AS3 Prefixe réseau 76.0.0.0/16

Réseau MPLS

R1	CR3-01	CE1	CE3-01
R2	CR3-02	CE2	CE3-02
R3	CR3-03	CE3	CE3-03
R4	CR3-04	CE4	CE3-04
R5	CR3-05	CE5	CE3-05
R6	CR3-06	CE6	CE3-06
R7	ER3-07	CE7	CE3-07
R8	ER3-08	CE8	CE3-08
R9	CR3-09	CE9	CE3-09
R10	CR3-10	CE10	CE3-10
R11	ER3-11	CE11	CE3-11
R12	ER3-12	CE12	CE3-12
R13	ER3-13	CE13	CE3-13
R14	CR3-14	CE14	CE3-14
R15	ER3-15	CE15	CE3-15
R16	CR3-16	CE16	CE3-16
R17	ER3-17	CE17	CE3-17
R18	CR3-18	CE18	CE3-18
R19	ER3-19	CE19	CE3-19
R20	ER3-20	CE20	CE3-20
R21	CR3-21	CE21	CE3-21
		CE22	CE3-22
		CE23	CE3-23

LIEN R3 R20 76.0.0.102 FAUX
76.0.0.104
LIEN R3 R17 76.0.0.108 FAUX
76.0.0.144
LIEN R6 R9 76.0.0.104 FAUX
76.0.0.148
LIEN R14 R17 76.0.0.120 FAUX
76.0.0.152

		p1/0	p2/0	p3/0	p4/0	p5/0	p6/0	Loopback
R1	CR3-01	76.0.0.141	76.0.0.13	76.0.0.109	76.0.0.97	76.0.0.101		3.0.113.1
R2	CR3-02	76.0.0.17	76.0.0.33	76.0.0.53	76.0.0.49	76.0.0.57		3.0.113.2
R3	CR3-03	76.0.0.102	76.0.0.105	76.0.0.93	76.0.0.89	76.0.0.145		3.0.113.3
R4	CR3-04	76.0.0.85	76.0.0.58	76.0.0.61	76.0.0.73	76.0.0.81		3.0.113.4
R5	CR3-05	76.0.0.98	76.0.0.86	76.0.0.94				3.0.113.5
R6	CR3-06	76.0.0.29	76.0.0.149	76.0.0.41				3.0.113.6
R7	ER3-07			76.0.0.42	76.0.0.45	76.0.0.50	76.0.0.69	3.0.103.7
R8	ER3-08			76.0.0.25	76.0.0.30			3.0.103.8
R9	CR3-09	76.0.0.21	76.0.0.26	76.0.0.34	76.0.0.150	76.0.0.37		3.0.113.9
R10	CR3-10	76.0.0.5	76.0.0.9	76.0.0.18	76.0.0.14			3.0.113.10
R11	ER3-11			76.0.0.6	76.0.0.142			3.0.103.11
R12	ER3-12			76.0.0.10	76.0.0.22			3.0.103.12
R13	ER3-13			76.0.0.74	76.0.0.121	76.0.0.77		3.0.103.13
R14	CR3-14	76.0.0.122	76.0.0.153	76.0.0.117	76.0.0.129	76.0.0.125		3.0.113.14
R15	ER3-15			76.0.0.126	76.0.0.137			3.0.103.15
R16	CR3-16	76.0.0.82	76.0.0.90	76.0.0.113	76.0.0.118			3.0.113.16
R17	ER3-17			76.0.0.114	76.0.0.154	76.0.0.133	76.0.0.146	3.0.103.17

R18	CR3-18			76.0.0.134	76.0.0.130	76.0.0.138		3.0.113.18
R19	ER3-19			76.0.0.78	76.0.0.65	76.0.0.70		3.0.103.19
R20	ER3-20			76.0.0.110	76.0.0.106			3.0.103.20
R21	CR3-21	76.0.0.46	76.0.0.54	76.0.0.38	76.0.0.62	76.0.0.66		3.0.113.21

		Processus 1	Processus 2	Processus 3	Processus 4	Processus 5	Processus 6	Processus 7
R1	CR3-01	3.1.1.1						3.7.0.1
R2	CR3-02	3.1.1.2						3.7.0.2
R3	CR3-03	3.1.1.3						3.7.0.3
R4	CR3-04	3.1.1.4						3.7.0.4
R5	CR3-05	3.1.1.5						3.7.0.5
R6	CR3-06	3.1.1.6						3.7.0.6
R7	ER3-07	3.1.0.7	3.2.0.7	3.3.0.7	3.4.0.7	3.5.0.7	3.6.0.7	3.7.0.7
R8	ER3-08	3.1.0.8	3.2.0.8	3.3.0.8	3.4.0.8	3.5.0.8	3.6.0.8	3.7.0.8
R9	CR3-09	3.1.1.9						3.7.0.9
R10	CR3-10	3.1.1.10						3.7.0.10
R11	ER3-11	3.1.0.11	3.2.0.11	3.3.0.11	3.4.0.11	3.5.0.11	3.6.0.11	3.7.0.11
R12	ER3-12	3.1.0.12	3.2.0.12	3.3.0.12	3.4.0.12	3.5.0.12	3.6.0.12	3.7.0.12
R13	ER3-13	3.1.0.13	3.2.0.13	3.3.0.13	3.4.0.13	3.5.0.13	3.6.0.13	3.7.0.13
R14	CR3-14	3.1.1.14						3.7.0.14
R15	ER3-15	3.1.0.15	3.2.0.15	3.3.0.15	3.4.0.15	3.5.0.15	3.6.0.15	3.7.0.15
R16	CR3-16	3.1.1.16						3.7.0.16
R17	ER3-17	3.1.0.17	3.2.0.17	3.3.0.17	3.4.0.17	3.5.0.17	3.6.0.17	3.7.0.17
R18	CR3-18	3.1.1.18						3.7.0.18
R19	ER3-19	3.1.0.19	3.2.0.19	3.3.0.19	3.4.0.19	3.5.0.19	3.6.0.19	3.7.0.19
R20	ER3-20	3.1.0.20	3.2.0.20	3.3.0.20	3.4.0.20	3.5.0.20	3.6.0.20	3.7.0.20

R21	CR3-21	3.1.1.21					**3.7.0.21**
CE1	**CE3-01**		3.2.1.1				**3.7.1.1**
CE2	**CE3-02**			3.3.1.2			**3.7.1.2**
CE3	**CE3-03**				3.4.1.3		**3.7.1.3**
CE4	**CE3-04**					3.5.1.4	**3.7.1.4**
CE5	**CE3-05**						3.6.1.5	**3.7.1.5**
CE6	**CE3-06**						3.6.1.6	**3.7.1.6**
CE7	**CE3-07**		3.2.1.7				**3.7.1.7**
CE8	**CE3-08**			3.3.1.8			**3.7.1.8**
CE9	**CE3-09**		3.2.1.9				**3.7.1.9**
CE10	**CE3-10**				3.4.1.10		**3.7.1.10**
CE11	**CE3-11**			3.3.1.11			**3.7.1.11**
CE12	**CE3-12**					3.5.1.12	**3.7.1.12**
CE13	**CE3-13**		3.2.1.13				**3.7.1.13**
CE14	**CE3-14**						3.6.1.14	**3.7.1.14**
CE15	**CE3-15**					3.5.1.15	**3.7.1.15**
CE16	**CE3-16**			3.3.1.16			**3.7.1.16**
CE17	**CE3-17**				3.4.1.17		**3.7.1.17**
CE18	**CE3-18**		3.2.1.18				**3.7.1.18**
CE19	**CE3-19**					3.5.1.19	**3.7.1.19**
CE20	**CE3-20**						3.6.1.20	**3.7.1.20**
CE21	**CE3-21**					3.5.1.21	**3.7.1.21**
CE22	**CE3-22**			3.3.1.22			**3.7.1.22**
CE23	**CE3-23**		3.2.1.23				**3.7.1.23**

		f0/0.1	f0/0.2	f1/0.1	f1/0.2	f1/1.1	f1/1.2	f2/0.1	f2/0.2	f2/1.1	f2/1.2
CE1	CE3-01	76.0.1.1	76.0.10.1								
CE2	CE3-02	76.0.1.1	76.0.10.5								
CE3	CE3-03	76.0.1.1	76.0.10.9								
CE4	CE3-04	76.0.1.1	76.0.10.13								
CE5	CE3-05	76.0.1.1	76.0.10.17								

CE6	CE3-06	76.0.1.5	76.0.10.21								
CE7	CE3-07	76.0.1.5	76.0.10.25								
CE8	CE3-08	76.0.1.5	76.0.10.29								
CE9	CE3-09	76.0.1.9	76.0.10.33								
CE10	CE3-10	76.0.1.9	76.0.10.37								
CE11	CE3-11	76.0.1.9	76.0.10.41								
CE12	CE3-12	76.0.1.9	76.0.10.45								
CE13	CE3-13	76.0.1.13	76.0.10.49								
CE14	CE3-14	76.0.1.13	76.0.10.53								
CE15	CE3-15	76.0.1.13	76.0.10.57								
CE16	CE3-16	76.0.1.17	76.0.10.61								
CE17	CE3-17	76.0.1.17	76.0.10.65								
CE18	CE3-18	76.0.1.21	76.0.10.69								
CE19	CE3-19	76.0.1.21	76.0.10.73								
CE20	CE3-20	76.0.1.21	76.0.10.77								
CE21	CE3-21	76.0.1.25	76.0.10.81								
CE22	CE3-22	76.0.1.25	76.0.10.85								
CE23	CE3-23	76.0.1.25	76.0.10.89								
R7	ER3-07	76.0.1.14	76.0.10.50					76.0.1.14	76.0.10.58	76.0.1.14	76.0.10.54
R8	ER3-08	76.0.1.10	76.0.10.34	76.0.1.10	76.0.10.38	76.0.1.10	76.0.10.42	76.0.1.10	76.0.10.46		
R11	ER3-11	76.0.1.2	76.0.10.2	76.0.1.2	76.0.10.6	76.0.1.2	76.0.10.10	76.0.1.2	76.0.10.14	76.0.1.2	76.0.10.18
R12	ER3-1	76.0.1.	76.0.1	76.0.1.	76.0.1	76.0.1.	76.0.1				

	2	6	0.22	6	0.26	6	0.30				
R13	ER3-13	76.0.1.22	76.0.10.70	76.0.1.22	76.0.10.74	76.0.1.22	76.0.10.78				
R15	ER3-15	30.0.0.5									
R17	ER3-17	76.0.1.26	76.0.10.90	76.0.1.26	76.0.10.82	76.0.1.26	76.0.10.86				
R19	ER3-19	76.0.1.18	76.0.10.62	76.0.1.18	76.0.10.66						
R20	ER3-20	76.0.0.1									

VPNA	VPN 1 (3:1)	OSPF 2	CE1	CE7	CE9	CE13	CE18	CE23
VPNB	VPN 2 (3:2)	OSPF 3	CE2	CE8	CE11	CE16	CE22	
VPNC	VPN 3 (3:3)	OSPF 4	CE3	CE10	CE17			
VPND	VPN 4 (3:4)	OSPF 5	CE4	CE12	CE15	CE19	CE21	
VPNE	VPN 5 (3:5)	OSPF 6	CE5	CE6	CE14	CE20		

BGP

IPConfig
R1 :

conf t
hostname CR3-01
ip cef
int p1/0
no shut
mpls ip
ip addr 76.0.0.141 255.255.255.252
exit
int p2/0
no shut
mpls ip
ip addr 76.0.0.13 255.255.255.252
exit
int p3/0
no shut
mpls ip

```
ip addr 76.0.0.109 255.255.255.252
exit
int p4/0
no shut
mpls ip
ip addr 76.0.0.97 255.255.255.252
exit
int p5/0
no shut
mpls ip
ip addr 76.0.0.101 255.255.255.252
exit
int lo 0
ip addr 3.0.113.1 255.255.255.255
exit
router ospf 1
router-id 3.1.1.1
network 3.0.113.1 0.0.0.0 area 0
network 76.0.0.140 0.0.0.3 area 0
network 76.0.0.12 0.0.0.3 area 0
network 76.0.0.108 0.0.0.3 area 0
network 76.0.0.100 0.0.0.3 area 0
network 76.0.0.96 0.0.0.3 area 0
exit




R2 :

conf t
hostname CR3-02
ip cef
int p1/0
no shut
mpls ip
ip addr 76.0.0.17 255.255.255.252
exit
int p2/0
no shut
mpls ip
ip addr 76.0.0.33 255.255.255.252
exit
int p3/0
no shut
mpls ip
ip addr 76.0.0.53 255.255.255.252
exit
int p4/0
```

```
no shut
mpls ip
ip addr 76.0.0.49 255.255.255.252
exit
int p5/0
no shut
mpls ip
ip addr 76.0.0.57 255.255.255.252
exit
int lo 0
ip addr 3.0.113.2 255.255.255.255
exit
router ospf 1
router-id 3.1.1.2
network 3.0.113.2 0.0.0.0 area 0
network 76.0.0.16 0.0.0.3 area 0
network 76.0.0.56 0.0.0.3 area 0
network 76.0.0.52 0.0.0.3 area 0
network 76.0.0.48 0.0.0.3 area 0
network 76.0.0.32 0.0.0.3 area 0
exit


R3 :

conf t
hostname CR3-03
ip cef
int p1/0
no shut
mpls ip
ip addr 76.0.0.102 255.255.255.252
exit
int p2/0
no shut
mpls ip
ip addr 76.0.0.105 255.255.255.252
exit
int p3/0
no shut
mpls ip
ip addr 76.0.0.93 255.255.255.252
exit
int p4/0
no shut
mpls ip
ip addr 76.0.0.89 255.255.255.252
exit
```

```
int p5/0
no shut
mpls ip
ip addr 76.0.0.145 255.255.255.252
exit
int lo 0
ip addr 3.0.113.3 255.255.255.255
exit
router ospf 1
router-id 3.1.1.3
network 3.0.113.3 0.0.0.0 area 0
network 76.0.0.100 0.0.0.3 area 0
network 76.0.0.104 0.0.0.3 area 0
network 76.0.0.92 0.0.0.3 area 0
network 76.0.0.88 0.0.0.3 area 0
network 76.0.0.144 0.0.0.3 area 0
exit
```

R4 :

```
conf t
hostname CR3-04
ip cef
int p1/0
no shut
mpls ip
ip addr 76.0.0.85 255.255.255.252
ex
int p2/0
no shut
mpls ip
ip addr 76.0.0.58 255.255.255.252
ex
int p3/0
no shut
mpls ip
ip addr 76.0.0.61 255.255.255.252
ex
int p4/0
no shut
mpls ip
ip addr 76.0.0.73 255.255.255.252
ex
int p5/0
no shut
mpls ip
```

```
ip addr 76.0.0.81 255.255.255.252
ex
int lo 0
ip addr 3.0.113.4 255.255.255.255
exit
router ospf 1
router-id 3.1.1.4
network 3.0.113.4 0.0.0.0 area 0
network 76.0.0.84 0.0.0.3 area 0
network 76.0.0.80 0.0.0.3 area 0
network 76.0.0.72 0.0.0.3 area 0
network 76.0.0.60 0.0.0.3 area 0
network 76.0.0.56 0.0.0.3 area 0
exit
```

R5 :

```
conf t
hostname CR3-05
ip cef
int p1/0
no shut
mpls ip
ip addr 76.0.0.98 255.255.255.252
ex
int p2/0
no shut
mpls ip
ip addr 76.0.0.86 255.255.255.252
ex
int p3/0
no shut
mpls ip
ip addr 76.0.0.94 255.255.255.252
ex
int lo 0
ip addr 3.0.113.5 255.255.255.255
exit
router ospf 1
router-id 3.1.1.5
network 3.0.113.5 0.0.0.0 area 0
network 76.0.0.96 0.0.0.3 area 0
network 76.0.0.92 0.0.0.3 area 0
network 76.0.0.84 0.0.0.3 area 0
exit
```

R6 :

```
conf t
hostname CR3-06
ip cef
int p1/0
no shut
mpls ip
ip addr 76.0.0.29 255.255.255.252
ex
int p2/0
no shut
mpls ip
ip addr 76.0.0.149 255.255.255.252
ex
int p3/0
no shut
mpls ip
ip addr 76.0.0.41 255.255.255.252
ex
int lo 0
ip addr 3.0.113.6 255.255.255.255
exit
router ospf 1
router-id 3.1.1.6
network 3.0.113.6 0.0.0.0 area 0
network 76.0.0.28 0.0.0.3 area 0
network 76.0.0.148 0.0.0.3 area 0
network 76.0.0.40 0.0.0.3 area 0
exit
```

R7 :

```
conf t
hostname ER3-07
ip cef
int p3/0
no shut
mpls ip
ip addr 76.0.0.42 255.255.255.252
ex
int p4/0
no shut
mpls ip
```

```
ip addr 76.0.0.45 255.255.255.252
ex
int p5/0
no shut
mpls ip
ip addr 76.0.0.50 255.255.255.252
ex
int p6/0
no shut
mpls ip
ip addr 76.0.0.69 255.255.255.252
ex
int lo 0
ip addr 3.0.103.7 255.255.255.255
exit
router ospf 1
router-id 3.1.0.7
network 3.0.103.7 0.0.0.0 area 0
network 76.0.0.68 0.0.0.3 area 0
network 76.0.0.44 0.0.0.3 area 0
network 76.0.0.48 0.0.0.3 area 0
network 76.0.0.40 0.0.0.3 area 0
exit


R8 :

conf t
hostname ER3-08
ip cef
int p3/0
no shut
mpls ip
ip addr 76.0.0.25 255.255.255.252
ex
int p4/0
no shut
mpls ip
ip addr 76.0.0.30 255.255.255.252
ex
int lo 0
ip addr 3.0.103.8 255.255.255.255
exit
router ospf 1
router-id 3.1.0.8
network 3.0.103.8 0.0.0.0 area 0
network 76.0.0.24 0.0.0.3 area 0
```

```
network 76.0.0.28 0.0.0.3 area 0
exit



R9 :

conf t
hostname CR3-09
ip cef
int p1/0
no shut
mpls ip
ip addr 76.0.0.21 255.255.255.252
ex
int p2/0
no shut
mpls ip
ip addr 76.0.0.26 255.255.255.252
ex
int p3/0
no shut
mpls ip
ip addr 76.0.0.34 255.255.255.252
ex
int p4/0
no shut
mpls ip
ip addr 76.0.0.150 255.255.255.252
ex
int p5/0
no shut
mpls ip
ip addr 76.0.0.37 255.255.255.252
ex
int lo 0
ip addr 3.0.113.9 255.255.255.255
exit
router ospf 1
router-id 3.1.1.9
network 3.0.113.9 0.0.0.0 area 0
network 76.0.0.20 0.0.0.3 area 0
network 76.0.0.24 0.0.0.3 area 0
network 76.0.0.148 0.0.0.3 area 0
network 76.0.0.36 0.0.0.3 area 0
network 76.0.0.32 0.0.0.3 area 0
exit
```

R10 :

```
conf t
hostname CR3-10
ip cef
int p1/0
no shut
mpls ip
ip addr 76.0.0.5 255.255.255.252
ex
int p2/0
no shut
mpls ip
ip addr 76.0.0.9 255.255.255.252
ex
int p3/0
no shut
mpls ip
ip addr 76.0.0.18 255.255.255.252
ex
int p4/0
no shut
mpls ip
ip addr 76.0.0.14 255.255.255.252
ex
int lo 0
ip addr 3.0.113.10 255.255.255.255
exit
router ospf 1
router-id 3.1.1.10
network 3.0.113.10 0.0.0.0 area 0
network 76.0.0.4 0.0.0.3 area 0
network 76.0.0.12 0.0.0.3 area 0
network 76.0.0.8 0.0.0.3 area 0
network 76.0.0.16 0.0.0.3 area 0
exit
```

R11 :

```
conf t
hostname ER3-11
ip cef
int p3/0
no shut
```

```
mpls ip
ip addr 76.0.0.6 255.255.255.252
ex
int p4/0
no shut
mpls ip
ip addr 76.0.0.142 255.255.255.252
ex
int lo 0
ip addr 3.0.103.11 255.255.255.255
exit
router ospf 1
router-id 3.1.0.11
network 3.0.103.11 0.0.0.0 area 0
network 76.0.0.140 0.0.0.3 area 0
network 76.0.0.4 0.0.0.3 area 0
exit
```

R12 :

```
conf t
hostname ER3-12
ip cef
int p3/0
no shut
mpls ip
ip addr 76.0.0.10 255.255.255.252
ex
int p4/0
no shut
mpls ip
ip addr 76.0.0.22 255.255.255.252
ex
int lo 0
ip addr 3.0.103.12 255.255.255.255
exit
router ospf 1
router-id 3.1.0.12
network 3.0.103.12 0.0.0.0 area 0
network 76.0.0.8 0.0.0.3 area 0
network 76.0.0.20 0.0.0.3 area 0
exit
```

R13 :

```
conf t
hostname ER3-13
ip cef
int p3/0
no shut
mpls ip
ip addr 76.0.0.74 255.255.255.252
ex
int p4/0
no shut
mpls ip
ip addr 76.0.0.121 255.255.255.252
ex
int p5/0
no shut
mpls ip
ip addr 76.0.0.77 255.255.255.252
ex
int lo 0
ip addr 3.0.103.13 255.255.255.255
exit
router ospf 1
router-id 3.1.0.13
network 3.0.103.13 0.0.0.0 area 0
network 76.0.0.76 0.0.0.3 area 0
network 76.0.0.72 0.0.0.3 area 0
network 76.0.0.120 0.0.0.3 area 0
exit
```

R14 :

```
conf t
hostname CR3-14
ip cef
int p1/0
no shut
mpls ip
ip addr 76.0.0.122 255.255.255.252
ex
int p2/0
no shut
mpls ip
ip addr 76.0.0.153 255.255.255.252
ex
int p3/0
```

```
no shut
mpls ip
ip addr 76.0.0.117 255.255.255.252
ex
int p4/0
no shut
mpls ip
ip addr 76.0.0.129 255.255.255.252
ex
int p5/0
no shut
mpls ip
ip addr 76.0.0.125 255.255.255.252
ex
int lo 0
ip addr 3.0.113.14 255.255.255.255
exit
router ospf 1
router-id 3.1.1.14
network 3.0.113.14 0.0.0.0 area 0
network 76.0.0.116 0.0.0.3 area 0
network 76.0.0.152 0.0.0.3 area 0
network 76.0.0.128 0.0.0.3 area 0
network 76.0.0.124 0.0.0.3 area 0
network 76.0.0.120 0.0.0.3 area 0
exit




R15 :

conf t
hostname ER3-15
ip cef
int p3/0
no shut
mpls ip
ip addr 76.0.0.126 255.255.255.252
ex
int p4/0
no shut
mpls ip
ip addr 76.0.0.137 255.255.255.252
ex
int lo 0
ip addr 3.0.103.15 255.255.255.255
exit
router ospf 1
```

router-id 3.1.0.15
network 3.0.103.15 0.0.0.0 area 0
network 76.0.0.124 0.0.0.3 area 0
network 76.0.0.136 0.0.0.3 area 0
exit

R16 :

conf t
hostname CR3-16
ip cef
int p1/0
no shut
mpls ip
ip addr 76.0.0.82 255.255.255.252
ex
int p2/0
no shut
mpls ip
ip addr 76.0.0.90 255.255.255.252
ex
int p3/0
no shut
mpls ip
ip addr 76.0.0.113 255.255.255.252
ex
int p4/0
no shut
mpls ip
ip addr 76.0.0.118 255.255.255.252
ex
int lo 0
ip addr 3.0.113.16 255.255.255.255
exit
router ospf 1
router-id 3.1.1.16
network 3.0.113.16 0.0.0.0 area 0
network 76.0.0.112 0.0.0.3 area 0
network 76.0.0.88 0.0.0.3 area 0
network 76.0.0.80 0.0.0.3 area 0
network 76.0.0.116 0.0.0.3 area 0
exit

R17 :

```
conf t
hostname ER3-17
ip cef
int p3/0
no shut
mpls ip
ip addr 76.0.0.114 255.255.255.252
ex
int p4/0
no shut
mpls ip
ip addr 76.0.0.154 255.255.255.252
ex
int p5/0
no shut
mpls ip
ip addr 76.0.0.133 255.255.255.252
ex
int p6/0
no shut
mpls ip
ip addr 76.0.0.146 255.255.255.252
ex
int lo 0
ip addr 3.0.103.17 255.255.255.255
exit
router ospf 1
router-id 3.1.0.17
network 3.0.103.17 0.0.0.0 area 0
network 76.0.0.112 0.0.0.3 area 0
network 76.0.0.132 0.0.0.3 area 0
network 76.0.0.152 0.0.0.3 area 0
network 76.0.0.144 0.0.0.3 area 0
exit
```

R18 :

```
conf t
hostname CR3-18
ip cef
int p3/0
no shut
mpls ip
ip addr 76.0.0.134 255.255.255.252
ex
```

```
int p4/0
no shut
mpls ip
ip addr 76.0.0.130 255.255.255.252
ex
int p5/0
no shut
mpls ip
ip addr 76.0.0.138 255.255.255.252
ex
int lo 0
ip addr 3.0.113.18 255.255.255.255
exit
router ospf 1
router-id 3.1.1.18
network 3.0.113.18 0.0.0.0 area 0
network 76.0.0.132 0.0.0.3 area 0
network 76.0.0.128 0.0.0.3 area 0
network 76.0.0.136 0.0.0.3 area 0
exit
```

R19 :

```
conf t
hostname ER3-19
ip cef
int p3/0
no shut
mpls ip
ip addr 76.0.0.78 255.255.255.252
ex
int p4/0
no shut
mpls ip
ip addr 76.0.0.65 255.255.255.252
ex
int p5/0
no shut
mpls ip
ip addr 76.0.0.70 255.255.255.252
ex
int lo 0
ip addr 3.0.103.19 255.255.255.255
exit
router ospf 1
router-id 3.1.0.19
```

```
network 3.0.103.19 0.0.0.0 area 0
network 76.0.0.68 0.0.0.3 area 0
network 76.0.0.64 0.0.0.3 area 0
network 76.0.0.76 0.0.0.3 area 0
exit
```

R20 :

```
conf t
hostname ER3-20
ip cef
int p3/0
no shut
mpls ip
ip addr 76.0.0.110 255.255.255.252
ex
int p4/0
no shut
mpls ip
ip addr 76.0.0.106 255.255.255.252
ex
int lo 0
ip addr 3.0.103.20 255.255.255.255
exit
router ospf 1
router-id 3.1.0.20
network 3.0.103.20 0.0.0.0 area 0
network 76.0.0.108 0.0.0.3 area 0
network 76.0.0.104 0.0.0.3 area 0
exit
```

R21 :

```
conf t
hostname CR3-21
ip cef
int p1/0
no shut
mpls ip
ip addr 76.0.0.46 255.255.255.252
ex
int p2/0
no shut
mpls ip
```

```
ip addr 76.0.0.54 255.255.255.252
ex
int p3/0
no shut
mpls ip
ip addr 76.0.0.38 255.255.255.252
ex
int p4/0
no shut
mpls ip
ip addr 76.0.0.62 255.255.255.252
ex
int p5/0
no shut
mpls ip
ip addr 76.0.0.66 255.255.255.252
ex
int lo 0
ip addr 3.0.113.21 255.255.255.255
exit
router ospf 1
router-id 3.1.1.21
network 3.0.113.21 0.0.0.0 area 0
network 76.0.0.60 0.0.0.3 area 0
network 76.0.0.36 0.0.0.3 area 0
network 76.0.0.52 0.0.0.3 area 0
network 76.0.0.44 0.0.0.3 area 0
network 76.0.0.64 0.0.0.3 area 0
exit
```

CE1 :

```
conf t
hostname CE3-01
int f0/0
no shut
ip addr 76.0.1.1 255.255.255.252
ex
router ospf 2
network 76.0.1.0 0.0.0.3 area 2
exit
```

CE2 :

```
conf t
hostname CE3-02
int f0/0
no shut
ip addr 76.0.1.1 255.255.255.252
ex
router ospf 3
network 76.0.1.0 0.0.0.3 area 3
exit
```

CE3 :

```
conf t
hostname CE3-03
int f0/0
no shut
ip addr 76.0.1.1 255.255.255.252
ex
router ospf 4
network 76.0.1.0 0.0.0.3 area 4
exit
```

CE4 :

```
conf t
hostname CE3-04
int f0/0
no shut
ip addr 76.0.1.1 255.255.255.252
ex
router ospf 5
network 76.0.1.0 0.0.0.3 area 5
exit
```

CE5 :

```
conf t
hostname CE3-05
int f0/0
no shut
ip addr 76.0.1.1 255.255.255.252
ex
```

```
router ospf 6
network 76.0.1.0 0.0.0.3 area 6
exit




CE6 :

conf t
hostname CE3-06
int f0/0
no shut
ip addr 76.0.2.1 255.255.255.252
ex
router ospf 6
network 76.0.2.0 0.0.0.3 area 6
exit




CE7 :

conf t
hostname CE3-07
int f0/0
no shut
ip addr 76.0.2.1 255.255.255.252
ex
router ospf 2
network 76.0.2.0 0.0.0.3 area 2
exit




CE8 :

conf t
hostname CE3-08
int f0/0
no shut
ip addr 76.0.2.1 255.255.255.252
ex
router ospf 3
network 76.0.2.0 0.0.0.3 area 3
exit
```

CE9 :

```
conf t
hostname CE3-09
int f0/0
no shut
ip addr 76.0.3.1 255.255.255.252
ex
router ospf 2
network 76.0.3.0 0.0.0.3 area 2
exit
```

CE10 :

```
conf t
hostname CE3-10
int f0/0
no shut
ip addr 76.0.3.1 255.255.255.252
ex
router ospf 4
network 76.0.3.0 0.0.0.3 area 4
exit
```

CE11 :

```
conf t
hostname CE3-11
int f0/0
no shut
ip addr 76.0.3.1 255.255.255.252
ex
router ospf 3
network 76.0.3.0 0.0.0.3 area 3
exit
```

CE12 :

```
conf t
hostname CE3-12
int f0/0
no shut
```

```
ip addr 76.0.3.1 255.255.255.252
ex
router ospf 5
network 76.0.3.0 0.0.0.3 area 5
exit
```

CE13 :

```
conf t
hostname CE3-13
int f0/0
no shut
ip addr 76.0.4.1 255.255.255.252
ex
router ospf 2
network 76.0.4.0 0.0.0.3 area 2
exit
```

CE14 :

```
conf t
hostname CE3-14
int f0/0
no shut
ip addr 76.0.4.1 255.255.255.252
ex
router ospf 6
network 76.0.4.0 0.0.0.3 area 6
exit
```

CE15 :

```
conf t
hostname CE3-15
int f0/0
no shut
ip addr 76.0.4.1 255.255.255.252
ex
router ospf 5
network 76.0.4.0 0.0.0.3 area 5
exit
```

CE16 :

```
conf t
hostname CE3-16
int f0/0
no shut
ip addr 76.0.5.1 255.255.255.252
ex
router ospf 3
network 76.0.5.0 0.0.0.3 area 3
exit
```

CE17 :

```
conf t
hostname CE3-17
int f0/0
no shut
ip addr 76.0.5.1 255.255.255.252
ex
router ospf 4
network 76.0.5.0 0.0.0.3 area 4
exit
```

CE18 :

```
conf t
hostname CE3-18
int f0/0
no shut
ip addr 76.0.6.1 255.255.255.252
ex
router ospf 2
network 76.0.6.0 0.0.0.3 area 2
exit
```

CE19 :

```
conf t
hostname CE3-19
```

```
int f0/0
no shut
ip addr 76.0.6.1 255.255.255.252
ex
router ospf 5
network 76.0.6.0 0.0.0.3 area 5
exit
```

CE20 :

```
conf t
hostname CE3-20
int f0/0
no shut
ip addr 76.0.6.1 255.255.255.252
ex
router ospf 6
network 76.0.6.0 0.0.0.3 area 6
exit
```

CE21 :

```
conf t
hostname CE3-21
int f0/0
no shut
ip addr 76.0.7.1 255.255.255.252
ex
router ospf 5
network 76.0.7.0 0.0.0.3 area 5
exit
```

CE22 :

```
conf t
hostname CE3-22
int f0/0
no shut
ip addr 76.0.7.1 255.255.255.252
ex
router ospf 3
network 76.0.7.0 0.0.0.3 area 3
```

exit

CE23 :

```
conf t
hostname CE3-23
int f0/0
no shut
ip addr 76.0.7.1 255.255.255.252
ex
router ospf 2
network 76.0.7.0 0.0.0.3 area 2
exit
```


BGP 👍

ER3-11 :

```
ip vrf vpna
rd 3:1
route-target export 3:11
route-target import 3:12
route-target import 3:8
route-target import 3:7
route-target import 3:17
route-target import 3:13
exit
int f0/0
ip vrf forwarding vpna
ip addr 76.0.1.2 255.255.255.252
exit
ip vrf vpnb
rd 3:2
route-target export 3:11
route-target import 3:12
route-target import 3:8
```

```
route-target import 3:19
route-target import 3:17
exit
int f1/0
ip vrf forwarding vpnb
ip addr 76.0.1.2 255.255.255.252
exit
ip vrf vpnc
rd 3:3
route-target export 3:11
route-target import 3:8
route-target import 3:19
exit
int f1/1
ip vrf forwarding vpnc
ip addr 76.0.1.2 255.255.255.252
exit
ip vrf vpnd
rd 3:4
route-target export 3:11
route-target import 3:8
route-target import 3:7
route-target import 3:13
route-target import 3:17
exit
int f2/0
ip vrf forwarding vpnd
ip addr 76.0.1.2 255.255.255.252
exit
ip vrf vpne
rd 3:5
route-target export 3:11
route-target import 3:12
route-target import 3:7
route-target import 3:13
exit
int f2/1
ip vrf forwarding vpne
ip addr 76.0.1.2 255.255.255.252
exit
router bgp 3
neighbor 3.0.103.7 remote-as 3
neighbor 3.0.103.7 update-source lo 0
neighbor 3.0.103.8 remote-as 3
```

```
neighbor 3.0.103.8 update-source lo 0
neighbor 3.0.103.12 remote-as 3
neighbor 3.0.103.12 update-source lo 0
neighbor 3.0.103.13 remote-as 3
neighbor 3.0.103.13 update-source lo 0
neighbor 3.0.103.15 remote-as 3
neighbor 3.0.103.15 update-source lo 0
neighbor 3.0.103.17 remote-as 3
neighbor 3.0.103.17 update-source lo 0
neighbor 3.0.103.19 remote-as 3
neighbor 3.0.103.19 update-source lo 0
neighbor 3.0.103.20 remote-as 3
neighbor 3.0.103.20 update-source lo 0
no neighbor 3.0.103.7 activate
no neighbor 3.0.103.12 activate
no neighbor 3.0.103.8 activate
no neighbor 3.0.103.13 activate
no neighbor 3.0.103.17 activate
no neighbor 3.0.103.19 activate
address-family vpnv4
neighbor 3.0.103.7 activate
neighbor 3.0.103.7 send-community extended
neighbor 3.0.103.12 activate
neighbor 3.0.103.12 send-community extended
neighbor 3.0.103.8 activate
neighbor 3.0.103.8 send-community extended
neighbor 3.0.103.13 activate
neighbor 3.0.103.13 send-community extended
neighbor 3.0.103.17 activate
neighbor 3.0.103.17 send-community extended
neighbor 3.0.103.19 activate
neighbor 3.0.103.19 send-community extended
exit
address-family ipv4 vrf vpna
redistribute connected
redistribute ospf 2
exit
address-family ipv4 vrf vpnb
redistribute connected
redistribute ospf 3
exit
address-family ipv4 vrf vpnc
redistribute connected
redistribute ospf 4
```

exit
address-family ipv4 vrf vpnd
redistribute connected
redistribute ospf 5
exit
address-family ipv4 vrf vpne
redistribute connected
redistribute ospf 6
exit
router ospf 2 vrf vpna
router-id 3.2.0.11
network 76.0.1.0 0.0.0.3 area 2
redistribute bgp 3 subnets
exit
router ospf 3 vrf vpnb
router-id 3.3.0.11
network 76.0.1.0 0.0.0.3 area 3
redistribute bgp 3 subnets
exit
router ospf 4 vrf vpnc
router-id 3.4.0.11
network 76.0.1.0 0.0.0.3 area 4
redistribute bgp 3 subnets
exit
router ospf 5 vrf vpnd
router-id 3.5.0.11
network 76.0.1.0 0.0.0.3 area 5
redistribute bgp 3 subnets
exit
router ospf 6 vrf vpne
router-id 3.6.0.11
network 76.0.1.0 0.0.0.3 area 6
redistribute bgp 3 subnets
exit

ER3-12 :

ip vrf vpna
rd 3:1

```
route-target export 3:12
route-target import 3:11
route-target import 3:8
route-target import 3:7
route-target import 3:13
route-target import 3:17
exit
int f1/0
ip vrf forwarding vpna
ip addr 76.0.1.6 255.255.255.252
exit
ip vrf vpnb
rd 3:2
route-target export 3:12
route-target import 3:11
route-target import 3:8
route-target import 3:19
route-target import 3:17
exit
int f1/1
ip vrf forwarding vpnb
ip addr 76.0.1.6 255.255.255.252
exit
ip vrf vpne
rd 3:5
route-target export 3:12
route-target import 3:11
route-target import 3:7
route-target import 3:13
exit
int f0/0
ip vrf forwarding vpne
ip addr 76.0.1.6 255.255.255.252
exit
router bgp 3
neighbor 3.0.103.7 remote-as 3
neighbor 3.0.103.7 update-source lo 0
neighbor 3.0.103.8 remote-as 3
neighbor 3.0.103.8 update-source lo 0
neighbor 3.0.103.11 remote-as 3
neighbor 3.0.103.11 update-source lo 0
neighbor 3.0.103.13 remote-as 3
neighbor 3.0.103.13 update-source lo 0
neighbor 3.0.103.15 remote-as 3
```

```
neighbor 3.0.103.15 update-source lo 0
neighbor 3.0.103.17 remote-as 3
neighbor 3.0.103.17 update-source lo 0
neighbor 3.0.103.19 remote-as 3
neighbor 3.0.103.19 update-source lo 0
neighbor 3.0.103.20 remote-as 3
neighbor 3.0.103.20 update-source lo 0
no neighbor 3.0.103.7 activate
no neighbor 3.0.103.11 activate
no neighbor 3.0.103.8 activate
no neighbor 3.0.103.13 activate
no neighbor 3.0.103.17 activate
no neighbor 3.0.103.19 activate
address-family vpnv4
neighbor 3.0.103.7 activate
neighbor 3.0.103.7 send-community extended
neighbor 3.0.103.11 activate
neighbor 3.0.103.11 send-community extended
neighbor 3.0.103.8 activate
neighbor 3.0.103.8 send-community extended
neighbor 3.0.103.13 activate
neighbor 3.0.103.13 send-community extended
neighbor 3.0.103.17 activate
neighbor 3.0.103.17 send-community extended
neighbor 3.0.103.19 activate
neighbor 3.0.103.19 send-community extended
exit
address-family ipv4 vrf vpna
redistribute connected
redistribute ospf 2
exit
address-family ipv4 vrf vpnb
redistribute connected
redistribute ospf 3
exit
address-family ipv4 vrf vpne
redistribute connected
redistribute ospf 6
exit
router ospf 2 vrf vpna
router-id 3.2.0.12
network 76.0.1.4 0.0.0.3 area 2
redistribute bgp 3 subnets
exit
```

```
router ospf 3 vrf vpnb
router-id 3.3.0.12
network 76.0.1.4 0.0.0.3 area 3
redistribute bgp 3 subnets
exit
router ospf 6 vrf vpne
router-id 3.6.0.12
network 76.0.1.4 0.0.0.3 area 6
redistribute bgp 3 subnets
exit




ER3-08 :

ip vrf vpna
rd 3:1
route-target export 3:8
route-target import 3:12
route-target import 3:11
route-target import 3:7
route-target import 3:17
route-target import 3:13
exit
int f0/0
ip vrf forwarding vpna
ip addr 76.0.1.10 255.255.255.252
exit
ip vrf vpnb
rd 3:2
route-target export 3:8
route-target import 3:12
route-target import 3:11
route-target import 3:19
route-target import 3:17
exit
int f1/1
ip vrf forwarding vpnb
ip addr 76.0.1.10 255.255.255.252
exit
ip vrf vpnc
rd 3:3
```

route-target export 3:8
route-target import 3:11
route-target import 3:19
exit
int f1/0
ip vrf forwarding vpnc
ip addr 76.0.1.10 255.255.255.252
exit
ip vrf vpnd
rd 3:4
route-target export 3:8
route-target import 3:11
route-target import 3:7
route-target import 3:13
route-target import 3:17
exit
int f2/0
ip vrf forwarding vpnd
ip addr 76.0.1.10 255.255.255.252
exit
router bgp 3
neighbor 3.0.103.7 remote-as 3
neighbor 3.0.103.7 update-source lo 0
neighbor 3.0.103.11 remote-as 3
neighbor 3.0.103.11 update-source lo 0
neighbor 3.0.103.12 remote-as 3
neighbor 3.0.103.12 update-source lo 0
neighbor 3.0.103.13 remote-as 3
neighbor 3.0.103.13 update-source lo 0
neighbor 3.0.103.15 remote-as 3
neighbor 3.0.103.15 update-source lo 0
neighbor 3.0.103.17 remote-as 3
neighbor 3.0.103.17 update-source lo 0
neighbor 3.0.103.19 remote-as 3
neighbor 3.0.103.19 update-source lo 0
neighbor 3.0.103.20 remote-as 3
neighbor 3.0.103.20 update-source lo 0
no neighbor 3.0.103.7 activate
no neighbor 3.0.103.11 activate
no neighbor 3.0.103.12 activate
no neighbor 3.0.103.13 activate
no neighbor 3.0.103.17 activate
no neighbor 3.0.103.19 activate
address-family vpnv4

```
neighbor 3.0.103.7 activate
neighbor 3.0.103.7 send-community extended
neighbor 3.0.103.12 activate
neighbor 3.0.103.12 send-community extended
neighbor 3.0.103.11 activate
neighbor 3.0.103.11 send-community extended
neighbor 3.0.103.13 activate
neighbor 3.0.103.13 send-community extended
neighbor 3.0.103.17 activate
neighbor 3.0.103.17 send-community extended
neighbor 3.0.103.19 activate
neighbor 3.0.103.19 send-community extended
exit
address-family ipv4 vrf vpna
redistribute connected
redistribute ospf 2
exit
address-family ipv4 vrf vpnb
redistribute connected
redistribute ospf 3
exit
address-family ipv4 vrf vpnc
redistribute connected
redistribute ospf 4
exit
address-family ipv4 vrf vpnd
redistribute connected
redistribute ospf 5
exit
router ospf 2 vrf vpna
router-id 3.2.0.8
network 76.0.1.8 0.0.0.3 area 2
redistribute bgp 3 subnets
exit
router ospf 3 vrf vpnb
router-id 3.3.0.8
network 76.0.1.8 0.0.0.3 area 3
redistribute bgp 3 subnets
exit
router ospf 4 vrf vpnc
router-id 3.4.0.8
network 76.0.1.8 0.0.0.3 area 4
redistribute bgp 3 subnets
exit
```

router ospf 5 vrf vpnd
router-id 3.5.0.8
network 76.0.1.8 0.0.0.3 area 5
redistribute bgp 3 subnets
exit

ER3-07 :

ip vrf vpna
rd 3:1
route-target export 3:7
route-target import 3:12
route-target import 3:8
route-target import 3:11
route-target import 3:17
route-target import 3:13
exit
int f0/0
ip vrf forwarding vpna
ip addr 76.0.1.14 255.255.255.252
exit
ip vrf vpnd
rd 3:4
route-target export 3:7
route-target import 3:8
route-target import 3:11
route-target import 3:13
route-target import 3:17
exit
int f2/0
ip vrf forwarding vpnd
ip addr 76.0.1.14 255.255.255.252
exit
ip vrf vpne
rd 3:5
route-target export 3:7
route-target import 3:12
route-target import 3:11
route-target import 3:13

```
exit
int f2/1
ip vrf forwarding vpne
ip addr 76.0.1.14 255.255.255.252
exit
router bgp 3
neighbor 3.0.103.8 remote-as 3
neighbor 3.0.103.8 update-source lo 0
neighbor 3.0.103.11 remote-as 3
neighbor 3.0.103.11 update-source lo 0
neighbor 3.0.103.12 remote-as 3
neighbor 3.0.103.12 update-source lo 0
neighbor 3.0.103.13 remote-as 3
neighbor 3.0.103.13 update-source lo 0
neighbor 3.0.103.15 remote-as 3
neighbor 3.0.103.15 update-source lo 0
neighbor 3.0.103.17 remote-as 3
neighbor 3.0.103.17 update-source lo 0
neighbor 3.0.103.19 remote-as 3
neighbor 3.0.103.19 update-source lo 0
neighbor 3.0.103.20 remote-as 3
neighbor 3.0.103.20 update-source lo 0
no neighbor 3.0.103.11 activate
no neighbor 3.0.103.12 activate
no neighbor 3.0.103.8 activate
no neighbor 3.0.103.13 activate
no neighbor 3.0.103.17 activate
no neighbor 3.0.103.19 activate
address-family vpnv4
neighbor 3.0.103.11 activate
neighbor 3.0.103.11 send-community extended
neighbor 3.0.103.12 activate
neighbor 3.0.103.12 send-community extended
neighbor 3.0.103.8 activate
neighbor 3.0.103.8 send-community extended
neighbor 3.0.103.13 activate
neighbor 3.0.103.13 send-community extended
neighbor 3.0.103.17 activate
neighbor 3.0.103.17 send-community extended
neighbor 3.0.103.19 activate
neighbor 3.0.103.19 send-community extended
exit
address-family ipv4 vrf vpna
redistribute connected
```

```
redistribute ospf 2
exit
address-family ipv4 vrf vpnd
redistribute connected
redistribute ospf 5
exit
address-family ipv4 vrf vpne
redistribute connected
redistribute ospf 6
exit
router ospf 2 vrf vpna
router-id 3.2.0.7
network 76.0.1.12 0.0.0.3 area 2
redistribute bgp 3 subnets
exit
router ospf 5 vrf vpnd
router-id 3.5.0.7
network 76.0.1.12 0.0.0.3 area 5
redistribute bgp 3 subnets
exit
router ospf 6 vrf vpne
router-id 3.6.0.7
network 76.0.1.12 0.0.0.3 area 6
redistribute bgp 3 subnets
exit
```

ER3-19 :

```
ip vrf vpnb
rd 3:2
route-target export 3:19
route-target import 3:12
route-target import 3:8
route-target import 3:11
route-target import 3:17
exit
int f0/0
ip vrf forwarding vpnb
```

```
ip addr 76.0.1.18 255.255.255.252
exit
ip vrf vpnc
rd 3:3
route-target export 3:19
route-target import 3:8
route-target import 3:11
exit
int f1/0
ip vrf forwarding vpnc
ip addr 76.0.1.18 255.255.255.252
exit
router bgp 3
neighbor 3.0.103.7 remote-as 3
neighbor 3.0.103.7 update-source lo 0
neighbor 3.0.103.11 remote-as 3
neighbor 3.0.103.11 update-source lo 0
neighbor 3.0.103.8 remote-as 3
neighbor 3.0.103.8 update-source lo 0
neighbor 3.0.103.12 remote-as 3
neighbor 3.0.103.12 update-source lo 0
neighbor 3.0.103.13 remote-as 3
neighbor 3.0.103.13 update-source lo 0
neighbor 3.0.103.15 remote-as 3
neighbor 3.0.103.15 update-source lo 0
neighbor 3.0.103.17 remote-as 3
neighbor 3.0.103.17 update-source lo 0
neighbor 3.0.103.20 remote-as 3
neighbor 3.0.103.20 update-source lo 0
no neighbor 3.0.103.7 activate
no neighbor 3.0.103.11 activate
no neighbor 3.0.103.12 activate
no neighbor 3.0.103.8 activate
no neighbor 3.0.103.13 activate
no neighbor 3.0.103.17 activate
address-family vpnv4
neighbor 3.0.103.7 activate
neighbor 3.0.103.7 send-community extended
neighbor 3.0.103.12 activate
neighbor 3.0.103.12 send-community extended
neighbor 3.0.103.8 activate
neighbor 3.0.103.8 send-community extended
neighbor 3.0.103.13 activate
neighbor 3.0.103.13 send-community extended
```

```
neighbor 3.0.103.17 activate
neighbor 3.0.103.17 send-community extended
neighbor 3.0.103.11 activate
neighbor 3.0.103.11 send-community extended
exit
address-family ipv4 vrf vpnb
redistribute connected
redistribute ospf 3
exit
address-family ipv4 vrf vpnc
redistribute connected
redistribute ospf 4
exit
router ospf 3 vrf vpnb
router-id 3.3.0.19
network 76.0.1.16 0.0.0.3 area 3
redistribute bgp 3 subnets
exit
router ospf 4 vrf vpnc
router-id 3.4.0.19
network 76.0.1.16 0.0.0.3 area 4
redistribute bgp 3 subnets
exit
```

ER3-13 :

```
ip vrf vpna
rd 3:1
route-target export 3:13
route-target import 3:12
route-target import 3:8
route-target import 3:7
route-target import 3:17
route-target import 3:11
exit
```

```
int f0/0
ip vrf forwarding vpna
ip addr 76.0.1.22 255.255.255.252
exit
ip vrf vpnd
rd 3:4
route-target export 3:13
route-target import 3:8
route-target import 3:7
route-target import 3:11
route-target import 3:17
exit
int f1/0
ip vrf forwarding vpnd
ip addr 76.0.1.22 255.255.255.252
exit
ip vrf vpne
rd 3:5
route-target export 3:13
route-target import 3:12
route-target import 3:7
route-target import 3:11
exit
int f1/1
ip vrf forwarding vpne
ip addr 76.0.1.22 255.255.255.252
exit
router bgp 3
neighbor 3.0.103.7 remote-as 3
neighbor 3.0.103.7 update-source lo 0
neighbor 3.0.103.11 remote-as 3
neighbor 3.0.103.11 update-source lo 0
neighbor 3.0.103.8 remote-as 3
neighbor 3.0.103.8 update-source lo 0
neighbor 3.0.103.12 remote-as 3
neighbor 3.0.103.12 update-source lo 0
neighbor 3.0.103.13 remote-as 3
neighbor 3.0.103.13 update-source lo 0
neighbor 3.0.103.15 remote-as 3
neighbor 3.0.103.15 update-source lo 0
neighbor 3.0.103.17 remote-as 3
neighbor 3.0.103.17 update-source lo 0
neighbor 3.0.103.19 remote-as 3
neighbor 3.0.103.19 update-source lo 0
```

```
neighbor 3.0.103.20 remote-as 3
neighbor 3.0.103.20 update-source lo 0
no neighbor 3.0.103.7 activate
no neighbor 3.0.103.12 activate
no neighbor 3.0.103.8 activate
no neighbor 3.0.103.11 activate
no neighbor 3.0.103.17 activate
no neighbor 3.0.103.19 activate
address-family vpnv4
neighbor 3.0.103.7 activate
neighbor 3.0.103.7 send-community extended
neighbor 3.0.103.12 activate
neighbor 3.0.103.12 send-community extended
neighbor 3.0.103.8 activate
neighbor 3.0.103.8 send-community extended
neighbor 3.0.103.11 activate
neighbor 3.0.103.11 send-community extended
neighbor 3.0.103.17 activate
neighbor 3.0.103.17 send-community extended
neighbor 3.0.103.19 activate
neighbor 3.0.103.19 send-community extended
exit
address-family ipv4 vrf vpna
redistribute connected
redistribute ospf 2
exit
address-family ipv4 vrf vpnd
redistribute connected
redistribute ospf 5
exit
address-family ipv4 vrf vpne
redistribute connected
redistribute ospf 6
exit
router ospf 2 vrf vpna
router-id 3.2.0.13
network 76.0.1.20 0.0.0.3 area 2
redistribute bgp 3 subnets
exit
router ospf 5 vrf vpnd
router-id 3.5.0.13
network 76.0.1.20 0.0.0.3 area 5
redistribute bgp 3 subnets
exit
```

```
router ospf 6 vrf vpne
router-id 3.6.0.13
network 76.0.1.20 0.0.0.3 area 6
redistribute bgp 3 subnets
exit
```

ER3-17 :

```
ip vrf vpna
rd 3:1
route-target export 3:17
route-target import 3:12
route-target import 3:8
route-target import 3:7
route-target import 3:11
route-target import 3:13
exit
int f0/0
ip vrf forwarding vpna
ip addr 76.0.1.26 255.255.255.252
exit
ip vrf vpnb
rd 3:2
route-target export 3:17
route-target import 3:12
route-target import 3:8
route-target import 3:19
route-target import 3:11
exit
int f1/1
ip vrf forwarding vpnb
ip addr 76.0.1.26 255.255.255.252
exit
ip vrf vpnd
rd 3:4
route-target export 3:17
route-target import 3:8
```

```
route-target import 3:7
route-target import 3:13
route-target import 3:11
exit
int f1/0
ip vrf forwarding vpnd
ip addr 76.0.1.26 255.255.255.252
exit
router bgp 3
neighbor 3.0.103.7 remote-as 3
neighbor 3.0.103.7 update-source lo 0
neighbor 3.0.103.11 remote-as 3
neighbor 3.0.103.11 update-source lo 0
neighbor 3.0.103.8 remote-as 3
neighbor 3.0.103.8 update-source lo 0
neighbor 3.0.103.12 remote-as 3
neighbor 3.0.103.12 update-source lo 0
neighbor 3.0.103.13 remote-as 3
neighbor 3.0.103.13 update-source lo 0
neighbor 3.0.103.15 remote-as 3
neighbor 3.0.103.15 update-source lo 0
neighbor 3.0.103.17 remote-as 3
neighbor 3.0.103.17 update-source lo 0
neighbor 3.0.103.19 remote-as 3
neighbor 3.0.103.19 update-source lo 0
neighbor 3.0.103.20 remote-as 3
neighbor 3.0.103.20 update-source lo 0
no neighbor 3.0.103.7 activate
no neighbor 3.0.103.12 activate
no neighbor 3.0.103.8 activate
no neighbor 3.0.103.13 activate
no neighbor 3.0.103.11 activate
no neighbor 3.0.103.19 activate
address-family vpnv4
neighbor 3.0.103.7 activate
neighbor 3.0.103.7 send-community extended
neighbor 3.0.103.12 activate
neighbor 3.0.103.12 send-community extended
neighbor 3.0.103.8 activate
neighbor 3.0.103.8 send-community extended
neighbor 3.0.103.13 activate
neighbor 3.0.103.13 send-community extended
neighbor 3.0.103.11 activate
neighbor 3.0.103.11 send-community extended
```

```
neighbor 3.0.103.19 activate
neighbor 3.0.103.19 send-community extended
exit
address-family ipv4 vrf vpna
redistribute connected
redistribute ospf 2
exit
address-family ipv4 vrf vpnb
redistribute connected
redistribute ospf 3
exit
address-family ipv4 vrf vpnd
redistribute connected
redistribute ospf 5
exit
router ospf 2 vrf vpna
router-id 3.2.0.17
network 76.0.1.24 0.0.0.3 area 2
redistribute bgp 3 subnets
exit
router ospf 3 vrf vpnb
router-id 3.3.0.17
network 76.0.1.24 0.0.0.3 area 3
redistribute bgp 3 subnets
exit
router ospf 5 vrf vpnd
router-id 3.5.0.17
network 76.0.1.24 0.0.0.3 area 5
redistribute bgp 3 subnets
exit


do wr
```

BGP Externe 👍

ER3-20

```
conf t
int f0/0
ip addr 76.0.1.1 255.255.255.248
no shut
exit
router bgp 3
network 76.0.1.0 mask 255.255.255.248
neighbor 76.0.1.2 remote-as 2
neighbor 76.0.1.2 update-source lo 0
neighbor 3.0.103.7 remote-as 3
neighbor 3.0.103.7 update-source lo 0
neighbor 3.0.103.8 remote-as 3
neighbor 3.0.103.8 update-source lo 0
neighbor 3.0.103.11 remote-as 3
neighbor 3.0.103.11 update-source lo 0
neighbor 3.0.103.12 remote-as 3
neighbor 3.0.103.12 update-source lo 0
neighbor 3.0.103.13 remote-as 3
neighbor 3.0.103.13 update-source lo 0
neighbor 3.0.103.15 remote-as 3
neighbor 3.0.103.15 update-source lo 0
neighbor 3.0.103.17 remote-as 3
neighbor 3.0.103.17 update-source lo 0
neighbor 3.0.103.19 remote-as 3
neighbor 3.0.103.19 update-source lo 0
exit
```

ER3-15

```
conf t
int f0/0
ip addr 30.0.1.10 255.255.255.248
no shut
exit
router bgp 3
network 30.0.1.8 mask 255.255.255.248
neighbor 30.0.1.9 remote-as 1
neighbor 30.0.1.9 update-source lo 0
neighbor 3.0.103.7 remote-as 3
neighbor 3.0.103.7 update-source lo 0
neighbor 3.0.103.8 remote-as 3
```

```
neighbor 3.0.103.8 update-source lo 0
neighbor 3.0.103.11 remote-as 3
neighbor 3.0.103.11 update-source lo 0
neighbor 3.0.103.12 remote-as 3
neighbor 3.0.103.12 update-source lo 0
neighbor 3.0.103.13 remote-as 3
neighbor 3.0.103.13 update-source lo 0
neighbor 3.0.103.17 remote-as 3
neighbor 3.0.103.17 update-source lo 0
neighbor 3.0.103.19 remote-as 3
neighbor 3.0.103.19 update-source lo 0
neighbor 3.0.103.20 remote-as 3
neighbor 3.0.103.20 update-source lo 0
exit
```