



National Institutes of Health

Enterasys Wireless LAN Client Setup Procedures

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Network & Engineering Branch

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Document Change History

This section identifies all changes that have been incorporated into the *Enterasys Wireless LAN Client Setup Procedures* since the original version.

Date	Version Number	Change Description
September 29, 2003	1.0	Original Version
November 14, 2003	1.1	Update “Introduction” and “Wireless Authentication Overview”. Add guest SSID and WEP key instructions.
January 20, 2004	1.2	Use Key #1 for WEP encryption key and transmit key for NIH users
February 23, 2004	1.3	Update section 5.2, “Configuring Wireless Access for Windows XP”.

1 Introduction

The National Institutes of Health (NIH) provides wireless access to NIH local area networks (LANs) at the Bethesda campus and certain off-campus locations. A wireless LAN is a flexible data communications system implemented as an extension to, or as an alternative for, a wired LAN. Using radio frequency (RF) technology, wireless LANs transmit and receive data over the air, minimizing the need for wired connections.

The NIH wireless LAN allows a multi-vendor environment. It is configured to use client adapters and access points from multiple vendors, so that any user's client adapter card can communicate with any vendor's access point, providing a seamless wireless network. The wireless LAN uses NIH-wide standard encryption standards as recommended by the National Institute of Standards and Technology (NIST). This ensures privacy of data, as required by the Health Insurance Portability and Accountability Act (HIPAA) of 1996.

1.1 Purpose

This document contains the standard operating procedures for setting up wireless LAN client access for NIH staff using Enterasys technology for Windows (NT, 2000, XP) and Macintosh.

1.2 Scope

This document explains how to do the following tasks:

- Determine whether the RoamAbout PC wireless adapter card supports encryption
- Install the Enterasys RoamAbout wireless client adapter driver
- Install the Enterasys RoamAbout Client Utility for Windows
- Configure wireless access
- Test wireless access

1.3 Audience

These procedures are intended for LAN Administrators.

1.4 Materials Needed

To set up wireless access for Enterasys wireless adapters you will need the following:

- RoamAbout 802.11 PC Card/Wireless Adapter
- RoamAbout 802.11 wireless adapter driver: on CD-ROM or downloaded from the NIH Information Systems Dedicated Procurement (iSDP) [Wireless LAN software page](#). On the software page go to "Enterasys Roam About Client Software" and click the appropriate link for the operating system.

- RoamAbout 802.11 Client Utility for Windows: on CD-ROM or downloaded from the iSDP [Wireless LAN software page](#). **Note:** A separate Client Utility is not required for Macintosh.

1.5 Wireless Authentication Overview

In the NIH wireless LAN environment the various vendors' client adapters, client utilities, and access points are configured to communicate using the NIH standard secure access method. Two means are employed to secure data: 128-bit Wired Equivalent Privacy (WEP) encryption is used when the link is established between the wireless client and the access point. Virtual Private Networking (VPN) with Advanced Encryption Standard (AES) 256 bit or Triple Data Encryption Standard (3DES) 168 bit (depending on the client adapter used) is employed to encrypt user data.

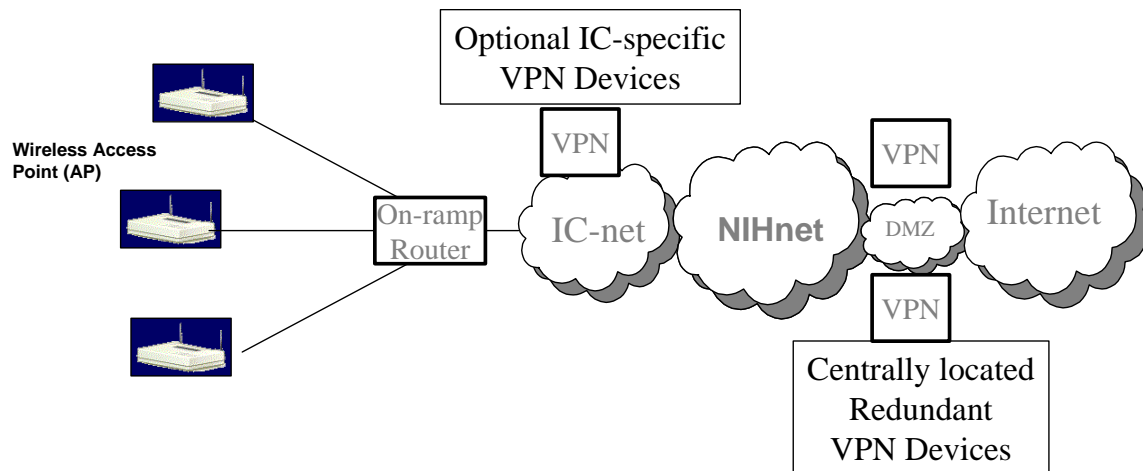
When the user turns on the computer, the wireless adapter tries to associate with the AP via WEP key and Service Set Identifier (SSID), and sends a Dynamic Host Configuration Protocol (DHCP) request to obtain an IP address from the DHCP server. The VPN client then connects to the VPN concentrator and the user signs on using the NT domain (Active Directory) credentials.

Users who are NIH employees authenticate through a VPN concentrator. NIH guests or patients authenticate through Wireless Gateway servers using assigned user names and passwords. Wireless Gateway-authenticated users have very limited Internet access, while VPN users have the same network access as wired users. **Note:** At the "Demilitarized Zone" (DMZ), security checks are applied to all traffic. If users do not authenticate through VPN or Wireless Gateway, their packets will be dropped at the wireless DMZ.

Authentication for NIH users connecting through the wireless LAN is the same as for users connecting via the wired network. The wireless VPN servers and Wireless Gateway participate in the single sign-on process, so that the same password is used to log on to both the wireless and wired networks.

The NIH wireless LAN is illustrated in (Figure 1).

Figure 1. NIH Wireless LAN Overview



2 Determining Whether the Wireless Card Supports Encryption

In order to meet NIH wireless security requirements the RoamAbout PC Card/Wireless Adapter must support 128-bit WEP encryption. To determine if the card supports encryption, do either one of the following:

- Check for a sticker on the back of the PC Card/Wireless Adapter that states support for 128-bit encryption.

or

- Run the Client Utility (if it is already installed). Click on the **Help** menu and select **Version Info** from the drop-down menu. Check the **Card** field for WEP encryption allowed. If it does not show WEP encryption allowed, or if it shows 40-bit encryption, the card does not meet the NIH wireless security requirement.

3 Installing the Wireless Client Adapter Driver

In order for the wireless adapter card to connect to the wireless LAN, the wireless client adapter driver must be installed on the laptop. Depending on the operating system, you may need to install and then upgrade the driver.

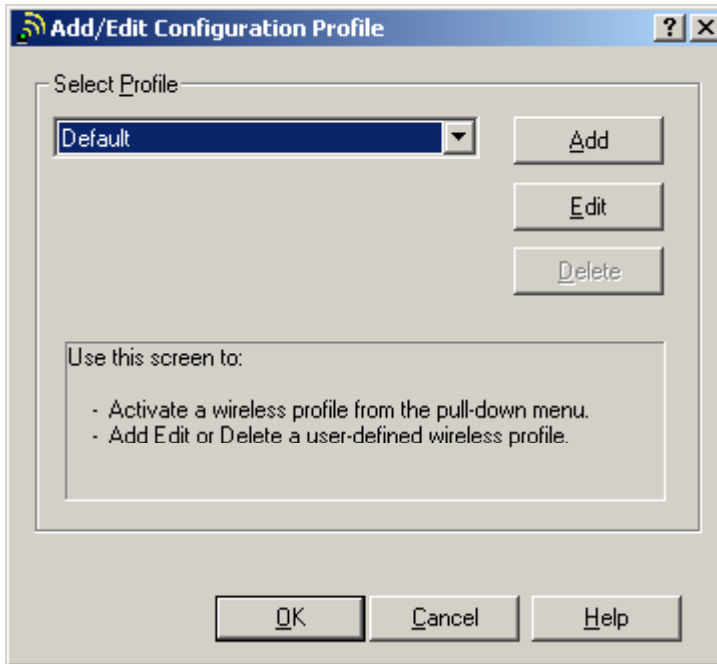
Note: For Macintosh, when you install the client adapter driver you also will configure wireless access.

3.1 Windows NT

Follow these steps to install the client adapter driver for Windows NT. In this case, the correct driver will be installed – it is not necessary to update the driver.

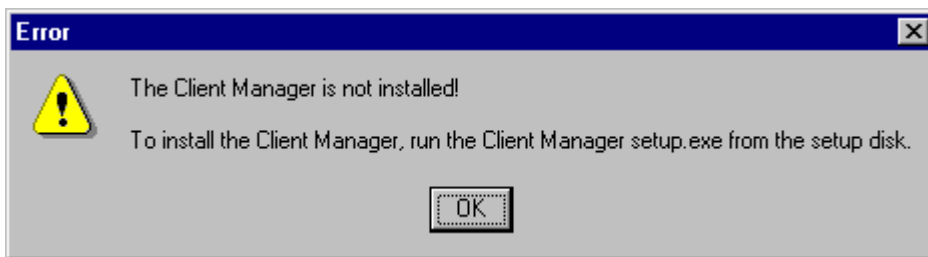
1. Insert the RoamAbout Wireless Adapter into the PCMCIA slot.
2. Open the Control Panel and double click the **Network** icon. The **Network** window is displayed.
3. Select the **Adapters** tab and click the **Add** button.
4. Click **Have Disk**.
5. Enter the path of the driver.
6. Click **OK**.
7. If you are prompted for operating system files, insert the operating system media.
8. Enter the IRQ and I/O port values if prompted.
9. During driver installation, the system displays the RoamAbout **Add/Edit Configuration Profile** window (Figure 2).

Figure 2. Add/Edit Configuration Profile Window



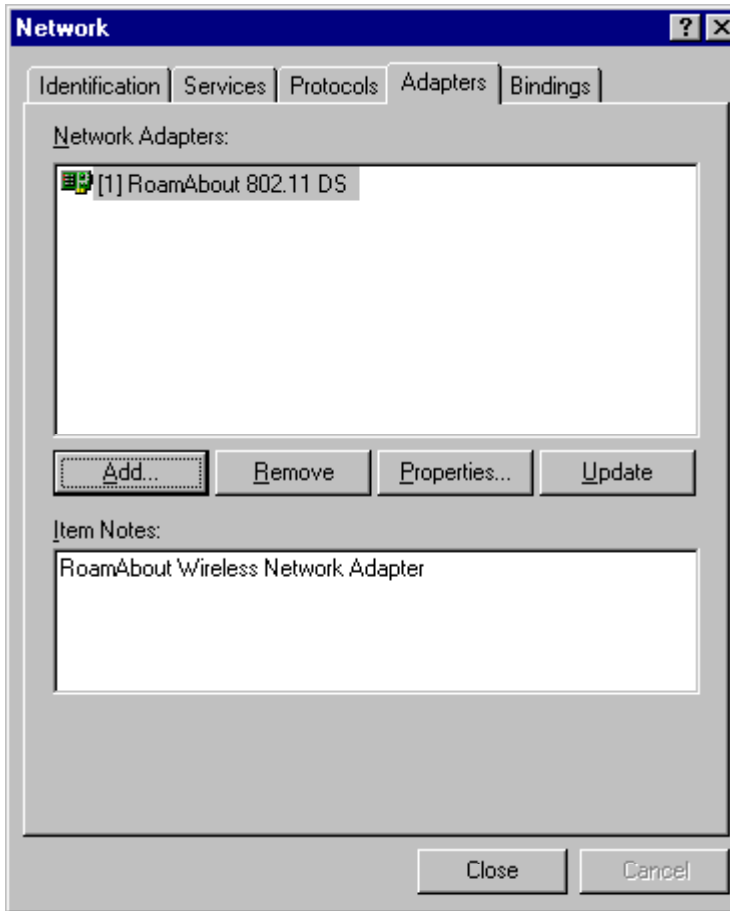
10. Click **OK**. An error window is displayed (Figure 3).

Figure 3. Error Window



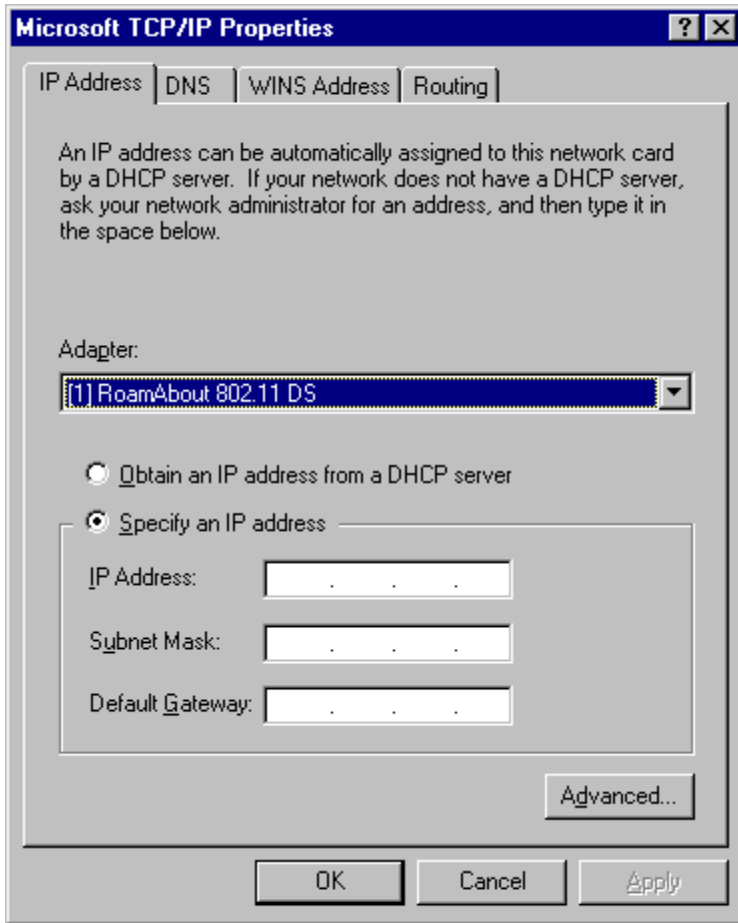
11. Click **OK** to continue. The **Network** window is displayed again (Figure 4).

Figure 4. Network Window



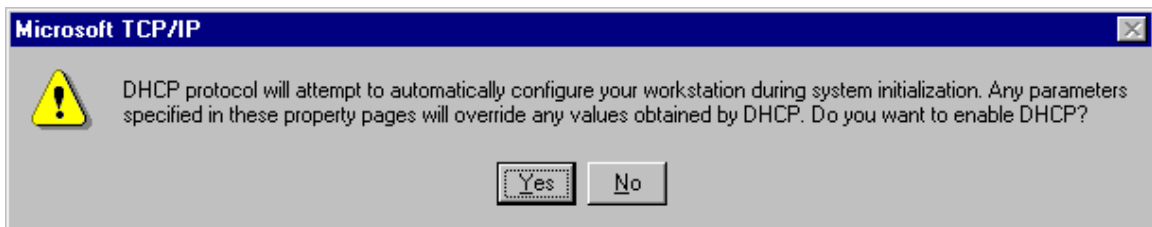
12. Click **Close**. The **Microsoft TCP/IP Properties** window is displayed (Figure 5).

Figure 5. Microsoft TCP/IP Properties Window



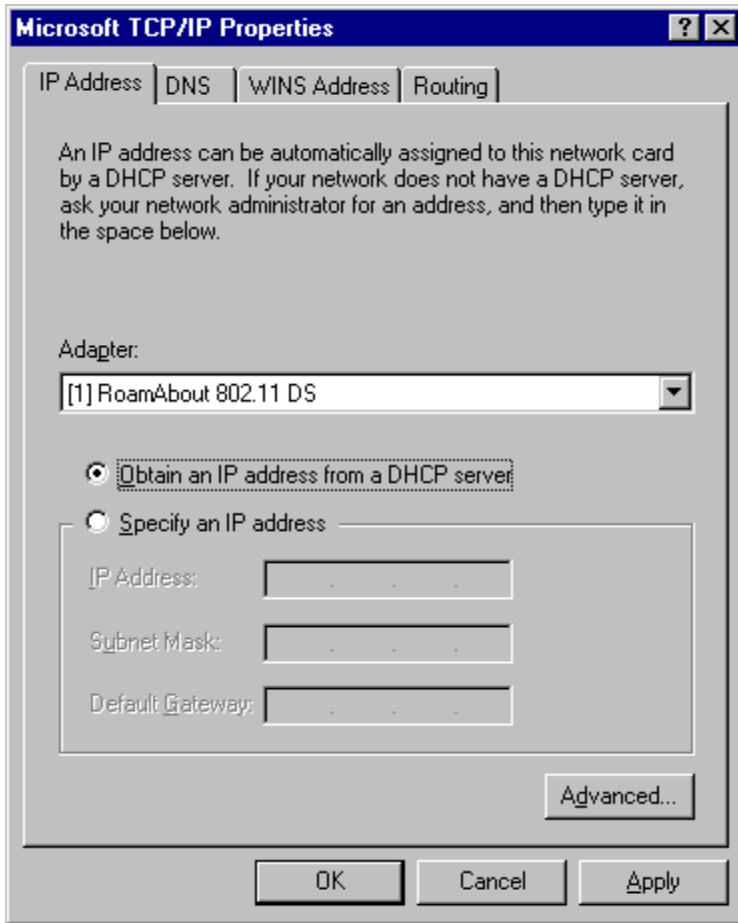
13. Select **Obtain an IP address from a DHCP server**. The **Microsoft TCP/IP** warning window is displayed (Figure 6). Click **OK**.

Figure 6. Microsoft TCP/IP Warning Window



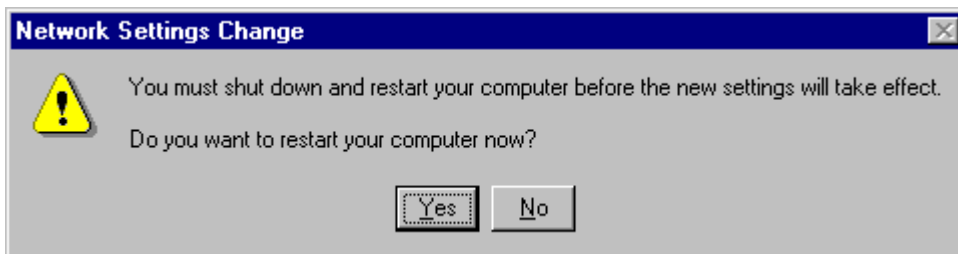
14. Click **Yes** to continue. The **Microsoft TCP/IP Properties** window is displayed (Figure 7).

Figure 7. New Microsoft TCP/IP Properties Window



15. Click **OK** to continue. The **Network Settings Change** window is displayed (Figure 8).

Figure 8. Network Settings Change Window



16. Click **Yes** to restart the computer.

Congratulations! You have completed the driver installation process. Go to section 4, “Installing the Client Utility for Windows NT, 2000, and XP”, on page 29 to install the Client Utility.

3.2 Windows 2000

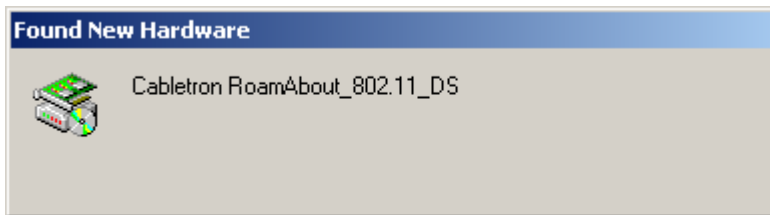
In Windows 2000 a wireless adapter driver provided by Microsoft is installed automatically when you insert the RoamAbout Wireless Adapter. After the driver is installed you must upgrade to the newer version of the driver provided by Enterasys.

3.2.1 Installing Microsoft driver

Follow these steps to install the native (Microsoft) client adapter driver for Windows 2000.

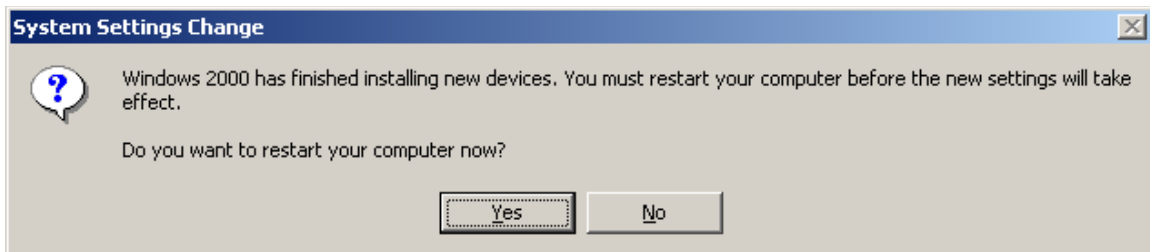
1. Insert the RoamAbout Wireless Adapter into the PCMCIA slot. Windows 2000 automatically detects the new wireless card and displays the **Found New Hardware** window (Figure 9).

Figure 9. Found New Hardware Window



2. Windows 2000 automatically installs the native wireless adapter driver.
3. If the **System Settings Change** window (Figure 10) is displayed, click **Yes** to restart the computer.

Figure 10. System Settings Change Window



Next, you must upgrade to the Enterasys-provided driver.

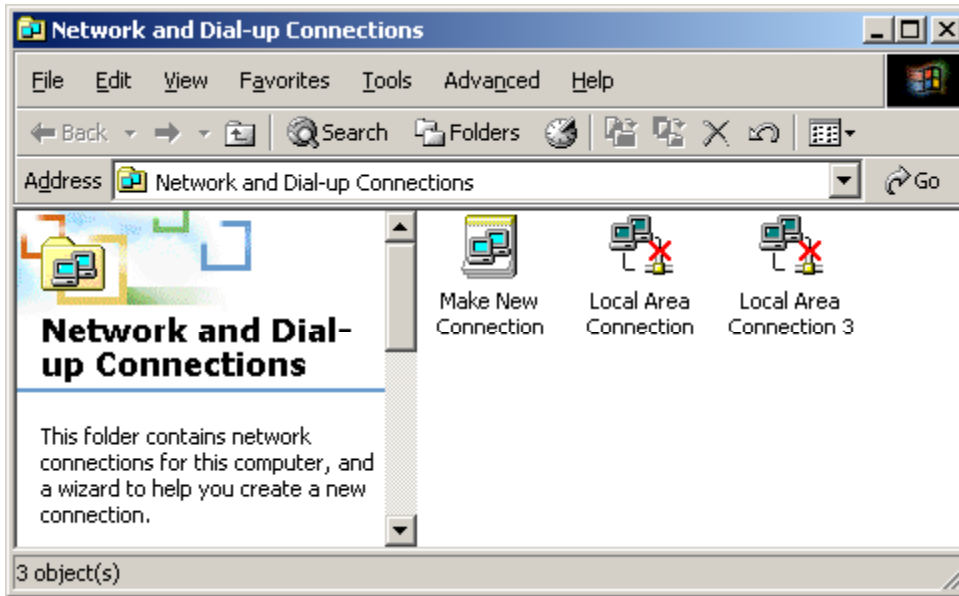
3.2.2 Upgrading to Enterasys driver

After the computer restarts, installation of the old (Microsoft) version of the wireless adapter driver is completed (version 4.6.0.0).

Perform the following steps to upgrade and configure the new driver version provided by Enterasys:

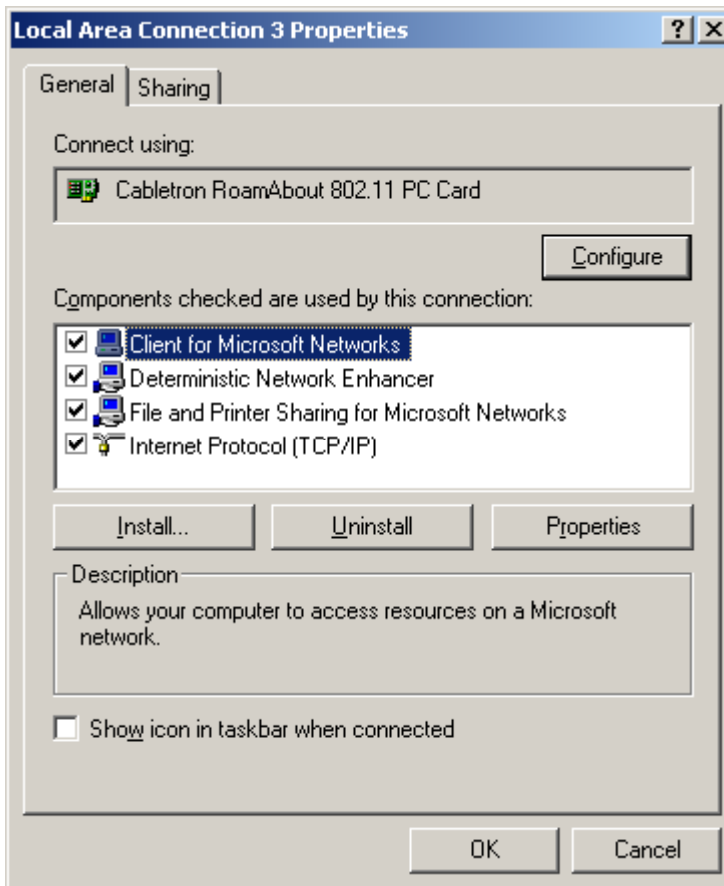
1. On the desktop, right click the **My Network Places** icon.
2. Select **Properties**. The **Network and Dial-up Connections** window is displayed (Figure 11).

Figure 11. Network and Dial-up Connections Window



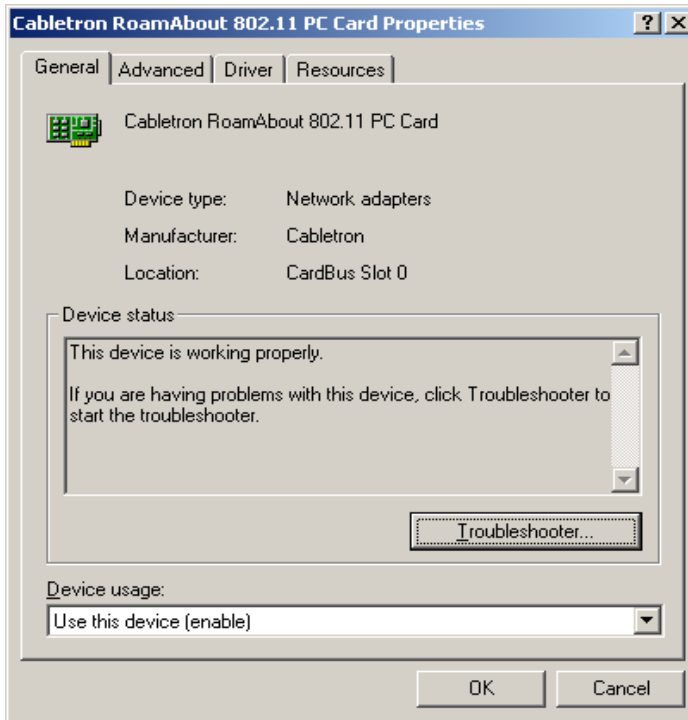
3. Right click one of the **Local Area Connection** icons. (Usually the last icon is the new icon of the wireless client adapter you just installed.) The **Local Area Connection Properties** window is displayed (Figure 12).

Figure 12. Local Area Connection Properties Window



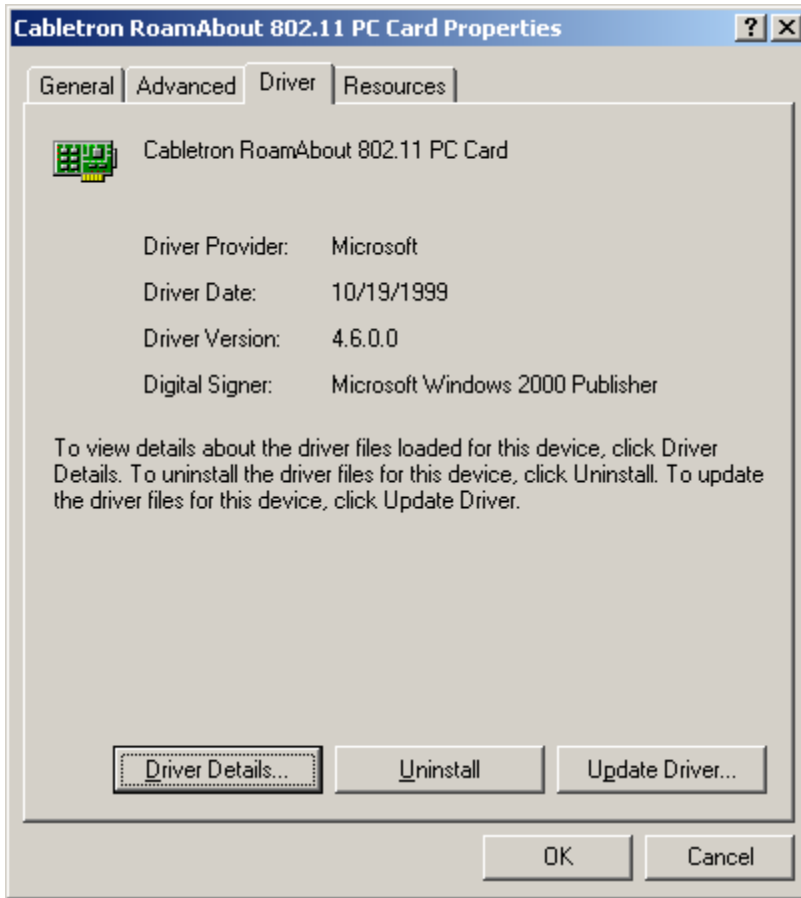
4. On the **General** tab make sure that Cabletron RoamAbout 802.11b PC Card appears in the **Connect using:** box. If it does not, you selected the wrong **Local Area Connection** icon. You must go back to the **Network and Dial-Up Connections** window (Figure 11) and double click a different **Local Area Connection** icon.
5. Click the **Configure** button. The **Cabletron RoamAbout 802.11 PC Card Properties** window is displayed (Figure 13).

Figure 13. Cabletron RoamAbout 802.11 PC Card Properties Window



6. Select the **Driver** tab. Information for the Microsoft-provided driver is displayed (Figure 14).

Figure 14. Cabletron RoamAbout 802.11 PC Card Properties Window/Driver Tab



7. Click the **Update Driver** button. The **Upgrade Device Driver Wizard** window is displayed (Figure 15).

Figure 15. Upgrade Device Driver Wizard Window



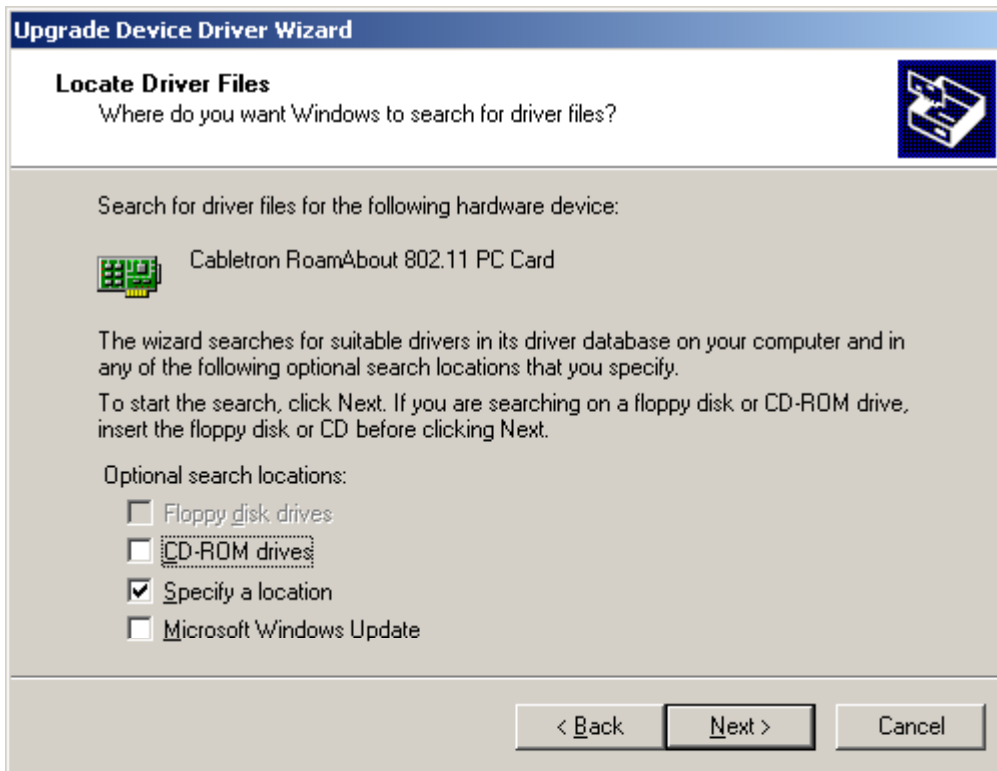
8. Click **Next**. The **Install Hardware Device Drivers** window is displayed (Figure 16).

Figure 16. Upgrade Device Driver Wizard/Install Hardware Device Drivers Window



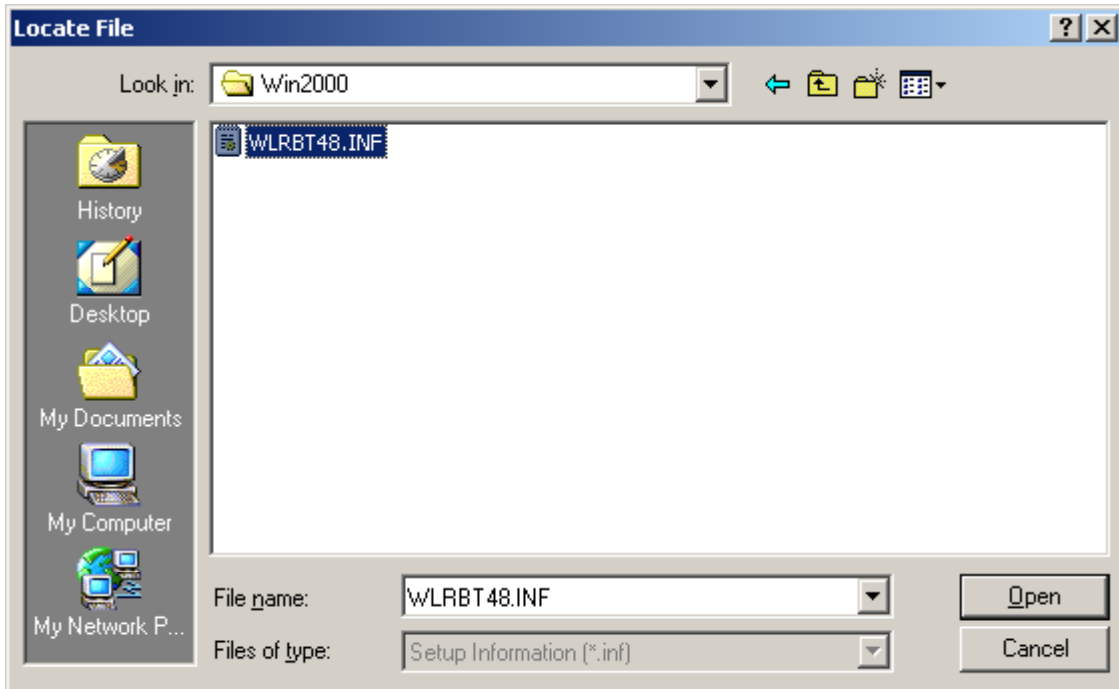
9. Select **Search for a suitable driver for my device (recommended)**.
10. Click **Next**.
11. The **Locate Driver Files** window is displayed (Figure 17). Under **Optional search locations** several options are listed for the new driver.
 - a. Select **CD-ROM drives** if you are installing a new driver from a CD-ROM.
 - b. Select **Specify a location** if a new driver is downloaded and stored on your local computer.

Figure 17. Upgrade Device Driver Wizard/Locate Driver Files Window



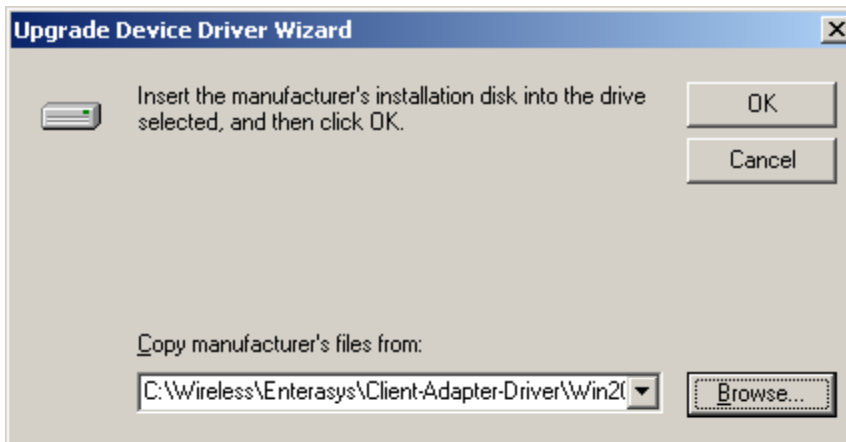
12. Click **Next**, then click **Browse** to go to the directory where the new driver is stored on your local computer or CD-ROM. The **Locate File** window is displayed (Figure 18).
13. Select the new driver file, for example, WLRBT48 . INF.

Figure 18. Locate File Window



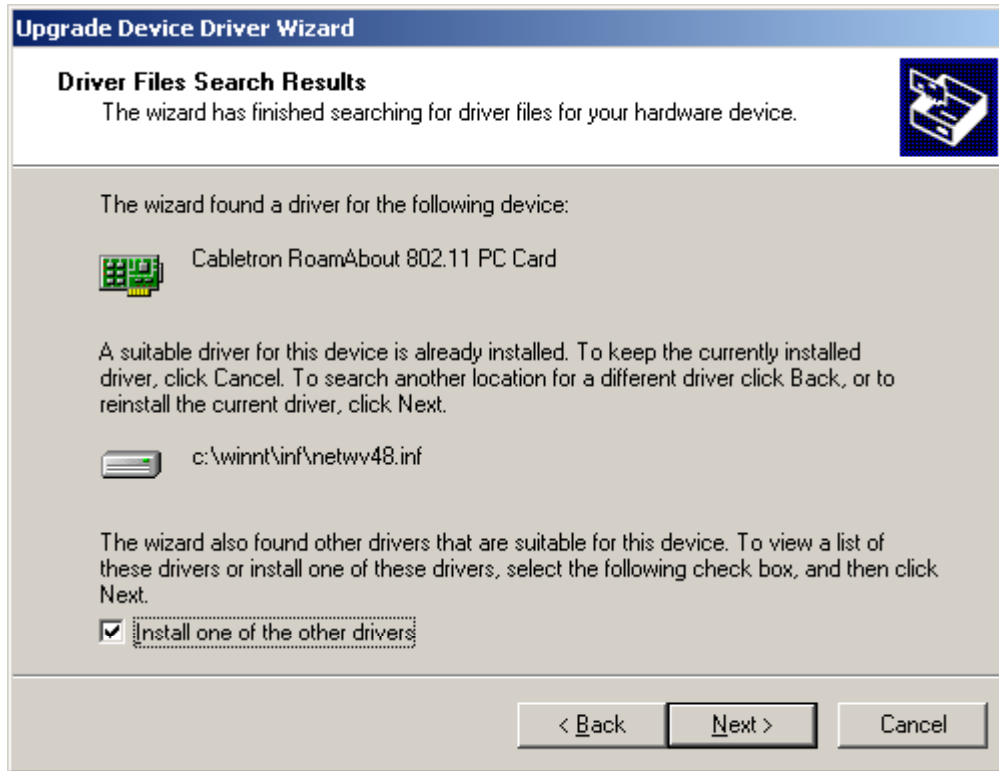
14. Click **Open**. The **Upgrade Device Driver Wizard** window is displayed showing the path of the new driver (Figure 19).

Figure 19. Upgrade Device Driver Wizard Window



15. Click **OK**. The **Driver Files Search Results** window is displayed (Figure 20).
16. Check the **Install one of the other drivers** checkbox.

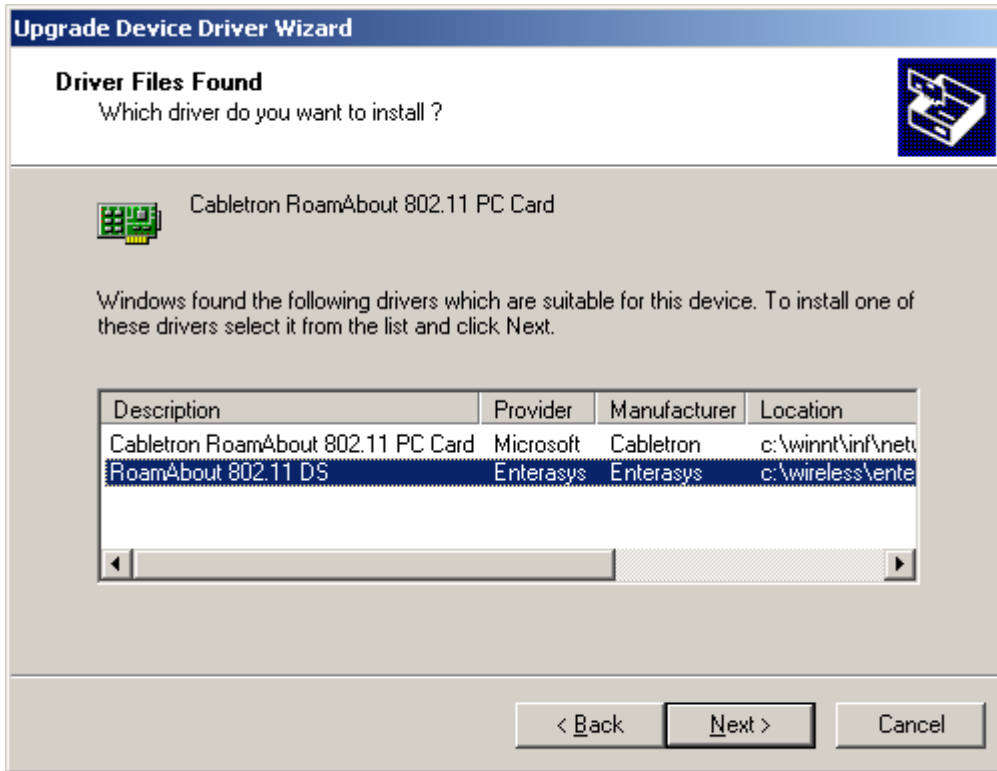
Figure 20. Upgrade Device Driver Wizard/Driver Files Search Results Window



17. Click **Next**. The **Driver Files Found** window is displayed showing the old (Microsoft) and new (Enterasys) driver files (Figure 21).
18. Select the new driver file, which is stored in the folder in which you downloaded it, or on CD-ROM (see step 11).

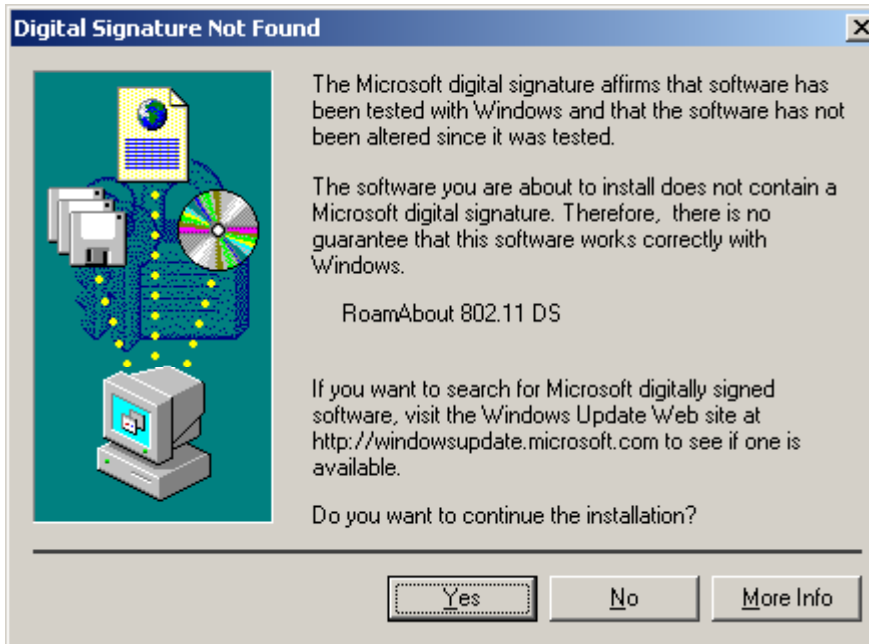
Example: RoamAbout 802.11 DS

Figure 21. Upgrade Device Driver Wizard/Driver Files Found Window



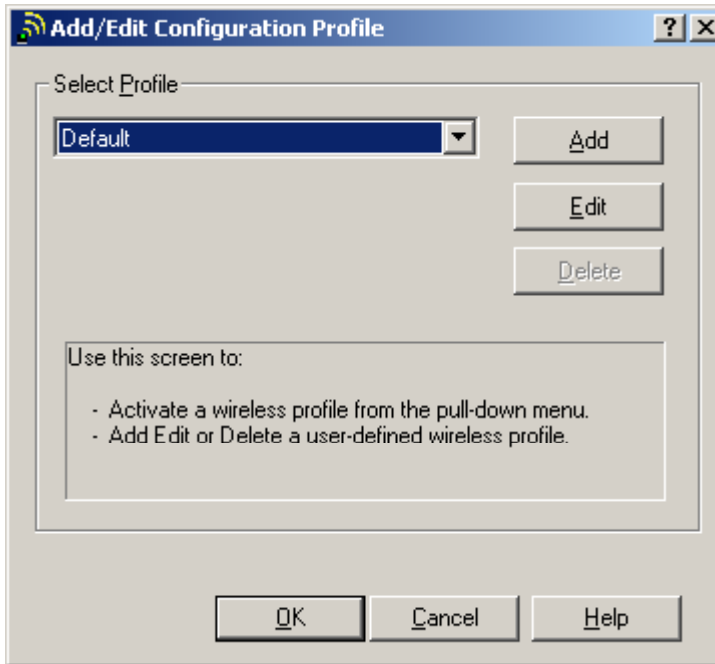
19. Click **Next**. The **Digital Signature Not Found** window may be displayed (Figure 22).

Figure 22. Digital Signature Not Found Window



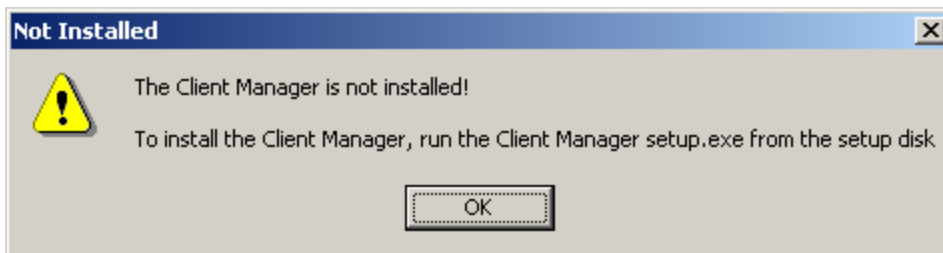
20. Click **Yes** to continue. The **Add/Edit Configuration Profile** window is displayed (Figure 23).

Figure 23. Add/Edit Configuration Profile Window



21. Click **OK** to continue. The Client Manager **Not Installed** window is displayed (Figure 24).

Figure 24. Not Installed Window



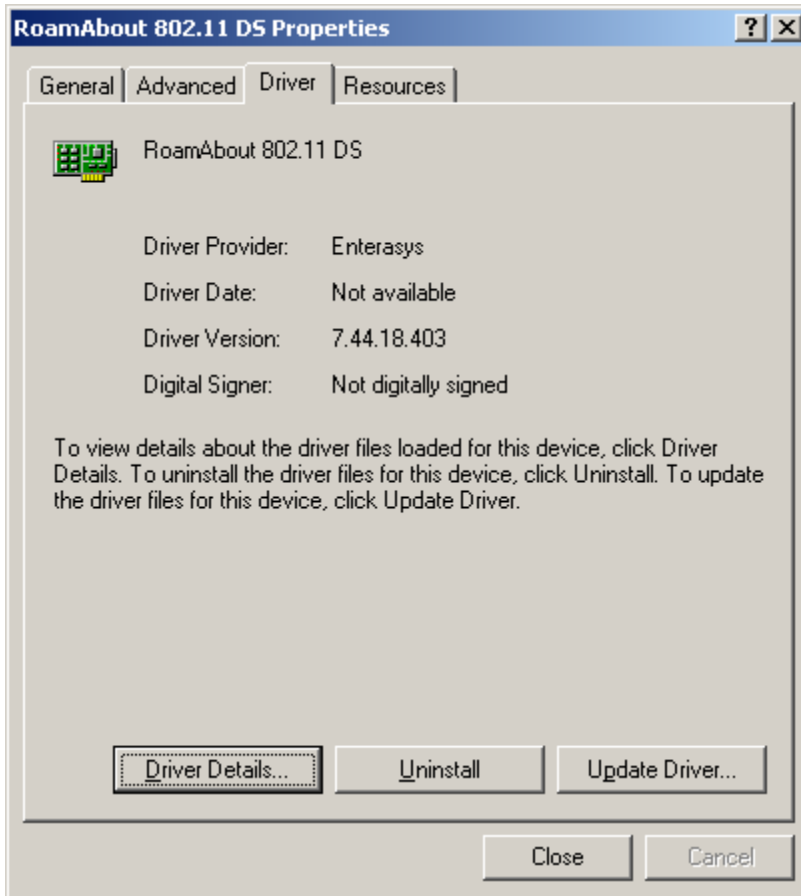
22. Click **OK**. The **Upgrade Device Driver Wizard** is displayed again (Figure 25).

Figure 25. Upgrade Device Driver Wizard Window



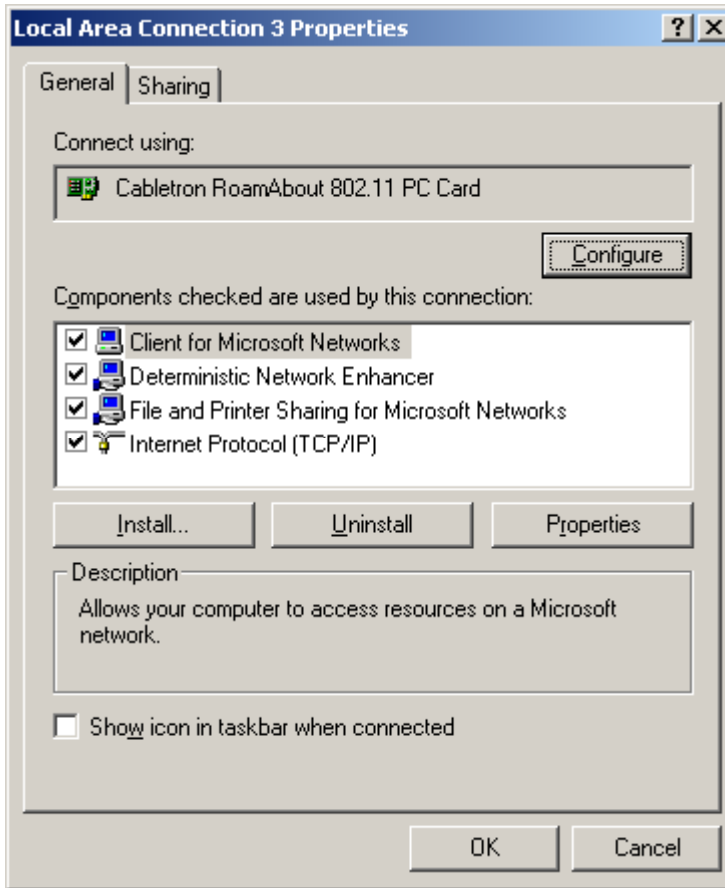
23. Click **Finish**. The **RoamAbout 802.11 DS Properties** window is displayed again (Figure 26), showing the information for the Enterasys-provided driver.

Figure 26. RoamAbout 802.11 DS Properties Window



24. Click **Close**. The **Local Area Connection Properties** window is displayed (Figure 27).

Figure 27. Local Area Connection Window



25. Click **OK** to continue.

26. Restart the computer.

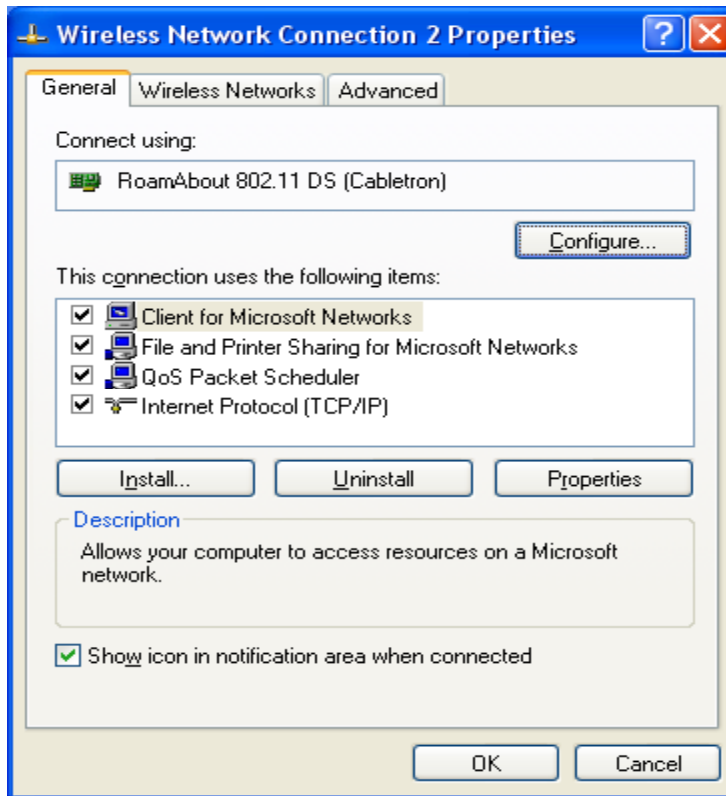
After the system reboots, go to section 4, “Installing the Client Utility for Windows NT, 2000, and XP” to install the Client Utility.

3.3 Windows XP

In Windows XP you must perform two steps to install the correct client adapter driver:

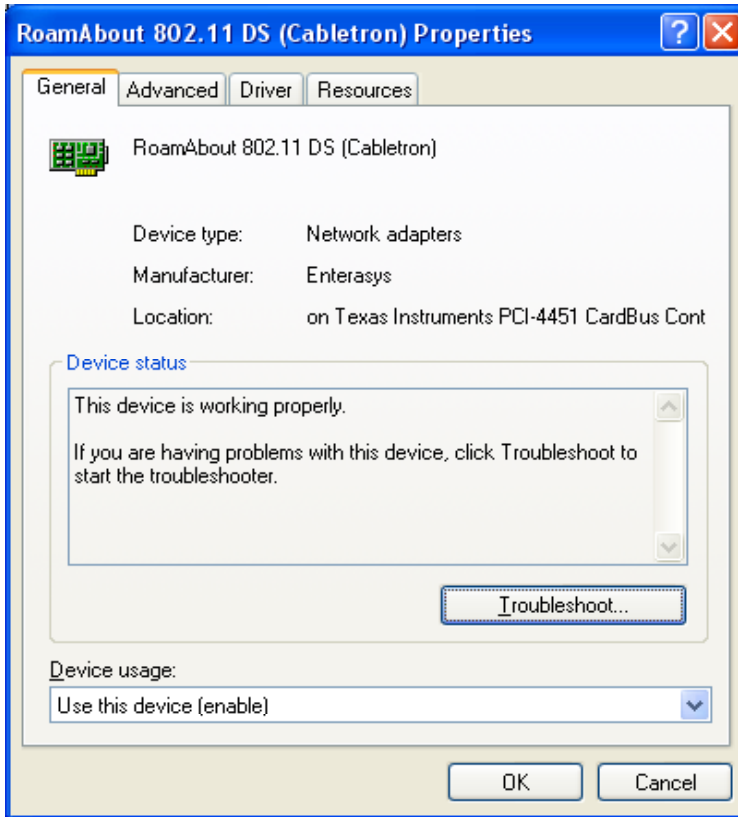
- Install the Microsoft-provided driver
 - Upgrade driver to the Enterasys version
1. Insert the RoamAbout Wireless Adapter into the PCMCIA slot. Windows XP detects the new wireless card and automatically installs the native wireless adapter driver.
 2. After the driver is installed, the **Wireless Network Connection Properties** window is displayed automatically (Figure 28).

Figure 28. Wireless Network Connection Properties Window



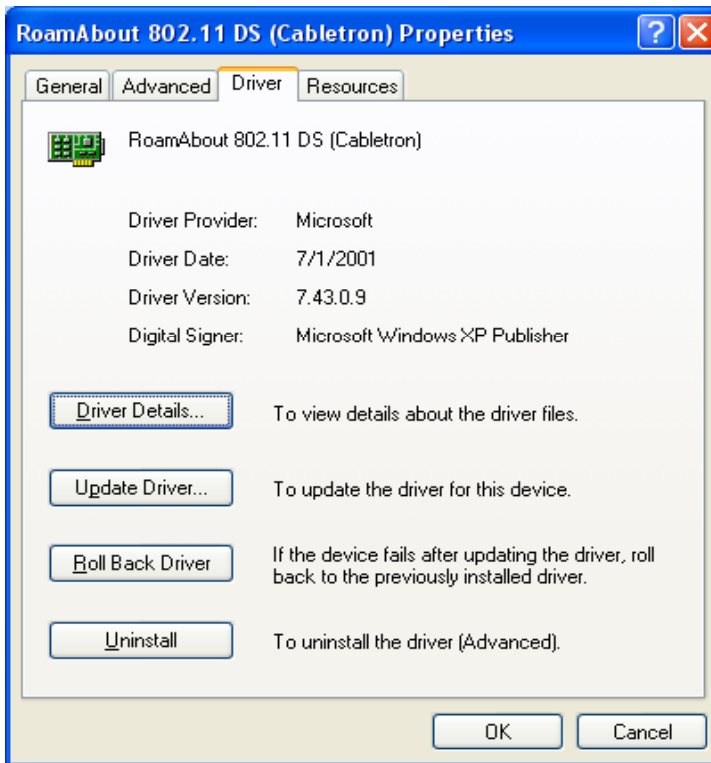
3. Click the **Configure** button. The **RoamAbout 802.11 DS (Cabletron) Properties** window is displayed (Figure 29).

Figure 29. RoamAbout 802.11 DS (Cabletron) Properties Window



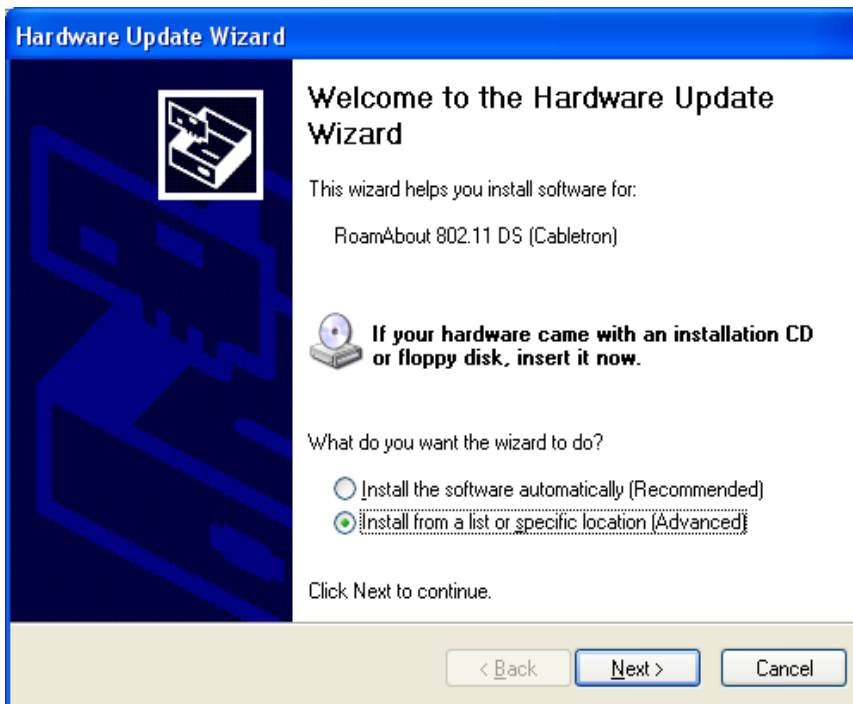
4. Select the **Driver** tab. Information for the native (Microsoft) driver is displayed (Figure 30).

Figure 30. RoamAbout 802.11 DS (Cabletron) Properties Window/Driver Tab



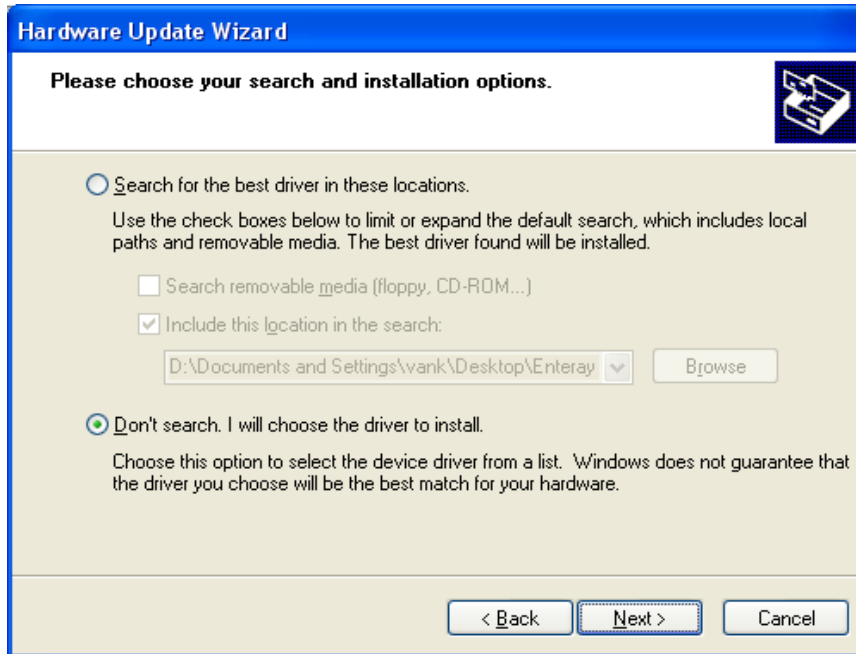
5. Click the **Update Driver** button to update the driver to the Enterasys version. The **Hardware Update Wizard** window is displayed (Figure 31).

Figure 31. Hardware Update Wizard Window (1)



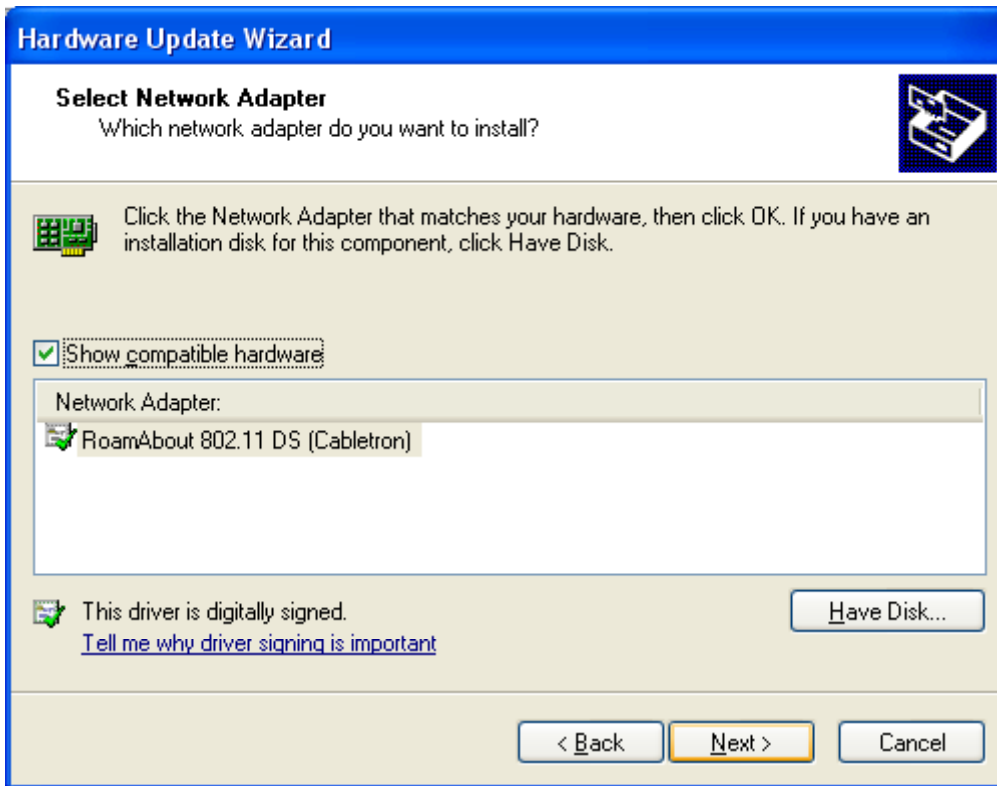
- Under **What do you want the wizard to do?** select **Install from a list or specific location (Advanced)**.
- Click **Next**. The **Hardware Update Wizard** window is displayed again. Select **Don't Search. I will choose the driver to install** (Figure 32).

Figure 32. Hardware Update Wizard Window (2)



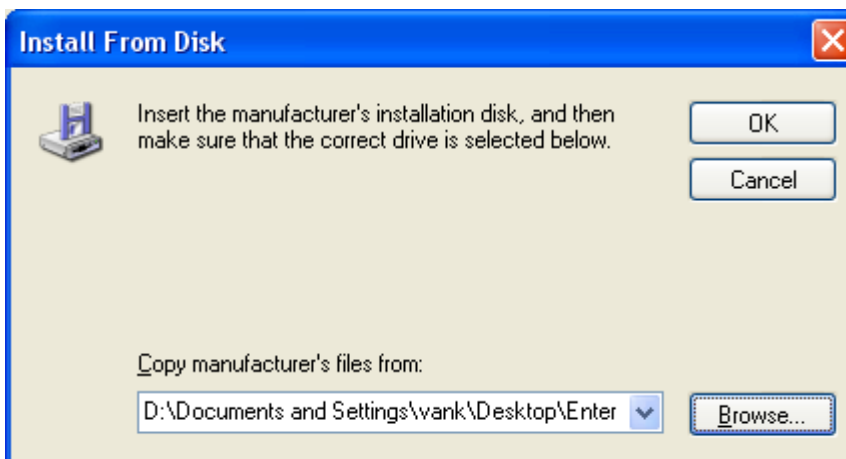
- Click **Next** to continue the setup. The **Select Network Adapter** window is displayed (Figure 33).

Figure 33. Hardware Update Wizard/Select Network Adapter Window



9. Click **Have Disk**.
10. Select the path where the new driver is stored.
 - a. If you want to install the new driver from a CD-ROM, select the CD-ROM drive.
 - b. If you downloaded the new driver to your computer, navigate to the directory where you stored the file.
11. Click **Open**. The **Install From Disk** window is displayed (Figure 34).

Figure 34. Install From Disk Window



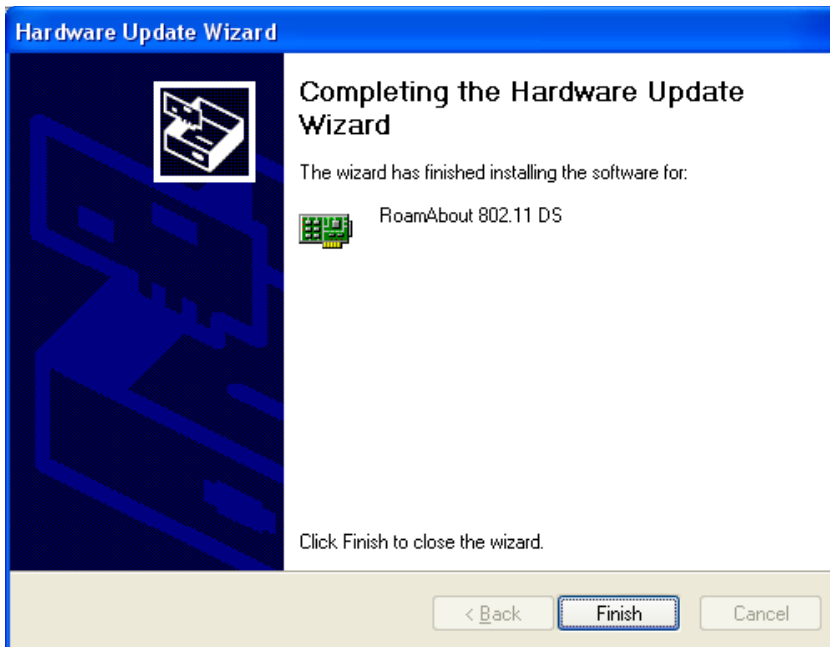
- Click **OK**, then click **Next** to install the new driver. While the new driver is being installed, the **Hardware Installation** window may be displayed (Figure 35). Click **Continue Anyway** to continue the installation.

Figure 35. Hardware Installation Window



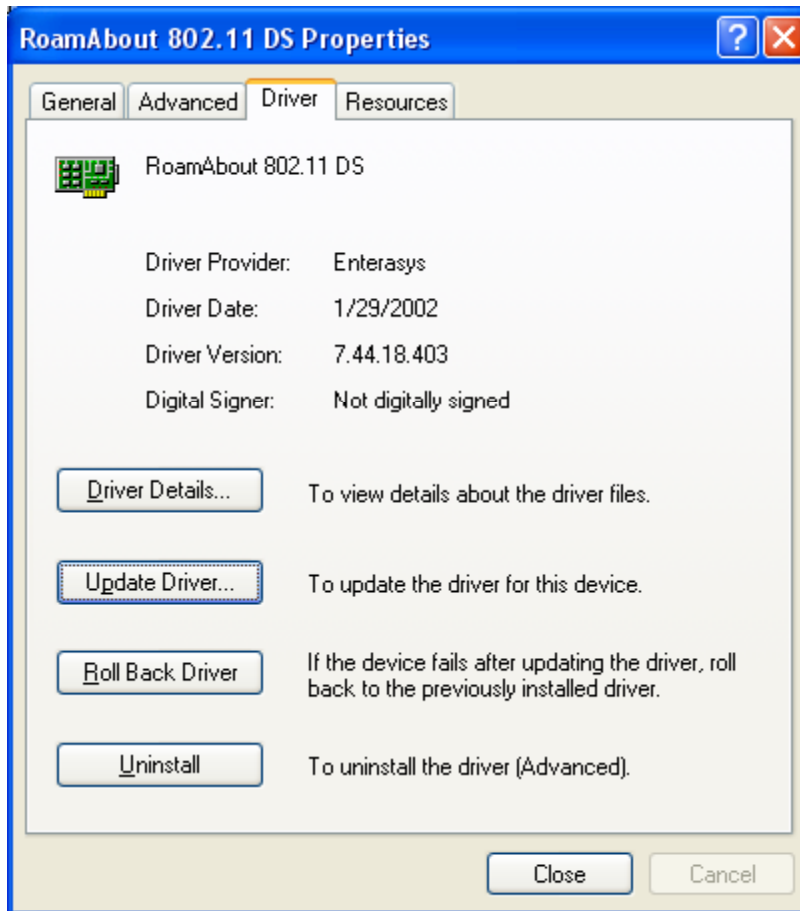
- When the installation is completed, the **Completing the Hardware Update Wizard** window is displayed (Figure 36).

Figure 36. Completing the Hardware Update Wizard Window



- Click **Finish**. The **RoamAbout 802.11 DS Properties/Driver** window is displayed again with the new (Enterasys) driver version information (Figure 37).

Figure 37. RoamAbout 802.11 DS Properties/Driver Window



15. Click **Close**. You have installed and upgraded the new wireless adapter driver. Go to Section 4 on page 29 to install the Client Utility.

3.4 Macintosh

For Macintosh you will install the wireless client adapter driver and configure wireless access. A separate Client Utility is not required.

Before installing the wireless client adapter driver you must remove any previously installed wireless networking software, as shown in section 3.4.1. Then, install the new driver as explained in section 3.4.2.

Section 3.4.3 shows how to configure wireless access for NIH user areas using the NIH standard SSID for NIH users. To access the wireless LAN in guest/patient areas, you need to reconfigure the SSID using the NIH standard SSID for guest (section 3.4.4).

3.4.1 Removing old driver

To remove any previously installed driver, follow the steps below:

1. Insert the RoamAbout Drivers and Utilities CD-ROM into the Apple PowerBook, or browse to the directory where you stored the driver that you downloaded from the Web site.

2. Double click the **ARA40200.hqx** file to unstuff the files.
3. Double click the **RoamAbout Installer** to start the installation program.
4. In the **Welcome** window click **Continue**.
5. Select **Custom Remove** from the list of options.
6. Click all boxes to completely remove the driver. If you have any open applications you are prompted to close them.
7. **Restart** the computer when completed.

3.4.2 Installing new driver

After removing the previously installed driver, follow these steps to install a new driver:

1. Insert the RoamAbout Drivers and Utilities CD-ROM into the Apple PowerBook, or go to the directory where you stored the driver that you downloaded from the Web site.
2. Double click the **ARA40200.hqx** file to unstuff the files.
3. Double click the **RoamAbout Installer** to start the installation program.
4. In the **Welcome** window, click **Continue**.
5. Select **Easy Install**.
 - For PowerBook 2400, 3400 or G3 running System 7.6.1 or later (up to 9.0), Easy Install chooses **RoamAbout PC Card Networking Software (PCI)**.
 - For PowerBook 1400 or 5300 running System 7.5.3 or later (up to 9.0), Easy Install chooses **RoamAbout PC Card Networking Software (PPC)**.
 - For PowerBook 190 running System 7.5.2 or later (up to 9.0), Easy Install chooses **RoamAbout PC Card Networking Software (68K)**.
6. **Restart** the computer when prompted. After the restart, close any unnecessary windows.

3.4.3 Configuring wireless access for NIH users

After installing the new driver, follow these steps to configure wireless access:

1. Insert the Wireless Adapter into the PCMCIA slot. The **RoamAbout 802.11 DS** icon is displayed on your desktop.

Note: For PowerBook 3400 and G3, use the lower PCMCIA slot. The upper slot sometimes fails properly to recognize the wireless adapter, which may cause unreliable operation.
2. Open the Apple Menu, select **Control Panels**, then select **AppleTalk**.
3. In the **AppleTalk** window, select **RoamAbout 802.11 DS** from the **Connect Via** list.

Note: If RoamAbout 802.11 DS is not present, select **Ethernet**.
4. Close the **AppleTalk** window.

5. Click **Save** to confirm the changes.
6. Open the Apple menu, select **Control Panels**, then select **RoamAbout Setup**.
7. Enter the <NIH standard SSID for NIH users> in the **RoamAbout Network** field.
8. Enter the <NIH standard WEP encryption key> in the **Encryption WEP key** field.
9. **Restart** the computer when done. After rebooting you will be able to access the wireless LAN in NIH user areas.

3.4.4 Configuring wireless access for guest areas

To access the wireless LAN in guest/patient areas, you need to reconfigure the SSID using the NIH standard SSID for guest, as follows.

1. Repeat steps 2 to 7 above (section 3.4.3). In step 7, enter the <NIH standard SSID for guest> in the **RoamAbout Network** field.
2. **Restart** the computer. After rebooting you will be able to access the wireless LAN in guest/patient areas.

Note: You need to restart the computer each time you change the wireless configuration.

4 Installing the Client Utility for Windows NT, 2000, and XP

In order to configure the wireless adapter to communicate with the NIH wireless LAN under Windows, you must install the Client Utility. (**Note:** On Macintosh you configure wireless access when you install the wireless client adapter driver (see section 3.4). A separate Client Utility is not needed.)

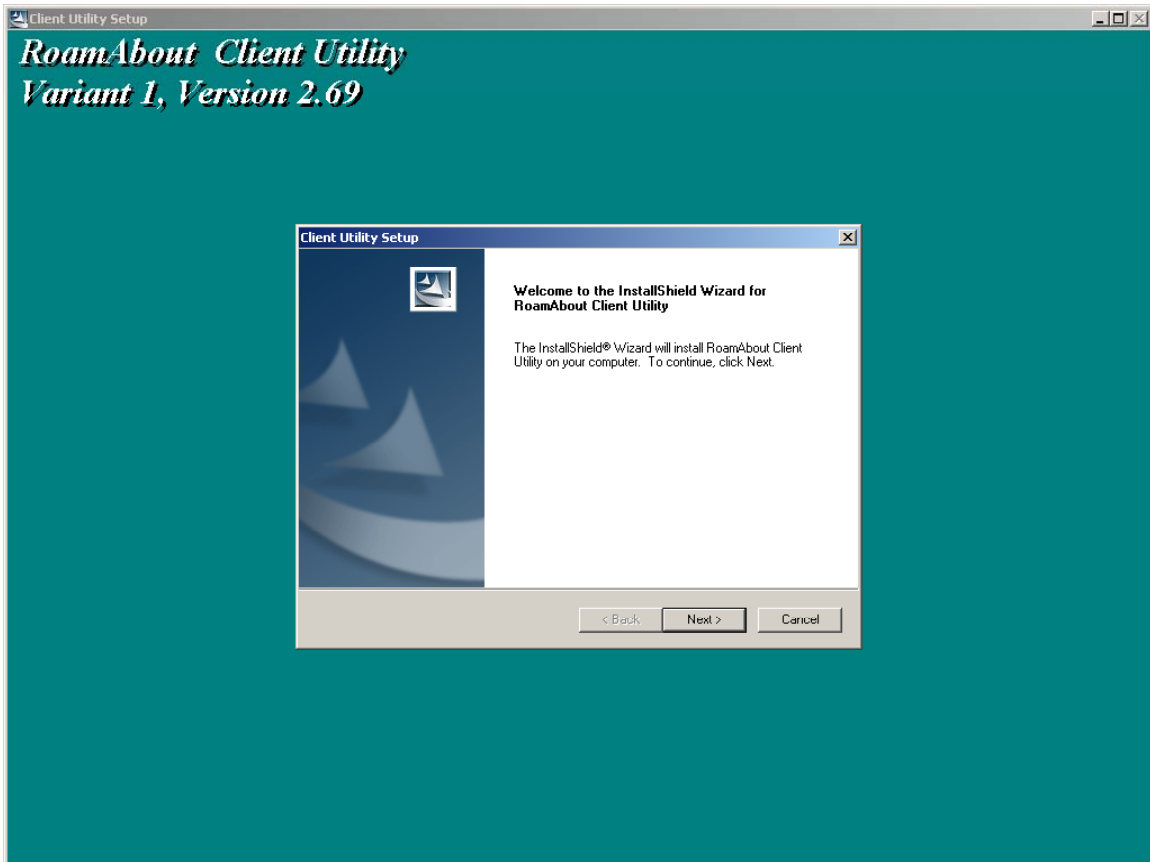
Follow these steps to install the Client Utility for Windows NT, 2000, and XP:

1. Open the **Client Utility** folder, which is on your computer where you downloaded it or on CD-ROM.
2. Double click the **Setup.exe** icon:



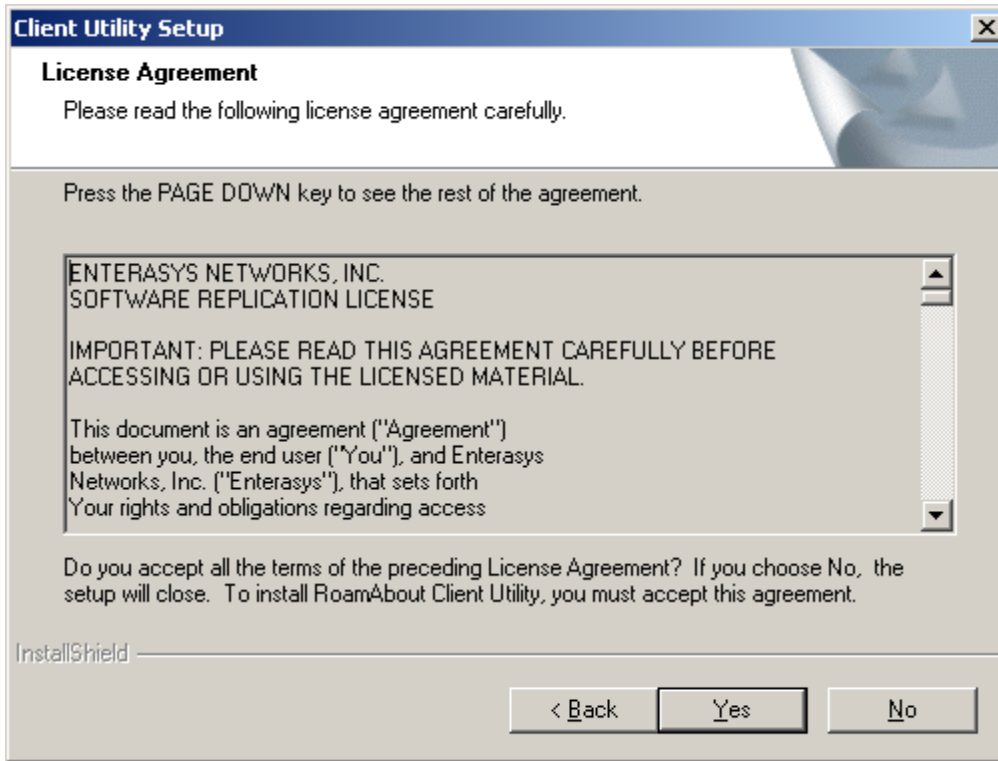
3. The **RoamAbout Client Utility** setup window is displayed (Figure 38).

Figure 38. RoamAbout Client Utility/Client Utility Setup Window



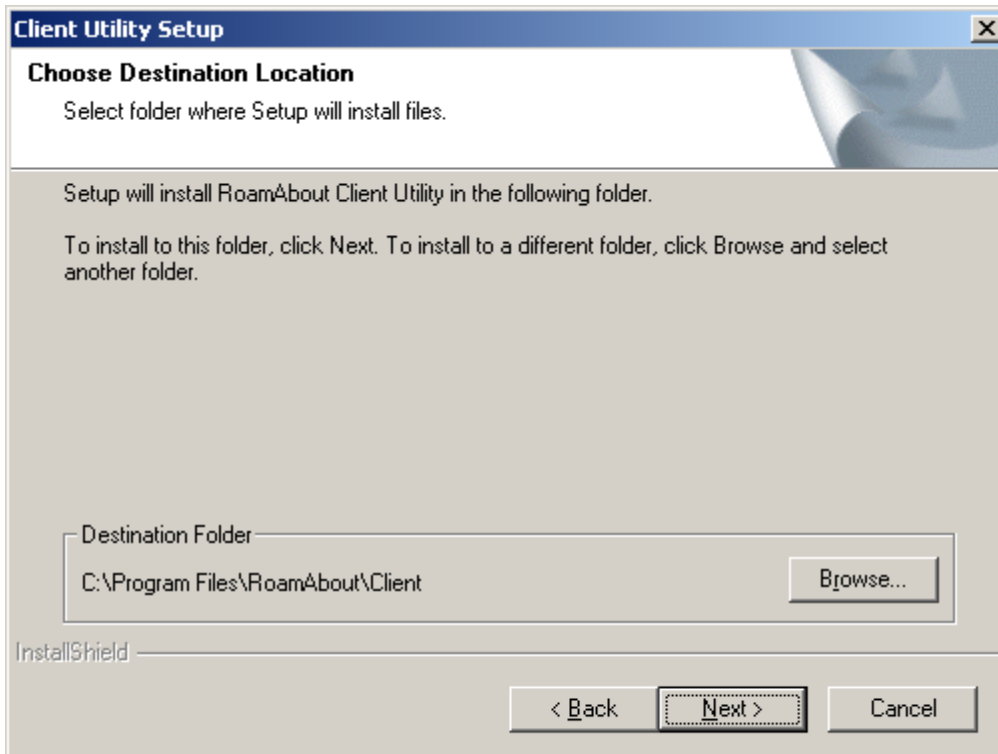
4. Click **Next**. The **Client Utility Setup/License Agreement** window is displayed (Figure 39).

Figure 39. Client Utility Setup/License Agreement Window



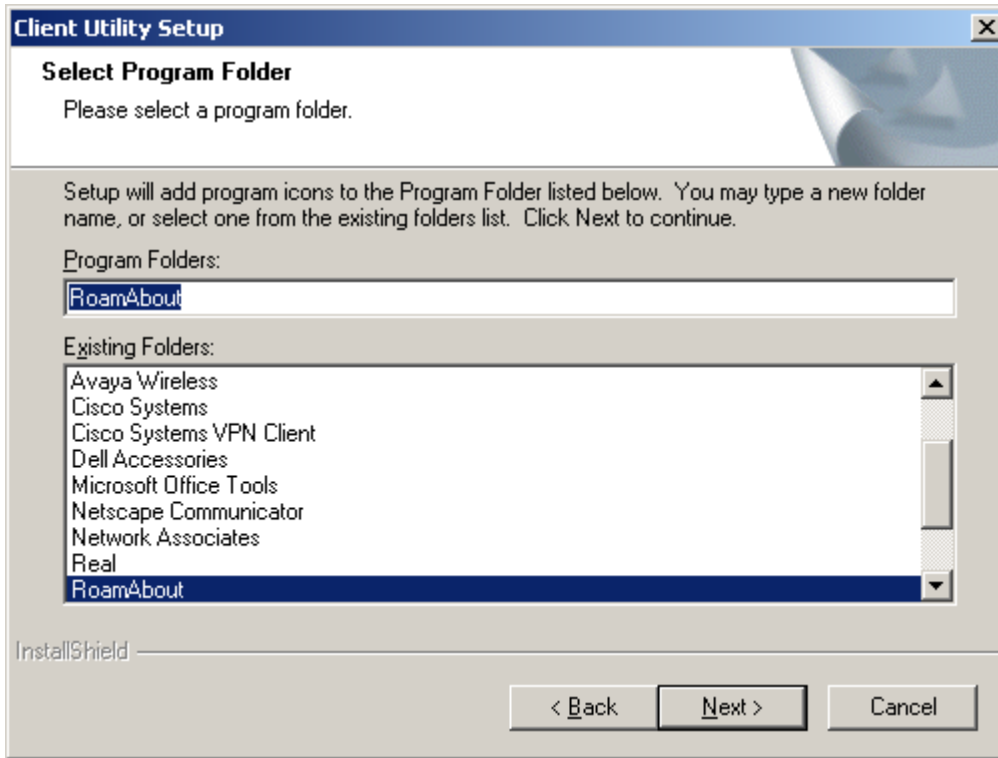
5. Click **Yes**. The **Client Utility Setup/Choose Destination Location** window is displayed (Figure 40).

Figure 40. Client Utility Setup/Choose Destination Location Window



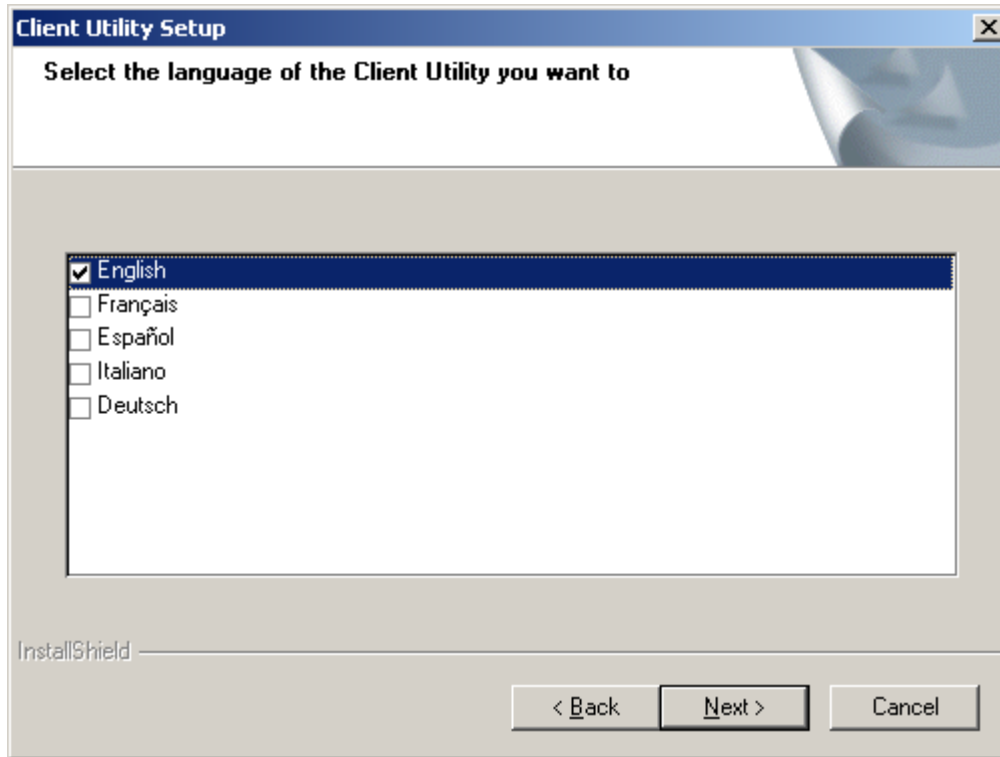
6. Click **Next**. The **Client Utility Setup/Select Program Folder** window is displayed (Figure 41).

Figure 41. Client Utility Setup/Select Program Folder Window



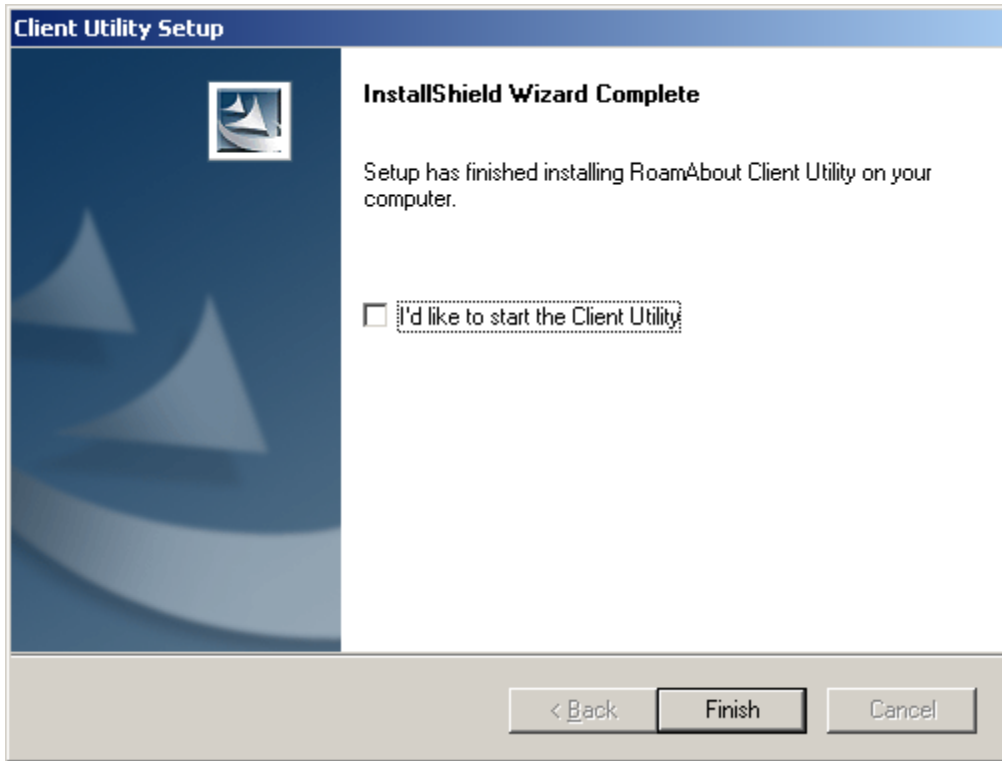
7. Click **Next**. The **Client Utility Setup/Select the language of the Client Utility you want to** window is displayed (Figure 42).
8. Check the **English** checkbox.

Figure 42. Client Utility Setup/Select the language of the Client Utility you want to Window



9. Click **Next**. The **Client Utility Setup/InstallShield Wizard Complete** window is displayed (Figure 43).
10. Make sure that **I'd like to start the Client Utility** is *not* checked.

Figure 43. Client Utility Setup/InstallShield Wizard Complete Window



11. Click **Finish**.
12. **Restart** the computer. You have successfully installed the Client Utility. Go to section 5, "Configuring Wireless Access Using the Client Utility", to configure wireless access.

5 Configuring Wireless Access Using the Client Utility

After installing the RoamAbout Client Utility, you can use it to configure wireless access (SSID and WEP key). You will set up two configurations: one for guest access and one for NIH user access.

For Windows NT and Windows 2000 see section 5.1.

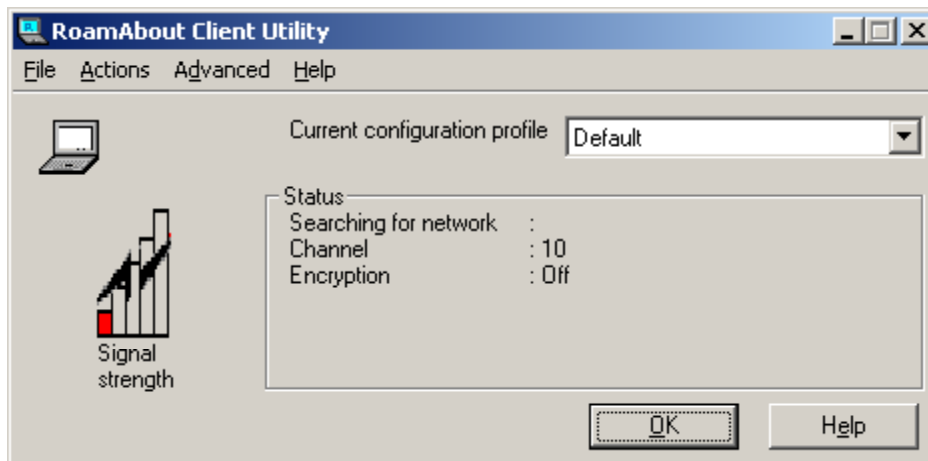
For Windows XP see section 5.2.

5.1 Configuring Wireless Access for Windows NT and 2000

Follow these steps to configure wireless access under Windows NT and Windows 2000.

1. On the Windows Task Bar click **Start**, then select **Programs** → **RoamAbout** → **Client Utility**. The **RoamAbout Client Utility** window is displayed (Figure 44).

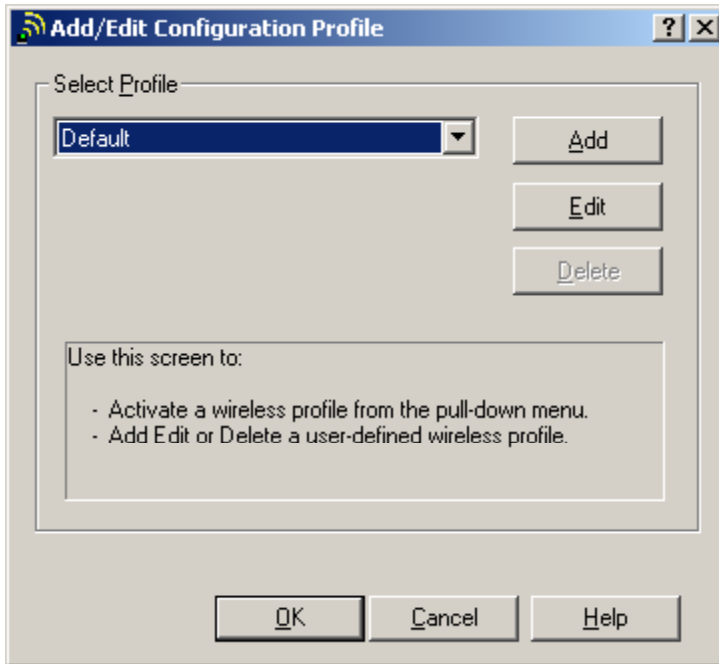
Figure 44. RoamAbout Client Utility Window



Continue with the following steps to configure wireless access for NIH users.

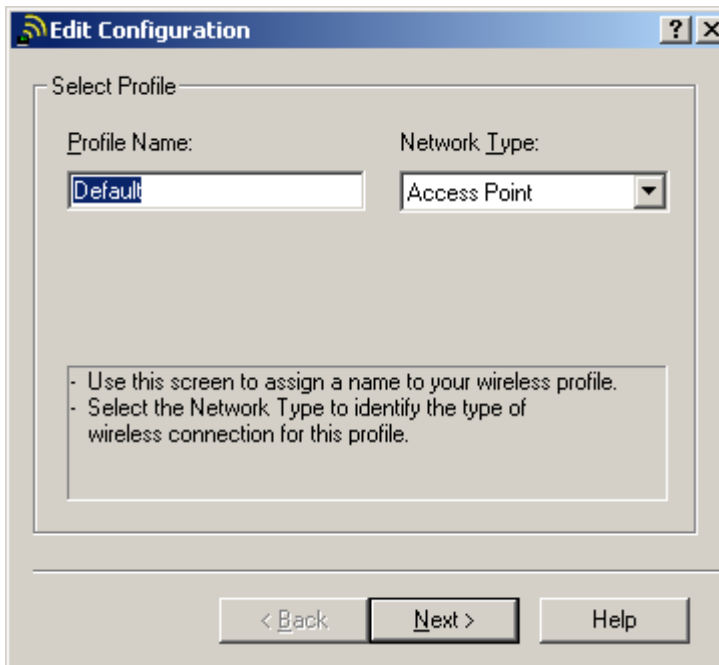
2. Click **Actions** on the menu bar. Select **Add/Edit Configuration Profiles**. The **Add/Edit Configuration Profile/Select Profile** window is displayed (Figure 45).

Figure 45. Add/Edit Configuration Profile/Select Profile Window



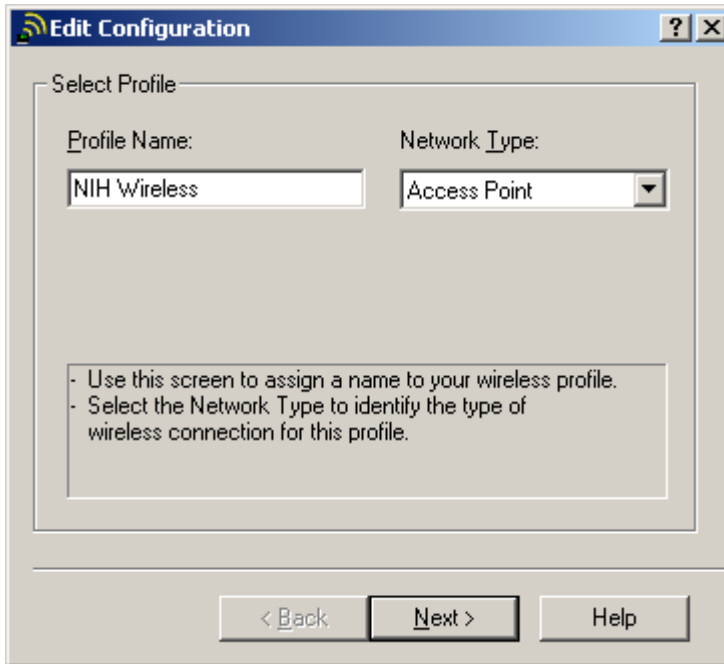
3. Click **Edit**. The **Edit Configuration/Select Profile** window is displayed (Figure 46).

Figure 46. Edit Configuration/Select Profile Window (1)



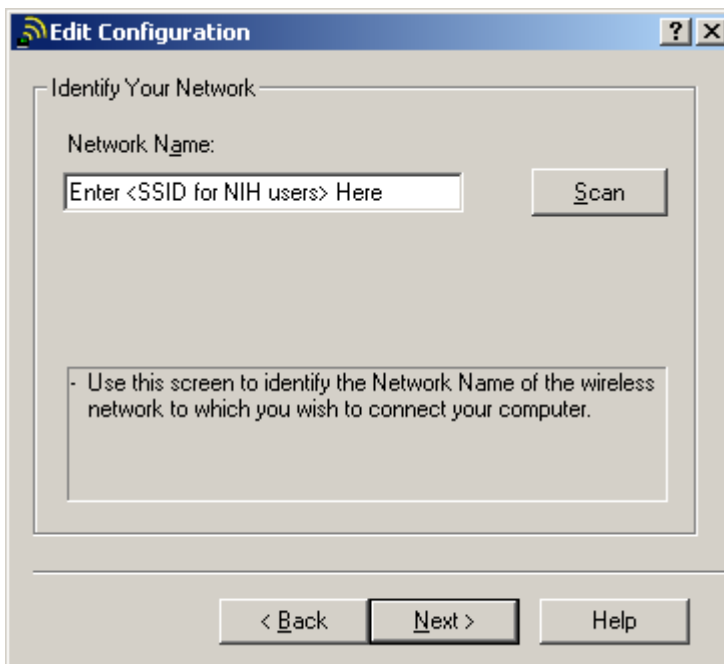
4. In the **Profile Name** box enter a meaningful name for the profile (Figure 47).
Example: NIH Wireless
5. In the **Network Type** box make sure that you select **Access Point**.

Figure 47. Edit Configuration/Select Profile Window (2)



6. Click **Next**. The **Edit Configuration/Identify Your Network** window is displayed (Figure 48).
7. In the **Network Name** box enter the *<NIH standard SSID for NIH users>*.

Figure 48. Edit Configuration/Identify Your Network Window



8. Click **Next**. The **Edit Configuration/Set Security** window is displayed (Figure 49).

Figure 49. Edit Configuration/Set Security Window (blank)

The screenshot shows a window titled "Edit Configuration" with a "Set Security" section. The "Enable Data Security" checkbox is unchecked. Two radio buttons are present: "Use Alphanumeric Characters (0-9, a-z, A-Z)" is selected, and "Use Hexadecimal (0-9, a-f, A-F)" is unselected. Below these are four text input fields labeled "Key 1", "Key 2", "Key 3", and "Key 4", all of which are empty. At the bottom of the section, the "Encrypt data with:" label is followed by a dropdown menu currently showing "Key 1". At the bottom of the window are three buttons: "< Back", "Next >", and "Help".

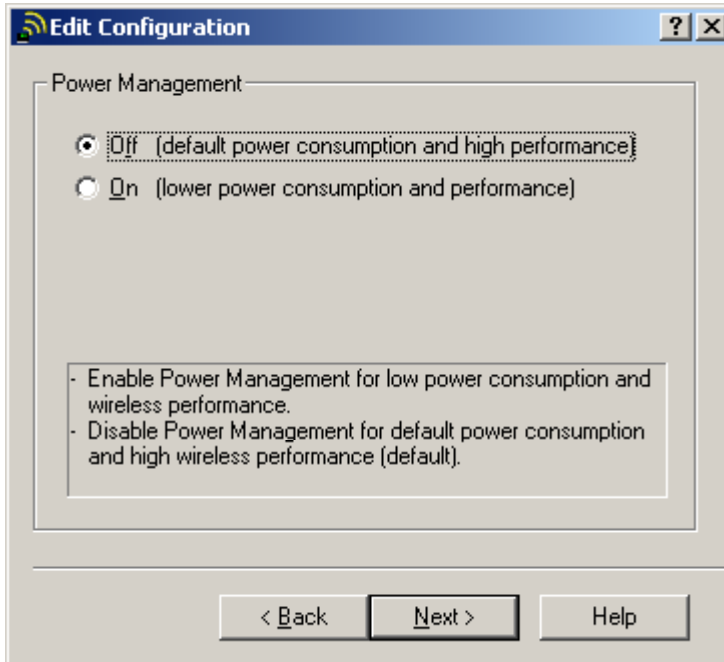
- Check the **Enable Data Security** checkbox (Figure 50).
- Select the **Use Hexadecimal (0-9, a-f, A-F)** option.
- In the **Key 1** box enter the *<NIH standard WEP encryption key>*.
- In the **Encrypt data with** box select **Key 1** from the drop-down menu.

Figure 50. Edit Configuration/Set Security Window

The screenshot shows the same "Edit Configuration" window, but with changes. The "Enable Data Security" checkbox is now checked. The "Use Hexadecimal (0-9, a-f, A-F)" radio button is selected, while "Use Alphanumeric Characters (0-9, a-z, A-Z)" is unselected. The four "Key" input fields remain empty. The "Encrypt data with:" dropdown menu still shows "Key 1". The navigation buttons at the bottom are the same: "< Back", "Next >", and "Help".

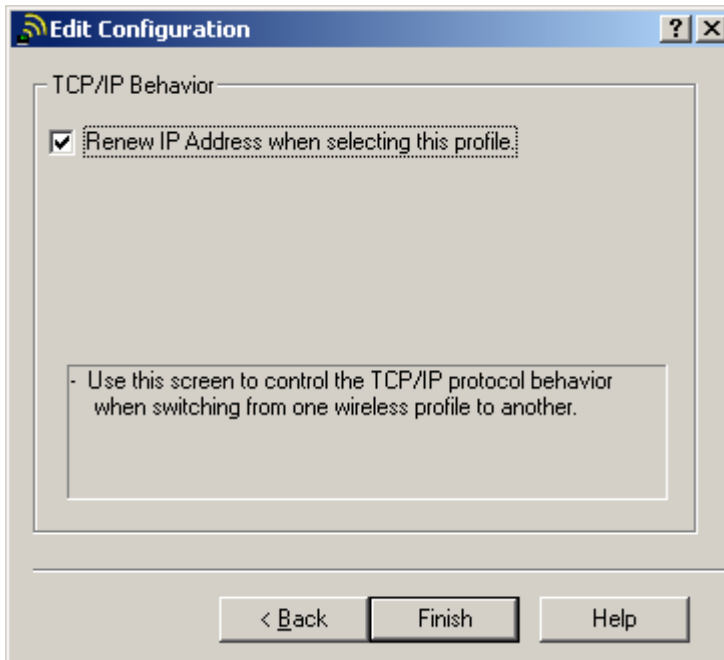
9. Click **Next**. The **Edit Configuration/Power Management** window is displayed (Figure 51).
10. Select **Off**.

Figure 51. Edit Configuration/Power Management Window



11. Click **Next**. The **Edit Configuration/TCP/IP Behavior** window is displayed (Figure 52).
12. Check the **Renew IP Address when selecting this profile** checkbox.

Figure 52. Edit Configuration/TCP/IP Behavior Window

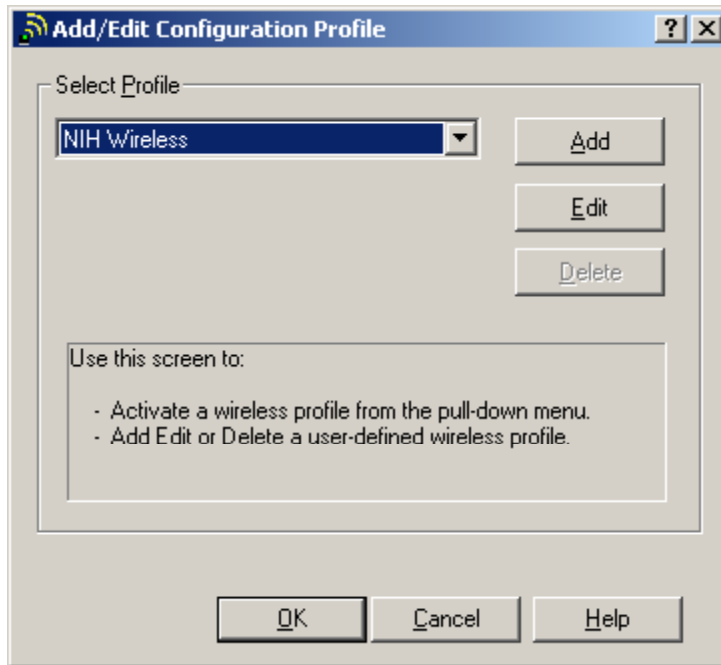


13. Click **Finish**. The **Add/Edit Configuration Profile** window is displayed.
14. Click **OK** to finish configuring wireless access for NIH users.

Continue with the following steps to configure wireless access for NIH guest areas.

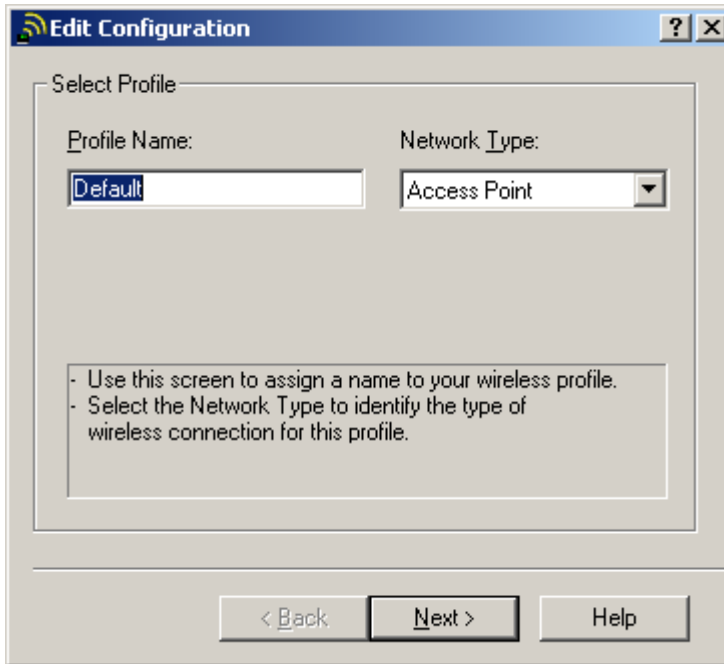
15. On the **RoamAbout Client Utility** menu bar click **Actions** (Figure 44). Select **Add/Edit Configuration Profiles**. The **Add/Edit Configuration Profile/Select Profile** window is displayed (Figure 53).

Figure 53. Add/Edit Configuration Profile/Select Profile Window



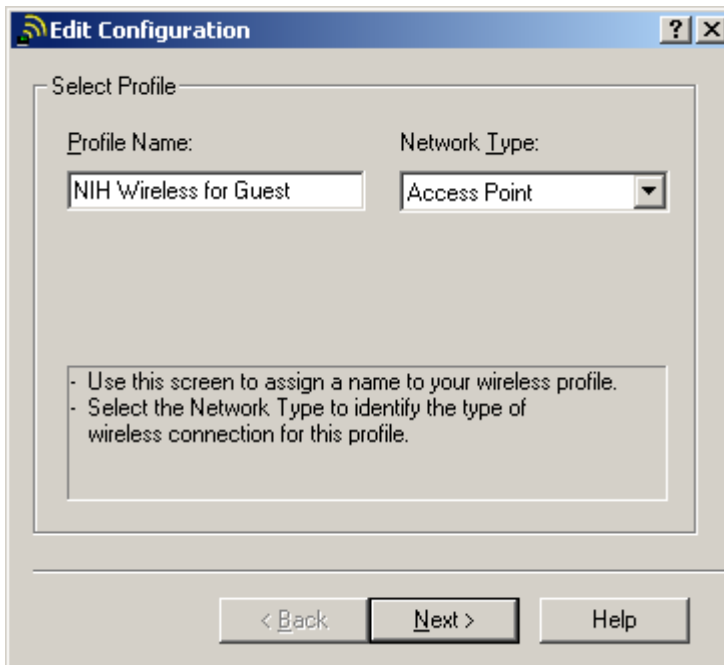
16. Click **Add**. The **Edit Configuration/Select Profile** window is displayed (Figure 54).

Figure 54. Edit Configuration/Select Profile Window (1)



- a. In the **Profile Name** box enter a meaningful name for the profile (Figure 55).
Example: NIH Wireless for Guest
- b. In the **Network Type** box make sure that you select **Access Point**.

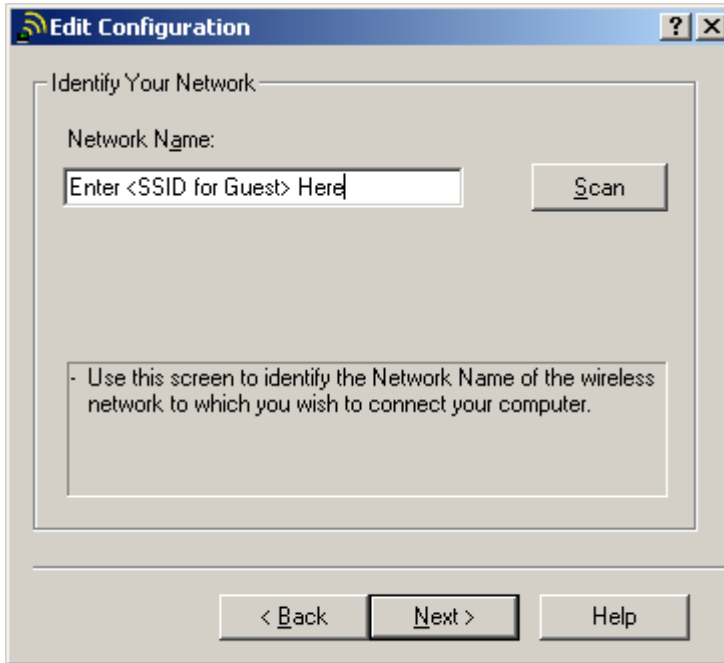
Figure 55. Edit Configuration/Select Profile Window (2)



17. Click **Next**. The **Edit Configuration/Identify Your Network** window is displayed (Figure 56).

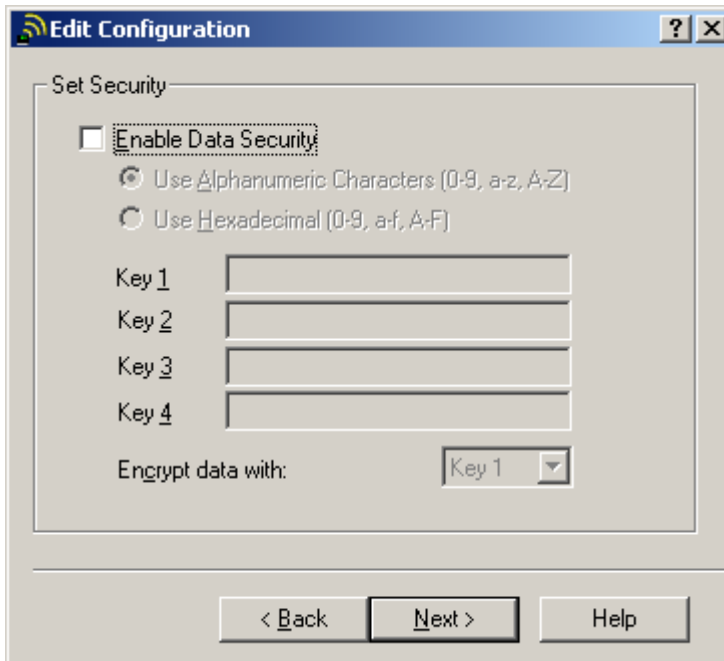
18. In the **Network Name** box enter the *<NIH standard SSID for guest>*.

Figure 56. Edit Configuration/Identify Your Network Window



19. Click **Next**. The **Edit Configuration/Set Security** window is displayed (Figure 57).

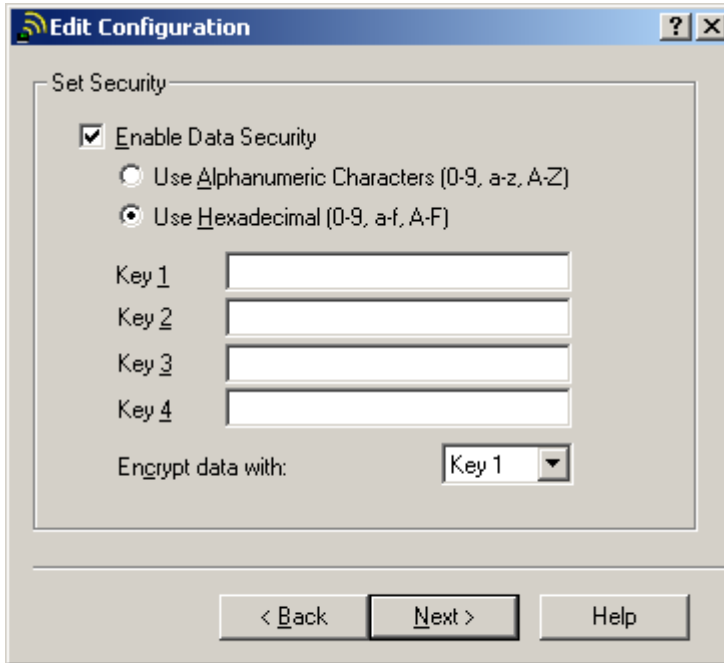
Figure 57. Edit Configuration/Set Security Window (blank)



- a. Check the **Enable Data Security** checkbox (Figure 58).
- b. Select the **Use Hexadecimal (0-9, a-f, A-F)** option.
- c. In the **Key 1** box enter the *<NIH standard WEP encryption key>*.

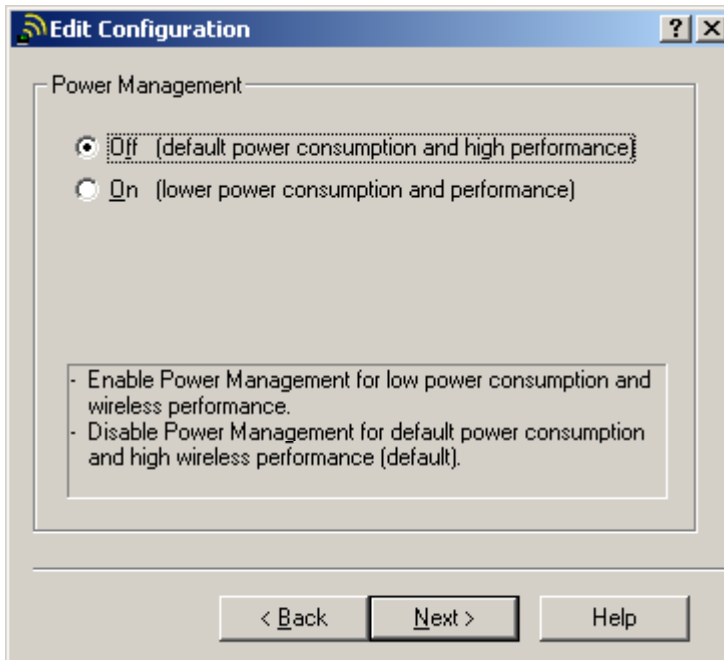
- d. In the **Encrypt data with** box select **Key 1** from the drop-down menu.

Figure 58. Edit Configuration/Set Security Window



20. Click **Next**. The **Edit Configuration/Power Management** window is displayed (Figure 59).
21. Select **Off**.

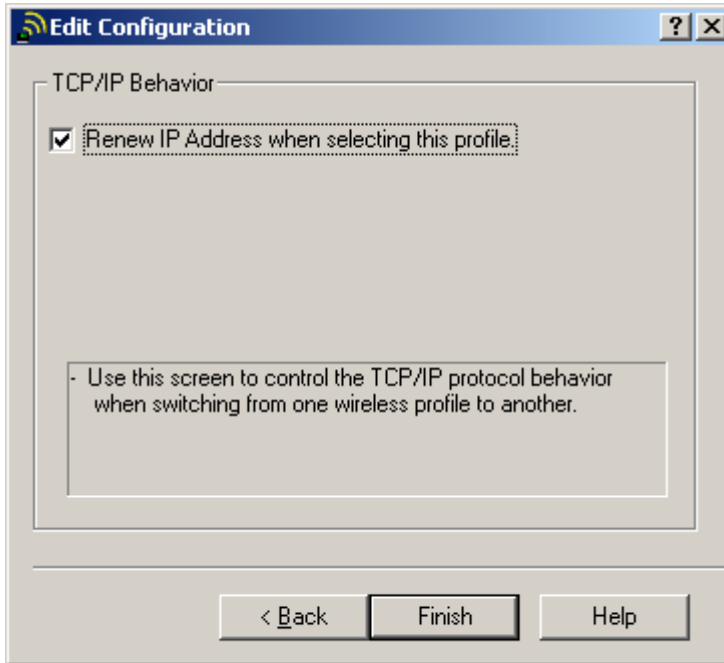
Figure 59. Edit Configuration/Power Management Window



22. Click **Next**. The **Edit Configuration/TCP/IP Behavior** window is displayed (Figure 60).

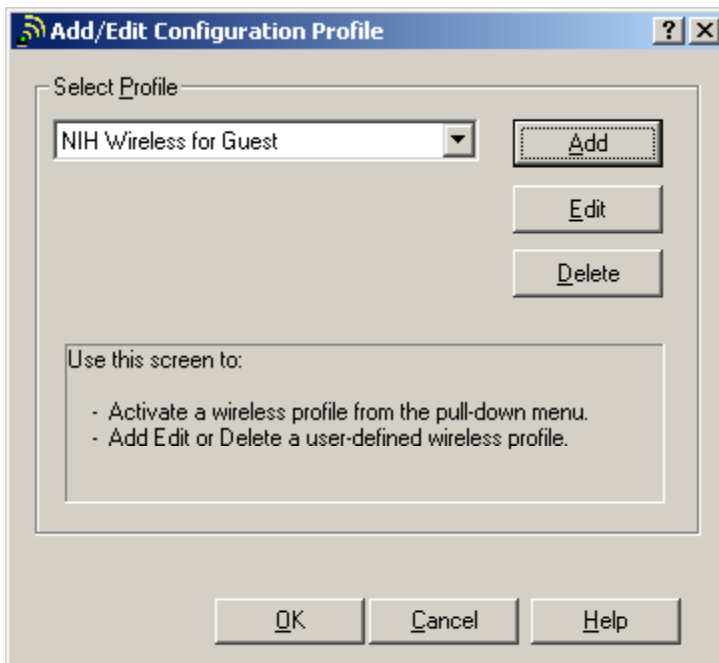
23. Check **Renew IP Address when selecting this profile.**

Figure 60. Edit Configuration/TCP/IP Behavior Window



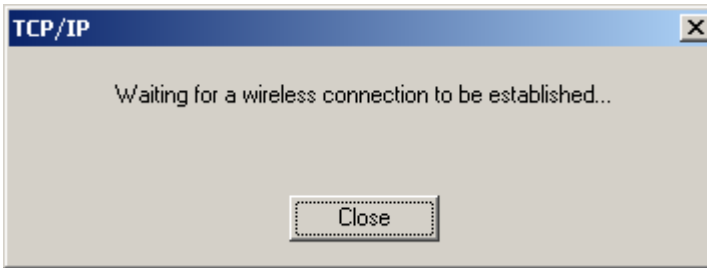
24. Click **Finish**. The **Add/Edit Configuration Profile** window is displayed (Figure 61).

Figure 61. Add/Edit Configuration Profile Window



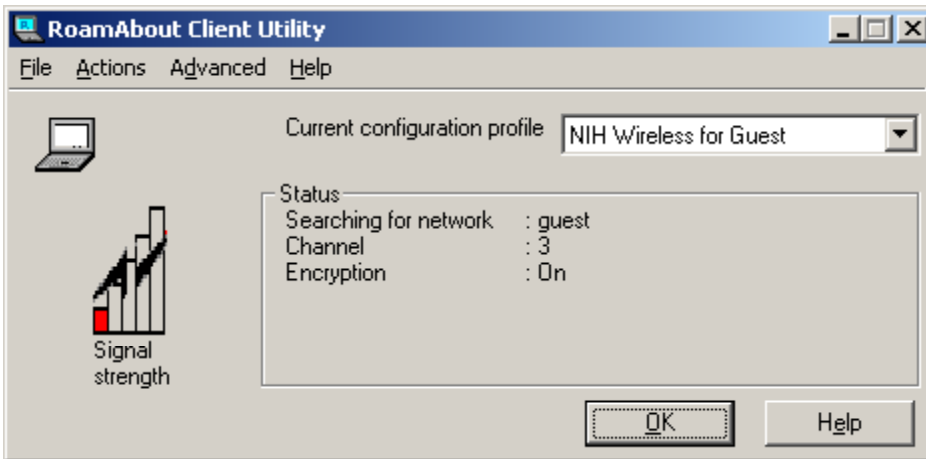
25. Click **OK** to finish configuring wireless access for NIH guest areas. The **TCP/IP** window is displayed (Figure 62).

Figure 62. TCP/IP Window – Waiting for Wireless Connection



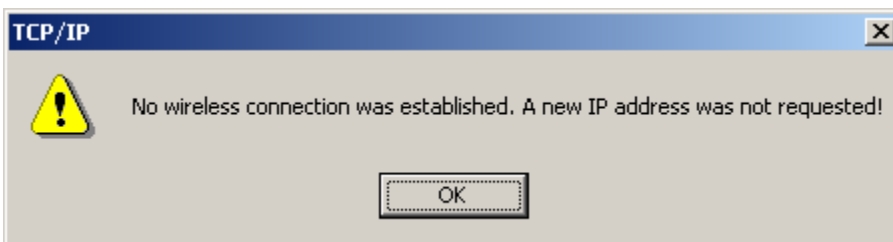
26. Click **Close**. The **RoamAbout Client Utility** window is displayed (Figure 63).

Figure 63. RoamAbout Client Utility Window



If you do not click **Close**, the following window is displayed (Figure 64).

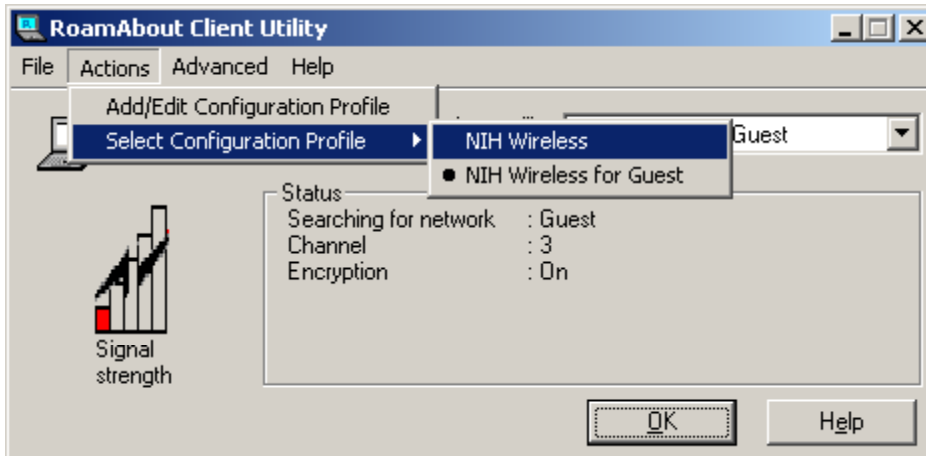
Figure 64. TCP/IP Window – No Wireless Connection



Click **OK** to continue. The **RoamAbout Client Utility** window is displayed (Figure 63).

27. On the menu bar select **Actions** → **Select Configuration Profile** → **NIH Wireless** profile (Figure 65).

Figure 65. RoamAbout Client Utility – Actions Menu



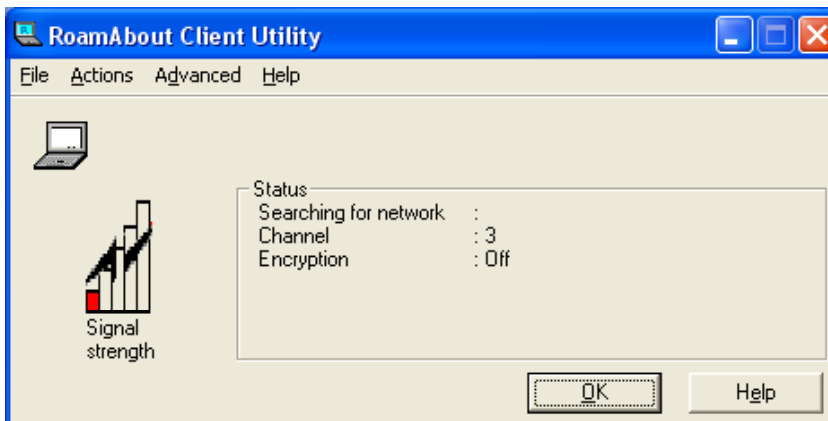
You have successfully configured wireless access on NIH Wireless LAN and Guest Wireless LAN. When you enter the area of guest wireless LAN, follow step 27 to select the NIH Wireless for Guest profile.

5.2 Configuring Wireless Access for Windows XP

After installing the RoamAbout Client Utility, use it to configure wireless access (SSID and WEP key) under Windows XP, as follows:

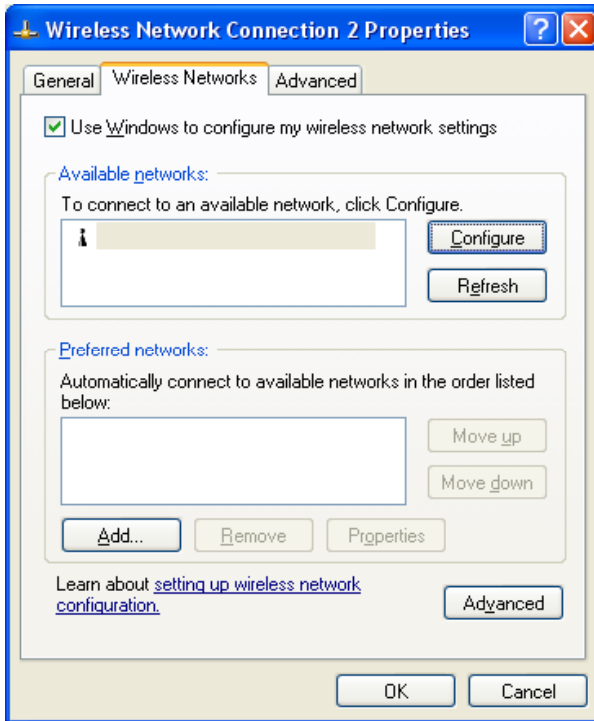
1. Click **Start** on the Windows Task Bar, then select **All Programs** → **RoamAbout** → **Client Utility**. The **RoamAbout Client Utility** window is displayed (Figure 66).

Figure 66. RoamAbout Client Utility Window



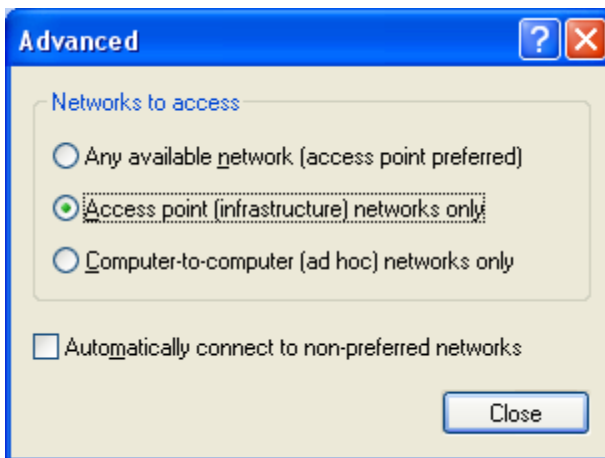
2. Select **Actions** on the menu bar, then select **Add/Edit Configuration Profiles**. The **Wireless Network Connection Properties** window is displayed (Figure 67).

Figure 67. Wireless Network Connection Properties Window



3. Select the **Wireless Networks** tab and click the **Advanced** button at the lower right corner. The **Advanced** window is displayed.
4. On the **Advanced** window, select **Access point (infrastructure) networks only** (Figure 68).

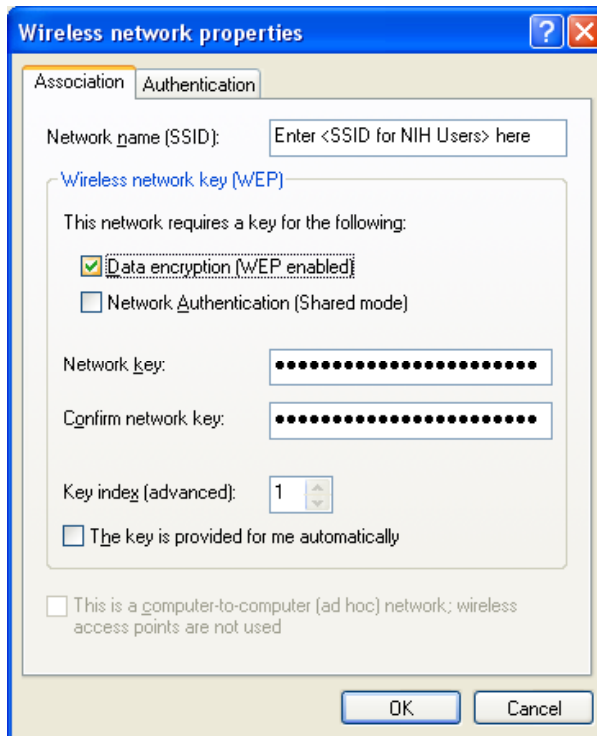
Figure 68. Advanced Window



5. Click **Close** to return to the previous window. Continue with the following steps to configure SSID and WEP key for NIH users.
6. On the **Wireless Networks** tab click the **Configure** button. The **Wireless network properties** window is displayed (Figure 69).

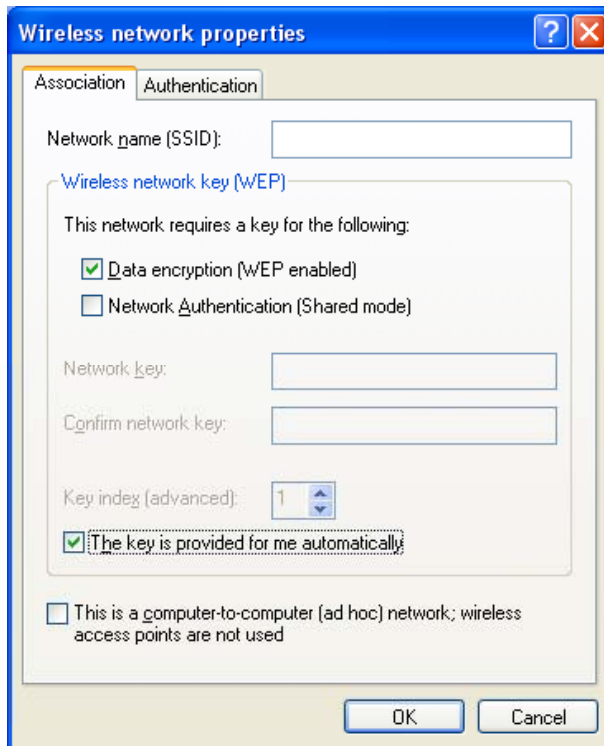
- a. On the **Association** tab, enter the <NIH standard SSID for NIH users> in the **Network name (SSID)** box.
- b. Under **Wireless network key (WEP)**, *uncheck* **The key is provided for me automatically** checkbox. The **Network key** and the **Confirm network key** options will become active.
- c. Check **Data encryption (WEP enabled)**.
- d. In the **Network key** and **Confirm network key** boxes enter the <NIH standard WEP encryption key>.
- e. In the **Key index (advanced)** box select **1** from the drop-down menu.

Figure 69. Wireless Network Properties Window



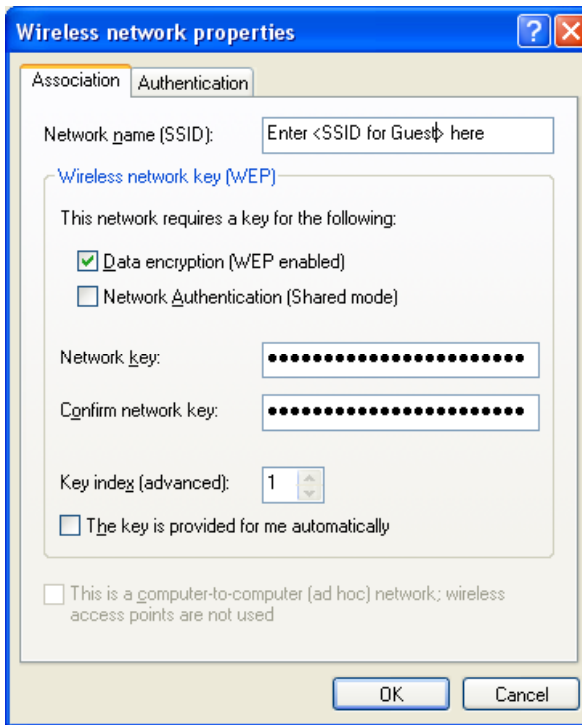
7. Click **OK** to finish configuring wireless access for NIH users. Continue with the following steps to configure SSID and WEP key for wireless access in NIH guest areas.
8. On the **Wireless Network Connection Properties** window click **Add** (see Figure 67). The **Wireless network properties** window is displayed (Figure 70).

Figure 70. Wireless Network Properties Window (blank)



- a. On the **Association** tab, enter the *<NIH standard SSID for guest>* in the **Network name (SSID)** box (Figure 71).
- b. Under **Wireless network key (WEP)** *uncheck* **The key is provided for me automatically** checkbox. The **Network key** and the **Confirm network key** options will become active.
- c. Check **Data encryption (WEP enabled)**.
- d. In the **Network key** and the **Confirm network key** boxes enter the *<NIH standard WEP encryption key>*.
- e. In the **Key index (advanced)** box select **1** from the drop-down menu.

Figure 71. Wireless Network Properties Window



9. Click **OK** to finish configuring the profile for wireless access in guest areas.

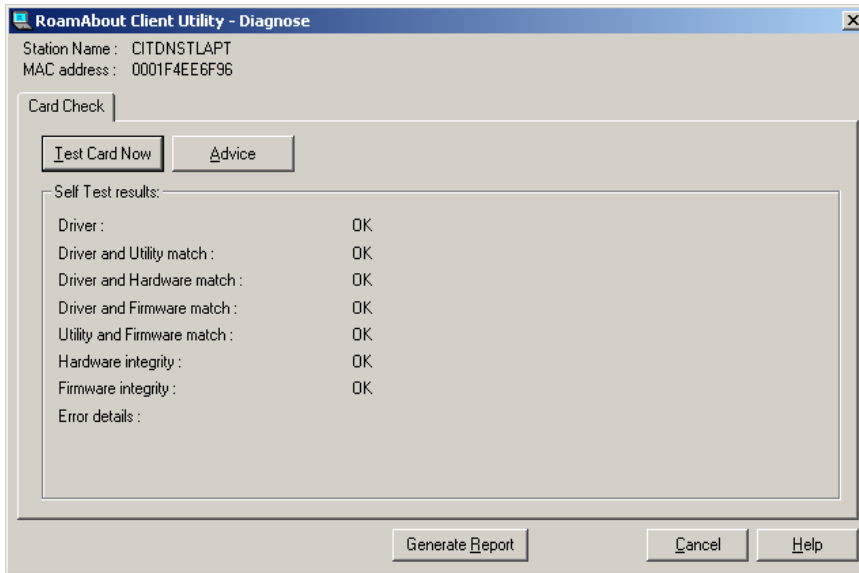
6 Using the Client Utility to Test the Wireless Adapter

You can use the Client Utility to diagnose the performance of the wireless adapter. To do so, select one of the options under the **Advanced** menu on the **RoamAbout Client Utility** window (see Figure 44).

6.1 Card Check

Perform a wireless adapter test running the Card Diagnostics (Figure 72). The Card Diagnostics option verifies the hardware and can help determine the cause of a malfunctioning card.

Figure 72. RoamAbout Client Utility – Diagnose Window



6.2 Link Test

The Link Test option allows you to verify the communications quality of the RoamAbout wireless adapter in more detail (Figure 73). It allows you to investigate the specific link between the wireless adapter and its test partner. If connected to the infrastructure network, the test partner is the associated access point. If configured for an ad-hoc network, you can select another client in the network to be the test partner.

Figure 73. RoamAbout Client Utility – Link Test Window

