

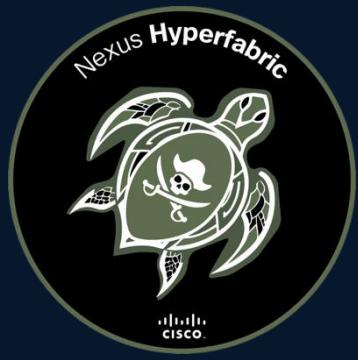
Nexus Hyperfabric

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Product Architect, Distinguished TME



Agenda



1. **Introducing Nexus Hyperfabric**
2. **Demo 1**
3. **The Hyperfabric Experience**
4. **Demo 2**
5. **Hardware Support**
6. **Multi-Site & Roadmap**
7. **Hyperfabric AI**

Disclaimer

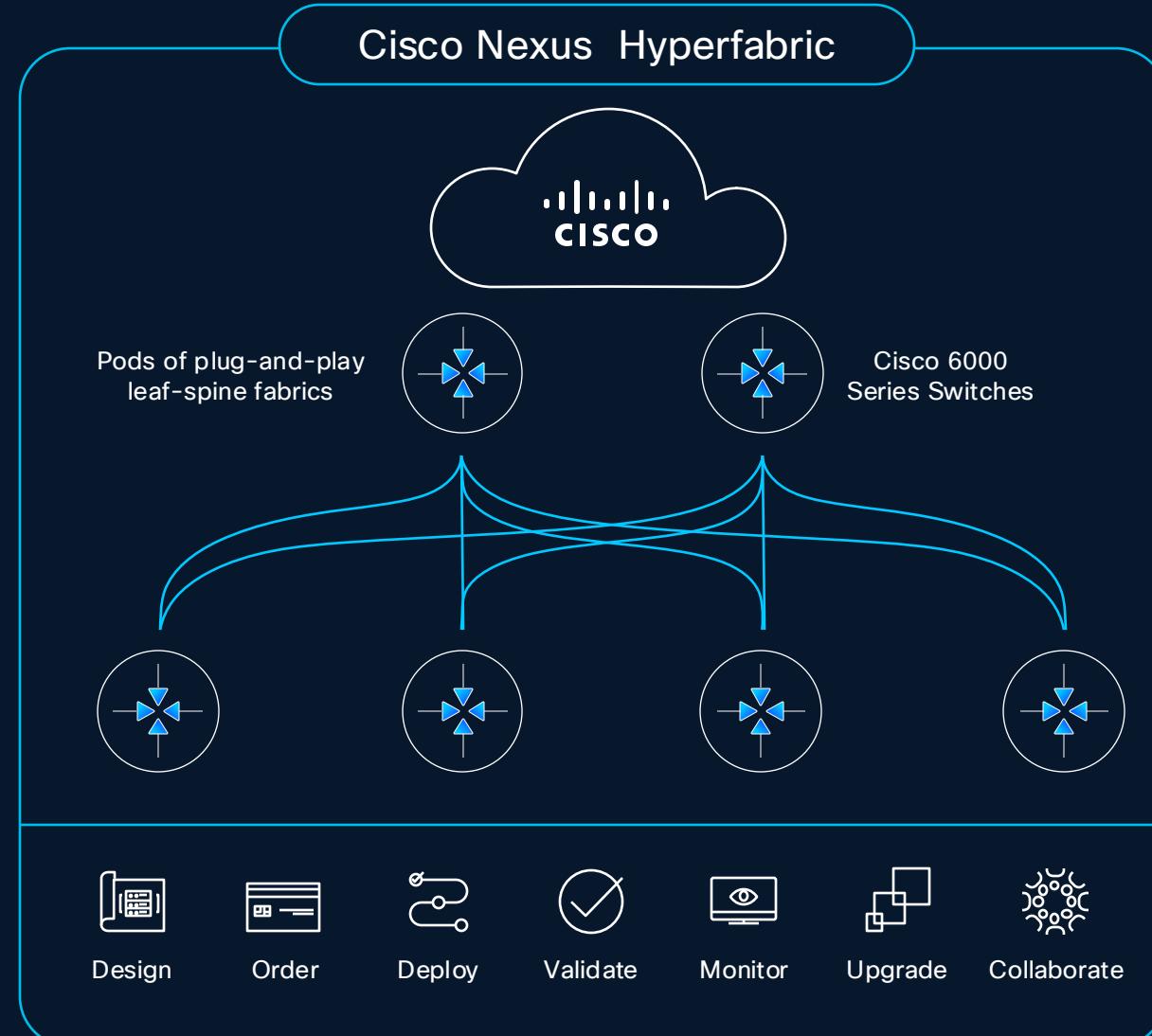
Some of the features described herein remain in varying stages of development and will be offered on a when-and-if-available basis.

This roadmap is subject to change at the sole discretion of Cisco, and Cisco will have no liability for delay in the delivery or failure to deliver any of the products or features set forth in this presentation.

Available Now

Cisco Nexus Hyperfabric

- ✓ Design, deploy, and operate on-premises fabrics located anywhere
- ✓ Streamlined operations for IT generalists, application, and DevOps teams
- ✓ Outcome driven using purpose-built vertical stack



Nexus Hyperfabric components

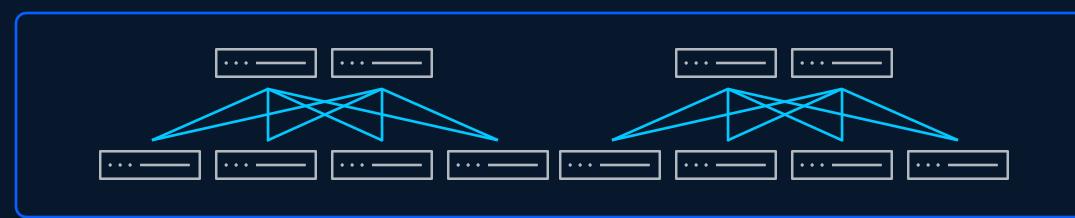
Cloud controller

- Scalable, distributed multi-tenant cloud service
- Design, plan, configure, deploy, upgrade, and monitor
- Browser, API, and mobile access



Cloud-managed switches

- Boot-strapped from cloud
- Full visibility and control from the cloud
- Silicon One®-based performance and capabilities



High-performance fabrics

- 10/25/100/400/800 GbE connectivity
- Standards-based EVPN/VXLAN fabric with IPv4/IPv6 routing
- Mesh and/or spine-leaf fabric designs
- Horizontal scale



On-site web portal

- Step-by-step deployment tasks
- Registration and cabling
- Real-time validation

Use cases

Single global GUI/API endpoint for all owned fabrics



Data center modernization

- Simplified operations, less complexity
- Scalability and flexibility
- Cost efficient, rapid time to value



Edge data centers

- Zero-touch provisioning
- Scales from small mesh to large spine/leaf
- Built-in security and high availability
- Traditional services and BYO AI inference

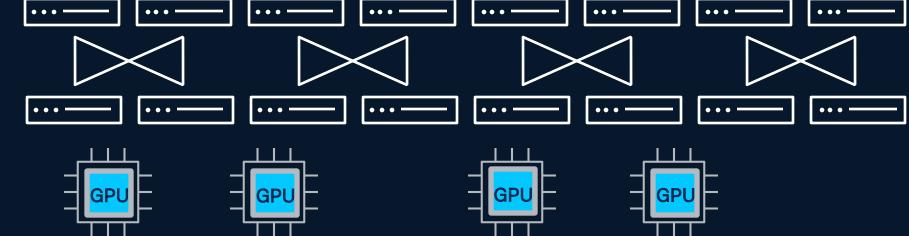
Nexus Hyperfabric



API



New



Nexus Hyperfabric AI for AI/ML/HPC clusters

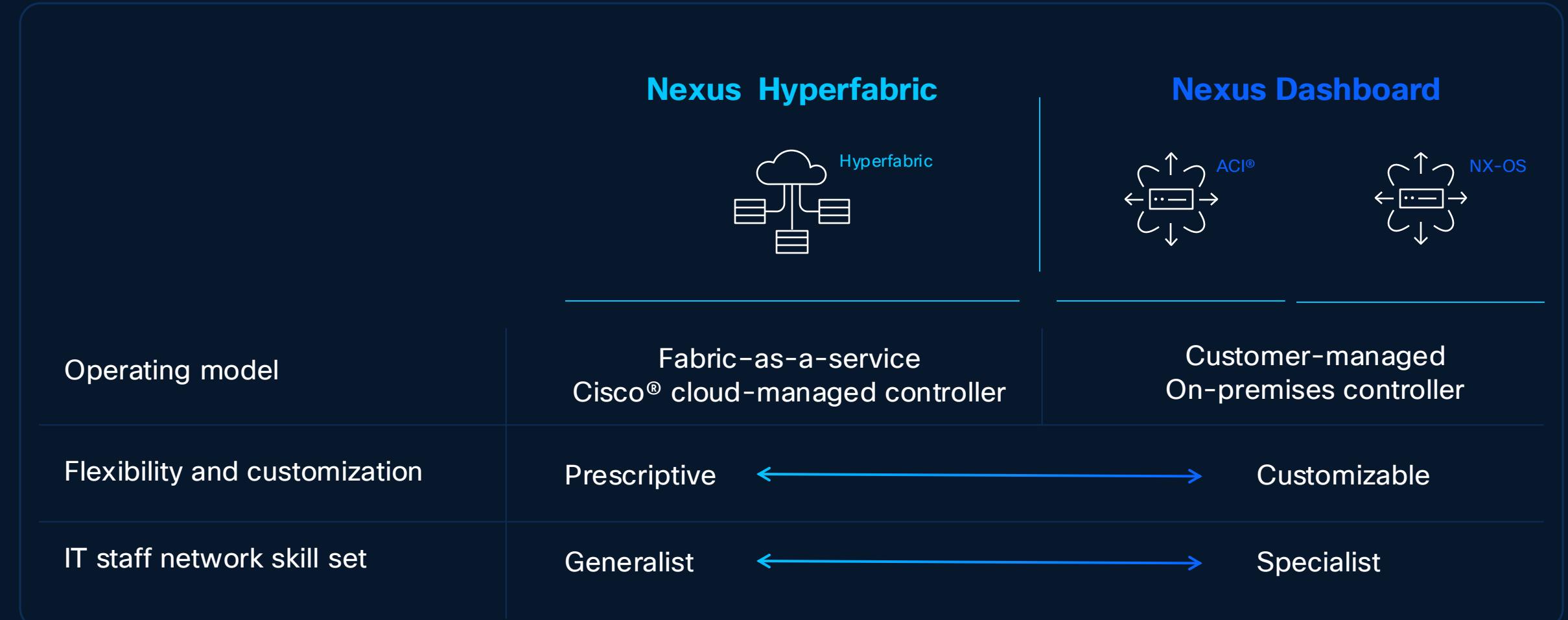
- Full stack: NVIDIA GPUs, Cisco UCS® and switches, optional VAST storage
- Aligned to NVIDIA Enterprise Reference Architecture
- High bandwidth, low latency
- Low operational overhead



Manage multiple customer data centers

- Rapid and predictable service delivery
- Flexibility to scale up or down easily
- Operational support system-friendly integration

Cisco Data Center Networking portfolio



Demo

Hyperfabric Hardware



NEWS! Nexus 9300 HW in Hyperfabric

- Nexus C93108TC-FX3 (48x 1/10G Cu + 6x 100G QSFP+)
- Additional N9300 platforms to follow in CY2026+

Leaf: HF6100-60L4D

- 4x 100/400GbE QSFP56-DD (16x 100G breakout)
- 60x 10/25/50GbE SFP56

Spine/Leaf (400G): HF6100-32D

- 32x 100/400GbE QSFP56-DD
- 128x 100GbE via 400:4x100 breakout

AI Spine/Leaf (800G): HF6100-64ED

- 64x 800GbE OSFP800
- 128x 400GbE via 800:2x400 breakout



How it works



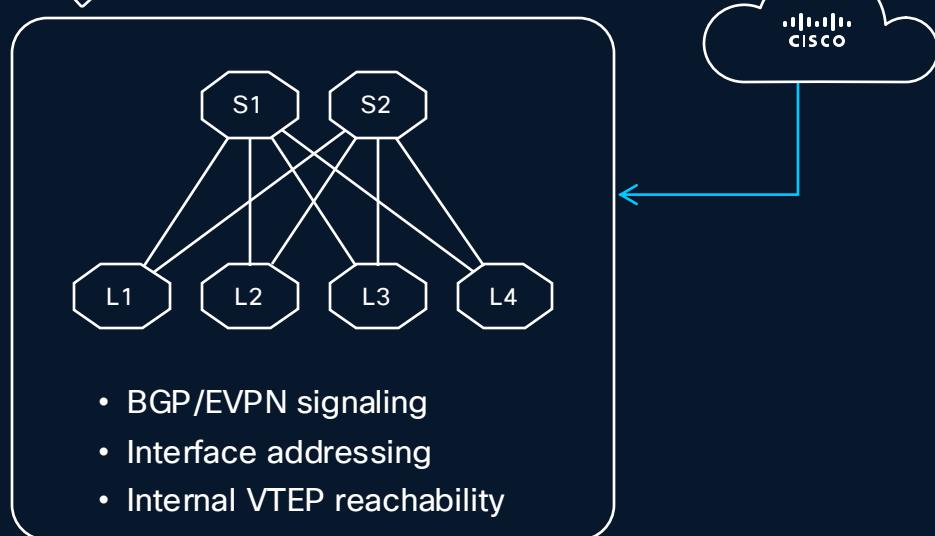
The Hyperfabric Lifecycle

- **Design:** Use the intuitive GUI to create validated fabric blueprints, generating BOMs and cabling plans
- **Deploy:** Switches auto-connect to the cloud controller for provisioning
- **Manage:** Manage fabrics through a single interface
- **Scale:** Manage updates, seamlessly expand or redesign fabrics

Fabric management

Internal network is opaque: no switch configs

- L2/L3 services described by service data model
- Cloud UI and API used to provision services
- Visibility and assurance are built-in



- BGP/EVPN signaling
- Interface addressing
- Internal VTEP reachability

Cloud SaaS controller manages all internal pod configurations

(internal routing and interface addressing)

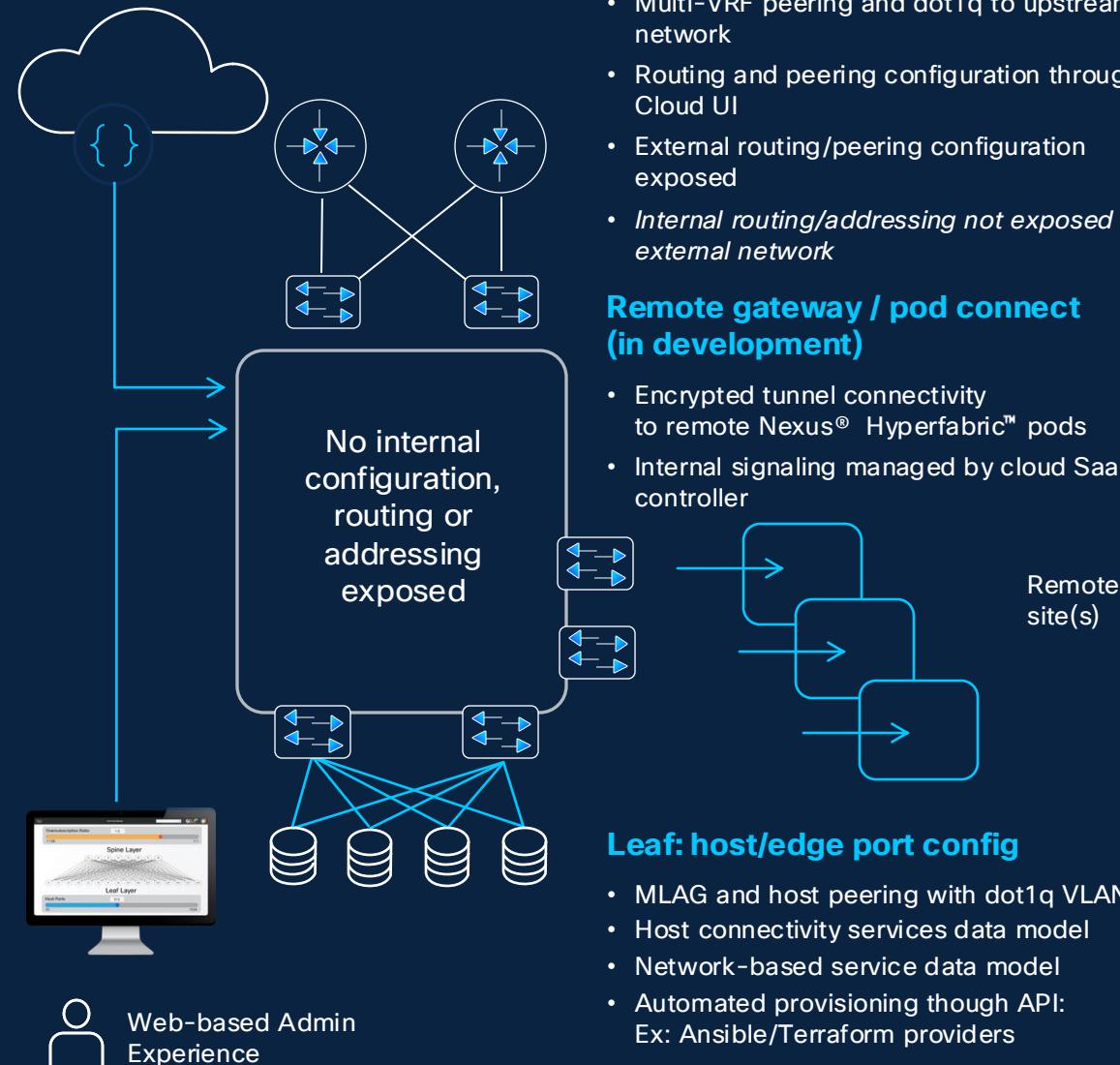
Cloud-based provisioning/ telemetry API

Gateway peering config

- Multi-VRF peering and dot1q to upstream network
- Routing and peering configuration through Cloud UI
- External routing/peering configuration exposed
- *Internal routing/addressing not exposed to external network*

Remote gateway / pod connect (in development)

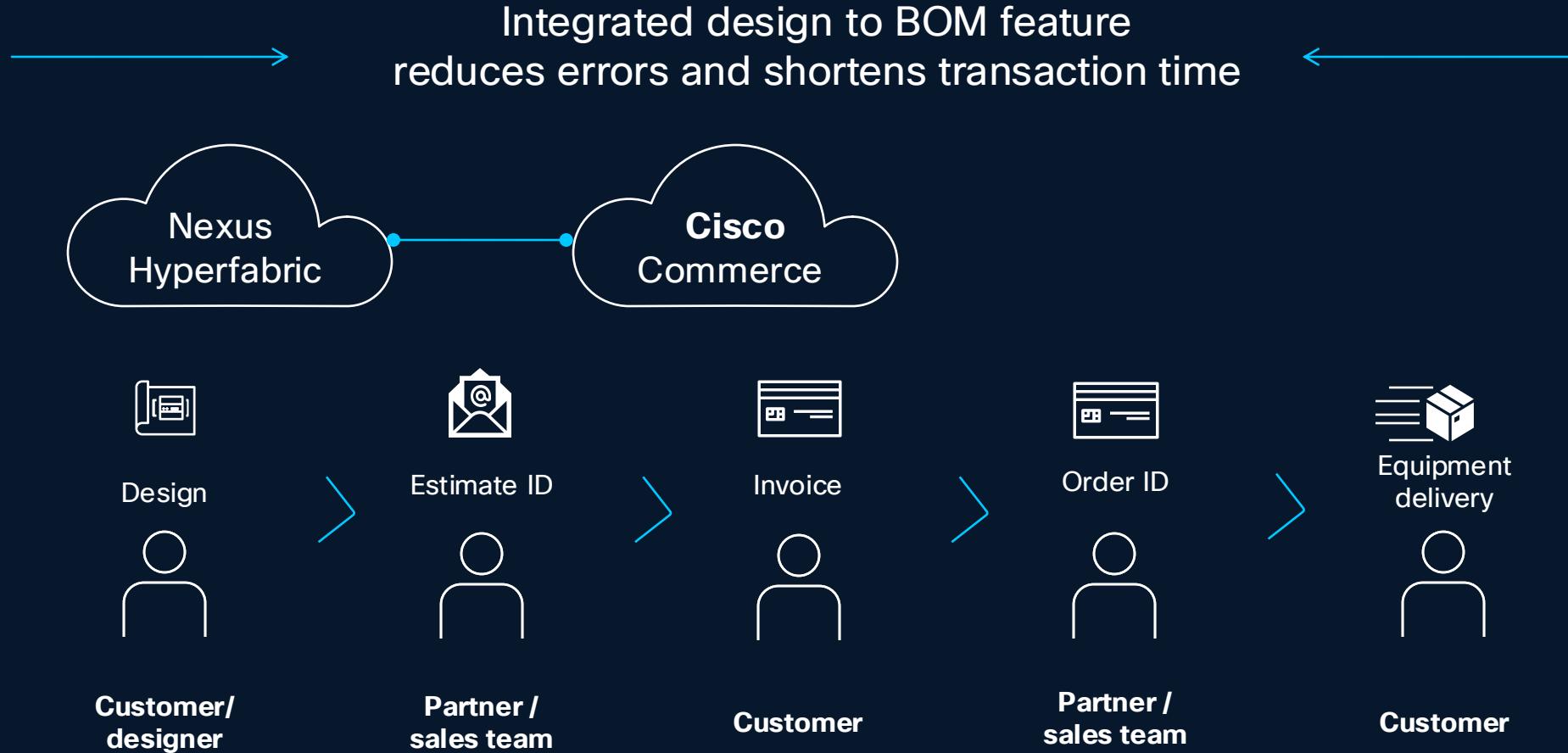
- Encrypted tunnel connectivity to remote Nexus® HyperFabric™ pods
- Internal signaling managed by cloud SaaS controller



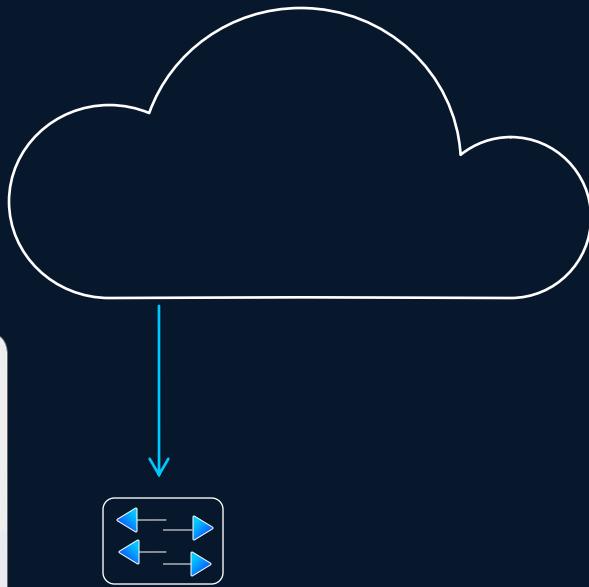
Leaf: host/edge port config

- MLAG and host peering with dot1q VLAN
- Host connectivity services data model
- Network-based service data model
- Automated provisioning through API:
Ex: Ansible/Terraform providers

Design to BOM



Software lifecycle management



On-premises switch software

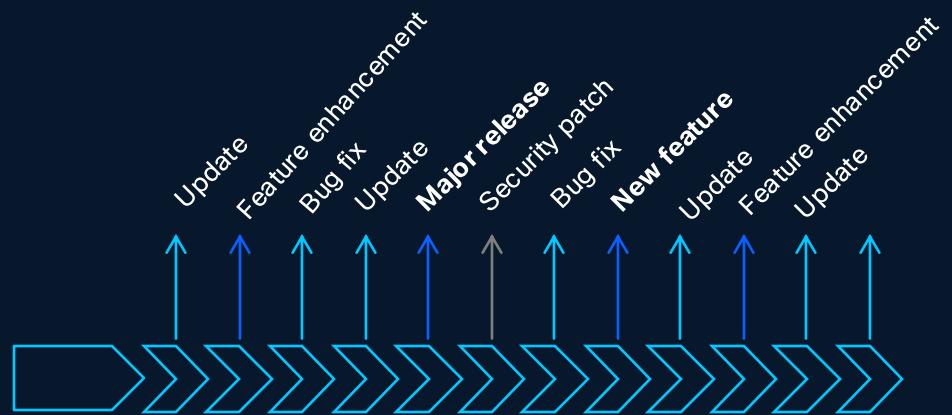
Cloud-delivered software upgrades: user-driven update schedule

- Schedule switch software updates
- Software rollback support
- Intelligent sequencing of fabric upgrades

Cloud SaaS controller:

Continuous delivery model: always up-to-date

- Continuous delivery of new features and software updates to the production cloud service
- No user testing or software maintenance required



Flexible architectures

Deploy any fabric, anywhere

Mesh / spine-less
fabrics

A Fabric of One™
Lab and API

2-switch fabric
120 host ports

4-switch fabric
240 host ports



2 spine, 2 leaf



2- or 4-way spine, 2-32 leaf
Nearly 2000 host ports



Leaf-spine DC fabrics

Demo

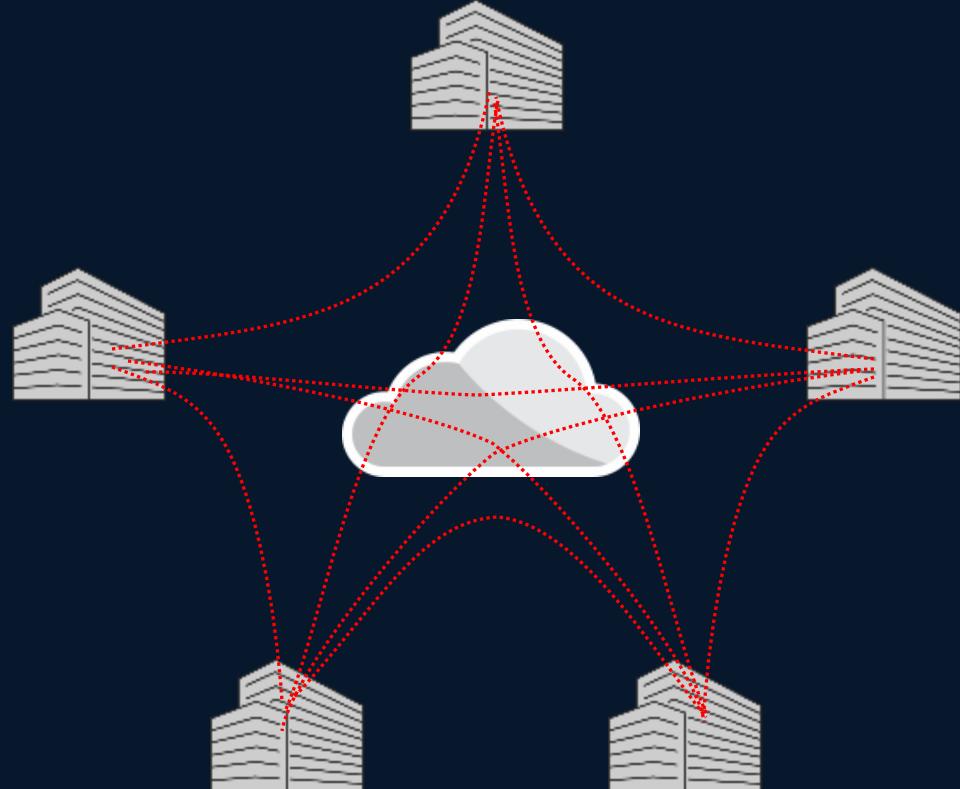
MultiSite Support & Roadmap

Overview (Coming Soon)

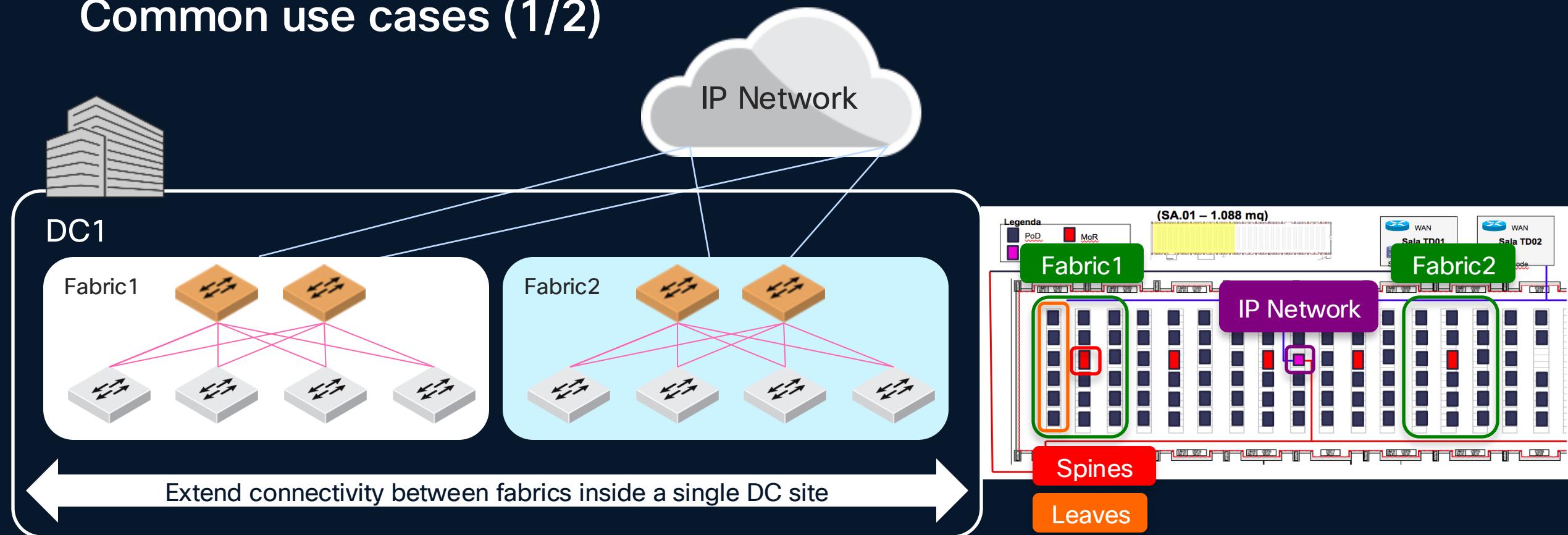
- Hyperfabric Multi-Site (DCI) functionality is a powerful new tool for scaling and connecting EVPN/VXLAN fabrics
- Based on EVPN Border Gateway

Multi-Site Border Gateway allows:

1. Remote Sites: connect remote fabrics via 3rd party IP networks
2. Scale: hide fabric complexity to peers
3. Native EVPN/VXLAN connectivity
4. Policy control over L2VNI+L3VNI routes
5. Enforce Ownership boundary between fabrics

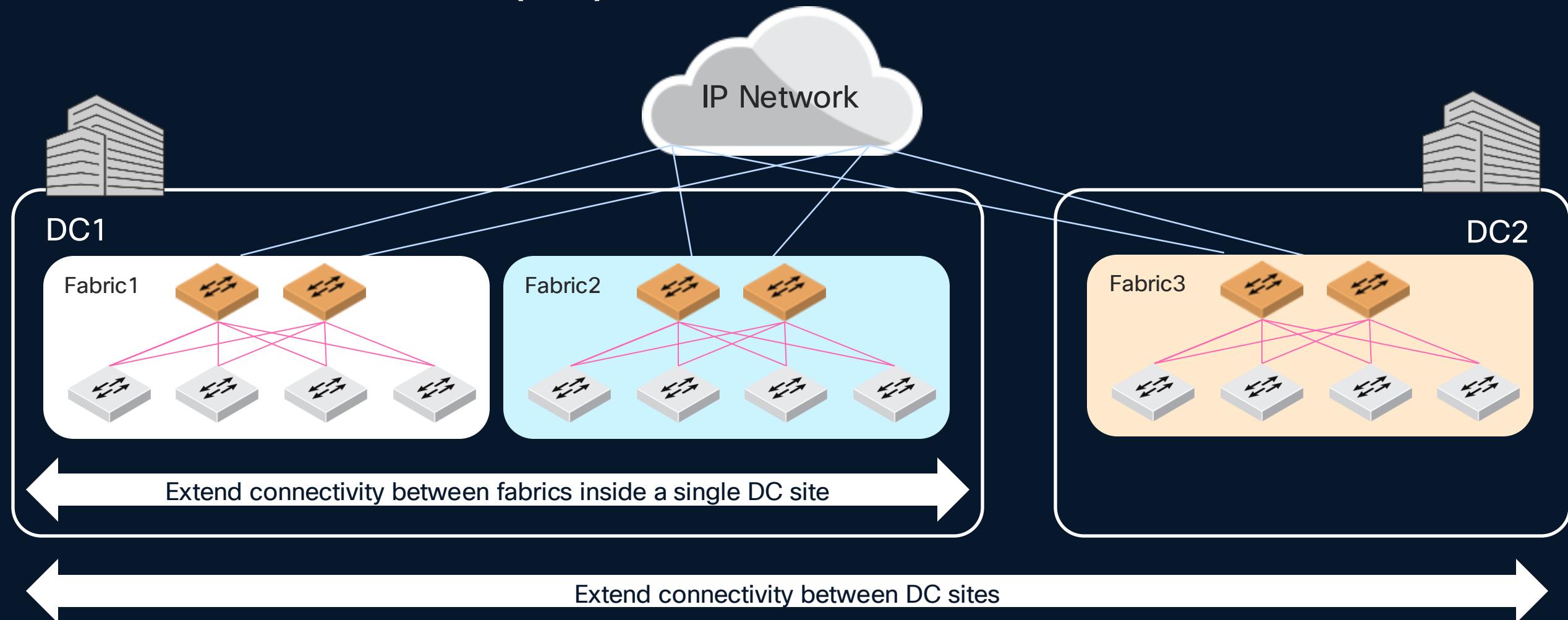


Multi-Site Common use cases (1/2)



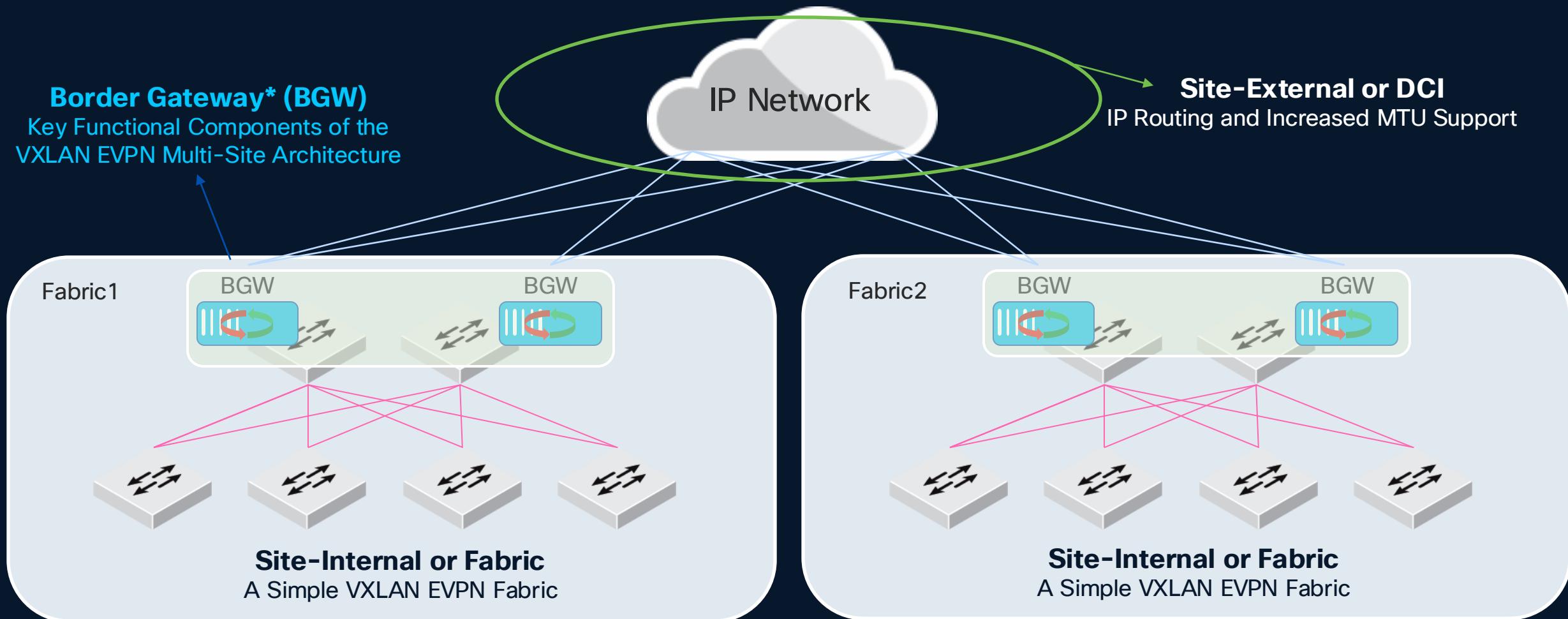
- Scale and IP mobility use cases
- Active/Active fabrics

Multi-Site Common use cases (2/2)



Functional components

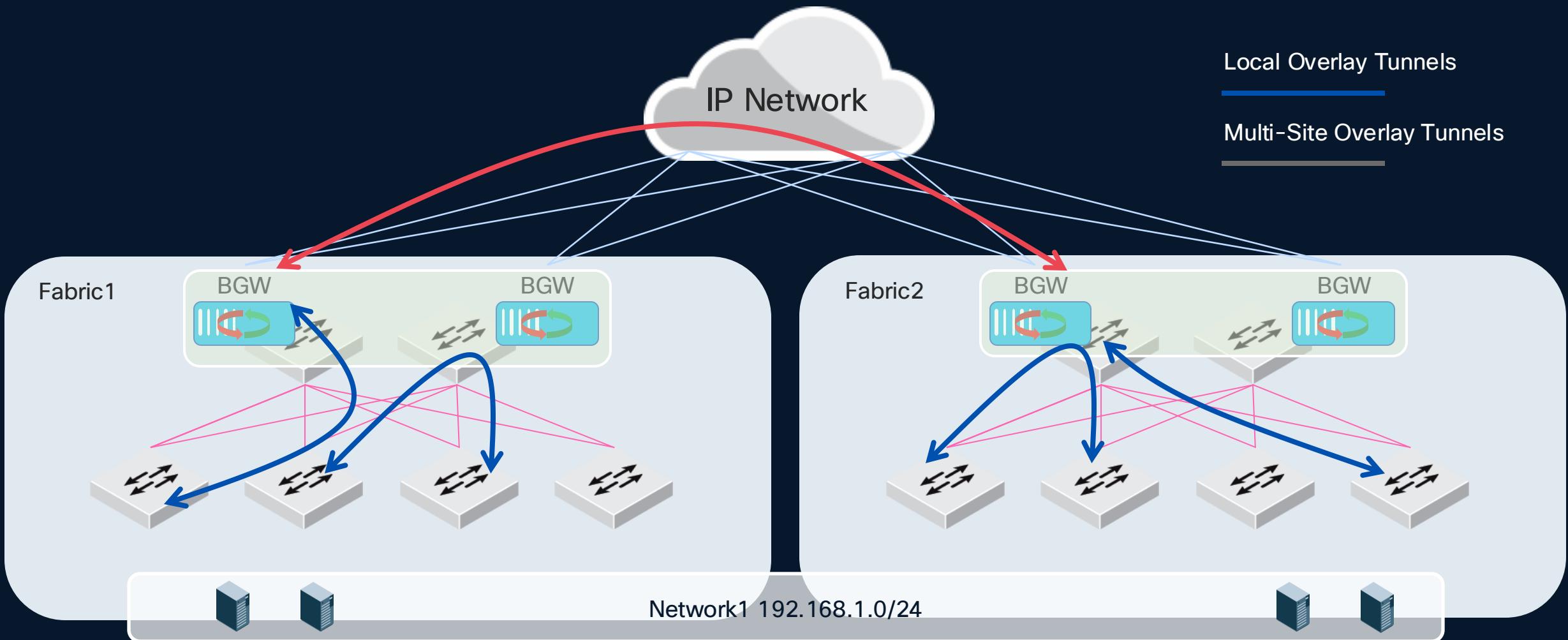
Border Gateway (BGW)



*BGW and spine functions can coexist on the same physical devices

Functional components

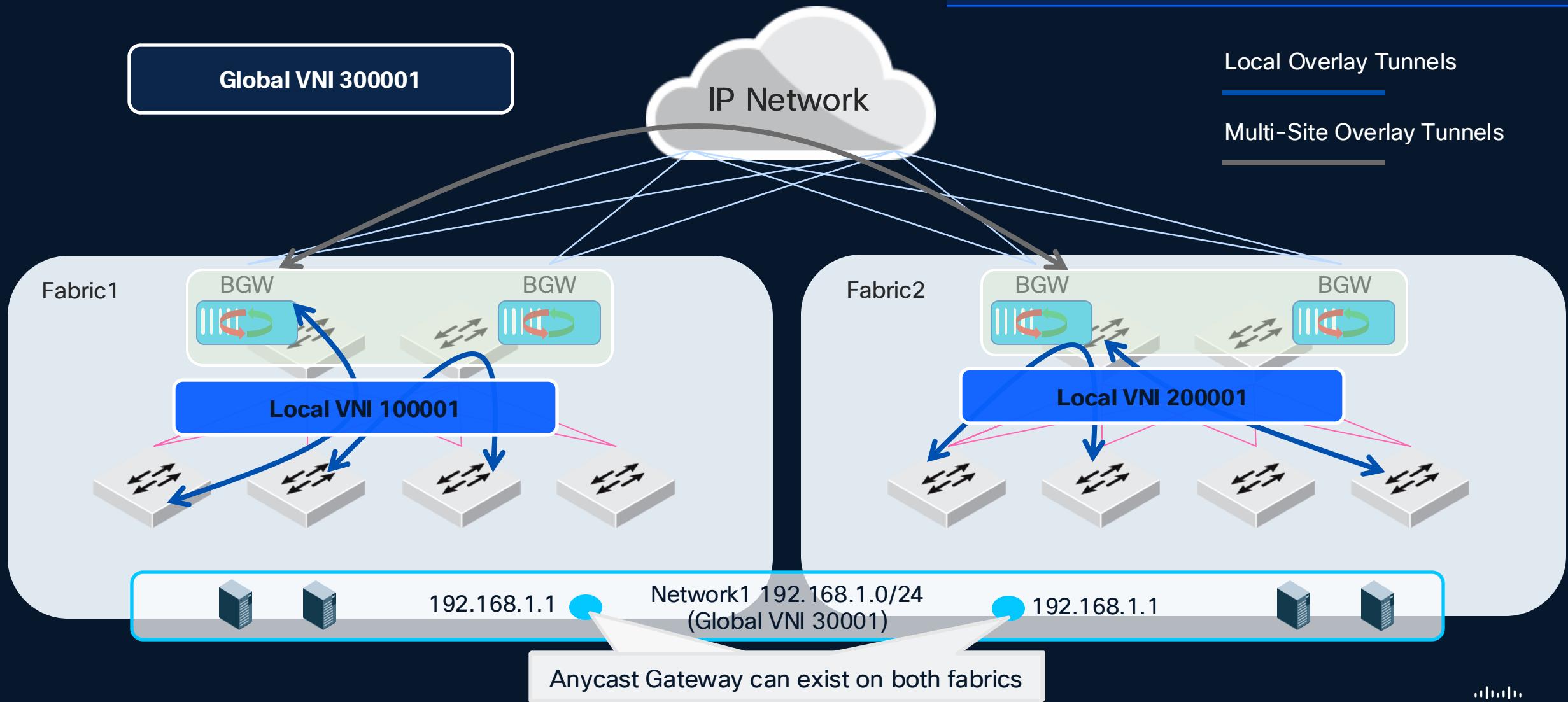
Local and Multi-site overlays



Functional components

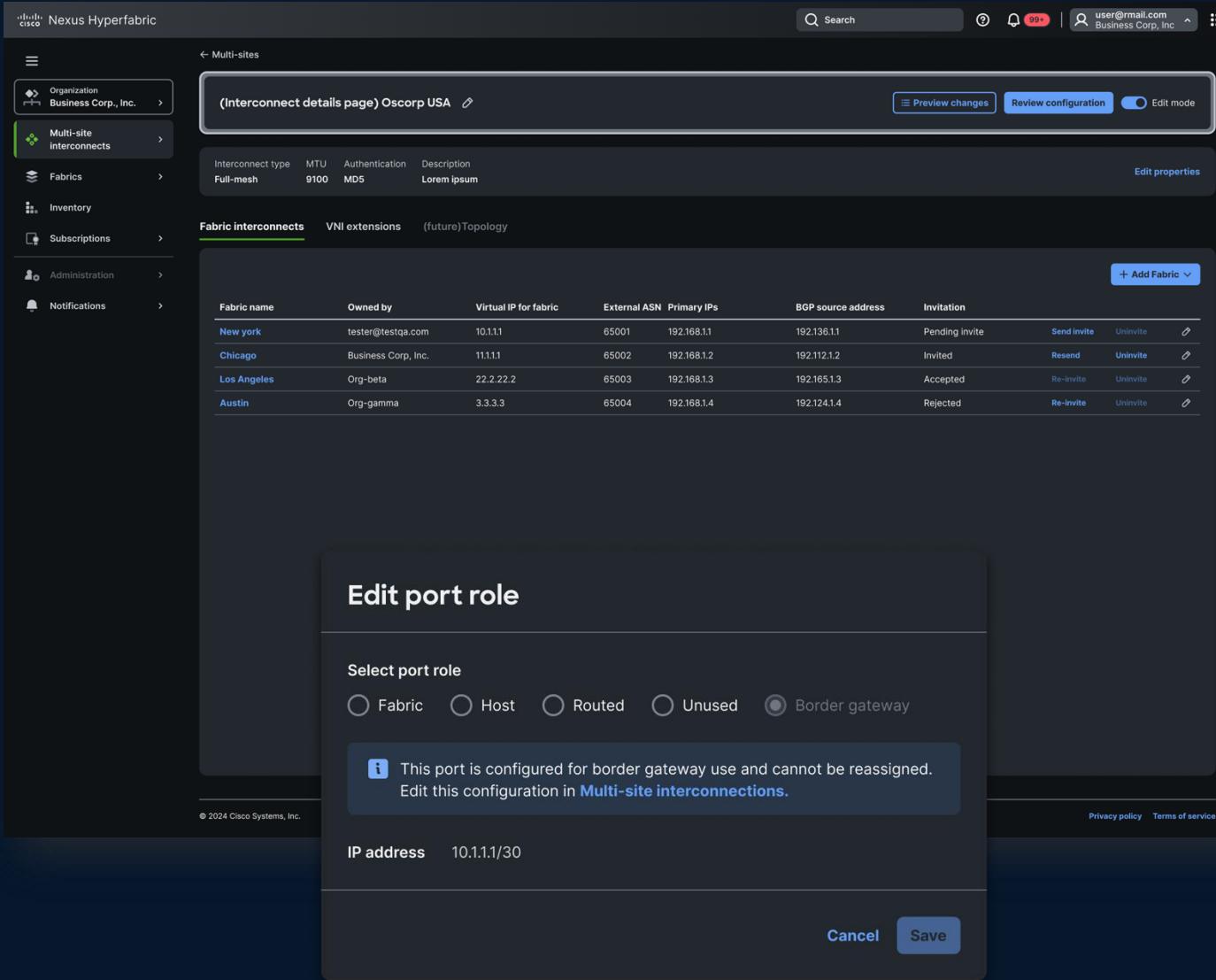
VNID translation

Global VNI	Fabric1 local VNI	Fabric2 local VNI
300001	100001	200001



Multi-Site Config (Sneak Preview)

Note: User interface example subject to change



Nexus Hyperfabric

Multi-sites

(Interconnect details page) Oscar USA

Interconnect type: Full-mesh MTU: 9100 Authentication: MD5 Description: Lorem ipsum

Fabric interconnects VNI extensions (future)Topology

Fabric name	Owned by	Virtual IP for fabric	External ASN	Primary IPs	BGP source address	Invitation
New York	tester@testqa.com	10.1.1	65001	192.168.1.1	192.136.1.1	Pending invite
Chicago	Business Corp, Inc.	11.1.1	65002	192.168.1.2	192.112.1.2	Invited
Los Angeles	Org-beta	22.2.22.2	65003	192.168.1.3	192.165.1.3	Accepted
Austin	Org-gamma	3.3.3.3	65004	192.168.1.4	192.124.1.4	Rejected

Cancel Save

Edit port role

Select port role

Fabric Host Routed Unused Border gateway

This port is configured for border gateway use and cannot be reassigned. Edit this configuration in [Multi-site interconnections](#).

IP address 10.1.1.1/30

Privacy policy Terms of service

Add a fabric to multi-site interconnect

Select fabric to connect * Description

A request to join this multi-site will display in the selected fabric page in Cisco Hyperfabric.

Virtual IP for fabric * External ASN *

Border gateway configurations (at least 1 required) *

Border gateway 01	Primary IP <small>e.g. 10.10.10.10</small>	BGP source address <small>e.g. 10.10.10.10</small>
Border gateway 02	<input type="text" value="e.g. 10.10.10.10"/>	<input type="text" value="e.g. 10.10.10.10"/>

Cancel **Invite**

Add VNI extension

VNI Extension name * Description (optional)

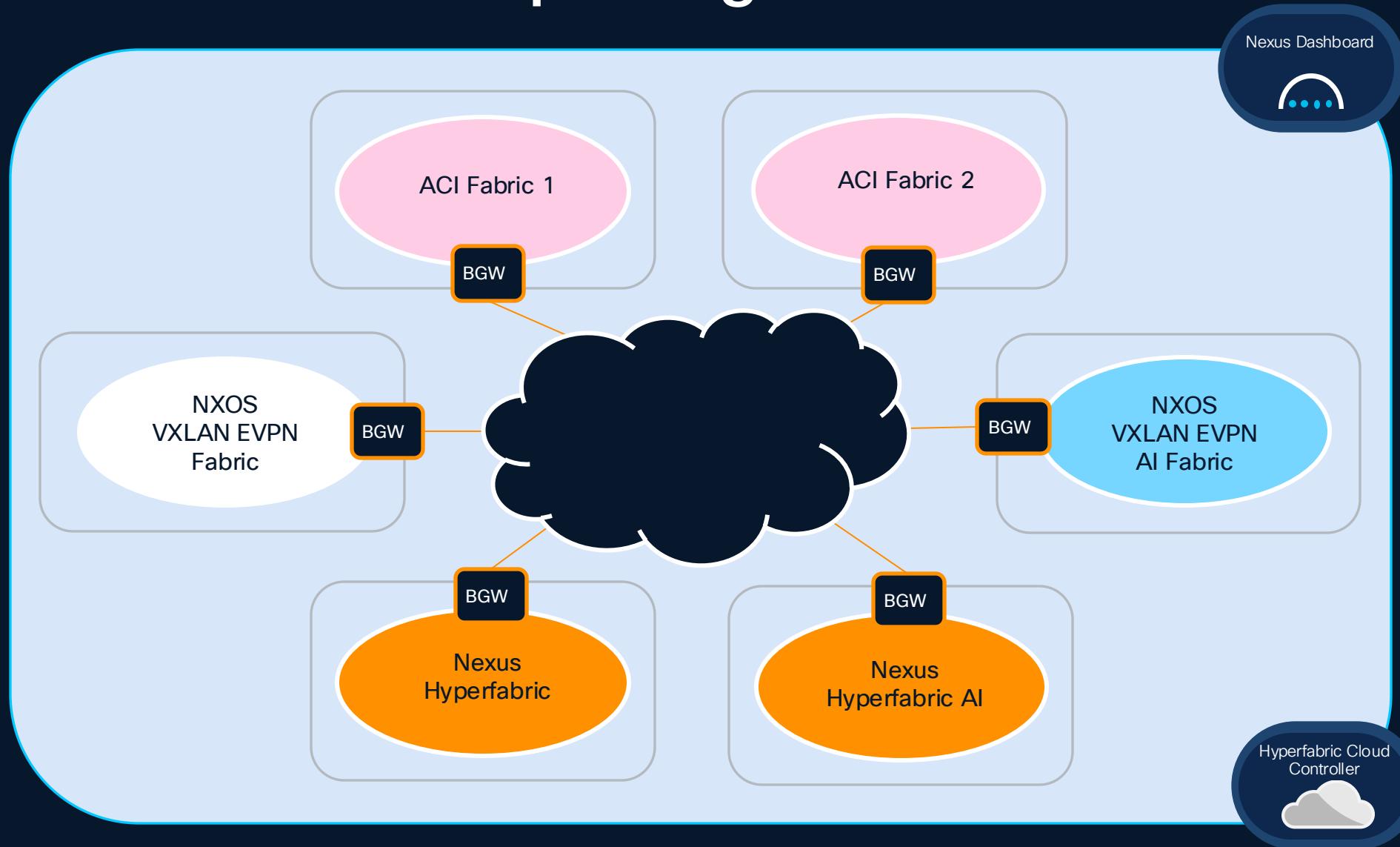
VNI to normalize *

Currently, Cisco Nexus Hyperfabric enables VNI extensions for layer 2. Common anycast gateways will be supported in a future release.

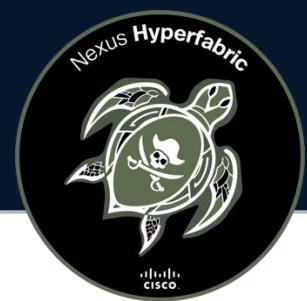
Select fabric(s) to extend to *

Cancel **Add**

Multi-Site as native peering model for Nexus One



Hyperfabric roadmap



Major releases

Hyperfabric AI

HF6100-64ED (800G)

Nexus 9300 Switch
(1/10G Cu, FX3)

UCS C845A M8 (RTX)

Hyperfabric
EU sovereign cloud

Hyperfabric
Enterprise DC

- Advantage subscription package
- Super-spine, 10Ks host ports
- Security / Policy
- Multi-Site via Nexus Dashboard with ACI & NXOS

3QC25

4QC25

1QC26

2QC26

3QC26+

- Multi-Site between Hyperfabrics
- External notifications
- SAML authentication federation
- Predefined CoS and QoS profiles

- Southbound BGP
- Splunk Integration
- Cisco AI POD support
- IP SLA tracked static routes

Future roadmap features

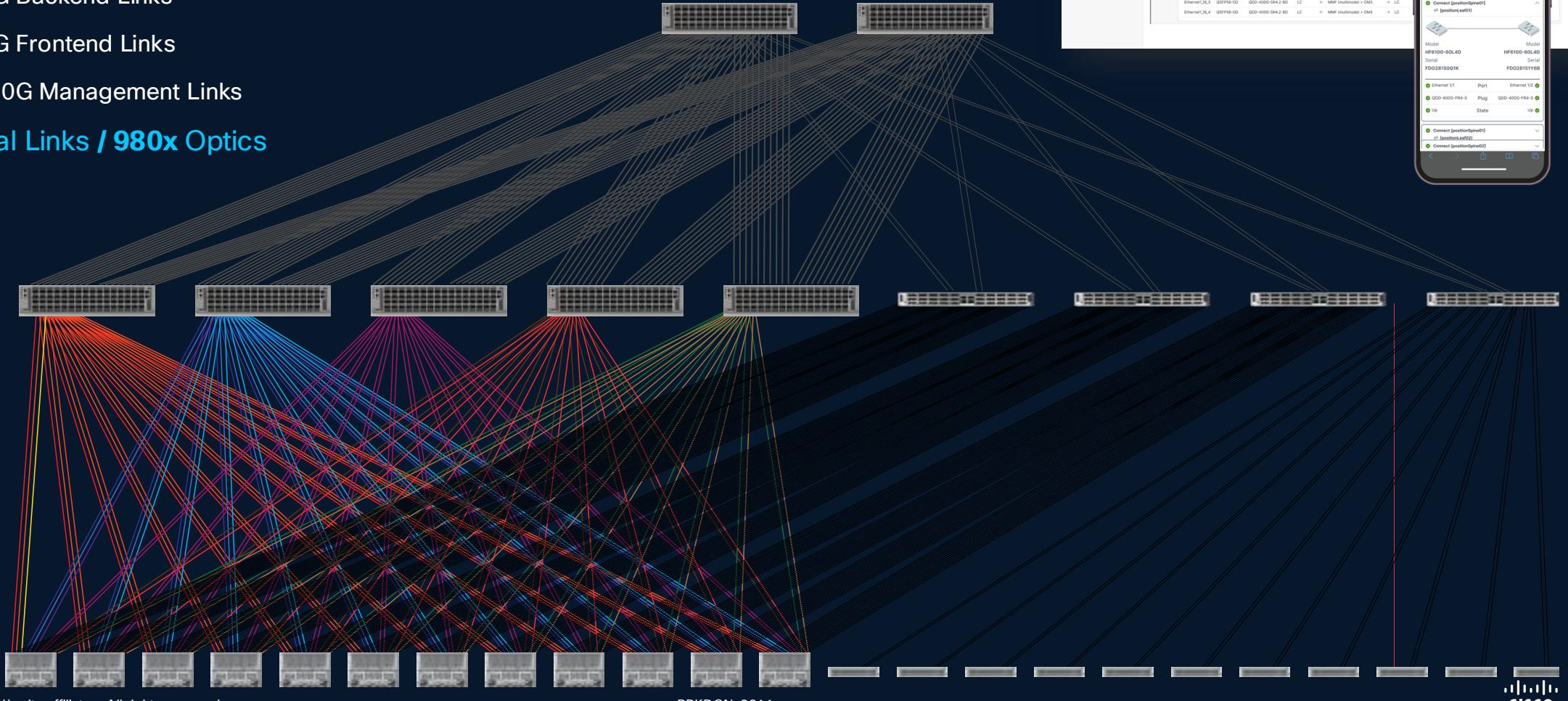
- Policy-based routing
- Per-port VLAN mapping
- Advanced loop prevention
- ERSPAN + flow export
- IPM probing and visibility

Essentials subscription features

Hyperfabric AI

A “small” \$5M AI Training Cluster

- **12 UCS GPU Servers (96x GPUs) + Storage**
 - 112x 800/400G Fabric Links
 - 96x 400G Backend Links
 - 48x 400G Frontend Links
 - 189x 1/10G Management Links
 - **= 445 Total Links / 980x Optics**



AVAILABLE NOW

Cisco Nexus Hyperfabric AI

High-performance
Ethernet

Unified stack
including NVAIE

Democratize AI
infrastructure

Cloud-managed
operations

AI-native
operational model

Visibility into
full-stack AI

Cisco Nexus Hyperfabric AI

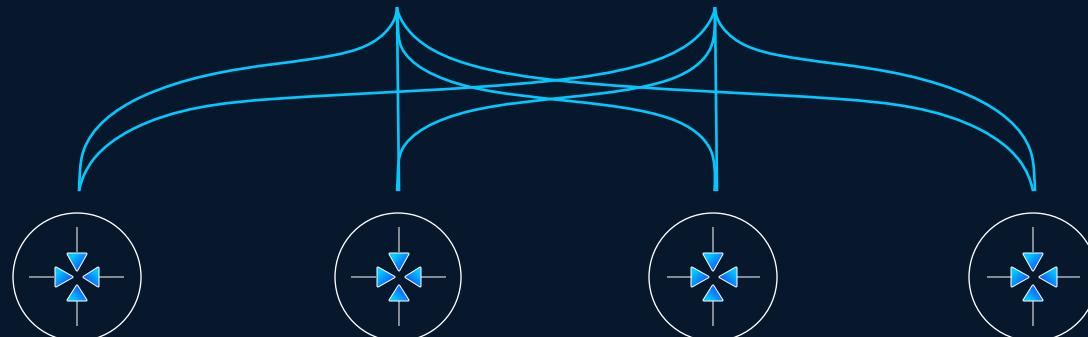


On-premises AI infrastructure

Pods of plug-and-play
leaf-spine fabrics



Cisco 6000
Series Switches



Cisco UCS
C885A M8



NVIDIA GPU



NVIDIA DPU/NIC
Blue Field -3



VAST Storage

How are we partnering with NVIDIA?



Cisco published
Enterprise Reference
Architecture with
validation



Deliver AI Factory with Cisco
Silicon One

NVIDIA Certified Cisco Nexus Hyperfabric AI Enterprise Reference Architecture (ERA):

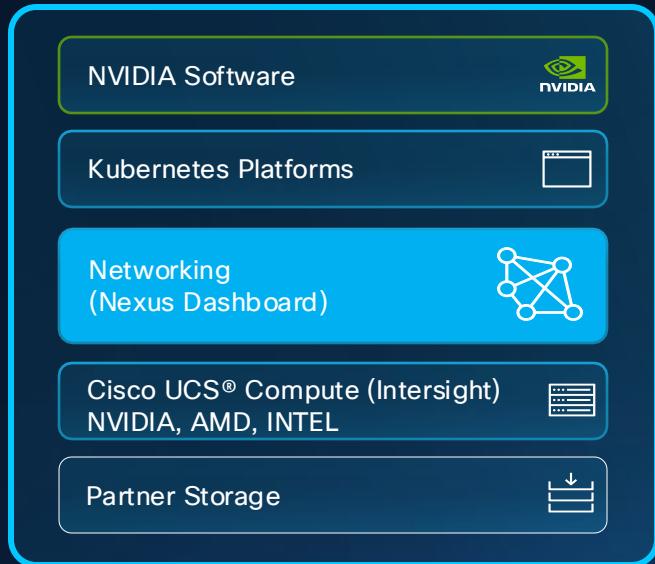
Cisco Nexus Hyperfabric AI Enterprise Reference Architecture certified by NVIDIA, featuring Cisco cloud-managed AI/ML networking of Cisco UCS C885A M8 Rack Servers with NVIDIA HGX H200 and NVIDIA Spectrum-X

Link: [NVIDIA Certified Hyperfabric AI ERA](#)

The screenshot shows a Cisco website page for the 'NVIDIA Certified Cisco Nexus Hyperfabric AI Enterprise Reference Architecture'. The page includes a navigation bar with links to 'Products and Services', 'Solutions', 'Support', 'Learn', and 'Why Cisco'. The main content area features a title 'NVIDIA Certified Cisco Nexus Hyperfabric AI Enterprise Reference Architecture' and a sub-section 'Cisco Nexus Hyperfabric AI Enterprise Reference Architecture certified by NVIDIA, featuring Cisco cloud-managed AI/ML networking of Cisco UCS C885A M8 Rack Servers with NVIDIA HGX H200 and NVIDIA Spectrum-X'. A sidebar on the left contains a 'Table of Contents' with sections like 'Introduction', 'Hardware', 'Networking topologies', 'Storage architecture', 'Software', 'Security', 'Testing and certification', 'Summary', 'Appendix A – Compute server ...', and 'Appendix B – Control node ser...'. The page also includes a 'Bias-Free Language' link, 'Save', 'Translations', 'Download', and 'Print' buttons.

AI PODs: Flexible Operating Models

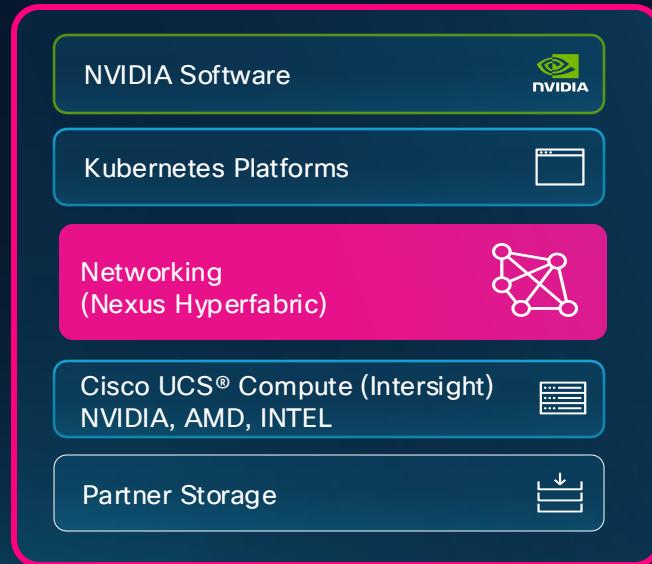
AI POD w/
On-prem management



Modular, pre-validated infrastructure:

- Full stack, buy & deploy
- Nexus Dashboard: On-prem networking management

AI POD w/
Cloud management



Turnkey infrastructure:

- Full stack, buy & deploy
- Nexus Hyperfabric: Cloud-managed Networking
- Nexus Hyperfabric AI: Cloud-managed full-stack turn-key infrastructure

AI PODs Solution Options

Choose Based on AI Use-Case and Operational Model

Nexus Dashboard

On-premises managed network



Compute

Cisco UCS

NVIDIA HGX, MGX or
RTX PRO 6000 Servers



Networking

Cisco Nexus 9300

w/ Silicon One
w/ Cloud Scale
w/ NVIDIA Spectrum-X



Storage

NetApp | Pure Storage |
VAST Data | Hitachi Vantara

Training, fine-tuning, inference

Nexus 9300 managed with Nexus Dashboard
NVIDIA aligned Enterprise Reference Architecture
Flexible design consistent performance at any scale
Dedicated AI or multi-purpose DC

Customizable



Nexus Hyperfabric

Cisco-managed network cloud
controller



Compute

Cisco UCS

NVIDIA HGX, MGX or
RTX PRO 6000 Servers



Networking

Cisco Nexus Hyperfabric

w/ Silicon One



Storage

NetApp | Pure Storage |
VAST Data | Hitachi Vantara

Inference

Cloud-managed fabric-as-a-service

Deploy anywhere, easy to scale
BYO servers, GPUs, storage, software stack
Multi-purpose DC with AI & non-AI services

Nexus Hyperfabric AI

Cisco-managed network cloud
controller



Compute

Cisco UCS

NVIDIA HGX (885a with 8x H200)
Future: RTX PRO Server



Networking

Cisco Nexus Hyperfabric

w/ Silicon One



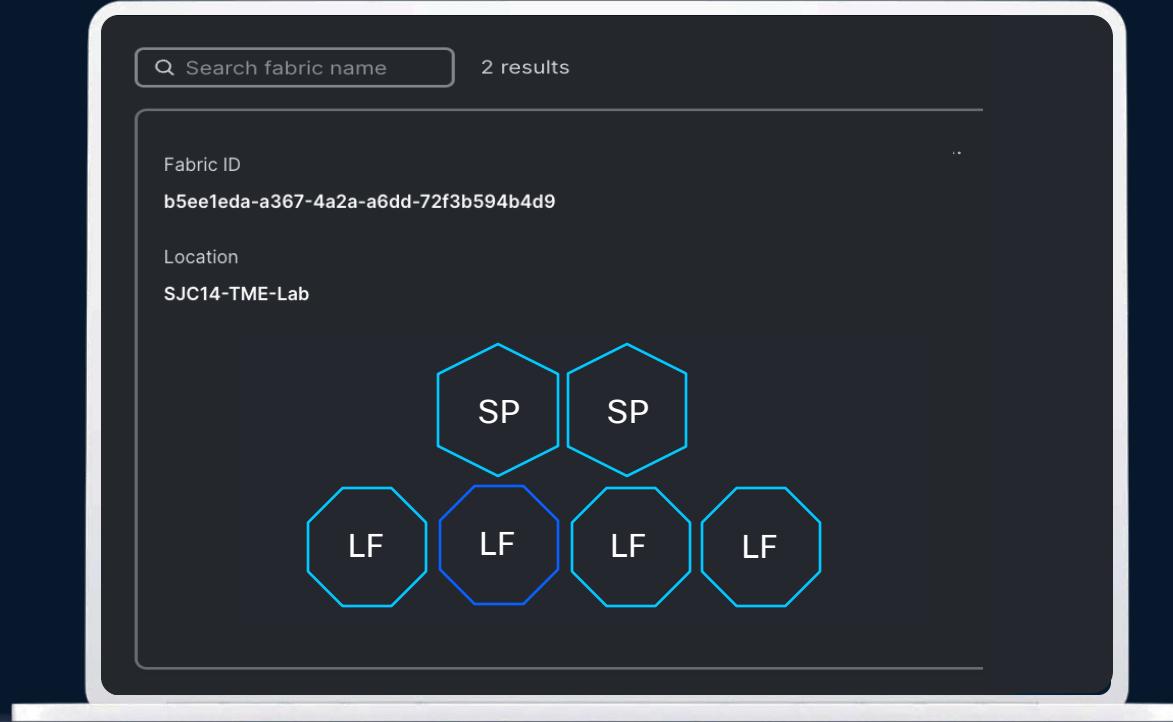
VAST Data

Training, fine-tuning, inference

Full stack: network, servers, GPU, storage
NVIDIA Enterprise Reference Architecture compliant
Blueprints encompass the entire cluster
Monitoring spans network to compute NIC

Prescriptive

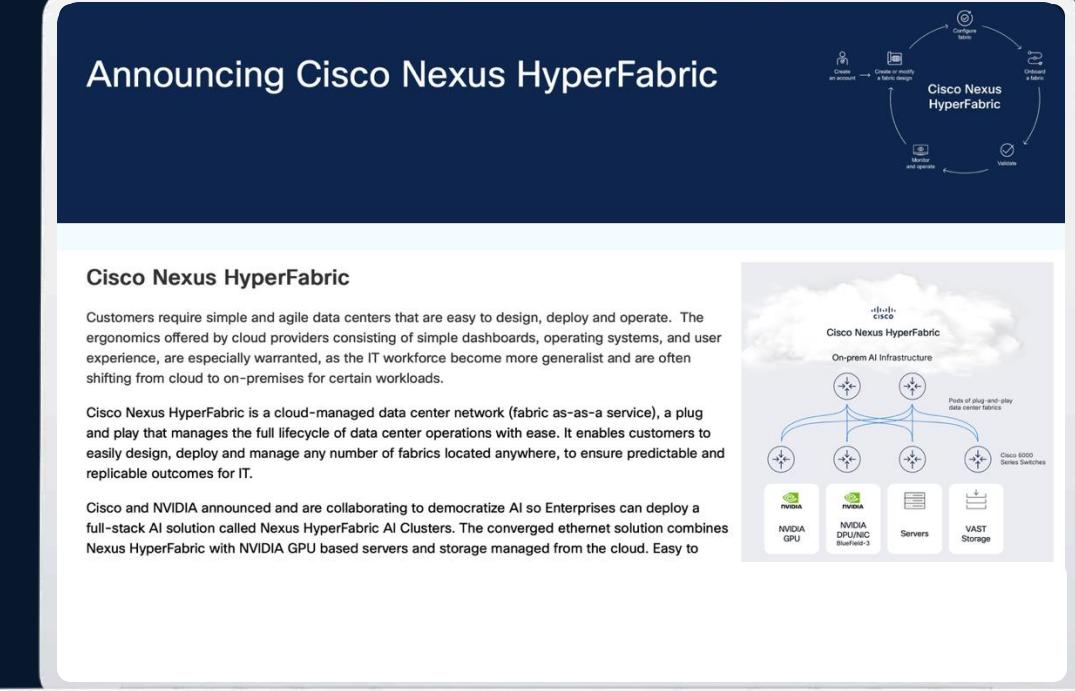
Try it yourself



Design a fabric using your Cisco.com ID at
Hyperfabric.Cisco.com

Additional resources

Announcing Cisco Nexus HyperFabric



The screenshot shows the Cisco Nexus HyperFabric landing page. At the top, there's a circular diagram with icons for creating an account, fabric design, configuration, deployment, monitoring, and validation. Below this, the title 'Cisco Nexus HyperFabric' is displayed, followed by a sub-section titled 'Cisco Nexus HyperFabric'. The page contains several paragraphs of text describing the product's features and benefits, including its role as a cloud-managed data center network and its collaboration with NVIDIA. To the right of the text is a diagram showing a cloud interface connected to an 'On-prem AI Infrastructure' which includes 'Pods of plug and play data center fabrics', 'Cisco 6000 Series Switches', and various hardware components like NVIDIA GPU, DP/NIC, and VAST Storage.

[Cisco.com - Cisco Nexus Hyperfabric](https://www.cisco.com/cisco-nexus-hyperfabric)

Thank you



