



Republic of the Philippines
Department of Education
National Capital Region
Schools Division Office – Muntinlupa City

**SPECIAL PROGRAM IN TECHNICAL VOCATIONAL EDUCATION (SPTVE)
COMPUTER SYSTEMS SERVICING 9 Q3-W5**

I. Topic: Network Interface Card (NIC) settings

II. Objectives:

1. determine network interface card settings;
2. recognize the function of network interface card and;
3. summarize the procedure in setting up network interface card.

III. Brief Introduction of the Lesson

What is network interface card (NIC)?

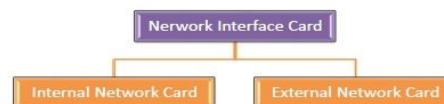
A network interface card (NIC) is a hardware component without which a computer cannot be connected over a network. It is a circuit board installed in a computer that provides a dedicated network connection to the computer. It is also called network interface controller, network adapter or LAN adapter.

Purpose

- NIC allows both wired and wireless communications.
- NIC allows communications between computers connected via local area network (LAN) as well as communications over large-scale network through Internet Protocol (IP).
- NIC is both a physical layer and a data link layer device, i.e. it provides the necessary hardware circuitry so that the physical layer processes and some data link layer processes can run on it.

Types of NIC Cards

NIC cards are of two types –



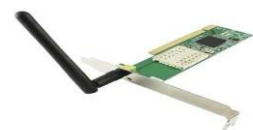
Internal Network Cards

In internal networks cards, motherboard has a slot for the network card where it can be inserted. It requires network cables to provide network access. Internal network cards are of two types.



External Network Cards

In desktops and laptops that do not have an internal NIC, external NICs are used. External network cards are of two types: Wireless and USB based. Wireless network card needs to be inserted into the motherboard.





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Configuring network card settings

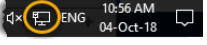
The following sections describe how to set up a network card and may also help with troubleshooting connection issues:

Tip: Before you install the latest version of the network card driver, uninstall any previous versions, using **Add/Remove Programs** or **Uninstall a Program from the Computer**.

To view the currently available ports:

Do one of the following:

From the **Control Panel** open the **Network and Sharing Center** (in Windows 7, Control Panel > Network & Internet > View Network Status and Tasks);-or-

Click the **Network and Sharing Center** icon on the right of the Windows toolbar  and then click **Network settings**:

Note that, if Windows has not automatically installed the drivers, only the onboard (LAN) network port is visible:

If you can't see the other ports, install the Intel I350 Ethernet Server Adapter driver (PROWinx64 for 64-bit Windows; or PROWinx86 for 32-bit Windows).

To view all the network ports, install the downloaded driver file, accepting all the default settings.

The other ports are now visible:

Configure advanced adapter settings

After you have downloaded and installed the required drivers, and made the network ports visible in Windows, ensure the Advanced Adapter Settings are configured correctly.

Tip: If you have not set Windows Update to automatically check for updates, check for Windows updates before continuing.

To change the advanced adapter settings:

1. Open the **Network Connections** window.
2. Right-click on the first network port and click **Properties**.
3. In the Properties dialog box, click **Configure** and then click on the **Advanced** tab.
4. In the Settings list, ensure the following values are selected:
 - a. Click **Interrupt Moderation** and in the Value list, click **Disabled**.
 - b. Click **Jumbo Packet**, and in the Value list, click **Disabled** and select **9014 Bytes** (ie the maximum value):
 - c. Click **Performance Options** and then click **Properties**.
 - d. In the Performance Options dialog box:
 - I. Click **Interrupt Moderation Rate** and in the Value list, select **Off**.





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- II. Click **Receive Buffer** and in the Value list, select the maximum value (**2048**):
- III. Click OK to close the Performance Options dialog box and return to the Settings list.
- IV. Click **Receive Side Scaling** and in the Value list, select **Enabled**.
- V. Click **Receive Side Scaling Queues** and in the Value list, select the maximum value.
 - a. Click **OK** to accept changes and exit.
 - b. Repeat the procedure for the other network ports.

IV. Activities:

Activity 1. *Directions:* Identify this type of Ethernet Card and name its part and write your answer on the space provided for.

1. _____ 2. _____ 3. _____



Activity 2. *Directions:* In your notebook, summarize the steps of the following;

- A- Configuring network card settings.
- B- Configure advanced adapter settings

Activity 3. *Directions:* Answer the questions briefly and write your answer on the space provided for.

1. What is the purpose of Network Interface Card?
2. What is Network Interface Card?
3. What is the difference between external and internal network card?

V. Assessment:





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Multiple Choice. Encircle the letter of your best answer.

1. What does NIC stand for?
A. Network interface card or controller C. Network internet card
B. Network interface connection D. Network internet connection
2. What type of connections does a NIC control?
A. Wireless connections only C. Both wired and wireless connections
B. Wired connections only D. Ethernet connections only
3. What is Ethernet?
A. An early version of the Internet
B. A type of computer cable
C. A standard for computer networking technologies
D. A type of network card
4. All of them are the role of NIC except for one.
A. To prepare data from the computer for the network cable
B. Send the data to another computer
C. Control the flow of the data between the computer and the cabling system
D. Provides the computer with a dedicated, full-time connection to a network
5. NIC is especially designed for?
A. LAN transmission technology
B. MAN transmission technology
C. WAN transmission technology

VI. Reflection:

Why is NIC or Ethernet Card important?

References:

1. <https://www.tutorialspoint.com/what-is-network-interface-card-nic>
Date retrieved: January 6, 2021
2. <https://docs.vicon.com/display/Connect/Configuring+network+card+settings>
Date retrieved: January 6, 2021
3. <https://quizizz.com/admin/quiz/5d243f1f876c58001a591f47/network-interface-card>
Date retrieved: January 6, 2021

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