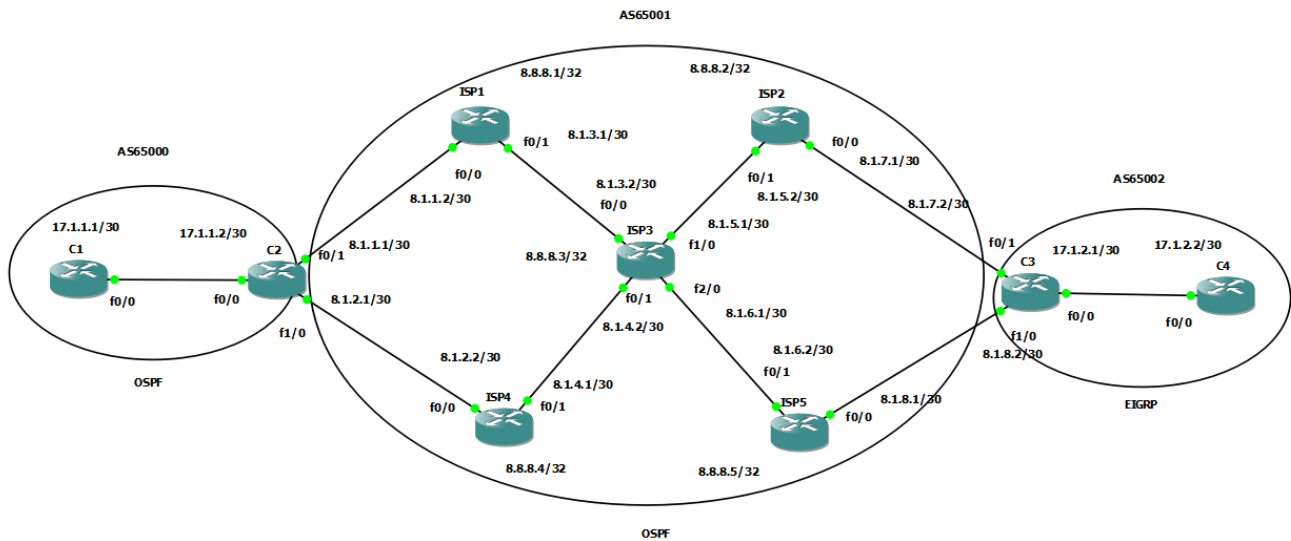# BGP

1. Configurar BGP entre los clientes y su ISP (Clientes = C2, C3) (10 puntos)
2. Configurar los routers ISP (ISP1, ISP2, ISP3, ISP4, ISP5) para utilizar las direcciones loopbacks (ver diagrama) para sus relaciones de BGP y actualizaciones. (10 puntos)
3. Configurar router ISP3 como route reflector. (15 puntos)
4. C1 y C4 NO pueden ser configurados con protocolo BGP (solo OSPF o EIGRP)
   - Por lo que se debe advertir una ruta default entre Router Cliente con BGP y el router interno utilizando OSPF (originate) / EIGRP (summary). (10 puntos)
   - Entre C2 -ISP1, ISP4, así como C3 - ISP2, ISP5: **No puede haber protocolo de ruteo interno**
5. Verificar la conectividad entre los routers clientes (C1 y C4). (15 puntos)
6. AS65000 debe preferir el router ISP1 e ISP4 es su backup. (5 puntos)
7. AS65002 debe preferir al router ISP5 e ISP2 como su backup. (5 puntos)
8. No se puede utilizar rutas estáticas o PBR en esta práctica. Tampoco es necesario redistribución.
9. Las interfaces pueden variar respecto al diagrama (número y tipo)

C1

```
interface FastEthernet0/0
 ip address 17.1.1.1 255.255.255.252
 duplex auto
 speed auto

router ospf 65000
```

```
 log-adjacency-changes
 network 17.1.1.0 0.0.0.3 area 0
```

C2

```
interface FastEthernet0/0
 ip address 17.1.1.2 255.255.255.252
 duplex auto
 speed auto
!
interface FastEthernet0/1
 ip address 8.1.1.1 255.255.255.252
 duplex auto
 speed auto
!
interface FastEthernet1/0
 ip address 8.1.2.1 255.255.255.252
 duplex auto
 speed auto
!
router ospf 65000
 log-adjacency-changes
 network 17.1.1.0 0.0.0.3 area 0
 default-information originate
!
router bgp 65000
 no synchronization
 bgp log-neighbor-changes
 network 17.1.1.0 mask 255.255.255.252
 neighbor 8.1.1.2 remote-as 65001
 neighbor 8.1.1.2 weight 200
 neighbor 8.1.2.2 remote-as 65001
 neighbor 8.1.2.2 weight 100
 no auto-summary
```

C3

```
interface FastEthernet0/0
 ip address 17.1.2.1 255.255.255.252
 ip summary-address eigrp 65002 0.0.0.0 0.0.0.0 5
 duplex auto
 speed auto
!
```

```
interface FastEthernet0/1
 ip address 8.1.7.2 255.255.255.252
 duplex auto
 speed auto
!
interface FastEthernet1/0
 ip address 8.1.8.2 255.255.255.252
 duplex auto
 speed auto
!
router eigrp 65002
 network 17.1.2.0 0.0.0.3
 no auto-summary
!
router bgp 65002
 no synchronization
 bgp log-neighbor-changes
 network 17.1.2.0 mask 255.255.255.252
 neighbor 8.1.7.1 remote-as 65001
 neighbor 8.1.7.1 weight 100
 neighbor 8.1.8.1 remote-as 65001
 neighbor 8.1.8.1 weight 200
 no auto-summary
!
```

C4

```
interface FastEthernet0/0
 ip address 17.1.2.2 255.255.255.252
 duplex auto
 speed auto

router eigrp 65002
 network 17.1.2.0 0.0.0.3
 no auto-summary
```

ISP1

```
interface Loopback0
 ip address 8.8.8.1 255.255.255.255
!
interface FastEthernet0/0
```

```
 ip address 8.1.1.2 255.255.255.252
 duplex auto
 speed auto
!
interface FastEthernet0/1
 ip address 8.1.3.1 255.255.255.252
 duplex auto
 speed auto
!
router ospf 65001
 log-adjacency-changes
 network 8.1.3.0 0.0.0.3 area 0
 network 8.8.8.1 0.0.0.0 area 0
!
router bgp 65001
 no synchronization
 bgp log-neighbor-changes
 network 8.1.1.0 mask 255.255.255.252
 network 8.1.3.0 mask 255.255.255.252
 network 8.8.8.1 mask 255.255.255.255
 neighbor 8.1.1.1 remote-as 65000
 neighbor 8.1.1.1 default-originate
 neighbor 8.8.8.3 remote-as 65001
 neighbor 8.8.8.3 update-source Loopback0
 no auto-summary
!
```

ISP2

```
interface Loopback0
 ip address 8.8.8.2 255.255.255.255
!
interface FastEthernet0/0
 ip address 8.1.7.1 255.255.255.252
 duplex auto
 speed auto
!
interface FastEthernet0/1
 ip address 8.1.5.2 255.255.255.252
 duplex auto
 speed auto
!
router ospf 65001
 log-adjacency-changes
 network 8.1.5.0 0.0.0.3 area 0
```

```
  network 8.8.8.2 0.0.0.0 area 0
 !
 router bgp 65001
  no synchronization
  bgp log-neighbor-changes
  network 8.1.5.0 mask 255.255.255.252
  network 8.1.7.0 mask 255.255.255.252
  network 8.8.8.2 mask 255.255.255.255
  neighbor 8.1.7.2 remote-as 65002
  neighbor 8.1.7.2 default-originate
  neighbor 8.8.8.3 remote-as 65001
  neighbor 8.8.8.3 update-source Loopback0
  no auto-summary
 !
```

ISP3

```
 interface Loopback0
  ip address 8.8.8.3 255.255.255.255
 !
 interface FastEthernet0/0
  ip address 8.1.3.2 255.255.255.252
  duplex auto
  speed auto
 !
 interface FastEthernet0/1
  ip address 8.1.4.2 255.255.255.252
  duplex auto
  speed auto
 !
 interface FastEthernet1/0
  ip address 8.1.5.1 255.255.255.252
  duplex auto
  speed auto
 !
 interface FastEthernet2/0
  ip address 8.1.6.1 255.255.255.252
  duplex auto
  speed auto
 !
 router ospf 65001
  log-adjacency-changes
  network 8.1.3.0 0.0.0.3 area 0
  network 8.1.4.0 0.0.0.3 area 0
```

```
 network 8.1.5.0 0.0.0.3 area 0
 network 8.1.6.0 0.0.0.3 area 0
 network 8.8.8.3 0.0.0.0 area 0
!
router bgp 65001
 no synchronization
 bgp log-neighbor-changes
 redistribute connected
 neighbor 8.8.8.1 remote-as 65001
 neighbor 8.8.8.1 update-source Loopback0
 neighbor 8.8.8.1 route-reflector-client
 neighbor 8.8.8.2 remote-as 65001
 neighbor 8.8.8.2 update-source Loopback0
 neighbor 8.8.8.2 route-reflector-client
 neighbor 8.8.8.4 remote-as 65001
 neighbor 8.8.8.4 update-source Loopback0
 neighbor 8.8.8.4 route-reflector-client
 neighbor 8.8.8.5 remote-as 65001
 neighbor 8.8.8.5 update-source Loopback0
 neighbor 8.8.8.5 route-reflector-client
 no auto-summary
!
```

ISP4

```
interface Loopback0
 ip address 8.8.8.4 255.255.255.255
!
interface FastEthernet0/0
 ip address 8.1.2.2 255.255.255.252
 duplex auto
 speed auto
!
interface FastEthernet0/1
 ip address 8.1.4.1 255.255.255.252
 duplex auto
 speed auto
!
router ospf 65001
 log-adjacency-changes
 network 8.1.4.0 0.0.0.3 area 0
 network 8.8.8.4 0.0.0.0 area 0
!
router bgp 65001
```

```
 no synchronization
 bgp log-neighbor-changes
 network 8.1.2.0 mask 255.255.255.252
 network 8.1.4.0 mask 255.255.255.252
 network 8.8.8.4 mask 255.255.255.255
 neighbor 8.1.2.1 remote-as 65000
 neighbor 8.1.2.1 default-originate
 neighbor 8.8.8.3 remote-as 65001
 neighbor 8.8.8.3 update-source Loopback0
 no auto-summary
!
```

ISP5

```
interface Loopback0
 ip address 8.8.8.5 255.255.255.255
!
interface FastEthernet0/0
 ip address 8.1.8.1 255.255.255.252
 duplex auto
 speed auto
!
interface FastEthernet0/1
 ip address 8.1.6.2 255.255.255.252
 duplex auto
 speed auto
!
router ospf 65001
 log-adjacency-changes
 network 8.1.6.0 0.0.0.3 area 0
 network 8.8.8.5 0.0.0.0 area 0
!
router bgp 65001
 no synchronization
 bgp log-neighbor-changes
 network 8.1.6.0 mask 255.255.255.252
 network 8.1.8.0 mask 255.255.255.252
 network 8.8.8.5 mask 255.255.255.255
 neighbor 8.1.8.2 remote-as 65002
 neighbor 8.1.8.2 default-originate
 neighbor 8.8.8.3 remote-as 65001
 neighbor 8.8.8.3 update-source Loopback0
 no auto-summary
```