



Routine Procedures

This chapter provides procedures for common tasks related to the client adapter.

The following topics are covered in this chapter:

- [Inserting and Removing a Client Adapter, page 9-2](#)
- [Client Adapter Software Procedures, page 9-5](#)
- [Restarting the Client Adapter, page 9-15](#)
- [Turning Your Client Adapter's Radio On or Off, page 9-15](#)
- [Uninstalling the Microsoft Hot Fix, page 9-16](#)

Inserting and Removing a Client Adapter

This section provides instructions for inserting and removing PC cards, PC-Cardbus cards, and PCI cards. Instructions are not provided for LM cards and mini PCI cards because they are pre-installed inside computing devices and are not meant to be installed or removed by the user.



Caution

These procedures and the physical connections they describe apply generally to conventional PC card slots, Cardbus slots, and PCI expansion slots. In cases of custom or nonconventional equipment, be alert to possible differences in PC card slot, Cardbus slot, and PCI expansion slot configurations.

Inserting a Client Adapter

Follow the instructions in one of the sections below to insert a PC card, PC-Cardbus card, or PCI card into a computing device.

Inserting a PC Card or PC-Cardbus Card

- Step 1** Before you begin, examine the card. One end has a dual-row, 68-pin connector. The card is keyed so it can be inserted only one way into the PC card slot or Cardbus slot.



Note The PC card slot or Cardbus slot is on the left or right side of the computer, depending on the model.

- Step 2** Perform one of the following:
- Turn on your computer, let the operating system boot up completely, and follow the remaining steps in this section to insert the card.
 - Turn off your computer, follow the remaining steps in this section to insert the card, and reboot your computer.

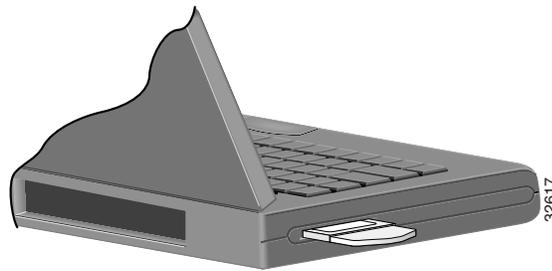


Caution

Do not force the card into your computer's PC card slot or Cardbus slot. Forcing it will damage both the card and the slot. If the card does not insert easily, remove the card and reinsert it.

- Step 3** Hold the card with the Cisco logo facing up and insert it into the PC card slot or Cardbus slot, applying just enough pressure to make sure it is fully seated (see [Figure 9-1](#)).

Figure 9-1 Inserting a PC Card or PC-Cardbus Card into a Computing Device

**Note**

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 or create profiles for both slots.

Inserting a PCI Card

Step 1 Turn off the PC and all its components.

Step 2 Remove the computer cover.

**Note**

On most Pentium PCs, PCI expansion slots are white. Refer to your PC documentation for slot identification.

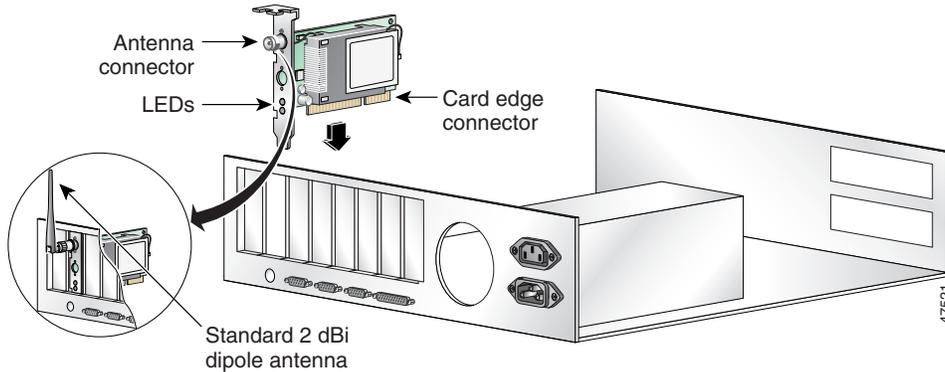
Step 3 Remove the screw from the top of the CPU back panel above an empty PCI expansion slot. This screw holds the metal bracket on the back panel.

**Caution**

Static electricity can damage your PCI card. Before removing the adapter from the anti-static packaging, discharge static by touching a metal part of a grounded PC.

Step 4 Examine the PCI card. The antenna connector and the LEDs face out of your computer and are visible when you put the cover back on. The bottom edge of the card is the connector you will insert into an empty expansion slot in your computer. See [Figure 9-2](#).

Figure 9-2 Inserting a PCI Card into a PC



Step 5 Tilt the card to allow the antenna connector and LEDs to slip through the opening in the CPU back panel.

Step 6 Press the card into the empty slot until the connector is firmly seated.



Caution Do not force the card into the expansion slot as this could damage both the card and the slot. If the card does not insert easily, remove it and reinsert it.

Step 7 Reinstall the screw on the CPU back panel and replace the computer cover.

Step 8 Attach the 2-dBi antenna to the card's antenna connector until it is finger-tight. Do *not* overtighten.

Step 9 For optimal reception, position the antenna so it is straight up.

Step 10 Boot up your PC.

Removing a Client Adapter

Follow the instructions in one of the sections below to remove a PC card, PC-Cardbus card, or PCI card from a computing device, when necessary.

Removing a PC Card or PC-Cardbus Card

To remove a PC card or PC-Cardbus card after it is successfully installed and configured (such as when your laptop is to be transported), completely shut down your computer and pull the card directly out of the PC card slot or Cardbus slot. When the card is reinserted and the computer is rebooted, your connection to the network should be re-established.



Note

If you need to remove your PC card or PC-Cardbus card but do not want to shut down your computer, double-click the **Unplug or Eject Hardware** icon in the Windows system tray, select the Cisco Aironet client adapter you want to remove under Hardware devices, click **Stop**, and click **OK** twice. Then pull the card directly out of the card slot.

Removing a PCI Card

Because PCI client adapters are installed inside desktop computers, which are not designed for portable use, you should have little reason to remove the adapter. However, instructions are provided below in case you ever need to remove your PCI card.

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- Step 1** Completely shut down your computer.
- Step 2** Disconnect the client adapter's antenna.
- Step 3** Remove the computer cover.
- Step 4** Remove the screw from the top of the CPU back panel above the PCI expansion slot that holds your client adapter.
- Step 5** Pull up firmly on the client adapter to release it from the slot and carefully tilt the adapter to allow it to clear the opening in the CPU back panel.
- Step 6** Reinstall the screw on the CPU back panel and replace the computer cover.
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Client Adapter Software Procedures

This section provides instructions for the following procedures:

- Finding the Install Wizard version, see below
- Upgrading the client adapter software, [page 9-6](#)
- Uninstalling the client adapter software, [page 9-6](#)
- Finding the driver version, [page 9-7](#)
- Firmware procedures, [page 9-8](#)
- ACU procedures, [page 9-12](#)
- ACM procedures, [page 9-15](#)

Finding the Install Wizard Version

Follow the instructions in this section to find the version of the Install Wizard that is currently installed for your client adapter.

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- Step 1** Open Windows Explorer.
- Step 2** Find the Install Wizard files.
- Step 3** Right-click the **Setup.exe** file.
- Step 4** Click **Properties**.
- Step 5** Click the **Version** tab. The version of the currently installed Install Wizard file is shown in the File version field.
-

Upgrading the Client Adapter Software

The same procedure that is used to initially install client adapter software can also be used to upgrade to a more recent version. Refer to [Chapter 3](#) for instructions on upgrading your client adapter's software.



Note

The client adapter's firmware can also be upgraded through ACU. Refer to the [“Upgrading the Firmware”](#) section on page 9-8 for details.

Uninstalling the Client Adapter Software

This section provides instructions for uninstalling any Cisco Aironet client adapter drivers, utilities, and security modules that are installed on your computer. Only the client adapter's firmware remains installed. This procedure is necessary if you want to remove any installed client adapter software components from your computer or downgrade to previous versions.



Note

If you want to downgrade to earlier versions of client adapter software, follow the steps below to uninstall the current software components. Then install the older software.



Note

When you uninstall the client adapter software, any existing profiles are removed. If you want to save your profiles for later use, follow the instructions in [Chapter 4](#) to export your profiles before uninstalling the software components.



Note

This procedure does not uninstall the PC, LM, or PCI card driver that was bundled with Windows Me and XP. It uninstalls only drivers to which you have upgraded. When you follow the steps below to uninstall an upgraded driver and then eject and reinsert the card, Windows finds the original driver and reinstalls it automatically.

-
- Step 1** Perform one of the following:
- If you want to remove the client adapter from your computer, shut down your computer, remove the client adapter, and reboot your computer.
 - If you want to leave your client adapter inserted in your computer or if your client adapter is an LM or mini PCI card and cannot be removed, go to [Step 2](#).
- Step 2** Select **Start > Run**.
- Step 3** Browse to the location of the Install Wizard software, select the **Setup.exe** file, and click **Open** and **OK**. The Cisco Aironet Wireless LAN Client Adapter Installation Wizard screen appears (see [Figure 9-3](#)).

Figure 9-3 Cisco Aironet Wireless LAN Client Adapter Installation Wizard screen



- Step 4** Select **Uninstall All Components** and click **Next**.
- Step 5** When prompted to confirm your decision, click **Yes**. The process to uninstall the files begins. You are notified throughout the process as each component is uninstalled.
- Step 6** When the process completes, you are notified that the system is about to reboot. Close any open applications and click **OK**.
- Step 7** If you did not remove the client adapter from your computer, the Found New Hardware Wizard screen appears after your computer reboots. Click **Cancel**.



Note The Found New Hardware Wizard screen does not appear on computers running Windows NT.

- Step 8** This procedure does not remove the Install Wizard file or its uncompressed files. If you want to remove them from your computer, find the files using Windows Explorer and delete them.

Finding the Driver Version

Follow the instructions in this section to find the version of the driver that is currently installed for your client adapter.

- Step 1** Open ACU.
- Step 2** Click the **Status** icon or select **Status** from the Commands drop-down menu. The Status screen displays the current version of your client adapter's driver in the NDIS Driver Version field.

Firmware Procedures

This section provides instructions for the following procedures:

- Finding the Firmware Version, see below
- Upgrading the Firmware, see below
- Preventing the Driver from Upgrading the Firmware, [page 9-10](#)

Finding the Firmware Version

Follow the instructions in this section to find the version of firmware that is currently installed for your client adapter.

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- Step 1** Open ACU.
- Step 2** Click the **Status** icon or select **Status** from the Commands drop-down menu. The Status screen displays the current version of your client adapter's firmware in the Firmware Version field.
-

Upgrading the Firmware

**Caution**

To minimize the risk of a power failure during the firmware flashing process, which could render your client adapter inoperable, Cisco recommends that your computer be plugged into AC power or have a fully charged battery at the start of flashing. If a power failure does occur, follow the instructions in the [“Technical Assistance Center”](#) section of the Preface to contact TAC for assistance.

You can upgrade your client adapter's firmware using either the Install Wizard or ACU. If you use the wizard, the firmware loads from the Install Wizard file and is installed along with other software components. If you use ACU, the firmware installs from an image (*.img) file that contains only firmware.

**Note**

To ensure compatibility between software components, Cisco recommends that you use the Install Wizard to upgrade the firmware along with the other software components.

Using the Install Wizard

To upgrade the firmware using the Install Wizard, follow the instructions in the [“Installing or Upgrading the Client Adapter Software”](#) section on page 3-2.

Using ACU

**Note**

When you upgrade your client adapter's firmware using ACU, the Automatically Load New Firmware When NDIS Driver Is Updated parameter on the Aironet Client Utility Preferences screen becomes disabled (or unchecked) automatically to prevent the newly loaded firmware from being overwritten by the driver. If you ever want to enable this parameter, you must recheck the check box.

To upgrade the firmware using ACU, follow the steps below.

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

Step 2 Select **Option #2: Aironet Wireless Software Display Tables**.

**Note**

You can download software from the Software Selector tool instead of the display tables. To do so, select **Option #1: Aironet Wireless Software Selector**, follow the instructions on the screen, and go to [Step 7](#).

Step 3 Select **Cisco Aironet Wireless LAN Client Adapters**.

Step 4 Under Individual Files, find the client adapter firmware.

Step 5 Click the link that corresponds to your client adapter's model number (such as 340 or 350 series).

Step 6 Select the latest firmware file for your specific client adapter type (such as CB or MPI).

**Note**

The firmware for PC, LM, and PCI cards is labeled *PCMCIA-LMC-PCI*, the firmware for mini PCI cards is labeled *mini PCI* or *MPI*, and the firmware for PC-Cardbus cards is labeled *CB*.

**Note**

If your wireless network uses EAP authentication, access points to which your client adapter will attempt to authenticate must use the following firmware versions or greater: 11.23T (340 and 350 series access points), 12.2(4)JA (1100 series access points), or 11.54T (1200 series access points).

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

Step 8 Select the firmware file again to download it.

Step 9 Save the file to a floppy disk or to your computer's hard drive.

Step 10 Find the file using Windows Explorer, double-click it, and extract the image file to a folder.

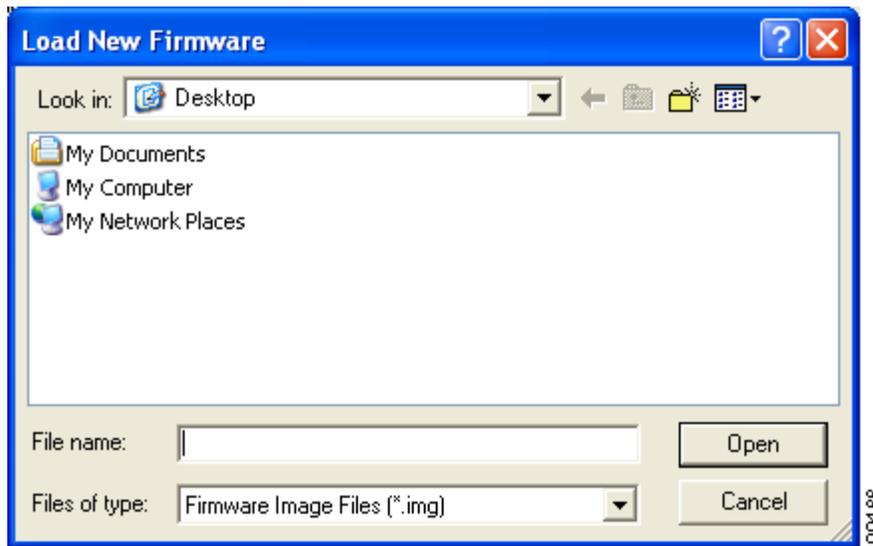
**Note**

To extract the file, click **Browse** on the WinZip Self-Extractor screen, select the folder in which you want the file to be placed, and click **OK** and **Unzip**. After the file is extracted, click **OK** to close the screen.

Step 11 Make sure the client adapter is installed in your computer and is operational.

Step 12 Open ACU; click the **Load Firmware** icon or select **Load New Firmware** from the Commands drop-down menu. The Load New Firmware screen appears (see [Figure 9-4](#)).

Figure 9-4 Load New Firmware Screen



- Step 13** Find the location of the new firmware in the Look in box.
- Step 14** Click the firmware image file (*.img) so that it appears in the File name box at the bottom of the screen.
- Step 15** Click the **Open** button. A progress bar appears while the selected image is loaded into the client adapter's Flash memory.
- Step 16** Click **OK** when the "Firmware Upgrade Complete!" message appears. The OK button cannot be selected until the process is complete or an error occurs. If an error occurs, refer to the "Error Messages" section in [Chapter 10](#).

Preventing the Driver from Upgrading the Firmware

The Automatically Load New Firmware When NDIS Driver Is Updated parameter on the Aironet Client Utility Preferences screen affects the firmware that is bundled with the driver, not the firmware that is included in the Install Wizard. This parameter controls whether the driver (whenever it loads) installs the firmware with which it is bundled. (The driver loads each time you insert a client adapter or reboot your computer.)



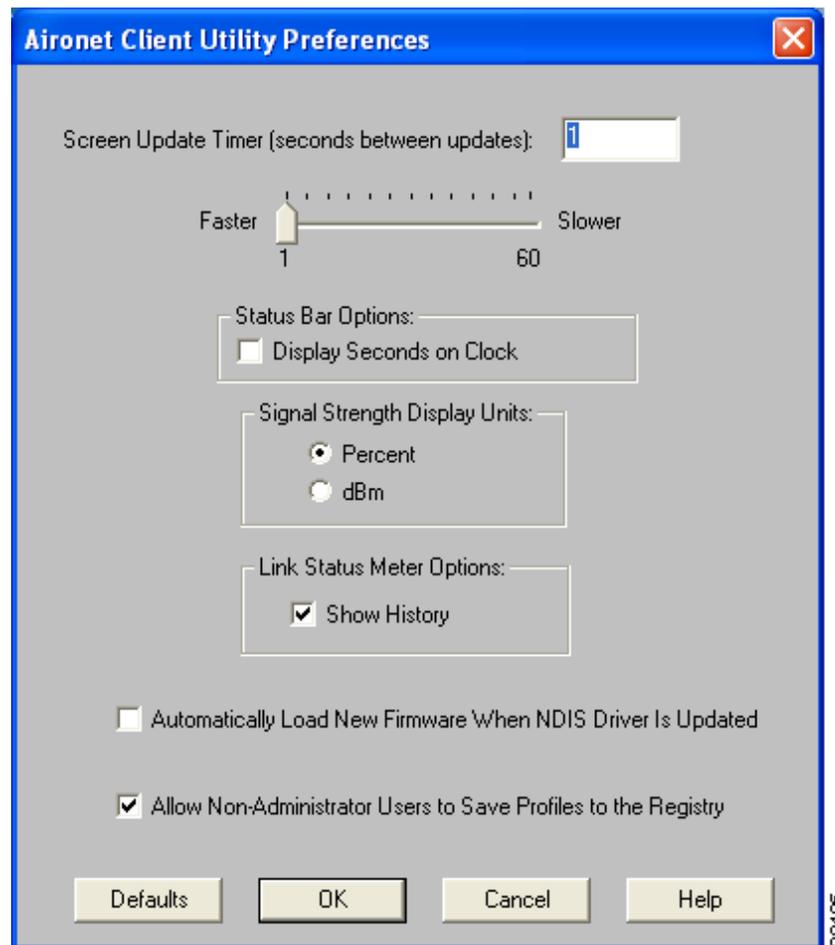
Note To complete this procedure, you must have used the Install Wizard to install ACU.



Note The Automatically Load New Firmware When NDIS Driver Is Updated parameter is functionally equivalent to the Disable Firmware Checking parameter in the Install Wizard. The parameter that is set last is the one that governs how the driver behaves. Refer to [Chapter 3](#) for additional information.

- Step 1** Open ACU.
- Step 2** Click the **Preferences** icon or select **Preferences** from the Options drop-down menu. The Aironet Client Utility Preferences screen appears (see [Figure 9-5](#)).

Figure 9-5 Aironet Client Utility Preferences Screen



- Step 3** If you want to prevent the driver (when it loads) from installing the firmware with which it is bundled, thereby allowing the client adapter to retain its current firmware version, make sure the **Automatically Load New Firmware When NDIS Driver Is Updated** check box is not checked.



Note If you want the driver (when it loads) to install the firmware with which it is bundled if it is newer than the firmware that is currently installed in the client adapter, make sure the **Automatically Load New Firmware When NDIS Driver Is Updated** check box is checked.



Note When you upgrade your client adapter's firmware using ACU, the Automatically Load New Firmware When NDIS Driver Is Updated parameter becomes unchecked automatically to prevent the newly loaded firmware from being overwritten by the driver. If you want to enable this parameter, you must recheck the check box.

**Note**

The Automatically Load New Firmware When NDIS Driver Is Updated parameter is dependent on the radio type (and the Cardbus slot for PC-Cardbus cards). Therefore, if you insert a client adapter of a different card type (such as a 340 instead of a 350) or insert the same PC-Cardbus card into a different slot, whether or not the driver installs the firmware with which it is bundled depends on how this parameter (or the Disable Firmware Checking parameter) was last set for that card type or card slot.

Step 4 Click **OK**.

ACU Procedures

This section provides instructions for the following procedures:

- Opening ACU, below
- Exiting ACU, [page 9-13](#)
- Modifying ACU installation settings, [page 9-13](#)
- Finding the version of ACU, [page 9-13](#)
- Adding the ACU icon to or removing it from the desktop, [page 9-14](#)
- Accessing online help, [page 9-14](#)

Opening ACU

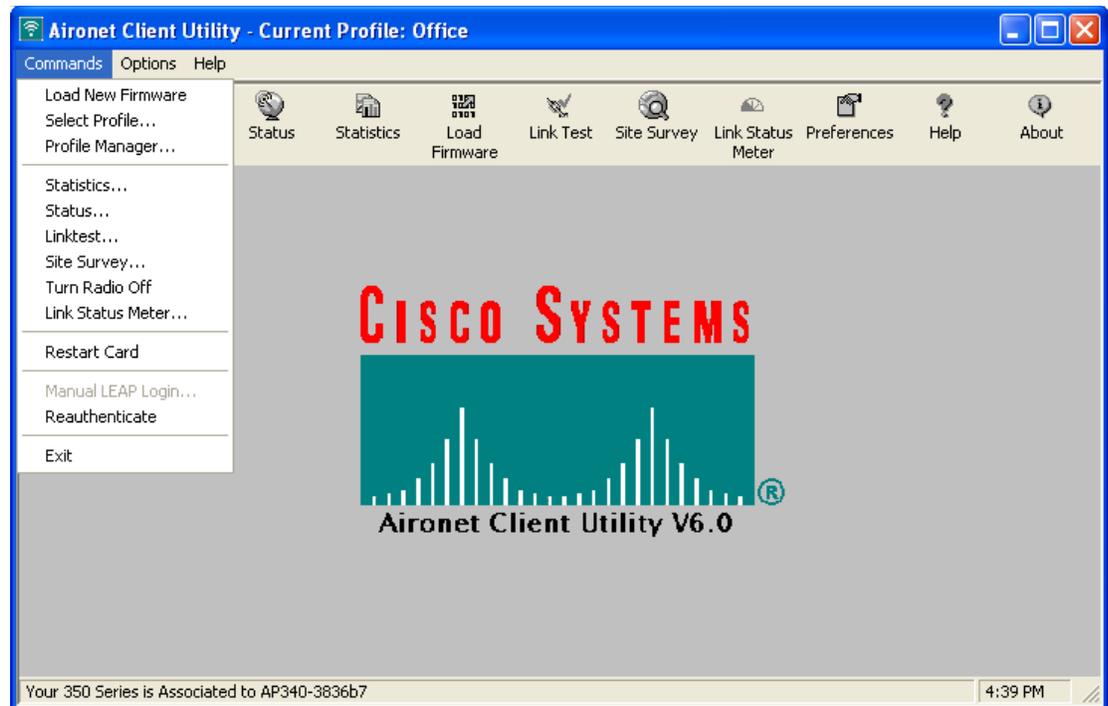
To open ACU, perform one of the following:

- Double-click the **Aironet Client Utility (ACU)** icon on your desktop.
- Select **Aironet Client Utility (ACU)** from the folder in the Windows Start Menu that you chose during installation [the default location is **Start > Program Files > Cisco Systems > Aironet Client Utility (ACU)**].
- Double-click **My Computer > Control Panel > Aironet Client Utility**.

Exiting ACU

To exit ACU, select **Exit** from the Commands drop-down menu (see [Figure 9-6](#)).

Figure 9-6 Commands Drop-Down Menu



Modifying ACU Installation Settings

If you need to change any of the settings that you selected during installation (for example, placing the ACU icon on the desktop or allowing a saved LEAP username and password), you must run the Install Wizard again and modify the parameter values. Refer to [Chapter 3](#) for instructions.

Finding the Version of ACU

Follow the instructions in this section to find the version of ACU that is currently installed.

-
- Step 1** Open ACU.
 - Step 2** Click the **About** icon or select the **About Aironet Client Utility** option from the Help drop-down menu. The About Aironet Client Utility screen appears (see [Figure 9-7](#)).

Figure 9-7 About Aironet Client Utility Screen



Adding the ACU Icon to or Removing it from the Desktop

By default, an ACU icon is added to your computer's desktop when you install the Install Wizard.

- If you wish to remove the ACU icon from the desktop, run the Install Wizard again and set the Place Icon on Desktop parameter to **No** or right-click the icon, click **Delete**, and click **Yes** to confirm your decision.
- If you want to add the ACU icon to the desktop, set the Place Icon on Desktop parameter to **Yes** in the Install Wizard.

Accessing Online Help

To access ACU's online help, open ACU. Then click the **Help** icon or select **Contents** from the Help drop-down menu. An overview of ACU appears.

From the Overview of the Aironet Client Utility screen, you can access additional information.

- To access information on specific menu options, click **Contents**. Double-click **Aironet Client Utility Commands**, the desired menu (such as Options Menu), and the desired topic (such as Preferences).
- To access information on specific parameters, click **Contents**. Double-click **Configurable Parameters**, the client adapter, a parameter category (such as System Parameters), and the desired parameter (such as SSID).
- To access information on specific diagnostic topics, click **Contents**. Double-click **Run Time Diagnostic Information**, a diagnostic category (such as Running a Linktest), and the desired topic (such as Packet Size).
- To search for a specific topic, click **Index**, select an index entry, and click **Display**.
- To search for a specific word or phrase, click **Contents** or **Index**, click the **Find** tab, and follow the instructions in the Find Setup Wizard window.

ACM Procedures

Refer to [Chapter 8](#) for instructions on using ACM.

Restarting the Client Adapter

ACU enables you to reinitialize (or restart) the client adapter without having to reboot your computer or eject and reinsert the adapter. For instance, if your client adapter is experiencing poor throughput, you might want to restart the client adapter to try to force it to disassociate from the access point to which it is currently associated in the hope that it reassociates to an access point with a stronger signal.

**Note**

Restarting the client adapter may cause you to lose your wireless network connection.

Follow the steps below to restart the client adapter.

-
- Step 1** Open ACU.
- Step 2** Select the **Restart Card** option from the Commands drop-down menu (see [Figure 9-6](#)).
- Step 3** When prompted to confirm your decision, click **Yes**. The driver stops the client adapter's radio, writes the configuration (although no parameter settings have been changed), and restarts the radio. The status bar at the bottom of the ACU screen shows the client adapter losing association and then reassociating.
-

Turning Your Client Adapter's Radio On or Off

Your client adapter's radio can be turned on or off. Turning the radio off prevents the adapter from transmitting RF energy. You might want to turn off the client adapter's radio in the following situations:

- You are not transmitting data and want to conserve battery power.
- You have EAP-SIM authentication set up to occur transparently (the SIM card is left in the reader and the PIN is stored in the computer), and you do not want to be billed for air time upon entering an area that enables the client to authenticate.
- You are using a laptop on an airplane and want to prevent the adapter's transmissions from potentially interfering with the operation of certain devices.

When the radio is on, it periodically sends out probes even if it is not associated to an access point, as required by the 802.11 specification. Therefore, it is important to turn it off around devices that are susceptible to RF interference.

**Note**

Your client adapter is not associated while its radio is off.

**Note**

If your client adapter's radio is turned off before your computer enters standby or hibernate mode or before you reboot the computer, the radio remains off when the computer resumes. You must turn the radio back on to resume operation.

You can use ACU or ACM to turn the client adapter's radio on or off. Follow the instructions below to use ACU or refer to the [“Turn Radio On/Off” section on page 8-7](#) to use ACM.

If your client adapter's radio is on, open ACU and select **Turn Radio Off** from the Commands drop-down menu (see [Figure 9-6](#)) to turn off the radio. The status bar at the bottom of the ACU screen indicates that the radio is turned off.

If your client adapter's radio is off, open ACU and select **Turn Radio On** from the Commands drop-down menu (see [Figure 9-6](#)) to turn on the radio.

Uninstalling the Microsoft Hot Fix

When LEAP is selected during installation on a Windows 98 or 98 SE device, a Microsoft hot fix is also installed to fix two problems related to the use of LEAP. If you ever need to uninstall the hot fix, select **Start > Run**, enter `C:\Windows\Inf\Qfe\W98.se\241052un.inf`, and click **OK**.