OSPF Troubleshooting Mastery

Objective

Explain the process and tools used to troubleshoot a single-area OSPF network.

Scenario

You have decided to change your routing protocol from RIPv2 to OSPFv2. Your small- to medium-sized business network topology will not change from its original physical settings. Use the diagram on the PDF for this activity as your company's small- to medium- business network design.

Your addressing design is complete and you then configure your routers with IPv4 and VLSM. OSPF has been applied as the routing protocol. However, some routers are sharing routing information with each other and some are not.

Open the PDF file that accompanies this modeling activity and follow the directions to complete the activity.

When the steps in the directions are complete, regroup as a class and compare recorded activity correction times. The group taking the shortest time to find and fix the configuration error will be declared the winner only after successfully explaining how they found the error, fixed it, and proved that the topology is now working.

Required Resources

- Topology diagram
- Packet Tracer software
- Timer

Topology Diagram

Area 0

G0/1

R2

G0/0

G0/1 **R1** G0/0

G0/0 **R3** G0/1

Directions
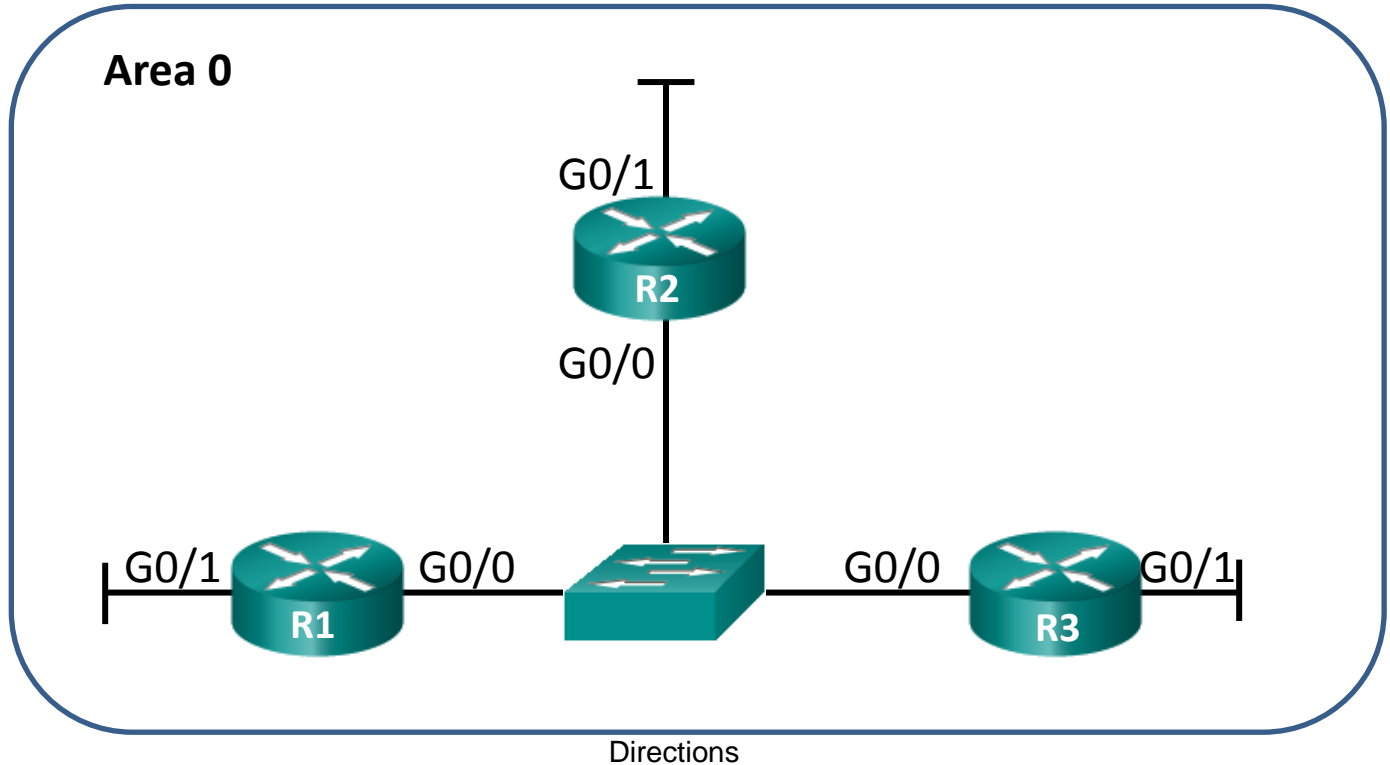
Choose a partner from the class with whom to work on this activity. Use Packet Tracer to create the topology diagram shown for this activity.

Step 1:   Build the topology based on the modeling activity page for this scenario.

Step 2:   Configure the routers.

    a.   Use IPv4 for all interfaces.

    b.   Incorporate VLSM into the addressing scheme.

    c.   Make one intentional configuration error.

    d.   Verify that the network does not work based upon the intentional error.

    e.   Save your file to be used with Step 3.

Step 3:   Exchange your Packet Tracer file with another group.

    a.   Find the configuration error on the Packet Tracer network file you received from another group.

    b.   Fix the OSPF configuration error so that the network operates fully.

    c.   Record the time it took to find and fix the OSPF network error.

    d.   When complete, meet with your class to determine the Master Troubleshooter for the day.