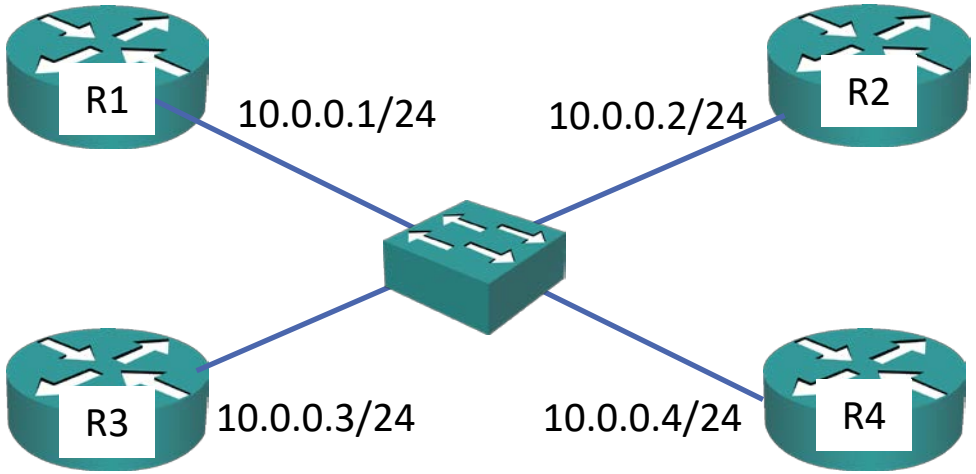
OSPF on Multiaccess Segments

- On point to point links, OSPF router pairs form a FULL adjacency
- On multiaccess segments (such as Ethernet) where there can be multiple routers, it is inefficient for all routers to form a FULL OSPF adjacency with each other



DR and BDR

- A DR Designated Router and BDR Backup Designated Router are elected
- The router with the highest priority becomes DR, and the router with the 2nd highest priority becomes BDR
- Default priority is 1, the higher the better (0 - 255)
- Highest Router ID is used in case of a tie

Neighbor States – 2-Way

- On multiaccess segments such as Ethernet, the routers elect the DR and BDR at the 2-Way stage
- There is no election on point to point links

Setting OSPF Priority

```
R1(config)#interface FastEthernet 0/0
R1(config-if)#ip ospf priority 100

R4(config)#interface FastEthernet 0/0
R4(config-if)#ip ospf priority 0
```

Restart OSPF on interface to take effect

Multiaccess Segment Neighbor States

- The DR and BDR establish FULL neighbor state with all routers on the network segment
- The neighbor state of other neighbors remains in 2-Way and they do not directly exchange routes with each other

Multiaccess Segment LSA Updates

- When a link state changes on a router connected to a multiaccess segment, it sends a multicast LSU packet to 224.0.0.6 (‘all designated routers’)
- The DR multicasts the update to 224.0.0.5 (‘all OSPF routers’)

OSPF DR and BDR Lab