

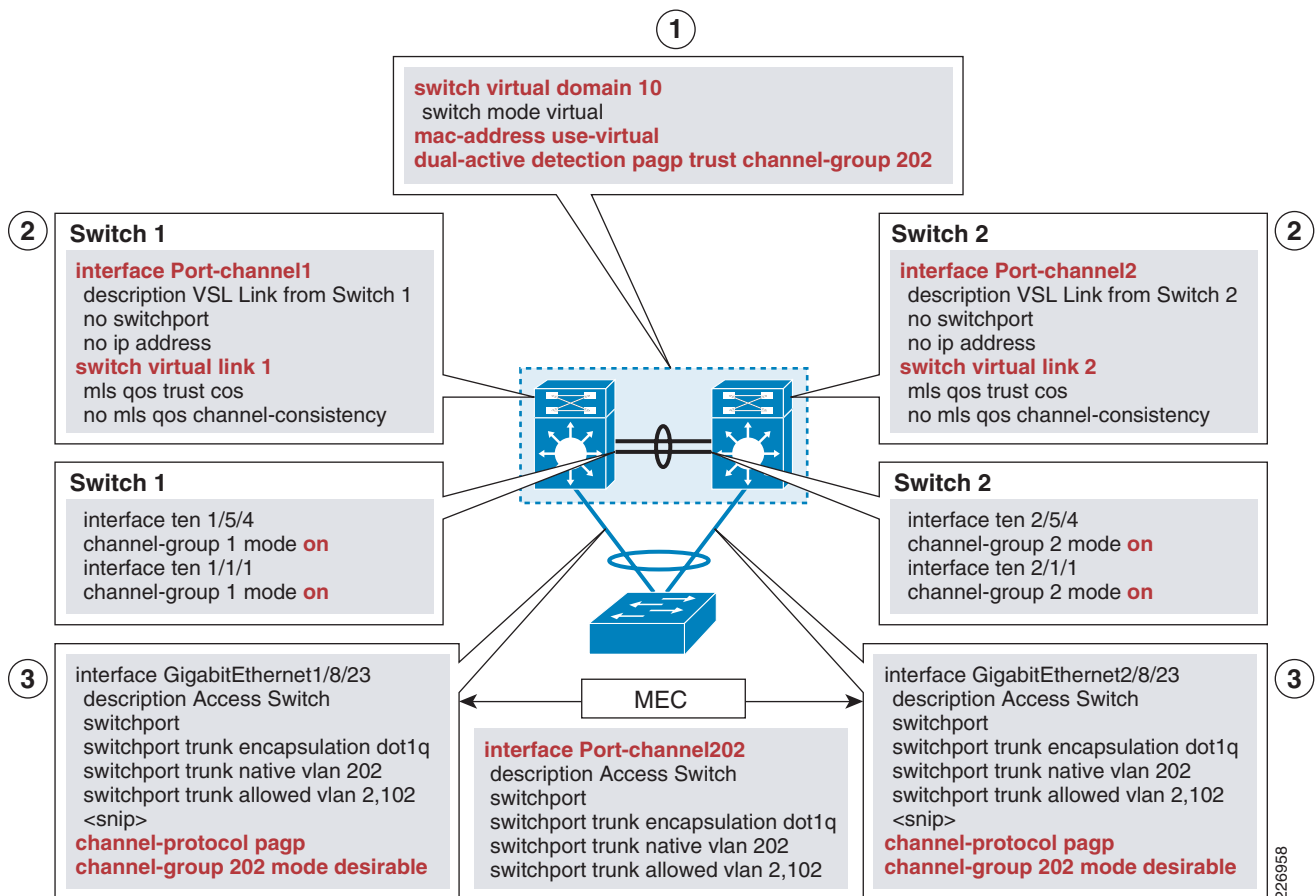


APPENDIX A

VSS-Enabled Campus Best Practice Configuration Example

Figure A-1 illustrates the baseline best practice configuration required to set up basic VSS enabled network. The circle indicates the essential steps required to create the VSS systems from standalone. The red text highlights the important CLI information with VSS configuration. Comments are provided in blue italic font.

Figure A-1 Overall VSS-Enabled Campus Best Practice Configuration Summary



End-to-End Device Configurations

The end-to-end devices configuration is categorized into three major sections. Each section configuration contains specific CLI which is a required as part of best practice configuration and corresponding explanation.

- VSS and L2 Domain- Includes above base configuration as well as L2 domain configuration
- Access-layer- Sample L2 domain configuration
- L3 Domain - Includes global L3 configuration for VSS and core routers. Then separate section for specifics topologies (ECMP and MEC) for EIGRP and OSPF. In addition, the core devices configuration shown below are standalone router/devices.

VSS Specific

VSS Global Configuration

```
switch virtual domain 10 ! Must configure unique domain ID
switch mode virtual
switch 1 priority 110 ! Not needed, helps in operational mgmt
switch 2 priority 100 ! Not needed, helps in operational mgmt
dual-active exclude interface GigabitEthernet1/5/3 ! Connectivity to VSS during dual
active
mac-address use-virtual ! Required for consistent MAC address
dual-active detection pagp trust channel-group 202 ! Enhanced PAGP based dual active
detection

redundancy ! Default SSO Enabled
main-cpu
  auto-sync running-config
mode sso
```

Switch 1

```
interface Port-channel1 ! Unique port-channel number for SW 1
description VSL Link from Switch 1
no switchport
no ip address
switch virtual link 1 ! Defines switch ID for SW 1
mls qos trust cos
no mls qos channel-consistency

interface ten 1/5/4
channel-group 1 mode on ! EC mode is ON - EtherChannel Managemement Protocol off
interface ten 1/1/1
channel-group 1 mode on
```

Switch 2

```
interface Port-channel2 ! Unique port-channel number for SW 1
description VSL Link from Switch 2
no switchport
no ip address
switch virtual link 2 ! Defines switch ID for SW 2
mls qos trust cos
no mls qos channel-consistency

interface ten 2/5/4
```

```
channel-group 2 mode on ! EC mode is ON - EtherChannel Managemeent Protocoloff
interface ten 2/1/1
channel-group 2 mode on
```

Layer-2 Domain

VSS

```
udld enable
vtp domain campus-test
vtp mode transparent

spanning-tree mode rapid-pvst
no spanning-tree optimize bpdu transmission
spanning-tree extend system-id
spanning-tree vlan 2-999 priority 24576 ! STP Root

port-channel load-balance src-dst-mixed-ip-port ! Enhanced hash algorithm

vlan 400 ! VLANs spanning multiple access-layer SWs
name L2_Spaned_VLAN_400

vlan 450
name L2_Spaned_VLAN_450

vlan 500
name L2_Spaned_VLAN_500

vlan 550
name L2_Spaned_VLAN_550

vlan 600
name L2_Spaned_VLAN_600

vlan 650
name L2_Spaned_VLAN_650

vlan 900
name NetMgmt_VLAN_900

vlan 999
name Unused_Port_VLAN_999

vlan 2
name cr7-3750-Stack-Data-VLAN
!
vlan 102
name cr7-3750-Stack-Voice-VLAN

interface Vlan2 ! Sample VLAN interface configuration
ip address 10.120.2.1 255.255.255.0
no ip redirects
no ip unreachablees
ip flow ingress
ip pim sparse-mode
logging event link-status
hold-queue 150 in
hold-queue 150 out
!
```

VSS—Multi-Chassis EtherChannel

PAGP

```

interface GigabitEthernet1/8/23 ! Interface on SW 1
  description Access Switch Facing Interface
  switchport
  switchport trunk encapsulation dot1q
  switchport trunk native vlan 202
  switchport mode dynamic desirable ! Trunk mod dynamic and desirable
  switchport trunk allowed vlan 2,102,400,450,500,550,600,650,900 ! Only allow need VLANs
  for a given trunk
  logging event link-status ! Logging for link status
  logging event trunk-status ! Logging for trunk status
  logging event bundle-status ! Logging for port-channel status
  load-interval 30
  mls qos trust dscp
  channel-protocol pagp
  channel-group 202 mode desirable ! Define Port-channel, PAGP mode desirable

interface GigabitEthernet2/8/23 ! Interface on SW 2
  description Access Switch Facing Interface
  switchport
  switchport trunk encapsulation dot1q
  switchport trunk native vlan 202
  switchport mode dynamic desirable
  switchport trunk allowed vlan 2,102,400,450,500,550,600,650,900
  logging event link-status
  logging event trunk-status
  logging event bundle-status
  load-interval 30
  mls qos trust dscp
  load-interval 30
  channel-protocol pagp
  channel-group 202 mode desirable

interface Port-channel202 ! Automatically created by defining at interfaces
  description Access Switch MEC
  switchport
  switchport trunk encapsulation dot1q
  switchport trunk native vlan 202
  switchport trunk allowed vlan 2,102,400,450,500,550,600,650,900
  logging event link-status
  logging event spanning-tree status ! STP logging enabled on port-channel
  load-interval 30
  mls qos trust dscp
  spanning-tree portfast ! Optional - helps during initialization
  hold-queue 2000 out

```

LACP

LACP Sample Configuration

```

interface GigabitEthernet1/8/23
  description Access Switch Facing Interface
  switchport
  switchport trunk encapsulation dot1q
  switchport trunk native vlan 202
  switchport mode dynamic desirable
  switchport trunk allowed vlan 2,102,400,450,500,550,600,650,900
  logging event link-status

```

```

logging event trunk-status
logging event bundle-status
load-interval 30
mls qos trust dscp
channel-protocol lacp
channel-group 202 mode active
hold-queue 2000 out

interface GigabitEthernet2/8/23
description Access Switch Facing Interface
switchport
switchport trunk encapsulation dot1q
switchport trunk native vlan 202
switchport mode dynamic desirable
switchport trunk allowed vlan 2,102,400,450,500,550,600,650,900
logging event link-status
logging event trunk-status
logging event bundle-status
load-interval 30
mls qos trust dscp
channel-protocol lacp
channel-group 202 mode active
hold-queue 2000 out

interface Port-channel202 ! Automatically created by defining at interfaces
description Access Switch MEC
switchport
switchport trunk encapsulation dot1q
switchport trunk native vlan 202
switchport trunk allowed vlan 2,102,400,450,500,550,600,650,900
logging event link-status
logging event spanning-tree status
load-interval 30
mls qos trust dscp
spanning-tree portfast ! Optional - helps during initialization
hold-queue 2000 out

```

Access-Layer Switch

Sample Configuration (Platform Specific Configuration Varies)

```

interface GigabitEthernet0/27
description Uplink to VSS Switch Gig 1/8/24
switchport trunk encapsulation dot1q
switchport trunk native vlan 203
switchport mode dynamic desirable
switchport trunk allowed vlan 3,103,400,450,500,550,600,650,900
logging event link-status
logging event trunk-status
logging event bundle-status
carrier-delay msec 0
srr-queue bandwidth share 1 70 25 5
srr-queue bandwidth shape 3 0 0 0
priority-queue out
mls qos trust dscp
channel-protocol pagp
channel-group 1 mode desirable

interface GigabitEthernet0/28
description Uplink to VSS Switch Gig 2/8/24
switchport trunk encapsulation dot1q
switchport trunk native vlan 203

```

```

switchport trunk allowed vlan 3,103,400,450,500,550,600,650,900
switchport mode dynamic desirable
logging event link-status
logging event trunk-status
logging event bundle-status
carrier-delay msec 0
srr-queue bandwidth share 1 70 25 5
srr-queue bandwidth shape 3 0 0 0
priority-queue out
mls qos trust dscp
channel-protocol pagp
channel-group 1 mode desirable

interface Port-channel1 ! Automatically created by defining at interfaces
description EC Uplink to VSS
switchport trunk encapsulation dot1q
switchport trunk native vlan 203
switchport trunk allowed vlan 3,103,400,450,500,550,600,650,900
switchport mode dynamic desirable
logging event link-status
logging event spanning-tree status
carrier-delay msec 0
spanning-tree portfast ! Optional - helps during initialization

```

Layer-3 Domain

The Layer 3 domain represents VSS interconnection to the core-layer. The core-layer devices configuration shown below are standalone router/switch.

Global Configuration

```
mls ip cef load-sharing <option> ! Apply Campus Best Practices
```

Multicast

VSS

```

ip multicast-routing
ip pim rp-address 10.122.100.1 GOOD-IPMC override ! RP mapping with filter

ip access-list standard GOOD-IPMC
permit 224.0.1.39
permit 224.0.1.40
permit 239.192.240.0 0.0.3.255
permit 239.192.248.0 0.0.3.255

```

Core 1 Standalone Router (No VSS)

Core RP ANYCAST - Primary

```

ip multicast-routing

interface Loopback0
description MSDP PEER INT ! MSDP Loopback
ip address 10.122.10.1 255.255.255.255

```

```

interface Loopback1
  description ANYCAST RP ADDRESS (PRIMARY) ! Anycast RP Primary
  ip address 10.122.100.1 255.255.255.255

interface Loopback2
  description Garbage-CAN RP
  ip address 2.2.2.2 255.255.255.255

interface Port-channel1 ! Core 1- Core2 L3 for MSDP
  description Channel to Peer Core Node
  dampening
  ip address 10.122.0.18 255.255.255.254
  ip pim sparse-mode
  load-interval 30
  carrier-delay msec 0
  mls qos trust dscp

ip access-list standard GOOD-IPMC
  permit 224.0.1.39
  permit 224.0.1.40
  permit 239.192.240.0 0.0.3.255
  permit 239.192.248.0 0.0.3.255

ip msdp peer 10.122.10.2 connect -source Loopback0 ! MSDP Configuration
ip msdp description 10.122.10.2 ANYCAST-PEER-6k-core-2
ip msdp cache -sa-state
ip msdp originator-id Loopback0

```

Core 2 Standalone Router (No VSS)

```

ip multicast-routing

interface Loopback0
  description MSDP PEER INT
  ip address 10.122.10.2 255.255.255.255

interface Loopback1
  description ANYCAST RP ADDRESS
  ip address 10.122.100.1 255.255.255.255 ! Secondary ANYCAST RP
  delay 600

interface Loopback2
  description Garbage-CAN RP
  ip address 2.2.2.2 255.255.255.255

interface Port-channel1
  description Channel to Peer Core node
  dampening
  ip address 10.122.0.19 255.255.255.254
  ip pim sparse-mode
  load-interval 30
  carrier-delay msec 0
  mls qos trust dscp

ip pim rp-address 10.122.100.1 GOOD-IPMC override
ip access-list standard GOOD-IPMC
  permit 224.0.1.39
  permit 224.0.1.40
  permit 239.192.240.0 0.0.3.255
  permit 239.192.248.0 0.0.3.255

```

```
ip msdp peer 10.122.10.1 connect-source Loopback0
ip msdp description 10.122.10.1 ANYCAST-PEER-6k-core-1
ip msdp cache-sa-state
ip msdp originator-id Loopback0
```

EIGRP MEC

VSS

```
router eigrp 100
  passive-interface default
  no passive-interface Port-channel200
  no passive-interface Port-channel201
  network 10.0.0.0
  eigrp log-neighbor-warnings
  eigrp log-neighbor-changes
  no auto-summary
  eigrp router-id 10.122.102.1
  eigrp event-log-size 3000
  nsf ! Enable NSF Capability

interface Port-channel200 ! Create L3 MEC Interface first
  description 20 Gig MEC to CORE-1 (cr2-6500-1 4/1-4/3)
  no switchport
  dampening
  ip address 10.122.0.26 255.255.255.254
  ip flow ingress
  ip pim sparse-mode
  ip summary-address eigrp 100 10.125.0.0 255.255.0.0 5 ! Summarization for Access-subnets
  ip summary-address eigrp 100 10.120.0.0 255.255.0.0 5
  logging event link-status
  load-interval 30
  carrier-delay msec 0
  mls qos trust dscp
  hold-queue 2000 in
  hold-queue 2000 out
!
interface Port-channel201
  description 20 Gig to CORE-2 (cr2-6500-1 4/1-4/3)
  no switchport
  dampening
  ip address 10.122.0.21 255.255.255.254
  ip flow ingress
  ip pim sparse-mode
  ip summary-address eigrp 100 10.125.0.0 255.255.0.0 5
  ip summary-address eigrp 100 10.120.0.0 255.255.0.0 5
  logging event link-status
  load-interval 30
  carrier-delay msec 0
  mls qos trust dscp
  hold-queue 2000 in
  hold-queue 2000 out

interface TenGigabitEthernet1/2/1
  description 10 GigE to Core 1
  no switchport
  no ip address
  logging event link-status
  logging event bundle-status
  load-interval 30
  carrier-delay msec 0
```

```

mls qos trust dscp
channel-protocol pagp
channel-group 200 mode desirable
hold-queue 2000 in
hold-queue 2000 out
!
interface TenGigabitEthernet1/2/2
description 10 GigE to Core 2
no switchport
no ip address
logging event link-status
logging event bundle-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
channel-protocol pagp
channel-group 201 mode desirable
hold-queue 2000 in
hold-queue 2000 out

interface TenGigabitEthernet2/2/1
description to core 1
no switchport
no ip address
logging event link-status
logging event bundle-status
logging event spanning-tree status
load-interval 30
mls qos trust dscp
channel-protocol pagp
channel-group 200 mode desirable
hold-queue 2000 in
hold-queue 2000 out

interface TenGigabitEthernet2/2/2
description 10 GigE to Core 2
no switchport
no ip address
logging event link-status
logging event bundle-status
load-interval 30
mls qos trust dscp
channel-protocol pagp
channel-group 201 mode desirable
hold-queue 2000 in
hold-queue 2000 out

```

Core 1 Standalone Router (No VSS)

```

router eigrp 100
passive-interface default
no passive-interface Port-channel1
no passive-interface Port-channel20
no passive-interface Port-channel221
network 10.0.0.0
no auto-summary
eigrp log-neighbor-warnings
eigrp log-neighbor-changes
eigrp event-log-size 3000

interface Port-channel20
description 20 Gig MEC to VSS 1/2/1 2/2/1

```

```

dampening
ip address 10.122.0.27 255.255.255.254
ip flow ingress
ip pim sparse-mode
logging event link-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out

```

Core 2 Standalone Router (No VSS)

```

router eigrp 100
  passive-interface default
  no passive-interface Port-channel1
  no passive-interface Port-channel20
  no passive-interface Port-channel221
  network 10.0.0.0
  no auto-summary
eigrp log-neighbor-warnings
eigrp log-neighbor-changes
eigrp event-log-size 3000

interface Port-channel21
  description 20 Gig to VSS 1/2/2-2/2/2
  dampening
  ip address 10.122.0.20 255.255.255.254
  ip flow ingress
  ip pim sparse-mode
  logging event link-status
  load-interval 30
  carrier-delay msec 0
  mls qos trust dscp
  hold-queue 2000 in
  hold-queue 2000 out

```

EIGRP ECMP

VSS

```

router eigrp 100
  passive-interface default
  no passive-interface TenGigabitEthernet1/2/1
  no passive-interface TenGigabitEthernet1/2/2
  no passive-interface TenGigabitEthernet2/2/1
  no passive-interface TenGigabitEthernet2/2/2
  network 10.0.0.0
  no auto-summary
  eigrp router-id 10.122.102.1
  eigrp log-neighbor-warnings
  eigrp log-neighbor-changes
  eigrp event-log-size 3000
  nsf ! Enable NSF Capability

interface TenGigabitEthernet1/2/1
  description 10 GigE to Core 1
  no switchport
  dampening

```

```

ip address 10.122.0.26 255.255.255.254
ip flow ingress
ip pim sparse-mode
ip summary-address eigrp 100 10.120.0.0 255.255.0.0 5
logging event link-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out
!
interface TenGigabitEthernet1/2/2
description 10 GigE to Core 2
no switchport
dampening
ip address 10.122.0.23 255.255.255.254
ip flow ingress
ip pim sparse-mode
ip summary-address eigrp 100 10.120.0.0 255.255.0.0 5
logging event link-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out

interface TenGigabitEthernet2/2/1
description to Core 1
no switchport
dampening
ip address 10.122.0.32 255.255.255.254
ip flow ingress
ip pim sparse-mode
ip summary-address eigrp 100 10.120.0.0 255.255.0.0 5
logging event link-status
load-interval 30
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out
!
interface TenGigabitEthernet2/2/2
description 10 GigE to Core 2
no switchport
dampening
ip address 10.122.0.20 255.255.255.254
ip flow ingress
ip pim sparse-mode
ip summary-address eigrp 100 10.120.0.0 255.255.0.0 5
logging event link-status
load-interval 30
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out

```

Core 1 Standalone Router (No VSS)

```

router eigrp 100
passive-interface default
no passive-interface TenGigabitEthernet4/1
no passive-interface TenGigabitEthernet4/3
network 10.0.0.0
no auto-summary

```

```

eigrp log-neighbor-warnings
eigrp log-neighbor-changes
eigrp event-log-size 3000

interface TenGigabitEthernet4/1
description To VSS Ten1/2/1
dampening
ip address 10.122.0.27 255.255.255.254
ip flow ingress
ip pim sparse-mode
logging event link-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out

interface TenGigabitEthernet4/3
description To VSS Ten2/2/1
dampening
ip address 10.122.0.33 255.255.255.254
ip flow ingress
ip pim sparse-mode
logging event link-status
logging event bundle-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out

```

Core 2 Standalone Router (No VSS)

```

router eigrp 100
passive-interface default
no passive-interface TenGigabitEthernet4/1
no passive-interface TenGigabitEthernet4/3
network 10.0.0.0
no auto-summary
eigrp log-neighbor-warnings
eigrp log-neighbor-changes
eigrp event-log-size 3000

interface TenGigabitEthernet4/1
description To VSS Ten 1/2/2
dampening
ip address 10.122.0.22 255.255.255.254
ip flow ingress
ip pim sparse-mode
logging event link-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out

interface TenGigabitEthernet4/3
description To VSS Ten 2/2/2
dampening
ip address 10.122.0.21 255.255.255.254
ip flow ingress
ip pim sparse-mode

```

```

logging event link-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out

```

OSPF MEC

VSS

```

router ospf 100
router-id 10.122.0.235
log-adjacency-changes detail
auto-cost reference-bandwidth 20000 ! Optional
nsf ! Enable NSF Capability
area 120 stub no-summary
area 120 range 10.120.0.0 255.255.0.0 cost 10
area 120 range 10.125.0.0 255.255.0.0 cost 10
passive-interface default
no passive-interface Port-channel200
no passive-interface Port-channel201
network 10.120.0.0 0.0.255.255 area 120
network 10.122.0.0 0.0.255.255 area 0
network 10.125.0.0 0.0.255.255 area 120

interface Port-channel200
description 20 Gig MEC to VSS (cr2-6500-1 4/1-4/3)
no switchport
dampening
ip address 10.122.0.26 255.255.255.254
ip flow ingress
ip pim sparse-mode
ip ospf network point-to-point
logging event link-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out
!
interface Port-channel201
description 20 Gig to VSS (cr2-6500-1 4/1-4/3)
no switchport
dampening
ip address 10.122.0.21 255.255.255.254
ip flow ingress
ip pim sparse-mode
ip ospf network point-to-point
logging event link-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out

```

Core 1 Standalone Router No VSS)

```

router ospf 100
  router-id 10.254.254.7
  log-adjacency-changes detail ! Helps in NSF Restart Activities
  auto-cost reference-bandwidth 20000 ! Optional
  passive-interface default
  no passive-interface Port-channel1
  no passive-interface Port-channel20
  network 10.122.0.0 0.0.255.255 area 0

interface Port-channel20
  description 20 Gig MEC to VSS 1/2/1 2/2/1
  dampening
  ip address 10.122.0.27 255.255.255.254
  ip flow ingress
  ip pim sparse-mode
  ip ospf network point-to-point
  logging event link-status
  load-interval 30
  carrier-delay msec 0
  mls qos trust dscp
  hold-queue 2000 in
  hold-queue 2000 out

```

Core 2 Standalone Router (No VSS)

```

router ospf 100
  router-id 10.254.254.7
  log-adjacency-changes detail
  auto-cost reference-bandwidth 20000 ! Optional
  passive-interface default
  no passive-interface Port-channel1
  no passive-interface Port-channel20
  network 10.122.0.0 0.0.255.255 area 0

interface Port-channel21
  description 20 Gig to VSS 1/2/2-2/2/2
  dampening
  ip address 10.122.0.20 255.255.255.254
  ip flow ingress
  ip pim sparse-mode
  ip ospf network point-to-point
  logging event link-status
  load-interval 30
  carrier-delay msec 0
  mls qos trust dscp
  hold-queue 2000 in
  hold-queue 2000 out

```

OSPF ECMP

VSS

```

router ospf 100
  router-id 10.122.0.235
  log-adjacency-changes detail
  auto-cost reference-bandwidth 20000 ! Optional
  nsf ! Enable NSF Capability
  area 120 stub no-summary

```

```

area 120 range 10.120.0.0 255.255.0.0 cost 10
area 120 range 10.125.0.0 255.255.0.0 cost 10
passive-interface default
no passive-interface TenGigabitEthernet1/2/1
no passive-interface TenGigabitEthernet1/2/2
no passive-interface TenGigabitEthernet2/2/1
no passive-interface TenGigabitEthernet2/2/2
network 10.120.0.0 0.0.255.255 area 120
network 10.122.0.0 0.0.255.255 area 0
network 10.125.0.0 0.0.255.255 area 120

```

```

interface TenGigabitEthernet1/2/1
description 10 GigE to Core 1
no switchport
dampening
ip address 10.122.0.26 255.255.255.254
ip flow ingress
ip pim sparse-mode
ip ospf network point-to-point
logging event link-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out
!
interface TenGigabitEthernet1/2/2
description 10 GigE to Core 2
no switchport
dampening
ip address 10.122.0.23 255.255.255.254
ip flow ingress
ip pim sparse-mode
ip ospf network point-to-point
logging event link-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out
!

```

```

interface TenGigabitEthernet2/2/1
description to Core 1
no switchport
dampening
ip address 10.122.0.32 255.255.255.254
ip flow ingress
ip pim sparse-mode
ip ospf network point-to-point
logging event link-status
load-interval 30
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out
!
interface TenGigabitEthernet2/2/2
description 10 GigE to Core 2
no switchport
dampening
ip address 10.122.0.20 255.255.255.254
ip flow ingress

```

```

ip pim sparse-mode
ip ospf network point-to-point
logging event link-status
load-interval 30
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out

```

Core 1 Standalone Router (No VSS)

```

router ospf 100
router-id 10.254.254.7
log-adjacency-changes detail
auto-cost reference-bandwidth 20000 ! Optional
passive-interface default
no passive-interface GigabitEthernet2/5
no passive-interface TenGigabitEthernet4/1
no passive-interface TenGigabitEthernet4/3
no passive-interface Port-channel1
network 10.122.0.0 0.0.255.255 area 0

```

```

interface TenGigabitEthernet4/1
description To VSS Ten1/2/1
dampening
ip address 10.122.0.27 255.255.255.254
ip flow ingress
ip pim sparse-mode
ip ospf network point-to-point
logging event link-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out
!
!
interface TenGigabitEthernet4/3
description To VSS Ten2/2/1
dampening
ip address 10.122.0.33 255.255.255.254
ip flow ingress
ip pim sparse-mode
ip ospf network point-to-point
logging event link-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out

```

Core 2 Standalone Router (No VSS)

```

router ospf 100
router-id 10.254.254.7
log-adjacency-changes detail
auto-cost reference-bandwidth 20000 ! Optional
passive-interface default
no passive-interface GigabitEthernet2/5
no passive-interface TenGigabitEthernet4/1
no passive-interface TenGigabitEthernet4/3
no passive-interface Port-channel1
network 10.122.0.0 0.0.255.255 area 0

```

```
interface TenGigabitEthernet4/1
description To VSS Ten 1/2/2
dampening
ip address 10.122.0.22 255.255.255.254
ip flow ingress
ip pim sparse-mode
ip ospf network point-to-point
logging event link-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out
!
!
interface TenGigabitEthernet4/3
description To VSS Ten 2/2/2
dampening
ip address 10.122.0.21 255.255.255.254
ip flow ingress
ip pim sparse-mode
ip ospf network point-to-point
logging event link-status
load-interval 30
carrier-delay msec 0
mls qos trust dscp
hold-queue 2000 in
hold-queue 2000 out
```

