

Computer Networks 1

Lab 1

Network Devices

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I. Objectives:

- Get to know basic network devices
- Understand functions of network devices
- Able to connect different network devices together to form a simple network

II. Content

1. Get to know network devices:

- ✓ Network Interface Card (NIC)
- ✓ Cables
- ✓ Hub
- ✓ Switches
- ✓ Routers
- ✓ Access Points
- ✓ Modems

2. Understanding functions of network devices

a. Network Interface Card (NIC)



NIC functions: card mạng hoạt động giúp máy tính kết nối với mạng dữ liệu.

Code of NIC processors: 98-40-BB-38-DC-A6

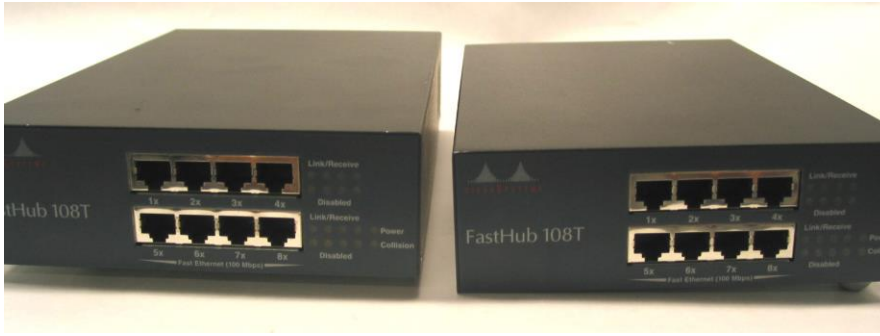
Check NIC of a computer, what is its MAC address? 98-40-BB-38-DC-A6

Cable to connect NIC to a network:

Type: T

Standard: 10mbps

b. Hubs



Roles of hub in a network: **điểm kết nối trung tâm cho các thiết bị mạng**

Main characteristics: **khi thông tin vào từ một cổng và sẽ được đưa đến tất cả các cổng khác**

Weaknesses of hub: **rủi ro về bảo mật dữ liệu**

Hub ports: **10BASE-T hay 100BASE-T**

c. Switches



Roles of switches in a network: **điểm kết nối trung tâm cho các máy tính**

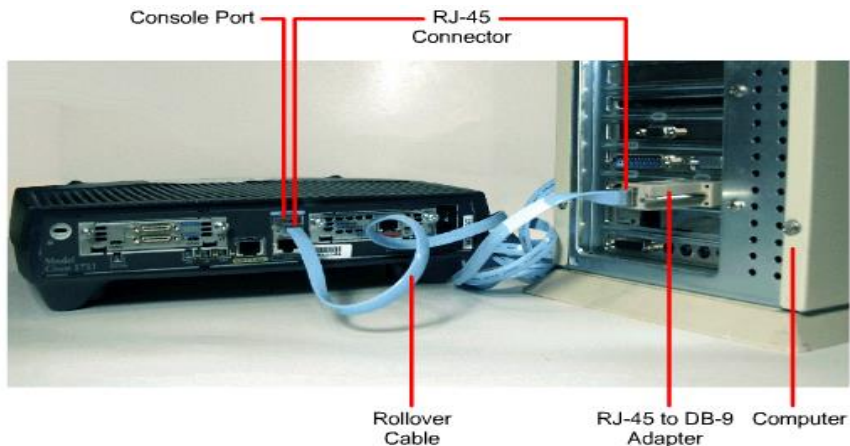
Main characteristics of switches:

Differences between hubs and switches: **Hub sử dụng cách truyền quảng bá còn Switch sẽ truyền trực tiếp**

Weaknesses of switches:

Switch ports:

d. Routers



Roles of routers in a network: **kết nối các mạng với nhau**

Main characteristics of routers: **thường bao gồm 1 hoặc nhiều cổng LAN và có thể bao gồm ăng-ten phát tín hiệu wifi**

Differences between routers and switches:

Router ports:

d. Access Points



Roles of access points:

Main characteristics of access points:

Access point's interfaces:

Compare access point and other networking devices mentioned above:

e. Modem



Differentiate:

- Dial-up modem
- ADSL Modem
- Cable Modem

For each type of modem describe its roles and characteristics:

3. Connecting network devices:

Identify the type of network cable can be used for below network connections:

- a) Computer and hub cable is used to connect a host to a hub
- b) Computer and switch cable is used to connect a host to a switch
- c) Computer and router cable is used to connect a host to a router
- d) Computer hub and hub cable is used to connect a hub to a hub
- e) Hub and switch cable is used to connect a hub to a switch
- f) Hub and router cable is used to connect a hub to a router
- g) Switch and switch cable is used to connect a switch to a switch
- h) Switch and router cable is used to connect a switch to a router
- k) Router and router cable is used to connect a router to a router