



The bridge to possible

# Architecting Hybrid/Multicloud Infrastructures

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# Cisco Webex App

## Questions?

Use Cisco Webex App to chat with the speaker after the session

## How

- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated until February 24, 2023.





Continue  
your  
Journey

TECDCN-2820  
Monday 8:30 AM – 6:30 PM

DEVNET-1326  
Monday 1:00 – 1:45 PM

BRKDCN-2621  
Tuesday 3:15 – 4:15 PM

DEVNET-2686  
Wednesday 4:00 – 4:45 PM

BRKDCN-2653  
Tuesday 2:00 – 3:00 PM  
Wednesday 1:30 – 2:30 PM

BRKDCN-2671  
Thursday 10:30 – 11:30 AM

LTRDCN-2241  
Friday 9:00 AM – 1:00 PM



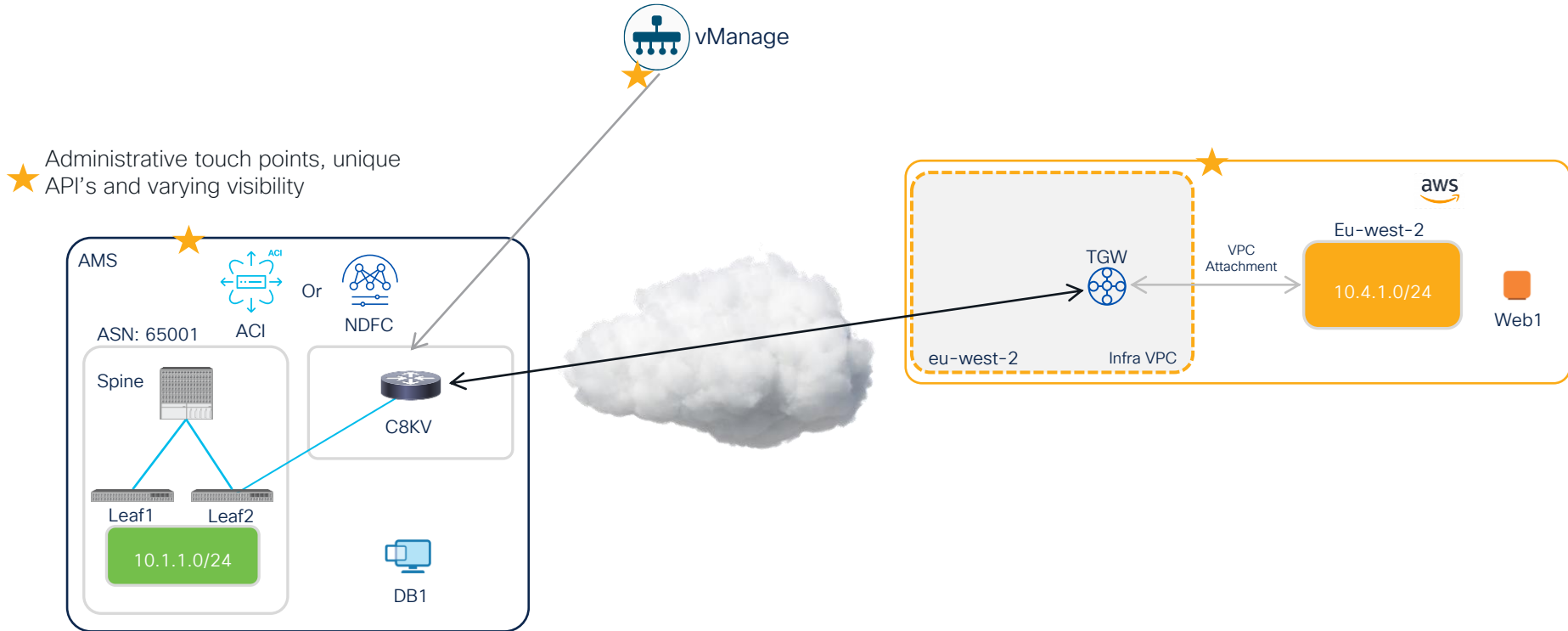
# Agenda

- Hybrid Cloud Administrative Burden and Challenges
- Multicloud Networking: Cisco Cloud Networking
- SDWAN and Branch Integration
- Nexus Cloud
- Visibility
- Summary

# Challenges with Multicloud Networking

# Multicloud Operational Complexity

## Private Cloud with One Public Cloud



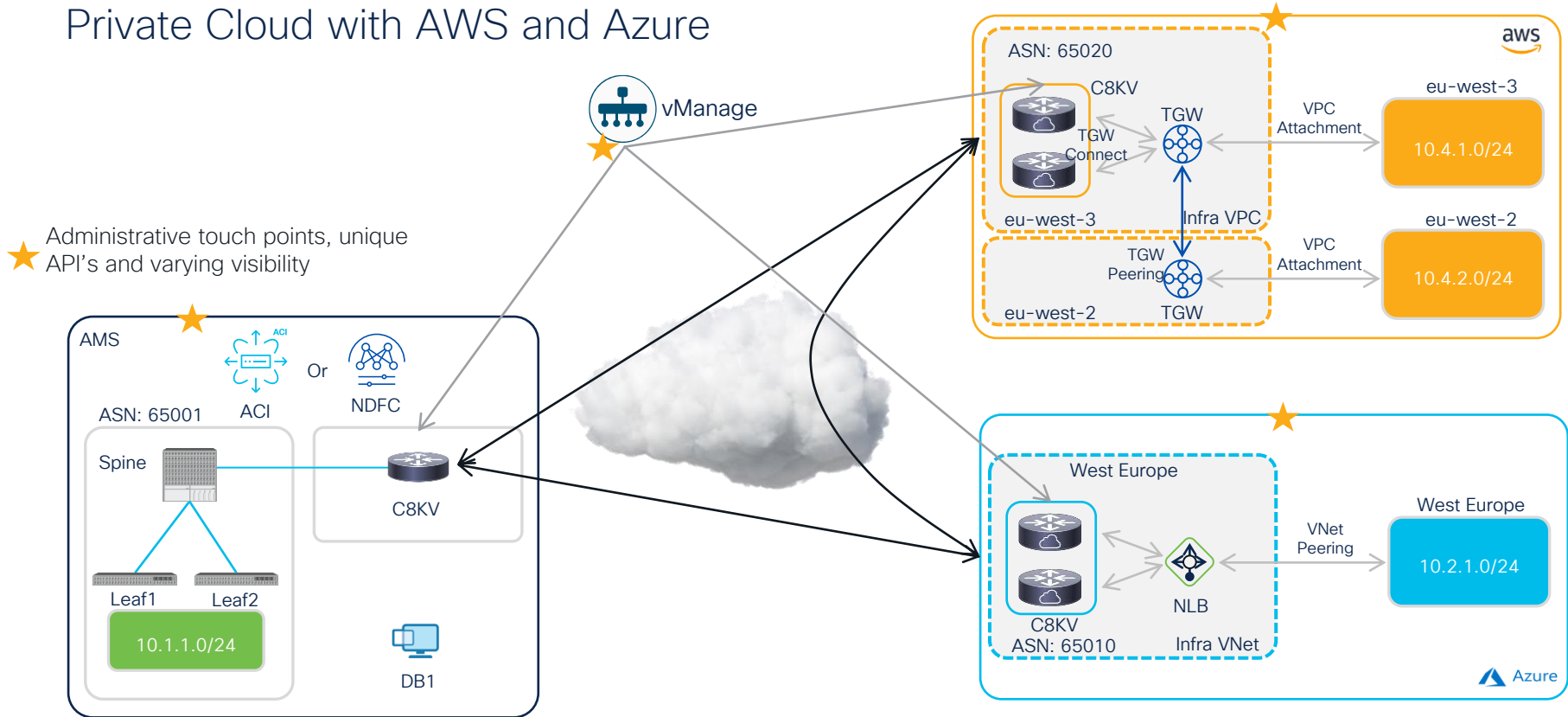
# Cloud Native Routing Challenges

- Intent: Reach 10.1.1.0/24 over all possible paths (ECMP) and Path Failure(s)
- Think of each Cloud as a distributed router
  - How do we know about path failures?
  - How do we have a backup path?
  - ECMP?



# Multicloud Operational Complexity

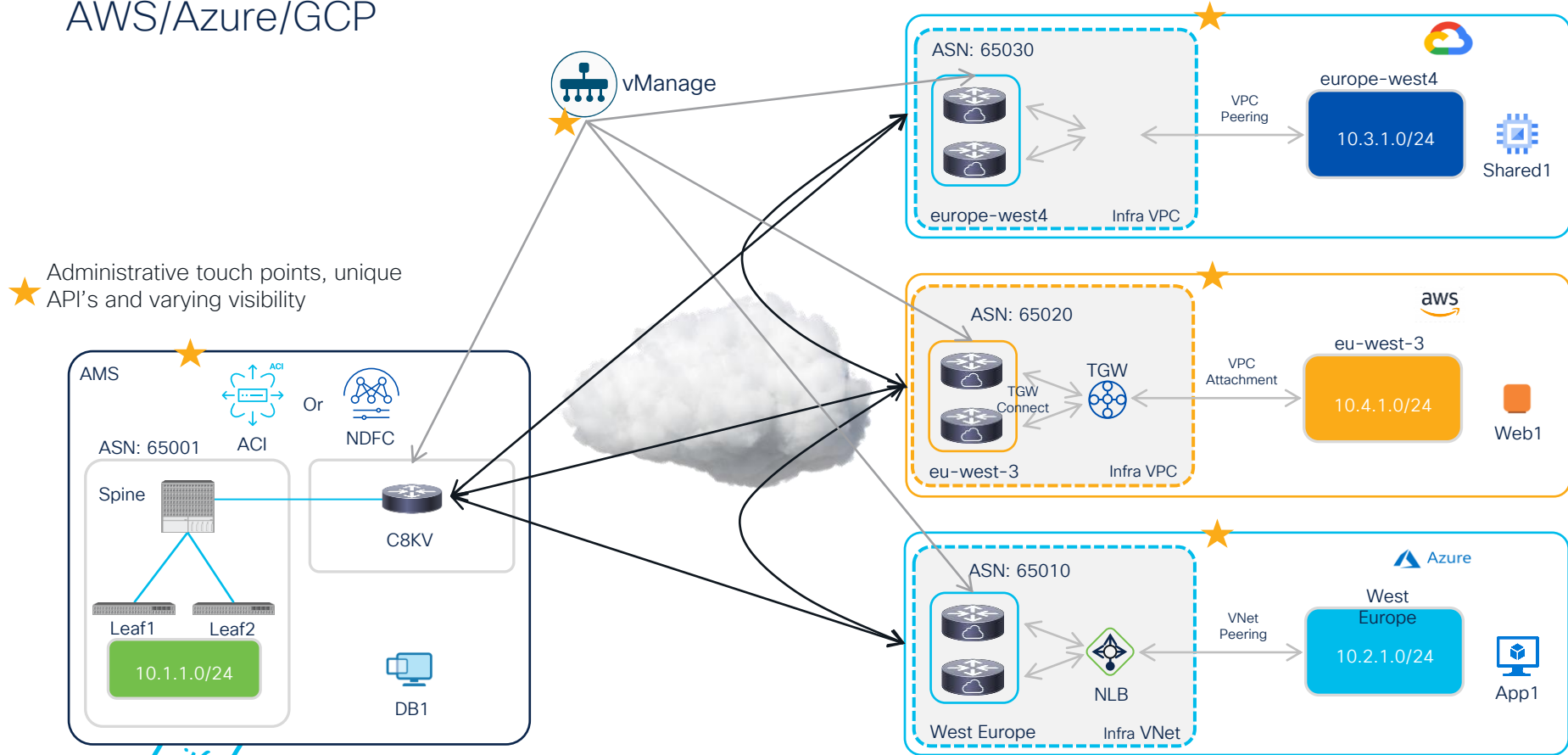
## Private Cloud with AWS and Azure





# Multicloud Operational Complexity

AWS/Azure/GCP

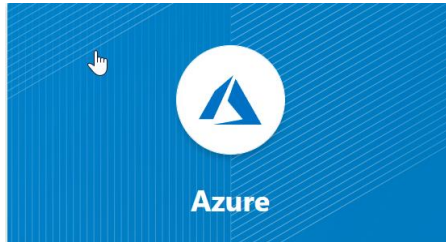


# Operations and Visibility

# Infrastructure as Code – Writing Code for Each API



Orchestrator



# AWS CloudWatch – Flow Logs

The screenshot shows the AWS CloudWatch console interface. The top navigation bar includes the AWS logo, a dropdown menu, and links for Services and Edit. The left sidebar contains a navigation menu with options: Dashboard, Alarms, Billing, Logs (highlighted), and Metrics. The main content area is titled 'Log Groups > Streams for MyFirstFlowLog > Events for eni-30076669-all'. Below the title, there is a filter input field and a date/time selector set to '2015/06/08 16:43:02 Local (GMT-07:00)'. The 'Event Data' section displays a list of log events, each containing a timestamp, log group name, log stream name, and a series of fields representing network flow data, including source and destination IP addresses, ports, and protocol numbers.

Event Data
2 493062987015 eni-30076669 107.170.242.27 172.31.8.238 123 123 17 1 76 1433806982 1433807038 ACCEPT OK
2 493062987015 eni-30076669 172.31.8.238 107.170.242.27 123 123 17 1 76 1433806982 1433807038 ACCEPT OK
2 493062987015 eni-30076669 79.33.7.58 172.31.8.238 54517 23 6 3 180 1433807174 1433807218 REJECT OK
2 493062987015 eni-30076669 71.6.135.131 172.31.8.238 15314 21379 6 1 40 1433807224 1433807278 REJECT OK
2 493062987015 eni-30076669 172.31.8.238 108.61.56.35 123 123 17 1 76 1433807281 1433807338 ACCEPT OK
2 493062987015 eni-30076669 108.61.56.35 172.31.8.238 123 123 17 1 76 1433807281 1433807338 ACCEPT OK
2 493062987015 eni-30076669 172.31.8.238 23.226.142.216 123 123 17 1 76 1433807350 1433807398 ACCEPT OK
2 493062987015 eni-30076669 188.138.1.218 172.31.8.238 40082 26 6 1 40 1433807350 1433807398 REJECT OK
2 493062987015 eni-30076669 23.226.142.216 172.31.8.238 123 123 17 1 76 1433807350 1433807398 ACCEPT OK
2 493062987015 eni-30076669 50.116.38.167 172.31.8.238 123 123 17 1 76 1433807411 1433807458 ACCEPT OK
2 493062987015 eni-30076669 172.31.8.238 50.116.38.167 123 123 17 1 76 1433807411 1433807458 ACCEPT OK
2 493062987015 eni-30076669 107.170.242.27 172.31.8.238 123 123 17 1 76 1433807529 1433807579 ACCEPT OK
2 493062987015 eni-30076669 172.31.8.238 107.170.242.27 123 123 17 1 76 1433807529 1433807579 ACCEPT OK
2 493062987015 eni-30076669 116.211.0.90 172.31.8.238 46373 8080 6 1 40 1433807648 1433807699 REJECT OK
2 493062987015 eni-30076669 222.122.52.157 172.31.8.238 58354 22 6 3 180 1433807894 1433807999 REJECT OK
2 493062987015 eni-30076669 199.217.117.85 172.31.8.238 5064 5060 17 1 443 1433807944 1433807999 REJECT OK
2 493062987015 eni-30076669 107.170.242.27 172.31.8.238 123 123 17 1 76 1433808069 1433808119 ACCEPT OK
2 493062987015 eni-30076669 172.31.8.238 107.170.242.27 123 123 17 1 76 1433808069 1433808119 ACCEPT OK
2 493062987015 eni-30076669 172.31.8.238 108.61.56.35 123 123 17 1 76 1433808310 1433808358 REJECT OK

# Azure Network Watcher

Azure data centers with...

7

out of 36

Active ports on inte...

6

Hosts active on inte...

26

Malicious flows

2.87k

Allowed 103  
Blocked 2.77k

## Traffic distribution across Azure data centers

Active DCs 3

Inactive DCs 4

Allowed malicious...

1/7

DCs affected

Traffic analytics enabl...

Total 6

Active countries

Total 147



## Virtual network distrib...

VNet traffic

Total 89

Active 14

Inactive 75

Ex

Or

Az

Pu

[Click here to see VNet traffic topol](#)

## Hosts with most traffic

4.5M

Total flows

IP	%	DISTRIBU...
10.156.1.4	9.02	<div></div>
10.186.1.4	7.4	<div></div>

## Most frequent conversations

4.5M

Total flows

SOURCE	DESTI...	%	DISTRIBU...
10.186...	10.15...	3.33	<div></div>
westus2	10.4.1.4	1.46	<div></div>

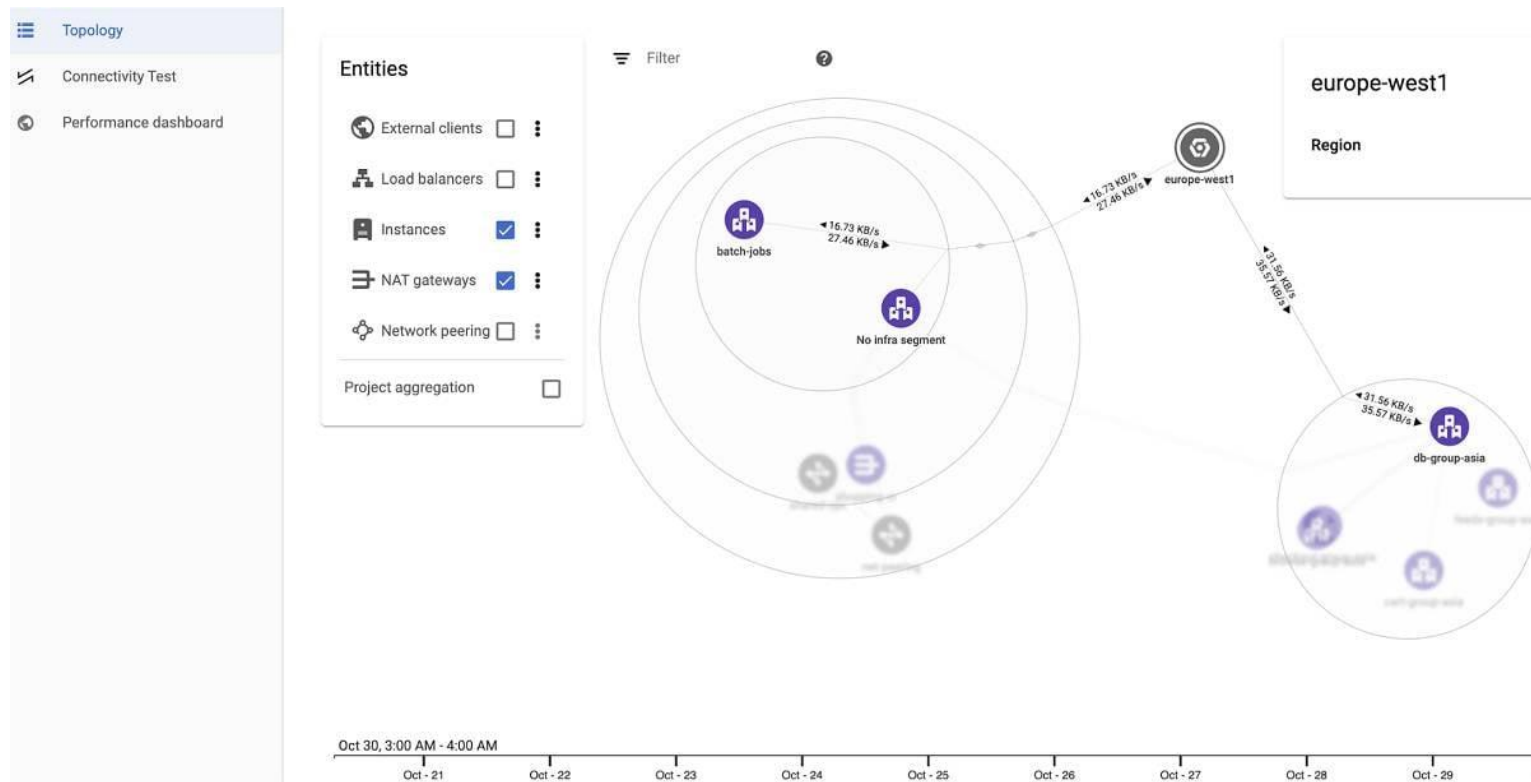
## Top application protocols

4.5M

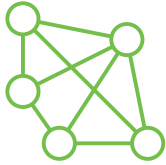
Total flows

L7 PROTO...	%	DISTRIBU...
http	6.06	<div></div>
ldap	1.43	<div></div>

# GCP – Network Intelligence Center



# Challenges to solve



Network  
connectivity



Operations  
and visibility



Services  
integration



Segmentation  
and security

Need For Homogenous Experience Across  
Heterogenous Cloud Environments

# The Answer: Cisco Cloud Networking



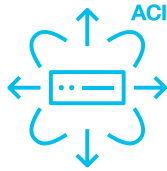


# Flexible deployment models



## Cloud only

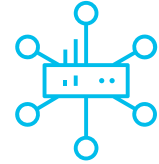
Intra-cloud single region  
Intra-cloud multi-region  
Inter-clouds



## Hybrid with on-premises ACI



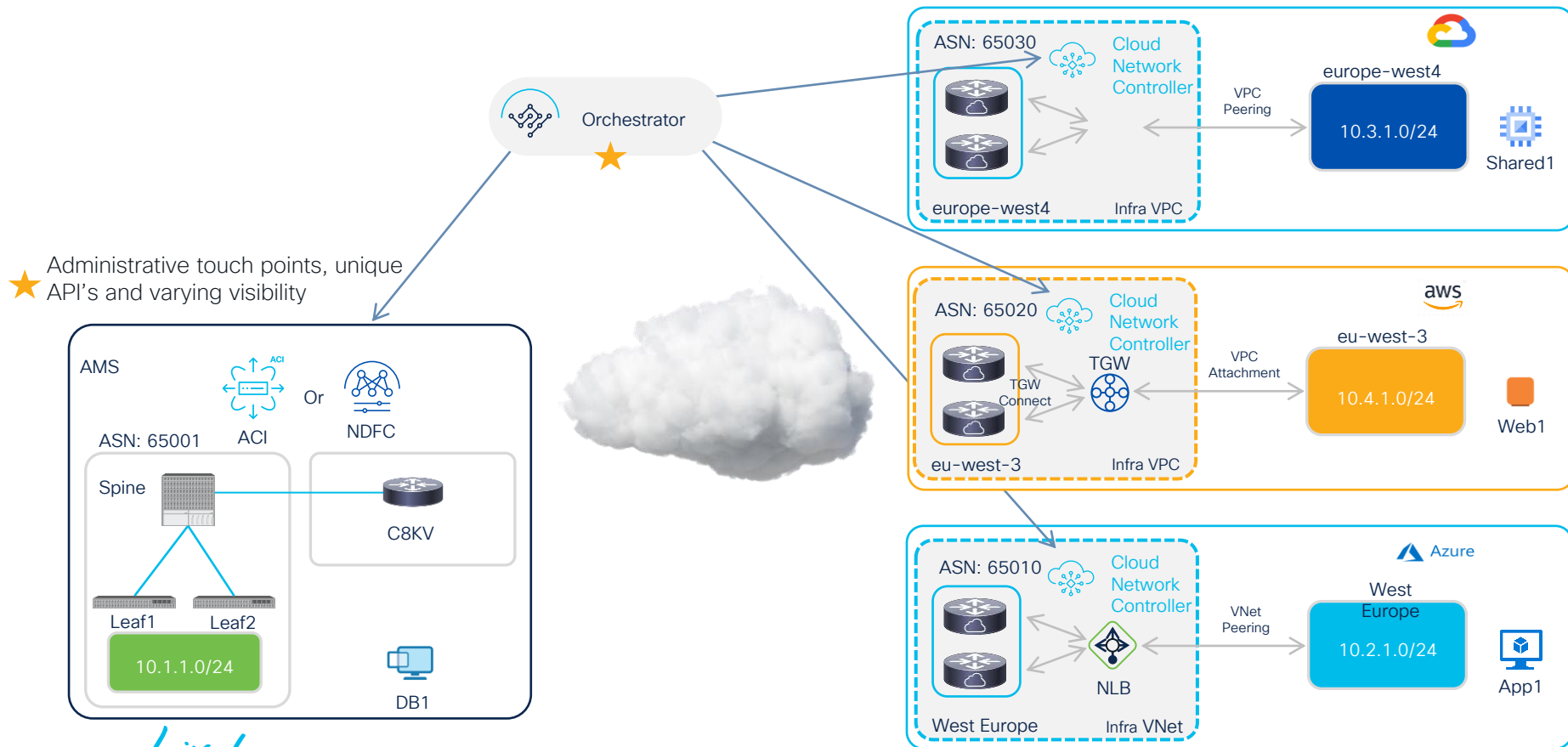
## Hybrid with on-premises NDFC



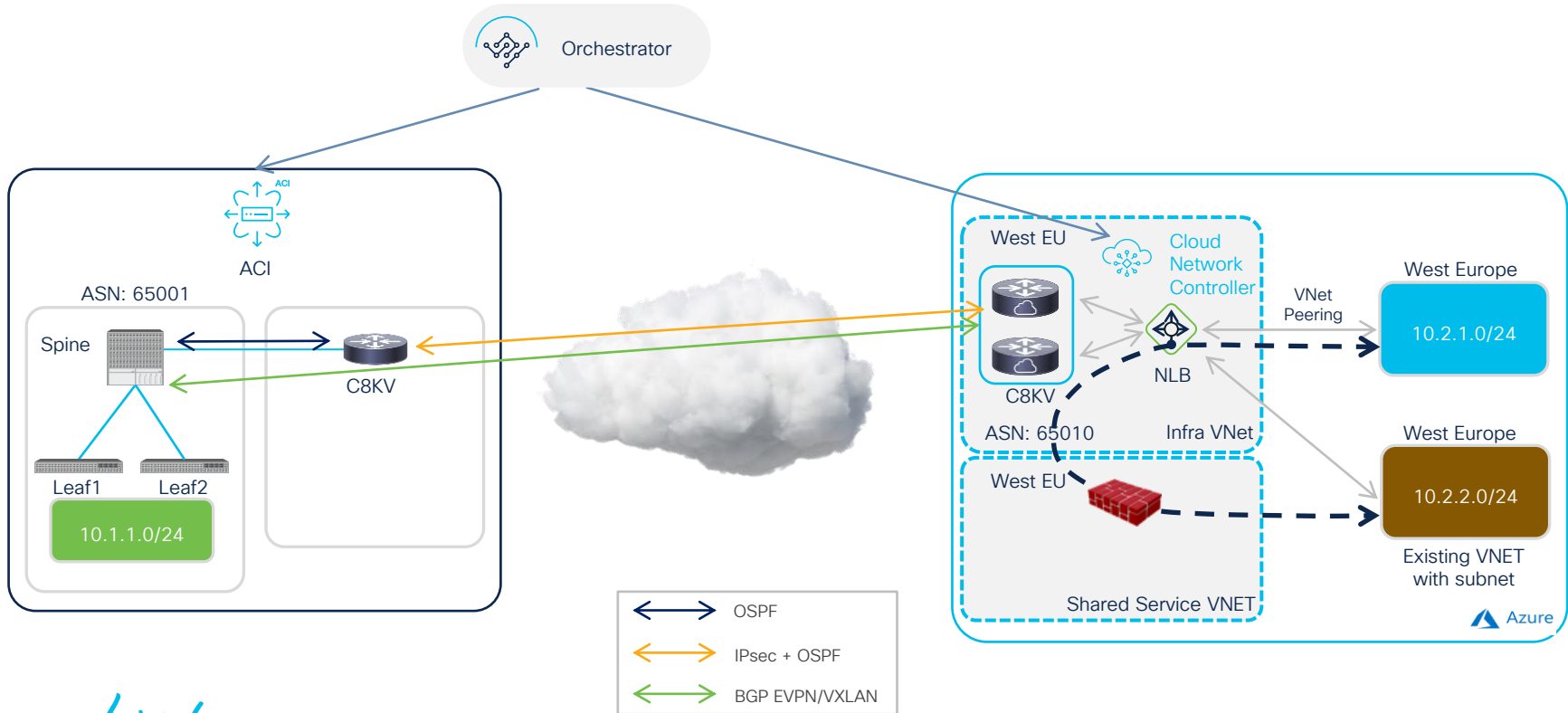
## Connect to external networks

SD-WAN router  
Branch router  
Data center edge router

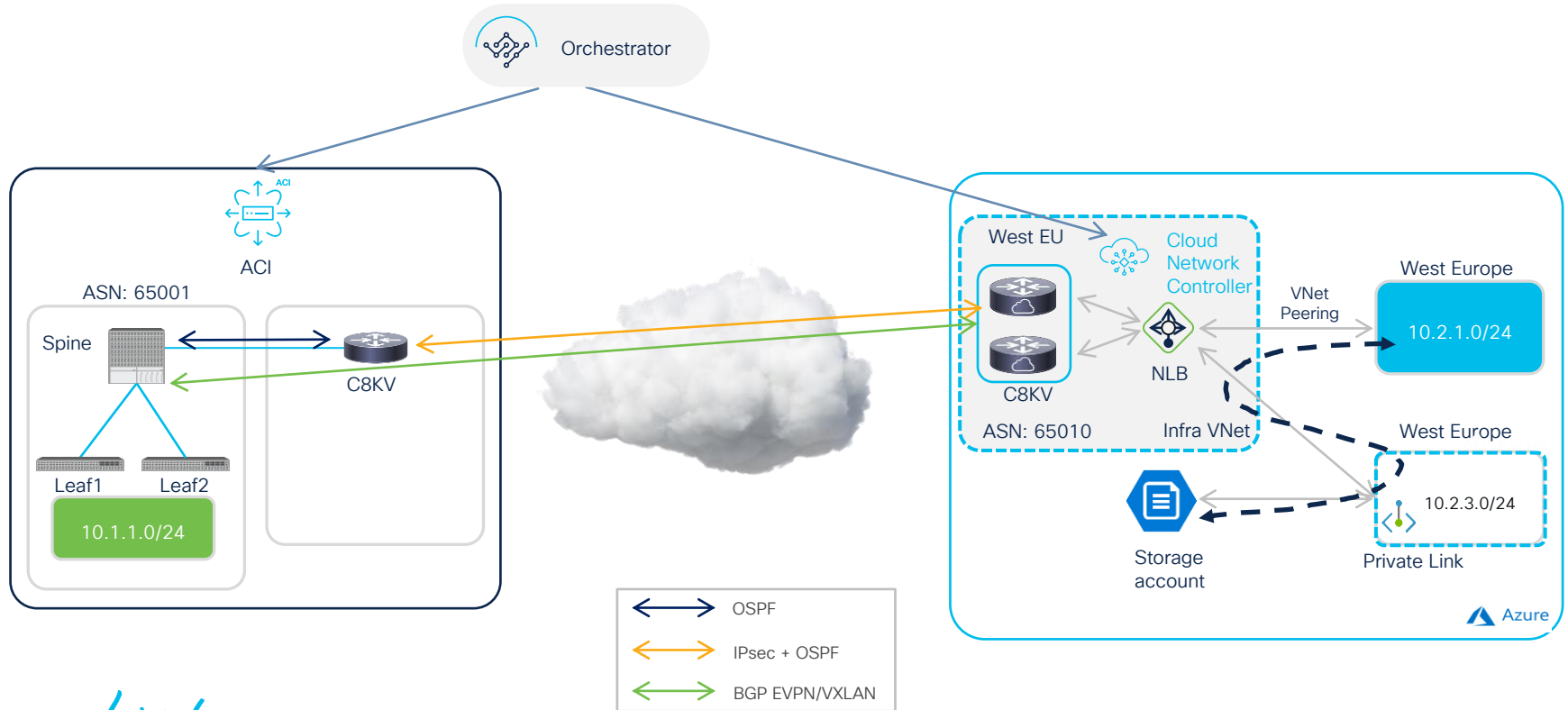
# Unification with Nexus Dashboard Orchestrator



# Service Insertion Support



# Native Services Integration



# What about Brownfield?



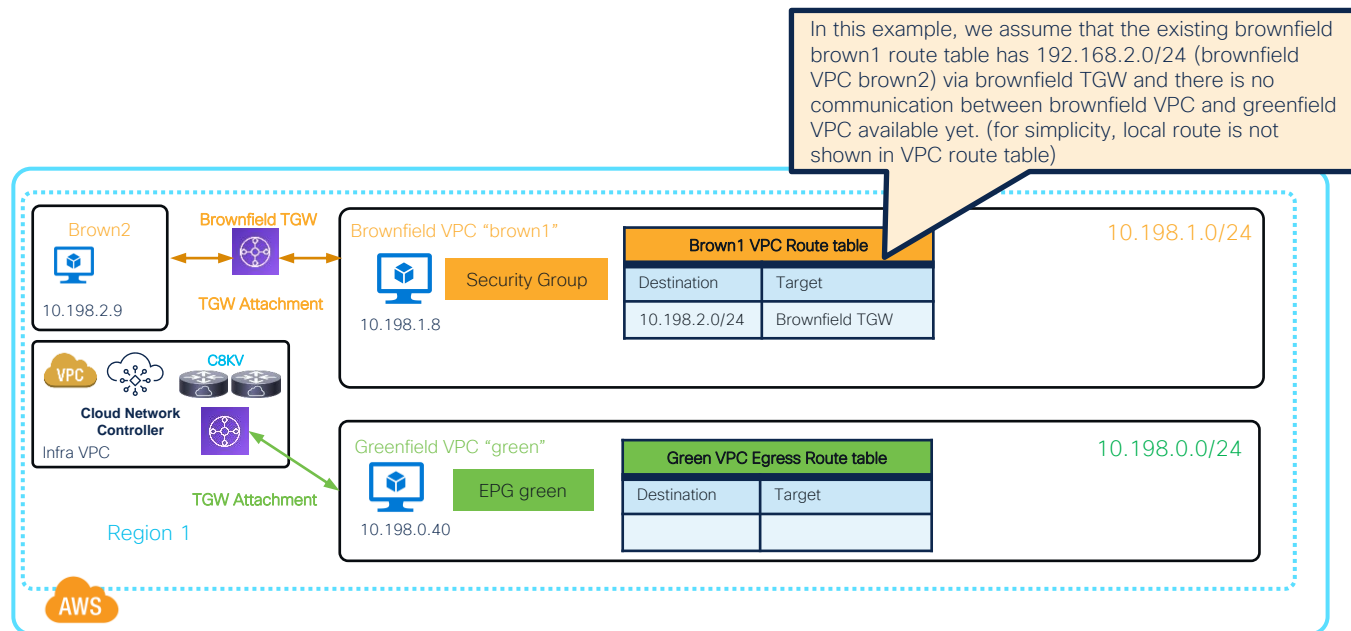
# Supported Brownfield Migration Scenario's

## Cloud Network Controller



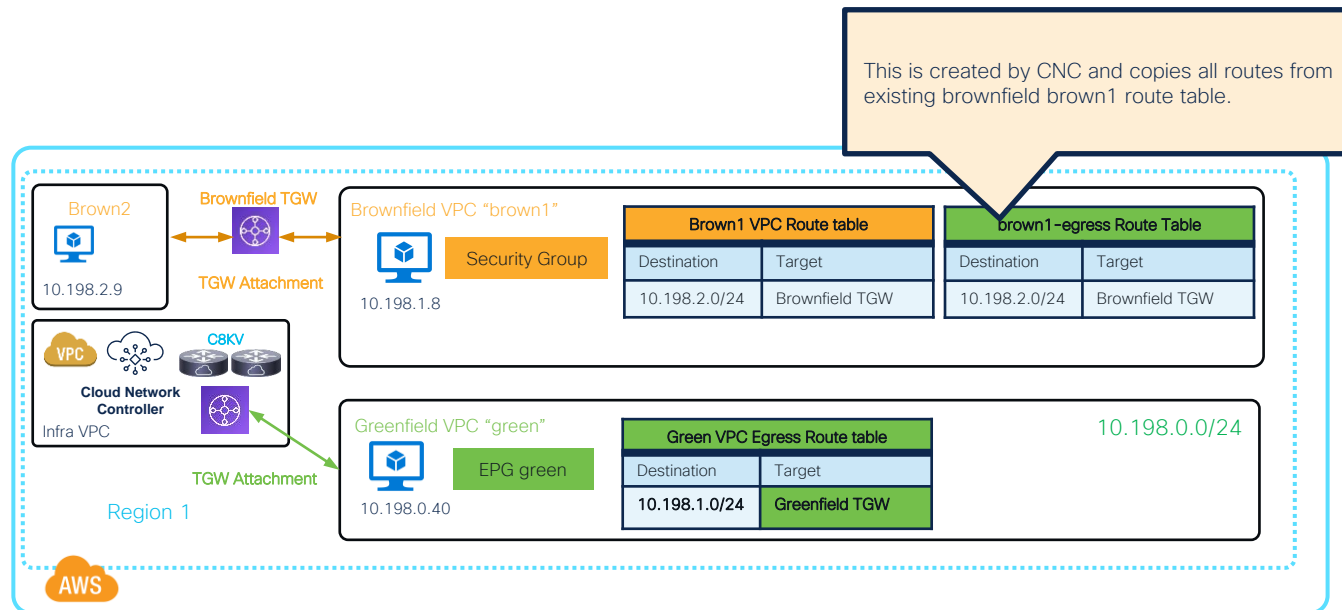
- Connectivity to Azure brownfield VNETs
- Connectivity to AWS brownfield VPCs
- Workload VPC / vNET
- VPC / vNET Route Table
- TGWs
- Import of existing VPC/Subnet
- VPCs/Subnets associated to the VRF Routing Domains

# Brownfield import



# Brownfield import

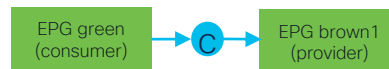
## Step 1: importing the existing VPC brown1



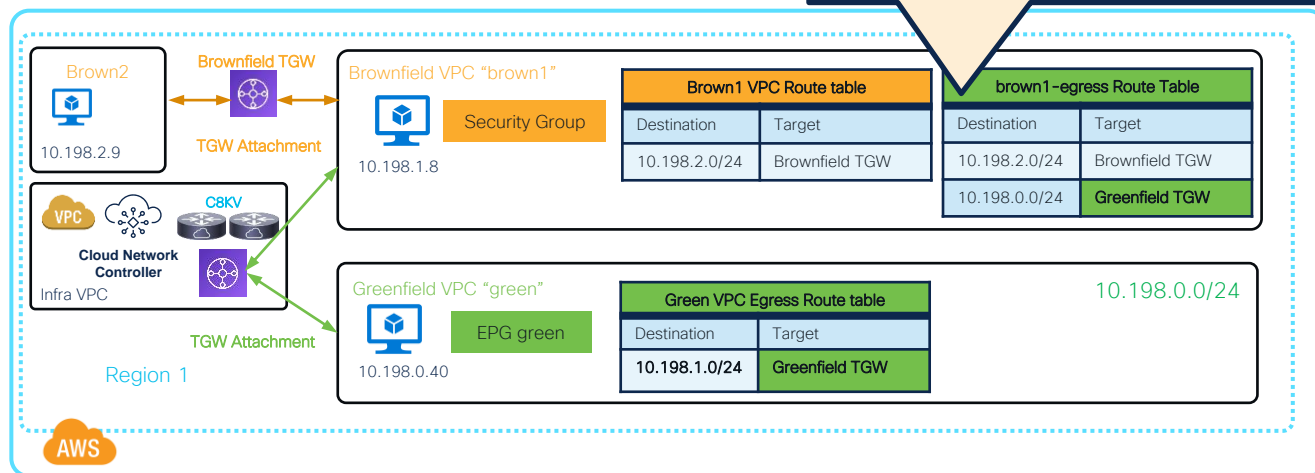


# Brownfield import

## Step 2: add a contract



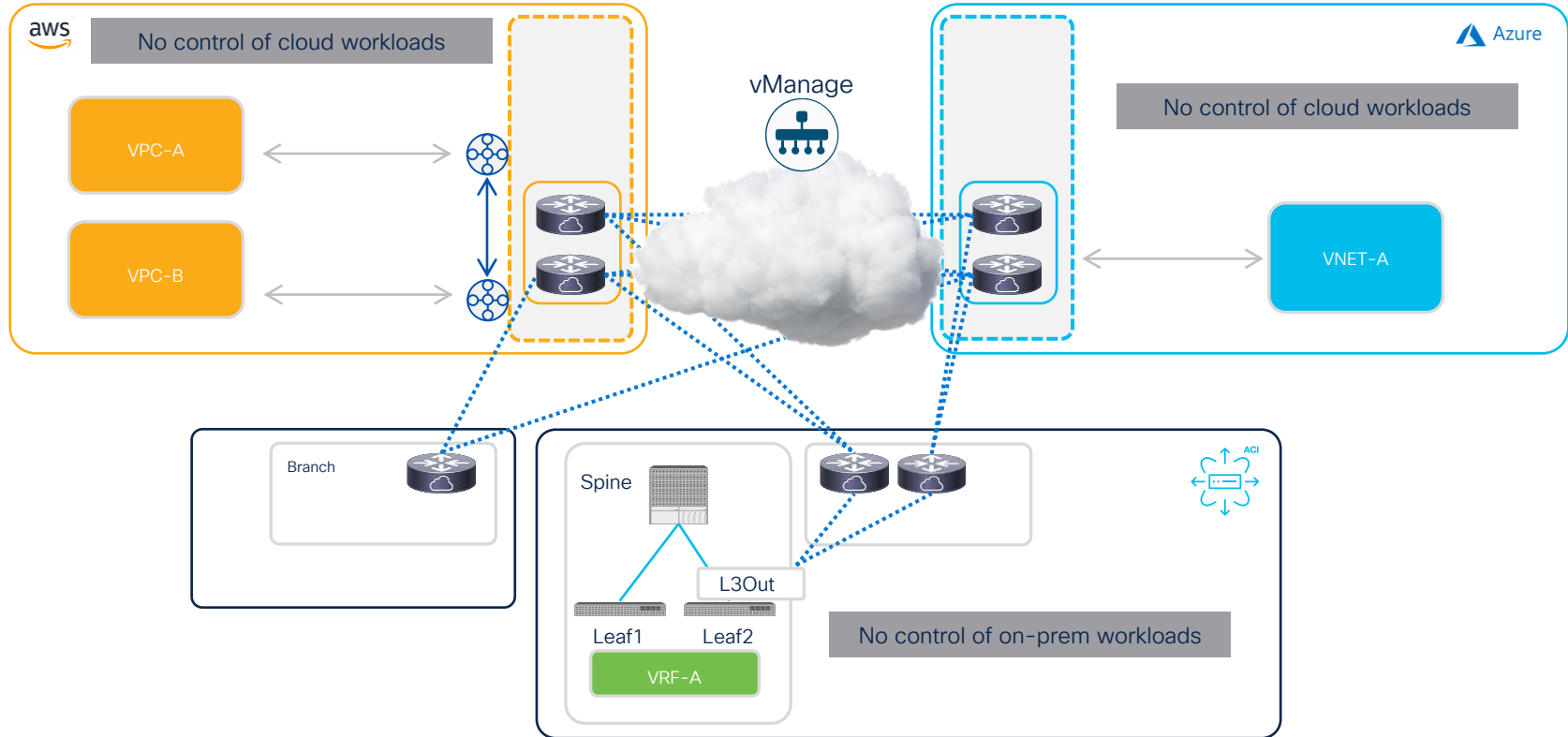
New route entry to 10.198.0.0/24 is created. So that: 10.198.1.11 can reach 10.198.0.0/24 network. With Routing & Security access policy, brown1 endpoints will move to new created EPG brown1. In order to maintain connectivity to brown2, we need to add extra contract to allow communication from brown1 to brown2.



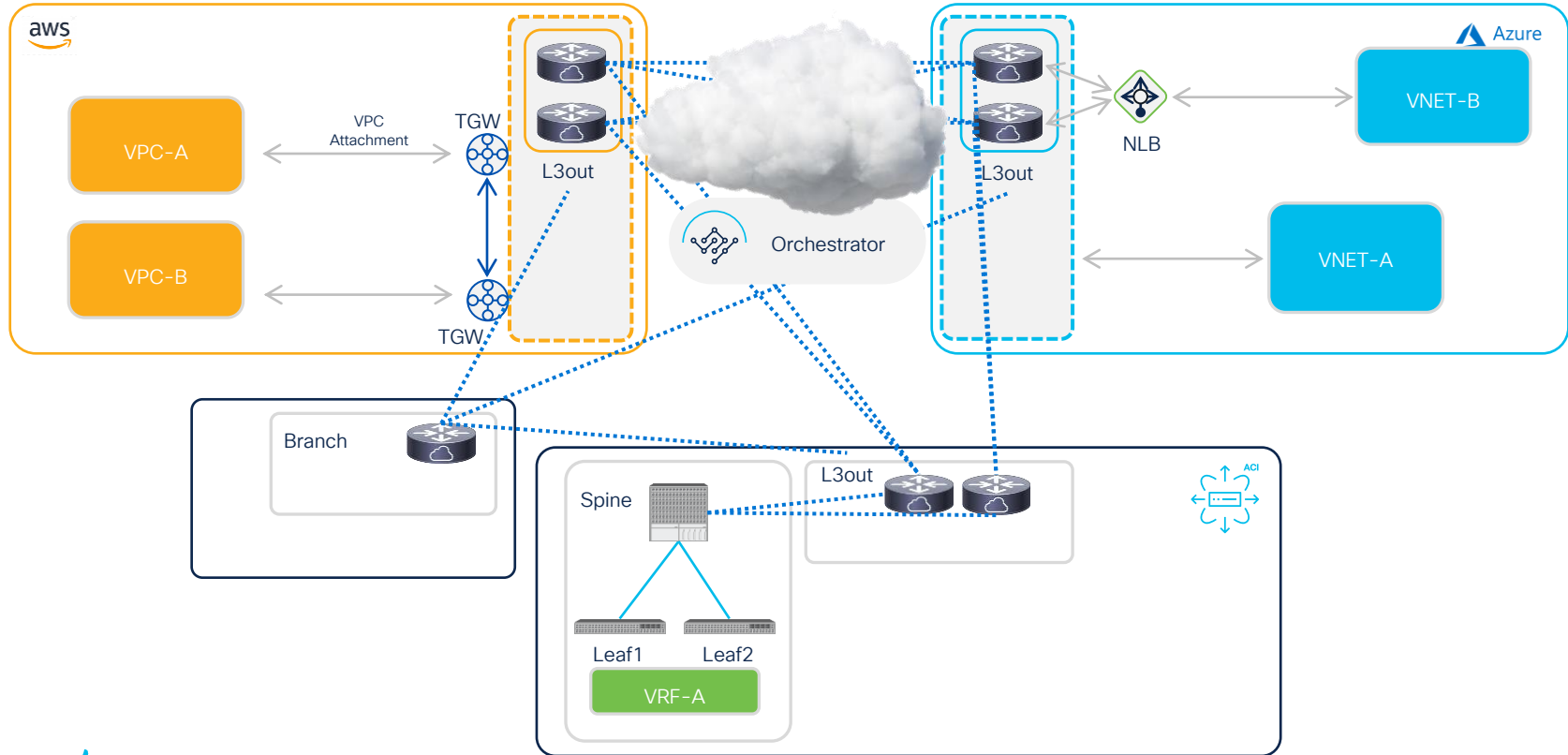
# SDWAN and Branch Integration



# Connectivity with SDWAN



# Connectivity with Orchestrator



# Nexus Cloud

# Deployment Options

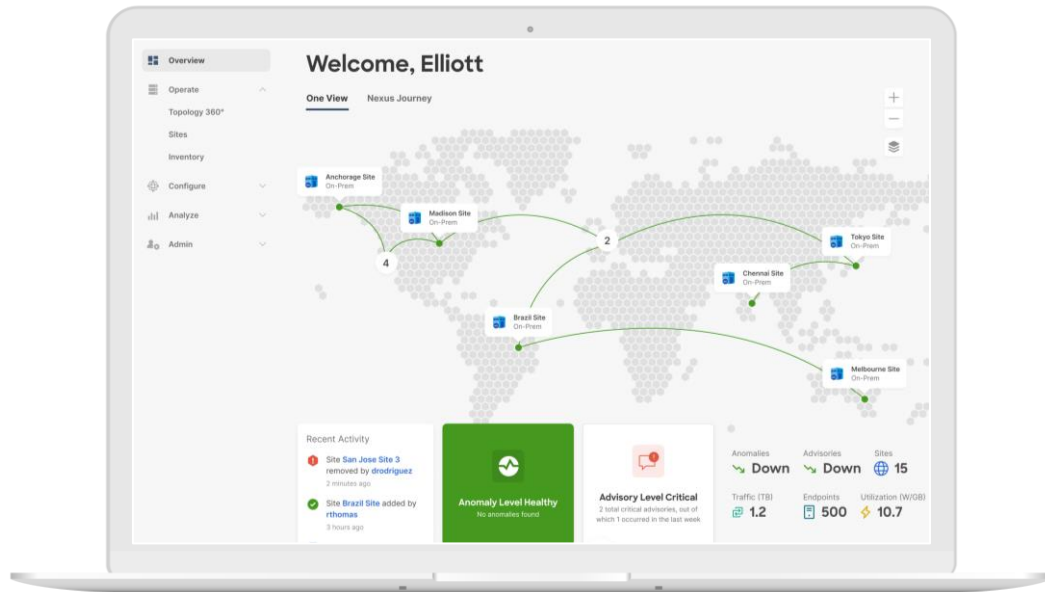


Nexus  
Dashboard



Nexus **Cloud**  
SaaS

# Nexus Cloud



Delivers application experiences users love and expect



Securely expand to Multicloud



Accelerate IT operations



Simplify security and compliance



Focus on sustainability

# Key Use cases



1

**Managing your  
network infra from  
the cloud**

a-a-S Consumption  
Global view  
Inventory  
Multiple sites/fabrics



2

**Risk  
reduction and  
compliance**

Conformance  
Advisories  
Anomalies



3

**Visibility of  
workload  
connectivity**

Connected endpoints  
Topology



4

**Using AIOps  
to simplify  
network  
operations**

Upgrade assist/firmware  
management



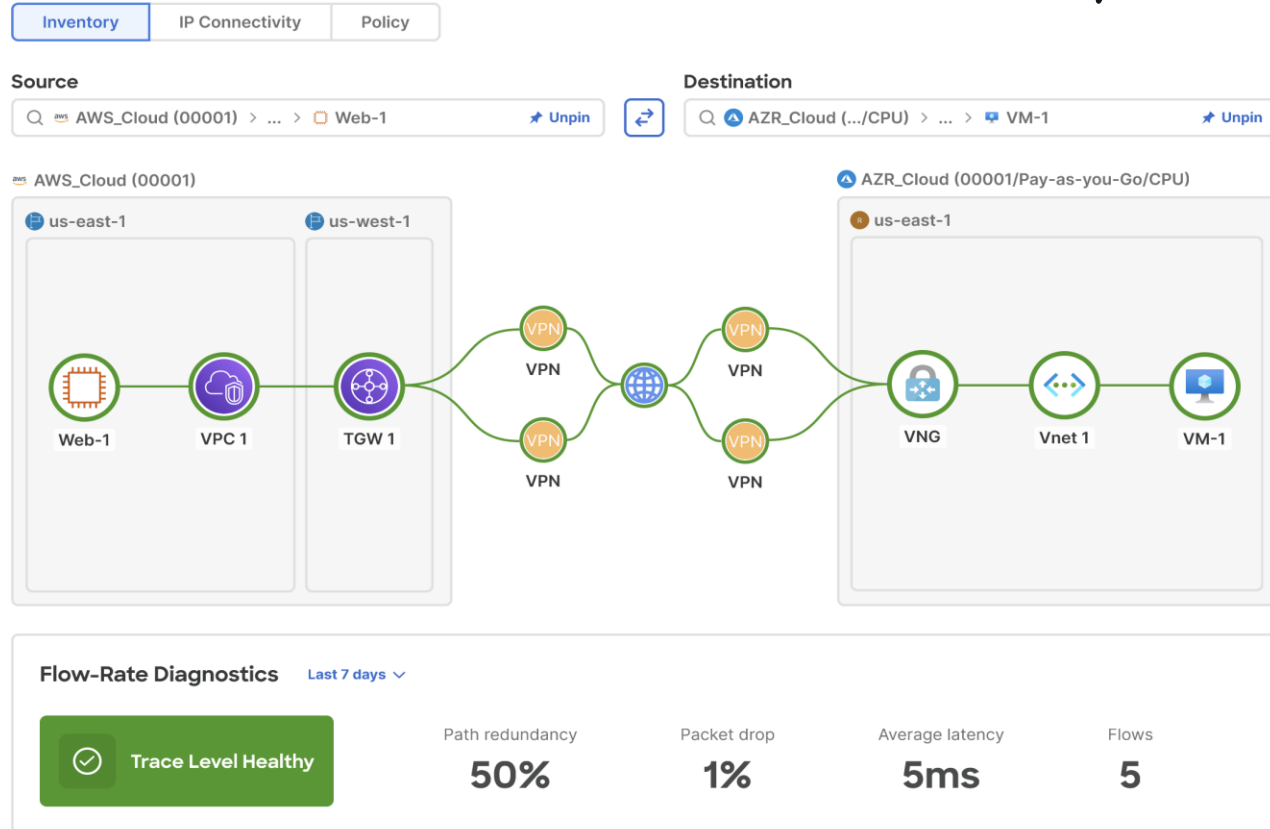


# Topology and Latency



- Inventory
- IP Connectivity
- Policy
- Visibility
- Troubleshooting

Resulting in a Simplified Deployment.



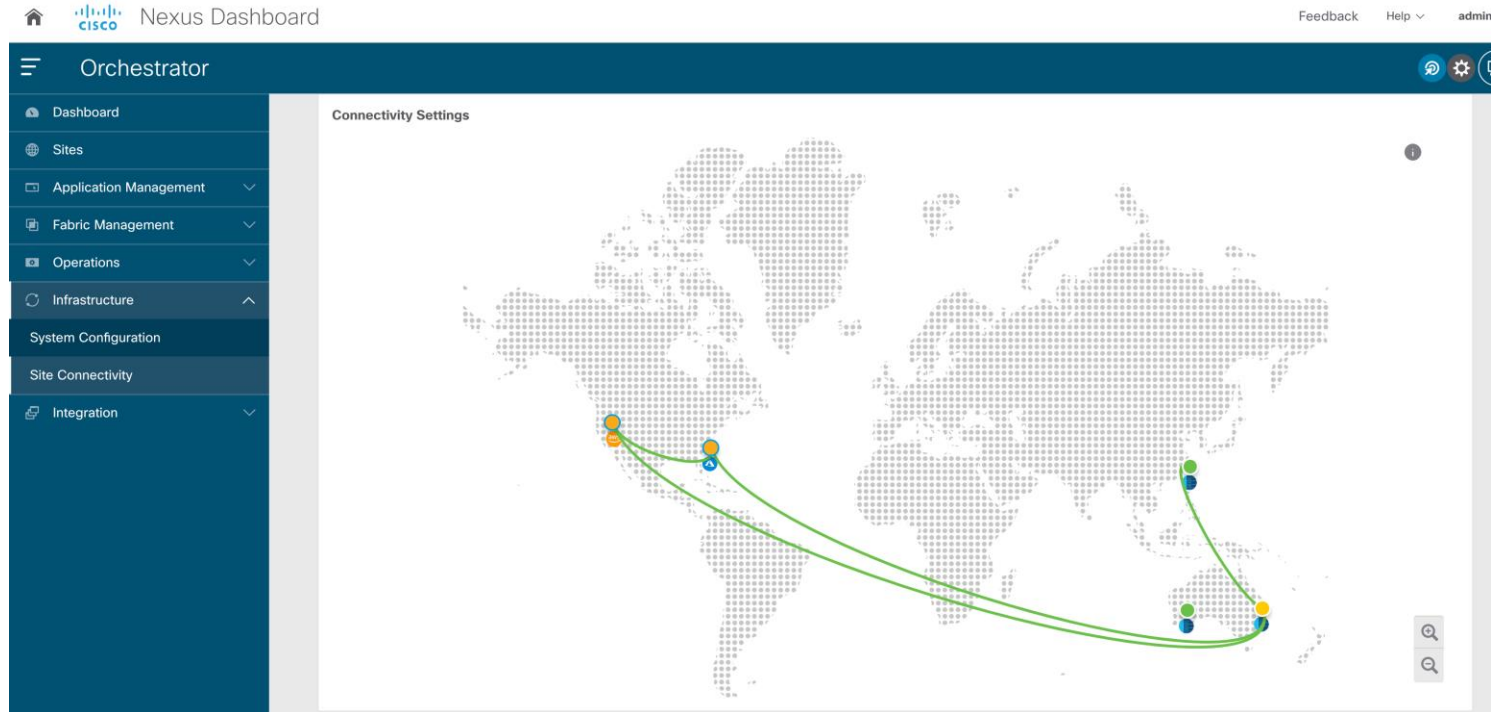
# Visibility



# Visibility Capabilities

- Nexus Cloud / Dashboard:
  - Topology (Underlay / Overlay)
  - Statistics and Bandwidth
  - L4-L7 Statistics
  - Troubleshooting tools
  - Raise faults (API failures, delays, resource constraints, state changes)
  - Provides visibility to cloud resources and the correlation with the configuration.
  - Drift Detection – Reconcile with cloud state across reboots, software upgrades

# Underlay & Overlay status visibility – NDO



# Underlay Visibility – Cloud Network Controller

EU (London)

Cloud Network Controller Deployed

C8kVs

Connectivity Status	Deployment Status	Name	IPsec Tunnels	OSPF	BGP Sessions
<div>  OK </div>	<div>  Success </div>	ct_routerp_eu-west-2_0:0	<div> 5 <div> <div>↑</div> <div>5</div> <div>↓</div> <div>0</div> </div> </div> <div>IPsec Tunnels</div>	<div> 5 <div> <div>↑</div> <div>5</div> <div>↓</div> <div>0</div> </div> </div> <div>OSPF</div>	<div> 5 <div> <div>↑</div> <div>5</div> <div>↓</div> <div>0</div> </div> </div> <div>BGP Sessions</div>
<div>  OK </div>	<div>  Success </div>	ct_routerp_eu-west-2_1:0	<div> 5 <div> <div>↑</div> <div>5</div> <div>↓</div> <div>0</div> </div> </div> <div>IPsec Tunnels</div>	<div> 5 <div> <div>↑</div> <div>5</div> <div>↓</div> <div>0</div> </div> </div> <div>OSPF</div>	<div> 5 <div> <div>↑</div> <div>5</div> <div>↓</div> <div>0</div> </div> </div> <div>BGP Sessions</div>

TGWs

Connectivity Status	Deployment Status	Name	Hub Network	Infra VPC Attachment	Connect Attachments	Connect Peers	BGP Sessions
<div>  OK </div>	<div>  Success </div>	hubCtx-[1]-id-[0]	aws-hub	<div> <div>↑</div> Up </div>	1	2	<div> 2 <div> <div>↑</div> <div>2</div> <div>↓</div> <div>0</div> </div> </div> <div>BGP Sessions</div>

# Overlay Visibility – Cloud Network Controller

apic-amslab-dmz

1  
Pods

1  
Spines

ACI Multi-Site  
On

BGP ASN  
65001

Cloudsec Encryption  
Off

OSPF Area ID  
backbone

APIC Site ID  
1

OSPF Area Type  
regular

Overlay Multicast TEP  
182.168.1.253

External Routed Domain  
uni/f3dom-isn

Hide Connectivity Status

Inter-Site Connections

Overlay Status

Underlay Status

Site Name	Deployment Status	Operational Status	BGP EVPN Status	Tunnel Status
apic-amslab-north	OK	OK	1   ↑ 1 ↓ 0 OK	4   ↑ 4 ↓ 0
apic-amslab-azure	OK	OK	2   ↑ 2 ↓ 0 OK	2   ↑ 2 ↓ 0
apic-amslab-aws	OK	OK	2   ↑ 2 ↓ 0 OK	2   ↑ 2 ↓ 0
apic-amslab-gcp	OK	OK	2   ↑ 2 ↓ 0 OK	2   ↑ 2 ↓ 0

apic-amslab-gcp

26  
Regions

ACI Multi-Site  
On

Site ID  
5

BGP ASN  
65030

Hide Connectivity Status

Inter-Site Connections

Overlay Status

Underlay Status

Site Name	Deployment Status	Operational Status	BGP EVPN Status	Tunnel Status
apic-amslab-azure	OK	OK	4   ↑ 4 ↓ 0 OK	4   ↑ 4 ↓ 0
apic-amslab-aws	OK	OK	4   ↑ 4 ↓ 0 OK	4   ↑ 4 ↓ 0
apic-amslab-dmz	OK	OK	2   ↑ 2 ↓ 0 OK	2   ↑ 2 ↓ 0

# Visibility: AWS/Azure Inter Cloud

Thousand Eyes – Frankfurt, Ger AWS to Richmond, VA US Azure

## Path Visualization

Showing: 1 of 1 Test ▾ 1 of 52 Agents ▾ (Show All) Show IP Address labels ▾

Grouping: Agents by Agent ▾ Interfaces by Network & Location ▾

Highlighting: Forwarding Loss > 5 % ( 0 nodes ) **Link Delay > 40 ms ( 1 link ) ▾**

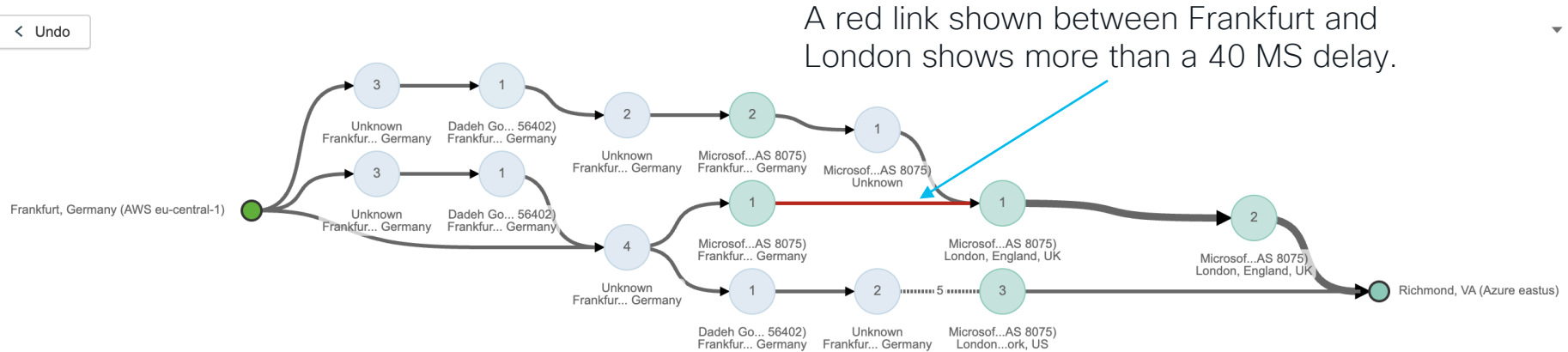
Selecting: Click a node or link Info (2) ▾

3 hops 1 hop

Highlight nodes that match all / any

Search on Network, Country, IP address, Prefix, or Title...

< Undo



- Provider-to-provider path analysis w/ direct peering relationships.
- Traffic from AWS through an intermediate provider but still gets on the Azure backbone before leaving Frankfurt

## Thousand Eyes: Dallas, TX to Ashburn, VA

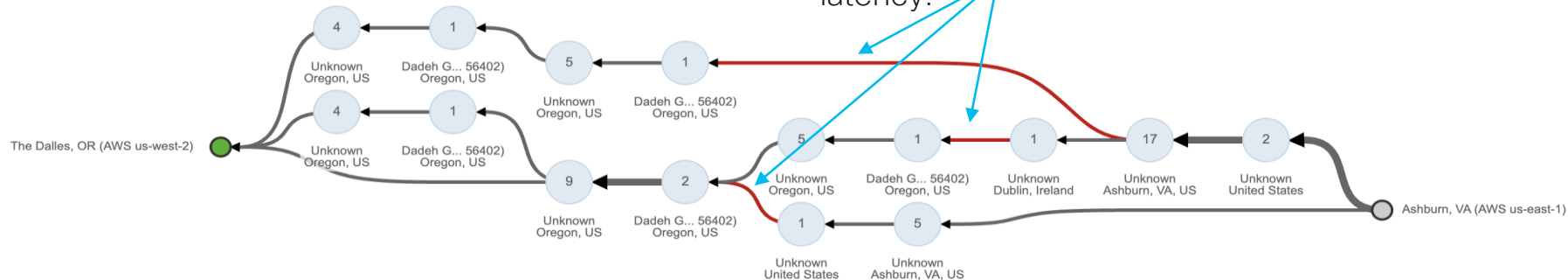
### 3 hops

Highlight nodes that match **all** / **any**

Selecting: Click a node or link **Info (1)** ▼

< Undo

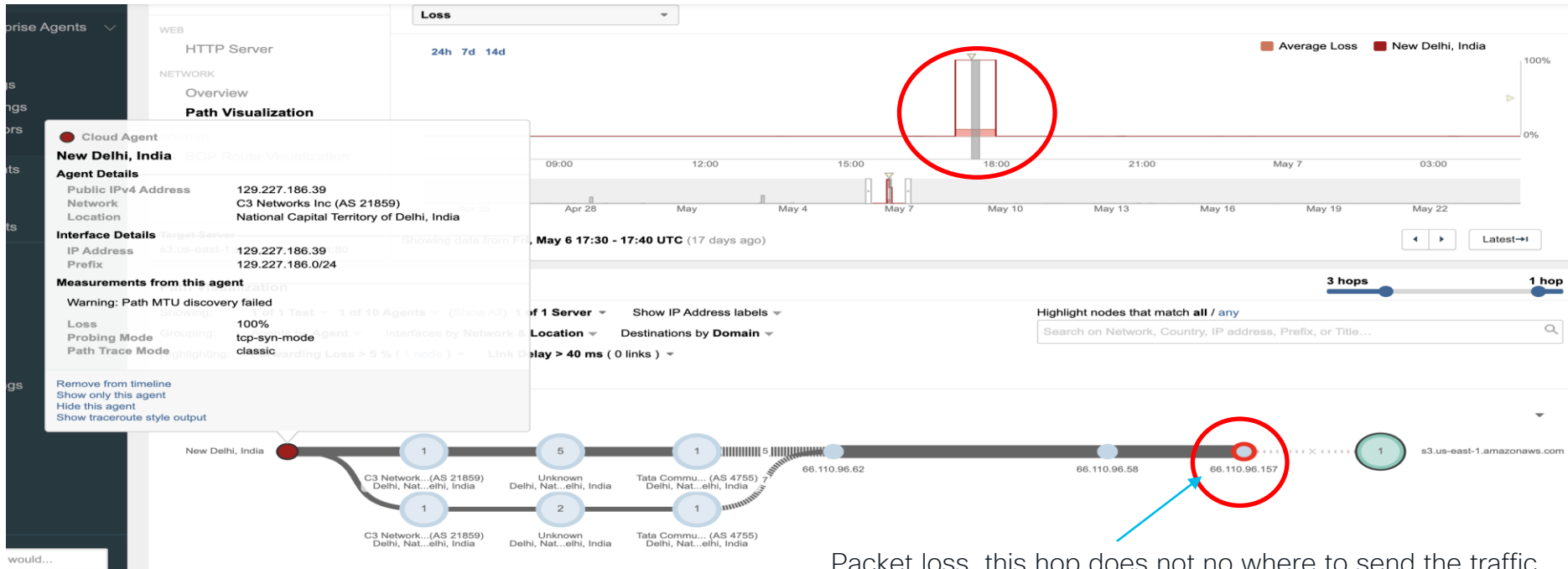
The red links show greater than 40 ms latency.





# End User to Cloud Visibility

## Thousand Eyes - End user perspective from New Delhi to S3 Service



Depicted above is the loss of service, source of loss and time of outage.

# Drift Detection



# Cloud networking controller (Azure) drifts

The screenshot shows the Cisco Cloud Network Controller (Azure) interface. The sidebar on the left contains navigation links: Dashboard, Topology, Cloud Resources, Regions, Virtual Networks, Routers, Security Groups, Endpoints, Virtual Machines, Network Services, Kubernetes Clusters, Native Services, Drifts, Application Management, Operations, Infrastructure, and Administrative. The main content area is titled 'Drifts' and includes a 'Detection Summary' table and a list of objects with drifts.

**Drifts**

**Detection Summary**

Unmanaged Objects	Objects with Drifts	Last Drift Check
92	9	Jul 29 2022 07:03:32pm +08:00

Filter by attributes

Object	Status	Drift Type	Last Configuration Update
/subscriptions/8fe59d55-c5e1-421a-a343-16eaaf0af342/resourceGroups/brown/providers/Microsoft.Network/networkSecurityGroups/br1-nsg/securityRules/SSH	Unmanaged	Extra Object	Jul 29 2022 05:15:39pm +08:00
/subscriptions/8fe59d55-c5e1-421a-a343-16eaaf0af342/resourceGroups/brown/providers/Microsoft.Network/networkSecurityGroups/br1-nsg/securityRules/anywelcome	Unmanaged	Extra Object	Jul 29 2022 05:15:39pm +08:00
/subscriptions/8fe59d55-c5e1-421a-a343-16eaaf0af342/resourceGroups/brown/providers/Microsoft.Network/networkSecurityGroups/br1-nsg/securityRules/anywelcome	Unmanaged	Extra Object	Jul 29 2022 05:15:39pm +08:00

# Drift example - Azure

- Missing VRF (VNET) configuration

Microsoft Azure Search resources, services, and docs (G+)

Home >

## Virtual networks

Cisco-INSBU-MKT

+ Create Manage view Refresh Export to CSV Open query Assign tags

azVrf4 Subscription equals hcloud Resource group equals all Location equals all Add filter

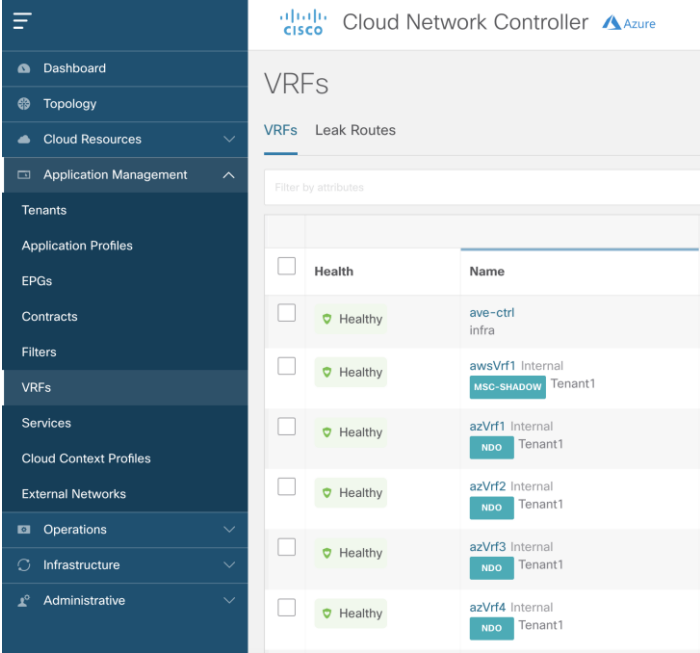
Name Resource group Location



No virtual networks match your filters

# Drift example - CNC

- Missing VRF (VNET) configuration



The screenshot displays the Cisco Cloud Network Controller (CNC) interface. On the left is a dark blue sidebar with a navigation menu. The main content area on the right is titled 'VRFs' and includes a sub-tab 'Leak Routes'. Below the tabs is a filter bar labeled 'Filter by attributes'. A table lists several VRFs, each with a checkbox, a 'Health' status (all marked 'Healthy' with a green heart icon), and a 'Name' column. The names include 'ave-ctrl infra', 'awsVrf1 Internal MSC-SHADOW Tenant1', 'azVrf1 Internal NDO Tenant1', 'azVrf2 Internal NDO Tenant1', 'azVrf3 Internal NDO Tenant1', and 'azVrf4 Internal NDO Tenant1'. The 'NDO' label is highlighted in a teal box in each name.

	Health	Name
<input type="checkbox"/>	Healthy	ave-ctrl infra
<input type="checkbox"/>	Healthy	awsVrf1 Internal MSC-SHADOW Tenant1
<input type="checkbox"/>	Healthy	azVrf1 Internal NDO Tenant1
<input type="checkbox"/>	Healthy	azVrf2 Internal NDO Tenant1
<input type="checkbox"/>	Healthy	azVrf3 Internal NDO Tenant1
<input type="checkbox"/>	Healthy	azVrf4 Internal NDO Tenant1

# Drift example

- Missing VRF (VNET) configuration

VRF azVrf4

Actions

Overview

Topology

Cloud Resources

Application Management

Cloud Mapping

Statistics

Event Analytics

Detection Summary

Configuration Drift Status

4 Drifts Found

Configured Cloud Resources

0

Expected Cloud Resources

4

Last Drift Check

Aug 02 2022 12:54:11am +08:00

Related Objects

Application Security Group

1

Network Security Groups

2

CIDRs

1

Subnets

2

Configuration Drifts

Virtual Networks

CIDRs

Subnets

Status

Logical DN

Region

Primary CIDR

Drift Type

Description

Recommendation

Raised

azVrf4  
Tenant1

australiacentral

10.115.0.0/16

Deployment Mismatch

Drift found, possibly a configuration change occurred at cloud provider portal

Delete/Add the configuration associated to this object may help remove the drift

# In Summary



# Why Cisco Cloud Networking

## Cloud Networking

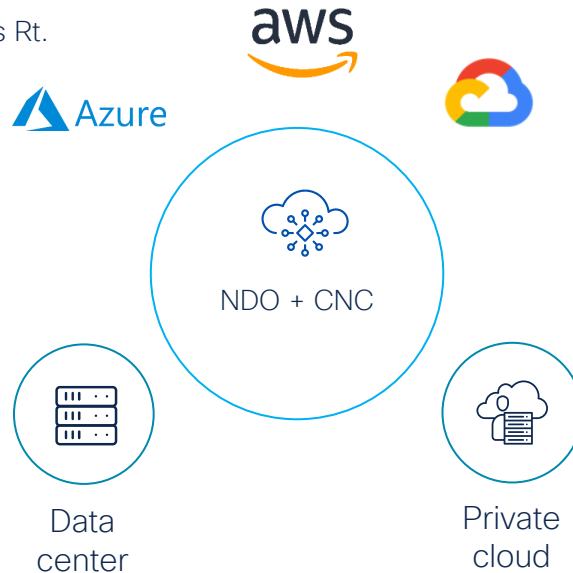
- Intra-Cloud : TGW, VNET Peering, VPC Peering
- Inter-Cloud : C8Kv automation
- Connectivity: IPSEC, Direct Connect, Express Rt.

## Visibility

- Inventory and Topology View
- Enhance with ThousandEyes

## L4-L7 Services

- Automate service insertion and service chaining (Load balancers, Firewalls, ...)



## Segmentation

- Extend Services across Multicloud
- Security Group rule management

## Supports Public and Private Clouds

- AWS, Azure, Google Cloud
- ACI or NDFC

## Open APIs

- Enable automation using IaC with tools like Ansible and Terraform



# Wrapping Up



# Additional Information

- Infrastructure-as-Code Labs and Examples

[dCloud – Hybrid Cloud Networking with Infrastructure as Code and Cisco Nexus Dashboard v1](#)

[Cloud ACI 25.0.2 AWS Brownfield Integration to Cloud ACI Fabric on AWS \(with Proof Of Concept\) – \(unofficialaciguide.com\)](#)

- NDO/CNC Resources

[Cisco Nexus Dashboard Orchestrator – Configuration Examples and Technotes – Cisco](#)

[Cisco Cloud Network Controller for Multicloud – Cisco](#)

# Additional Information – Continued

- Equinix and Cisco are Enabling Cybersecurity on a Global Scale

[Equinix and Cisco Deliver Key Encryption Technology Over Global Networks – Interconnections – The Equinix Blog](#)

- Cisco Cloud ACI Hybrid Multicloud Design Guide

[Cisco Hybrid Multi-Cloud Networking Design Guide – Cisco](#)

- Network Service Mesh: Linking Multicloud workloads

[Network Service Mesh: Linking Multicloud workloads | Network World](#)

# Please fill out the survey



Drop your email in the comments – I WILL respond!

# Complete your Session Survey

- Please complete your session survey after each session. Your feedback is important.
- Complete a minimum of 4 session surveys and the Overall Conference survey (open from Thursday) to receive your Cisco Live t-shirt.
- All surveys can be taken in the Cisco Events Mobile App or by logging in to the Session Catalog and clicking the "Attendee Dashboard" at <https://www.ciscolive.com/emea/learn/sessions/session-catalog.html>



# Continue Your Education



Visit the Cisco Showcase for related demos.



Book your one-on-one Meet the Engineer meeting.



Attend any of the related sessions at the DevNet, Capture the Flag, and Walk-in Labs zones.



Visit the On-Demand Library for more sessions at [ciscolive.com/on-demand](https://ciscolive.com/on-demand).

# Cisco Learning and Certifications

From technology training and team development to Cisco certifications and learning plans, let us help you empower your business and career. [Training & Certifications – Cisco](#)

## Pay for Learning with Cisco Learning Credits

(CLCs) are prepaid training vouchers redeemed directly with Cisco.



## Learn

### Cisco U.

IT learning hub that guides teams and learners toward their goals

### Cisco Digital Learning

Subscription-based product, technology, and certification training

### Cisco Modeling Labs

Network simulation platform for design, testing, and troubleshooting

### Cisco Learning Network

Resource community portal for certifications and learning



## Train

### Cisco Training Bootcamps

Intensive team & individual automation and technology training programs

### Cisco Learning Partner Program

Authorized training partners supporting Cisco technology and career certifications

### Cisco Instructor-led and Virtual Instructor-led training

Accelerated curriculum of product, technology, and certification courses



## Certify

### Cisco Certifications and Specialist Certifications

Award-winning certification program empowers students and IT Professionals to advance their technical careers

### Cisco Guided Study Groups

180-day certification prep program with learning and support

### Cisco Continuing Education Program

Recertification training options for Cisco certified individuals



The bridge to possible

# Thank you

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# References





# Cloud Terminology Matrix

Area	AWS service	Azure service	GCP Service
Cloud virtual networking	<a href="#">Virtual Private Cloud (VPC)</a>	<a href="#">Virtual Network (VNet)</a>	<a href="#">Virtual Private Cloud (VPC)</a>
NAT gateways	<a href="#">NAT Gateways</a>	<a href="#">Virtual Network NAT</a>	<a href="#">Cloud NAT</a>
Cross-premises connectivity	<a href="#">VPN Gateway</a>	<a href="#">VPN Gateway</a>	<a href="#">Cloud VPN Gateway</a>
DNS management	<a href="#">Route 53</a>	<a href="#">DNS</a>	<a href="#">Cloud DNS</a>
DNS-based routing	<a href="#">Route 53</a>	<a href="#">Traffic Manager</a>	<a href="#">Cloud DNS</a>
Dedicated network	<a href="#">Direct Connect</a>	<a href="#">ExpressRoute</a>	<a href="#">Cloud Interconnect</a>
Load balancing	<a href="#">Network Load Balancer</a>	<a href="#">Load Balancer</a>	<a href="#">Network Load Balancing</a>
Application-level load balancing	<a href="#">Application Load Balancer</a>	<a href="#">Application Gateway</a>	<a href="#">Global Load Balancing</a>
Route table	<a href="#">Custom Route Tables</a>	<a href="#">User Defined Routes</a>	<a href="#">Routes</a>
Private link	<a href="#">PrivateLink</a>	<a href="#">Azure Private Link</a>	<a href="#">Private Service Connect</a>
Private PaaS connectivity	<a href="#">VPC endpoints</a>	<a href="#">Private Endpoint</a>	<a href="#">Private Service Connect</a>
Virtual network peering	<a href="#">VPC Peering</a> <a href="#">Transit Gateway</a>	<a href="#">VNET Peering</a>	<a href="#">VPC Network Peering</a>
Content delivery networks	<a href="#">Cloud Front</a>	<a href="#">Azure CDN</a>	<a href="#">Cloud CDN</a>
Network Monitoring	<a href="#">VPC Flow Logs</a>	<a href="#">Azure Network Watcher</a>	<a href="#">Network Intelligence Center</a>



# When do you require Cloud Network Controller?

Orchestrator	AWS	Azure	GCP	On-Prem Data Center
AWS				
Azure				
GCP				
On-Prem Data Center				

# Amazon Summary of Benefits



**For Your  
Reference**

- Cisco Cloud Router (Cat8000v) lifecycle management and configuration
- Transit Gateway (TGW) creation
- TGW Connect Tunnel
- TGW Inter-Region Peering
- VPC TGW Attachment
- Security Group, Endpoint discovery
- TGW VPN Attachment (TGW External Networking)
- BGP EVPN and VXLAN Tunnel
- IPsec and BGP for branch connectivity
- Application Load Balancer automation
- Route propagation between external network and cloud
- Brownfield support

# Azure Summary of Benefits



**For Your  
Reference**

- Cisco Cloud Router (Cat8000v) lifecycle management and configuration
- Local VNet Peering
- Global VNet Peering
- Route Tables on vNETs
- BGP EVPN and VXLAN Tunnel
- NSG and ASG, Endpoint discovery
- IPsec and BGP for branch connectivity
- Application Gateway and Load Balancer
- Traffic redirection for firewall insertion
- Private Link, Private Endpoint Automation
- Route propagation between external network and cloud
- Brownfield support

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