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# How to Setup an ACI Multi-Site with Single Pod and Multi-Pod

## Part 2

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BRKDCN-2391b



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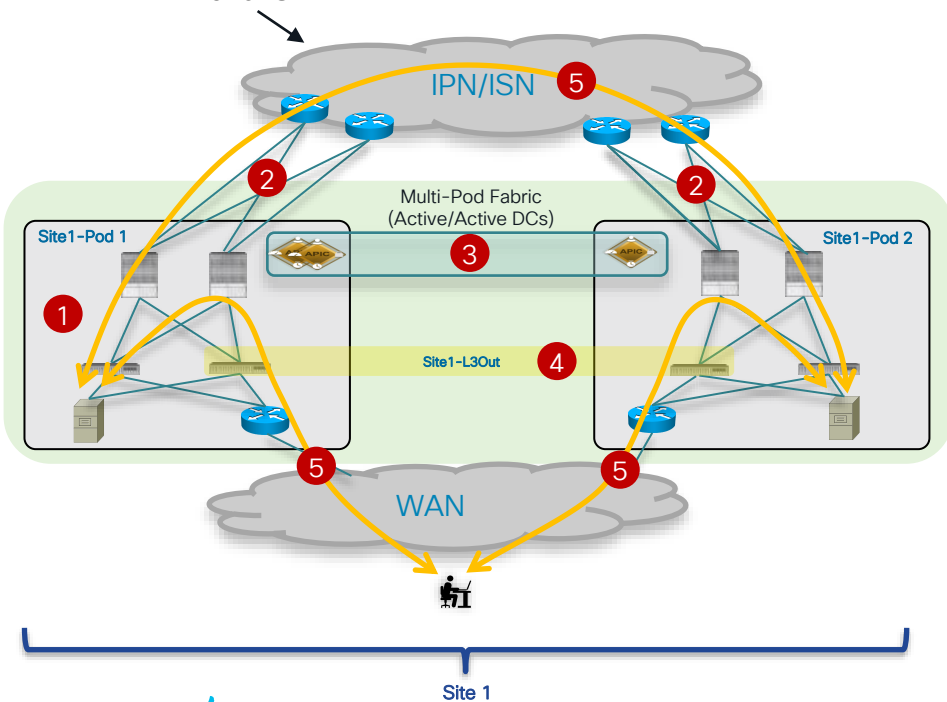


<https://ciscolive.ciscoevents.com/ciscolivebot/#BRKDCN-2391b>

# What Have We Done in Part 1 (BRKDCN-2391b)?

## Quick Recap

Single external network used for  
IPN and ISN



1. Verified Site1-Pod1 configuration
2. Expanding the Single Pod into a Multi-Pod Fabric using the APIC wizard
  - Configured Site1-Pod1 connectivity to the IPN
  - Added Site1-Pod2 to the Multi-Pod fabric
3. Stretched the APIC cluster across Pods
4. Deployed VMM domain integration and L3Out connection for Site1-Pod2
5. Verified East-West and North-South connectivity



# Agenda

- Part 1 (BRKDCN-2391a)
  - Brief Multi-Pod/Multi-Site Review and Positioning
  - Prerequisites
  - Hardware Inspection and Installation
  - Installing the First Site
  - Expanding the Single Pod into a Multi-Pod Fabric
- Part 2 (BRKDCN-2391b)
  - Simplified Tenant Management through Nexus Dashboard Orchestrator (NDO)
  - Adding the DR Site on NDO
  - NDO Additional Functionalities

# Simplified Tenant Management through NDO



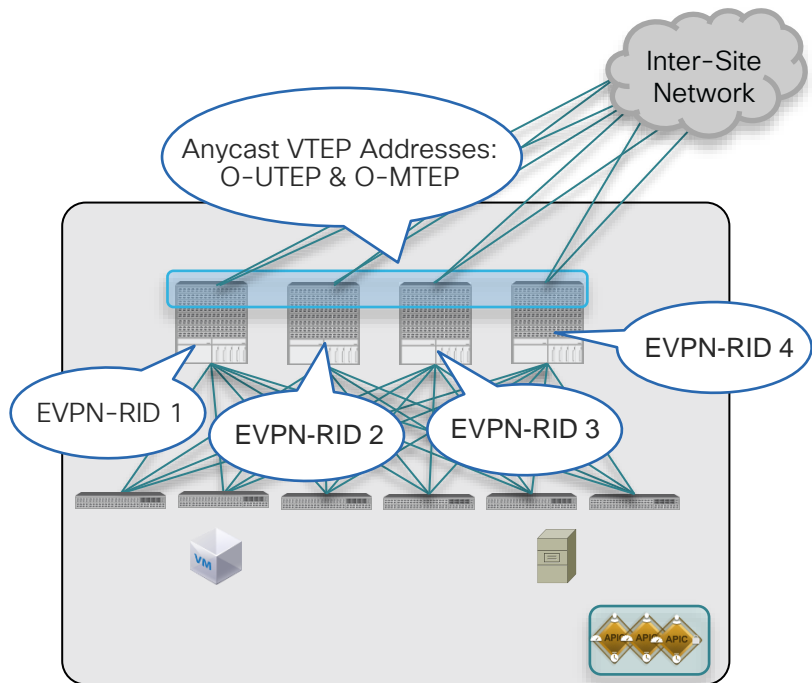
# Simplified Tenant Management through NDO

## Configuration Steps

- Initial setup of NDO
- Adding the Multi-Pod fabric as first site on NDO
- Importing existing 'Ecommerce' tenant configuration on NDO

# ACI Multi-Site

## BGP Inter-Site Peers

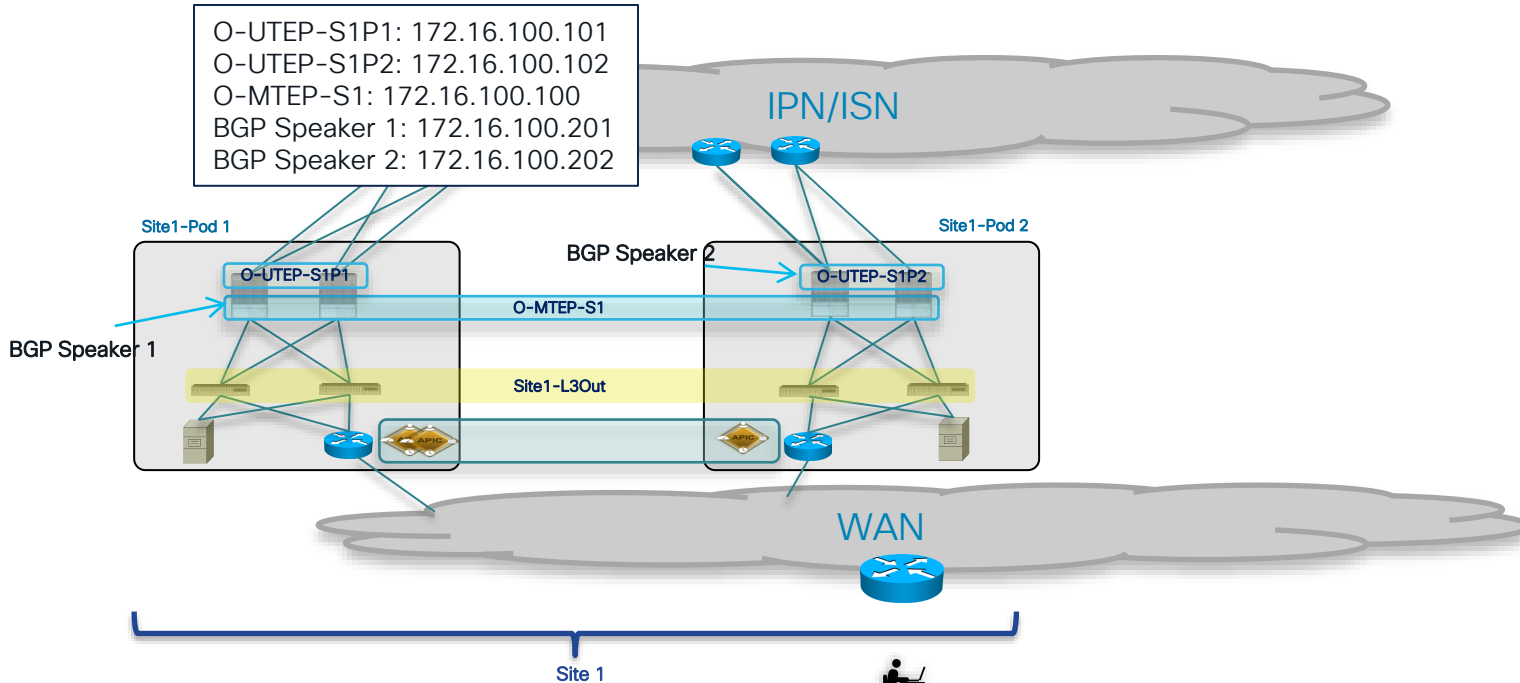


- EVPN-RID, O-UTEP and O-MTEP addresses are assigned from the Nexus Dashboard Orchestrator and **must be routable across the ISN**
- Inter-site communication always happens encapsulating traffic to one of the Anycast TEP address (O-UTEP for L3/L3 unicast forwarding, O-MTEP for BUM forwarding)



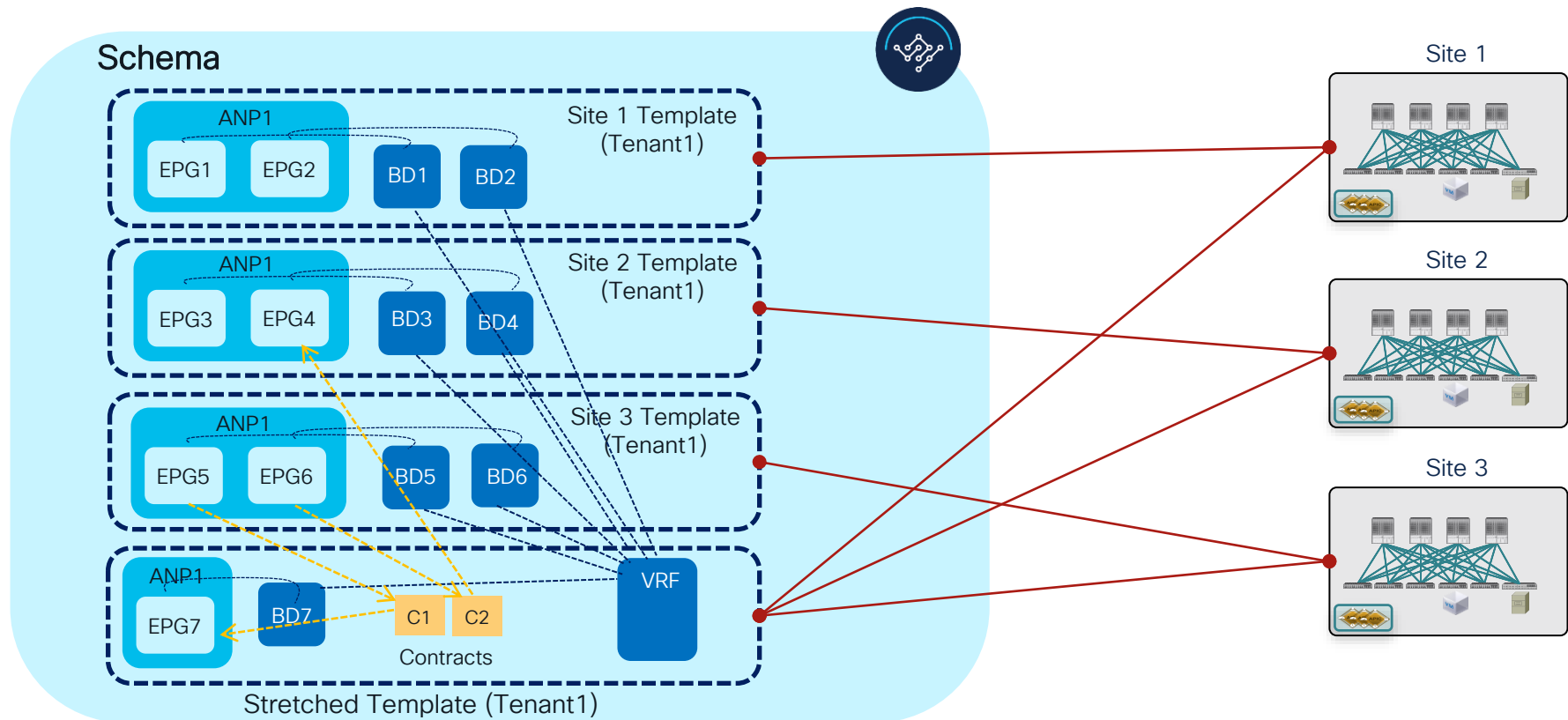
# Adding the DR Site on NDO

## Assign Multi-Site TEP Addresses and BGP EVPN Router-IDs



# Schema Design

## One Template per Site, plus a 'Stretched' Template



The background of the slide is decorated with a pattern of circles of various sizes and colors. On the right side, there is a dense cluster of circles in shades of blue, green, orange, and red. On the left side, there are fewer, more sparsely distributed circles in light blue and grey.

# Demo 6

## Simplified Tenant Management through NDO

# Adding the DR Site on NDO



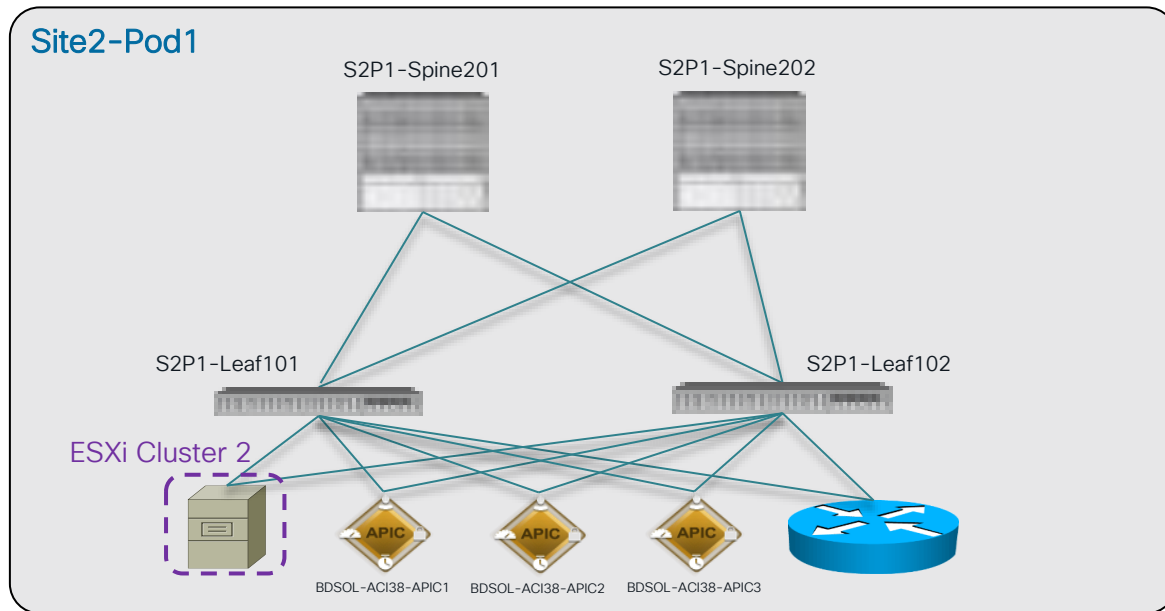
# Adding the DR Site on NDO

## Configuration Steps

- Installing the DR fabric (already done)
- Adding the DR fabric as a second site on NDO (assign Multi-Site TEP addresses, BGP EVPN Router-IDs and External TEP pool)
- Verifying IPN connectivity
- Extending the tenant 'Ecommerce' to the DR site
- Create access policies, VMM and a local L3Out in the DR fabric
- Extending the existing 'Ecommerce' **tenant configuration** to the DR site
- Verify East-West and North-South connectivity

# Adding the DR Site on NDO

## Site2-Pod1 Fabric

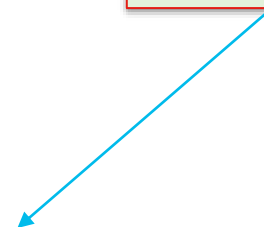


# Adding the DR Site on NDO

## Parameters for the APIC Initial Setup Script (Already Done)

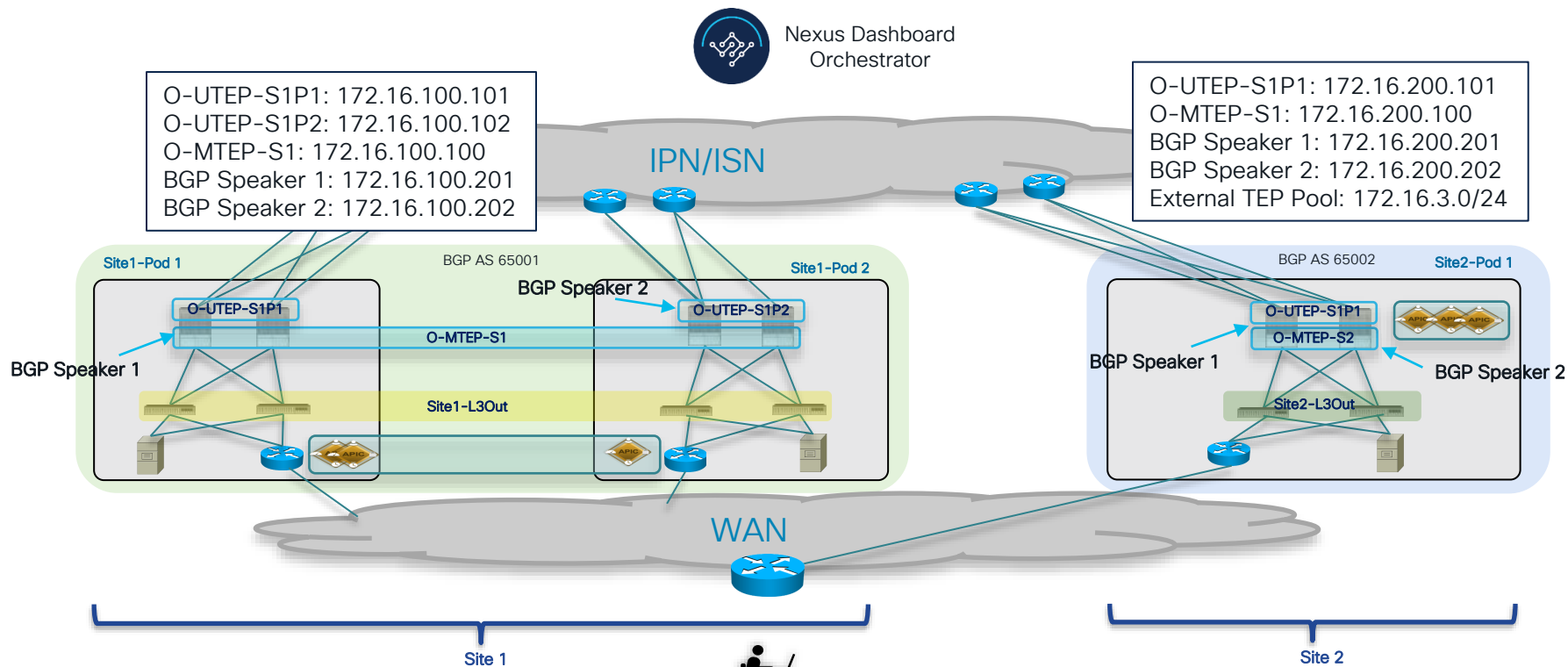
	S2P1-APIC1	S2P1-APIC2	S2P1-APIC3
Fabric name	Fabric2	Fabric2	Fabric2
Fabric ID	1	1	1
Active controllers	3	3	3
Pod ID	1	1	1
Controller ID	1	2	3
TEP Pool	10.2.0.0/16	10.2.0.0/16	10.2.0.0/16
Infra VLAN	3937	3937	3937

Recommended  
not to use  
overlapping TEP  
Pools with  
existing sites



# Adding the DR Site on NDO

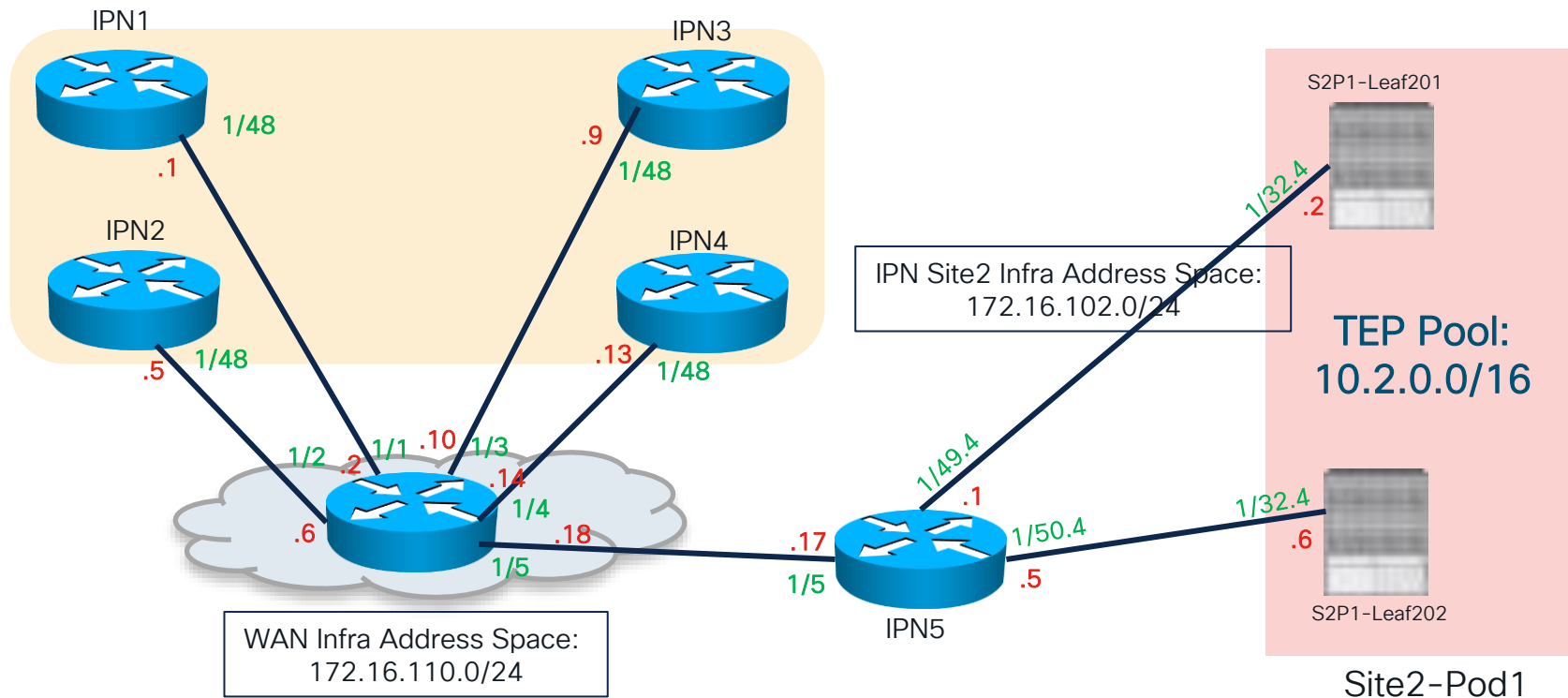
## Assign Routable TEP Addresses and BGP EVPN Router-IDs





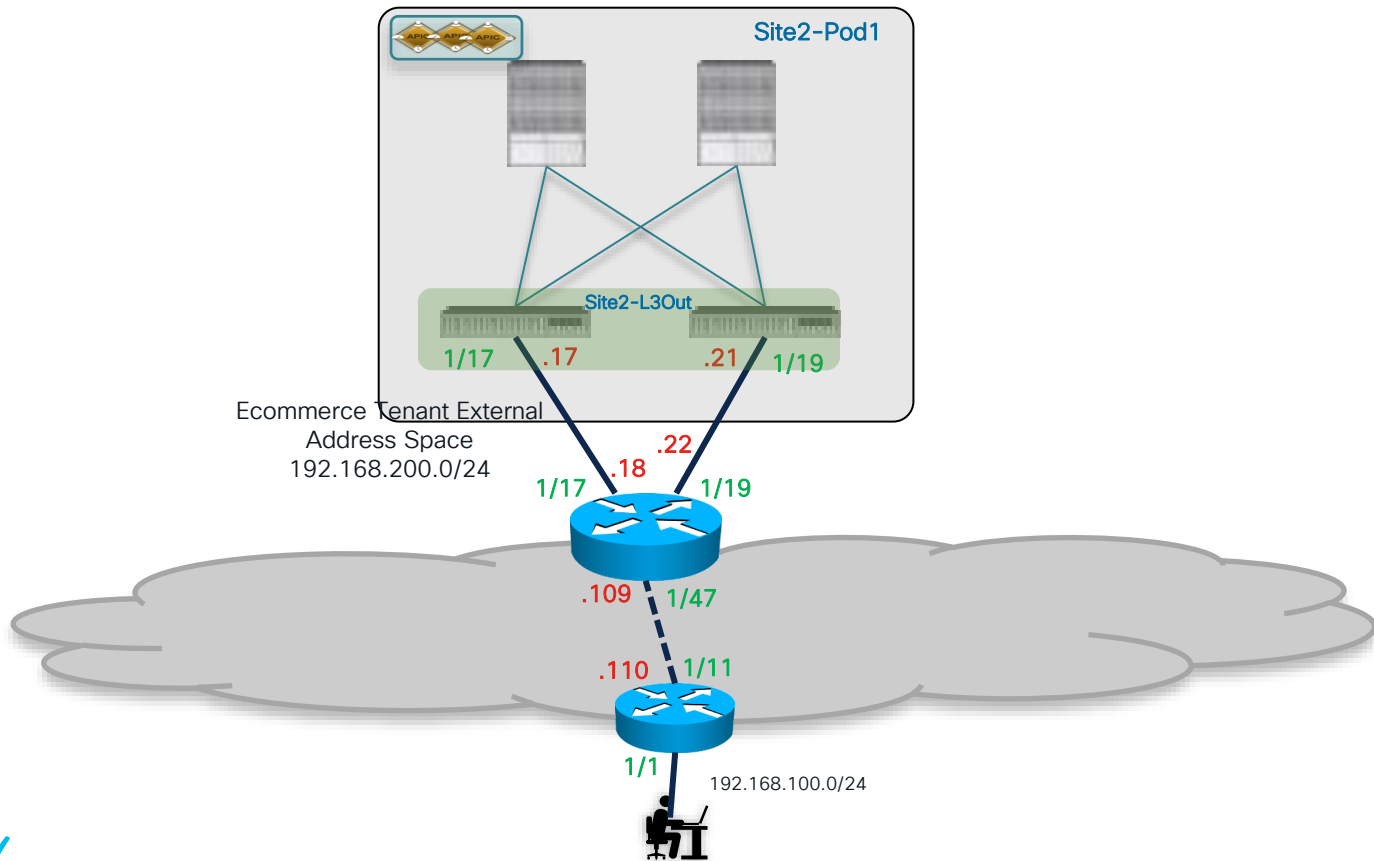
# Adding the DR Site on NDO

## Verifying IPN connectivity



# Adding the DR Site on NDO

## Create a Local L3Out in the DR Site





# Demo 7

## Adding the DR Site on NDO

# NDO Additional Functionalities



# NDO Additional Functionalities

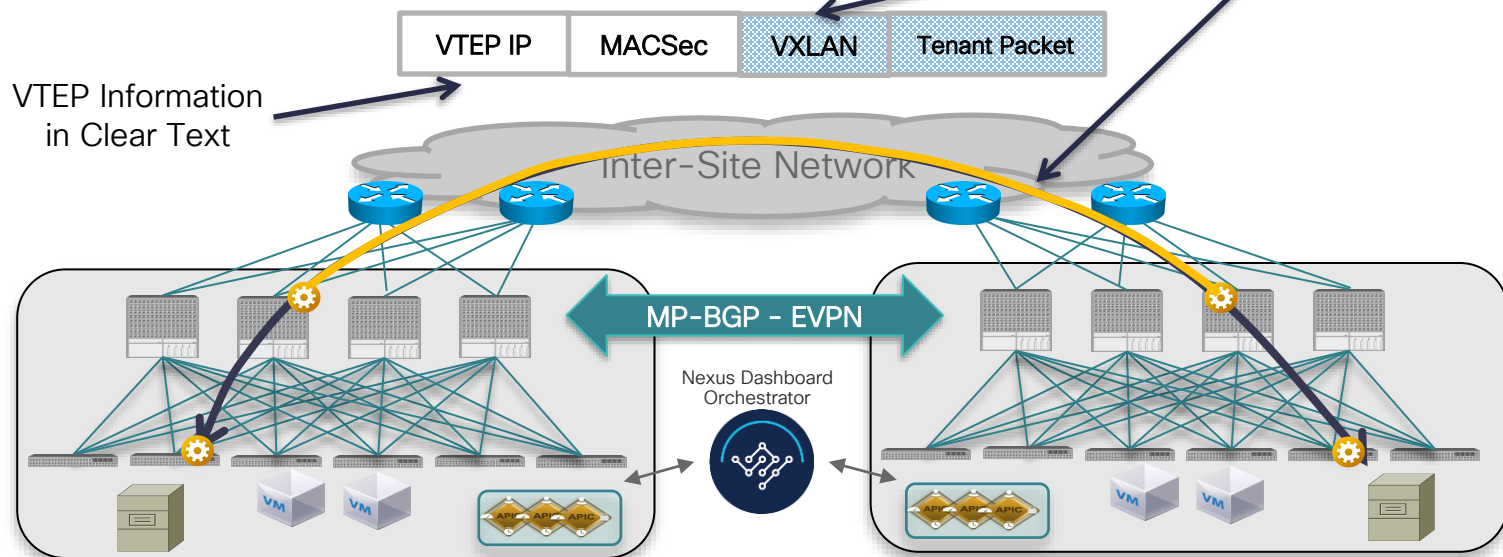
- End host connectivity verification
- Host route advertisement (inbound traffic optimization)
- Enabling CloudSec encryption between sites

# ACI Multi-Site

## CloudSec Encryption for Intersite Traffic

CloudSec = “TEP-to-TEP MACSec”

Encrypted Fabric to Fabric Traffic  
[GCM-AES-256-VPN (64-bit PN)]



Supported from ACI 4.0(1) release for FX line cards and 9332C/9364C platforms

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# Demo 8

## MSO Additional Functionalities

# Where to Go for More Information



- ✓ ACI Multi-Pod White Paper  
<http://www.cisco.com/c/en/us/solutions/collateral/data-center-virtualization/application-centric-infrastructure/white-paper-c11-737855.html?cachemode=refresh>
- ✓ ACI Multi-Pod Configuration Paper  
<https://www.cisco.com/c/en/us/solutions/collateral/data-center-virtualization/application-centric-infrastructure/white-paper-c11-739714.html>
- ✓ ACI Multi-Pod and Service Node Integration White Paper  
<https://www.cisco.com/c/en/us/solutions/collateral/data-center-virtualization/application-centric-infrastructure/white-paper-c11-739571.html>
- ✓ ACI Multi-Site White Paper  
<https://www.cisco.com/c/en/us/solutions/collateral/data-center-virtualization/application-centric-infrastructure/white-paper-c11-739609.html>
- ✓ Cisco Multi-Site Deployment Guide for ACI Fabrics  
<https://www.cisco.com/c/en/us/solutions/collateral/data-center-virtualization/application-centric-infrastructure/white-paper-c11-739609.html>
- ✓ ACI Multi-Site and Service Node Integration White Paper  
<https://www.cisco.com/c/en/us/solutions/collateral/data-center-virtualization/application-centric-infrastructure/white-paper-c11-743107.html>



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