BGP Routing Protocol using Class-B subnetting

IP Address : 255.255.0.0/16
Number of Subnets: 15

Number of bits borrowed from Host: 4 bits

New Subnet Mask : 255.255.11110000.0
           255.255.240.0/20
Block Size : 2^{12} = 4,096

Network Address	Usable Host Range	Broadcast Address
N.N.0.0	N.N.0.1 - N.N.15.254	N.N.15.255
N.N.16.0	N.N.16.1 - N.N.31.254	N.N.31.255
N.N.32.0	N.N.32.1 - N.N.47.254	N.N.47.255
N.N.48.0	N.N.48.1 - N.N.63.254	N.N.63.255
N.N.64.0	N.N.64.1 - N.N.79.254	N.N.79.255
N.N.80.0	N.N.80.1 - N.N.95.254	N.N.95.255
N.N.96.0	N.N.96.1 - N.N.111.254	N.N.111.255
N.N.112.0	N.N.112.1 - N.N.127.254	N.N.127.255
N.N.128.0	N.N.128.1 - N.N.143.254	N.N.143.255
N.N.144.0	N.N.144.1 - N.N.159.254	N.N.159.255
N.N.160.0	N.N.160.1 - N.N.175.254	N.N.175.255
N.N.176.0	N.N.176.1 - N.N.191.254	N.N.191.255
N.N.192.0	N.N.192.1 - N.N.207.254	N.N.207.255
N.N.208.0	N.N.208.1 - N.N.223.254	N.N.223.255
N.N.224.0	N.N.224.1 - N.N.239.254	N.N.239.255
N.N.240.0	N.N.240.1 - N.N.255.254	N.N.255.255

BGP Configurations

Router 0
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router bgp 10
Router(config-router) #network 172.10.0.0
Router(config-router) #network 1.0.0.0
Router(config-router) #network 15.0.0.0
Router(config-router)#network 172.255.240.0
Router(config-router)#neighbor 1.0.0.2 remote-as 20
Router(config-router) #neighbor 172.20.16.100 remote-as 20
Router(config-router) #neighbor 15.0.0.1 remote-as 150
Router(config-router) #neighbor 172.250.224.100 remote-as 150
Router(config-router) #end

Router 1
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router bgp 20
Router(config-router) #network 172.20.16.0
Router(config-router) #network 1.0.0.0
Router(config-router) #network 2.0.0.0
Router(config-router)#neighbor 2.0.0.2 remote-as 30
Router(config-router) #neighbor 172.40.32.100 remote-as 30
Router(config-router) #neighbor 1.0.0.1 remote-as 10
Router(config-router) #%BGP-5-ADJCHANGE: neighbor 1.0.0.1 Up
Router(config-router) #neighbor 172.10.0.100 remote-as 10
Router(config-router) #end

Router 2
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router bgp 30
Router(config-router) #network 172.40.32.0
Router(config-router) #network 3.0.0.0
Router(config-router) #network 2.0.0.0
Router(config-router)#neighbor 3.0.0.2 remote-as 40
Router(config-router) #neighbor 172.50.48.100 remote-as 40
Router(config-router) #neighbor 2.0.0.1 remote-as 20
Router(config-router) #%BGP-5-ADJCHANGE: neighbor 2.0.0.1 Up

Router(config-router) #neighbor 172.20.16.100 remote-as 20
Router(config-router) #end

Router 3
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router bgp 40
Router(config-router) #network 172.50.48.0
Router(config-router) #network 4.0.0.0
Router(config-router) #network 3.0.0.0
Router(config-router)#neighbor 4.0.0.2 remote-as 50
Router(config-router) #neighbor 172.70.64.100 remote-as 50
Router(config-router) #neighbor 3.0.0.1 remote-as 30
Router(config-router) #%BGP-5-ADJCHANGE: neighbor 3.0.0.1 Up
Router(config-router) #neighbor 172.40.32.100 remote-as 30
Router(config-router) #end

Router 4
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router bgp 50
Router(config-router) #network 172.770.64.0
Router(config-router) #network 5.0.0.0
Router(config-router) #network 4.0.0.0
Router(config-router)#neighbor 5.0.0.2 remote-as 60
Router(config-router) #neighbor 172.90.80.100 remote-as 60
Router(config-router) #neighbor 4.0.0.1 remote-as 40
Router(config-router) #%BGP-5-ADJCHANGE: neighbor 4.0.0.1 Up
Router(config-router) #neighbor 172.50.48.100 remote-as 40
Router(config-router) #end

Router 5
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router bgp 60
Router(config-router) #network 172.90.80.0
Router(config-router) #network 6.0.0.0
Router(config-router) #network 5.0.0.0
Router(config-router)#neighbor 6.0.0.2 remote-as 70
Router(config-router) #neighbor 172.100.96.100 remote-as 70
Router(config-router) #neighbor 5.0.0.1 remote-as 50

Router(config-router) #%BGP-5-ADJCHANGE: neighbor 5.0.0.1 Up
Router(config-router) #neighbor 172.40.32.100 remote-as 50
Router(config-router) #end

Router 6
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router bgp 70
Router(config-router) #network 172.100.96.0
Router(config-router) #network 7.0.0.0
Router(config-router) #network 6.0.0.0
Router(config-router)#neighbor 7.0.0.2 remote-as 80
Router(config-router) #neighbor 172.120.112.100 remote-as 80
Router(config-router) #neighbor 6.0.0.1 remote-as 60
Router(config-router) #%BGP-5-ADJCHANGE: neighbor 6.0.0.1 Up
Router(config-router) #neighbor 172.90.80.100 remote-as 60
Router(config-router) #end

Router 7
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router bgp 80
Router(config-router) #network 172.120.112.0
Router(config-router) #network 8.0.0.0
Router(config-router) #network 7.0.0.0
Router(config-router)#neighbor 8.0.0.2 remote-as 90
Router(config-router) #neighbor 172.130.128.100 remote-as 90
Router(config-router) #neighbor 7.0.0.1 remote-as 70
Router(config-router) #%BGP-5-ADJCHANGE: neighbor 7.0.0.1 Up
Router(config-router) #neighbor 172.100.96.100 remote-as 70
Router(config-router) #end

Router 8
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router bgp 90
Router(config-router) #network 172.130.128.0
Router(config-router) #network 9.0.0.0
Router(config-router) #network 8.0.0.0
Router(config-router)#neighbor 9.0.0.2 remote-as 100
Router(config-router) #neighbor 172.150.144.100 remote-as 100

Router(config-router) #neighbor 8.0.0.1 remote-as 80
Router(config-router) #%BGP-5-ADJCHANGE: neighbor 8.0.0.1 Up
Router(config-router) #neighbor 172.120.112.100 remote-as 8000
Router(config-router) #end

Router 9
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router bgp 100
Router(config-router) #network 172.150.100.0
Router(config-router) #network 10.0.0.0
Router(config-router) #network 9.0.0.0
Router(config-router)#neighbor 10.0.0.2 remote-as 110
Router(config-router) #neighbor 172.170.160.100 remote-as 110
Router(config-router) #neighbor 9.0.0.1 remote-as 90
Router(config-router) #%BGP-5-ADJCHANGE: neighbor 9.0.0.1 Up
Router(config-router) #neighbor 172.130.128.100 remote-as 90
Router(config-router) #end

Router 10
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router bgp 110
Router(config-router) #network 172.170.160.0
Router(config-router) #network 11.0.0.0
Router(config-router) #network 10.0.0.0
Router(config-router)#neighbor 11.0.0.2 remote-as 120
Router(config-router) #neighbor 172.180.176.100 remote-as 120
Router(config-router) #neighbor 10.0.0.1 remote-as 100
Router(config-router) #%BGP-5-ADJCHANGE: neighbor 10.0.0.1 Up
Router(config-router) #neighbor 172.150.144.100 remote-as 100
Router(config-router) #end

Router 11
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router bgp 120
Router(config-router) #network 172.180.176.0
Router(config-router) #network 12.0.0.0
Router(config-router) #network 11.0.0.0
Router(config-router)#neighbor 12.0.0.2 remote-as 130

Router(config-router) #neighbor 172.200.192.100 remote-as 130
Router(config-router) #neighbor 11.0.0.1 remote-as 110
Router(config-router) #%BGP-5-ADJCHANGE: neighbor 11.0.0.1 Up
Router(config-router) #neighbor 172.150.144.100 remote-as 110
Router(config-router) #end

Router 12
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router bgp 130
Router(config-router) #network 172.200.192.0
Router(config-router) #network 13.0.0.0
Router(config-router) #network 12.0.0.0
Router(config-router)#neighbor 13.0.0.2 remote-as 140
Router(config-router) #neighbor 172.230.208.100 remote-as 140
Router(config-router) #neighbor 12.0.0.1 remote-as 120
Router(config-router) #%BGP-5-ADJCHANGE: neighbor 12.0.0.1 Up
Router(config-router) #neighbor 172.180.176.100 remote-as 120
Router(config-router) #end

Router 13
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router bgp 140
Router(config-router) #network 172.230.208.0
Router(config-router) #network 14.0.0.0
Router(config-router) #network 13.0.0.0
Router(config-router)#neighbor 14.0.0.2 remote-as 150
Router(config-router) #neighbor 172.250.224.100 remote-as 150
Router(config-router) #neighbor 13.0.0.1 remote-as 130
Router(config-router) #%BGP-5-ADJCHANGE: neighbor 13.0.0.1 Up
Router(config-router) #neighbor 172.200.192.100 remote-as 130
Router(config-router) #end

Router 14
Router>en
Router#config t
Enter configuration commands, one per line. End with CNTL/Z.
Router(config)#router bgp 150
Router(config-router) #network 172.250.208.0
Router(config-router) #network 15.0.0.0
Router(config-router) #network 14.0.0.0

Router(config-router)#neighbor 15.0.0.2 remote-as 10
Router(config-router) #%BGP-5-ADJCHANGE: neighbor 15.0.0.1 Up
Router(config-router) #neighbor 172.10.0.100 remote-as 10
Router(config-router) #neighbor 14.0.0.1 remote-as 140
Router(config-router) #%BGP-5-ADJCHANGE: neighbor 14.0.0.1 Up
Router(config-router) #neighbor 172.230.208.100 remote-as 140
Router(config-router) #end