



Cisco Intersight

Praktyczne zarządzanie i automatyzacja infrastruktury

Krzysztof Banel

Inżynier rozwiązań Data Center

Cisco Systems Polska



Environments are driving complexity in IT operations



What if you could:



Deploy and configure infrastructure for any type of workload (traditional or AI) in minutes, anywhere?



Operate and monitor your on-premises and edge environments from one dashboard?



Continuously identify and close security gaps?



Monitor and track energy consumption while controlling power management across your server fleet?



Address potential hardware, OS, or software issues before they impact users, or minimize them when they occur?



Give your staff the ability to accomplish more without creating additional burdens?

You can do all of this with...



Cisco Intersight®

See, control, and automate your Cisco UCS®, converged, and hyperconverged infrastructure throughout its lifecycle—wherever it is—from one place

AI-driven capabilities in Intersight

Deliver predictive insights

HCL alerts, contract status

Predict potential failures

Enriched topology view with network bandwidth/utilization

Give contextual alerts, enhance security

Custom field notices, security advisories

Self-heal

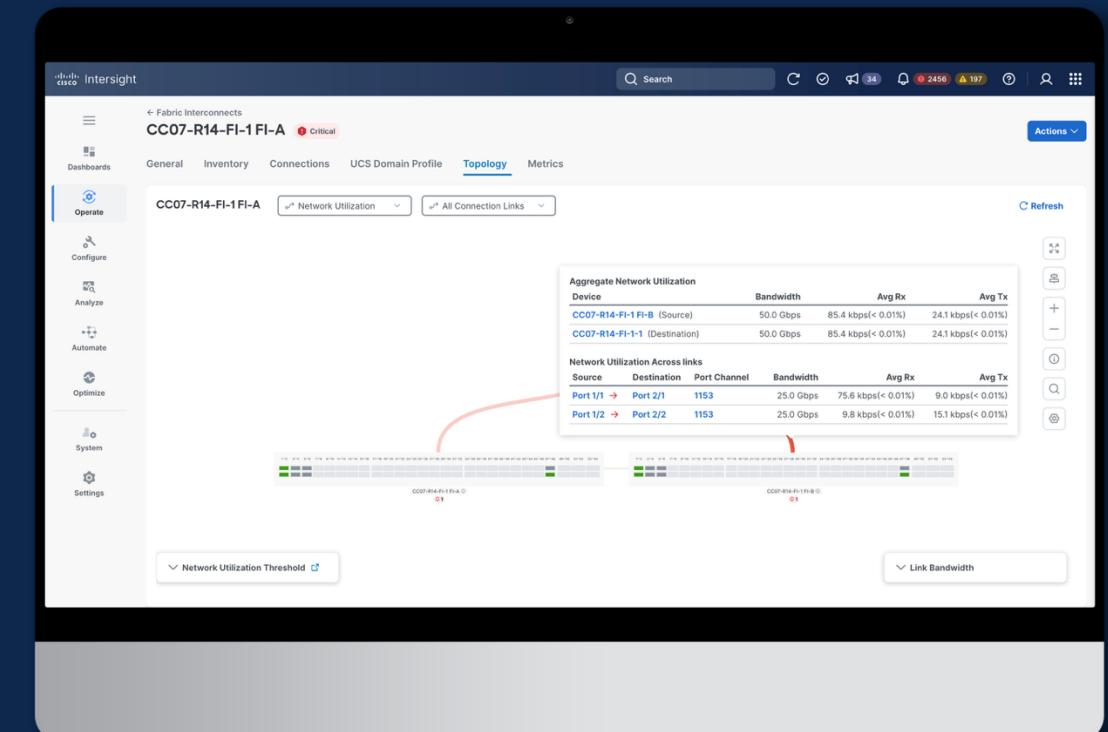
Proactive RMAs

Automate routine tasks

Automatic log collection, Connected TAC

Deliver real-time and historical metrics

Analyze performance, troubleshoot, forecast and budget



IT operations. Simplified.

Cisco Intersight®



See
your global data center
and edge environments
in one dashboard



Control

your
global infrastructure
from one place,
24x7x365

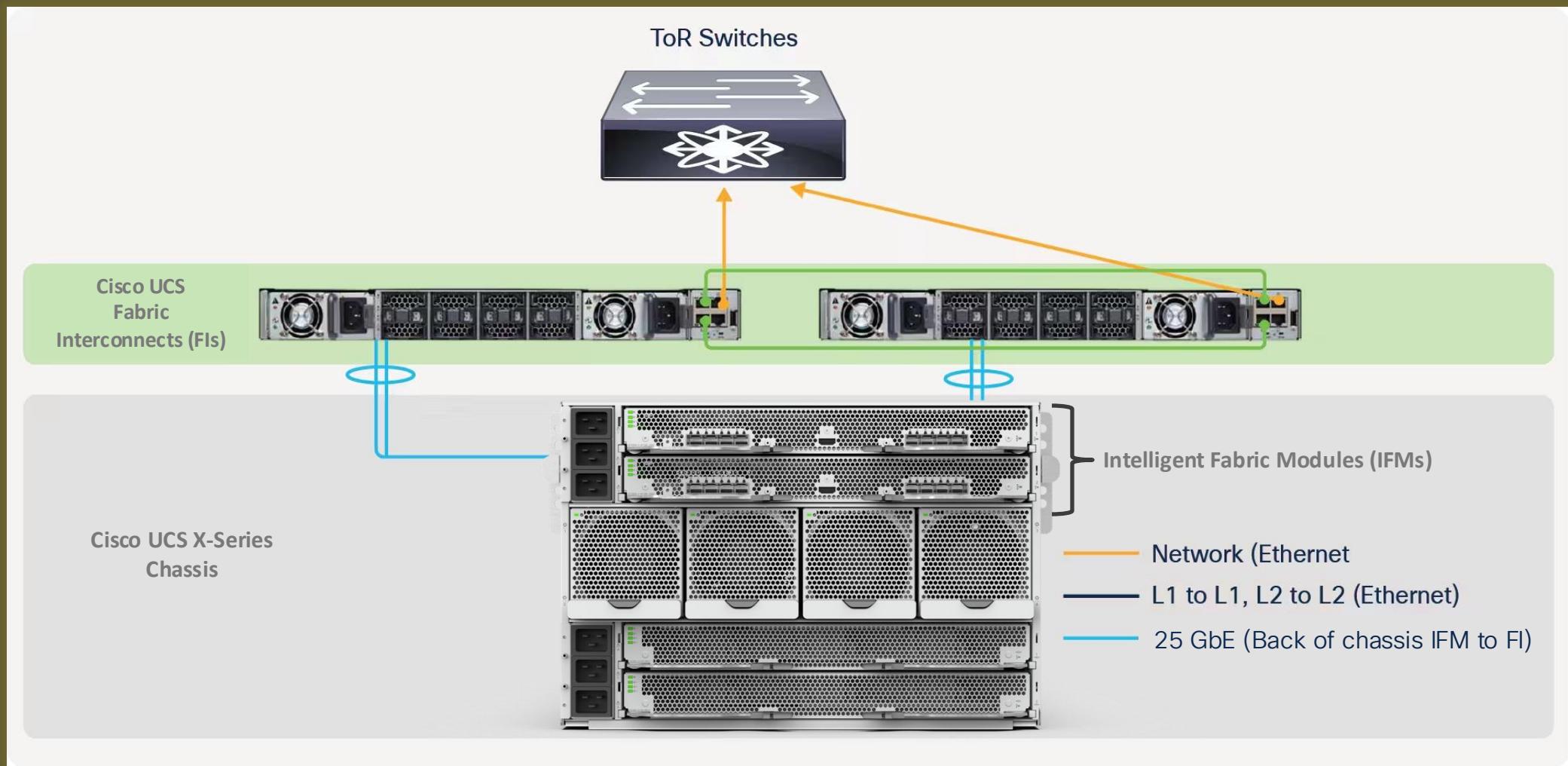


Automate

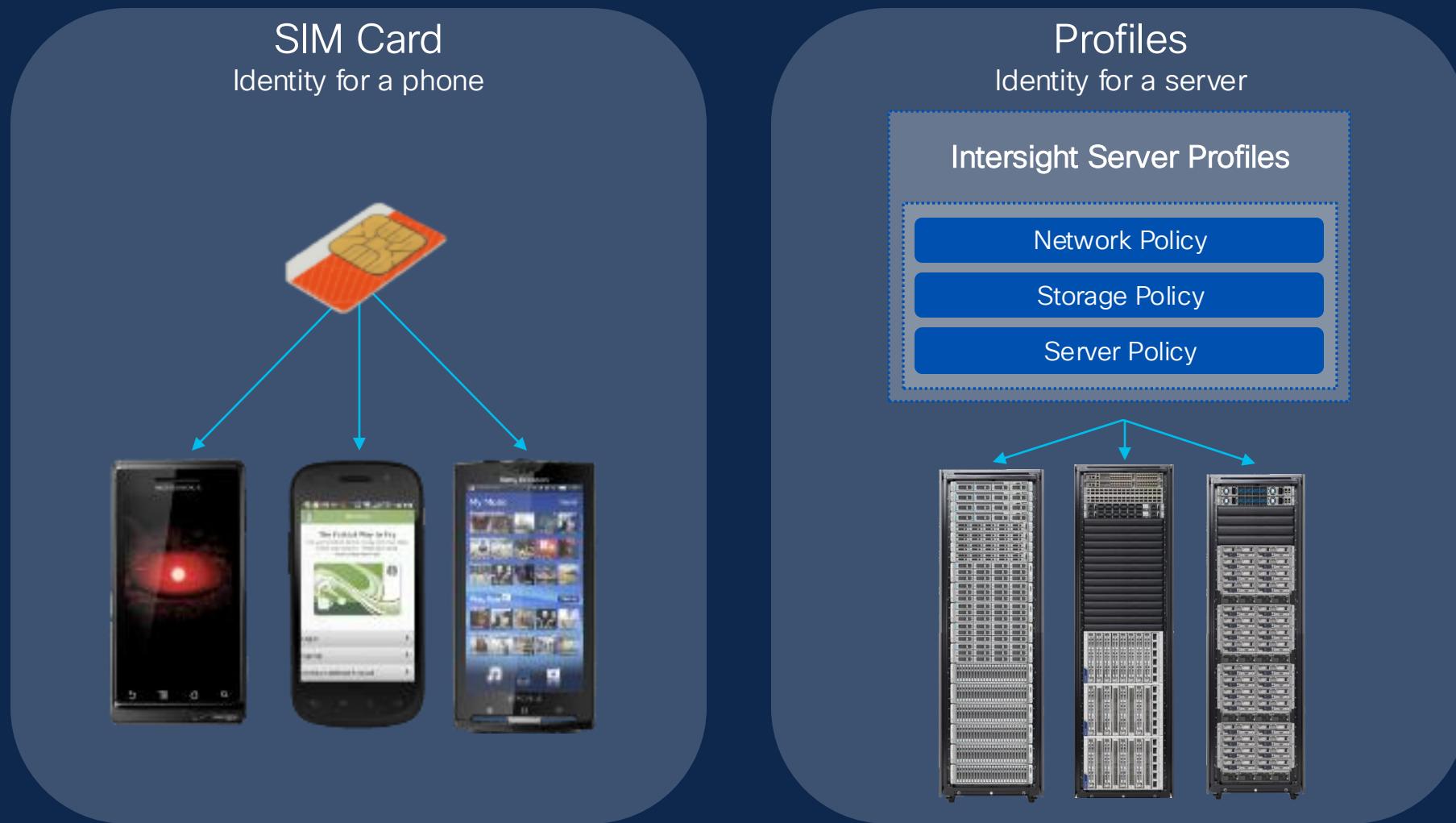
deployments,
configuration, workflows,
and day-0 to day-N tasks

Serwery Cisco
UCS

High Level Cisco UCS Topology



Stateless Computing

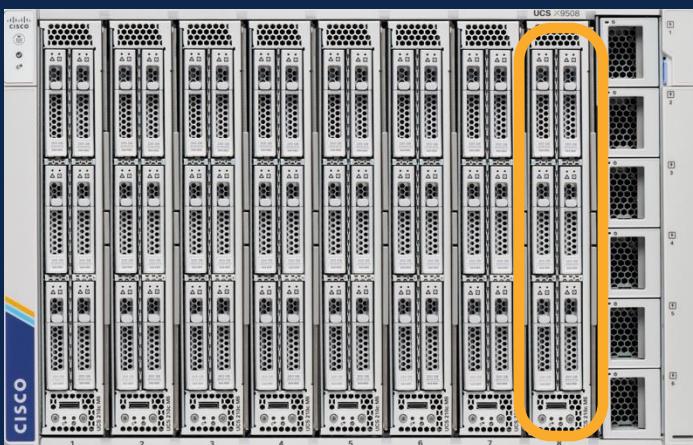


Profiles

Fabric Interconnect



Chassis



Server Node

Rack Server



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

Chassis Profiles

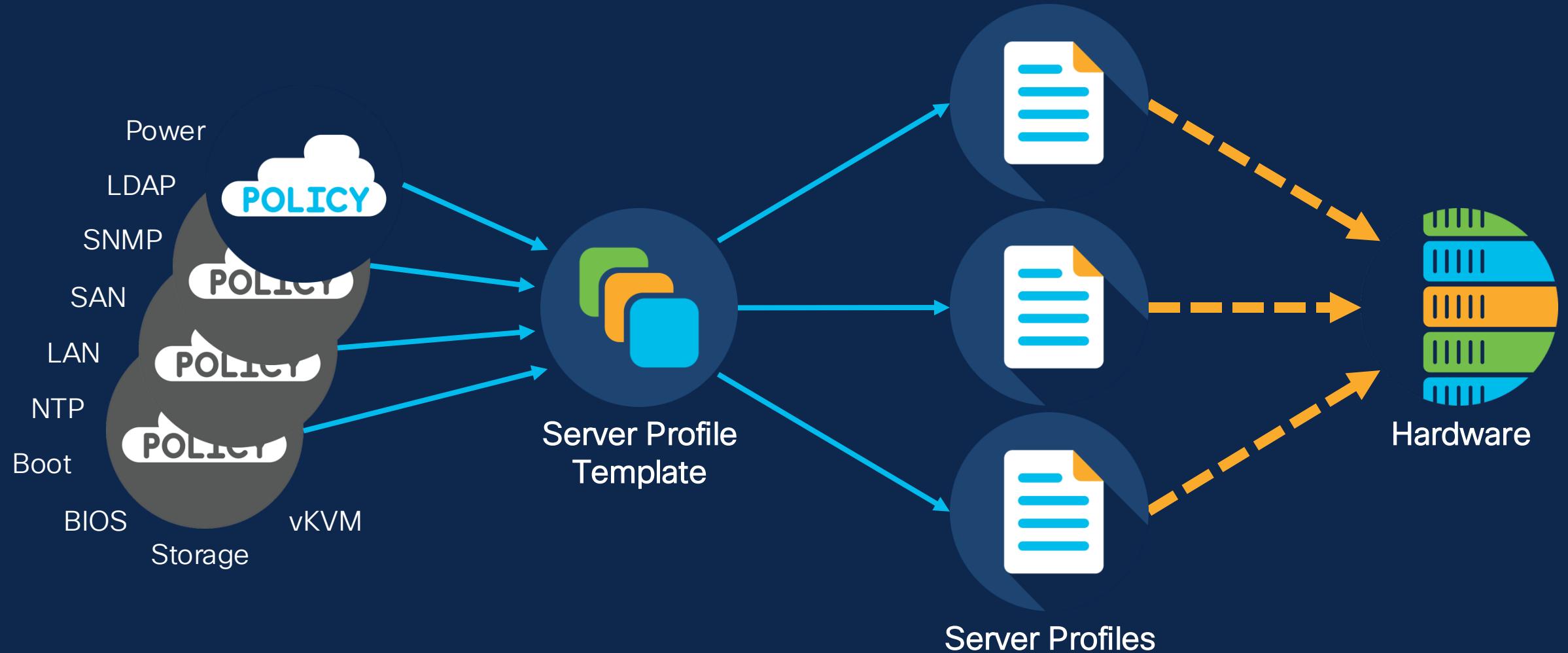
Enables chassis policies for an Intersight Managed Mode claimed chassis (B-Series and X-Series)

Server Profiles

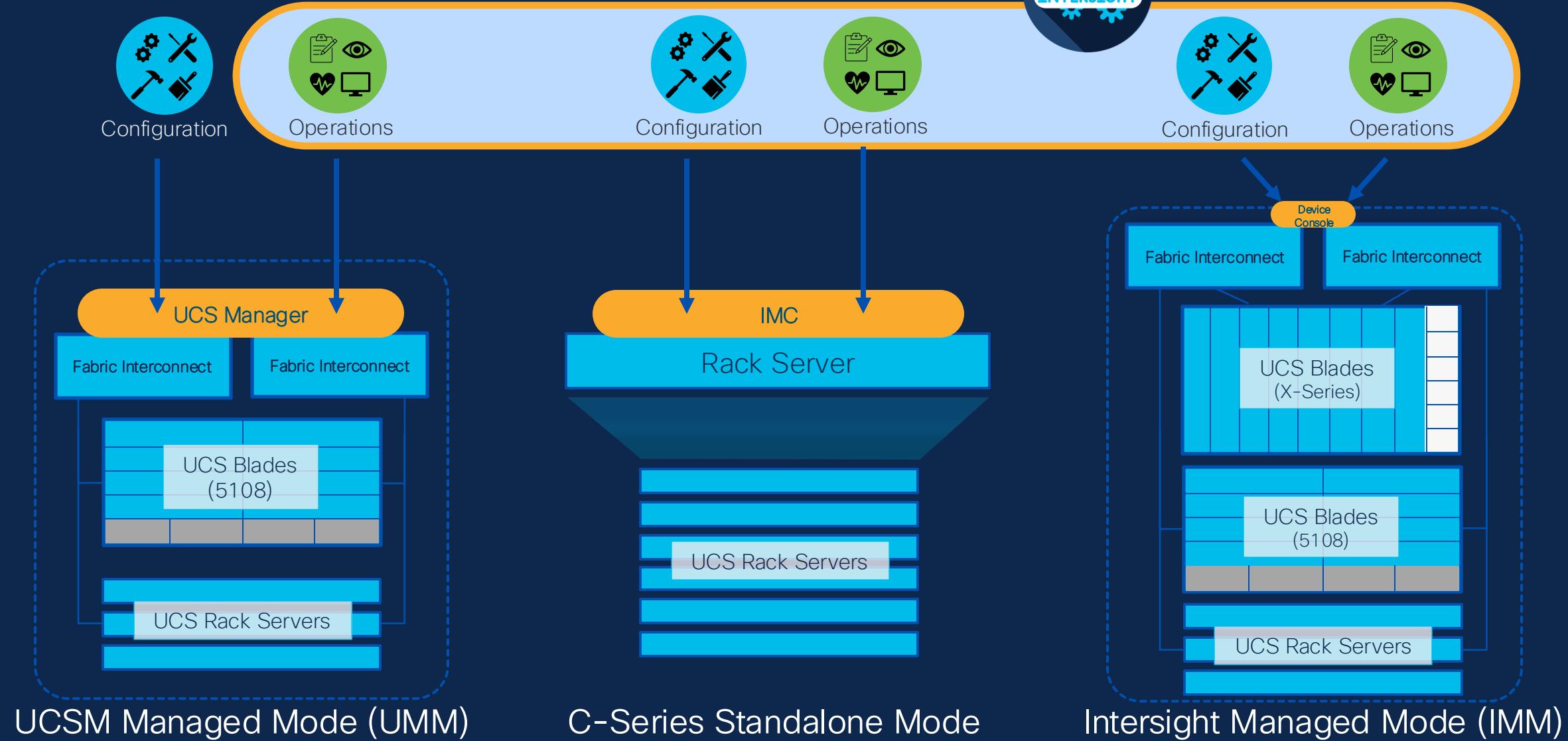
Built of policies and pools and used to define the desired configuration and map that configuration to a target server

Server Profile Templates

Policy-based configuration of UCS servers

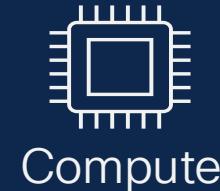


UCS Management with Intersight

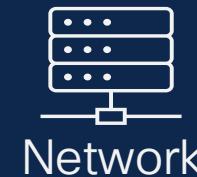


Targets

Any endpoint that is connected to Intersight



Ansible



Operacje na serwerach



Aplikacja mobilna

Intersight Mobile App



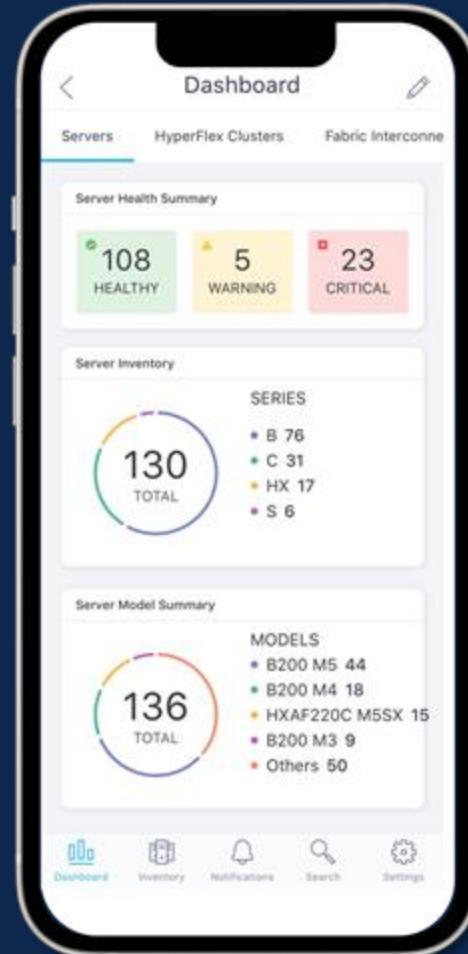
Visibility on the go

Monitor and view resources managed by Intersight, anytime and anywhere



Faster time to resolution

View centralized alarms
Open support case from anywhere





Monitorowanie

Overview

- Monitor and visualize metrics for Fabric Interconnects and servers managed as IMM domains
- Leverage Metrics explorer to monitor your device, optimize performance and identify bottlenecks
- Proactively address potential issues
- Create custom metric queries to obtain specific data



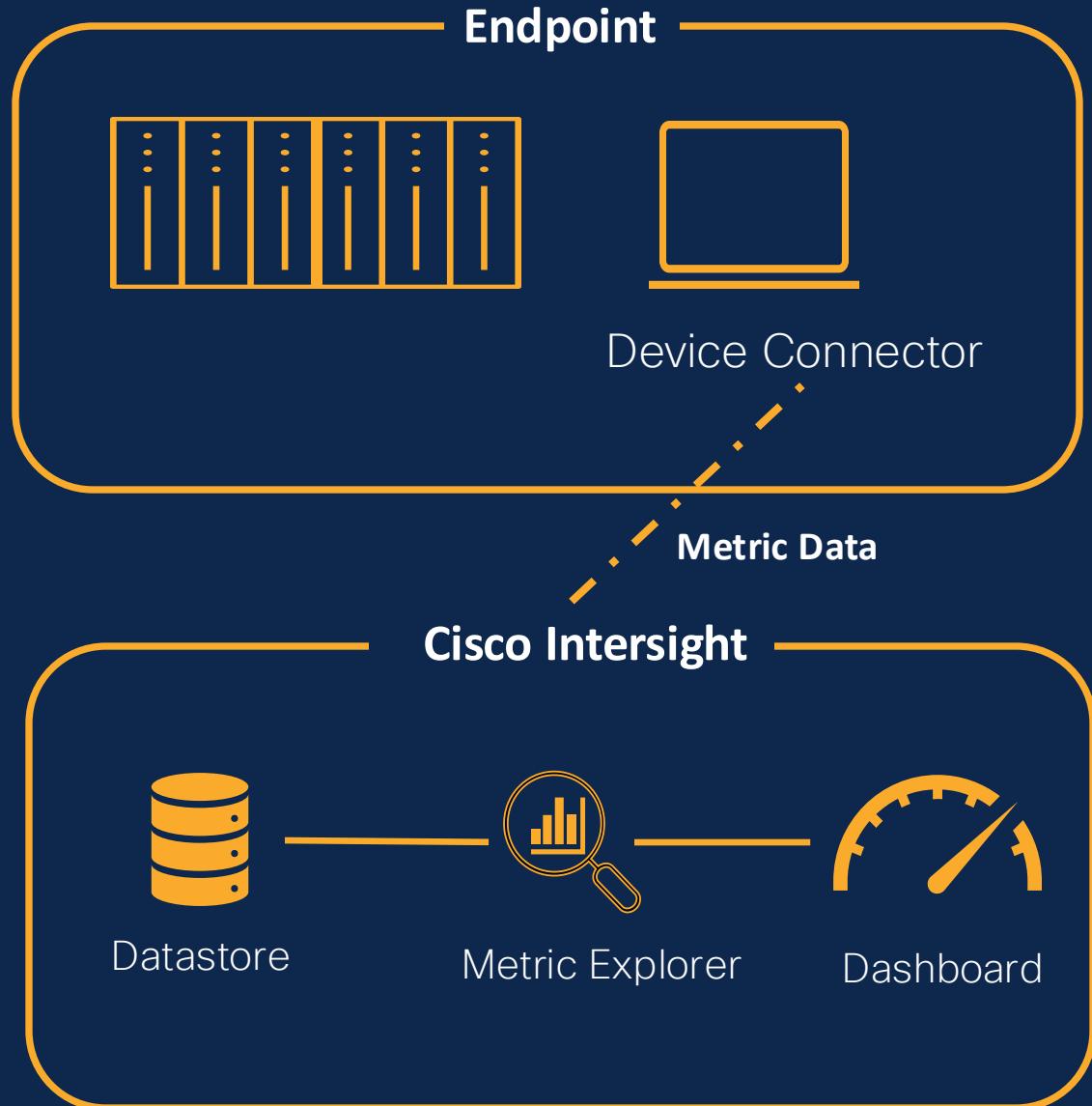
“Energy-efficiency focus is going to expand to include the IT equipment itself.”*

*Networkworld, January 2023

Data Collection Process on Intersight

- Metrics collected from Fabric Interconnects and Servers through device connectors 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 connector rolls up the data with a lower granularity

Supported Metrics

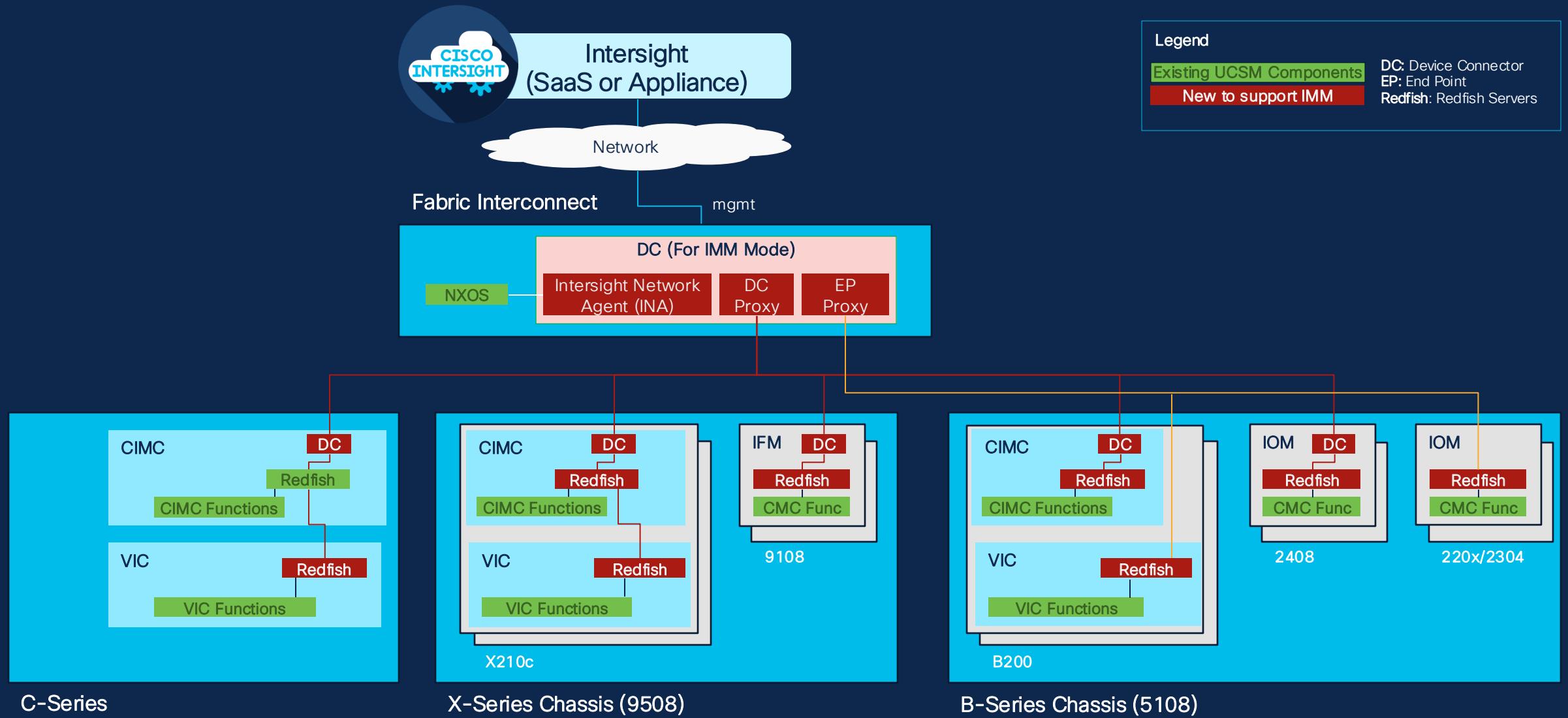




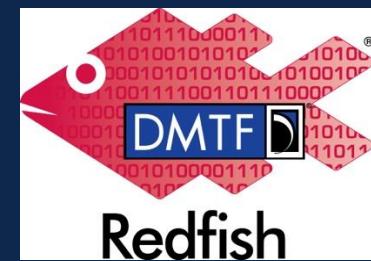
Wizualizacje
(dashboard)

Architektura

Intersight Managed Mode Architecture



Why Redfish?

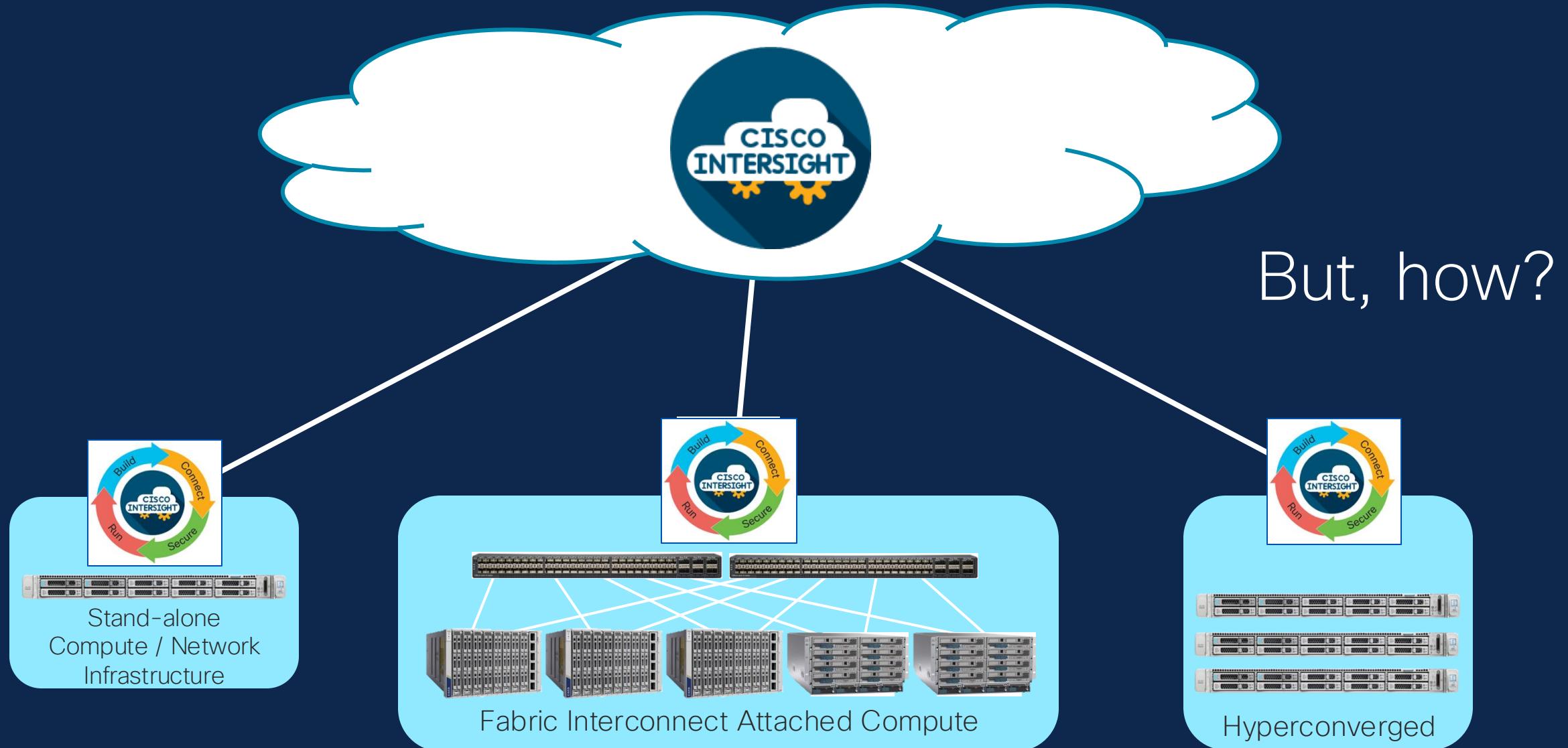


- Standard, Scalable, Secure replacement for IPMI
- RESTful API with JSON-formatted data
 - Modern replacement for the UCS XML API
- Supports OEM/vendor extensions
 - VIC management
 - Firmware management
 - Custom actions (Reset CMOS, Clear TPM, ...)
- Available on many server platforms
 - Support for third-party servers (C890 M5, Dell, HPE)

```
GET /redfish/v1/Chassis/{ChassisId}/Thermal

1  "@odata.context": "/redfish/v1/$metadata#Thermal.Thermal",
2  "@odata.id": "/redfish/v1/Chassis/FCH22347N7W/Thermal",
3  "@odata.type": "#Thermal.v1_6_2.Thermal",
4  "Description": "Represents the properties for Temperature",
5  "Id": "Thermal",
6  "Name": "Thermal",
7  "Status": {
8      "Health": "OK",
9      "State": "Enabled"
10 },
11 "Temperatures": [
12     {
13         "@odata.id": "/redfish/v1/Chassis/FCH22347N7W/Thermal#/Temperatures/0",
14         "MemberId": "0",
15         "Name": "TEMP_SENS_FRONT",
16         "PhysicalContext": "Front",
17         "ReadingCelsius": 22,
18         "Status": {
19             "Health": "OK",
20             "State": "Enabled"
21         },
22         "UpperThresholdCritical": 75,
23         "UpperThresholdFatal": 85
24     },
25     {
26         "@odata.id": "/redfish/v1/Chassis/FCH22347N7W/Thermal#/Temperatures/1",
27         "MemberId": "1",
28         "Name": "TEMP_SENS_REAR",
29         "PhysicalContext": "Back",
30         "ReadingCelsius": 33,
31         "Status": {
32             "Health": "OK",
33             "State": "Enabled"
34         },
35         "UpperThresholdCritical": 75,
36         "UpperThresholdFatal": 85
37     }
38 }
```

SaaS-driven configuration and operations



Fundamental Intersight concept

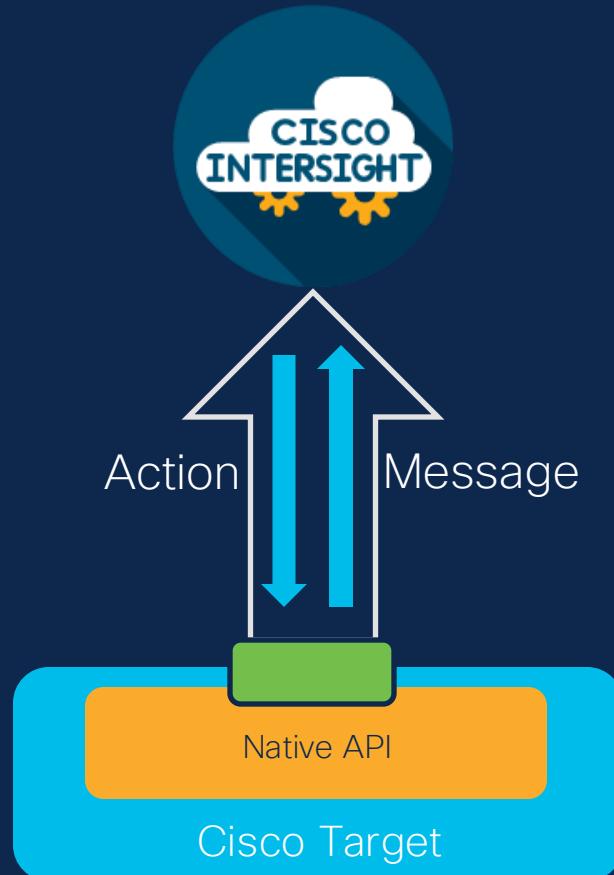
Intersight must be able to:

- Perform actions against targets
- Listen for messages from Targets

What makes this possible?

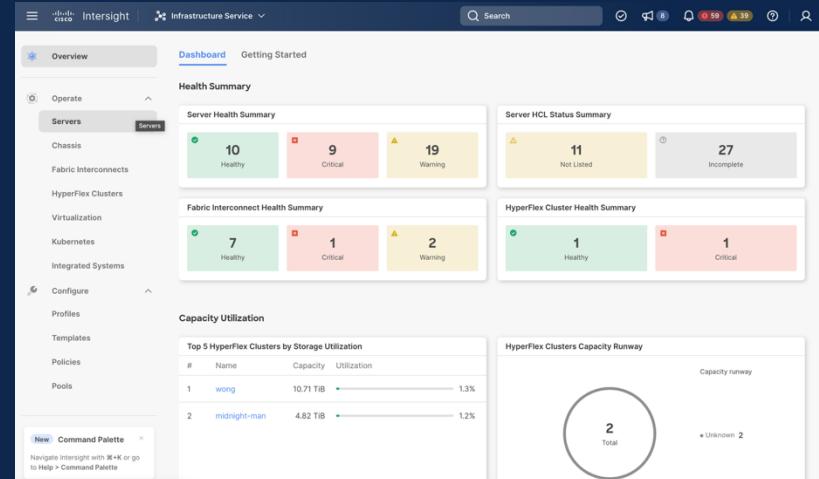
Two components are required:

1. Native API at target
2. Secure connection mechanism from target



Device Connector: Overview

- A very light and autonomous piece of software allowing:
- Communication with the Intersight portal, wherever the portal is.
- Capability of inserting tasks / calls against the infrastructure (UCS Manager, Cisco IMC Software) via the pluggable / extensible framework



Key Features

- Bundled with Firmware
- Embedded Product Feature
- Secure Communications
- Self Updated
- Autonomous Check-In

How is the Device Connector Deployed?

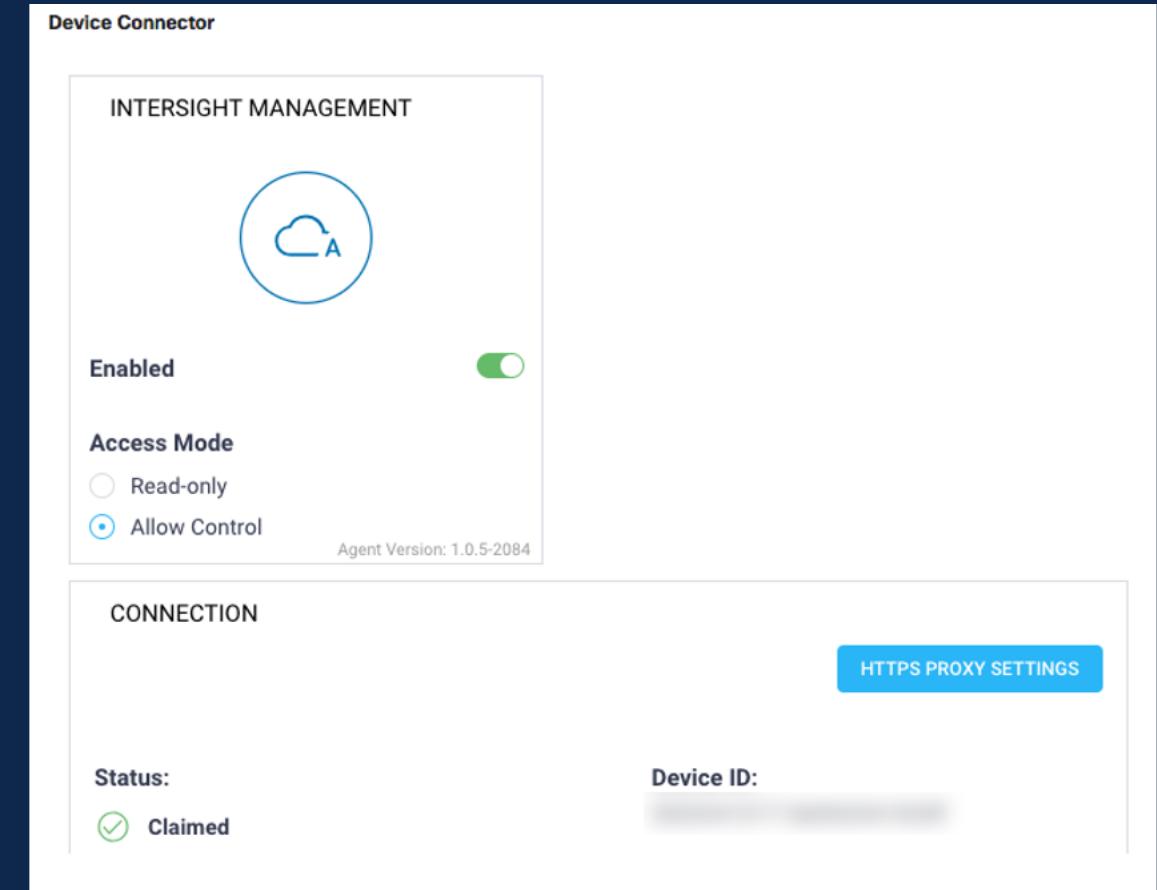
Part of Firmware/Management SW

- UCS Manager
- Standalone IMC

Connects to a known cloud management location (specific URL)

Device control of connectivity

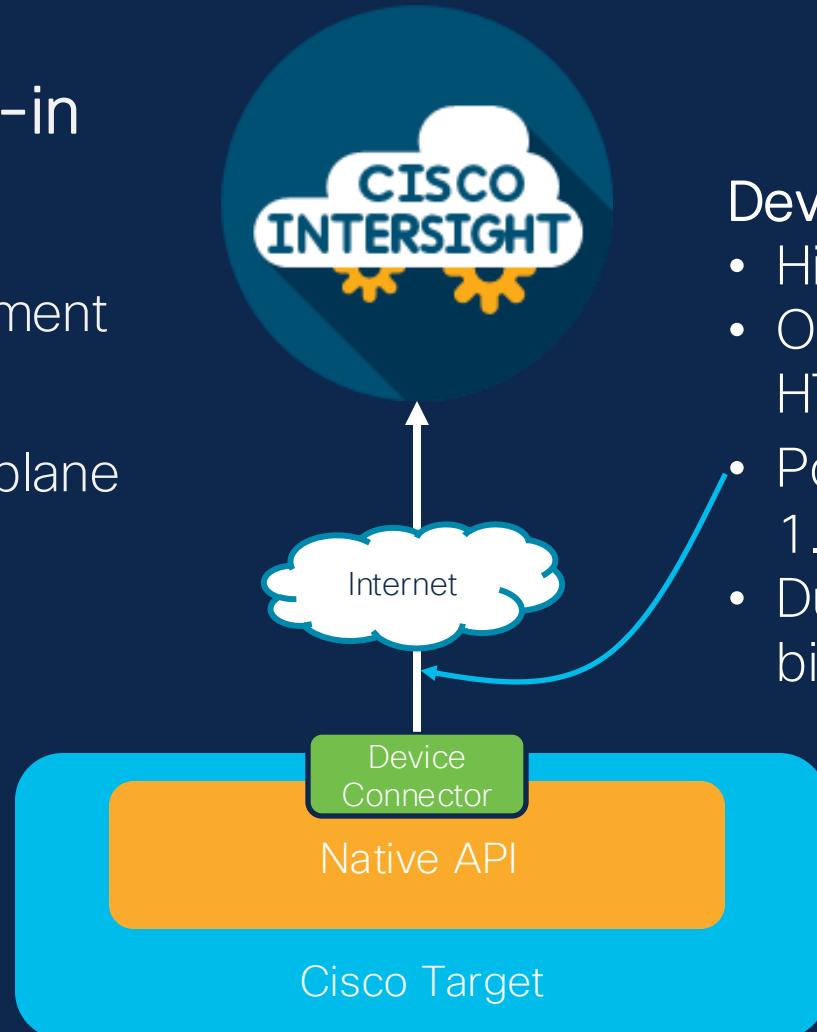
- Device outbound initiated connections
- HTTPS on port 443 or through proxy



Device Connector Connectivity (Intersight.com)

Device Connector is built-in

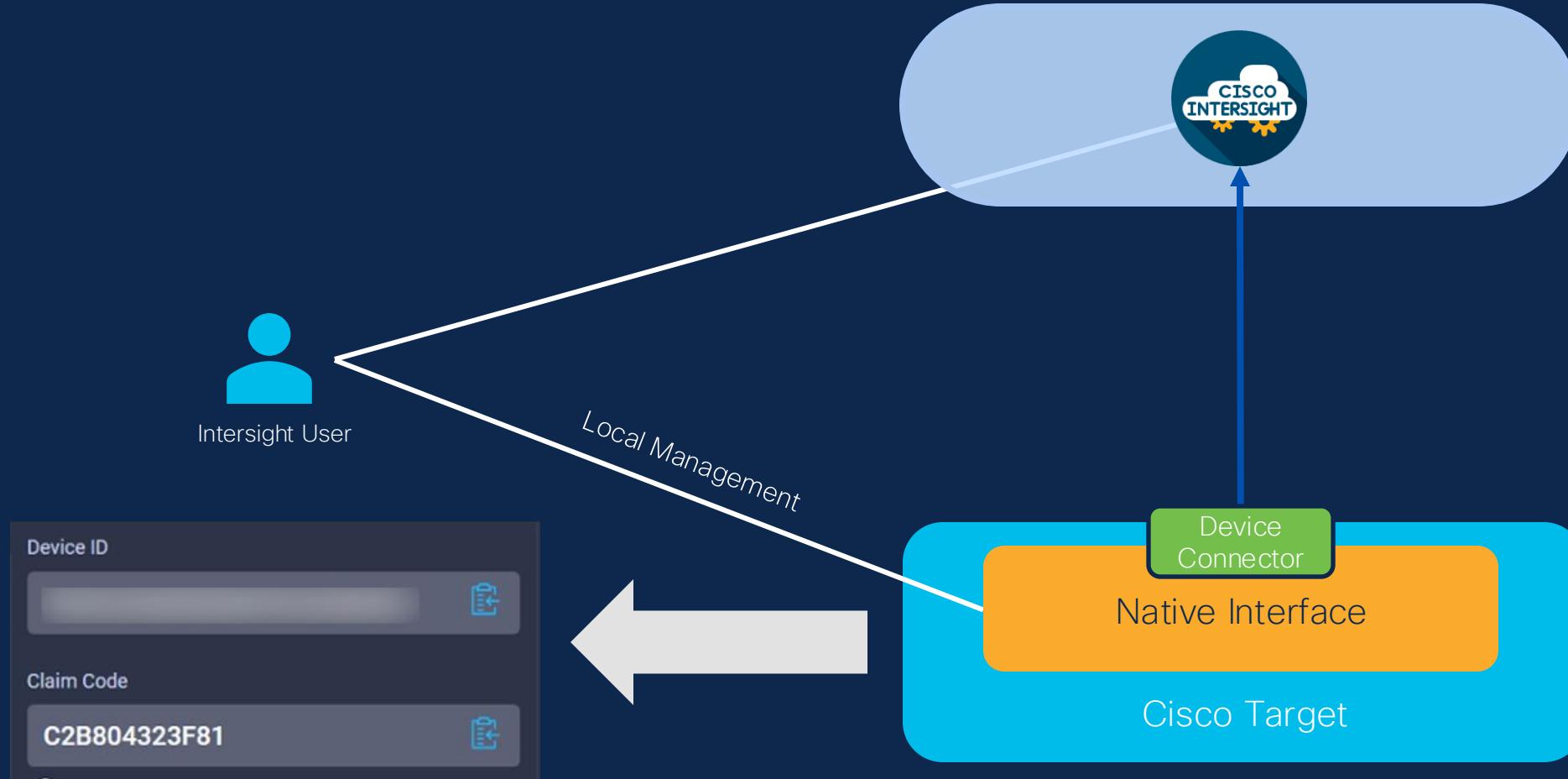
- Lightweight software
- Embedded in target management plane
- Delivered with management plane firmware



Device Connector connection:

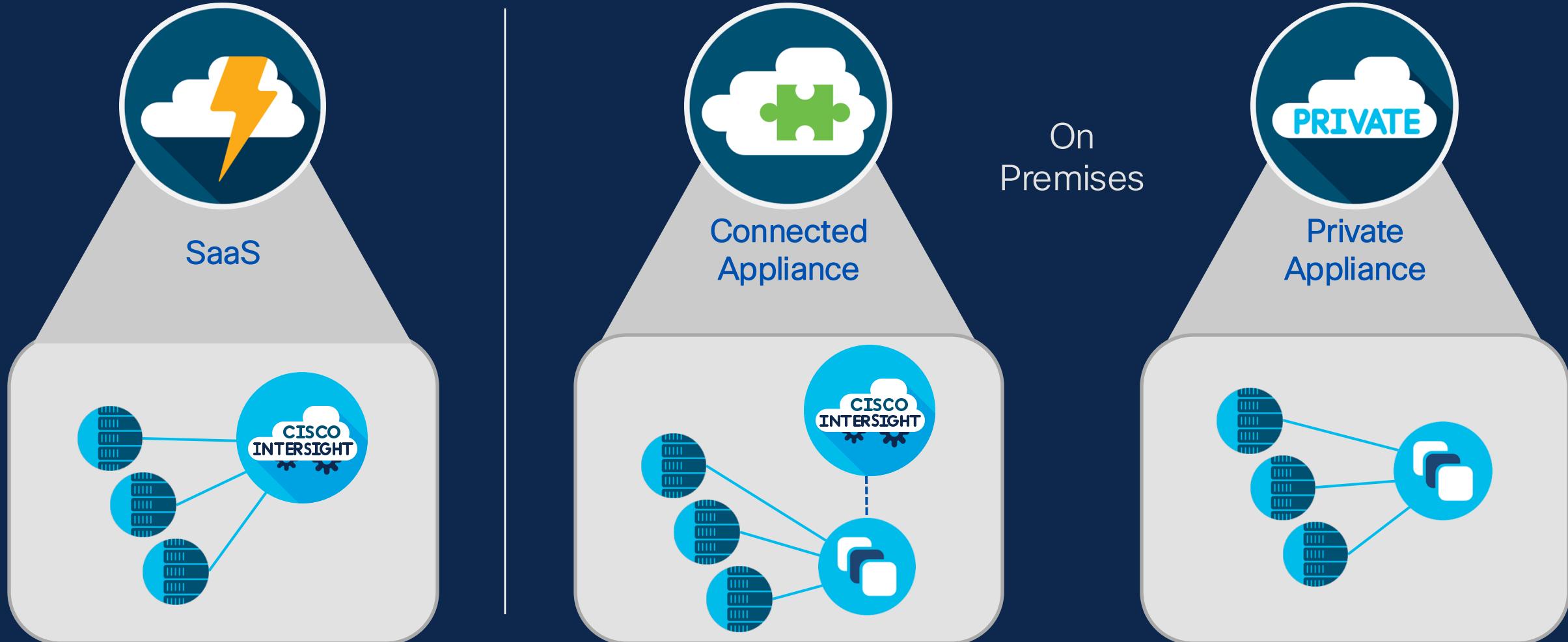
- Highly secure
- Outbound single-destination HTTPS URL
- Port 443 tunneled with TLS 1.2
- Durable websocket enabling bi-directional communication

Target claim process

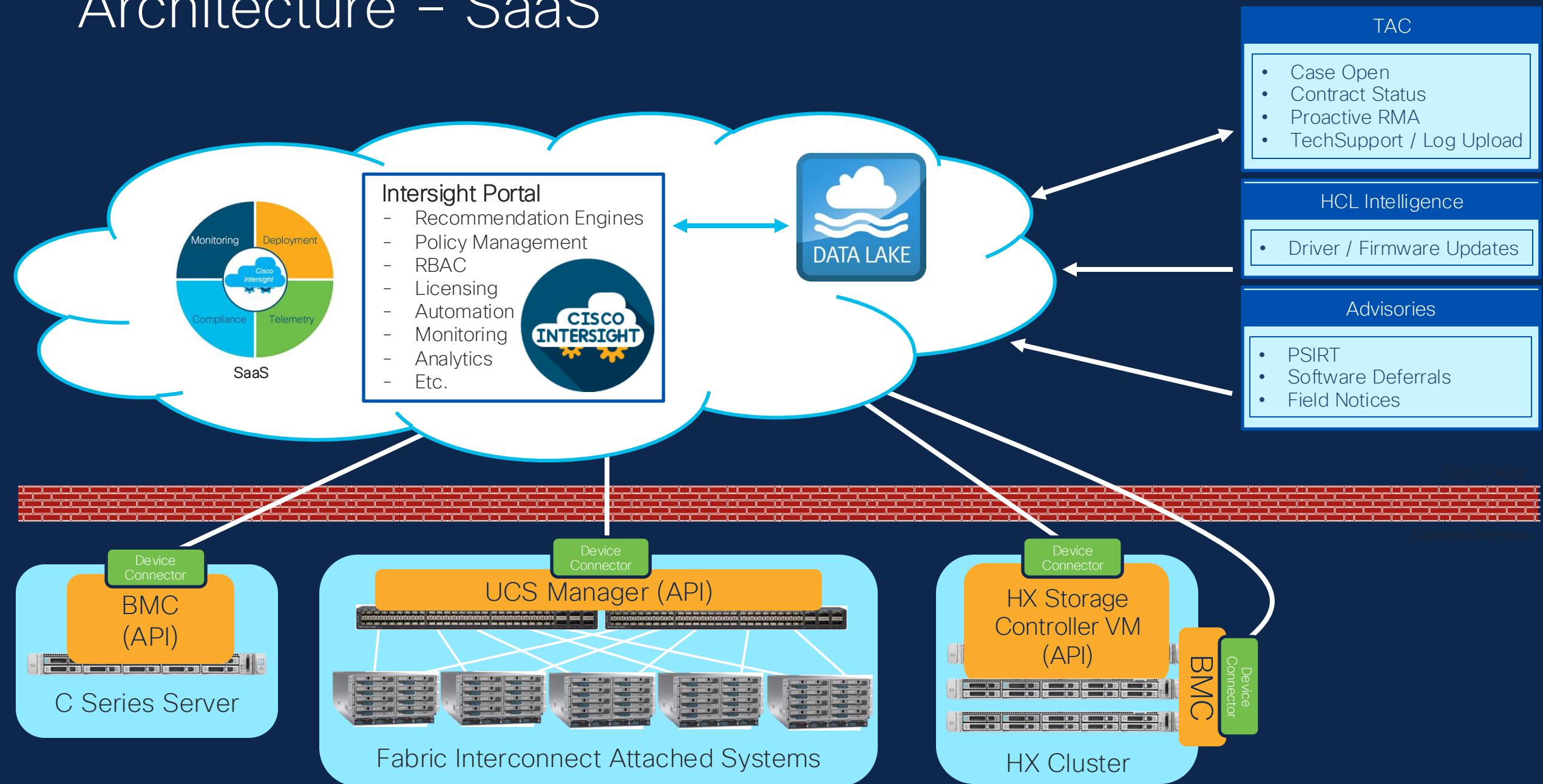


Modele wdrożenia

Intersight Consumption Models



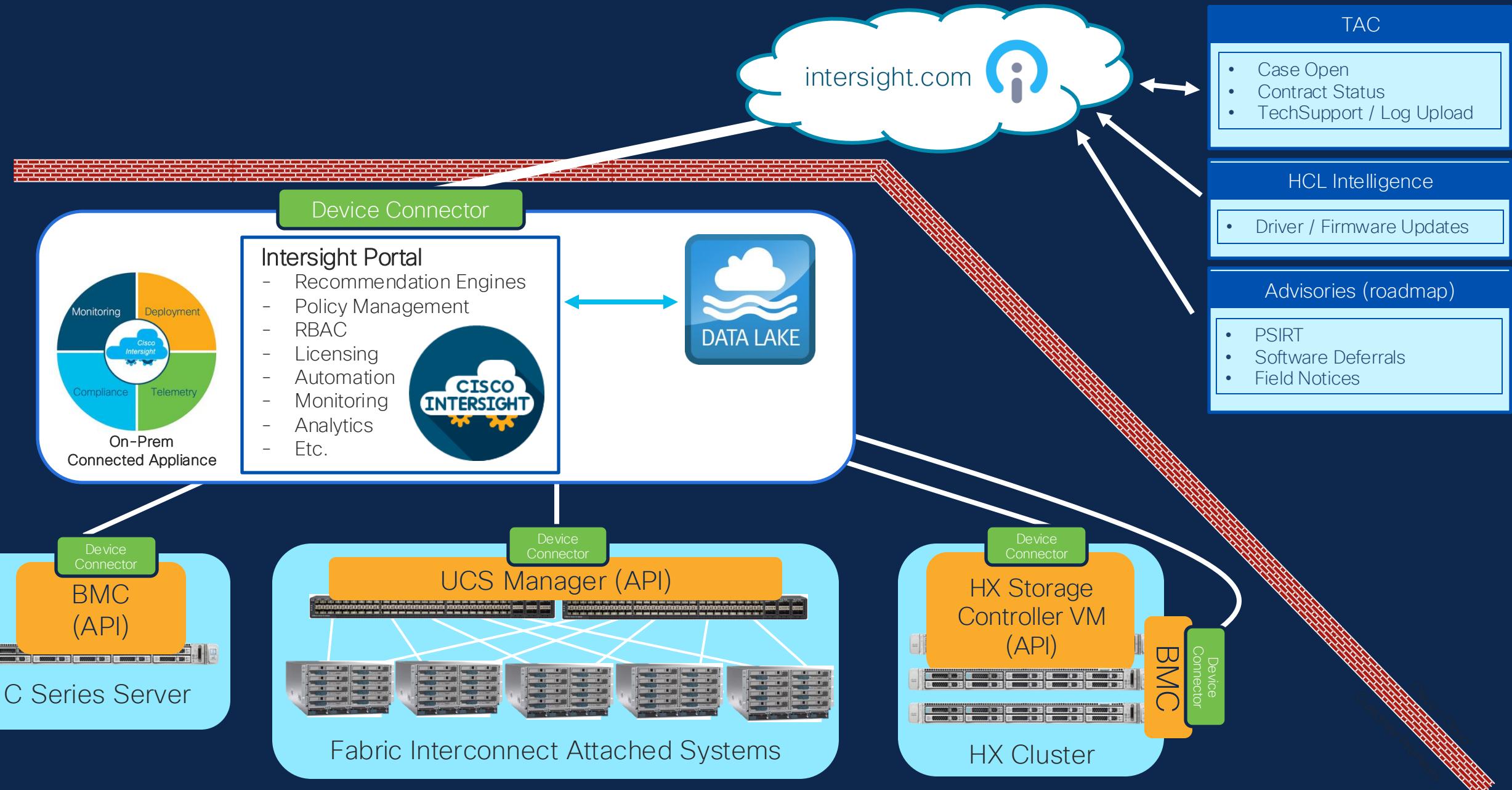
Architecture - SaaS



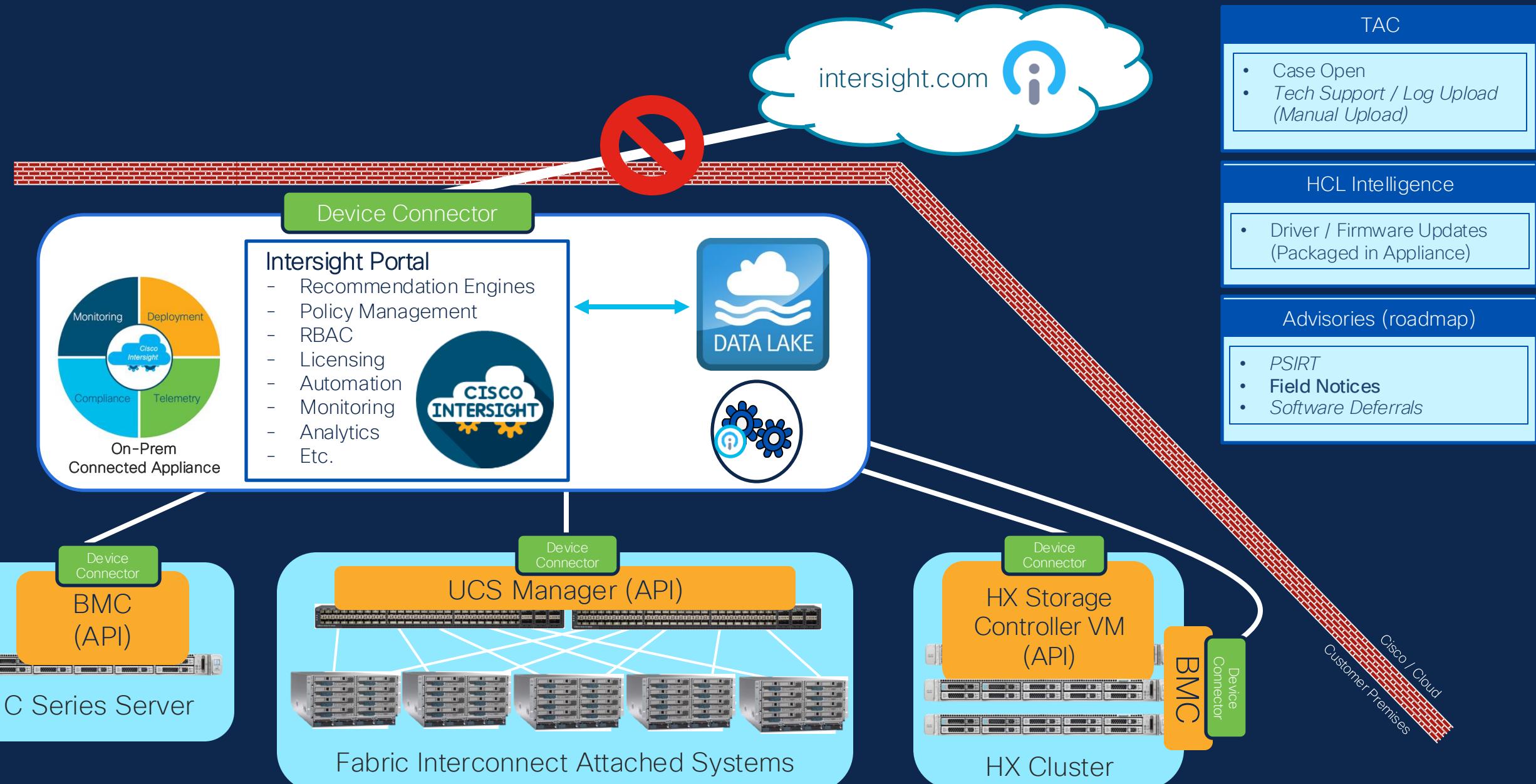
Intersight EMEA region



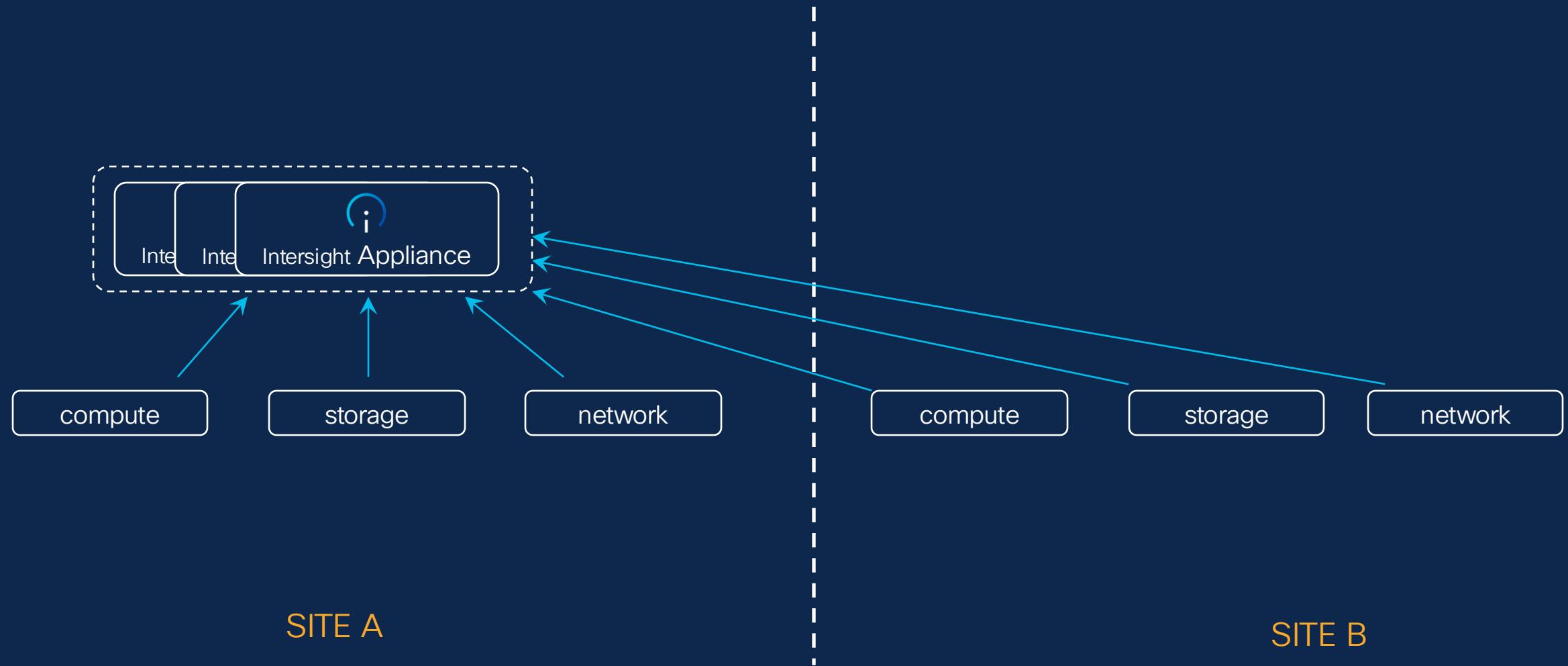
Architecture - Connected Virtual Appliance (CVA)



Architecture – Private Virtual Appliance (PVA)



Multi-Node – Single Site / Multi Site





Bezpieczeństwo

Key features in Cisco Intersight security architecture



Use of industry-standard
security protocols



Encryption of all data



Compliance with
stringent Cisco® InfoSec
security and data
handling standards

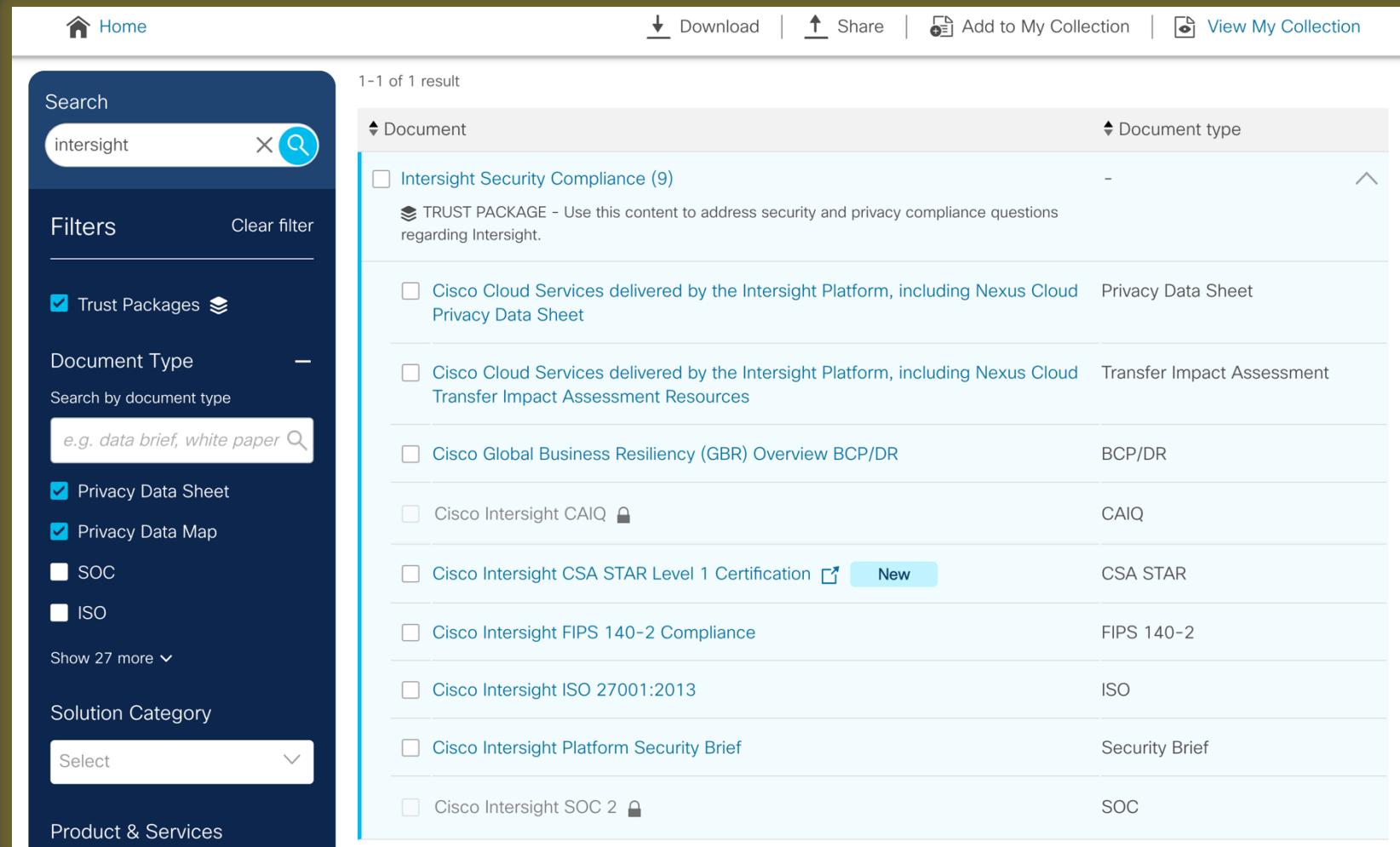
Intersight Certifications



Cisco Trust Portal

Intersight Security Compliance

TRUST PACKAGE - Use this content to address security and privacy compliance questions regarding Intersight



The screenshot shows the Cisco Trust Portal search results for the query "intersight". The search bar at the top contains "intersight". The left sidebar includes a "Search" bar with "intersight", a "Filters" section with "Trust Packages" checked, a "Document Type" section with "Privacy Data Sheet" and "Privacy Data Map" checked, and a "Solution Category" section with "Select". The main content area shows a single result: "1-1 of 1 result" for "Document". The result is titled "Intersight Security Compliance (9)" and is described as a "TRUST PACKAGE" for addressing security and privacy compliance questions regarding Intersight. It includes links to "Cisco Cloud Services delivered by the Intersight Platform, including Nexus Cloud Privacy Data Sheet", "Cisco Global Business Resiliency (GBR) Overview BCP/DR", "Cisco Intersight CAIQ", "Cisco Intersight CSA STAR Level 1 Certification", "Cisco Intersight FIPS 140-2 Compliance", "Cisco Intersight ISO 27001:2013", "Cisco Intersight Platform Security Brief", and "Cisco Intersight SOC 2". The right side of the result card shows "Document type" for each item.

Document	Document type
Intersight Security Compliance (9) TRUST PACKAGE - Use this content to address security and privacy compliance questions regarding Intersight.	
Cisco Cloud Services delivered by the Intersight Platform, including Nexus Cloud Privacy Data Sheet	Privacy Data Sheet
Cisco Global Business Resiliency (GBR) Overview BCP/DR	BCP/DR
Cisco Intersight CAIQ	CAIQ
Cisco Intersight CSA STAR Level 1 Certification	CSA STAR
Cisco Intersight FIPS 140-2 Compliance	FIPS 140-2
Cisco Intersight ISO 27001:2013	ISO
Cisco Intersight Platform Security Brief	Security Brief
Cisco Intersight SOC 2	SOC

Virtual Appliance: Minimum Data Collected by Intersight

From Intersight Virtual Appliance	<ul style="list-style-type: none">•The appliance ID (Serial Number)•The IP address of the appliance•The hostname of the appliance•The device connector version and public key on the appliance
Appliance Software Auto-Upgrade	Version of software components or the services running on the appliance
Appliance Health	<ul style="list-style-type: none">•CPU usage•Memory usage•Disk usage•Service statistics
Licensing	Server count
Information about the endpoint device	<ul style="list-style-type: none">•Serial number and PID (to support Connected TAC)•UCS Domain ID•Platform Type•TAC Tech Support Logs (when support cases are opened)

Note: Refer to Addendum 1 of the [privacy data sheet](#)

Additional Endpoint Data Collected by Intersight

(SaaS and Appliance if enabled)

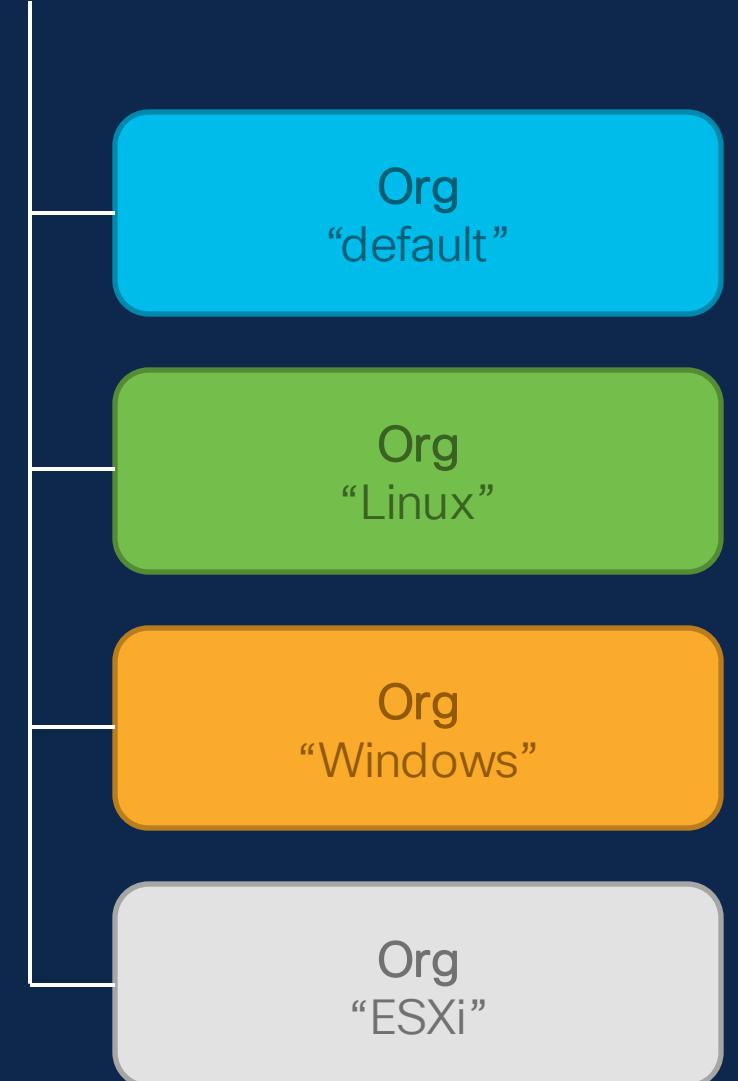
System Inventory	<ul style="list-style-type: none">• Part number• Serial Number• Description• Physical location (within enclosure) for interconnects, chassis, and all server components
System Configuration (how the user has setup the system)	<ul style="list-style-type: none">• Operational state for all system components (present, not present, power state)• MAC, WWN, and IP addresses for any network interfaces• Resource pool, policy, and logical configuration of the interconnect/chassis/servers• Service Profile states and assignments• Virtual Machine states and assignments• Firmware and driver versions<ul style="list-style-type: none">• Driver version information is limited to Cisco owned or maintained components• Management Network service configuration and status
System Statistics (how the system is currently being used)	<ul style="list-style-type: none">• Interconnect/chassis/server/VM utilization
System Events (notifications generated by the system including faults)	<ul style="list-style-type: none">• Hardware, Firmware, and Software faults• System Event Logs



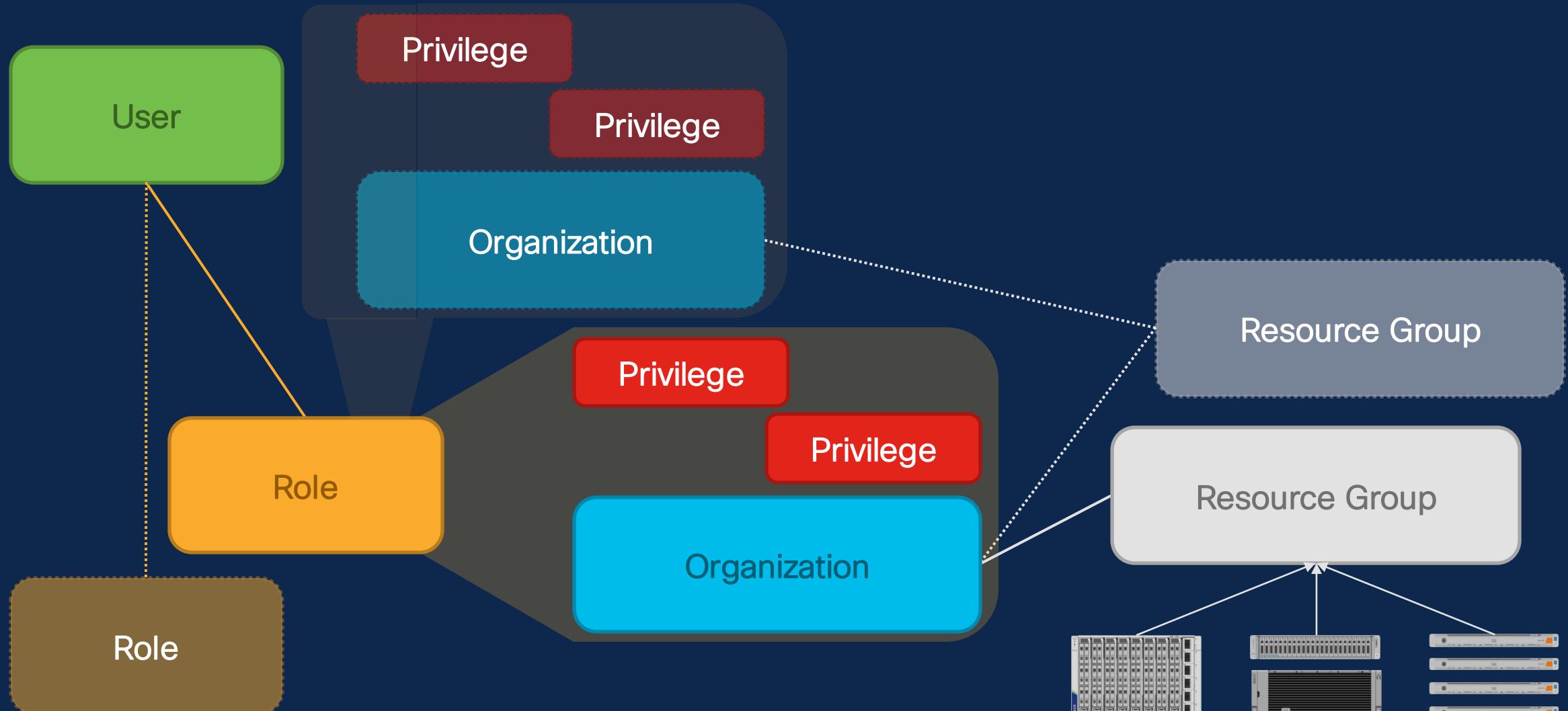
Kontrola zasobów

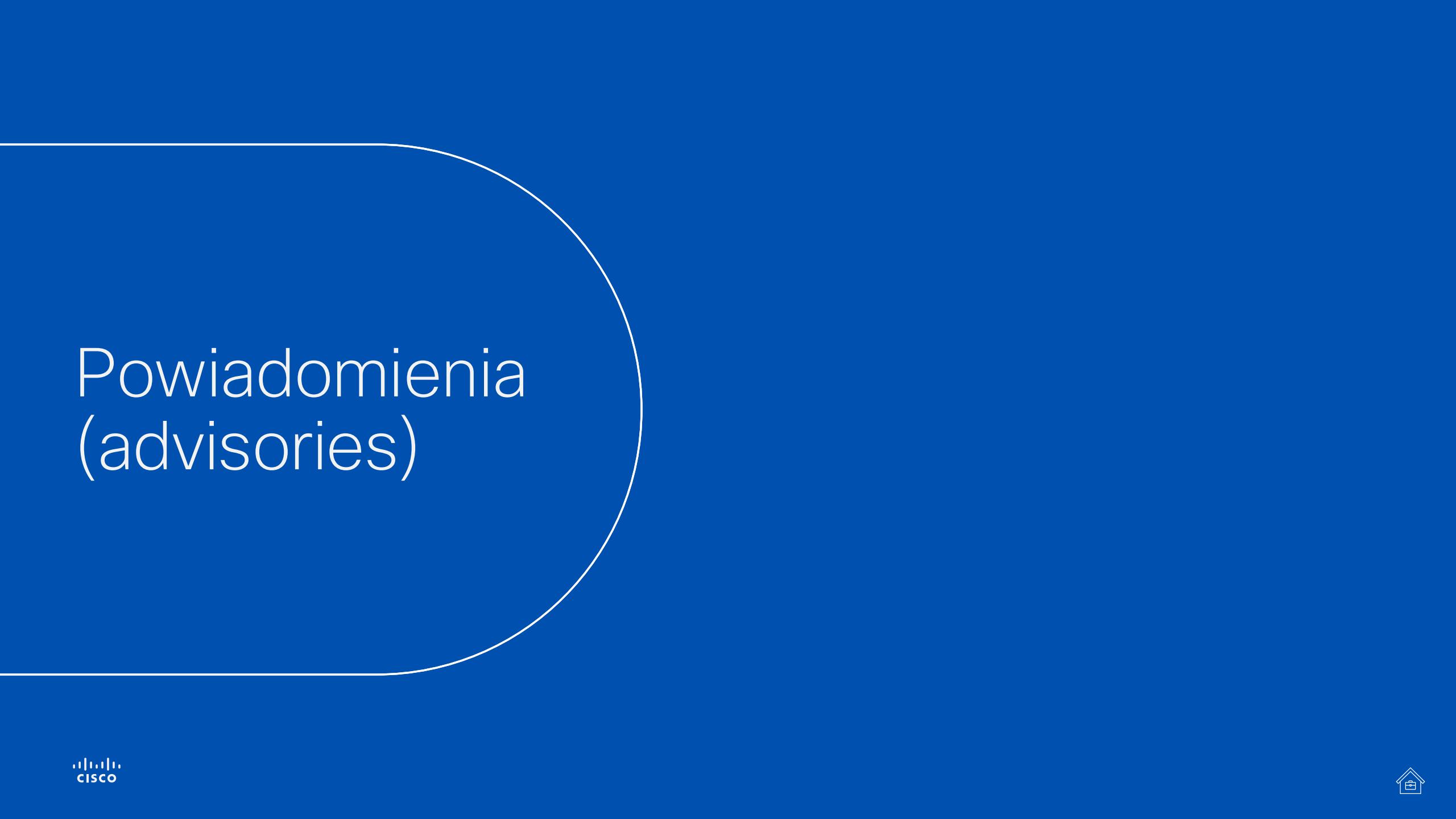
Organizations in Intersight

- Flat structure (no hierarchy like in UCSM/Central)
- Logical container to hold:
 - Logical resources (policies / pools / profiles / ...)
 - Physical resources (servers, storage, ...)
 - Grouped into Resource Groups
 - A physical resource can belong to multiple organizations
- Used to perform **Role-Based Access Control**
 - Users are assigned Roles (set of Privileges)
 - Roles are assigned a Scope ("all" or a list of organizations)



Role-Based Access Control with Intersight





Powiadomienia
(advisories)

Cisco PSIRT: Product Security Incident Response Team

Protection. Security. Transparency.

A dedicated, global team that receives, investigates, and publicly reports security vulnerability information that is related to Cisco products and networks.

Incident Handling Process



Security Advisories

- Prevents being blindsided by a known security issue
- Easily provide a list of affected devices to SecOps for remediation tracking and auditing
- Provides workarounds and a curated list of assets custom to the environment
- Prevents noise by only showing advisories relevant to the environment



Compliance

Hardware Compatibility Lists (HCL)

- Display hardware compliance status for your Cisco UCS and Hyperflex systems
- No manual and error prone HW compatibility checks
- Avoid running into known issues, security threats and minimize downtime
- Keep the system running the latest supported version
- Get compliance checks with driver recommendations

End of Life Advisories

- Alerts users about EOL and EOS support dates for Cisco Hyperflex Data Platform software releases
- Display only the EOL advisories in the current organization for the logged-in user
- Advisories for affected devices in Intersight are created/deleted every 6 hours
- Advisories for CVA are updated during regularly scheduled appliance upgrade
- Advisories for PVA are updated only when the version of the appliance is upgraded

[End of Life Advisories List](#)

Field Notices

- Alerts users about endpoint devices that are impacted by supported filed notices
- Allows datacenter administrators to stay ahead of potential hardware issues

Supported Cisco Field notices

Cisco Field Notices	Field Notice IDs
SSD Timeouts Might Cause IO Operations to Halt and Lead to Premature Failure of the Drive - BIOS/Firmware Upgrade Recommended	FN72225
Some DIMMS may fail prematurely due to wear - Hardware Upgrade Available	FN72368
64GB 2666MHz RDIMM Wear Out Failures - Hardware Upgrade Available	FN72074
UCS Mini Fabric Interconnect (UCS-FI-M-6324) Might Stop Working After 3.2 Years of Operation - BIOS/Firmware Upgrade Recommended	FN72028
UCS S3260 M5 Server Power-On Failure - Hardware Upgrade Available	FN72072
SSD Will Fail at 40,000 Power-On Hours	FN70545
UCS Servers Might Fail to Boot if Memory Errors Occur During Boot - Software Upgrade Recommended	FN70595
Upgrade to 4.2(2a) will fail for B-Series M5 Servers and makes the servers unrecoverable.	FN72479
ADDC VLS Does Not Trigger When Expected - BIOS/Firmware Upgrade Recommended	FN72272
Improved Memory RAS Features for UCS M5 Platforms - Software Upgrade Recommended	FN70432
M5 Server BIOS POST Hang With 2x Memory Refresh Rate - BIOS/Firmware Upgrade Recommended	FN72301



Audytowanie i
powiadamianie

Audit Logs

- Single source of truth for what has been created, updated or deleted
- Good data source for compliance and audit requirements
- Available only to account admins

The screenshot illustrates the Cisco Intersight platform interface for managing audit logs. The top navigation bar includes the Cisco logo, the Intersight brand name, and a 'System' dropdown menu. The main menu on the left lists 'Settings', 'Admin' (with sub-options 'Targets', 'Software Repository', 'Tech Support Bundles', and 'Audit Logs' highlighted with a yellow box), 'Sessions', and 'Licensing'. A 'Command Palette' is open in a sidebar, providing keyboard navigation instructions. The central area displays a list of audit logs with a header for 'All Audit Logs' and a date/time filter set to 'Mar 2, 2023'. The list shows numerous audit entries, each with a timestamp. A detailed 'View Event' modal is open, showing a hierarchical breakdown of the audit log data. The modal header is 'View Event' with a close button. It lists various parameters: 'AdditionalParameters: null', 'Answers: { 7 }' (Hostname, IpConfigType: DHCP, IpConfiguration: { 1 } with ObjectType: os.ipv4Configuration, IsRootPasswordEncrypted: false, ProductKey, RootPassword: ****, Source: Template), 'ConfigurationFile: { 2 }' (Moid, ObjectType: os.ConfigurationFile), 'Description: ""', 'Image: { 2 }' (Moid, ObjectType: softwarerepository.OperatingSystemFile), and 'InstallMethod: vMedia'. The bottom right of the modal contains a 'Close' button. The background shows a blurred list of audit logs with columns for 'Client Address' and 'Session ID'.

AdditionalParameters: null

Answers: { 7 }

- Hostname: [REDACTED]
- IpConfigType: DHCP
- IpConfiguration: { 1 }
 - ObjectType: os.ipv4Configuration
- IsRootPasswordEncrypted: false
- ProductKey: [REDACTED]
- RootPassword: ****
- Source: Template

ConfigurationFile: { 2 }

- Moid: [REDACTED]
- ObjectType: os.ConfigurationFile

Description: ""

Image: { 2 }

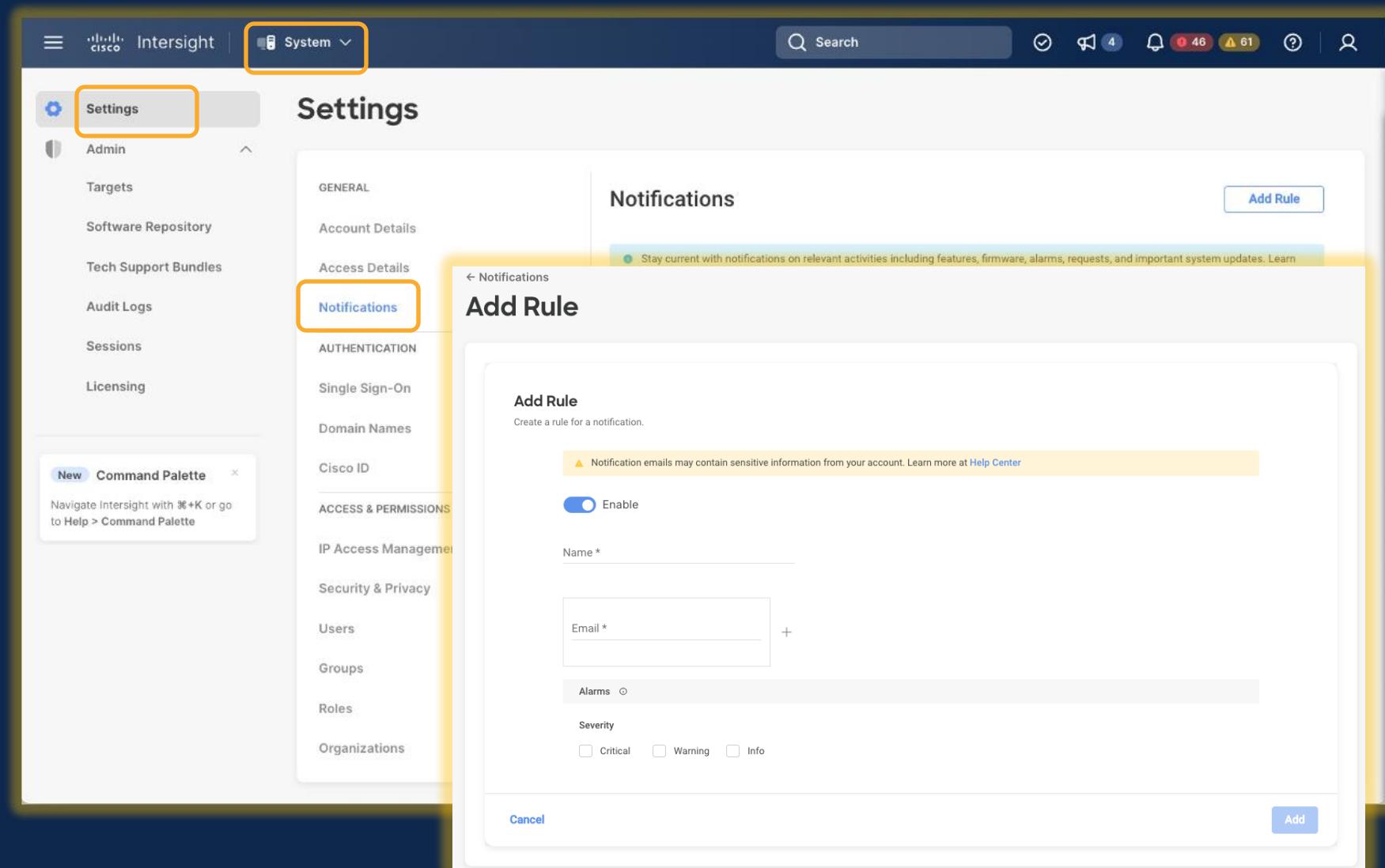
- Moid: [REDACTED]
- ObjectType: softwarerepository.OperatingSystemFile

InstallMethod: vMedia

Close

Email Notifications

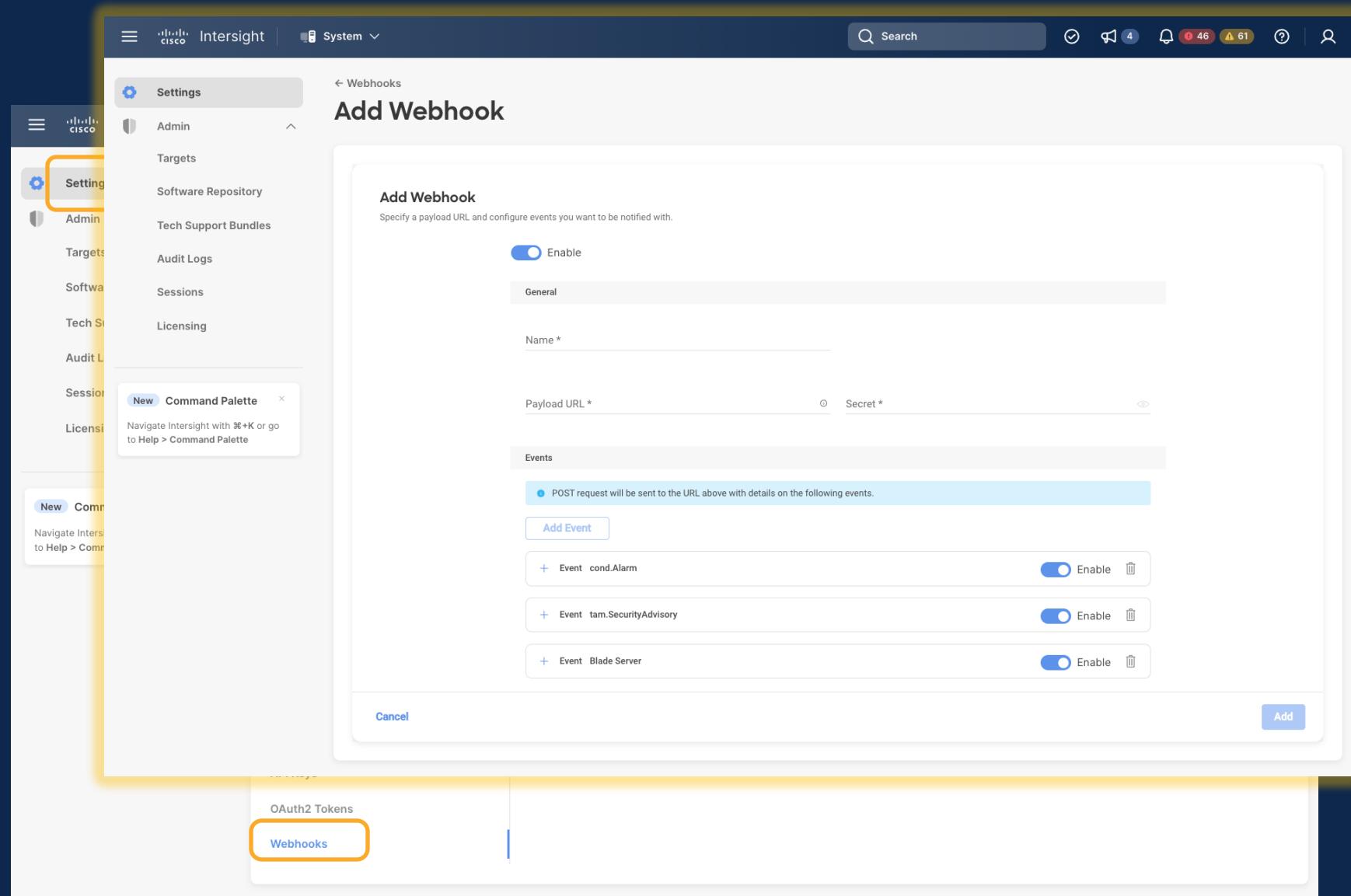
- Configuring email notifications to generate alarms when system events occur
- Events are collected in a sliding time window of 10 seconds
- An email address can be associated up to 100 alarms
- Limitations
 - Three emails per rule
 - Five rules per account



The screenshot shows the Cisco Intersight web interface. At the top, there is a navigation bar with the Cisco logo, the text 'Intersight', a 'System' dropdown menu, a search bar, and various status indicators. Below the navigation bar is a left sidebar with a 'Settings' icon highlighted with an orange box. The sidebar lists several categories: Admin, Targets, Software Repository, Tech Support Bundles, Audit Logs, Sessions, and Licensing. A 'Command Palette' is also visible in this sidebar. The main content area is titled 'Settings' and contains sections for GENERAL, ACCOUNT DETAILS, ACCESS DETAILS, AUTHENTICATION, SINGLE SIGN-ON, DOMAIN NAMES, CISCO ID, ACCESS & PERMISSIONS, IP ACCESS MANAGEMENT, SECURITY & PRIVACY, USERS, GROUPS, ROLES, and ORGANIZATIONS. The 'Notifications' section is highlighted with an orange box. A modal dialog box titled 'Add Rule' is open in the center. The dialog has a yellow header bar with the text 'Stay current with notifications on relevant activities including features, firmware, alarms, requests, and important system updates. Learn more'. It contains fields for 'Name *' (with a placeholder 'Email *' and a plus sign icon), 'Email *' (with a placeholder 'Email *' and a plus sign icon), 'Alarms' (with a radio button for 'Severity' and options for Critical, Warning, and Info), and a 'Cancel' button at the bottom. The 'Add' button is located in the top right corner of the dialog.

Webhooks

- Webhooks are notifications that set up integration between software in your local environment and Intersight
- When an event is triggered, Intersight sends an HTTP post request with a payload containing event content to the webhook destination
- For restrictive firewall or proxy server settings, add IP address 34.198.174.38 or domain name outbound.intersight.com



Optymalizacja wsparcia

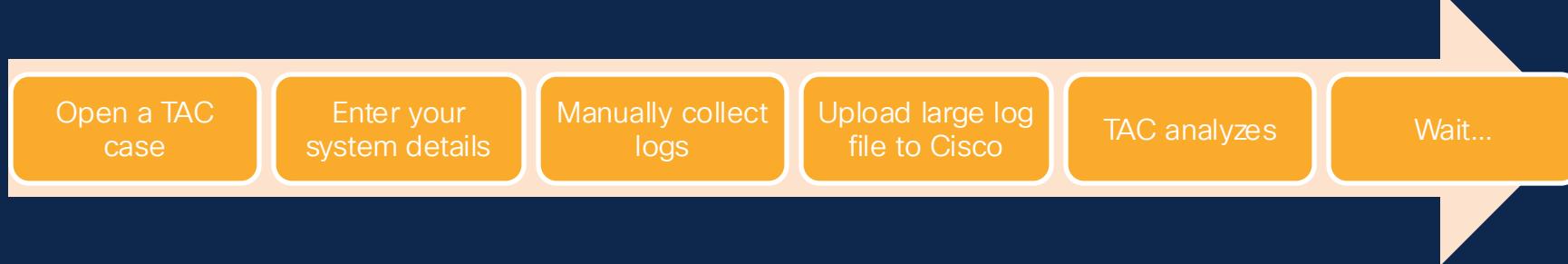
Cisco Intersight: enhanced support

Connected TAC

Automated transmission of technical support files to the Cisco Technical Assistance Center (TAC) for accelerated troubleshooting including proactive alerting and remediation



Issue Resolution: TAC Support



Intersight (2 ways to handle issues)



* Saves customers > 45 mins per case

Cisco Intersight + TAC real-world example



Case opened:
XXXXXX244



Diagnostic data
automatically collected



Diagnostic results
automatically gathered



Firmware upgrade
identified to resolve known
issue

2018-12-DD 01:25



+12 Minutes



+16 Minutes

Total: 28 minutes
to diagnose issue

Cisco Intersight: Proactive RMA



Issue detected on device that can be resolved by [RMA](#)

Service Request and RMA automatically generated

E-mail from cisco-proactive-rma@cisco.com with instructions for user

< 1-hr to receive an email, resolving RMAs 2 days faster

Intersight Portal Status

<https://status.intersight.com>

Overall status of portal services,
e.g.

- Intersight Cloud Orchestrator
- Intersight Infrastructure Services
- Intersight Workload Optimizer



Automatyzacja

API/SDKs

Cisco Intersight API



Easily integrate existing tools into Intersight
Get the best of Intersight and your current tools
Maximize your investments

SDKs



Pre-packaged API clients
Easy way to start programming against Intersight
Full access to the API

Current SDKs



Ansible



python

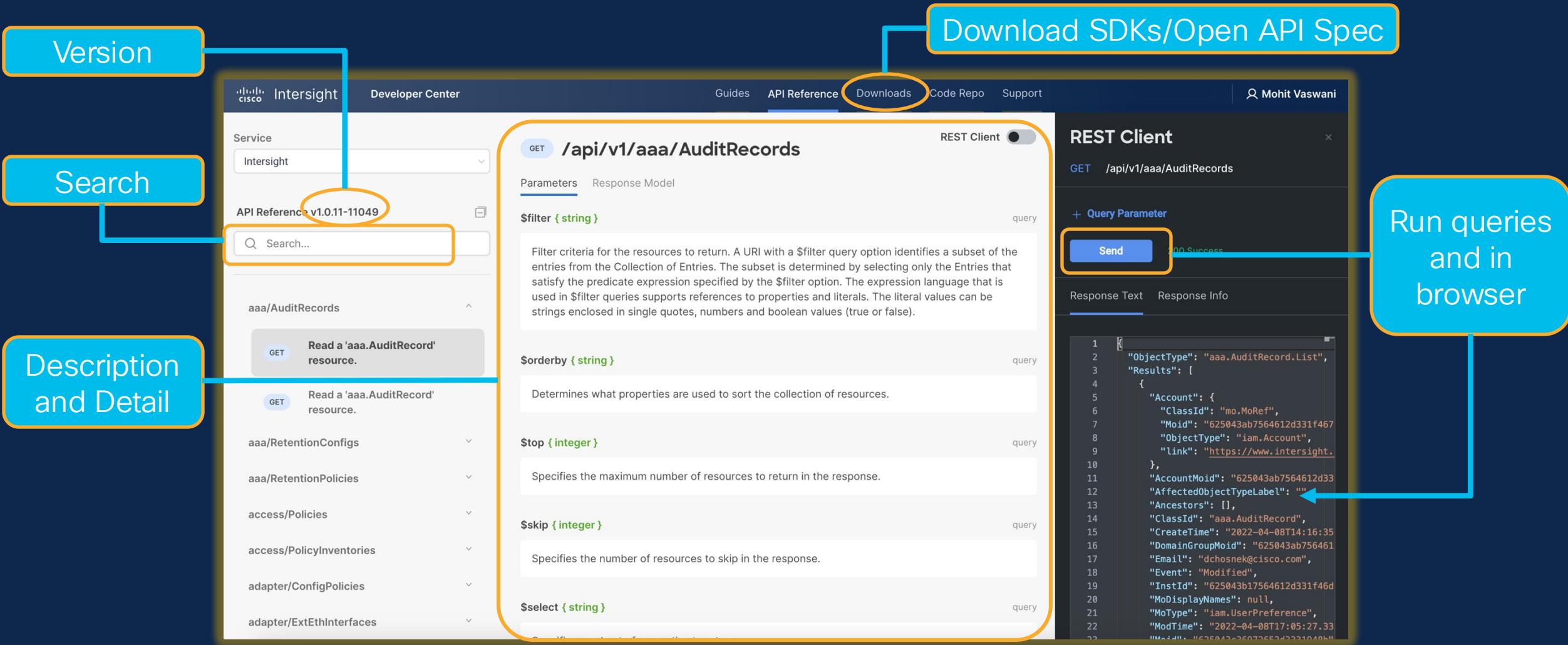


HashiCorp
Terraform



PowerShell

Cisco Intersight Model Browser & Swagger Spec



Download SDKs and Open API Specification

 Intersight | Developer Center | Guides | API Reference | **Downloads** | Code Repo | Support | 🔍 Mohit Vaswani

Downloads

Intersight provides a downloadable Software Development Kit (SDK) for the Python programming language. You can generate SDKs for other programming languages using the open-source OpenAPI tools. The tables below provide you the links to download the SDKs and other Resources.

SDKs/Plugins

Name	Description	Source	Examples
Intersight Python SDK	Python Software Development Kit based on OpenAPI schema version 3	Pypi	DevNet Python on GitHub
Intersight Ansible Modules (Python)	Ansible Modules for configuration management of Cisco Intersight	Galaxy	DevNet Playbooks on GitHub
Terraform Provider for Intersight	This provider facilitates the use of Terraform for managing infrastructure as code in Intersight	Terraform	Terraform Registry Modules
Intersight Powershell Module	Intersight Powershell Cmdlets based on OpenAPI schema version 3	PSGallery	DevNet PowerShell on GitHub
Intersight ITSM plugin for ServiceNow	This plugin facilitates the use of ServiceNow for all its ITSM requirements for Intersight	ServiceNow	—

Intersight OpenAPI Documents

Resources	OpenAPI Schema Version	Download
Intersight API JSON	Intersight OpenAPI document in JSON format	Download

API Query Language

- Powerful Query Language
 - Filter, select, and many other operations to avoid post processing data

Guides API Reference Downloads Support David Soper

REST Client

GET Read a 'compute.PhysicalSummary' resource.

Parameters Response Model

\$filter { string } query

Filter criteria for documents to return. A URI with a \$filter System Query Option identifies a subset of the Entries from the Collection of Entries identified by the Resource Path section of the URI. The subset is determined by selecting only the Entries that satisfy the predicate expression specified by the query option. The expression language that is used in \$filter operators supports references to properties and literals. The literal values can be strings enclosed in single quotes, numbers and boolean values (true or false) or any of the additional literal representations shown in the Abstract Type System section. Query examples: \$filter=Name eq 'Bob' \$filter=Tags/any(t: t/Key eq 'Site') \$filter=Tags/any(t: t/Key eq 'Site' and t/Value eq 'London')

\$select { string } query

Specifies a subset of properties to return.

\$orderby { string } query

Determines what values are used to order a collection of documents.

REST Client

GET /api/v1/compute/PhysicalSummaries

+ Query Parameter

Key	Value
\$filter	PlatformType eq 'IMC'
\$select	Model

Send 200 Success

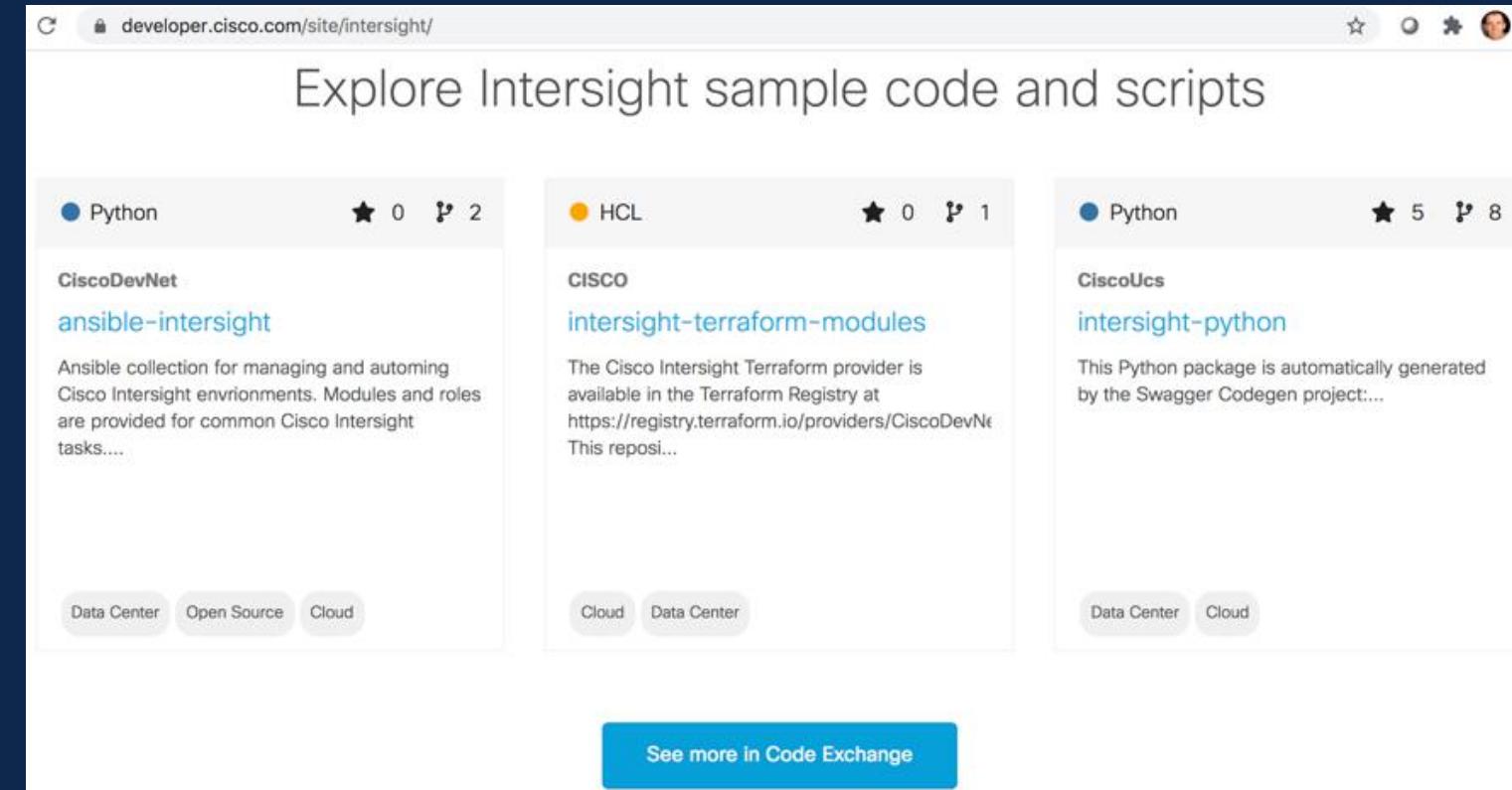
Response Text Response Info

```
1 { "Results": [
2 {
3   "Model": "HXAFC220C-M5SX",
4   "Moid": "5ad4b2ec393130316d129e4",
5   "ObjectType": "compute.PhysicalS
6 },
7 ],
8 }
```

Intersight Programmability and SDKs

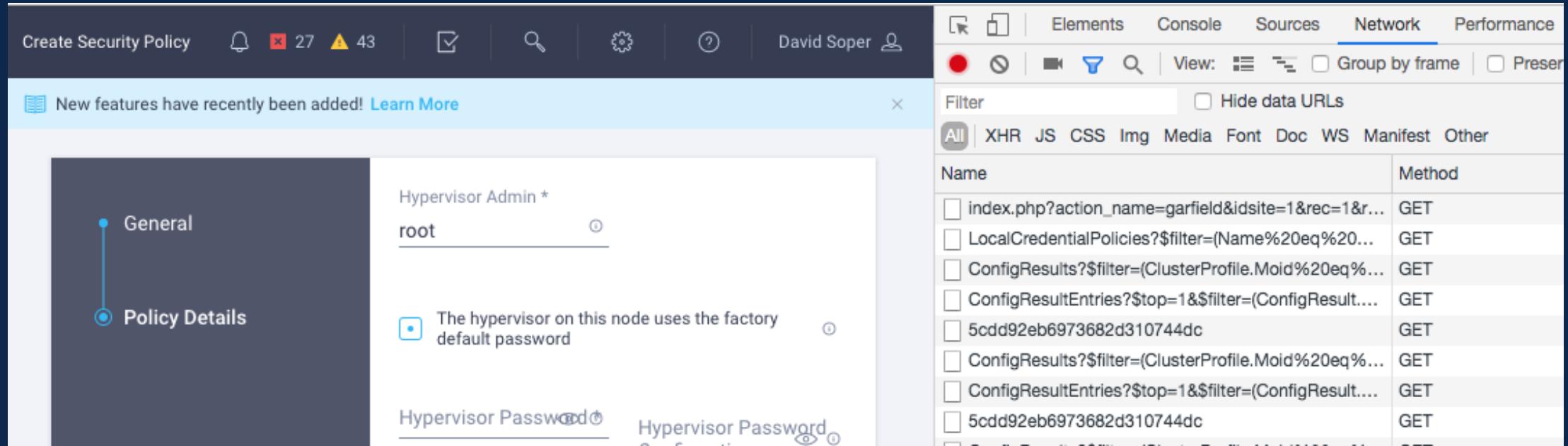
<https://developer.cisco.com/site/intersight/>

- Learning Labs
- Sandbox (DevNet provided development environment)
- Links to SDKs on GitHub
 - Install instructions
 - Example Usage
 - (query, claim devices, etc.)



API Browser and Documentation

- Your browser developer console shows how the UI uses the API



The screenshot shows a browser developer console (Network tab) and a configuration page side-by-side. The configuration page is titled 'Create Security Policy' and shows a 'Policy Details' section with fields for 'Hypervisor Admin' (set to 'root') and a checked checkbox 'The hypervisor on this node uses the factory default password'. The developer console's Network tab lists several API requests, all of which are GET requests to URLs starting with 'index.php' or 'ConfigResults'.

Name	Method
index.php?action_name=garfield&idsite=1&rec=1&r...	GET
LocalCredentialPolicies?\$filter=(Name%20eq%20...	GET
ConfigResults?\$filter=(ClusterProfile.Moid%20eq%...	GET
ConfigResultEntries?\$top=1&\$filter=(ConfigResult....	GET
5cdd92eb6973682d310744dc	GET
ConfigResults?\$filter=(ClusterProfile.Moid%20eq%...	GET
ConfigResultEntries?\$top=1&\$filter=(ConfigResult....	GET
5cdd92eb6973682d310744dc	GET

- View current configuration at <https://intersight.com/mobrowser/>
- Built in REST client: <https://intersight.com/apidocs/>

Monitoring API

- Intersight Monitoring leverages Open Telemetry (OLTP) best practices to structure the stored information
- Metrics are a measurement for a specific entry. Intersight endpoints capture metric events by collecting datapoints locally
- The endpoint will aggregate this data in regular intervals
- Instruments are groupings of related metrics e.g. Fan Speed is a metric of a Fan instrument
- Endpoint - `/api/vi/telemetry/TimeSeries`

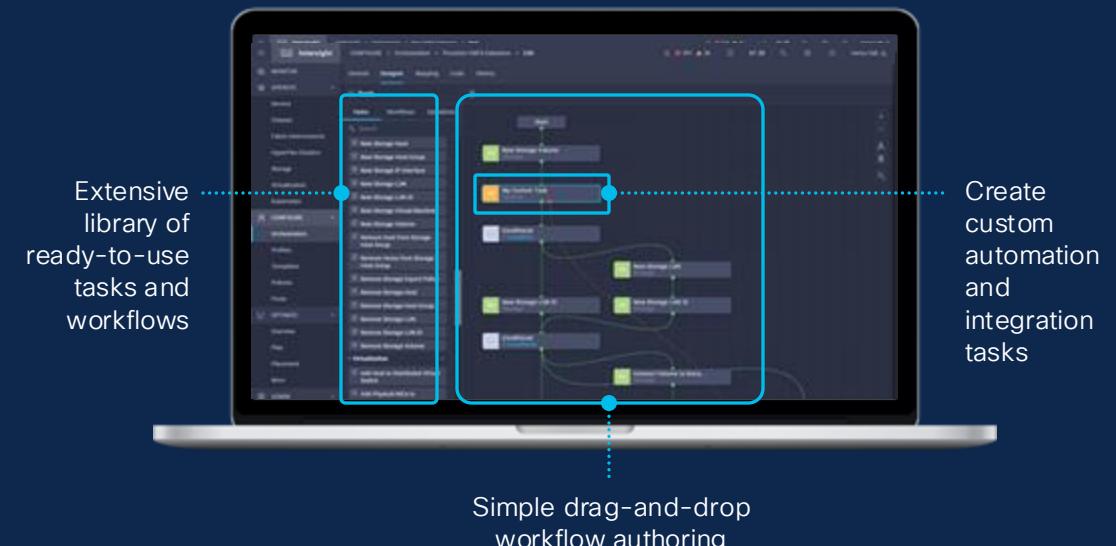
Automate

Create automated workflows to...

- Accelerate delivery of apps and infrastructure
- Reduce risk with standardization
- Simplify cross-domain orchestration

Two options

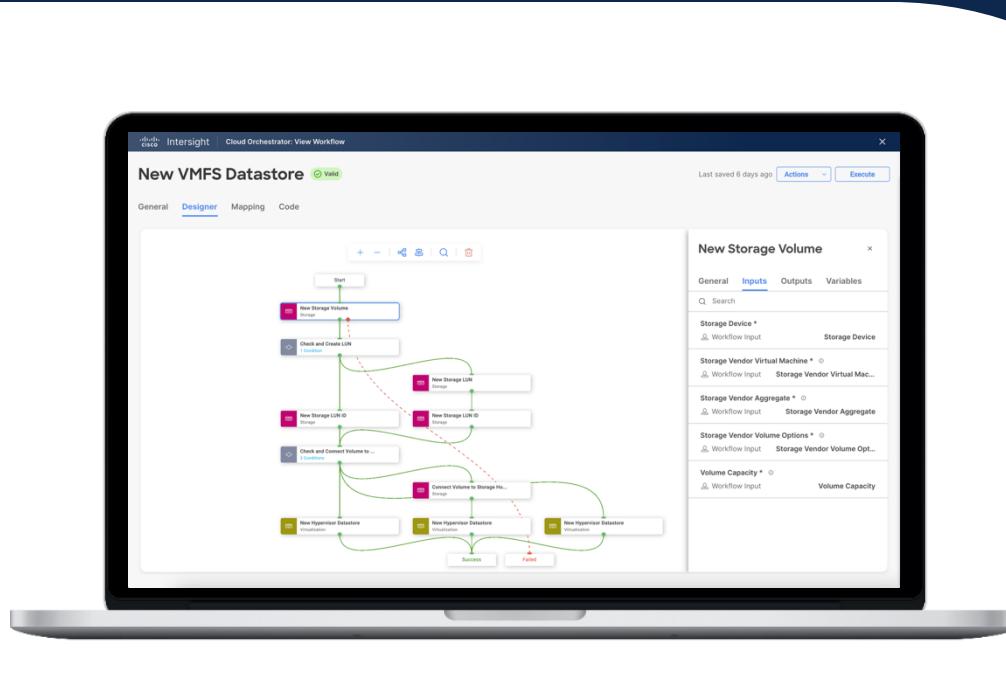
- Workflow designer
Drag-and-drop workflow authoring
- APIs/SDKs
For using your existing automation tools (Ansible, Terraform, etc)



“With consistent and repeatable workflows offered by Cisco Intersight, IT teams can save time and decrease operational costs.”

Intersight Orchestration

Simplify your orchestration and automation across hybrid cloud



Automate anything, anywhere

Orchestrate infrastructure and workloads, across on-prem and public clouds

Drag-and-drop workflow designer

Create and execute complex workflows with a GUI-based designer

Boost IT operations

Benefit from a library of curated tasks and workflows

Accelerate delivery of apps and infrastructure

Reduce risk with standardization

Simplify cross-domain orchestration

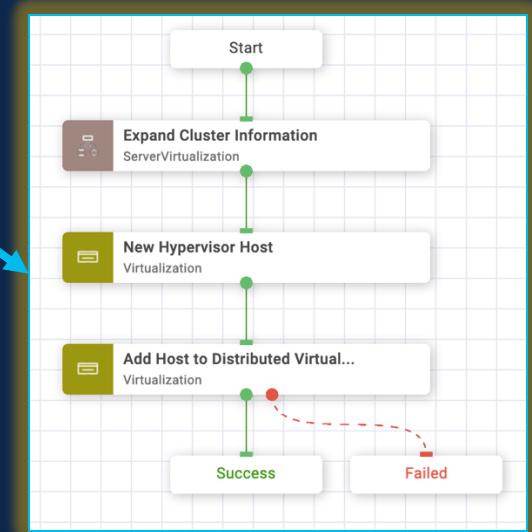
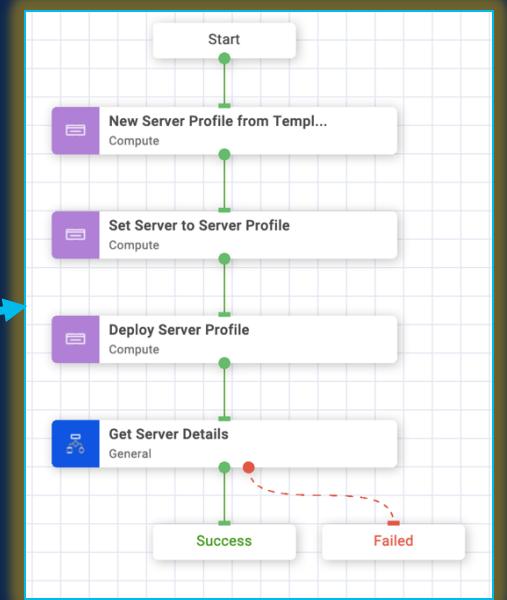
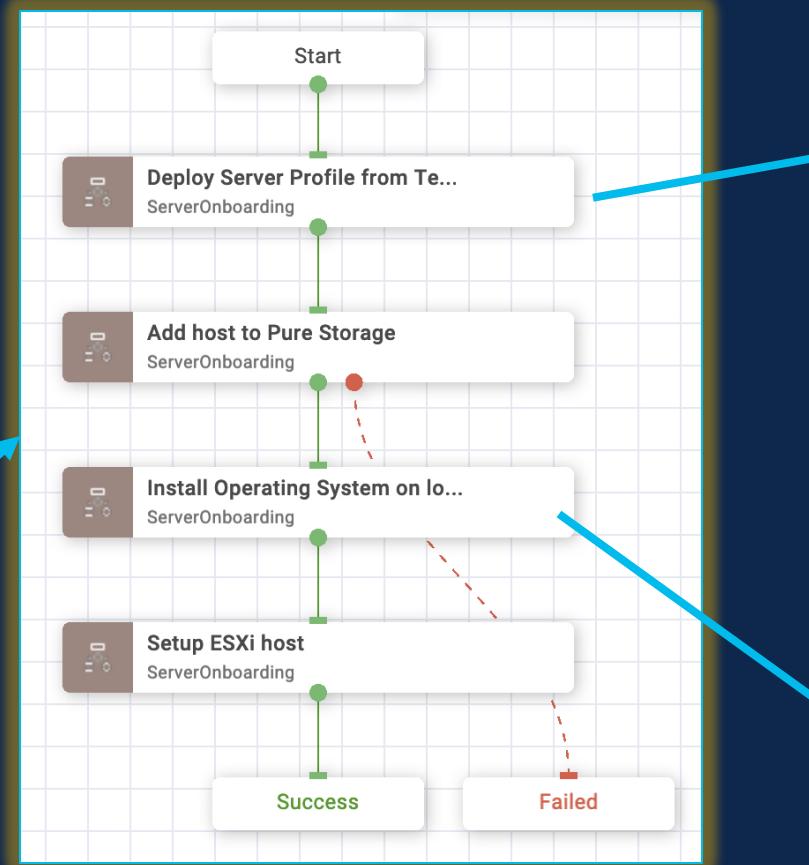
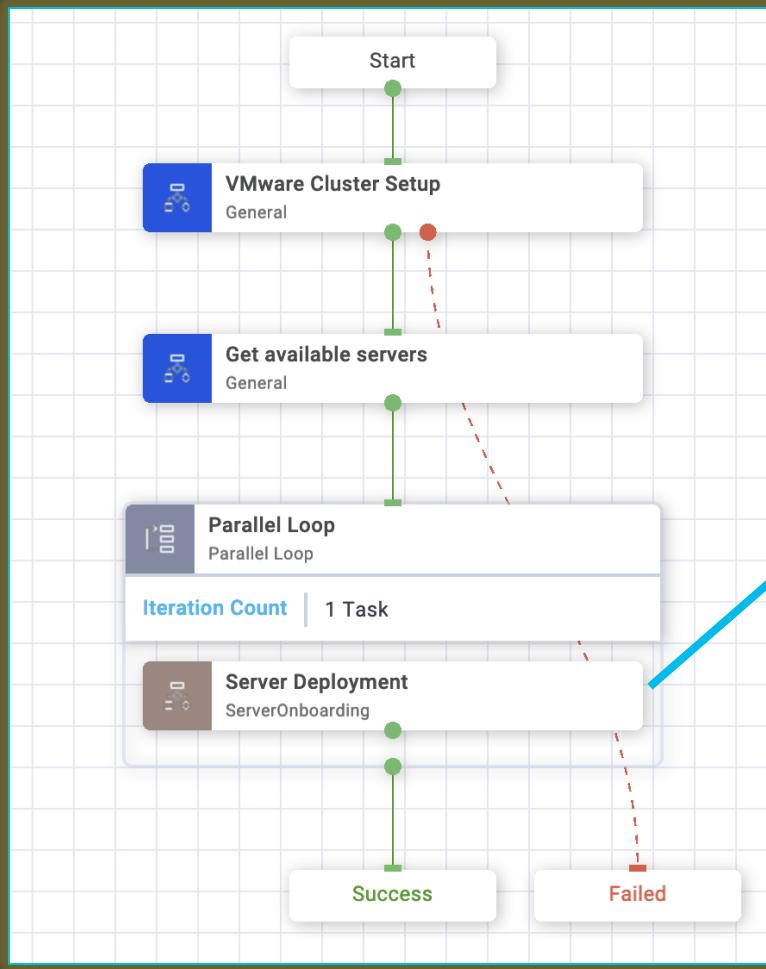
Compose your automation



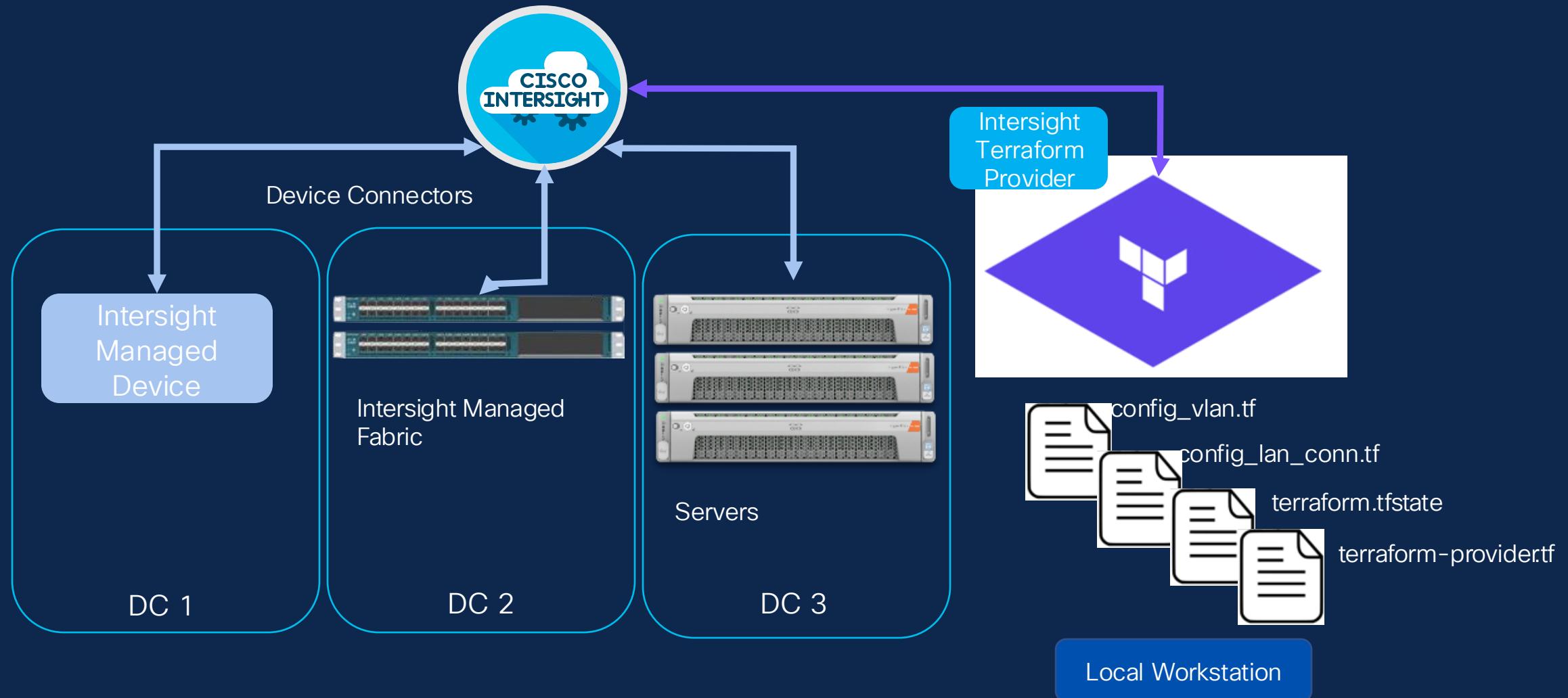
Song: Cross-Domain Orchestration
Artist: UI-driven Designer



Advanced Server Onboarding



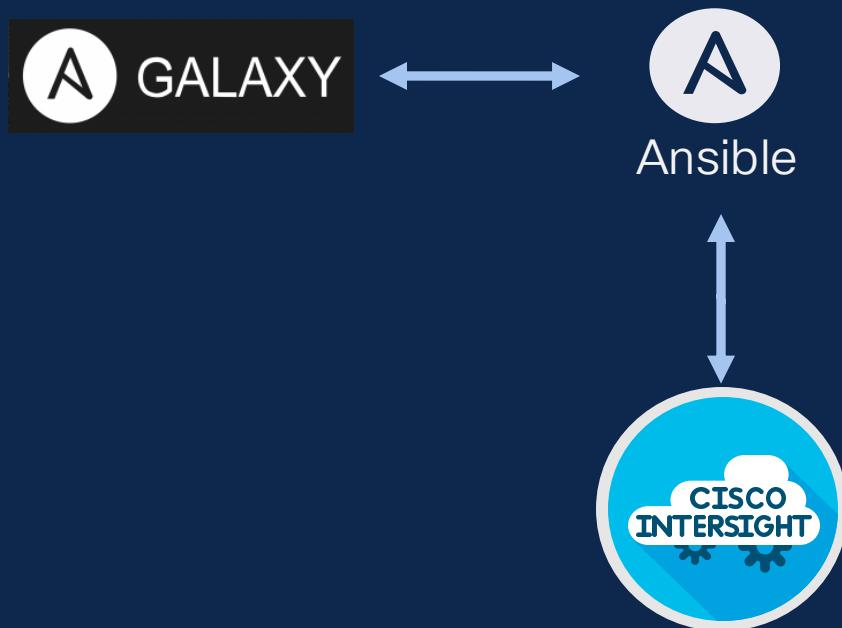
Intersight Terraform Provider



Intersight Ansible Modules

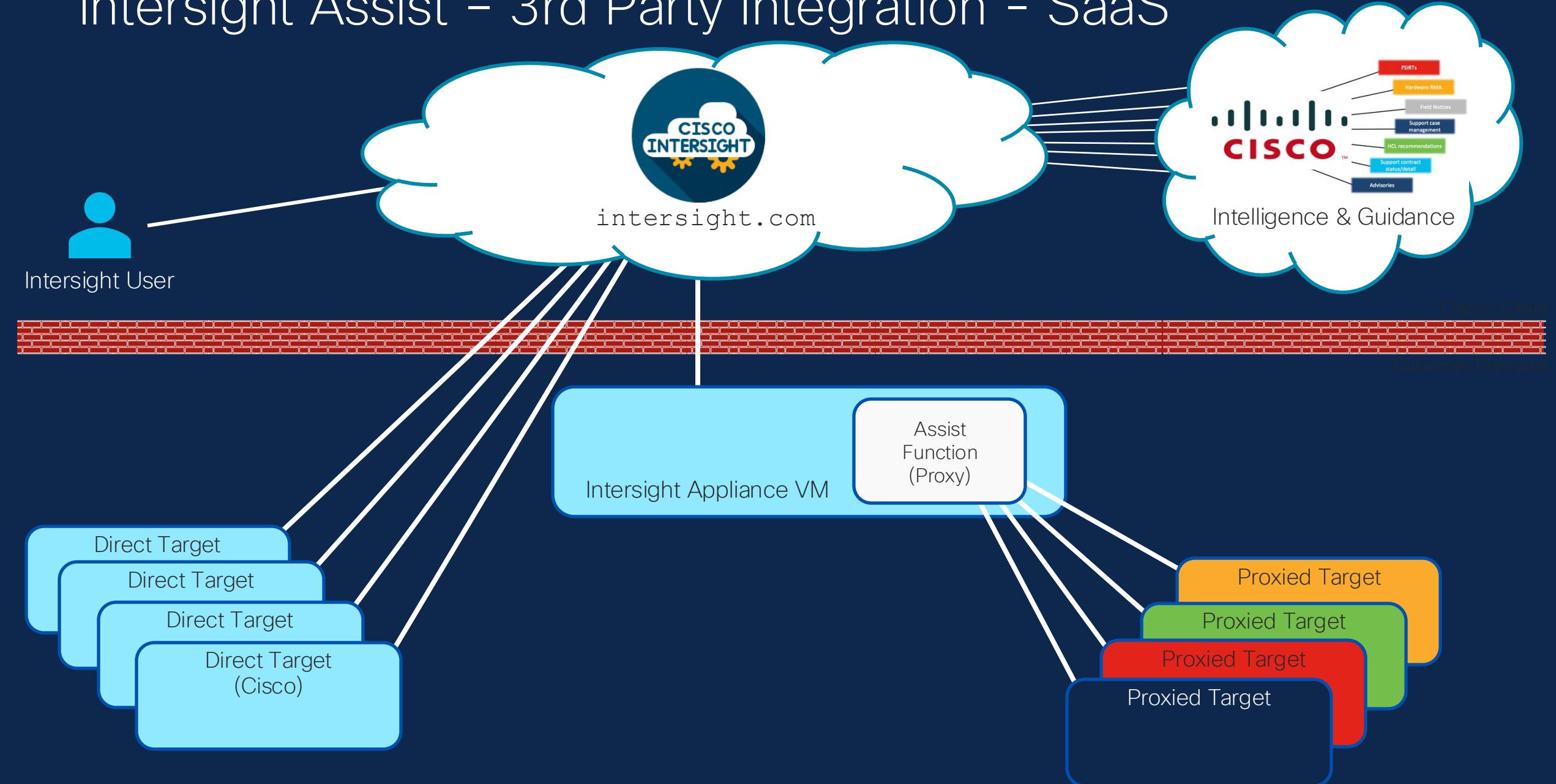
- Cisco Intersight Collection - Modules in Ansible Galaxy
 - Details at <https://galaxy.ansible.com/cisco/intersight>
 - install/update without requiring updates in Ansible core

```
ansible-galaxy collection install cisco.intersight
```

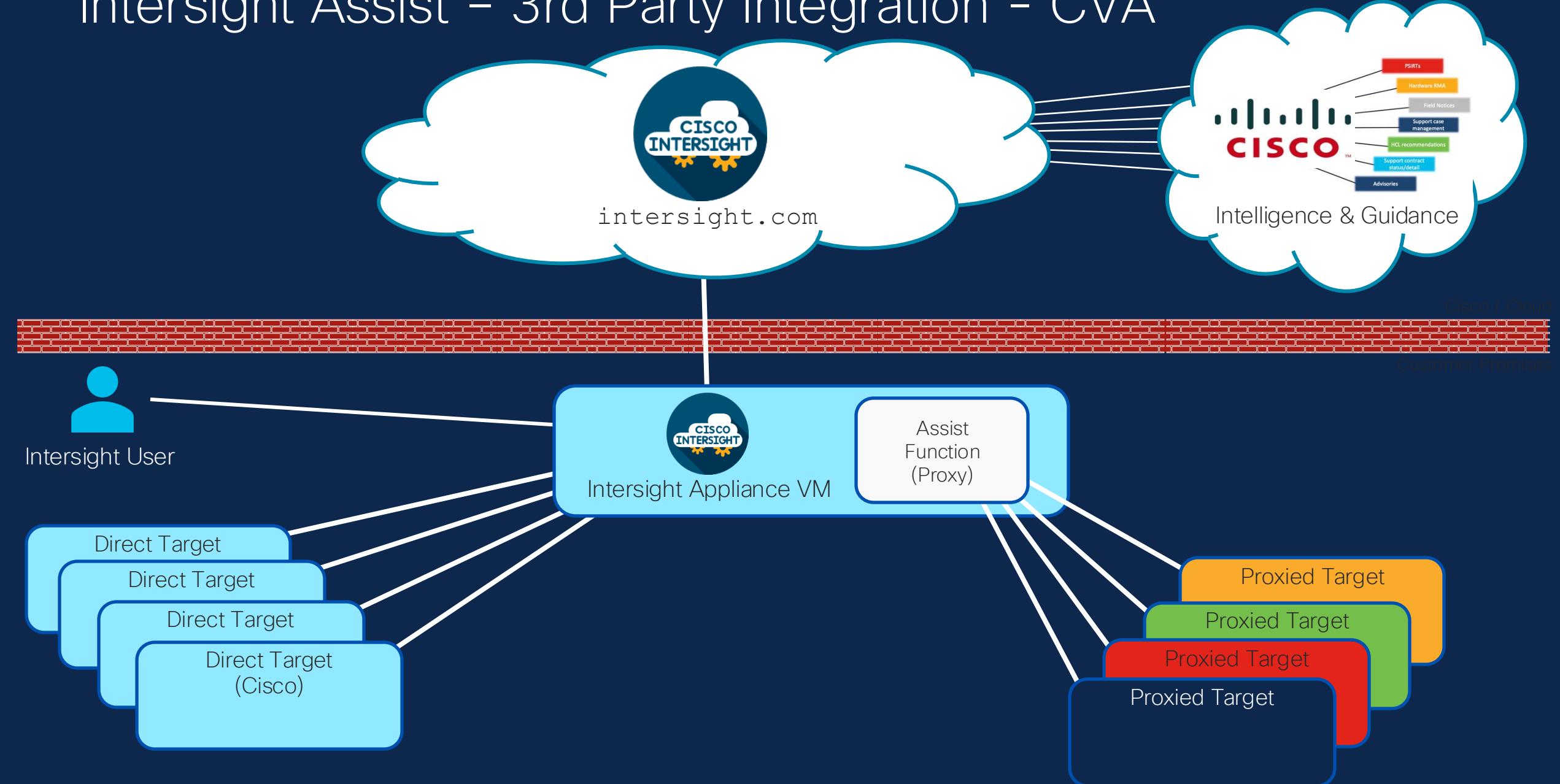


Integracja Third-Party

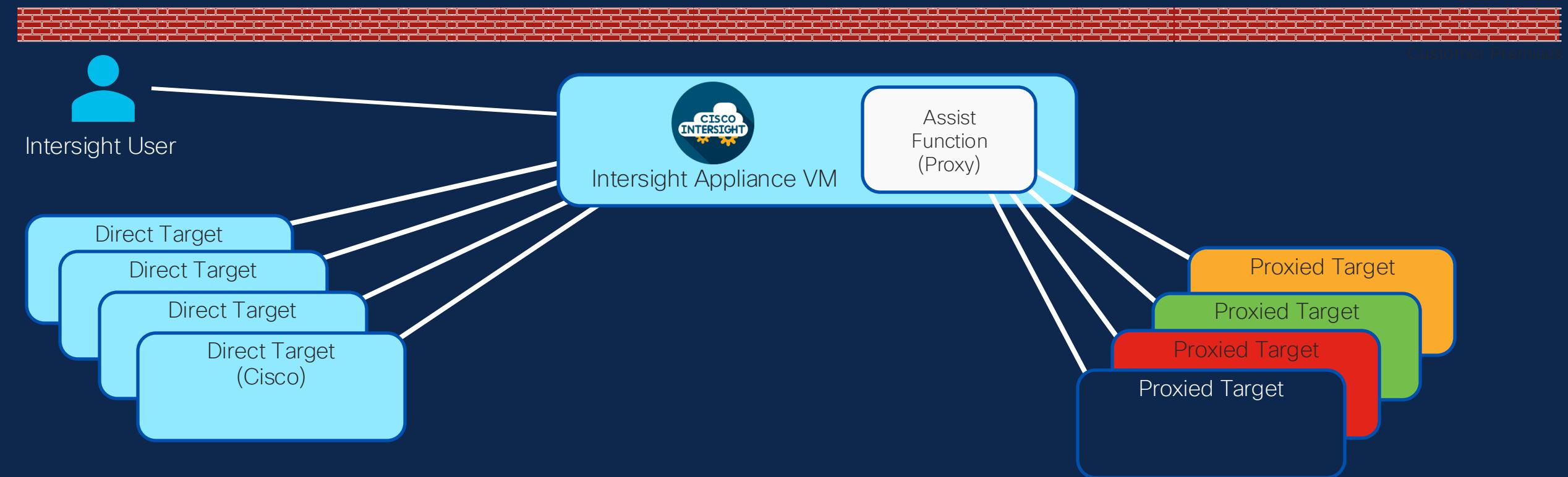
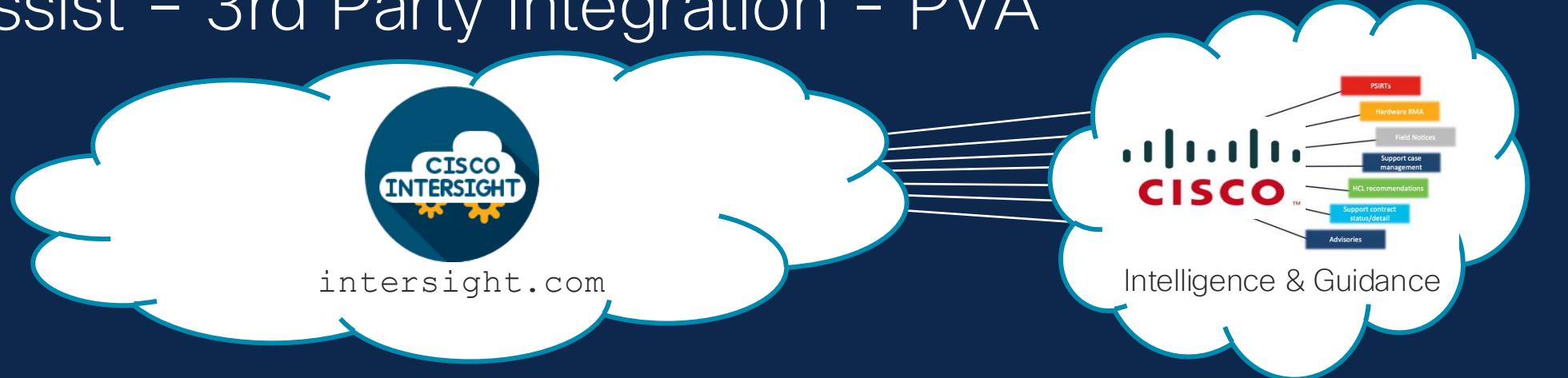
Intersight Assist - 3rd Party Integration - SaaS



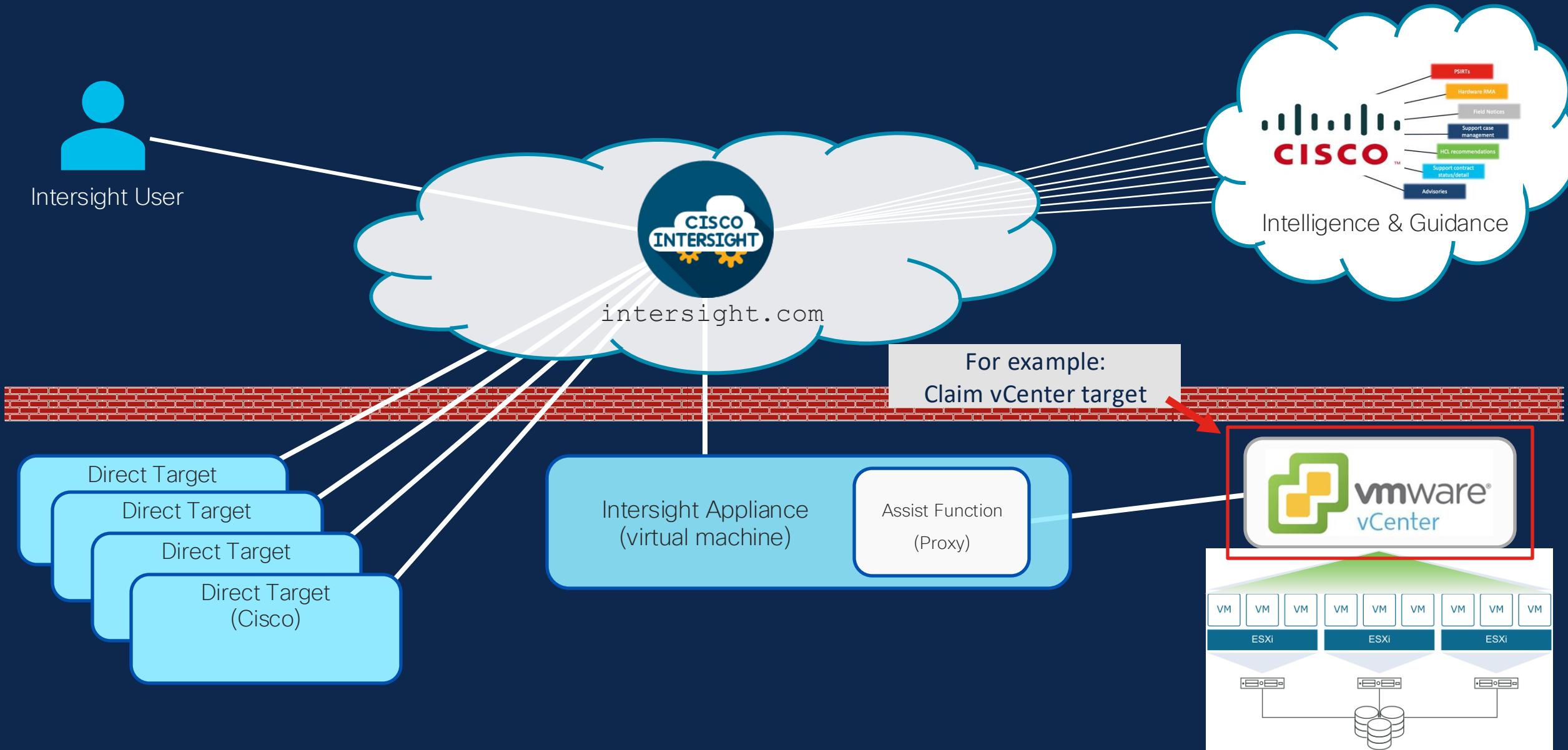
Intersight Assist - 3rd Party Integration - CVA



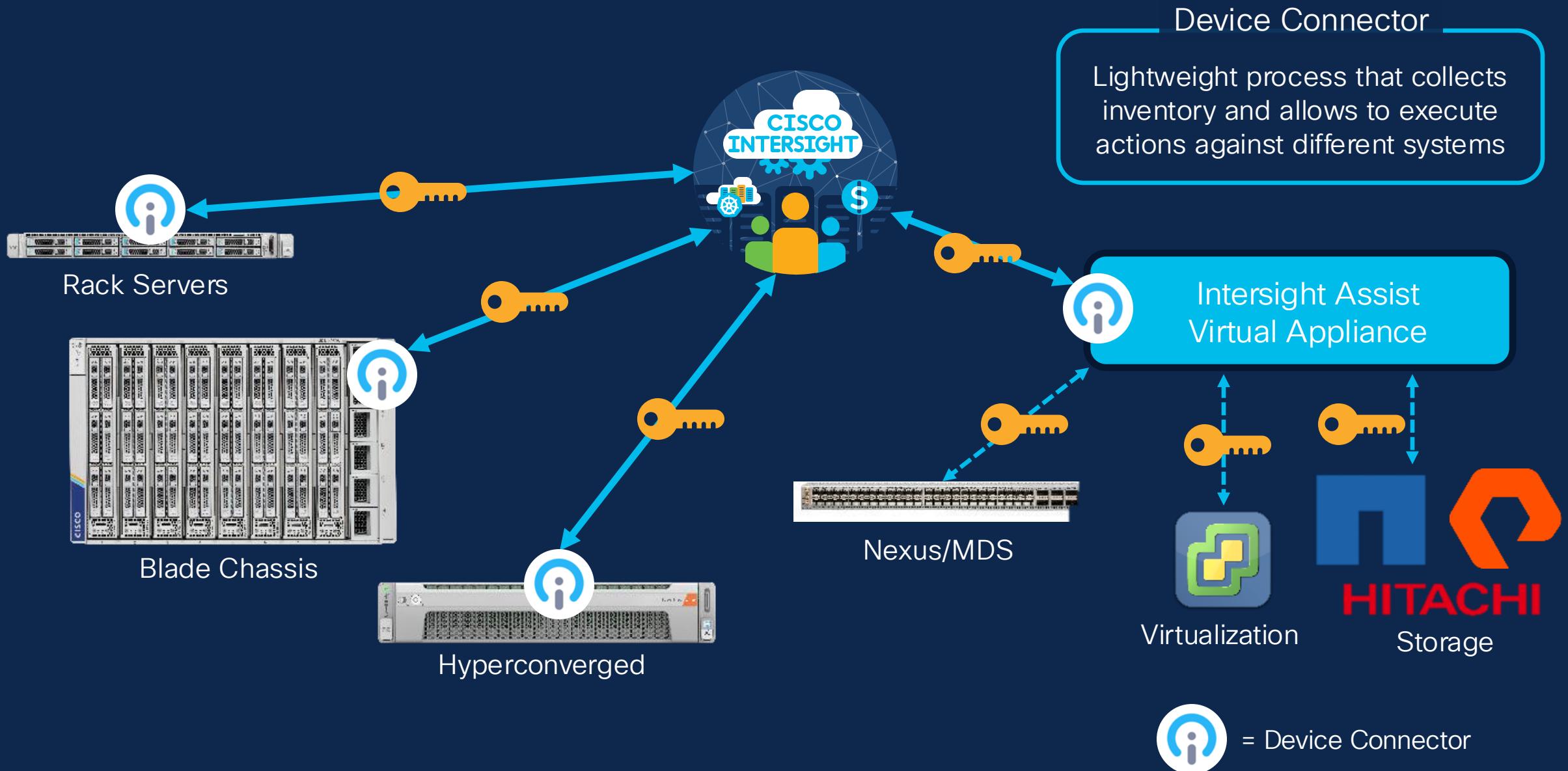
Intersight Assist - 3rd Party Integration - PVA



3rd Party Integration – vCenter, NetApp, Pure, Hitachi



Intersight Device Connector





Wsparcie dla
innych serwerów

Non-Cisco Server Platforms Support

Redfish server target



HPE ProLiant

Rack only

Inventory / Power /
Reboot

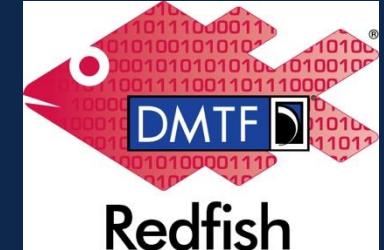


Dell PowerEdge

Rack only

Inventory / Power /
Reboot

TECH PREVIEW



[Dell PowerEdge and HPE ProLiant Servers \(Feature Preview\)](#)

Third-party server inventory

Intersight | Infrastructure Service | Search | Notifications (3) | Help | User

Overview

Operate

Servers

Chassis

Fabric Interconnects

Networking

HyperFlex Clusters

Storage

Virtualization

Kubernetes

Integrated Systems

Configure

Servers

All Servers | Add Filter | Search 3rd party | Export | 3 items found | 10 per page | 1 of 1

Model filter

Name	Health	Contract Status	Model	Firmware Vers...	Serial	Asset Tag	Actions
Dell-PowerEdge R650- [REDACTED]	Healthy	-	PowerEdge R650	5.10.00.00	[REDACTED]	testdell	...
Dell-PowerEdge R650- [REDACTED]	Healthy	-	PowerEdge R650	5.10.00.00	[REDACTED]	testdell	...
HPE-ProLiant DL360 Gen10 Plus- [REDACTED]	Healthy	-	ProLiant DL360 Gen10 Plus	2.55	[REDACTED]	hp-new	...

Third-party server operations – Power

The screenshot shows the Cisco Intersight Infrastructure Service interface. The top navigation bar includes the Cisco logo, 'Intersight', 'Infrastructure Service', a search bar, and various status indicators. The left sidebar has sections for 'Overview', 'Operate' (selected), 'Servers' (selected), and other system components like Chassis, Fabric Interconnects, Networking, HyperFlex Clusters, Storage, Virtualization, Kubernetes, Integrated Systems, Configure, Profiles, Templates, and Policies. The main content area is titled 'Servers' and displays a summary of server health, power, HCL status, models, contract status, and profile status. Below this is a detailed table of server inventory. An orange callout box labeled 'Available Operations' points to a context menu for a specific server entry. The context menu includes options like Power Off, Power Cycle, Hard Reset, Launch vKVM, Set License Tier, and Collect Tech Support Bundle. The table data is as follows:

Name	Health	Contract Status	Model	Firmware	Asset Tag
Dell-PowerEdge R650- [REDACTED]	Healthy	-	PowerEdge R650	5.10.00.00	testdell
Dell-PowerEdge R650- [REDACTED]	Healthy	-	PowerEdge R650	5.10.00.00	testdell
HPE-ProLiant DL360 Gen10 Plus- [REDACTED]	Healthy	-	ProLiant DL360 Gen10 Plus	2.55	hp-new

Third party server operations – System

The screenshot shows the Cisco Intersight web interface with the following details:

- Header:** Cisco Intersight, Infrastructure Service, Search bar, Notifications (3), and various status icons.
- Left Sidebar (Operate):** Overview, Servers (selected), Chassis, Fabric Interconnects, Networking, HyperFlex Clusters, Storage, Virtualization, Kubernetes, Integrated Systems, Configure, Profiles, Templates, Policies.
- Main Content (Servers):**
 - Summary Widgets:** Health (3 Healthy), Power (On 3), HCL Status (Incomplete 3), Models (3: PowerEdge R650 2, ProLiant DL360 Gen10 Plus 1), Contract Status (No data available), Profile Status (1 Not Assigned).
 - Table View:** A table listing three servers with columns: Name, Health, Contract Status, Model, Firmware, Asset Tag, and Actions. The servers are:
 - Dell-PowerEdge R650 (Healthy, PowerEdge R650, 5.10.00.00, testdell, ...)
 - Dell-PowerEdge R650 (Healthy, PowerEdge R650, 5.10.00.00, testdell, ...)
 - HPE-ProLiant DL360 Gen10 Plus (Healthy, ProLiant DL360 Gen10 Plus, 2.55, hp-new, ...)
 - Actions:** A context menu for the last server entry (hp-new) is open, showing options: Power, Turn On Locator, System, Reboot Management Controller, Launch vKVM, Set License Tier, and Collect Tech Support Bundle.

An orange callout box labeled "Available Operations" points to the context menu for the server entry with Asset Tag "hp-new".

Name	Health	Contract Status	Model	Firmware	Asset Tag	Actions
Dell-PowerEdge R650- [REDACTED]	Healthy	-	PowerEdge R650	5.10.00.00	testdell	...
Dell-PowerEdge R650- [REDACTED]	Healthy	-	PowerEdge R650	5.10.00.00	testdell	...
HPE-ProLiant DL360 Gen10 Plus- [REDACTED]	Healthy	-	ProLiant DL360 Gen10 Plus	2.55	hp-new	...

Third party server operations – General Info – Dell

The screenshot shows the Cisco Intersight web interface for managing server operations. The main view is for a Dell-PowerEdge R650 server, which is currently marked as 'Healthy'. The 'General' tab is selected and highlighted with an orange box. The interface is divided into several sections: 'Details' (Health, Name, User Label, Management IP, Serial, PID, Vendor), 'Properties' (Power, Locator LED, CPU details, Thread details, CPU Cores, CPU Cores Enabled, Memory Capacity), and 'Events' (Alarms and Requests). A sidebar on the left provides navigation for 'Operate' (Servers, Chassis, Fabric Interconnects, Networking, HyperFlex Clusters, Storage, Virtualization, Kubernetes, Integrated Systems) and 'Configure' (Profiles, Templates, Policies, Pools). The top navigation bar includes Intersight, Infrastructure Service, a search bar, and various status indicators.

Intersight | Infrastructure Service | Search | Notifications

Overview | Operate | Configure

Servers

← Servers

Dell-PowerEdge R650- [REDACTED]

Healthy

This is a Tech Preview feature for feedback purposes only and should not be used with production systems. Learn more at the [Help Center](#).

General Inventory

General

Details

Health: Healthy

Name: Dell-PowerEdge R650- [REDACTED]

User Label: -

Management IP: [REDACTED]

Serial: [REDACTED]

PID: PowerEdge R650

Vendor: Dell

Properties

Power: On | Locator LED: dejavu.serverDetails.input.state.blinking

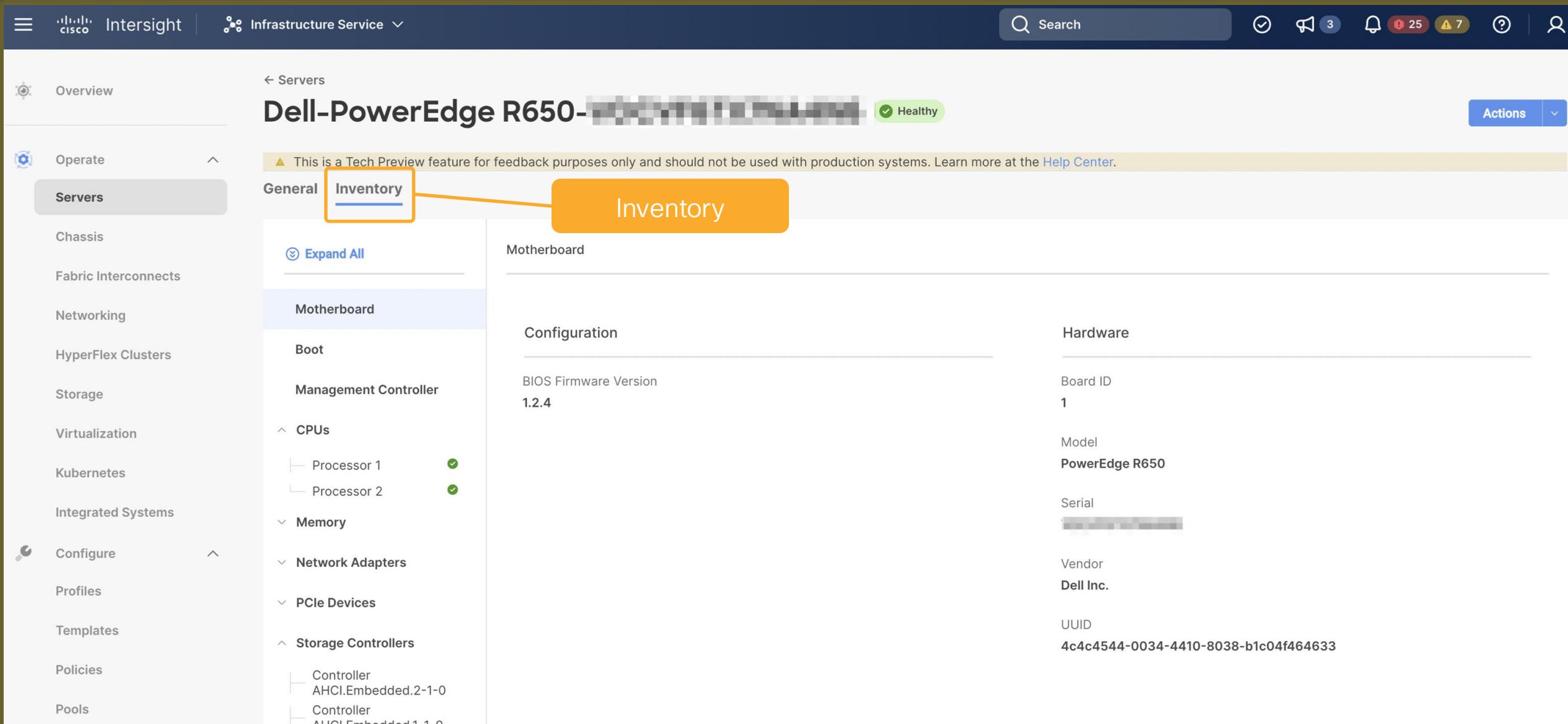
CPUs: 2	CPU Capacity (GHz): 112.0
Threads: 112	ID: 0
CPU Cores: 56	Adapters: 3
CPU Cores Enabled: 56	UUID: 4c4c4544-0034-4410-8038-b1c04f464633
Memory Capacity (GiB): 128.0	

Events

Alarms: No Alarms

Requests: 4

Third party server operations – Inventory – Dell



The screenshot shows the Cisco Intersight web interface for managing server operations. The top navigation bar includes links for Cisco Intersight and Infrastructure Service, a search bar, and various status indicators. The left sidebar is organized into three main sections: Overview, Operate, and Configure. The 'Servers' option under 'Operate' is selected and highlighted in grey. The main content area is titled 'Dell-PowerEdge R650' and shows a 'Healthy' status. A callout box highlights the 'Inventory' tab in the navigation bar, which is currently selected. The main content area displays the server's configuration and hardware details, including the BIOS Firmware Version (1.2.4), hardware components like the Motherboard, and storage controllers. The hardware section lists the Board ID (1), Model (PowerEdge R650), Serial number (redacted), Vendor (Dell Inc.), and UUID (4c4c4544-0034-4410-8038-b1c04f464633).

Intersight | Infrastructure Service | Search | Actions

Overview

Operate

Servers

Chassis

Fabric Interconnects

Networking

HyperFlex Clusters

Storage

Virtualization

Kubernetes

Integrated Systems

Configure

Profiles

Templates

Policies

Pools

← Servers

Dell-PowerEdge R650- [REDACTED] Healthy

This is a Tech Preview feature for feedback purposes only and should not be used with production systems. Learn more at the Help Center.

General Inventory

Expand All

Motherboard

Configuration

Hardware

Board ID: 1

Model: PowerEdge R650

Serial: [REDACTED]

Vendor: Dell Inc.

UUID: 4c4c4544-0034-4410-8038-b1c04f464633

Inventory

Motherboard

Configuration

Processor 1

Processor 2

Memory

Network Adapters

PCIe Devices

Storage Controllers

Controller AHCI.Embedded.2-1-0

Controller AHCI.Embedded.1.1.0

Third party server operations – General Info – HPE

The screenshot shows the Cisco Intersight web interface. The top navigation bar includes the Cisco logo, 'Intersight', 'Infrastructure Service', a search bar, and various status indicators (alarms, events, etc.). The left sidebar is titled 'Servers' and lists other categories like Chassis, Fabric Interconnects, Networking, HyperFlex Clusters, Storage, Virtualization, Kubernetes, and Integrated Systems. The main content area shows an HPE-ProLiant DL360 Gen10 Plus server with a 'General' tab selected. The 'General' tab is highlighted with an orange box and has an orange arrow pointing to it from the sidebar. The server is marked as 'Healthy'. The 'General' tab displays 'Details' and 'Properties' sections. The 'Details' section includes fields for Name (HPE-ProLiant DL360 Gen10 Plus), User Label, Management IP, Serial, PID, and Vendor (HPE). The 'Properties' section shows the server's hardware configuration: 2 CPUs (112.0 GHz), 112 threads, 56 CPU cores, 56 CPU cores enabled, 32.0 GiB memory capacity, and 0 adapters. The 'Events' and 'Alarms' sections are also visible on the right.

Intersight | Infrastructure Service | Search | Actions

Overview

Operate

Servers

Chassis

Fabric Interconnects

Networking

HyperFlex Clusters

Storage

Virtualization

Kubernetes

Integrated Systems

Configure

Profiles

Templates

Policies

Pools

← Servers

HPE-ProLiant DL360 Gen10 Plus- [REDACTED] Healthy

This is a Tech Preview feature for feedback purposes only and should not be used with production systems. Learn more at the [Help Center](#).

General **Inventory**

Details

Health Healthy

Name **HPE-ProLiant DL360 Gen10 Plus- [REDACTED]**

User Label -

Management IP [REDACTED]

Serial [REDACTED]

PID **ProLiant DL360 Gen10 Plus**

Vendor **HPE**

Properties

ProLiant DL360 Gen10 Plus

Power On Locator LED Off

CPUs **2** CPU Capacity (GHz) **112.0**

Threads **112** ID **1**

CPU Cores **56** Adapters **0**

CPU Cores Enabled **56** UUID **39383250-3834-4D32-3231-33323034374B**

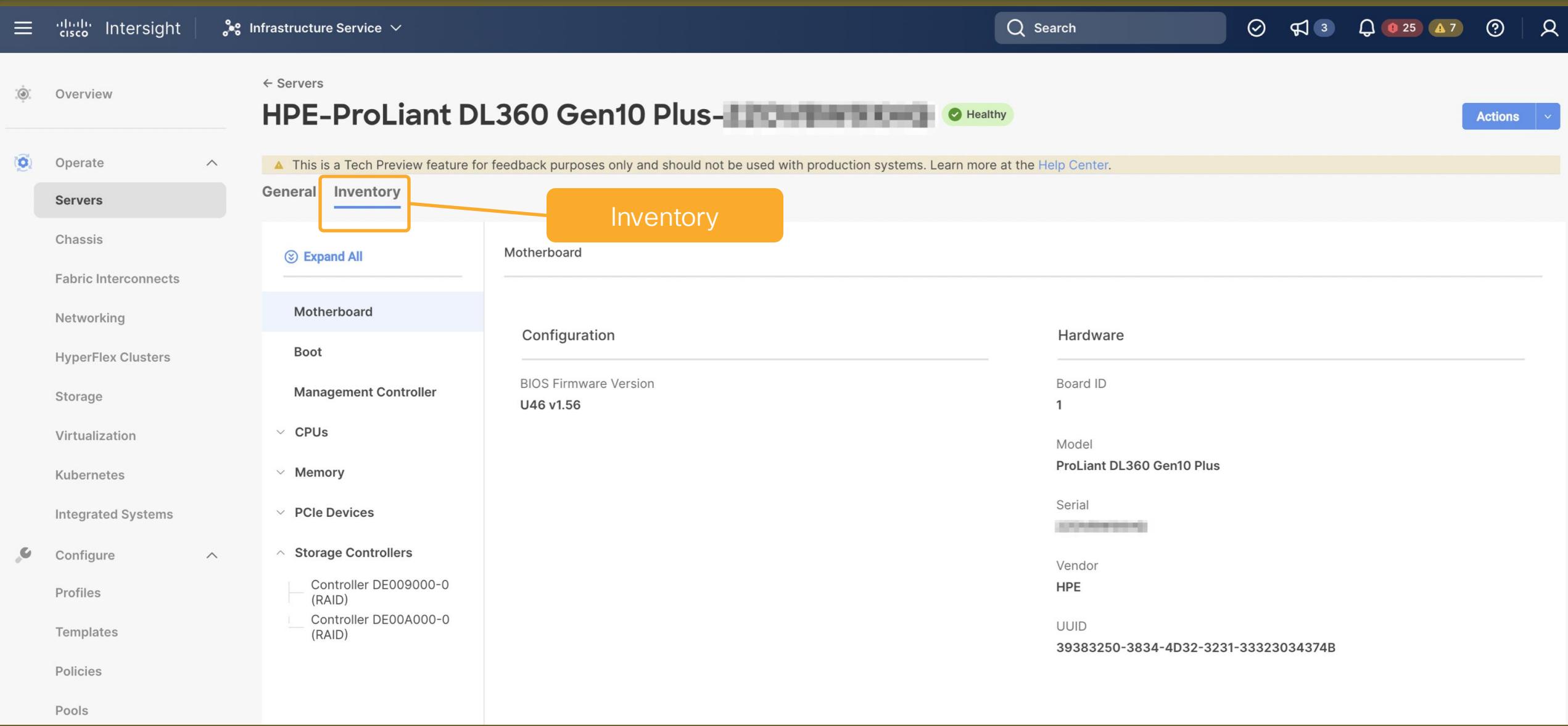
Memory Capacity (GiB) **32.0**

Events

Alarms No Alarms

Requests No Requests

Third party server operations – Inventory – HPE



Intersight Infrastructure Service

Search

Healthy

Actions

Overview

Operate

Servers

Chassis

Fabric Interconnects

Networking

HyperFlex Clusters

Storage

Virtualization

Kubernetes

Integrated Systems

Configure

Profiles

Templates

Policies

Pools

General

Inventory

Expand All

Motherboard

Configuration

Hardware

Board ID

1

Model

ProLiant DL360 Gen10 Plus

Serial

Vendor

HPE

UUID

39383250-3834-4D32-3231-33323034374B

This is a Tech Preview feature for feedback purposes only and should not be used with production systems. Learn more at the [Help Center](#).

Inventory

Motherboard

Boot

Management Controller

CPUs

Memory

PCIe Devices

Storage Controllers

Controller DE009000-0 (RAID)

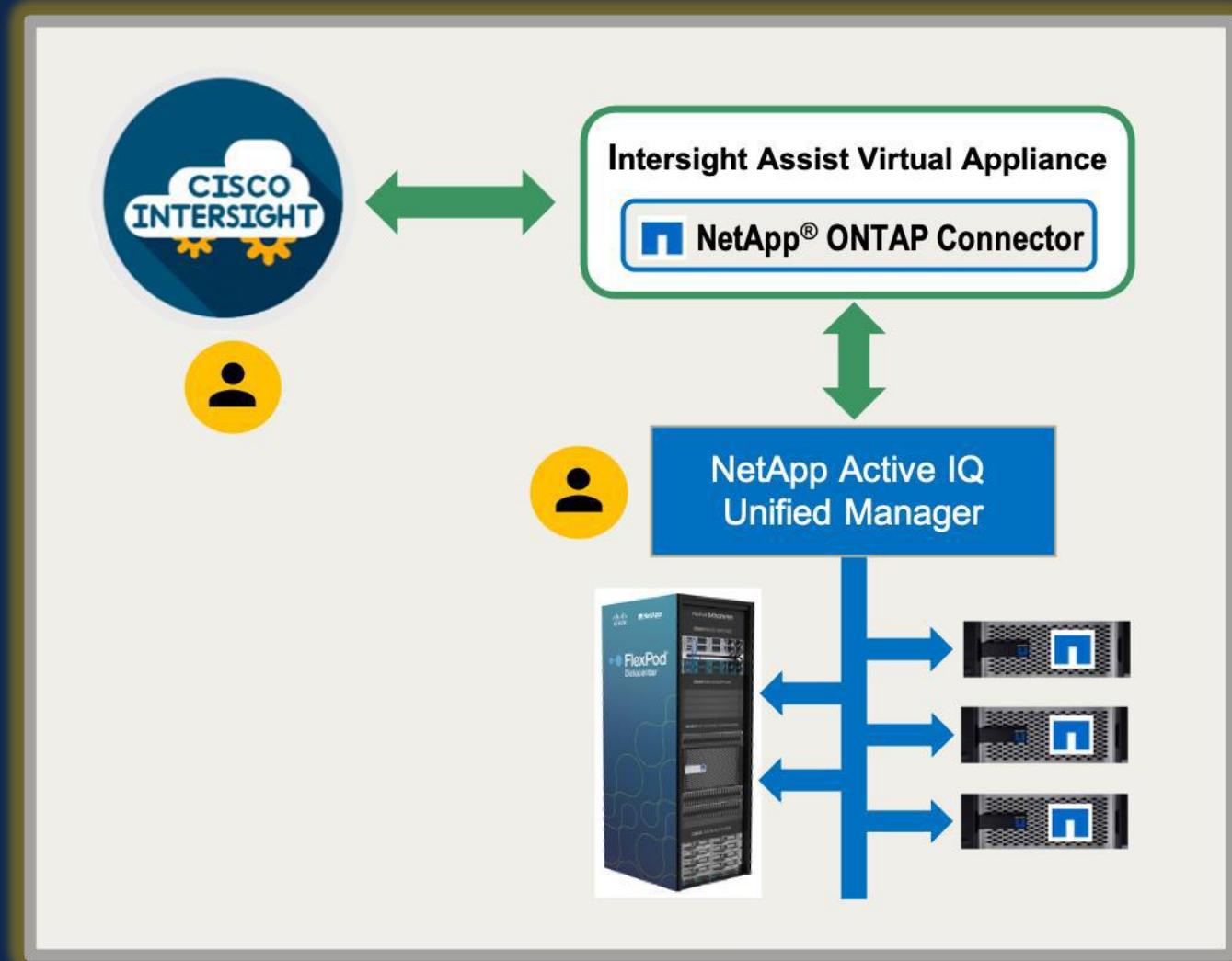
Controller DE00A000-0 (RAID)



3rd Party Storage

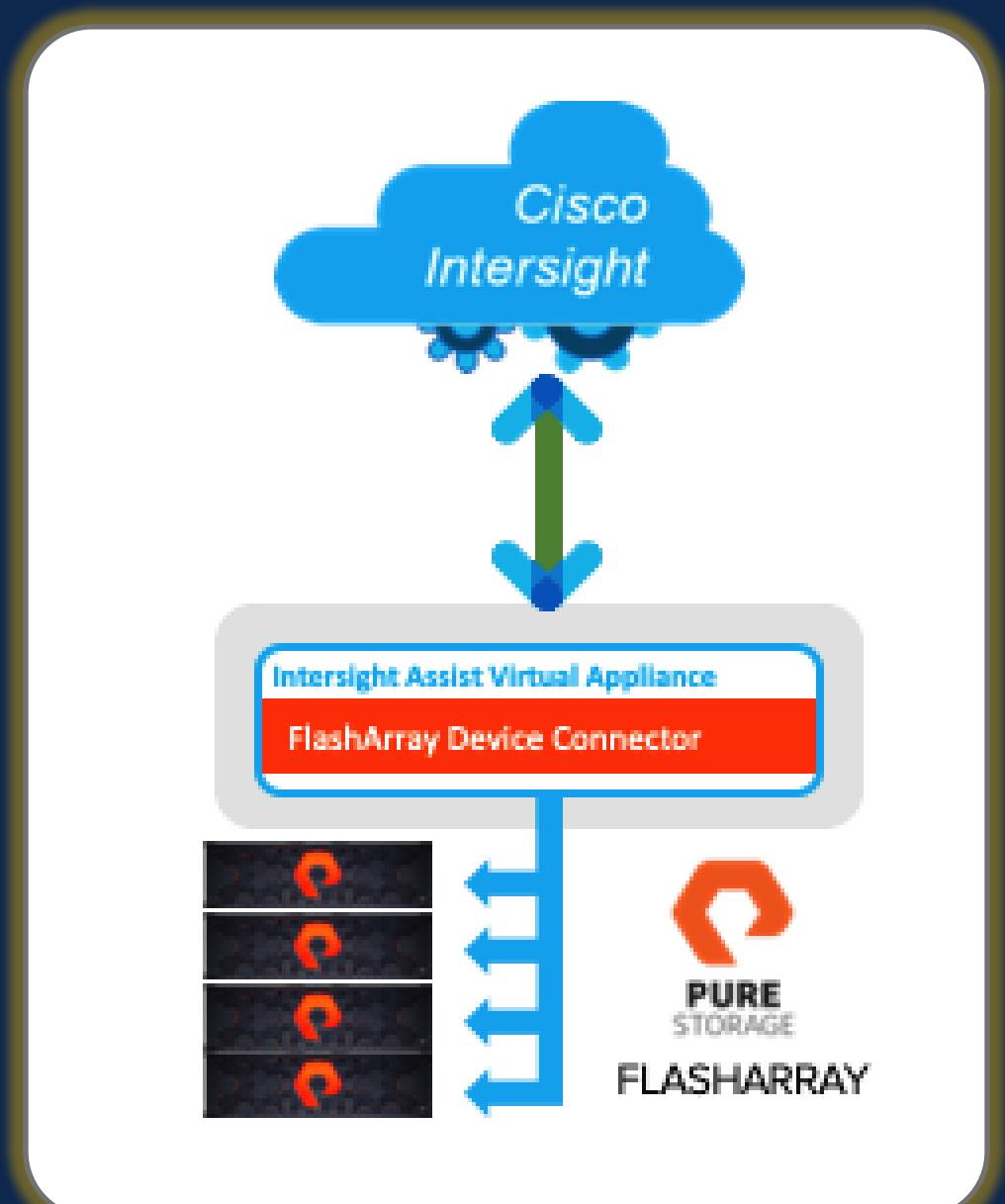
Intersight with NetApp

- The integration requires **NetApp Active IQ Unified Manager** instance deployed in your data center to manage one or more ONTAP clusters
- The Intersight Assist virtual appliance (deployed on-prem) includes the NetApp ONTAP Connector which maps the Intersight APIs to that of Active IQ Unified Manager and your ONTAP storage
- The UI-SDK (built for NetApp storage Inventory) enables full access to the key attributes of the NetApp storage from Intersight Inventory view
- The workflow engine in Intersight will enable the orchestration of the ONTAP storage tasks and workflows

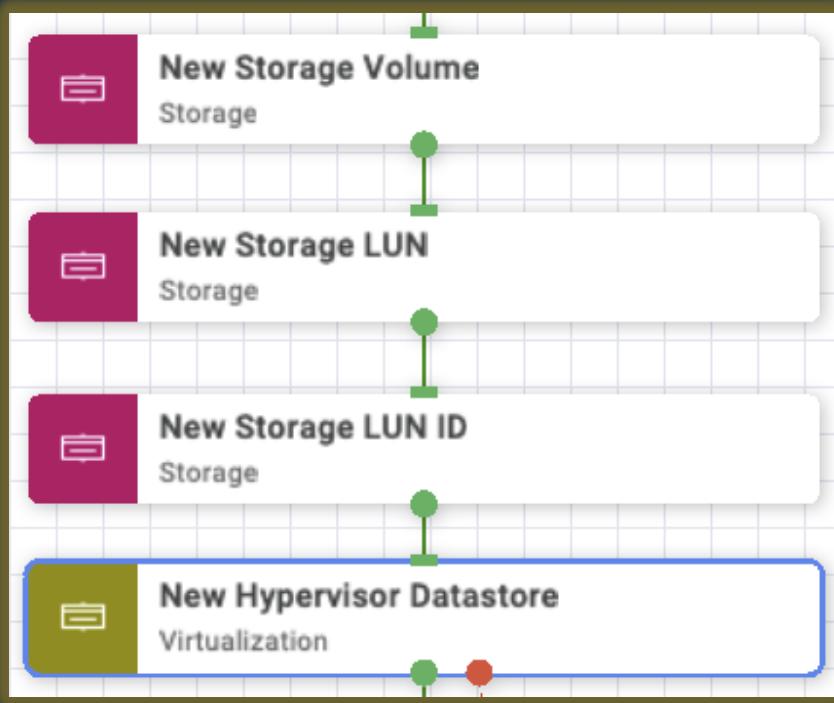


Intersight with Pure Storage

- Inventory and Automation with Pure Storage All Flash Array
- Inventory widget displays Pure Storage array version, capacity and utilization information
- Cross domain orchestration
 - Ex. Create LUN and present to VMware vCenter for datastore use



Storage automation



Create Storage Volume

Create LUN from Volume

Connect LUN to
initiator group

Create VMware datastore
from LUN

Supported Platforms



NetApp AIQUM >= 9.8p1



Pure FlashArray >= 4.8

HITACHI

Hitachi VSP*

*Hitachi VSP version requirements depend on VSP type

Integrated Systems

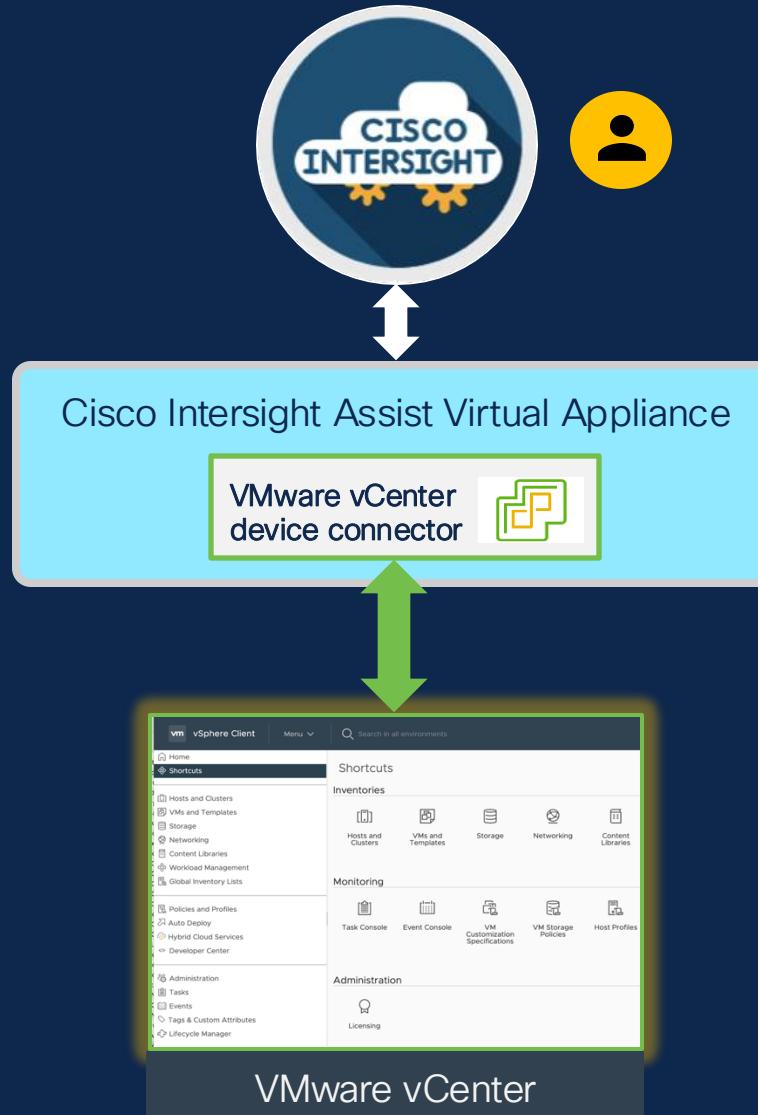
- Intersight currently supports FlexPod systems
- FlexPod is a **Converged Infrastructure (CI)** that combines a defined set of hardware and software from Cisco and NetApp that forms an integrated system foundation for both virtualized and nonvirtualized solutions:
 - NetApp AFF storage
 - Cisco Nexus networking
 - Cisco Unified Computing System (Cisco UCS)
- The design is flexible enough that the networking, computing, and storage components can fit into one data center rack, or it can be deployed according to customer's data center design



Integracja z VMware

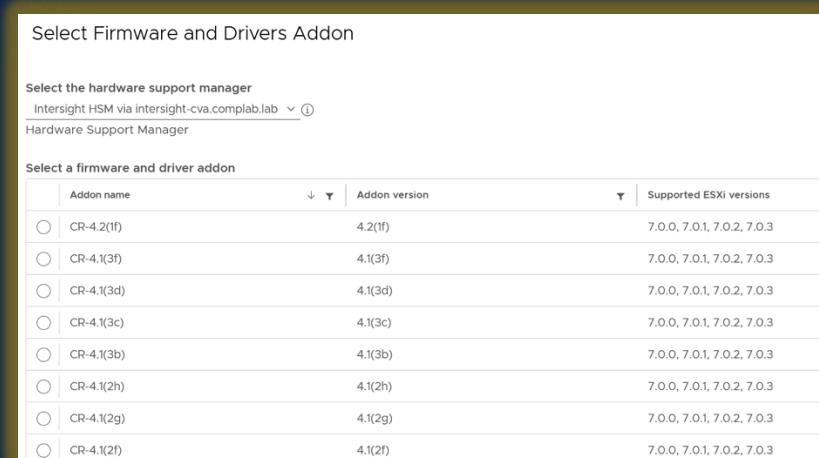
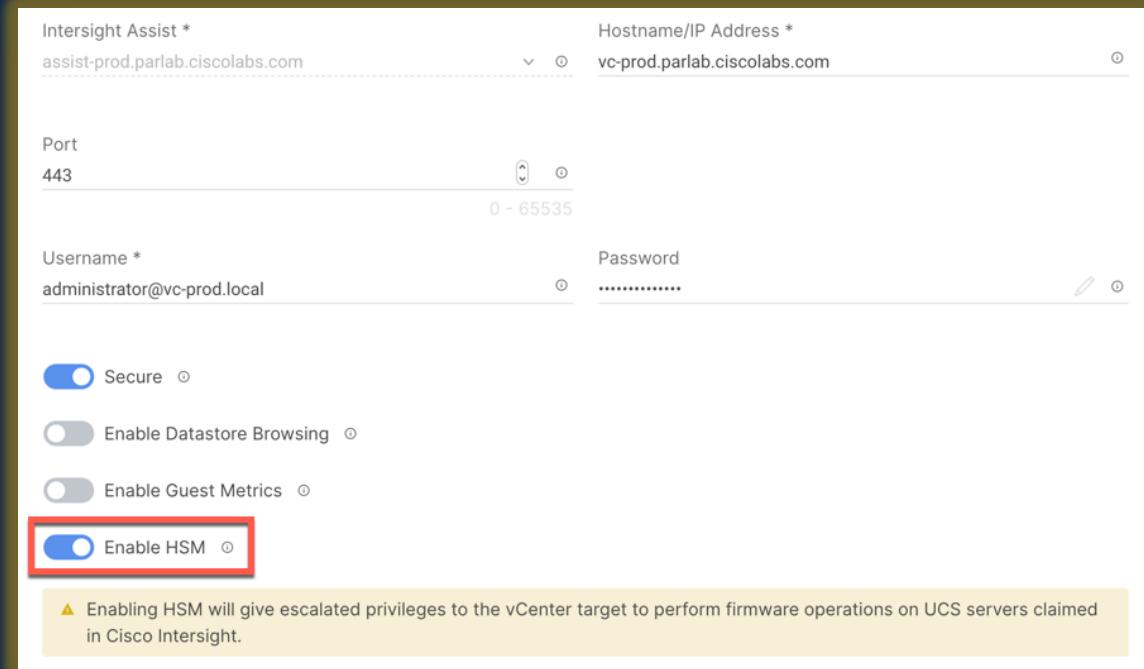
VMware Integration with Intersight

Cisco Intersight provides unified infrastructure management across heterogeneous compute, storage, and virtualization environments



VMware vSphere Life Cycle Management (vLCM) Integration

- Cisco provides a vCenter plug-in called Hardware Support Manager (HSM)
- Automate UCS server firmware updates via vLCM
- Claim vCenter in Intersight
 - Enable HSM when claiming or edit vCenter target
- **No additional setup/plugin required**
- Select “**Firmware and Driver Addon**” bundle directly from vLCM (auto-populated)
- Run Pre-Check & Remediate Hosts
- Supported on SaaS & Appliance
- Supported with Standalone & IMM servers



Integracja z ServiceNow

IT Service Management (ITSM)

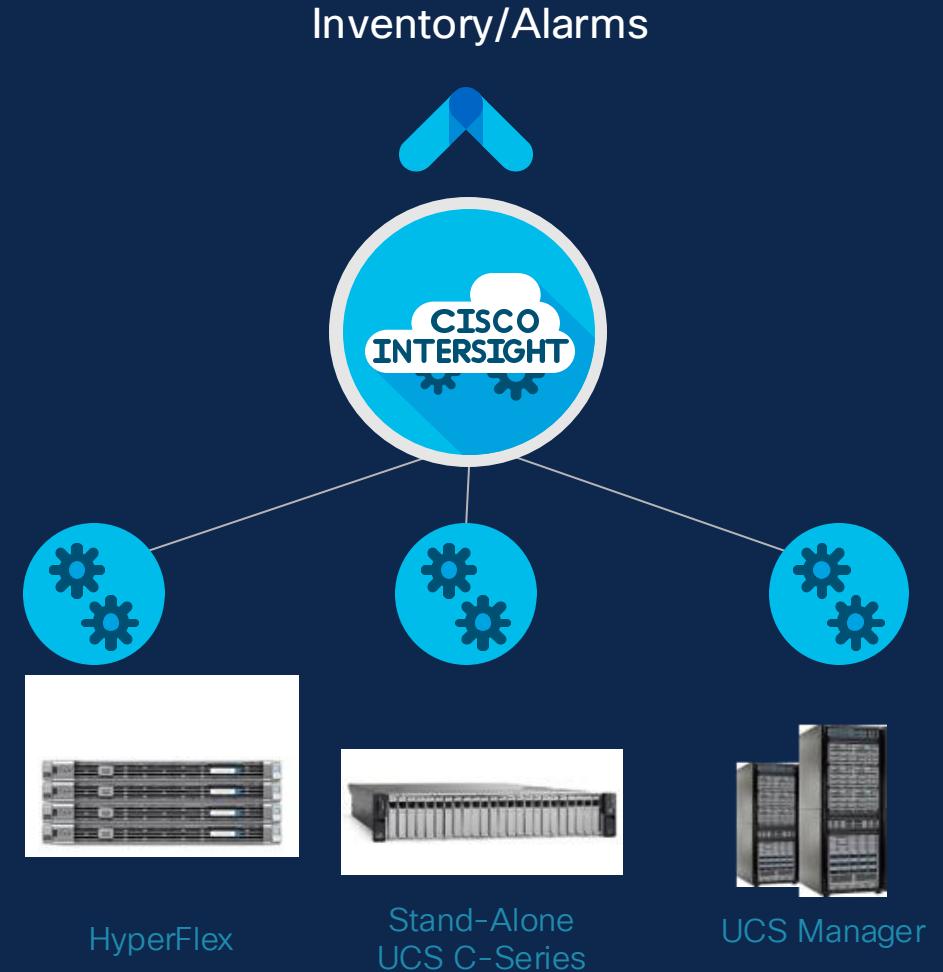


- Challenges:
 - Numerous tools to manage
 - Difficult problem resolution and mapping of infrastructure to business services
- Solution: ServiceNow ITSM Application for Cisco Intersight
 - No on premises tools to manage – delivered as SaaS
 - Faster incident management and service delivery
 - Visibility and automation from the business service to the physical infrastructure

Intersight ServiceNow Application



- Uses the Intersight API
 - API access can be Read-Only
 - Additional RBAC within ServiceNow
- App Features
 - Device Inventory and Sync
 - Incident Management
 - Using alarms retrieved from Intersight
 - Analysis reports and dashboards powered by ServiceNow



ServiceNow Service Management

ServiceNow Service Management

Cisco Servers Detail View:

- Related Items:
 - Has a - Cisco Servers:
 - [L2] [HX-DEN-SDWAN →] C220-WZP21421OKT
 - [L2] [HX-DEN-SDWAN →] C220-WZP21421OPA
 - Has a - Cisco HyperFlex Clusters:
 - [L3] [C220-WZP21421OPA →] HX-DEN-SDWAN
 - [L1] HX-DEN-SDWAN
- View Toggle, Retire buttons
- Related Links: HyperFlex Cluster (1), Fabric Interconnects, Faults, Incidents
- Search bar: Configuration item = C220-WZP21421OKT
- Filter bar: Incidents, New, Search, Opened, Search
- Short description, Number, Opened, Short description

Incident New Record Form:

- Number: INC0010004
- Caller: David Soper
- Category: Hardware
- Subcategory: Memory
- Business service
- Configuration item
- Short description
- Description
- Search results table:

Business Services	New	Search	Name	Search
Business Services	New	Search	Name	Search
Business Services	New	Search	Name	Search
All	(empty)	Business Service Group		
All	(empty)	Business Service Group		
Blackberry	(empty)	Business Service		

Server Details and
Incident Management

Looking Forward: AI assisted Operations

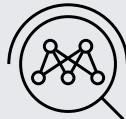
Less firefighting, more strategic work!

Unlock smarter, faster operations with AI-powered insights



Smart Suppression

Automatically detect actions and suggests suppressing alarms, streamlining workflows.



Correlation and Clustering of Alarms

Reduce alarm noise and accelerate troubleshooting by intelligently clustering correlated alarms.



Intersight Assisted Operations

Enables faster, data-driven decisions by filtering noise and spotlighting critical issues. It speeds up root cause analysis, predicts outages, and reduces manual effort through automation.



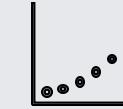
Enriched Topology with Timeline of Events and Anomaly Detection

Enable customers to view (and replay) the historical topology view, overlaying major events that affect the physical devices.



Sustainability Insights

Correlate server workload utilization with power consumption to provide actionable power saving insights.



Predictive Forecasting

Proactively prevent issues with forecast-based alarms.

Looking Forward: Intersight AI Assistant

Use Cases of Intersight's GenAI-powered AI Assistant

Unlock smarter, faster operations with AI-powered insights

Security insights & recommendations

Monitor contract status
and renew contract

Guided configuration based on customer
infrastructure

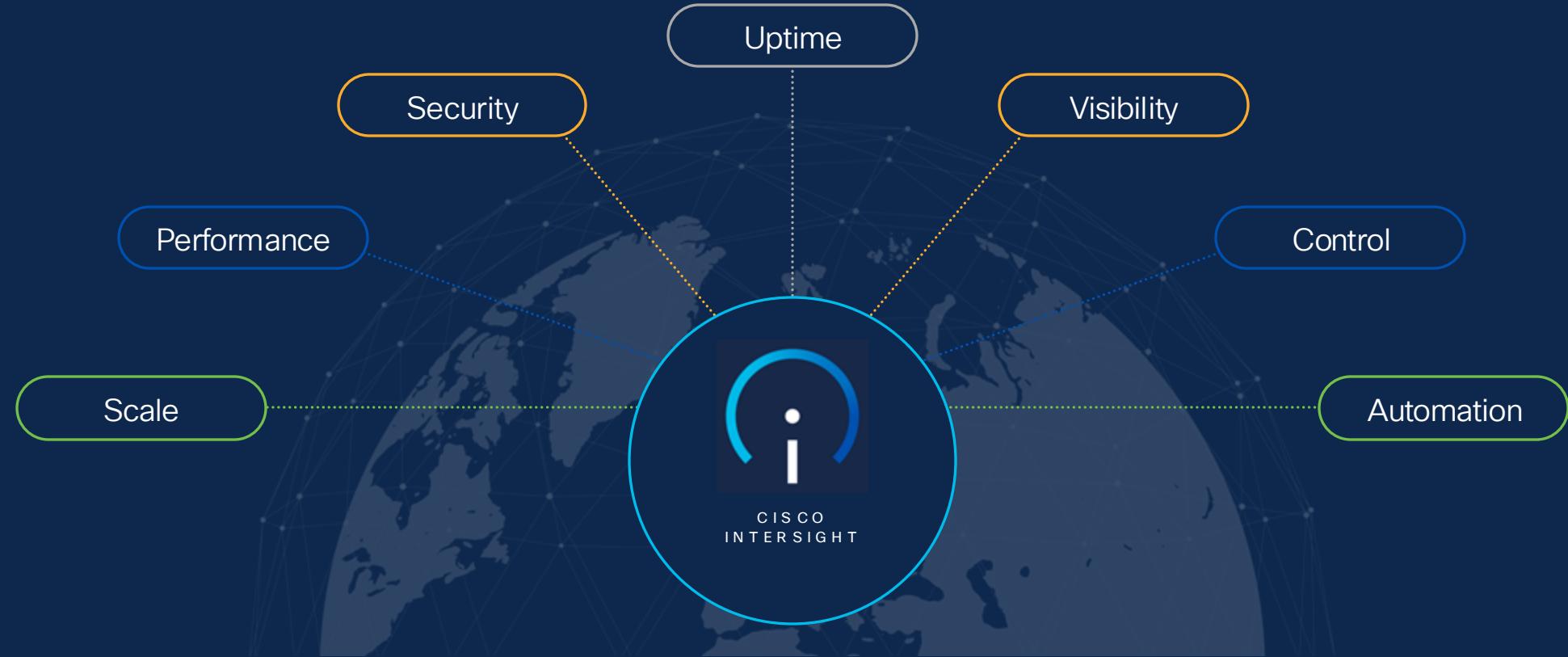
Ingest documentation and community
knowledge on Cisco websites

Health check summary and subsequent
remediation

Track lifecycle of TAC cases

Contextual assistance tailored to user's
environment

Intersight - IT operations simplified.





Pytania



The bridge to possible