

The background is a vibrant, abstract graphic. It features a central bright white light source from which numerous colorful rays emanate, creating a sunburst or starburst effect. The rays transition through a spectrum of colors including yellow, orange, red, and various shades of blue and green. Overlaid on this are several large, semi-transparent, wavy shapes in similar color tones, giving the overall image a sense of motion and energy.

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Let's go

#CiscoLive



The bridge to possible

Managing Data Center Networks with Cisco Nexus Dashboard Fabric Controller (NDFC)

PSODCN-1864

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#CiscoLive

Cisco Webex App

Questions?

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

How

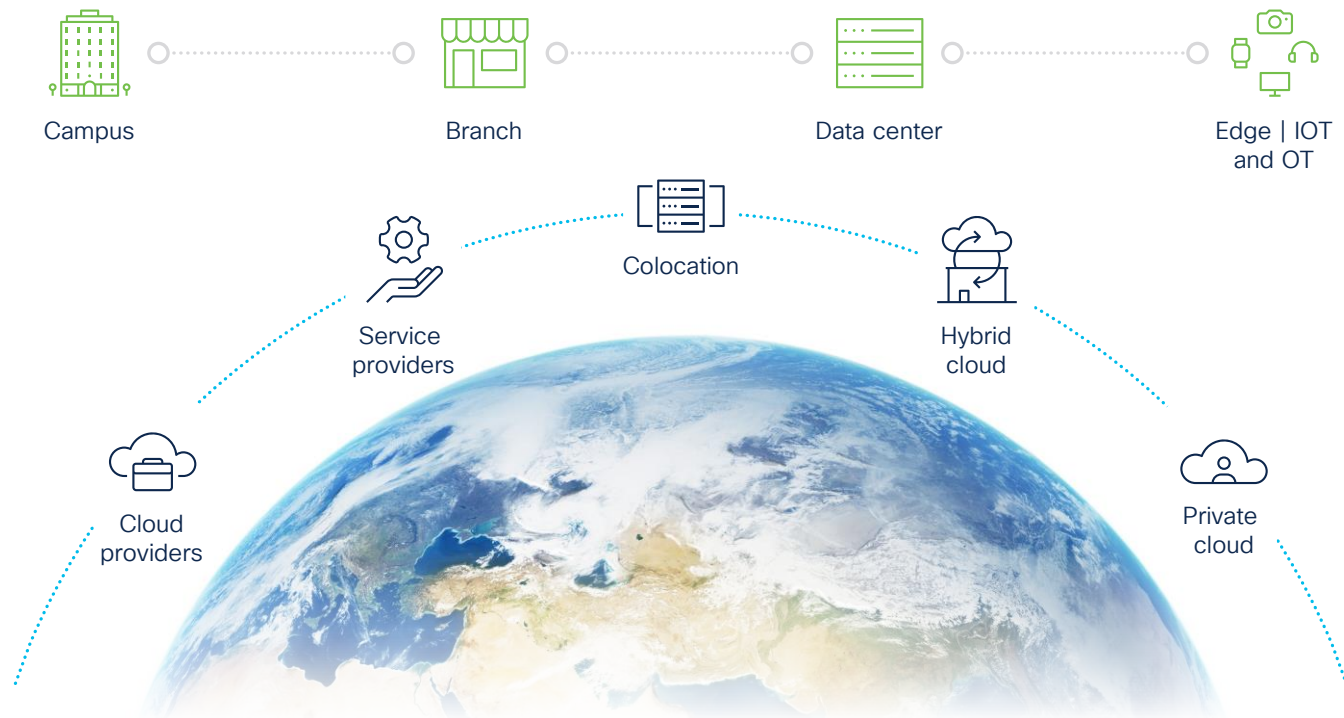
- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until June 9, 2023.

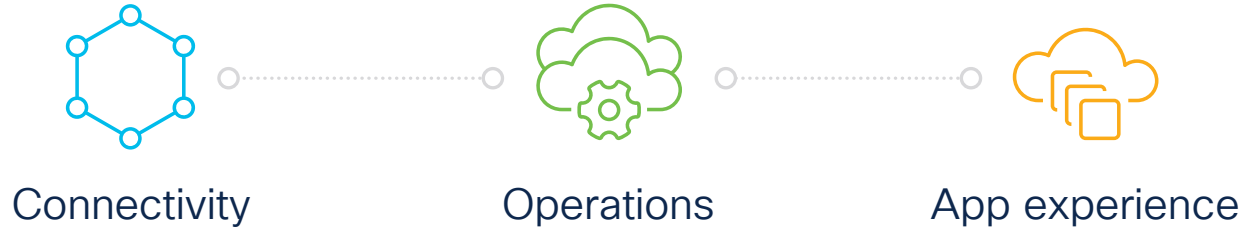


<https://ciscolive.ciscoevents.com/ciscolivebot/#PSODCN-1864>

Diverse IT landscape



How do you adapt to change now and stay in control for the future?



Cisco Nexus Dashboard Fabric Controller



Cisco Data Center Network Manager

Has become Cisco Nexus Dashboard Fabric Controller (NDFC)

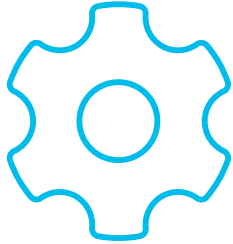


Cisco Data Center
Network Manager



Cisco Nexus
Dashboard
Fabric Controller

Cisco NDFC



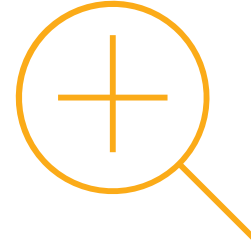
Automation

Accelerate provisioning
and simplify deployments



Management

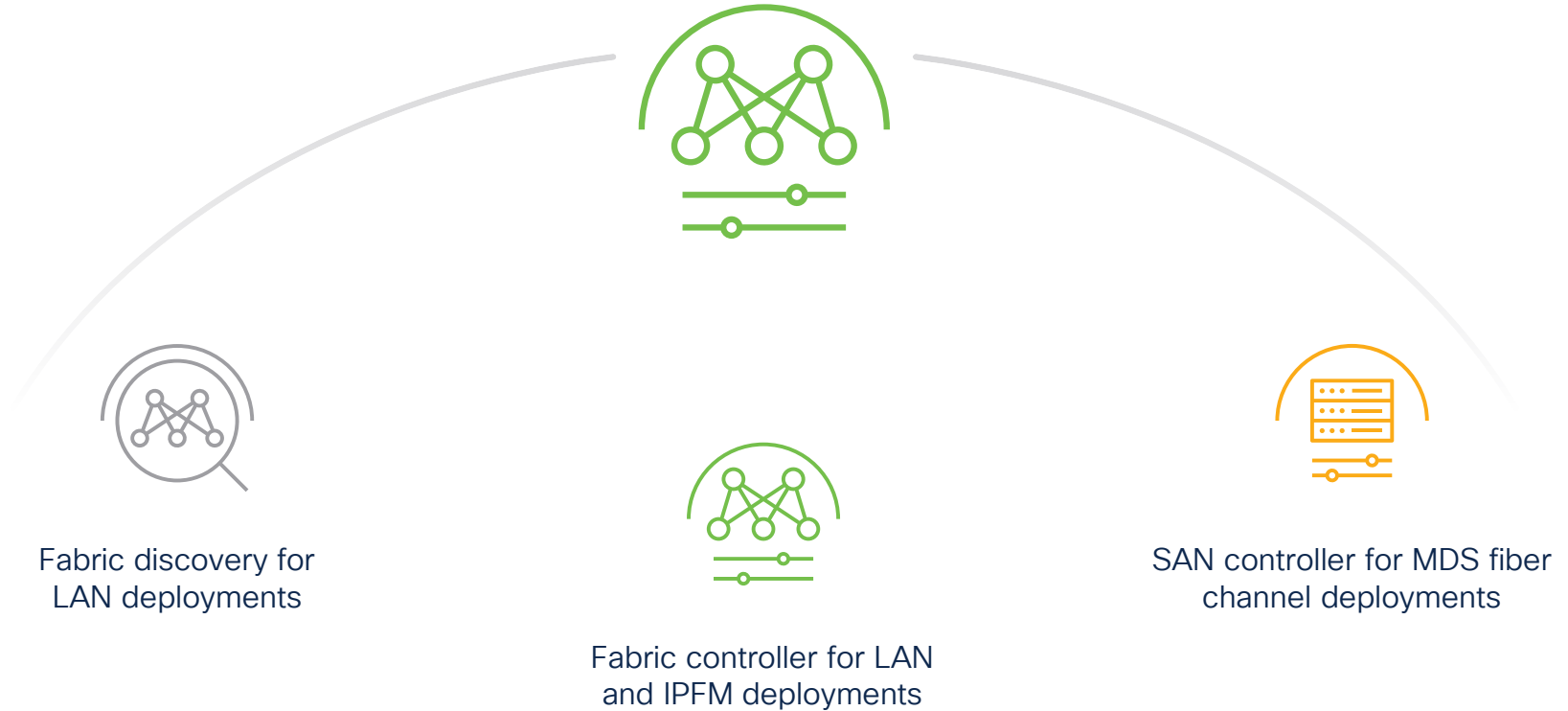
In depth management
and control for all
network deployments



Visibility

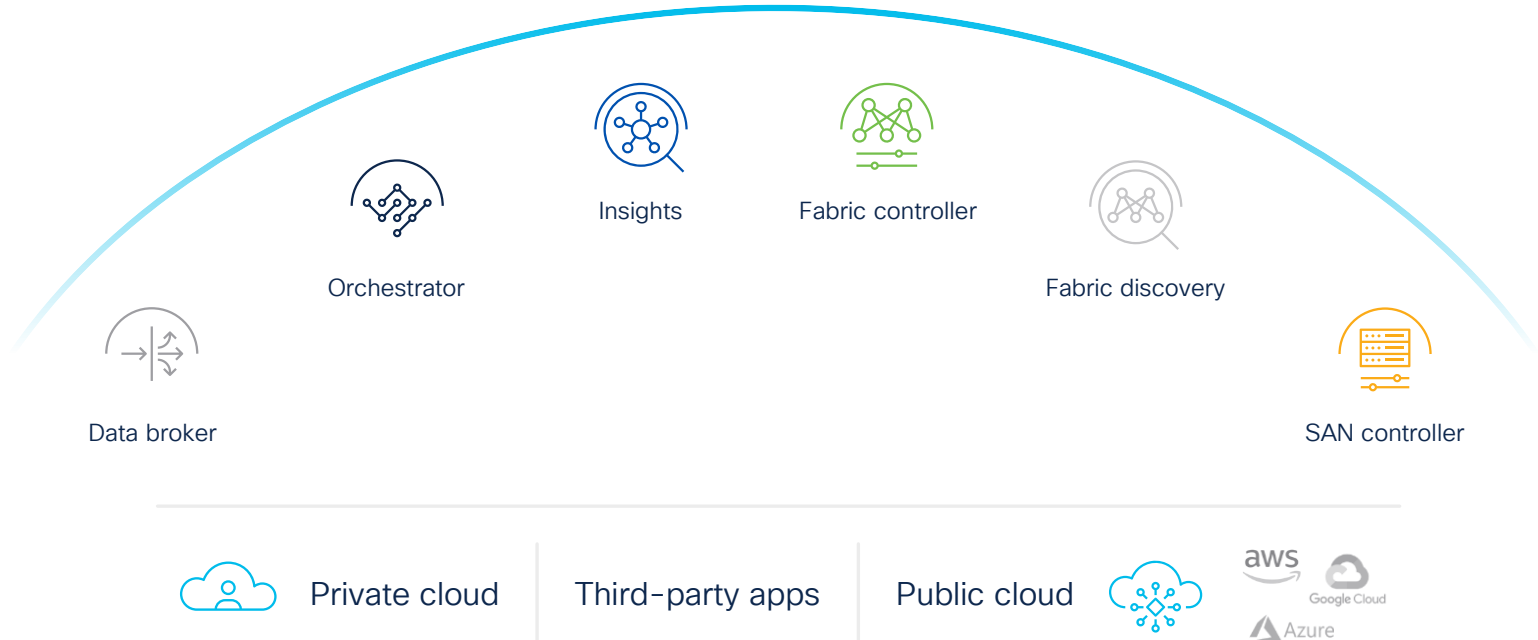
Get centralized visibility
and monitoring views

Cisco NDFC modes



Cisco Nexus Dashboard

Simple to automate, simple to consume



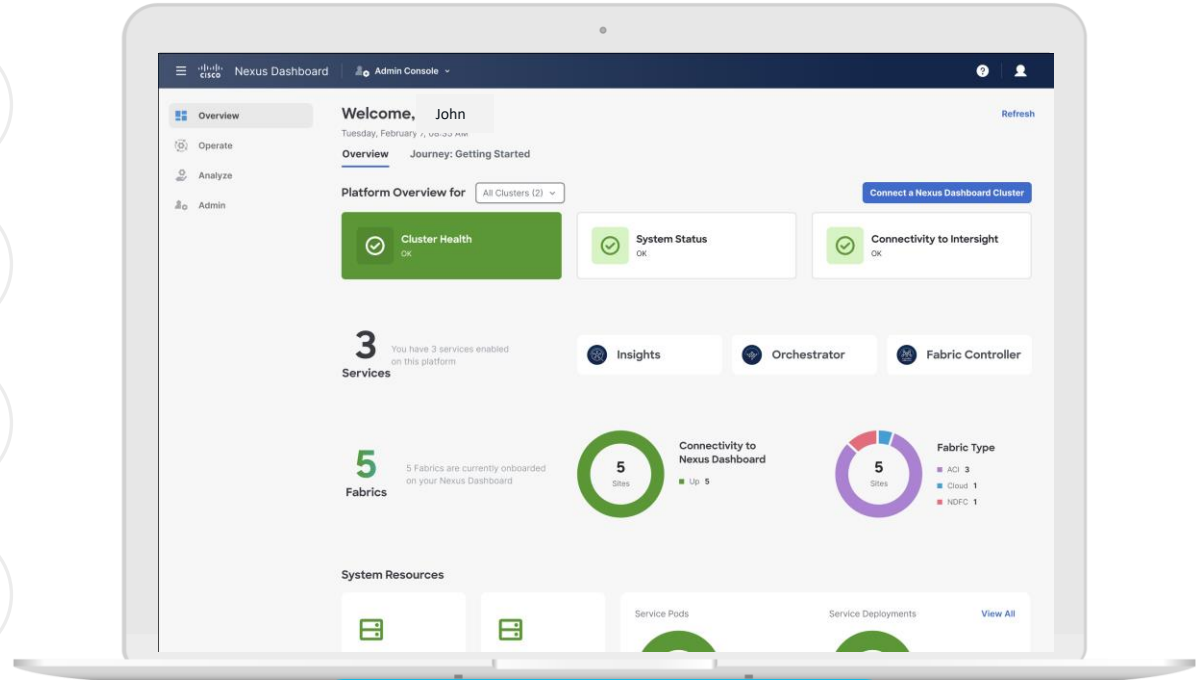
Cisco Nexus Dashboard - Platform

Micro-services architecture

Supported on both virtual and physical ND

Multi-cluster support

Single upgrade process



Optimization + new look and feel
starting in Q3CY23

Automation



Accelerate provisioning from days to minutes

Easy to understand approach to auto-bootstrapping of entire fabric

Rapid deployment with fabric builder best practice templates for VXLAN-EVPN,
Layer2/Layer3

DevOps friendly

Enhanced programmability

Scale within and across data centers

Benefits

Simplify fabric deployments

Developer agility

Multi-site

Provision a new fabric in minutes

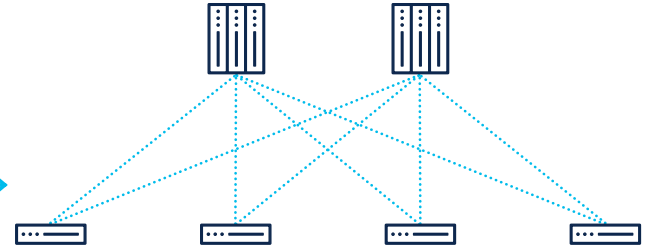
Un-provisioned switches



Within NDFC
select fabric builder



Cisco best practice implemented



Fast, automated process



Benefits



Accelerate fabric deployments

Automated consistency

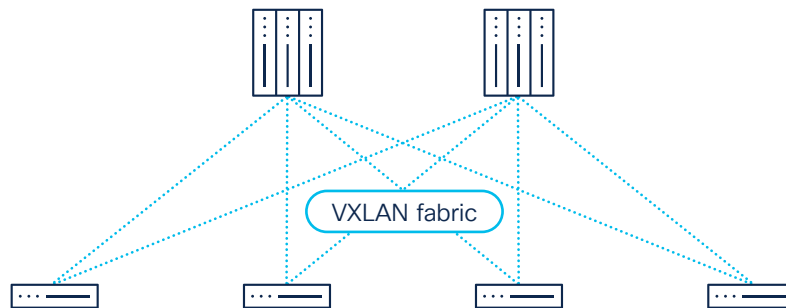
Minimize risk

Automate VXLAN-EVPN deployments

Cisco best practice templates for
VXLAN EVPN templates

Fabric builder

Support for both brownfield and
greenfield deployments



Benefit

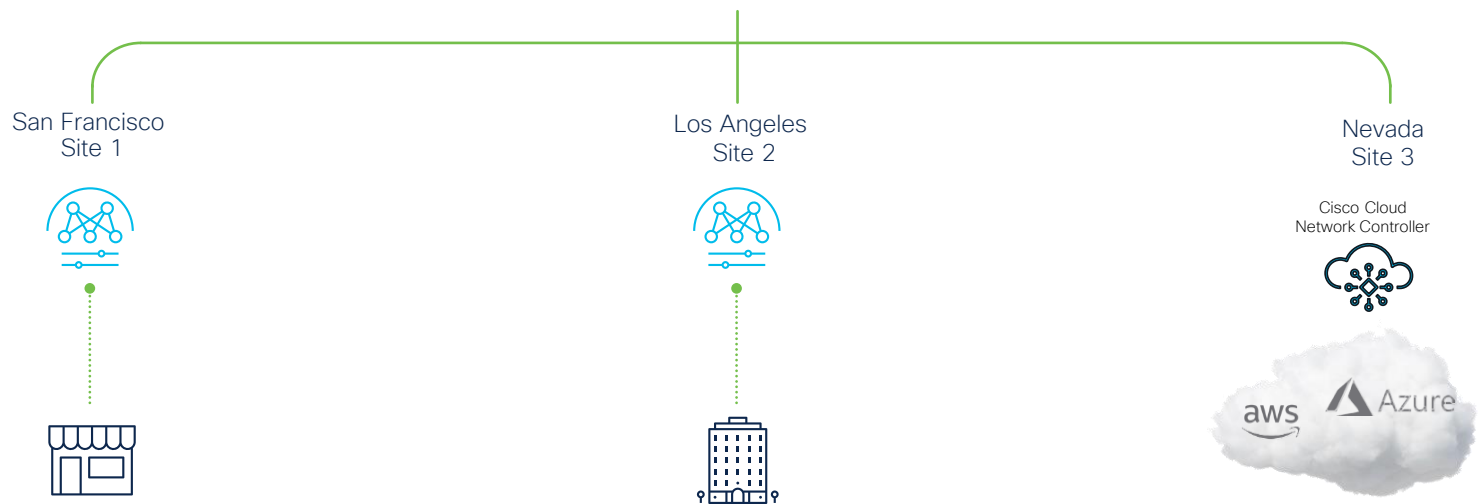
Simplify deployment time, reduce chances of errors



Cisco Hybrid cloud automation

Solution Overview

Automate connectivity and segmentation, get full visibility across distributed sites with Cisco Nexus Dashboard Fabric Controller (NDFC) & Cisco Cloud network controller (CCNC)



Benefits

Automated connectivity
and routing (L2/L3 stretch)

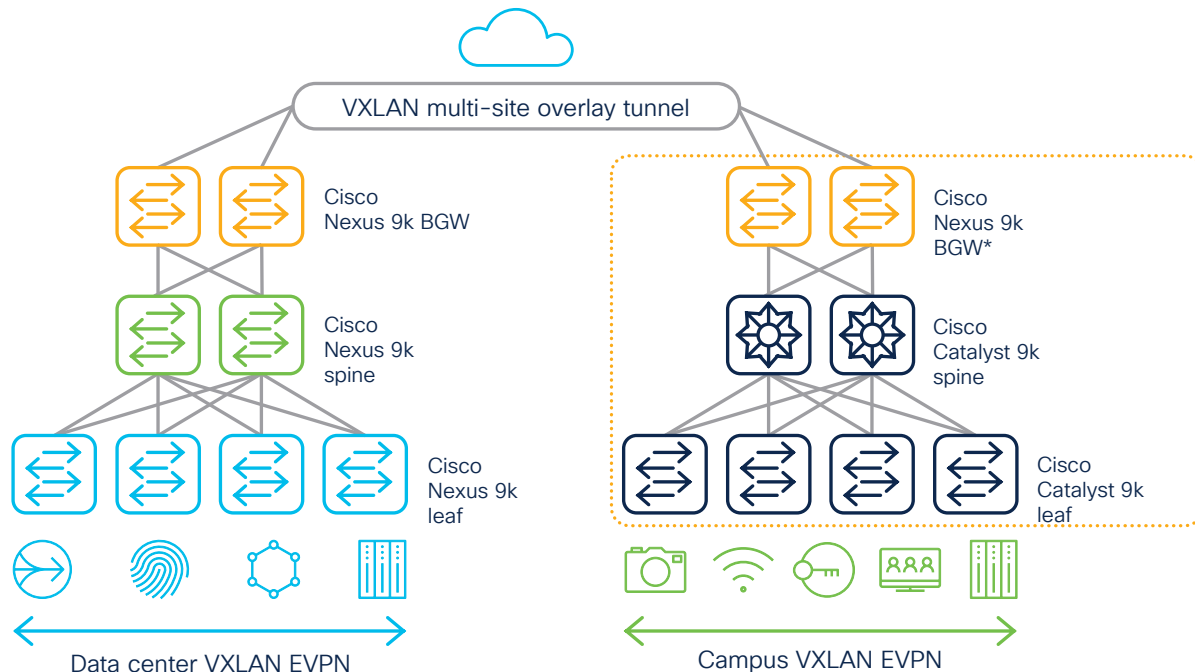
Consistent security and
segmentation

Unified view and
management across sites

DCI connectivity health,
tunnel path and statistics

Scale Out NDFC
architecture

Data center and campus VXLAN EVPN multi-site



Scale out



Overlay connectivity across sites



VRF stretch



L2/L3 network stretch



Inter-site connectivity automation through BGWs



Overlay BGP EVPN/VXLAN

- Full-mesh
- Centralized to route-server
- Cloud

Benefits

Fault containment

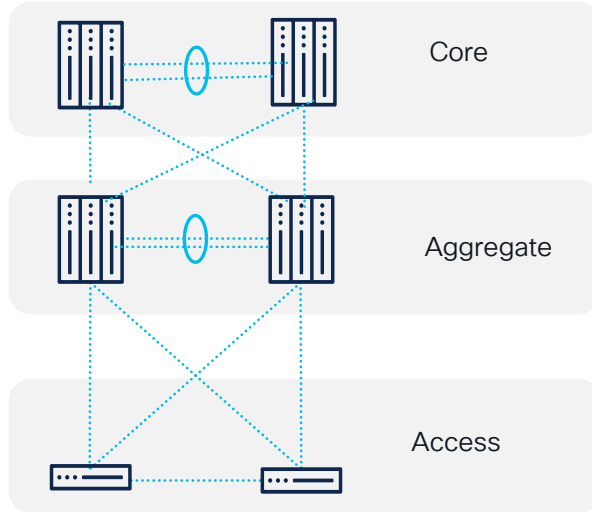
Separate admin domains

Unified solution

Network
policy consistency

Increased
scalability values

Automate Layer2/Layer3 deployments



Fully automated fabric – enhanced classic LAN

Support for greenfield and brownfield deployments

Provisioning of 3tier architecture/L2/L3 networks and VRFs

VRF-lite between aggregate and core

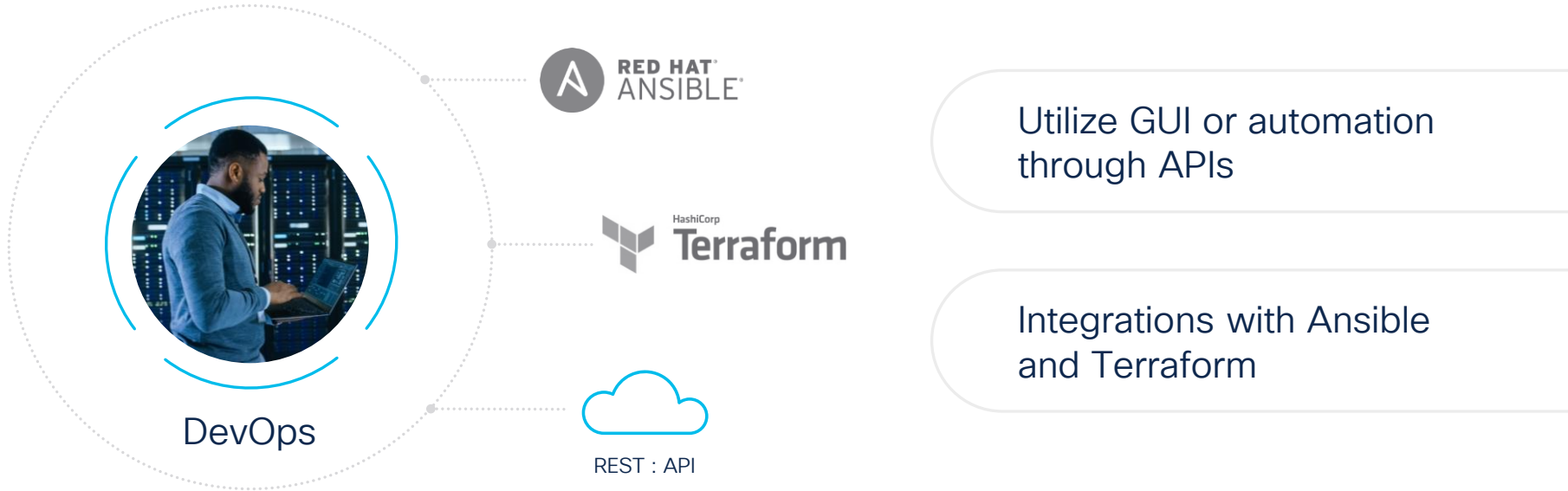
Benefits

Best practice templates

Simplified workflows

Flexibility based on customer needs

Increase developer agility with NDFC DevOps



Benefits

Accelerate deployments

Increase consistency

Minimize risk

Management



Single point for management for data center operations

Optimized for both large deployments and traditional deployment models

Ensure consistency and reliability of data center fabrics

License management

Role based access control (RBAC) to reduce administrative workflows

Management for non-Nexus platforms

Benefits

Reliability

Compliance

Secure

Seamless data center expansion

Data center VXLAN EVPN



500 switches

Fabric discovery



1000 switches

External connectivity



1000 switches

Benefits

Lower operating expenses

Customizable

Secure

Configuration compliance



Ensure fabric consistency

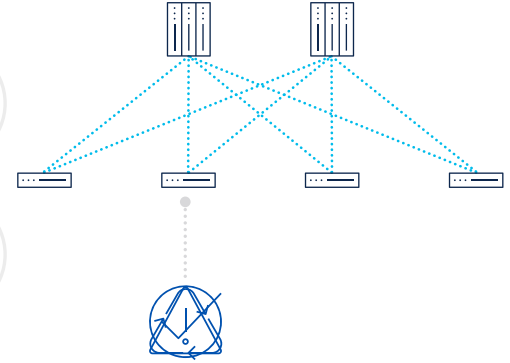
Continuously monitors if configuration is compliant with user intent

Error detection, flag drifts for remediation

Benefits

Fabric reliability and visibility

Operations confidence

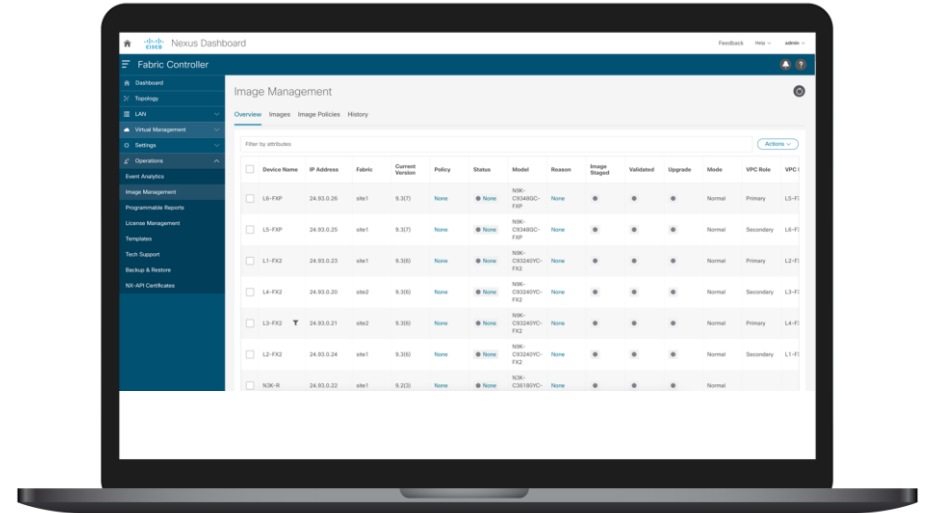


Streamlined image and patch management



Maintenance mode

- Guided workflows
- Image upgrades, EPLD upgrades and downgrades, SMU



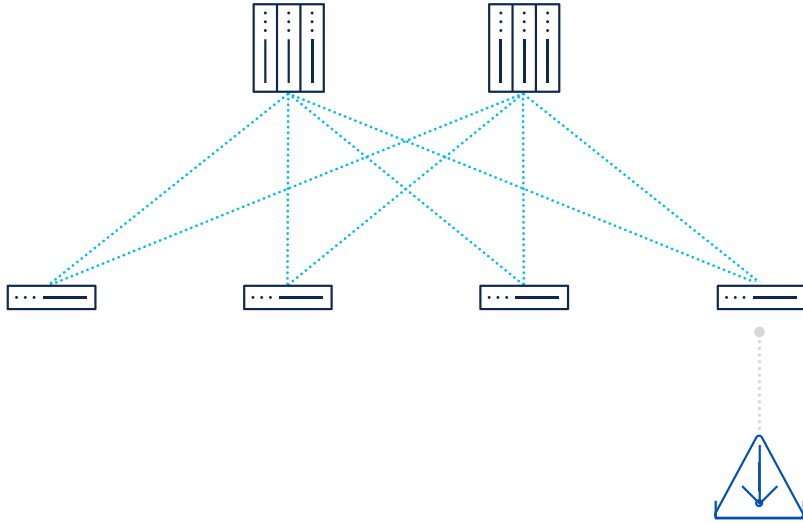
Benefits

Simplified

Intuitive

Customizable

RMA replacement

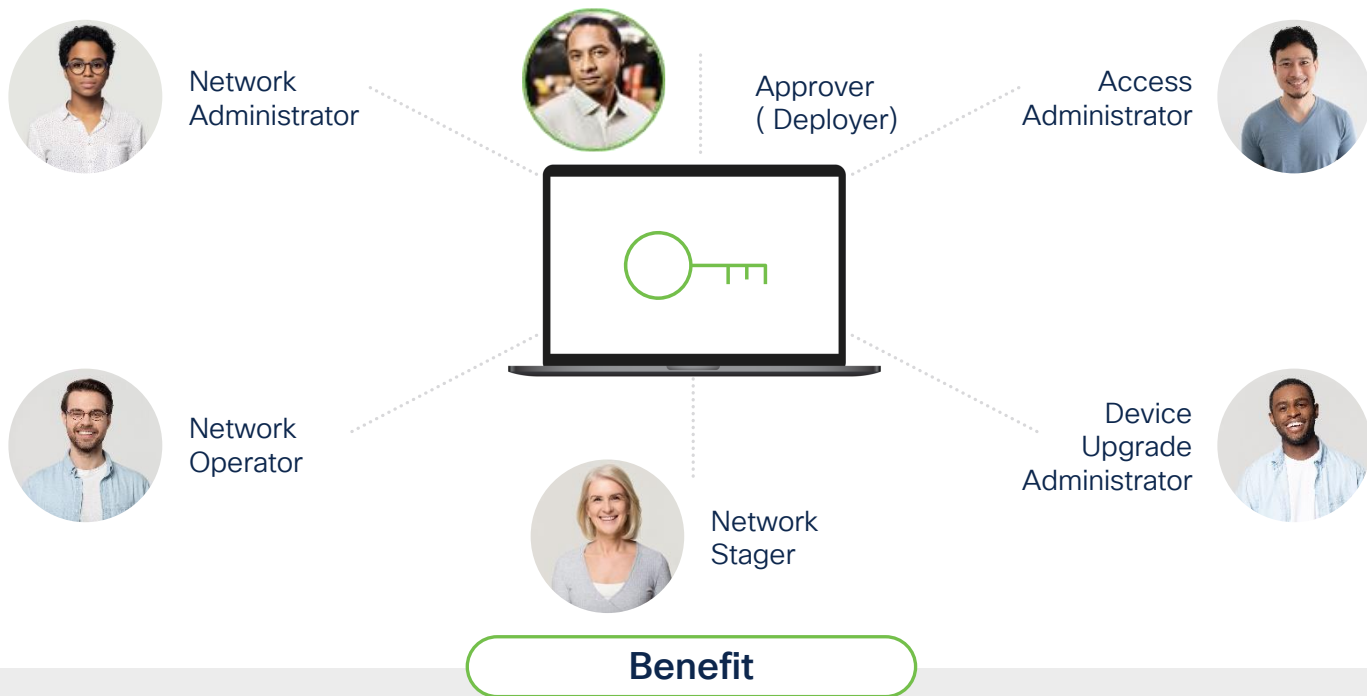


RMA for defective switch is required

Benefit

Easily perform RMAs from NDFC UI

Role-based access control (RBAC)



Increase efficiency and productivity with granular roles orchestrated from Cisco Nexus Dashboard

Management for non-Nexus platforms



Configuration management for Cisco
IOS-XR devices

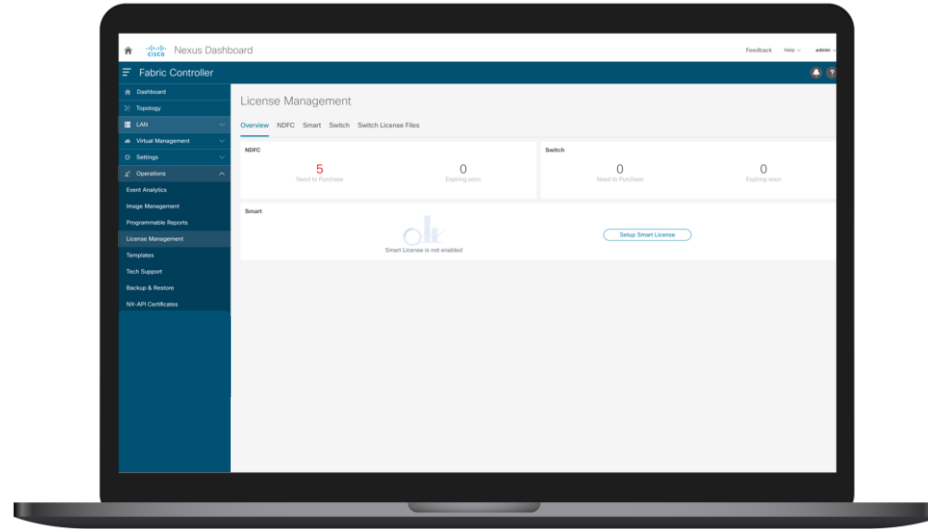
VXLAN EVPN management for Cisco
IOS-XE Catalyst devices



Discovery and basic monitoring for
third-party devices

License management

NDFC offers unified license management for NX-OS and MDS deployments



Easily activate and configure Smart Licensing from NDFC UI

Benefits

Easily license your devices

Monitor license usage

Ensure compliance

Visibility and monitoring



Get comprehensive monitoring

Enhanced topology views

Compute and endpoint visibility

OAM support with NDFC

Obtain detailed inventory, health, resource consumption information on devices

End-to-end visibility, monitoring and troubleshooting

Integrate with Day 2 operations

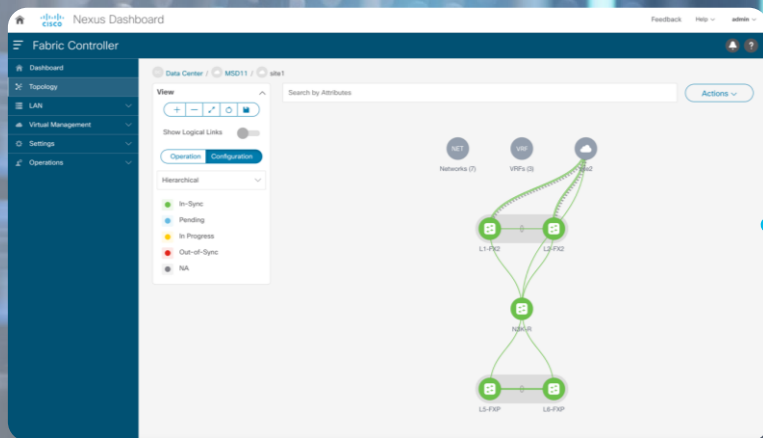
Benefits

Intuitive

Deep visibility

Enhanced monitoring

Visualize multiple fabrics with topology views



Benefit

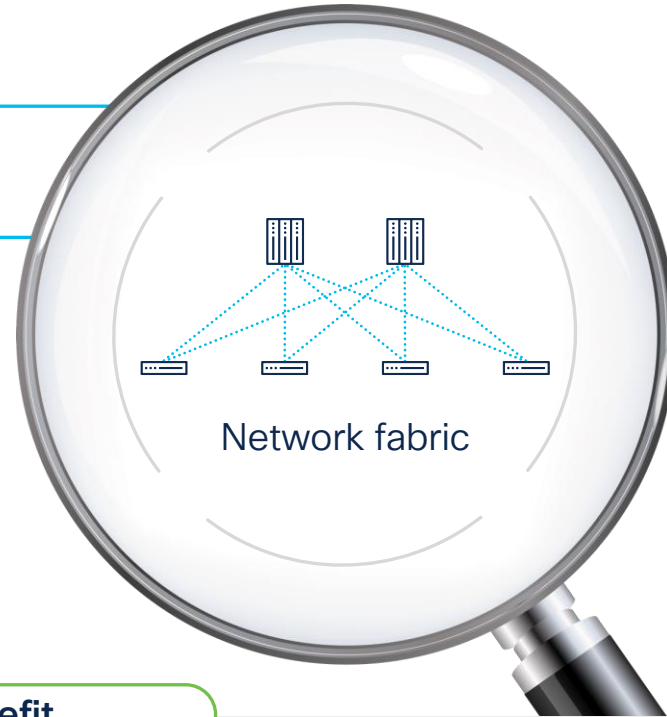
Dynamic and intuitive, superior app experience

Compute visibility

Dynamic fabric topology views

Visibility from network fabric
and infrastructure

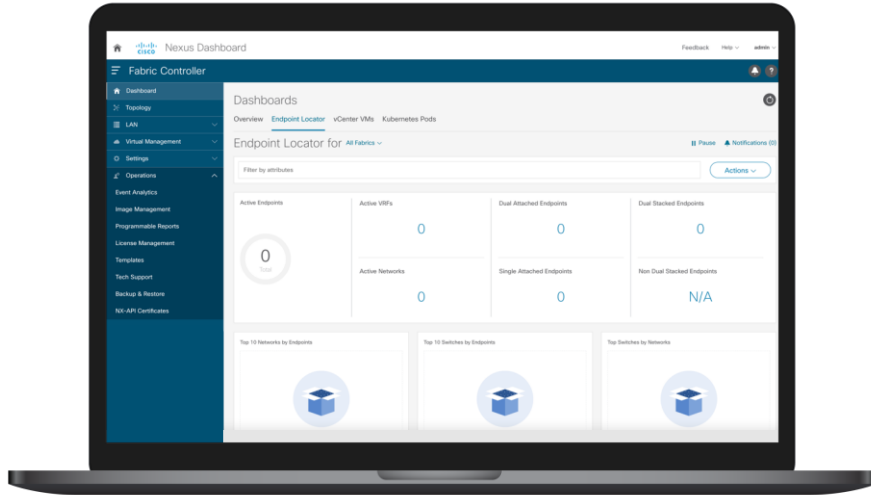
Kubernetes and VM level visibility



Benefit

Single point of management providing in depth visibility and information

Endpoint visibility



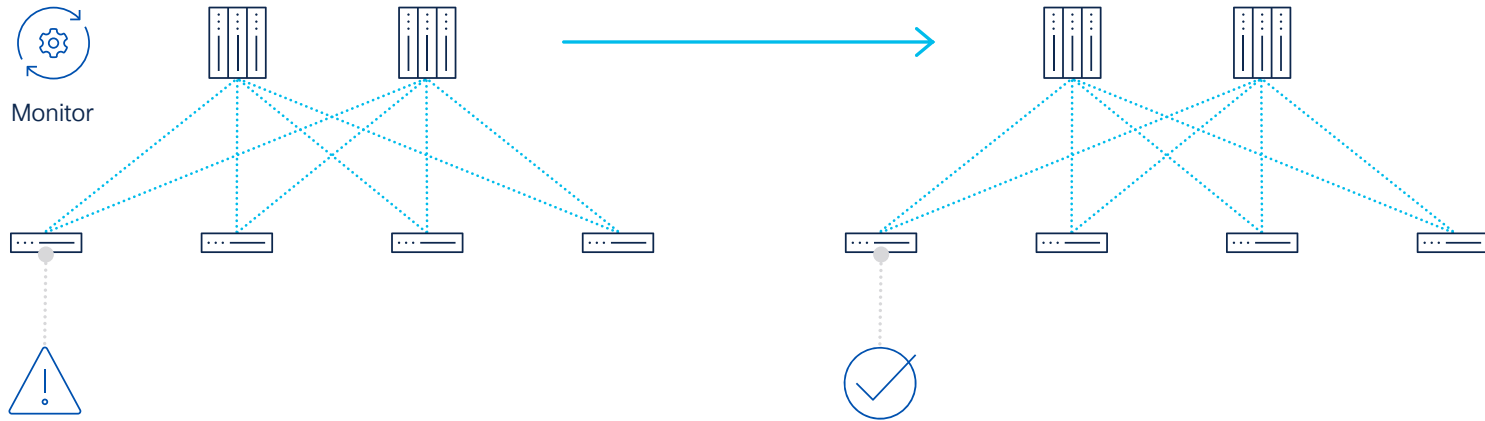
Almost real-time data on active endpoints
Consolidated in single view with endpoint locator dashboard

Obtain information on:

- Endpoint life and history
- Active VRFs
- Active networks

Operations, administration and maintenance (OAM) with NDFC

NDFC supports OAM for VXLAN, external, and classic **LAN** fabrics



Benefits

Enhanced management

Monitoring and troubleshooting capabilities

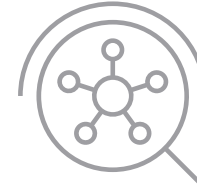
NDFC with Day 2 operations

Seamless integration with Day 2 operations app NDI for in depth telemetry analytics

Management



Real-time insights

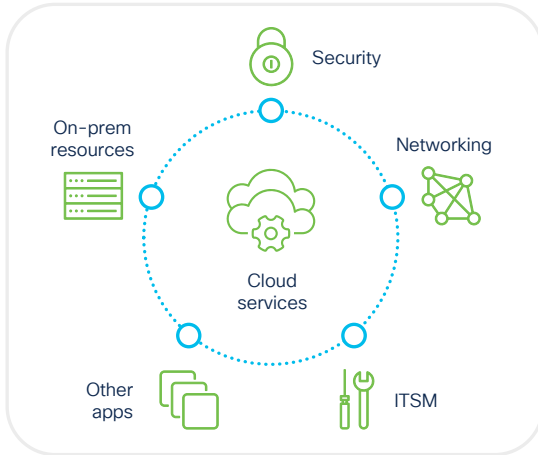


Benefit

Advanced monitoring and troubleshooting capabilities

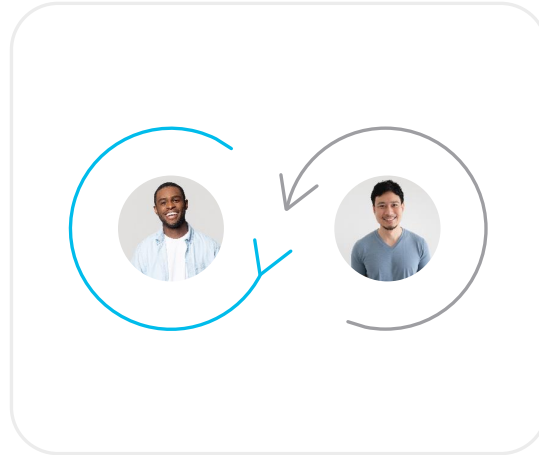
Cisco Nexus Dashboard Insights

360-degree visibility



Network, applications, integrations

Analytics



Digitization, telemetry, correlation

Integrate with NDFC



Unprecedented visibility into
data center environments

Licensing



Easily license your NDFC

Software included with switch subscription licenses



Tier-based



NXOS Essentials, Advantage, Premier

Or



DCN Essentials, Advantage, Premier

Install base (NX-OS)

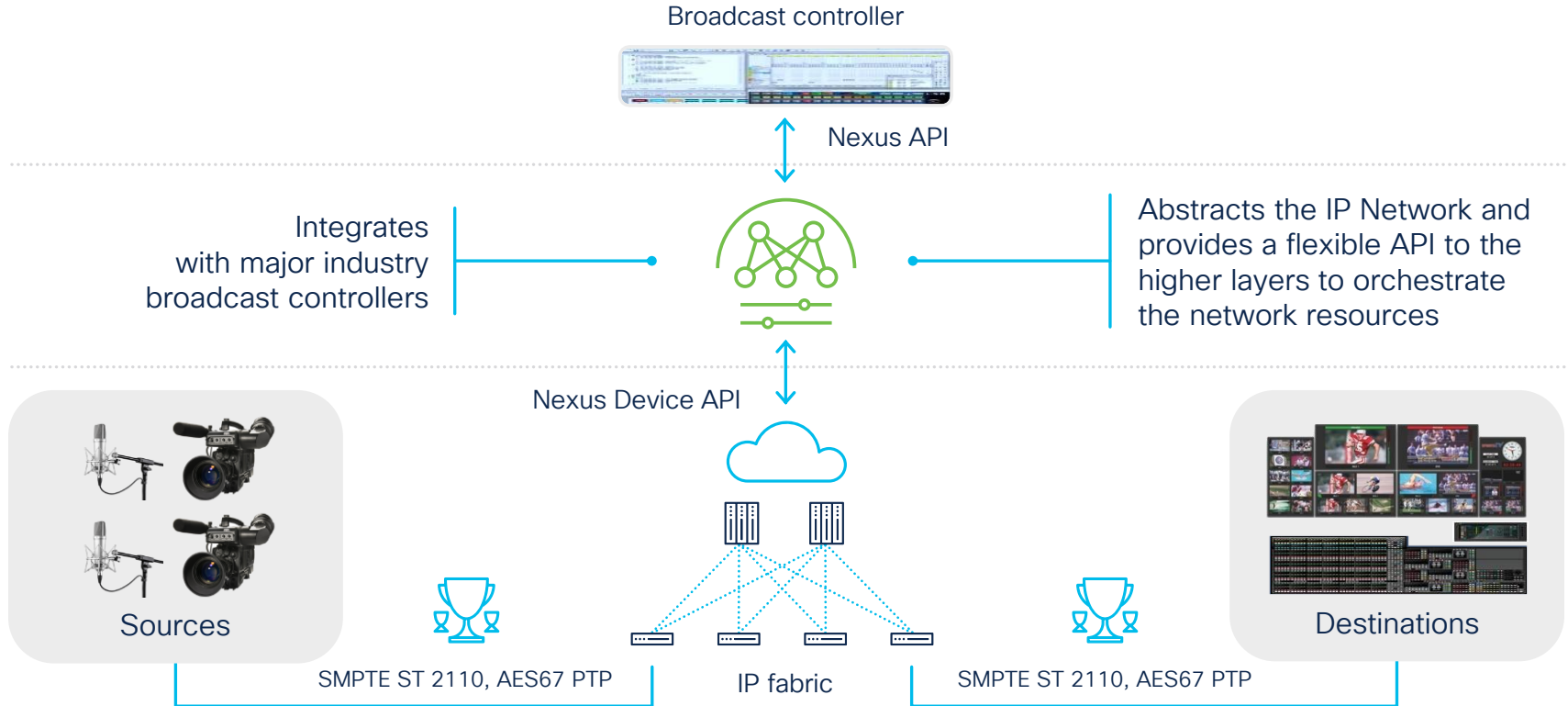
New purchase (NX-OS)

NDFC 12.0 is transitioning to a Smart Licensing only release

IP Fabric for Media

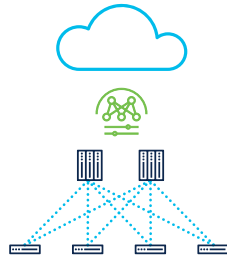


NDFC provisions and monitors IP Fabric for Media



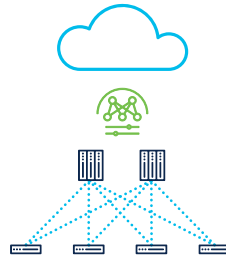
IPFM deployment use cases

Studio (multiple rooms)



Spine-leaf

Entertainment venue



Spine-leaf

OB van/truck



Single modular switch

IPFM key features



Runtime configurable feature in LAN installation



Per fabric RBAC



Backup and restore



Multi-tenancy and multicast NAT



IPFM dashboard new look and feel



End-end host and flow visibility



PTP and RTP flow monitoring

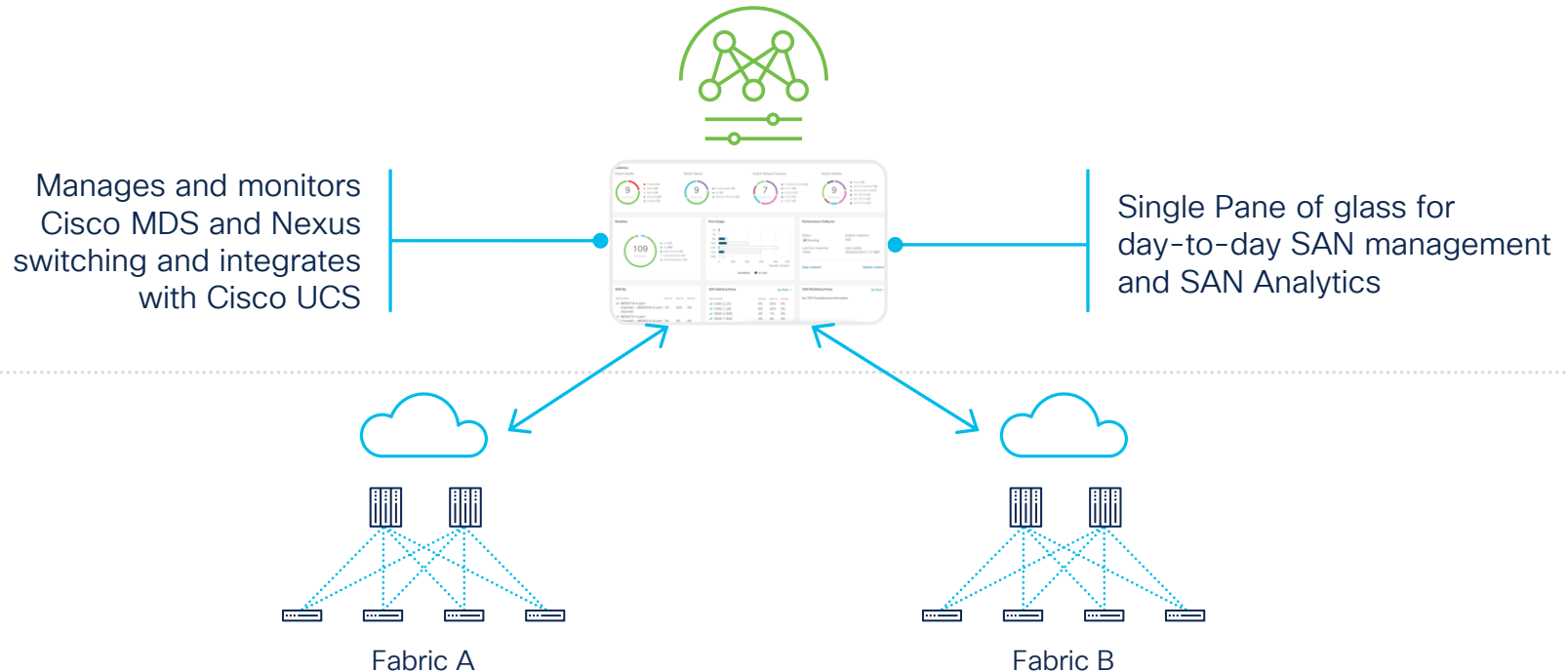


Kafka notifications for real time events

Cisco Nexus Dashboard SAN Controller



NDFC provisions and monitors Storage Area Networks



SAN Controller visibility and analytics with SAN Insights

Host and flow path visualization

NDFC provides a view of the discovered hosts and end-to-end flows

Path from source to destination shown in physical topology

Provides information to show the congestion points in the path



Auto learning

NDFC aggregates hundreds of thousands of auto learned FC flows

No need to program source and destination information or protocol type

Integrates slow drain metrics from end-to-end

Benefits

High level of network visibility for diagnostics

Monitoring and management of SAN networks

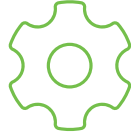
NDFC summary and benefits



NDFC solution benefits



Streamlined
lifecycle
management



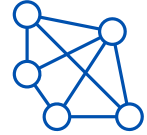
Automate and
configure your
networks with ease



Maintain
compliance and
detect errors



Extensive visibility,
monitoring and
modernized
topology views



Expand your
network with
integrations with
NDI



Fill out your session surveys!



Attendees who fill out a minimum of four session surveys and the overall event survey will get **Cisco Live-branded socks** (while supplies last)!



Attendees will also earn 100 points in the **Cisco Live Game** for every survey completed.



These points help you get on the leaderboard and increase your chances of winning daily and grand prizes

Continue your education



- Visit the Cisco Showcase for related demos
- Book your one-on-one Meet the Engineer meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
- Visit the On-Demand Library for more sessions at www.CiscoLive.com/on-demand

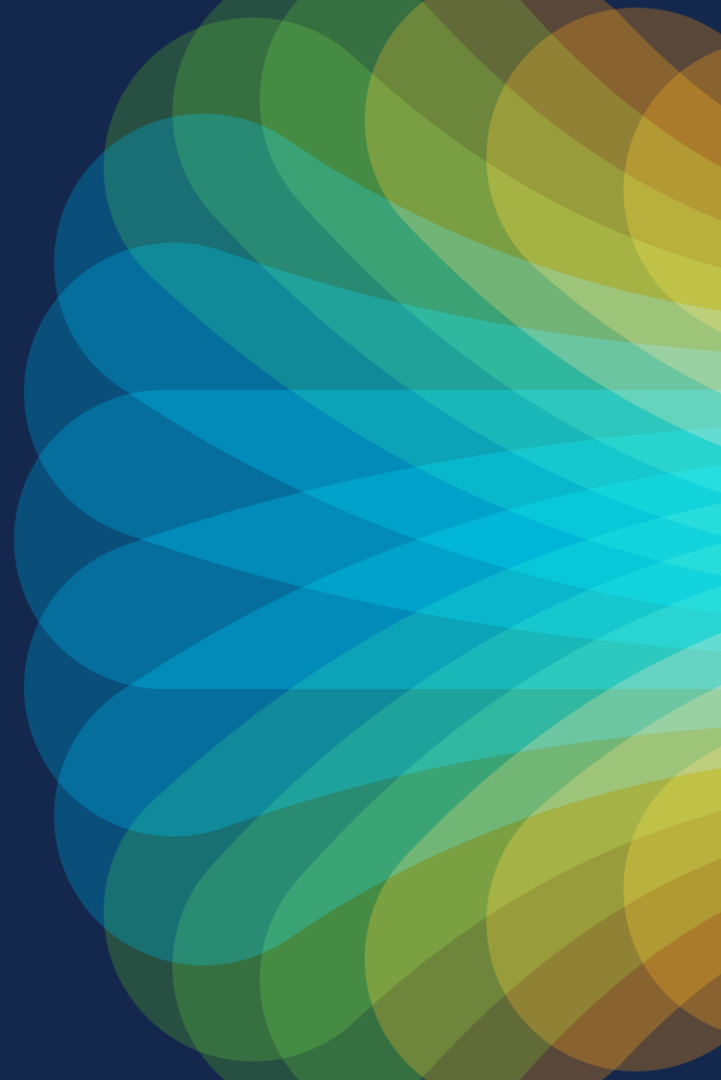


The bridge to possible

Thank you



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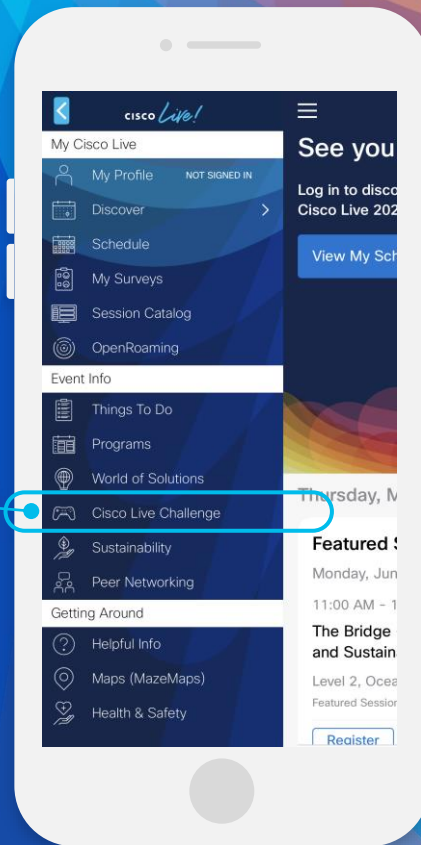
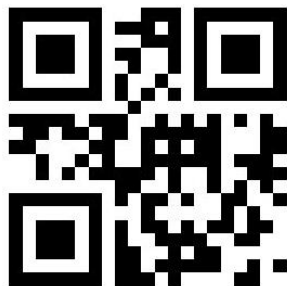


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Get points for attending this session!

How:

- 1 Open the Cisco Events App.
- 2 Click on 'Cisco Live Challenge' in the side menu.
- 3 Click on View Your Badges at the top.
- 4 Click the + at the bottom of the screen and scan the QR code:



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