LAB PROCEDURE 18

Windows Me Plug-and-Play

Operating System Technology

OBJECTIVES

1. Remove Network Adapter from the system.
2. Install Network Adapter with Plug-and-Play (PnP).
3. Remove modem.
4. Install modem with Plug-and-Play (PnP).

RESOURCES

1. Marcraft 8000 Trainer with Windows Millennium installed
2. Windows Millennium-compatible Plug-and-Play network adapter installed
3. Windows Millennium-compatible Plug-and-Play modem installed
4. Network connection (optional)

DISCUSSION

The first step in connecting to a network in Windows Me is the installation of appropriate drivers for the Network Interface Card (NIC). The best way to set up the network adapter is to use the manufacturer's installation disk that comes with the NIC. This usually includes a configuration utility for non-plug configurations.

Even if you don't have the manufacturer's installation disk, often you can still install the NIC. The Windows Me installation CD contains drivers for many of the most common NICs. These drivers can be installed by double-clicking the Network applet in the control panel.

After the NIC setup is completed, the network connection can be configured using the Network applet in the Control Panel. It may be necessary to install and configure the appropriate Client, Adapter, Protocol, and Service drivers in order to connect to your network. Depending on your network, you may also need to contact your instructor for additional settings information.

Operating System Technology

PROCEDURE

Installing Hardware and Software

The Hardware and Add/Remove Programs wizards are used in Windows Me to add and remove hardware options and software programs to and from the system. Both tools can be accessed under the Control Panel icon.

The Add New Hardware icon brings the Hardware Installation Wizard into action. Windows will first search for new hardware using a Plug-and-Play (PnP) detection process. Then you will be asked if you want Windows to search for non plug-and-play hardware, or if you want to select it from a hardware list. Choosing to have Windows search will start the hardware detection process. If you must install the device manually, selecting the "No" option and clicking "Next" will produce a hardware component list similar to the one shown in Figure 18-1. You will be prompted for configuration information after this point. You will need the manufacturer's drivers for these devices unless Windows Me already has them.

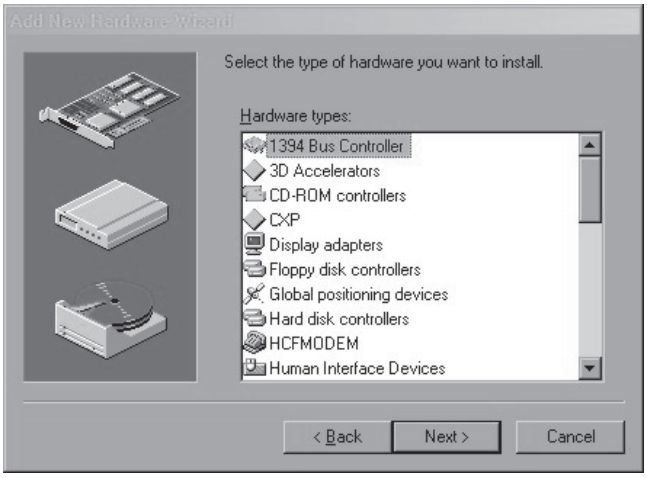

Figure 18-1: Add New Hardware Wizard Window

1. View network adapter in Device Manager

___a. Boot to the Windows Millennium desktop.

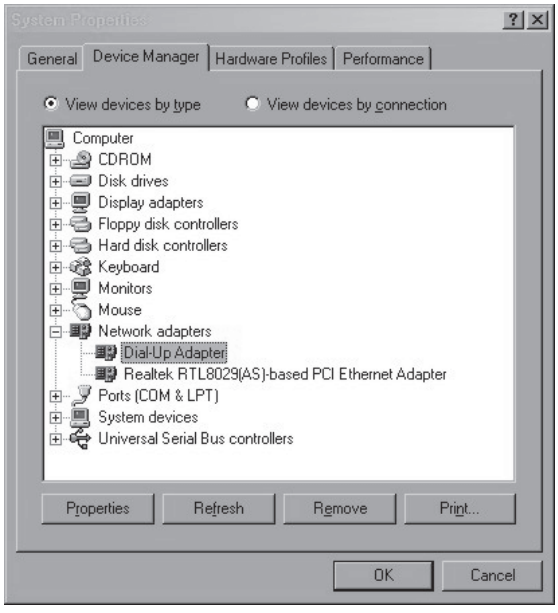

Figure 18-2: Network Card in Device Manager

___b. Right-click on My Computer and select Properties.

___c. Click the Device Manager tab. You will see a list of device types attached to the computer.

___d. Look for the section called Network adapters and expand it by clicking the plus (+) sign next to the icon.

___e. The window should look similar to Figure 18-2. Record the name of the network adapter in Table 18-1.

___f. Right-click on the network adapter and click Remove.

___g. You will be prompted to Confirm Device Removal. Click OK.

___h. Choose No to restarting the computer now.

2. Remove network adapter

___a. Close all windows and shut down the computer.

___b. Open the computer case.

___c. Remove any external cables from the network card.

___d. Remove the mounting screw of the network adapter.

___e. Gently pull the adapter out of its expansion slot and set the adapter and screw aside.

3. View Hardware Changes

___a. Turn on the computer and boot to the Windows Millennium desktop.
___b. Right-click on My Computer and select Properties.
___c. Click the Device Manager tab.
___d. Double-click the Network adapters listing.
___e. Record your observations in Table 18-2.
___f. Close all windows and shut down the computer.

4. Add Network Adapter

___a. Gently insert the network card back into the available expansion slot.
___b. Add the mounting screw of the network adapter.
___c. Plug in any external cables that you removed previously.
___d. Turn the computer on and boot to the Windows Millennium desktop.
___e. The network adapter will install automatically. You may or may not see any dialog windows. You'll be asked to reboot; click Yes.
___f. Navigate to Network Adapters in Device Manager as in previous steps.
___g. Record your observations in Table 18-3.

5. An alternative approach

___a. From Device Manager right-click on the network adapter and choose Remove.
___b. Confirm the Device Removal by clicking OK.
___c. Click No when asked to reboot the computer.
___d. Open the Control Panel and double-click on Add New Hardware.
___e. Click Next two times and have Windows search for your device.
___f. The computer should detect an Ethernet adapter. The words "Ethernet adapter" will change to the specific name of the network adapter. You will see a window similar to Figure 18-3.

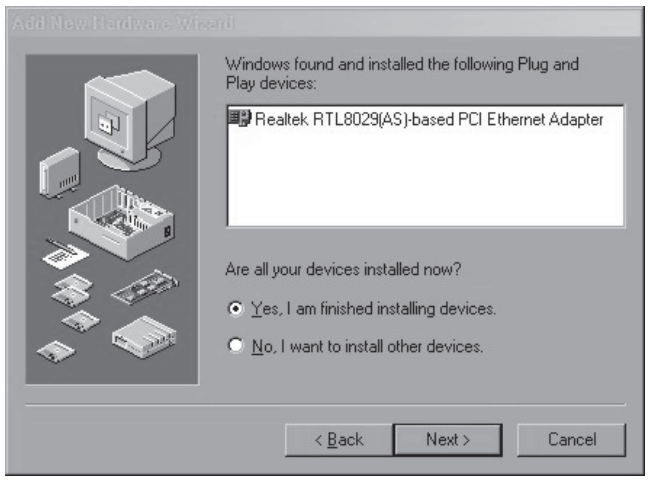

Figure 18-3: Found New Hardware

___g. Click Next, then Finish.
___h. Check to see if the adapter is now installed in Device Manager. Close all open windows.
___i. Shut down the computer.

Modems

Modems allow computers to communicate with other computers through the telephone lines. Some of the services available through a modem include the Internet, bulletin board services (BBSs), user groups, and proprietary services such as America Online. Many modems also incorporate facsimile (FAX) capabilities that allow the computer to correspond directly with fax machines around the world. Modems are generally classified by their baud rate. Common baud rates for telecommunications include 2400, 9600, 14.4k, 28.8k, 33.6k, and 56k baud.

A modem can be either an internal or an external device. An internal modem is installed in one of the computer's expansion slots, and has its own UART and interfacing circuitry. The external modem is usually a box installed outside the system unit, and is connected to one of the computer's serial ports by an RS-232 cable. External units also require the use of an internal serial port for its UART. With most computers, two serial ports are standard, and if one is dedicated to a mouse, then you must decide if you should use the other for the modem, or purchase another serial adapter for other applications.

COM Port Conflicts

PC-compatible computers support only two active serial ports at a time. Newer versions of DOS support COM 1, COM 2, COM 3, and COM 4 for serial port definition. But there are generally only two hardware interrupts available to support serial communication, typically IRQ 3 and IRQ 4. So COM 1 and COM 3 will usually share one IRQ setting and COM 2 and COM 4 will share the other. If the mouse is designated as COM 1 and a modem is configured for COM 3, there exists the possibility of an IRQ conflict. Using a PS/2 mouse rather than a serial mouse may alleviate serial port interrupt conflict, by freeing a COM port if necessary.

1. View modem in Device Manager

___a. Boot to the Windows Millennium desktop.
___b. Right-click on My Computer and select Properties.
___c. Click the Device Manager tab.
___d. You will see a list of device types attached to the computer.
___e. Look for the Section called Modems and expand it by clicking the plus (+) sign next to the icon.
___f. Record the name of the modem in Table 18-4.
___g. Right-click on the modem and click Remove.
___h. You will be prompted to Confirm Device Removal; click OK.

2. Remove modem

___a. Close all windows and shut down the computer.
___b. Open the computer case.
___c. Remove any external cables from the modem.
___d. Remove the mounting screw of the modem.
___e. Gently pull the modem out of its expansion slot and set the modem and screw aside.

3. View hardware changes

___a. Turn on the computer and boot to the Windows Millennium desktop.
___b. Right-click on My Computer and select Properties.
___c. Click the Device Manager tab.
___d. Double-click the Modem listing, if it exists.
___e. Record your observations in Table 18-5.
___f. Close all windows and shut down the computer.

4. Add modem

___a. Gently insert the modem back into the available expansion slot.
___b. Add the mounting screw of the modem.
___c. Plug in any external cables that you removed previously.
___d. Turn the computer on and boot to the Windows Millennium desktop.
___e. An Add New Hardware Wizard box appears. Put the manufacturer's driver disk into the proper drive and click Next to let Windows search for drivers if you are prompted.
___f. Click Finish to finish installing the drivers.
___g. Navigate to Device Manager as in previous steps.
___h. Record your observations in Table 18-6.
___i. Close the *Device Manager* window.

5. Test the modem

___a. Open the Control Panel and double-click the Modem icon.
___b. Click the Diagnostics tab.
___c. Click the modem to highlight it.
___d. Click the More Info button. If the modem is installed, the computer will communicate with the modem. Responses to commands will appear in the window, similar to Figure 18-4.

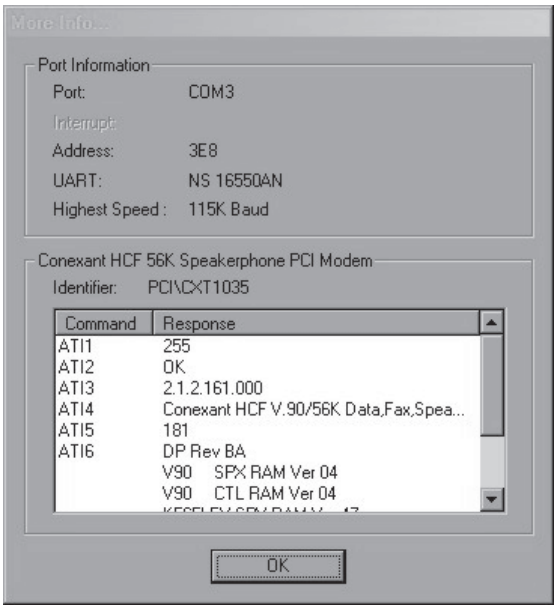

Figure 18-4: Sample Modem Query

___e. Close all open windows, and shut down the computer.

TABLES

Table 18-1

Network Adapter Name:	

Table 18-2

Hardware Changes:	

Table 18-3

Network Adapter Added:	

Table 18-4

Modem Name:	

Table 18-5

Hardware Changes:	

Table 18-6

Modem Added:	

Feedback

LAB QUESTIONS

1. What does PnP stand for?
2. If the Plug-and-Play system doesn't install your NIC or modem automatically, where do you go to install it manually?
3. Where can you view the properties of a specific piece of hardware?
4. To test the communication between the modem and the computer, you can run a modem query within the Device Manager. True or False?
5. Where would you go to check if certain hardware is installed in the system?