How to operate your Nexus and ACI networks from the Cloud

With Nexus Cloud

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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
until February 24, 2023.

INTERACTION

Join at slido.com
#1658232

What technology are you currently using in your **Data Center**?

1) NX-OS

2) ACI

3) NDFC/DCNM

4) More than 1 of the above

Agenda

- What is Nexus Cloud?

- Initial use-cases and demos
  - Onboarding
  - Operations
  - Reports

- Differences between Nexus Cloud and Nexus Dashboard

- What features/use-cases would you like to see?
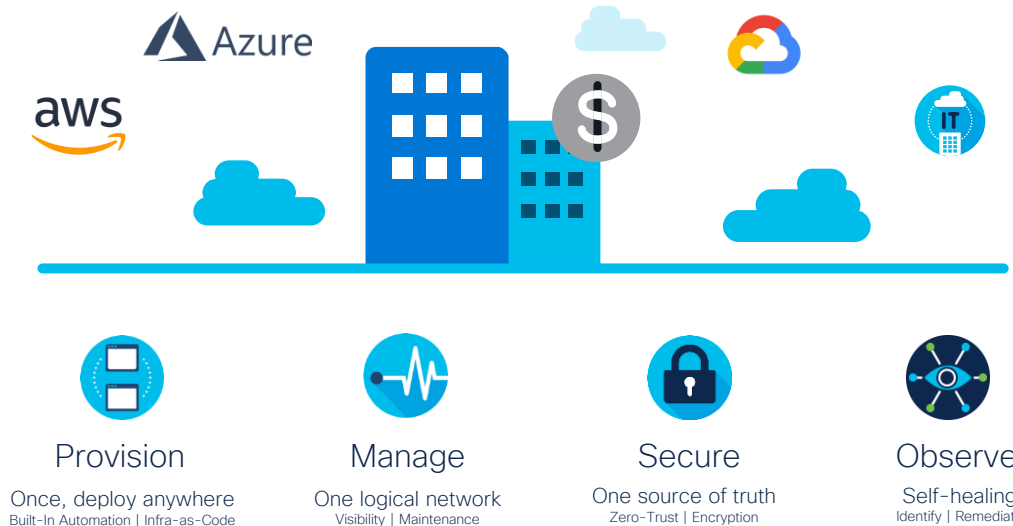
- Summary and exclusive invitation

Cloudify IT

The Cloud is not a place, it is an operational and financial model

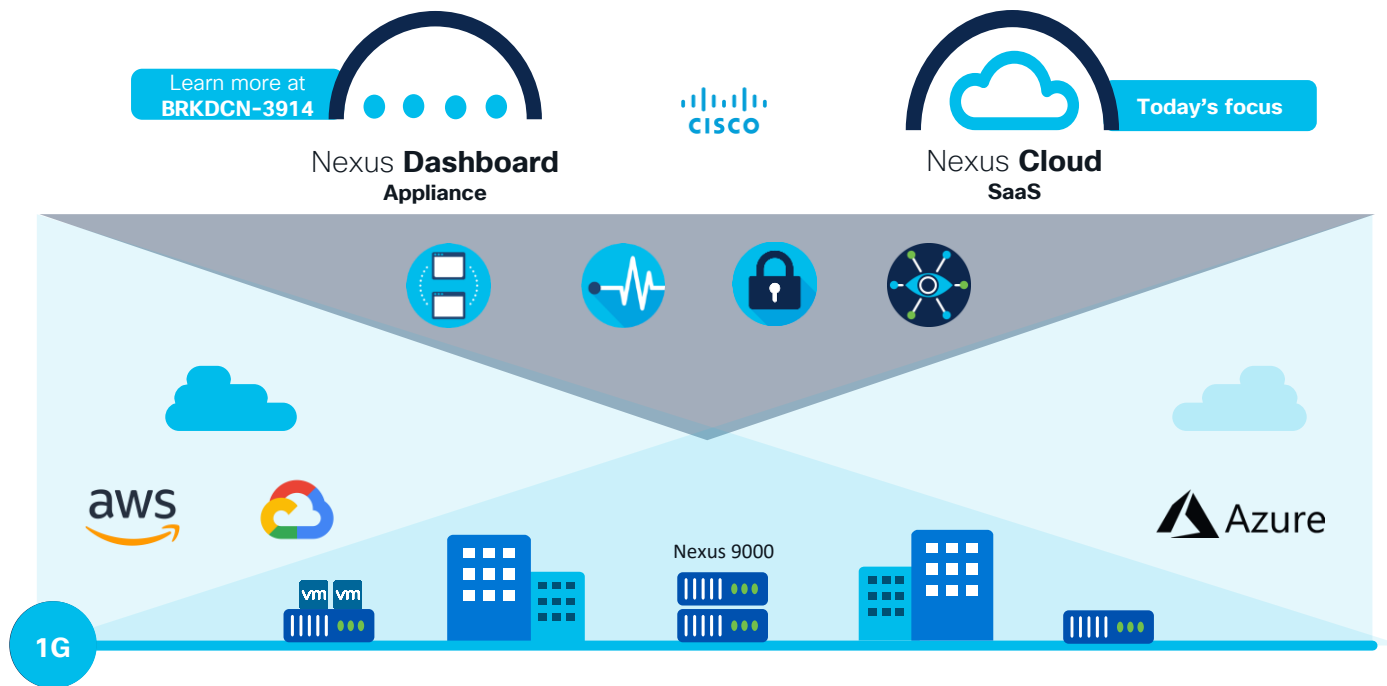Provision   Manage   Secure   Observe

Cloudify the network

Simplify and consolidate resilient Data Center and Cloud network operations

Provision
Once, deploy anywhere
Built-In Automation | Infra-as-Code

Manage
One logical network
Visibility | Maintenance

Secure
One source of truth
Zero-Trust | Encryption

Observe
Self-healing
Identify | Remediate

Cloudify the network

Simplify and consolidate resilient Data Center and Cloud network operations

Learn more at
BRKDCN-3914

Nexus **Dashboard**
Appliance

CISCO

Today's focus

Nexus **Cloud**
SaaS

aws

Azure

vm vm

Nexus 9000

1G

How would you prefer to manage and visualize your **Data Center and Cloud networks** in the near future?

1) From the **Cloud** (As SaaS with nothing to install)

2) With an **on-prem** appliance/VM

3) I don't know/don't care

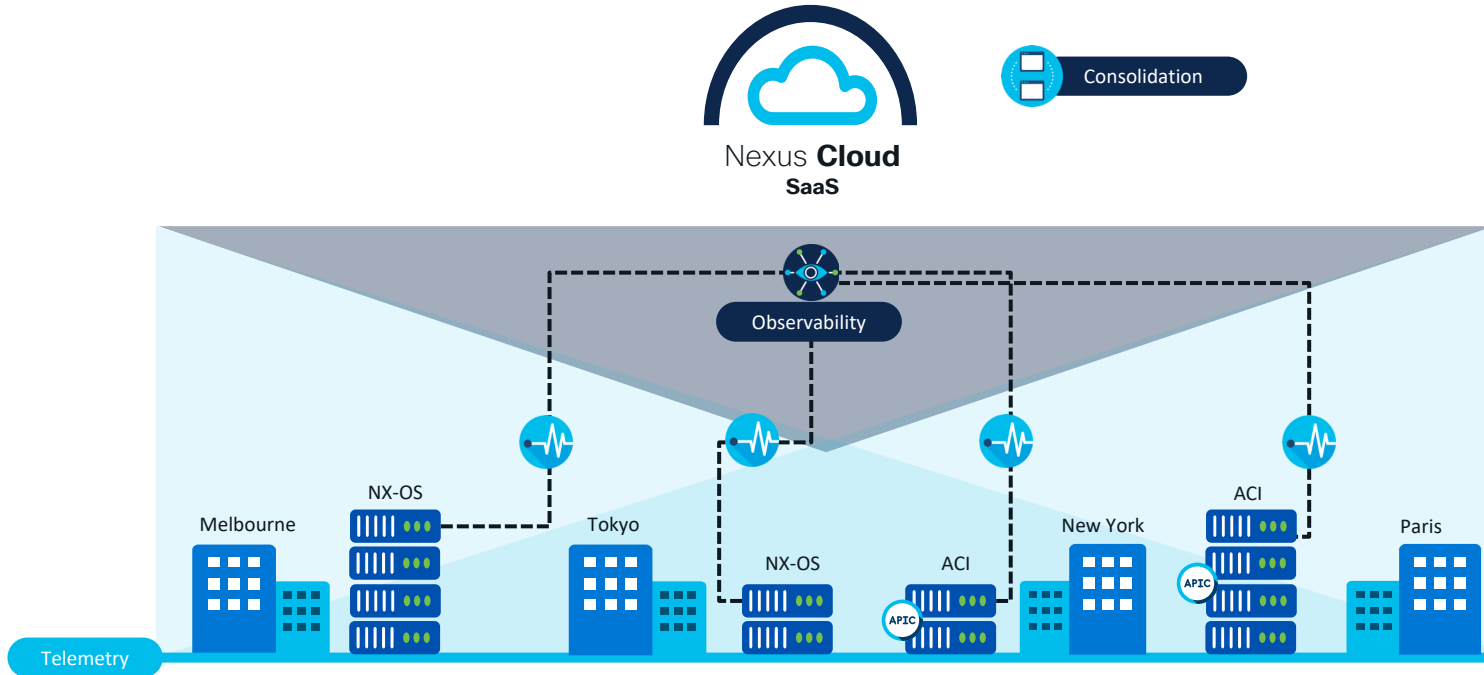# Nexus Cloud

The simplest way to manage and operate Data Center and Cloud networks

CISCO INTERSIGHT

Service currently hosted in the US

European Region expected in Q2 2023

Cloud Operations **Platform**

On-Prem and Cloud* Networking	Compute, Storage, Cloud & others	Workload and Cost Optimization

Nexus **Cloud**

Intersight
Infrastructure Services

Intersight
Workload Optimizer

Intersight
Cloud Orchestrator

Cloud Operations **Platform**

Compute, Storage, Cloud & others

Intersight
Infrastructure Services

Cloud	Hyper Converged	Servers	Virtualization	Storage and SAN
aws / Azure / Google Cloud	**HyperFlex**	**UCS**	**VMware**	**MDS Switches**
	3rd party	**3rd party**	**Hyper-V**	**3rd party arrays**

Network Admin • VM Server Admin • Storage Admin • CIO • Role-based Access • Facilities/Energy • Cloud Architect • Cloud-Native Architect • DevOps

On-Prem and Cloud* Networking

Nexus **Cloud**

Compute, Storage, Cloud & others

Intersight
Infrastructure Services

Intersight
Cloud Orchestrator

Workload and Cost Optimization
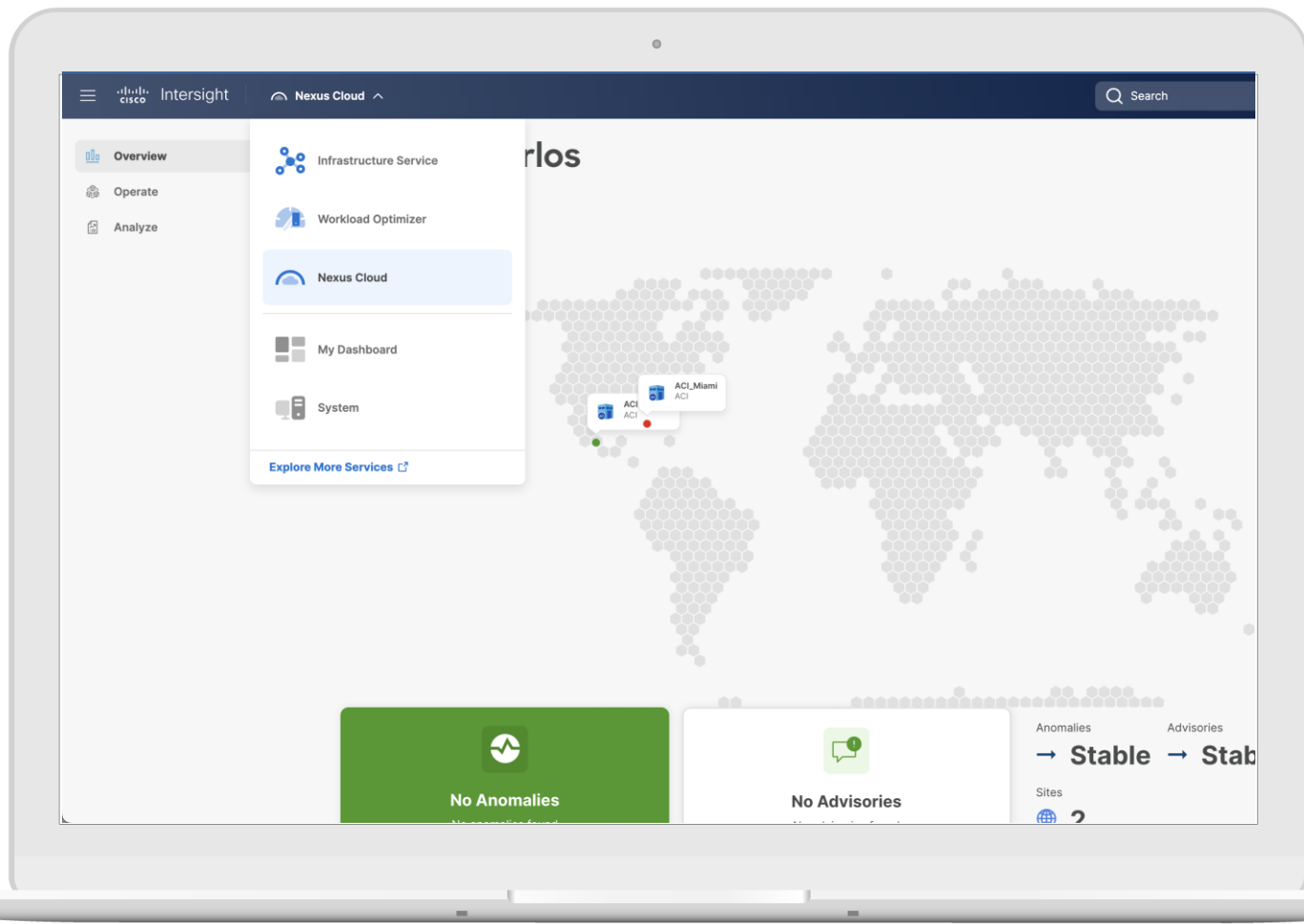
Intersight
Workload Optimizer

Nexus **Cloud** on Intersight

Single Platform & Sign-on

Toggle between services

Integration between services

Better and richer contextual information

Nexus **Cloud** on Intersight

Quick Tour

Onboarding

Global View

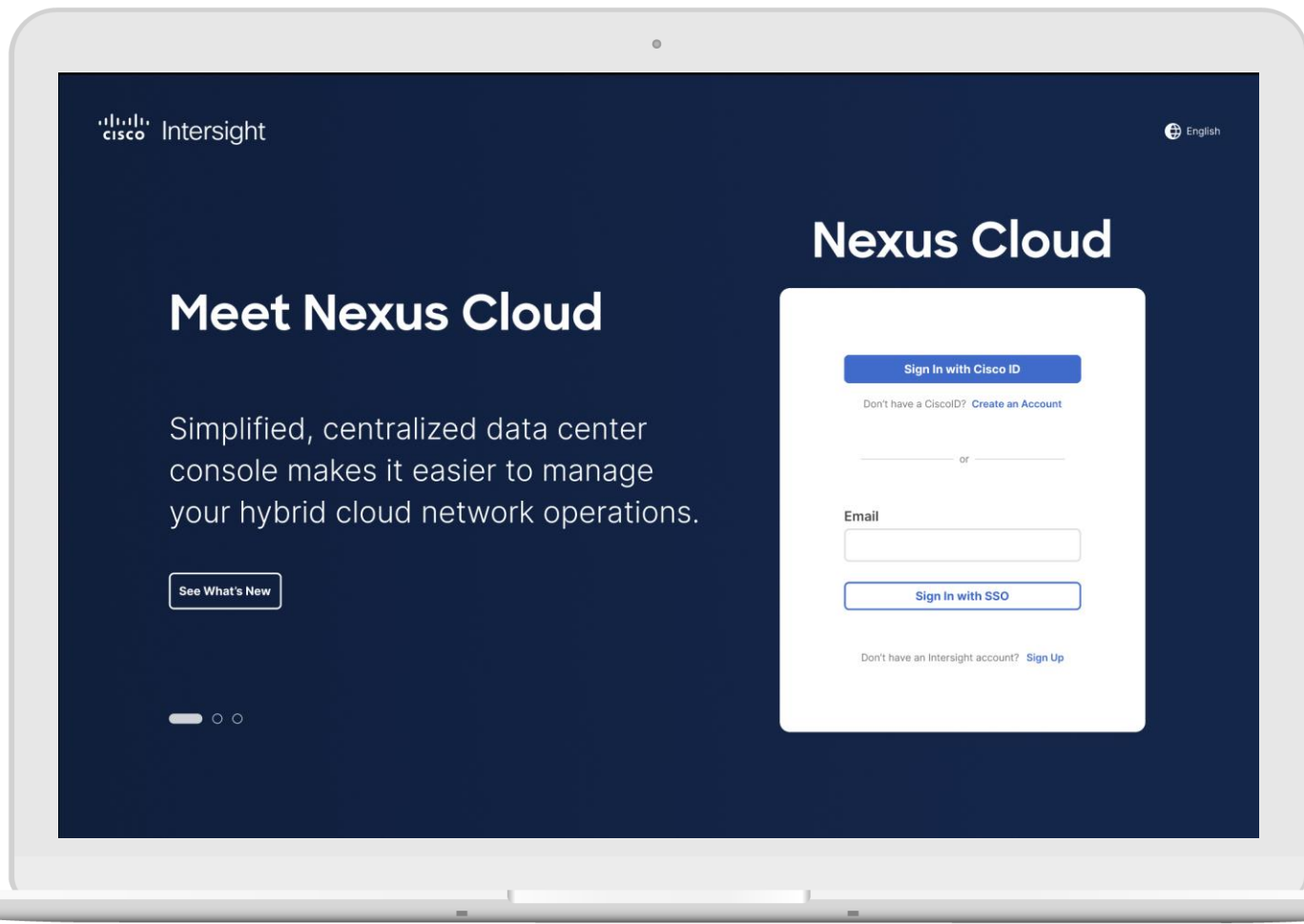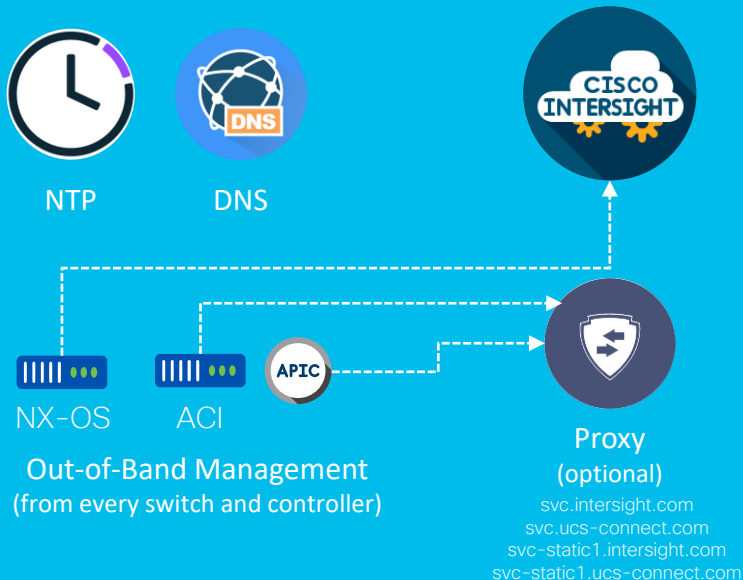Topology

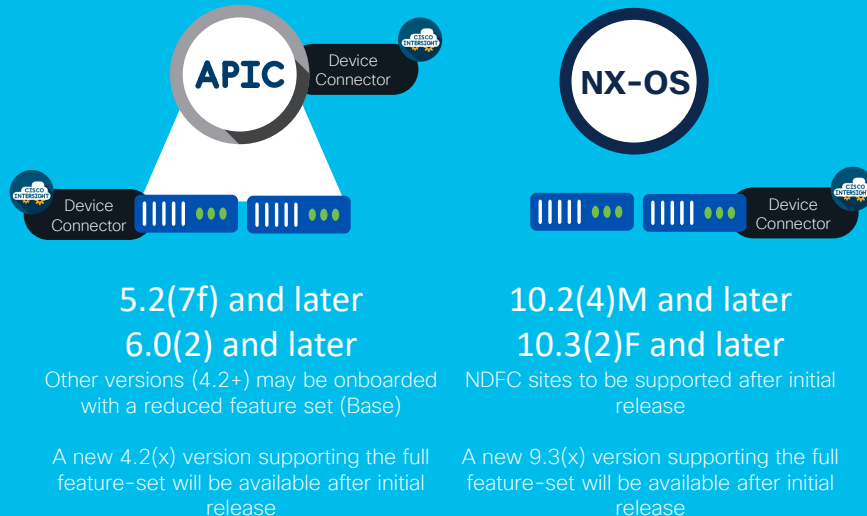Software Upgrades

Sustainability

ACI/NX-OS requirements

Configuration

NTP DNS CISCO INTERSIGHT

NX-OS ACI APIC Proxy

Out-of-Band Management
(from every switch and controller)

Proxy
(optional)
svc.intersight.com
svc.ucs-connect.com
svc-static1.intersight.com
svc-static1.ucs-connect.com

Software

(Required to
use Nexus Cloud Full Feature Set[1])

APIC Device Connector NX-OS

Device Connector Device Connector

5.2(7f) and later
6.0(2) and later
Other versions (4.2+) may be onboarded
with a reduced feature set (Base)

A new 4.2(x) version supporting the full
feature-set will be available after initial
release

10.2(4)M and later
10.3(2)F and later
NDFC sites to be supported after initial
release

A new 9.3(x) version supporting the full
feature-set will be available after initial
release

[1] Software requirements are applicable to enable the **Full Feature-Set** for
Online Sites (in addition to licensing. See slide 49)

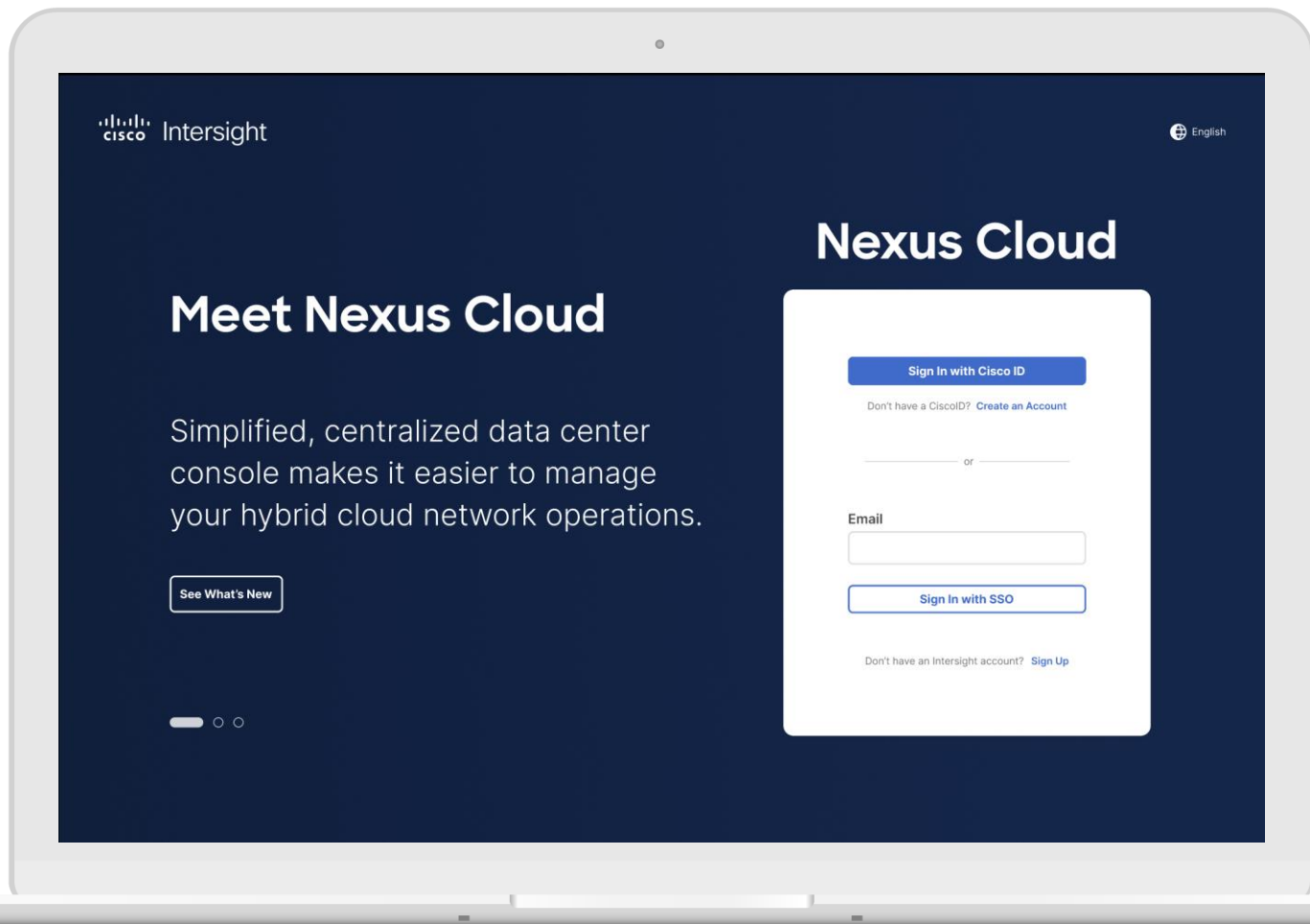Nexus **Cloud** on Intersight

Quick Tour

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Software Upgrades

Sustainability

Add a Site
Ready to add or Manual Claim

Reference Slides

Ready-To-Add Sites

These are sites that were previously claimed on Intersight as targets

This option is applicable for **Intersight brownfield customers**

Reference Slide

Manually Claim A Site
This will claim a site and switches on Intersight and Nexus Cloud

This option requires a **Device ID and Claim Code** from your Controller and Switch(es)

Reference Slide

Claim a Site

How to Retrieve Device ID from ACI

Reference Slides

How to retrieve the **Device ID** and **Claim Code**
Manually registering ACI Sites to Nexus Cloud

A single Device ID and Claim Code will register all APICs and Switches in the fabric

Reference Slide

Claim Code will show upon registration

Claim a Site

How to Retrieve Device ID from NX-OS Switches

Reference Slides

How to retrieve the **Device ID** and **Claim Code**
Manually registering standalone NX-OS switches to Nexus Cloud

NX-OS

Device Connector

A single Device ID and Claim Code is needed for every NX-OS Switch; however, auto-discovery/claim can be leveraged by providing other switches credentials

Reference Slide

1 Ensure there is no existing telemetry configuration
If there is even a single line of configuration in the telemetry section (as shown below), you must remove it before onboarding the switch to Nexus Cloud.

```
# sh run telemetry
feature telemetry
telemetry
destination-profile
use-retry size 50
[...]
```

2 Ensure CDP or LLDP is enabled for auto-discovery/claim
This will allow you to claim multiple switches at once

3 Obtain **Device ID** (Serial Number) **and Claim Code** from switch

```
# show intersight claim-info

SerialNumber: FDO224926QB
SecurityToken: A889F6FB9502
Duration: 595
```

How to retrieve the **Device ID** and **Claim Code**
Step 1/2: Manually registering NDFC sites to Nexus Cloud

NDFC

Device Connector

Only register the ND cluster to Nexus Cloud. NDFC Sites will show up as ready-to-add on Nexus Cloud after that

Claim Code will show upon registration
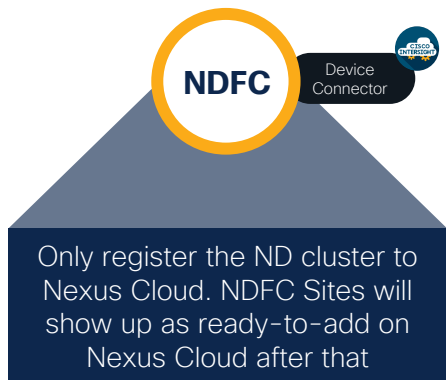
Nexus Dashboard v2.3 and later

Reference Slide

How to retrieve the **Device ID** and **Claim Code**
Step 2/2: Manually registering NDFC sites to Nexus Cloud

NDFC

Device Connector

Only register the ND cluster to Nexus Cloud. NDFC Sites will show up as ready-to-add on Nexus Cloud after that

Once the Nexus Dashboard Cluster is claimed, NDFC Sites will show as ready to be added
The Nexus Dashboard Cluster status will also show under Admin ➔ Integrations on Nexus Cloud

Reference Slide

How to retrieve the **Device ID** and **Claim Code**

Step 1/2: Manually registering NDFC sites to Nexus Cloud

NDFC

Device Connector

Only register the ND cluster to Nexus Cloud. NDFC Sites will show up as ready-to-add on Nexus Cloud after that

Intersight Device Connector

The Device Connector is an embedded management controller that enables the capabilities of Cisco Intersight, a cloud-based management platform. For detailed information about configuring the device connector, please visit Help Center

Device Connector

ACCESS MODE   ALLOW CONTROL

Device ID
WMP241000RM&WMP241000UP&WMP241000V1

Claim Code

Claim Code will show upon registration

⚠ Not Claimed

The connection to the Cisco Intersight Portal is successful, but device is still not claimed. To claim the device open Cisco Intersight, create a new account and follow the guidance or go to the Targets page and click Claim A New Device for existing account.

Nexus Dashboard v2.2 and earlier

Reference Slide

How to retrieve the **Device ID** and **Claim Code**

Step 2/2: Manually registering NDFC sites to Nexus Cloud

NDFC — Device Connector

Only register the ND cluster to Nexus Cloud. NDFC Sites will show up as ready-to-add on Nexus Cloud after that

Once the Nexus Dashboard Cluster is claimed, NDFC Sites will show as ready to be added
The Nexus Dashboard Cluster status will also show under Admin ➔ Integrations on Nexus Cloud

Reference Slide

Nexus **Cloud** on Intersight

Quick Tour

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Software Upgrades

Sustainability

What is the most important **sustainability/energy** topic in your company?

slido

1) Energy **cost**

2) CO2 **emissions**

3) Energy **sources (nuclear, solar, coal)**

4) kWh **consumption**

5) This is **not important** in my company

CISCO Live!

Cisco Nexus Cloud Use-Cases

1

Managing your network
infrastructure
from the cloud

Global view
Inventory
Multiple sites/fabrics
Stats and more

2

Risk reduction
and compliance

Conformance
Advisories
Anomalies

3

Visibility of
workload connectivity

Connected endpoints
Topology

4

Simplified
network operations
with AIOps

Upgrade assist/firmware
management
Compliance
Sustainability

Current use-cases and functionality
As of February 10, 2023

Overview
Journey & Global View

Built-in Tutorial and Recommendations
New released features
Global Map w/ overall aggregated status
Global Trends, Stats and Endpoints

Operate
Sites, Inventory

Support for ACI and NX-OS sites
Support for Online and Snapshot sites
View Sites' Inventory, VPCs, L3, etc.
View Site/Switch capacity, interfaces, etc.

Operate
Topology

Available for Online Sites (no snapshots)
Drill-down or search within Topology
Site and link status based on colors
View site/switch details in context

Analyze
Anomalies/Advisories

Anomalies displayed individually or as groups
Simple format (problem → impact → resolution)
Capacity, Configuration, Connectivity, etc
Search for specific dates/times

Analyze
Reports

Sustainability (CO_2 Emissions, Cost, kWh)
Conformance (HW and SW in EoL)
Conformance (Coming soon)
Delta Analysis (Coming soon)

Admin
Software Management

Recommended and latest software versions
Pre-Upgrade Analysis and Reports
Automated group to minimize disruption
Post-Upgrade Report

The road ahead

Where are we in the journey?

Las Vegas CISCO Live!	Melbourne CISCO Live!	Amsterdam CISCO Live! **WE ARE HERE**	Las Vegas CISCO Live!
Q2CY22	**Q4CY22**	**1QCY23**	**2QCY23**
Introducing Nexus Cloud Private Preview	**Simplification, Visibility, Sustainability**	**Compliance, Analytics and Visibility**	**Additional Features**
Early-Field Trials (EFT)	ACI, NX-OS (Controlled Availability)	ACI, NX-OS, NDFC (Controlled Availability)	General Availability
	USE CASES	**USE CASES**	**USE CASES**
	• Cloud managed infrastructure • End-to-end visibility • Conformance and Advisory	• Enhance visibility • Reports (Sustainability) • Integrate Nexus Dashboard • Software Management	• Scalability Conformance • Enhanced Topology • Additional Reports • Many more pushed weekly!!

Nexus Cloud **vision**

The simplest way to manage and operate Data Center and Cloud networks

Campus, WAN
Other Cisco and 3rd
party products

Configuration

Consolidation

Nexus **Cloud**
SaaS

* Cloud, configuration and integrations not committed

Observability

aws

Melbourne

NX-OS

Tokyo

NX-OS

ACI

New York

ACI

Paris

APIC

APIC

Azure

Telemetry
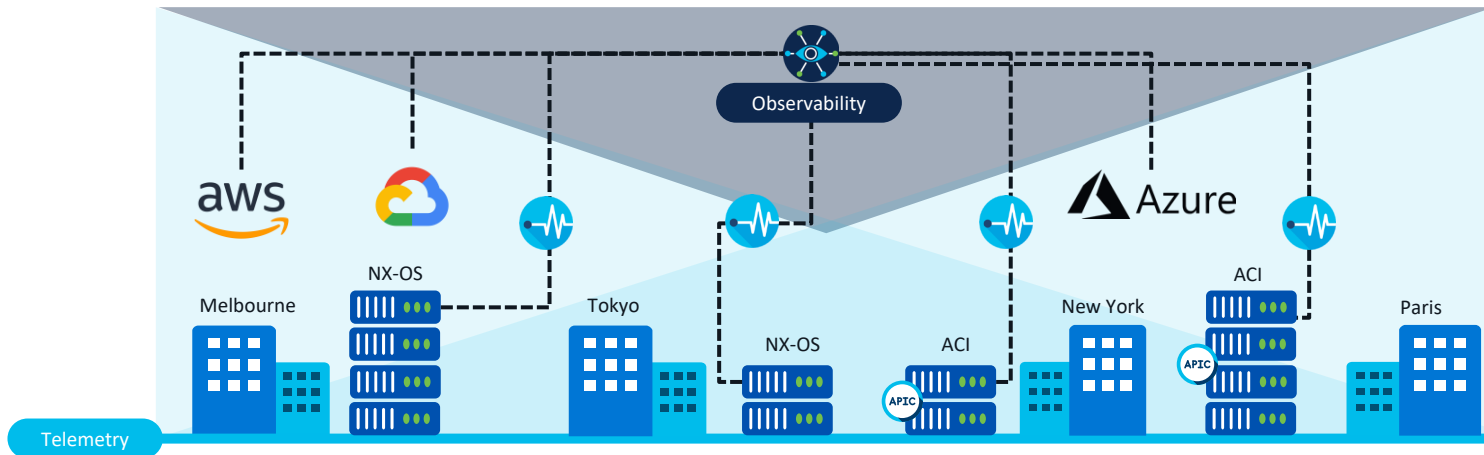
What should we **prioritize** from your perspective?

1) Deeper and better **integrated visibility** across Cisco and non-Cisco products

2) Controller **as-a-service** (APIC, NDFC)

3) A **single controller/configuration point** for Campus, Data Center and WAN

In terms of **visibility**, which integrations would be **most/least important** for you?

1) Campus **(Meraki, Catalyst)**

2) SD-WAN

3) Internet **(ThousandEyes)**

4) Compute **(UCS, HyperFlex, VMs, Kubernetes)**

5) Public Cloud **(AWS, Azure, Google)**

Nexus Cloud

Consume as **Service**

Software as a Service (SaaS)
Runs on Intersight

Nexus Dashboard

Consume as **Product**

Appliance based (virtual, physical)
Commonly hosted on-prem with support to run on Public Cloud (NDO only)

Nexus Cloud

Consume as **Service**

Software as a Service (SaaS)

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Nexus Dashboard

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Nexus Cloud
Consume as **Service**

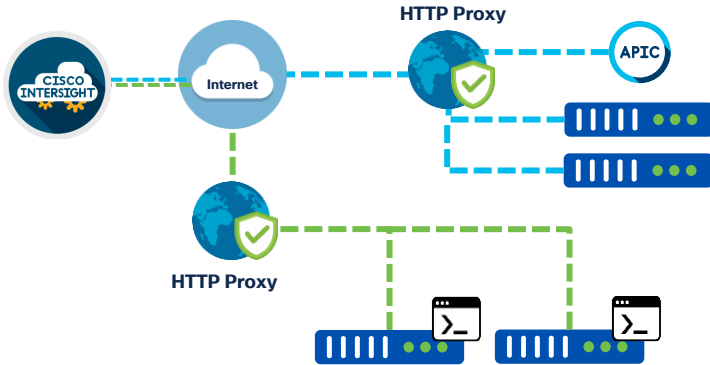**Nexus Dashboard**
Consume as **Product**

Software as a Service
(SaaS)
Runs on Intersight

Appliance based (virtual, physical)
Commonly hosted **on-prem** with support to run on Public Cloud (NDO only)

Snapshot File: ACI_Site.tar.gz
Date from Sept 17-20, 2022

Snapshot File: ACI_Site.tar.gz
Data from Sept 17-20, 2022

Nexus **Cloud**

Consume as **Service**

Nexus **Dashboard**

Consume as **Product**

Software as a Service
(SaaS)
Runs on Intersight

Appliance based (virtual, physical)
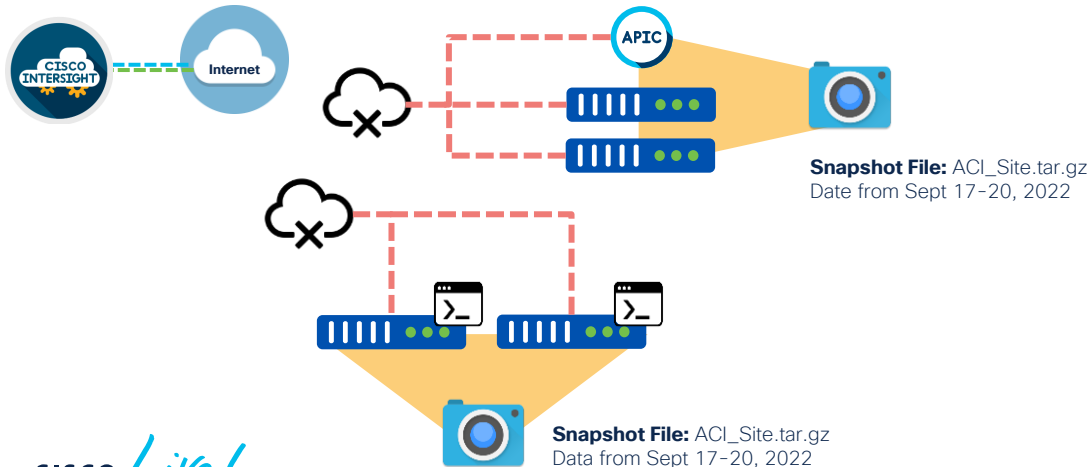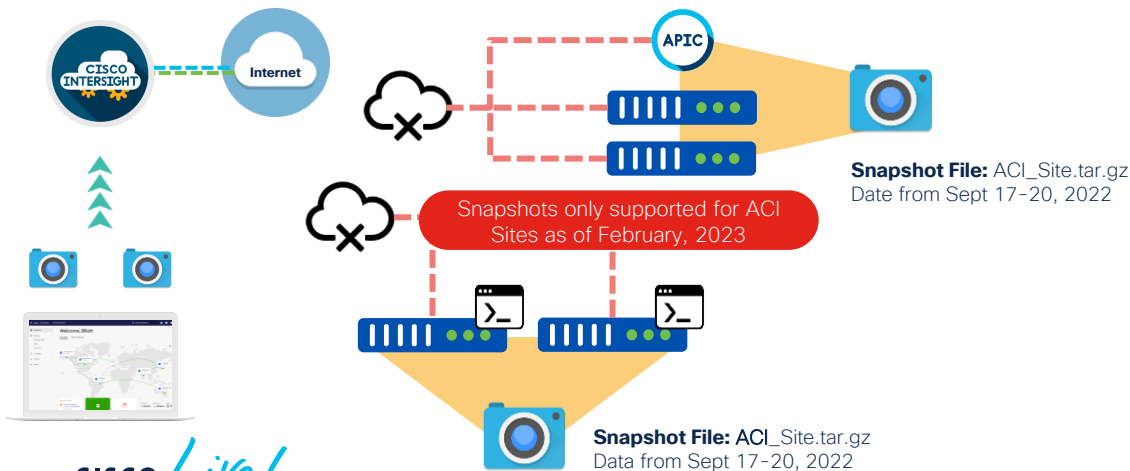Commonly hosted **on-prem** with support to run on Public Cloud (NDO only)

Snapshots only supported for ACI Sites as of February, 2023

Snapshot File: ACI_Site.tar.gz
Date from Sept 17-20, 2022

Snapshot File: ACI_Site.tar.gz
Data from Sept 17-20, 2022

Nexus Cloud

Consume as **Service**

Software as a Service (SaaS)
Runs on Intersight

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Appliance based (virtual, physical)
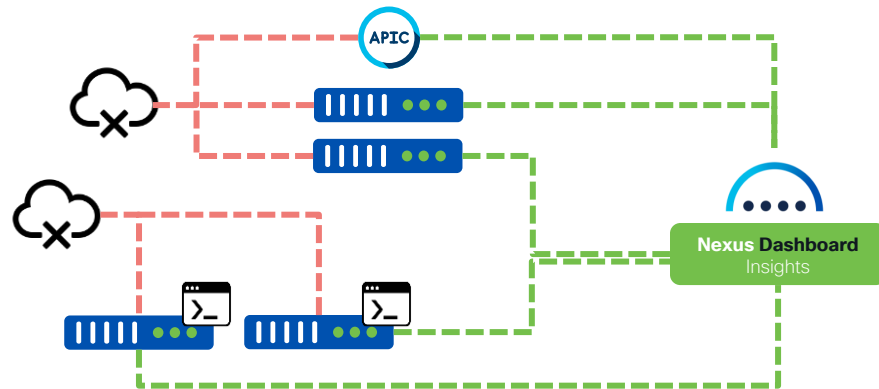Commonly hosted on-prem with support to run on Public Cloud (NDO only)

APIC

Nexus Dashboard
Insights
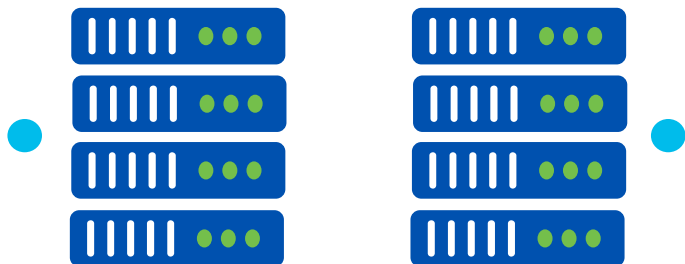
BRKDCN-1688

Nexus Cloud

Consume as **Service**

90 day **free-graceful** period

with access to **all** Nexus Cloud features

(regardless your current license level)

APIC

NX-OS

Nexus Cloud

Consume as **Service**

Once the graceful period **expires**
feature access is based on your **existing** licenses

APIC

NX-OS

Existing Nexus 9000
switch licenses

Premier

Advantage

Essentials

Nexus Cloud

Consume as **Service**

Once the graceful period **expires**
feature access is based on your **existing** licenses

APIC

NX-OS

Existing Nexus 9000 switch licenses

Premier

Advantage

Essentials

Full Cloud-managed experience[1]
(including Anomalies, Advisories, Sustainability and more)

[1] Also applicable through Day2Ops add-on for perpetual licenses

Nexus Cloud
Consume as **Service**

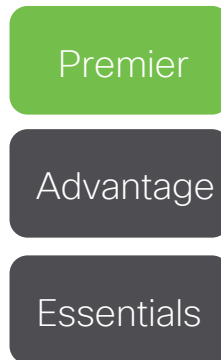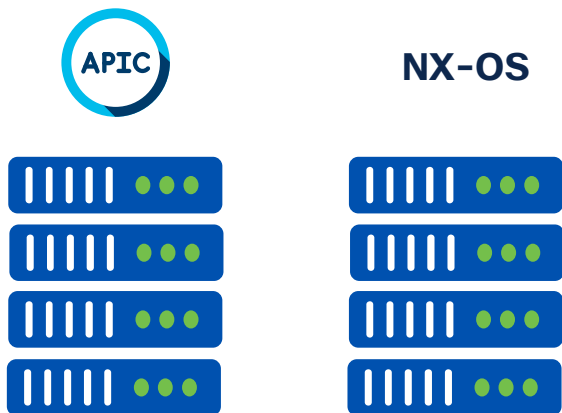## Once the graceful period **expires**
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Existing Nexus 9000
switch licenses

Premier

Full Cloud-managed experience[1]
(including Anomalies, Advisories, Sustainability and more)

Advantage

Base features
(including Global Inventory, Cisco Support and Software/Hardware Conformance[2])

Essentials

[1] Also applicable through Day2Ops add-on for perpetual licenses

[2] Conformance available after initial release for Advantage and Essentials

Nexus Cloud Full vs Base Feature Set

Full Cloud-managed experience
(Requires software version from slide 21 + Premier/D2Ops license)

Both Include TAC Assist

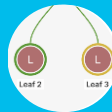| Journey	Global View	Site Overview
Inventory Detailed	Topology Detailed	Anomalies & Advisories
Conformance Report	Site Traffic & Connectivity	Sustainability Report

Base features
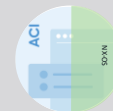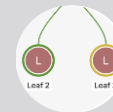
Journey	Global View	Site Overview
Inventory Basic	Topology Basic	
Conformance Report (future)		

Snapshot Sites do not support neither Topology and Site Traffic nor Sustainability and Conformance Reports

Nexus Cloud

Consume as **Service**

Once the graceful period **expires**
feature access is based on your **existing** licenses

APIC   **NX-OS**

Existing Nexus 9000
switch licenses

| Premier | | **Full** Cloud-managed experience[1] (including Anomalies, Advisories, Sustainability and more) |

| Advantage | | **Base** features (including Global Inventory, Cisco Support and Software/Hardware Conformance[2]) |

| Essentials | | |

[1] Also applicable through Day2Ops add-on for perpetual licenses

[2] Conformance available after initial release for Advantage and Essentials

Nexus Cloud
Consume as Service

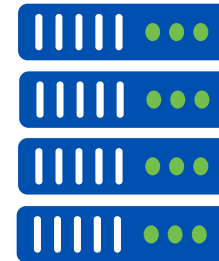# Nexus Dashboard
Consume as Product

No additional license is needed for
Nexus Cloud usage, switch license is enough

Nexus Dashboard **appliance cost**
is additional to the switch licenses[1]

Same switch
licenses for both

APIC

NX-OS

Premier

Advantage

Essentials

APIC

NX-OS

[1] Nexus Dashboard Virtual Appliance is included with
premier and does not require any additional license

Nexus Cloud

Consume as **Service**

No additional license is needed for
Nexus Cloud usage, switch license is enough

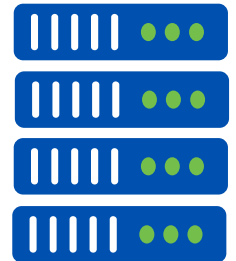**Nexus Dashboard**

Consume as **Product**

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APIC

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Nexus Cloud

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No additional license is needed for
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Nexus Dashboard

Consume as **Product**

Nexus Dashboard **appliance cost**

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APIC

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Nexus Cloud

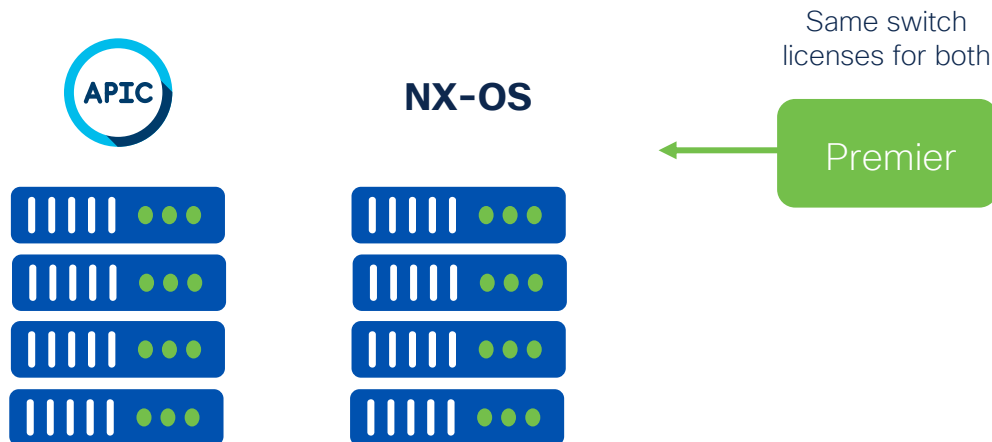Consume as **Service**

Nexus Dashboard

Consume as **Product**

No additional license is needed for Nexus Cloud usage, switch license is enough

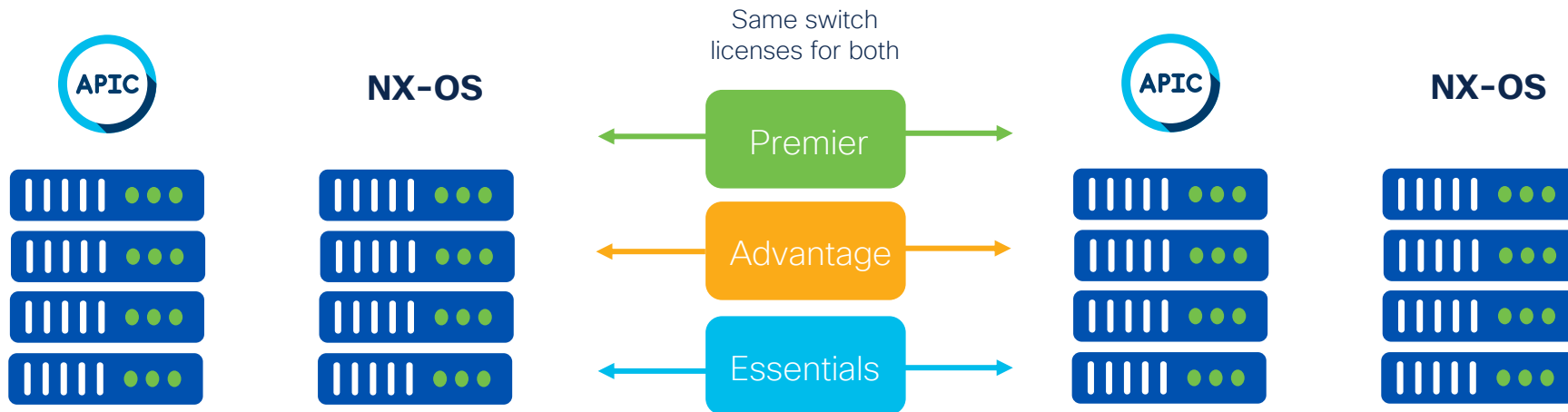Nexus Dashboard **appliance cost** is additional to the switch licenses[1]

APIC

NX-OS

Same switch licenses for both

Premier

Advantage

Essentials

APIC

NX-OS

[1] Nexus Dashboard Virtual Appliance is included with premier and does not require any additional license

Nexus Cloud

Consume as **Service**

Key difference:

Nexus Cloud has no "apps" concept. Every service is part of a single & simple experience

Site Interconnect & Policy Configuration services will not be available at initial release (future)

www.cisco.com/go/nexuscloud

Nexus Dashboard

Consume as **Product**

Orchestrator

Policy Centralization and configuration

Site-to-Site/Cloud Interconnect configuration

www.cisco.com/go/nexusdashboard

Nexus Cloud

Consume as **Service**

Nexus Dashboard

Consume as **Product**

Key difference:

No flow telemetry support
No Pre-change Analysis

TCP Flow 1
TCP Flow 2
TCP Flow 3

Insights

These features
will not be available at initial release
(future)*

Flow Telemetry
Pre-change Analysis
Delta Analysis

* Delta Analysis is expected to be available in an upcoming release

No Sustainability Information

www.cisco.com/go/nexuscloud

www.cisco.com/go/nexusdashboard

Nexus Cloud

Consume as **Service**

Nexus Dashboard
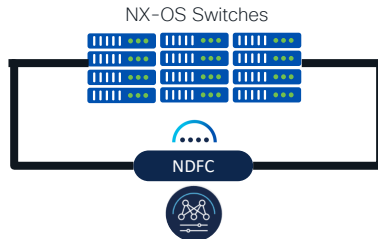
Consume as **Product**

Key difference:

Nexus Cloud will support onboarding NDFC sites after initial release

Fully integrating NDFC on Nexus Cloud would require Controller-as-a-Service functions (future)

NX-OS Switches

NDFC

Fabric Controller (NDFC)

Controller for NX-OS switches

EVPN VXLAN automation
Switch Configuration

www.cisco.com/go/nexuscloud

www.cisco.com/go/nexusdashboard

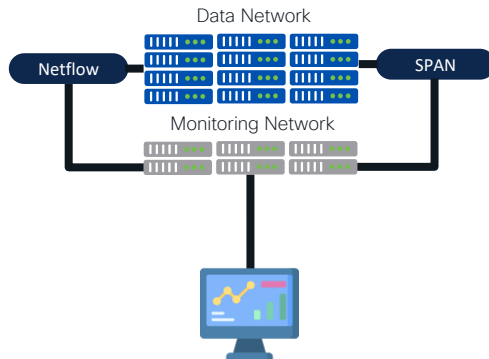**Nexus Cloud**

Consume as **Service**

Key difference:

Nexus Cloud has no "apps" concept.
Every service is part of a single
& simple experience

Data Broker
services will not be available at initial release
(future)

www.cisco.com/go/nexuscloud

Data Network

Netflow

SPAN

Monitoring Network

Nexus Dashboard

Consume as **Product**

Data Broker

Monitoring solution for high-volume
and business critical traffic

TAP/SPAN Aggregation

www.cisco.com/go/nexusdashboard

Can Nexus Cloud & Nexus Dashboard co-exist?

Current co-existence

Nexus Cloud

Full features   Base features

✅

Premier License?   ❌

On-Prem

Nexus Dashboard

Orchestrator[1]
Site interconnect
Policy Centralization

Tokyo   NX-OS   ACI   New York

APIC

[1]Also applicable to any other service **different than Insights** (e.g. NDFC, Data Broker)

Nexus Cloud

Base features

On-Prem

Nexus Dashboard

Insights[2]
Flow Telemetry

Tokyo   NX-OS   ACI   New York

Premier License   APIC

[2] Also applicable to ACI or NX-OS networks with **software versions** that do not support the full feature set (slide 21)
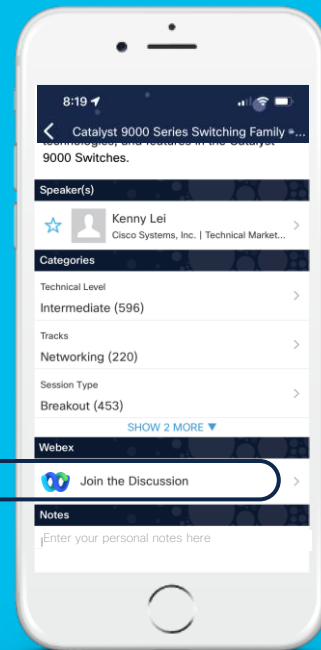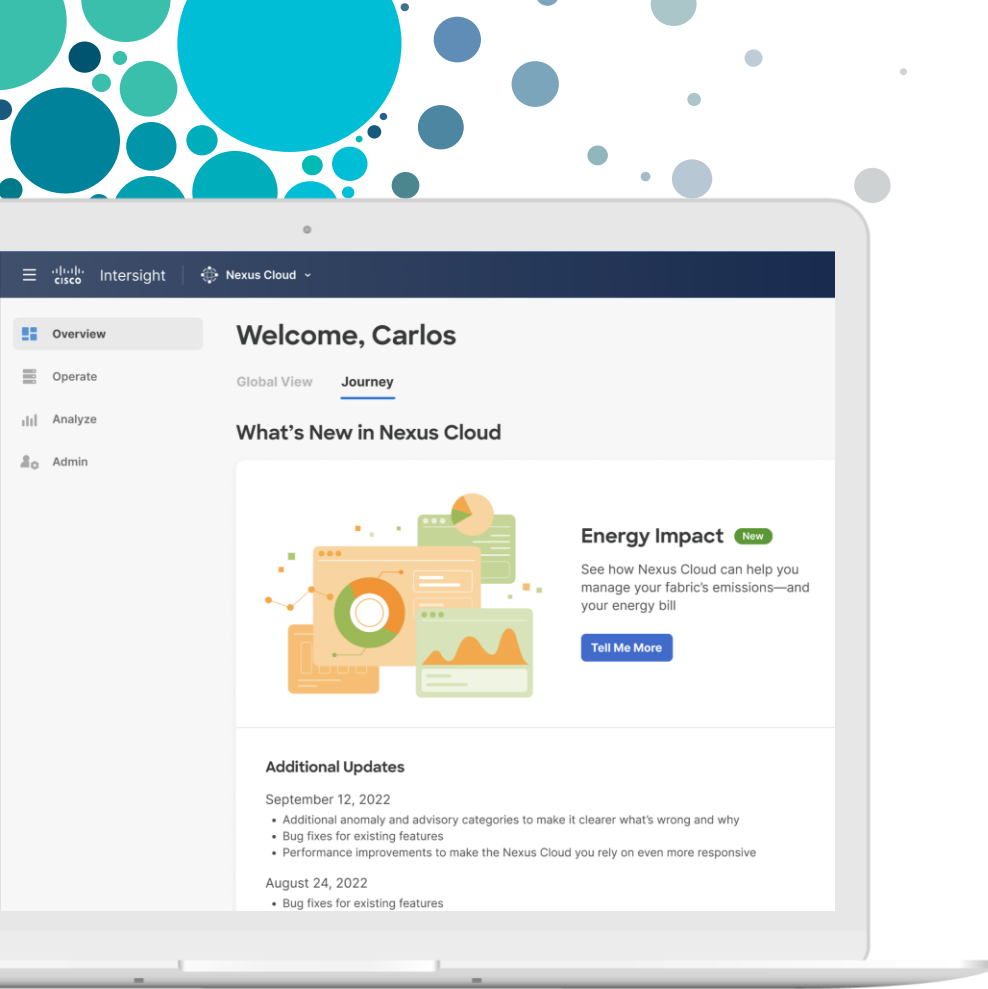
What other features would you like to see?

Please let us know in the Webex Space

Summary

Summary

Nexus Cloud
Agility of Cloud and **Power** of Nexus
Focus on **Simplicity**

Access Nexus Cloud – Controlled Availability
(powered by Intersight)

www.nexuscloud.com
Access granted after sales-teams approval

Consumption options
Appliance: **Nexus Dashboard**
SaaS: **Nexus Cloud**
Same licensing

You are invited! VIP Nexus Cloud Controlled Availability

Write to us for an exclusive White Glove evaluation and onboarding experience

Resources: http://www.cisco.com/go/nexuscloud

Complete your Session Survey

- Please complete your session survey after each session. Your feedback is important.

- Complete a minimum of 4 session surveys and the Overall Conference survey (open from Thursday) to receive your Cisco Live t-shirt.

- All surveys can be taken in the Cisco Events Mobile App or by logging in to the Session Catalog and clicking the "Attendee Dashboard" at
  https://www.ciscolive.com/emea/learn/sessions/session-catalog.html

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90+ ACI, Cloud and Nexus Cloud videos

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related demos

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Resource community portal for certifications and learning

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Cisco Training Bootcamps
Intensive team & individual automation and technology training programs

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Authorized training partners supporting Cisco technology and career certifications

Cisco Instructor-led and Virtual Instructor-led training
Accelerated curriculum of product, technology, and certification courses

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Cisco Certifications and Specialist Certifications
Award-winning certification program empowers students and IT Professionals to advance their technical careers

Cisco Guided Study Groups
180-day certification prep program with learning and support

Cisco Continuing Education Program
Recertification training options for Cisco certified individuals

Thank you