CISCO Connect

Intelligent Operations Unleashed: Managing AI-Ready Data Centers with Cisco Intersight and Nexus Dashboard

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November 19, 2025


The world is experiencing the **largest expansion of data centers** in history

Data Center Operations: Meeting Evolving Business Demands

Pace of Innovation

Business demands faster innovation to secure customer loyalty and market edge.

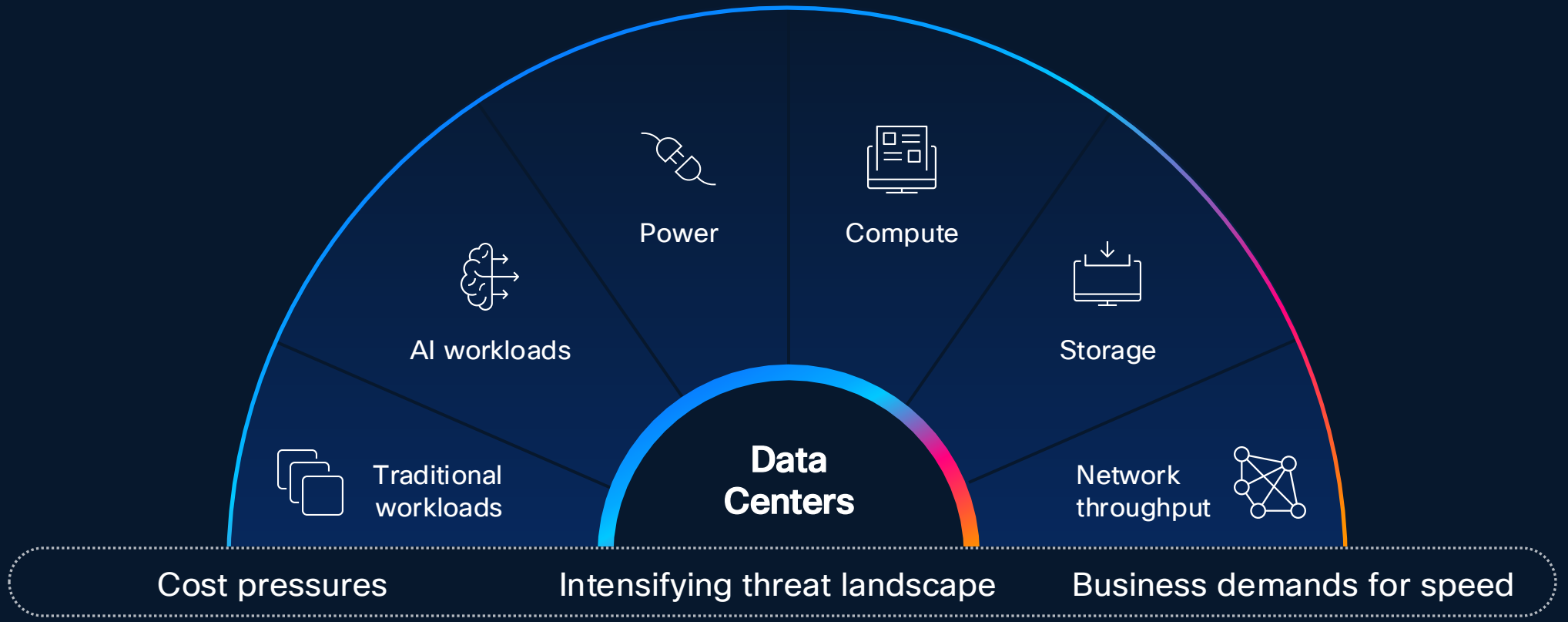
Ensure Continuous Availability

Uninterrupted service is critical; as downtime costs thousands per minute.

Maximize Resource Utilization

Idle high-value resources, like GPUs, lead to significant financial waste.

We Need to Re-Imagine the Data Center for the AI Era



Complexity at Every Turn....

Server Administrator

Hardware Monitoring

Security Vulnerabilities

Firmware management

Best Practice Aligned

Alerts & Anomalies

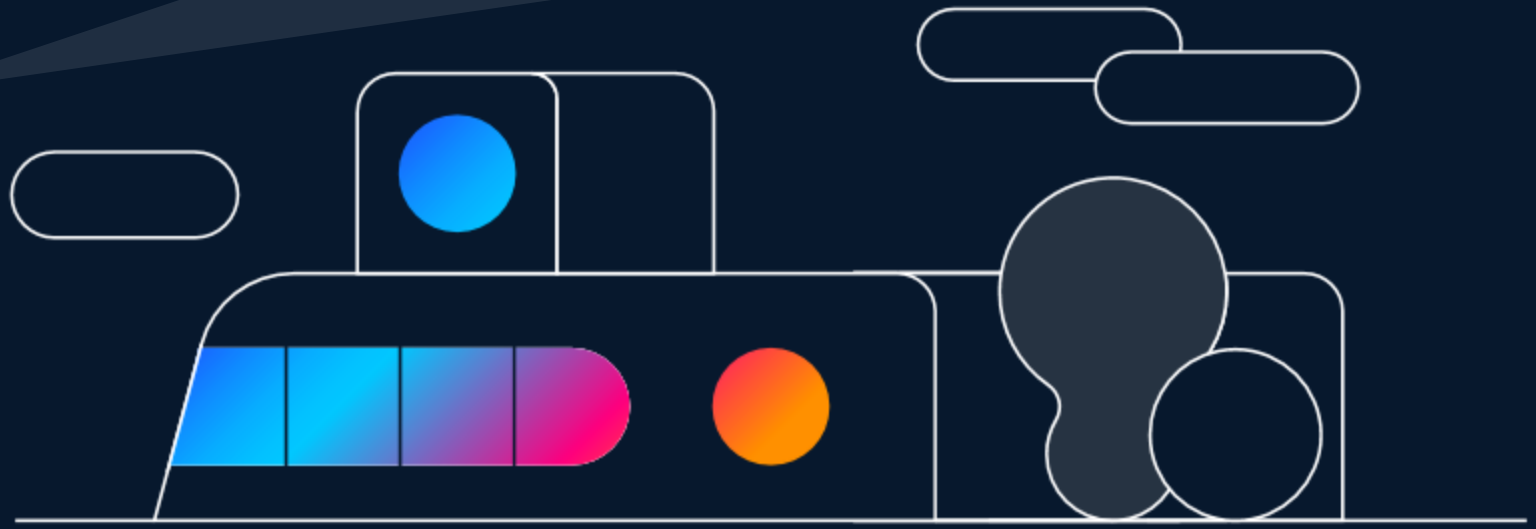
Up-to date Topologies

Hardware Configuration

Network Monitoring

Troubleshooting

Network Operator



The Command Center for Data Center Operations

64% lower
cost of support and maintenance

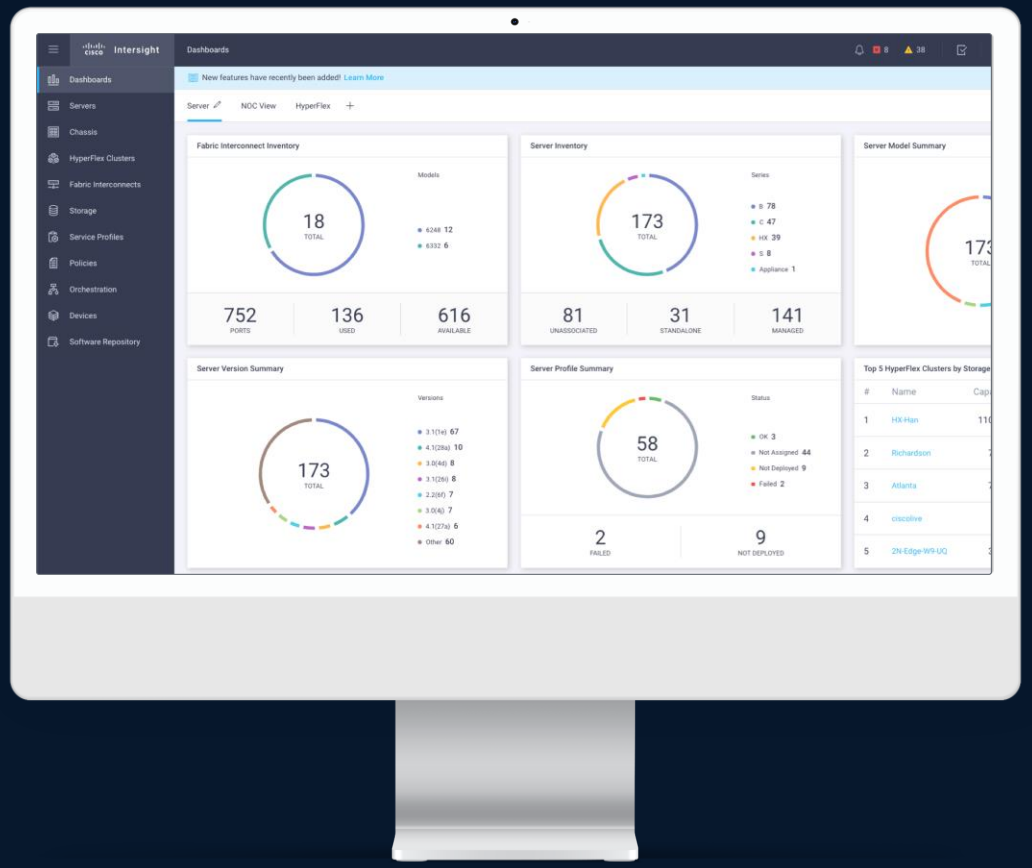
62 minutes faster
time to resolution

25% lower
cost of hardware and software acquisition

80% lower
administrative costs

Operating the AI Ready Data Center Compute

Work Smarter and Faster with a Simplified, Unified Operating Model



Cisco Intersight

See your global on-premises, cloud, and edge environments

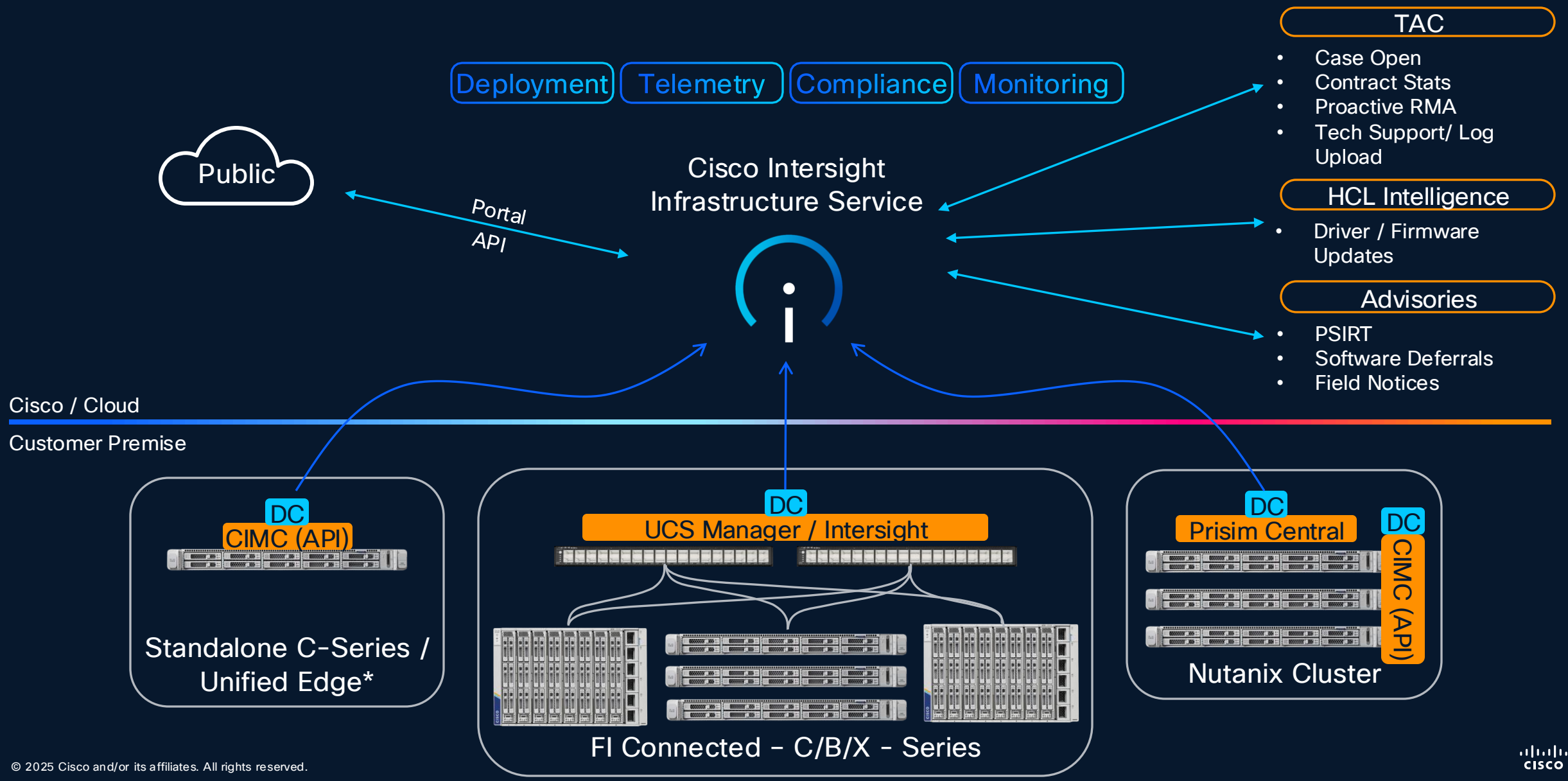
Connect your infrastructure operations across compute and storage

Secure operations with built-in advisories and continuous risk mitigation

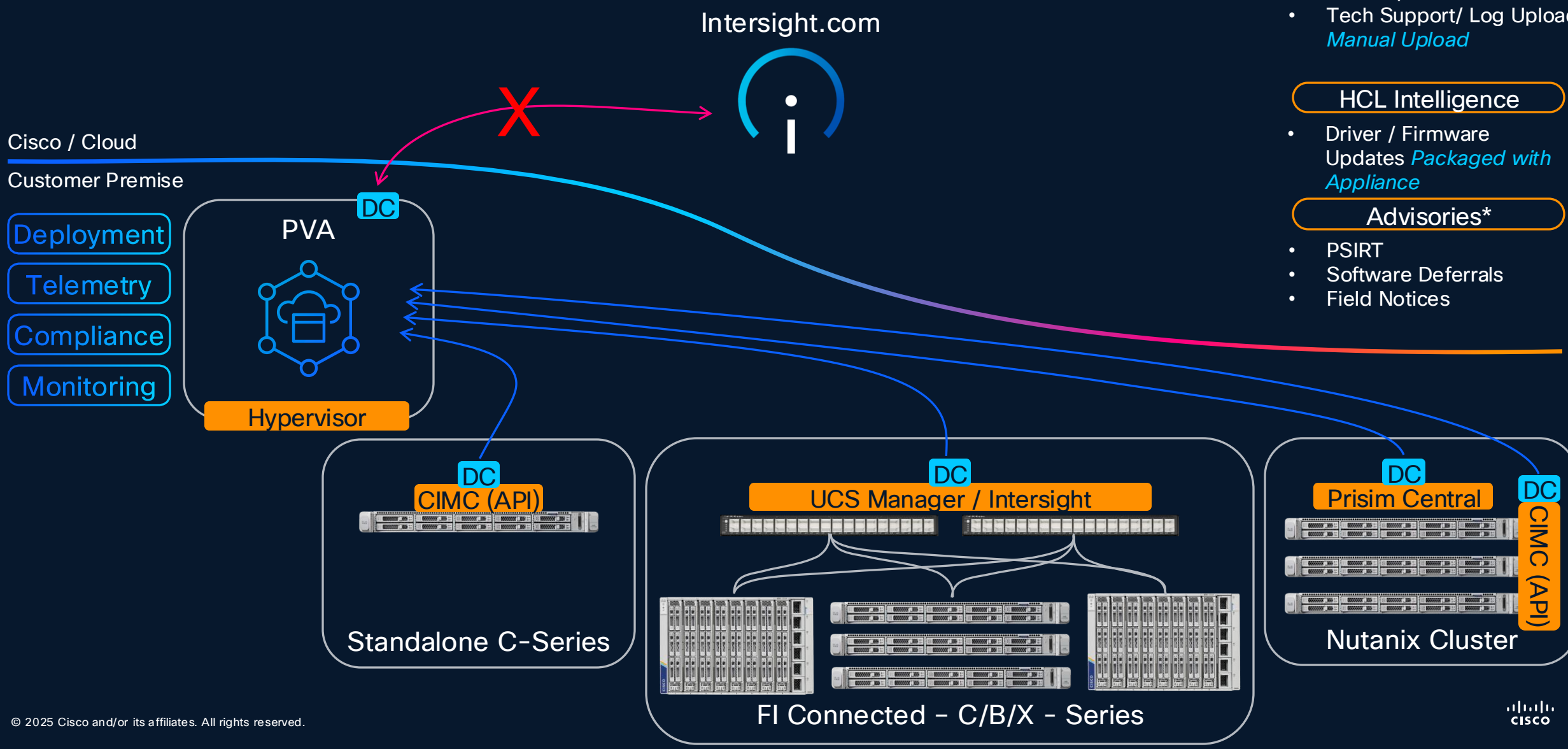
Automate deployments, configuration, workflows, and day-0 to day-N tasks

Architecture

Intersight SaaS Architecture



Intersight Private Virtual Appliance Architecture



TAC

- Case Open*
- Tech Support/ Log Upload *Manual Upload*

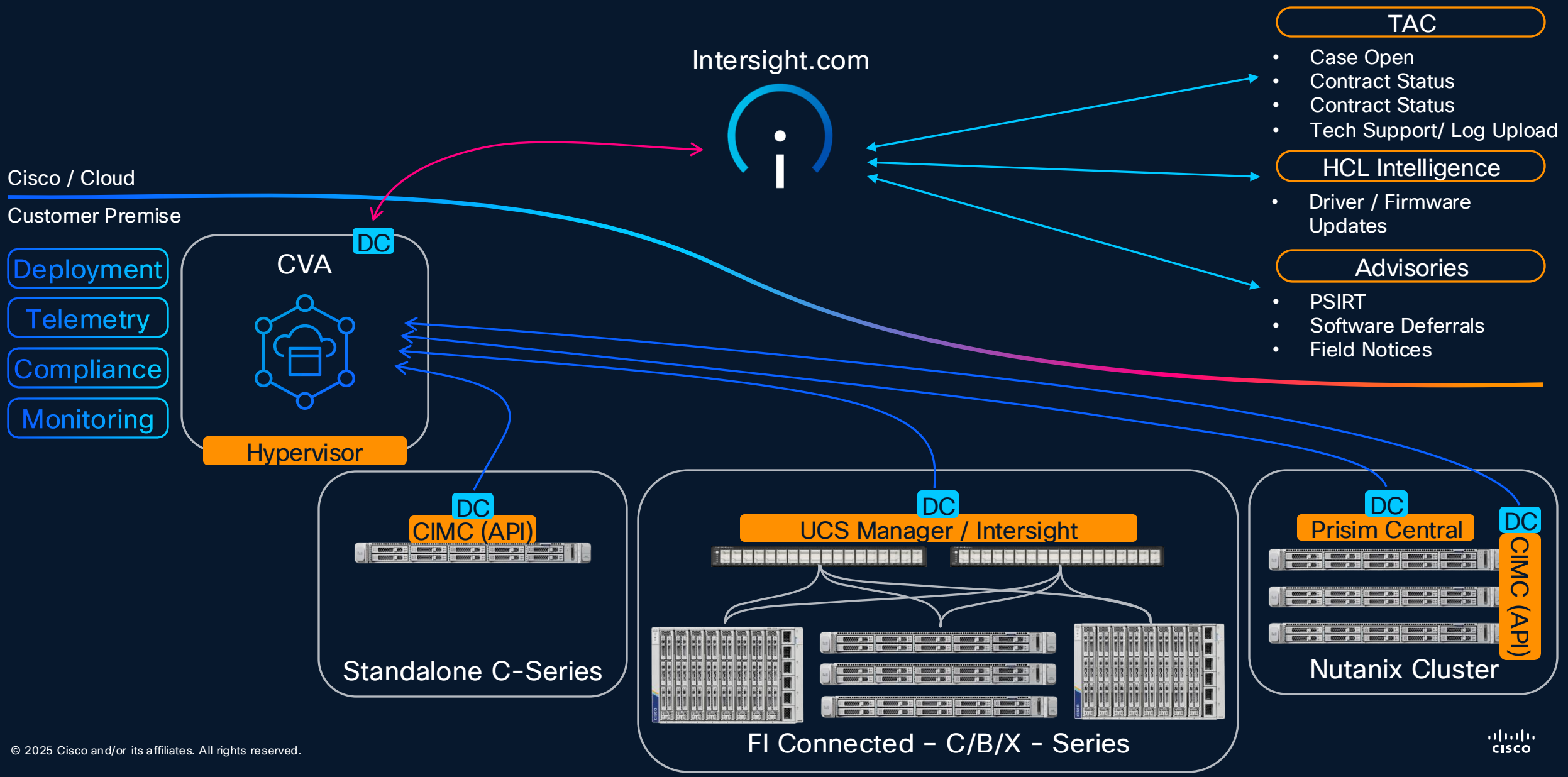
HCL Intelligence

- Driver / Firmware Updates *Packaged with Appliance*

Advisories*

- PSIRT
- Software Deferrals
- Field Notices

Intersight Connected Virtual Appliance Architecture



Stateless Computing

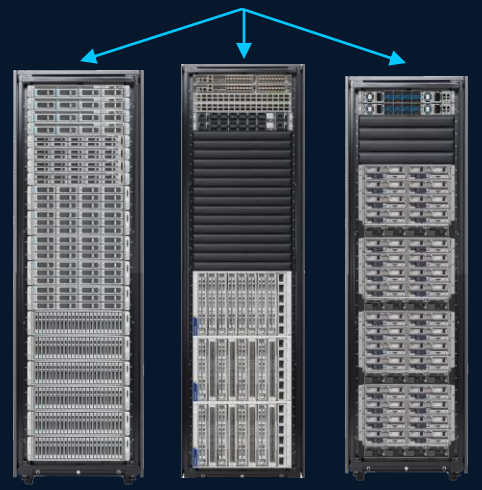
Stateless Computing

SIM Card
Identity for a phone

Profiles
Identity for a server

Intersight Server Profiles

- Network Policy
- Storage Policy
- Server Policy

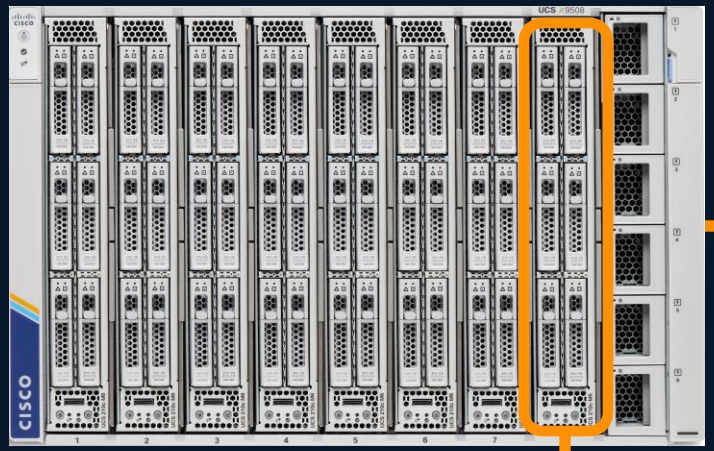


Profiles

Fabric Interconnect

Domain Profiles

Configures a Fabric Interconnect pair through reusable policies - Streamlining the deployment of Fabric Interconnect pairs, while allowing for configuration of the ports, port channels, and configuration of the VLANs and VSANs in the network



Server Node

Chassis Profiles

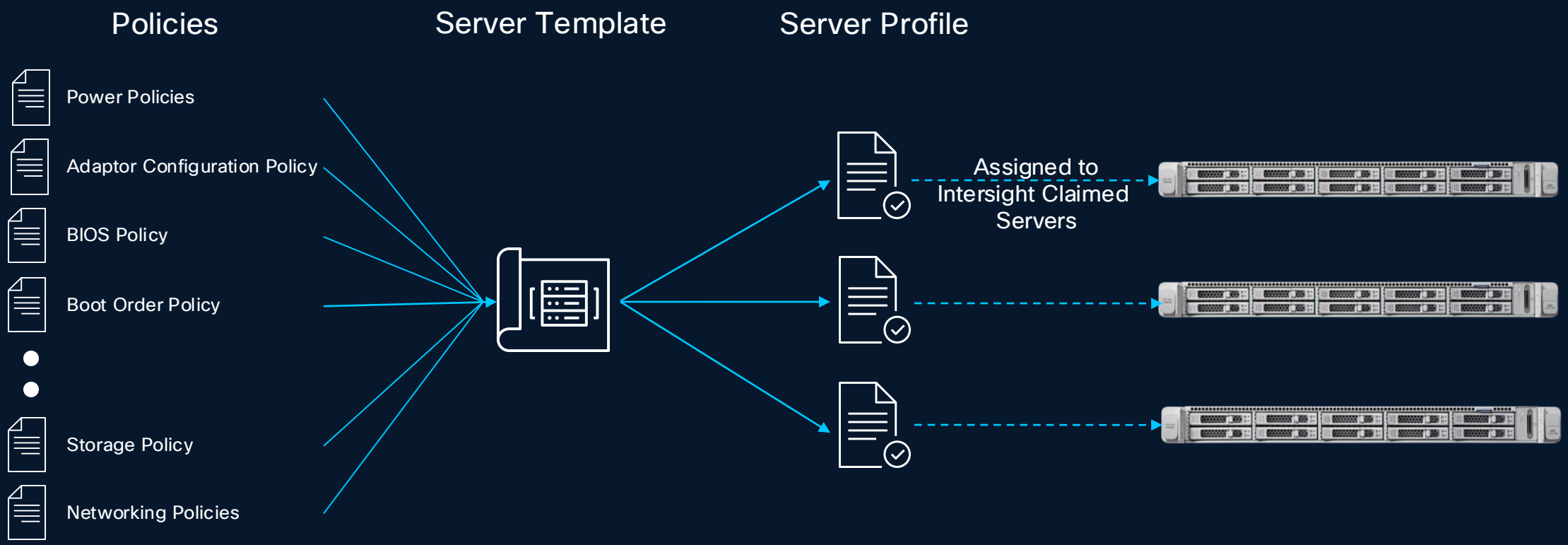
Enables chassis policies for an Intersight Managed Mode claimed chassis (B-Series and X-Series)

Rack Server

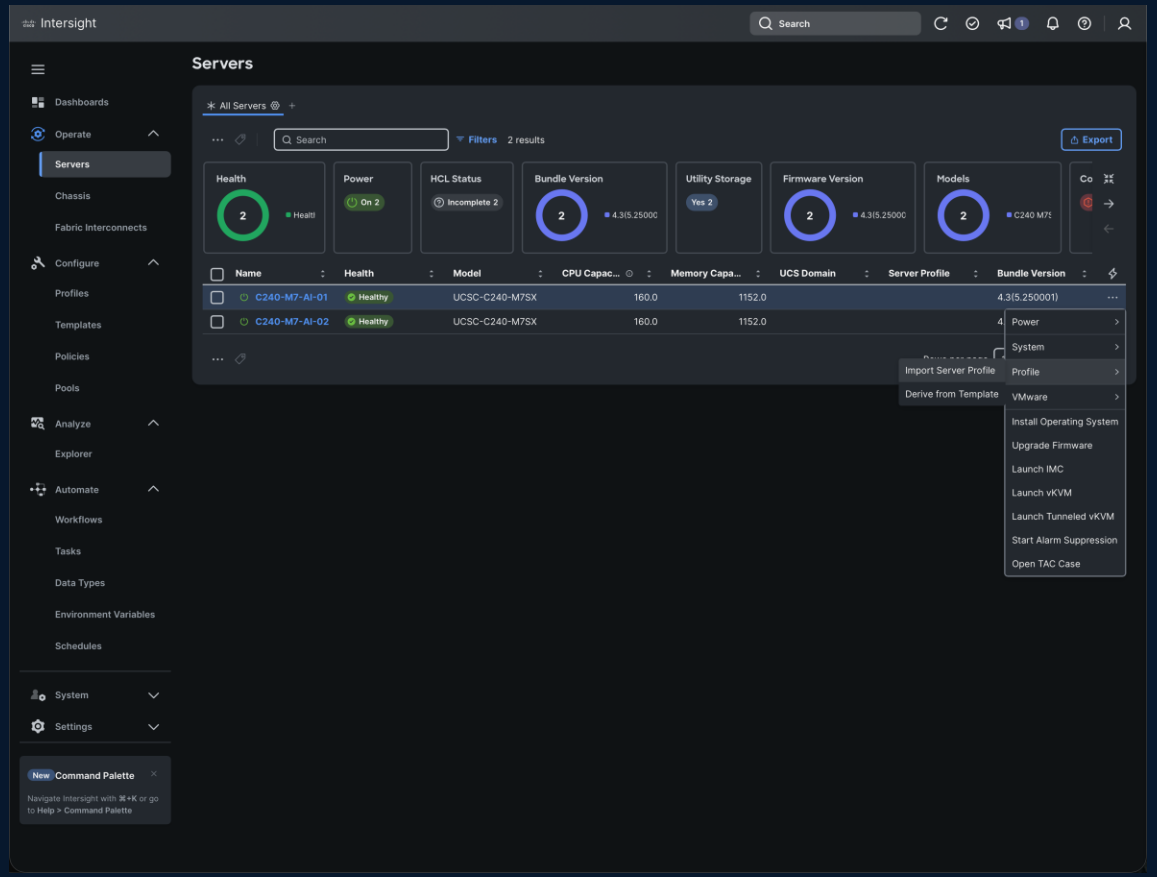
Server Profiles

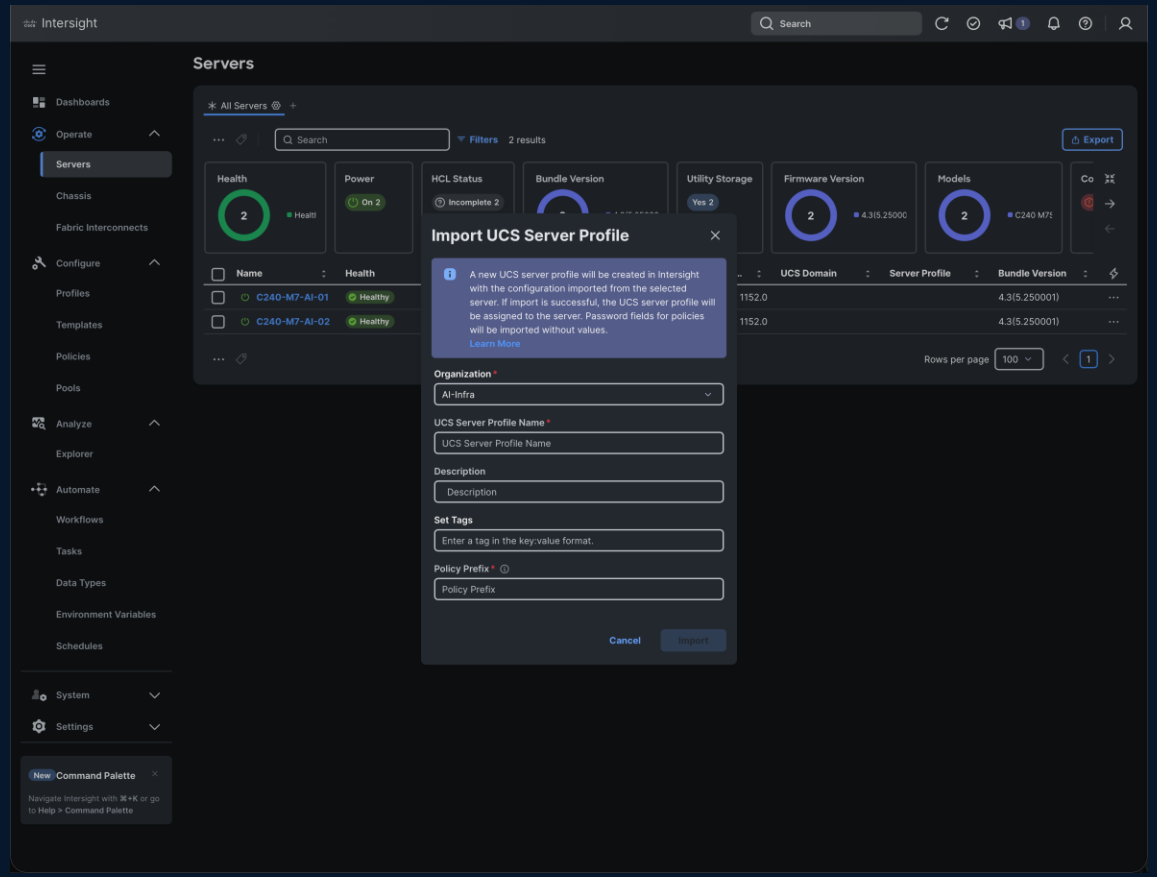
Built of policies and pools and used to define the desired configuration and map that configuration to a target server

Driving Consistency Through Policy



Importing Server Profiles



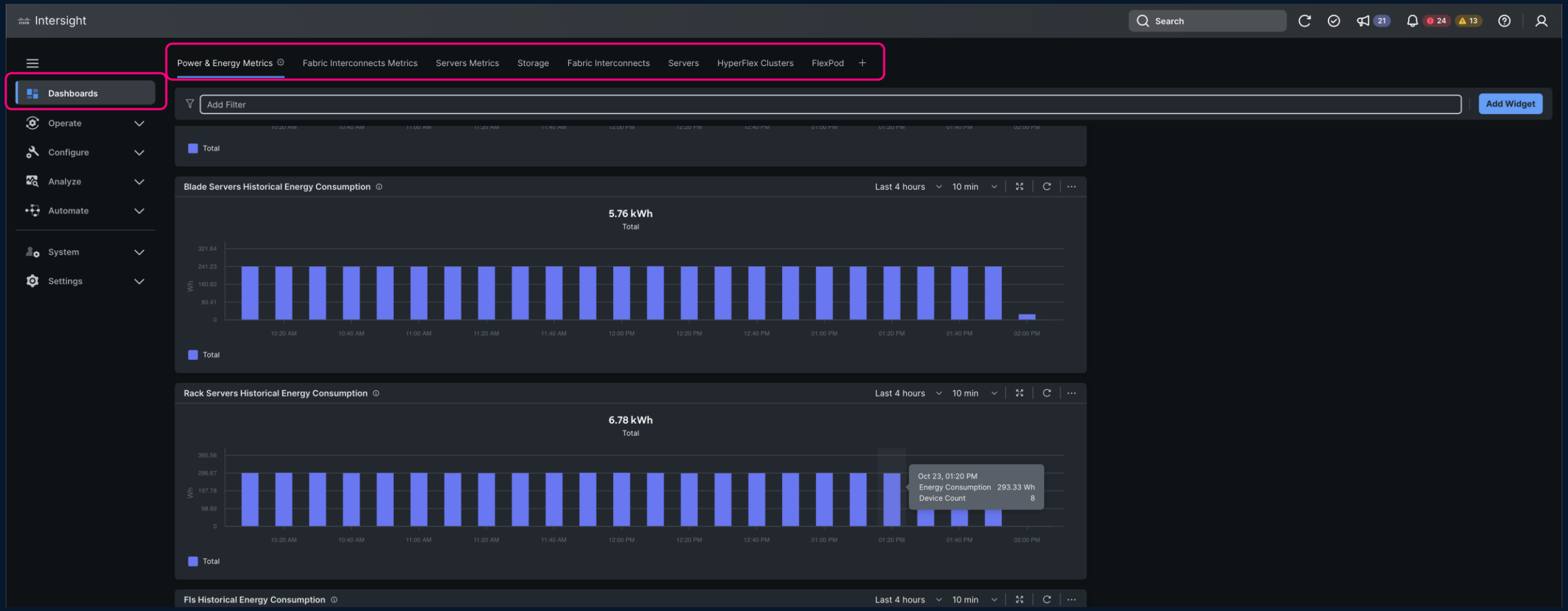


Import a previously configured standalone server and reuse the template for consistent deployment of additional servers

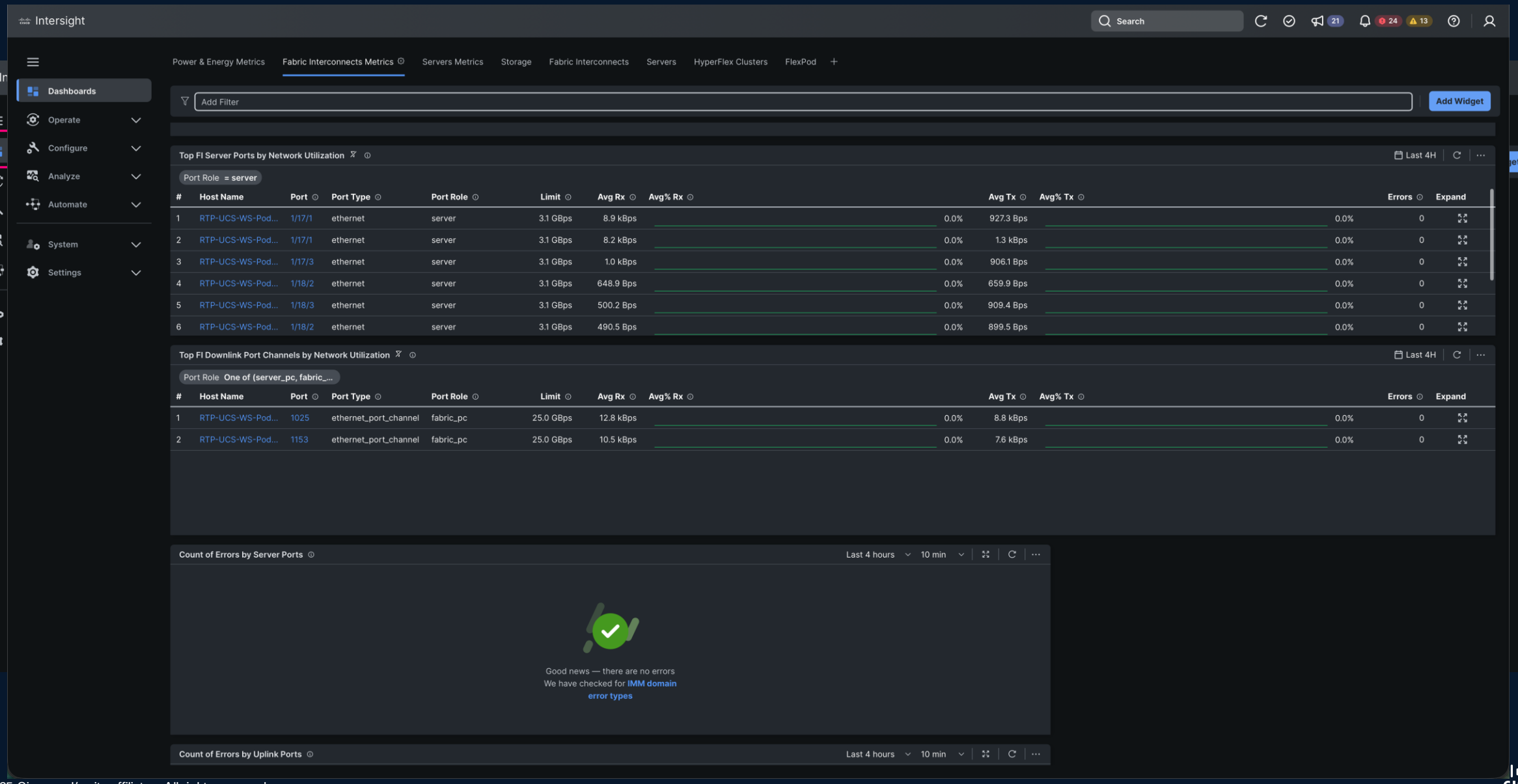
[Intersight Help Center: Importing Server Profiles]

Monitoring with Intersight

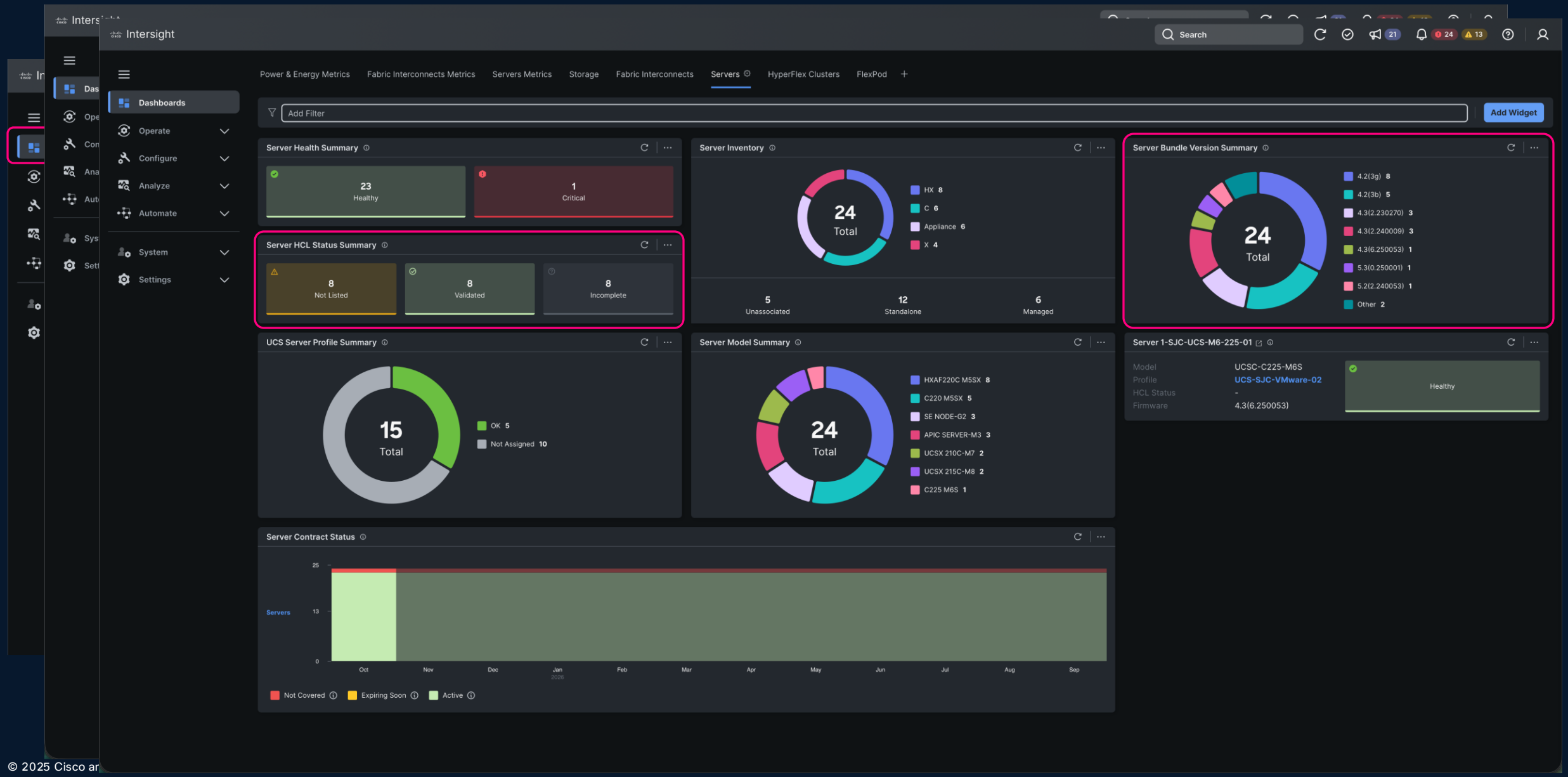
Dashboards



Dashboards



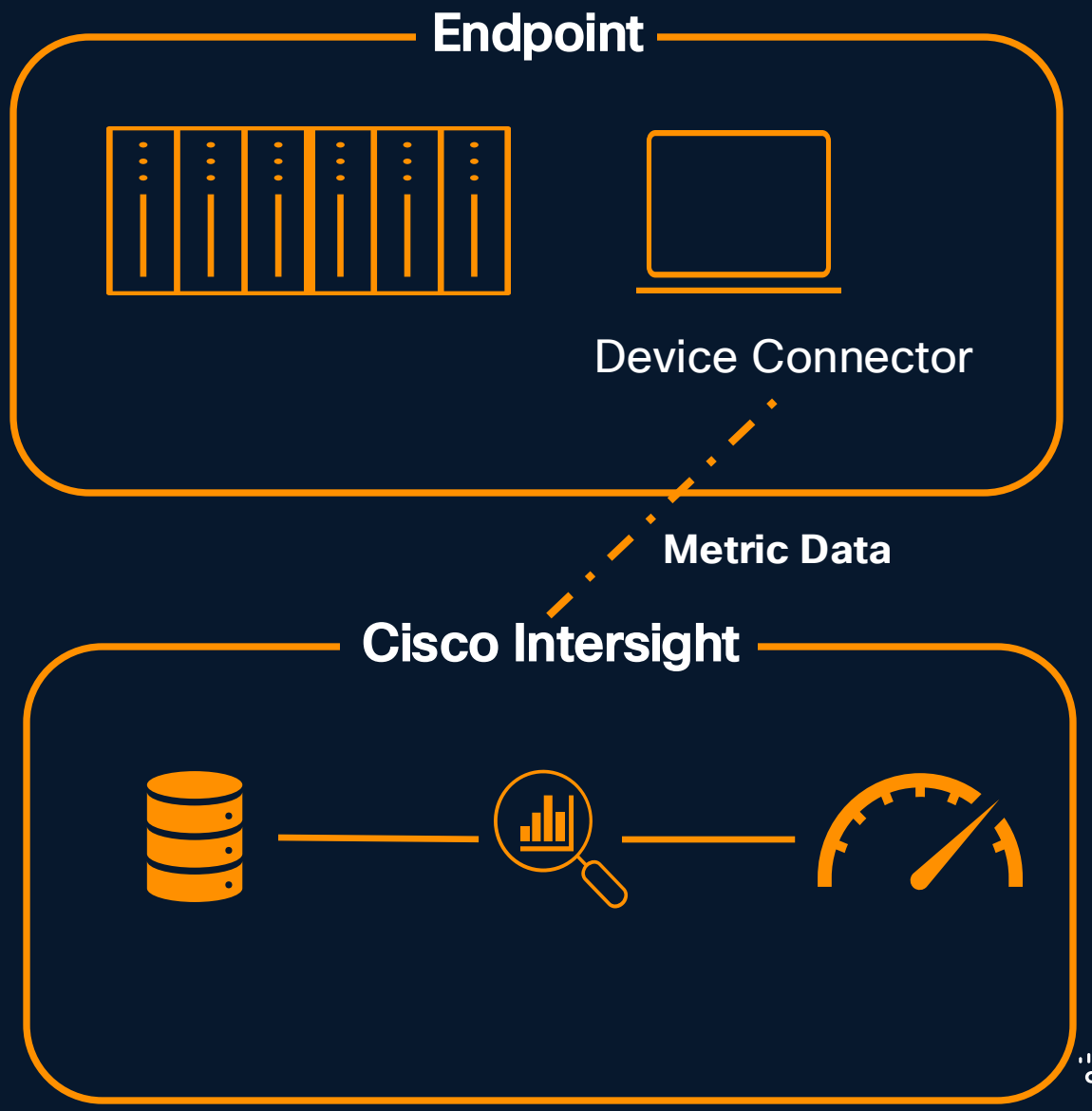
Dashboards



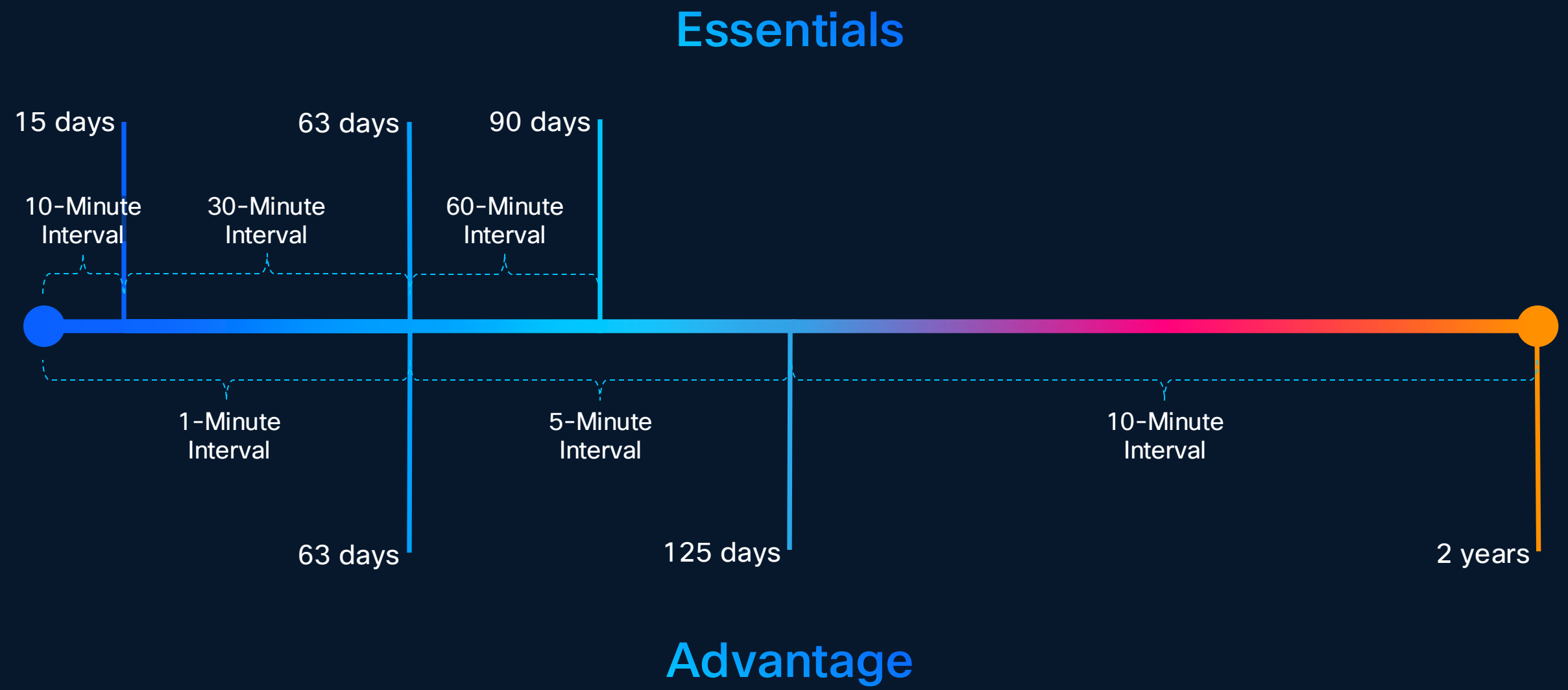
Data Collection Process on Intersight

- Metrics collected from Fabric Interconnects and Servers through device connecters and stored in Intersight at fixed time intervals
- Enables retrieving the statistics for the metrics and customer metric query creation
- During an outage, the device connecter rolls up the data with a lower granularity

Supported Metrics

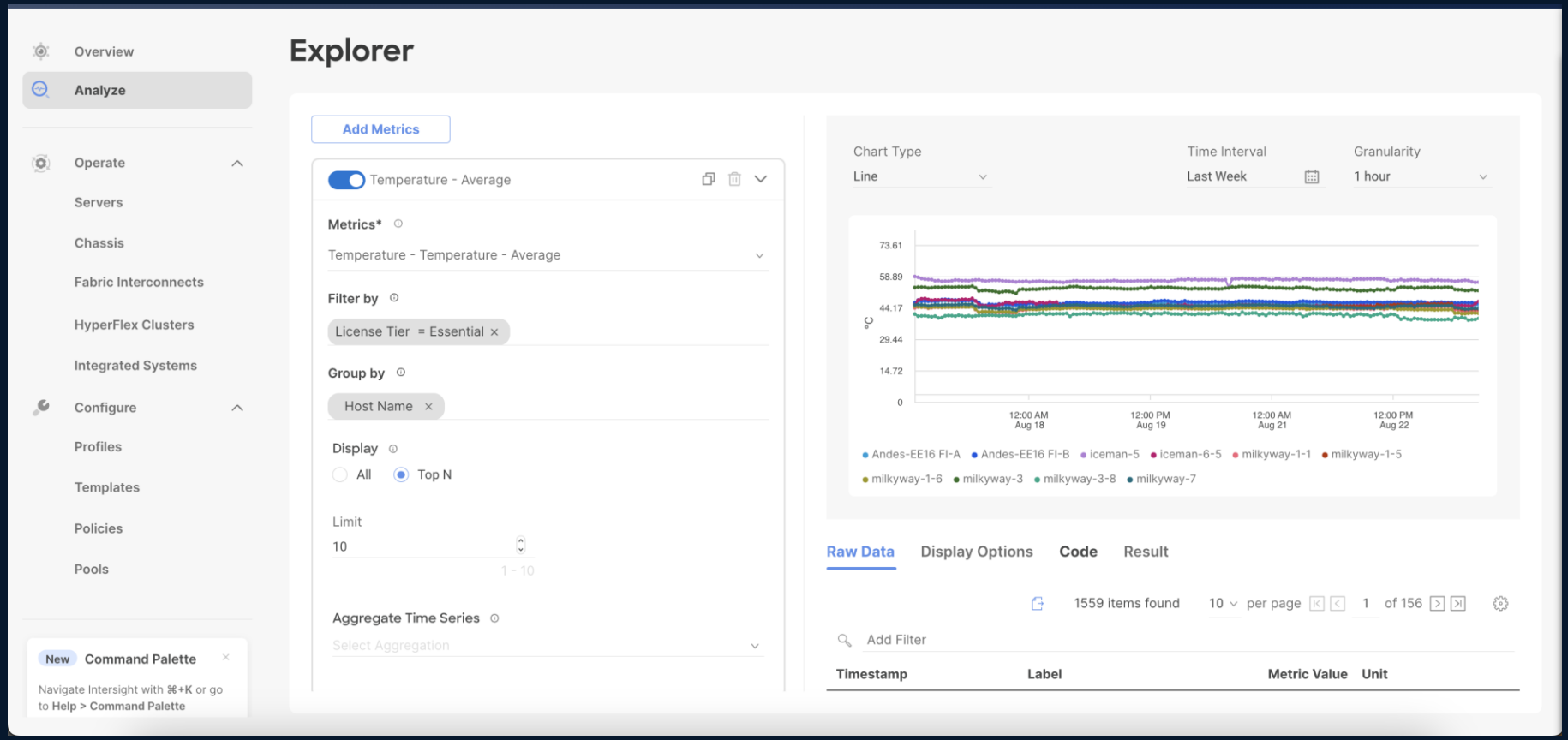


Data Storage

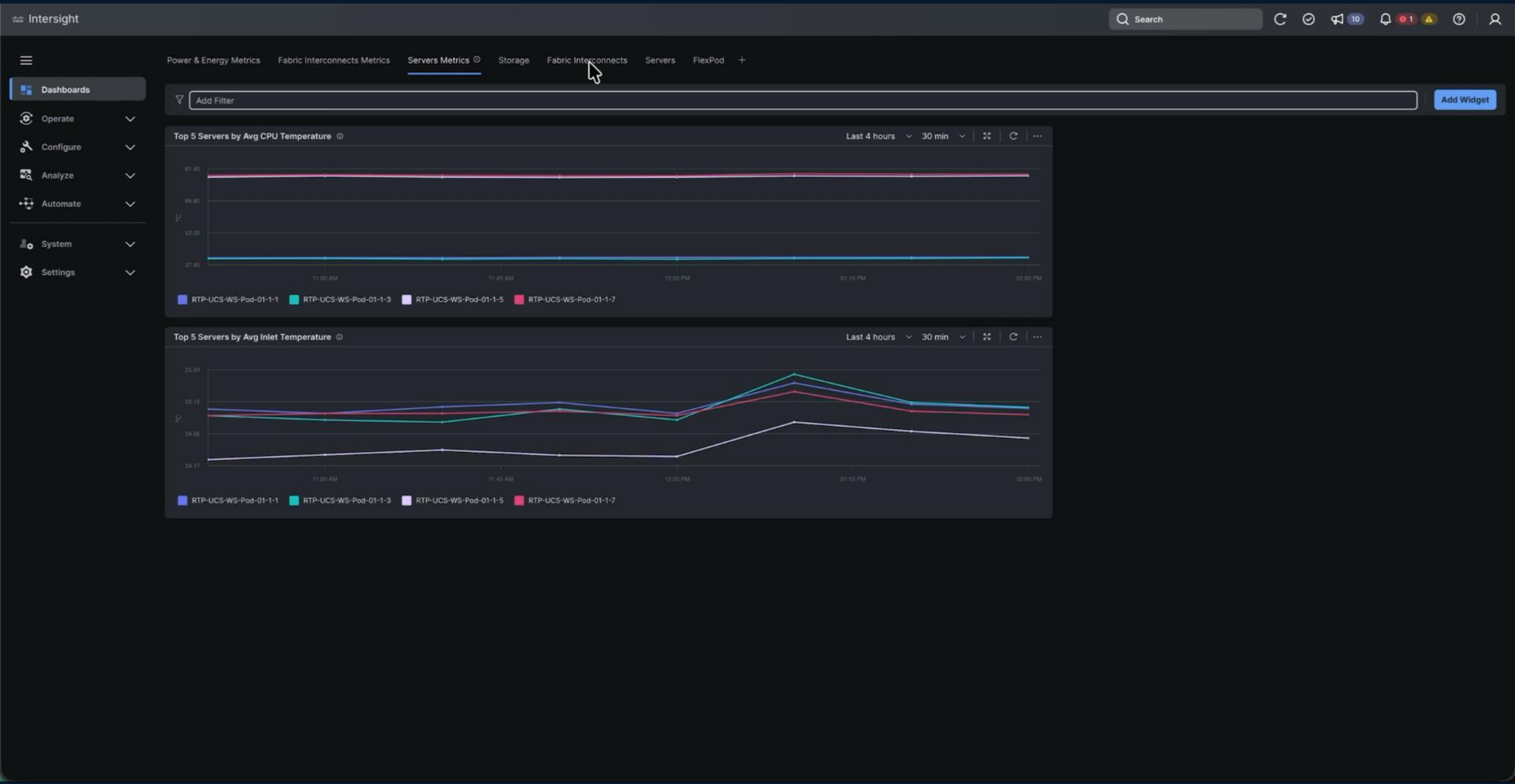


Metrics Explorer

- Aggregate and visualize metrics collected for Fabric Interconnects and Servers
- Monitor devices, optimize performance, identify bottlenecks and address any potential issues



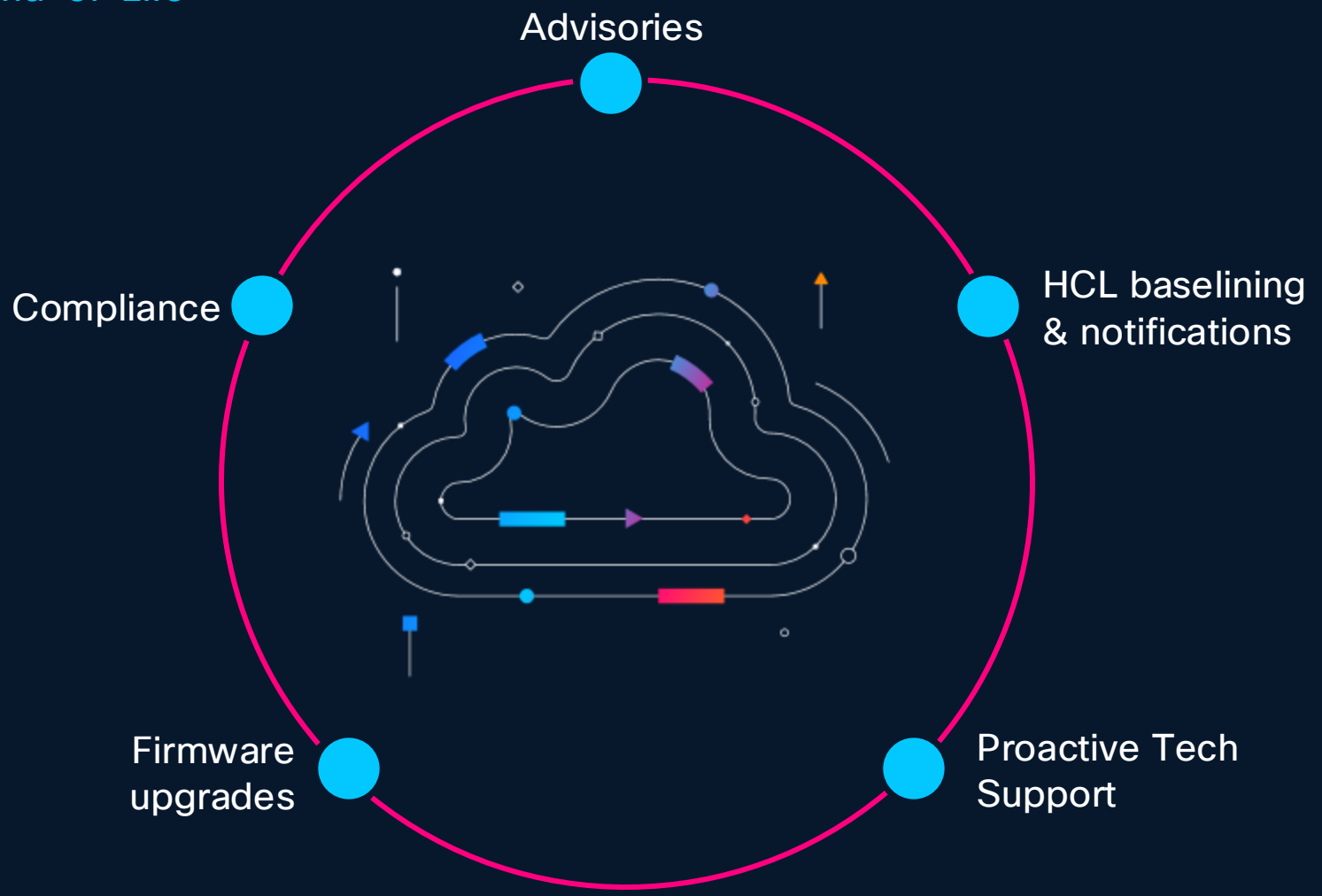
Demo


Intersight
Search
10
1
Dashboards
Operate
Configure
Analyze
Automate
System
Settings
Power & Energy Metrics
Fabric Interconnects Metrics
Servers Metrics
Storage
Fabric Interconnects
Servers
FlexPod
Add Filter
Add Widget
Top 5 Servers by Avg CPU Temperature
Last 4 hours
30 min
81.40
66.80
52.20
37.60
°C
11:00 AM
11:45 AM
12:30 PM
01:15 PM
02:00 PM
RTP-UCS-WS-Pod-01-1-1
RTP-UCS-WS-Pod-01-1-3
RTP-UCS-WS-Pod-01-1-5
RTP-UCS-WS-Pod-01-1-7
Top 5 Servers by Avg Inlet Temperature
Last 4 hours
30 min
25.64
25.15
24.66
24.17
°C
11:00 AM
11:45 AM
12:30 PM
01:15 PM
02:00 PM
RTP-UCS-WS-Pod-01-1-1
RTP-UCS-WS-Pod-01-1-3
RTP-UCS-WS-Pod-01-1-5
RTP-UCS-WS-Pod-01-1-7

Advisories & Alerts

Proactive Advisories

Security | Field Notices | End-of-Life



Demo

Dashboards
Operate
Configure
Analyze
Automate
System
Settings

New Command Palette

Navigate Intersight with ⌘+K or go to Help > Command Palette

Power & Energy Metrics | Fabric Interconnects Metrics | Servers Metrics | Storage | Fabric Interconnects | Servers | HyperFlex Clusters | FlexPod +

Add Filter

Add Widget

Overall Energy Consumption

Last 4H

1-Day Average	7-Day Average	30-Day Average
109.58 kWh	767.05 kWh	3.29 MWh

All Servers Energy Consumption

Last 4H

1-Day Average	7-Day Average	30-Day Average
76.98 kWh	538.83 kWh	2.31 MWh

Blade Servers Energy Consumption

Last 4H

1-Day Average	7-Day Average	30-Day Average
34.54 kWh	241.75 kWh	1.04 MWh

Rack Servers Energy Consumption

Last 4H

1-Day Average	7-Day Average	30-Day Average
42.44 kWh	297.08 kWh	1.27 MWh

FIs Energy Consumption

Last 4H

1-Day Average	7-Day Average	30-Day Average
32.60 kWh	228.22 kWh	978.10 kWh

All Servers Power Usage

Last 4H

Total
3.21 kW

Top 5 Servers by Energy Consumption

Last 4H

#	Name	Serial Number	Energy Consumption (kWh)
1	RTP-UCS-WS-Pod-01-1-3	FCH274174KS	1.53
2	RTP-UCS-WS-Pod-01-1-5	FCH290770WC	1.48
3	RTP-UCS-WS-Pod-01-1-7	FCH284571QM	1.48
4	RTP-UCS-WS-Pod-01-1-1	FCH274073AW	1.27
5	lon-hx-umm-migration-4	WZP21470485	0.92

Top 5 Blade Servers by Energy Consumption

Last 4H

#	Name	Serial Number	Energy Consumption (kWh)
1	RTP-UCS-WS-Pod-01-1-3	FCH274174KS	1.53
2	RTP-UCS-WS-Pod-01-1-5	FCH290770WC	1.48
3	RTP-UCS-WS-Pod-01-1-7	FCH284571QM	1.48
4	RTP-UCS-WS-Pod-01-1-1	FCH274073AW	1.27

Top 5 Rack Servers by Energy Consumption

Last 4H

Enabling the Ecosystem

Ecosystem Integration

Storage plugins

- See storage capacity, controllers, configuration, snapshots, and replication
- Automate storage management and orchestration
- Use storage task library to create and execute workflows

Virtualization*

- See virtual machine inventory and supporting infrastructure across on-premises/edge environments
- Standardize management of virtual infrastructure
- Efficiently provision and simplify management of daily operations

**Feature set varies by hypervisor*

ServiceNow plugins

Service Graph Connector for Cisco Intersight®

Ingest data from Cisco Intersight-connected devices into ServiceNow to resolve issues faster

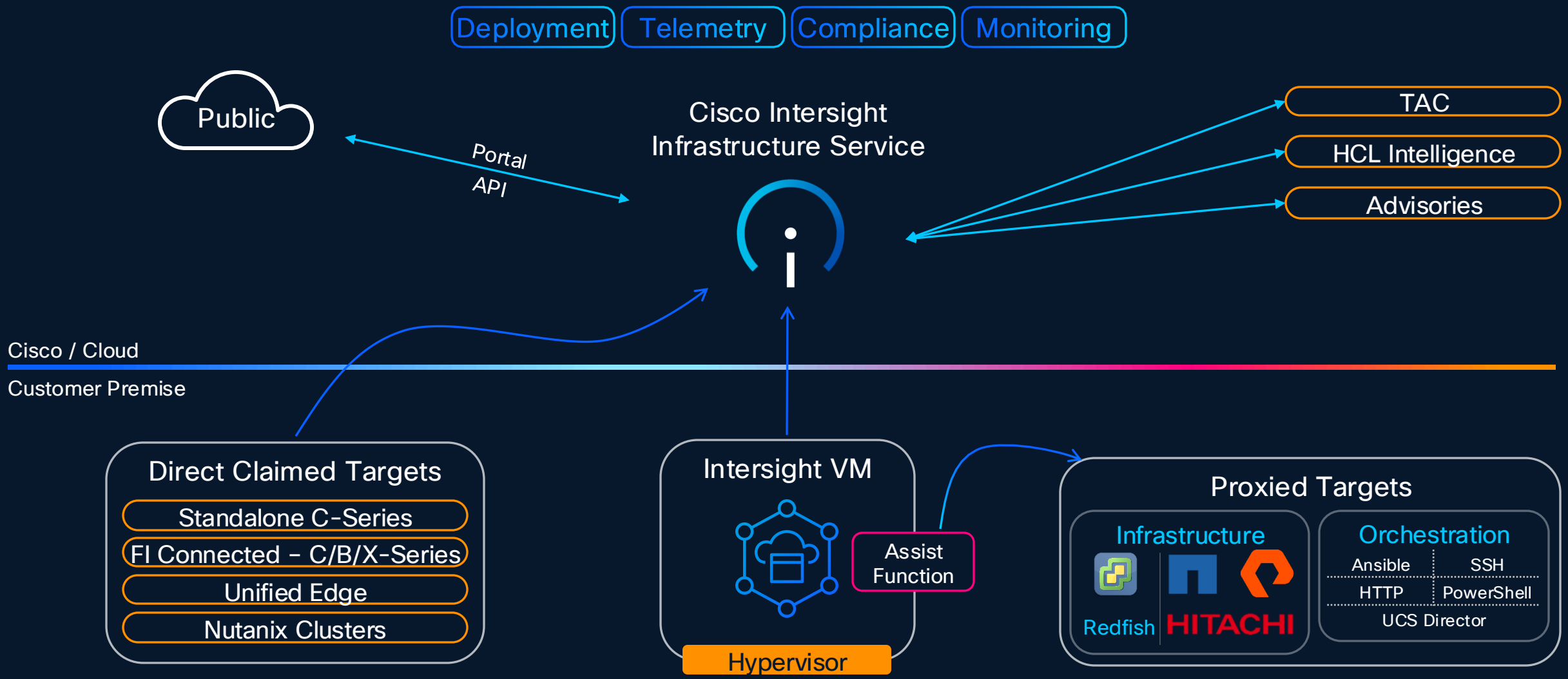
Cisco Intersight: Incident Management Integration

Automated Incident Generation: Raises incidents in ServiceNow for alarms and advisories from Cisco Intersight

Cisco Intersight Add-on for Splunk

- Monitor your Cisco UCS infrastructure from Splunk
- Quickly diagnose and act on potential issues
- Leverage Splunk's analytics capabilities to identify potential issues in Intersight-managed UCS infrastructure
- Unify data from compute and other platforms in Splunk to gain a comprehensive understanding of IT operations
- Strengthen security posture by integrating Intersight's infrastructure insights with Splunk Enterprise's advanced threat detection and compliance monitoring

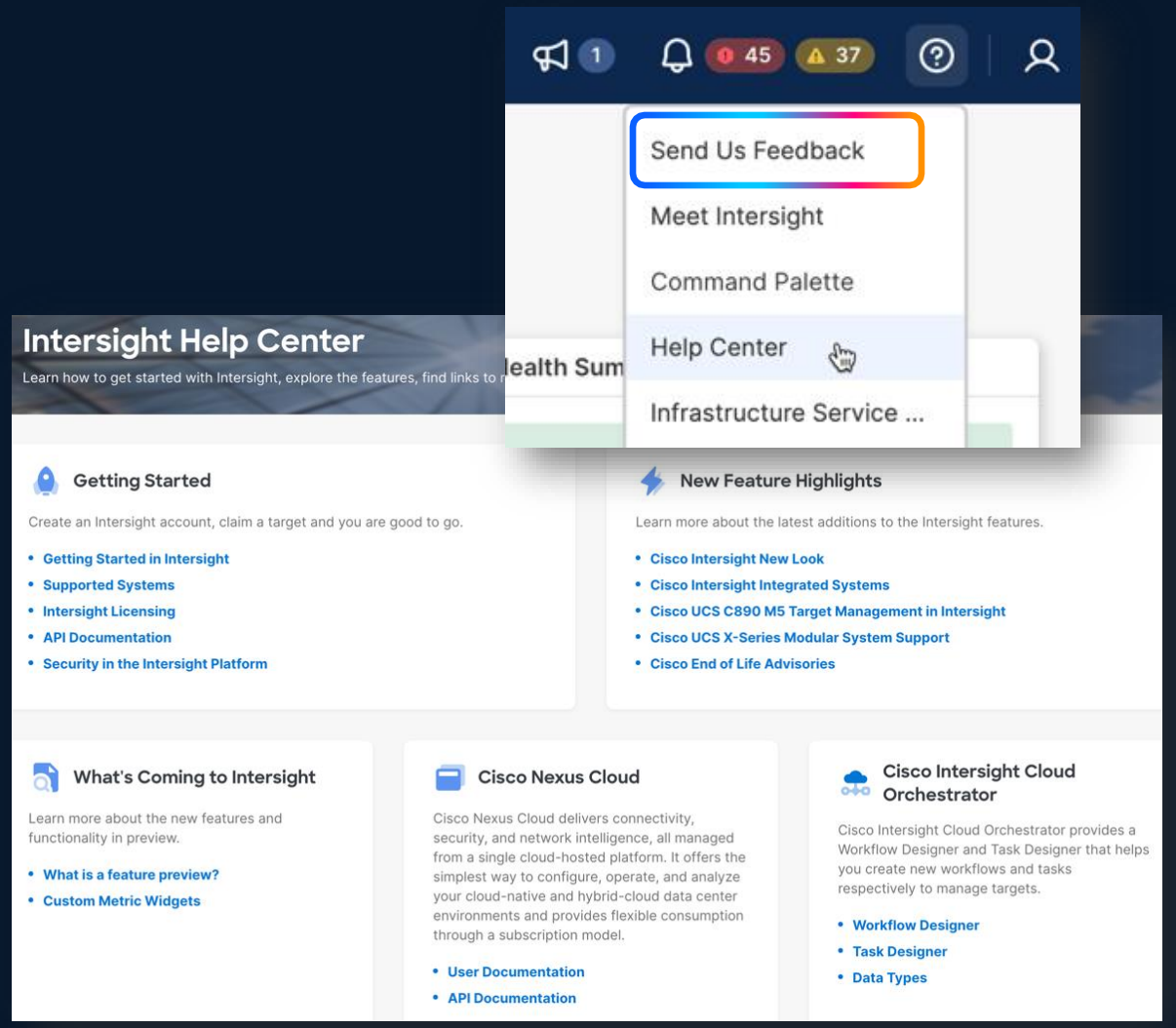
Intersight Assist



Additional Information

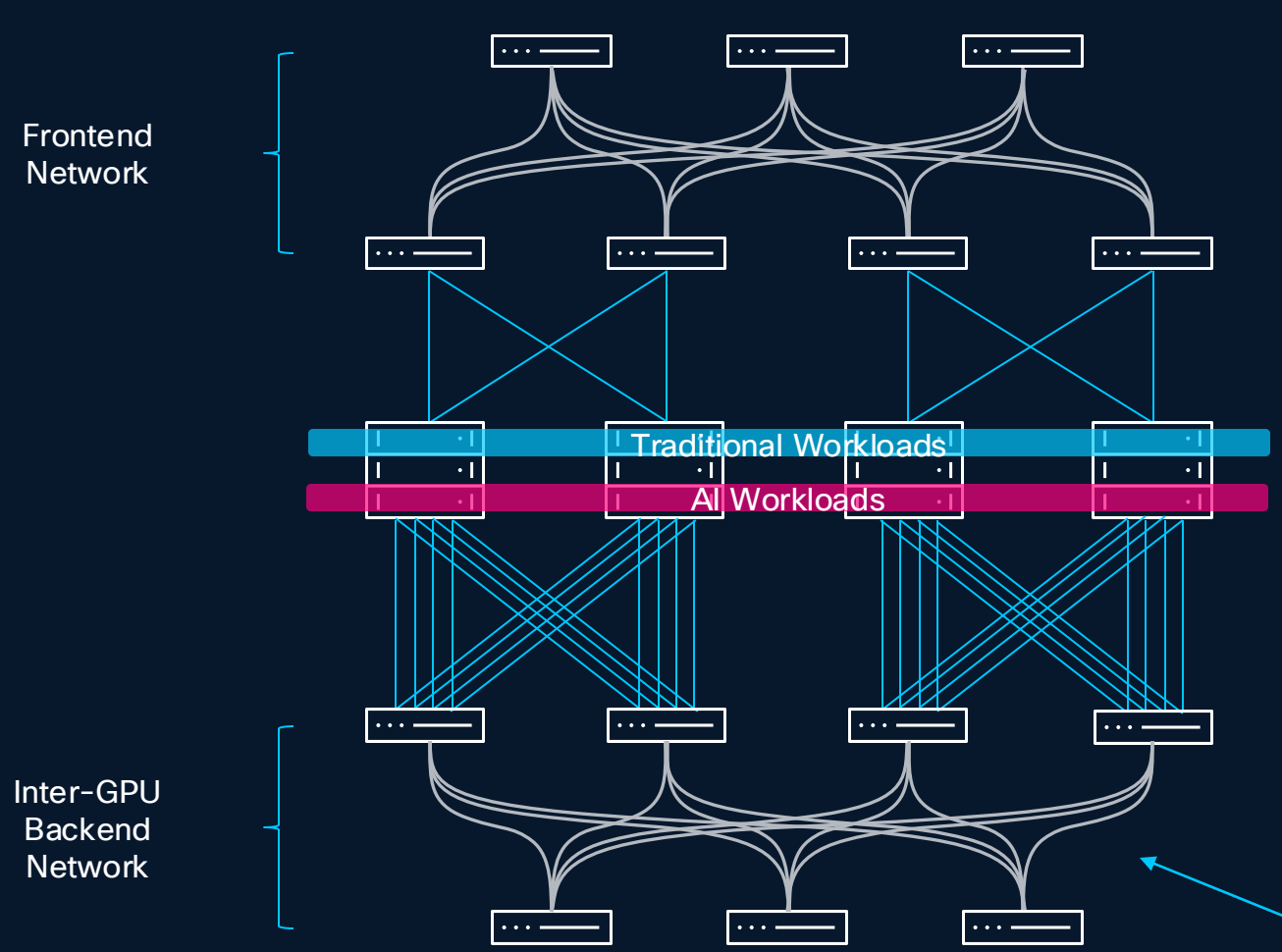
Intersight Help Center & Documentation

- All documentation is available via the Help Center
  - SaaS: https://intersight.com/help/saas
  - Appliance: https://intersight.com/help/appliance or on the Appliance
- Release Notes & Release Bundle Contents
  - https://www.cisco.com/c/en/us/support/servers-unified-computing/intersight/products-release-notes-list.html



Operating the AI Ready Data Center Network

The Need for More Networks



Management Network

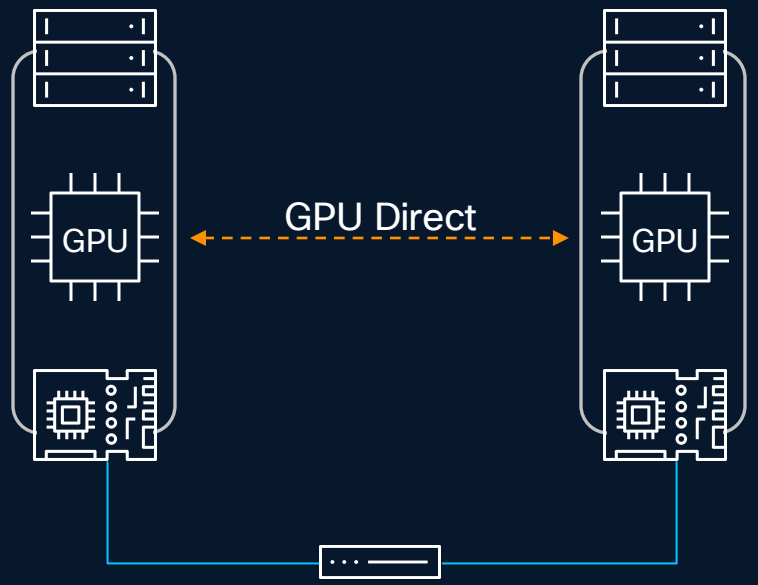
Storage Network

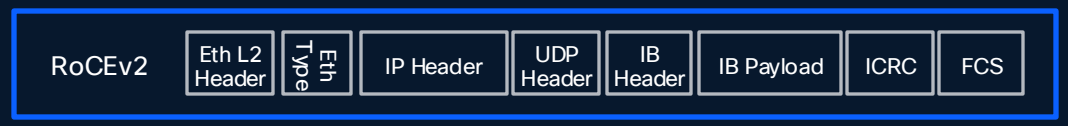
- High Bandwidth Non-blocking Loss-Less Fabric
- RDMA over Converged Ethernet (RoCEv2)
- PFC and ECN enabled

Why Do I Need a Backend Network and What Does it Do?

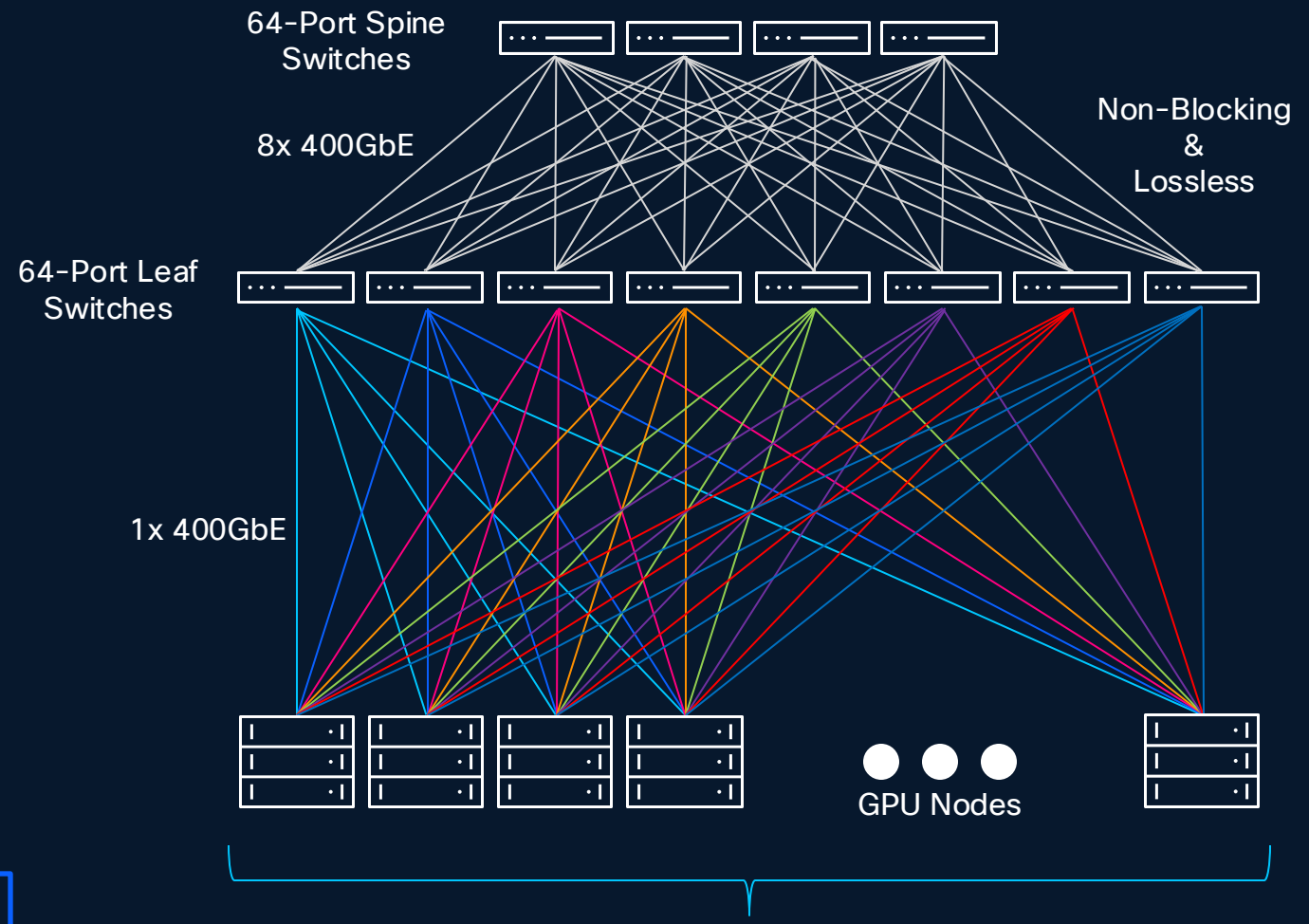
Distributed and Disaggregated Processing

Training, Fine Tuning, distributed Inferencing



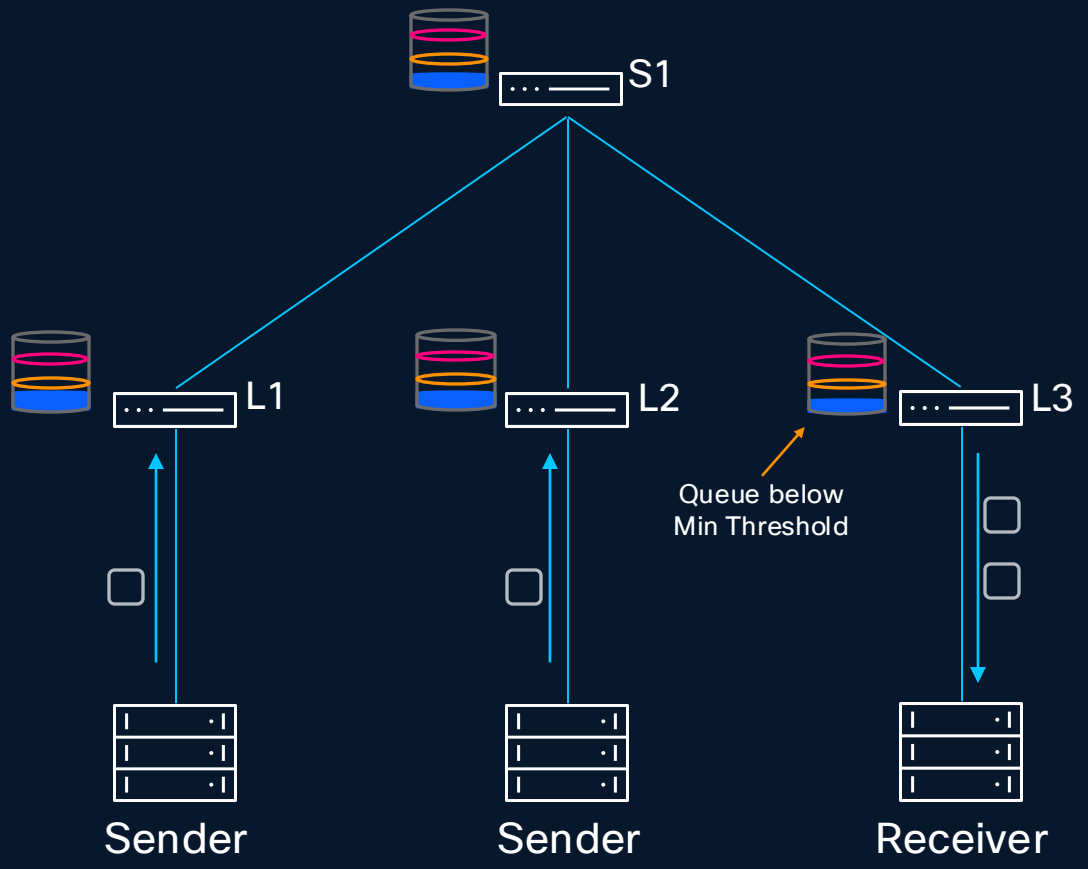


Rails-optimized network interconnecting 256 GPUs



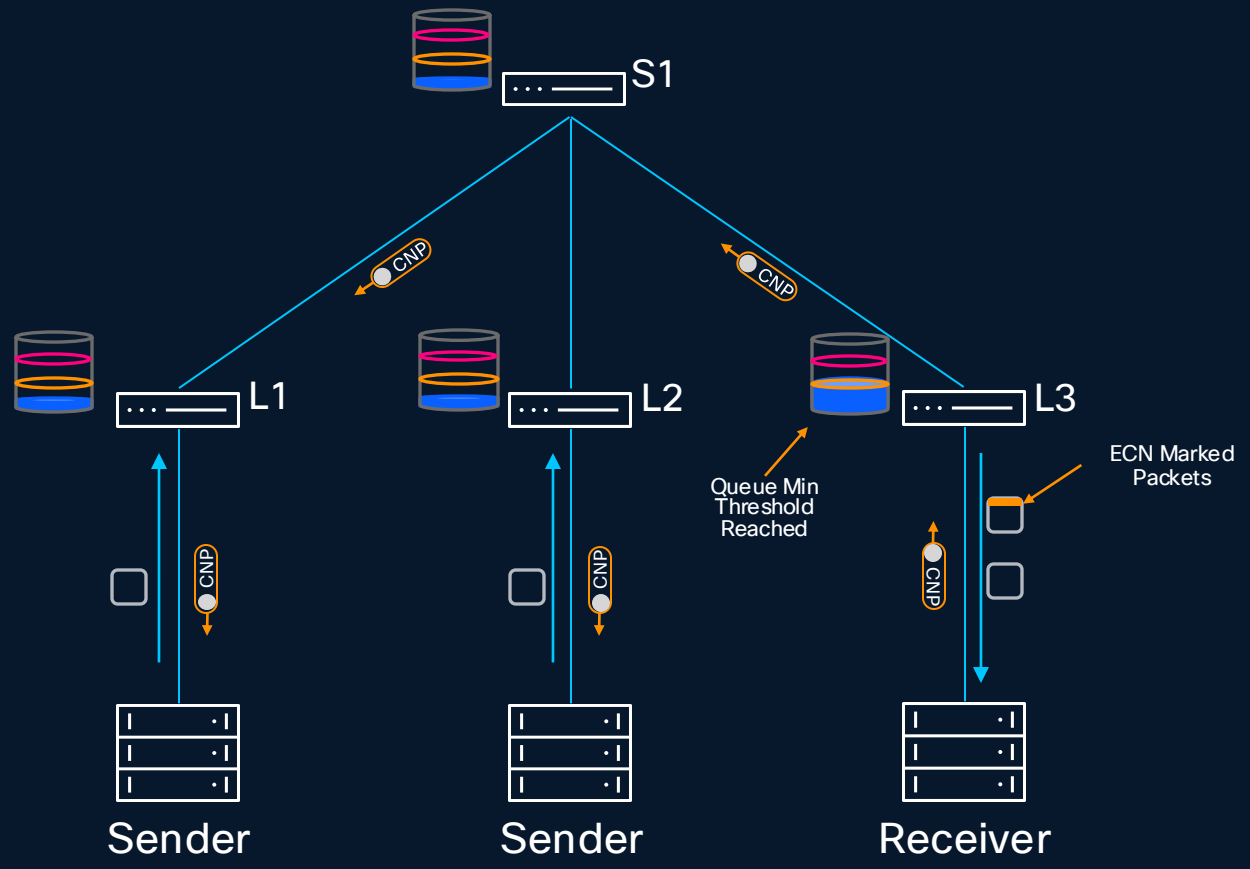
Lossless Networking

Both Senders are sending RoCEv2 flows to the Receiver



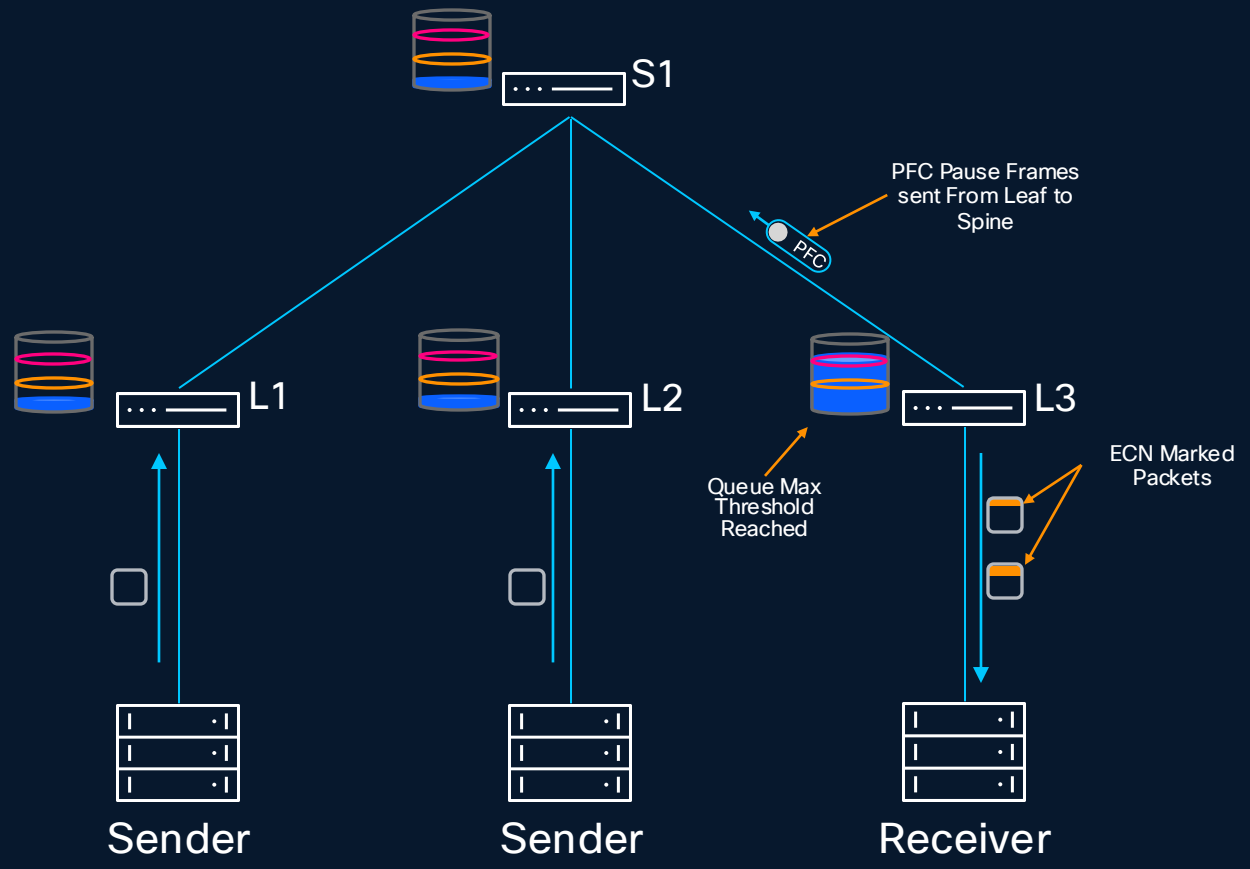
Lossless Networking

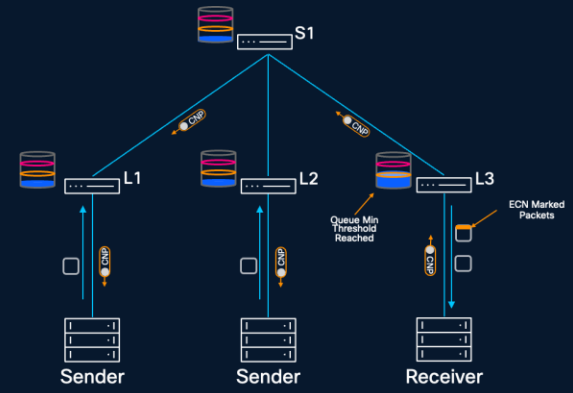
- Leaf 3 egress queue is queuing packets to be sent to the Receiver
- WRED randomly marks the ECN bit on packets to Receiver
- Receiver sends CNP to senders to have senders slow down



Lossless Networking

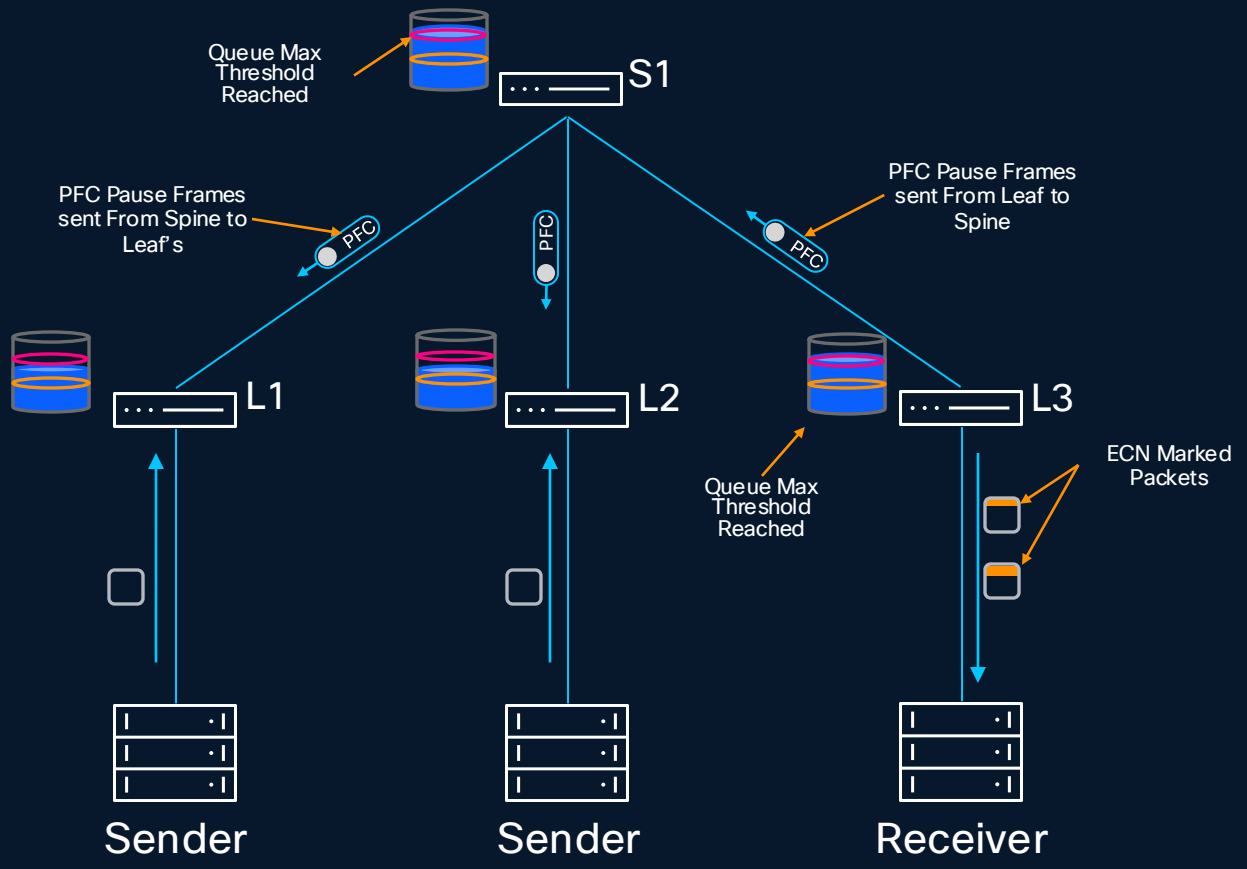
- Leaf 3 egress queue continues to queue packets to be sent to the Receiver
- PFC threshold is triggered
- Leaf 3 sends pause frames to Spine 1 to start queuing packets

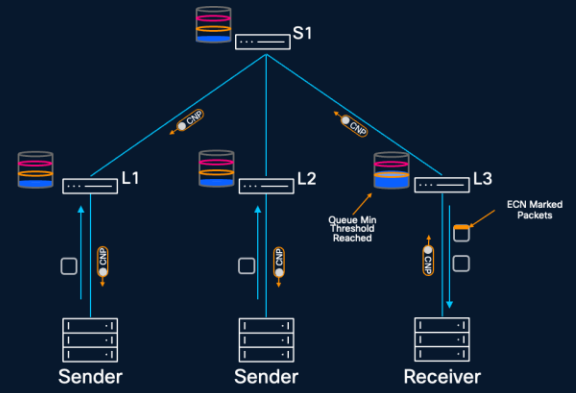


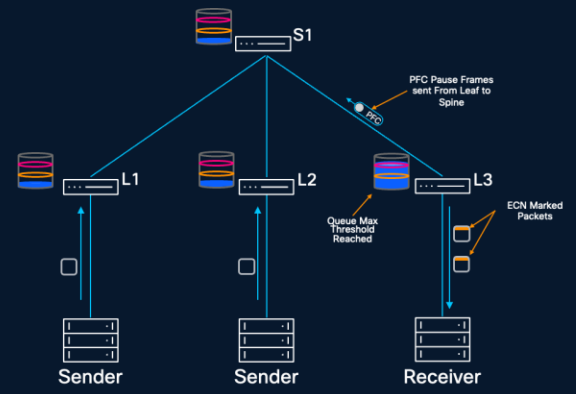


Lossless Networking

- Spine 1 queue reaches PFC threshold
- PFC threshold is triggered
- Spine 1sends pause frames to Leaf 1 and 2 to start queuing packets

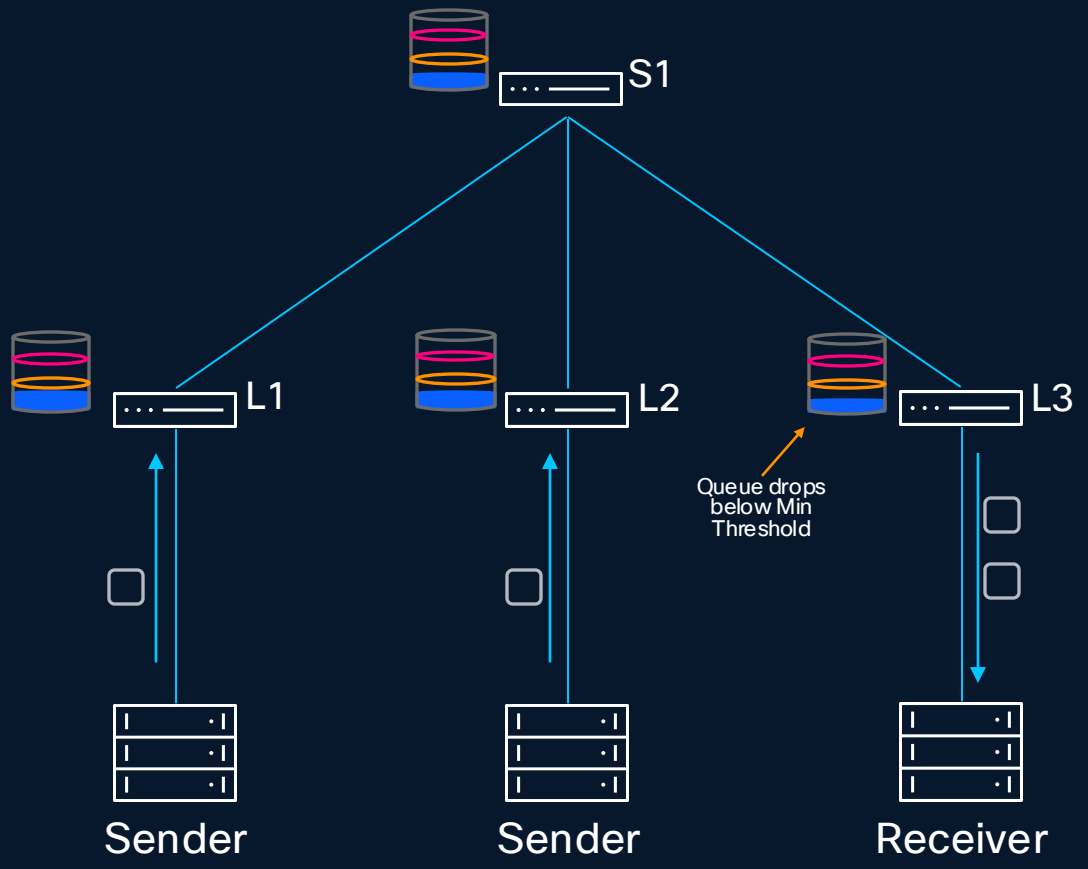


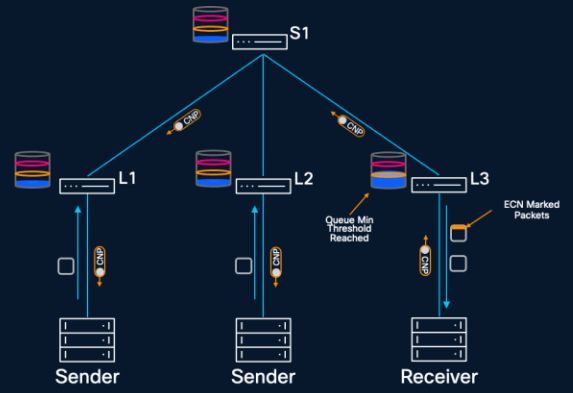


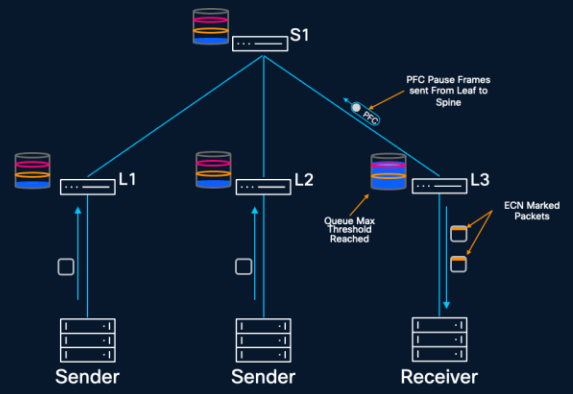


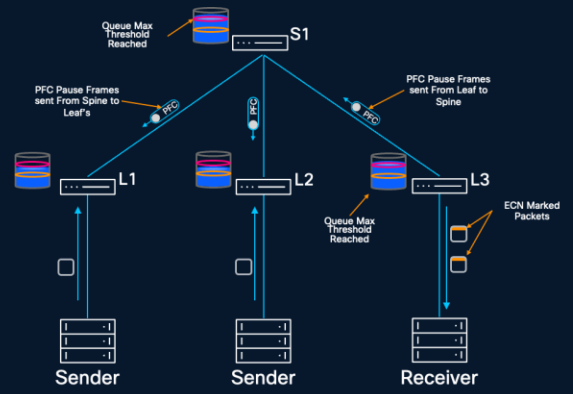
Lossless Networking

- Leaf 3 egress queue drains and stops sending pause frames upstream
- Leaf 3 queue drops below WRED min and stops marking ECN bits







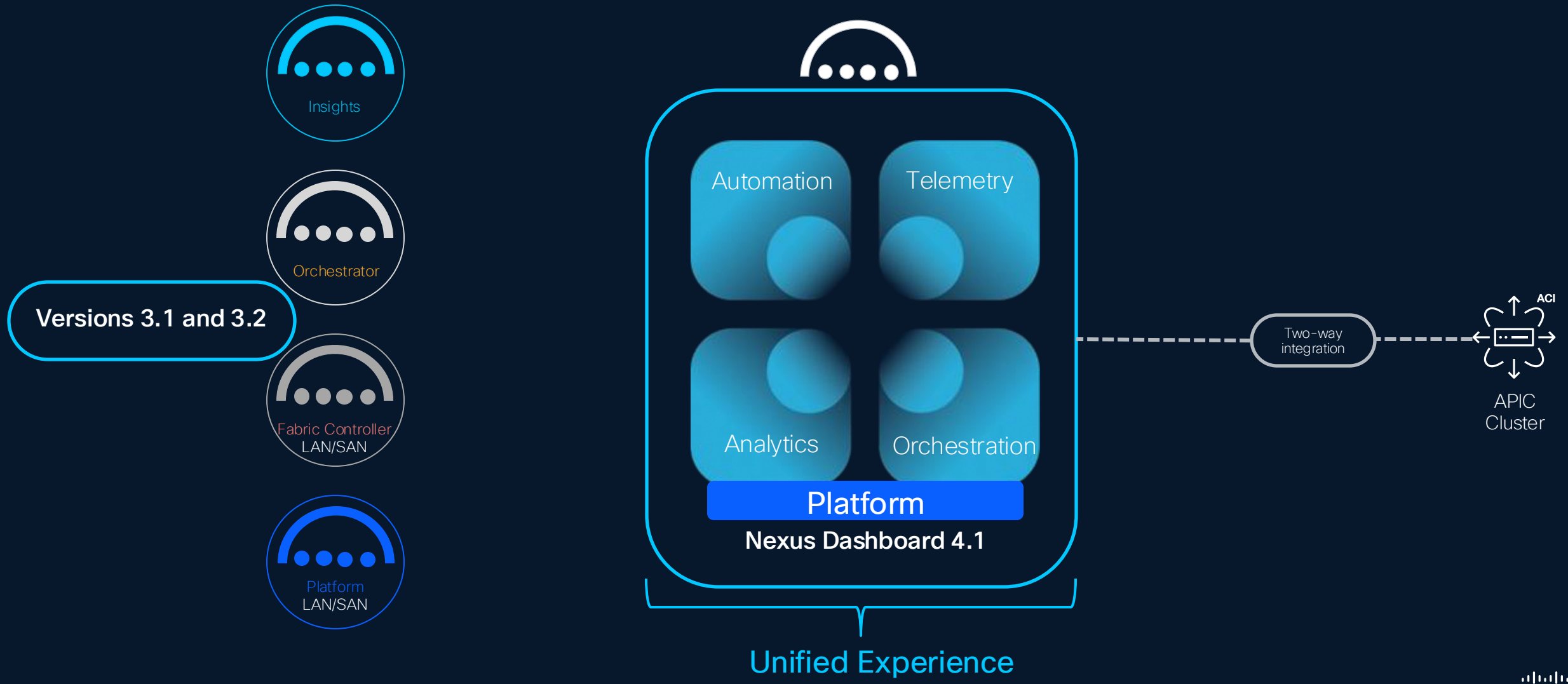


PFC and ECN working together to deliver Lossless Networking

Simplification via Unification

Unify your Operational Experience

Nexus Dashboard



Deployment

Deployment Options

Nexus Dashboard Release 4.1.1 Release Notes

Physical Appliance

- SE-NODE-G2
- ND-NODE-L4
- ND-NODE-G5S [1]

Virtual Appliance*

vmware

KVM[2]

- Two vND Profile
  - Data – designed for higher scale/ Unified deployments
  - App – lower Sys. requirements

aws

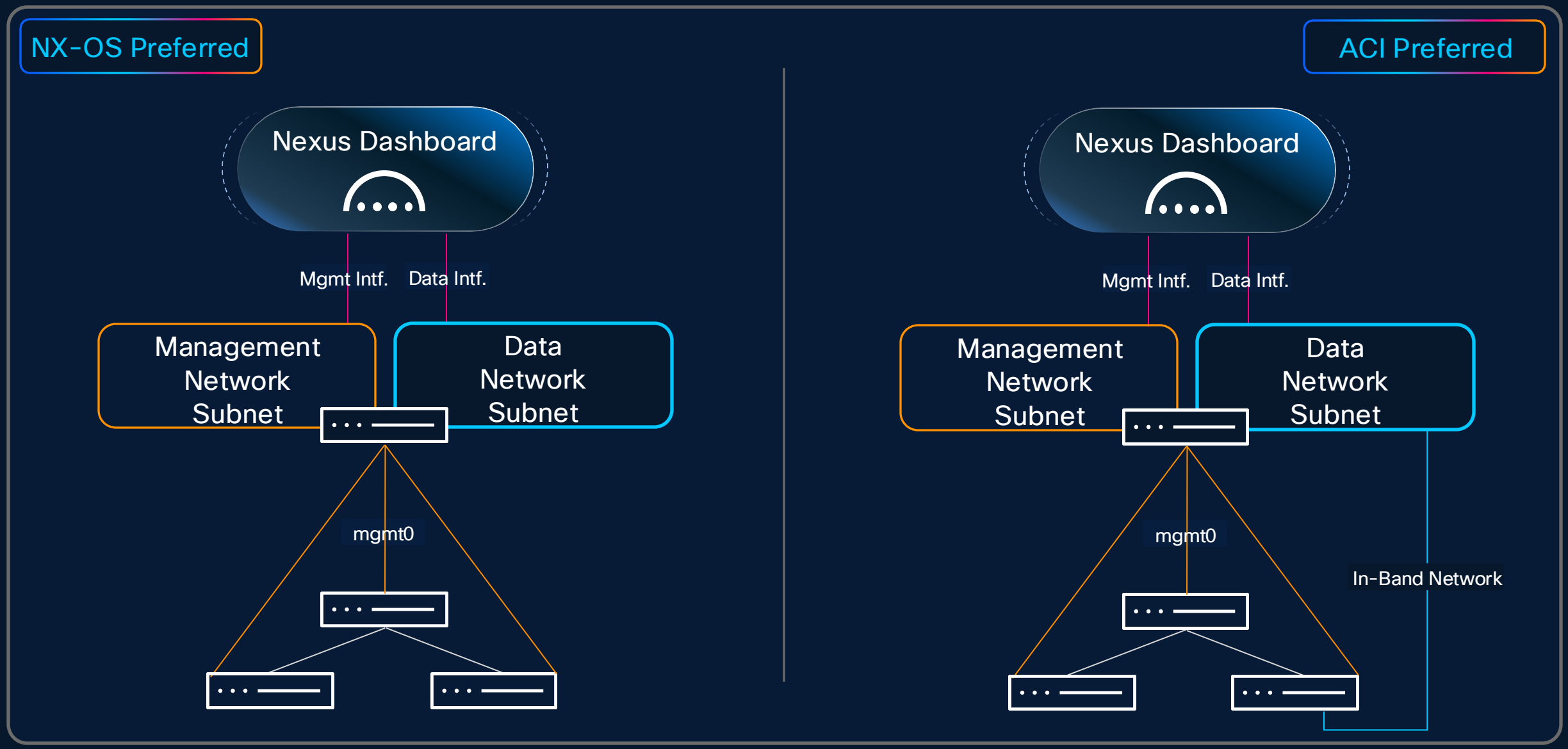
- Data vND Profile Only
- NX-OS fabrics both Controller & Telemetry functions [1]

Notes:

1. Requires Nexus Dashboard version 4.1
2. Expanded support for Telemetry and Orchestrator functions add in ND version 4.1

cisco

Deploying Nexus Dashboard (via an External L3 Network)



[Nexus Dashboard Deployment Guide - Fabric Connectivity]

Nexus Dashboard
Unifying Network Operations

Security

Manage

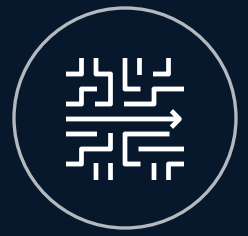
Provision

Analyze

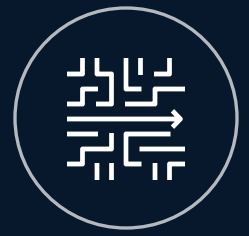
cisco

Provisioning with Nexus Dashboard

Build your fabrics from scratch



Consistent fabric builder for all types



Day-n ongoing incremental & consistent configurations

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Cisco Nexus Dashboard - Provision

LAN fabric automation and/or onboarding for AI analytics

Provision

Classic
2- or 3-tier NX-OS architectures

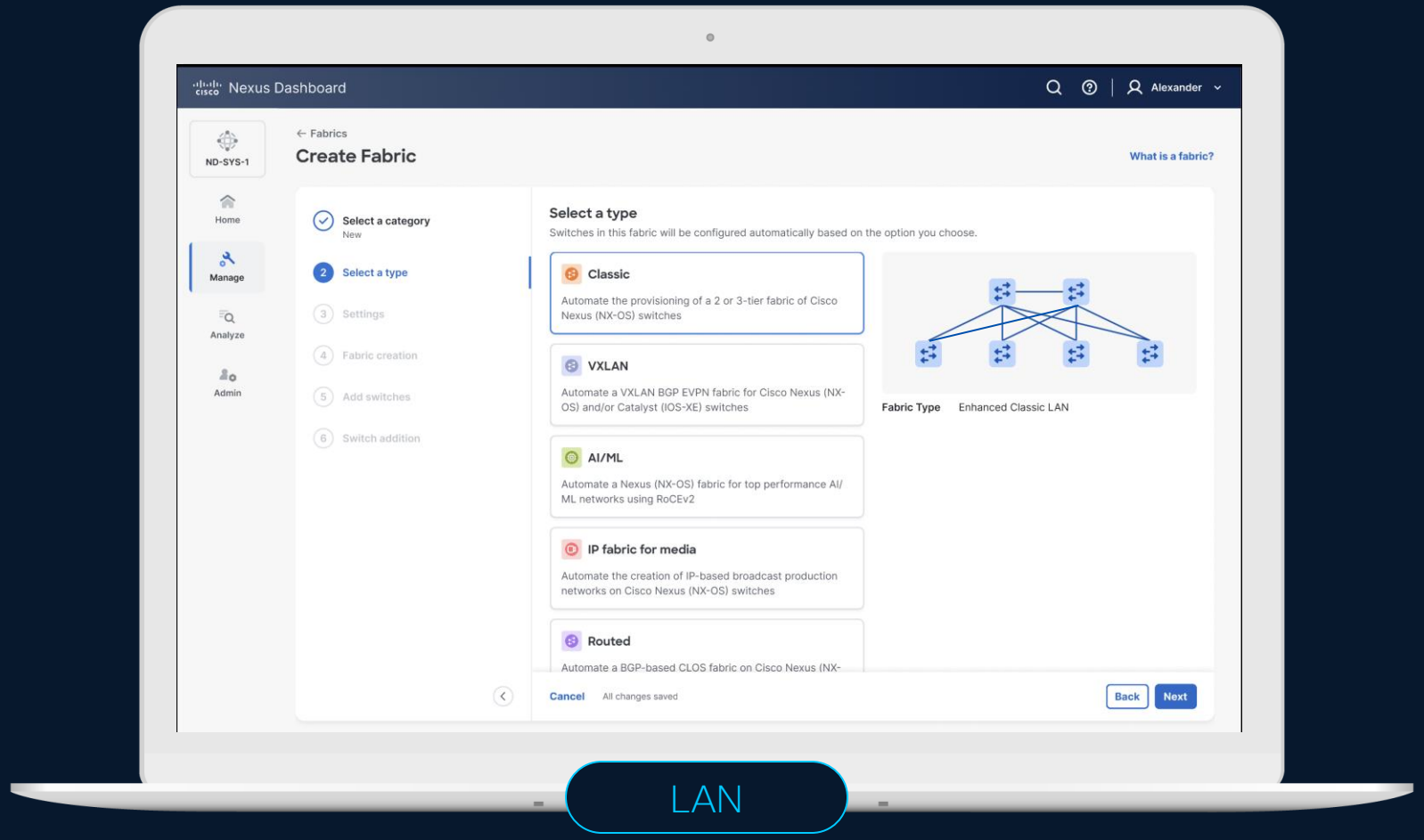
VXLAN
BGP EVPN fabrics for Nexus & Catalyst (IOS XE)

AI/ML
Fine-tuned network provisioning to transport AI/ML apps with the best performance

External and Inter-Fabric Networks
NX-OS, IOS XE, XR, third-party networks mainly used to interconnect ACI, NX-OS, and Campus

IP Fabric for Media
Fine-tuned network provisioning and monitoring for broadcasting and media

Routed
BGP-based CLOS NX-OS fabrics



LAN

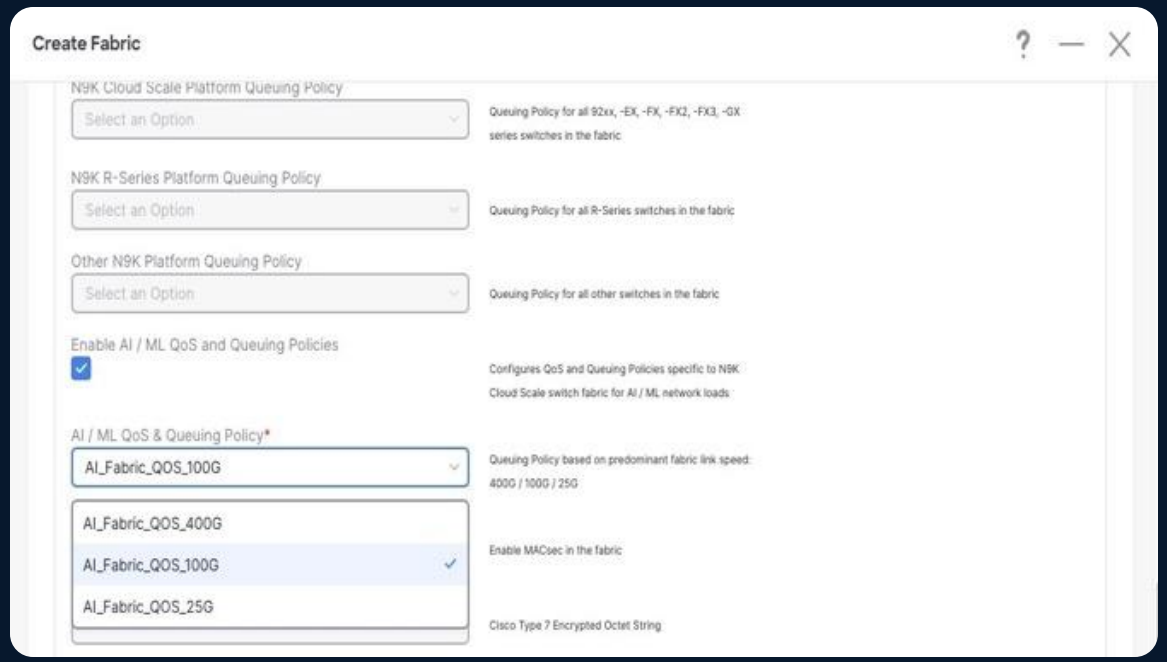
Cisco Nexus Dashboard

Provision

AI/ML Fabric Type

Day0 Provisioning for AI/ML networks with Best Practice Templates

Custom QoS classification and marking



Benefits

Streamlined Automation for AI/ML deployments

Cisco Nexus Dashboard

AI/ML Fabric Type

```
class-map type qos match-any CNP
  match dscp 48
class-map type qos match-any ROCEv2
  match dscp 26
policy-map type qos QOS_CLASSIFICATION
  class ROCEv2
    set qos-group 3
  class CNP
    set qos-group 7
  class class-default
    set qos-group 0
```

Cisco Nexus Dashboard

Provision

AI/ML Fabric Type

```
policy-map type queuing QOS_EGRESS_PORT
  class type queuing c-out-8q-q6
    bandwidth remaining percent 0
  class type queuing c-out-8q-q5
    bandwidth remaining percent 0
  class type queuing c-out-8q-q4
    bandwidth remaining percent 0
  class type queuing c-out-8q-q3
    bandwidth remaining percent 50
    random-detect minimum-threshold 150 kbytes maximum-threshold 3000 kbytes drop-probability 7 weight 0 ecn
  class type queuing c-out-8q-q2
    bandwidth remaining percent 0
  class type queuing c-out-8q-q1
    bandwidth remaining percent 0
  class type queuing c-out-8q-q-default
    bandwidth remaining percent 50
  class type queuing c-out-8q-q7
    priority level 1
```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Cisco Nexus Dashboard

Provision

AI/ML Fabric Type

```
policy-map type queuing QOS_EGRESS_PORT
  class type queuing c-out-8q-q6
    bandwidth remaini
  class type queuing
    bandwidth remaini
  class type queuing
    bandwidth remaini
  class type queuing
    bandwidth remaini
    random-detect min
  class type queuing
    bandwidth remaini
  class type queuing
    bandwidth remaini
  class type queuing
    bandwidth remaini
  class type queuing
    priority level 1
```

```
system qos
  service-policy type network-qos qos_network
  service-policy type queuing output QOS_EGRESS_PORT
!
! << Output Omitted >>
!
interface Ethernet1/1
  description connected-to-dc1-ai-su1-spine1-Ethernet1/1
  no switchport
  priority-flow-control mode on
  priority-flow-control watch-dog-interval on
  mtu 9216
  service-policy type qos input QOS_CLASSIFICATION
  ip address 10.101.0.3/31
  no shutdown
```

```
ility 7 weight 0 ecn
```


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Nexus Dashboard
Unifying Network Operations

Security

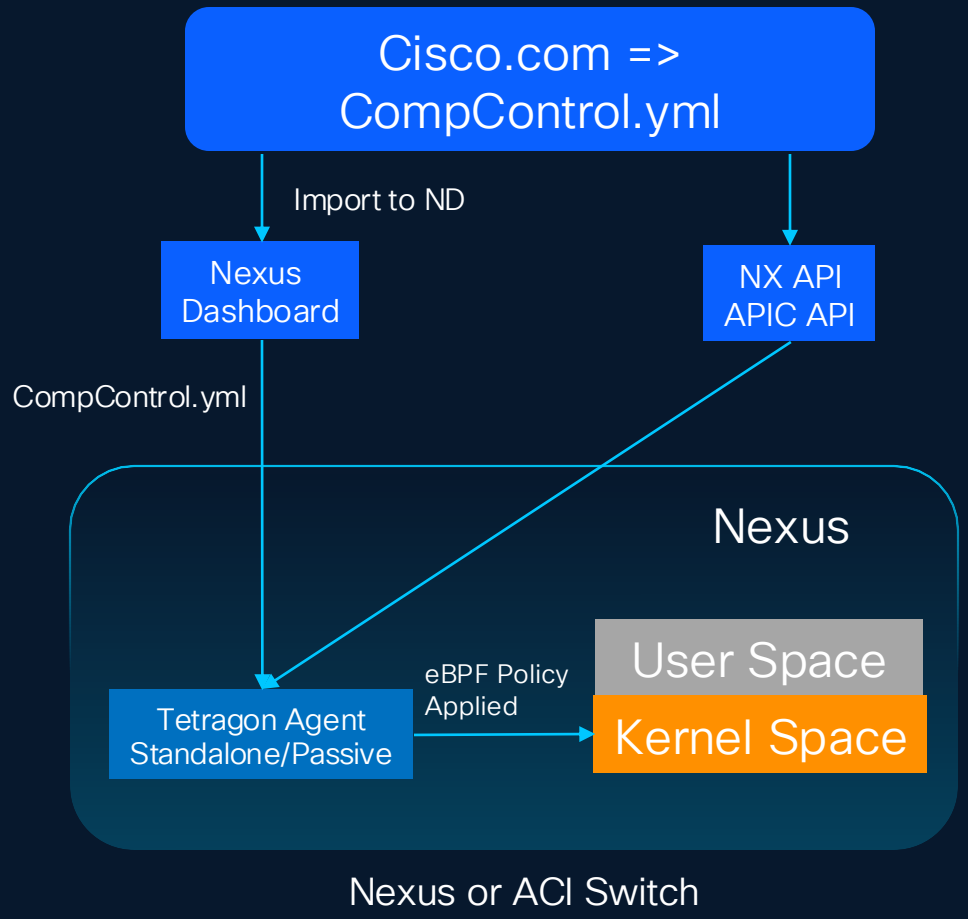
Manage

Provision

Analyze

cisco

Virtual Patching for Nexus and ACI Switches
PSIRT/CVE Mitigation



Problem:

1. Customers are facing high OpEx to upgrade 100s of switches for critical PSIRTs/CVEs outside regular maintenance window

Solution:

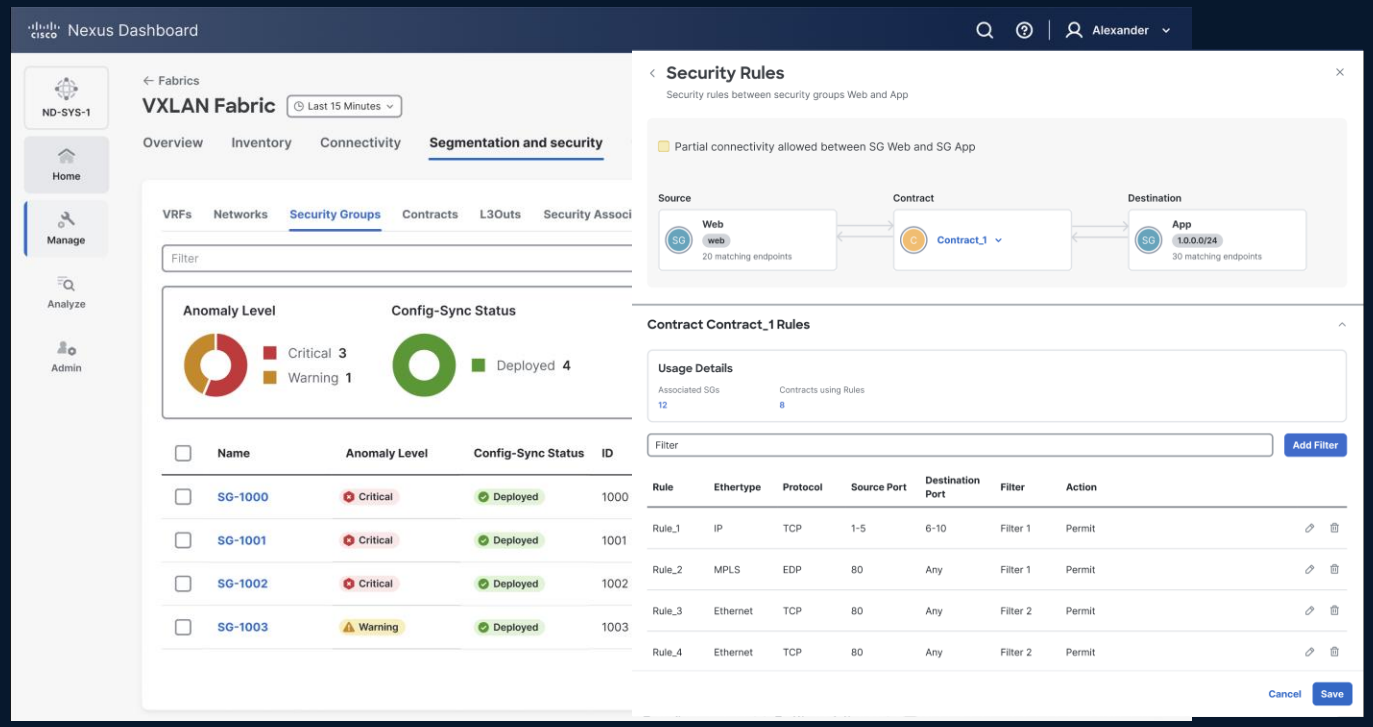
1. Provide a virtual patching solution that can mitigate PSIRTs/CVE by patching a live system with compensating controls
2. Support filters and trace exports

Workflow:

1. All CVE compensating controls (CompControl.yml) are published on cisco.com
2. Tetragon agent is included in NXOS/iNXOS release
3. NX 10.6.1 for demos and GA in NX 10.6.2, ACI 6.2.1 planning
4. Nexus Dashboard, NX-API, or ACI API pushes the compensating controls to Tetragon Agent which applies the eBPF policy to the kernal

Micro-Segmentation for VXLAN Fabrics

Security



Define security groups in a single click (based on IP, VM Attributes and VLAN)

Create and visualize micro-segmentation policies/contracts from a single pane

Intuitive and workflow-based service chaining rules

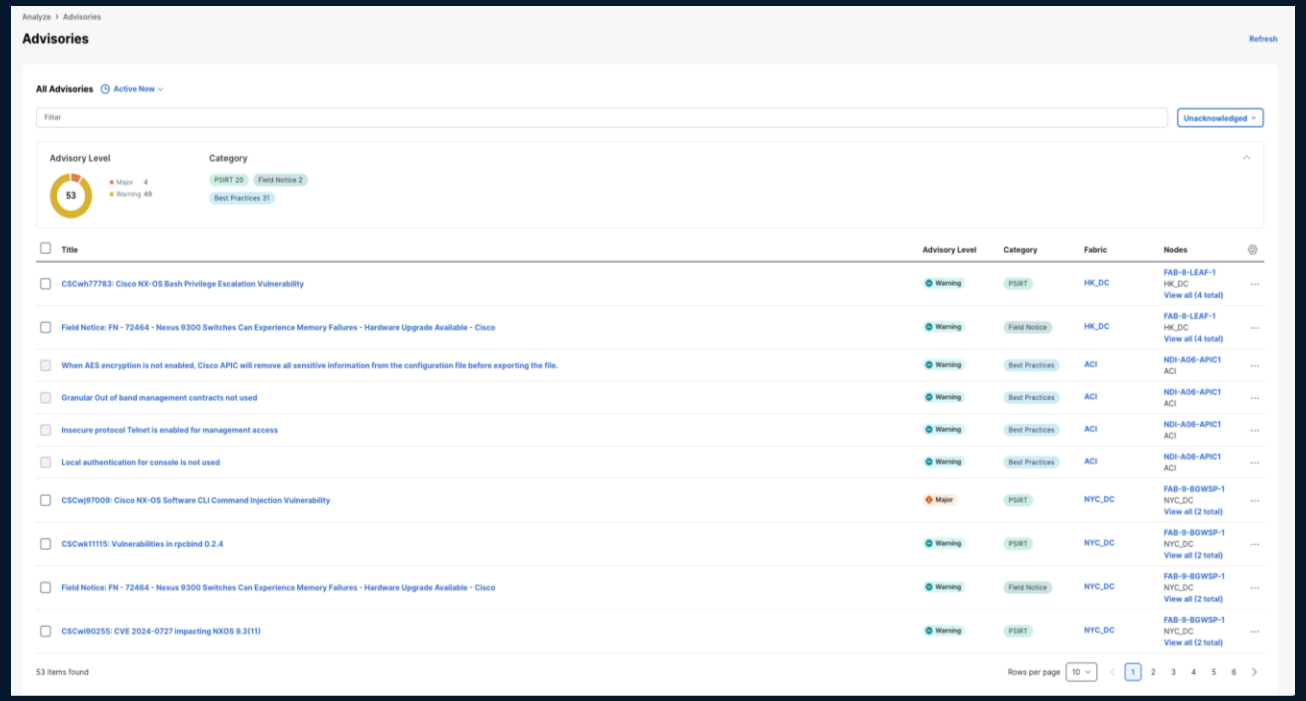
Scale-out with support for single-site and multi-site architectures

Benefits

Segment East-West traffic | Flexible security isolation | Reduce attack surface | Automate your way

Compliance Dashboard

Security



- Audit Logs for entire data center networking fabric
- Organization security events with Advisories
- Hardening along with best practices
- Patching using Isovalent

Benefits

Single pane of glass | PSIRT and CDETS | Integration with SIEM | Hardening and best practices

Nexus Dashboard
Unifying Network Operations

Security

Manage

Provision

Analyze

cisco

Cisco Nexus Dashboard - Manage

Stage, approve, and deploy changes

Manage

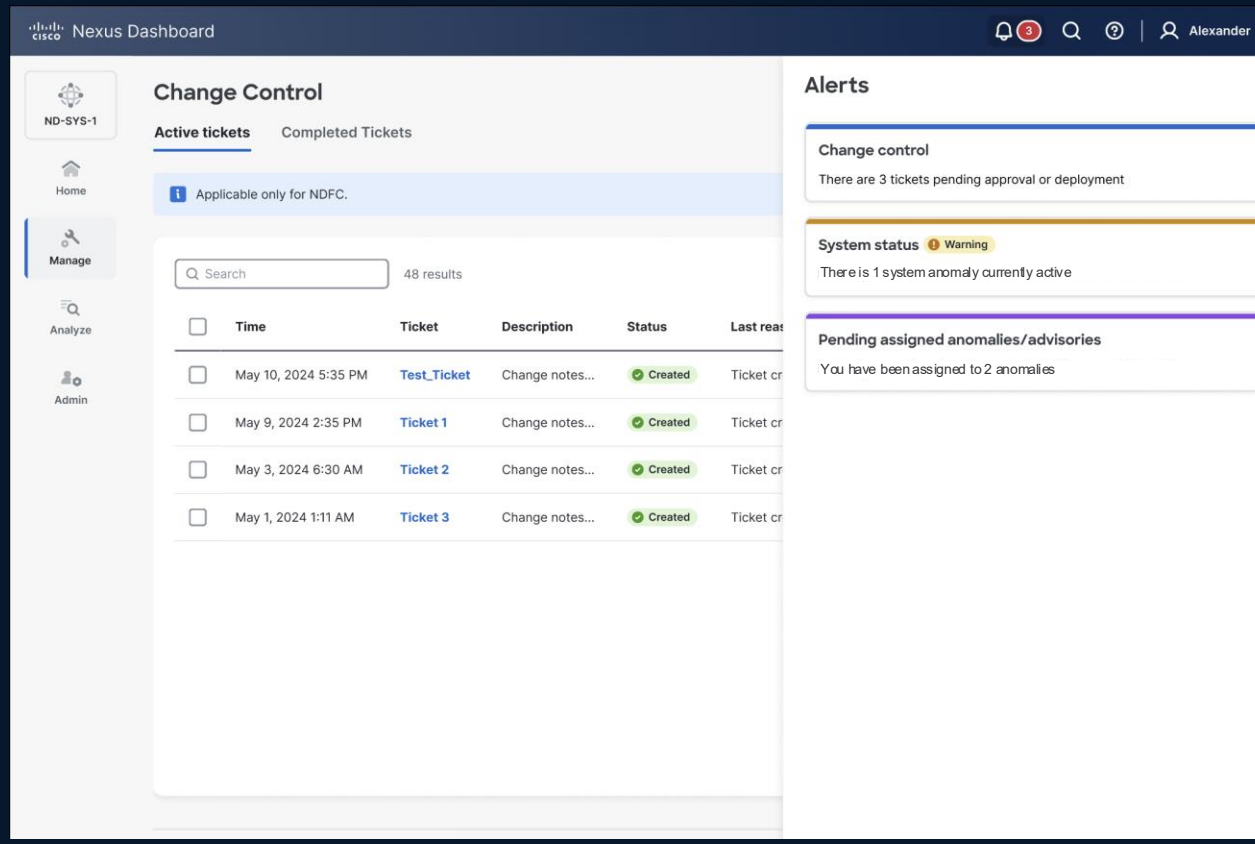
Change control

Prevent unwanted changes by creating a line of approval using enhanced RBAC with pre/post-deploy rollback options

Git integration

NX-OS only

Integrate Nexus Dashboard with GIT to import or export custom templates and use them across multiple Nexus Dashboard clusters



* New UX based on Nexus Dashboard 4.0 prototype, subject to change

Benefits

Control changes in your environment | Minimize errors and risk

Cisco Nexus Dashboard – Manage

Software Updates – NX-OS, IOS-XE, and ACI

Manage

Pre-upgrade analysis

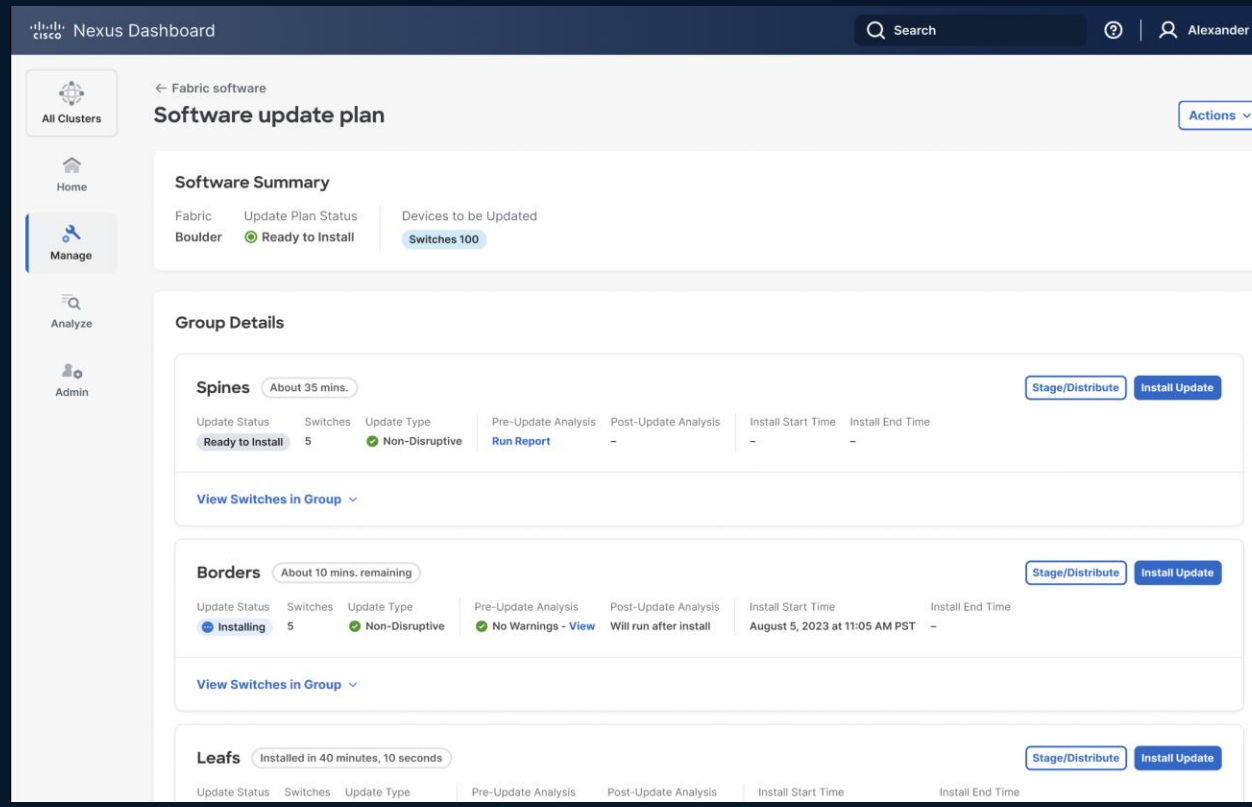
Visualize the potential impact of an upgrade before you perform it. Just select the version you wish to upgrade to and see the results

Automated upgrade plans and recommendations*

Nexus Dashboard will suggest customizable groups and methods to minimize disruption during the upgrade process

Post-upgrade analysis

Once the upgrade is performed, visualize the results, check any changes, and ensure everything came back just as it was before.



Benefits

Stay up to date & minimize risk

Ease of Use

* Fabric software release recommendations for ACI, update plans (roadmap)

Nexus Dashboard
Unifying Network Operations

Security

Manage

Provision

Analyze

cisco

Cisco Nexus Dashboard – Analyze

Topology – Maintain updated visibility across fabrics

Analyze

Updated topology

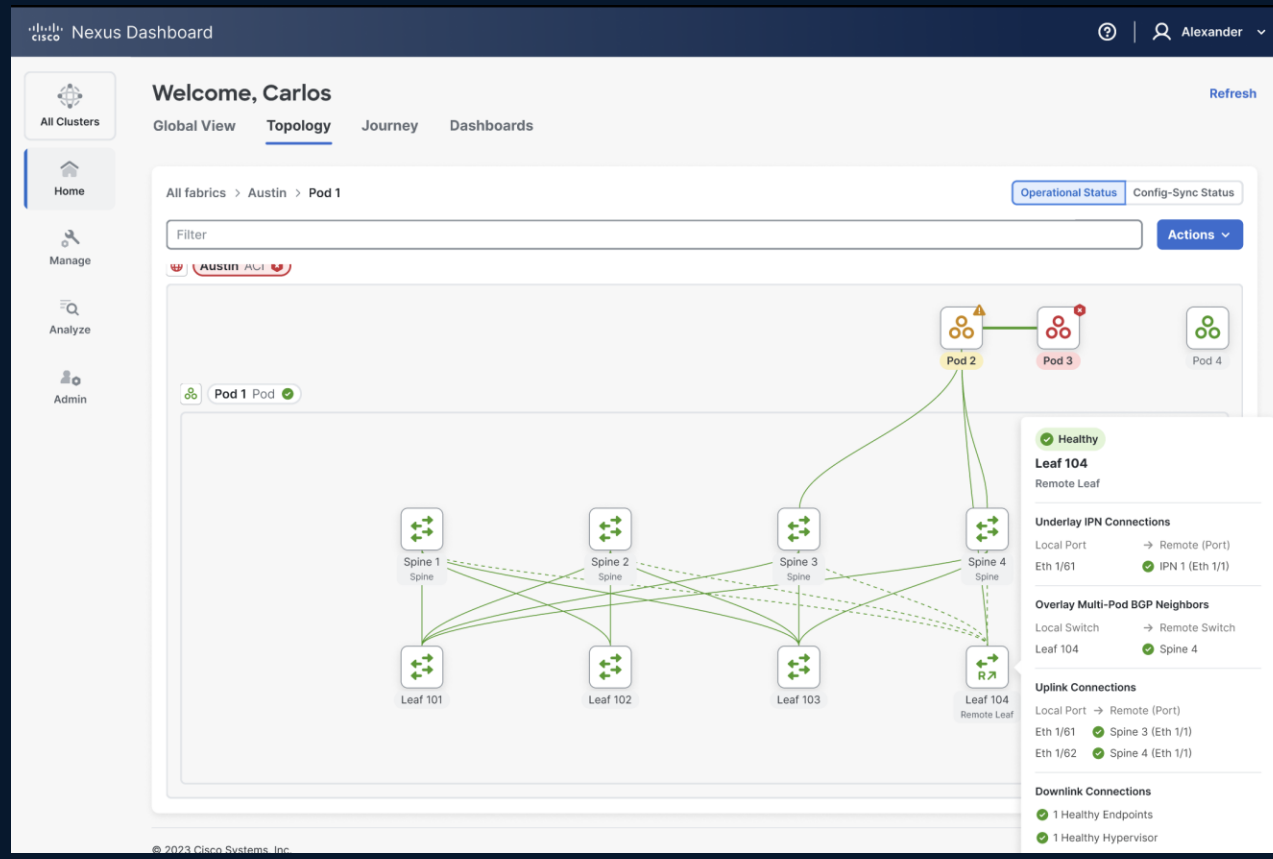
View fabrics, switches, interfaces, and endpoints with their corresponding anomaly scores

Visualize and configure

Verify health and configuration-sync status, configure VPC pairs, assign roles, and more

Single and multi-fabric

Drill down into a fabric or visualize connections across fabrics, including external and inter-fabric networks such as IPN and ISN



Benefits

Visualize all your fabrics in a single place

Cisco Nexus Dashboard – Analyze

Identify latency, congestion, and drops in your network

Analyze

Automatically identify services in your network

Through well-known L4 ports (e.g., Web - TCP port 80) pre-loaded service categories are learned and monitored; category customization is also allowed based on your own preferences

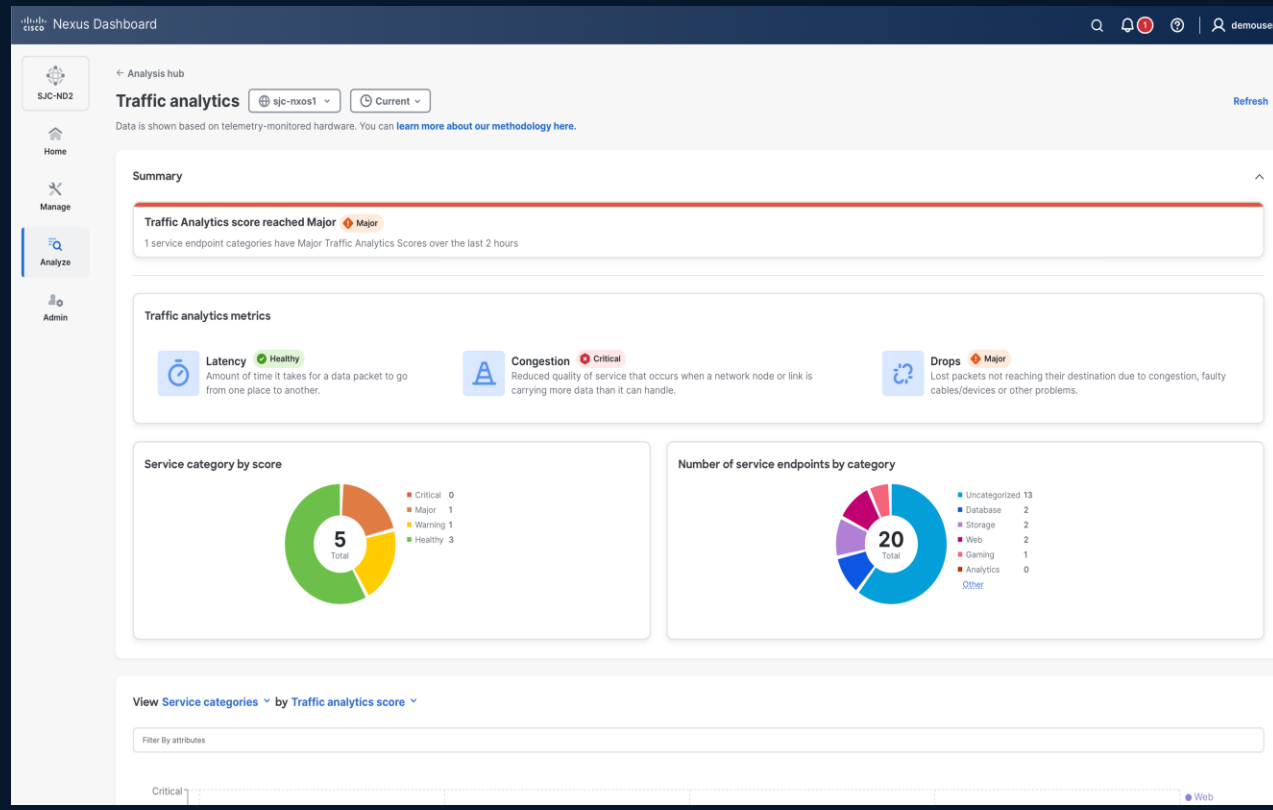
Pervasive across switches and fabrics

Learn about clients and services connecting across multiple fabrics without rules or any additional rule configuration[1]

Granular visibility for every connection

From overall fabric score to category, service, and connection, Traffic Analytics can monitor individual client-to-service sessions and allows you to “tap-in” by capturing flow records on demand

Requires: ACI – 6.1.1 and NX-OS 10.4(2F)

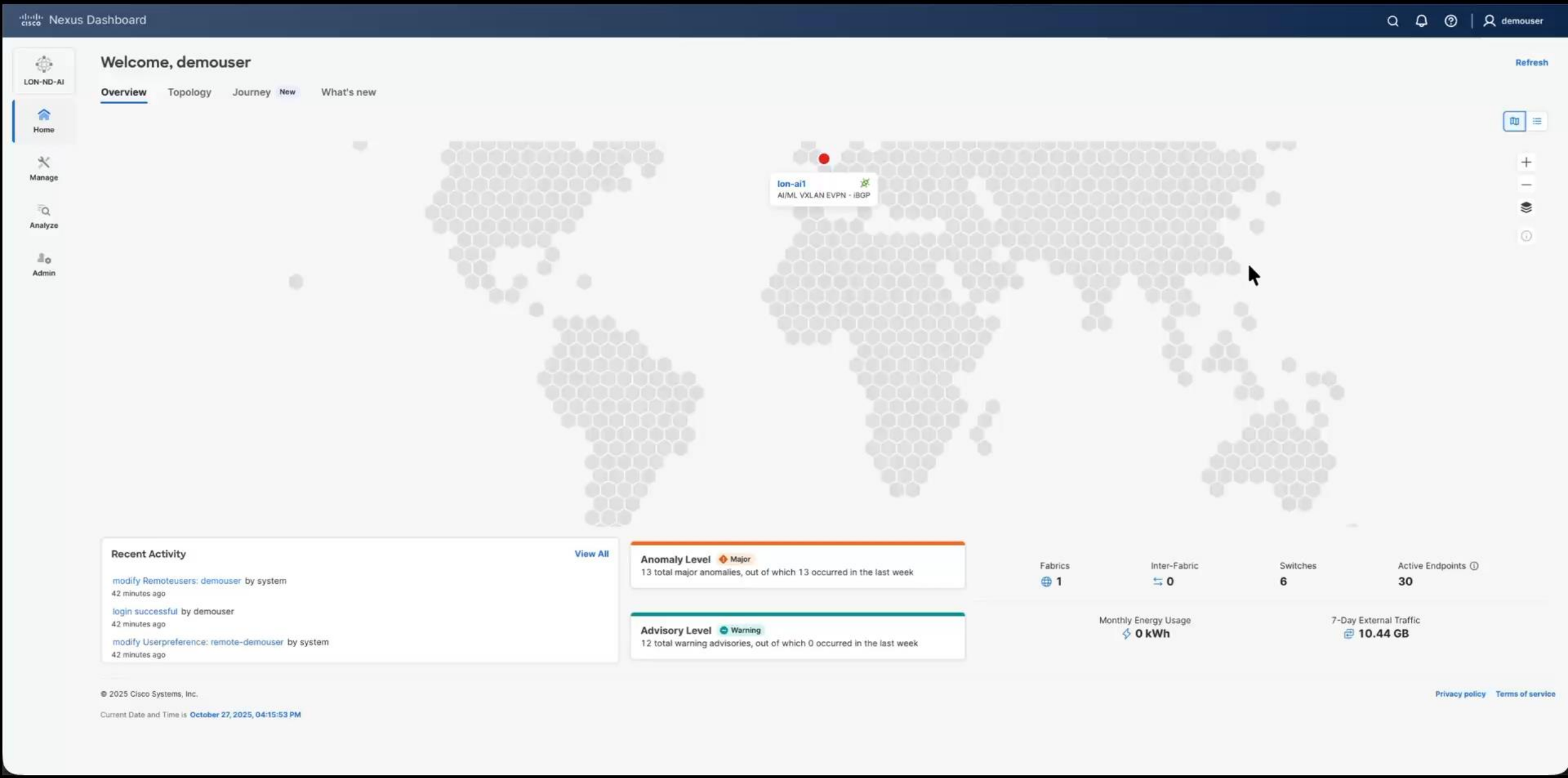


* Fabrics must have PTP configured for timestamping

Benefits

Anticipate performance issues

Customize monitored services


Nexus Dashboard
demouser
LON-ND-AI
Home
Manage
Analyze
Admin
Welcome, demouser
Refresh
Overview
Topology
Journey New
What's new
lon-ai1
AI/ML VXLAN EVPN - iBGP
Recent Activity
View All
modify Remoteusers: demouser by system
42 minutes ago
login successful by demouser
42 minutes ago
modify Userpreference: remote-demouser by system
42 minutes ago
Anomaly Level Major
13 total major anomalies, out of which 13 occurred in the last week
Advisory Level Warning
12 total warning advisories, out of which 0 occurred in the last week
Fabrics 1
Inter-Fabric 0
Switches 6
Active Endpoints 30
Monthly Energy Usage 0 kWh
7-Day External Traffic 10.44 GB
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Terms of service
Current Date and Time is October 27, 2025, 04:15:53 PM

Additional Information

Cisco Nexus Dashboard

Included with every Nexus 9000 switch license

Nexus Dashboard

Consumption choice, single licensing

Cisco Nexus® Dashboard: Automation, management, AI analytics, and troubleshooting tools included with your Cisco switch license

Simple, modern, useful

Cisco Nexus Dashboard 4.1: Available now!

Appliance based (physical or virtual)

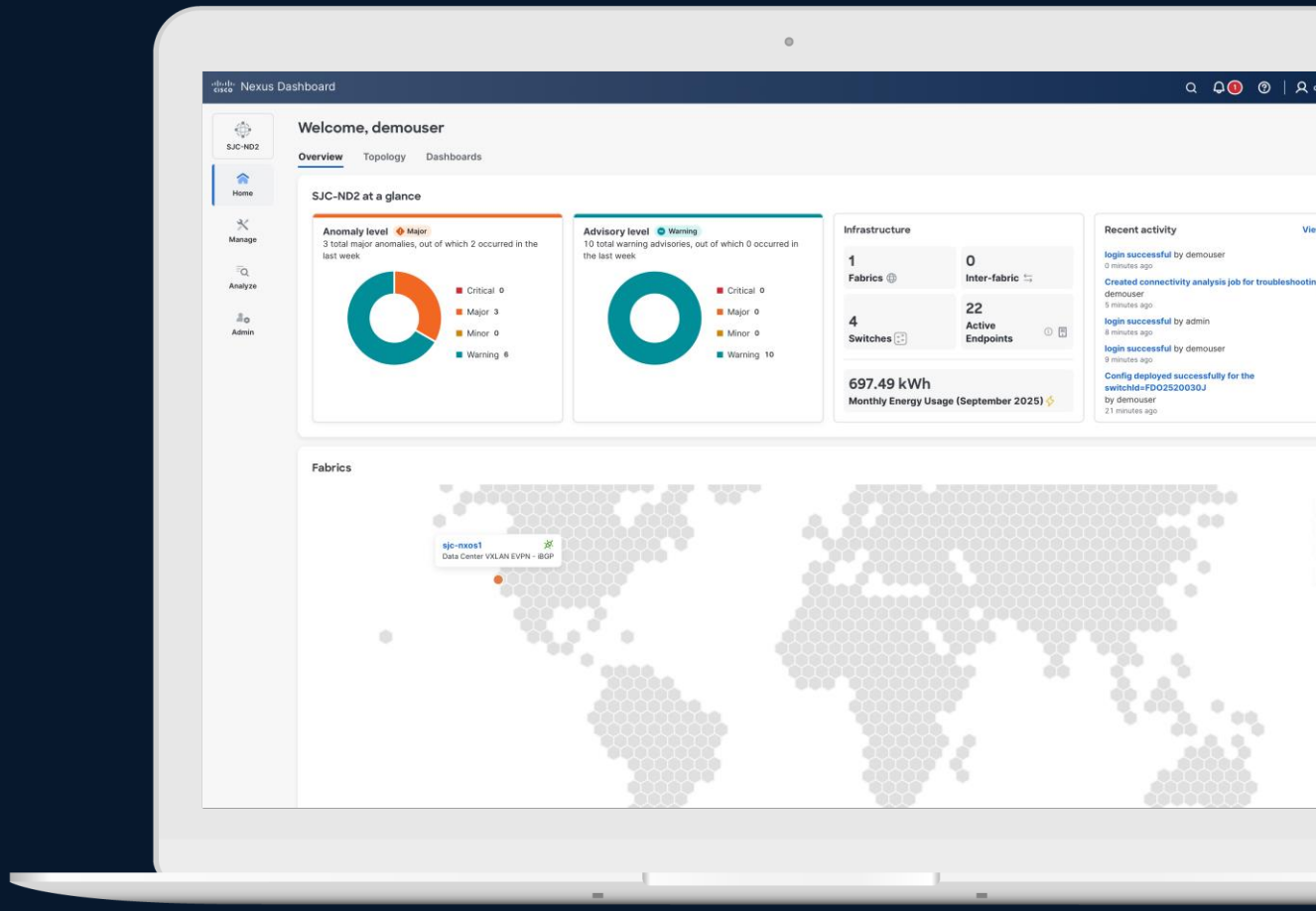
Start with one physical node or three VMs and scale from there

Innovate and minimize risk and downtime

Leverage the power of automation and analytics

Go beyond the switch port

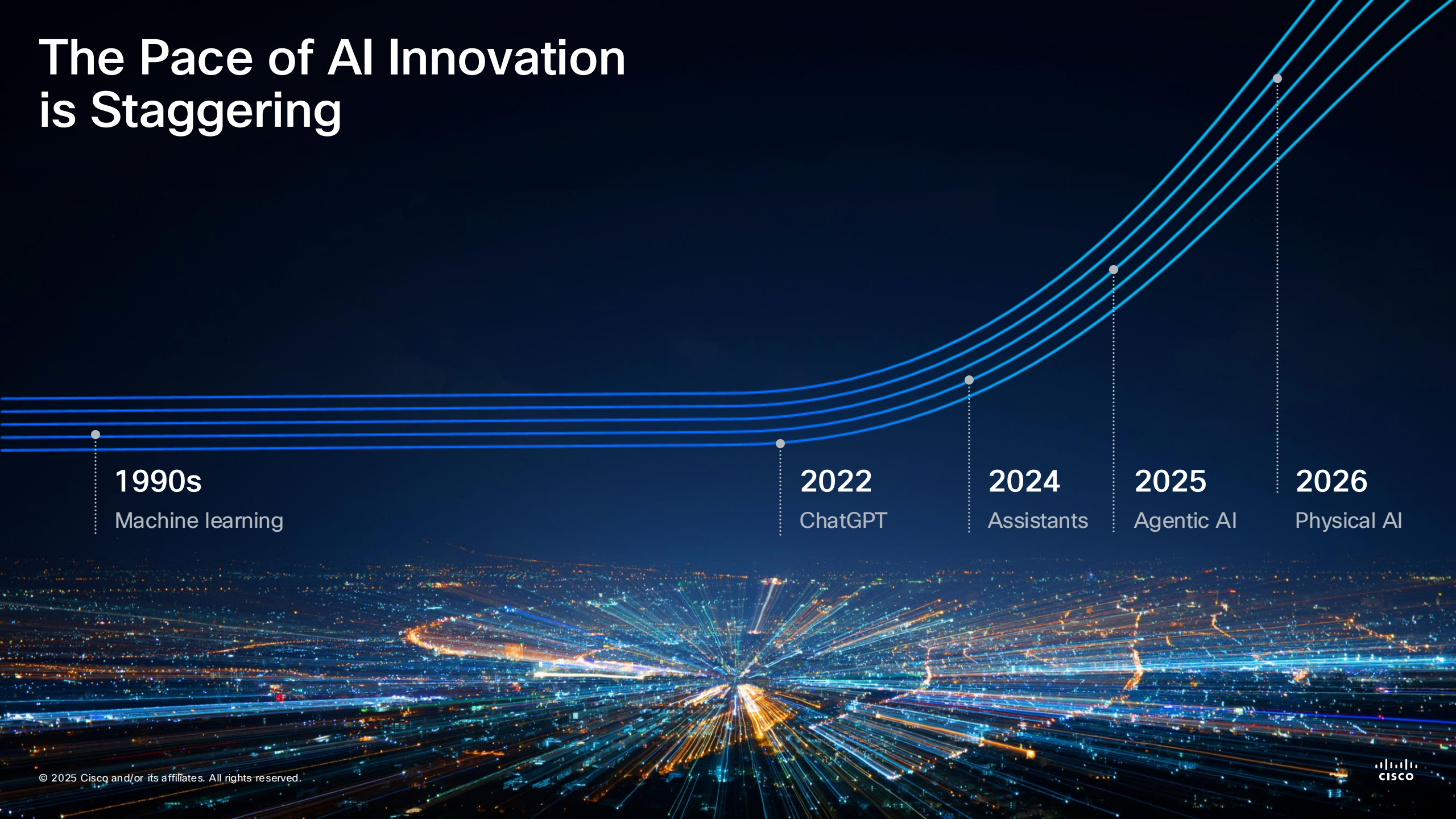
Always connected to Cisco TAC[1]



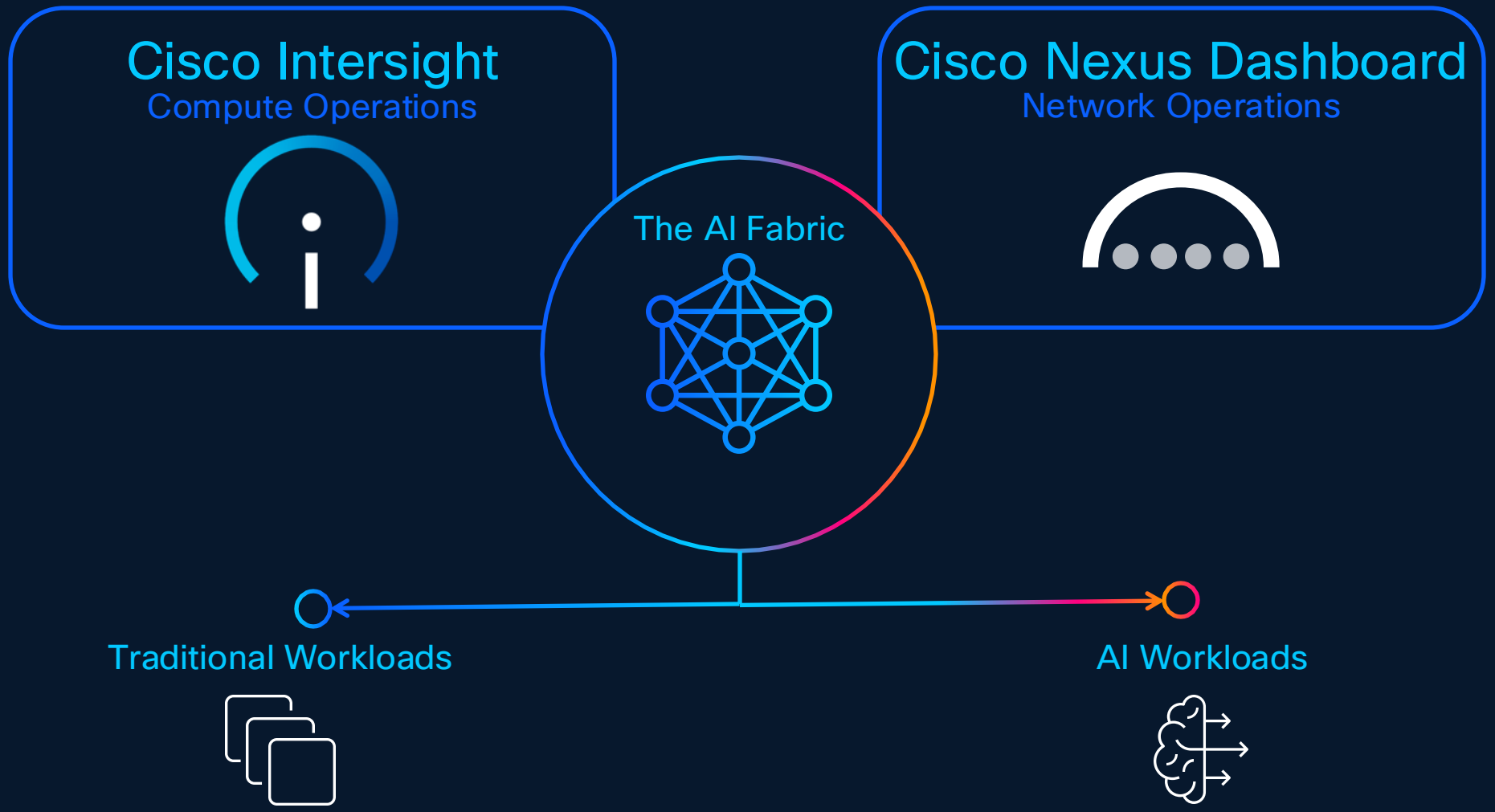
[1] When connected to Cisco Intersight® and leveraging Cisco TAC Assist

Summary

The Pace of AI Innovation is Staggering



Unleash Your AI-Ready Data Center



CISCO Connect

Thank you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