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Migrating Classical Enterprise Campus Networks to VXLAN EVPN Based Networks

Manish Sharma – Technical Marketing Engineer @X handle

BRKENS-2188

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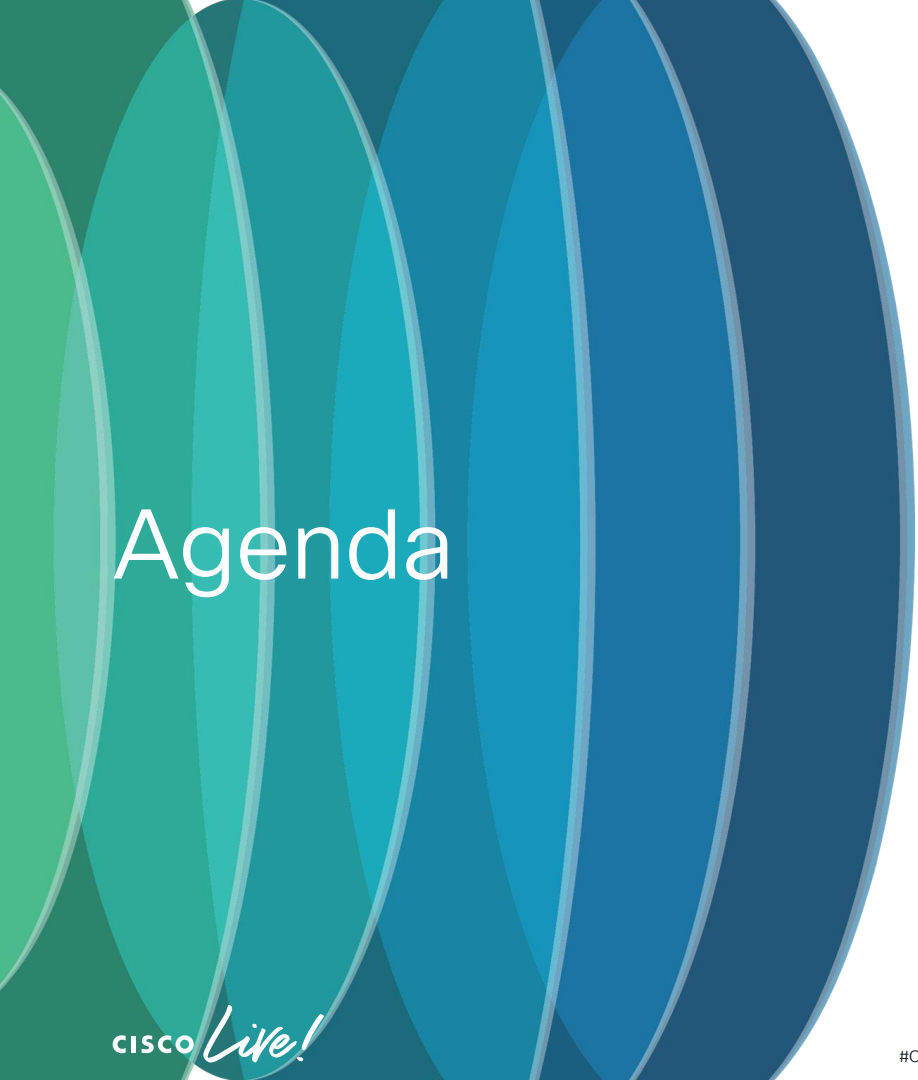
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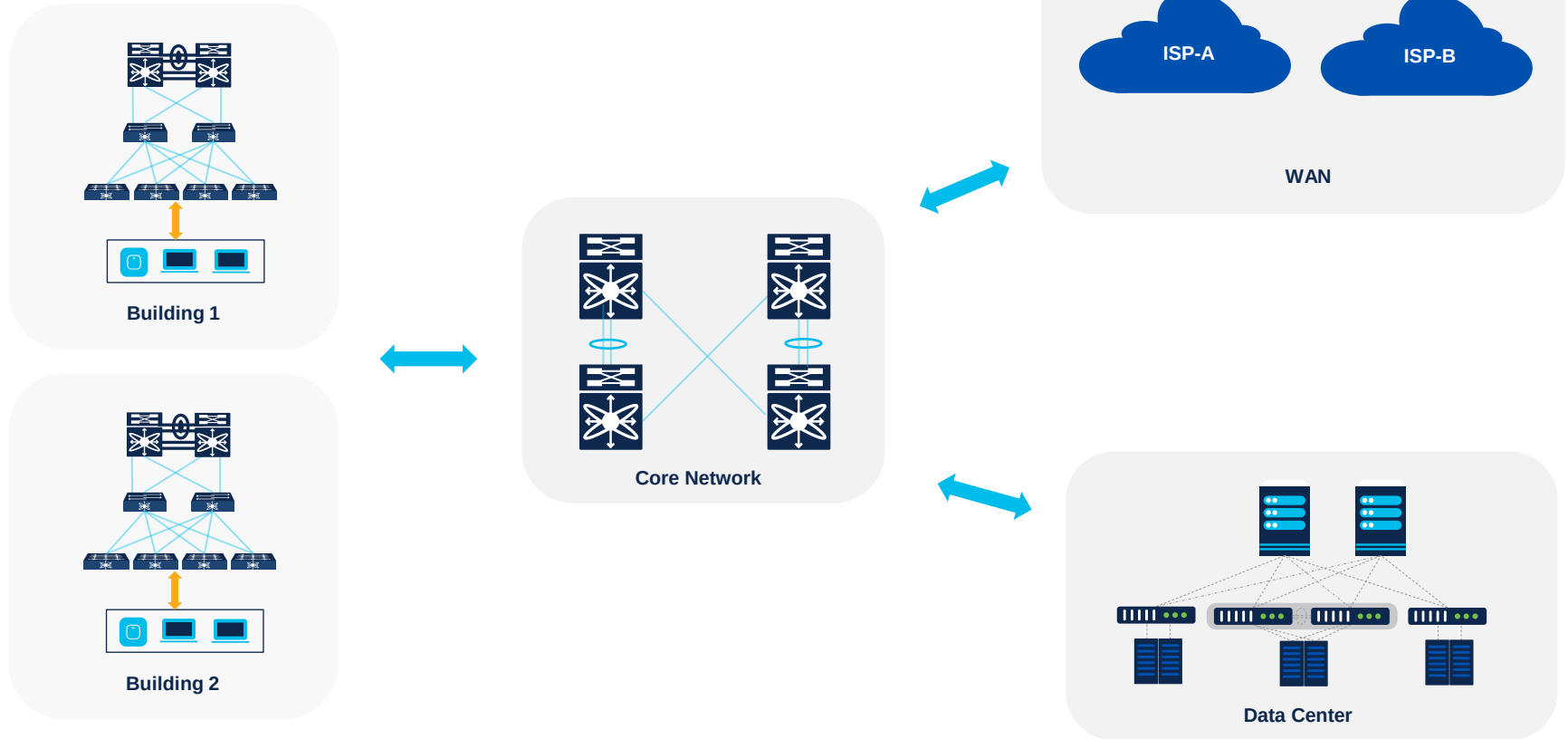




Agenda

- Introduction
- BGP EVPN Fundamentals
- Underlay and Overlay Design considerations
- Building EVPN Fabric
- Migration Walkthrough
- Flexible Overlay Topologies
- Fabric Deployment Options

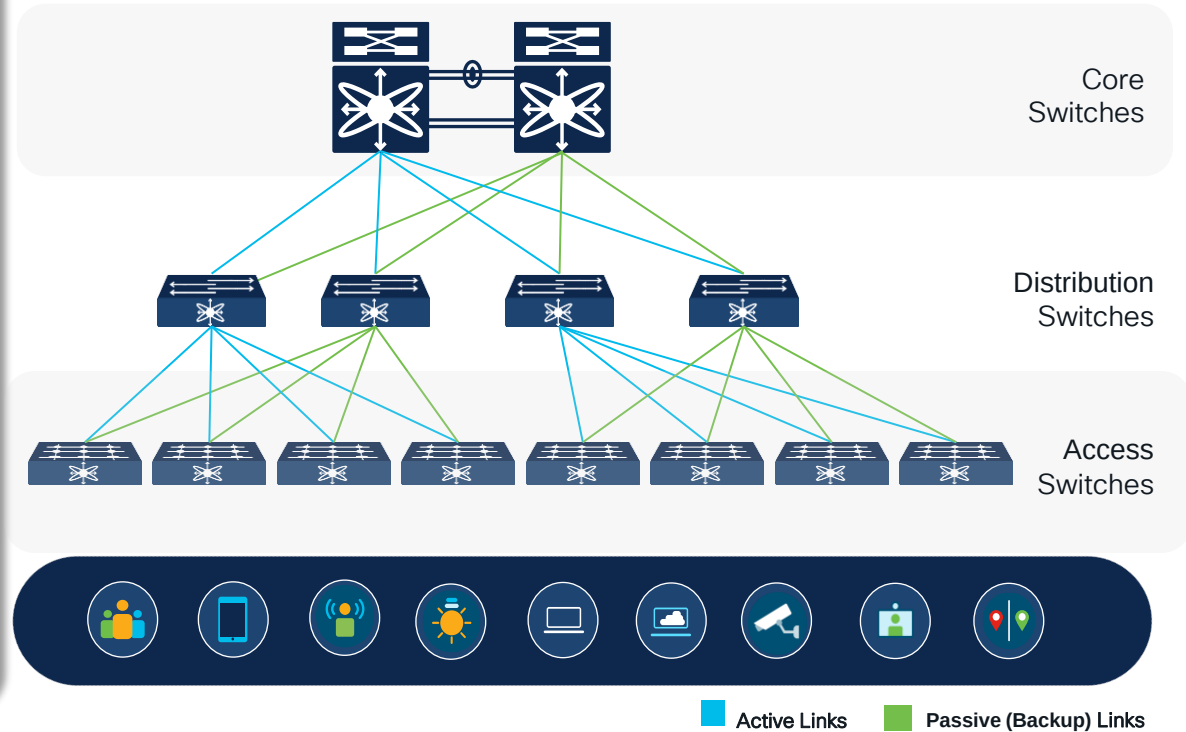
Typical Campus Network



Traditional 3-Tier Networks

Challenges

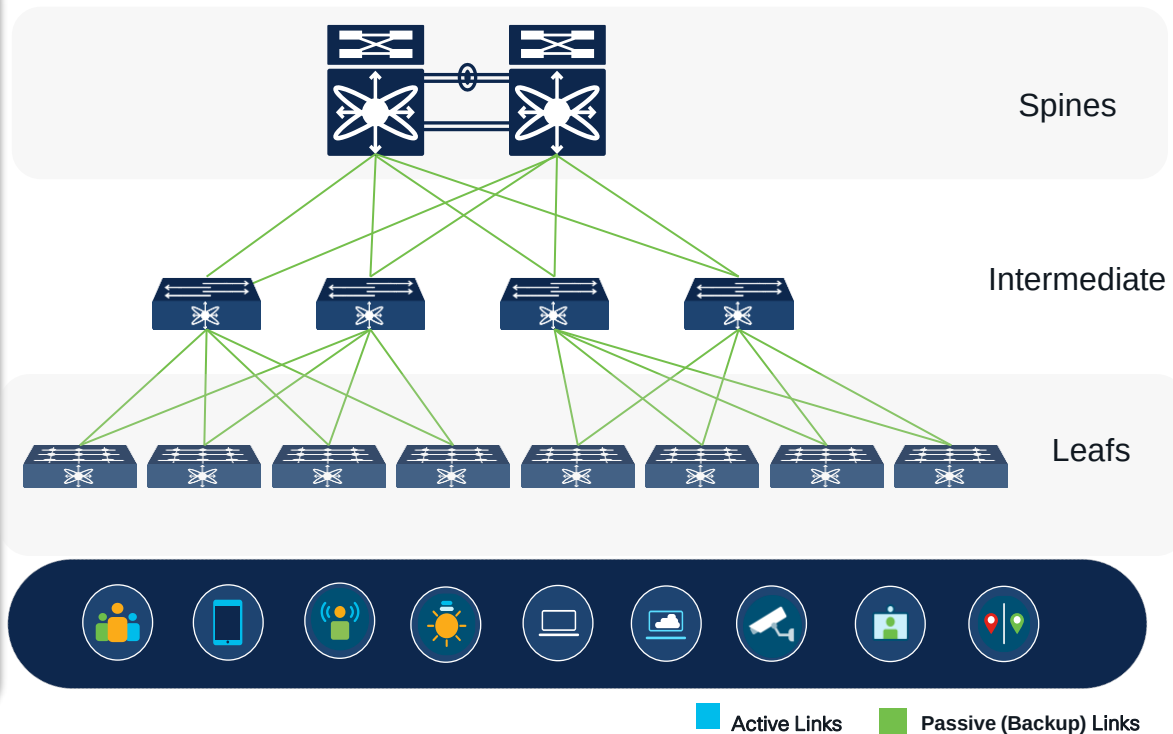
- Broadcast Domain – Spanning-Tree
- Flood & Learn Mechanism
- Mobility- Roaming
- VLAN Scale
- Load Balancing
- Resiliency
- Scalability



BGP EVPN VXLAN Networks

Benefits

- Any Subnet, Anywhere
- Layer-3 ECMP links end-to-end
- No Flooding with BGP Control Plane
- Extensible Scale & Resiliency
- Distributed Gateway on all Edge nodes (Leaf)
- Segmentation



Why BGP EVPN for Enterprise Campus ?



Industry Standard



One Fabric Architecture



Proven and Scalable

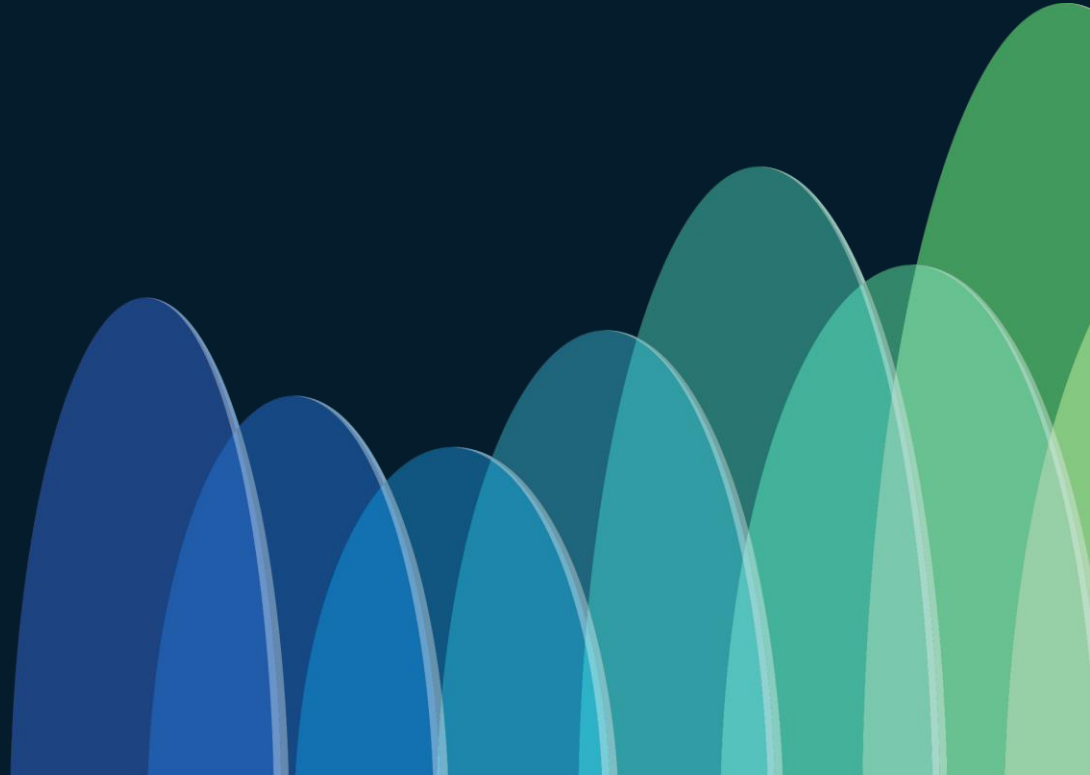


Hierarchical Fabric Domain

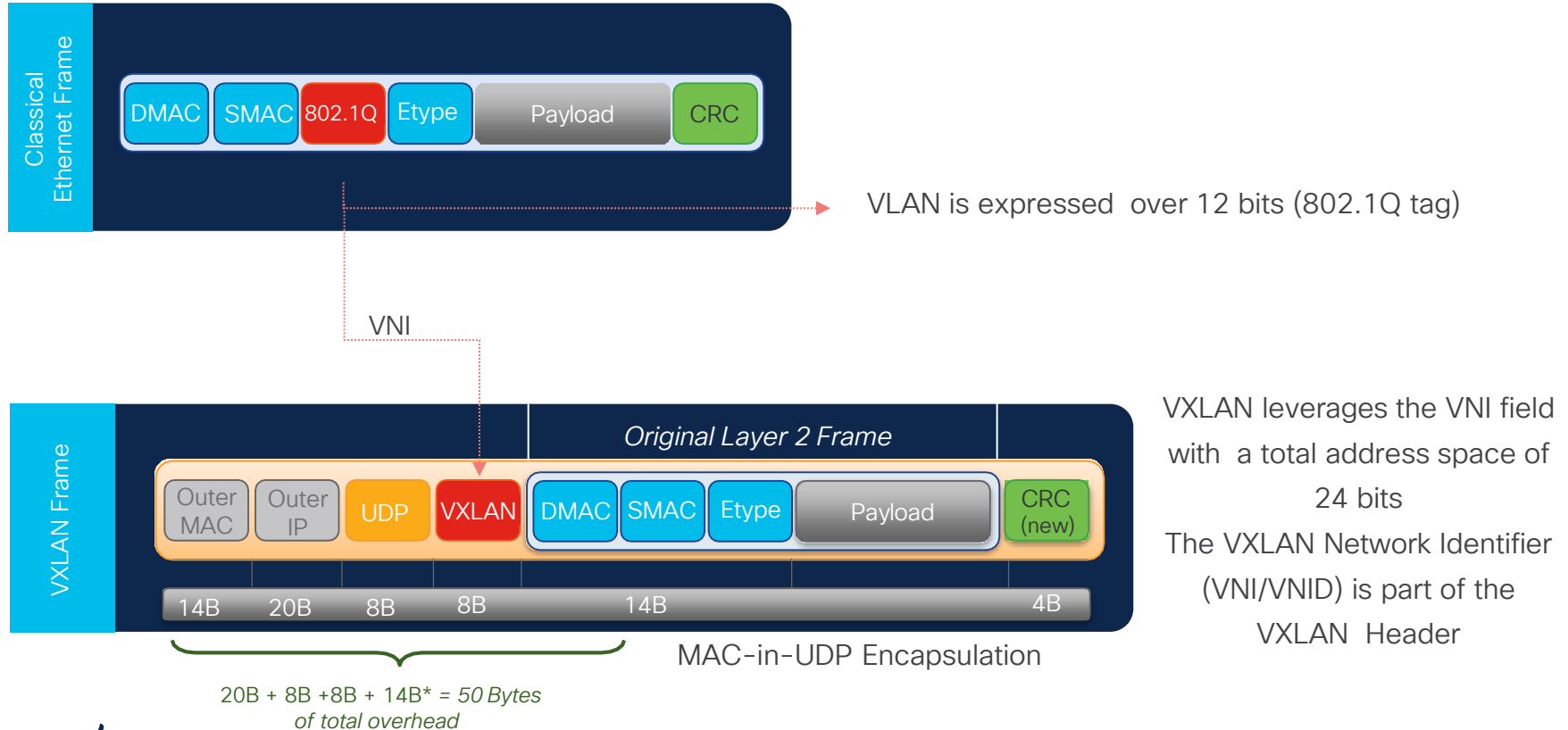


Flexible Overlay

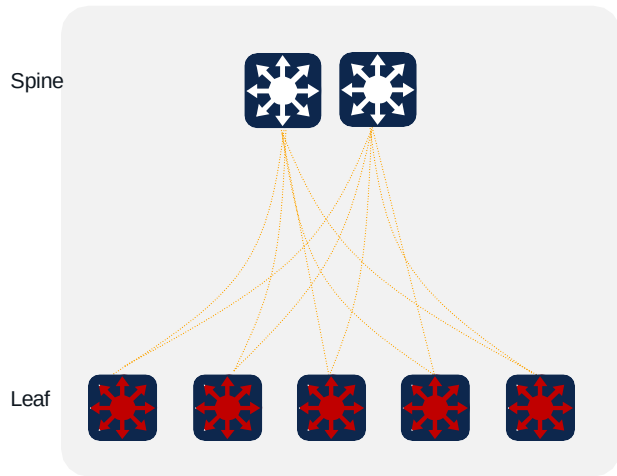
What is BGP EVPN?



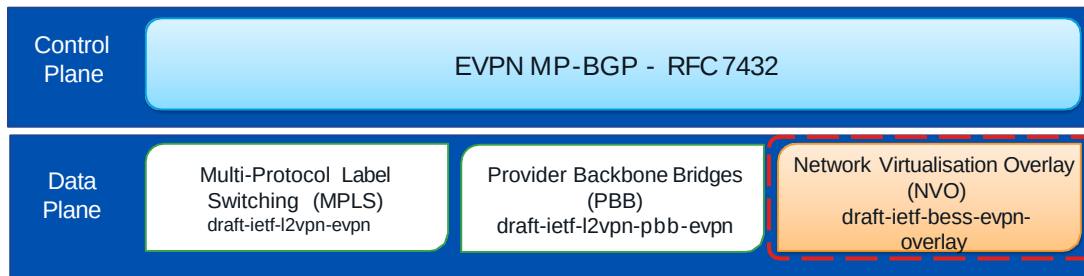
VXLAN Overview



VXLAN with BGP EVPN



- Standards based Overlay (VXLAN) with Standards based Control-Plane (BGP)
- Layer-2 MAC and Layer-3 IP information distribution by Control-Plane (BGP)
- Forwarding decision based on Control-Plane (minimises flooding)
- Integrated Routing/Bridging (IRB) for Optimised Forwarding in the Overlay
- Multi-Tenancy At Scale



EVPN over NVO Tunnels (VXLAN)

Provides Layer-2 and Layer-3 Overlays over simple IP Networks

BGP EVPN System Role

BORDER-GATEWAY:

A gateway point between two or more BGP EVPN administrative domain boundary.

BORDER :

A gateway point between EVPN fabric and external network domain.

INTERMEDIATE :

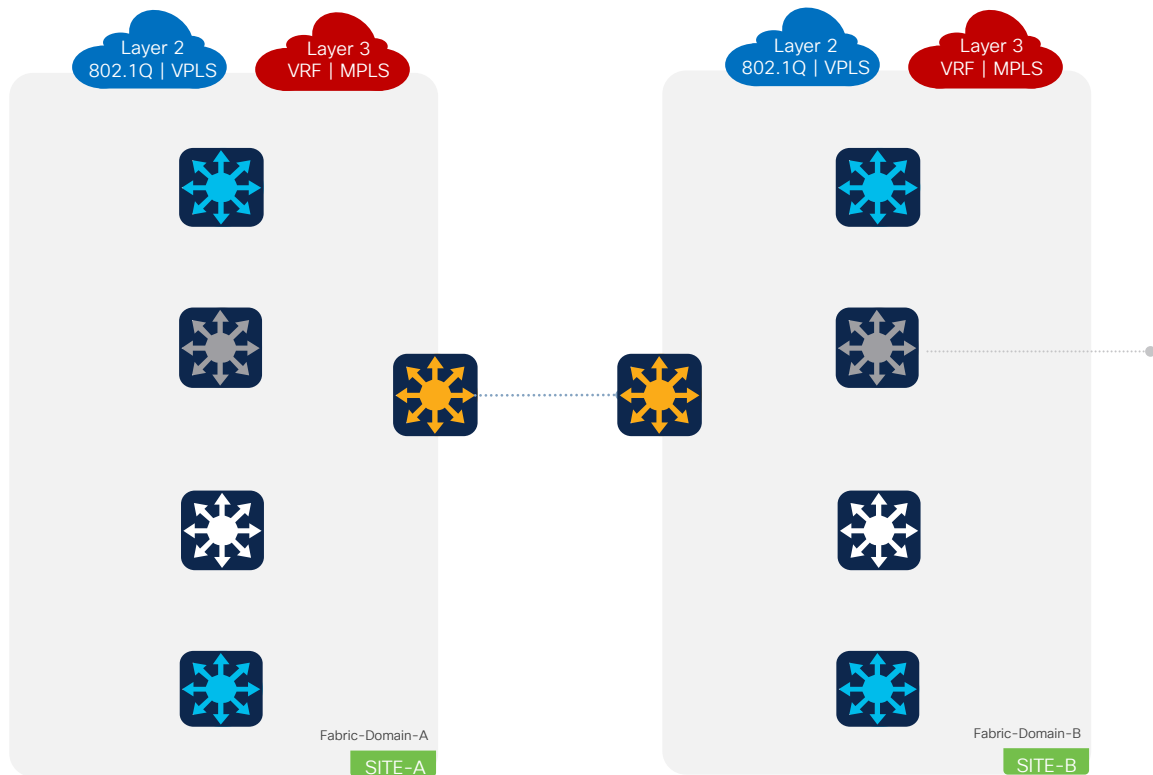
A Layer 2 or Layer 3 (IP/MPLS) Underlay network system providing basic transport and forwarding plane.

SPINE :

An BGP EVPN reflects the L2/L3 VPN prefixes providing hierarchical neighbor peering, learning and distribution point.

VTEP (LEAF) :

An origination and termination point of VXLAN enabled overlay network.



BGP EVPN System Role

Catalyst EVPN Scale and Performance Matrix



Cisco Catalyst BGP EVPN Configuration Guide
Scale and Performance Chapter

BORDER-GATEWAY:

A gateway point of between two or more BGP EVPN administrative domain boundary.

BORDER :

A gateway point of between EVPN fabric and external network domain.

INTERMEDIATE :

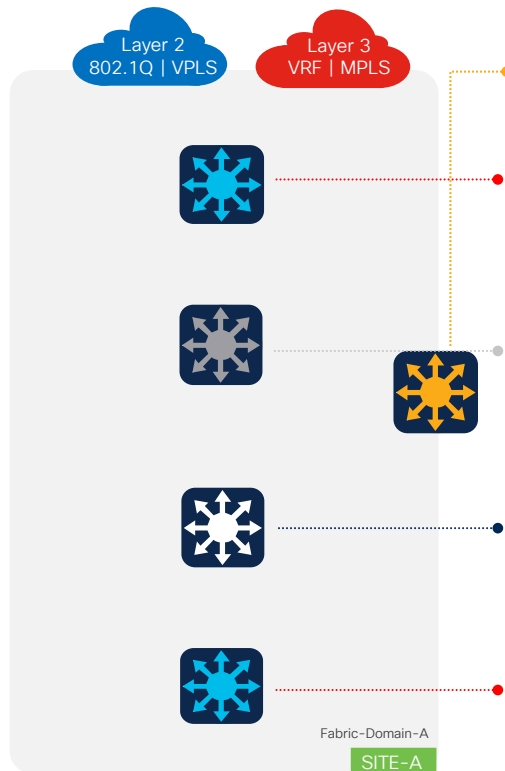
A Layer 2 or Layer 3 (IP/MPLS)
Underlay network system providing
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An BGP EVPN reflects the L2/L3 VPN
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neighbor peering, learning and
distribution point.

VTEP (LEAF) :

An origination and termination point
of VXLAN enabled overlay network.



System Support	Mode
Nexus 9000	Standalone

System Support	Mode
Catalyst 9300 – 9600 (9500-H/X/9600/X)	Standalone Stack ★
Catalyst 8000 Edge ASR 1000	Physical
Nexus 9000	Standalone
ASR 9000	Standalone

System Support	Mode
Any	Any

System Support	Mode
Catalyst 9300 – 9600 (9500-H/X & 9600/X)	Standalone Stack
Catalyst 8000 Edge ASR 1000	Physical Virtual
Nexus 9000	Standalone
ASR 9000	Standalone

System Support	Mode
Catalyst 9300L 9300 9300X Series	Standalone StackWise ★
Catalyst 9400 9400X Series	Standalone StackWise-Virtual ★
Catalyst 9500 9500X Series	Standalone StackWise-Virtual ★
Catalyst 9600 9600X Series	Standalone StackWise-Virtual ★

★ - Recommended

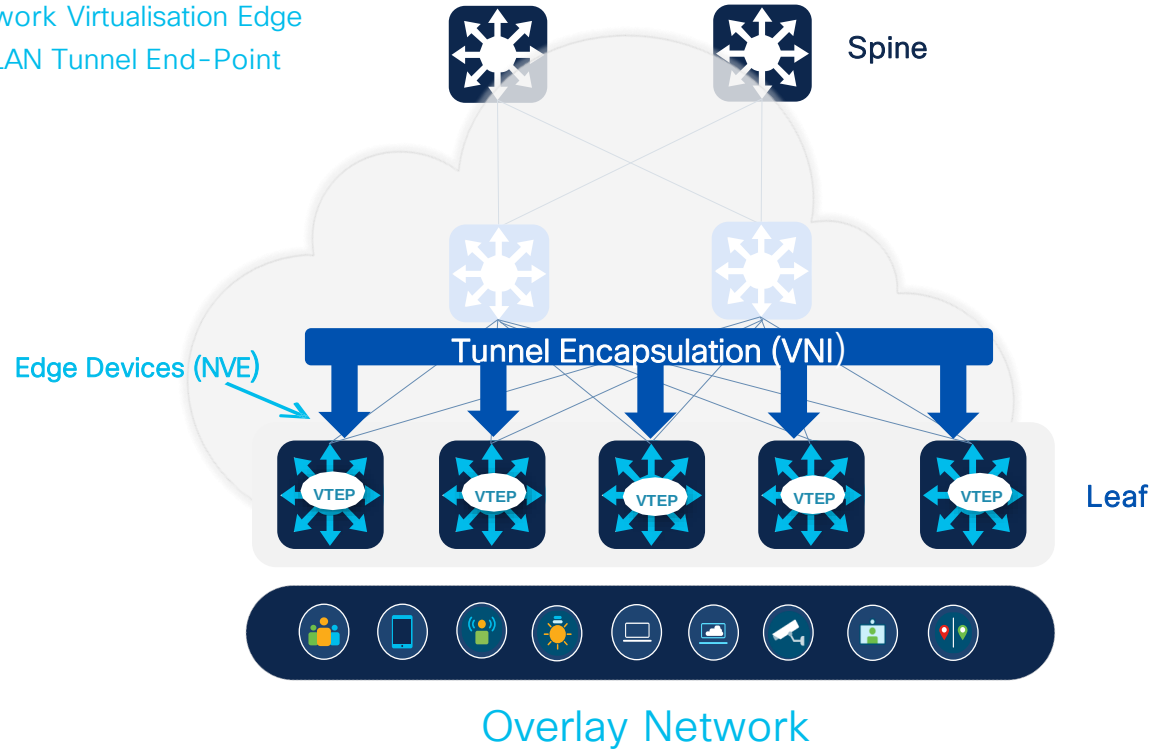
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Overlay Taxonomy

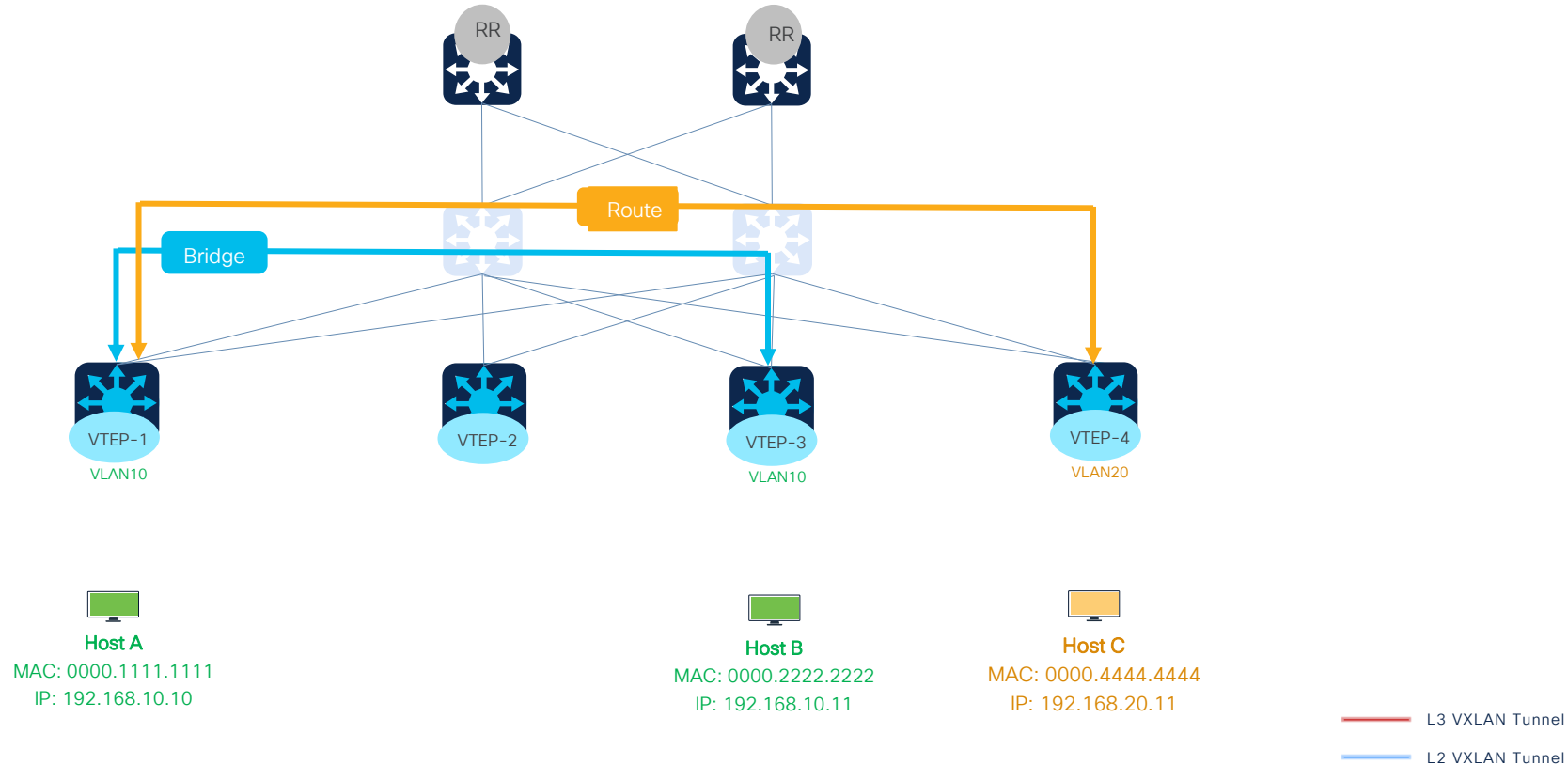
Identifier = VN Identifier (VNID)

NVE = Network Virtualisation Edge

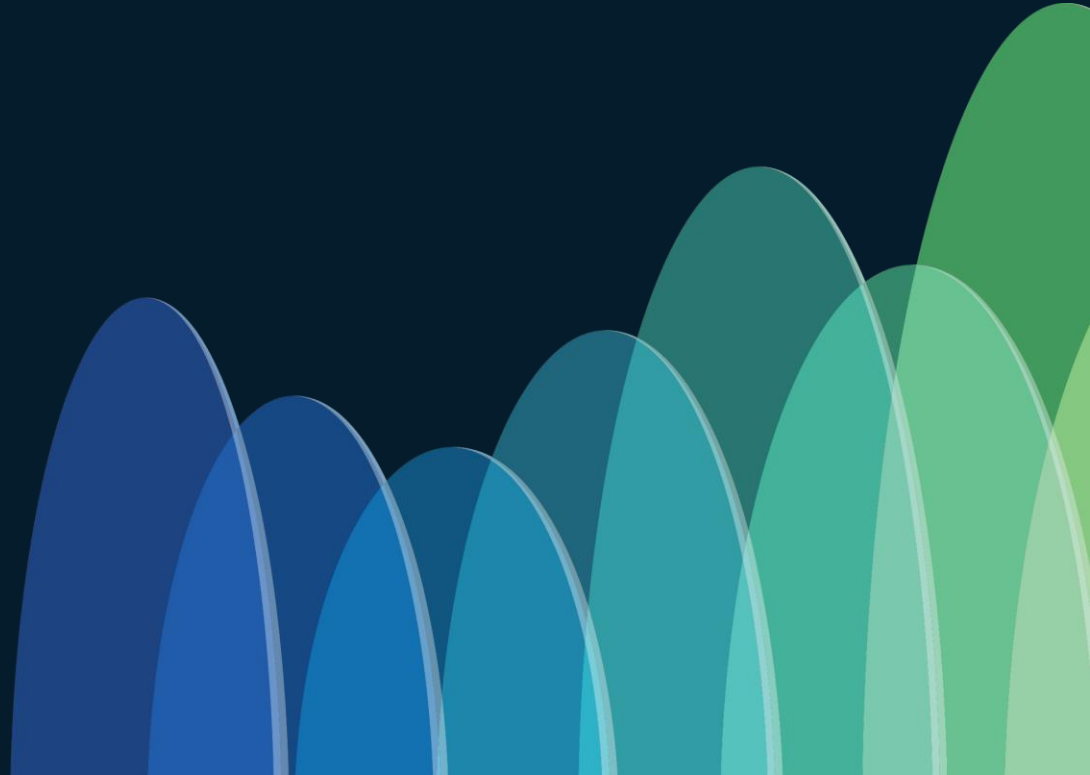
VTEP = VXLAN Tunnel End-Point



Bridging and Routing



Underlay Network

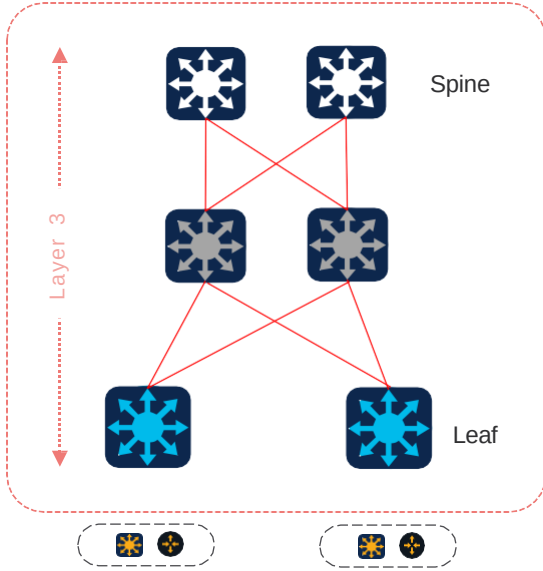




**Overlay
Network**

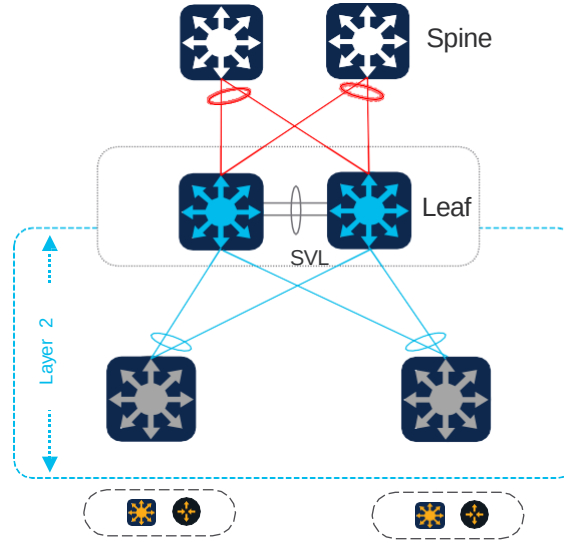
Underlay Design Considerations

Routed Access



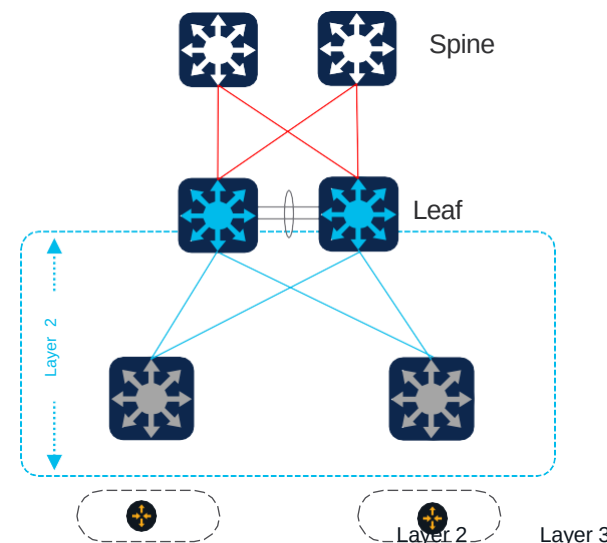
- Routed Access environment
- Leaf Layer – Routed Access
- Spine/RR – Direct | Multi-hop
- ECMP | Non-Blocking ports
- Underlay | Overlay IP Gateway
- L2 | L3 Overlay Support
- Multicast Support

StackWise-Virtual



- Access – Traditional Layer 2
- Leaf Layer – Distribution
- Spine/RR – Direct | Multi-hop
- MEC | ECMP | Active/Active forwarding
- Underlay | Overlay IP Gateway
- L2 | L3 Overlay Support
- Multicast Support

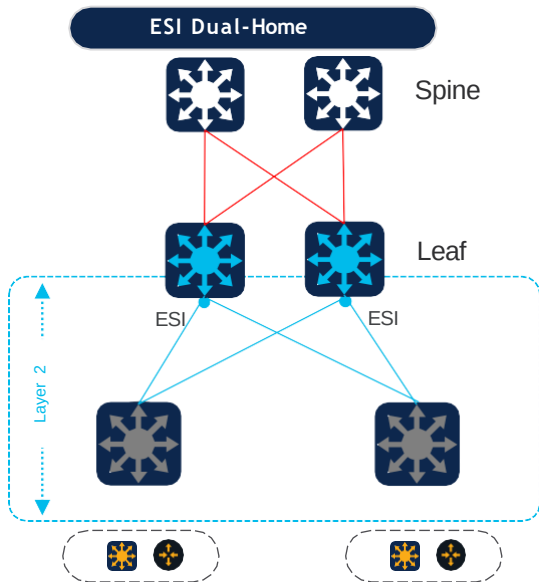
Layer 2 | Layer 3 Distribution



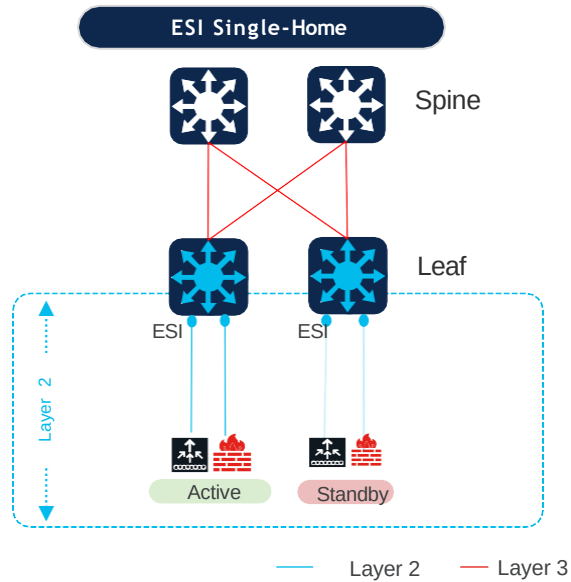
- Access – Traditional Layer 2
- Leaf Layer – Distribution
- Spine/RR – Direct | Multi-hop
- FHRP | ECMP | Multicast
- Underlay | Overlay IP Gateway
- L3 Overlay Support. No L2 Extension
- Multicast Support

EVPN ESI Dual-Home

(Ethernet Segment Identifier)

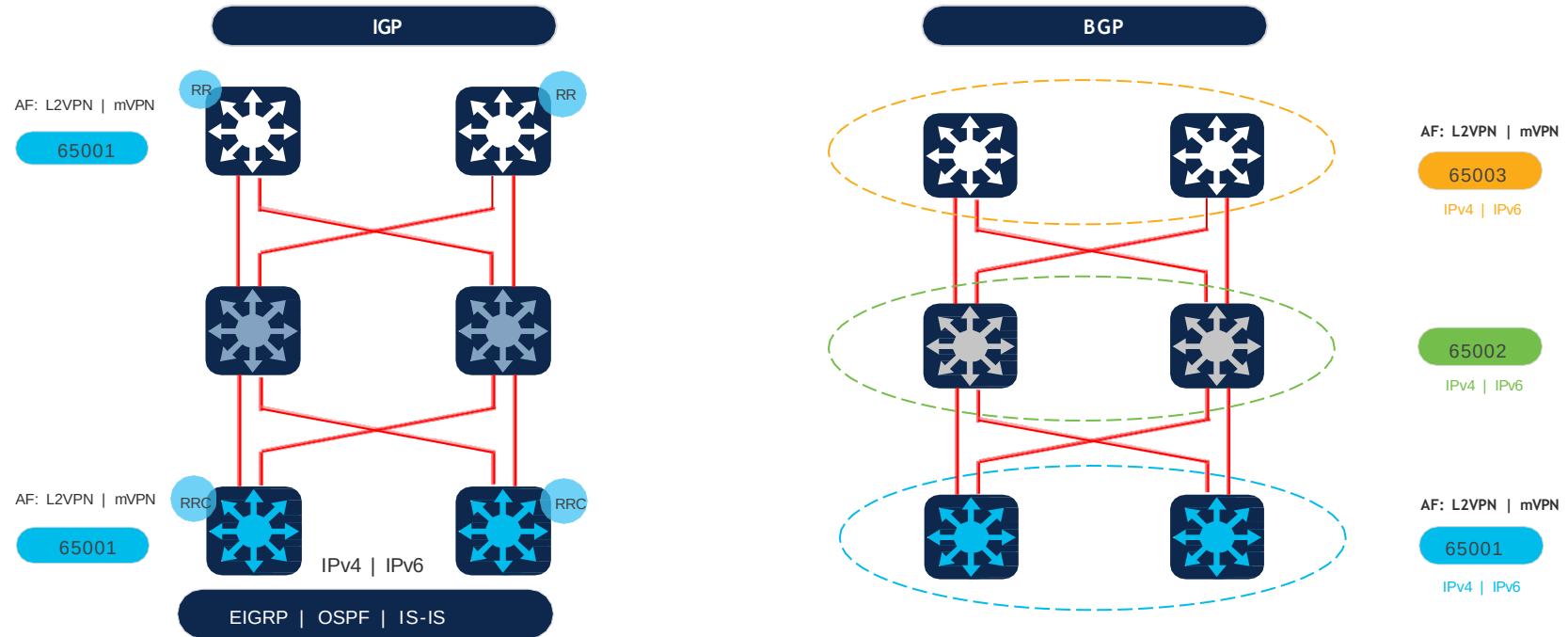


- Access – Traditional Layer 2
- Leaf Layer – Distribution
- Spine/RR – Direct | Multi-hop
- Per-ESI Anycast Gateway
- Per-VLAN | FHRP | ECMP | Multicast
- Active / Standby load-balancing
- L2 | L3 Overlay support
- Multicast Support



- Access – Traditional Layer 2
- Leaf Layer – Distribution
- Spine/RR – Direct | Multi-hop
- Per-ESI Anycast Gateway
- Per-VLAN | FHRP | ECMP | Multicast
- Active / Standby load-balancing
- L2 | L3 Overlay support
- Multicast support

Underlay Unicast Routing Design Alternatives

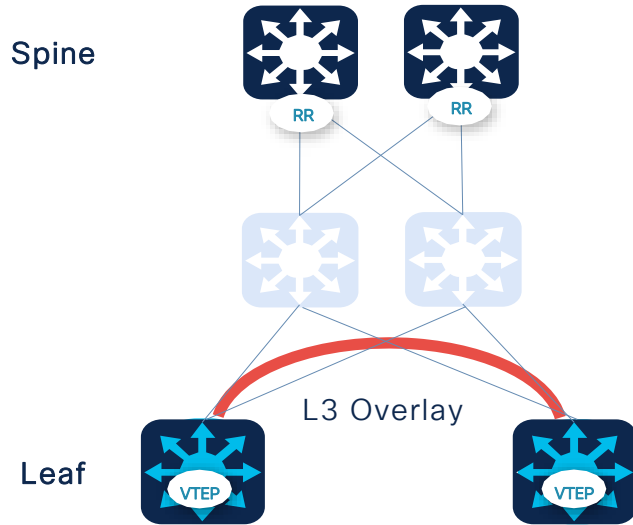


- Flexible Underlay Unicast alternatives – IGP (EIGRP/OSPF/IS-IS) or BGP
- Physical/Virtual Spine RR support – IOS-XE | NXOS | XR
- Secure link-layer underlay network encryption using MACSEC
- Underlay MTU size consideration. TCP MSS adjust supported.

Overlay Network Design

Flexible Routing and Bridging Overlay Types

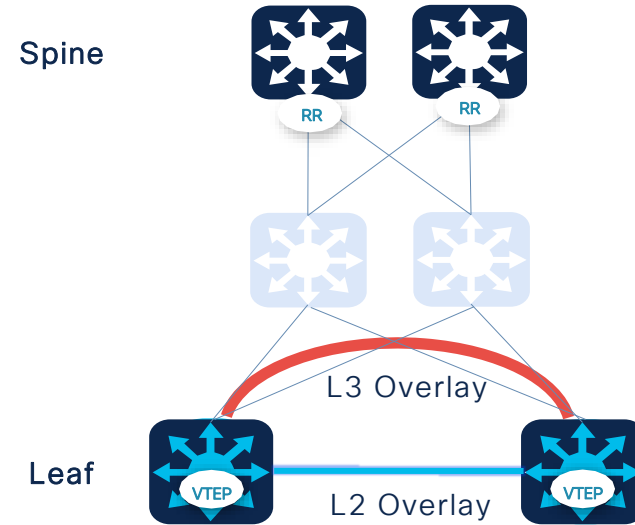
Layer 3 Overlay



L3 Overlay



Distributed Anycast Gateway



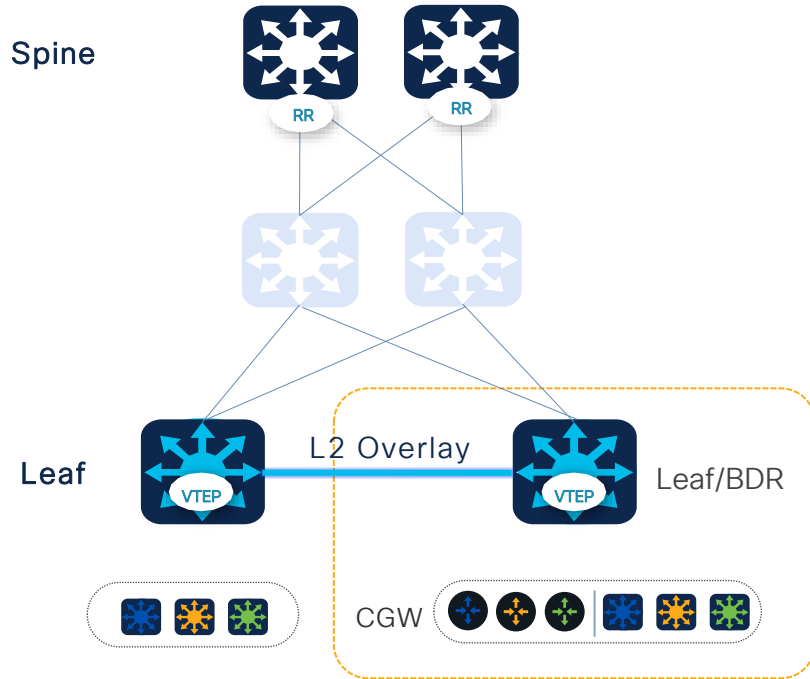
L3 Overlay



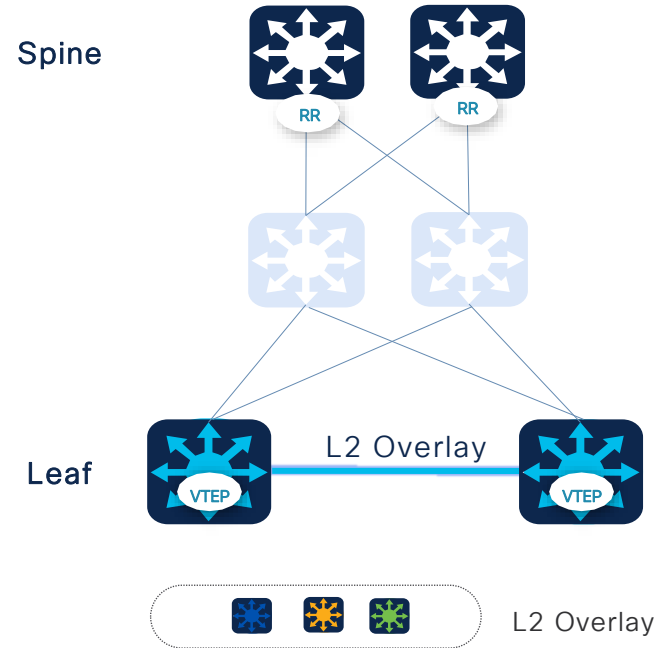
L2 Overlay

Flexible Routing and Bridging Overlay Types

Centralised Gateway



Layer 2 Overlay

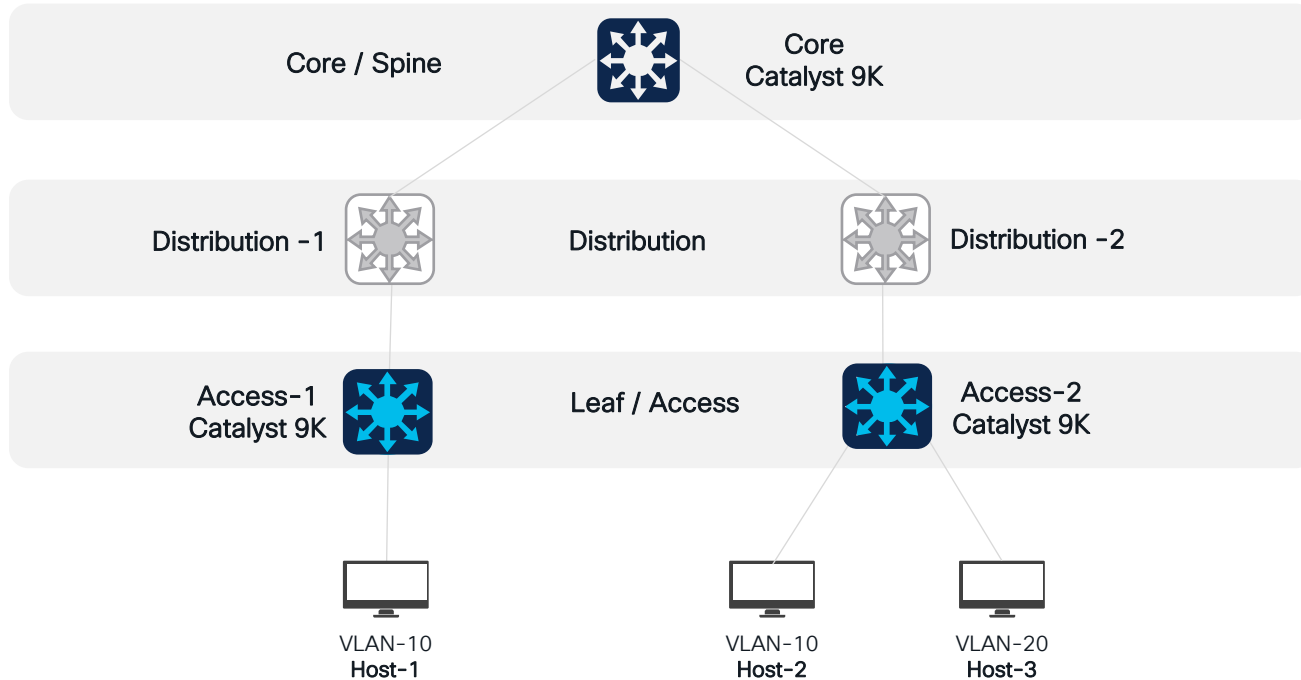


Building EVPN Fabric

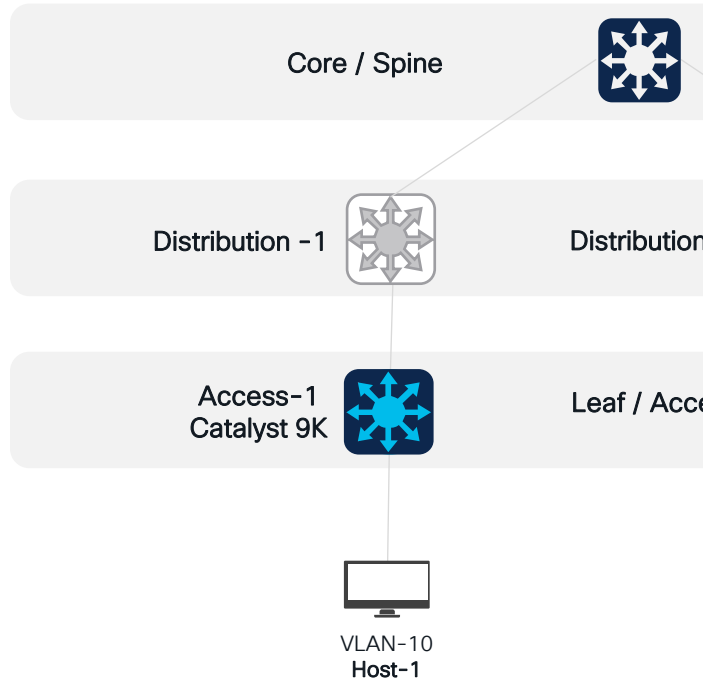
VXLAN EVPN – Configuration Constructs

1. Underlay Configuration
2. Underlay Configuration for BUM – Ingress replication / Multicast
3. EVPN Control Plane Configuration
4. EVPN – Multitenancy Configuration
5. Overlay Configuration- Vxlan Data Plane
6. Distributed Anycast Gateway Configuration

Underlay Configuration - OSPF

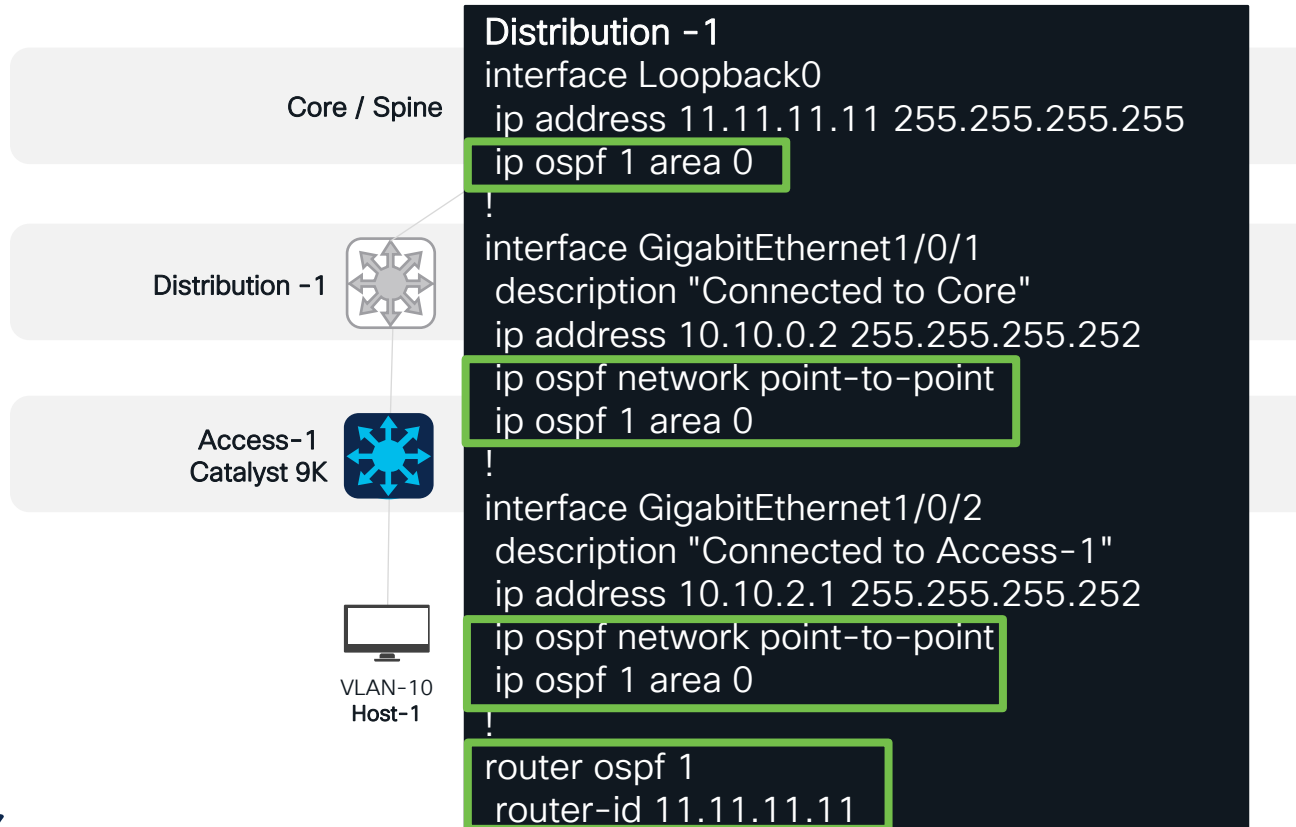


Underlay Configuration – OSPF

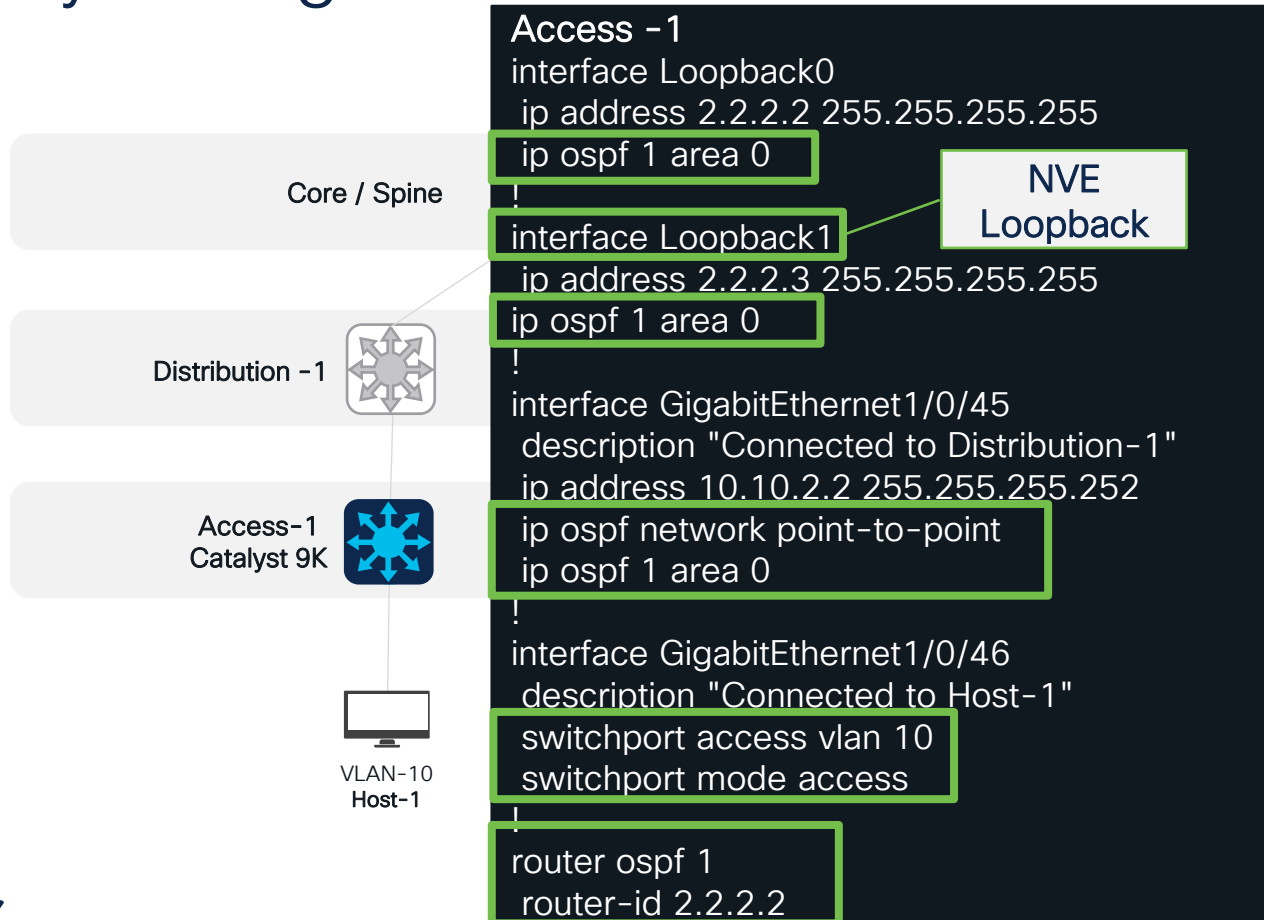


```
Core
interface Loopback0
ip address 1.1.1.1 255.255.255.255
ip ospf 1 area 0
!
interface TwentyFiveGigE1/0/3
description "Connected to Distribution-1"
ip address 10.10.0.1 255.255.255.252
ip ospf network point-to-point
ip ospf 1 area 0
!
interface TwentyFiveGigE1/0/4
description "Connected to Distribution-2"
ip address 10.10.1.1 255.255.255.252
ip ospf network point-to-point
ip ospf 1 area 0
!
router ospf 1
router-id 1.1.1.1
```

Underlay Configuration – OSPF

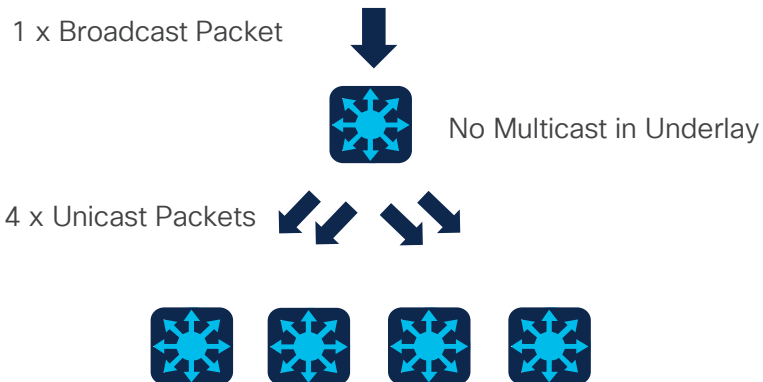


Underlay Configuration – OSPF



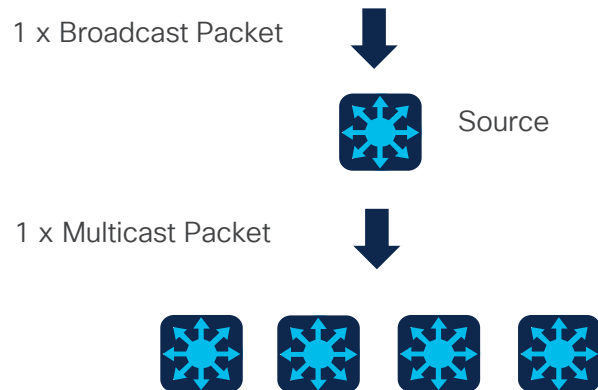
Efficient Layer 2 Broadcast domain

Ingress Replication



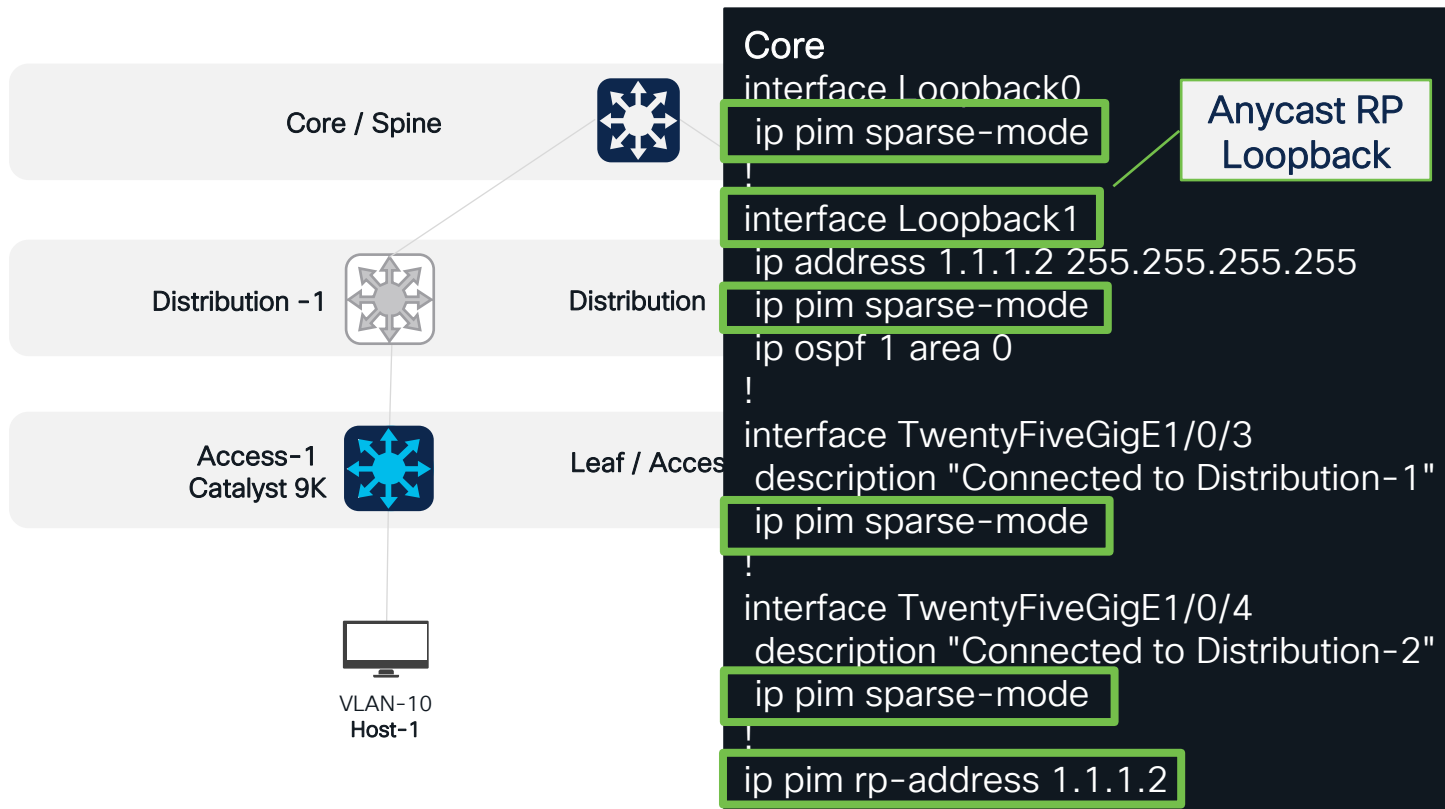
```
interface nve1
no ip address
source-interface Loopback0
host-reachability protocol bgp
member vni 10103 vrf green
member vni 10102 ingress-replication
```

Multicast Replication

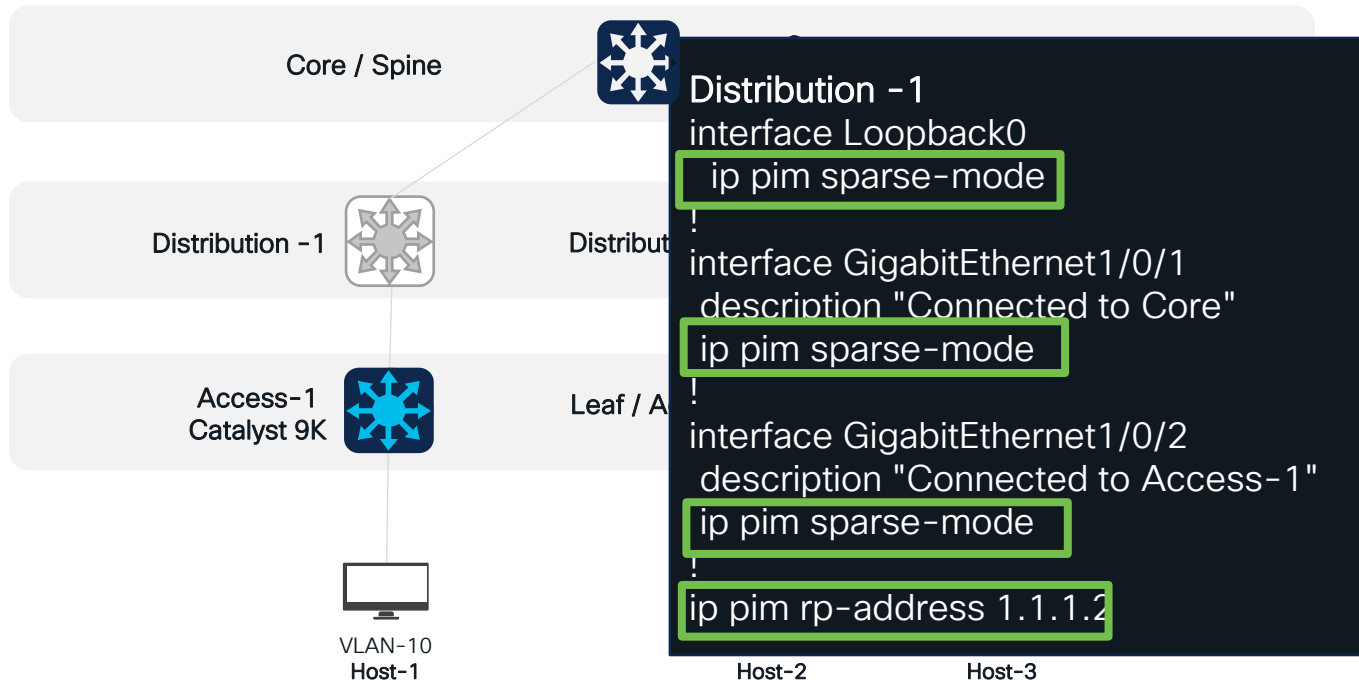


```
interface nve1
no ip address
source-interface Loopback0
host-reachability protocol bgp
member vni 10104 vrf blue
member vni 10101 mcast-group 225.0.0.1
```

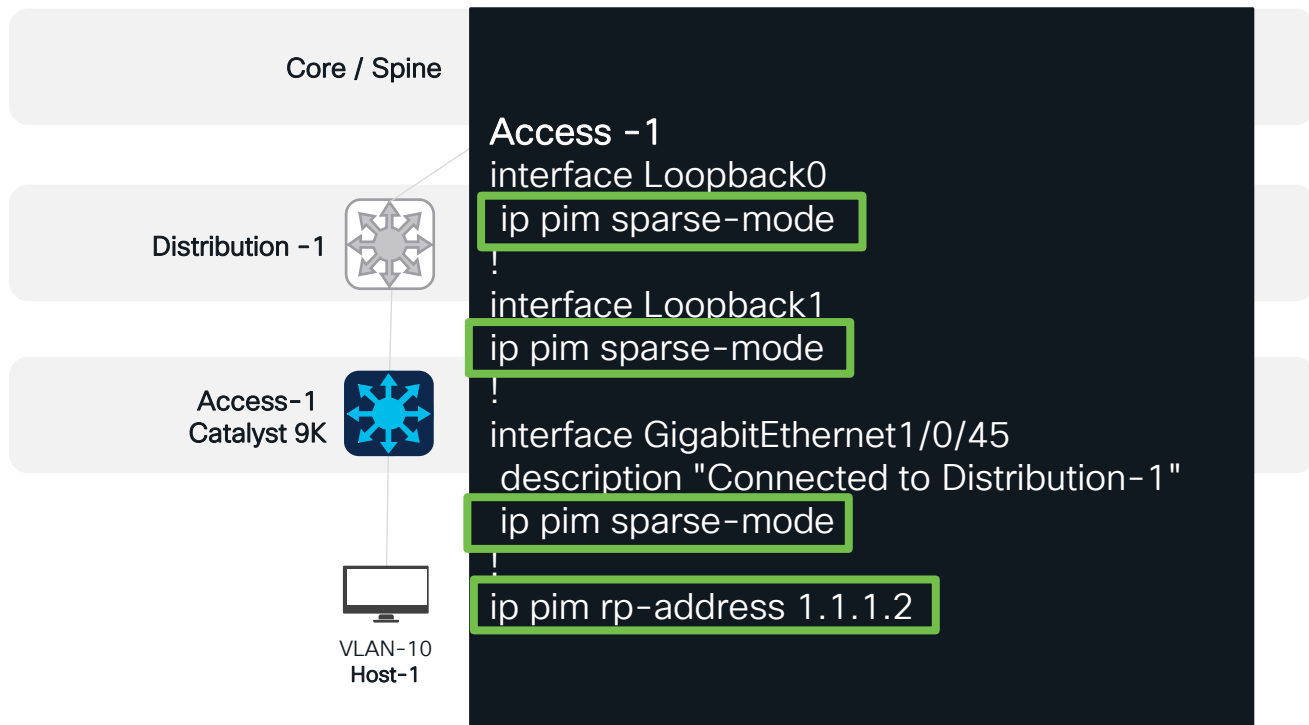
Underlay Configuration for BUM – PIM ASM



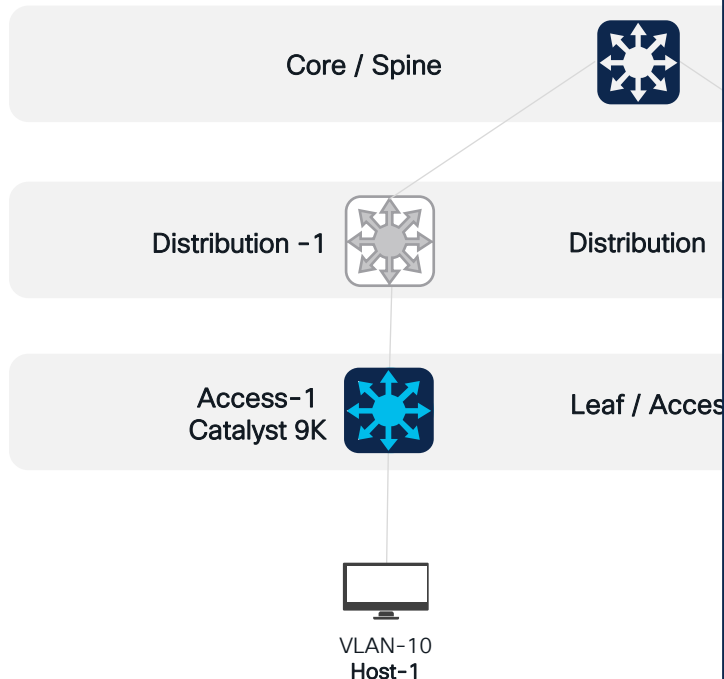
Underlay Configuration for BUM – PIM ASM



Underlay Configuration for BUM – PIM ASM

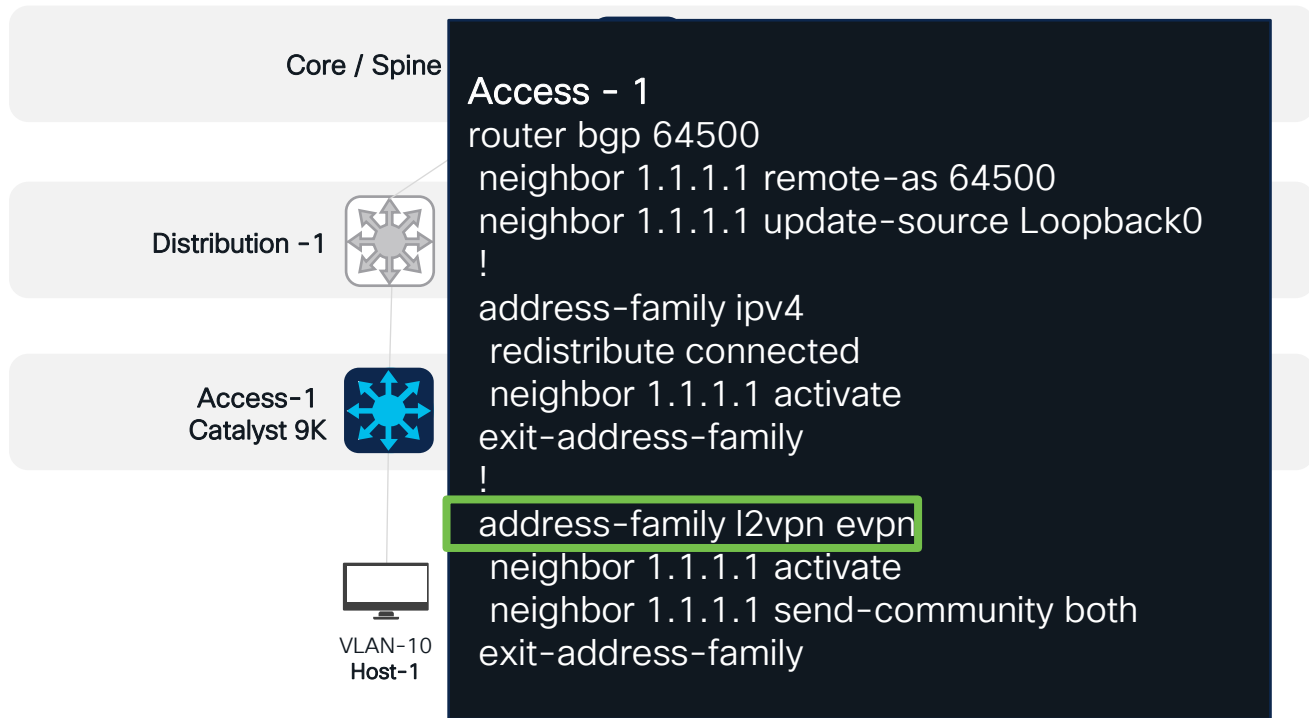


Overlay Configuration – BGP EVPN Control Plane

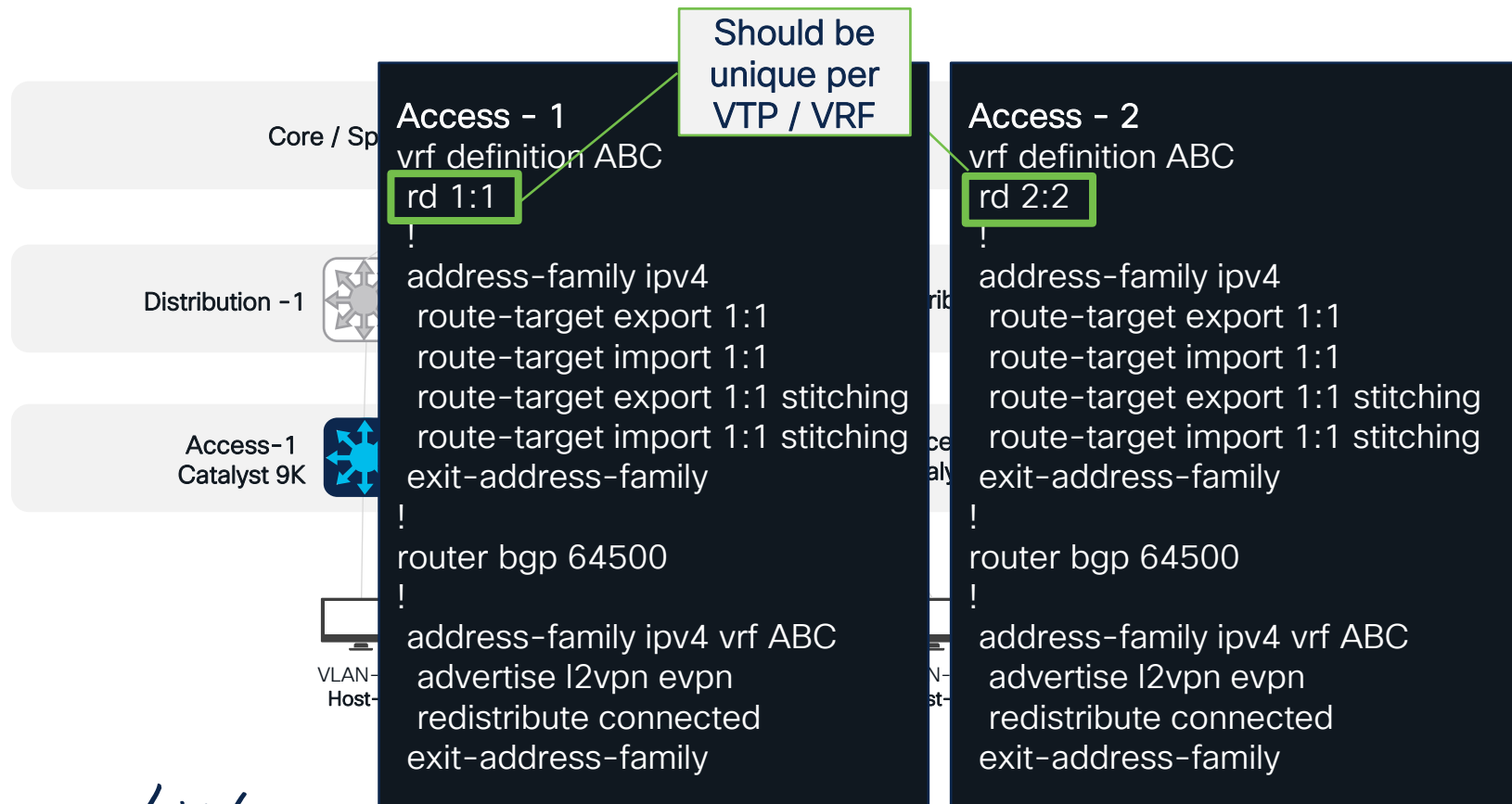


```
Core
router bgp 64500
 neighbor 2.2.2.2 remote-as 64500
 neighbor 2.2.2.2 update-source Loopback0
 neighbor 3.3.3.3 remote-as 64500
 neighbor 3.3.3.3 update-source Loopback0
 !
 address-family ipv4
  redistribute connected
  neighbor 2.2.2.2 activate
  neighbor 3.3.3.3 activate
  maximum-paths 2
 !
 address-family l2vpn evpn
  neighbor 2.2.2.2 activate
  neighbor 2.2.2.2 send-community both
  neighbor 2.2.2.2 route-reflector-client
  neighbor 3.3.3.3 activate
  neighbor 3.3.3.3 send-community both
  neighbor 3.3.3.3 route-reflector-client
```

Overlay Configuration – BGP EVPN Control Plane



Overlay Configuration – Multitenancy



Overlay Configuration – VXLAN Data Plane

Replication
for BUM

Vlan to VNI
mapping
(Bridging)

Vlan to VNI
mapping
(Routing)

Access – 1 / Access – 2 - VTEP

l2vpn evpn

replication-type static

router-id Loopback1

default-gateway advertise

!

l2vpn evpn instance 10 vlan-based

encapsulation vxlan

!

l2vpn evpn instance 20 vlan-based

encapsulation vxlan

!

vlan configuration 10

member evpn-instance 10 vni 10010

vlan configuration 20

member evpn-instance 20 vni 10020

!

vlan configuration 901

member vni 50901

Access – 1 / Access – 2 - VTEP

NVE Interface Configuration

interface nve1

no ip address

source-interface Loopback1

host-reachability protocol bgp

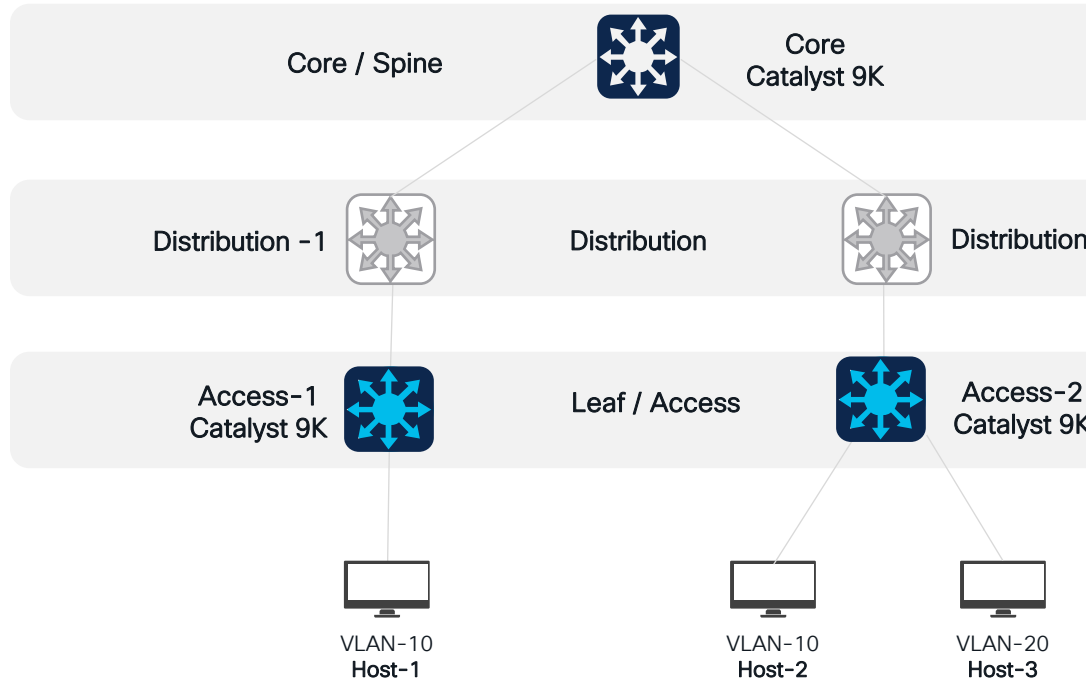
member vni 10010 mcast-group 239.0.0.1

member vni 10020 mcast-group 239.0.0.1

member vni 50901 vrf ABC

NVE (VTEP)
Interface

Distributed Anycast Gateway Configuration



Access - 1 / Access - 2 : VTEP

```
interface Vlan10
vrf forwarding ABC
ip address 10.10.10.200 255.255.255.0
!
interface Vlan20
vrf forwarding ABC
ip address 10.10.20.200 255.255.255.0
no autostate
!
interface Vlan901
vrf forwarding ABC
ip unnumbered Loopback1
no autostate
```

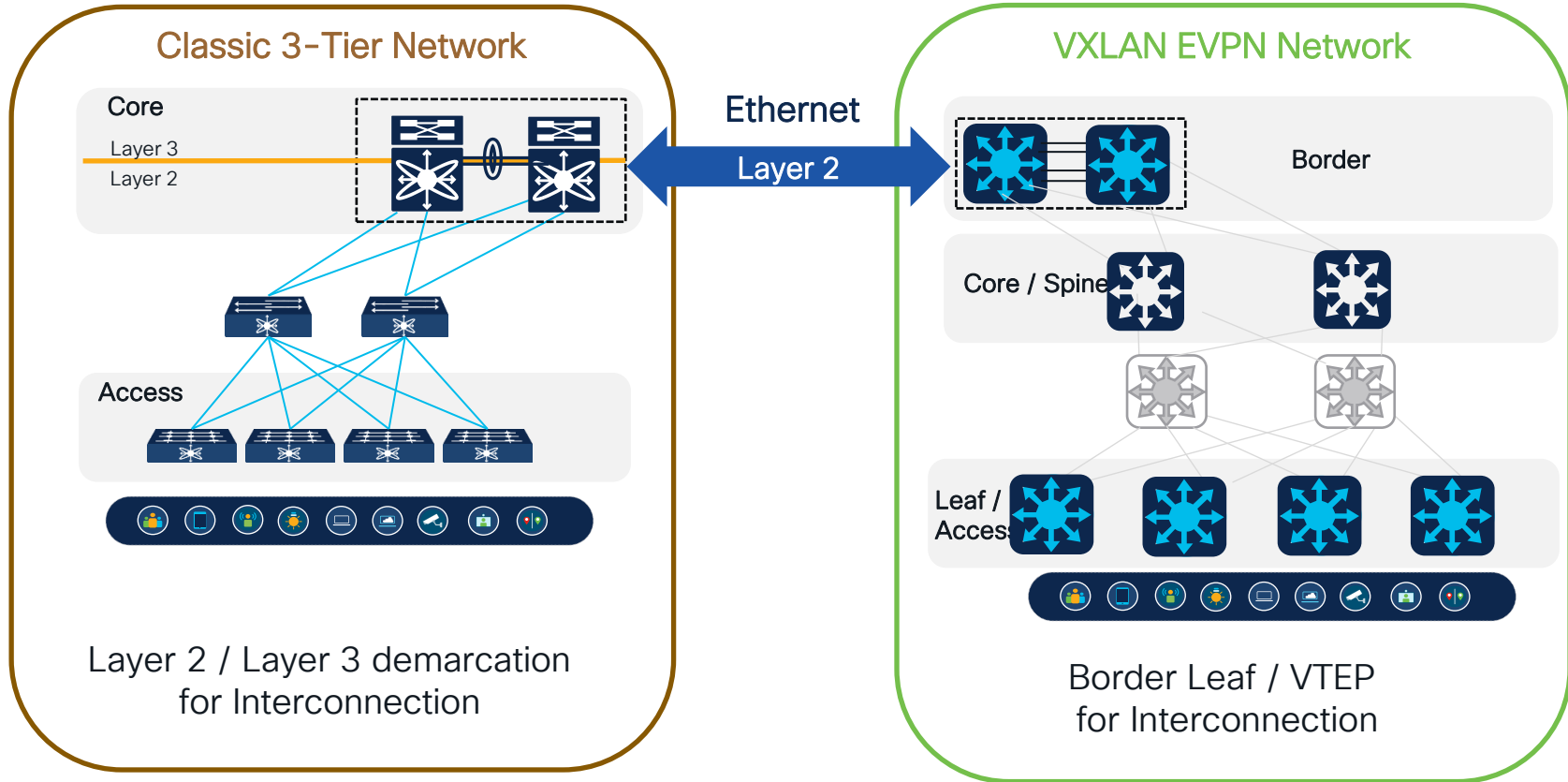
Migration Considerations



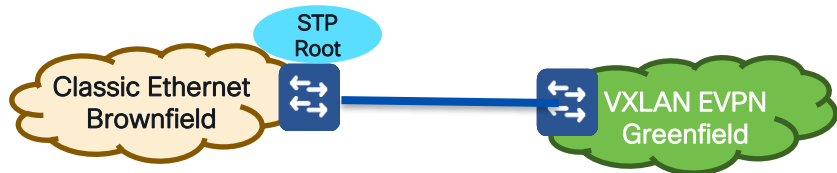
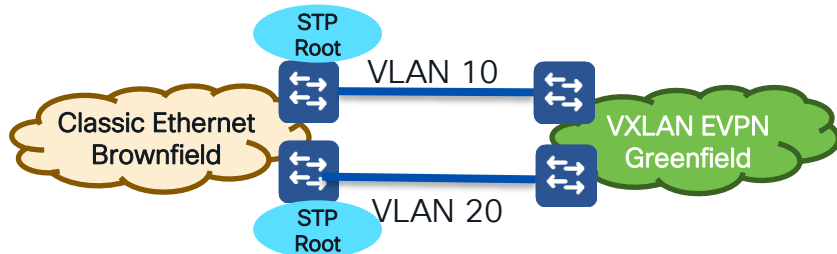
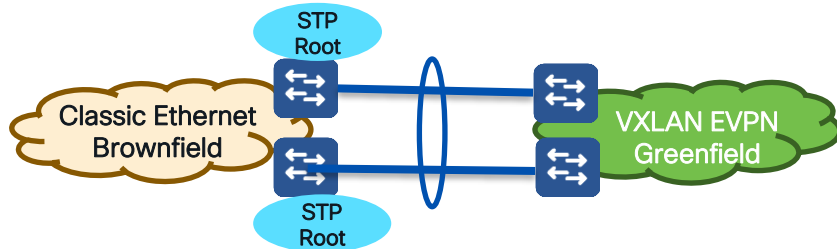
Layer 2 Interconnect



Layer 2 Interconnection

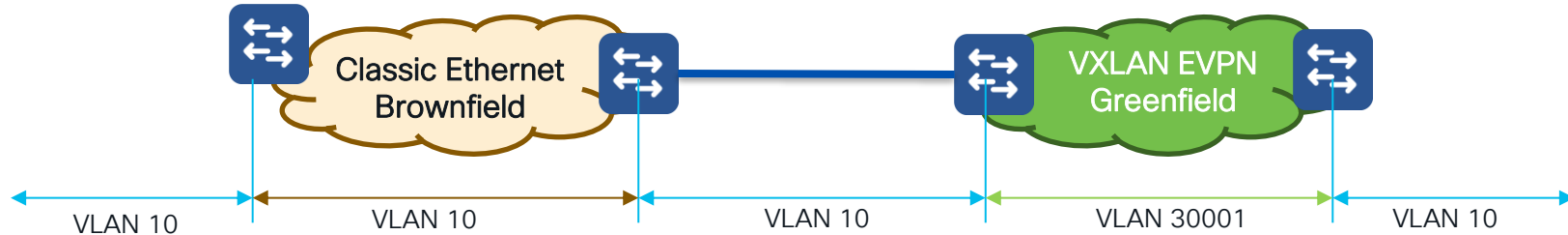


Spanning-Tree Considerations

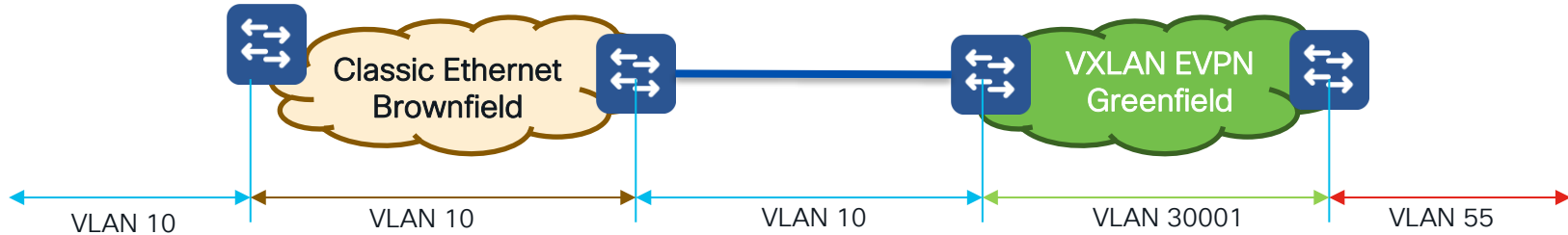


VLAN Mapping

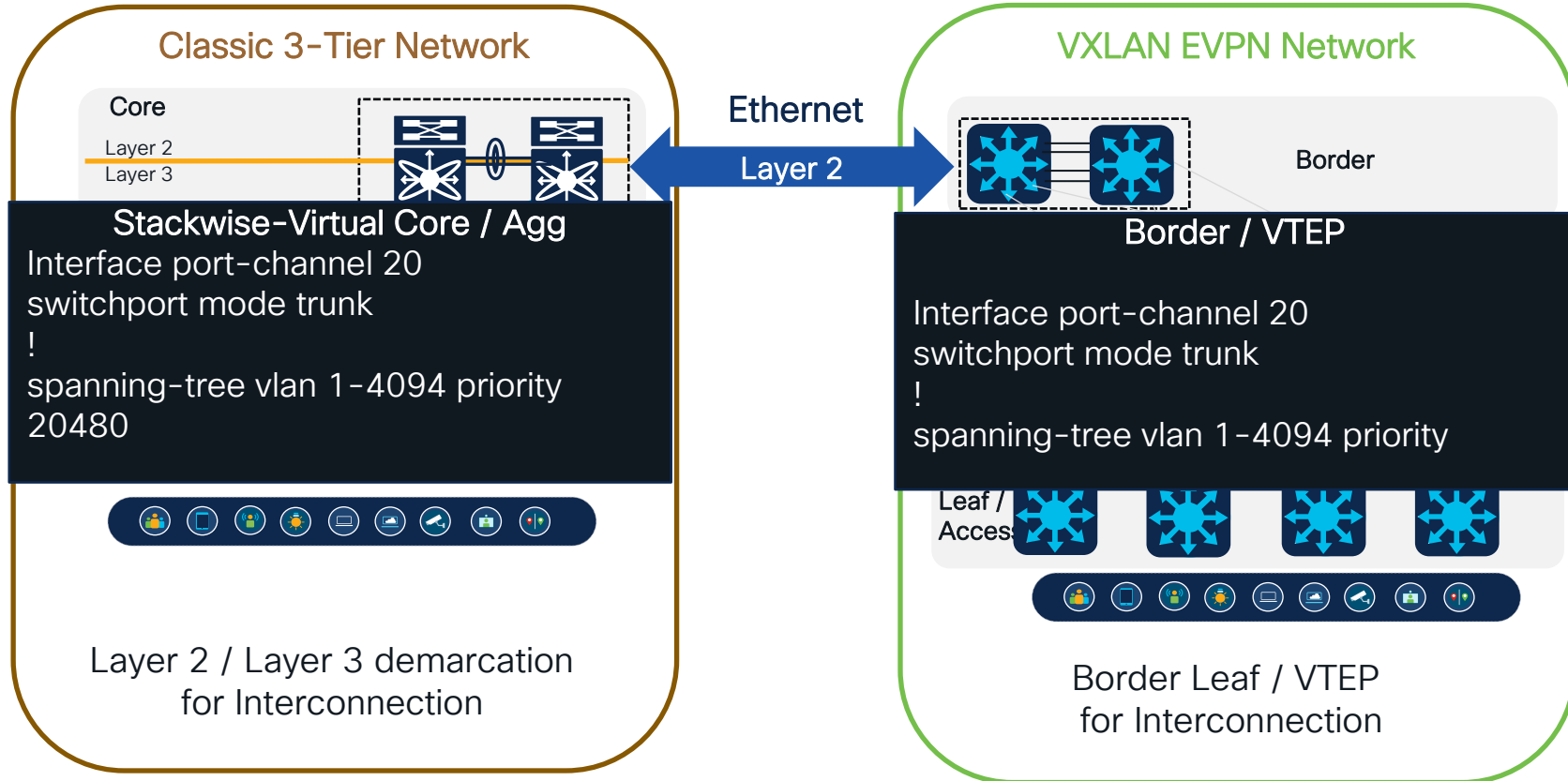
1:1 VLAN Mapping



Mapping between different VLANs



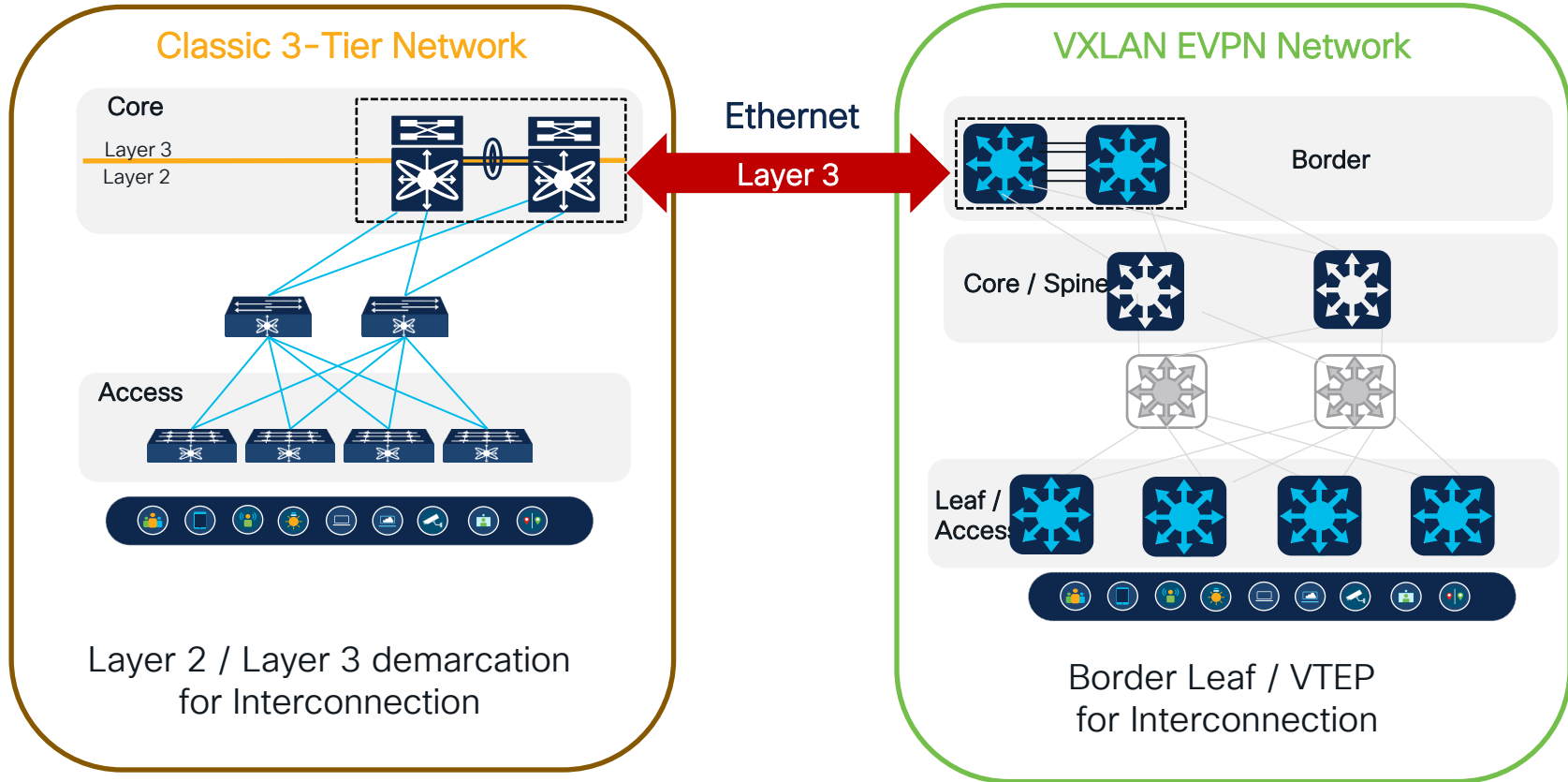
Layer 2 Interconnection



Layer 3 Interconnect

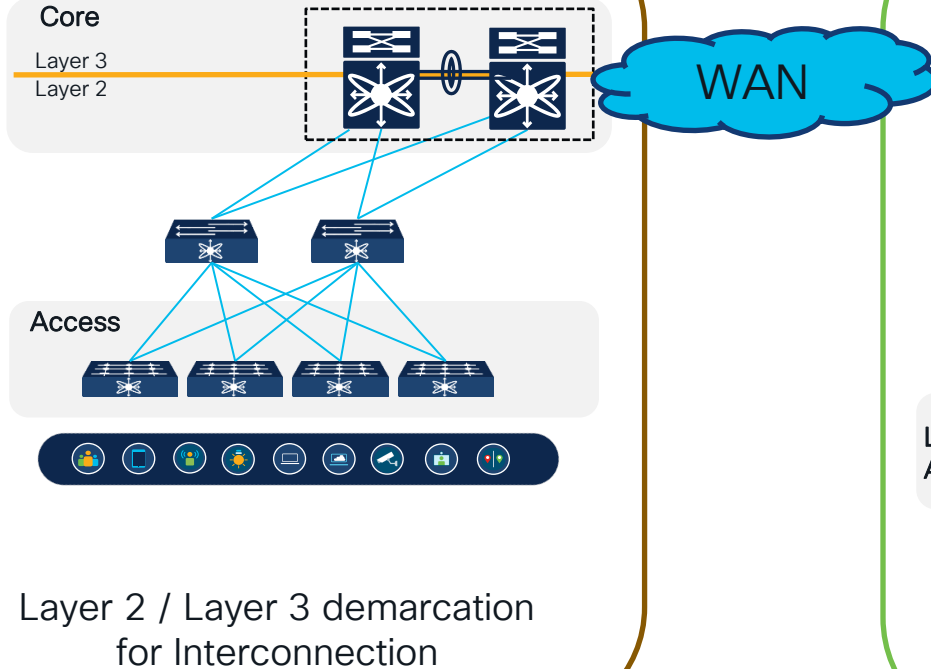


Layer 3 Interconnection : Direct

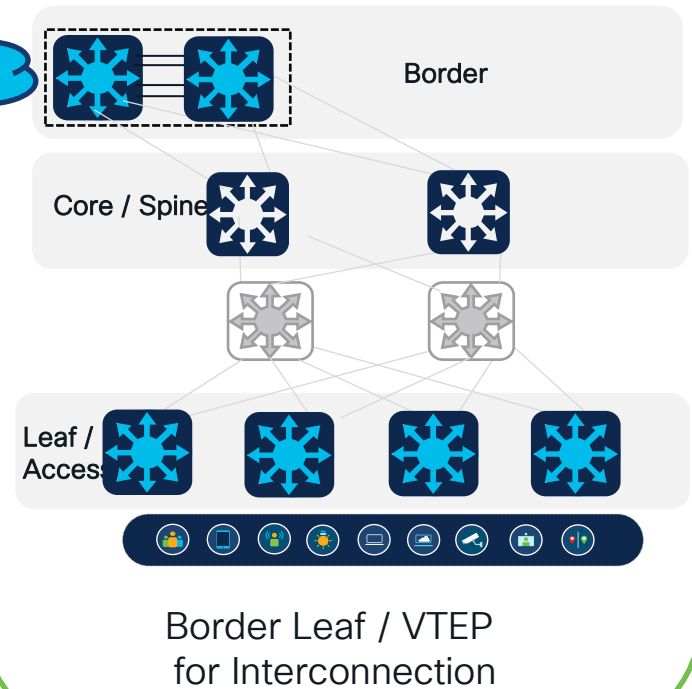


Layer 3 Interconnection : WAN

Classic 3-Tier Network



VXLAN EVPN Network



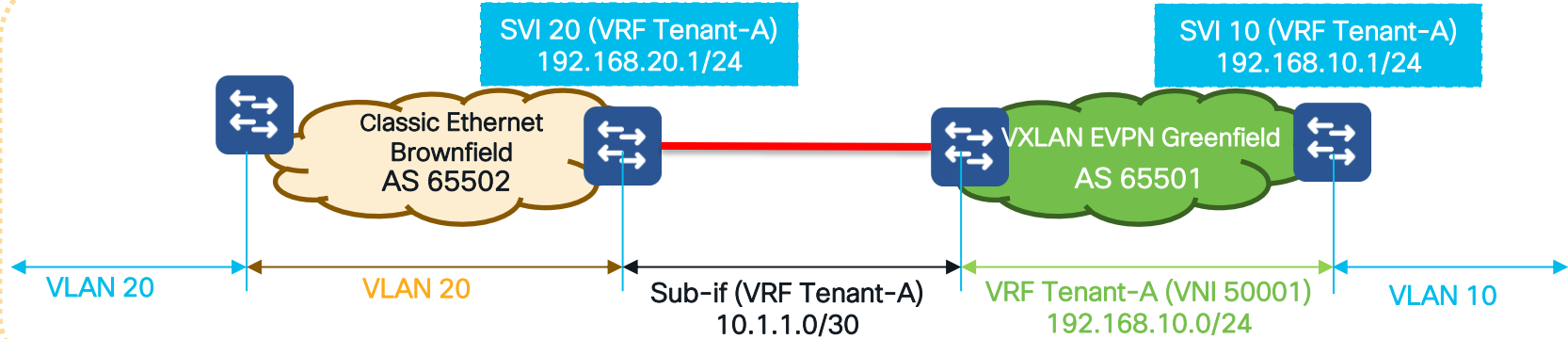
Layer-3 Interconnection : Routing Protocol



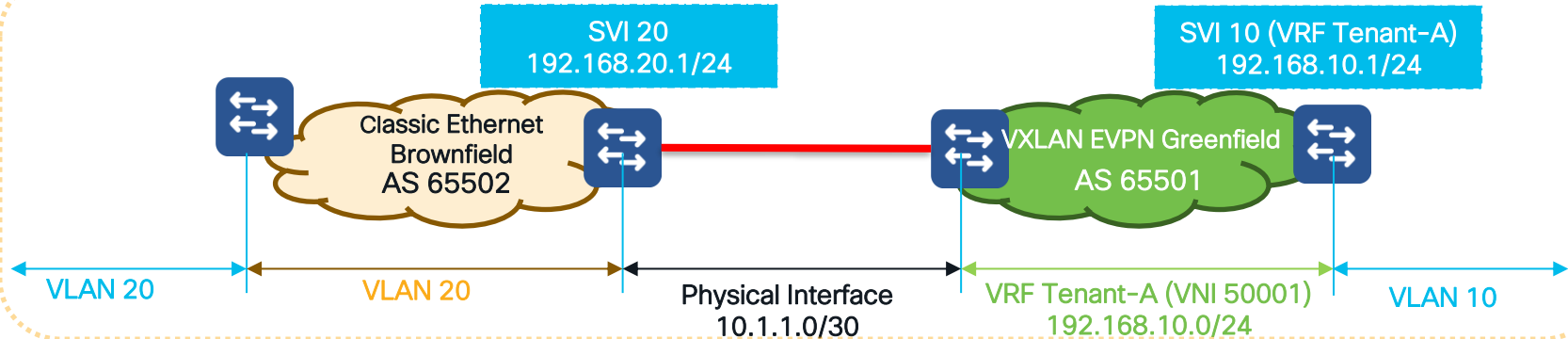
- Routing Protocol considerations
 - ✓ Greenfield network with VXLAN BGP EVPN
 - ✓ Routing domain separation
 - ✓ Extensive routing policy capability
 - ✓ VRF awareness
- BGP meets these requirements & capabilities

VRF Mapping

1:1 Mapping between VRFs



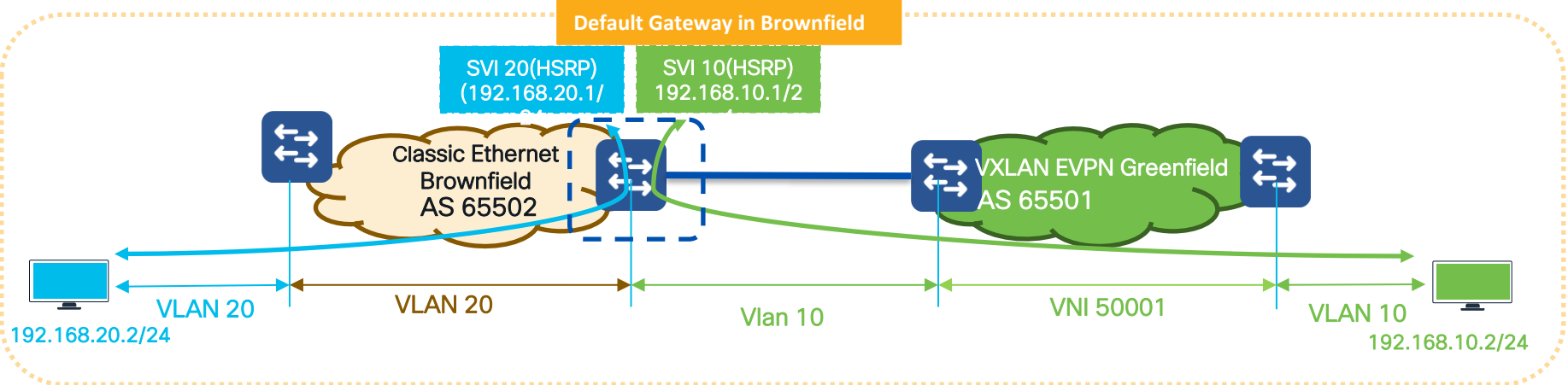
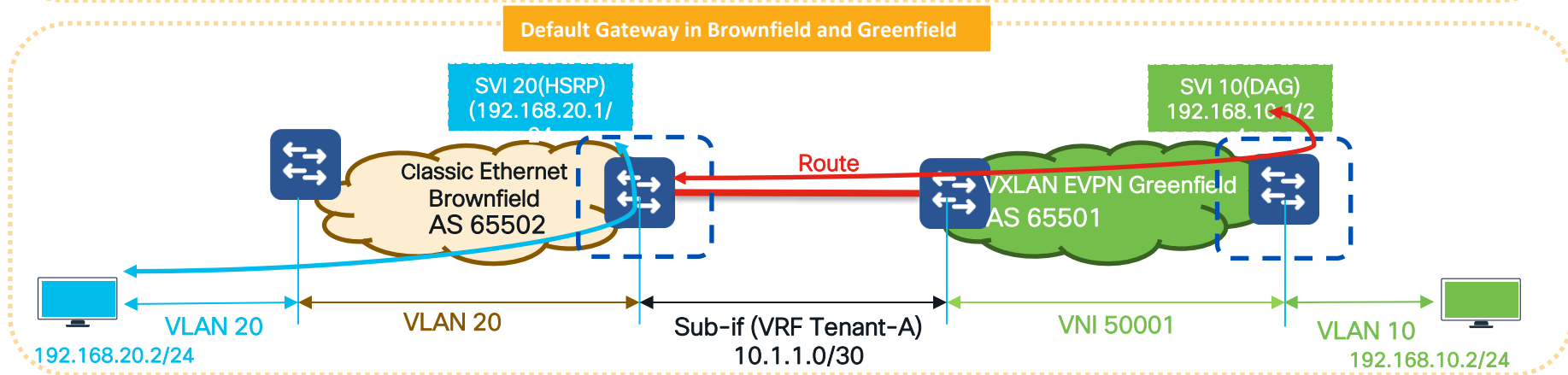
Mapping from Default VRF





Default Gateway Migration

Default Gateway Migration Considerations



Layer 3 Interconnection : Direct

Classic 3-Tier Network

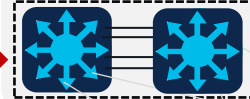
Stackwise-Virtual Core / Agg

```
interface GigabitEthernet1/0/10
description "connected to VXLAN EVPN"
ip address 192.168.1.1 255.255.255.0
!
interface vlan 100
ip address 100.100.100.1 255.255.255.0
!
interface TwentyFiveGigE1/0/10
ip address 192.168.1.1 255.255.255.252
!
router bgp 64502
 neighbor 192.168.1.2 remote-as 64500
 neighbor 192.168.1.2 update-source
GigabitEthernet1/0/10
!
address-family ipv4
 redistribute connected
 network 100.100.100.0
```

Ethernet

Layer 3

VXLAN EVPN Network

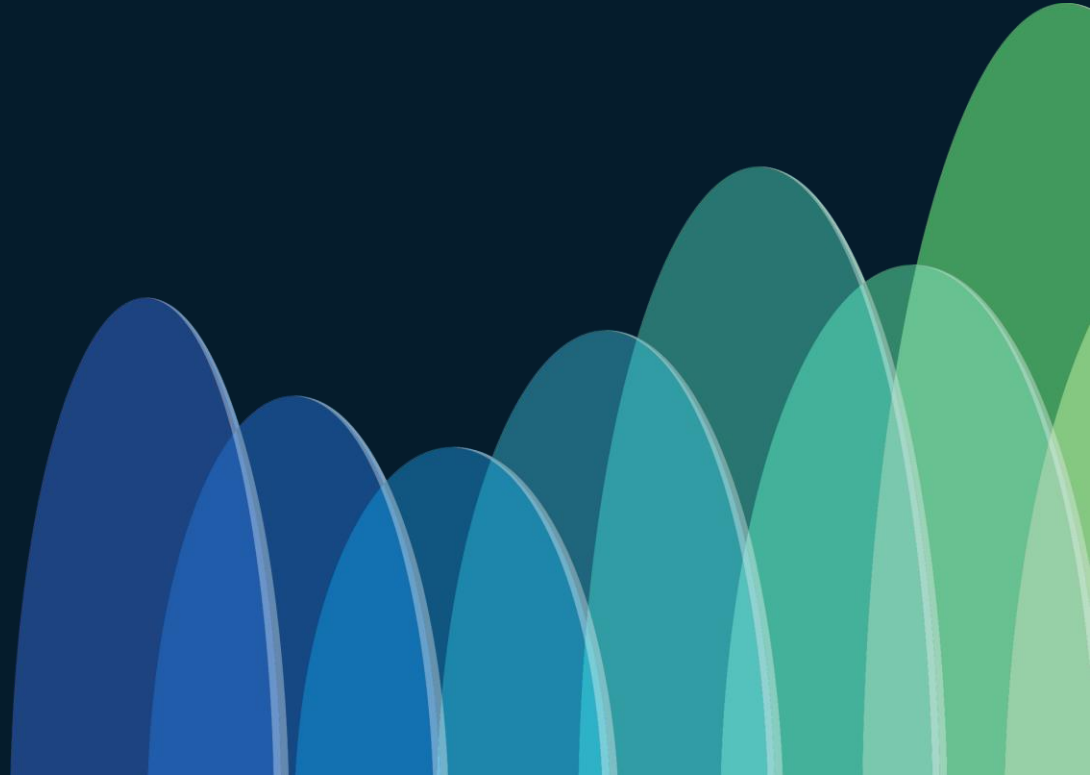


Border

Access-1/Access-2 (VTEP)

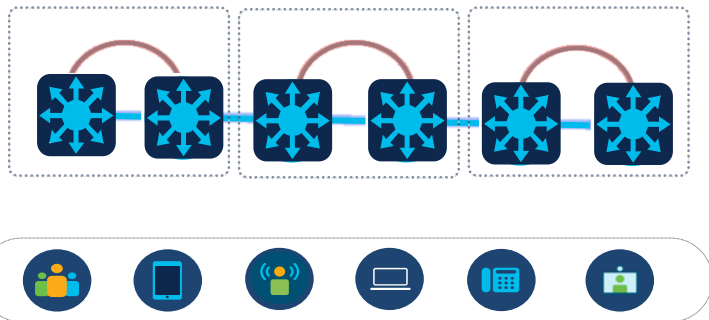
```
interface GigabitEthernet1/0/10
description "connected to classical network"
vrf forwarding ABC
ip address 192.168.1.2 255.255.255.0
!
router bgp 64500
!
address-family ipv4 vrf ABC
 advertise l2vpn evpn
 redistribute connected
 neighbor 192.168.1.1 remote-as 64502
 neighbor 192.168.1.1 update-source
GigabitEthernet1/0/10
 neighbor 192.168.1.1 activate
```

Flexible Overlay Topologies

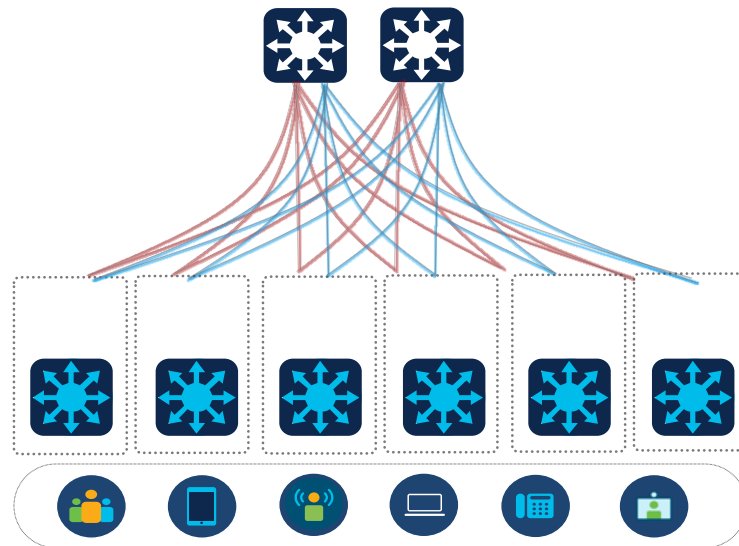


Flexible Routing and Bridging Overlay Topologies

Point to Point



Hub & Spoke

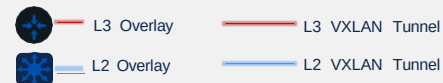


Segmentation

Switch Group | Single Switch | VN | Subnet | VLAN | Port | App

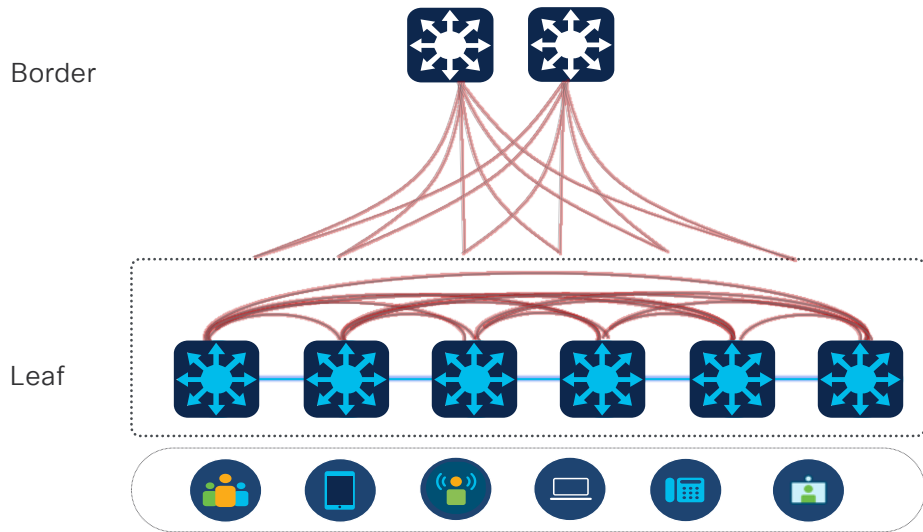
Overlay Types

Four overlay network types support at any network layer point
Route first. Bridge when-and-where need rule for scalable fabric architecture
Feature rich Layer 3 overlay network support – Unicast | Multicast – IPv4 | IPv6
Scalable Layer 2 overlay solution with suppression, flood management and more

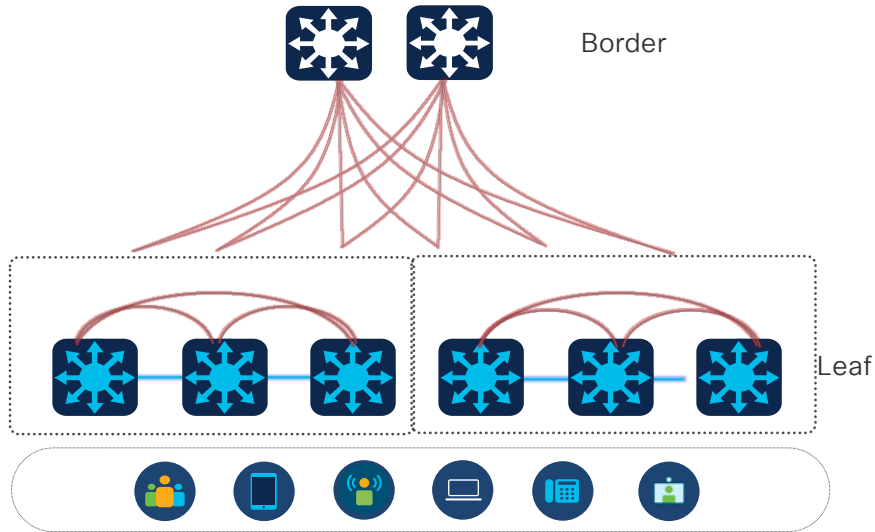


Flexible Routing and Bridging Overlay Topologies

Full-Mesh



Partial-Mesh



Segmentation

Switch Group | Single Switch | VN | Subnet | VLAN | Port | App

Overlay Types

Four overlay network types support at any network layer point
Route first. Bridge when-and-where need rule for scalable fabric architecture
Feature rich Layer 3 overlay network support – Unicast | Multicast – IPv4 | IPv6
Scalable Layer 2 overlay solution with suppression, flood management and more



Overlay Network Design- Hub-n-Spoke

Border:

```
vrf definition S1-EVPN
rd 1:1
!
address-family ipv4
route-target export 1:1 stitching
route-target import 2:2 stitching
exit-address-family
```

Leaf-1-Spoke:

```
vrf definition S1-EVPN
rd 2:2
!
address-family ipv4
route-target import 1:1 stitching
route-target export 2:2 stitching
exit-address-family
```

Leaf-2-Spoke:

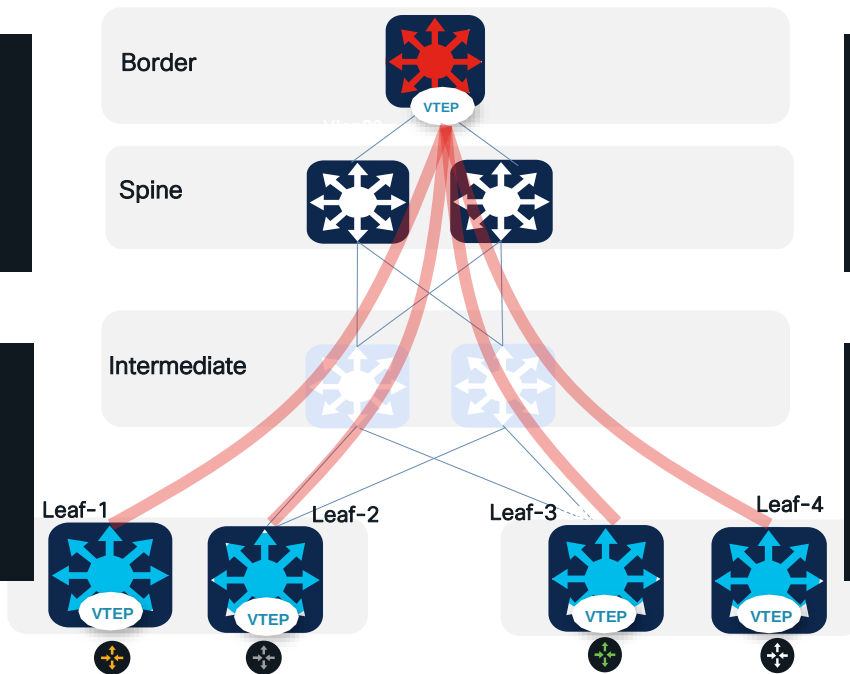
```
vrf definition S1-EVPN
rd 3:3
!
address-family ipv4
route-target import 1:1 stitching
route-target export 2:2 stitching
exit-address-family
```

Leaf-3-Spoke:

```
vrf definition S1-EVPN
rd 4:4
!
address-family ipv4
route-target import 1:1 stitching
route-target export 2:2 stitching
exit-address-family
```

Leaf-4-Spoke:

```
vrf definition S1-EVPN
rd 5:5
!
address-family ipv4
route-target import 1:1 stitching
route-target export 2:2 stitching
exit-address-family
```



Overlay Network Design- Hub-n-Spoke

Border:

```
I2vpn evpn instance 11 vlan-based
encapsulation vxlan
route-target import 2:2
route-target export 1:1
```

Leaf-1-Spoke:

```
I2vpn evpn instance 11 vlan-based
encapsulation vxlan
route-target import 1:1
route-target export 2:2
```

Leaf-2-Spoke:

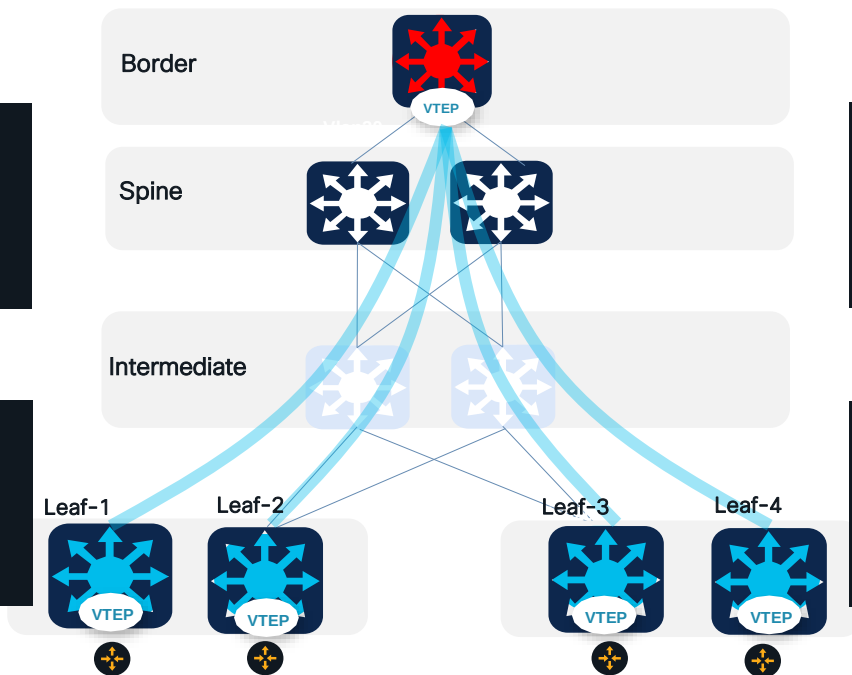
```
I2vpn evpn instance 11 vlan-based
encapsulation vxlan
route-target import 1:1
route-target export 2:2
```

Leaf-3-Spoke:

```
I2vpn evpn instance 11 vlan-based
encapsulation vxlan
route-target import 1:1
route-target export 2:2
```

Leaf-4-Spoke:

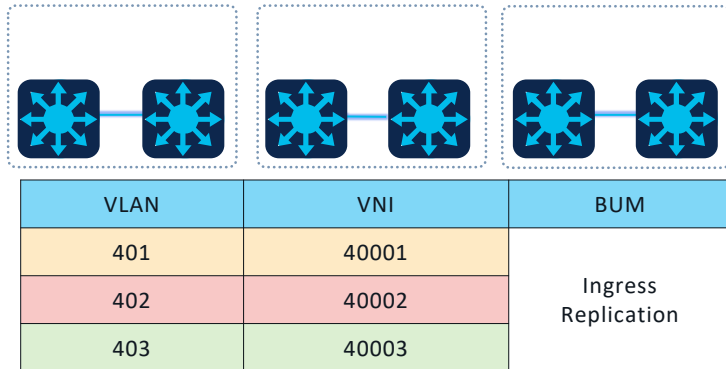
```
I2vpn evpn instance 11 vlan-based
encapsulation vxlan
route-target import 1:1
route-target export 2:2
```



Efficient Layer 2 Broadcast domain

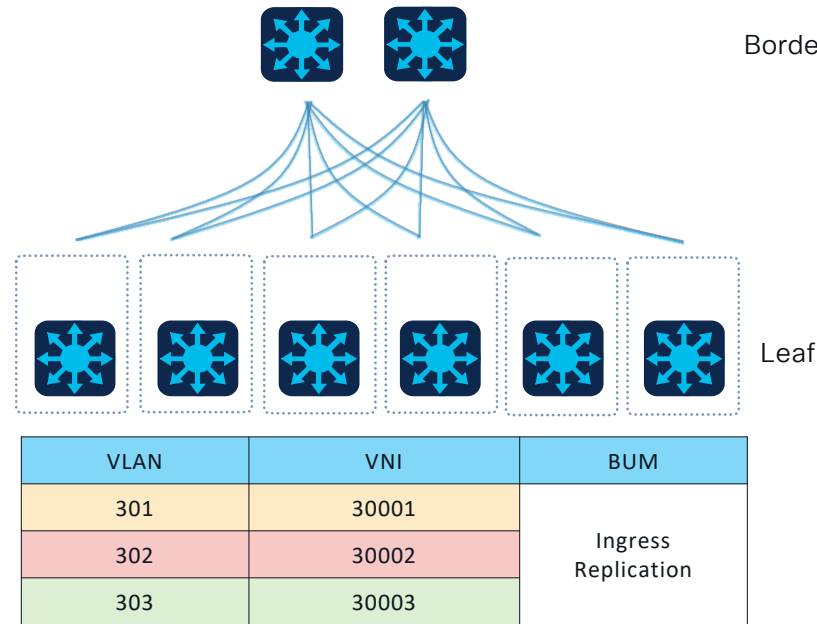
Point-to-Point

Leaf



Hub-n-Spoke

Border



Scalable
L2 BUM

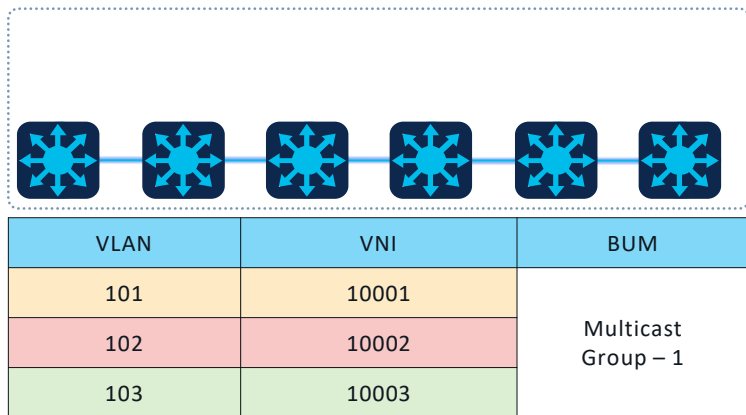
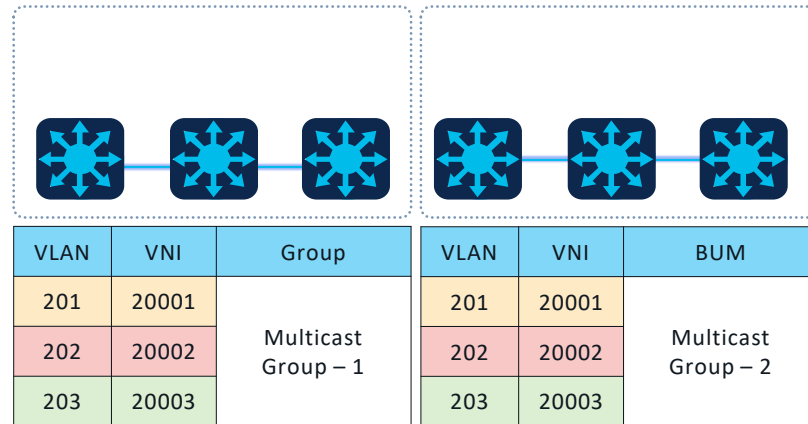
Per L2VNI BUM replication-type support. Deterministic BUM traffic management with BUM Rate-Limiter
 BUM replication-type selection based on Layer 2 overlay topology
 Controlled Multicast BUM based on broadcast domain boundary ($n \times$ L2VNI ID : 1 Multicast Group)
 Simplified Ingress-Replication for point-to-point Layer 2 overlay fabric

— L3 VXLAN Tunnel
 — L2 VXLAN Tunnel

Efficient Layer 2 Broadcast domain

Full – Mesh

Partial – Mesh

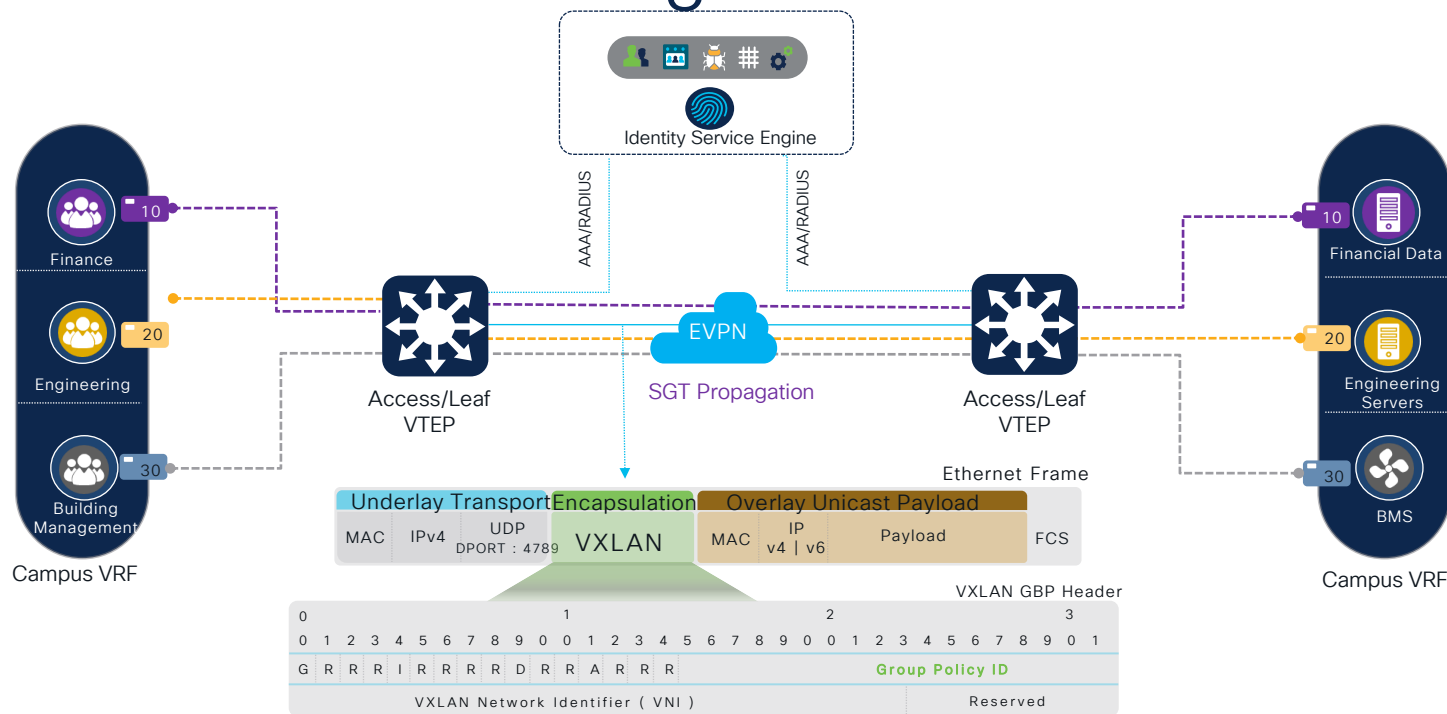


Scalable
L2 BUM

Per L2VNI BUM replication-type support. Deterministic BUM traffic management with BUM Rate-Limiter
BUM replication-type selection based on Layer 2 overlay topology
Controlled Multicast BUM based on broadcast domain boundary ($n \times$ L2VNI ID : 1 Multicast Group)
Simplified Ingress-Replication for point-to-point Layer 2 overlay fabric

— L3 VXLAN Tunnel
— L2 VXLAN Tunnel

BGP EVPN – Micro Segmentation



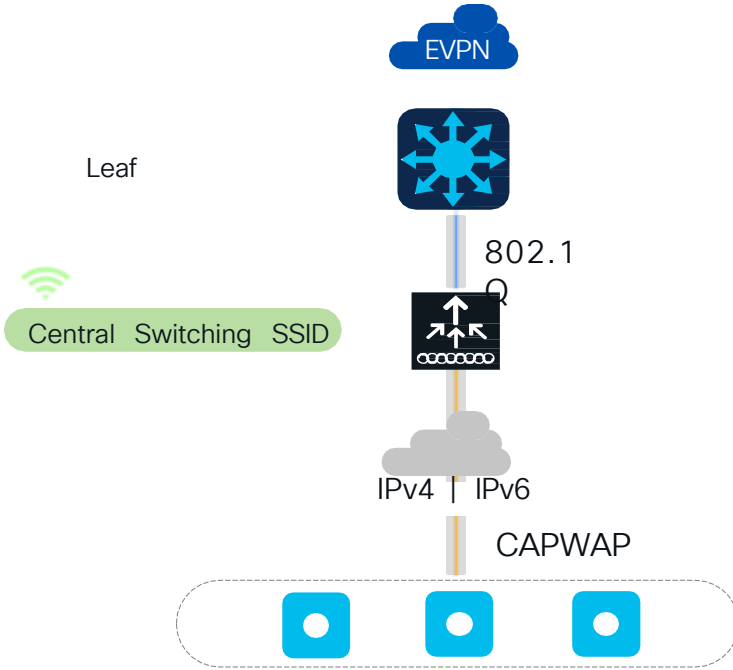
Unified
Micro-
Segmentation

Seamless Secure Group Tag (SGT) integration from Wired / Wireless to BGP EVPN VXLAN fabric networks
Cisco ISE combined with pxGrid provides Cisco and multi-vendor network and security product integration
Dynamic or Static SGT mapping on TrustSec to VXLAN GBP support context-aware BGP EVPN Fabric with VXLAN Group-Based (GBP)
Unified Policy Plane – Extend within and beyond EVPN fabric, Terminate to enforce and seamless Data-Center (ACI) integrations

cisco Live!

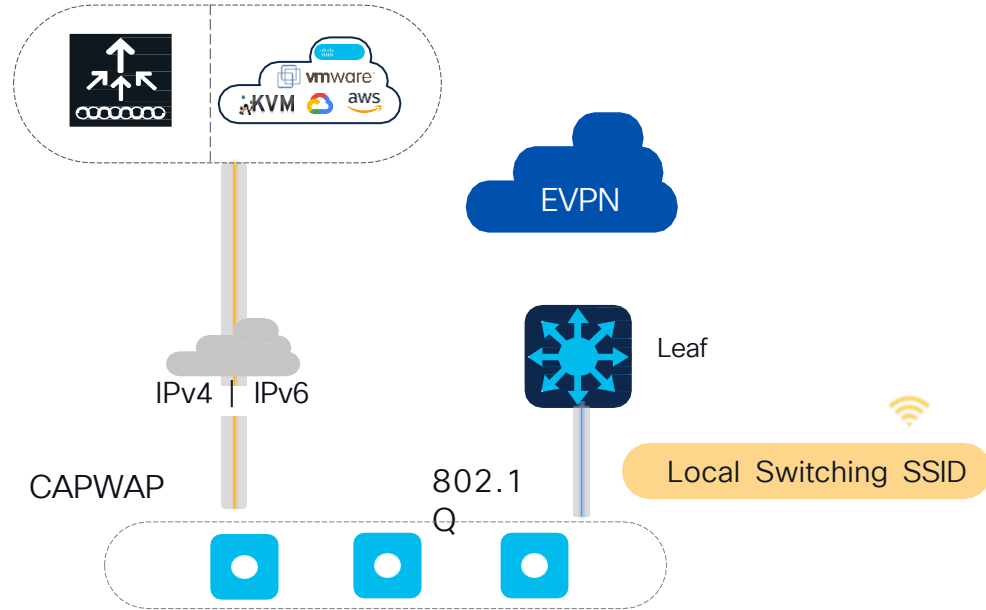
Local Mode Wireless

Central Switching



FlexConnect Mode Wireless

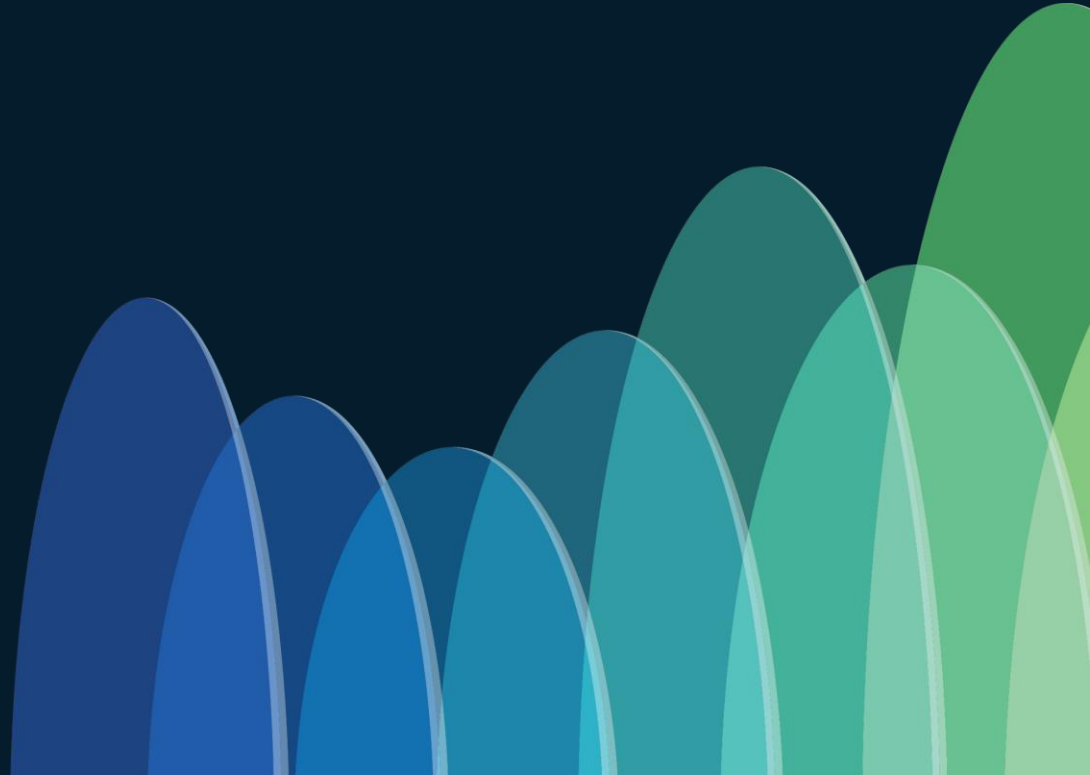
Local Switching



Wireless

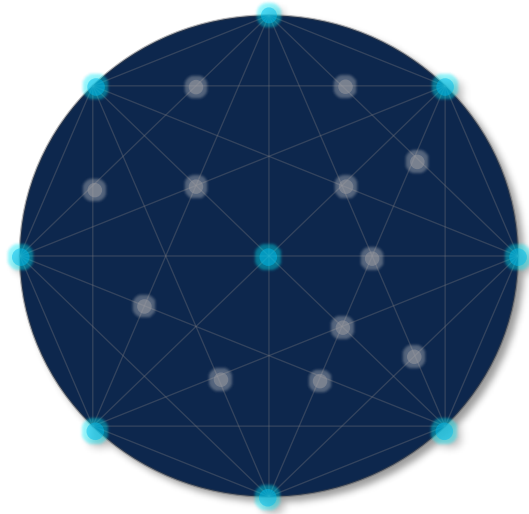
Over the Top Wireless. Intact WLC and AP communication in Underlay
Flexible SSID alternatives – Central Switching, Local Switching, Central + Local Switching
Fabric boundary initiates from Wireless Client IP gateway.

Fabric Deployment Options

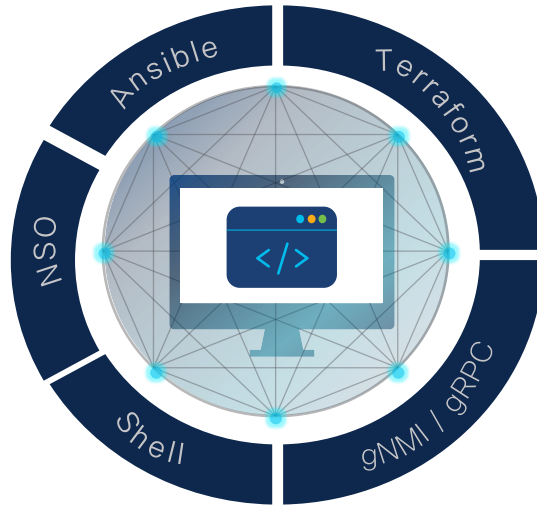


Cisco Enterprise BGP EVPN Solution

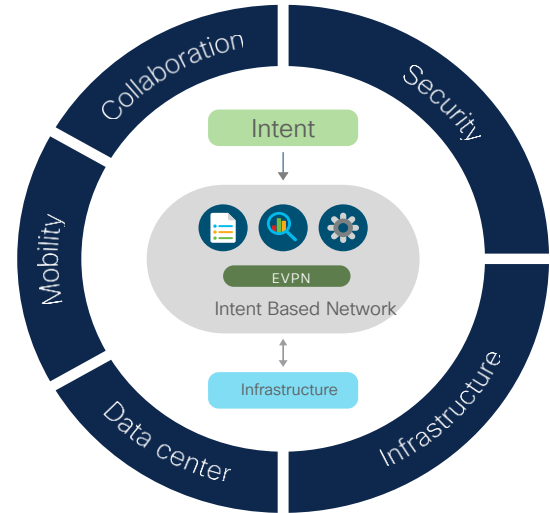
Do-It-Yourself



Programmable



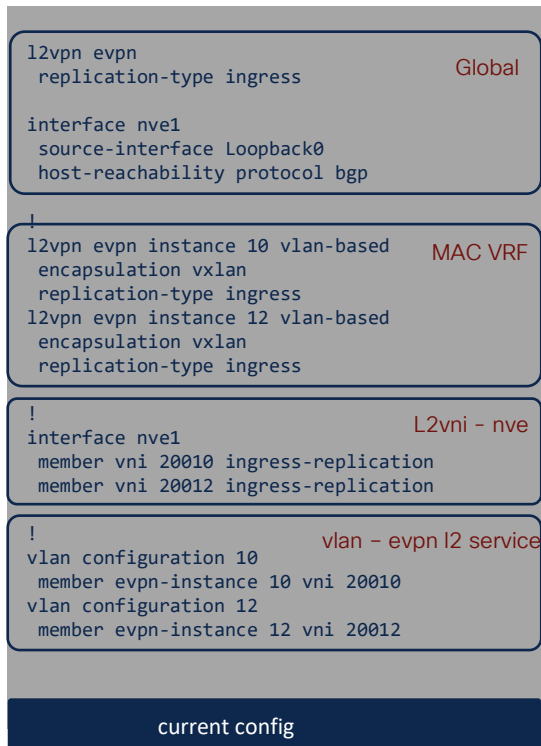
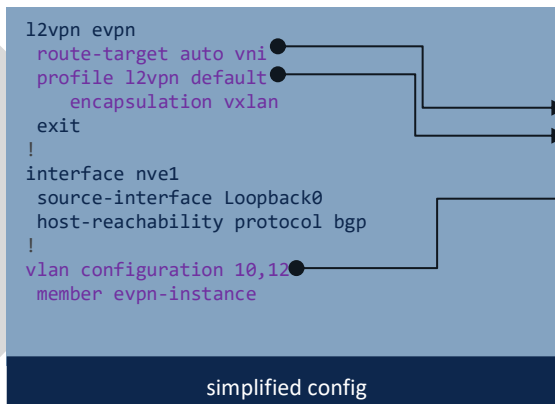
Intent-Based*



*Catalyst Center 2.3.7.6-Beta

BGP EVPN – CLI Simplification

L2 Overlay Provisioning



- auto rt and profile – global config
- MAC vrf is auto created
- L2 VNI is auto allocated
- Auto allocate l2VN's to evpn enabled Vlan's

- EVI Auto-RD: Router-ID:EVI | EVI Auto-RT: ASN:EVI
- evi-base and l2vni-base to modify the default evi and l2vni values

Inter-operable with existing cli model

BGP EVPN – CLI Simplification

L3 Overlay Provisioning

```
vrf definition purple
rd 172.168.1.1:1111
!
address-family ipv4
route-target export 64512:30500
route-target import 64512:30500
route-target export 64512:30500 stitching
route-target import 64512:30500 stitching
!
address-family ipv6
route-target export 64512:30500
route-target import 64512:30500
route-target export 64512:30500 stitching
route-target import 64512:30500 stitching
```

ip vrf

```
interface nve1
source-interface Loopback0
host reachability bgp
member vni 30500 vrf BLUE
```

l3vni - nve

```
vlan configuration 500
member vni 30500
```

core vlan

```
interface Vlan500
description Core Vlan for VRF BLUE
vrf forwarding BLUE
ip unnumbered Loopback0
no autostate
```

core svi

current config

```
vrf rd auto → global command
!
vrf definition purple
vni 30500 evpn-instance vxlan core-vlan 500
!
address-family ipv4
address-family ipv6
!
interface nve1 → one time command
source-interface Loopback0
host reachability bgp
```

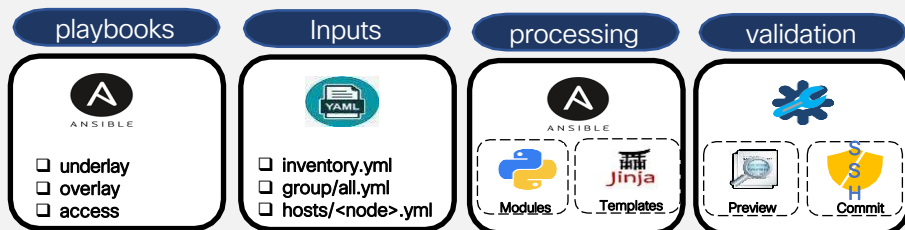
simplified config

- auto rd (One time Global command for all VRF)
- L3 VRF RT's and RD are auto allocated
- L3 VNI auto created under NVE without any explicit config
- Core VLAN and SVI are auto created

Inter-operable with existing cli model

BGP EVPN Automation – Ansible & Terraform

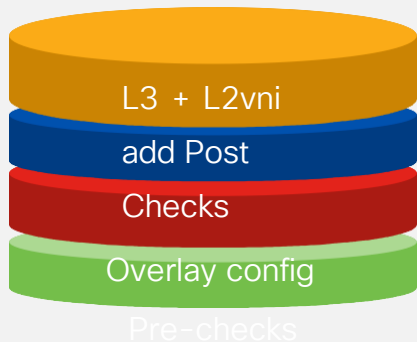
Feature + Solution Playbooks



Day 0: Leaf/Spine/Border Design, DAG, VRF's, VN
Day 1: Incremental changes – add/delete IP/MAC VRF/VTEP/Access
int Day N: L3TRM, IPv6 etc



Solution Playbooks



Same playbook to add L3/L2 VNI's

Eg: Add one or multiple L3/L2vni using same playbook

Framework for post-check

Eg: BGP status up/down, overlay ping checks

Solution level deployment

Eg: Ipv4 + Ipv6 + TRM in a single playbook

Framework for pre-checks

Eg: License check, underlay reachability check



CISCO Live!

EVPN Terraform Provider

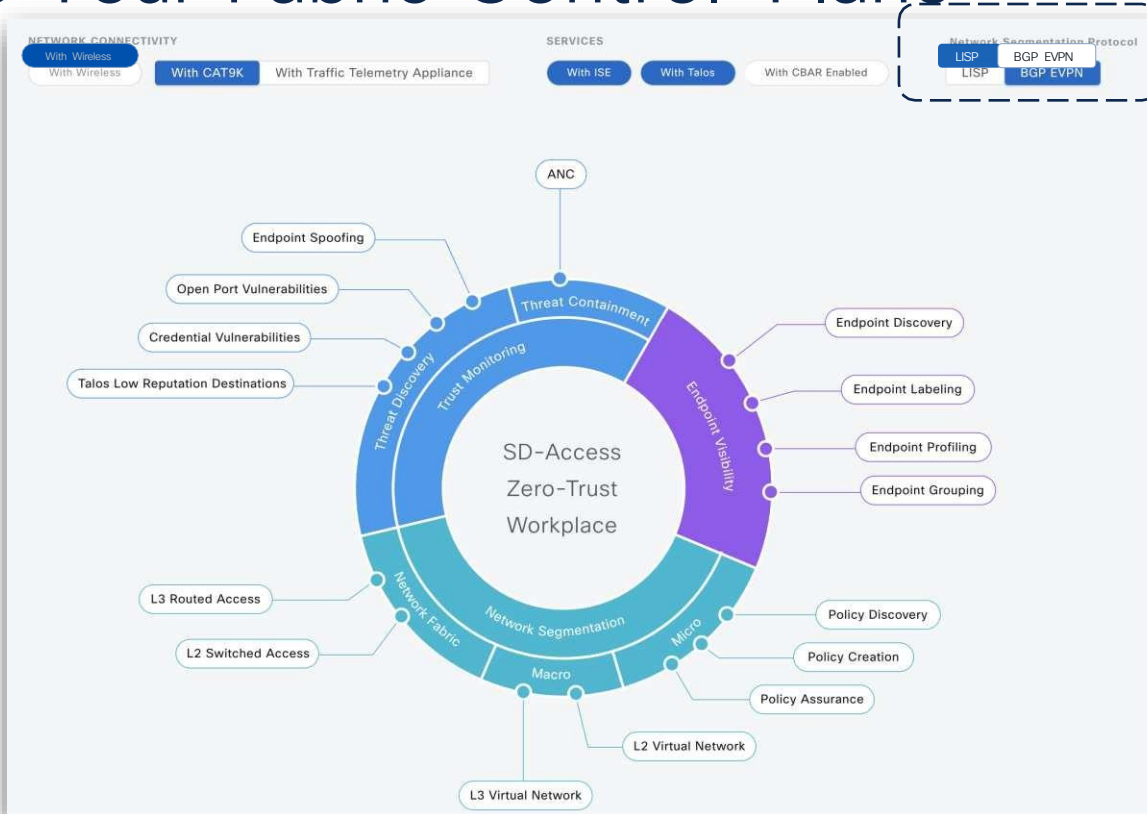
```
1 # EVPN Settings
2 resource "ciscoevpn_evpn" "evpn" {
3   roles = ["leafs"]
4   replication_type = "static"
5   mac_duplication_limit = 20
6   mac_duplication_time = 10
7   ip_duplication_limit = 20
8   ip_duplication_time = 10
9   router_id = local_loopback_interface
10  default_gateway = "advertise"
11  logging_peer_state = true
12  route_target_auto = "vni"
13 }
14
15 # EVPN Multicast
16 resource "ciscoevpn_evpn_instance" "instance_101" {
17   roles = ["leafs"]
18   instance_id = 101
19   vlan_based = true
20   encapsulation = "vxlan"
21   replication_type = "static"
22   re = "101:101"
23   rt = "101:101"
24   rt_type = "both"
25   ip_learning = true
26   default_gateway_advertise = false
27   re_originate = "route-type5"
```

```
1 # Network Virtual Interface
2 resource "ciscoevpn_nve" "leafs" {
3   nve_id = 1
4   ciscoevpn_vlan_vlan_101,
5   ciscoevpn_vlan_vlan_102,
6   ciscoevpn_vlan_vlan_103,
7   ciscoevpn_vlan_vlan_104,
8   ciscoevpn_vlan_vlan_105,
9 }
10
11 roles = ["leafs"]
12 source_interface = local_loopback_interface
13 vni = [
14   "${ciscoevpn_vrf_green.name}" = "${ciscoevpn_vlan_vlan_103.vni}",
15   "${ciscoevpn_vrf_blue.name}" = "${ciscoevpn_vlan_vlan_104.vni}",
16   "${ciscoevpn_vrf_red.name}" = "${ciscoevpn_vlan_vlan_105.vni}"
17 ]
18
19 # Vlan.tf
```



Choose Your Fabric Control-Plane

(LISP or BGP EVPN)



IBN based workflows

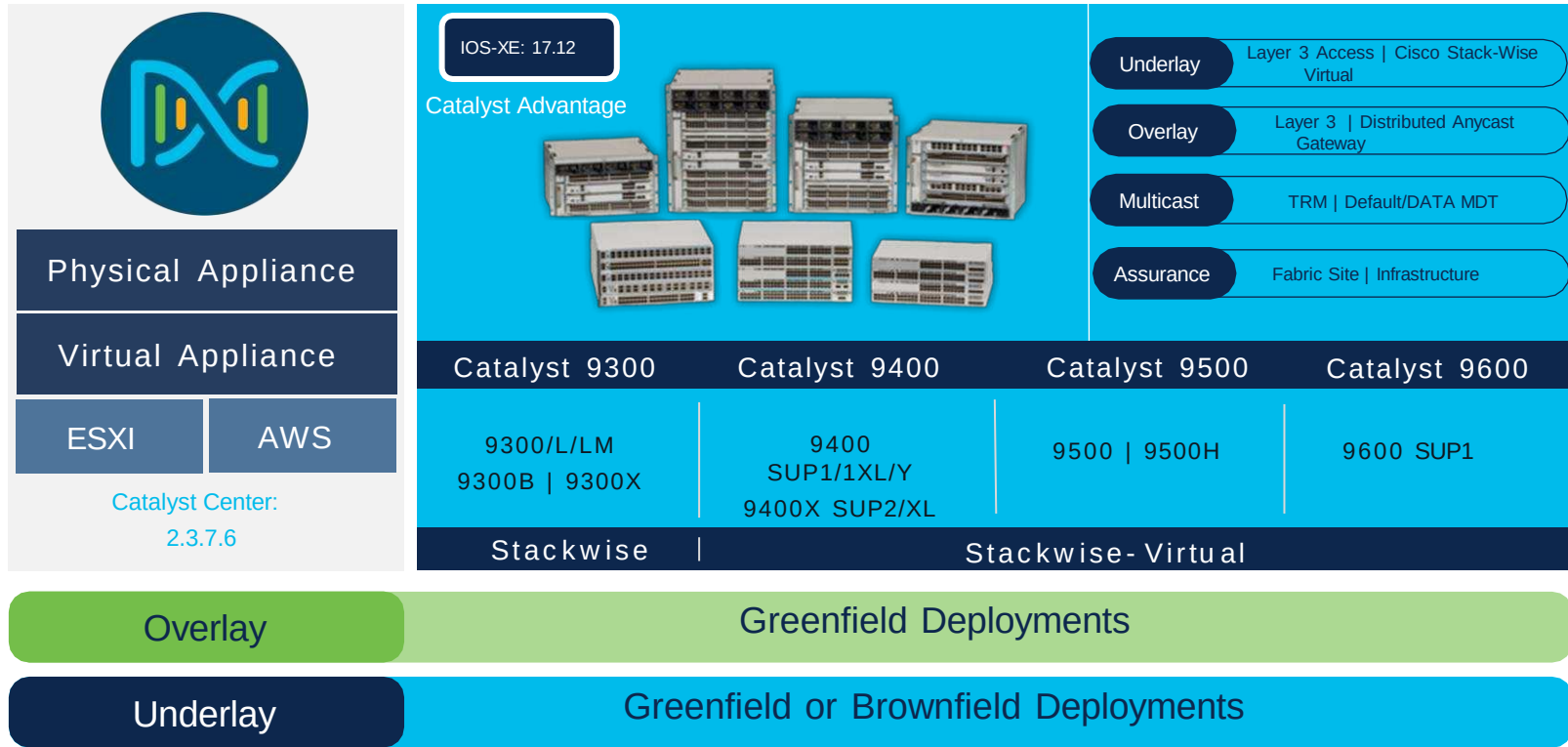
Automation

Assurance

Macro/Micro Segmentation

Seamless experience irrespective of choice of protocol

SD-Access with BGP EVPN: Catalyst Center and IOS-XE



Catalyst 9000 EVPN Reference

Configuration Guide

Completed Chapters

- BGP EVPN VXLAN Overview
- Configuring EVPN VXLAN Layer 2 Overlay Network Configuring EVPN VXLAN Layer 3 Overlay Network Configuring EVPN VXLAN Integrated Routing and Bridging Configuring Spine Switches in a BGP EVPN VXLAN Fabric Configuring DHCP Relay in a BGP EVPN VXLAN Fabric Configuring VXLAN-Aware Flexible NetFlow
- Configuring Tenant Routed Multicast Configuring EVPN VXLAN External Connectivity Cisco DNA Service for Bonjour Overview
- Configuring Cisco DNA Service for Bonjour over EVPN VXLAN Layer 3 Overlay Networks Troubleshooting BGP EVPN VXLAN
- Feature History and Information for BGP EVPN VXLAN

More Coming Soon

Reference:

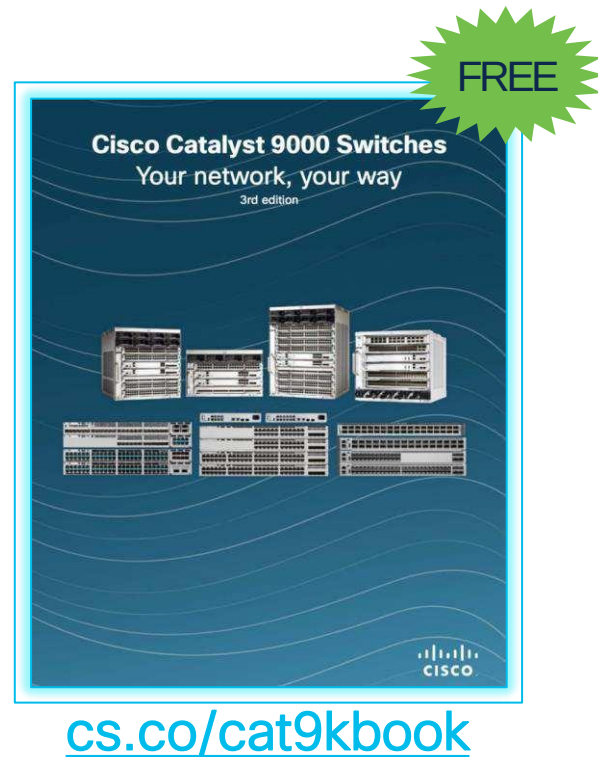
https://www.cisco.com/c/en/us/td/docs/switches/lan/catalyst9300/software/release/1713/configuration_guide/vxlan/b_1713_bgp_evpn_vxlan_9300_cg.html

Would You Like to Know

Catalyst 9000 Series Enterprise Switches

More?

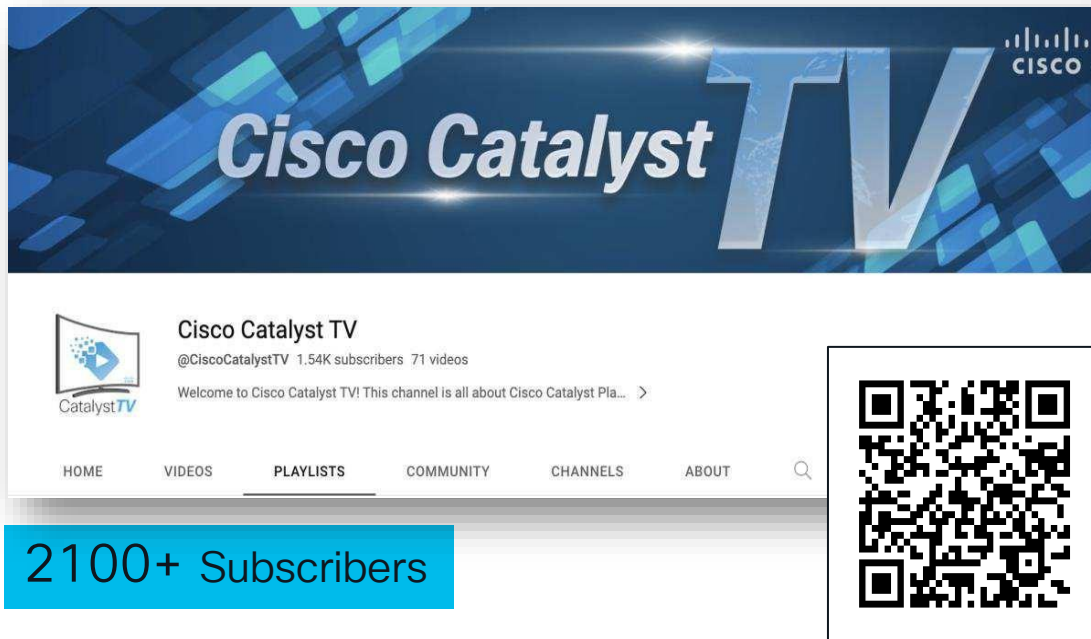
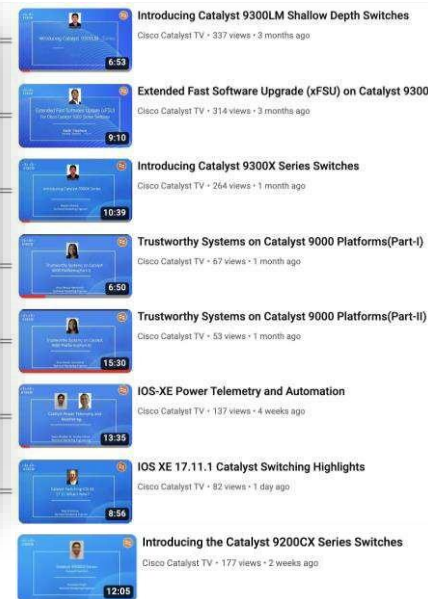
- cisco.com/go/cat9K
- [Cisco Catalyst 9000 at-a-Glance](#)
- [Cisco Catalyst 9000 Family FAQ](#)
- [Catalyst 9000 Series - Cisco Community](#)
- [Catalyst 9000 Series – CiscoLive Library](#)



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<https://www.youtube.com/c/CiscoCatalystTV>

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Keynote Deep Dives

Wednesday
10:30am – 11:30am



Experiences Amplified:
How AI Can Fuel Better Employee and Customer Experiences

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Smart, Secure, Seamless:
Transforming Experiences with Next-Generation Networking

Level 2
Room 204



Harness a Bold New Era:
Transform Data Centre and Service Provider Connectivity

Level 2
Room 203



Securing User to Application and Everything in Between

Level 2
Melbourne Room 2



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