Lab A - Identifying Network Devices and Cabling (Instructor Version)

Instructor Note: Red font color or Gray highlights indicate text that appears in the instructor copy only.

Objectives

Part 1: Identify Network Devices

- Describe the functions and physical characteristics of the network device.

Part 2: Identify Network Media

- Describe the functions and physical characteristics of the media.

Background / Scenario

As a member of the networking support staff, you must be able to identify different networking equipment. You must also understand the function of equipment in the appropriate part of the network. In this lab, you will have access to network devices and media. You will identify the type and characteristics of the network equipment and media.

Instructor Note: This is an open-ended lab. Devices and cabling to be identified will be dependent on what the academy and instructor have available (either standalone or in racks). Although real equipment is preferable, the instructor can supplement real devices with good quality photos of devices, if desired.

Instructor Note: Instructors are encouraged to contact the local telephone company (telco) and cable operators for cabling examples. A tour of the academy data center (with approval of the IT director) can be a valuable experience for the students. The instructor can coordinate with the IT or Networking department to tag various devices in a real environment for identification.

Part 1: Identify Network Devices

Your instructor will provide various network devices for identification. Each will be tagged with an ID number.

Instructor Note: The various network devices displayed can be hubs, switches, routers, wireless access point, wireless router (Linksys), and NICs. Devices can be placed on a table or located in racks where the student can have access to examine each device. Have students record the device ID number, manufacturer, and model, type of device (hub, router or switch, etc), functionality (wireless, router, switch or combination), number and type of interfaces, and other notable physical characteristics.

Fill in the table below with the device tag ID number, manufacturer, device model, type (hub, switch, and router), functionality (wireless, router, switch, or combination), and other physical characteristics, such as number of interface types. The first line is filled out as a reference.

ID	Manufacturer	Model	Type	Functionality	Physical Characteristics
1	Cisco	1941	Router	Router	2 GigabitEthernet Ports 2 EHWIC slots 2 CompactFlash slots 1 ISM slot 2 Console ports: USB, RJ-45
2					
3					
4					
5					
6					

Part 2: Identify Network Media

Your instructor will provide various network media for identification. You will name the network media, identify the media type (copper, fiber optic, or wireless), and provide a short media description including what device types it connects. Use the table below to record your findings. The first line in the table has been filled out as a reference.

Instructor Note: The following is a list of network media for your reference.

Copper: Ethernet (STP, UTP, straight and cross, Cat 5, Cat 5E, Cat 6, etc), Telephone cable (2-wire supports ADSL so it is a valid network cable), Coaxial cable (cable network), Serial cables (DB 60 and smart serial, male/female).

Fiber optic: (multi-mode, single mode, various connector types).

Wireless: NIC, Wi-Fi Antennae (from Linksys or similar).

ID	Network Media	Type	Description and to What It Connects
1	UTP	Copper	Connect wired NIC and Ethernet ports on network devices Cat 5 straight-through wired. Connects PCs and routers to switches and wiring panels.
2			
3			
4			
5			
6			

Reflection

After you have identified the network equipment, where would you find more information about the equipment?

_____

_____

_____

RFC, equipment manufacturer website or literature