

Portfolio RIP and EIGRP

Objectives

Configure EIGRP for IPv4 in a small routed network (review).

Scenario

You are preparing a portfolio file for comparison of RIP and EIGRP routing protocols.

Think of a network with three interconnected routers with each router providing a LAN for PCs, printers, and other end devices. The graphic on this page depicts one example of a topology like this.

In this modeling activity scenario, you will be creating, addressing and configuring a topology, using verification commands, and comparing/contrasting RIP and EIGRP routing protocol outputs.

Complete the PDF reflection questions. Save your work and be prepared to share your answers with the class. Also save a copy of this activity for later use within this course or for portfolio reference.

Resources

Packet Tracer and word processing software programs

Directions

Step 1: WAN and LAN topology design

- Use Packet Tracer to design a network with three routers (1941 model, suggested). If necessary, add NIC cards to the routers to provide connectivity to the routers to provide for at least one LAN to each router. Add at least one PC to each LAN.
- Address the networks. You may use a flat addressing scheme or VLSM. Use only IPv4 networks for this entire activity.

Step 2: Copy the topology

- Highlight the entire topology by using your cursor.
- Use Ctrl+C to make a copy of the highlighted topology.
- Use Ctrl+V to insert a full copy of the topology to the desktop of Packet Tracer. You will now have displayed two exact, IPv4-addressed topologies with which to work for routing protocols configurations.
- While highlighted, move the copied topology to a different location on the Packet Tracer desktop to create room between the two for configuration purposes.

Step 3: Configure RIP and EIGRP on the separate topologies.

- Configure the RIP routing protocol on the first topology and EIGRP on the second routing topology.
- Once you have successfully configured RIP on one topology and EIGRP on the other, check to make sure your PCs can ping each other.
- Save your work so no configuration information is lost.

Step 4: Use verification commands to check output for the routing protocols.

- To compare/contrast routing protocol information from the two topologies, issue the **show ip route** command on R1 for topology 1 and 2.

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- b. Copy the output into a table in your word processing program file or in the space provided below. Label each column with RIP or EIGRP and place the output you received from the **show ip route** command.
- c. Issue the **show ip protocols** command on R1 for topology table 1 and 2. Create another table in your word processing software file or use the space provided below and place the output information below RIP or EIGRP.
- d. Issue the **show cdp neighbors** command on R1s topology 1. Copy the output to a third table or in the space provided below with RIP as the heading and issue the **show ip eigrp neighbors** R1s topology 2. Copy the output from this command in column 2 of table 3 under the heading EIGRP.

RIP

EIGRP

Reflection

1. Compare and contrast the output for the **show ip route** verification command.
2. Compare and contrast the output for the **show ip protocol** verification command.
3. Compare and contrast the **show cdp neighbors** command for the RIP topology and the **show ip eigrp neighbors** command for the EIGRP topology.
4. After comparing and contrasting the RIP and EIGRP output, which do you find most informative? Support your answer.