



The bridge to possible

Simplify Data Center Network Operations

with the **New** Nexus Dashboard

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PSODCN-1123

CISCO *Live!*

#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 7, 2024.

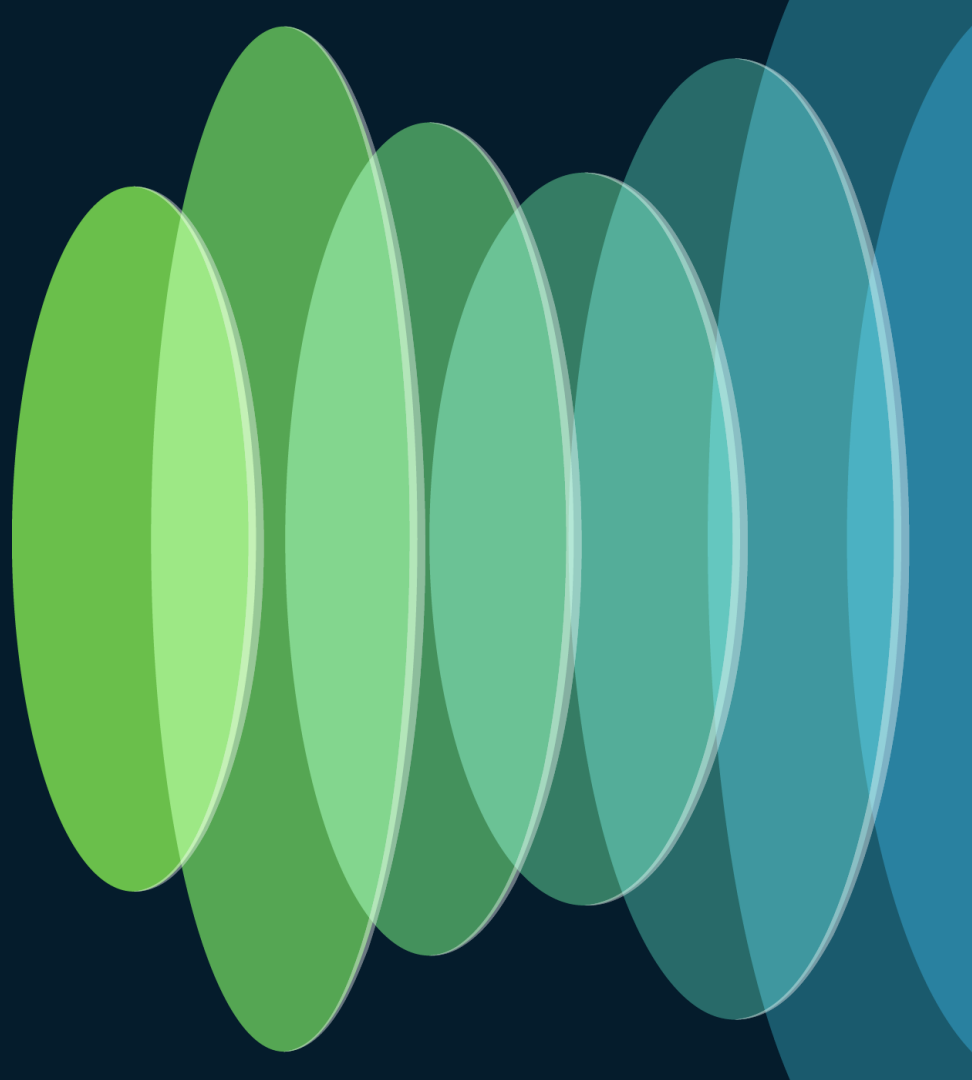




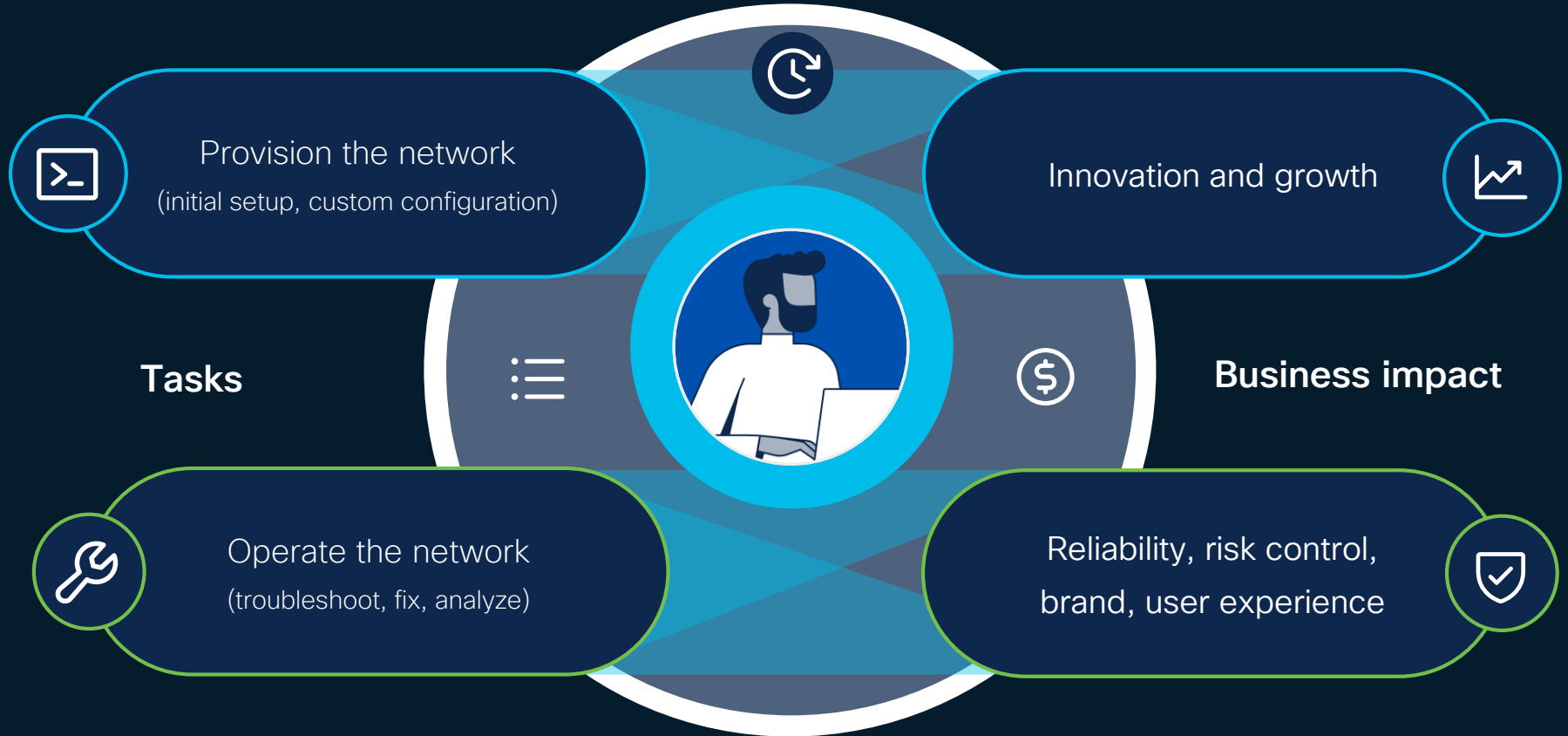
Agenda

- The challenge
- The solution
- Use-cases
- Automate & Manage
- Analyze & Troubleshoot
- Conclusion

The challenge



Life of a [data center] network admin



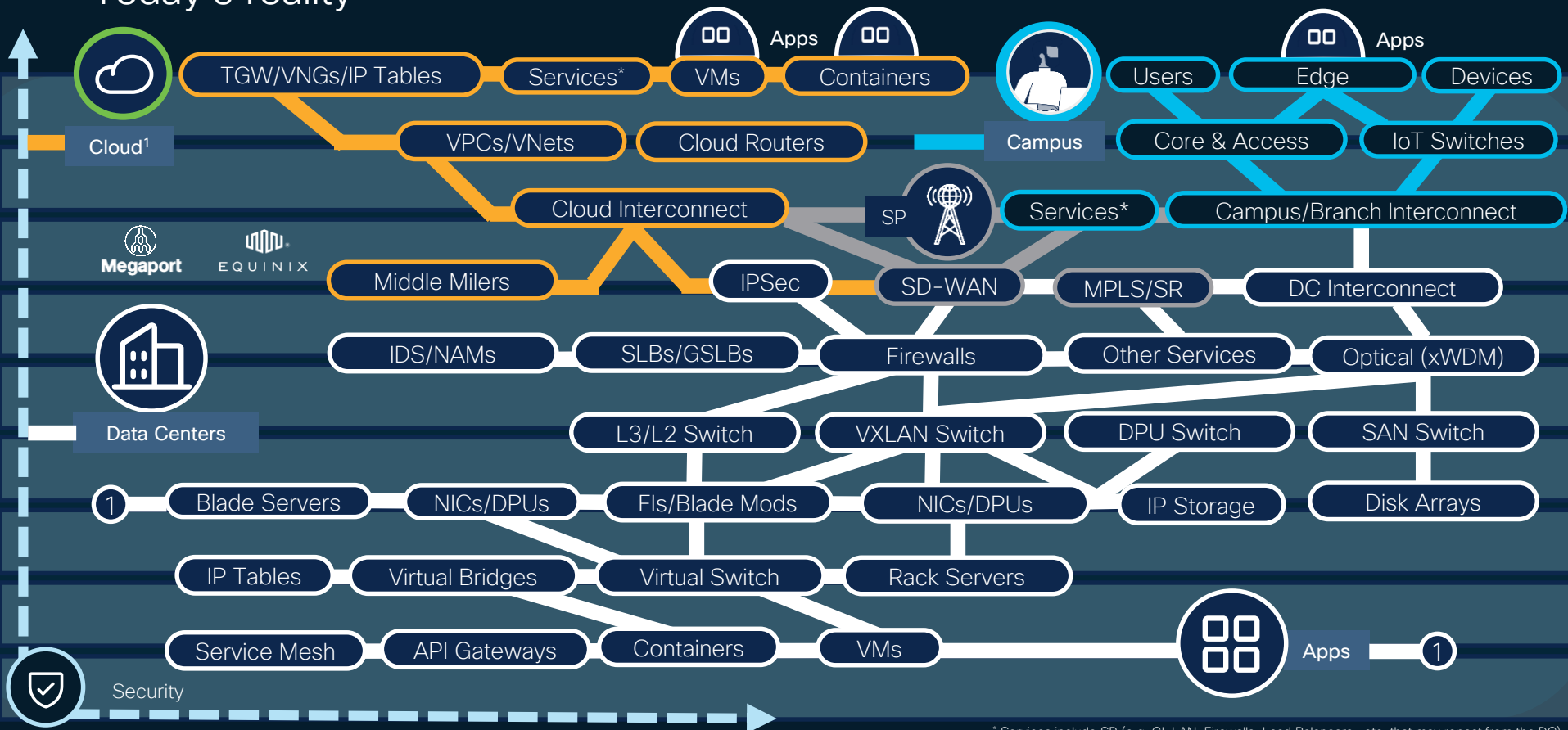
Communication between users/devices and apps

Perception

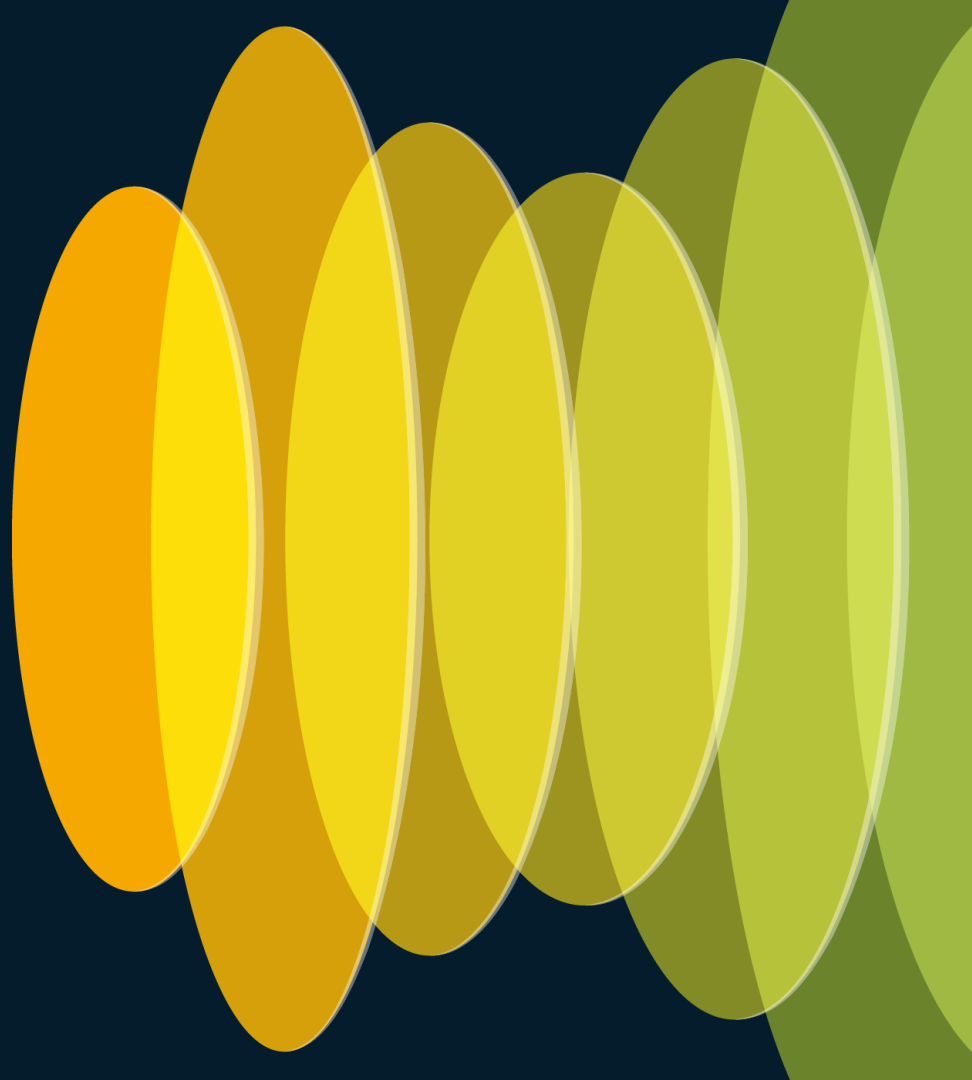


Communication between users/devices and apps

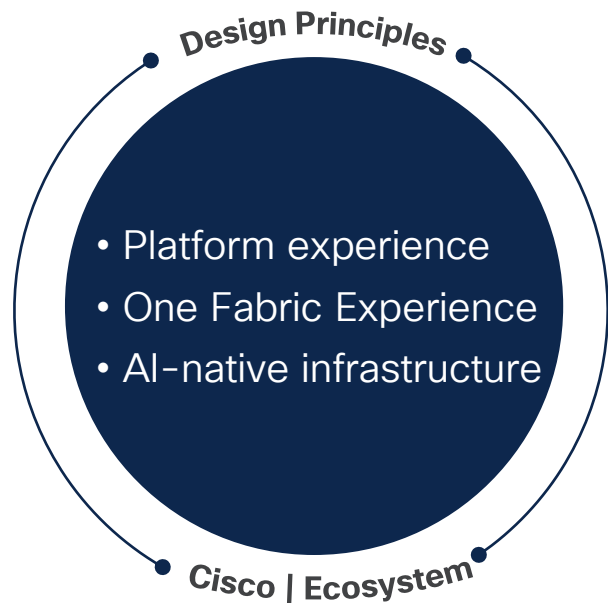
Today's reality



The solution



Key design principles for Data Center



Digital Experience Assurance

Simplified, AI-Native Operations

End-to-End Secure Networking

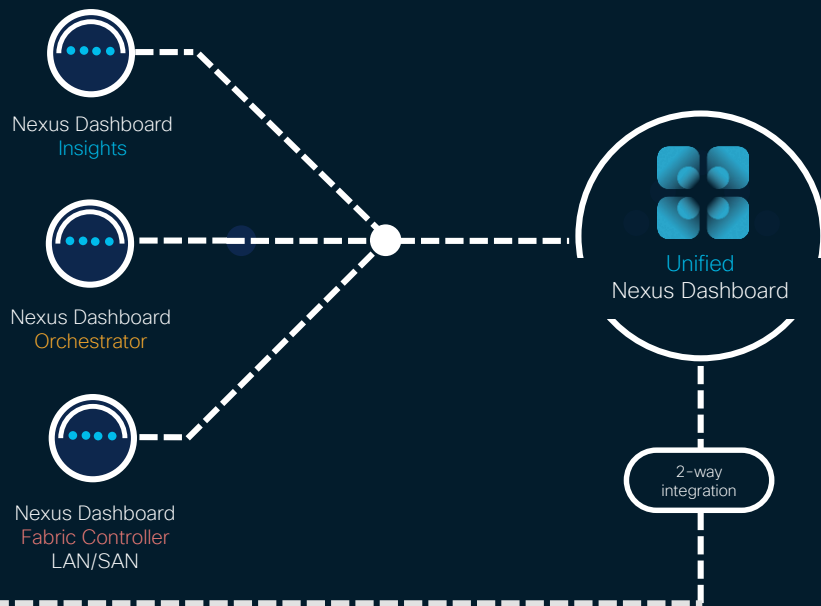
Cisco Data Center Networking evolution

Toward simplification and unification

2014

2021

2024



ACI



The new Cisco Nexus Dashboard

Simple, intuitive, powered by Cisco AI



Your **key** to a simple operational experience

Unify data center network architectures

Accelerate business innovation, minimize risk

Unleash the power of AI for networking

Reactive, proactive and predictive insights



Provision

Once, deploy anywhere

Built-In automation | Infra-as-code



Secure

One source of truth

Segmentation | Zero-Trust



Manage

One logical network

Visibility | Maintenance

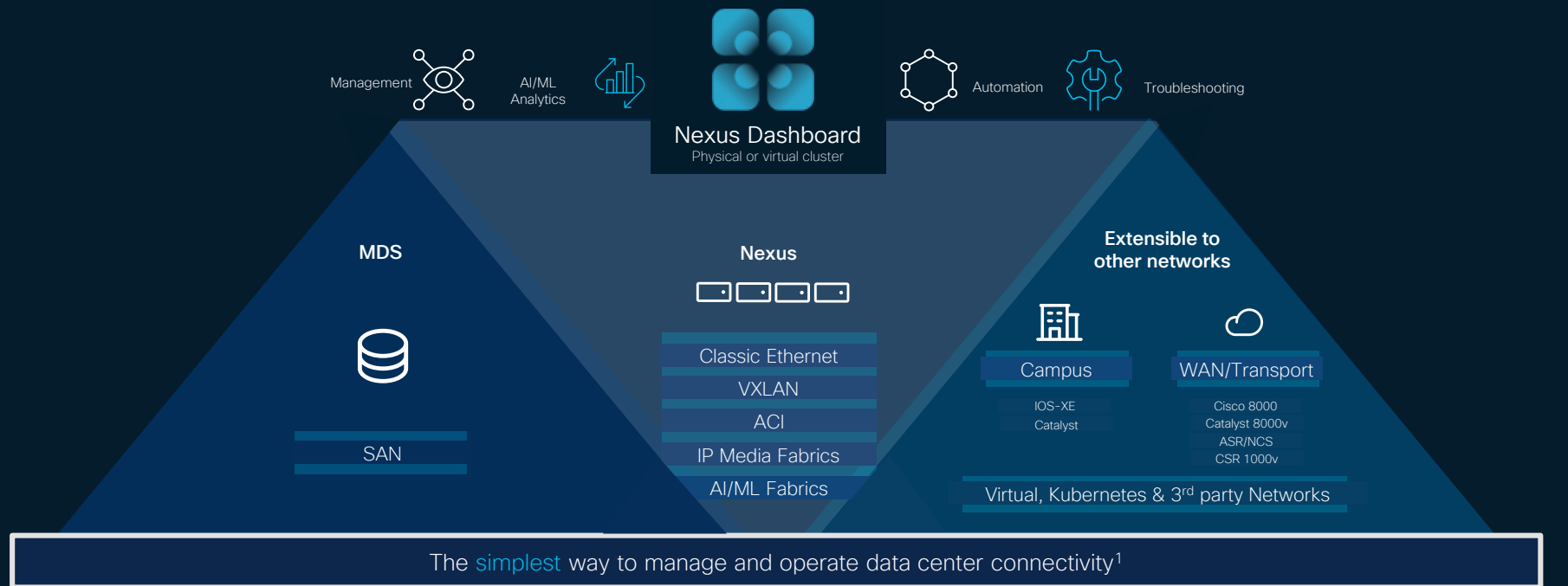


Analyze

Identify, troubleshoot, and fix faster

Tools | Reports | Prediction

Unify your operational experience



¹ Capabilities may vary by switch model

² Applies to Nexus Dashboard Virtual Appliance.
Nexus Dashboard physical appliance or cloud instance cost is not included

Cisco Nexus Dashboard – Platform

Grows with your business

1, 3, & 6 physical or virtual cluster options

Automated deployment

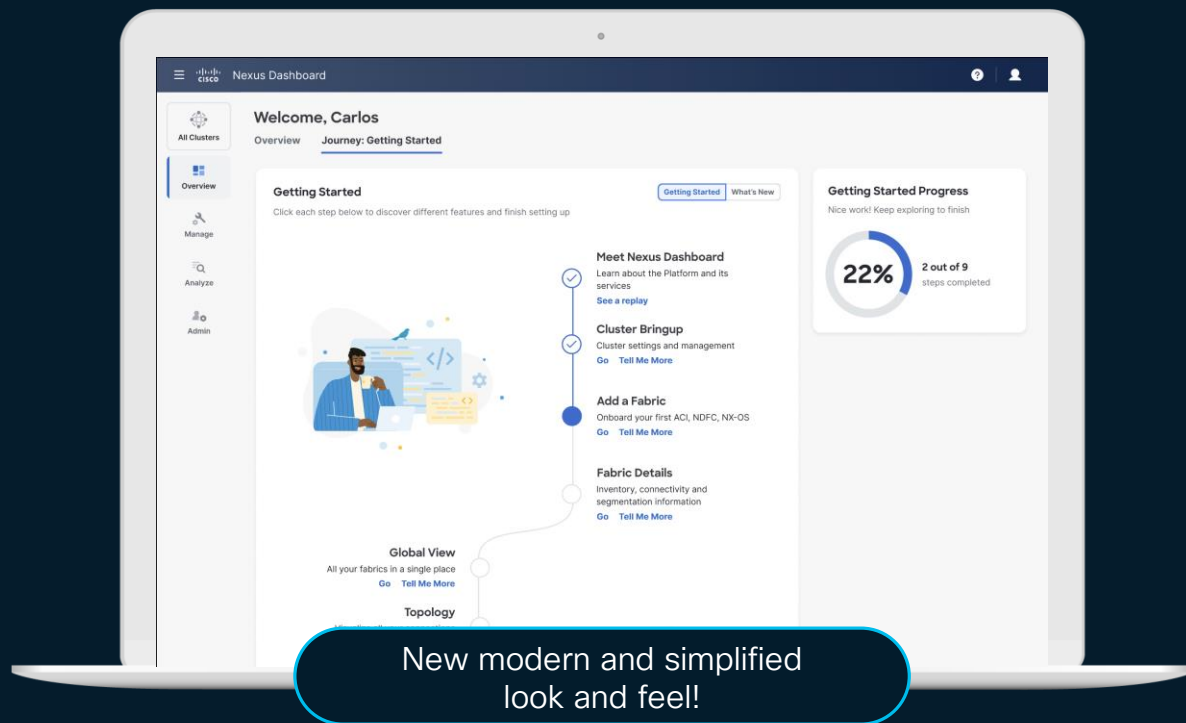
Up and running in just a few minutes

Plug-and-play telemetry¹

Collection via Inband/Out-of-band networks

Multi-cluster support

Multiple ND clusters managed as one



New modern and simplified look and feel!

Use-cases

Features are included based on purchased Nexus switch license level



Nexus Dashboard



Troubleshoot



Analyze



Automate & Manage

Use-cases

Features are included based on purchased Nexus switch license level



Nexus Dashboard



Troubleshoot



Analyze



Automate & Manage

Onboard

Discover, manage, & replace fabrics, switches, devices/integrations



Automate

ACI, VXLAN, AI/ML, Ethernet, IPFM & SAN fabrics with a few clicks



Reduce risk

Configure & secure once, deploy anywhere consistently



Open API

Use-cases

Features are included based on purchased Nexus switch license level



Nexus Dashboard



Troubleshoot



Analyze



Automate & Manage

Onboard

Discover, manage, & replace fabrics, switches, devices/integrations



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ACI, VXLAN, AI/ML, Ethernet, IPFM & SAN fabrics with a few clicks



Reduce risk

Configure & secure once, deploy anywhere consistently



License Level	Premier			
	Advantage		Across fabrics	Across fabrics
	Essentials		Within a fabric	Within a fabric
Open API				

Use-cases

Features are **included** based on purchased **Nexus switch license level**



Nexus Dashboard



Troubleshoot



Analyze



Automate & Manage

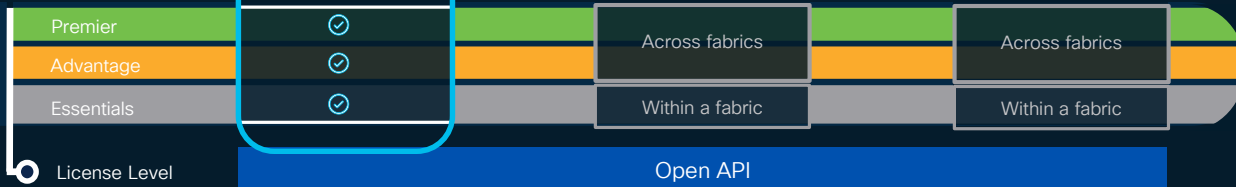
Onboard
Discover, manage, & replace fabrics, switches, devices/integrations



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ACI, VXLAN, AI/ML, Ethernet, IPFM & SAN fabrics with a few clicks

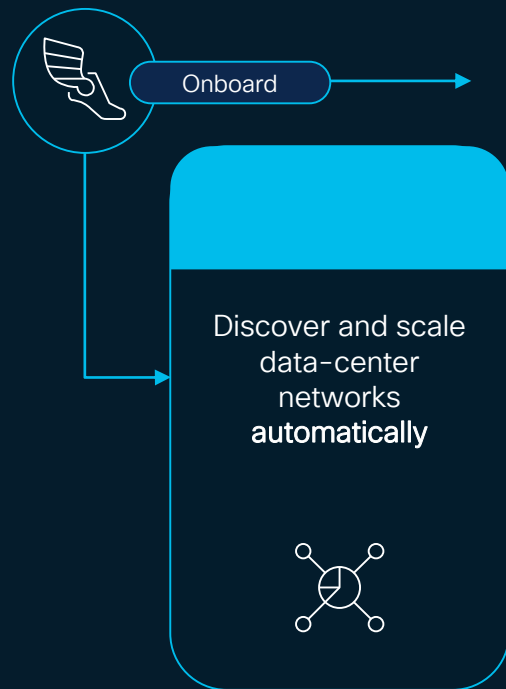


Reduce risk
Configure & secure once, deploy anywhere consistently



Cisco Nexus Dashboard – Manage

Discover, manage, replace → Faster



1

Connect a **new** switch to your network.

2

It will **automatically** show up in the controller.

3

Register it with 3 clicks

Assign a name, role, and switch ID

Configuration will be bound to the switch ID.



Need to **replace** a switch?

Assign the same switch ID as the previous switch or apply a Power-on Auto-Provisioning (PoAP) template.

The configuration will be automatically loaded.

Cisco Nexus Dashboard – Manage Onboarding

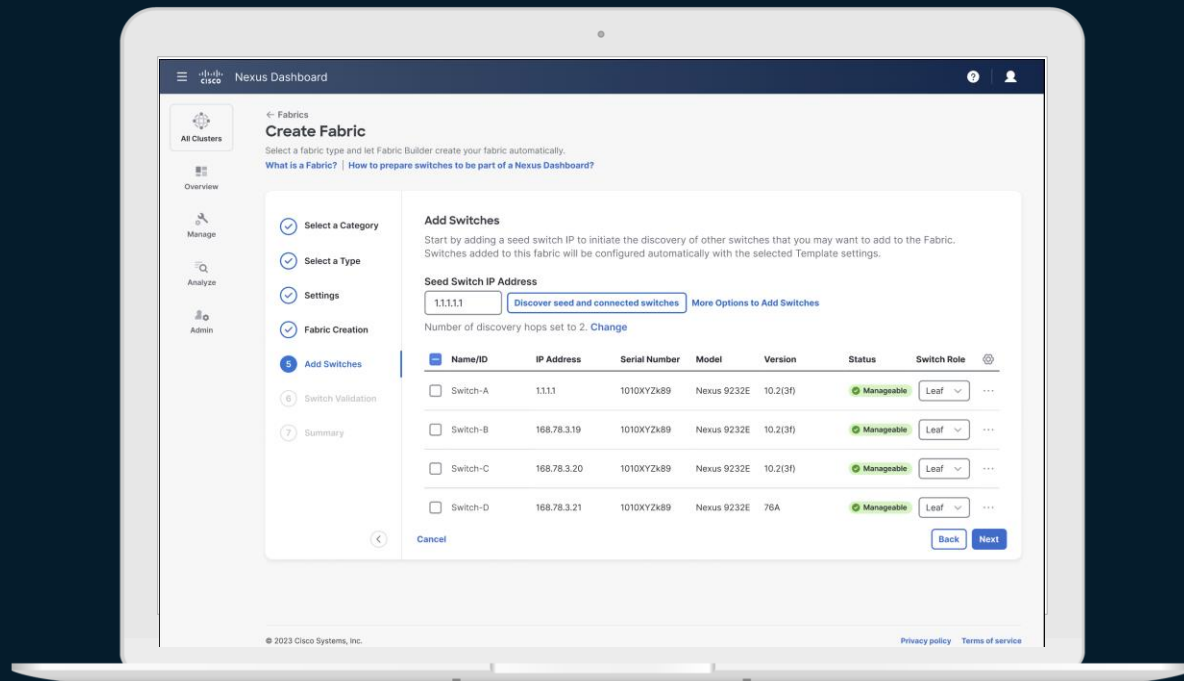


Discover new switches
Onboard new & existing in minutes

Cisco NX-OS and other OSs
IOS-XE, XR and 3rd party

Cisco ACI® fabrics
Managed through APIC, 2-way integration¹

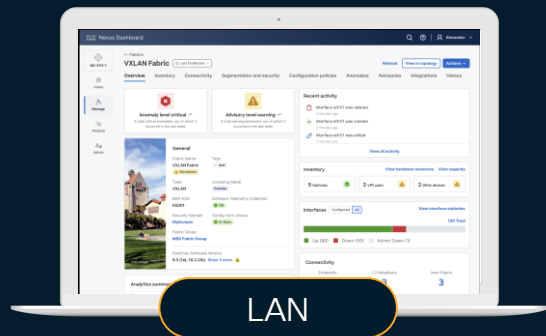
New or existing fabrics



¹ ACI Controller two-way integration to Nexus Dashboard Option in roadmap

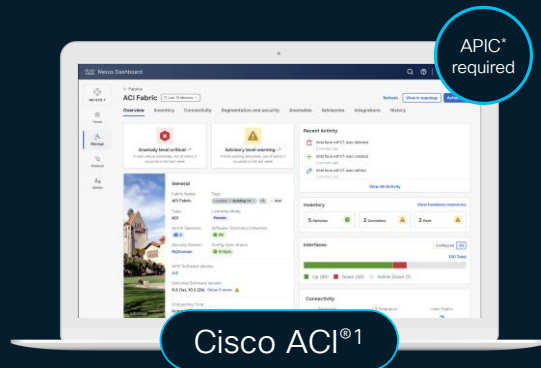
² Nexus Dashboard UI displayed above available on versions 4.0 and later

Cisco Nexus Dashboard – Fabric Types



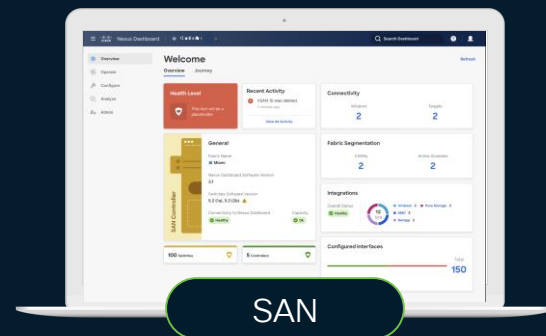
Classic, VXLAN, AI/ML, Routed, IP
Fabric for Media, and more

Nexus® 9000, Cisco Catalyst®
9000, IOS-XR and others²



VXLAN network with policy-oriented
model

Nexus 9000



FibreChannel, iSCSI and FICON
support for storage networks

Cisco MDS 9000

Simple and modern UX*

Open APIs
with Ansible, Terraform

Operate multiple switches
as one logical unit

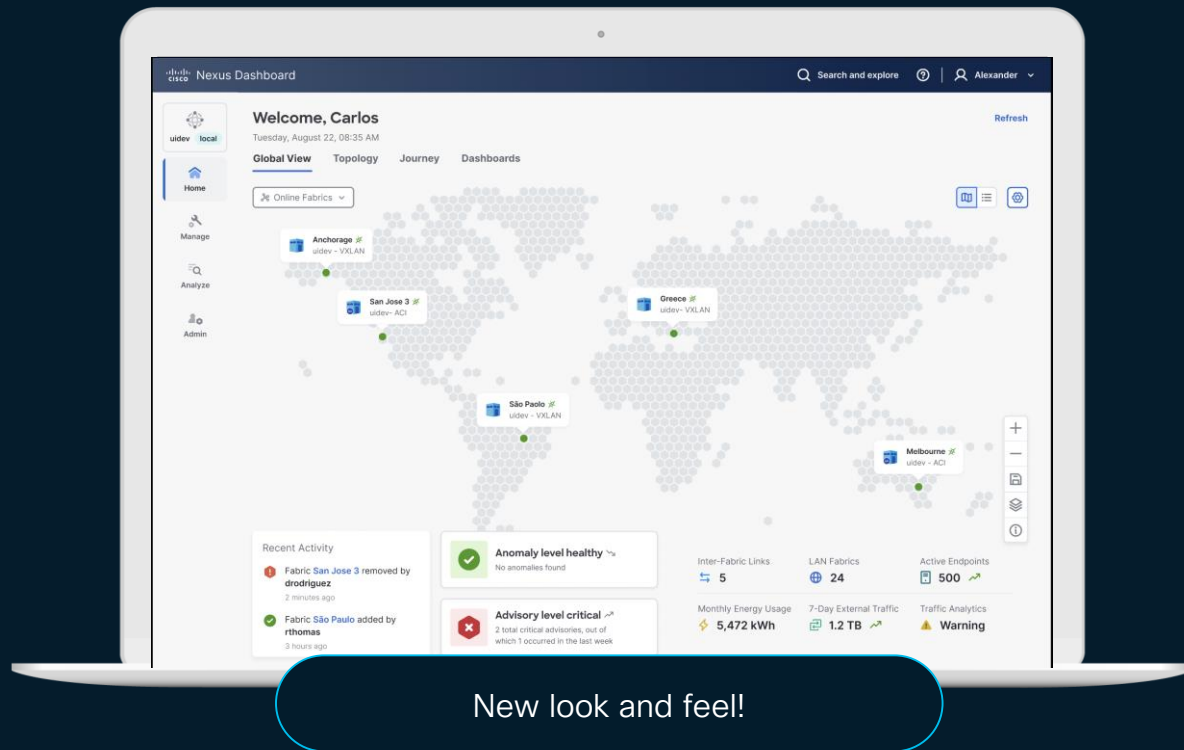
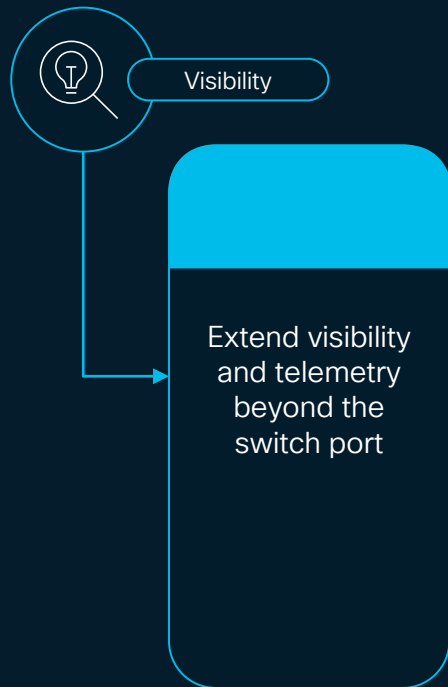
* New UX for ACI starting in 6.1.1

¹ Future 2-way integration for ACI Controller (APIC) and Cisco Nexus Dashboard

² Support for other Cisco IOS XR and third-party platforms

Cisco Nexus Dashboard – Manage

A **single** place to manage your data center networks



Cisco Nexus Dashboard – Manage

A **single** place to manage your data center networks



Visibility

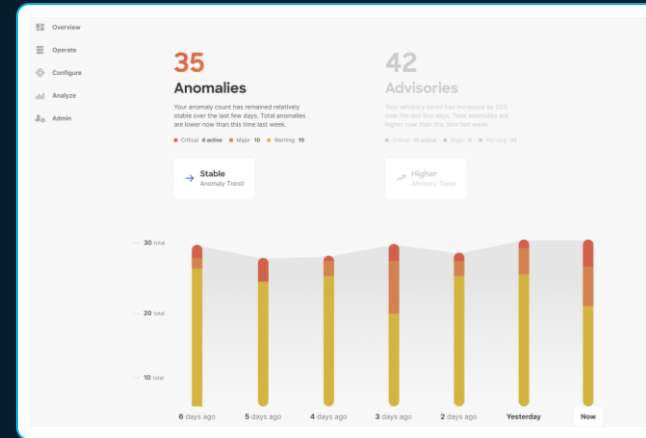
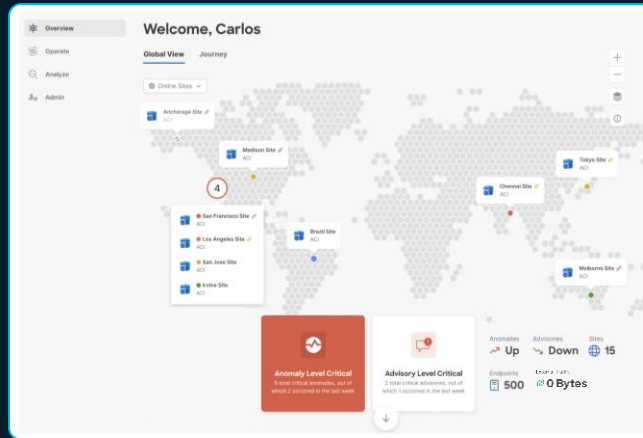
Manage
Global view

View and access all your fabrics from a **single** place

Learn about **anomalies** and **advisories** in your network

Observe trends, **traffic** stats, and inventory

Zoom in from global map to a fabric, switch, interface, and VM/endpoint



Cisco Nexus Dashboard – Manage

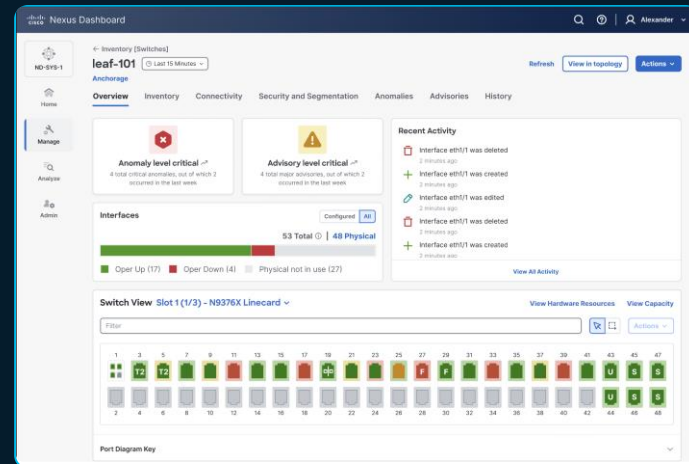
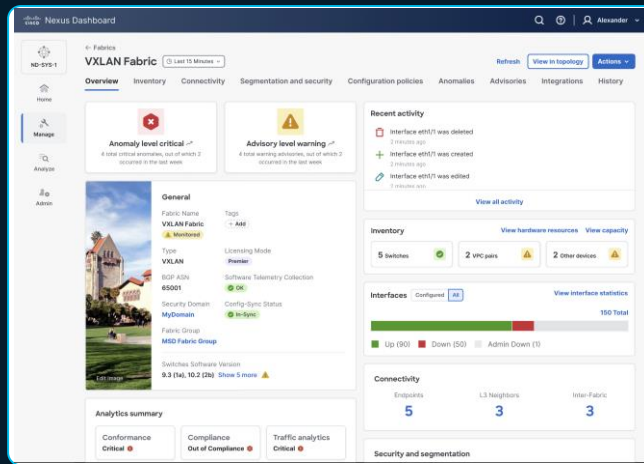
A **single** place to manage your data center networks



Visibility

Manage
Fabrics

Easily onboard Cisco NX-OS¹, ACI, Catalyst, IOS-XR and 3rd party fabrics
Telemetry is streamed to Cisco Nexus® Dashboard.
Inventory, anomalies, and advisories displayed within **minutes**
Site snapshots option for NX-OS/ACI sites that can't connect initially



Support for standalone NX-OS switches from ND 3.1

Cisco Nexus Dashboard – Manage

A [single](#) place to manage your data center networks



Visibility

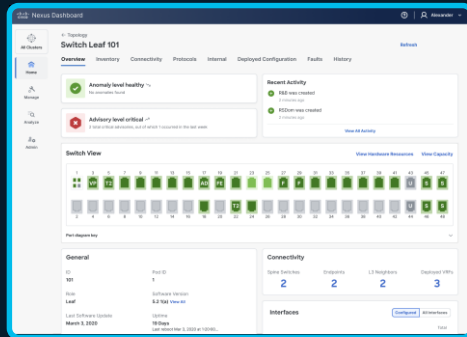
Manage
Topology

Have [always-updated](#) topology diagrams

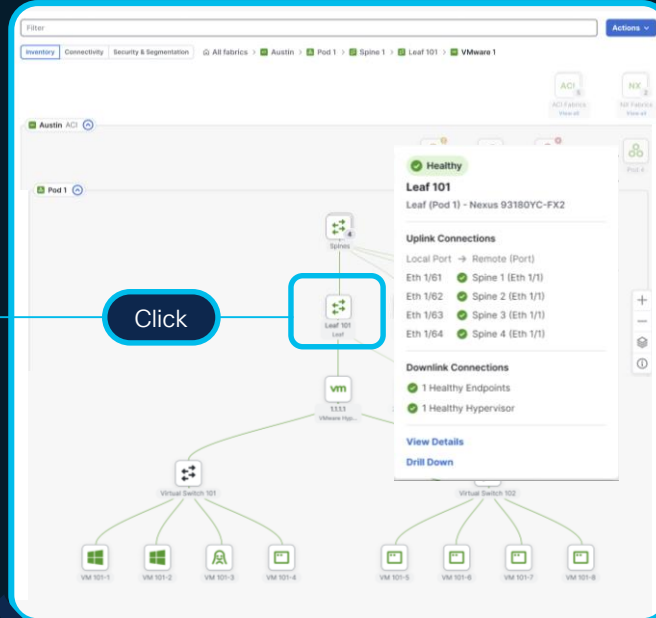
Get embedded [health-scores](#) and site/switch details

Be provided with connecting [interface\(s\)](#) information

Drill down or [search](#) for specific IPs, switches, and interfaces



Click



¹ New topology available from Cisco Nexus® Dashboard 3.2

CISCO *Live!*

Cisco Nexus Dashboard – Manage

A **single** place to manage your data center networks



Visibility

Manage
Integrations

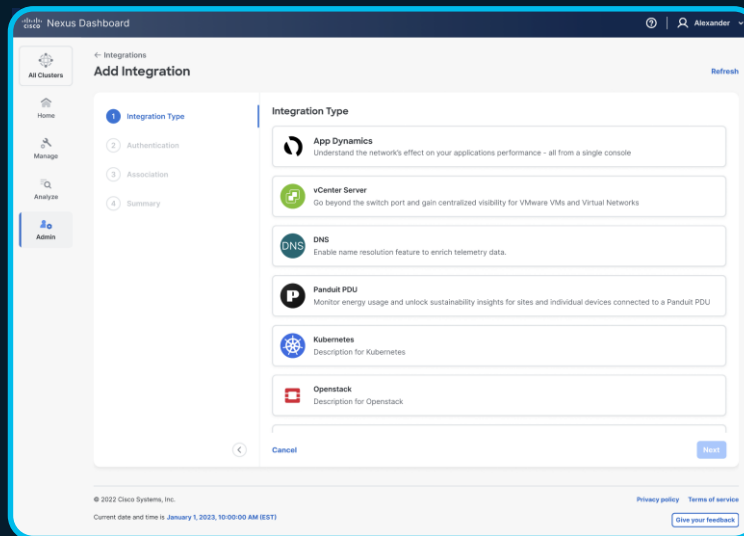
Visibility **beyond** the data center switch port

Virtual Machines: VMware

Containers: Kubernetes Platforms

Sustainability: Panduit **PDU**s

Others: DNS, Infoblox IPAM, AppDynamics, Splunk



Use-cases

Features are **included** based on purchased **Nexus switch license level**



Nexus Dashboard



Troubleshoot



Analyze



Automate & Manage

Onboard

Discover, manage, & replace fabrics, switches, devices/integrations



Automate

VXLAN, ACI, AI/ML, Ethernet, IPFM & SAN fabrics with a few clicks



Reduce risk

Configure & secure once, deploy anywhere consistently

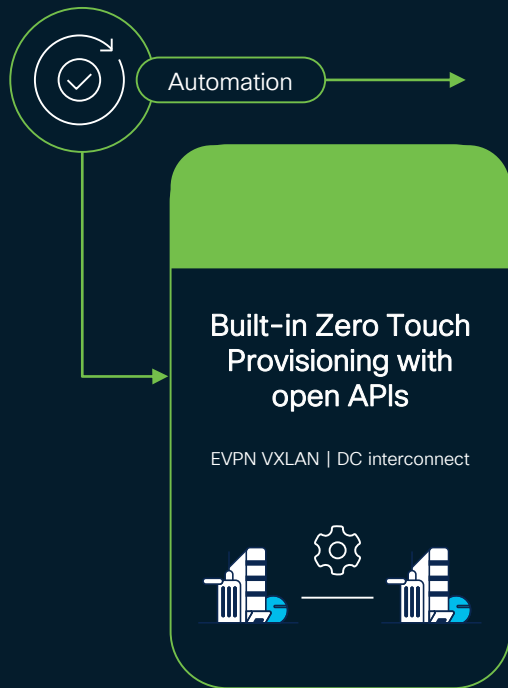


License Level	Premier		Across fabrics	
	Advantage		Within a fabric	
	Essentials			

Open API

Cisco Nexus Dashboard – Automate

Leverage the power of automation



- 1 **Nexus Dashboard** can fully automate AI/ML, ACI, Ethernet settings or VXLAN on your fabric (including underlay and overlay).
- 2 With VXLAN, **VM mobility** is enabled anywhere within your fabric with **no** spanning tree and using equal-cost multipathing.
- 3 **Extend** VXLAN beyond the data center for DR, migration, and active/active deployments



Need to **automate** further?

Leverage templates and REST APIs or your favorite **Infrastructure-as-Code** tools (such as Terraform and Ansible)

Cisco Nexus Dashboard – Automate

New and existing network deployments



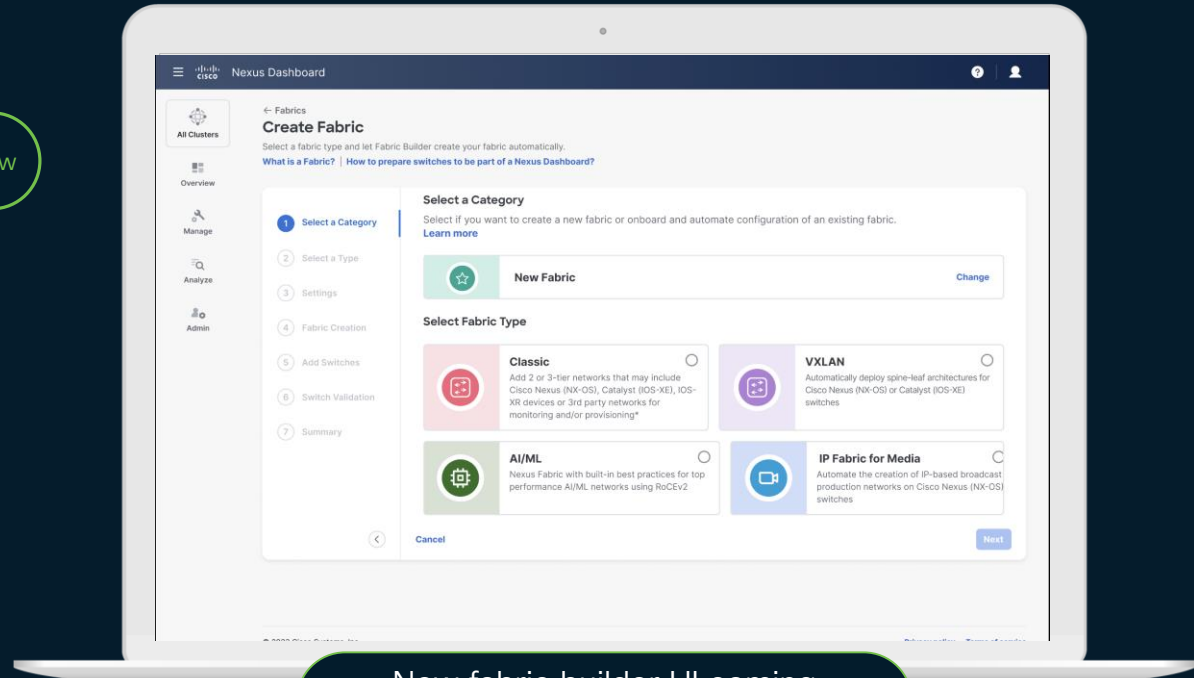
Simple and modern UX

New

Just takes a few clicks
Fully automated following best practices

Multiple fabric types
AI/ML, ACI, Classic Ethernet, VXLAN, etc

Open APIs and ecosystem
Ansible, Terraform



New fabric builder UI coming
in ND 4.0!

Use-cases

Features are **included** based on purchased **Nexus switch license level**



Nexus Dashboard



Troubleshoot



Analyze



Automate & Manage

Onboard

Discover, manage, & replace fabrics, switches, devices/integrations



Automate

Create VXLAN, AI/ML, Ethernet, IPFM & SAN fabrics with a few clicks



Reduce risk

Configure & secure once, deploy anywhere consistently



License Level	Premier		Across fabrics	
	Advantage		Within a fabric	
	Essentials		Within a fabric	

Open API

Use-cases

Features are **included** based on purchased **Nexus switch license level**



Nexus Dashboard



Troubleshoot



Analyze



Automate & Manage

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Discover, manage, & replace fabrics, switches, devices/integrations



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Reduce risk

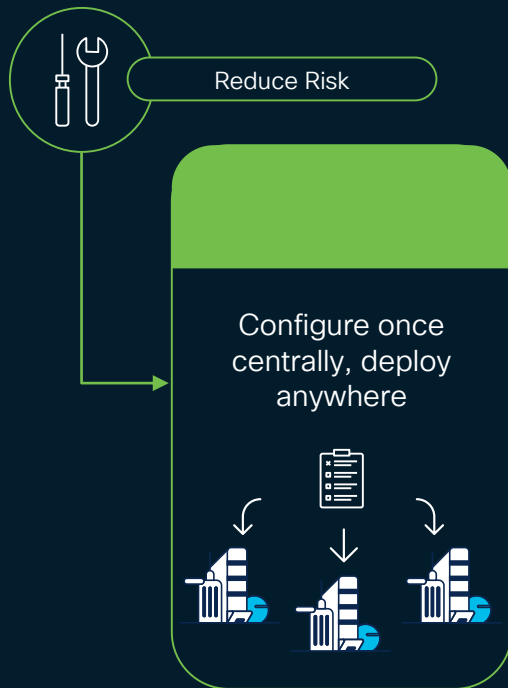
Configure & secure once, deploy anywhere consistently



License Level	Premier	✓	Across fabrics	Across fabrics
	Advantage	✓	Within a fabric	Within a fabric
	Essentials	✓		
Open API				

Cisco Nexus Dashboard – Automate

New and existing network deployments



- 1 **Configure** your network and/or security policies **once**.
- 2 **Select** the switches and interfaces in your fabric where you'd like to **deploy** such configuration.
- 3 After deployment, all your switches in your fabric will have **consistent** configurations reducing human errors.

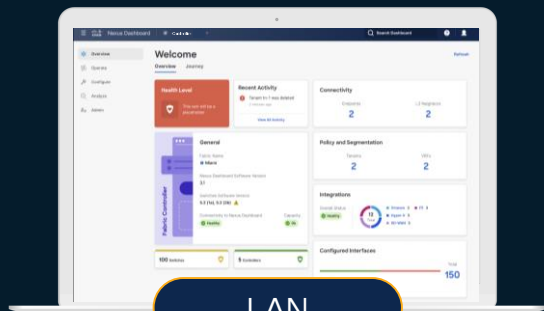


Have **multiple** sites or fabrics?

Centralize your network and security configurations with versioning control to ensure consistency anywhere.

Cisco Nexus Dashboard – Automate

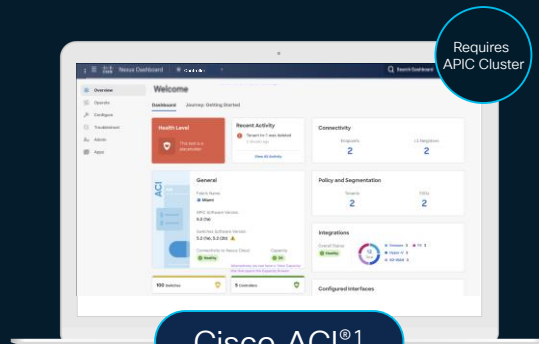
Network automation for all fabric types



LAN

Nexus Dashboard configures networks once and security policies², then deploy anywhere through policies and templates

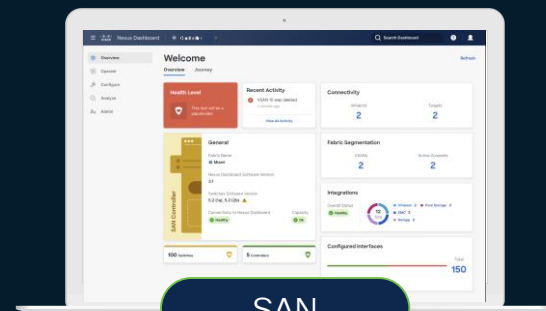
Consistent configurations on physical networks visibility on virtual and container networks



Cisco ACI¹

APIC and/or Nexus Dashboard configures networks & security policies once, deploy anywhere

Consistent configurations and visibility on physical, virtual, and container networks



SAN

Nexus Dashboard configures zoning/services once per fabric and replicates to the rest

Consistent configurations on SAN fabrics visibility extended to initiators and targets (VMs/storage)

¹ Future 2-way integration between ACI Controller (APIC) and Cisco Nexus® Dashboard
² VXLAN Security Groups available from ND 3.1

Cisco Nexus Dashboard – Automate

Switch and Interface configuration



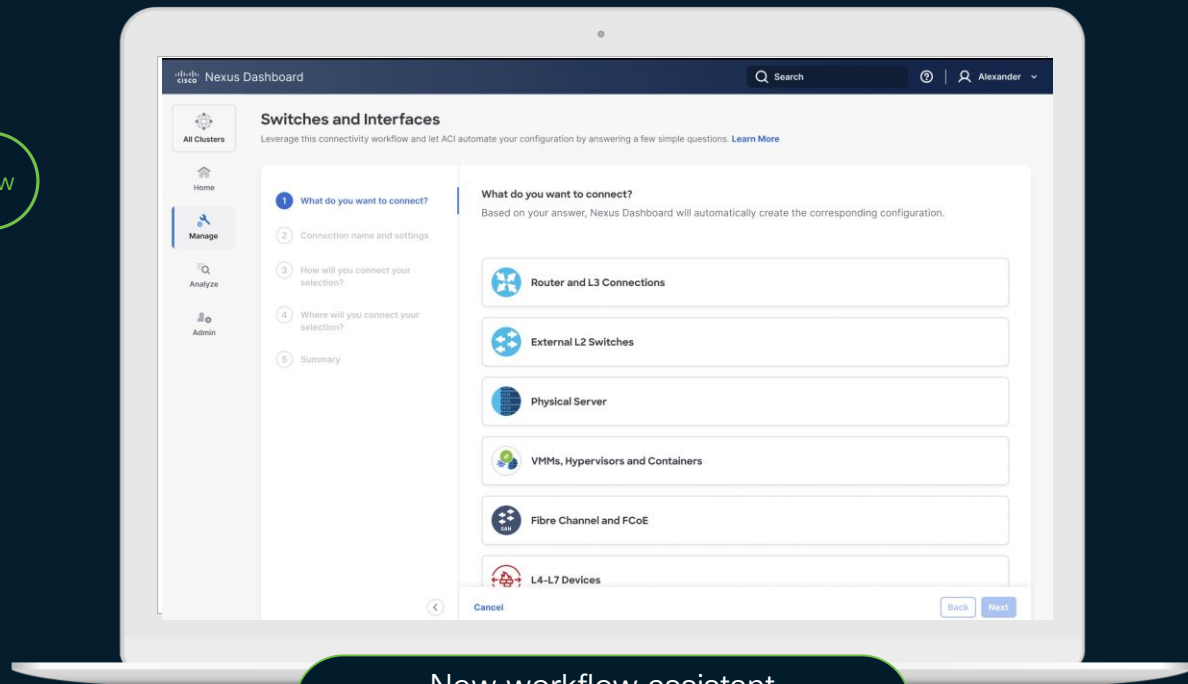
Simplified Workflow Assistant

New

L2 and L3 interfaces

Answer a few questions or
provision via policies/templates

Open APIs and ecosystem
Ansible, Terraform



New workflow assistant
available soon!¹

¹ New workflow assistant available from Nexus Dashboard 4.0 will also be available on ACI in a future release
Not all use-cases may be covered initially

Cisco Nexus Dashboard – Automate

Fabric Interconnect



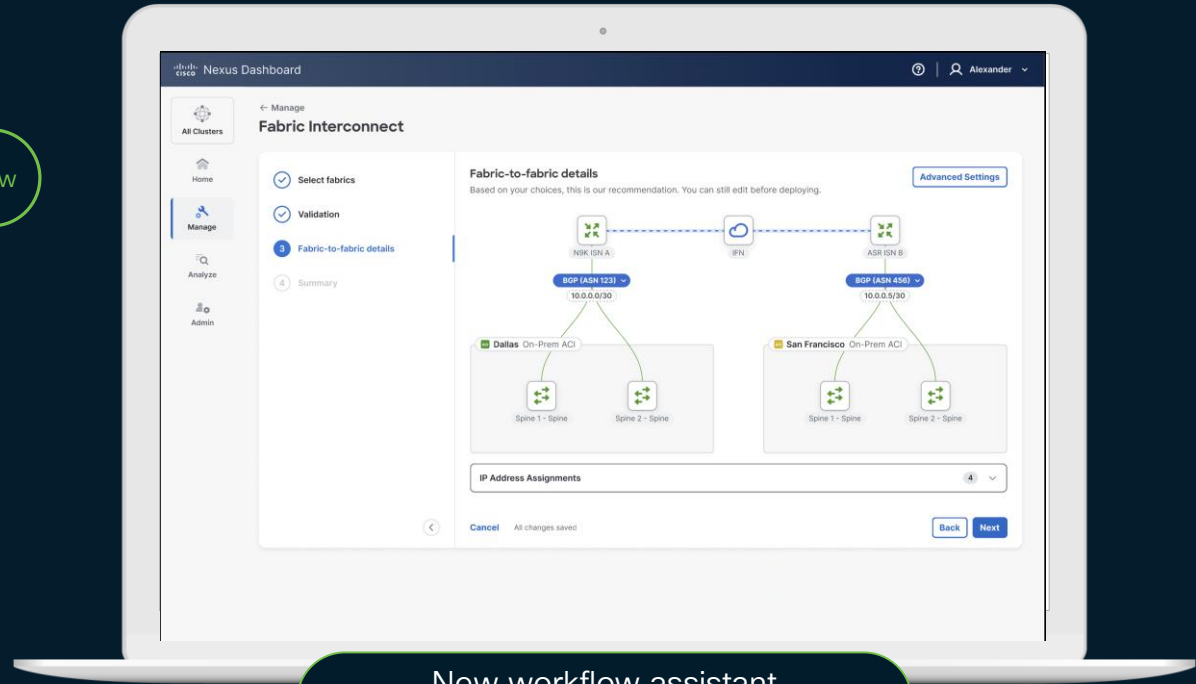
Simplified Workflow Assistant

New

Interconnect fabrics with a few clicks

Support for Cisco ACI®, NX-OS and Campus networks

Open APIs and ecosystem
Ansible, Terraform



New workflow assistant
available soon!¹

¹ New workflow assistant available from Nexus Dashboard 4.0 will also be available on ACI in a future release
Not all use-cases may be covered initially

Cisco Nexus Dashboard – Automate Templates & Orchestration



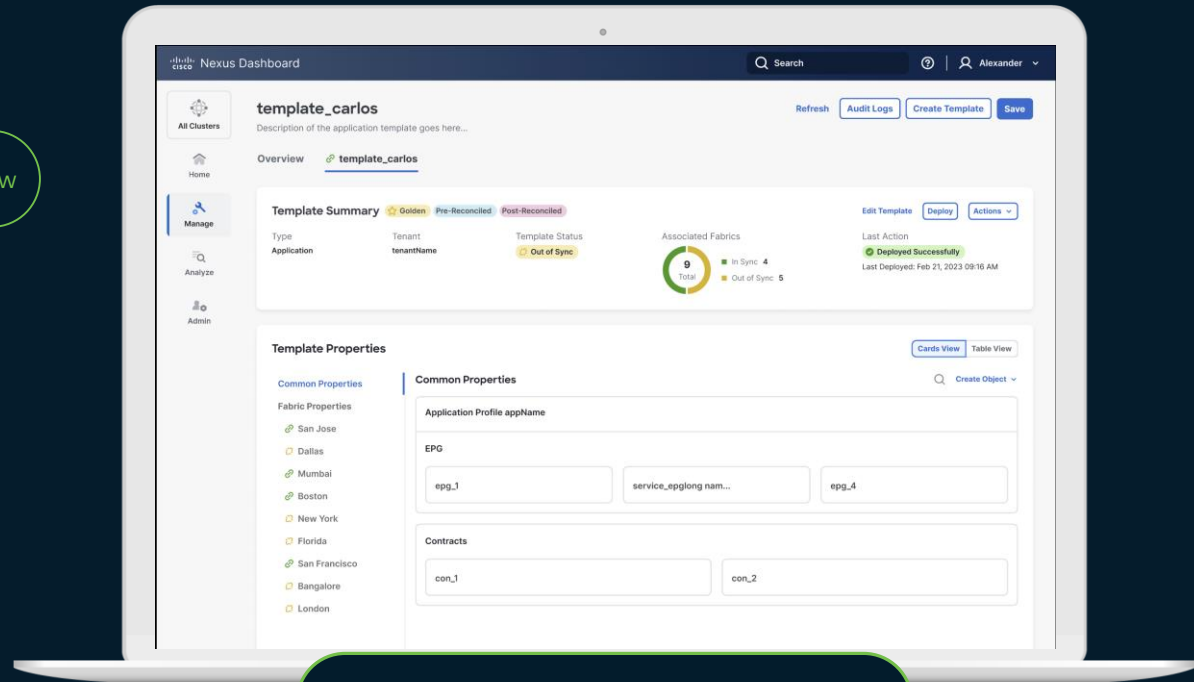
Simple and modern UX

New

Cisco ACI® & NX-OS fabrics

Network & Policy templates

Versioning and change control



New templates look and feel!

Use-cases

Features are **included** based on purchased **Nexus switch license level**



Nexus Dashboard



Troubleshoot



Analyze



Automate & Manage

Custom Dashboards and Reports

Identify issues
Anomalies & Advisories
Pre-change analysis
Historical information



Traffic analytics
Latency, congestion,
drops, flows
Real-time statistics



Sustainability
kW/h, cost,
CO2 emissions



Compliance
Configuration and
communication rules



CAM Analysis
Top rules/contracts
consuming resources

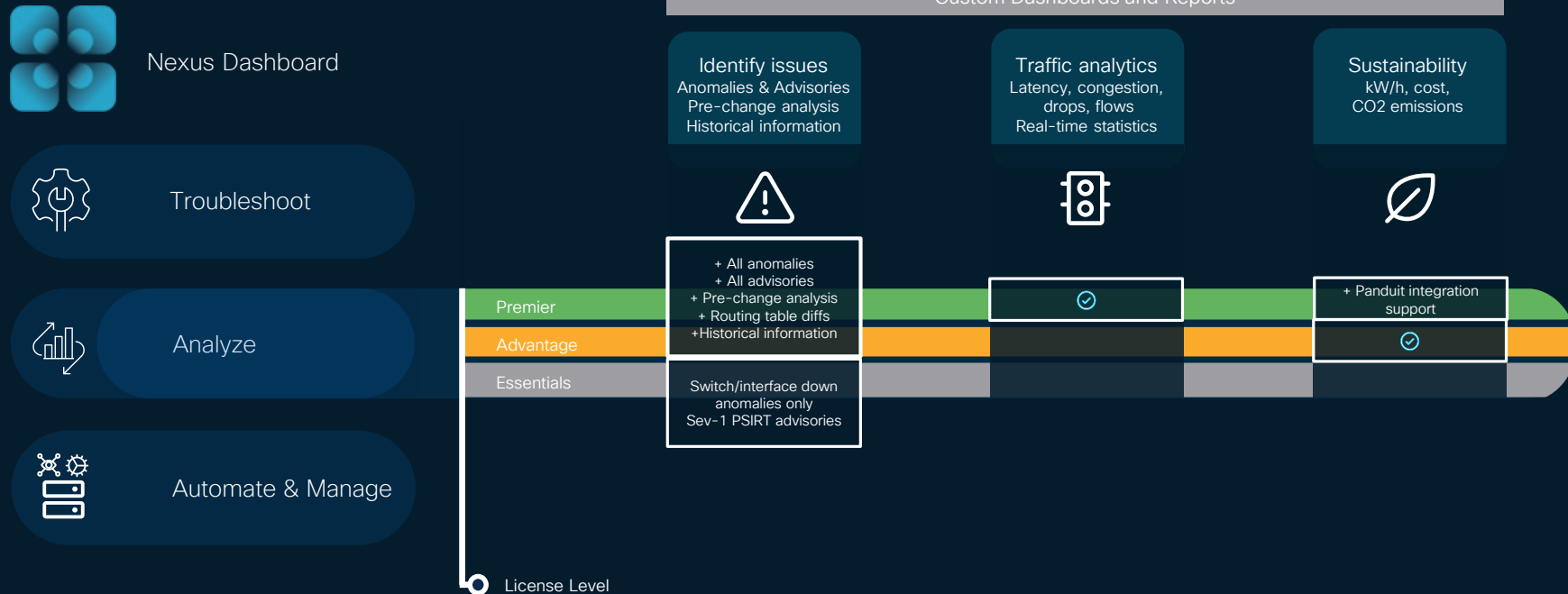


Conformance
HW/SW End of Support
Scale

Open API

Use-cases

Features are **included** based on purchased **Nexus switch license level**



Cisco Nexus Dashboard – Analyze

Leverage the power of telemetry and analytics



Proactively detect, correlate and **resolve** issues through anomaly detection to **minimize** downtime.



Learn about best-practices, field notifications, and PSIRTs affecting your network through advisories.



Make a difference by knowing your network's **CO2 emissions**, associated costs, and kWh consumption.



Reduce **finger-pointing**.



Traffic analytics automatically discover services and flow records running in your network based on L4 ports reporting **congestion**, **latency**, and **drops**

Cisco Nexus Dashboard – Analyze

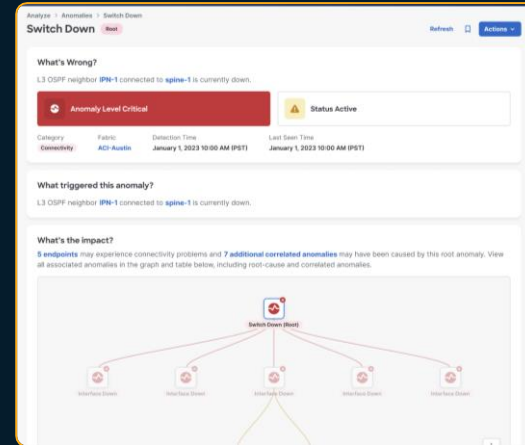
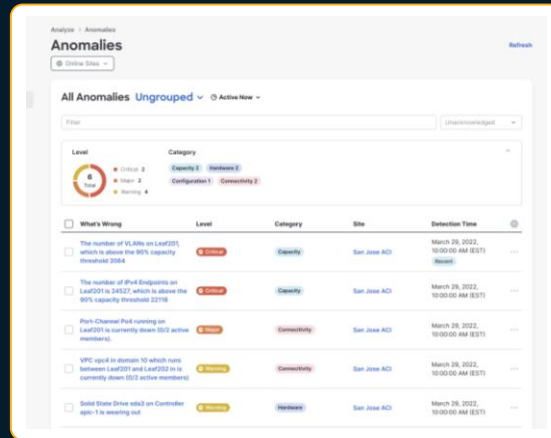
Leverage the power of telemetry and analytics



Analytics

Analyze Anomalies

Detect potential issues that may impact uptime
Know what is wrong, the impact of anomalies, and how to fix them
Toggle between grouped and ungrouped views
Link to online sites and snapshot view options with historical information



Cisco Nexus Dashboard – Analyze

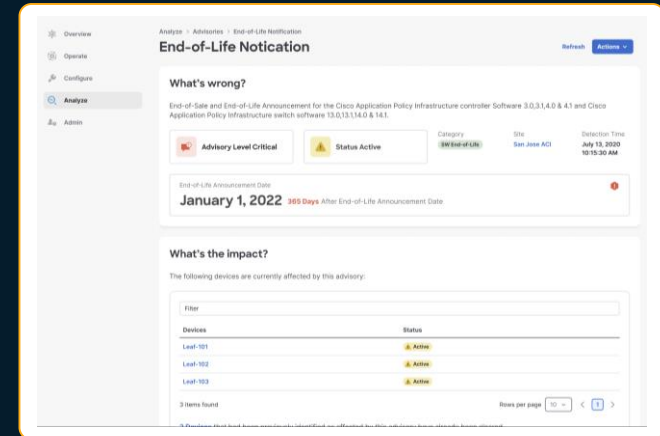
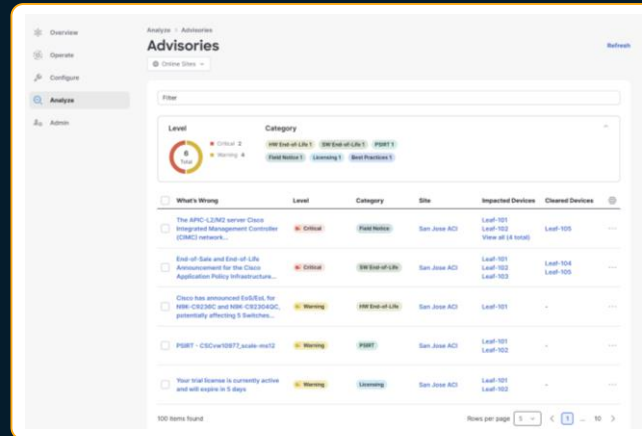
Leverage the power of telemetry and analytics



Analytics

Analyze Advisories

Avoid wasting time finding release notes, and **reduce** risk
Get instant software and hardware **End-of-Life (EoL)** notifications
Receive **PSIRTs** and field notices affecting your environment
Get Cisco **best-practice recommendations** based on your configuration



Cisco Nexus Dashboard – Analyze

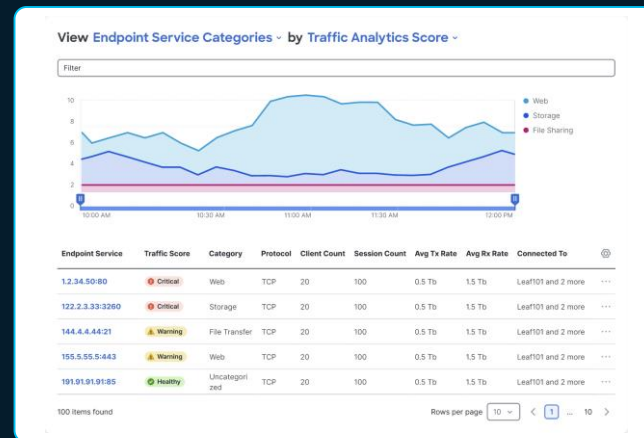
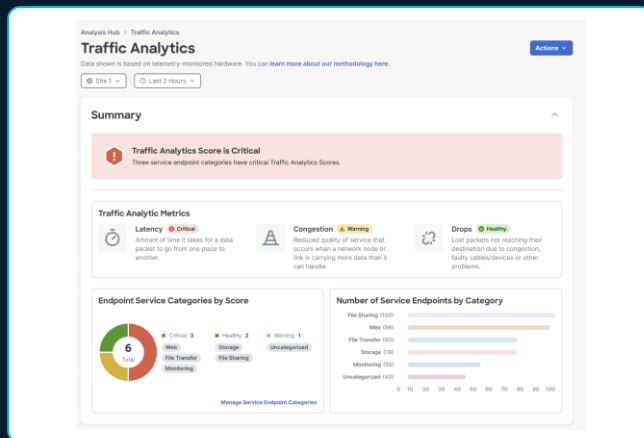
Leverage the power of telemetry and analytics



Analytics

Analyze Traffic Analytics

Automatically detect services in your network at scale
Use **built-in** service categories or create your own
Collect a service baseline using well-known L4 ports
Latency, drops and flow deviations reported for services/clients



Cisco Nexus Dashboard – Analyze

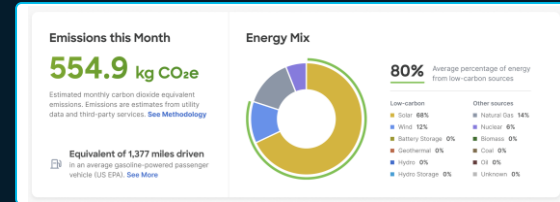
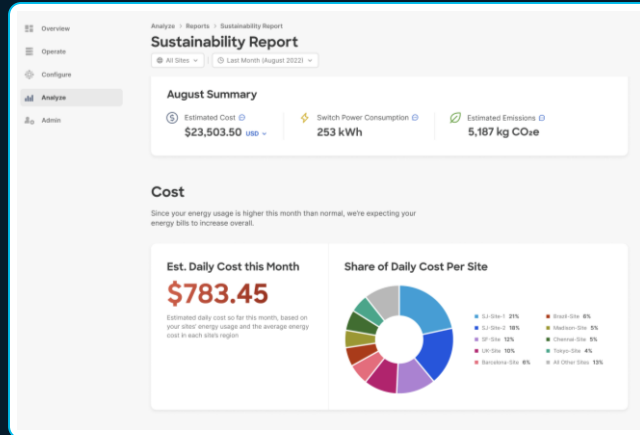
Leverage the power of telemetry and analytics



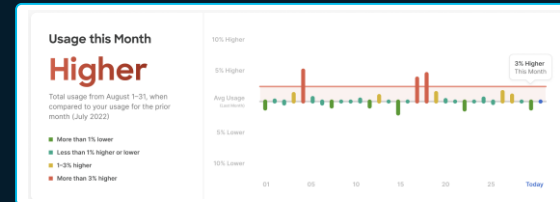
Analytics

Analyze Sustainability¹

Understand the **carbon footprint** of managed devices
Learn about the **energy sources** your fabrics consume
Get historical views and progress, including **kWh** and **cost**
Integrate to **Panduit** PDUs for increased visibility¹



PANDUIT



¹ Panduit integration available on Cisco Nexus® Dashboard 3.1

Use-cases

Features are **included** based on purchased **Nexus switch license level**



Nexus Dashboard



Troubleshoot

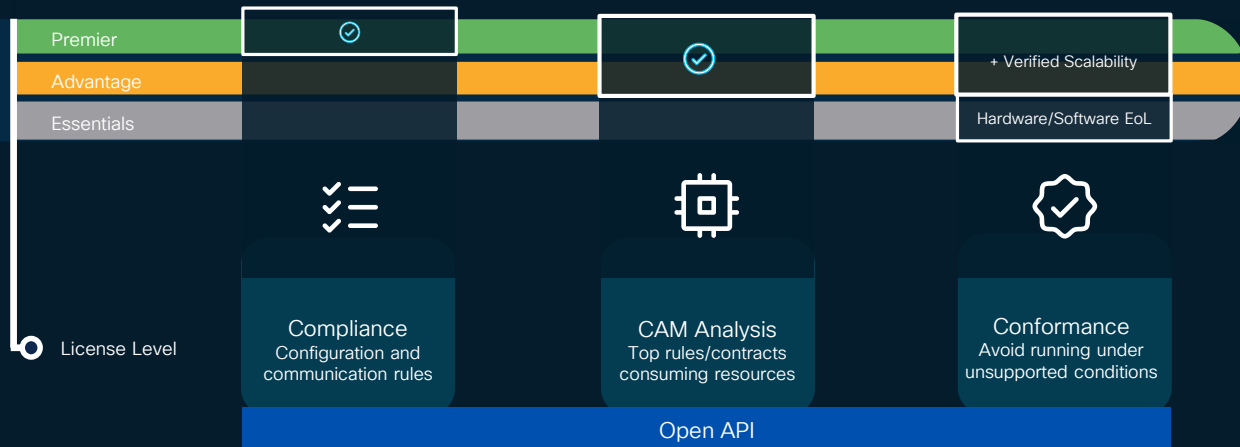


Analyze



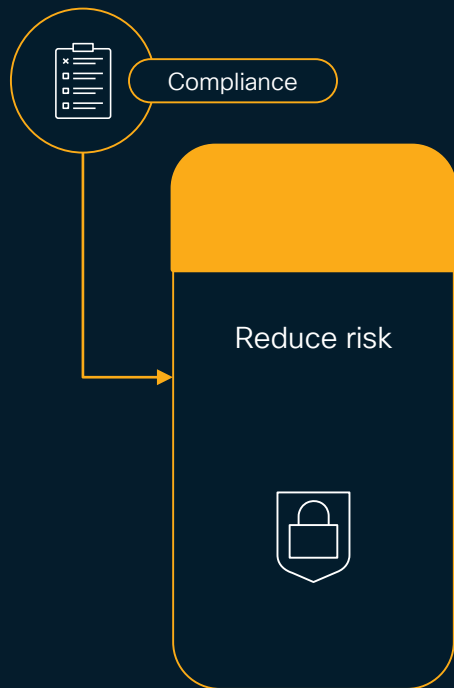
Automate & Manage

Custom Dashboards and Reports



Cisco Nexus Dashboard – Analyze

Leverage the power of telemetry and analytics



Enforce compliance by defining your own configuration rules and get notified when they are not met.



Enforce conformance and avoid running End-of-Support inventory while keeping your networks under Cisco Verified Scalability Limits without manual searches.



Save time with software recommendations and minimize risk with customized upgrade plans and pre- and post-upgrade analysis.



No more TFTP servers¹
Directly download recommended software images from Cisco and accelerate upgrades.

Cisco Nexus Dashboard – Analyze

Leverage the power of telemetry and analytics



Compliance

Analyze Compliance

Ensure network configurations **adhere** to your compliance rules
Define naming conventions and settings that **must** be followed
Receive compliance anomalies if rules are **violated**

Create Rule

Define Rule

Use the template to define your compliance requirements

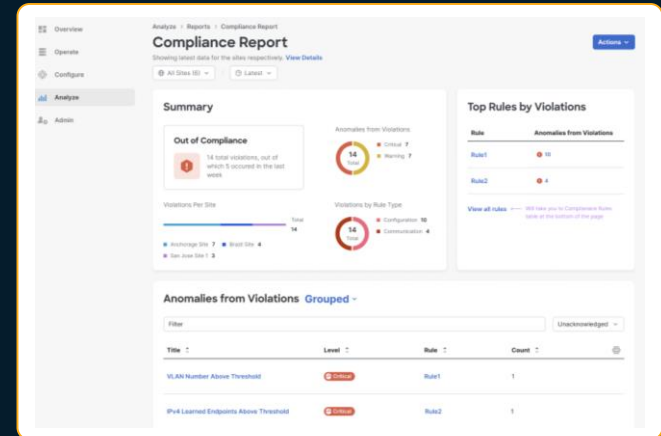
Interface eth1/1-4, eth1/9 on Switch Leaf-101, All interfaces on Switch Leaf-102, and All interfaces on Switch Leaf-103

Matching Criteria

Must be configured with

MTU lower than 1500

Settings Requirement



Cisco Nexus Dashboard – Analyze

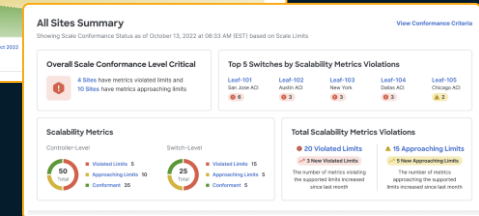
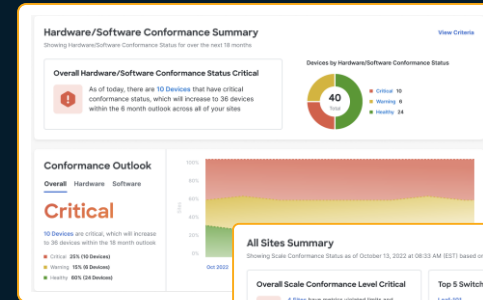
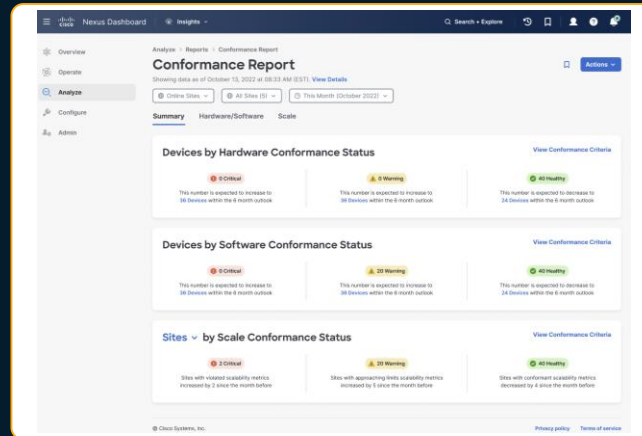
Leverage the power of telemetry and analytics



Compliance

Admin
Conformance

Reduce **risk** by keeping your network in conformance with Cisco
Learn about software or hardware running under **EoL**
Get a 6- and 18-month **outlooks** to prevent End of Support
Find if your network is running above Cisco **Scalability Limits**



Use-cases

Features are **included** based on purchased **Nexus switch license level**



Nexus Dashboard



Troubleshoot



Analyze



Automate & Manage

Custom Dashboards and Reports

Premier



Advantage



Essentials



Delta
Configuration and
operational changes



Connectivity
Trace the path & issues
between endpoints



Bug Scan
Active, known and
susceptible bugs

Open API

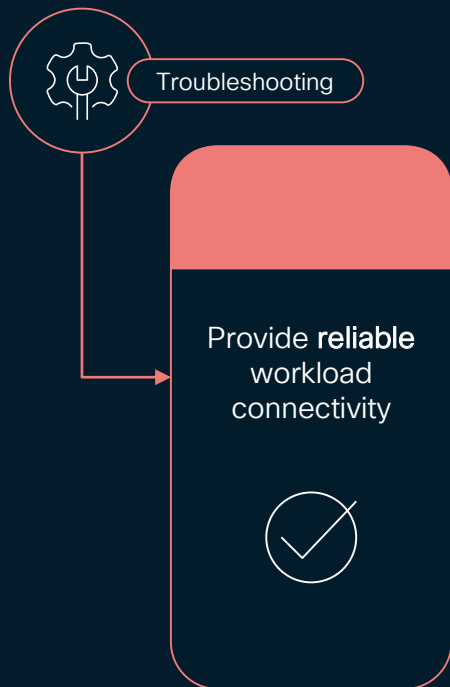
Virtual Assistant | Search and Explore

Connected TAC

License Level

Cisco Nexus Dashboard – Troubleshoot

Leverage the power of telemetry and analytics



Search and explore IPs, MACs, and switches across your sites and get to the information you need faster



Analyze connectivity between two endpoints and display the forwarding path and policies between them



With **Delta Analysis**, learn about changes in your network between two points in time.



Need to go **back** in time?
Access historical information for anomalies, advisories, sustainability, and more.

Cisco Nexus Dashboard – Troubleshoot

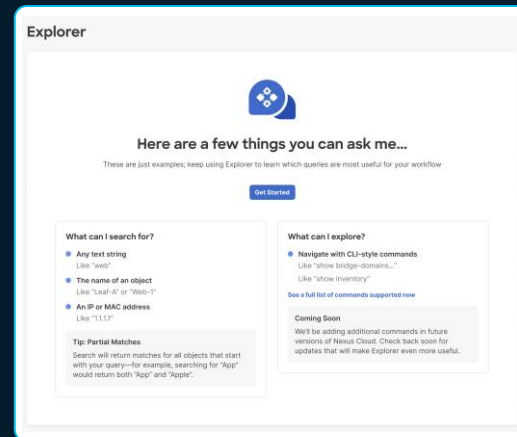
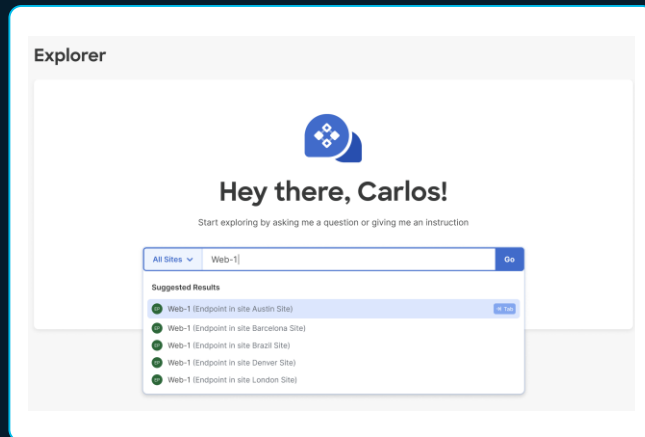
Leverage the power of telemetry and analytics



Troubleshooting

Search
and
Explore¹

Quickly **search** and find what you are looking for
Search for **strings** or query through **CLI-style** commands
Fill-ahead help accelerates finding results.
Filter results based on site and time range



Cisco Nexus Dashboard – Troubleshoot

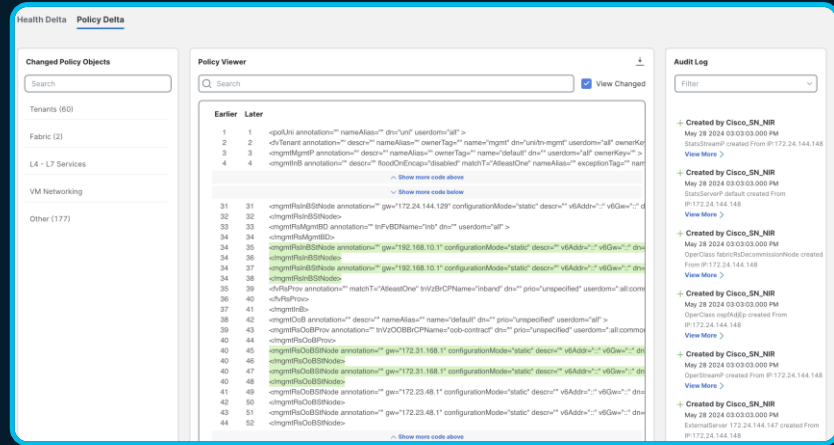
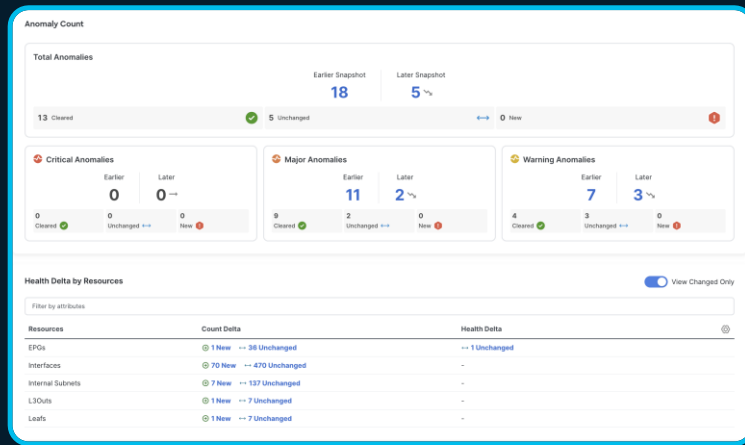
Leverage the power of telemetry and analytics



Troubleshooting

Analyze
Delta
Analysis¹

Compare two points in time
Get anomaly and advisory status changes
Learn about routes and endpoints changes
Easily identify configuration changes



Cisco Nexus Dashboard – Troubleshoot

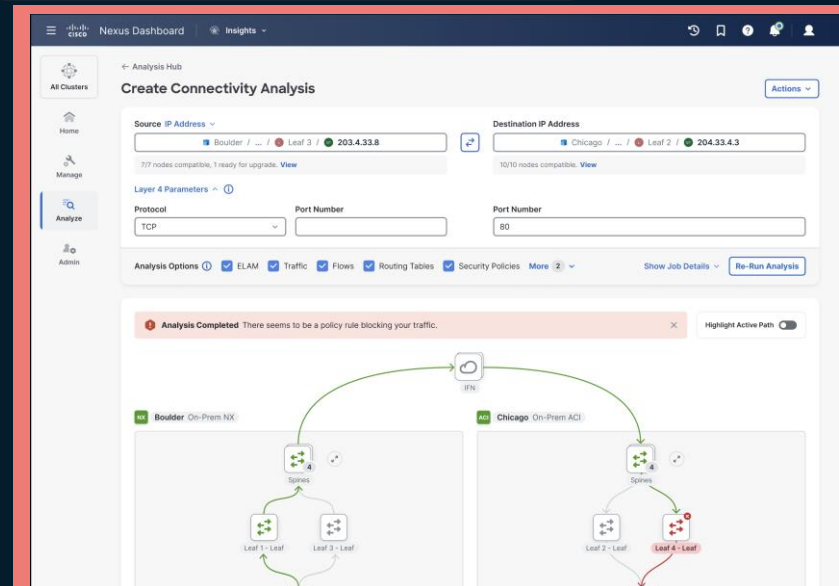
Leverage the power of telemetry and analytics



Troubleshooting

Analyze
Connectivity
Analysis¹

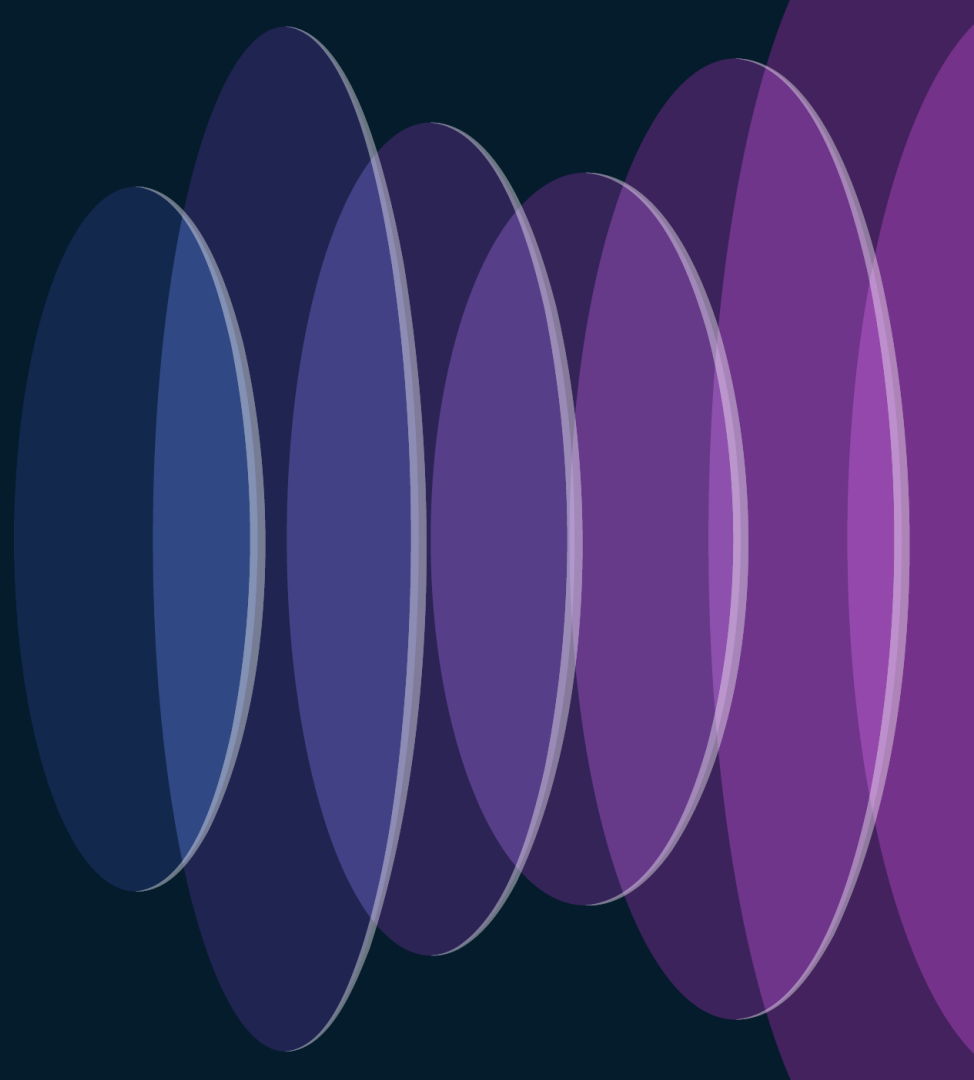
Learn how endpoints communicate
Visualize transit routes, ports, and policies*
Add ELAM information, OAM and interface consistency checks
Integrate latency, drops, and flows to your analysis*



CISCO Live!

* Flow, Traffic, Security and Routing Table integrations in roadmap

Licensing



Since Nov 4, 2023

Tuning the Licensing Tiers

Select Nexus Dashboard **Insights** features now in Essentials and **Advantage** tiers



Nexus Dashboard
Services

Essentials

Advantage

Premier



Insights



New



New



All Features



Orchestrator



Controller



No Nexus **without** Nexus Dashboard

Tuning the Licensing Tiers

Capabilities			Essentials	Advantage	Premier 
Conformance 		Hardware/software lifecycle & EoS	✓	✓	✓
		Verified scale		✓	✓
Topology 		One fabric at a time	✓	✓	✓
		Across fabrics		✓	✓
Anomalies + Advisories 		Switch/interface down + Sev-1 PSIRT & EoS	✓	✓	✓
		All anomalies and advisories		✓	✓
Software Upgrade Support ³ 		Basic upgrade checks & TAC Assist	✓	✓	✓
		Full upgrade analytics			✓
Analytics and Troubleshooting 		Sustainability		✓ ¹	✓ ²
		Bug Scan, CAM Analyzer		✓	✓
		Flow and Traffic			✓
		Connectivity and Explorer			✓
		Delta (pre/post)			✓
		Compliance			✓






¹ Fabric-Level Sustainability only

² Integration with Panduit

³ Software Upgrade from Insights in roadmap, only Pre-Upgrade Analysis available on ND 3.0 and 3.1

Detailed list available on [ND ordering guide](#)

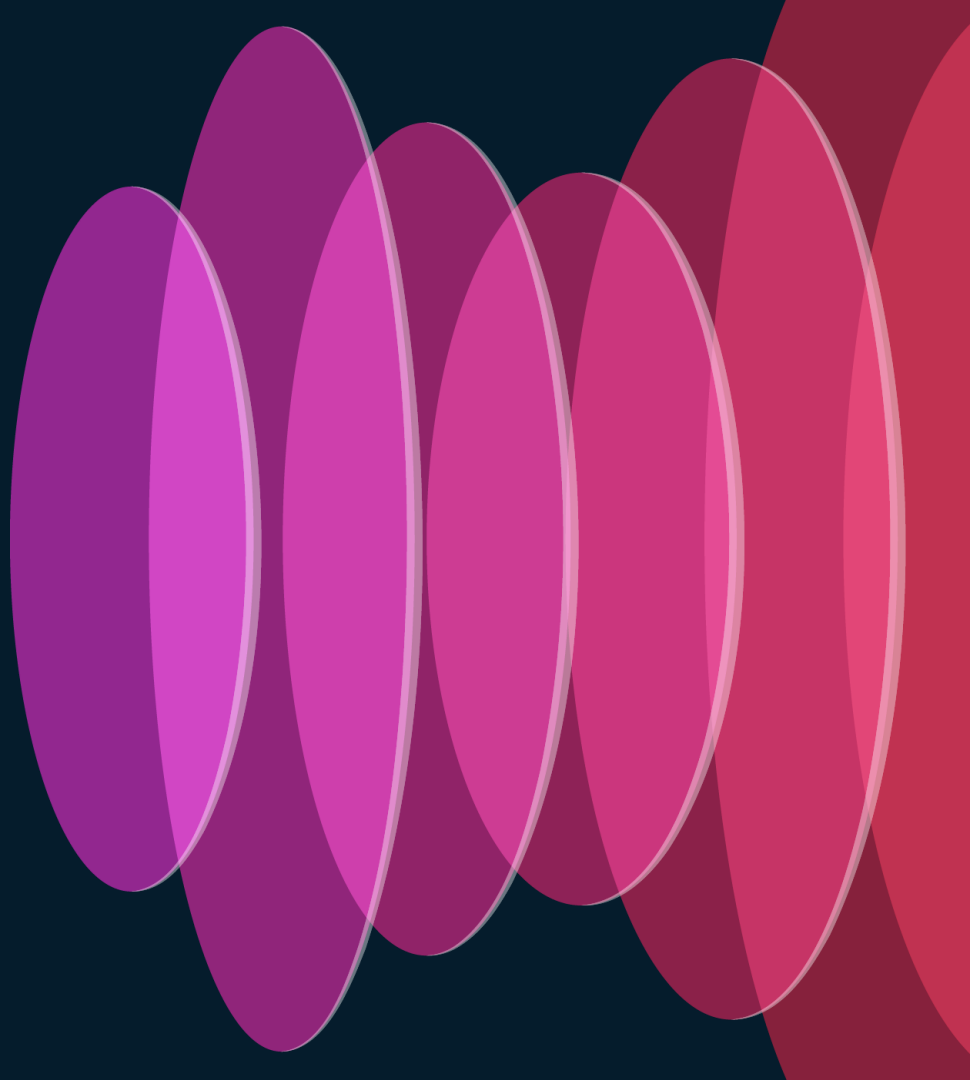
Tuning the Licensing Tiers

Capabilities		Essentials	Advantage	Premier 
Inventory 	Global, fabric, switch, ports, endpoints, VMs	✓	✓	✓
	L3 neighbors, IPv4/v6 routing tables*, capacity		✓	✓
AI/ML and QoS 	PFC/ECN (NX-OS/NDFC Only)		✓	✓
	Microbursts		✓	✓
Integrations 	VMware	✓	✓	✓
	DNS		✓	✓
	All (Splunk, ServiceNow, AppD, Panduit, etc)			✓
Others 	Journey, ND multi-cluster support	✓	✓	✓
	Multicast PIM, IGMP (NX-OS/NDFC only)		✓	✓
	Log collector		✓	✓
	Snapshots (ACI only) and Snapshot Assistant		✓	✓
	Customized alerts and compliance rules			✓
	Customizable dashboards			✓
	Pre-change analysis (ACI only)			✓

* Roadmap item

Detailed list available on [ND ordering guide](#)

Summary



Maximize the power of connectivity



Accelerate innovation
and sustainability



Increase business value



Minimize downtime

Included with every Cisco Nexus 9000

Tiered licensing purchase



Consumption choice, single licensing

Cisco Nexus® Dashboard: Provisioning and/or Day-2 operations



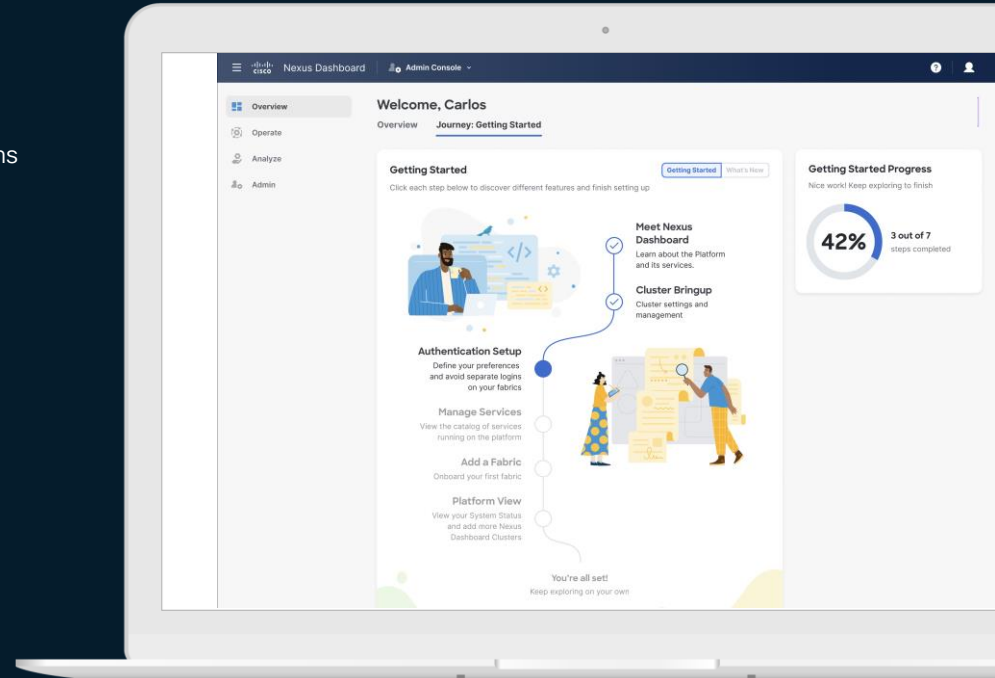
Simple, modern, useful

Cisco Nexus Dashboard 3.2: Available soon! (July)
Appliance-based (physical or virtual)



Innovate and minimize risk and downtime

Leverage the power of automation and analytics.
Go beyond the switch port.
Always connected to Cisco® TAC¹.



¹When connected to Cisco Intersight® and leveraging Cisco TAC Assist

Additional resources

[Nexus Dashboard capacity planning](#)

Resources needed by form factor and scale

[CN Product Compatibility Matrix](#)

Product version compatibility

[Nexus Dashboard Insights user guides](#)

Feature functionality & limits

[Nexus Dashboard Roadmap deck \(internal only\)](#)

Refreshed monthly for upcoming features

Complete Your Session Evaluations



Complete a minimum of 4 session surveys and the Overall Event Survey to be entered in a drawing to **win 1 of 5 full conference passes** to Cisco Live 2025.



Earn 100 points per survey completed and compete on the Cisco Live Challenge leaderboard.



Level up and earn **exclusive prizes!**



Complete your surveys in the **Cisco Live mobile app**.

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

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The bridge to possible

Thank you

CISCO *Live!*

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