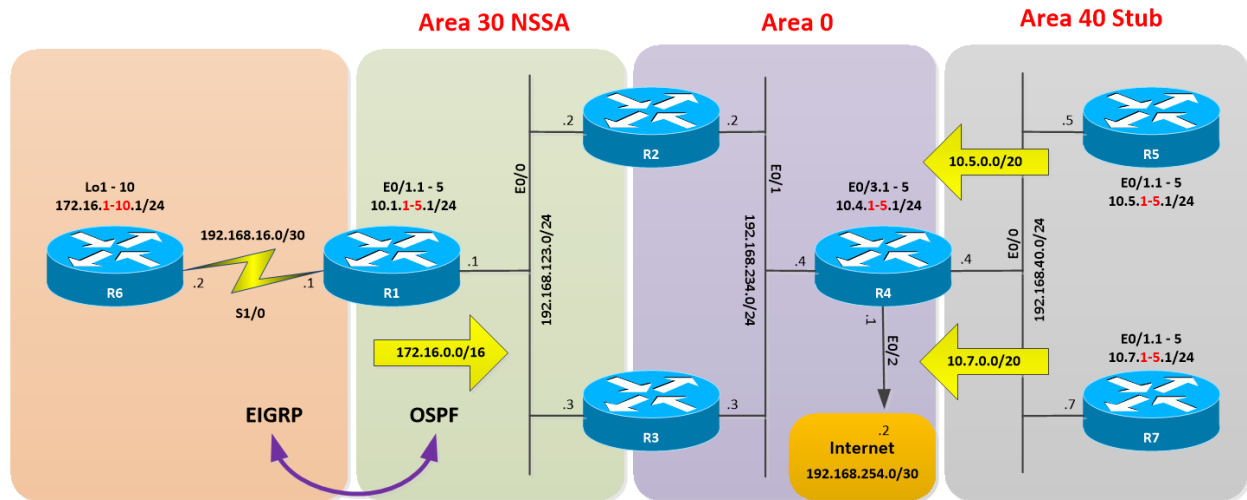


OSPF Filtering (Part I)



Initial Configurations:

R1:

```

!
hostname R1
!
no aaa new-model
no ip icmp rate-limit unreachable
no ip domain lookup
ip cef
no cdp log mismatch duplex
ip tcp synwait-time 5
!
ip ospf network point-to-point
!
interface Loopback0
ip address 1.1.1.1 255.255.255.255
ip ospf 1 area 30
!
interface Ethernet0/0
ip address 192.168.123.1 255.255.255.0
ip ospf 1 area 30
!
interface Ethernet0/1
no ip address
!
interface Ethernet0/1.1
encapsulation dot1Q 11
ip address 10.1.1.1 255.255.255.0
!

```

```

interface Ethernet0/1.2
encapsulation dot1Q 12
ip address 10.1.2.1 255.255.255.0
!
interface Ethernet0/1.3
encapsulation dot1Q 13
ip address 10.1.3.1 255.255.255.0
!
interface Ethernet0/1.4
encapsulation dot1Q 14
ip address 10.1.4.1 255.255.255.0
!
interface Ethernet0/1.5
encapsulation dot1Q 15
ip address 10.1.5.1 255.255.255.0
!
interface Serial1/0
ip address 192.168.16.1 255.255.255.252
serial restart-delay 0
!
router eigrp Branch-X
!
address-family ipv4 unicast autonomous-system 100
!
topology base
redistribute ospf 1 metric 10000 100 255 1 1500
exit-af-topology
network 192.168.16.0 0.0.0.3
eigrp router-id 1.1.1.1
exit-address-family
!
router ospf 1

```

```

router-id 0.0.0.1
area 30 nssa
summary-address 172.16.0.0 255.255.0.0
redistribute eigrp 100 subnets
network 10.1.0.0 0.0.255.255 area 30
!
no ip http server
no ip http secure-server
!
line vty 0 4
exec-timeout 0 0
privilege level 15
logging synchronous
width 180
!
end

```

R2:

```

!
hostname R2
!
no aaa new-model
no ip icmp rate-limit unreachable
no ip domain lookup
ip cef
no ipv6 cef
no cdp log mismatch duplex
ip tcp synwait-time 5
!
interface Loopback0
ip address 2.2.2.2 255.255.255.255
ip ospf 1 area 0
!
interface Ethernet0/0
ip address 192.168.123.2 255.255.255.0
ip ospf 1 area 30
!
interface Ethernet0/1
ip address 192.168.234.2 255.255.255.0
ip ospf 1 area 0
!
router ospf 1
router-id 0.0.0.2
area 30 nssa
!
no ip http server
no ip http secure-server
!
line vty 0 4
exec-timeout 0 0
privilege level 15
logging synchronous
width 180
!
end

```

R3:

```

!
hostname R3
!
no aaa new-model
no ip icmp rate-limit unreachable
no ip domain lookup
ip cef
no ipv6 cef
no cdp log mismatch duplex
ip tcp synwait-time 5
!
interface Loopback0
ip address 3.3.3.3 255.255.255.255
ip ospf 1 area 0
!
interface Ethernet0/0
ip address 192.168.123.3 255.255.255.0
ip ospf 1 area 30
!
interface Ethernet0/1
ip address 192.168.234.3 255.255.255.0
ip ospf 1 area 0
!
router ospf 1
router-id 0.0.0.3
area 30 nssa
!
no ip http server
no ip http secure-server
!
line vty 0 4
exec-timeout 0 0
privilege level 15
logging synchronous
width 180
!
end

```

R4:

```

!
hostname R4
!
no aaa new-model
no ip icmp rate-limit unreachable
no ip domain lookup
ip cef
no ipv6 cef
no cdp log mismatch duplex
ip tcp synwait-time 5
!
interface Loopback0
ip address 4.4.4.4 255.255.255.255
ip ospf 1 area 0

```

```

!
interface Ethernet0/0
ip address 192.168.40.4 255.255.255.0
ip ospf 1 area 40
!
interface Ethernet0/1
ip address 192.168.234.4 255.255.255.0
ip ospf 1 area 0
!
interface Ethernet0/2
description *** Internet Access ***
ip address 192.168.254.1 255.255.255.252
!
interface Ethernet0/3
no ip address
!
interface Ethernet0/3.1
encapsulation dot1Q 41
ip address 10.4.1.1 255.255.255.0
!
interface Ethernet0/3.2
encapsulation dot1Q 42
ip address 10.4.2.1 255.255.255.0
!
interface Ethernet0/3.3
encapsulation dot1Q 43
ip address 10.4.3.1 255.255.255.0
!
interface Ethernet0/3.4
encapsulation dot1Q 44
ip address 10.4.4.1 255.255.255.0
!
interface Ethernet0/3.5
encapsulation dot1Q 45
ip address 10.4.5.1 255.255.255.0
!
router ospf 1
router-id 0.0.0.4
area 40 stub
area 40 range 10.5.0.0 255.255.240.0
area 40 range 10.7.0.0 255.255.240.0
network 10.4.0.0 0.0.255.255 area 0
default-information originate
!
no ip http server
no ip http secure-server
!
ip route 0.0.0.0 0.0.0.0 192.168.254.2
!
line vty 0 4
exec-timeout 0 0
privilege level 15
logging synchronous
width 180
!
end

```

R5:

```

!
hostname R5
!
no aaa new-model
no ip icmp rate-limit unreachable
no ip domain lookup
ip cef
no ipv6 cef
no cdp log mismatch duplex
ip tcp synwait-time 5
!
interface Loopback0
ip address 5.5.5.5 255.255.255.255
ip ospf 1 area 20
!
interface Ethernet0/0
ip address 192.168.40.5 255.255.255.0
ip ospf 1 area 40
!
interface Ethernet0/1
no ip address
!
interface Ethernet0/1.1
encapsulation dot1Q 51
ip address 10.5.1.1 255.255.255.0
!
interface Ethernet0/1.2
encapsulation dot1Q 52
ip address 10.5.2.1 255.255.255.0
!
interface Ethernet0/1.3
encapsulation dot1Q 53
ip address 10.5.3.1 255.255.255.0
!
interface Ethernet0/1.4
encapsulation dot1Q 54
ip address 10.5.4.1 255.255.255.0
!
interface Ethernet0/1.5
encapsulation dot1Q 55
ip address 10.5.5.1 255.255.255.0
!
router ospf 1
router-id 0.0.0.5
area 40 stub
network 10.5.0.0 0.0.255.255 area 40
!
no ip http server
no ip http secure-server
!
line vty 0 4
exec-timeout 0 0
privilege level 15
logging synchronous
width 180

```

```
!  
end
```

R6:

```
!  
hostname R6  
!  
no aaa new-model  
no ip icmp rate-limit unreachable  
no ip domain lookup  
ip cef  
no ipv6 cef  
no cdp log mismatch duplex  
ip tcp synwait-time 5  
!  
interface Loopback0  
ip address 6.6.6.6 255.255.255.255  
!  
interface Loopback1  
ip address 172.16.1.1 255.255.255.0  
!  
interface Loopback2  
ip address 172.16.2.1 255.255.255.0  
!  
interface Loopback3  
ip address 172.16.3.1 255.255.255.0  
!  
interface Loopback4  
ip address 172.16.4.1 255.255.255.0  
!  
interface Loopback5  
ip address 172.16.5.1 255.255.255.0  
!  
interface Loopback6  
ip address 172.16.6.1 255.255.255.0  
!  
interface Loopback7  
ip address 172.16.7.1 255.255.255.0  
!  
interface Loopback8  
ip address 172.16.8.1 255.255.255.0  
!  
interface Loopback9  
ip address 172.16.9.1 255.255.255.0  
!  
interface Loopback10  
ip address 172.16.10.1 255.255.255.0  
!  
interface Serial1/0  
ip address 192.168.16.2 255.255.255.252  
serial restart-delay 0  
!  
router eigrp Branch-X  
!  
address-family ipv4 unicast autonomous-system 100  
!
```

```
topology base  
exit-af-topology  
network 6.6.6.6 0.0.0.0  
network 172.16.0.0  
network 192.168.16.0 0.0.0.3  
eigrp router-id 6.6.6.6  
exit-address-family  
!  
no ip http server  
no ip http secure-server  
!  
line vty 0 4  
exec-timeout 0 0  
privilege level 15  
logging synchronous  
width 180  
!  
end
```

R7:

```
!  
hostname R7  
!  
no aaa new-model  
no ip icmp rate-limit unreachable  
no ip domain lookup  
ip cef  
no ipv6 cef  
no cdp log mismatch duplex  
ip tcp synwait-time 5  
!  
interface Loopback0  
ip address 7.7.7.7 255.255.255.255  
ip ospf 1 area 20  
!  
interface Ethernet0/0  
ip address 192.168.40.7 255.255.255.0  
ip ospf 1 area 40  
!  
interface Ethernet0/1  
no ip address  
!  
interface Ethernet0/1.1  
encapsulation dot1Q 71  
ip address 10.7.1.1 255.255.255.0  
!  
interface Ethernet0/1.2  
encapsulation dot1Q 72  
ip address 10.7.2.1 255.255.255.0  
!  
interface Ethernet0/1.3  
encapsulation dot1Q 73  
ip address 10.7.3.1 255.255.255.0  
!  
interface Ethernet0/1.4  
encapsulation dot1Q 74
```

```
ip address 10.7.4.1 255.255.255.0
!  
interface Ethernet0/1.5  
encapsulation dot1Q 75  
ip address 10.7.5.1 255.255.255.0  
!  
router ospf 1  
router-id 0.0.0.7  
area 40 stub  
network 10.7.0.0 0.0.255.255 area 40  
!  
no ip http server  
no ip http secure-server  
!  
line vty 0 4  
exec-timeout 0 0  
privilege level 15  
logging synchronous  
width 180  
!  
end
```