```
R1:HUB1
conf t
int e0/0
Desc conn to internet
ip add 1.1.1.1 255.255.255.0
no shut
int e0/1
Desc LAN
ip add 10.1.1.1 255.255.255.0
no shut
exit

ip route 0.0.0.0 0.0.0.0 1.1.1.4

R4:HUB2
conf t
int e0/0
Desc conn to internet
ip add 1.1.1.2 255.255.255.0
no shut
int e0/1
Desc LAN
ip add 10.1.1.2 255.255.255.0
no shut
exit

ip route 0.0.0.0 0.0.0.0 1.1.1.4


R2:Spoke-1
conf t
int e0/0
Desc conn to internet
ip add 2.2.2.2  255.255.255.0
no shut
int e0/1
Desc LAN
ip add 10.2.2.2 255.255.255.0
no shut
exit

ip route 0.0.0.0 0.0.0.0 2.2.2.4


R3:Spoke-2
conf t
int e0/0
Desc conn to internet
ip add 3.3.3.3  255.255.255.0
no shut
int e0/1
Desc LAN
ip add 10.3.3.3 255.255.255.0
no shut
exit
```

```
ip route 0.0.0.0 0.0.0.0 3.3.3.4


R5:Spoke-3
conf t
int e0/0
Desc conn to internet
ip add 5.5.5.5 255.255.255.0
no shut
int e0/1
Desc LAN
ip add 10.5.5.5 255.255.255.0
no shut
exit

ip route 0.0.0.0 0.0.0.0 5.5.5.4


R6:Spoke-4
conf t
int e0/0
Desc conn to internet
ip add 6.6.6.6  255.255.255.0
no shut
int e0/1
Desc LAN
ip add 10.5.5.6 255.255.255.0
no shut
exit

ip route 0.0.0.0 0.0.0.0 6.6.6.4

Internet:
conf t
int e0/0
Desc conn to AS 1
ip add 1.1.1.4 255.255.255.0
no sh
int e0/1
Desc conn to AS 2
ip add 2.2.2.4 255.255.255.0
no sh
int e0/2
Desc conn to AS3
ip add 3.3.3.4 255.255.255.0
no sh
int e0/3
Desc conn to AS3
ip add 5.5.5.4 255.255.255.0
no sh
int e1/0
Desc conn to AS3
ip add 6.6.6.4 255.255.255.0
no sh
```

exit

==

Phase 1:
R1:HUB

Int tun 1
ip add 192.168.1.1 255.255.255.0
tunnel source e0/0
tunnel mode gre multipoint
tunnel key 123
ip nhrp network-id 123
ip nhrp map multicast dynamic
ip nhrp authentication dmvpn
ip nhrp redirect
Bandwidth 4000
ip mtu 1400
ip tcp adjust-mss 1360
no ip split-horizon eigrp 1
exit

R4:Hub2
Int tun 1
ip add 192.168.1.11 255.255.255.0
tunnel source e0/0
tunnel mode gre multipoint
tunnel key 123
ip nhrp network-id 123
ip nhrp map multicast dynamic
ip nhrp authentication dmvpn
ip nhrp nhs 192.168.1.1 nbma 1.1.1.1 multicast
ip nhrp redirect
Bandwidth 4000
ip mtu 1400
ip tcp adjust-mss 1360
no ip split-horizon eigrp 1
exit

R2:Spoke-1

Int tun 1
ip add 192.168.1.2 255.255.255.0
tunnel source e0/0
tunnel mode gre multipoint
tunnel key 123
ip nhrp network-id 123
ip nhrp nhs 192.168.1.1 nbma 1.1.1.1 multicast
ip nhrp nhs 192.168.1.11 nbma 1.1.1.2 multicast
ip nhrp authentication dmvpn
ip nhrp registration no-unique
ip nhrp shortcut
Bandwidth 4000
ip mtu 1400

```
ip tcp adjust-mss 1360
exit


R3:Spoke-1

Int tun 1
ip add 192.168.1.3 255.255.255.0
tunnel source e0/0
tunnel mode gre multipoint
tunnel key 123
ip nhrp network-id 123
!ip nhrp nhs 192.168.1.1 nmba 1.1.1.1 multicast
ip nhrp nhs 192.168.1.11 nbma 1.1.1.2 multicast
ip nhrp nhs 192.168.1.1
ip nhrp map 192.168.1.1 1.1.1.1
ip nhrp map multicast 1.1.1.1
ip nhrp authentication dmvpn
ip nhrp shortcut
ip nhrp hold 100
Bandwidth 4000
ip mtu 1400
ip tcp adjust-mss 1360
exit


R5:Spoke-1

Int tun 1
ip add 192.168.1.5 255.255.255.0
tunnel source e0/0
tunnel mode gre multipoint
tunnel key 123
ip nhrp network-id 123
!ip nhrp nhs 192.168.1.1 nmba 1.1.1.1 multicast
ip nhrp nhs 192.168.1.11 nbma 1.1.1.2 multicast
ip nhrp nhs 192.168.1.1
ip nhrp map 192.168.1.1 1.1.1.1
ip nhrp map multicast 1.1.1.1
ip nhrp authentication dmvpn
ip nhrp shortcut
ip nhrp hold 100
Bandwidth 4000
ip mtu 1400
ip tcp adjust-mss 1360
exit

R6:Spoke-1

Int tun 1
ip add 192.168.1.6 255.255.255.0
tunnel source e0/0
tunnel mode gre multipoint
tunnel key 123
```

```
ip nhrp network-id 123
!ip nhrp nhs 192.168.1.1 nmba 1.1.1.1 multicast
ip nhrp nhs 192.168.1.11 nbma 1.1.1.2 multicast
ip nhrp nhs 192.168.1.1
ip nhrp map 192.168.1.1 1.1.1.1
ip nhrp map multicast 1.1.1.1
ip nhrp authentication dmvpn
ip nhrp shortcut
ip nhrp hold 100
Bandwidth 4000
ip mtu 1400
ip tcp adjust-mss 1360
exit



R1-R6

Spokes
! Adv tunnel ip /LAN

router eigrp 1
net 192.168.1.0
net 10.0.0.0
exit

R1/R4 (HUBS)

router eigrp R1
 !
 address-family ipv4 unicast autonomous-system 1
  !
  af-interface Tunnel1
   no next-hop-self
   add-path 4
   no split-horizon
  exit-af-interface
  !
  topology base
  exit-af-topology
  network 10.1.1.0 0.0.0.255
  network 192.168.1.0
 exit-address-family



=================================================================
Phase 3 OSPF implementation
---------------------------------------------
On All Routers HUBS & Spokes

router ospf 1
net 10.0.0.0 0.255.255.255 a 0
net 192.168.1.0 0.0.0.255 a 0
passive-interface e0/1
int tun 1
```

```
ip ospf network point-to-multipoint
exit
```

==