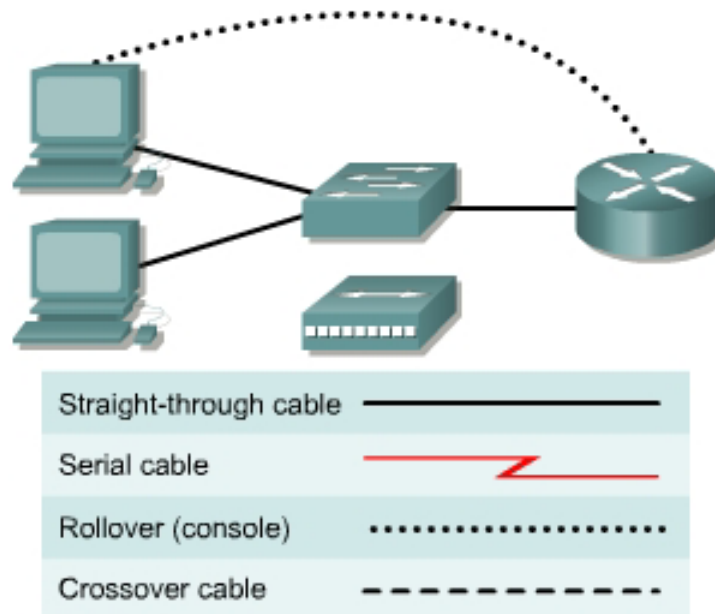


## Lab 5.2.3a Connecting Router LAN Interfaces – Instructor Version



### Objective

- Identify the Ethernet or Fast Ethernet interfaces on the router
- Identify and locate the proper cables to connect the router and PC to a hub or switch
- Use the cables to connect the router and PC to the hub or switch

### Background / Preparation

This lab focuses on the ability to connect the physical cabling between Ethernet LAN devices such as hubs and switches and the appropriate Ethernet interface on a router. The computer(s) and router should be preconfigured with the correct IP network settings. Start this lab with the computer(s), router, and the hub or switch all turned off and unplugged. The following resources will be required:

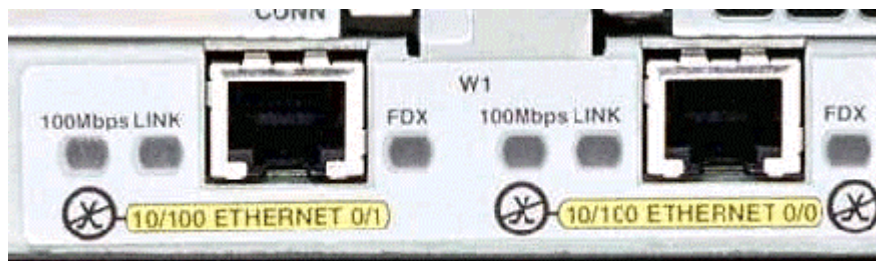
- At least one workstation with an Ethernet 10/100 NIC installed
- One Ethernet switch or hub
- One router with an RJ-45 Ethernet or Fast Ethernet interface or an AUI interface
- 10BASE-T AUI transceiver (DB-15 to RJ-45) for a router with an AUI Ethernet interface (2500 Series)
- Several Ethernet cables, which are straight-through and crossover, to choose from for connecting the workstation and router to the hub or switch.

## Step 1 Identify the Ethernet or Fast Ethernet interfaces on the router

- a. Examine the router.

What is the model number of the router? Answers will vary. 2501, 2514, 2621 are possible answers.

- b. Locate one or more RJ-45 connectors on the router labeled "Ethernet0" or "Ethernet1". This identifier may vary depending on the type of router used; a 2600 series router is shown. A 2500 series router will have an AUI DB-15 Ethernet port labeled AUI 0. These will require a 10BASE-T transceiver to connect to the RJ-45 cable.



- c. Identify the Ethernet ports shown that could be used for connecting the routers. Record the information below. Record the AUI port numbers if a Cisco 2500 series router is being used.

| Router | Port  | Port  |
|--------|-------|-------|
| 2514   | AUI 0 | AUI 1 |

Answers will vary depending on the series of router being used. Example shown above.

## Step 2 Identify the proper cables and connect router

- a. The connection between the router and the hub or switch will be accomplished using a Category 5 straight-through patch cable. Locate a patch cable that is long enough to reach from the router to the hub. Be sure to examine the cable ends carefully and select only straight-through cables.
- b. Use a cable to connect the Ethernet interface that uses zero designation on the router to a port on the hub or switch. This identifier may vary depending on the type of router used; a 2600 series router is shown.

## Step 3 Connect the workstation Ethernet cabling

- a. The computer(s) will also connect to the hub using a straight-through patch cable. Run Category 5 patch cables from each PC to where the switch or hub is located. Connect one end of these cables to the RJ-45 connector on the computer NIC and connect the other end to a port on the hub or switch. Be sure to examine the cable ends carefully and select only straight-through cables.

## Step 4 Verifying the connection

- a. Plug in and turn on the routers, computers, and hub or switch.
- b. To verify the router connections, insure that the link light on the router interface and the hub or switch interface are both lit.
- c. To verify the computer connections, insure that the link light on the NIC and the hub or switch interface are both lit.