

BGP Confederation prevede ad un meccanismo di break-down di un AS (Autonomous System) in sotto differenti AS (sub Autonomous System) ognuno dei quali opera come un vero e tipico AS like sia per iBGP (internal connection BGP) che per eBGP (external connection BGP) confederation peers.

Le differenze tra un normale AS ed un confederation BGP sub-AS consiste principalmente:

- Solo i peer che sono all'interno del sub-AS devono essere completamente full-mesh;
- Confederation eBGP peers possono annunciare iBGP peers;
- Confederation eBGP peers considera il valore di TTL come una "normale" eBGP connection (default set to 1);
- Confederation eBGP peers agisce come una "normale" iBGP connection NON cambia il next-hop attribute

Esempio di configurazione BGP Confederation:

R1

```
interface GigabitEthernet0/0
ip address 10.10.10.1 255.255.255.0
```

```
interface Loopback0
ip address 100.100.100.1 255.255.255.0
```

```
router bgp 10
  bgp log-neighbor-changes
  neighbor 10.10.10.2 remote-as 20
  network 100.100.100.0
```

```
ip route 0.0.0.0 0.0.0.0 10.10.10.2
```

R2

```
interface GigabitEthernet0/0
ip address 10.10.10.2 255.255.255.0
```

```
interface GigabitEthernet0/1
ip address 20.20.20.1 255.255.255.0
```

```
router bgp 65001
  bgp log-neighbor-changes
  bgp confederation identifier 20
  bgp confederation peers 65002
  neighbor 10.10.10.1 remote-as 10
  neighbor 20.20.20.2 remote-as 65002
```

R3

```
interface GigabitEthernet0/0  
ip address 20.20.20.2 255.255.255.0
```

```
interface GigabitEthernet0/0  
ip address 30.30.30.1 255.255.255.0
```

router bgp 65002

```
bgp log-neighbor-changes
```

```
bgp confederation identifier 20
```

```
bgp confederation peers 65001
```

```
neighbor 20.20.20.1 remote-as 65001
```

```
neighbor 30.30.30.2 remote-as 65002
```

R4

```
interface GigabitEthernet0/0  
ip address 30.30.30.2 255.255.255.0
```

```
interface Loopback0  
ip address 200.200.200.1 255.255.255.0
```

router bgp 65002

```
bgp log-neighbor-changes
```

```
bgp confederation identifier 20
```

```
neighbor 30.30.30.1 remote-as 65002
```

```
network 200.200.200.0 mask 255.255.255.0
```