



The bridge to possible

Simplifying and scaling your multitenant network:

Improving user interface and scalability

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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

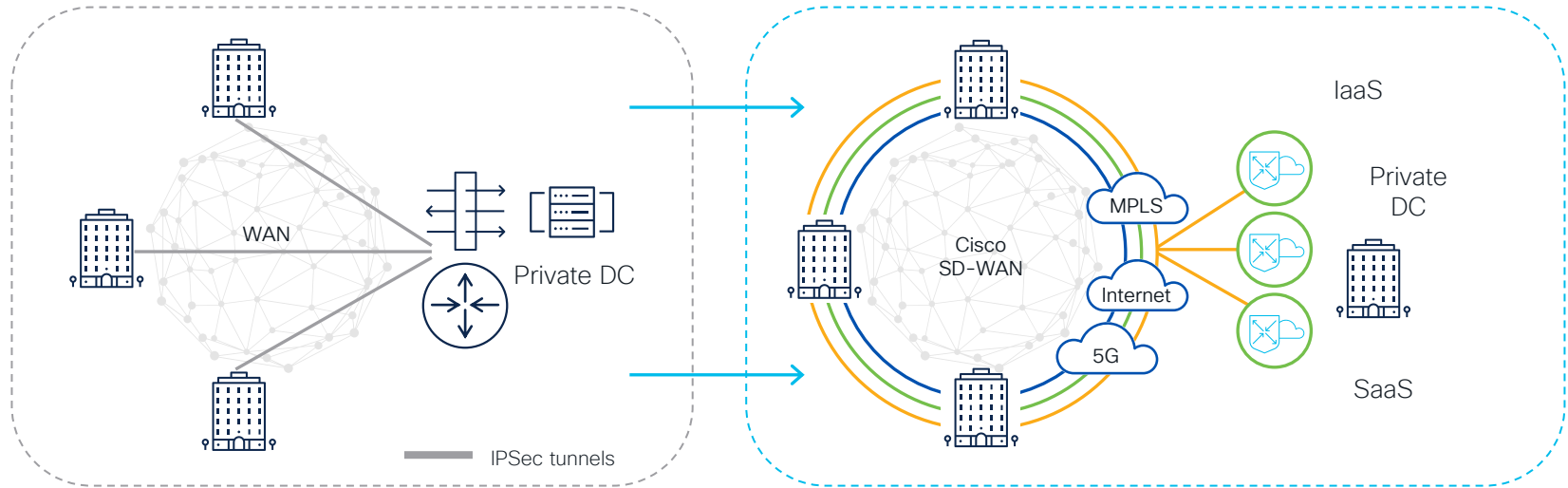
Webex spaces will be moderated until February 24, 2023.



Agenda

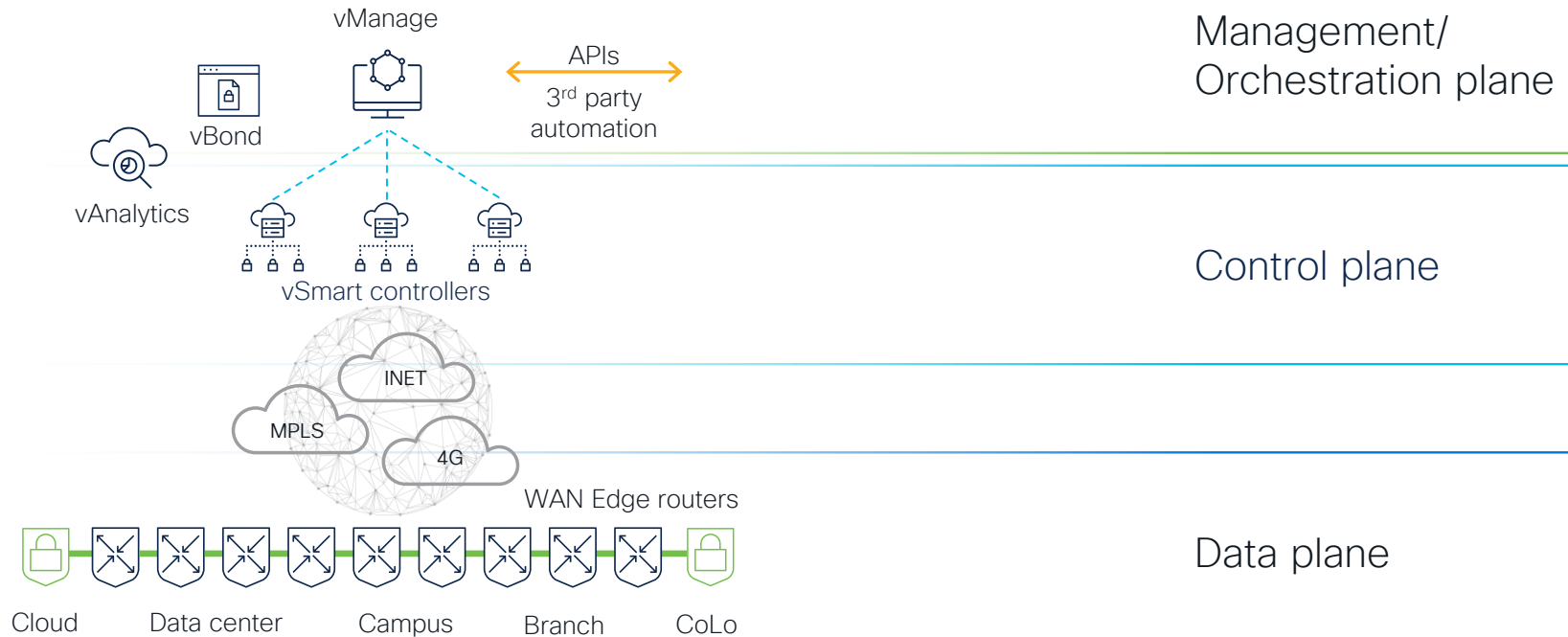
- 1 Introduction
- 2 Multitenancy
- 3 Co-management
- 4 SecOps
- 5 Multicloud
- 6 Multi-region fabric

Networking needs to evolve to support multicloud



Cloud networking is different from traditional networking

Cisco SD-WAN architecture



Cisco SD-WAN reduces your costs and complexity to manage services



Multitenancy vManage

Shared management, control, and orchestration



Co-management

Overlay co-managed by managed service provider and end customer



Multi-region fabric

Core enabler for large scale deployments spanning multiple regions, multi-cloud, and co-location



Single monitoring dashboard

Centralized dashboard for configuration, lifecycle management, and role-based access

Multitenancy

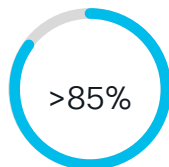


Centralize management and simplify operations with Cisco SD-WAN multitenancy

CapEx savings*

More efficient use of platform investment

Shared management, control and orchestration plane across multiple end customers



Savings on

- Servers (hosts)
- Racks
- Cables

OpEx savings*

Simplify operations, accelerate deployments

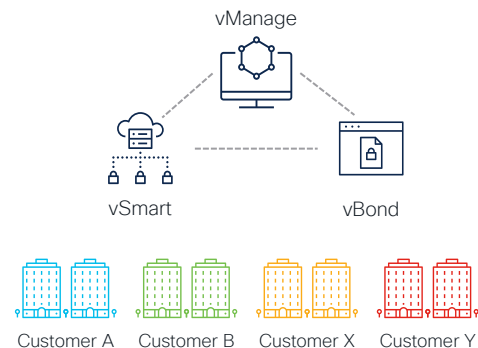
Single pane of glass for management and operations of multiple end customers



Savings on

- Life cycle management
- Disaster recovery
- Power

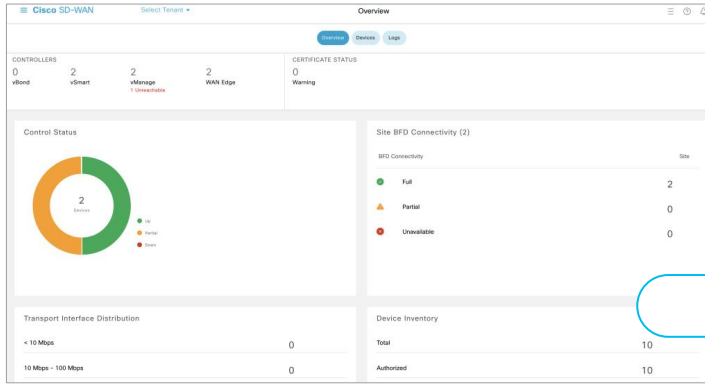
Cisco SD-WAN multitenancy



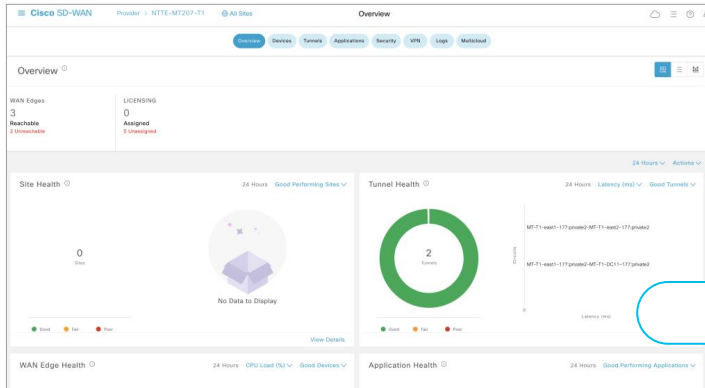
...Multitude of customers

* Savings of multitenancy vs. single tenancy

What is vManage multitenancy ?



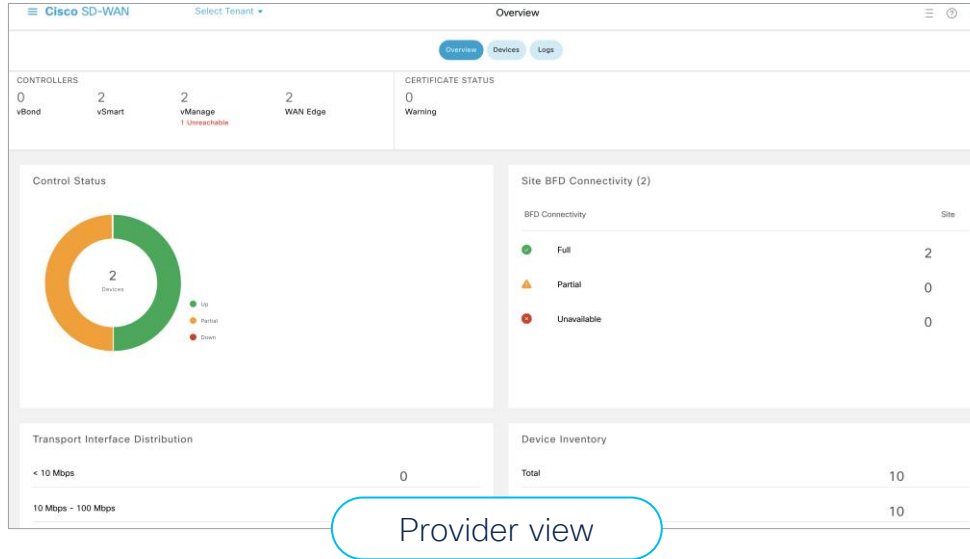
Provider view



Tenant view

- A service provider can manage multiple customers, called tenants, from a single vManage NMS that is running in multitenant mode.
- All tenants can share a single vBond orchestrator and vSmarts.
- All tenants share the service provider's domain name, with each tenant having a subdomain name.
- Configure edge routers the same way you configure these devices on a single-tenant vManage NMS.
- GUI & API based provisioning of new tenants.

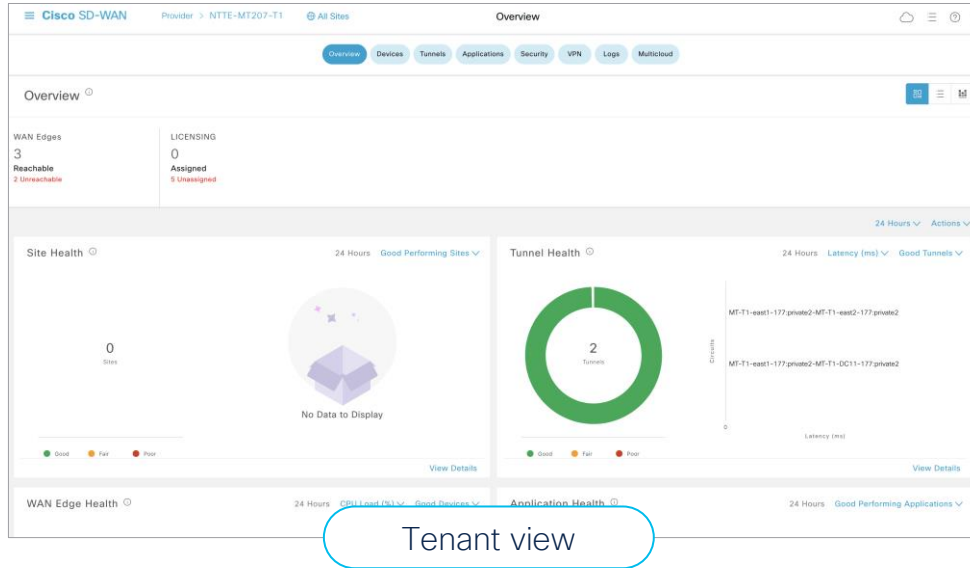
Multitenancy: Provider operations



VManage provides centralized dashboard for multitenancy configuration, management, and monitoring:

- Add/delete a Tenant
- Add vSmart, vBond
- Add certificates
- Push templates
- SSH to the controllers
- Controller statistics information
- Rediscover, collect Admin-tech for controllers
- Upload image and upgrade controllers
- SD-AVC enable
- User and session management for Provider
- Settings: SP Org name, Statistics Collection Interval, PnP connect, Smart Account, Interactive Help, Tenancy Modes, IDP Settings

Multitenancy: Tenant operations



vManage also serves as centralized dashboard for tenant operations:

- Add Certificates,
- Push Templates
- SSH to the Edges
- Devices monitoring
- Rediscover, collect Admin-tech for Edges
- Upload image and upgrade Edges
- User and session management for the Tenant itself.
- Settings: Statistics settings, Cloud onRamp, Data collection, session timeouts
- VPN Groups
- Integration Management

Multitenancy vSmart resilience and isolation

High availability: Cluster deployment

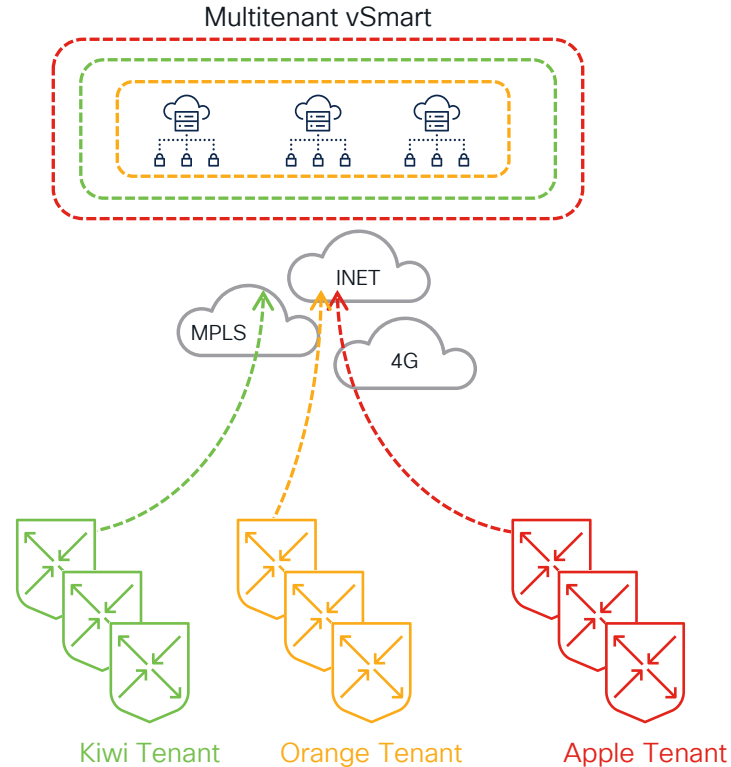
Provider has complete control of MT vSmarts

Per-tenant:

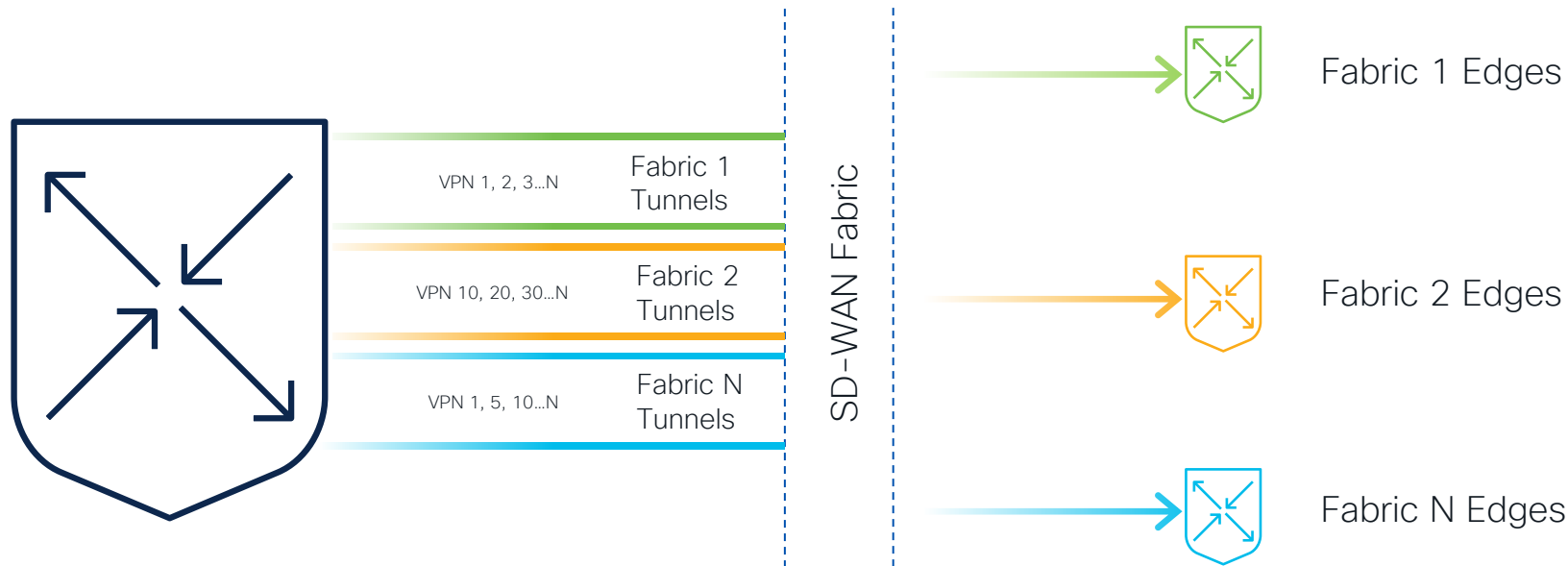
- Isolation of CPU
- Memory
- Routing tables
- Policies
- Alarms and events

Tenants can be auto-onboarded or provider can specify based on:

- Tenant's load
- Forecasted scale



Multitenant SD-WAN Edge (MTE)



Managed by MT vManage

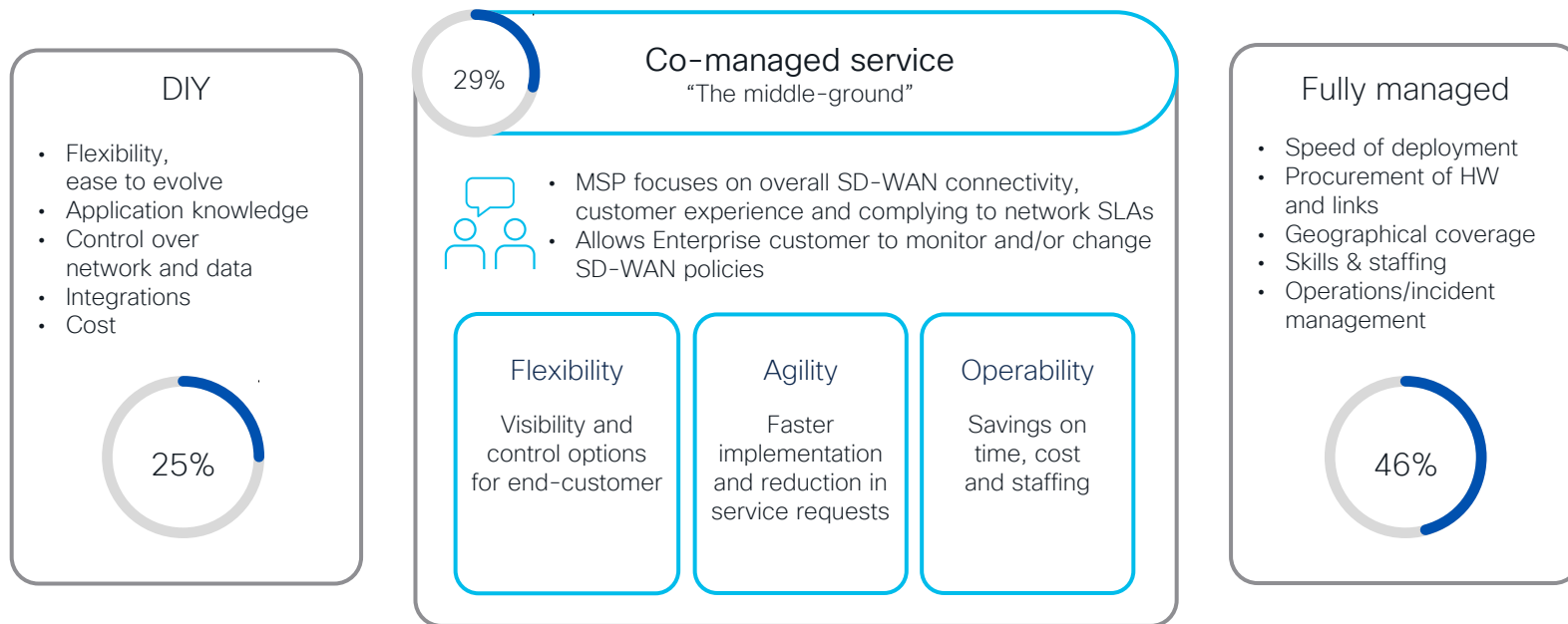
Join multiple fabrics

Co-management



Co-managed SD-WAN service

SD-WAN operational models



Data source : IDG Analyst reports

RBAC at your fingertips

Users User Groups User Sessions		
Netadmin Add User Group		
Feature	Read	Write
Alarms	●	●
Audit Log	●	●
Certificates	●	●
CLI Add-On Template	●	●
Cloud OnRamp	●	●
Cluster	●	●
Colocation	●	●
Device CLI Template	●	●
Device Inventory	●	●
Device Monitoring	●	●
Device Reboot	●	●
Disaster Recovery	●	●
Events	●	●
Integration Management	●	●
Interface	●	●
License Management	●	●
Manage Users	●	●
Other Feature Templates	●	●

Streamline network operations for your operations with Cisco SD-WAN Self Service Portal (SSP)



Controller lifecycle management

- Just-in-time provisioning
- Region selection
- Cloud provider selection



Deployment accelerator

- Simple day 0 cloud operation
- No delay in provisioning
- Reduced TAC interaction



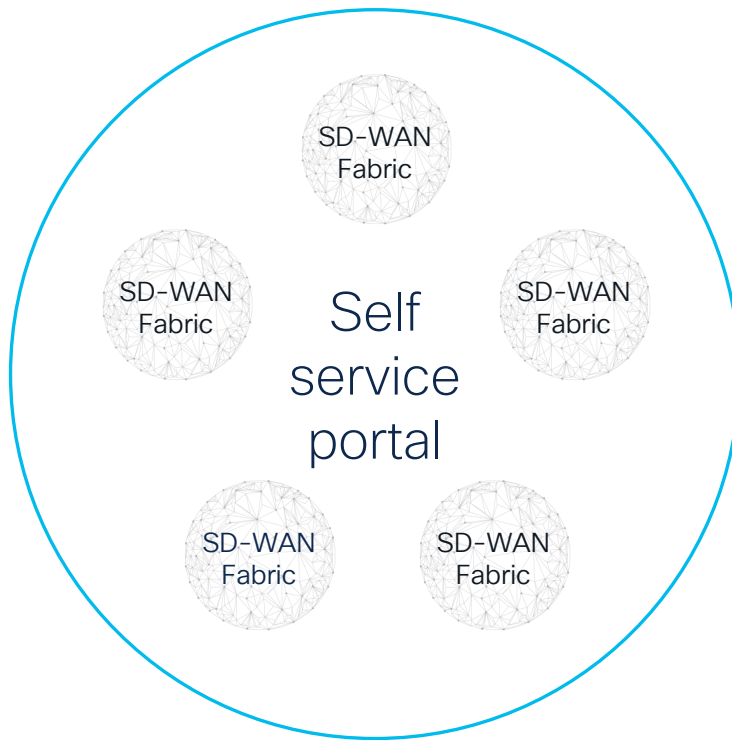
Visibility

- Cloud infrastructure monitoring and auditing
- Holistic device status
- Geographic selection for data storing



Operation services

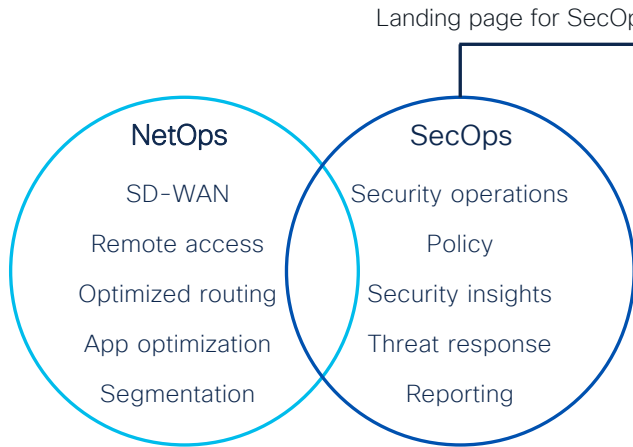
- RBAC
- Backup
- TACACS service



SecOps

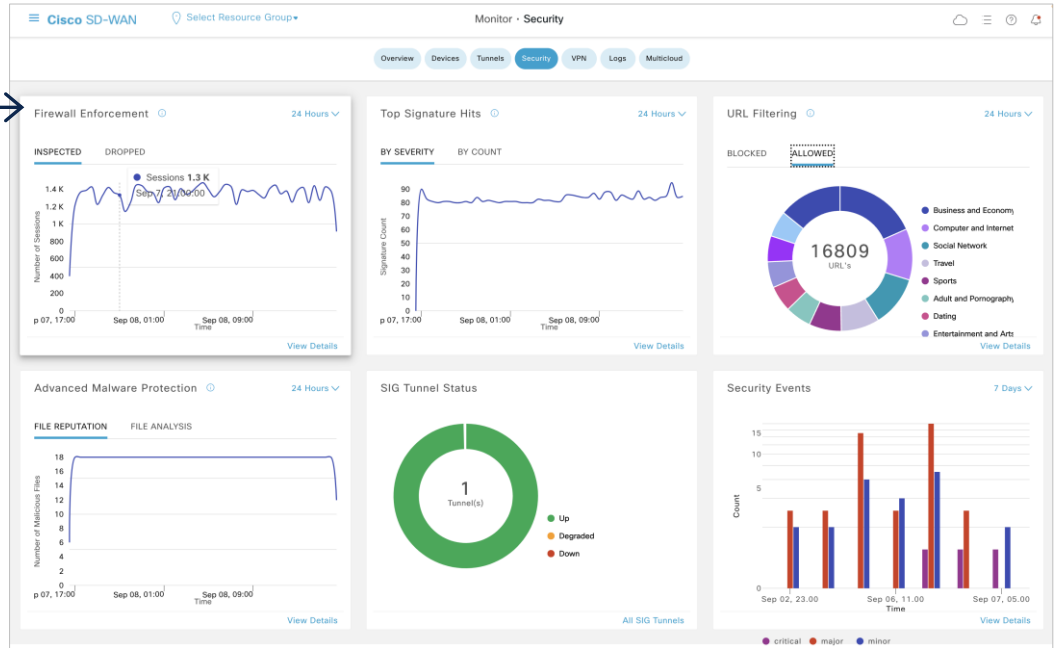


New SecOps persona on vManage dashboard



- Security-focused dashboard in vManage
- Used for Improved security management, reporting, and deeper security insights for the SecOps team

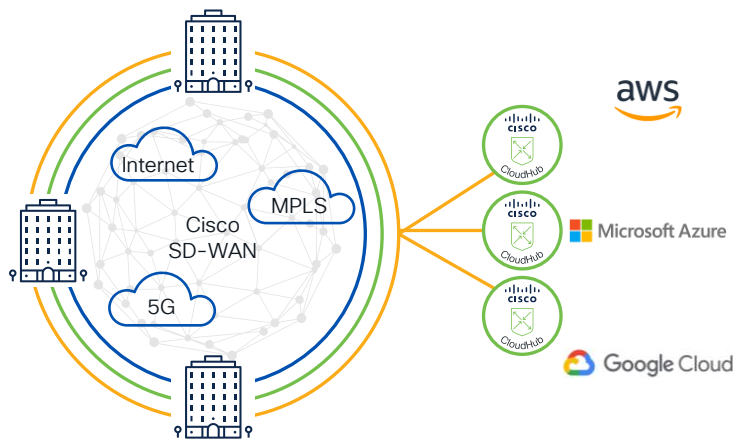
Landing page for SecOps



Multicloud



Cloud OnRamp(COR) for multicloud Automate SD-WAN extension to IaaS via vManage



Greater automation

Automate SD-WAN extension to the cloud
with just a few clicks in vManage

Normalized multicloud experience

Consistent UI and workflow in vManage

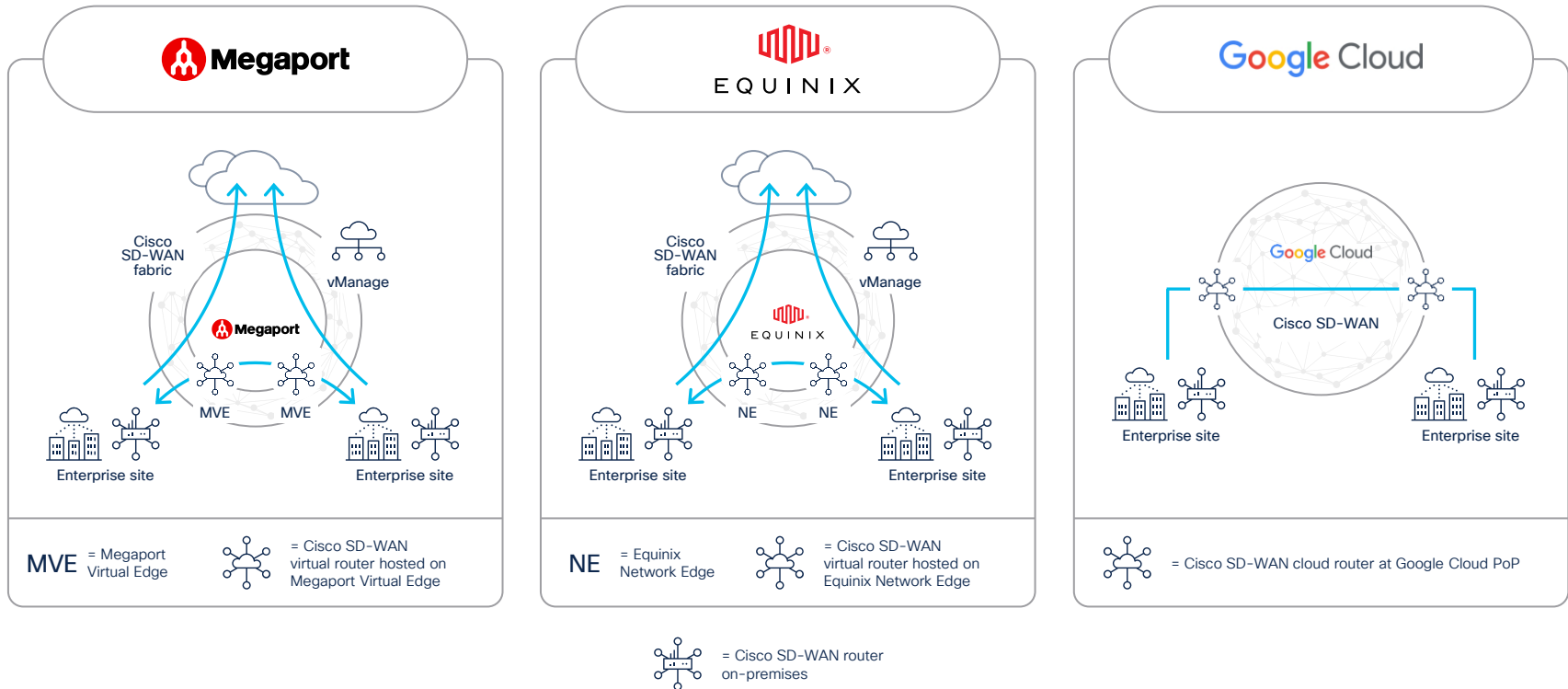
Unified security policies

Extend consistent enterprise segmentation policy into the
cloud

Ease of management

Orchestrate Cisco and cloud provider networking
resources via vManage

Cisco offers a choice of middle-mile partners

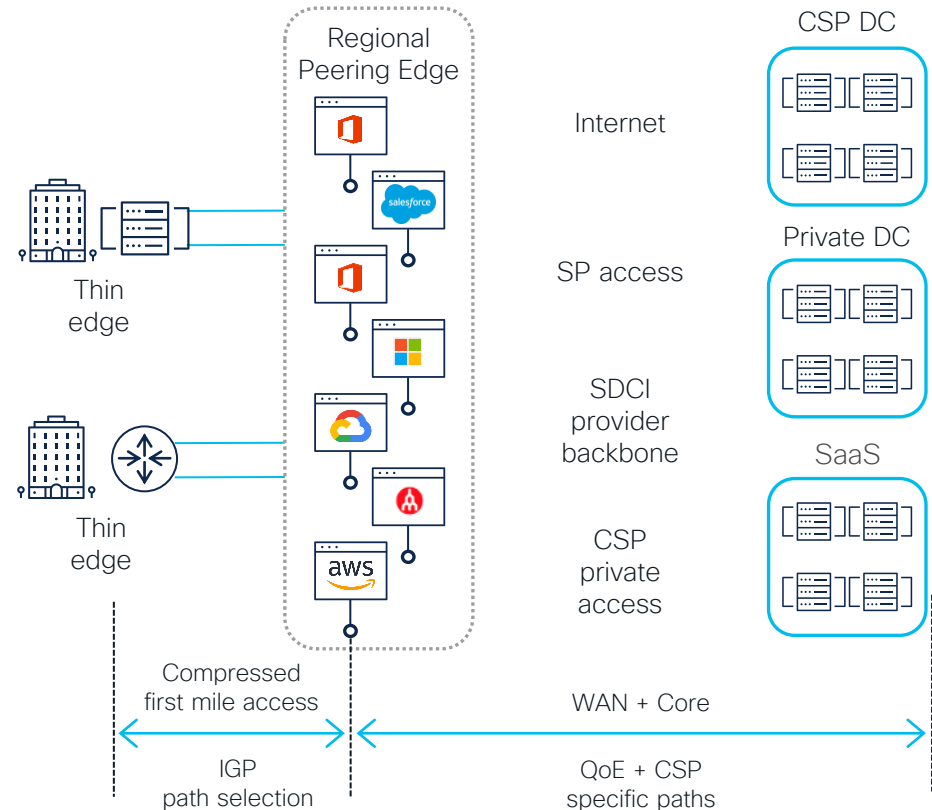


Multi-region fabric

WAN is evolving to a service exchange

- The internet is changing from a network-of-networks to a network of data centers
- SDCI* and multiple provider backbones
- Large POP and Colo footprint
- Short-term contracts, usage-based
- Trending toward single ISP first-mile access
- On demand

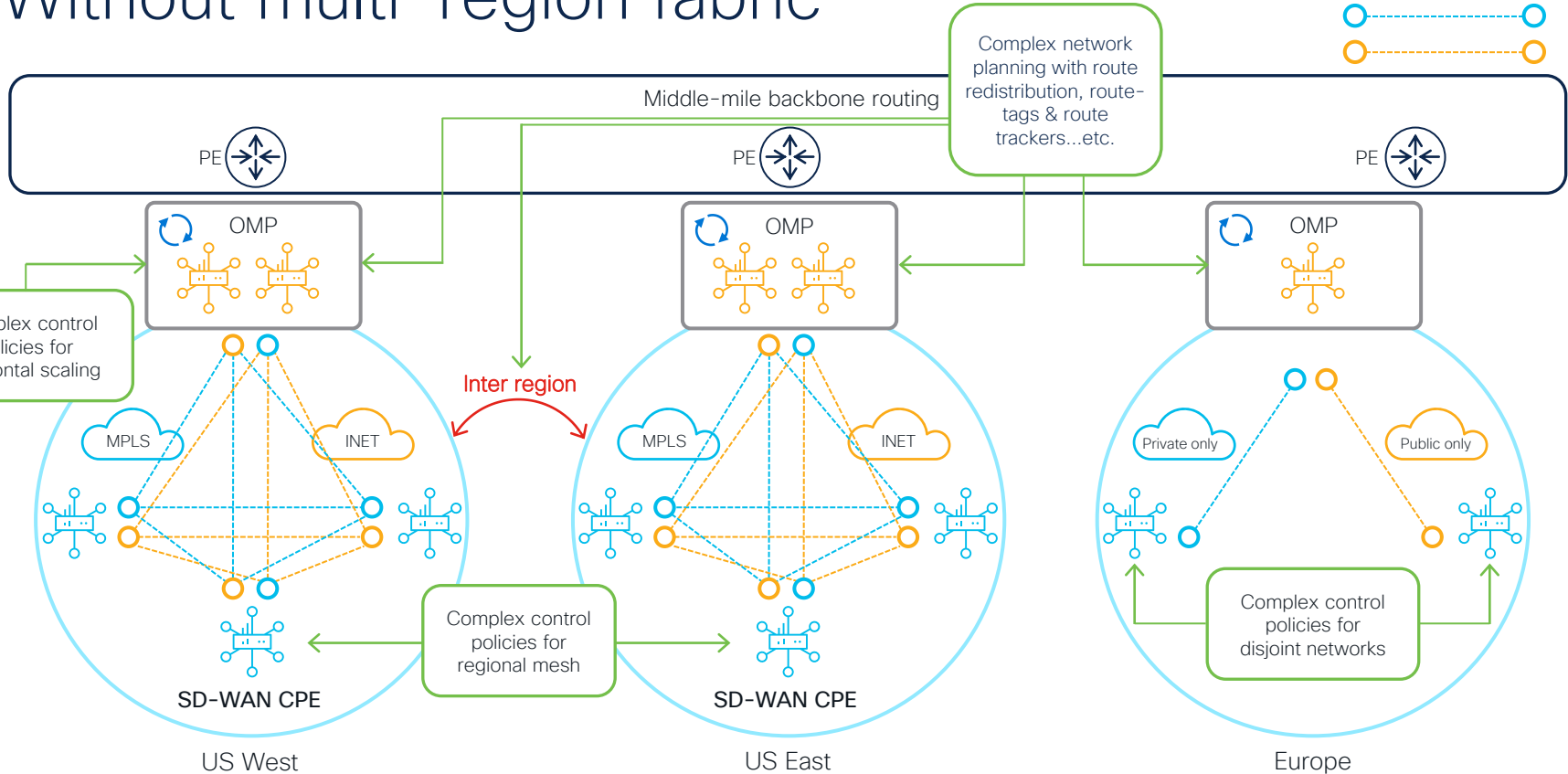
*SDCI – Software Defined Cloud Interconnect



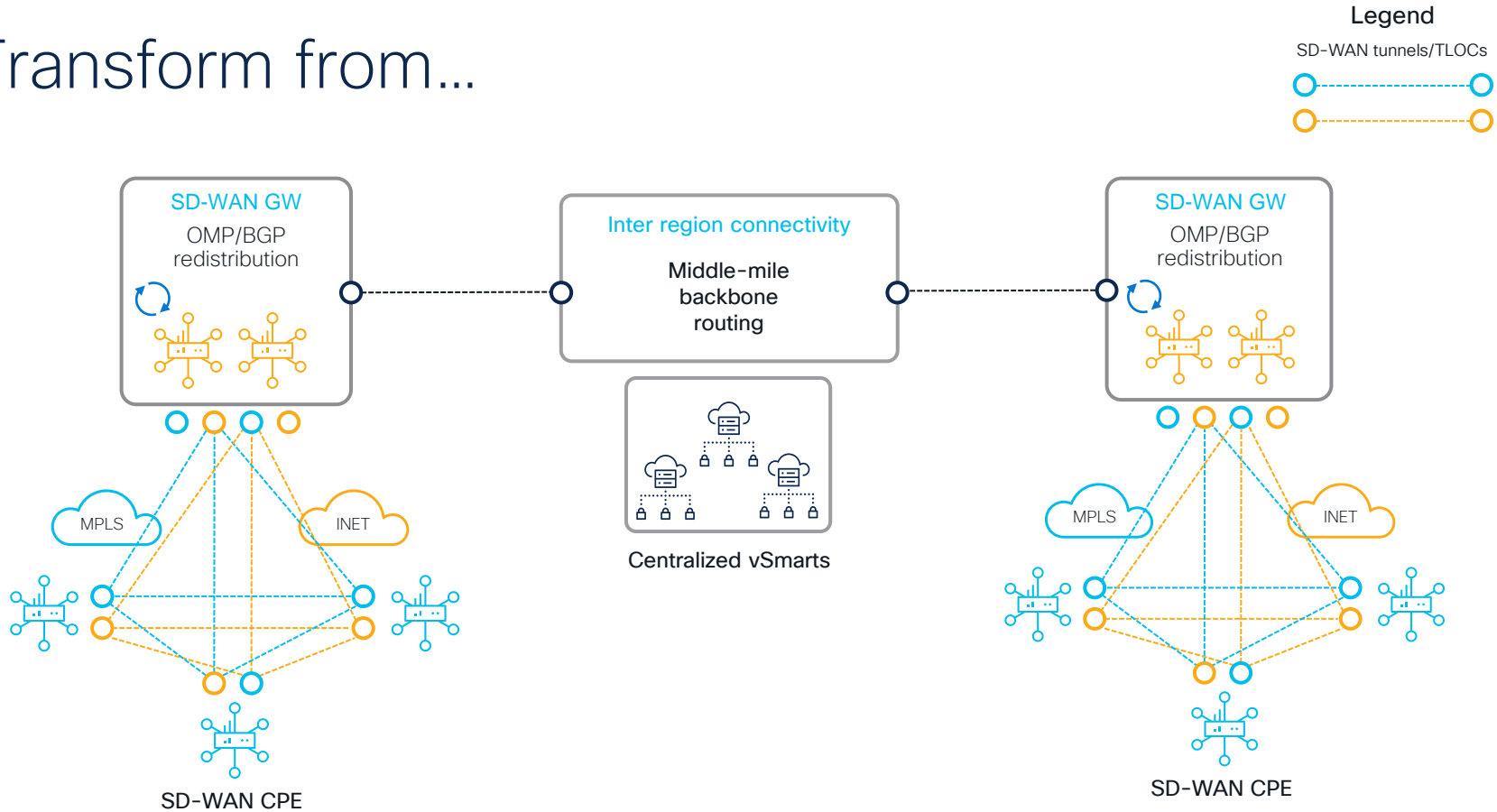
Without multi-region fabric

Legend

SD-WAN tunnels/TLOCs

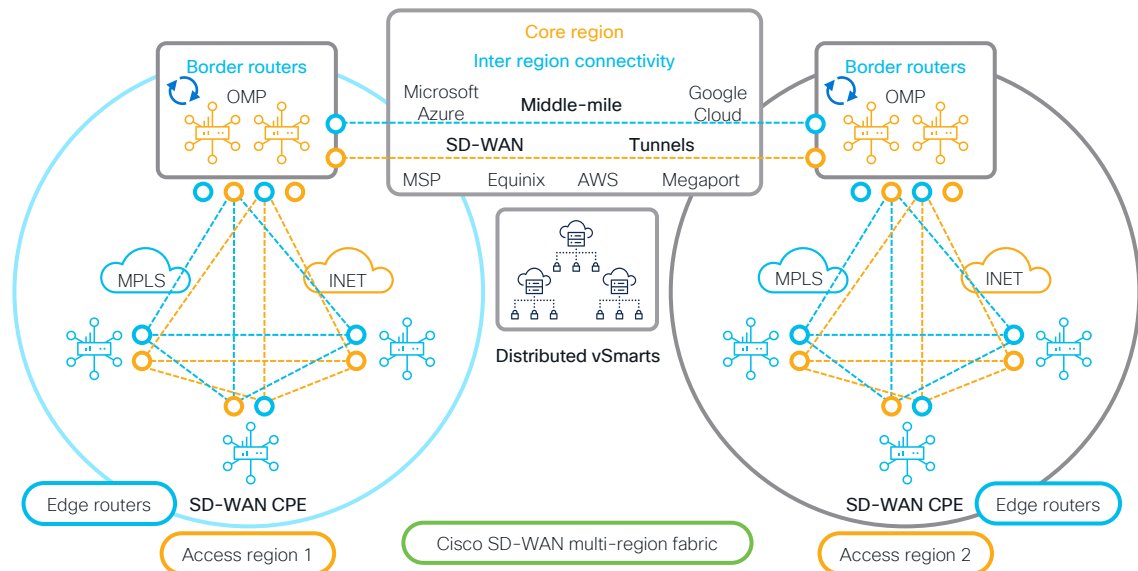


Transform from...



Cisco SD-WAN multi-region fabric

SD-WAN evolved for any middle-mile topology



Eliminate lengthy global network policies



Automatic hop-by-hop inter-region routing



Scalable design



Simpler redundancy planning

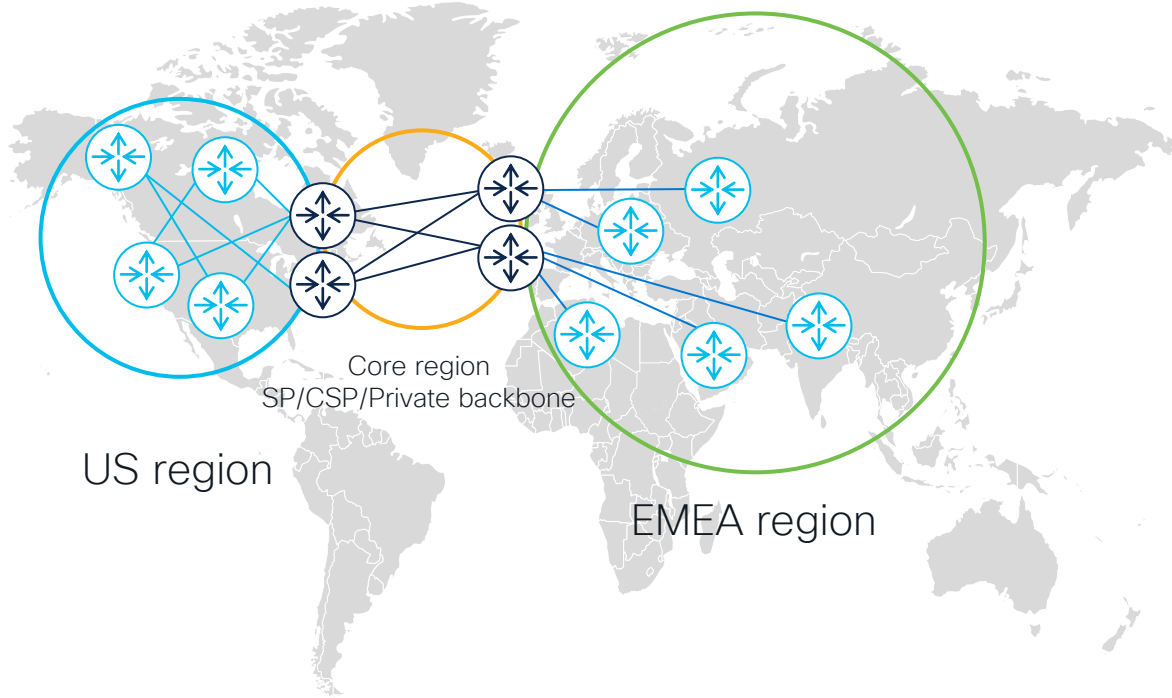


Flexible architecture to cater to dynamic network needs



Operationally easier to deploy and manage

MRF—use cases



BR/regional hub



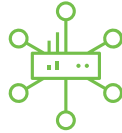
ER/branch

- Intuitive user-defined site grouping. E.g. based on geo
- Finer grouping using sub-regions
- Auto restrict overlay tunnels between regions
- Different topologies per region
- Mix access transports across regions
- Scale up control-plane per region(s)

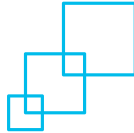
Greater scalability, flexibility and performance



Eliminate need
for lengthy global
network policies



Automatic
hop-by-hop
inter-region routing



Scalable design



Simpler
redundancy
planning



Flexible
architecture to
cater to dynamic
network needs



Operationally
easier to deploy
and manage



Cisco SD-WAN multi-region fabric

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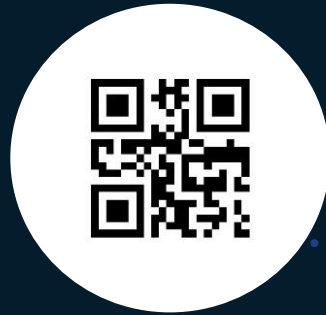
The bridge to possible

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