

CISCO *Live!*

GO BEYOND

#CiscoLiveAPJC



# Day 2 Operations

With Cisco Nexus Dashboard Insights

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BRKDCN-2615



#CiscoLiveAPJC

# 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 November 15, 2024.



<https://ciscolive.ciscoevents.com/ciscolivebot/#BRKDCN-2615>





# Agenda

- Introduction
- Nexus Dashboard Platform
- Day 2 operations with Nexus Dashboard Insights
- Use cases
- Conclusion

# The golden age of app development



# Innovation is key to success



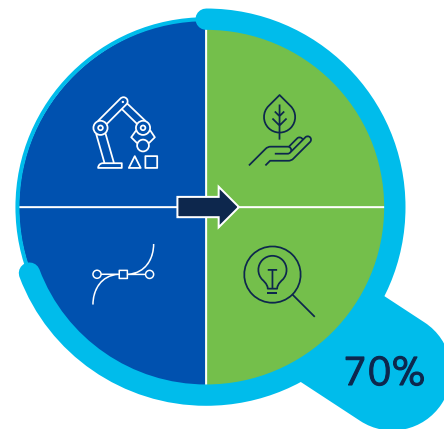
of the S&P 500 companies will have disappeared by 2027.

Challenge: Innovation at scale

Less than  
**18**  
years

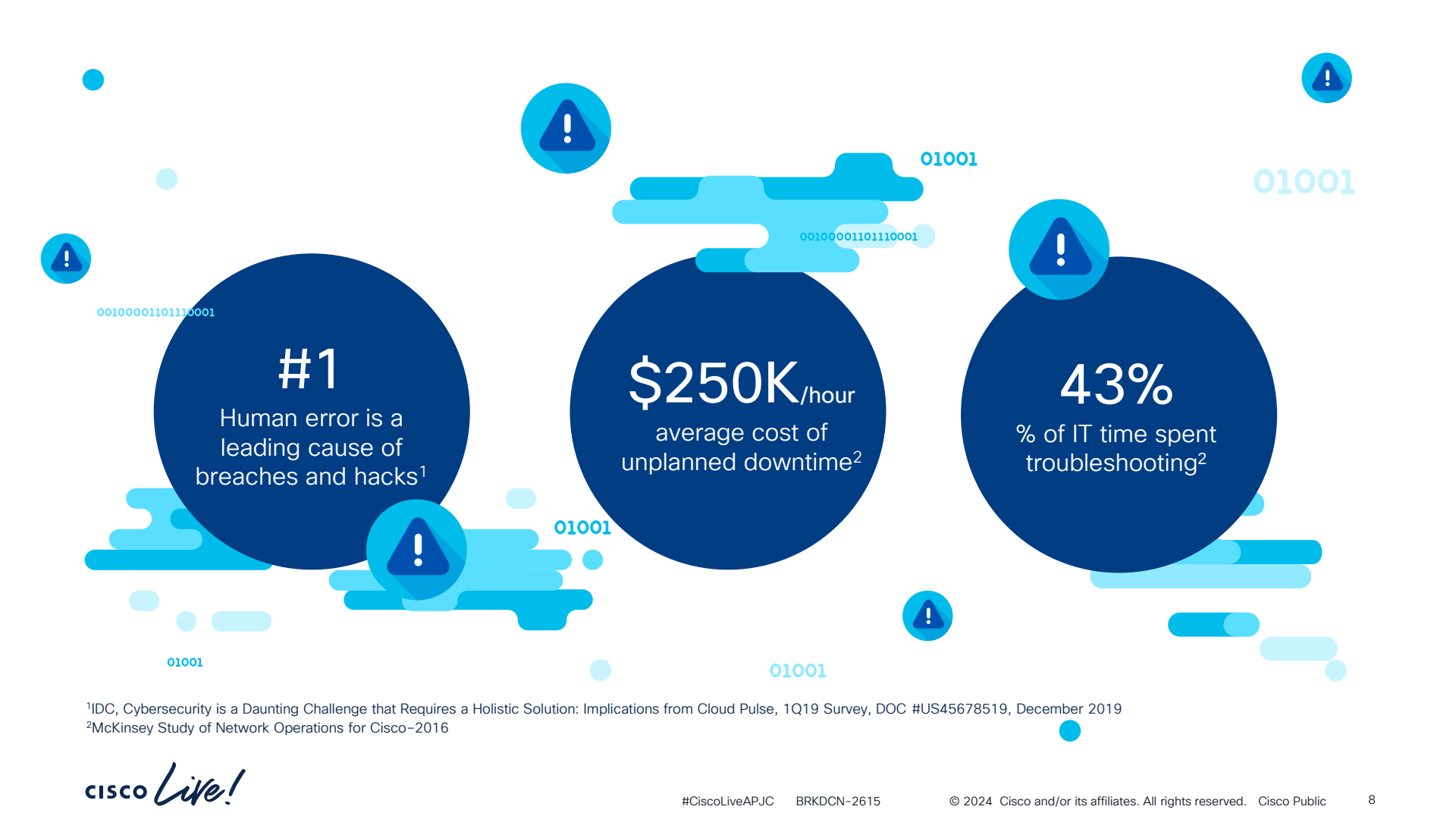
Average life span of companies  
↓ Down 43 years (from 1958).

Reasons: Competitors, market shifts, costs



of consumers would switch providers or **pay a premium** for innovative and sustainable offerings.

Sources: McKinsey and IBM Research Insights

The infographic features three large dark blue circles arranged horizontally, each containing a statistic. The background is white with scattered light blue and dark blue circles, horizontal bars, and binary code (01001). There are also several circular icons with a white exclamation mark on a dark blue background. The text is in white and light blue.

# #1

Human error is a leading cause of breaches and hacks<sup>1</sup>

# \$250K/hour

average cost of unplanned downtime<sup>2</sup>

# 43%

% of IT time spent troubleshooting<sup>2</sup>

<sup>1</sup>IDC, Cybersecurity is a Daunting Challenge that Requires a Holistic Solution: Implications from Cloud Pulse, 1Q19 Survey, DOC #US45678519, December 2019

<sup>2</sup>McKinsey Study of Network Operations for Cisco-2016

Need to innovate faster

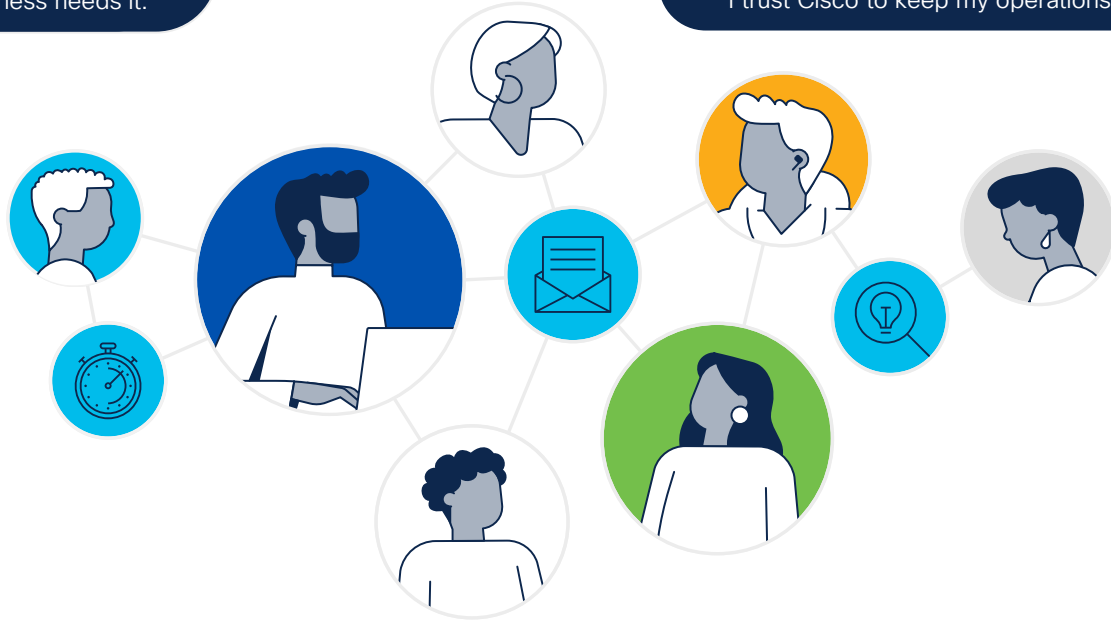
"Connectivity is a service. It must be deployed, managed, and monitored consistently anywhere my business needs it."

Must minimise risk and avoid downtime

"I trust Cisco to keep my operations running 24x7."



Our customers'  
voice



Need to accelerate time to troubleshoot

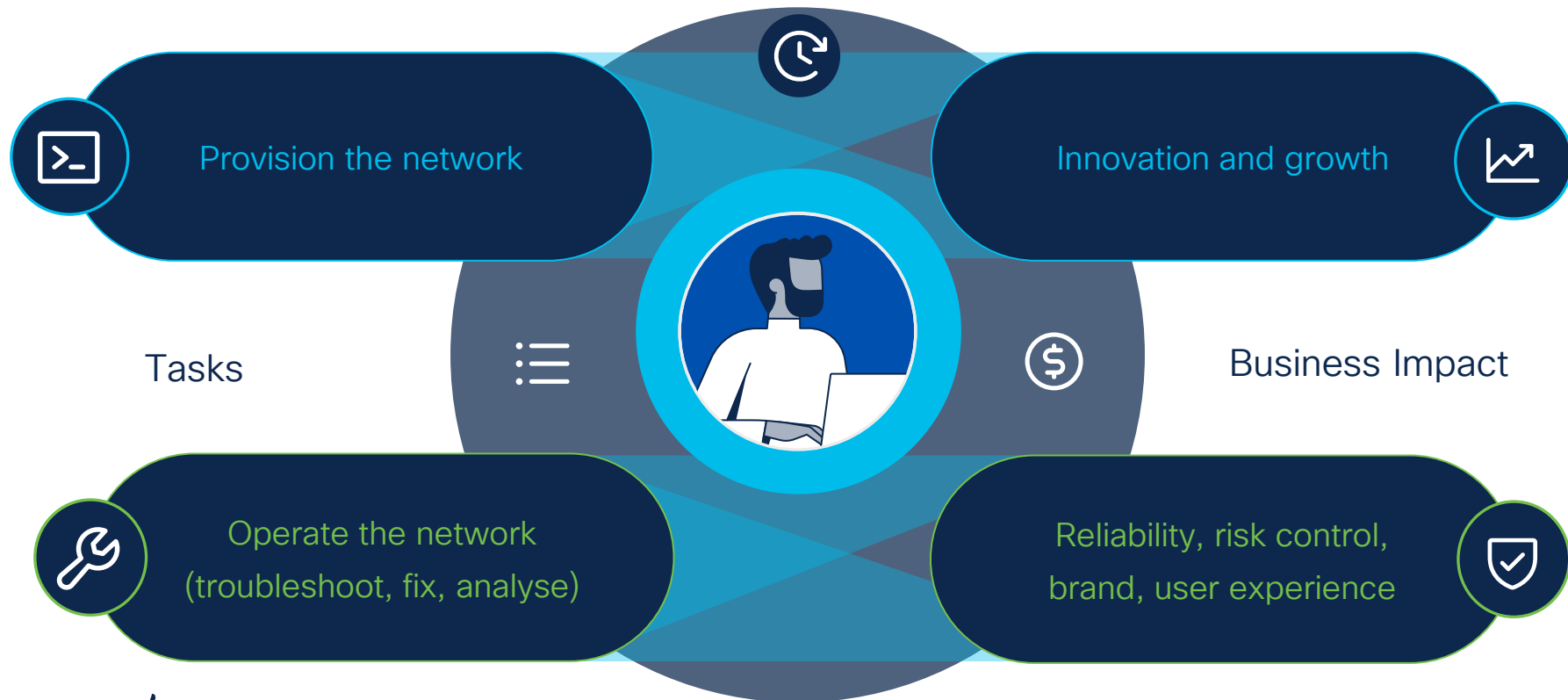
"I need better tools to reduce manual correlation times and fix issues faster."

Extend visibility, reduce screens in the NOC

"Given the breadth of its portfolio, the more Cisco integrates their products across different technologies and domains, the more benefits I get as a customer."

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# Life of a [data centre] network-admin





# Introducing Cisco Nexus Dashboard

Common platform built  
for automation



One platform, all services,  
open APIs

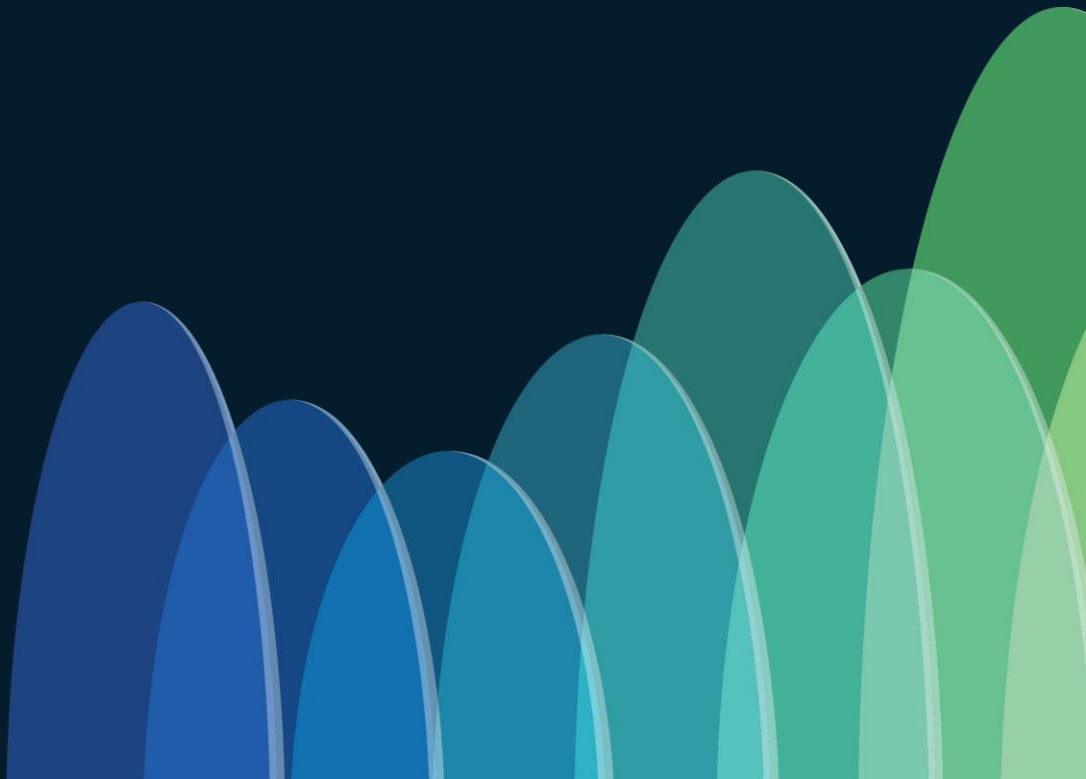
IT Ops transformation



Bridging the gap between  
DevOps and NetOps

# Cisco Nexus Dashboard Platform

CISCO *Live!*

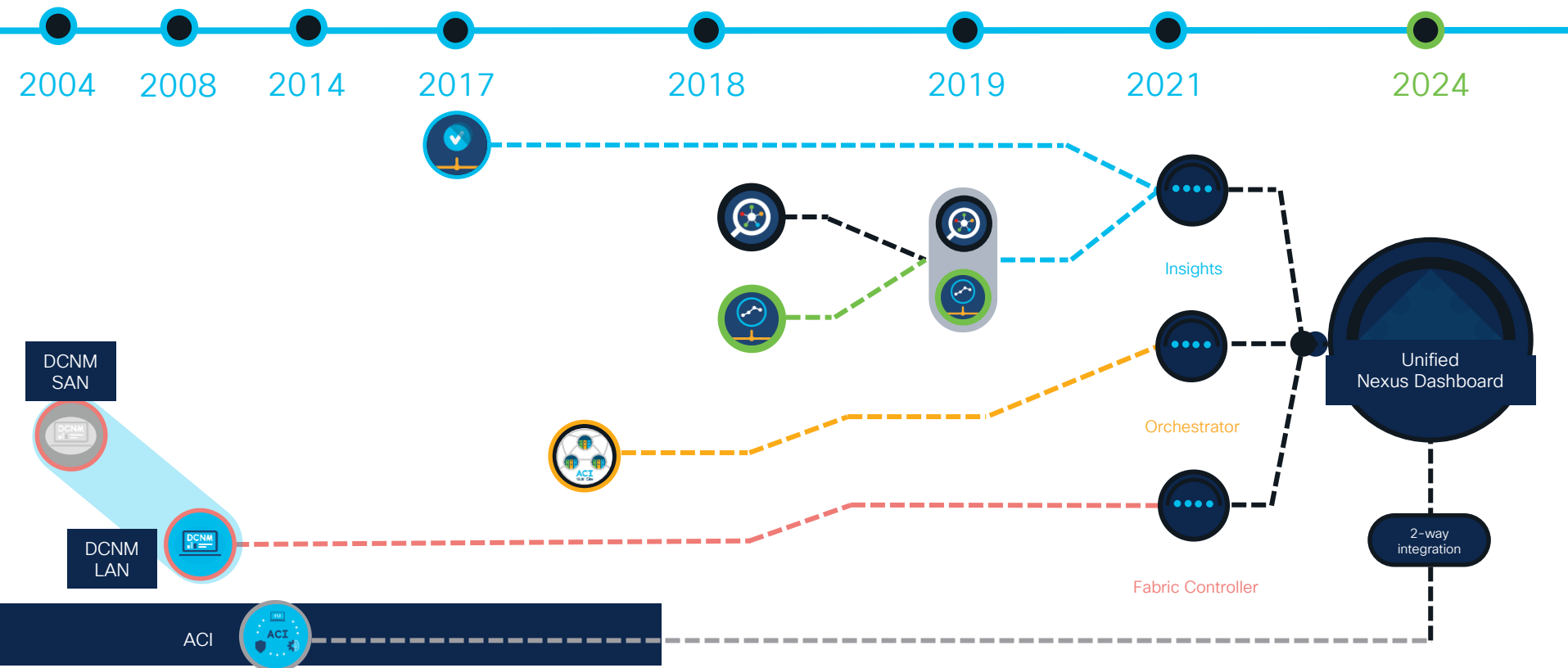


# We have embarked on a journey

## Towards simplification and unification



Products have evolved through the years with microservices-based architectures & other enhancements



**CISCO** *Live!*

# Which leads us here...

## Unified Nexus Dashboard

Provisioning

Controller

Orchestrator



Automation

splunk>

servicenow



Terraform  
ENTERPRISE



ANSIBLE

PANDUIT™



VERTIV

Operations

Insights

Visibility



Analytics



Troubleshooting



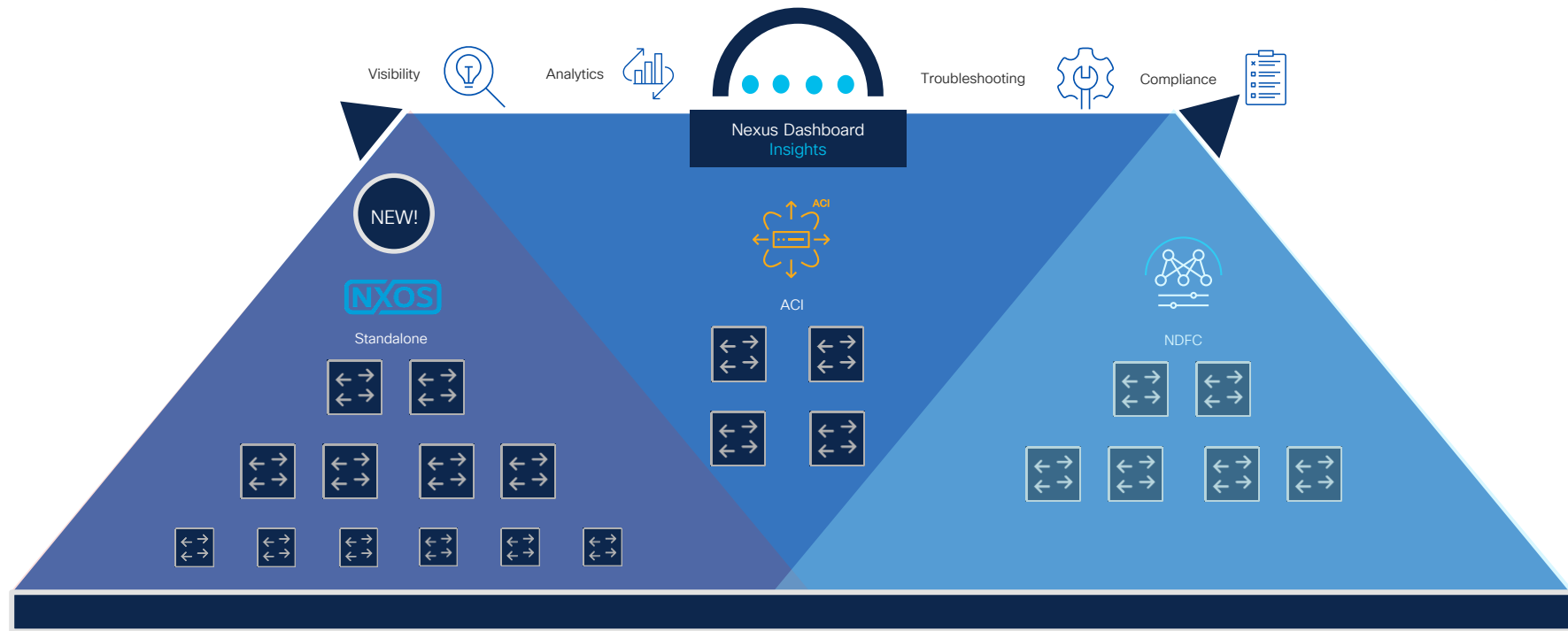
Compliance



Access to Nexus Dashboard services/features is based on the Cisco Nexus 9000 [switch license tier](#)

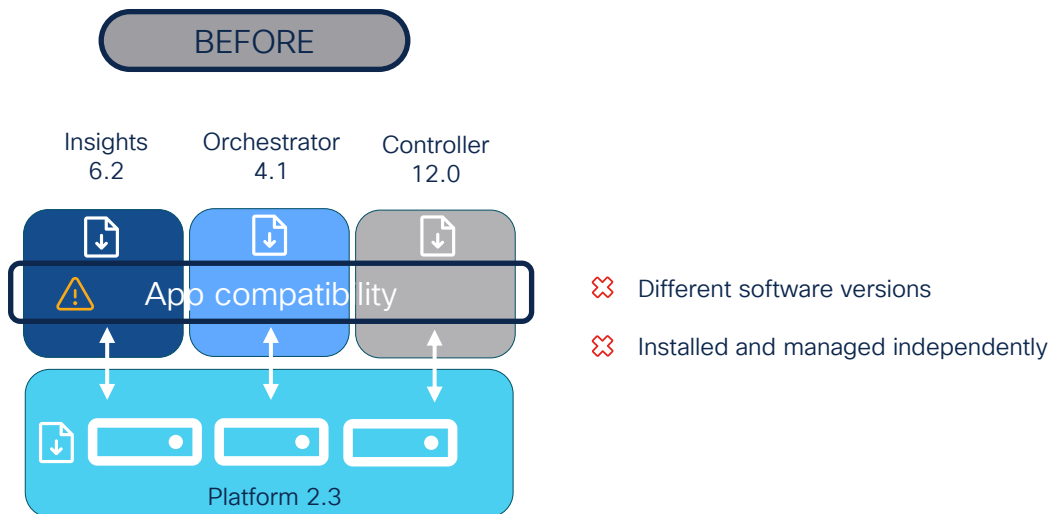
# Nexus Dashboard

Onboard sites with standalone NX-OS switches and enable them with Insights



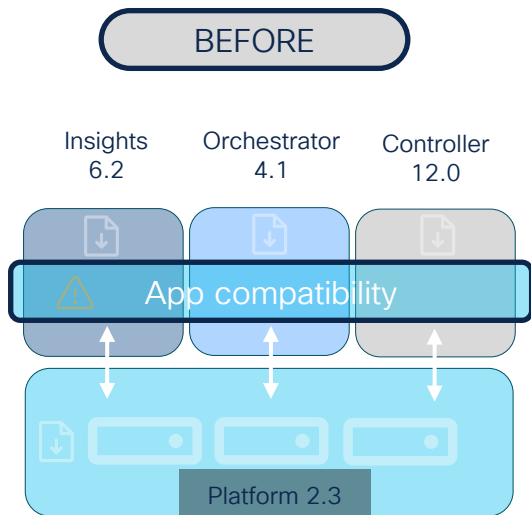
# Nexus Dashboard

## Unified Image

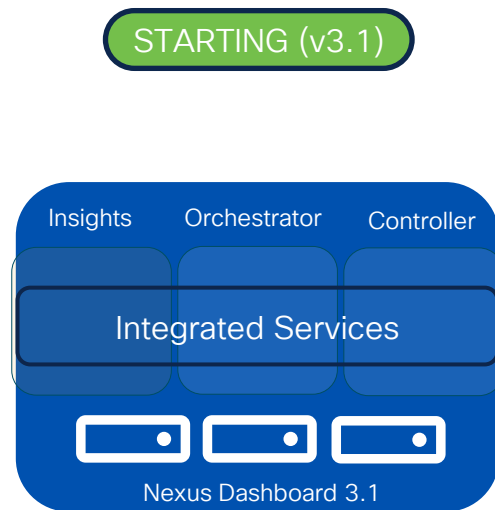


# Nexus Dashboard

## Unified Image



- ✓ Single .iso or .ova includes all services
- ✓ Direct upgrade from previous versions<sup>2</sup>



# Which leads us here...

## Unified Nexus Dashboard

Analyse

Automate

Manage

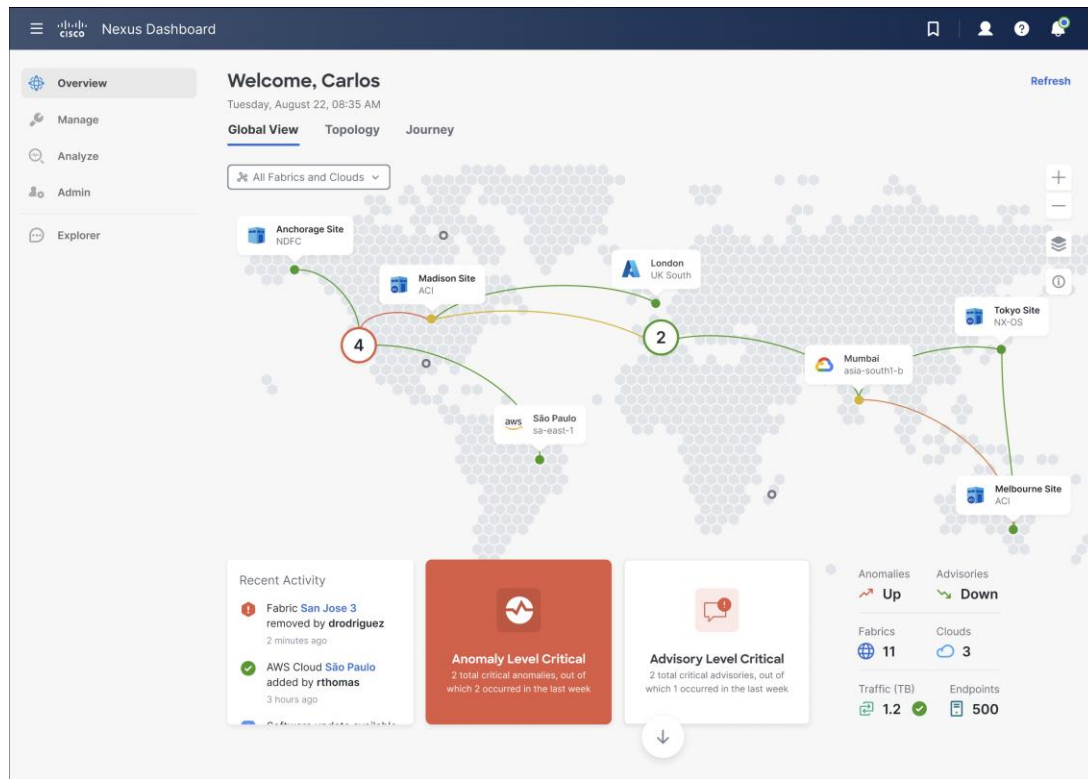
Switch  
credentialsSingle  
sign-onBackup  
and restore

RBAC

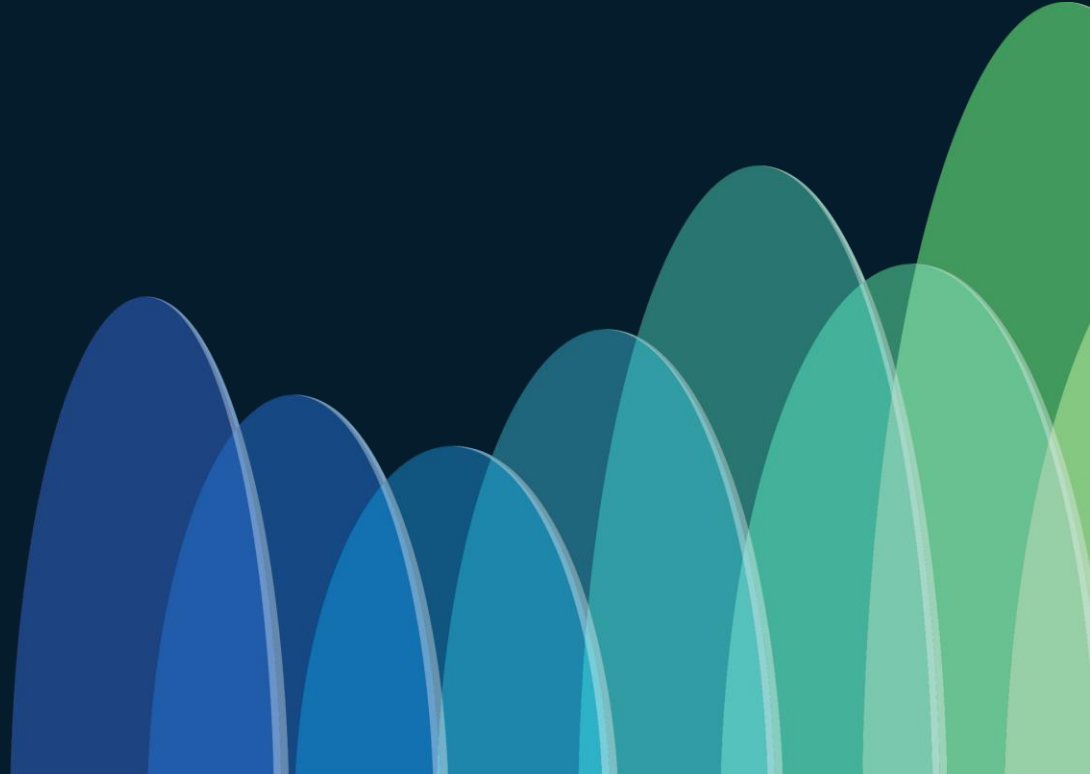
Integrations

Upgrade  
and downgradeChange  
managementSyslog  
and audit logs

One product

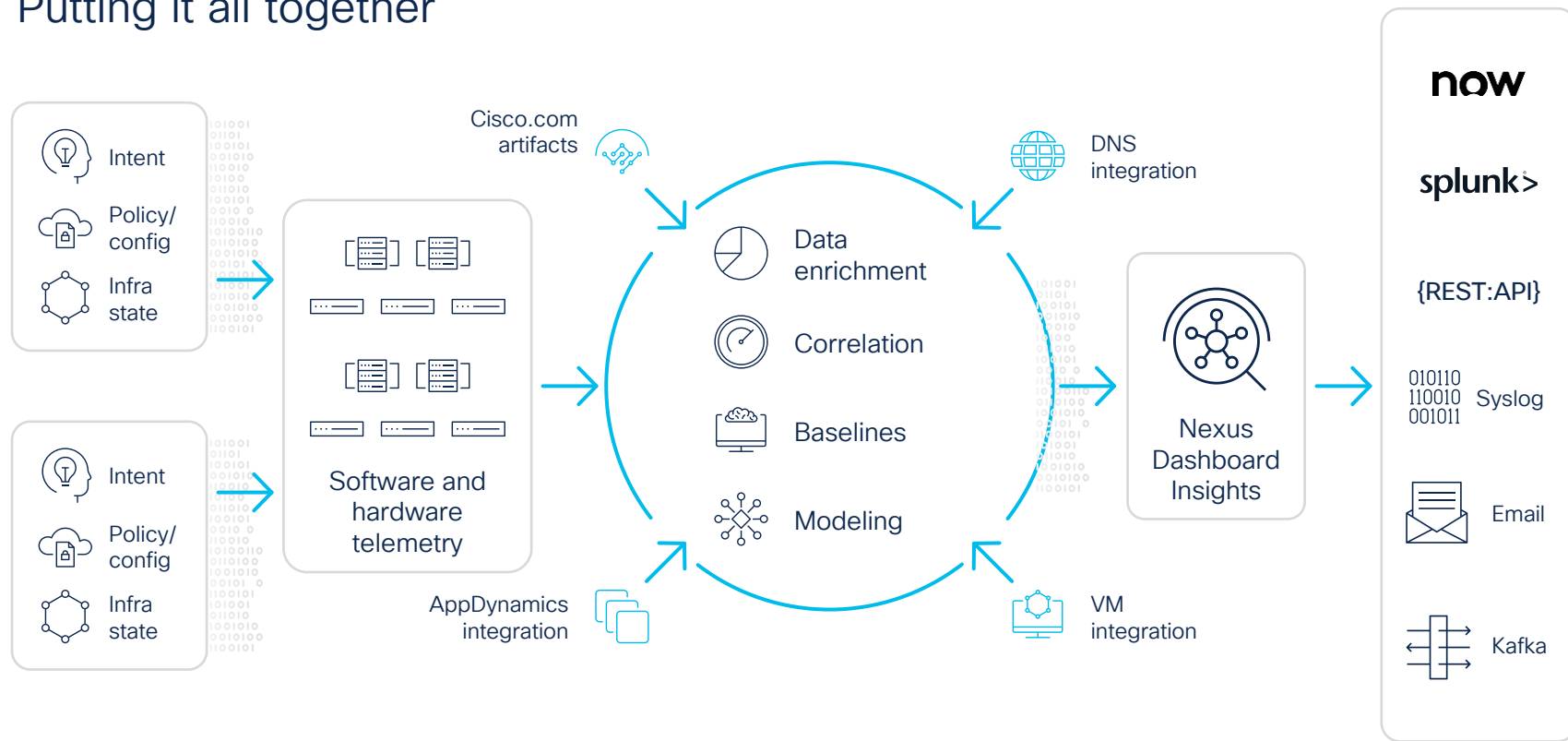


# Day 2 Operations with Nexus Dashboard Insights



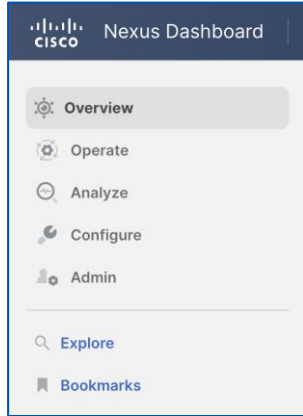
# Nexus Dashboard Insights

Putting it all together

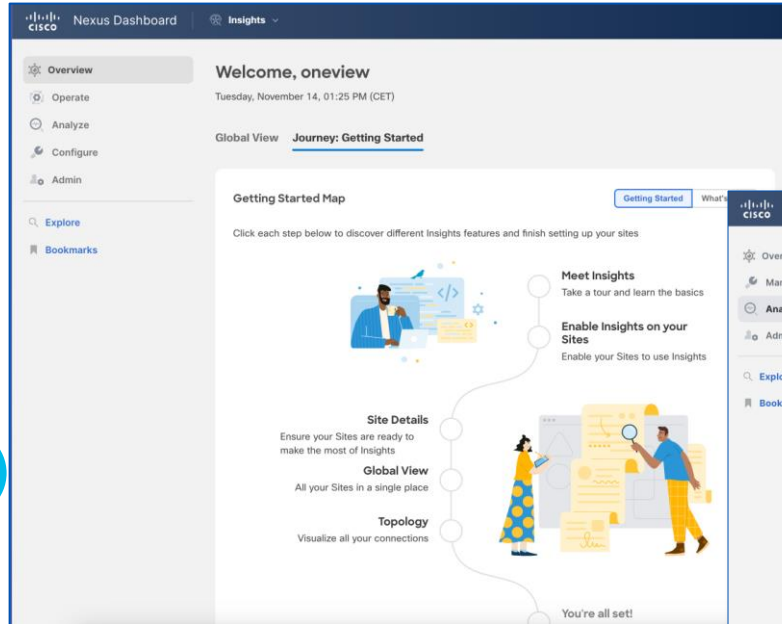


# Simplified user experience

## Consistent with other ND services and helpful guidance

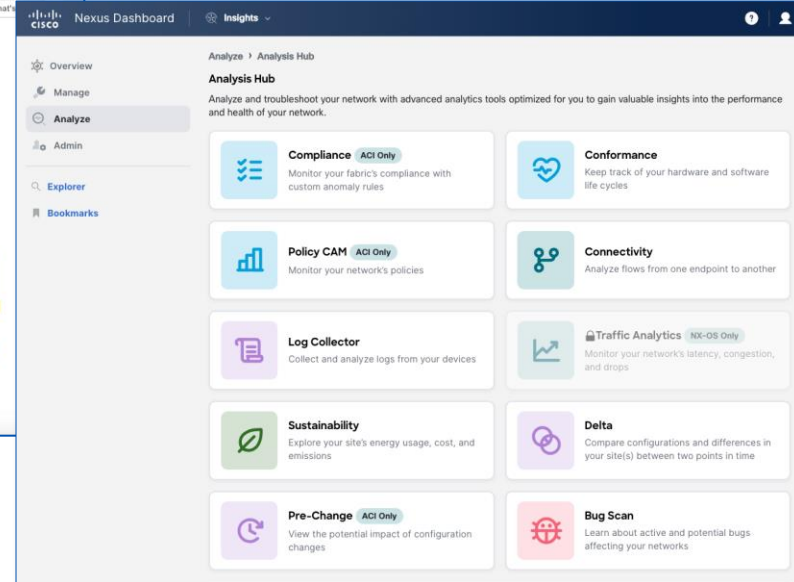


Logical navigation  
and feature grouping



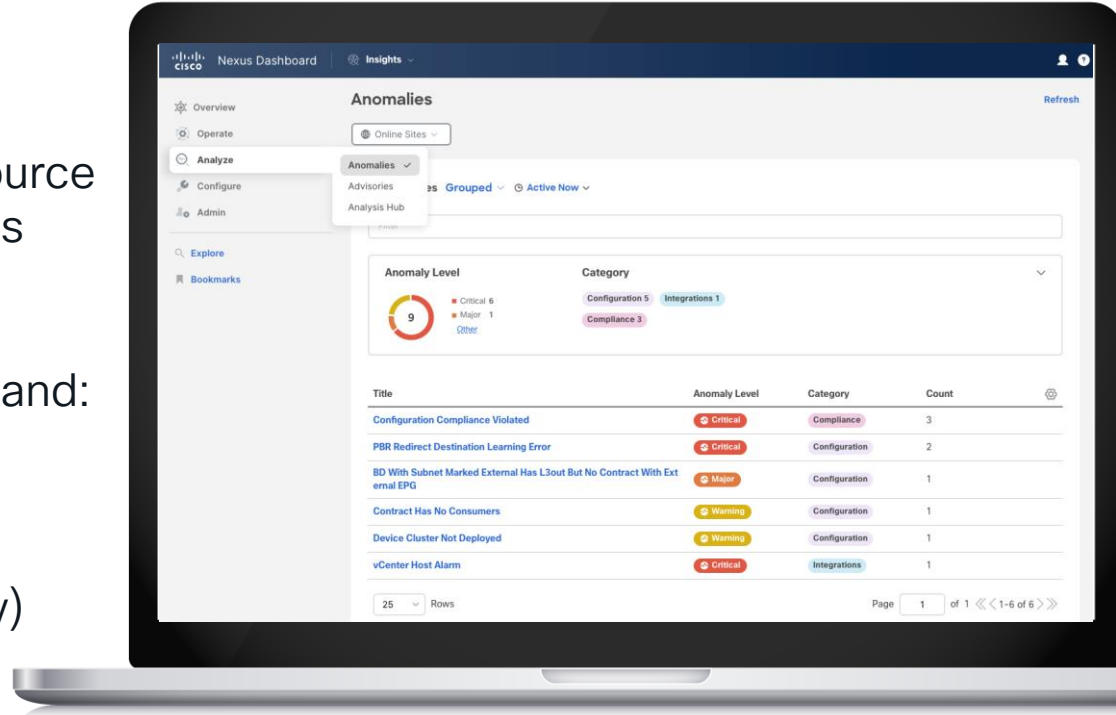
Helpful guidance for first  
time setup

New Analysis Hub for advanced features



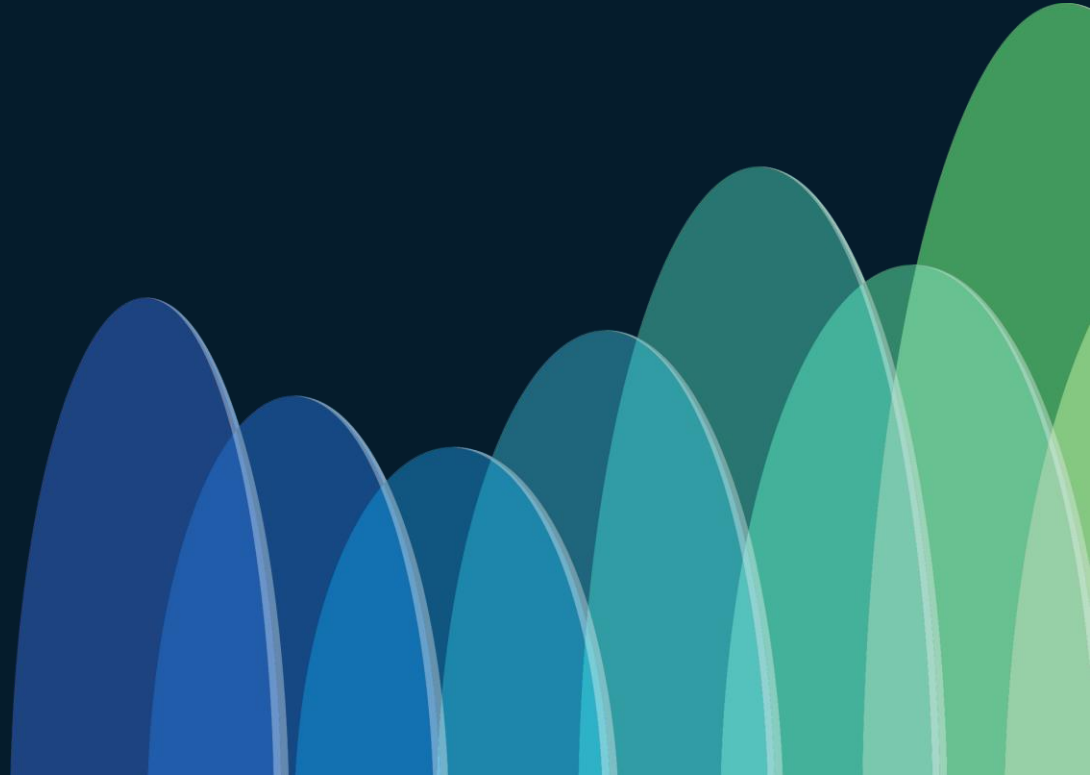
# Anomalies and advisories

- Anomalies are triggered by negative events or when a resource deviates from its baseline metrics
- Advisories represent matches between the inventory devices and:
  - PSIRT
  - Field Notice
  - End-Of-Life milestones
  - Best Practices(NX-OS only)



Holistic event dashboard | targeted notice matches

# Use Cases



# Cisco Nexus Dashboard Insights

## Current feature set

### Visibility and monitoring



Topology



Capacity planning



Control plane statistics



Microburst detection



Explorer queries



Interface statistics

### Analytics and correlation



Flow telemetry



Assurance



Endpoint analytics



Integrations



Delta and pre-change analysis



Anomalies

### Advisories and tools



Conformance and lifecycle



PSIRT notification



TAC assist



Upgrade analysis



Field notices



Bug scan

# Common real world ops questions

## Visibility, Sustainability, and Capacity

What is the current network  
utilisation?

How many ports do I have available?

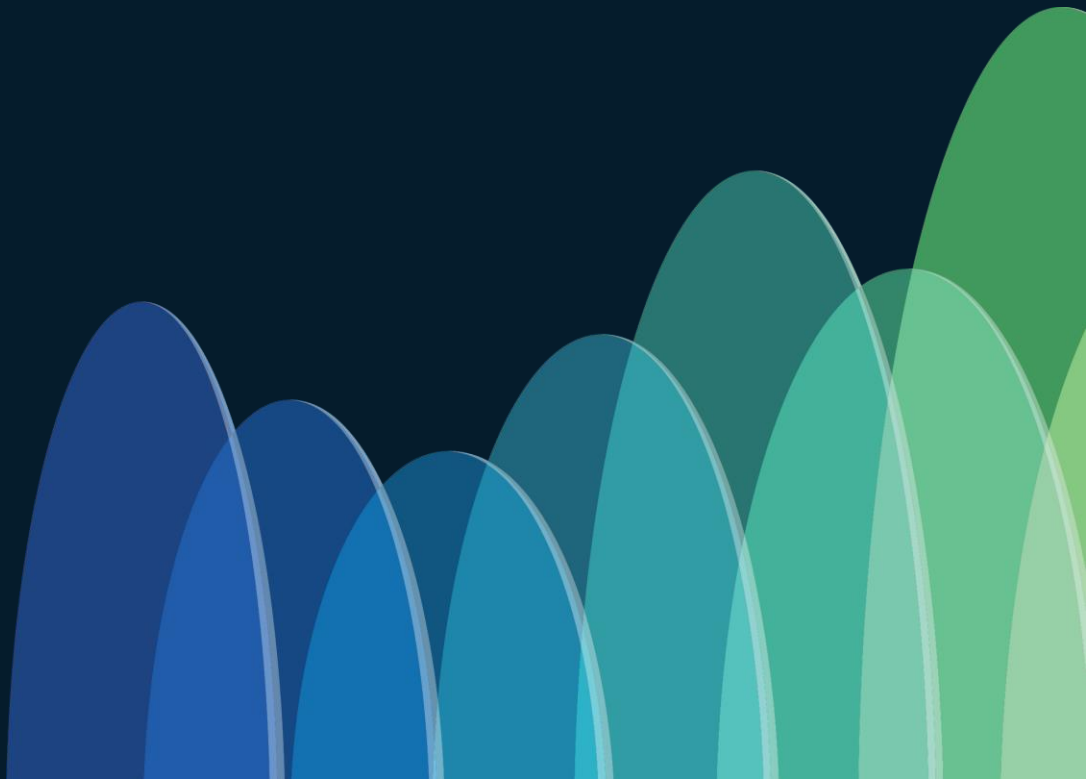
Am I running out of hardware TCAM  
space?

How energy efficient is my  
environment?

---



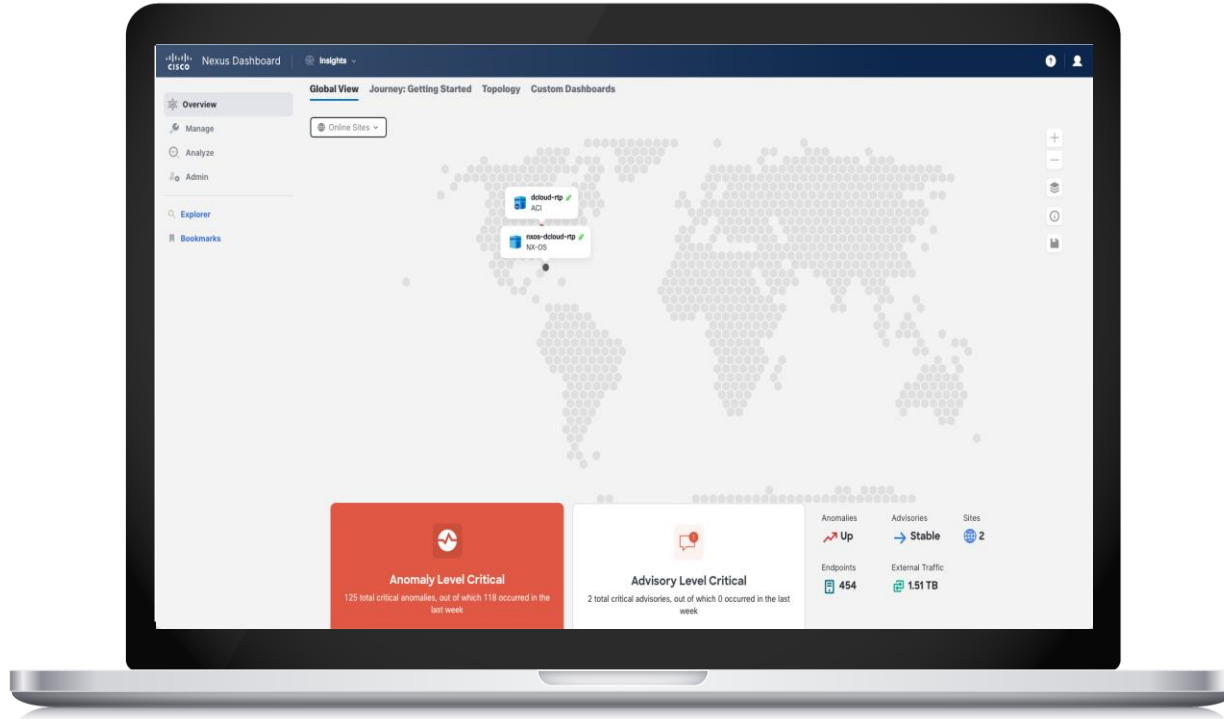
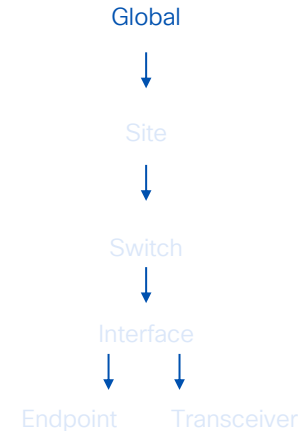
# Visibility



# Nexus Dashboard Insight Visibility

## Global View

Capacity & Visibility

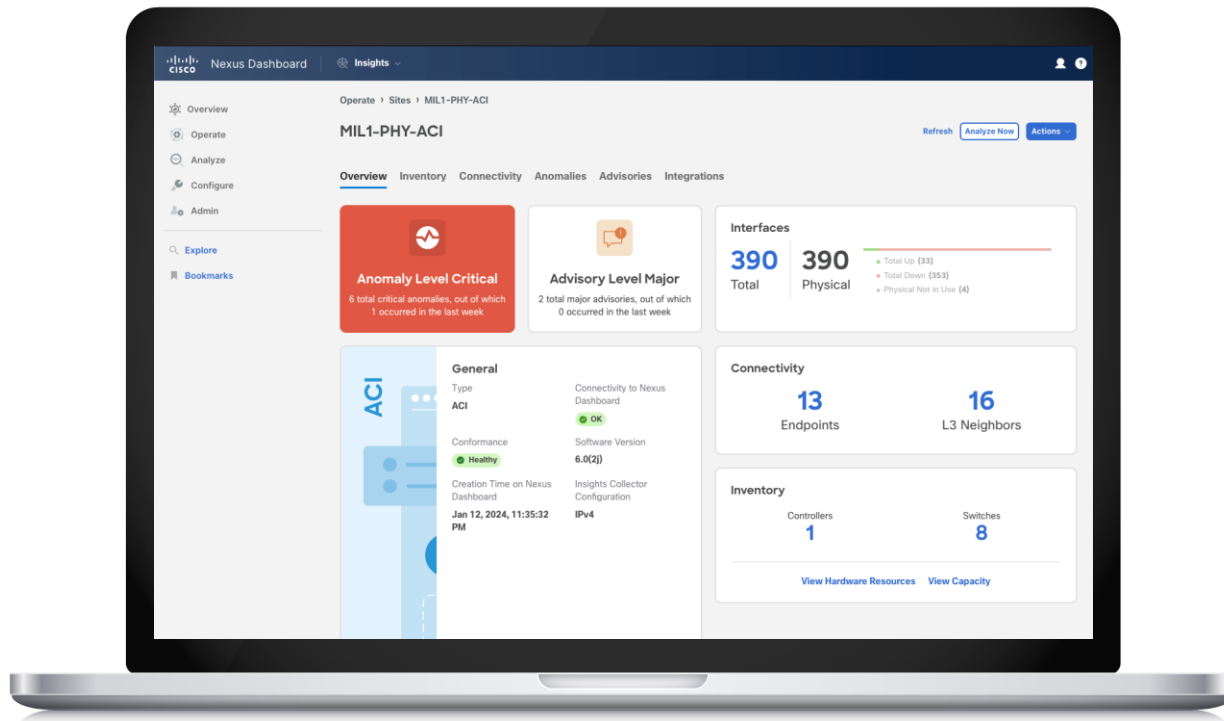
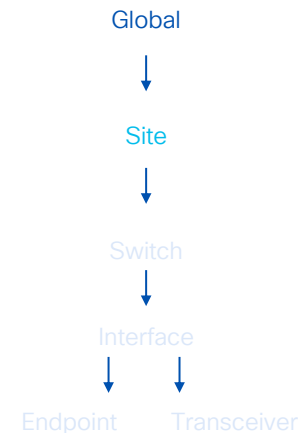


Where should I focus my attention?

# Nexus Dashboard Insight Visibility

## Site Detail

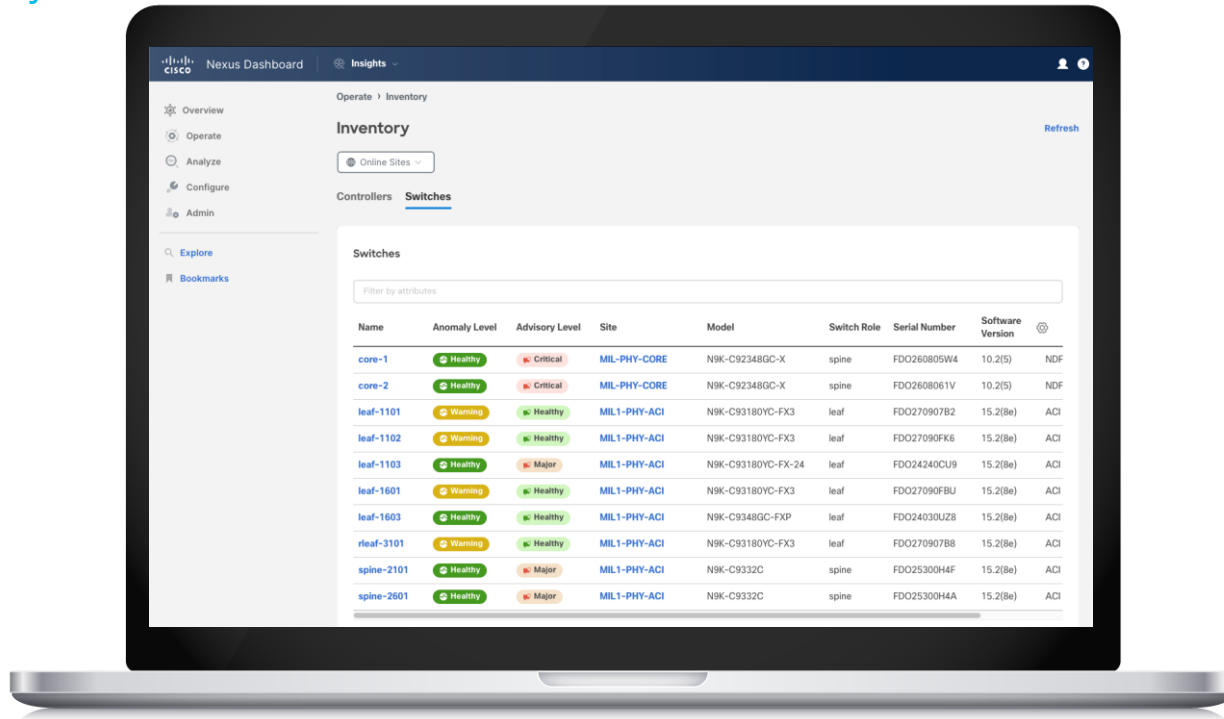
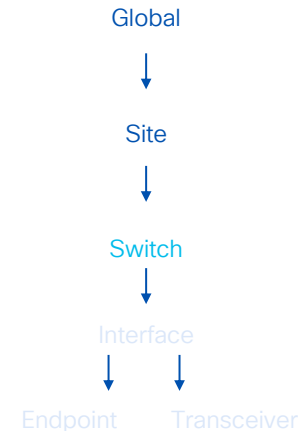
Capacity & Visibility



Where should I focus my attention?

# Nexus Dashboard Insight Visibility Inventory

Capacity & Visibility

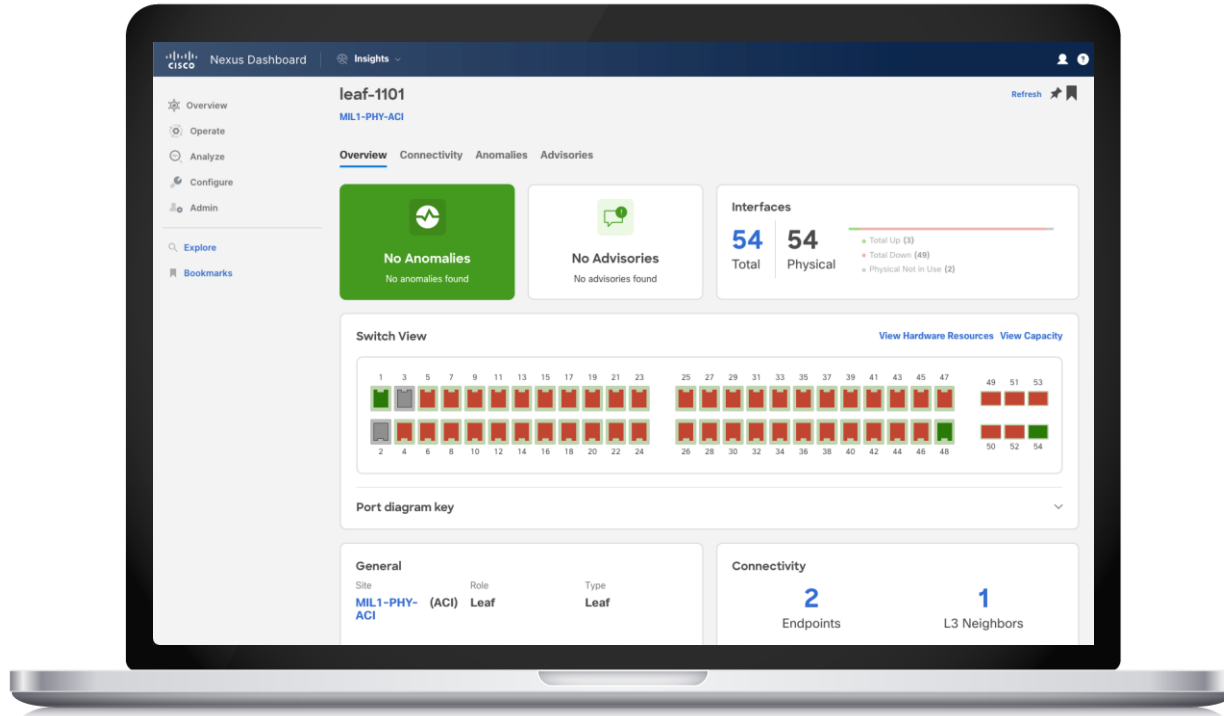
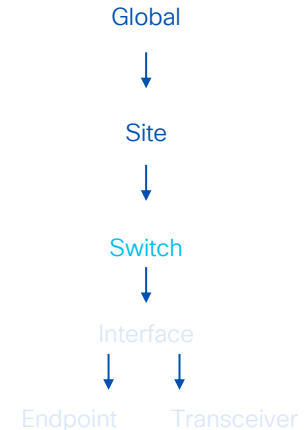


What is running in this environment?

# Nexus Dashboard Insight Visibility

## Switch View

Capacity & Visibility

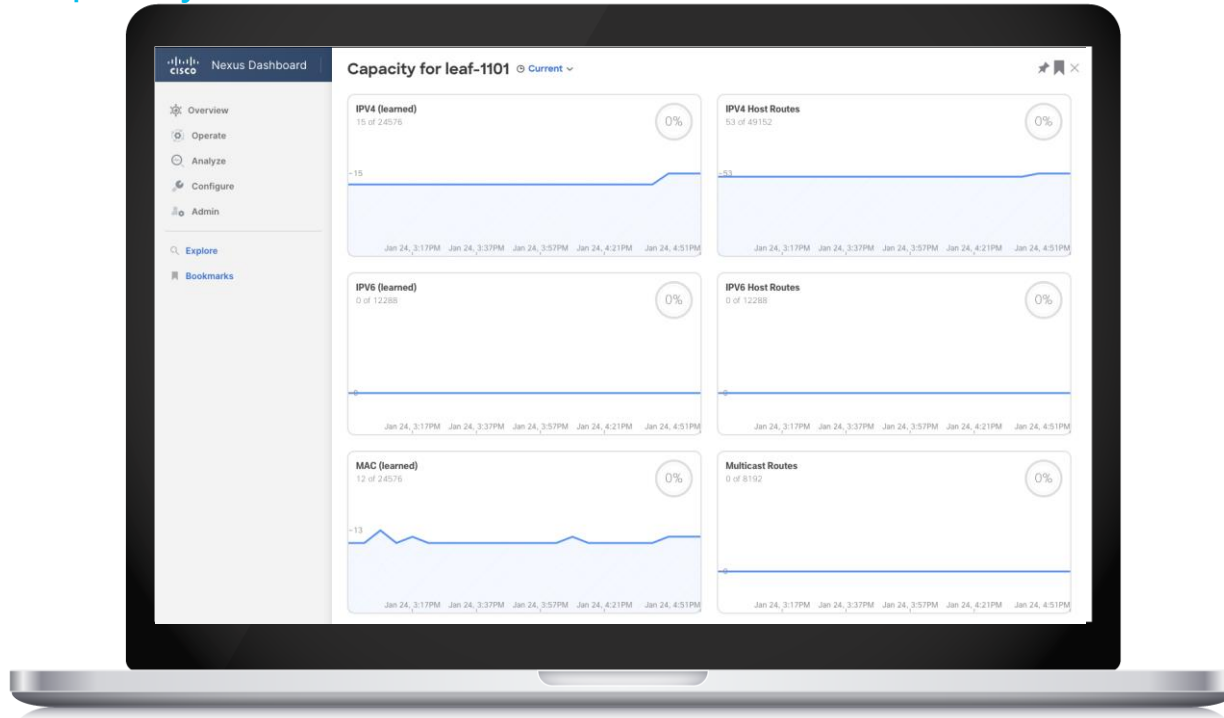
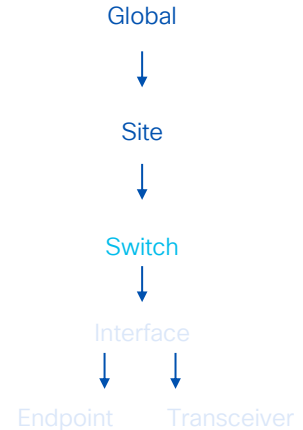


How are my switches configured and what's connected?

# Nexus Dashboard Insight Visibility

## Switch Capacity

Capacity & Visibility

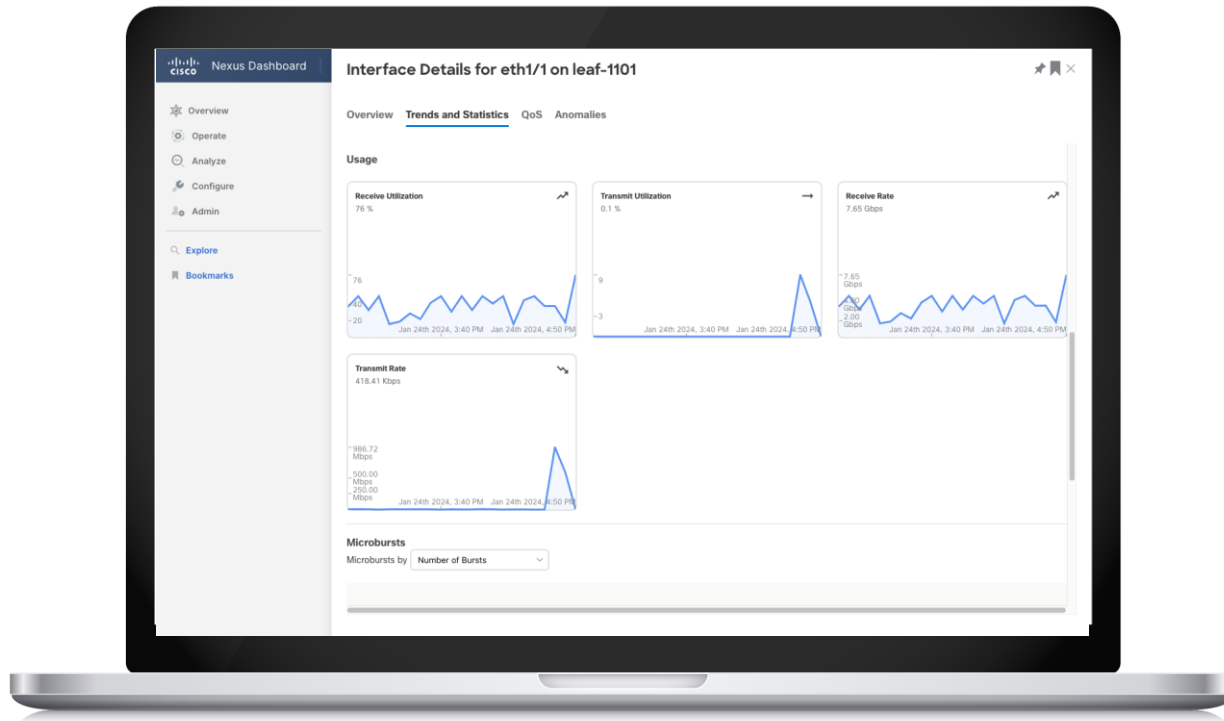
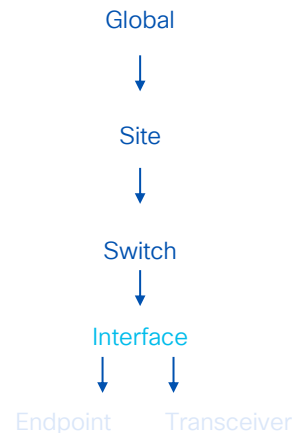


Am I running close to capacity?

# Nexus Dashboard Insight Visibility

## Interface Statistics

Capacity & Visibility

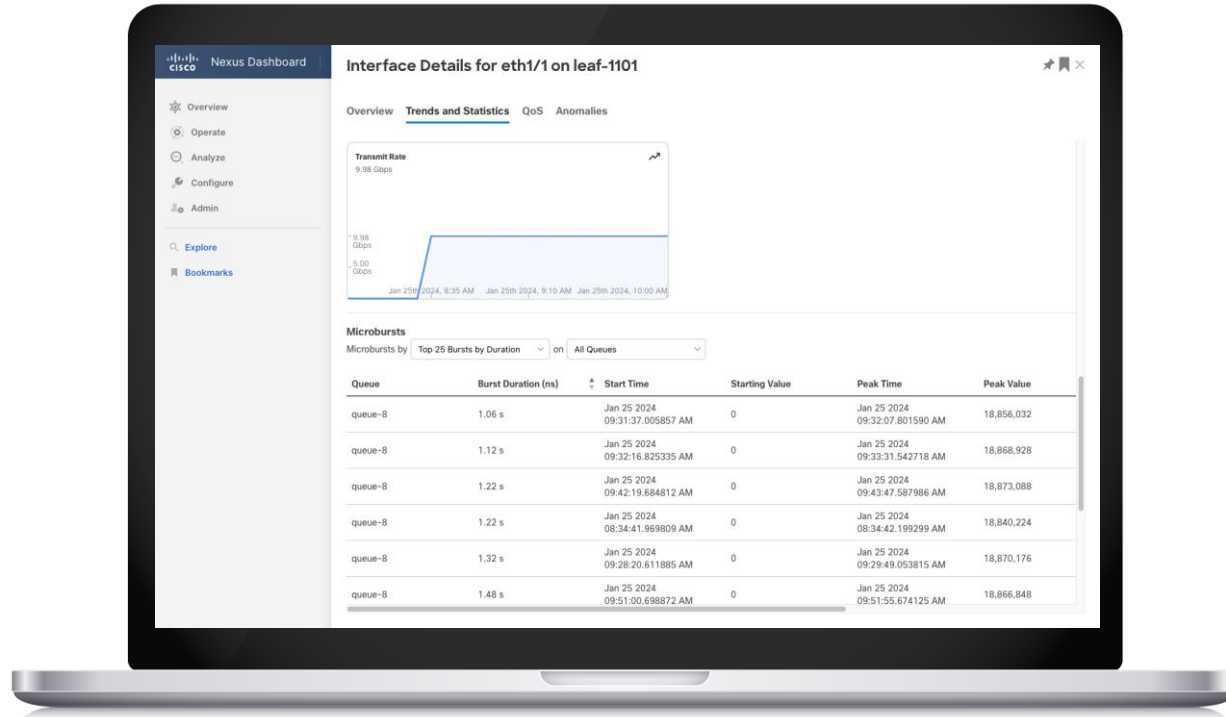
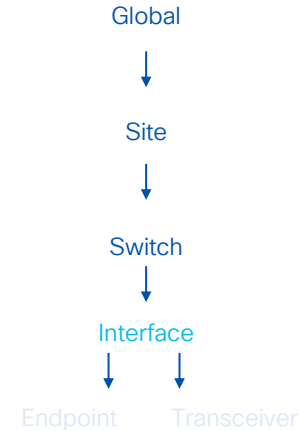


Should I upgrade from 1G, 10G, 25G, or 100G?

# Nexus Dashboard Insight Visibility

## Interface Microburst

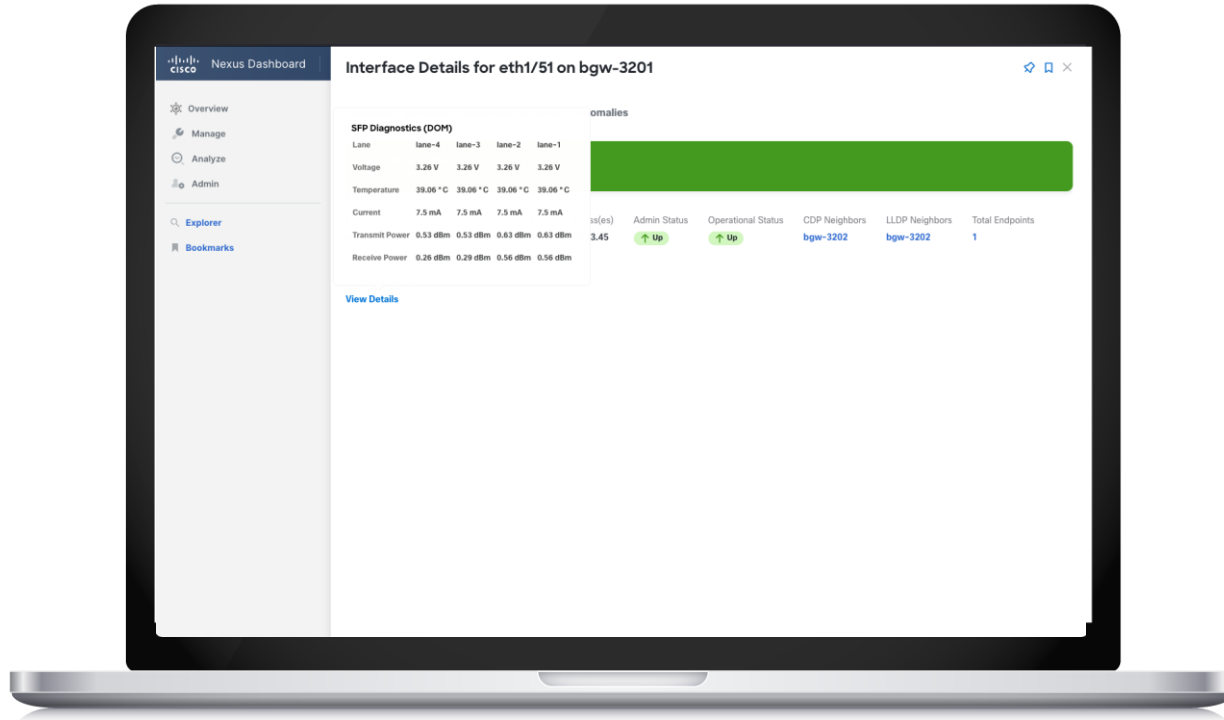
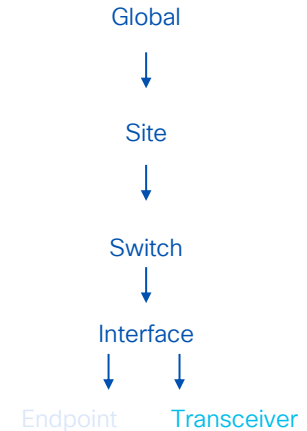
Capacity & Visibility



Where there any recent microbursts?

# Nexus Dashboard Insight Visibility

## Interface DOM

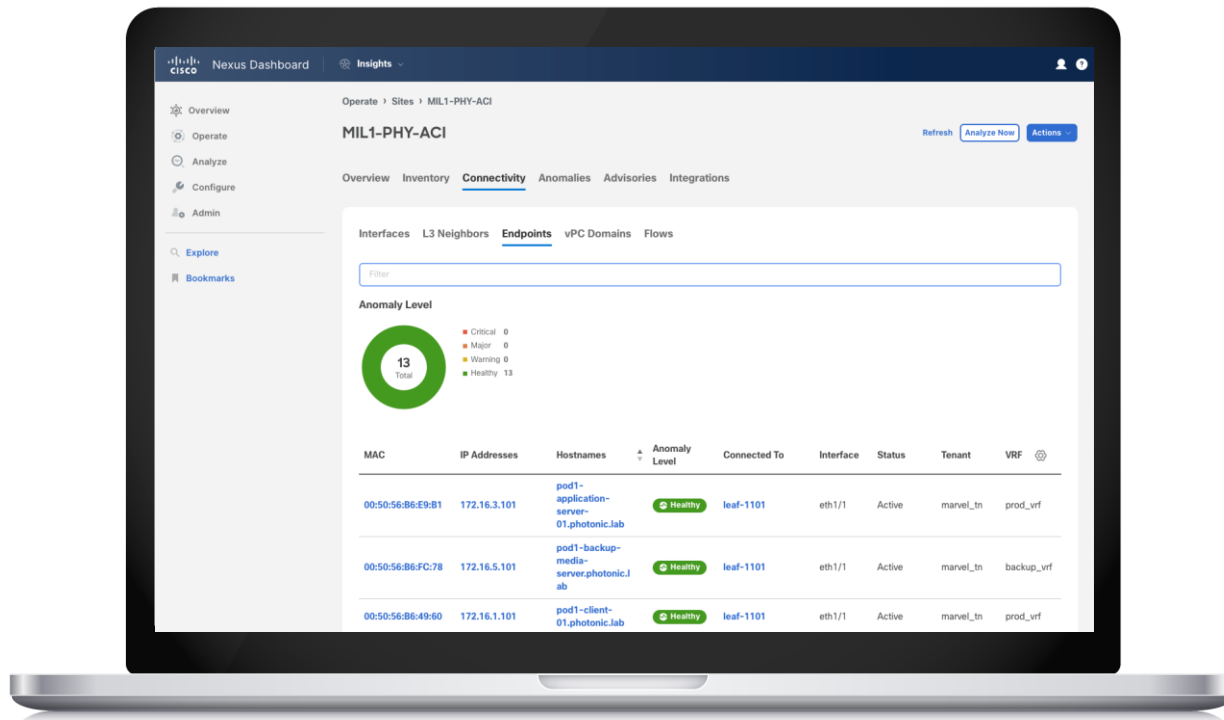
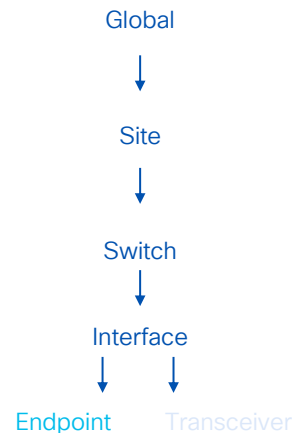


Are the physical transceivers still functioning correctly?

# Nexus Dashboard Insight Visibility

## Fabric Wide Database

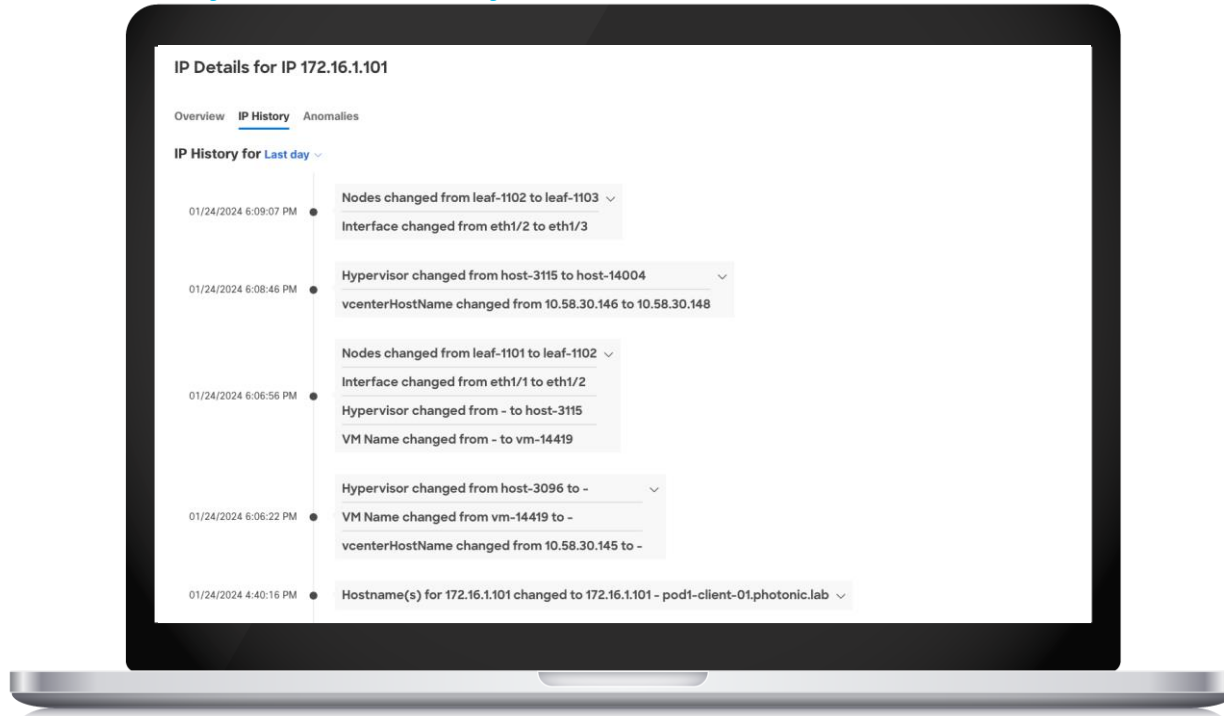
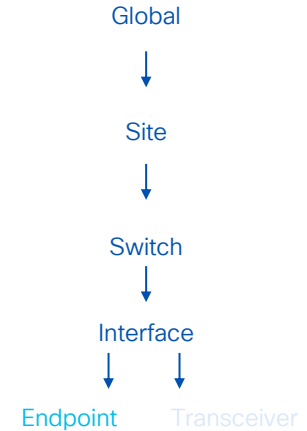
Capacity & Visibility



To which device is this endpoint connected?

# Nexus Dashboard Insight Visibility

## Endpoint Visibility – IP Mobility

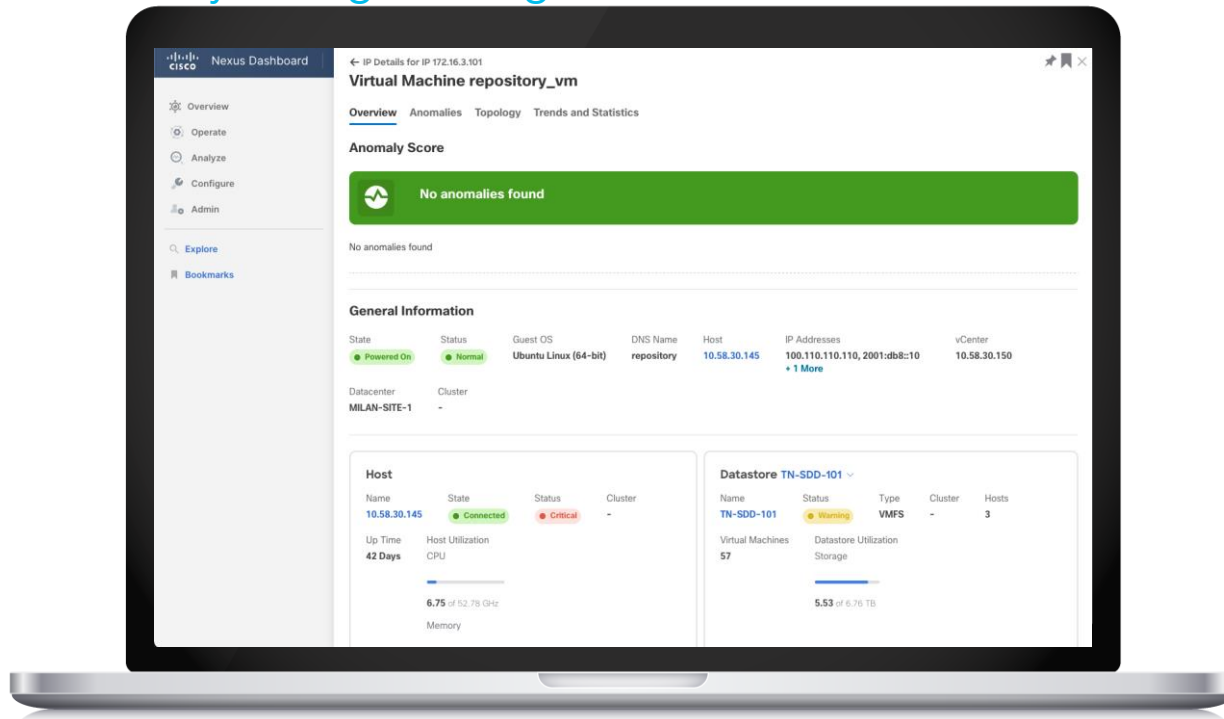
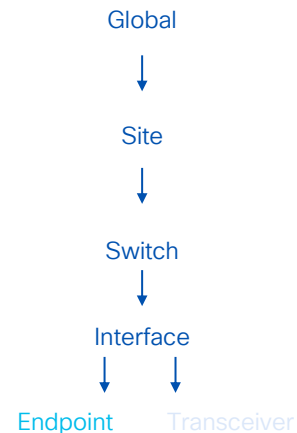


Where has this endpoint been seen?

# Nexus Dashboard Insight Visibility

## Endpoint Visibility – Augmenting the data sources

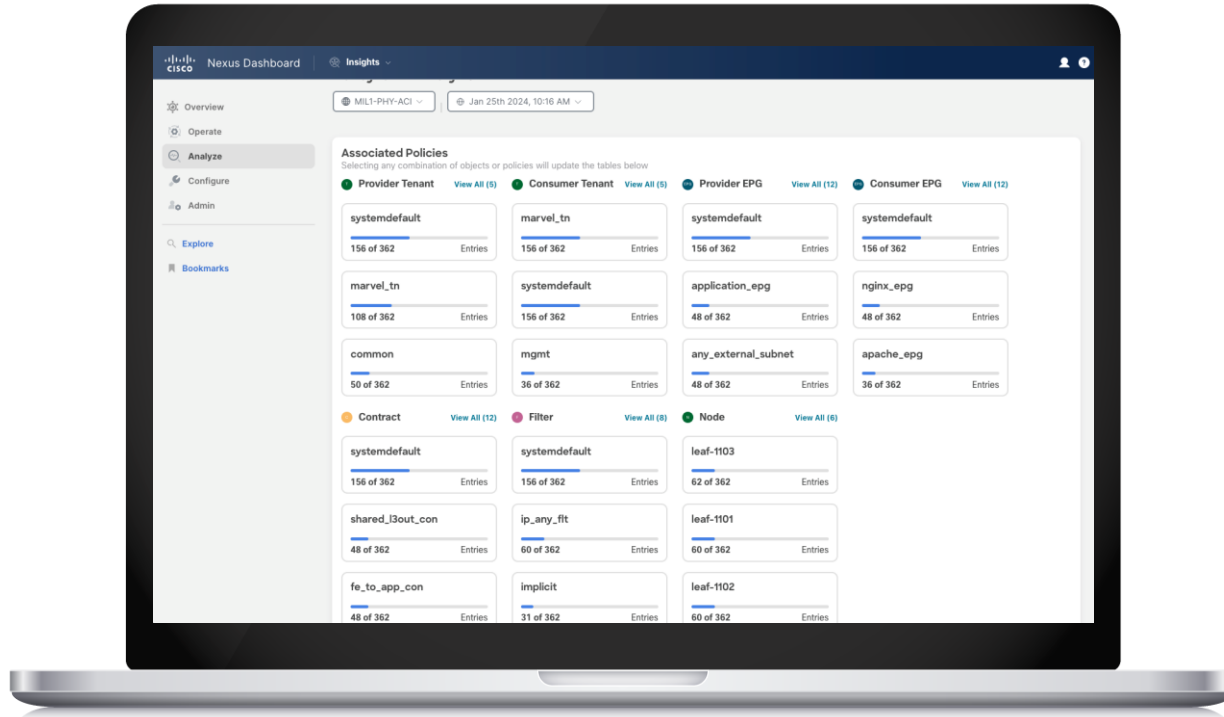
Capacity & Visibility



Holistic Event Dashboard | Targeted Notice Matches

# Nexus Dashboard Insights

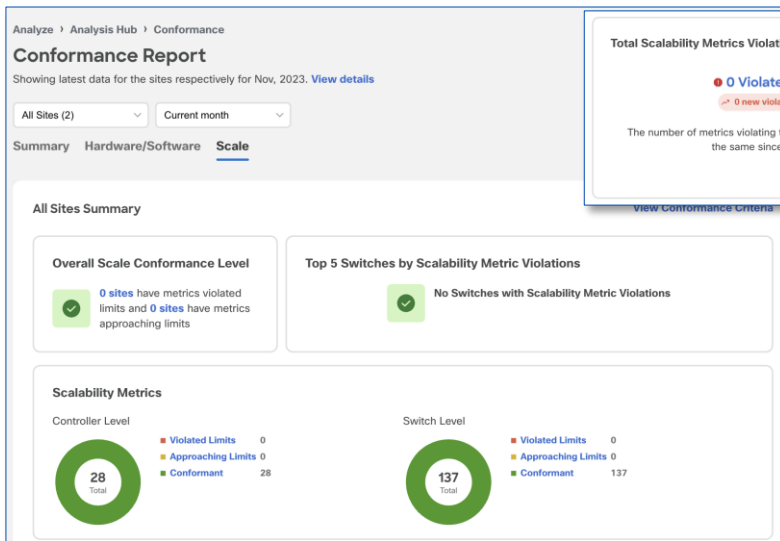
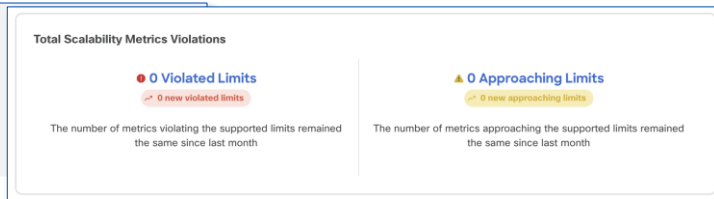
## Policy CAM



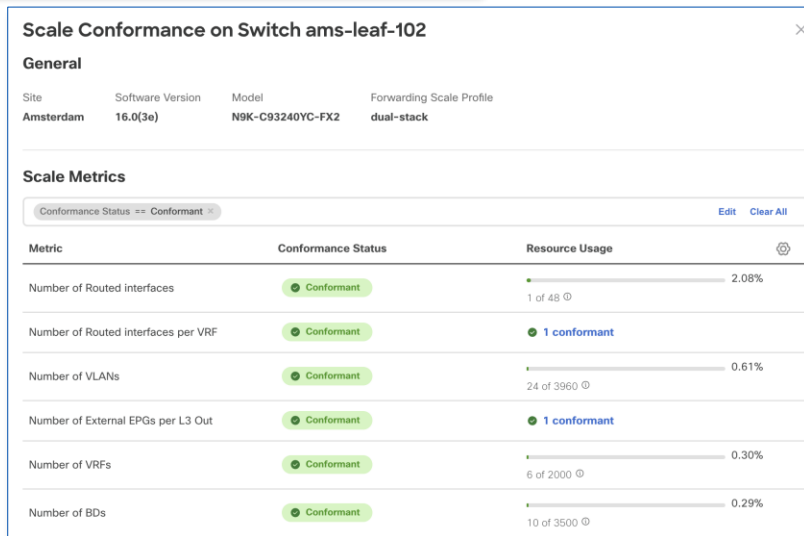
Who is consuming the TCAM space?

# Am I running out of capacity?

## Scale Conformance Reports



Usage Trends over Time

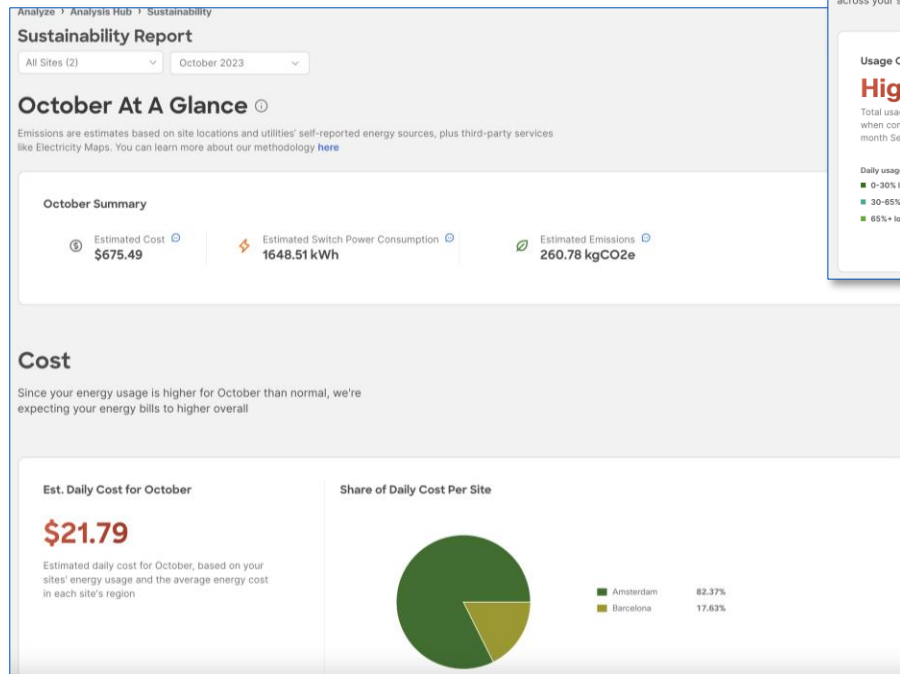
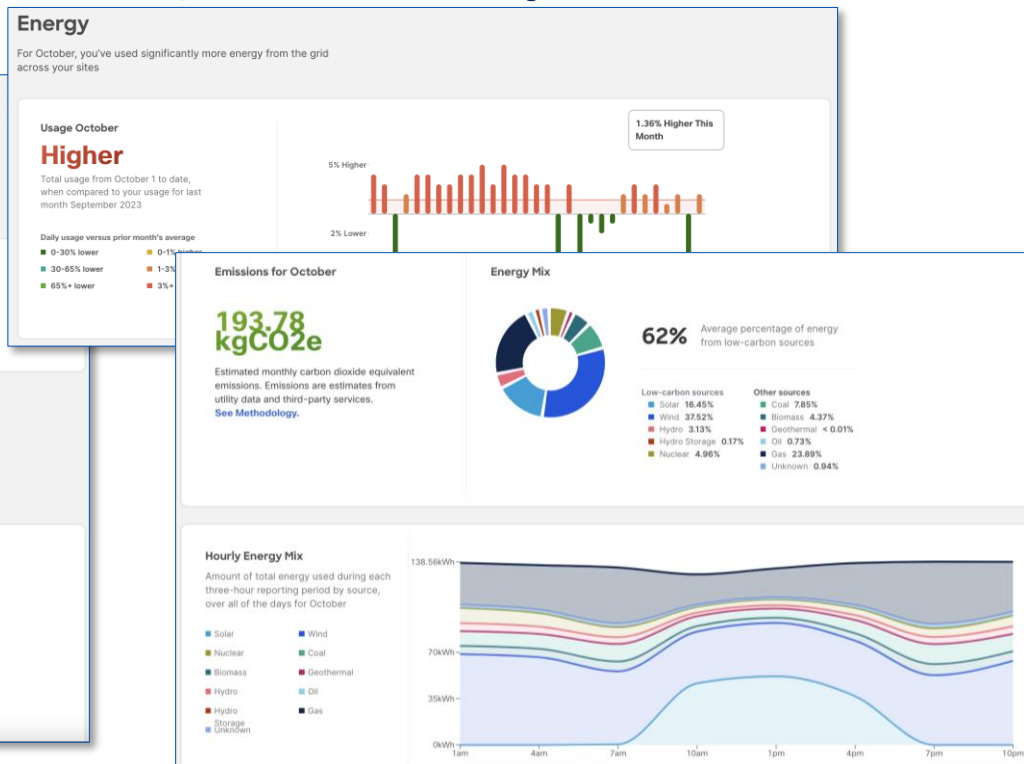


Monthly view of resource utilisation

Details by node and category

# What is the energy consumption of my fabrics?

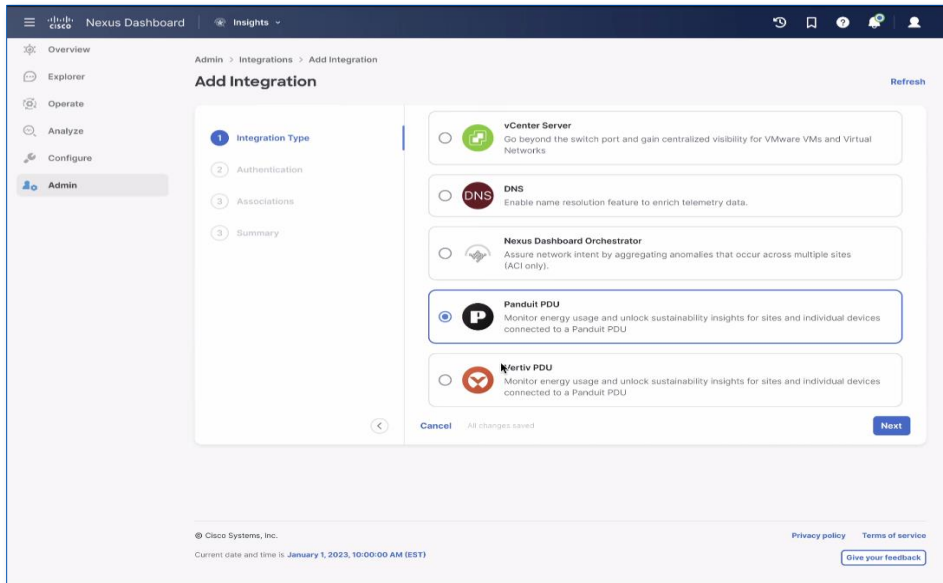
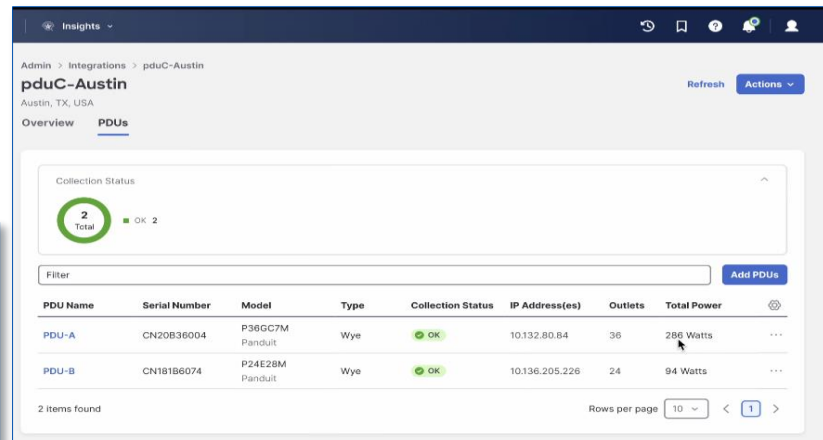
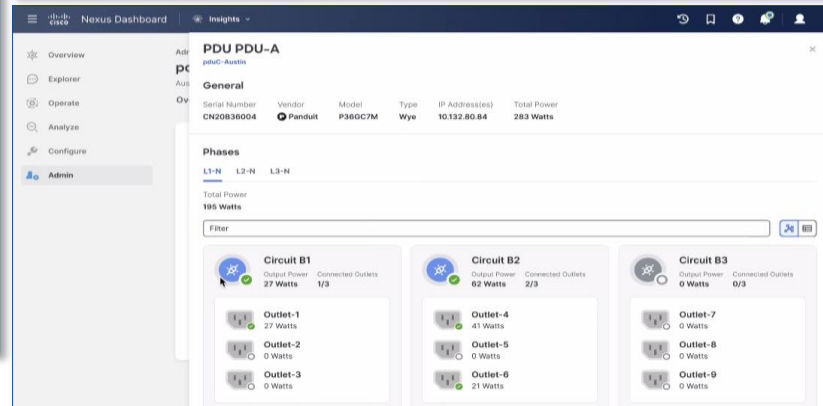
## Sustainability Analysis



Power Use, Costs, CO<sub>2</sub> emissions all trending over time

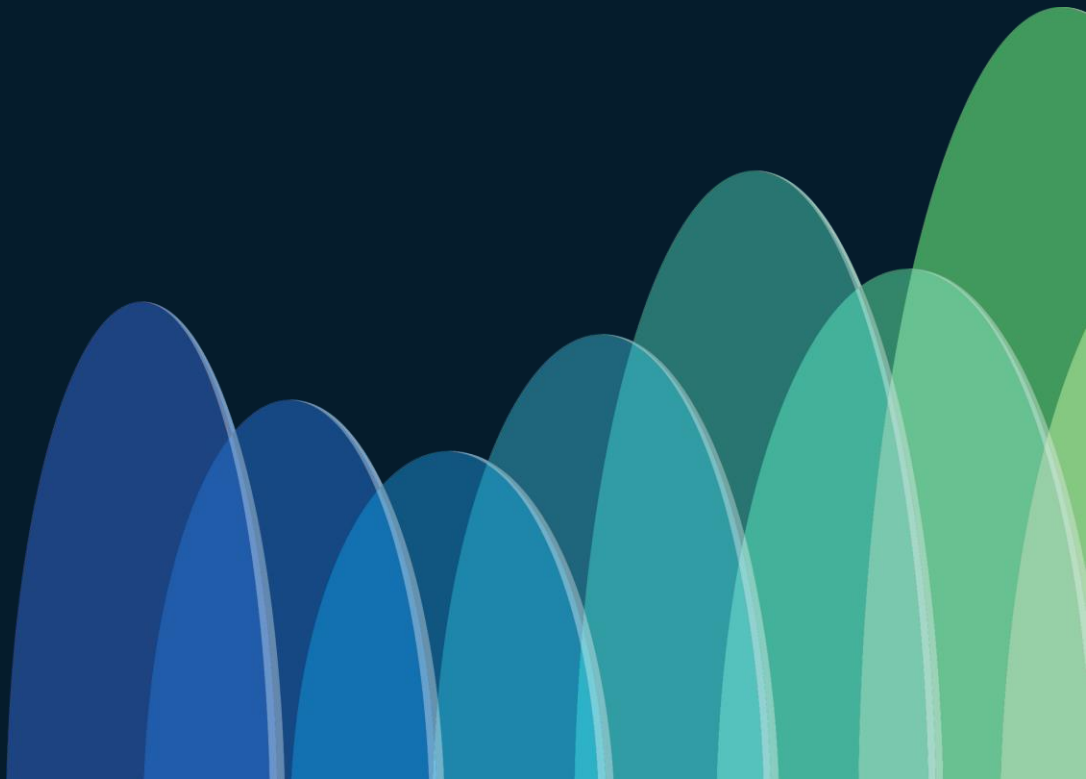
# Nexus Dashboard Insights

## Sustainability integrations



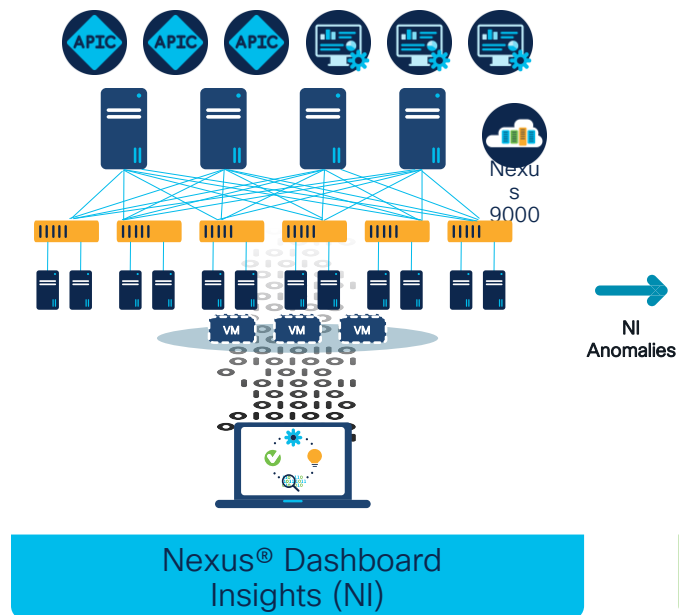
Power Use, Costs, CO2 emissions all trending over time

# NDI and Splunk



# Nexus Dashboard Insights

## Splunk integration



App and add-on

0110  
110010  
0110



Splunk Enterprise

NI anomalies on  
Splunk dashboard

User-configurable  
anomaly pull

Periodic syncing of anomalies  
to Splunk data lake

Visibility, monitoring, and cross-tier correlation

# Common real world ops questions

## Visibility, Sustainability, and Capacity

What is the current network  
utilisation?

How many ports do I have available?

Am I running out of hardware TCAM  
space?

How energy efficient is my  
environment?

---



## Troubleshooting

Where is the problem and what's  
the blast radius?

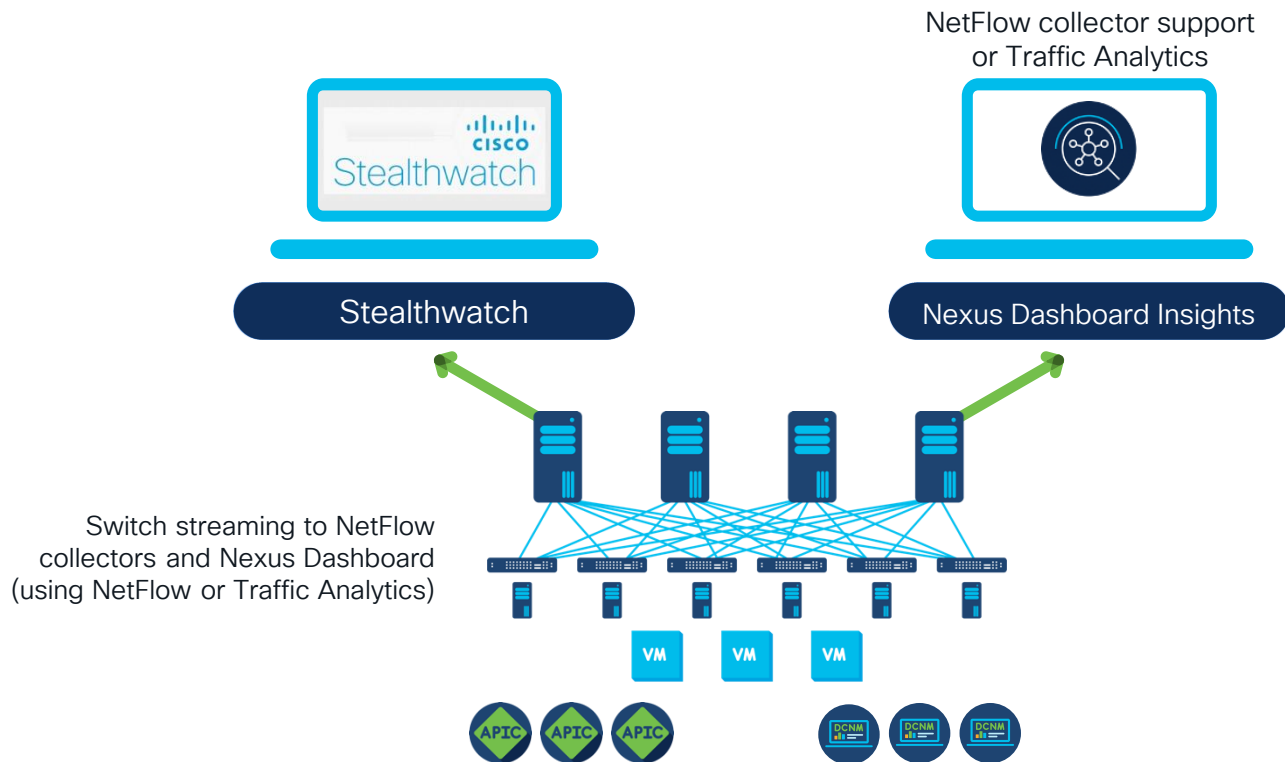
How do I reduce MTTR?

How do I prove network is healthy?

How identify AI/ML traffic issues?

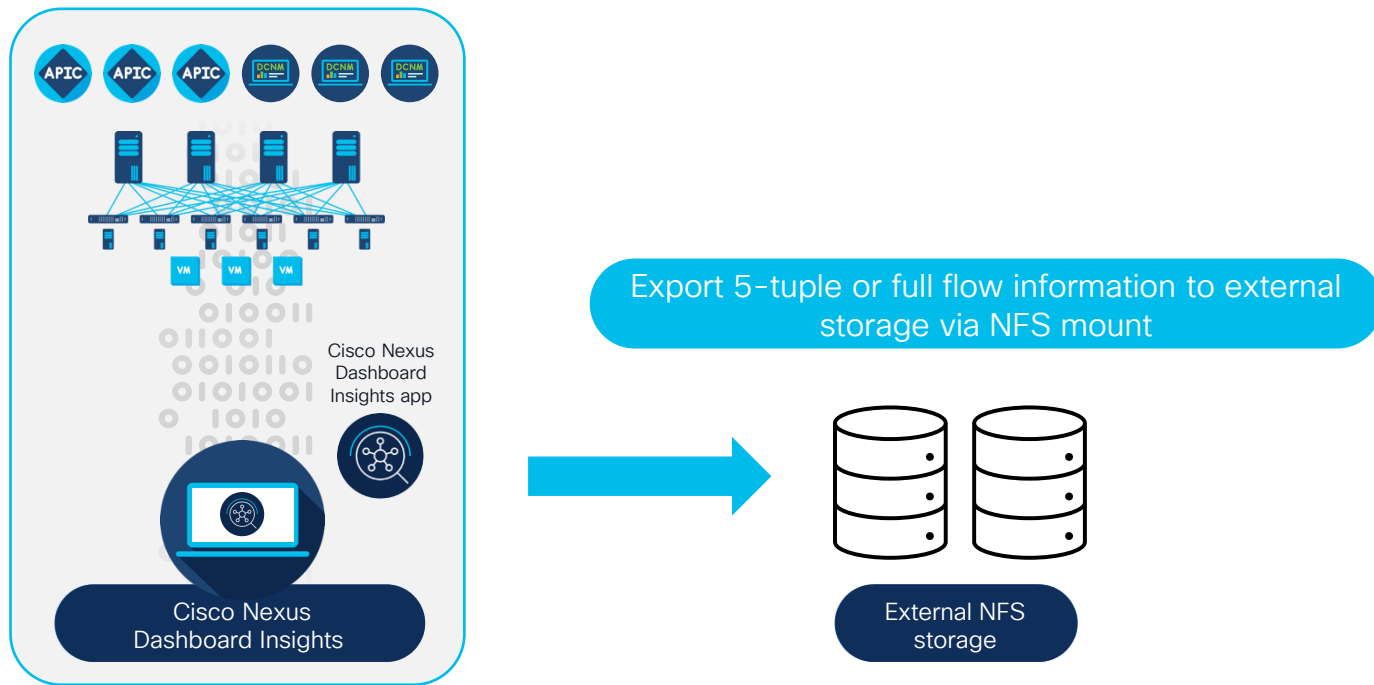
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# Flow table, NetFlow, sFlow, IPFIX support



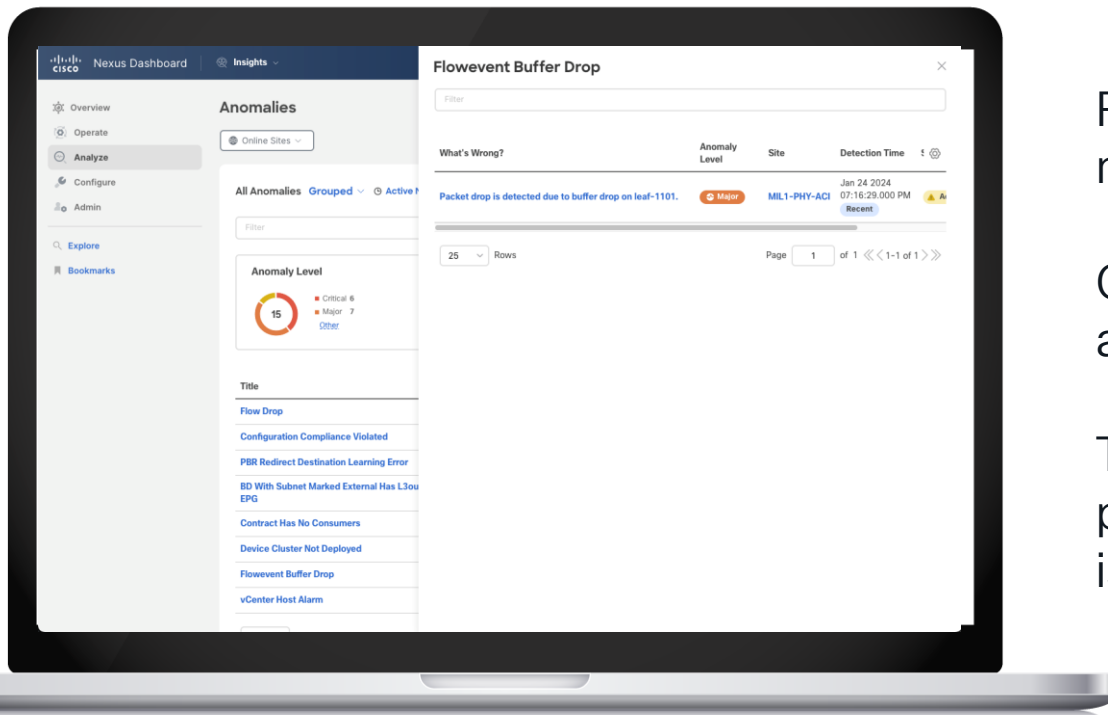
# Can I store more data?

## Remote flow data storage



# Flow telemetry

## Flow table events (FTE)



For every FTE NDI creates a new anomaly

Operators can be notified about this within seconds

The overall Anomalies page provides insights on what else is happening in the fabric

Easier Event Correlation | Faster MTTD

# Flow telemetry

## FTE table

Every device exports its own view about the flow

NDI stitches the same packet across all the reported hops

This table displays the end-to-end flow

The screenshot shows the 'Flows' section of the Cisco Nexus Dashboard. The left sidebar contains navigation links: Overview, Operate, Analyze, Configure, Admin, Explore, and Bookmarks. The main content area displays a table of flows. The table has columns for Anomaly Score, Record Time, Nodes, Flow Type, Protocol, Latency, Packet Drop Indicator, Flow Move Indicator, and Address. The table contains 12 rows of data, all marked as 'Healthy'.

| Anomaly Score | Record Time                 | Nodes                  | Flow Type | Protocol | Latency | Packet Drop Indicator | Flow Move Indicator | Address         |
|---------------|-----------------------------|------------------------|-----------|----------|---------|-----------------------|---------------------|-----------------|
| Healthy       | Jan 25 2024 08:39:44.597 AM | leaf-1103<br>leaf-1101 | IPv4      | TCP      | 10      | 0                     | 0                   | 172.16.3.101 80 |
| Healthy       | Jan 25 2024 08:39:58.676 AM | leaf-1102<br>leaf-1101 | IPv4      | TCP      | 2       | 0                     | 0                   | 172.16.3.101 80 |
| Healthy       | Jan 25 2024 08:40:00.566 AM | leaf-1103<br>leaf-1101 | IPv4      | TCP      | 2       | 0                     | 0                   | 172.16.3.101 80 |
| Healthy       | Jan 25 2024 08:40:00.664 AM | leaf-1102<br>leaf-1101 | IPv4      | TCP      | 8       | 0                     | 0                   | 172.16.3.101 80 |
| Healthy       | Jan 25 2024 08:40:00.669 AM | leaf-1601<br>leaf-1101 | IPv4      | TCP      | 5       | 0                     | 0                   | 172.16.3.101 80 |
| Healthy       | Jan 25 2024 08:40:02.560 AM | leaf-3101<br>leaf-1101 | IPv4      | TCP      | 3       | 0                     | 0                   | 172.16.3.101 80 |
| Healthy       | Jan 25 2024 08:40:02.580 AM | leaf-1103<br>leaf-1101 | IPv4      | TCP      | 8       | 0                     | 0                   | 172.16.3.101 80 |
| Healthy       | Jan 25 2024 08:40:02.694 AM | leaf-1601<br>leaf-1101 | IPv4      | TCP      | 11      | 0                     | 0                   | 172.16.3.101 80 |
| Healthy       | Jan 25 2024 08:40:05.566 AM | leaf-3101<br>leaf-1101 | IPv4      | TCP      | 10      | 0                     | 0                   | 172.16.3.101 80 |
| Healthy       | Jan 25 2024 08:40:06.574 AM | leaf-1103<br>leaf-1101 | IPv4      | TCP      | 2       | 0                     | 0                   | 172.16.3.101 80 |

# Flow telemetry

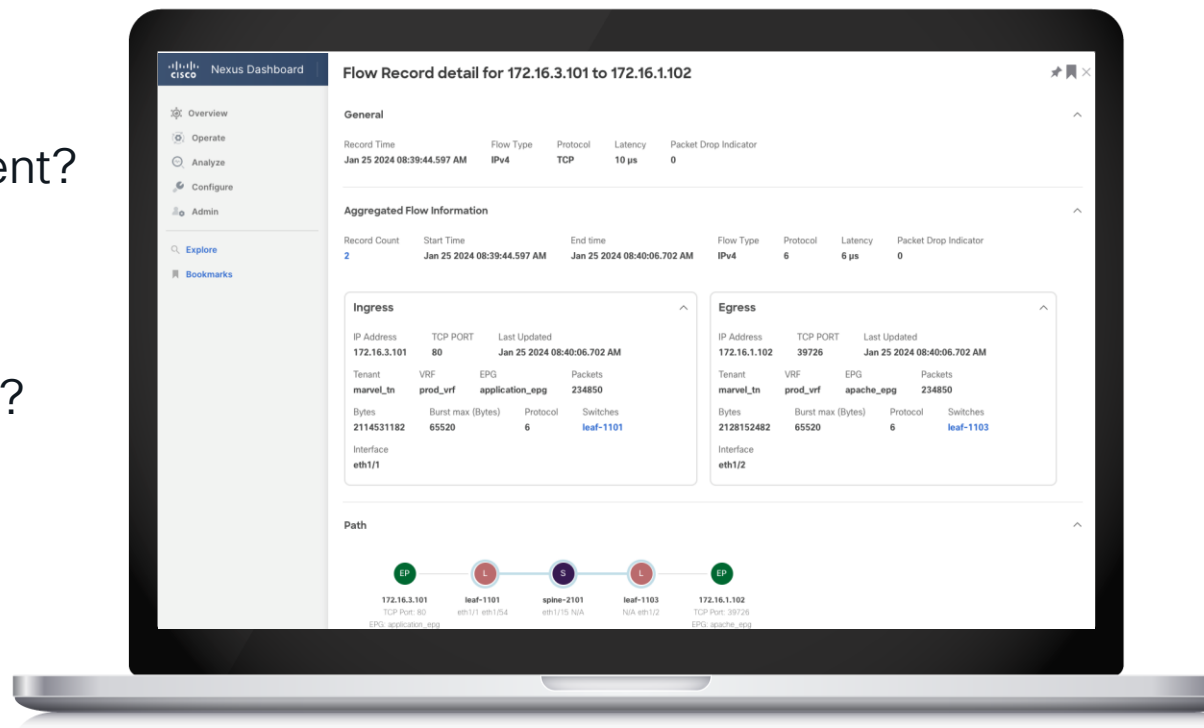
## Flow detail

How many packets were sent?

How many received?

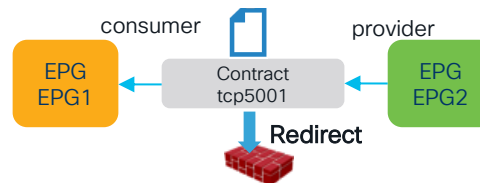
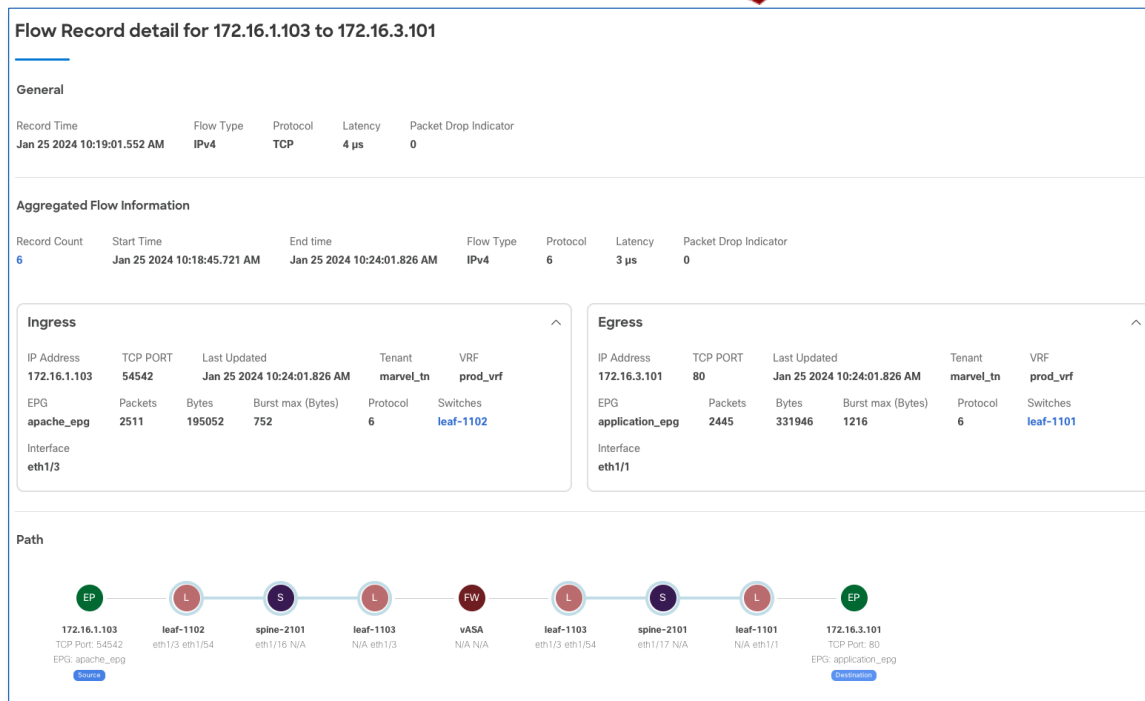
What's the average latency?

Show me the path!



# Flow telemetry

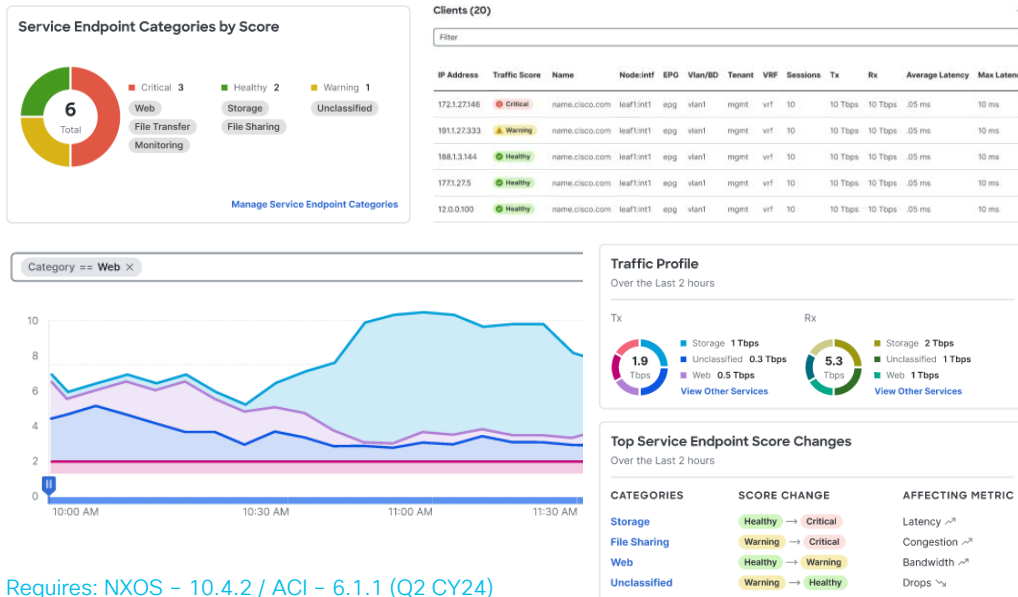
## L4-L7 service awareness



Show me the path!

# Nexus Dashboard Insights

## Traffic analytics – general availability (NXOS+ACI)



NX-OS &amp; ACI support

Congestion, latency, drops

Customise categories

Detect potential issues, top talkers faster

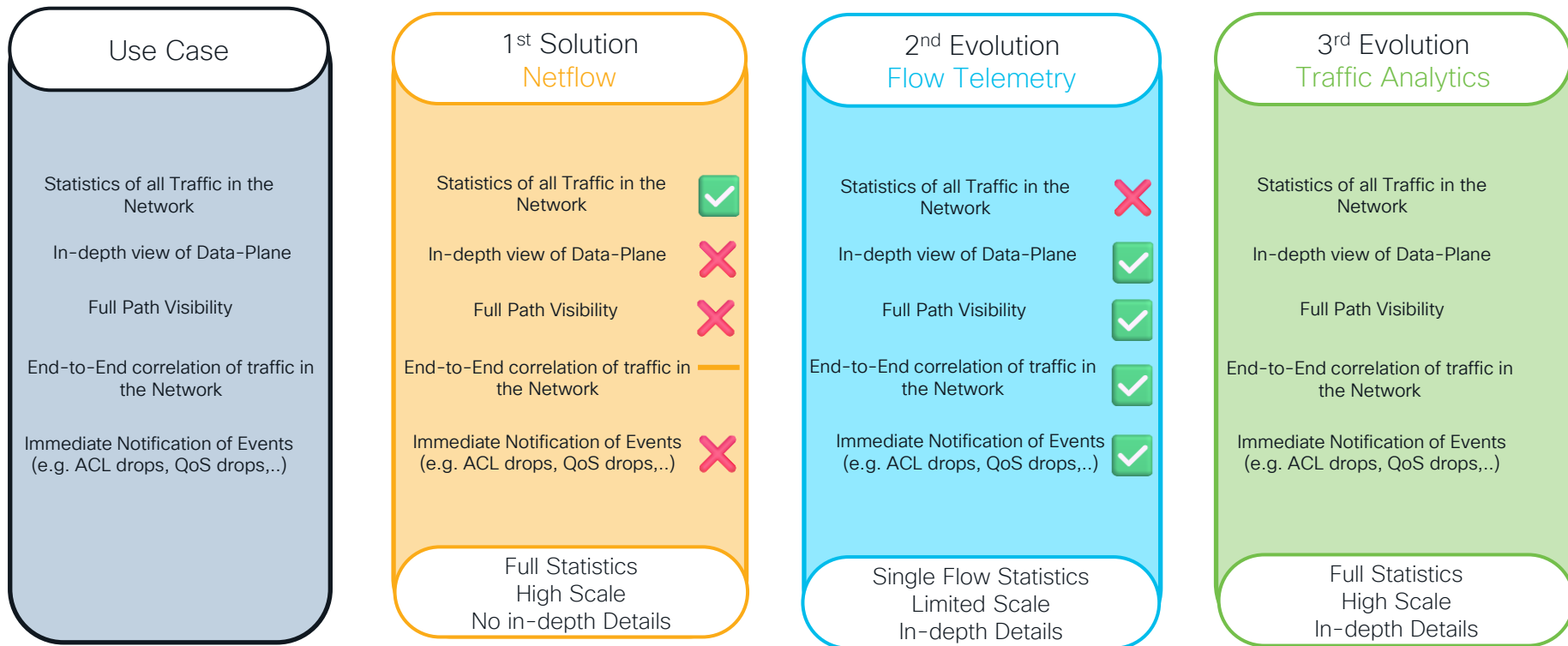
Auto-discovered services (Web, FTP, etc)

Pervasive – filters/rules not needed

Requires: NXOS – 10.4.2 / ACI – 6.1.1 (Q2 CY24)

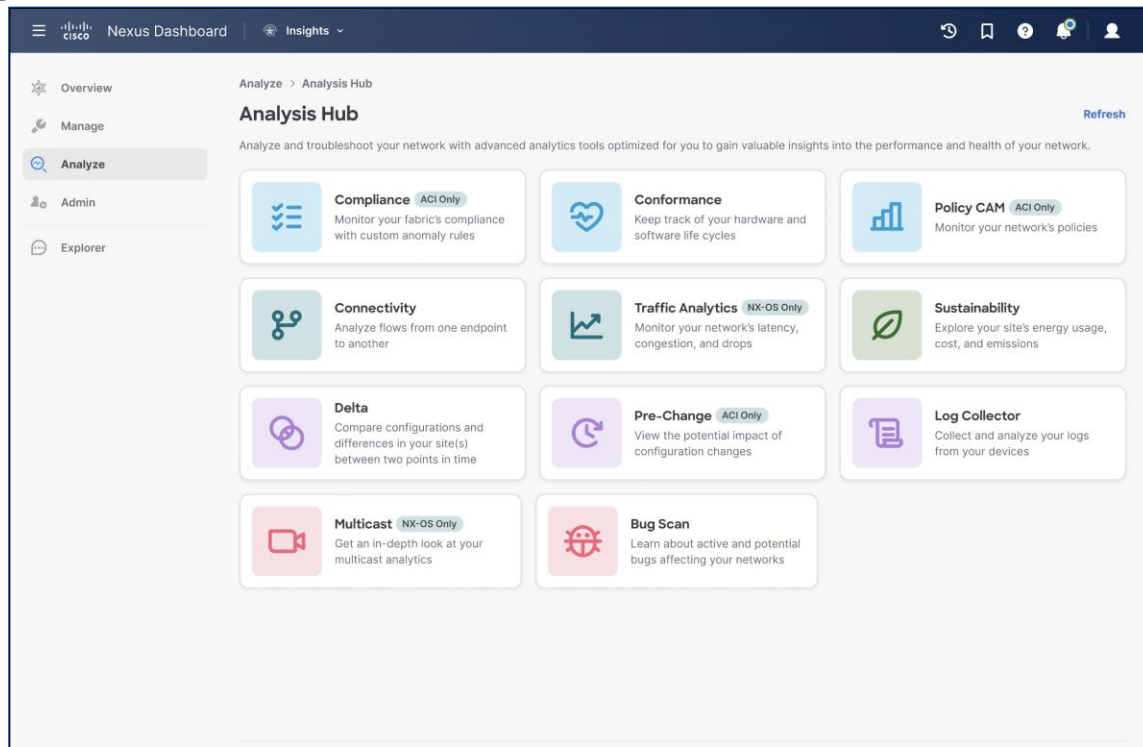
3 &amp; 6 nodes pND cluster | 3 node vND cluster | FX and later platforms | 1-week data retention

# Why is there an evolution needed?



# Troubleshooting Endpoint Connectivity

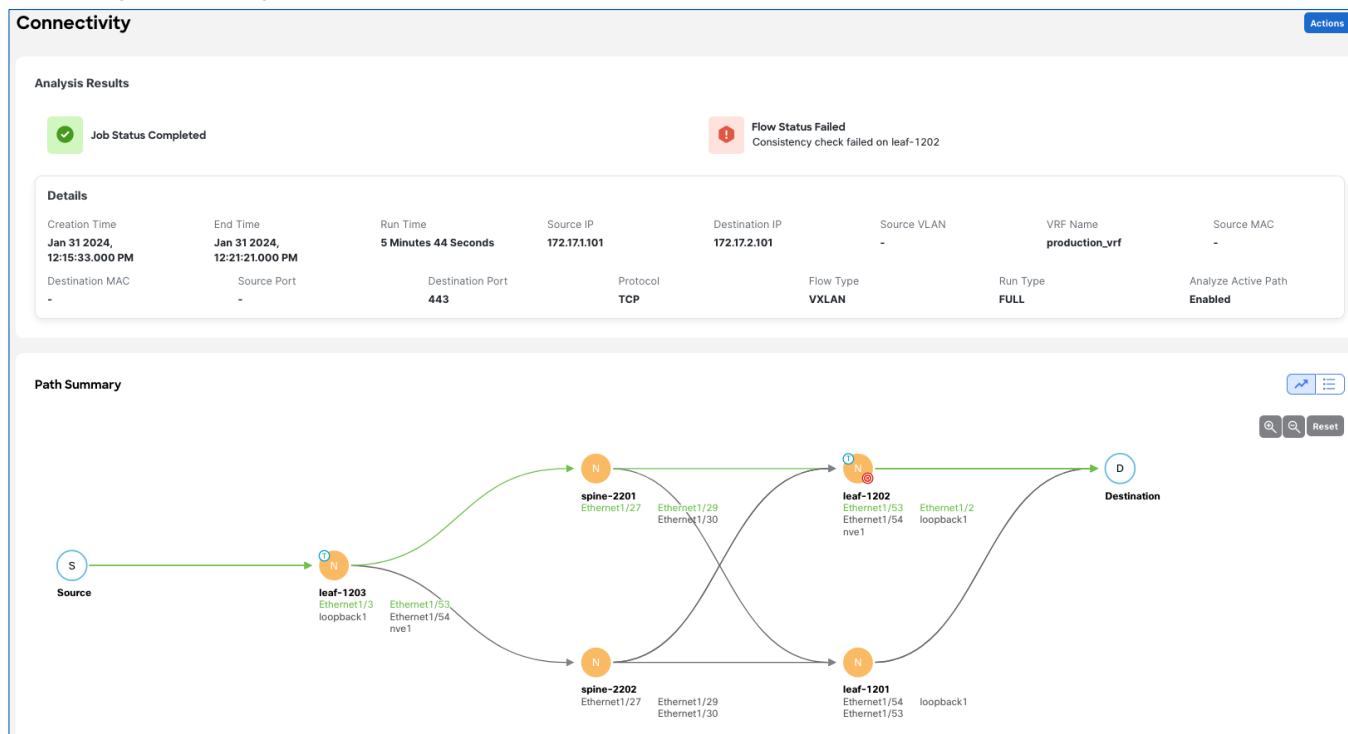
# Nexus Dashboard Insights Analysis Hub



Unify **and** simplify network operations

# Nexus Dashboard Insights

## Connectivity analysis (with active path)



Define and trace flows across the fabric with detailed path info

# Nexus Dashboard Insights

## Connectivity analysis (with active path)

leaf-1202

Tunnel Endpoint

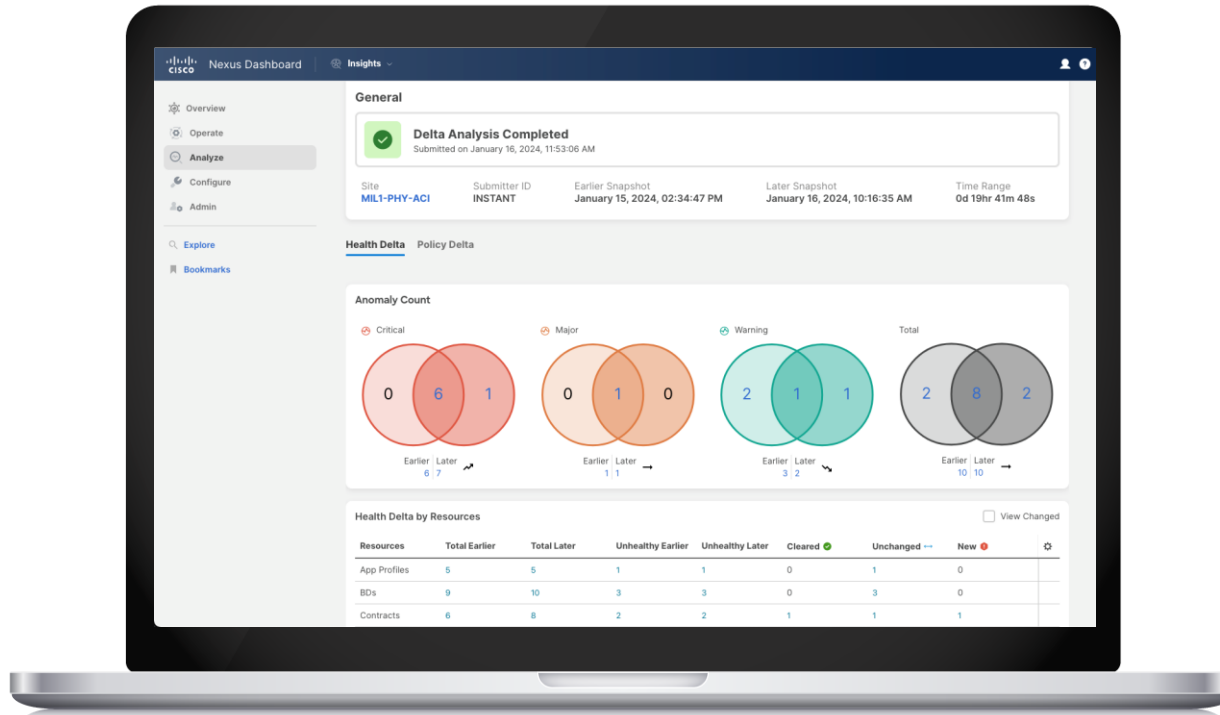
| Description                                    | Command                                                                                | Status | Error                     |
|------------------------------------------------|----------------------------------------------------------------------------------------|--------|---------------------------|
| L3 route state validator                       | show consistency-checker forwarding single-route ipv4 172.20.21.2/32 vrf default brief | ❌ Fail | CC_ERR_INVALID_ROUTE_TYPE |
| Physical Front Panel Port Link state validator | show consistency-checker link-state interface Ethernet1/53 brief                       | ✅ Pass | -                         |
| L3 physical routed port state validator        | show consistency-checker l3-interface interface Ethernet1/53 brief                     | ✅ Pass | -                         |
| Gateway mac state validator                    | show consistency-checker gwmacdb interface Ethernet1/53 brief                          | ✅ Pass | -                         |

| Description                                    | Command                                                                  | Status | Error |
|------------------------------------------------|--------------------------------------------------------------------------|--------|-------|
| Physical Front Panel Port Link state validator | show consistency-checker link-state interface Ethernet1/54 brief         | ✅ Pass | -     |
| L3 physical routed port state validator        | show consistency-checker l3-interface interface Ethernet1/54 brief       | ✅ Pass | -     |
| L3 route state validator                       | show consistency-checker forwarding single-route ipv4 172.20.21.2/32 vrf | ✅ Pass | -     |

Define and trace flows across the fabric with detailed path info

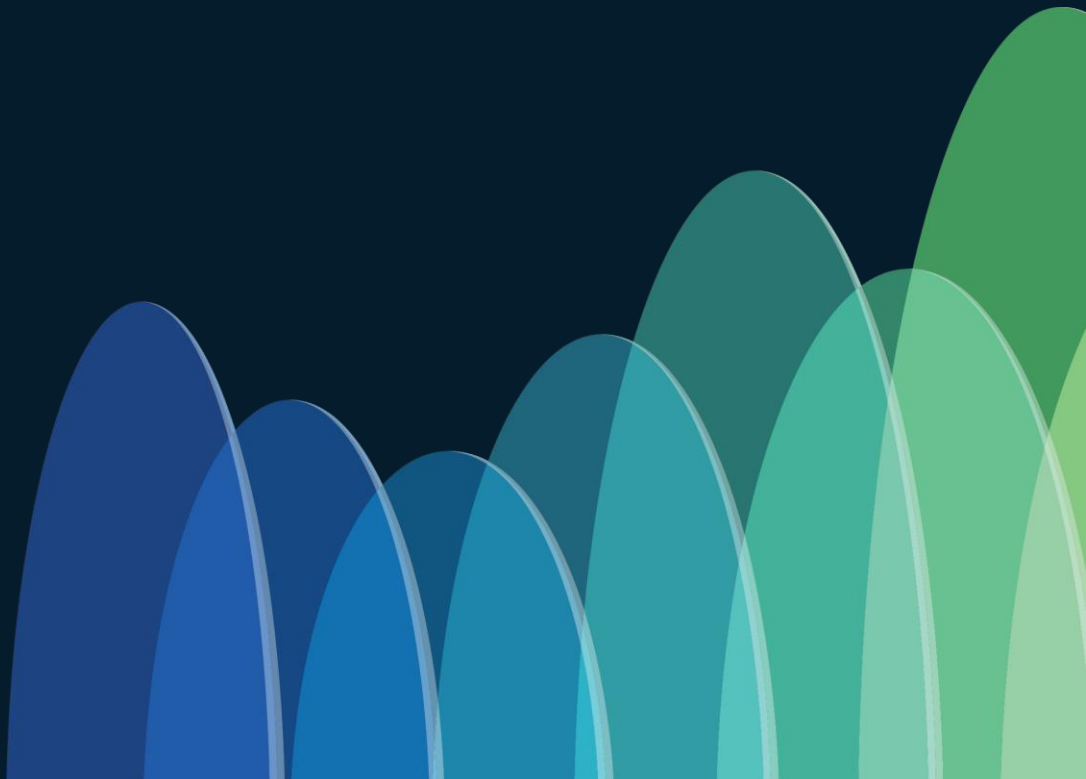
# Analysis Hub

## Delta analysis



What recently changed?

# Assurance



# Common real world ops questions

## Visibility, Sustainability, and Capacity

What is the current network utilisation?

How many ports do I have available?

Am I running out of hardware TCAM space?

How energy efficient is my environment?

## Assurance

Am I doing correct configuration?

Are interdependencies known?

Does the change impact something am not aware of?



## Troubleshooting

Where is the problem and what's the blast radius?

How do I reduce MTTR?

How do I prove network is healthy?

# Explore your fabric with a simple query

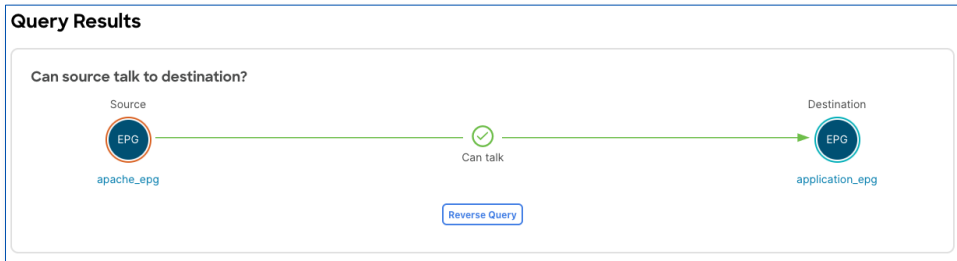
**Explore** ✕

Explore Connectivity for Site MIL1-PHY-ACI on Jan 25th 2024, 10:16 AM

Can EPG:uni/tn-marvel\_tn/ap-prod\_app/epg-apache\_epg talk to EPG:uni/tn-marvel\_tn/ap-prod\_app/epg-application\_epg ✕

Ask a question

Get a quick answer



How do different objects relate to each other? Can certain object communicate?

# Explore your fabric with a simple query

## Explore

Explore

Connectivity

for

Site

MIL1-PHY-ACI

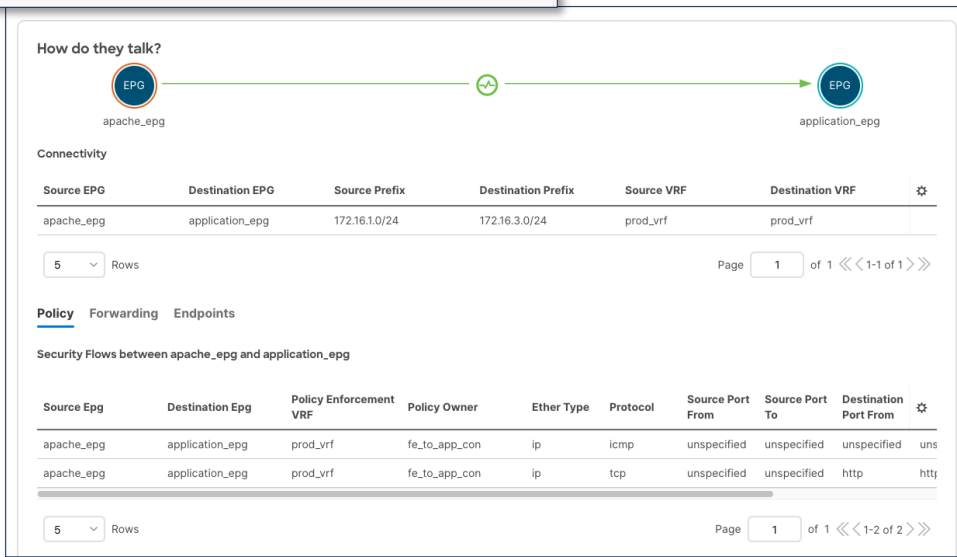
on

Jan 25th 2024, 10:16 AM

Can EPG:uni/tn-marvel\_tn/ap-prod\_app/epg-apache\_epg talk to EPG:uni/tn-marvel\_tn/ap-prod\_app/epg-application\_epg

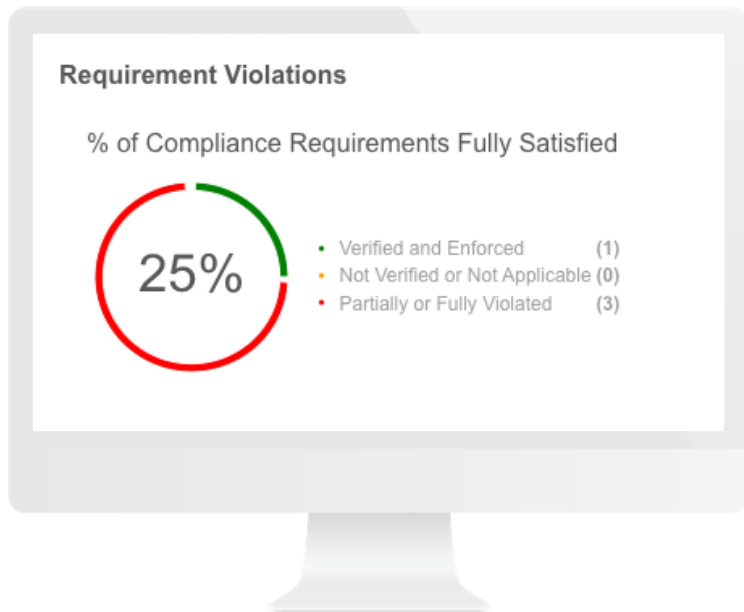
Ask a question

Check all the details



How do different objects relate to each other? Can certain object communicate?

# Compliance management



## Naming Convention

“VRF names shall end with \_vrf”

## Configuration Rules

“VRF shall be enforced”

## Segmentation

“PCI must not talk to non PCI”

## SLA

“APP must talk to DB on 1433”

## Traffic Restriction

“INET must not talk to WEB on ssh”



Configuration compliance (the IT blueprint) | Business and regulatory compliance (risk management)

# Configuration Compliance using Insights

## One option for each Use Case



### Snapshot-based

Freeze your entire config and be notified with a critical alert in case anyone modifies it



### Import-based

Provide a golden config for a specific object/section and be notified with a critical alert in case anyone modifies it



### Template-based

Define a set of best practices (naming or configuration) requirements for any object in the fabric



### Manual

Define your required values for some attributes for the most common objects in the fabric

# Compliance

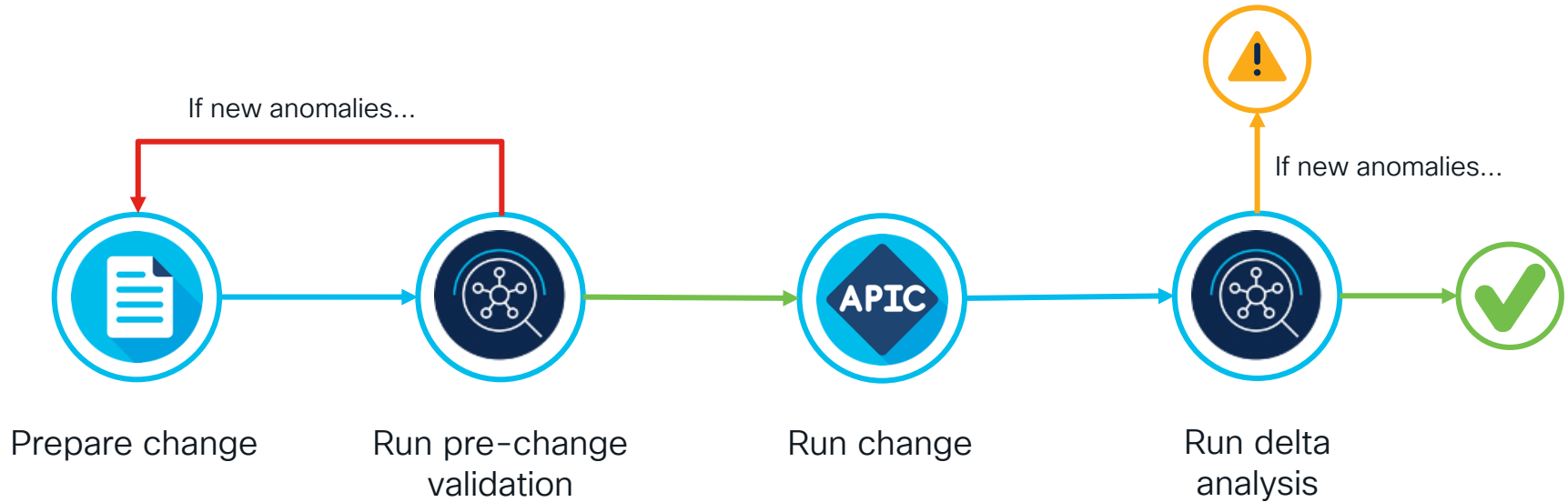
## Some more configuration examples

The screenshot shows the Cisco Nexus Dashboard interface. The top navigation bar includes the Cisco logo, 'Nexus Dashboard', and 'Insights'. The left sidebar contains navigation links: Overview, Operate, Analyze, Configure (selected), and Admin. Below the sidebar, there are links for Explore and Bookmarks. The main content area is titled 'Configure > Alerts and Rules' and 'Alerts and Rules'. Under 'Alerts and Rules', there are two tabs: 'Anomaly Rules' and 'Compliance Rules' (selected). A 'Filter by attributes' search bar and a 'Create Compliance Rule' button are at the top of the table. The table has columns: Name, Description, Site, Rule Type, State, and Last Modified Time. It lists eight compliance rules, all of which are 'Enabled'. The rules include configurations for subnets, application profiles, backup profiles, naming conventions, IPAM requirements, and traffic restrictions.

| Name                                                                 | Description                                                         | Site         | Rule Type     | State   | Last Modified Time      |
|----------------------------------------------------------------------|---------------------------------------------------------------------|--------------|---------------|---------|-------------------------|
| <input type="checkbox"/> MARVEL_TN_PROD_VRF_SUBNETS_MUST_BE_EXTERNAL | All Subnets in marvel Tenant must be public                         | MIL1-PHY-ACI | Configuration | Enabled | Feb 14, 2024 , 10:58 AM |
| <input type="checkbox"/> MARVEL_TN_PROD_APP_FREEZE                   | Production Application Profile baseline. No new objects are allowed | MIL1-PHY-ACI | Configuration | Enabled | Feb 14, 2024 , 11:00 AM |
| <input type="checkbox"/> MARVEL_TN_BCK_APP_INCREMENTAL_ONLY          | Backup Application Profile baseline. New objects are allowed        | MIL1-PHY-ACI | Configuration | Enabled | Feb 14, 2024 , 10:59 AM |
| <input type="checkbox"/> MARVEL_ALL_BDs_LOWER_CASE                   | Ensure a proper naming convention                                   | MIL1-PHY-ACI | Configuration | Enabled | Feb 14, 2024 , 11:02 AM |
| <input type="checkbox"/> MARVEL_TN_IPAM_REQUIREMENTS                 | Netbox IPAM API/Sync                                                | MIL1-PHY-ACI | Configuration | Enabled | Feb 13, 2024 , 10:13 AM |
| <input type="checkbox"/> MARVEL_APACHE_CANNOT_TALK_TO_MYSQL          | No traffic allowed from Apache to MySQL                             | MIL1-PHY-ACI | Communication | Enabled | Feb 14, 2024 , 11:15 AM |
| <input type="checkbox"/> MARVEL_FRONTEND_EXT_ACCESS                  | ICMP must always be allowed outbound                                | MIL1-PHY-ACI | Communication | Enabled | Feb 14, 2024 , 11:14 AM |
| <input type="checkbox"/> MARVEL_NGINX_MIGHT_TALK_TO_MYSQL            | Only TCP 3306 is allowed from Nginx to MySQL                        | MIL1-PHY-ACI | Communication | Enabled | Feb 14, 2024 , 11:14 AM |

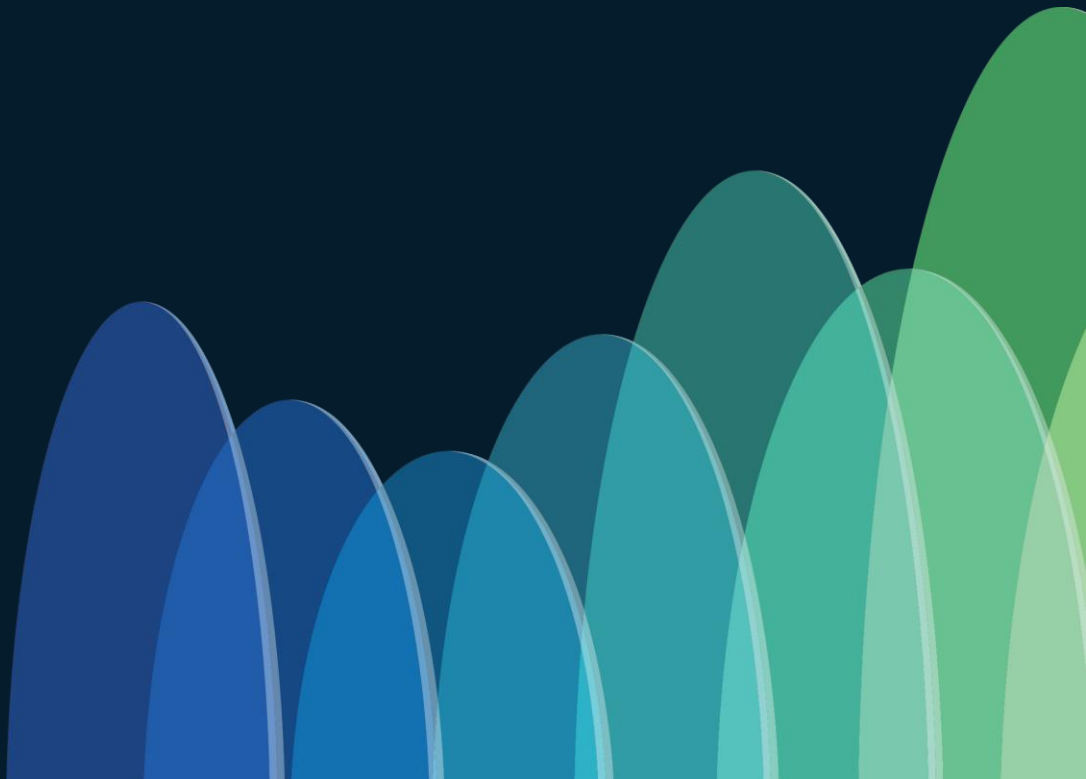
20 Rows Page 1 of 1 << < 1-8 of 8 > >>

# Pre-change management



Validate changes before you make them | Avoid potential errors and adapt changes more quickly

# Proactive Operations



# Common real world ops questions

## Visibility, Sustainability, and Capacity

What is the current network utilisation?

How many ports do I have available?

Am I running out of hardware TCAM space?

How energy efficient is my environment?

## Assurance

Am I doing correct configuration?

Are interdependencies known?

Does the change impact something am not aware of?

**CISCO** *Live!*



## Troubleshooting

Where is the problem and what's the blast radius?

How do I reduce MTTR?

How do I prove network is healthy?

## Proactive operations

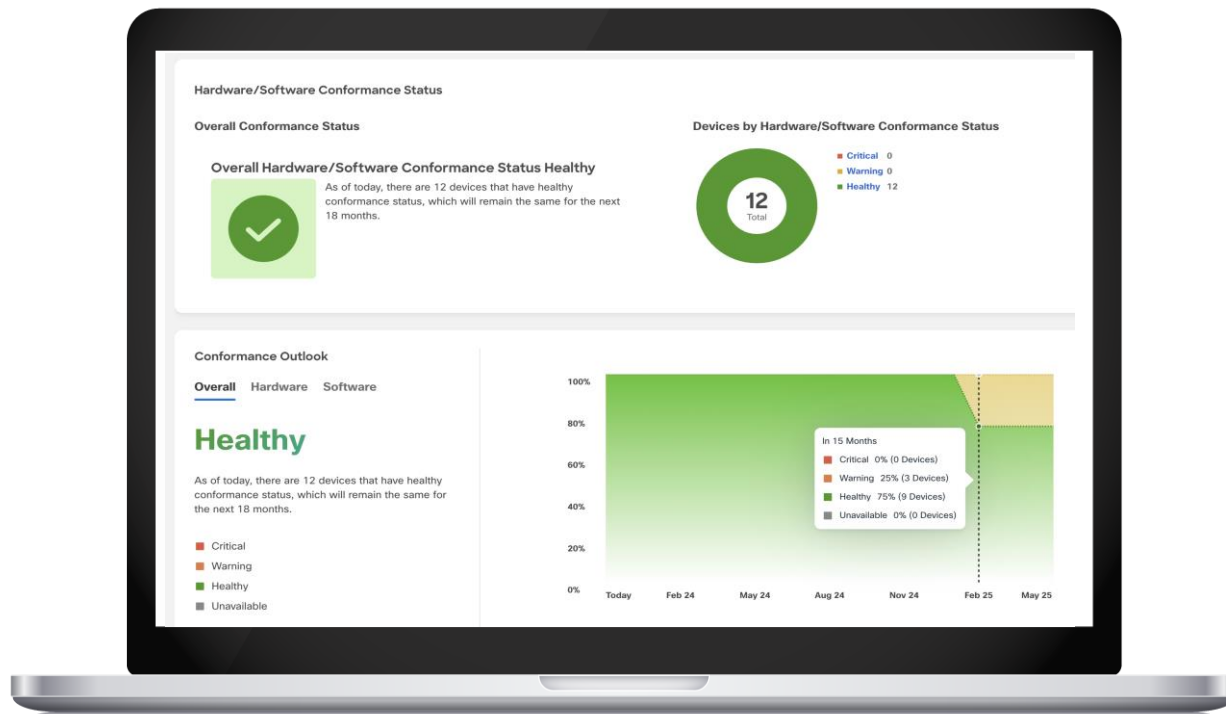
Was the issue preventable?

Is the network exposed to known vulnerabilities?

Can I get proactive advice?

# How do I plan for HW/SW lifecycles??

## Hardware and software conformance



Tight control over HW and SW lifecycles | Easy planning for future upgrades

# PSIRT/FN advisory

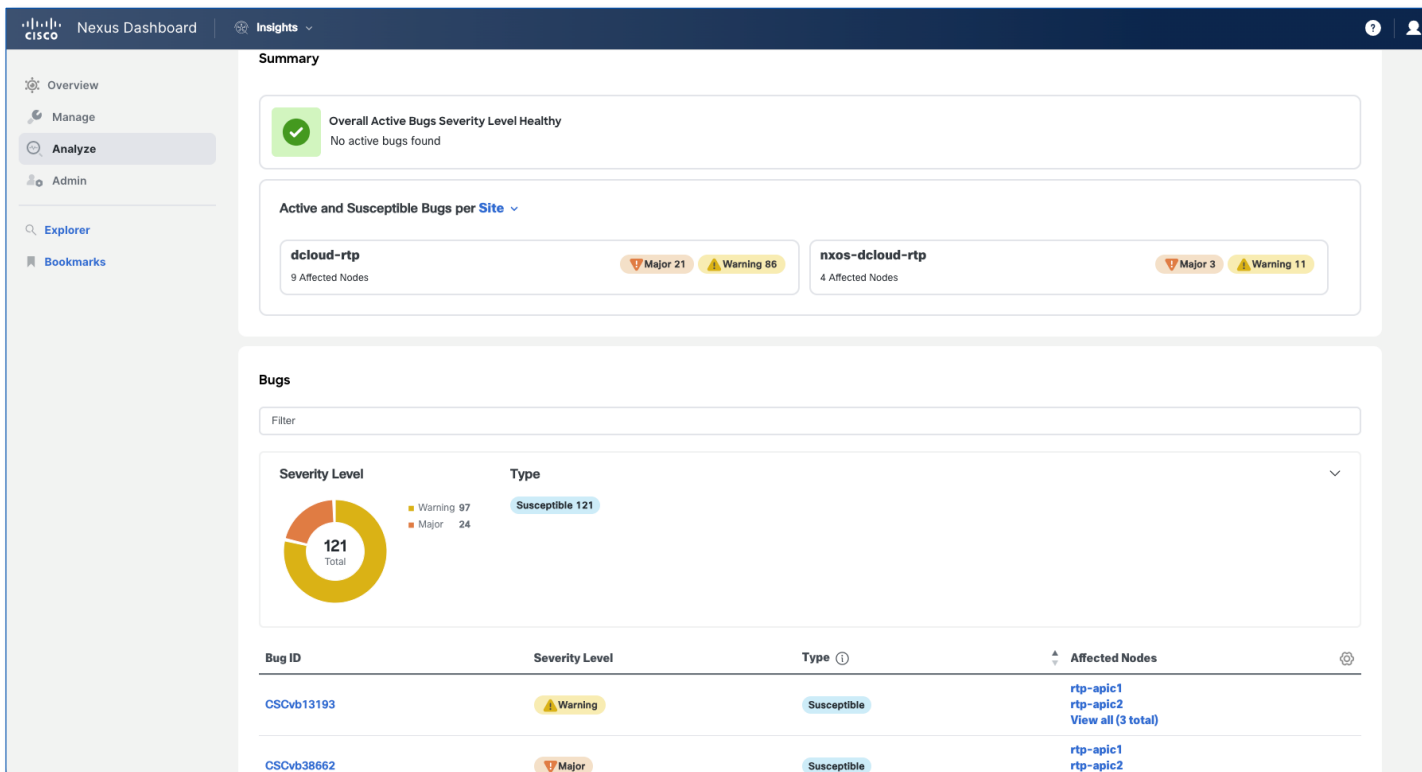
## Patch management

The screenshot shows the Cisco Nexus Dashboard interface. The left sidebar contains navigation links: Overview, Operate, Analyze (selected), Configure, Admin, Explore, and Bookmarks. The main content area is titled 'Advisories' and includes a 'Refresh' button. Below the title, there's a filter for 'Online Sites'. The 'All Advisories' section shows a summary of advisory levels: Critical (2), Major (2), and Other. A donut chart displays the count '6'. The 'Category' section shows 'Hardware EOL 4' and 'PSIRT 2'. Below this is a table of advisories with columns: Title, Advisory Level, Category, Site, and Nodes. The table lists three advisories: 1) CSCwh82544: User home directory privilege level settings are higher than 750 (Warning, PSIRT, MANCHESTER, 3 nodes). 2) End-of-Sale and End-of-Life Announcement for the Cisco Nexus 9332C and 9364C Fixed Spine Switches - Cisco (Major, Hardware EOL, LONDON, 2 nodes). 3) End-of-Sale and End-of-Life Announcement for the Cisco Application Policy Infrastructure Controller (APIC-L2 and APIC-M2) (Critical, Hardware EOL, LONDON, 3 nodes).

| Title                                                                                                                                              | Advisory Level | Category     | Site       | Nodes                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------|----------------|--------------|------------|-----------------------------------------------------------|
| <input type="checkbox"/> CSCwh82544: User home directory privilege level settings are higher than 750                                              | Warning        | PSIRT        | MANCHESTER | B10-MAN-PROD-API C-02<br>MANCHESTER<br>View all (3 total) |
| <input type="checkbox"/> End-of-Sale and End-of-Life Announcement for the Cisco Nexus 9332C and 9364C Fixed Spine Switches - Cisco                 | Major          | Hardware EOL | LONDON     | B10-PROD-LON-SPIN E-01<br>LONDON<br>View all (2 total)    |
| <input type="checkbox"/> End-of-Sale and End-of-Life Announcement for the Cisco Application Policy Infrastructure Controller (APIC-L2 and APIC-M2) | Critical       | Hardware EOL | LONDON     | B10-PROD-LON-APIC -03<br>LONDON<br>View all (3 total)     |

# Bug scan

## Proactive bug analysis



# Upgrading with confidence

## Typical challenges



Assurance that all pre-requisites have been satisfied



Time required to run all pre-checks and post-checks

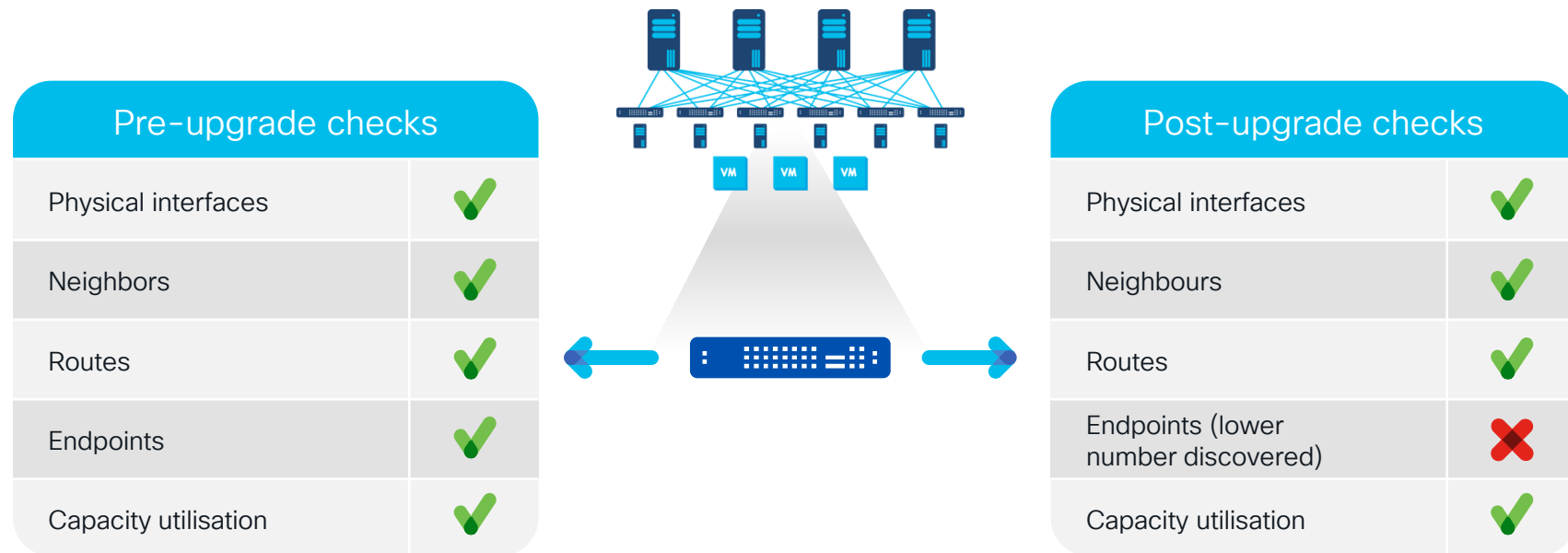


Complexity of analysis of potential issues in target release



Lack of visibility of potential impact

# Upgrade with confidence

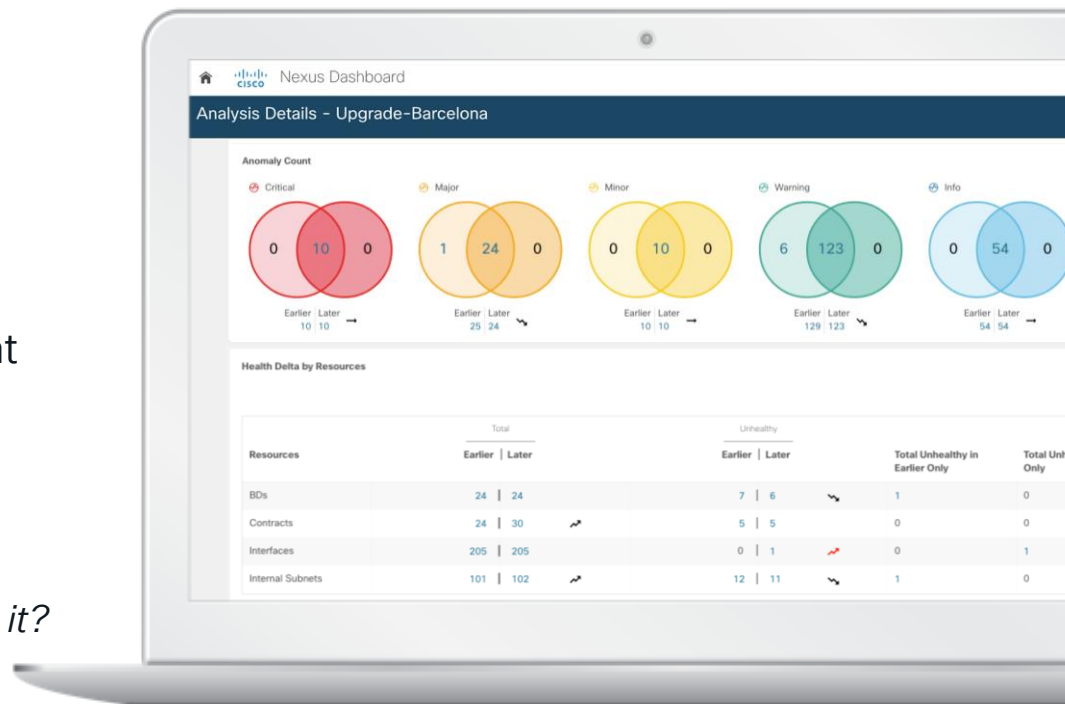


Pre and post upgrade differentiation analysis | Prevent issue exposure and discovery by end user

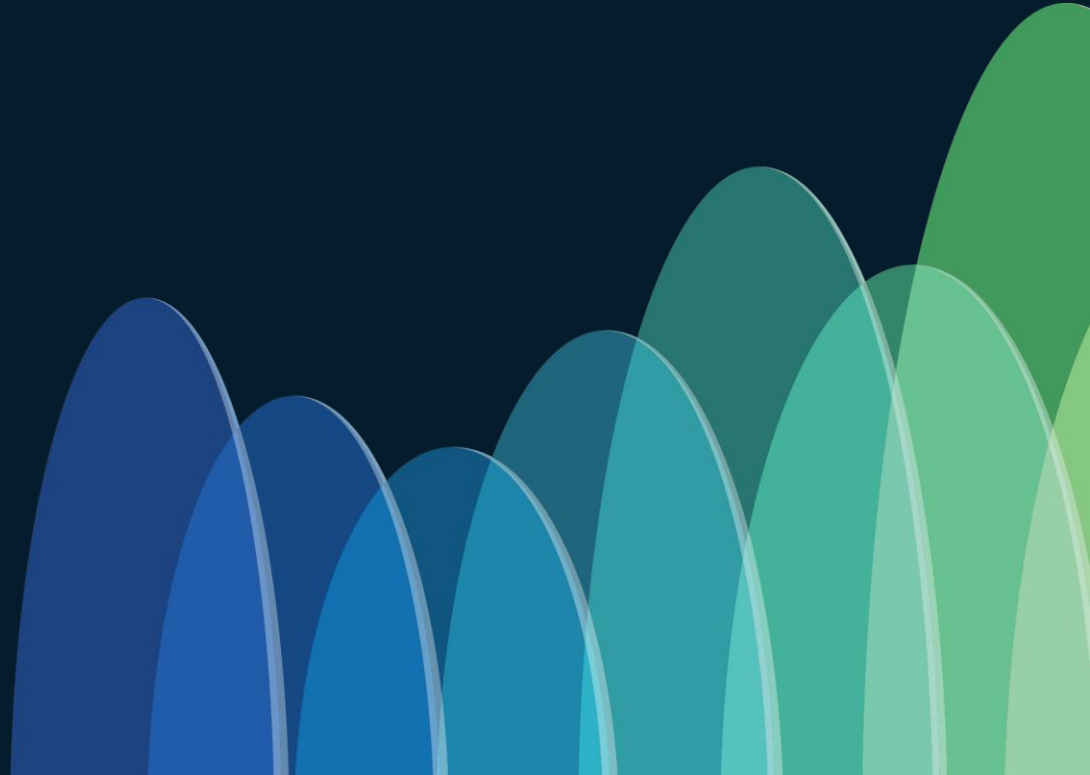
# Upgrading with confidence

## Pre-upgrade and post-upgrade

- Pre-upgrade checks
- Version and bug info / validation
- Advice about potential conditions that exist before upgrade (not just faults)
- Post-upgrade delta analysis
  - *Did I fix it? Did I break it? Did I change it?*

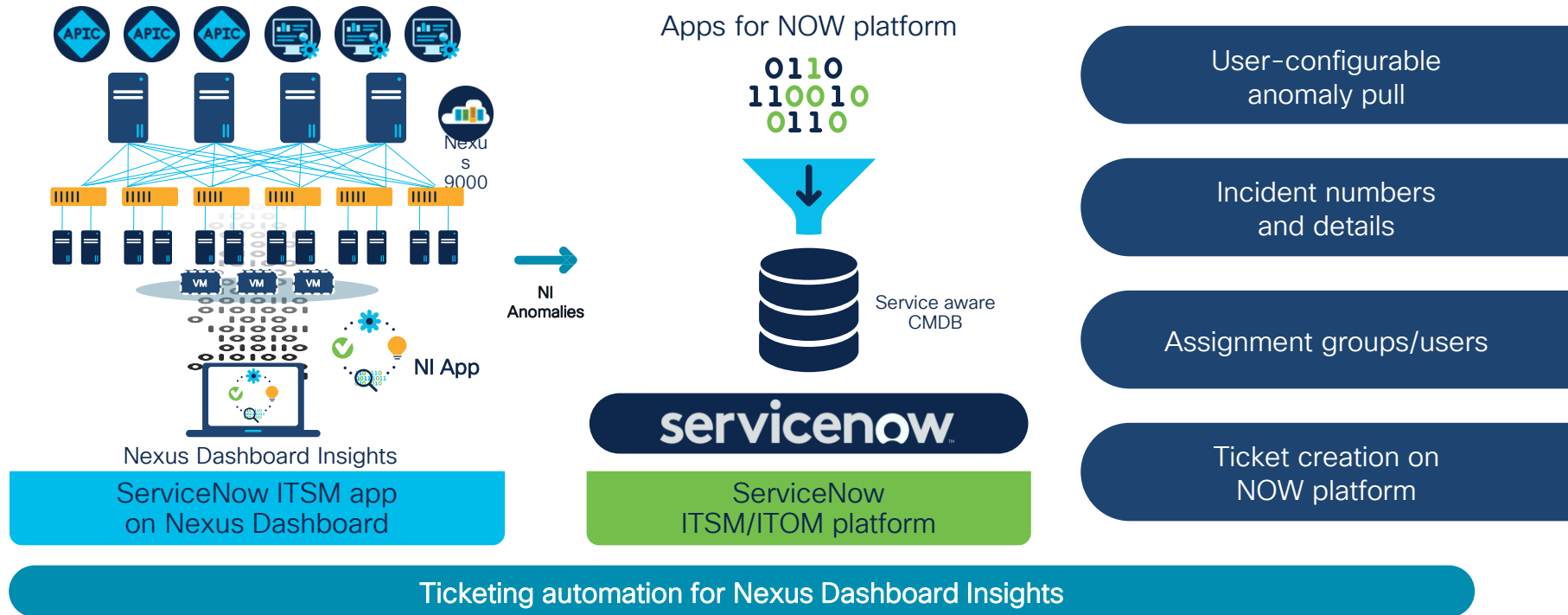


# NDI and ServiceNow



# Nexus Dashboard Insights

## ServiceNow integration



# ServiceNow Dashboards and Details

The screenshot shows the ServiceNow Admin Home interface. The left sidebar contains a navigation menu with categories like Home, Cisco ND Insights Application, Dashboards, Configurations, Alerts, Incidents, Diagnostics, Contact Support, and Cisco DC Networking. The main content area is titled 'Welcome to Admin Home, Matthias!' and 'Manage, monitor, and discover all your day to day administrative actions and tools across the platform.' Below this, there's a section 'Track what's important to you' with a 'Shared admin dashboard' dropdown. The dashboard displays several metrics: 'Open incidents' (No data available), 'Open request items' (No data available), 'Prob...' (14), 'Hardening compliance score' (85%), 'Open P1 incidents' (0), 'Aging incidents over 24 hrs' (0), 'Request items over 24 hrs' (0), 'Request items awaiting approval' (0), 'Cha...' (89), and 'Critical Updates' (2).

servicenow Favorites All History Workspaces Admin Shared admin dashboard Search

Filter

Home

Cisco ND Insights Application

Dashboards

- Anomalies
- Advisories

Configurations

- Configuration
- Anomalies Field Mapping
- Advisories Field Mapping
- System Properties
- Scheduled Jobs

Alerts

- Anomalies
- Advisories

Incidents

- Anomalies
- Advisories

Diagnostics

- Process Monitor
- Application Logs

Contact Support

- Contact Cisco Support

Cisco DC Networking

Welcome to Admin Home, Matthias!

Manage, monitor, and discover all your day to day administrative actions and tools across the platform.

Track what's important to you

Shared admin dashboard

Open incidents

No data available.

There is no data available for the selected criteria.

Open request items

No data available.

There is no data available for the selected criteria.

Prob...

14

Hardening compliance score

85%

Open P1 incidents

0

Aging incidents over 24 hrs

0

Request items over 24 hrs

0

Request items awaiting approval

0

Cha...

89

Critical Updates

2

# ServiceNow Dashboards and Details

The screenshot displays the ServiceNow Admin Home interface. The left sidebar contains navigation links for Home, Cisco ND Insights Application, Dashboards, Configurations, Alerts, Incidents, Diagnostics, and Contact Support. The main content area shows a 'Welcome to Admin Home, Matthias!' message and a 'Shared admin dashboard' section. The dashboard includes a 'Track what's important to you' header and a 'Shared admin dashboard' section with metrics for Open Incidents, Open P1 incidents, and Aging incidents over 24 hrs. A detailed view of the Cisco Nexus Dashboard Insights is shown, featuring a donut chart for Anomalies By Severity, a summary table for severity levels, and a list of Top 10 Nodes.

**ServiceNow Admin Home**

Welcome to Admin Home, Matthias!  
Manage, monitor, and discover all your day to day administrative actions and tools across the platform.

Track what's important to you

**Shared admin dashboard**

Open Incidents: No data available.

Open P1 incidents: 0

Aging incidents over 24 hrs: 0

**Cisco Nexus Dashboard Insights**

Anomalies By Severity

Legend: Minor = 486 (79.28%), Major = 77 (12.56%), Critical = 31 (5.06%), Warning = 19 (3.13%)

| Severity | Count |
|----------|-------|
| CRITICAL | 31    |
| MAJOR    | 77    |
| WARNING  | 19    |
| MINOR    | 486   |
| OTHER    | 0     |

Top 10 Nodes

- scaleleaf-202: Major
- scaleleaf-204: Major
- S1-LEAF1102: Major
- scaleleaf-201: Major
- scaleleaf-203: Major
- S1-LEAF1101: Major
- apic2-mdr1: Critical
- apic3-mdr1: Critical
- S1-SPINE1202: Major
- S1-LEAF1103: Major

| Anomaly ID      | Incident | ND Cluster | Created             | Updated             | Severity | Start Time          | End Time            | Resource Type | Node Name |
|-----------------|----------|------------|---------------------|---------------------|----------|---------------------|---------------------|---------------|-----------|
| END512997800396 | (empty)  | crest-mdl  | 2024-10-15 09:47:00 | 2024-10-15 09:47:00 | Minor    | 2024-10-14 17:13:17 | 2024-10-14 17:21:39 | endpoint      |           |

# ServiceNow Dashboards and Details

The screenshot displays the ServiceNow Admin Home interface. The left sidebar contains navigation links for Home, Cisco ND Insights Application, Dashboards, Configurations, Alerts, Incidents, Diagnostics, and Contact Support. The main content area is titled "Welcome to Admin Home, Matthias!" and includes a "Shared admin dashboard" section with widgets for "Open Incidents" (0), "Aging incidents over 24 hrs" (0), and "Anomalies By Severity". The "Anomalies By Severity" widget shows a donut chart with the following data:

| Severity | Count | Percentage |
|----------|-------|------------|
| Minor    | 486   | 79.28%     |
| Critical | 31    | 5.06%      |
| Major    | 77    | 12.56%     |
| Warning  | 19    | 3.13%      |

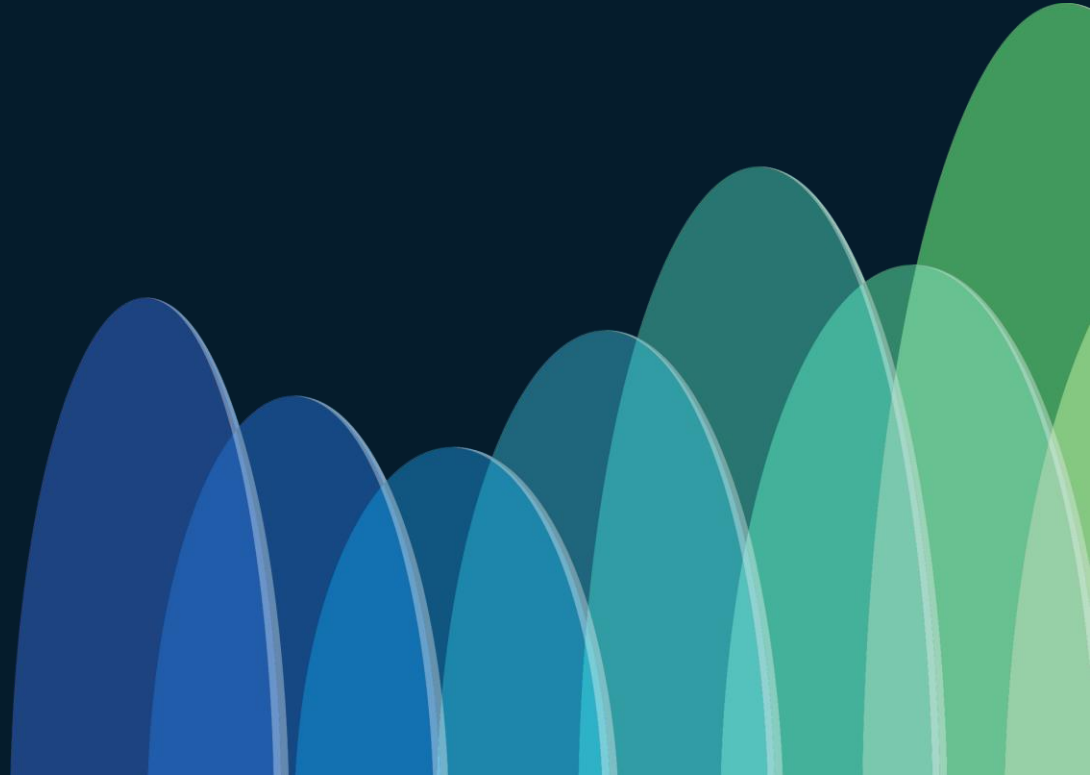
The "Cisco Nexus Dashboard Insights" section shows a detailed view of an anomaly. The anomaly details include:

- ND Cluster: nd-mdr1
- Anomaly ID: BGP403888156890
- Anomaly Score: 23
- Insights Group: default
- Fabric Name: MLG1
- Node Names: S2-LEAF2102
- Vendor: CISCO\_ACI
- Entity Name: vrf-commonshared\_vrf/peersubnet-172.
- Acknowledged: ☐
- Cleared: ☒
- Expired: ☐
- Start Time: 2024-05-21 08:04:08
- End Time: 2024-05-21 08:14:10
- Acknowledgement Time:
- Mnemonic Title: BGP\_PREFIX\_RECEIVED\_COUNT\_FLUCTUATION
- Mnemonic Number: 100,095
- Mnemonic Description: BGP prefix received count is varying
- Anomaly String: [commonshared\_vrf:172.16.23.21:ipv4-ucast]: 5 BGP peer prefixes were suddenly added
- Anomaly Reason: [commonshared\_vrf:172.16.23.21:ipv4-ucast]: 5 bgp peer prefixes were suddenly added

The bottom section shows a table of anomalies with the following columns: Anomaly ID, Incident, ND Cluster, Created, Updated, Severity, Start Time, End Time, Resource Type, and Node Name. The table contains one row of data:

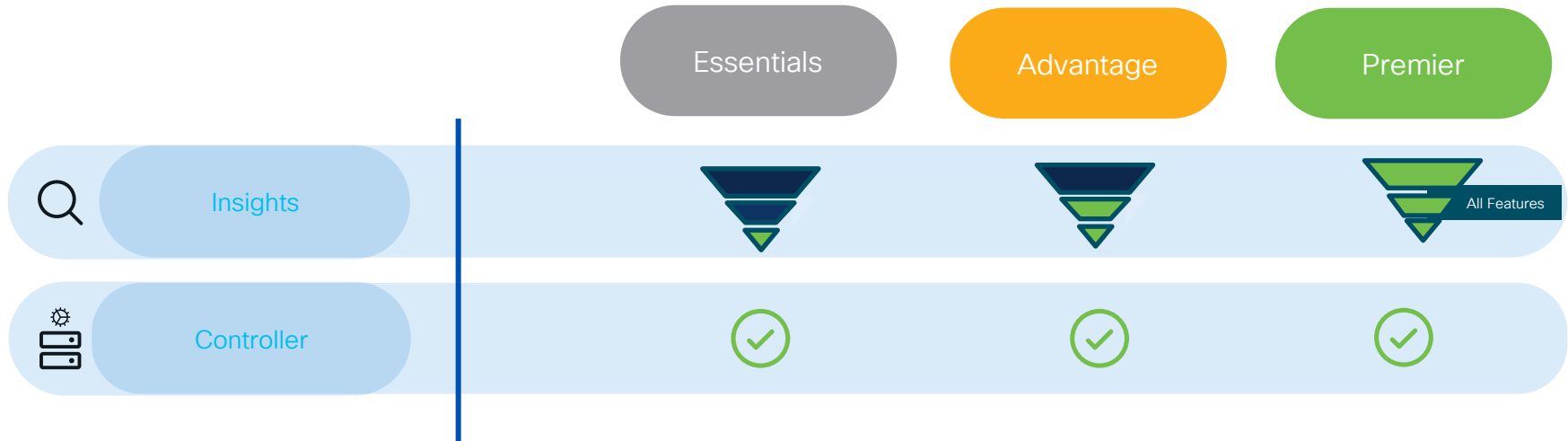
| Anomaly ID      | Incident | ND Cluster | Created             | Updated             | Severity | Start Time          | End Time            | Resource Type | Node Name |
|-----------------|----------|------------|---------------------|---------------------|----------|---------------------|---------------------|---------------|-----------|
| END512997800396 | (empty)  | crest-ndf  | 2024-10-15 09:47:00 | 2024-10-15 09:47:00 | Minor    | 2024-10-14 17:13:17 | 2024-10-14 17:21:39 | endpoint      |           |

# How Can I Access These Features?



# Purchasing Nexus Dashboard Insights

NDI is included with Nexus 9000 switch licenses



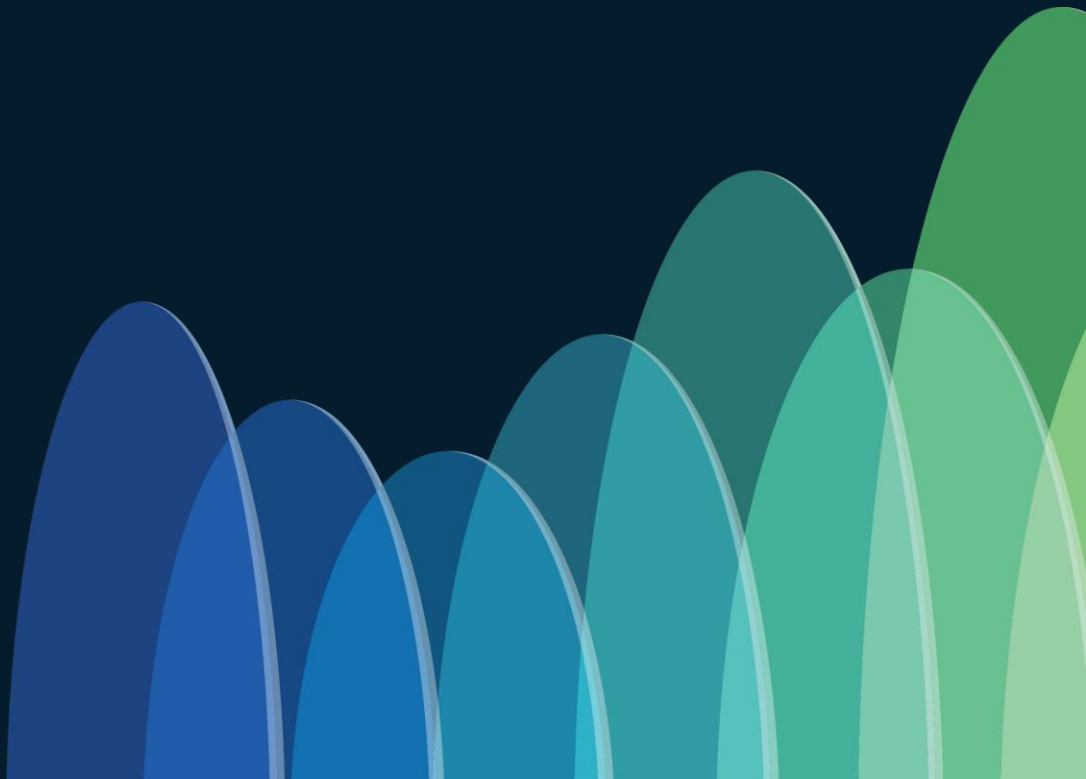
# Nexus Dashboard Insights features

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

# Nexus Dashboard Insights features

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

# Summary



# Common real world ops questions

## Visibility, Sustainability, and Capacity

What is the current network utilisation?

How many ports do I have available?

Am I running out of hardware TCAM space?

How energy efficient is my environment?

## Assurance

Am I doing correct configuration?

Are interdependencies known?

Does the change impact something am not aware of?

**CISCO** *Live!*



## Troubleshooting

Where is the problem and what's the blast radius?

How do I reduce MTTR?

How do I prove network is healthy?

## Proactive operations

Was the issue preventable?

Is the network exposed to known vulnerabilities?

Can I get proactive advice?

# Keynote Deep Dives

**Wednesday**  
**10:30am – 11:30am**



Experiences Amplified:  
How AI Can Fuel Better Employee and Customer Experiences

**Level 1**  
**Room 106**



Smart, Secure, Seamless:  
Transforming Experiences with Next-Generation Networking

**Level 2**  
**Room 204**



Harness a Bold New Era:  
Transform Data Centre and Service Provider Connectivity

**Level 2**  
**Room 203**



Securing User to Application and Everything in Between

**Level 2**  
**Melbourne Room 2**



Unlocking Digital Resilience through Unified Observability

**The HUB**  
**Centre Stage**

# Complete Your Session Evaluations



Complete a minimum of 4 session surveys and the Overall Event Survey to claim a **Cisco Live T-Shirt**.

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

---





# Thank you

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GO BEYOND

#CiscoLiveAPJC