**Router 1**

R1#show ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

\* - candidate default, U - per-user static route, o - ODR

P - periodic downloaded static route

Gateway of last resort is 0.0.0.0 to network 0.0.0.0

172.168.0.0/20 is subnetted, 9 subnets

C 172.168.0.0 is directly connected, FastEthernet0/0

C 172.168.16.0 is directly connected, FastEthernet1/0

R 172.168.32.0 [120/1] via 172.168.96.2, 00:00:16, Serial2/0

R 172.168.48.0 [120/2] via 172.168.96.2, 00:00:16, Serial2/0

R 172.168.64.0 [120/3] via 172.168.96.2, 00:00:16, Serial2/0

R 172.168.80.0 [120/3] via 172.168.96.2, 00:00:16, Serial2/0

C 172.168.96.0 is directly connected, Serial2/0

R 172.168.112.0 [120/1] via 172.168.96.2, 00:00:16, Serial2/0

R 172.168.128.0 [120/2] via 172.168.96.2, 00:00:16, Serial2/0

S\* 0.0.0.0/0 is directly connected, Serial2/0

R1#show running-config

Building configuration...

Current configuration : 1168 bytes

!

version 12.2

no service timestamps log datetime msec

no service timestamps debug datetime msec

service password-encryption

!

hostname R1

!

enable secret 5 $1$mERr$hx5rVt7rPNoS4wqbXKX7m0

!

ip cef

no ipv6 cef

!

interface FastEthernet0/0

description "CSE Interface"

ip address 172.168.0.1 255.255.240.0

duplex auto

speed auto

!

interface FastEthernet1/0

description "IT Interface"

ip address 172.168.16.1 255.255.240.0

duplex auto

speed auto

!

interface Serial2/0

ip address 172.168.96.1 255.255.240.0

clock rate 2000000

!

interface Serial3/0

no ip address

clock rate 2000000

shutdown

!

interface FastEthernet4/0

no ip address

shutdown

!

interface FastEthernet5/0

no ip address

shutdown

!

router rip

version 2

passive-interface FastEthernet0/0

passive-interface FastEthernet1/0

network 172.168.0.0

no auto-summary

!

ip classless

ip route 0.0.0.0 0.0.0.0 Serial2/0

!

ip flow-export version 9

!

banner motd ^CAccess Constraints^C

!

line con 0

password 7 0822455D0A16

login

!

line aux 0

!

line vty 0 4

password 7 0822455D0A16

login

line vty 5 15

password 7 0822455D0A16

login

!

end

**Router 2**

R2#show ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

\* - candidate default, U - per-user static route, o - ODR

P - periodic downloaded static route

Gateway of last resort is 172.168.112.2 to network 0.0.0.0

172.168.0.0/20 is subnetted, 9 subnets

R 172.168.0.0 [120/1] via 172.168.96.1, 00:00:19, Serial2/0

R 172.168.16.0 [120/1] via 172.168.96.1, 00:00:19, Serial2/0

C 172.168.32.0 is directly connected, FastEthernet0/0

R 172.168.48.0 [120/1] via 172.168.112.2, 00:00:21, Serial3/0

R 172.168.64.0 [120/2] via 172.168.112.2, 00:00:21, Serial3/0

R 172.168.80.0 [120/2] via 172.168.112.2, 00:00:21, Serial3/0

C 172.168.96.0 is directly connected, Serial2/0

C 172.168.112.0 is directly connected, Serial3/0

R 172.168.128.0 [120/1] via 172.168.112.2, 00:00:21, Serial3/0

R\* 0.0.0.0/0 [120/2] via 172.168.112.2, 00:00:21, Serial3/0

R2#show running-config

Building configuration...

Current configuration : 1051 bytes

!

version 12.2

no service timestamps log datetime msec

no service timestamps debug datetime msec

service password-encryption

!

hostname R2

!

enable secret 5 $1$mERr$hx5rVt7rPNoS4wqbXKX7m0

!

ip cef

no ipv6 cef

!

interface FastEthernet0/0

description 'ECE Interface'

ip address 172.168.32.1 255.255.240.0

duplex auto

speed auto

!

interface FastEthernet1/0

no ip address

duplex auto

speed auto

shutdown

!

interface Serial2/0

ip address 172.168.96.2 255.255.240.0

!

interface Serial3/0

ip address 172.168.112.1 255.255.240.0

clock rate 2000000

!

interface FastEthernet4/0

no ip address

shutdown

!

interface FastEthernet5/0

no ip address

shutdown

!

router rip

version 2

passive-interface FastEthernet0/0

network 172.168.0.0

no auto-summary

!

ip classless

!

ip flow-export version 9

!

banner motd ^CAccess Constraints^C

!

line con 0

password 7 0822455D0A16

login

!

line aux 0

!

line vty 0 4

password 7 0822455D0A16

login

line vty 5 15

password 7 0822455D0A16

login

!

end

**Router 3**

R3#show ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

\* - candidate default, U - per-user static route, o - ODR

P - periodic downloaded static route

Gateway of last resort is 172.168.128.2 to network 0.0.0.0

172.168.0.0/20 is subnetted, 9 subnets

R 172.168.0.0 [120/2] via 172.168.112.1, 00:00:27, Serial2/0

R 172.168.16.0 [120/2] via 172.168.112.1, 00:00:27, Serial2/0

R 172.168.32.0 [120/1] via 172.168.112.1, 00:00:27, Serial2/0

C 172.168.48.0 is directly connected, FastEthernet0/0

R 172.168.64.0 [120/1] via 172.168.128.2, 00:00:28, Serial3/0

R 172.168.80.0 [120/1] via 172.168.128.2, 00:00:28, Serial3/0

R 172.168.96.0 [120/1] via 172.168.112.1, 00:00:27, Serial2/0

C 172.168.112.0 is directly connected, Serial2/0

C 172.168.128.0 is directly connected, Serial3/0

R\* 0.0.0.0/0 [120/1] via 172.168.128.2, 00:00:28, Serial3/0

R3#show running-config

Building configuration...

Current configuration : 1052 bytes

!

version 12.2

no service timestamps log datetime msec

no service timestamps debug datetime msec

service password-encryption

!

hostname R3

!

enable secret 5 $1$mERr$hx5rVt7rPNoS4wqbXKX7m0

!

ip cef

no ipv6 cef

!

interface FastEthernet0/0

description 'EEE Interface'

ip address 172.168.48.1 255.255.240.0

duplex auto

speed auto

!

interface FastEthernet1/0

no ip address

duplex auto

speed auto

shutdown

!

interface Serial2/0

ip address 172.168.112.2 255.255.240.0

!

interface Serial3/0

ip address 172.168.128.1 255.255.240.0

clock rate 2000000

!

interface FastEthernet4/0

no ip address

shutdown

!

interface FastEthernet5/0

no ip address

shutdown

!

router rip

version 2

passive-interface FastEthernet0/0

network 172.168.0.0

no auto-summary

!

ip classless

!

ip flow-export version 9

!

banner motd ^CAccess Constraints^C

!

line con 0

password 7 0822455D0A16

login

!

line aux 0

!

line vty 0 4

password 7 0822455D0A16

login

line vty 5 15

password 7 0822455D0A16

login

!

end

**Router 4**

R4#show ip route

Codes: C - connected, S - static, I - IGRP, R - RIP, M - mobile, B - BGP

D - EIGRP, EX - EIGRP external, O - OSPF, IA - OSPF inter area

N1 - OSPF NSSA external type 1, N2 - OSPF NSSA external type 2

E1 - OSPF external type 1, E2 - OSPF external type 2, E - EGP

i - IS-IS, L1 - IS-IS level-1, L2 - IS-IS level-2, ia - IS-IS inter area

\* - candidate default, U - per-user static route, o - ODR

P - periodic downloaded static route

Gateway of last resort is not set

172.168.0.0/20 is subnetted, 9 subnets

R 172.168.0.0 [120/3] via 172.168.128.1, 00:00:28, Serial2/0

R 172.168.16.0 [120/3] via 172.168.128.1, 00:00:28, Serial2/0

R 172.168.32.0 [120/2] via 172.168.128.1, 00:00:28, Serial2/0

R 172.168.48.0 [120/1] via 172.168.128.1, 00:00:28, Serial2/0

C 172.168.64.0 is directly connected, FastEthernet0/0

C 172.168.80.0 is directly connected, FastEthernet1/0

R 172.168.96.0 [120/2] via 172.168.128.1, 00:00:28, Serial2/0

R 172.168.112.0 [120/1] via 172.168.128.1, 00:00:28, Serial2/0

C 172.168.128.0 is directly connected, Serial2/0

R4#show running-config

Building configuration...

Current configuration : 1232 bytes

!

version 12.2

no service timestamps log datetime msec

no service timestamps debug datetime msec

service password-encryption

!

hostname R4

!

enable secret 5 $1$mERr$hx5rVt7rPNoS4wqbXKX7m0

!

ip cef

no ipv6 cef

!

interface FastEthernet0/0

description 'Civil Interface'

ip address 172.168.64.1 255.255.240.0

duplex auto

speed auto

!

interface FastEthernet1/0

description 'Mech Interface'

ip address 172.168.80.1 255.255.240.0

duplex auto

speed auto

!

interface Serial2/0

ip address 172.168.128.2 255.255.240.0

!

interface Serial3/0

description 'Internet Gateway'

ip address 172.168.144.1 255.255.240.0

clock rate 2000000

!

interface FastEthernet4/0

no ip address

shutdown

!

interface FastEthernet5/0

no ip address

shutdown

!

router rip

version 2

passive-interface FastEthernet0/0

passive-interface FastEthernet1/0

network 172.168.0.0

default-information originate

no auto-summary

!

ip classless

ip route 0.0.0.0 0.0.0.0 Serial3/0

!

ip flow-export version 9

!

banner motd ^CAccess Constraints^C

!

line con 0

password 7 0822455D0A16

login

!

line aux 0

!

line vty 0 4

password 7 0822455D0A16

login

line vty 5 15

password 7 0822455D0A16

login

!

end

**SWITCH**

CSE#show running-config

Building configuration...

Current configuration : 750 bytes

!

version 12.1

no service timestamps log datetime msec

no service timestamps debug datetime msec

service password-encryption

!

hostname CSE

!

enable secret 5 $1$mERr$hx5rVt7rPNoS4wqbXKX7m0

!

!

!

spanning-tree mode pvst

!

interface FastEthernet0/1

!

interface FastEthernet1/1

!

interface FastEthernet2/1

!

interface FastEthernet3/1

!

interface FastEthernet4/1

!

interface FastEthernet5/1

!

interface Vlan1

no ip address

shutdown

!

interface Vlan25

description 'CSE Switch'

mac-address 0090.2be5.6301

ip address 172.168.0.2 255.255.240.0

!

ip default-gateway 172.168.0.1

!

banner motd ^CCSE Switch Interface^C

!

line con 0

password 7 0822455D0A16

login

!

line vty 0 4

password 7 0822455D0A16

login

line vty 5 15

password 7 0822455D0A16

login

!

end