

## Lab 8.3.2: NIC Installation

**Estimated time:** 30 Minutes

### Objective

In this exercise, you will install a Network Interface Card into a PC. You will also configure that NIC to use an IP address.

### Equipment

The following equipment is required for this exercise:

- PC with Windows 9x
- Network Interface Card with appropriate drivers
- Anti-static wrist strap
- Tool kit
- Windows 98 installation CD-ROM or cab files

### Scenario

As a PC technician, you are in charge of installing new hardware. Your manager informs you that they have decided to install a network using their existing PCs. You are asked to install the necessary hardware on each computer that will allow them to be networked.

### Procedures

A PC technician is responsible for upgrading and maintaining PCs for the company. As part of this job a technician often upgrades existing PCs with new hardware to fit the company's changing needs. In order to allow a PC to be networked, one of the first things a technician must do is install a Network Interface Card (NIC). A NIC allows a PC to access the networking media (cabling, wireless) and communicate with other PCs.

### Step 1

In order to properly install a NIC, it is important to note several items. First, to prevent the NIC from being damaged by Electro-static discharge (ESD), it is important that you ensure that you are properly grounded. Wear an ESD wrist-strap that is fastened to the metal frame of the PC whenever you are handling computer components. Also, as you handle the NIC, only hold it by the edges, and do not touch the gold metal contacts along the bottom of the card.

Examine the NIC. Who manufactured the card?

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Are you able to identify a model number? If so, what is it?

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Can you identify what speed(s) your NIC operates at? If so, what speed?

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Looking at the end of the card, what type of media connects to it?

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What slot type does your NIC fit into?

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## Step 2

Now that you have examined the NIC, it is time to proceed with the installation. Make sure that the PC you will be installing the NIC into is shutdown and unplugged.

Remove the cover from the PC. Choose which slot on the motherboard you will be installing the NIC. You may need to remove a small metal cover from the back of the expansion slot in order for the NIC to install properly. The NIC will install only one way. Make sure it is lined up properly. Also remember that it is possible to damage the NIC or the motherboard if you push too hard or try to force the NIC into place.

After the card is installed, secure the card with a screw, otherwise the card may dislodge when you plug a patch cord in. Once you are finished with the card, replace the cover and plug the machine back in.

## Step 3

Now that the hardware is installed, it is time to install the software. For this step to be completed properly, you must have the correct driver for your NIC. A driver is a piece of software that allows an operating system to access a piece of hardware, such as the NIC. Depending on the age of your NIC, Windows may already have a driver for the NIC. If not, go to the NIC manufacturer's website and download it. You can use the information found in Step 1 to ensure you have the right driver.

Boot your PC.

Did Windows find new hardware? If no, refer to the troubleshooting section for suggestions. \_\_\_\_\_

Once Windows finds new hardware it will bring up the "Add New Hardware Wizard" screen. Click on **Next**. Windows now will ask you whether you want to search for the best driver or have windows display a list of drivers that it includes. Go ahead and choose "Search for the best driver for your device" and click **Next**. You must now specify where the driver is located. If you have it on CD then click **CD-ROM drive**, or if its on a floppy disk then click on **Floppy disk drives**. If you know the exact location click on **Specify a location** and type in the path to the driver, or click on **Browse** and highlight the folder the driver resides in. Once you have made your selection, click on **Next**. Windows will now show you the name of the device and where the driver is located. Click **Next** and Windows will then install the driver and will inform you when it has finished installing the software. You can then click on **Finish**, and Windows will prompt to reboot. Select **OK** to continue.

**Note:** Windows may require the Windows 98 installation CD-ROM to complete the installation.

#### Step 4

Once you have installed the driver, verify that the NIC was properly installed. To do this, use the following directions.

Right-click over the **My Computer** icon on the desktop.

Click on **Properties**

Click on the **Device Manager** tab

Click on the “+” sign next to “Network Adapters”

Do you see the name of your adapter listed here? \_\_\_\_\_

Do you see anything else listed here? If so, what?

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#### Step 5

Now that you have your NIC installed it is time to setup TCP/IP.

Right-click on **Network Neighborhood**.

Click on **Properties**.

Where it says, “The following network components are installed” scroll down to TCP/IP. If TCP/IP is not listed you will need to install it by following the directions below, otherwise skip to Step 6

Click on the **Add** tab.

Click on **Protocol** and **Add**.

Click on **Microsoft** and then scroll down and highlight TCP/IP.

Click **OK**.

You may be prompted for the location of Windows setup files. If you are unsure of their location, ask your instructor for directions.

Once you have installed TCP/IP, return to the Network Neighborhood properties and configure the IP address.

#### Step 6

Double-click on the TCP/IP listing that also has your NIC listed next to it.

Make sure that you are viewing the IP Address screen, and then click on **Specify an IP address**.

Enter an IP address and subnet mask that will work within your network. You may need to ask your instructor for directions as to which addresses will be used.

Once you have entered your IP address and subnet mask, click on **OK**.

Click on **OK** on the Network screen, and when Windows prompts you to restart, click on **Yes**.

## Troubleshooting

Occasionally Windows will not detect a new hardware device. If that happens you will have to install the device manually.

Click on **Start > Settings > Control Panel**

Double-click on **Add New Hardware**.

Click **Next** to begin installing software for the device.

Click **Next** to let Windows search for new hardware.

If Windows still does not detect the new device, it will ask you if you want it to search for a non-plug and play device. You can choose to let Windows search, or you may choose your hardware from a list.

Select "No, I want to select it from a list".

Click **Next**.

Select "Network adapters".

Click **Next**.

Select **Have Disk** and specify the location of the driver.

Should you still have a problem, shut the computer off and make sure the NIC is physically installed properly.

Also, a common mistake made by many technicians is accidentally installing the wrong device driver. If this happens, the device will usually not work. The easiest solution is to do the following:

Right-click on **My Computer**.

Click on **Properties**.

Click on **Device Manager**

Click on the "+" sign next to network adapters and highlight the NIC.

Click on **Properties**

Click on the **Driver** tab at the top of the screen

Click on **Update Driver**.

You will then need to follow the prompts in order to install the correct driver.

### Reflection

As a group, research and list as many NIC card manufacturers and their websites as you can.

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As a group, research and discuss how a subnet mask is used within a network.

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