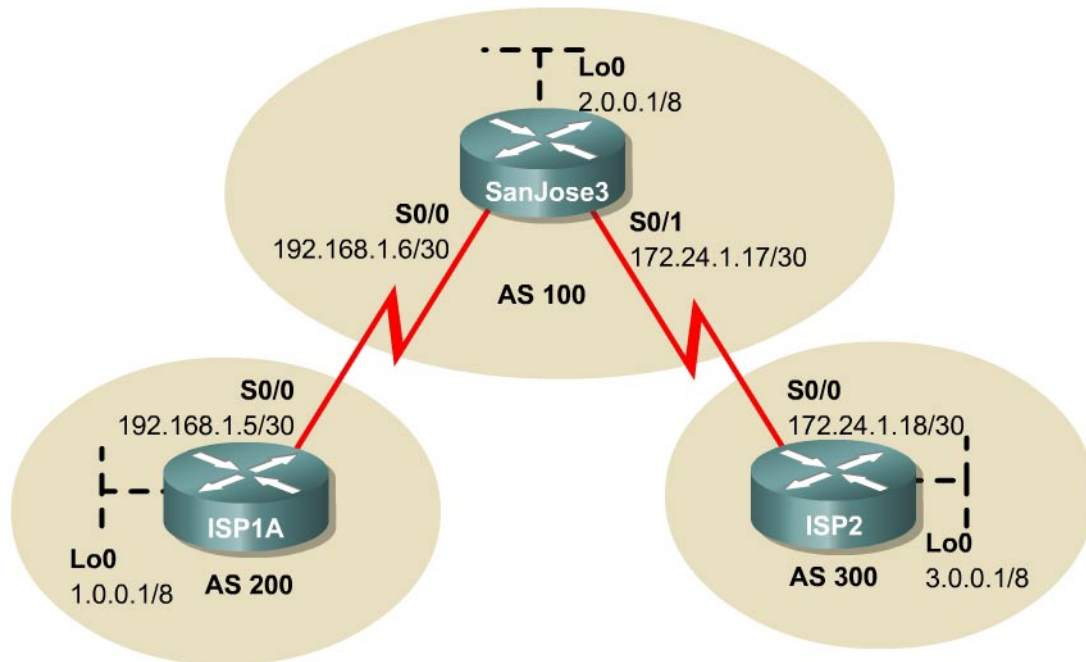


## Lab 9.11.4d BGP Peer Groups



### Objective

In this lab, the student will use BGP peer groups to simplify the configuration tasks.

### Scenario

The International Travel Agency peers with ISP1A in AS 200 and ISP2 in AS 300. The company applies similar policies to both neighbors. Rather than configuring policies separately for each neighbor, configure a BGP peer group.

### Step 1

Build and configure the network according to the diagram, but do not configure a routing protocol yet. Configure a loopback interface with an IP address for each ISP router, as shown. These loopbacks will simulate networks that reside within each AS.

Use **ping** to test connectivity between all directly connected interfaces.

### Step 2

Configure ISP1A and ISP2 for EBGP. The following is an example of the ISP1A configuration:

```
ISP1A(config)#router bgp 200
ISP1A(config-router)#neighbor 192.168.1.6 remote-as 100
ISP1A(config-router)#network 1.0.0.0
```

### Step 3

Use a peer group to configure SanJose3 so that it will apply policies jointly to both ISP1A and ISP2 as follows:

```
SanJose3(config)#router bgp 100
SanJose3(config-router)#network 2.0.0.0
SanJose3(config-router)#neighbor EBGP-PEERS peer-group
SanJose3(config-router)#neighbor EBGP-PEERS send-community
SanJose3(config-router)#neighbor EBGP-PEERS route-map EXTERNAL out
SanJose3(config-router)#neighbor 192.168.1.5 remote-as 200
SanJose3(config-router)#neighbor 172.24.1.18 remote-as 300
SanJose3(config-router)#neighbor 192.168.1.5 peer-group EBGP-PEERS
SanJose3(config-router)#neighbor 172.24.1.18 peer-group EBGP-PEERS
SanJose3(config-router)#exit
SanJose3(config)#route-map EXTERNAL 10
SanJose3(config-route-map)#set community 40
SanJose3(config-route-map)#exit
```

The neighbors of SanJose3 have been assigned a peer group, in this case, a group called EBGP-PEERS. Because of this, configurations need to be applied only once, to the group itself. The more routers that are added to the peer group, the more time will be saved entering configurations.

Issue the `clear ip bgp *` command on SanJose3. After waiting a few seconds, check the routing tables of the three routers. Eventually, SanJose3 should peer with the other two routers. Both ISP1A and ISP2 will receive a BGP route to the 2.0.0.0/8 network from SanJose3.

When ISP1A and ISP2 have the route to 2.0.0.0, verify that SanJose3 is actually applying the same policies to both neighbors. Issue the following command on ISP1A and ISP2:

```
ISP1A#show ip bgp 2.0.0.0
```

1. According to the output of this command, what is the community value for this route on ISP1A?

2. What is the community value on ISP2?

On SanJose3, issue the command `show ip bgp neighbors`.

Check that both neighbors have member of peer group EBGP-PEERS listed as a session parameter. If not, troubleshoot.