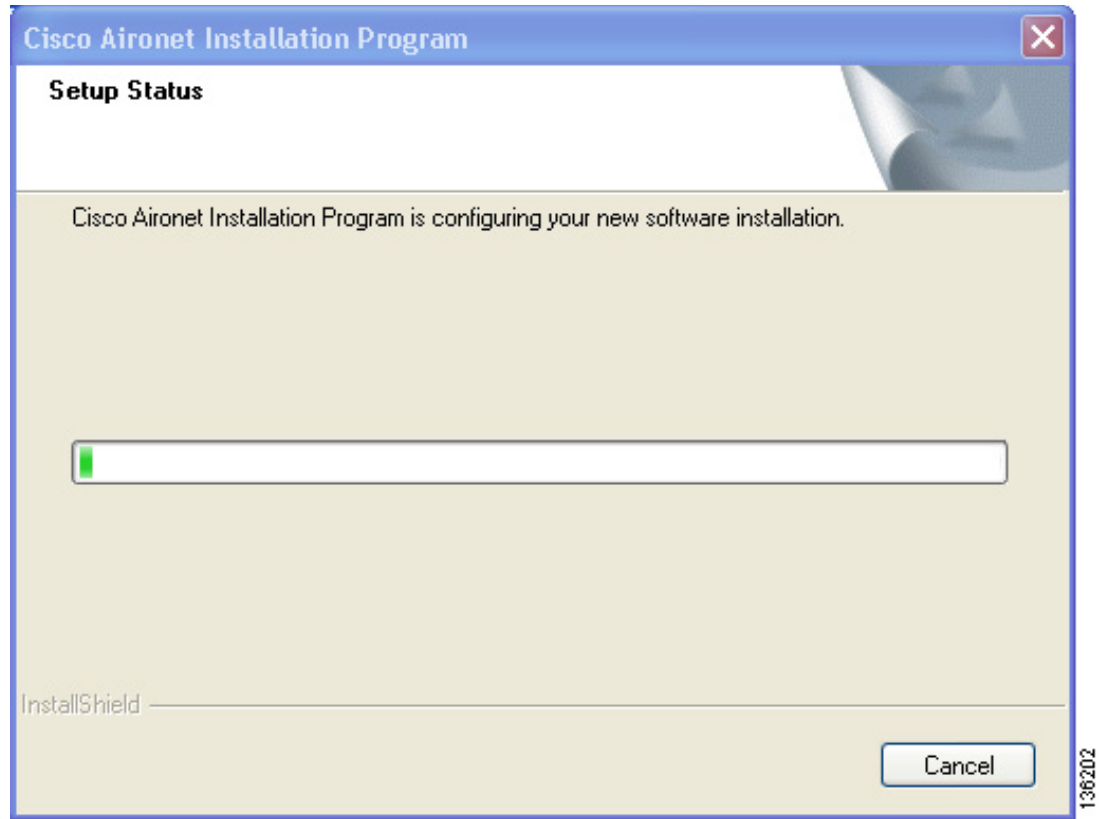
**Step 19** Choose **Update the previous installation** and click **Next**.

**Step 20** When a message appears indicating that you are required to restart your computer at the end of the installation process, click **Yes**.



**Note** If you click **No**, you are asked to confirm your decision. If you proceed, the installation process terminates.

The Setup Status window appears (see [Figure 14](#)).

**Figure 14**      **Setup Status Window**

The upgrade process begins, and you are notified as each software component is installed.

- Step 21** When a message appears indicating that your computer needs to be rebooted, click **OK** and allow your computer to restart. The client adapter's software has been upgraded.

## Installing a Microsoft Hot Fix for Group Policy Delay

If you want to use the Group Policy Delay parameter on the Profile Management (Security) window in ADU, you must install a Microsoft hot fix on computers running Windows 2000. The hot fix is incorporated into Windows XP Service Pack 2 and later.

The Group Policy Delay parameter enables you to specify how much time elapses before the Windows logon process starts Group Policy, a Windows feature used by administrators to specify configuration options for groups of users. The objective is to delay the start of Group Policy until wireless network authentication occurs. Follow the steps below to obtain and install the hot fix.





### Note

You must be a registered Cisco customer and log into Cisco.com in order to download the hot fix. If you are unable to access the hot fix from Cisco.com, contact Microsoft Support to obtain it. The Windows 2000 support page provides the contact information:

<http://support.microsoft.com/default.aspx?scid=fh;EN-US;win2000>



- 
- Step 1** Use your computer's web browser to access the following URL:  
[http://www.cisco.com/cgi-bin/tablebuild.pl/aironet\\_hotfix](http://www.cisco.com/cgi-bin/tablebuild.pl/aironet_hotfix)
- Step 2** If prompted, enter your Cisco Connection Online (CCO) username and password, and click **OK**.
-  **Note** To create a CCO username and password, visit <http://www.cisco.com>.
- 
- Step 3** Click the hot fix file (userenv.zip).
- Step 4** Complete the encryption authorization form and click **Submit**.
- Step 5** Click the file again to download it.
- Step 6** Save the file to your computer's hard drive.
- Step 7** Find the file using Windows Explorer, double-click it, and extract its files to a folder.
- Step 8** Reboot your computer and press **F8** while your computer is booting.
- Step 9** When the boot menu appears, select **Safe Mode with Command Prompt**.
-  **Note** You must complete this procedure in safe mode; otherwise, system file protection (SFP) will silently restore the original version of the file you are replacing.
- 
- Step 10** Copy the hot fix file (userenv.dll) to %systemroot%\System32 and overwrite the existing version of this file.
- Step 11** Delete the copy of userenv.dll in %systemroot%\System32\DllCache.
- Step 12** Restart your computer.
- 

## Finding Version Numbers

Follow the instructions in this section to find the version numbers of your client adapter's software components.

### Finding the Driver Version

To find the driver version that is currently installed for your client adapter, open ADU, click the **Diagnostics** tab, and click **Adapter Information**. The Driver Version field on the Adapter Information window shows the current driver version.

### Finding the Version of ADU and Other Software Components

To find the version of ADU and other software components installed for your client adapter, open ADU and choose the **About Aironet Desktop Utility** option from the Help drop-down menu. The About window shows the current version of the following software components: ADU, ACAU, the authentication supplicant, the protocol driver, and the Windows NDIS miniport driver.

# Caveats

This section describes the open and resolved caveats for the software components in this release.

## Open Caveats

The following caveats are not resolved in CB21AG and PI21AG client adapter software release 3.5:

- CSCsg99156—PI21AG does not respond to identity requests if 802.11a is used  
The wireless client might lose connectivity during roaming. When this condition occurs, the ADU prompts for a username and password. This condition occurs only when the user connects in the 802.11a band and when the user uses the supplicant that is bundled with the ADU.
- CSCsg99350—CB21AG client does not follow data-rate setting on WLC  
The CB21AG client does not follow the data-rate setting on the WLC. The client uses the 1-Mbps and 2-Mbps data rate for 802.11 data packets even though these rates were disabled on the WLC.
- CSCsd80097—CB21AG G channel problem with Compaq hardware  
A CB21AG client that is running release 2.6, 3.0, or 3.5 experiences roaming inconsistencies with the G rates that are enabled if the client is installed on a Compaq NX 6110. These roaming inconsistencies are only seen on this model PC. This model laptop does not get the proper cardbus controller driver installed when the user initializes the system software setup.  
Workaround: Go to the Hewlett-Packard site and download sp30219. This service pack has the driver installation program for the necessary cardbus controller.
- CSCse05471—The CB21 client adapter cannot pass the authentication phase with a Traditional Chinese username  
This only occurs on a machine with the Traditional Chinese language pack and a 2-byte username. When configuring the EAP-FAST authentication with Machine PAC, the STAUT failed to roam between access points.
- CSCse37717—EAP-FAST roaming fails with machine PAC  
Workaround: Uncheck the **session resume** check box in the ACS 4.0 RADIUS server.
- CSCsf96751—CB21AG client does not function properly with PC network bridge feature  
Network bridging on a PC with the CB21AG client and a wired NIC initially allows traffic to pass from end to end. However, if the PC is rebooted, the network bridge does not start because the CB21AG does not associate to the AP.  
Workaround: Disable the network bridge, reassociate the CB21AG with the AP, and create the network bridge again. Do not reboot the PC.
- CSCsg65164—Authentication timeout for EAP-FAST occurs after 60 seconds  
The ADU sends an EAPOL-start message after 30 seconds. However, the login window does not appear. The ADU sends a second EAPOL-start message after 30 seconds. After this second message, the login window appears. It takes 60 seconds for the login window to appear, even when the Authentication Timeout Value is set to 30 seconds.
- CSCsg78668—Compaq EVO N1020V laptop hangs during installation of CB21AG  
A Compaq (HP) EVO N1020V laptop that is running Windows XP might stall while running the CB21AG Install Wizard. This problem might affect other laptops from other vendors.

- CSCsg99322—CB21AG client does not roam smoothly between two lightweight access points  
A CB21AG client does not roam smoothly between two lightweight access points. If a client associated with a lightweight access point that has an RSSI of –90 dBm but then tries to associate with another lightweight access point that has an RSSI of –45 dBm, the client does not roam to the new AP for between 5 and 10 seconds. During that delay, the CB21AG client sends out a probe request to which the second lightweight access point responds. However, the CB21AG client does not send out an association request.
- CSCsg30531—ADU does not recognize EAP-TLS certificate  
Although the client is in the Windows domain and has the correct certificate for EAP-TLS, the user sees the following message:  
No machine certificates were found on this computer. Please select a different EAP option.
- CSCsh05264—CASSU does not install if the systemdrive\temp folder is not created  
The Cisco Aironet Site Survey Utility (CASSU) does not install under Program Files > Cisco Aironet because the systemdrive\temp\ folder was not created with the initial installation from Setup.exe. Lenovo T60 laptops with Windows XP Pro, SP2, experienced this condition. However, Lenovo T60 with Windows 2000, SP4; Acer TM2350 with Windows XP Pro, SP2; and Lenovo R51 with Windows XP Pro, SP2, did not experience this condition.
- CSCsh13357—ADU power save setting does not work  
The ADU power-save setting does not take effect. The wireless sniffer trace shows that the client is still sending null data power-save frames when the adapter is configured for CAM.  
Workaround: Change the default Windows registry key for sleep mode from 2 to 0.

## Resolved Caveats

The following caveats have been resolved in release 3.5:

- CSCsd02837—CB21AG does not send reassociation request when mobile  
The CB21AG client does not send a reassociation request with CCKM keys when it moves from one controller to another controller. The client sends a reassociation request with CCKM keys only when it roams back to the controller to which it was first attached.
- CSCsd80390—The “No machine certificates were found on your computer” message is misleading  
When using the Cisco AIR-CB21AG-A-K9 802.11a/b/g client adapters and running ADU 2.6.0.1, if you try to select **ADU clients using EAP-TLS authentication**, you see a message stating that no machine certificates were found on your computer, even though the application automatically finds the machine certificates. Also, if you select **Use machine Information for Domain Logon** under EAP-TLS configuration, you get the same error message. This message will not cause any problem and should only be seen once.
- CSCsd86612—Password window pops up before ACS sends out “Access Reject” message  
When entering the incorrect password for EAP-FAST and PEAP-GTC authentication, the ADU pops up the Password window before the ACS sends out an "Access Reject" message to the client. As a result, no "Auth-Fail" messages are logged in ACS.
- CSCse05451—Advanced Status window shows wrong messages when ADU is disassociated  
The ADU does not clear status data from the Advanced Status window fields when the client is not associated.

- CSCse25438—The Advanced Status window of the ADU application shows the wrong SSID information

In the ADU application, if you click **Current Status** and **Advanced**, you will notice that the Network Name (SSID) field displays only the first two characters of the SSID in the Advanced Status window. This happens when the SSID is a long string of characters with white spaces in between. The window wraps the string around into multiple lines and shows only one line.

- CSCse25451—Profile displays are inconsistent after profile names are changed

After you change a profile name, the profile name in Auto Selected Profiles is different from the profile name in the Profile Management window and the Current Status window.

- CSCsg94210—RSSI of PI21AG is lower than RSSI of CB21AG on 5-GHz channels

For some client adapters, the RSSI (received signal strength indication) of a PI21AG is 20 to 30 dBm lower on 5-GHz channels than the RSSI of a CB21AG because of an antenna cable issue. The client adapters that are impacted by this condition are in the serial number range FOC1001N1JY through FOC1049N3R8.

- CSCse49324—CB21AG retransmission mechanism has problems with RRM in an LWAPP network

In some environments, the CB21AG client fails to roam and loses network connection. The client might take up to 5 seconds or longer to reconnect.

The CB21AG client can stay associated to one access point longer than it should before it roams to another access point with better signal properties. In addition, sometimes client probe requests are not acknowledged by the access point that the client is supposed to roam to.

To force faster roaming before the CB 21AG client signal becomes too weak for recognition by an access point, you can use the Alternative Value for each of the following registry parameters.



**Note** The behavior that is associated with CSCse49324 is not typical of the majority of network installations. You should adjust the following registry parameters only as a last resort.

– Registry Parameter 1

Name: HwTxRetries

Range: 1-15

Default Value: 4

Alternative Value: 3

Comments: This parameter controls the number of transmit retries by the hardware.

– Registry Parameter 2

Name: SwTxRetryScale

Range: 0-15

Default Value: 6

Alternative Value: 2

Comments: This parameter controls the number of transmit retries by the software. It is a multiplier scalar factor of the number of all retries.

– Registry Parameter 3

Name: maxConsTxFail

Range: 0-256

Default Value: 256

Alternative Value: 2

Comments: This parameter indicates the number of frames that are dropped before the client attempts to roam to another access point.

To adjust one or more of these registry parameters, do the following:

- 
- Step 1** Open the Network Connections window from the Control Panel.
- Step 2** Right click the CB21AG device icon and choose **Properties**.
- Step 3** Click **Configure**. The Adapter Properties window appears.
- Step 4** Click the **Advanced** tab.
- Step 5** Choose the registry parameters that are listed above. Enter new values.
- Step 6** Click **OK**.
- 

**Note**

The new registry parameter values might not take effect until you disable and enable the device again or until you reboot the system.

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## 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 at the following URL:

[http://www.cisco.com/cgi-bin/Support/Bugtool/launch\\_bugtool.pl](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

<http://www.cisco.com/en/US/support/index.html>

Click **Product Support** > **Wireless**. Then choose your product and **Troubleshooting** to find information on the problem you are experiencing.

## Related Documentation

For more information about ACAU and the Cisco Aironet CB21AG and PI21AG client adapters, refer to the following documents:

- *Cisco Aironet 802.11a/b/g Wireless LAN Client Adapters (CB21AG and PI21AG) Administration Utility Administrator Guide* (OL-7086-04)—Provides instructions for installing ACAU 3.5 and using it to set software installation options and create configuration profiles for CB21AG and PI21AG client adapters.  
[http://www.cisco.com/en/US/products/hw/wireless/ps4555/prod\\_maintenance\\_guides\\_list.html](http://www.cisco.com/en/US/products/hw/wireless/ps4555/prod_maintenance_guides_list.html)
- *Cisco Aironet 802.11a/b/g Wireless LAN Client Adapters (CB21AG and PI21AG) Installation and Configuration Guide* (OL-4211-06)—Provides instructions for installing, configuring, and troubleshooting CB21AG and PI21AG client adapters on computers running the Microsoft Windows 2000 or XP operating system.  
[http://www.cisco.com/en/US/products/hw/wireless/ps4555/products\\_installation\\_and\\_configuration\\_guides\\_list.html](http://www.cisco.com/en/US/products/hw/wireless/ps4555/products_installation_and_configuration_guides_list.html)
- *Release Notes for Cisco Aironet 802.11a/b/g Client Adapters (CB21AG and PI21AG) Install Wizard 3.5* (OL-12267-01)—Describes new features and open and resolved caveats in Install Wizard 3.5.  
[http://www.cisco.com/en/US/products/hw/wireless/ps4555/prod\\_release\\_notes\\_list.html](http://www.cisco.com/en/US/products/hw/wireless/ps4555/prod_release_notes_list.html)

## Obtaining Documentation

Cisco documentation and additional literature are available on Cisco.com. This section explains the product documentation resources that Cisco offers.

### Cisco.com

You can access the most current Cisco documentation at this URL:

<http://www.cisco.com/techsupport>

You can access the Cisco website at this URL:

<http://www.cisco.com>

You can access international Cisco websites at this URL:

[http://www.cisco.com/public/countries\\_languages.shtml](http://www.cisco.com/public/countries_languages.shtml)

## Product Documentation DVD

The Product Documentation DVD is a library of technical product documentation on a portable medium. The DVD enables you to access installation, configuration, and command guides for Cisco hardware and software products. With the DVD, you have access to the HTML documentation and some of the PDF files found on the Cisco website at this URL:

<http://www.cisco.com/univercd/home/home.htm>

The Product Documentation DVD is created and released regularly. DVDs are available singly or by subscription. Registered Cisco.com users can order a Product Documentation DVD (product number DOC-DOCDVD= or DOC-DOCDVD=SUB) from Cisco Marketplace at the Product Documentation Store at this URL:

<http://www.cisco.com/go/marketplace/docstore>

## Ordering Documentation

You must be a registered Cisco.com user to access Cisco Marketplace. Registered users may order Cisco documentation at the Product Documentation Store at this URL:

<http://www.cisco.com/go/marketplace/docstore>

If you do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>

## Documentation Feedback

You can provide feedback about Cisco technical documentation on the Cisco Support site area by entering your comments in the feedback form available in every online document.

## Cisco Product Security Overview

Cisco provides a free online Security Vulnerability Policy portal at this URL:

[http://www.cisco.com/en/US/products/products\\_security\\_vulnerability\\_policy.html](http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html)

From this site, you will find information about how to do the following:

- Report security vulnerabilities in Cisco products
- Obtain assistance with security incidents that involve Cisco products
- Register to receive security information from Cisco

A current list of security advisories, security notices, and security responses for Cisco products is available at this URL:

<http://www.cisco.com/go/psirt>

To see security advisories, security notices, and security responses as they are updated in real time, you can subscribe to the Product Security Incident Response Team Really Simple Syndication (PSIRT RSS) feed. Information about how to subscribe to the PSIRT RSS feed is found at this URL:

[http://www.cisco.com/en/US/products/products\\_psirt\\_rss\\_feed.html](http://www.cisco.com/en/US/products/products_psirt_rss_feed.html)

## Reporting Security Problems in Cisco Products

Cisco is committed to delivering secure products. We test our products internally before we release them, and we strive to correct all vulnerabilities quickly. If you think that you have identified a vulnerability in a Cisco product, contact PSIRT:

- For emergencies only — [security-alert@cisco.com](mailto:security-alert@cisco.com)

An emergency is either a condition in which a system is under active attack or a condition for which a severe and urgent security vulnerability should be reported. All other conditions are considered nonemergencies.

- For nonemergencies — [psirt@cisco.com](mailto:psirt@cisco.com)

In an emergency, you can also reach PSIRT by telephone:

- 1 877 228-7302
- 1 408 525-6532



**Tip**

We encourage you to use Pretty Good Privacy (PGP) or a compatible product (for example, GnuPG) to encrypt any sensitive information that you send to Cisco. PSIRT can work with information that has been encrypted with PGP versions 2.x through 9.x.

Never use a revoked encryption key or an expired encryption key. The correct public key to use in your correspondence with PSIRT is the one linked in the Contact Summary section of the Security Vulnerability Policy page at this URL:

[http://www.cisco.com/en/US/products/products\\_security\\_vulnerability\\_policy.html](http://www.cisco.com/en/US/products/products_security_vulnerability_policy.html)

The link on this page has the current PGP key ID in use.

If you do not have or use PGP, contact PSIRT to find other means of encrypting the data before sending any sensitive material.

## Product Alerts and Field Notices

Modifications to or updates about Cisco products are announced in Cisco Product Alerts and Cisco Field Notices. You can receive these announcements by using the Product Alert Tool on Cisco.com. This tool enables you to create a profile and choose those products for which you want to receive information.

To access the Product Alert Tool, you must be a registered Cisco.com user. Registered users can access the tool at this URL:

<http://tools.cisco.com/Support/PAT/do/ViewMyProfiles.do?local=en>

To register as a Cisco.com user, go to this URL:

<http://tools.cisco.com/RPF/register/register.do>



# Obtaining Technical Assistance

Cisco Technical Support provides 24-hour-a-day award-winning technical assistance. The Cisco Support website on Cisco.com features extensive online support resources. In addition, if you have a valid Cisco service contract, Cisco Technical Assistance Center (TAC) engineers provide telephone support. If you do not have a valid Cisco service contract, contact your reseller.

## Cisco Support Website

The Cisco Support website provides online documents and tools for troubleshooting and resolving technical issues with Cisco products and technologies. The website is available 24 hours a day at this URL:

<http://www.cisco.com/en/US/support/index.html>

Access to all tools on the Cisco Support website requires a Cisco.com user ID and password. If you have a valid service contract but do not have a user ID or password, you can register at this URL:

<http://tools.cisco.com/RPF/register/register.do>



### Note

Before you submit a request for service online or by phone, use the **Cisco Product Identification Tool** to locate your product serial number. You can access this tool from the Cisco Support website by clicking the **Get Tools & Resources** link, clicking the **All Tools (A-Z)** tab, and then choosing **Cisco Product Identification Tool** from the alphabetical list. This tool offers three search options: by product ID or model name; by tree view; or, for certain products, by copying and pasting **show** command output. Search results show an illustration of your product with the serial number label location highlighted. Locate the serial number label on your product and record the information before placing a service call.



### Tip

#### Displaying and Searching on Cisco.com

If you suspect that the browser is not refreshing a web page, force the browser to update the web page by holding down the Ctrl key while pressing **F5**.

To find technical information, narrow your search to look in technical documentation, not the entire Cisco.com website. After using the Search box on the Cisco.com home page, click the **Advanced Search** link next to the Search box on the resulting page and then click the **Technical Support & Documentation** radio button.

To provide feedback about the Cisco.com website or a particular technical document, click **Contacts & Feedback** at the top of any Cisco.com web page.

## Submitting a Service Request

Using the online TAC Service Request Tool is the fastest way to open S3 and S4 service requests. (S3 and S4 service requests are those in which your network is minimally impaired or for which you require product information.) After you describe your situation, the TAC Service Request Tool provides recommended solutions. If your issue is not resolved using the recommended resources, your service request is assigned to a Cisco engineer. The TAC Service Request Tool is located at this URL:

<http://www.cisco.com/techsupport/servicerequest>

For S1 or S2 service requests, or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 service requests are those in which your production network is down or severely degraded.) Cisco engineers are assigned immediately to S1 and S2 service requests to help keep your business operations running smoothly.

To open a service request by telephone, use one of the following numbers:

Asia-Pacific: +61 2 8446 7411

Australia: 1 800 805 227

EMEA: +32 2 704 55 55

USA: 1 800 553 2447

For a complete list of Cisco TAC contacts, go to this URL:

<http://www.cisco.com/techsupport/contacts>

## Definitions of Service Request Severity

To ensure that all service requests are reported in a standard format, Cisco has established severity definitions.

**Severity 1 (S1)**—An existing network is “down” or there is a critical impact to your business operations. You and Cisco will commit all necessary resources around the clock to resolve the situation.

**Severity 2 (S2)**—Operation of an existing network is severely degraded, or significant aspects of your business operations are negatively affected by inadequate performance of Cisco products. You and Cisco will commit full-time resources during normal business hours to resolve the situation.

**Severity 3 (S3)**—Operational performance of the network is impaired while most business operations remain functional. You and Cisco will commit resources during normal business hours to restore service to satisfactory levels.

**Severity 4 (S4)**—You require information or assistance with Cisco product capabilities, installation, or configuration. There is little or no effect on your business operations.

## Obtaining Additional Publications and Information

Information about Cisco products, technologies, and network solutions is available from various online and printed sources.

- The Cisco Online Subscription Center is the website where you can sign up for a variety of Cisco e-mail newsletters and other communications. Create a profile and then select the subscriptions that you would like to receive. To visit the Cisco Online Subscription Center, go to this URL:

<http://www.cisco.com/offer/subscribe>

- The *Cisco Product Quick Reference Guide* is a handy, compact reference tool that includes brief product overviews, key features, sample part numbers, and abbreviated technical specifications for many Cisco products that are sold through channel partners. It is updated twice a year and includes the latest Cisco channel product offerings. To order and find out more about the *Cisco Product Quick Reference Guide*, go to this URL:

<http://www.cisco.com/go/guide>

- Cisco Marketplace provides a variety of Cisco books, reference guides, documentation, and logo merchandise. Visit Cisco Marketplace, the company store, at this URL:

<http://www.cisco.com/go/marketplace/>

- Cisco Press publishes a wide range of general networking, training, and certification titles. Both new and experienced users will benefit from these publications. For current Cisco Press titles and other information, go to Cisco Press at this URL:

<http://www.ciscopress.com>

- *Internet Protocol Journal* is a quarterly journal published by Cisco for engineering professionals involved in designing, developing, and operating public and private internets and intranets. You can access the *Internet Protocol Journal* at this URL:

<http://www.cisco.com/ipj>

- Networking products offered by Cisco, as well as customer support services, can be obtained at this URL:

<http://www.cisco.com/en/US/products/index.html>

- Networking Professionals Connection is an interactive website where networking professionals share questions, suggestions, and information about networking products and technologies with Cisco experts and other networking professionals. Join a discussion at this URL:

<http://www.cisco.com/discuss/networking>

- “What’s New in Cisco Documentation” is an online publication that provides information about the latest documentation releases for Cisco products. Updated monthly, this online publication is organized by product category to direct you quickly to the documentation for your products. You can view the latest release of “What’s New in Cisco Documentation” at this URL:

<http://www.cisco.com/univercd/cc/td/doc/abtnicd/136957.htm>

- World-class networking training is available from Cisco. You can view current offerings at this URL:

<http://www.cisco.com/en/US/learning/index.html>

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This document is to be used in conjunction with the documents listed in the “[Related Documentation](#)” section.

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