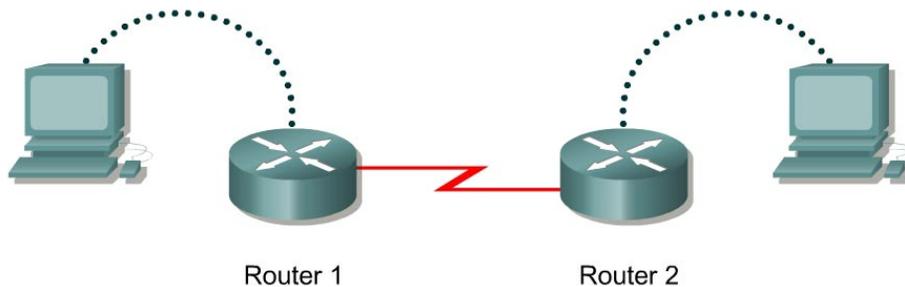


## Lab 1.2.7 Connecting WAN Interfaces



|                        |  |
|------------------------|--|
| Straight-through cable |  |
| Serial cable           |  |
| Console (Rollover)     |  |
| Crossover cable        |  |

### Objective

- Identify the serial interfaces on the router.
- Identify and locate the proper cables to interconnect the routers.
- Use the cables to connect the router.

### Background/Preparation

This lab connects two routers together using directly attached cables to simulate a WAN link. This allows the routers to be configured and tested as though they were geographically separated. This simulated WAN link takes the place of the service providers network and can be thought of as a CSU/DSU eliminator. The first steps involve finding out what kind of connections are on the router and what kind of cables are needed.

### Step 1 Identify the serial interfaces on the router

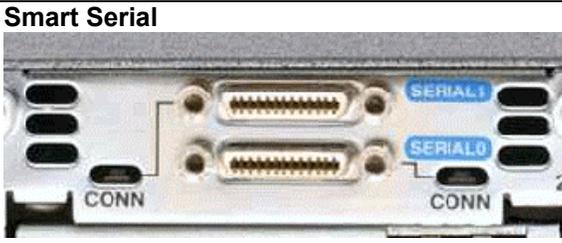
- Examine the router.
- What is the model number of the router? \_\_\_\_\_
- What is the model number of the second router? \_\_\_\_\_

- d. How many serial ports are there on each router that could be used for connecting the routers?  
Record the information below.

| Router Name | Serial Port | Serial Port | Serial Port |
|-------------|-------------|-------------|-------------|
| Router 1    |             |             |             |
| Router 2    |             |             |             |

### Step 2 Identify and locate the proper cables

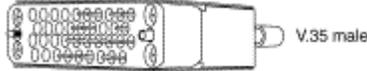
- a. Inspect the serial cables available in the lab. Depending on what type of router and/or serial card used, the router may have different connectors. The two most common types are the DB-60 and the smart serial connectors. Using the table below indicate which type of interfaces the routers have.

| Router | Smart Serial   | DB-60   |
|--------|--|---|
| 1      |  <input type="checkbox"/>   |  <input type="checkbox"/>   |
| 2      |  <input type="checkbox"/> |  <input type="checkbox"/> |

- b. Since this lab will not be connected to a live leased line, one of the routers will need to provide the clocking for the circuit. This is normally provided to each of the routers by the service provider. To provide this clocking signal in the lab, one of the routers will need a DCE cable instead of the DTE cable used on the other router.

In this lab, the connection between routers uses one DCE cable and one DTE cable. The DCE-DTE connection between routers is referred to as a null serial cable. This lab will use one V.35 DCE cable and one V.35 DTE cable to simulate the WAN connection.

The V.35 DCE connector is usually a female V.35 (34-pin) connector. The DTE cable has a male V.35 connector. The cables are also labeled as DCE or DTE on the router end of the cable. Using the chart below, identify the V.35 cable that will be used, on each router, by placing a check mark in the appropriate box.

| Router   | DTE  | DCE  |
|----------|---|---|
| Router 1 | <input type="checkbox"/>  | <input type="checkbox"/>  |
| Router 2 | <input type="checkbox"/>  | <input type="checkbox"/>  |

- c. After having indicated the cables required to interconnect the router locate them in the equipment inventory.

### Step 3 Cable the routers

- a. The DTE and DCE V.35 cables must now be joined together. Holding one of the V.35 ends in each hand examine the pins and sockets as well as the threaded connectors. Note that there is only one proper way for the cables to fit together. Align the pins on the male cable with the sockets on the female cable and gently couple them. Very little effort should be required to accomplish this. When they are joined, turn the thumbscrews clockwise and secure the connectors.
- b. Before making the connection to one of the routers, examine the connector on the router and the cable. Note that the connectors are tapered to help prevent improper connection. Holding the connector in one hand, orient the cable and router connectors so that the tapers match. Now push the cable connector partially into the router connector. It probably will not go on all the way as the threaded connectors need to be tightened in order for the cable to be inserted completely. While holding the cable in one hand and gently pushing the cable toward the router, turn one of the thumb screws clockwise, 3 or 4 rounds to start the screws. Now turn the other thumbscrew clockwise, 3 or 4 rounds to get it started. At this point the cable should be attached enough enabling the use of both hands to advance each thumbscrew at the same rate until the cable is fully inserted. Do not over-tighten these connectors.