

```
R7:
ip prefix-list AGGR-prefx-AS200 seq 5 permit 20.1.0.0/16
!
ip prefix-list IM-AS200 seq 5 permit 20.1.3.0/24
ip prefix-list IM-AS200 seq 10 permit 20.1.4.0/24
!

ip prefix-list ROUTE-SRC-AS200 seq 5 permit 10.47.1.4/32
!

route-map AS200-Exist-map permit 10
match ip address prefix-list AGGR-prefx-AS200
match ip route-source prefix-list ROUTE-SRC-AS200
!
!
route-map AS200_IM permit 10
set ip address prefix-list IM-AS200
set origin igp

router bgp 400
bgp inject-map AS200_IM exist-map AS200-Exist-map
exit
```

```
ip prefix-list AGGR-prefix-AS300 seq 5 permit 20.1.0.0/16
!
ip prefix-list IM-AS300 seq 5 permit 20.1.1.0/24
ip prefix-list IM-AS300 seq 10 permit 20.1.2.0/24
!
ip prefix-list ROUTE-SRC-AS300 seq 5 permit 10.67.1.6/32
!
route-map AS300-Exist-map permit 10
match ip address prefix-list AGGR-prefix-AS300
match ip route-source prefix-list ROUTE-SRC-AS300

route-map AS300_IM permit 10
set ip address prefix-list IM-AS300
set origin igp

router bgp 400
bgp inject-map AS200_IM exist-map AS200-Exist-map
bgp inject-map AS300_IM exist-map AS300-Exist-map
exit
```


ORF route filtering

```
R1
router bgp 100
  bgp router-id 1.1.1.1
  neighbor 10.12.1.2 remote-as 100
  neighbor 10.12.1.2 capability orf prefix-list send
  neighbor 10.12.1.2 prefix-list ORF-10-7-7-0 in
exit

ip prefix-list ORF-10-7-7-0 seq 5 deny 10.7.7.0/24
ip prefix-list ORF-10-7-7-0 seq 10 permit 0.0.0.0/0 le 32
exit
```

```
clear ip bgp * soft in prefix-filter
```

```
R2:
```

```
router bgp 100  
neig 10.12.1.1 capability orf prefix-list receive  
exit
```

```
R2(config-router)#do sh ip bgp neig 10.12.1.1 received prefix-filter  
Address family: IPv4 Unicast  
ip prefix-list 10.12.1.1: 2 entries  
  seq 5 deny 10.7.7.0/24  
  seq 10 permit 0.0.0.0/0 le 32  
exit
```

```
-----  
R1
```

```
conf t  
int e0/0  
ip add 10.12.1.1 255.255.255.0  
no sh  
int e0/1  
ip add 10.13.1.1 255.255.255.0  
no sh  
int lo 0  
ip add 1.1.1.1 255.0.0.0  
exit
```

```
router bgp 100  
neig 10.12.1.2 remote-as 200  
neig 10.13.1.3 remote-as 200  
net 1.0.0.0  
exit
```

```
R2
```

```
conf t  
int e0/0  
ip add 10.12.1.2 255.255.255.0  
no sh  
int e0/1  
ip add 10.24.1.2 255.255.255.0  
no sh  
exit
```

```
router bgp 200  
neig 10.12.1.1 remote-as 100  
neig 10.24.1.4 remote-as 400  
exit
```

```
R3:
```

```
conf t  
int e0/0  
ip add 10.13.1.3 255.255.255.0  
no sh  
int e0/1  
ip add 10.35.1.3 255.255.255.0  
no sh
```

```
exit
```

```
router bgp 200  
neig 10.13.1.1 remote-as 100  
neig 10.35.1.5 remote-as 400  
exit
```

```
R4:
```

```
conf t  
int e0/0  
ip add 10.24.1.4 255.255.255.0  
no sh  
int e0/1  
ip add 10.46.1.4 255.255.255.0  
no sh  
exit
```

```
router bgp 400  
neig 10.24.1.2 remote-as 200  
neig 10.46.1.6 remote-as 400  
exit
```

```
R5:
```

```
conf t  
int e0/0  
ip add 10.35.1.5 255.255.255.0  
no sh  
int e0/1  
ip add 10.56.1.5 255.255.255.0  
no sh  
exit
```

```
router bgp 400  
neig 10.35.1.3 remote-as 200  
neig 10.56.1.6 remote-as 400  
exit
```

```
R6:
```

```
conf t  
int e0/0  
ip add 10.46.1.6 255.255.255.0  
no sh  
int e0/1  
ip add 10.56.1.6 255.255.255.0  
no sh  
int lo 0  
ip add 6.6.6.6 255.0.0.0  
exit
```

```
router bgp 400  
neig 10.46.1.4 remote-as 400  
neig 10.56.1.5 remote-as 400  
net 6.0.0.0  
exit
```

```
R1: BGP dmzLink-BW
```

```
int e0/0
bandwidth 20000
int e0/1
bandwidth 10000
exit
```

```
router bgp 100
  bgp log-neighbor-changes
  bgp dmzlink-bw
  network 1.0.0.0
  neighbor 10.12.1.2 remote-as 200
  neighbor 10.12.1.2 send-community both
  neighbor 10.12.1.2 dmzlink-bw
  neighbor 10.13.1.3 remote-as 200
  neighbor 10.13.1.3 send-community both
  neighbor 10.13.1.3 dmzlink-bw
  maximum-paths 2
exit
```

```
sh ip bgp
*m 6.0.0.0          10.13.1.3          0 200 400 i
*>                10.12.1.2          0 200 400 i
```

```
B      6.0.0.0/8 [20/0] via 10.13.1.3, 00:03:05
        [20/0] via 10.12.1.2, 00:03:05
```

```
R1(config)#do sh ip route 6.0.0.0
Routing entry for 6.0.0.0/8
  Known via "bgp 100", distance 20, metric 0
  Tag 200, type external
  Last update from 10.12.1.2 00:03:21 ago
  Routing Descriptor Blocks:
  * 10.13.1.3, from 10.13.1.3, 00:03:21 ago
    Route metric is 0, traffic share count is 1
    AS Hops 2
    Route tag 200
    MPLS label: none
  10.12.1.2, from 10.12.1.2, 00:03:21 ago
    Route metric is 0, traffic share count is 2
    AS Hops 2
    Route tag 200
    MPLS label: none
```

BGP Redistribution
=====

R2:

```
router bgp 100
  bgp redistribute-internal
  redistribute ospf 1 match internal external 1 external 2
  neighbor 10.12.1.1 remote-as 100
exit
```

