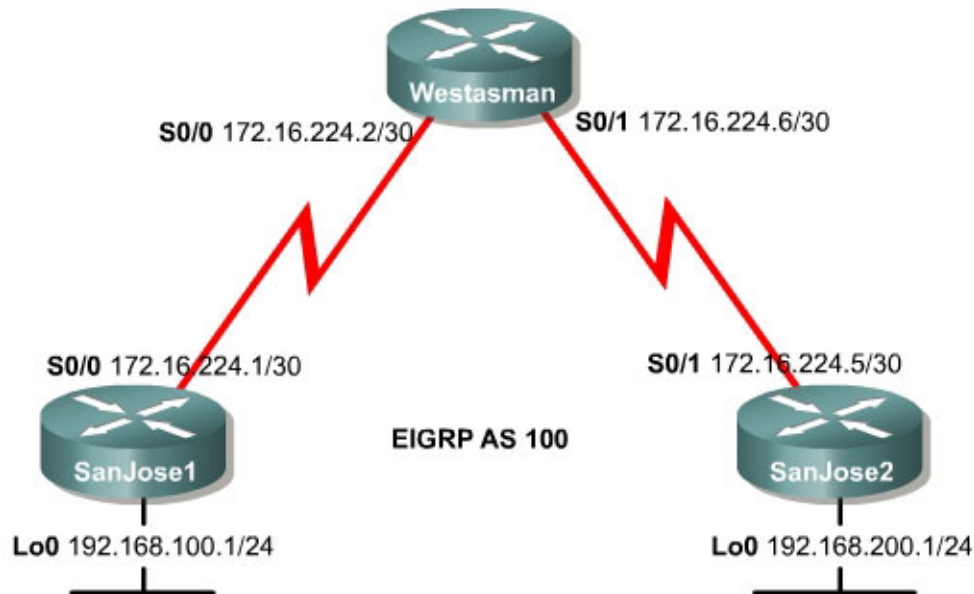


## Lab 5.7.1 Configuring EIGRP



### Objective

In this lab EIGRP will be configured on three Cisco routers within the International Travel Agency WAN and the basic behaviors of the protocol will be observed.

### Scenario

The International Travel Agency is implementing EIGRP between its overseas headquarters and its North American headquarters. EIGRP must be configured at all three locations before the SanJose1 headquarters can connect to the SanJose2 headquarters.

### Step 1

Build and configure the network according to the diagram, but do not configure EIGRP yet.

Use **ping** to test connectivity between serial interfaces. SanJose1 and SanJose2 will not be able to ping each other until EIGRP is enabled.

### Step 2

Configure EIGRP for AS 100 on all routers as the following shows:

```

SanJose1(config)#router eigrp 100
SanJose1(config-router)#network 192.168.100.0
SanJose1(config-router)#network 172.16.0.0

Westasman(config)#router eigrp 100
Westasman(config-router)#network 172.16.0.0
  
```

```
SanJose2(config)#router eigrp 100
SanJose2(config-router)#network 192.168.200.0
SanJose2(config-router)#network 172.16.0.0
```

### Step 3

After enabling EIGRP on each of the three routers, verify the operation using the `show ip route` command on the Westasman router. The Westasman router should have routes to all networks.

1. Based on the output of this command, which routes were learned by way of EIGRP?
- 

The Westasman router received EIGRP routes that are internal to the EIGRP domain, 192.168.100.0 and 192.168.200.0. Internally learned EIGRP routes are denoted by a D.

2. The administrative distance of an external EIGRP route is 170. What is the administrative distance of an internal EIGRP route?
- 

### Step 4

Now that EIGRP is configured, use `show` commands to view EIGRP neighbors and topology tables on the Westasman router.

From the Westasman router, issue the `show` command to view the neighbor table:

```
Westasman#show ip eigrp neighbors
```

3. How many EIGRP neighbors are listed in the output?
- 

To view the topology table, issue the `show ip eigrp topology all-links` command.

4. A passive route is one that is stable and available for use. How many routes are in passive mode?
- 

5. What is the feasible distance and the reported distance for the LANs (loopback addresses) on the SanJose1 and SanJose2 routers?
- 

To view more specific information about a topology table entry, use an IP address with the `show ip eigrp topology` command:

```
Westasman#show ip eigrp topology 192.168.200.0
```

6. Does it show which router originated the route?
- 

Finally, use **show** commands to view key EIGRP statistics. On the Westasman router, issue the **show ip eigrp traffic** command to see the EIGRP packet types. Then enter the **show ip eigrp interfaces** command.

7. List the five EIGRP packet types and the number sent and received for each.
- 

8. Which interfaces are participating in the EIGRP routing process?
- 

Save the configuration files for the routers.