11.3.2: Modifying the Cost of a Link

Device	Interface	IP Address	Subnet Mask
R1	Fa0/0	172.16.1.17	255.255.255.240
	S0/0/0	192.168.10.1	255.255.255.252
	S0/0/1	192.168.10.5	255.255.255.252
	Lo0	10.1.1.1	255.255.255.255
R2	Fa0/0	10.10.10.1	255.255.255.0
	S0/0/0	192.168.10.2	255.255.255.252
	S0/0/1	192.168.10.9	255.255.255.252
	Lo0	10.2.2.2	255.255.255.255
R3	Fa0/0	172.16.1.33	255.255.255.248
	S0/0/0	192.168.10.6	255.255.255.252
	S0/0/1	192.168.10.10	255.255.255.252
	Lo0	10.3.3.3	255.255.255.255

Objectives:

1. Examine default cost configuration.
2. Modify cost using the **ip ospf cost** command.
3. Modify cost using the **bandwidth** command.
4. Verify new cost values.

Task 1: Examine default cost configuration.

Step 1 – Examine the routing tables.

Examine the routing tables. Notice that each router has two equal cost routes to the same network. What is the cost to the route?

Step 2 – Examine the interfaces.

- Use the **show interface** command to examine the default bandwidth values each router is using for the serial interfaces. What is the current bandwidth value in kbps?
- Does the bandwidth match the bandwidth shown in the topology?

Step 3 – Examine the OSPF cost values.

Use the **show ip ospf interface** command to examine the current OSPF cost values used for the interfaces. What cost value is OSPF using for all serial interfaces?

Task 2: Modify cost using the ip ospf cost command.

On R1, use the **ip ospf cost** command to modify the cost for the two serial links.

- The cost for the s0/0/0 link is 1562.
- The cost for the s0/0/1 link is 390.

Task 3: Modify cost using the bandwidth command.

On R2 and R3, use the **bandwidth** command to modify the cost for the two serial links. Refer to the topology for the correct bandwidth values.

Task 4: Verify new cost values.

Although on real routers OSPF will converge within seconds removing the equal cost routes, Packet Tracer will take a few minutes to converge on the new cost values. After waiting a few minutes, examine the routing table to verify the cost values have changed and that OSPF no longer uses two routes to reach one of the networks.

At the end of this activity your completion rate should be 100%. If the completion rate is not 100%, use the **Check Results** button and troubleshoot as necessary.