



The bridge to possible

# Intersight Managed Mode (IMM) for UCS Manager admins

A technical overview of IMM

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@vesposit

# Session objectives

- Get **familiar** with Intersight Managed Mode
- Understand what are its **main differences & benefits** from UCS Manager/Central
- Know **how** to perform **common configuration & deployment** tasks of both fabric and server components
- Discuss when and how to **transition** from UCS Manager/Central to IMM

# Session non-objectives

- This session does not include:
  - A technical overview of the UCS architecture and its components
  - A detailed presentation of Intersight
  - An in-depth comparison of each individual policy between UCSM & IMM
  - An exhaustive list of all possible operations in IMM
  - An explanation of the Intersight licensing model
  - A step-by-step guide on how to transition a domain to IMM

# Cisco Webex App

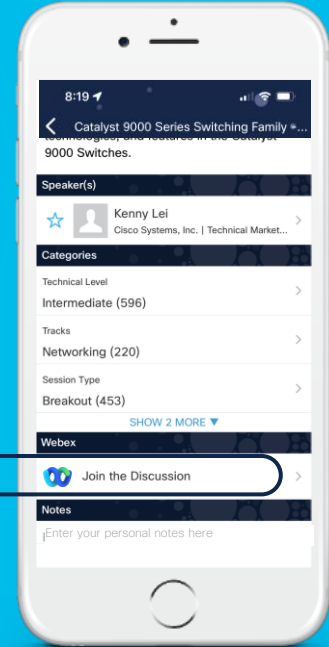
## Questions?

Use Cisco Webex App to chat with the speaker after the session

## How

- 1 Find this session in the Cisco Live Mobile App
- 2 Click “Join the Discussion”
- 3 Install the Webex App or go directly to the Webex space
- 4 Enter messages/questions in the Webex space

Webex spaces will be moderated by the speaker until February 24, 2023.





# Agenda

- Introduction
- **What** is Intersight Managed Mode?
- **Why** Intersight Managed Mode?
- **How** to use Intersight Managed Mode?
- **Transitioning** to Intersight Managed Mode
- Key Takeaways

# Introduction



# Intersight

IT Operations. Simplified.



## Visualize

Your global on-premises, cloud, and edge environments



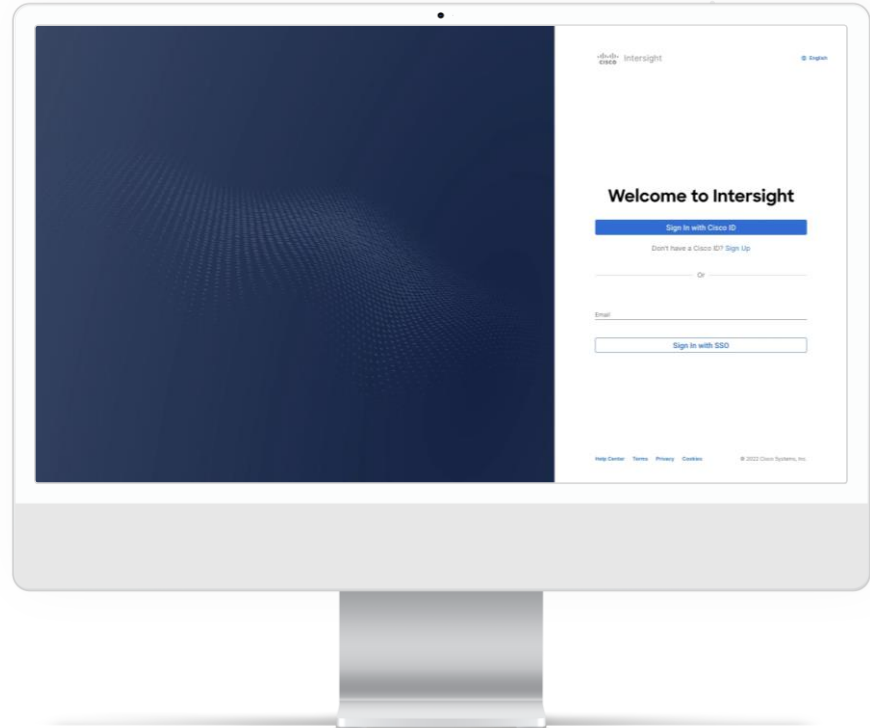
## Automate

Networking and computing deployments and configuration

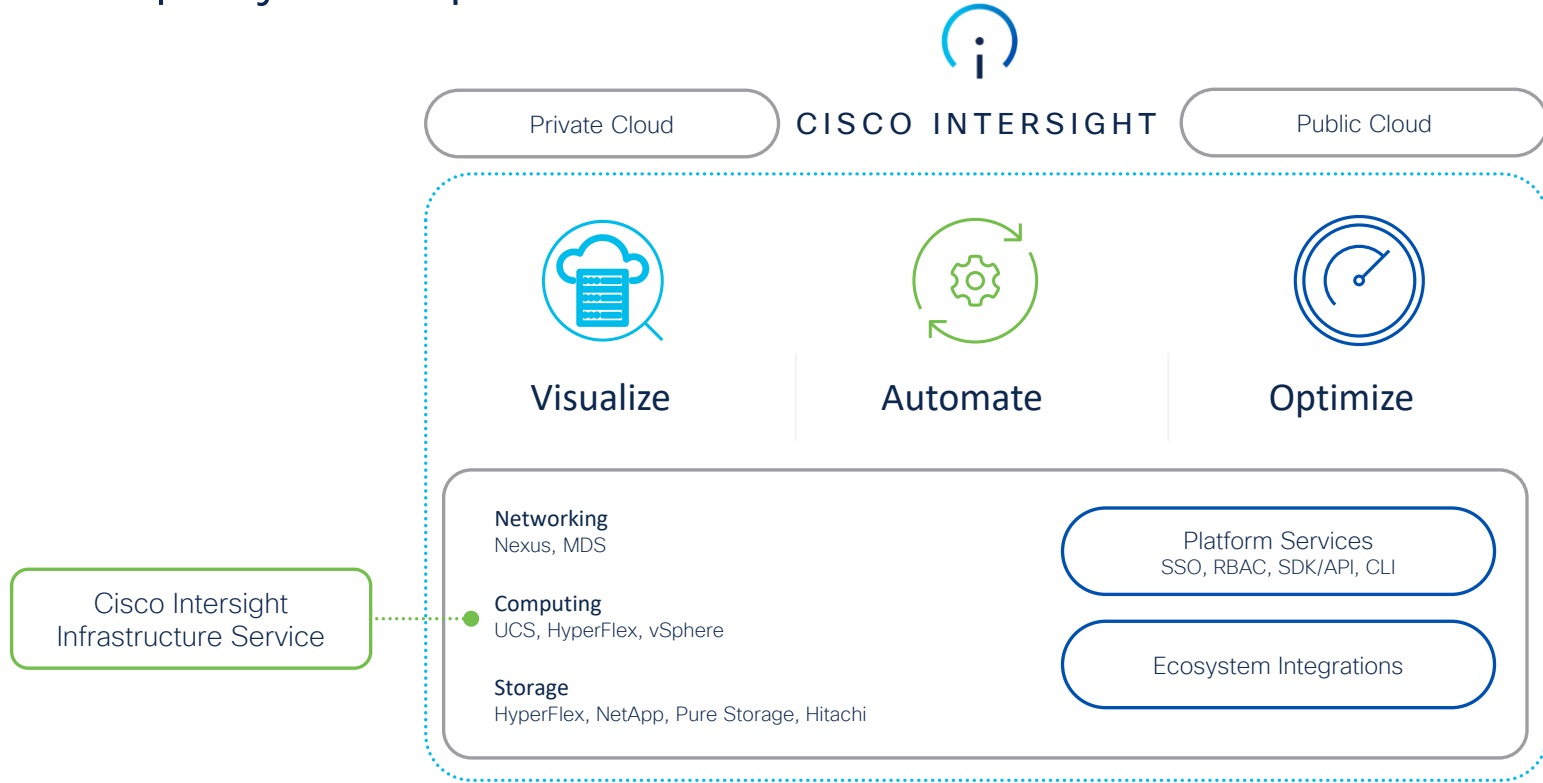


## Optimize

Performance, cost, and user experience



# Simplify IT Operations





# Cisco Intersight Infrastructure Service (IIS)



UCSM Provider



Global Policies



Proactive RMAs  
Connected TAC



Advisories



Hardware  
Compatibility List

Intersight Infrastructure Service (IIS)

UCS Manager

Fabric Interconnect

Fabric Interconnect

UCS B-Series

UCS C-Series

Traditional UCS domain

IMC

Cisco UCS C-Series

Benefits

Fabric Interconnect

Fabric Interconnect

UCS X-Series

UCS B-Series

UCS C-Series

Modernized UCS domain

Single Pane of Glass for the entire infrastructure | Common operational model | Proactive services

# Intersight Device Connector

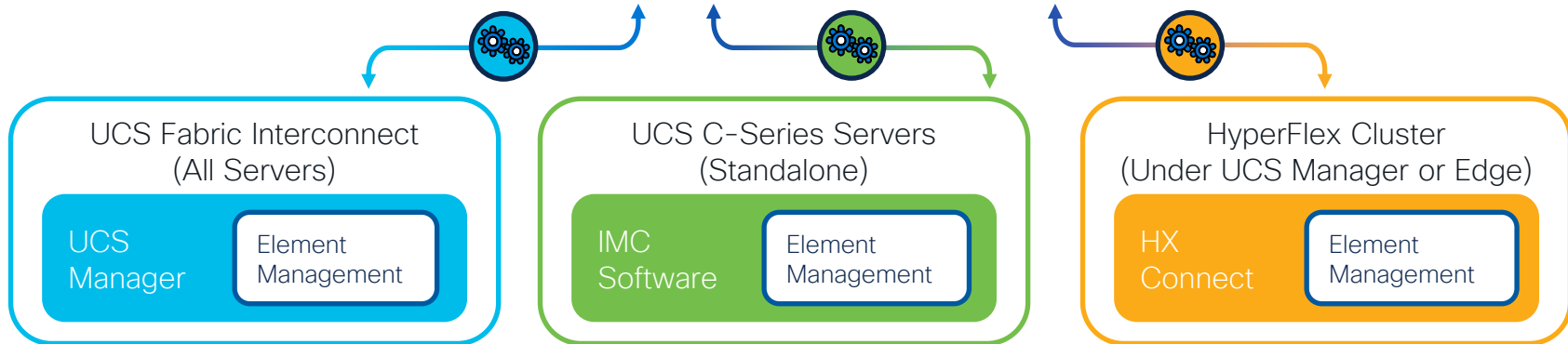
A very light and autonomous piece of software allowing:

- Communication with the Intersight portal, wherever the portal is.
- Capable of inserting tasks / calls against infrastructure via pluggable / extensible framework



## Key Features:

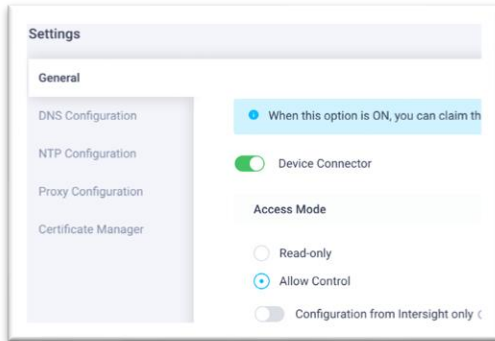
- Bundled with Firmware
- Embedded Product Feature
- Secure “Durable” Communications
- Self Updated
- Autonomous Check-In



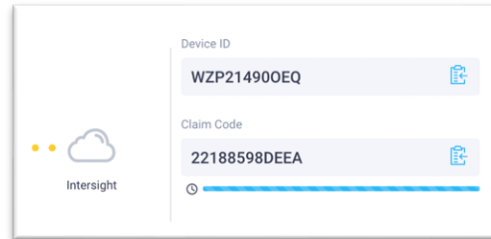
# Device Claiming



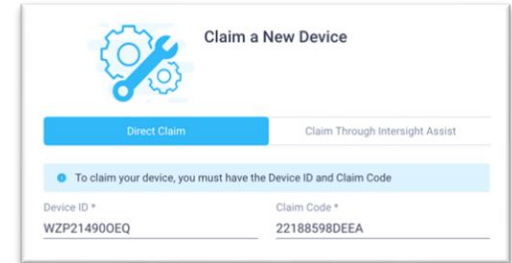
- 1 Configure device with IP connectivity to Intersight



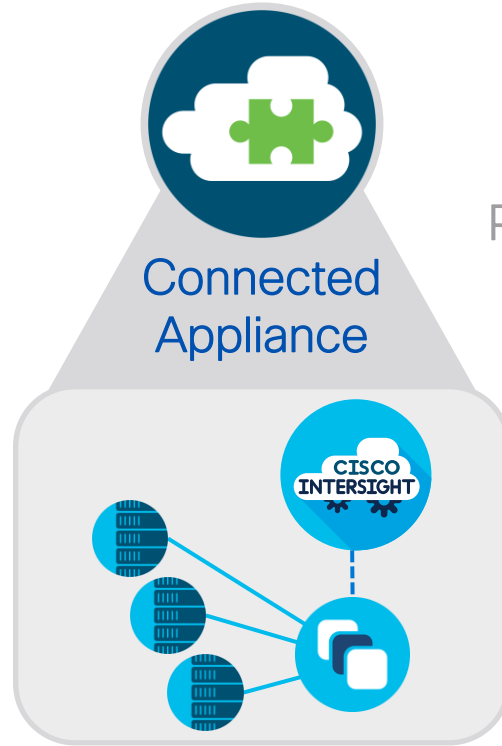
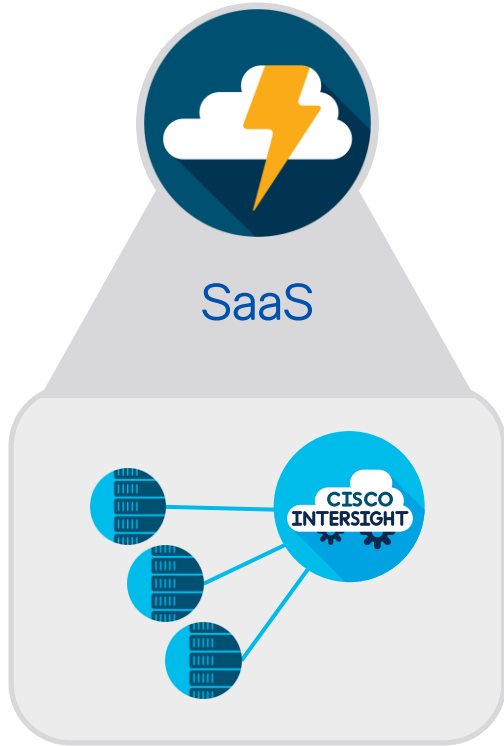
- 2 Copy Device ID & Claim Code from device



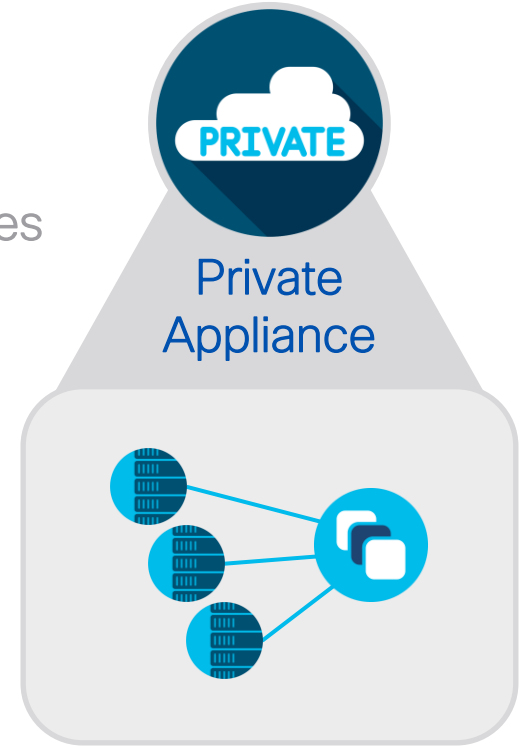
- 3 Paste Device ID & Claim Code to Intersight



# Intersight Deployment Modes

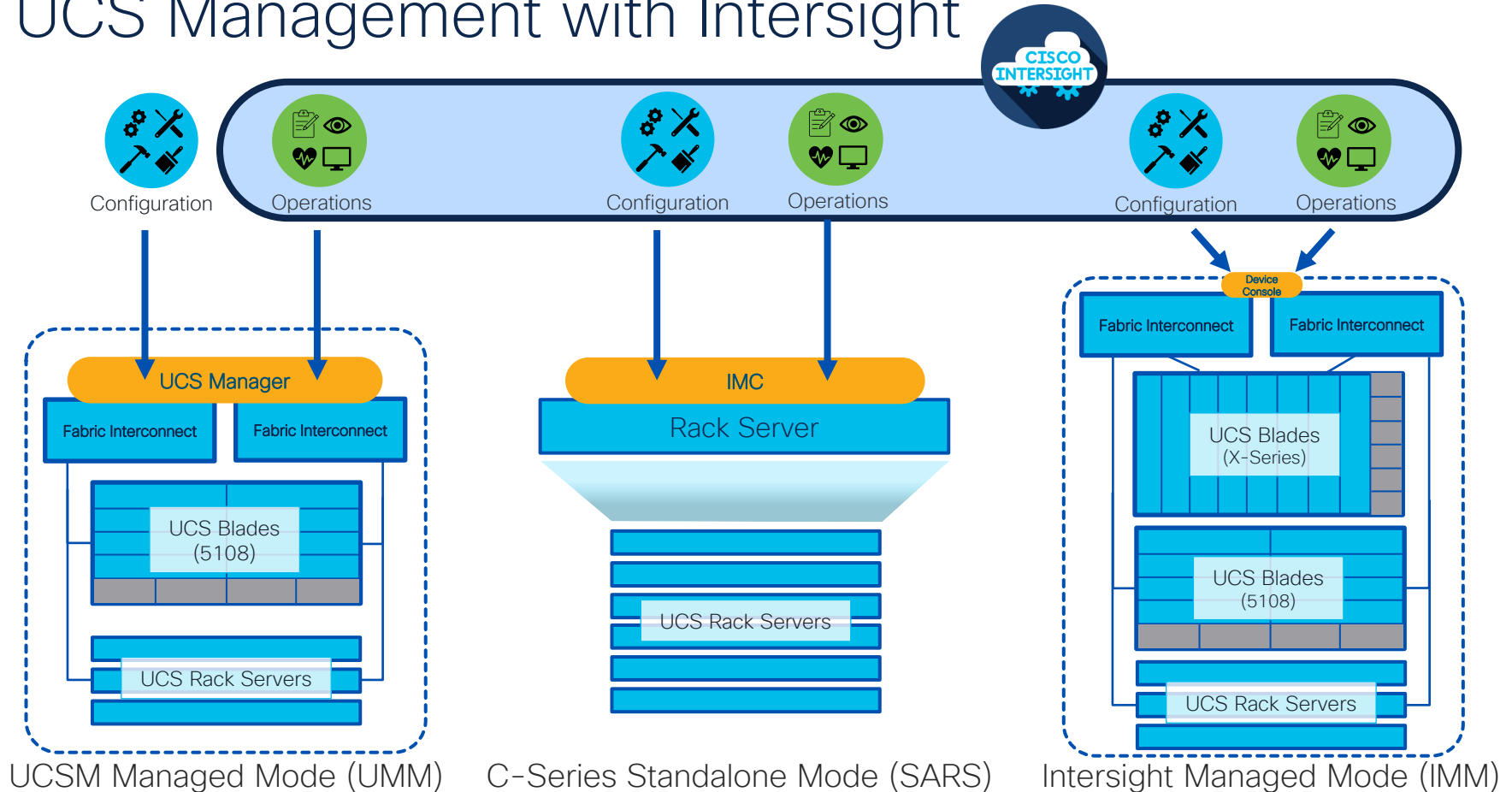


On  
Premises


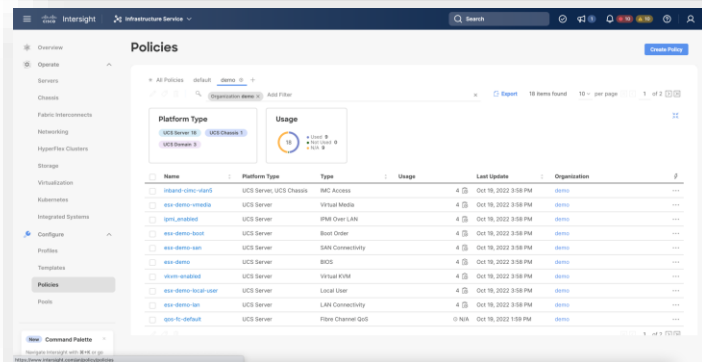


# What is Intersight Managed Mode?

# UCS Management with Intersight



**CISCO** *Live!*



# UCS

policy-based  
management for  
servers & fabric  
in Intersight

# Intersight Managed Mode

## Hardware & Software Requirements

### Hardware

- Fabric Interconnects: 6454/64108/6536 (x2)
- IO Modules: 2204/2208/2304/2408
- IFM: 9108-25G/9108-100G
- Servers: B-, C- & X-Series M5 & M6
- VIC: 1300/1400/15000

### Firmware

- Infrastructure (A-bundle): 4.1(3) or higher
- Servers (B/C-bundles): 4.1(3) or higher
- 4.2(3) for most comprehensive support

### Licensing

**Intersight:** Essentials or higher (all servers in domain)

### Scope

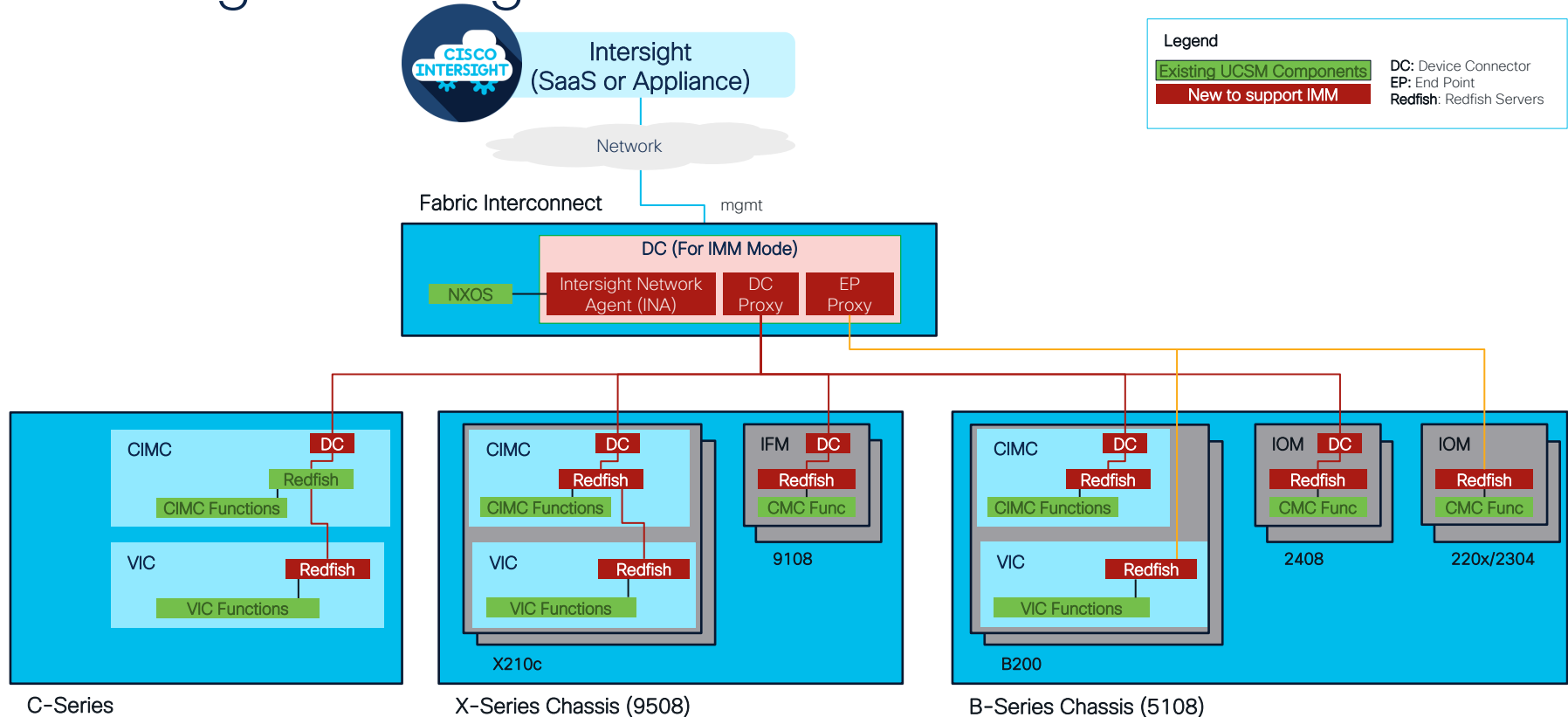
Entire UCS domain will be configured in Intersight Managed Mode (exclusive of UCS Manager)

### Scale

20 chassis / 160 servers (same as UCSM)



# 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  {
2    "@odata.context": "/redfish/v1/$metadata#Thermal.Thermal",
3    "@odata.id": "/redfish/v1/Chassis/FCH22347N7W/Thermal",
4    "@odata.type": "#Thermal.v1_6_2.Thermal",
5    "Description": "Represents the properties for Temperature",
6    "Id": "Thermal",
7    "Name": "Thermal",
8    "Status": {
9      "Health": "OK",
10     "State": "Enabled"
11   },
12   "Temperatures": [
13     {
14       "@odata.id": "/redfish/v1/Chassis/FCH22347N7W/Thermal#/Temperatures/0",
15       "MemberId": "0",
16       "Name": "TEMP_SENS_FRONT",
17       "PhysicalContext": "Front",
18       "ReadingCelsius": 22,
19       "Status": {
20         "Health": "OK",
21         "State": "Enabled"
22       },
23       "UpperThresholdCritical": 75,
24       "UpperThresholdFatal": 85
25     },
26     {
27       "@odata.id": "/redfish/v1/Chassis/FCH22347N7W/Thermal#/Temperatures/1",
28       "MemberId": "1",
29       "Name": "TEMP_SENS_REAR",
30       "PhysicalContext": "Back",
31       "ReadingCelsius": 33,
32       "Status": {
33         "Health": "OK",
34         "State": "Enabled"
35       },
36       "UpperThresholdCritical": 75,
37       "UpperThresholdFatal": 85
38     }
39   ]
40 }
```

# Why Intersight Managed Mode?

# Benefits of the IMM model



## Modernize

- Feature velocity with CI/CD
- Modern RESTful API with OpenAPI
- Redfish standard



## Simplify

- Common management framework for all Cisco Compute
- Merging of Local & Global Service Profile/Template (Multi domain)
- Policy Model simplification



## Safer operations

- Configuration consistency across domains
- Decoupling of firmware / software features
- Improved Change Control with Assign/Deploy steps
- Better policy scale – not limited by FI resources

# When should you start using IMM?

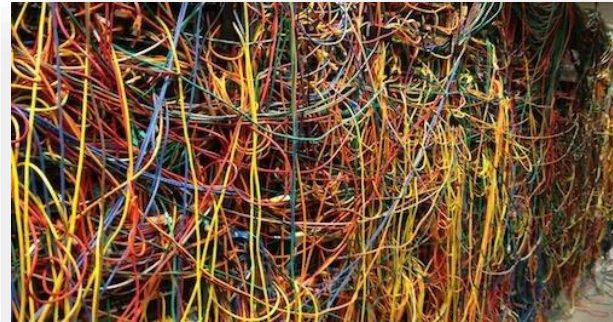
Hardware refresh



New domain deployment / Greenfield



X-Series adoption



Lab / Tests

# How to use Intersight Managed Mode?

# Setting up a domain in Intersight Managed Mode

```
the Fabric interconnect and its clustering mode is performed through these steps.

Type Ctrl-C at any time to abort configuration and reboot system.
To back track or make modifications to already entered values,
complete input till end of section and answer no when prompted
to apply configuration.

first-setup: Warning: is EMPTY. using switch as name

Starting GUI for initial setup.

Switch can now be configured from GUI. Use https://172.16.105.242 and click
on 'Express Setup' link. If you want to cancel the configuration from GUI and go back,
press the 'ctrl+c' key and choose 'X'. Press any other key to see the installation progress from
GUI
Note: Intersight management mode setup available through console based configuration method alone
.

^C
Type 'reboot' to abort configuration and reboot system
or Type 'X' to cancel GUI configuratuion and go back to console or Press any other key to see the
installation progress from GUI (reboot/X) ? X

Enter the configuration method. (console/gui) ? console

Enter the management mode. (ucsm/intersight)? intersight

You have chosen to setup a new Fabric interconnect in "intersight" managed mode. Continue? (y/n):
```

Management mode




# Device Console – System Information

The screenshot shows the Cisco Device Console interface for a device named 'ucs-bravo'. The 'SYSTEM INFORMATION' tab is selected and highlighted with a red box. Below the navigation bar, there are two columns of system information for 'Fabric Interconnect A (Primary)' and 'Fabric Interconnect B (Subordinate)'. Each column lists various system attributes and their values, with a 'Health' status indicator at the top of each column.

Fabric Interconnect A (Primary)		Fabric Interconnect B (Subordinate)	
Health	Healthy	Health	Healthy
Management IPs	10.60.5.31	Management IPs	10.60.5.32
Model	UCS-FI-6454	Model	UCS-FI-6454
Serial	FDO23290UBT	Serial	FDO2327063Z
Firmware Version	9.3(5)I42(3b)	Firmware Version	9.3(5)I42(3b)
Available Memory	50.38 MiB	Available Memory	50.38 MiB
Total Memory	62.76 MiB	Total Memory	62.76 MiB



# Device Console - Inventory

 **DEVICE CONSOLE** | ucs-bravo

SYSTEM INFORMATION

DEVICE CONNECTOR

**INVENTORY**

DIAGNOSTIC DATA

**Servers**


Chassis

















Fabric Extender

5 items found

10 per page

1 of 1



Name	Health	Status	PID	Serial	User Label	
 ucs-bravo-1-1	 Critical	 Active	UCSB-B200-M5	FCH22347N7W	-	...
 ucs-bravo-1-3	 Healthy	 Active	UCSB-B200-M5	FCH223570ND	-	...
 ucs-bravo-1-4	 Healthy	 Active	UCSB-B200-M5	FCH223570BY	-	<div><div>Power On</div><div>Turn On Locator</div><div>Launch KVM</div><div>Launch API Explorer</div><div>Generate Tech Support Bundle</div></div>
 ucs-bravo-2-1	 Healthy	 Active	UCSB-B200-M5	FCH22347M5Q	-	
 ucs-bravo-2-2	 Healthy	 Active	UCSB-B200-M5	FCH22347N5N	-	

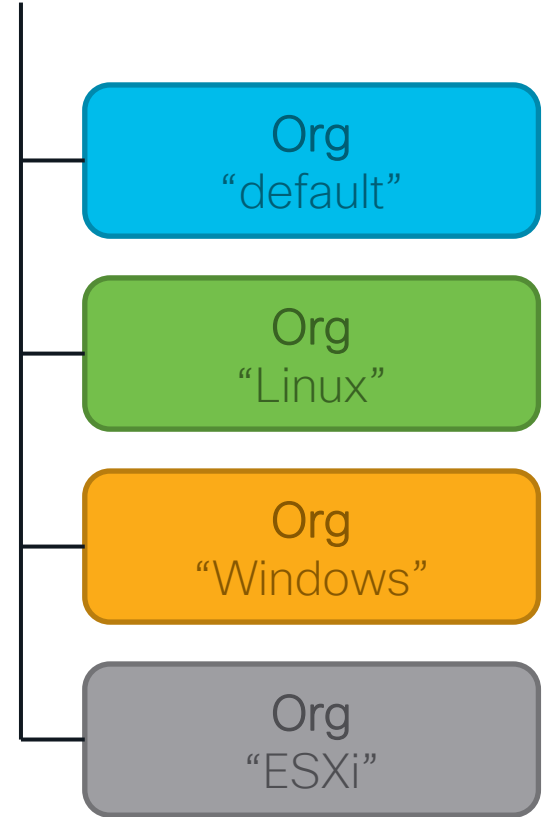
# And... that's it!

Everything else is done on

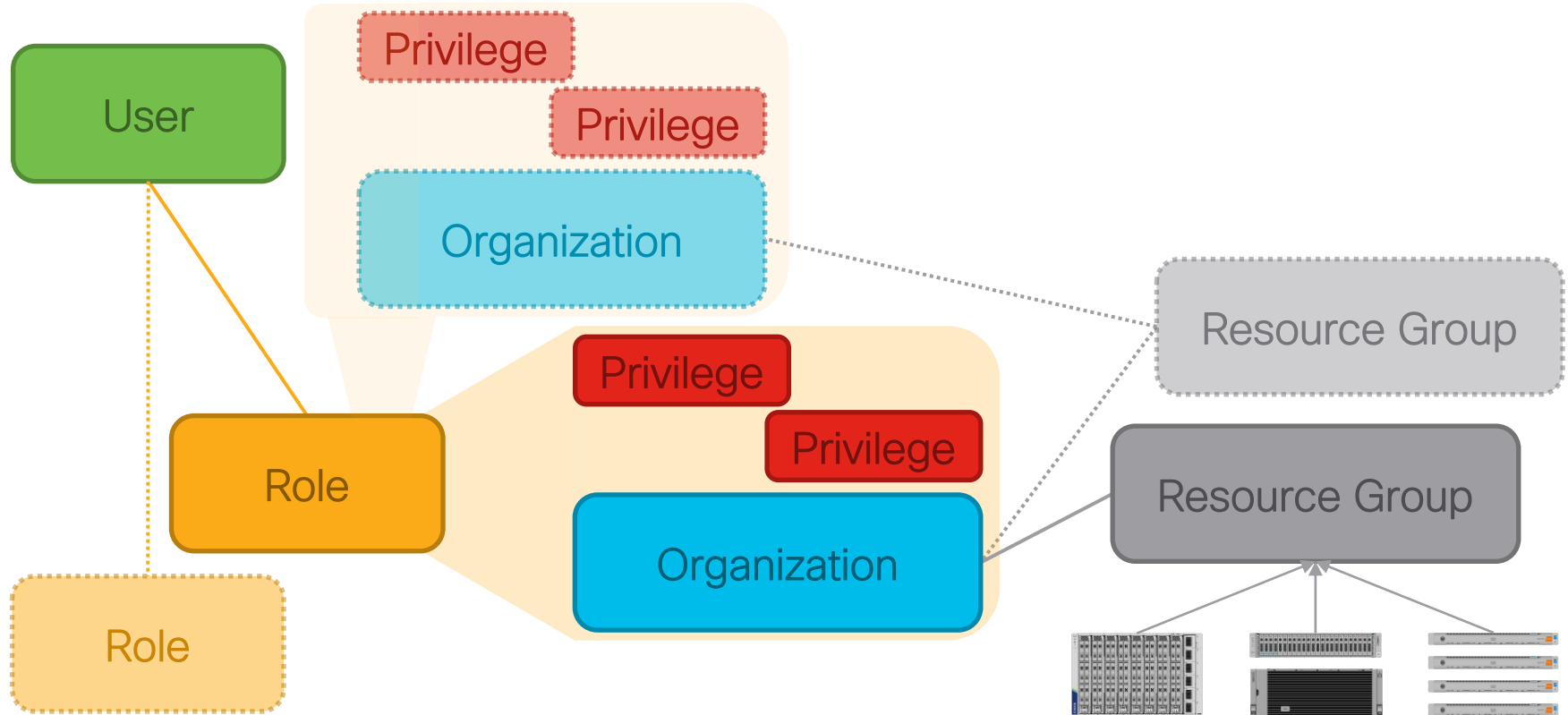


# Organizations in Intersight

- **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)
- **Sharing** between orgs in the roadmap



# Role-Based Access Control with Intersight



# Policy-based Model

- **Similar** to UCS Manager / Central

Pools	Policies
Profiles	Templates

- **Everything** is configured via policies
  - Servers, Chassis, Fabric
- Provides configuration **consistency**
- Ensures **compliance**



# Intersight Managed Mode

## Pools, Policies, Profiles & Templates

### Pools

- IP Pools
- MAC Pools
- WWNN Pools
- WWPN Pools
- IQN Pools
- UUID Pools
- Resource Pools

### Policies

#### Domain Policies

- VLAN/VSAN
- Port
- NTP/DNS/QoS/  
Fabric & Switch

#### Server Policies

- BIOS
- Boot
- Storage/SD Card
- LAN/SAN Connectivity
- IMC Access
- KVM/IPMI/Serial/vMedia
- SNMP/Syslog
- Power
- Firmware\*

#### Chassis Policies

- SNMP
- Power/Thermal

### Profiles

- Domain Profiles
- Server Profiles
- Chassis Profiles

### Templates

- Domain Profile  
Templates\*\*
- Server Profile  
Templates
- Chassis Profile  
Templates\*\*

\* Coming soon

\*\* Other Templates in roadmap

# IMM Pools

## Key differences with UCS Manager/Central



### Missing/Removed

- No WWxN pools
- No **Qualification policies\*** for Resource (Server) Pools



### Added/Simplified

- **Rename pools**
- Blocks with **up to 1024 entries** for all pool types
- **Sequential** allocation only
- Preliminary support for VRF to allow **overlapping** addresses



### Changed

- **Netmask/Prefix, Gateway, DNS** on a per-IP Pool basis
- **No default pools**

# IMM Policies

Key differences with UCS Manager/Central



## Missing/Removed

- No **Scrub\*** policies
- No **Firmware\*** policies



## Added/Simplified

- **Rename** policies
- **Domain policies** for consistent configuration across domains
- **Single** policy type per function
- **Shared policies** between Standalone & FI-Attached



## Changed

- No **default** policies
- **Sourcing of default values** when creating Adapter policies



# IMM Profiles & Templates

Key differences with UCS Manager/Central



## Missing/Removed

- No **Initial** Templates (use cloning instead)
- No support for **assigning IP at the physical server level** (only at the profile)\*



## Added/Simplified

- *Did I mention* **Rename** profiles & templates
- No need for **Maintenance Policy**
- **Merging of Local & Global Service Profile/Template**



## Changed

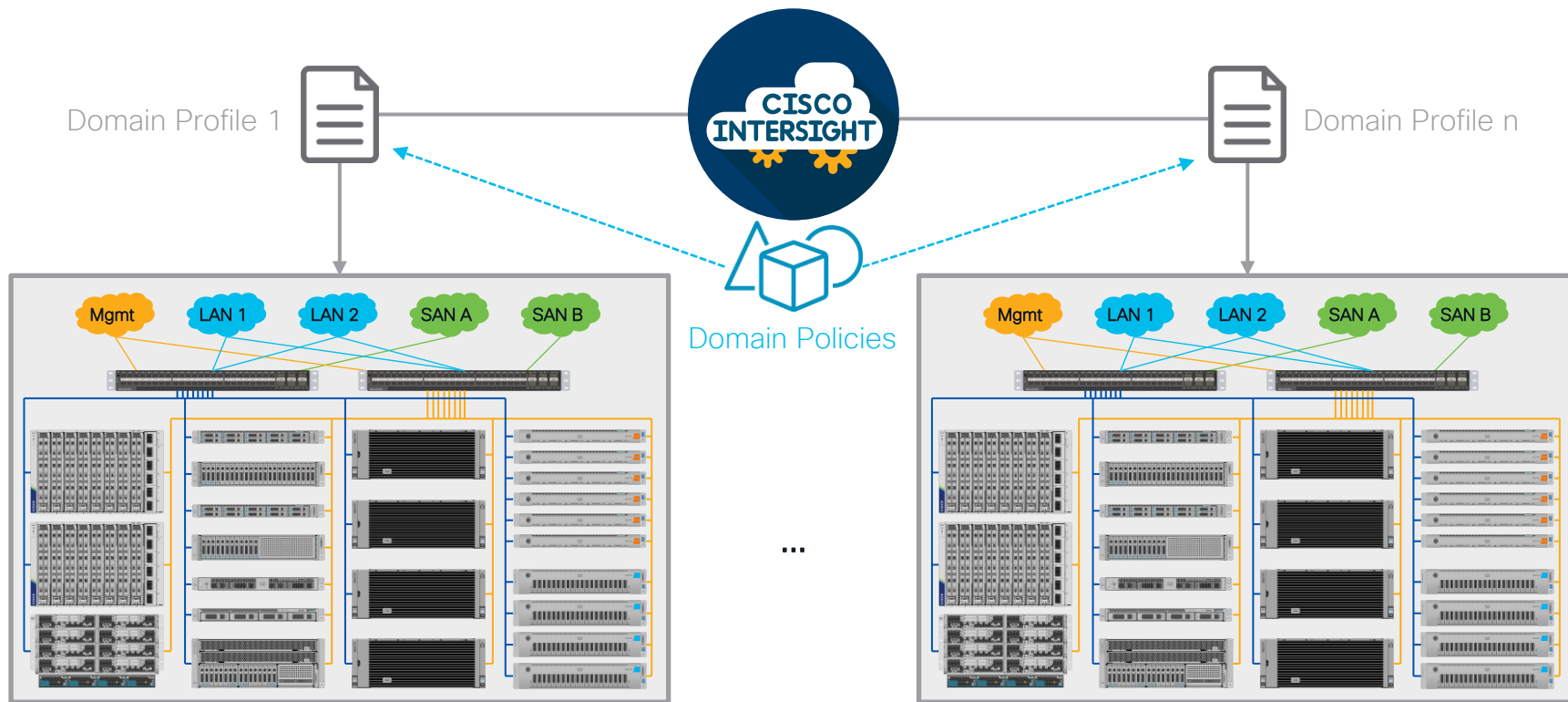
- **Improved change control** (separate assign & deploy steps)

# Managing UCS Domains



# UCS Domain Profiles

Policy-based configuration of the UCS fabric



# UCS Domain Profiles

## VLAN / VSAN Policy

- Defines the **list of VLANs / VSANs** that need to be deployed at the Fabric Interconnect level
- Domain Profile can use:
  - a **common policy** for both Fabrics (common scenario for VLANs) or
  - **separate policies** (VSANs are often different on each Fabric Interconnect)
- VLANs can be defined using a range to simplify configuration
- Private VLANs supported

The screenshot displays the 'Create' page for a policy in the UCS management interface. The page is titled 'Policies' and 'Create'. It features a 'Filters' section on the left with a 'Platform Type' dropdown menu. The main area contains a grid of radio buttons for selecting a policy type. The 'VLAN' option is selected and highlighted with a red box. Below the policy selection, there is a section for 'VLANs' with an 'Add VLANs' button and a 'Show VLAN Ranges' toggle. A table lists the configured VLANs, showing columns for 'VLAN ID', 'Name', 'Sharing Type', 'Primary VLAN...', 'Multicast Policy', and 'Auto Allow On Up...'. The table contains one entry with '1' as the VLAN ID, 'default' as the name, and 'None' as the sharing type. At the bottom, there is a checkbox for 'Set Native VLAN ID'.

**Platform Type**

- ☐ All
- ☐ UCS Server
- ☒ UCS Domain
- ☐ UCS Chassis
- ☐ HyperFlex Cluster
- ☐ Kubernetes Cluster

**Policy Selection**

- ☐ Ethernet Network Control
- ☐ Ethernet Network Group
- ☐ Flow Control
- ☐ Link Aggregation
- ☐ Link Control
- ☐ Multicast Policy
- ☐ Network Connectivity
- ☐ NTP
- ☐ Port
- ☐ SNMP
- ☐ Switch Control
- ☐ Syslog
- ☒ VLAN
- ☐ VSAN
- ☐ System QoS

**VLANs**

[Add VLANs](#)

☐ Show VLAN Ranges

1 items found 50 per page 1 of 1

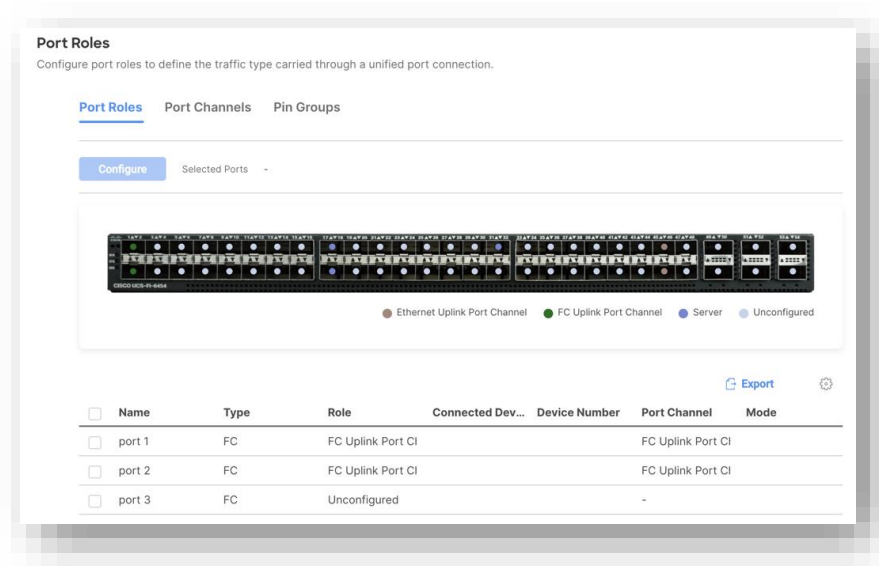
VLAN ID	Name	Sharing Type	Primary VLAN...	Multicast Policy	Auto Allow On Up...
1	default	None			Yes

☐ Set Native VLAN ID

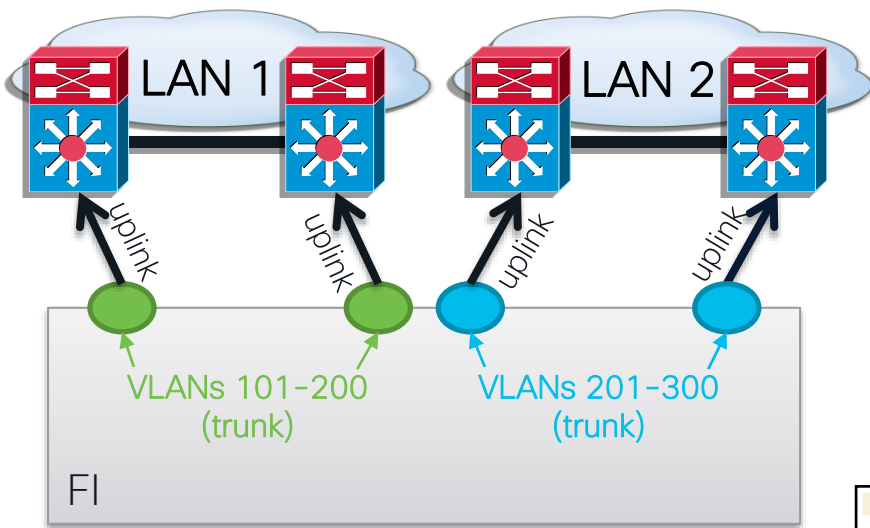
# UCS Domain Profiles

## Port Policy

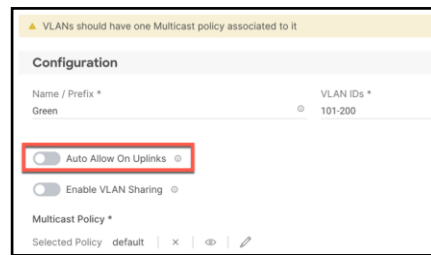
- Defines the **port configuration** of the Fabric Interconnects
  - Unified Port configuration (range) (requires a reboot during deployment)
  - Breakout Port configuration
  - Port Roles configuration (Server, LAN/SAN/FCoE Uplink, Appliance, FC Storage, Port-Channels)
- Domain Profile can use either:
  - a **common policy** for both Fabrics (for symmetric deployments)
  - **separate policies** for each Fabric (for better granularity)
- Ability to **define device ID** for chassis/racks



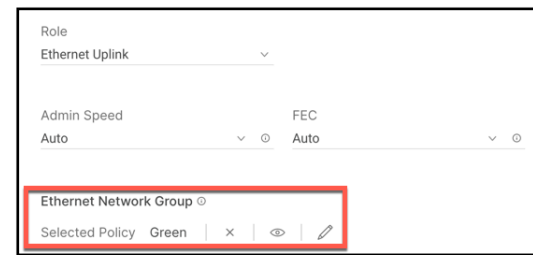
# Disjoint Layer 2 configuration in IMM



- To connect to disjoint L2 networks, VLANs can be filtered on uplink ports (or port-channels)
- A single uplink port is designated as broadcast/multicast receiver for each VLAN
- VLANs must be grouped as part of Ethernet Network Group Policies (Green and Blue)
- All VLANs used for Disjoint L2 must have “Auto Allow On Uplinks” set to Disabled
- Native VLAN can be defined per Eth. Network Group Policy
- Ports with role “Ethernet Uplink” part of Port Policy can be assigned an Ethernet Network Group Policy



VLAN Policy



Port Policy

# UCS Domain Profiles

## System Settings Policies



- These policies define the Fabric Interconnects configuration Similar to Domain Group settings in UCS Central.
  - **Network Connectivity Policy**: Defines DNS settings
  - **NTP Policy**: NTP & Timezone settings
  - **System QoS Policy**: QoS classes settings
  - **Switch Control Policy**: VLAN compression, MAC Address aging, Link Control, Switch modes for Ethernet & FC
  - **SNMP Policy**: SNMP settings
  - **Syslog Policy**: Syslog settings
- Multiple policies are **generic** and can be shared with other platform types (Standalone server, FI-Attached server, Chassis)

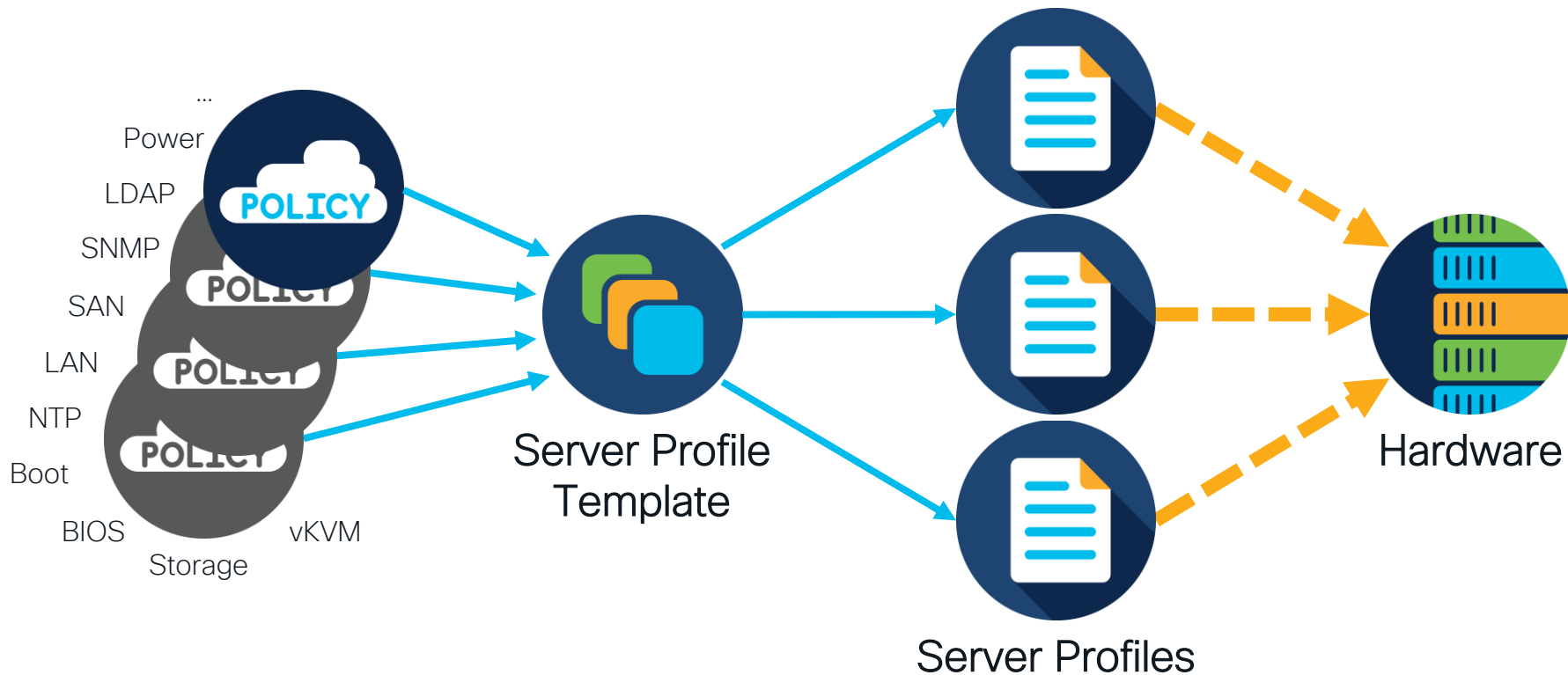
# Managing UCS Servers





# UCS Server Profiles & Templates

Policy-based configuration of the UCS servers



# UCS Server Profiles & Templates

## Server Configuration Policies



- **Server configuration policies** – similar to UCS Manager/Central policies
  - **BIOS Policy**: Defines BIOS settings
  - **Boot Order Policy**: Defines server boot order
  - **LAN Connectivity Policy**: Defines vNICs
  - **Power Policy**: Configures power management (profiling & restore)
  - **SAN Connectivity Policy**: Defines vHBAs
  - **SD Card Policy**: Defines SD Card settings
  - **Storage Policy**: Defines local storage settings (M.2 and RAID controllers)
- Multiple policies are **generic** and can be shared with other platform types (Standalone server, FI-Attached server, Chassis)

# Storage Policy: All in One!

- **Single policy** for everything Storage
  - Replaces *Local Disk Config Policy*, *Disk Group Policy* & *Storage Profile*
  - Applies to Standalone & IMM servers
- **Simple toggle button** for M.2 RAID configuration
- Supports setting default & unused drives state
- Support for automatic disk assignment in roadmap

The screenshot shows a web-based configuration interface for storage policy. At the top, there are three tabs: 'All Platforms' (highlighted with a red box), 'UCS Server (Standalone)', and 'UCS Server (FI-Attached)'. Below the tabs is the 'General Configuration' section. It includes a toggle for 'Use JBOD drives for Virtual Drive creation' (disabled), a dropdown for 'Unused Disks State' (set to 'No Change'), and a dropdown for 'Default Drive State' (set to 'Unconfigured Good'). Further down, there are three configuration rows, each with a toggle: 'M.2 RAID Configuration' (enabled), 'MRAID/RAID Controller Configuration' (highlighted with a red box and enabled), and 'MRAID/RAID Single Drive RAID0 Configuration' (enabled). At the bottom, there are 'Cancel', 'Back', and 'Create' buttons.

# LAN/SAN Connectivity Policy changes

- **Merging** of “inline” vNICs/vHBAs and LAN/SAN Connectivity Policies
- No concept of “**desired**” and “**actual**” order
  - “*Auto*” placement automatically distributes vNICs/vHBAs
  - “*Manual*” placement lets you specify PCI order at the vNIC/vHBA level  
Order needs to **start at 0** and be **contiguous** for all vNICs/vHBAs
- **vCon placement** simplified
  - Use “**Simple**” placement for single-VIC deployments (automatically sets “Slot ID” and “PCI Link”)
  - Use “**Advanced**” placement to define the “Slot ID” for each vNIC/vHBA (and “PCI Link” for VIC 1300)
- vNIC/vHBA Templates in roadmap

The image shows two screenshots of a network configuration interface. The top screenshot is titled "vNIC Configuration" and features two tabs: "Manual vNICs Placement" (which is selected) and "Auto vNICs Placement". Below the tabs, a blue banner contains a bullet point and the text: "For manual placement option you need to specify placement for each vNIC. Learn more at [Help Center](#)". The bottom screenshot is titled "Placement" and also has two tabs: "Simple" and "Advanced" (which is selected). Under the "Advanced" tab, there are three configuration fields: "Slot ID \*" with a value of "0", "Switch ID \*" with a dropdown menu showing "A", and "PCI Order" with a value of "0". Each field has a small circular icon to its right. The "Slot ID" field also has a "PCI Link" label and a value of "0" to its right.

# UCS Server Profiles & Templates

## Server Management Policies



- **Server management policies** – similar to UCS Manager/Central policies
  - **IMC Access Policy**: Defines VLAN/IP address for server CIMC
  - **IPMI over LAN Policy**: Defines IPMI settings
  - **Local User Policy**: Configures local users for KVM/IPMI/SNMP access
  - **Serial over LAN Policy**: Defines SoL settings
  - **SNMP Policy**: Configures SNMP for server CIMC
  - **Virtual KVM Policy**: Defines vKVM settings
  - **Virtual Media Policy**: Configures vMedia settings
- Multiple policies are **generic** and can be shared with other platform types (Standalone server, FI-Attached server, Chassis)

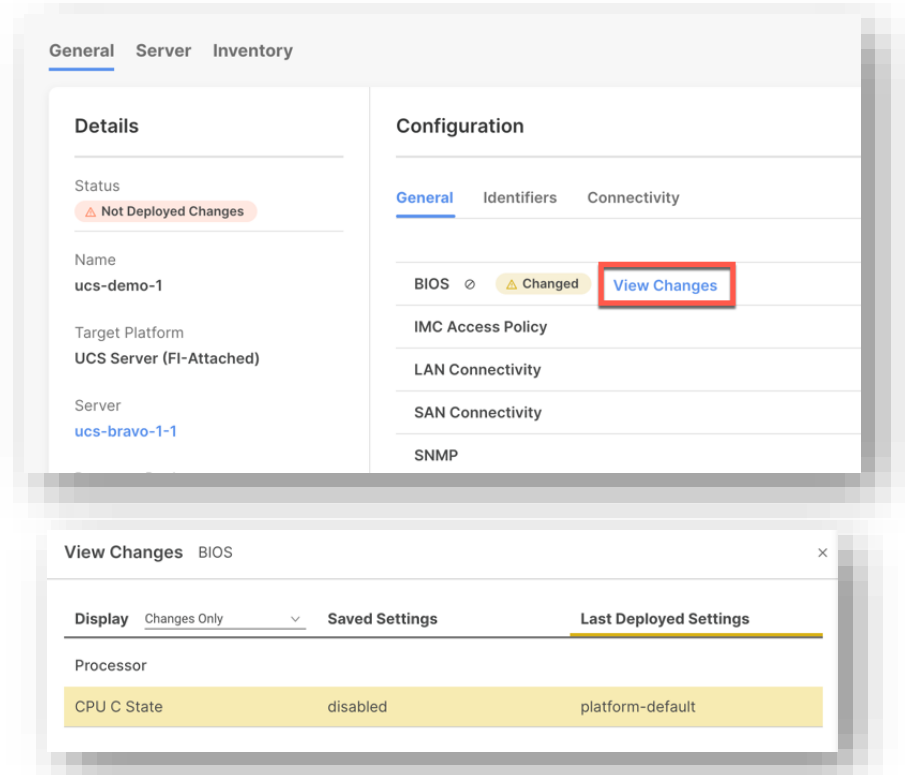
# IMC Access Policy – Required!

- Provides **connectivity** to the server's CIMC
  - IP assigned to Server Profile, not physical server\*
  - Also used for accessing the chassis' CMC (SNMP)
- **Inband** configuration
  - VLANs 1-3 not supported (same as UCSM)
  - IPv4 & IPv6
- **Out-Of-Band** configuration
  - vMedia, SNMP & Syslog not supported\*
  - IPv4 only
- Corresponds to “*Management IP Address*” + “*Inband Profile*” in UCS Manager

The screenshot displays the IMC Access Policy configuration interface. The 'In-Band Configuration' section is highlighted with a red box and is set to 'Enabled'. It includes a 'VLAN ID \*' field with the value '105' and a range '4 - 4093'. Below this, there are checkboxes for 'IPv4 address configuration' (checked) and 'IPv6 address configuration' (unchecked). The 'IP Pool \*' section shows 'Selected IP Pool' as 'cimc-bravo' with icons for expand, close, view, and edit. The 'Out-Of-Band Configuration' section is also highlighted with a red box and is set to 'Enabled'.

# Improved change control

- No need for a “Maintenance Policy”
- Server Profile must be redeployed for changes to be applied – requires manual intervention
- Once redeployed, the server might need to be rebooted, depending on the changes
  - Estimate impact in roadmap
- Ability to view the pending changes before deploying, with a side-by-side comparison view
- Same change control for Domain & Chassis Profiles



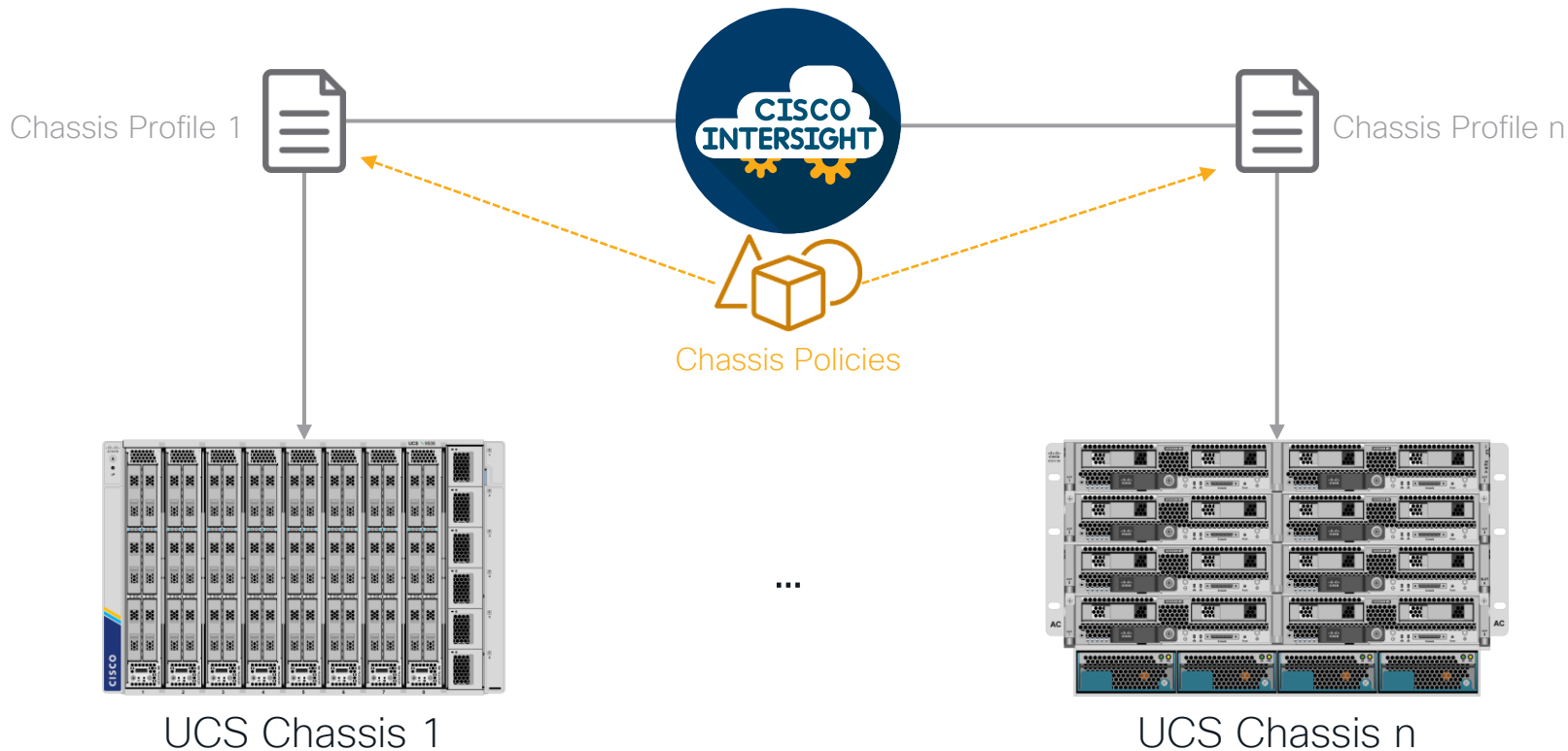
# Managing UCS Chassis





# UCS Chassis Profiles

Policy-based configuration of the UCS chassis



# UCS Chassis Profiles

## Chassis Policies



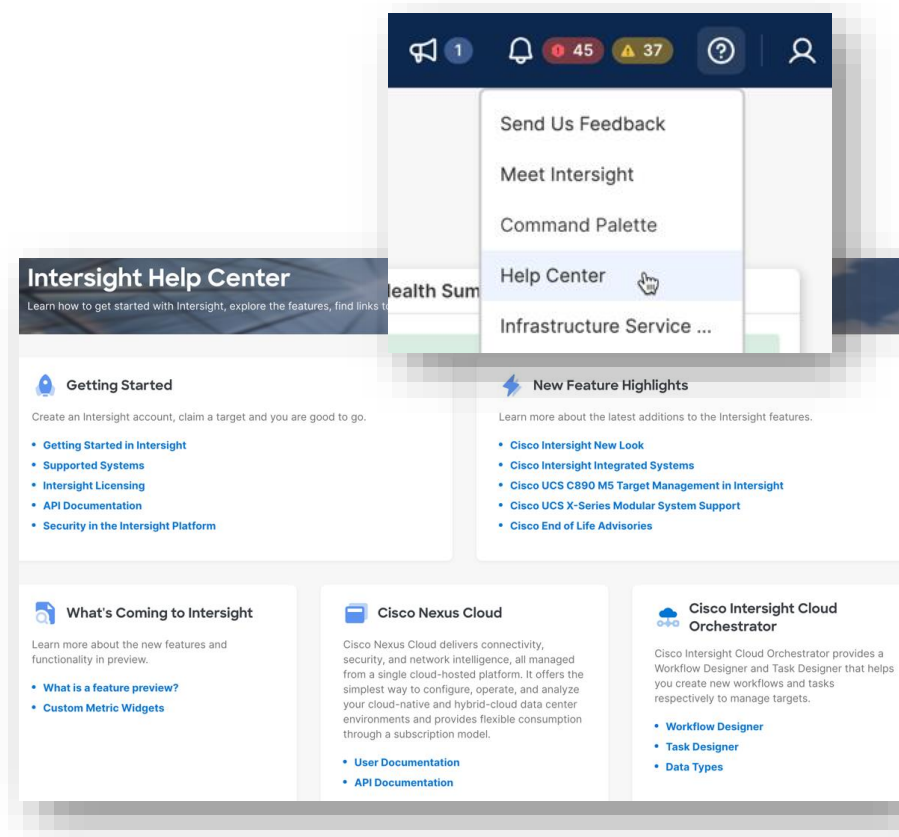
- **Chassis policies** – to support per-chassis settings (different from UCSM)
  - IMC Access Policy: Defines VLAN/IP address for chassis CMC (used by SNMP)
  - Power Policy: Configures power management (redundancy & power budget)
  - SNMP Policy: SNMP settings
  - Thermal Policy: Fan control settings
- Multiple policies are **generic** and can be shared with other platform types (Standalone server, FI-Attached server, Chassis)
- **Not required** to have a fully functioning chassis (defaults to Grid power)

# Performing (some) Operations



# 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>



# Where is my FSM?

- Common place for all requests and workflows (orchestrator)
  - In progress, successful or failed
- View request details with individual steps

The screenshot shows the Cisco Lifecycle Services (CLS) interface. The top navigation bar has a red box around the 'Requests' icon. The main content area displays a table of requests with columns for Name, Status, Initiator, Target Type, Target Name, Start Time, Duration, ID, and Execution Type. Below the table, there are sections for 'Blade Discovery' details and an 'Execution Flow' timeline.

Name	Status	Initiator	Target Type	Target Name	Start Time	Duration	ID	Execution Ty...
Chassis Inventory	In Progress 29%	system@intersight	Chassis	ucs-bravo-1	a few seconds ago	6 s	63cd978c696f	Execute
Chassis Inventory	In Progress 29%	system@intersight	Chassis	ucs-bravo-1	3 minutes ago	2 m 56 s	63cd96ee696f	Execute
Chassis Discovery	Success	system@intersight	Chassis	ucs-bravo-1	3 minutes ago	14 s	63cd96de696f	Execute
Chassis Discovery	Success	system@intersight	Chassis	ucs-bravo-2	3 minutes ago	13 s	63cd96dc696f	Execute

**Blade Discovery**

**Details**

Status: Success

Name: Blade Discovery

ID: 63cd9813690f6e2d3155ad4e

Target Type: Blade Server

Target Name: ucs-bravo-1-3

Source Type: Blade Server

Source Name: ucs-bravo-1-3

Initiator: system@intersight

Start Time: Jan 22, 2023 9:09 PM

End Time: Jan 22, 2023 9:15 PM

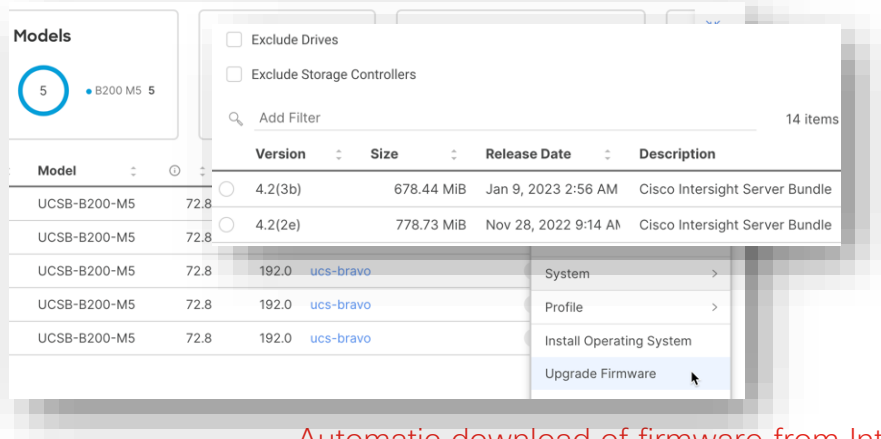
**Execution Flow**

- Sync Server View Inventory (Jan 22, 2023 9:15 PM)
- Inventory Server Power (Jan 22, 2023 9:15 PM)
- Power Off Server (Jan 22, 2023 9:15 PM)
- Retrieve Actual Boot Order Information (Jan 22, 2023 9:15 PM)
- Retrieve Adapter Interface Information (Jan 22, 2023 9:15 PM)
- Retrieve Adapter Event Channel Information (Jan 22, 2023 9:15 PM)
- Firmware Inventory Summary for Server Components (Jan 22, 2023 9:15 PM)
- Create Adapter External Interfaces (Jan 22, 2023 9:15 PM)
- Pre validate Adapter upgrade (Jan 22, 2023 9:15 PM)
- Get upgrade details for adapter (Jan 22, 2023 9:15 PM)
- Configure Server Host Ports (Jan 22, 2023 9:15 PM)
- Wait for Adapter Inventory (Jan 22, 2023 9:15 PM)
- Retrieve Server Inventory (Jan 22, 2023 9:15 PM)
- Wait For Storage Initialization (Jan 22, 2023 9:14 PM)

# Managing Firmwares

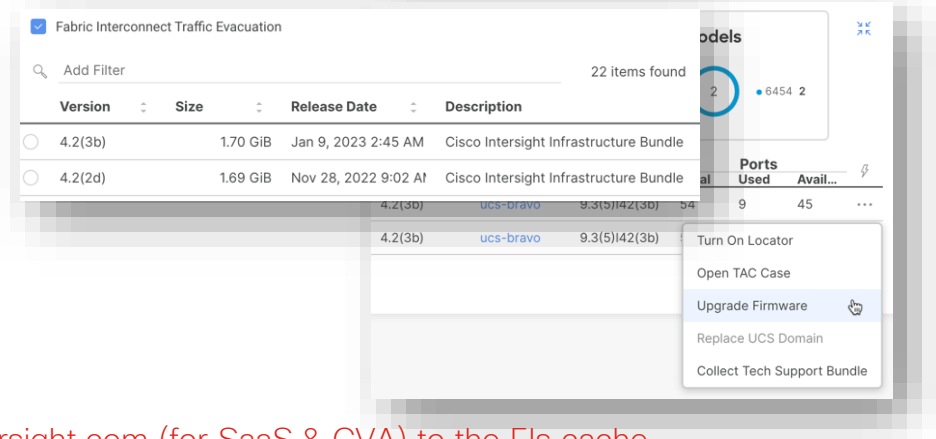
## UCS Servers

- Single/Multi-server parallel upgrade
  - Firmwares installed on next boot or immediately
- Similar for IMM and standalone servers
- Firmware Policy in roadmap



## UCS Infrastructure

- Similar to UCS Manager Auto-Install
- User acknowledgement for each FI reboot
- Integration of fabric Traffic Evacuation



Automatic download of firmware from Intersight.com (for SaaS & CVA) to the FIs cache

# Handling Servers below minimum version

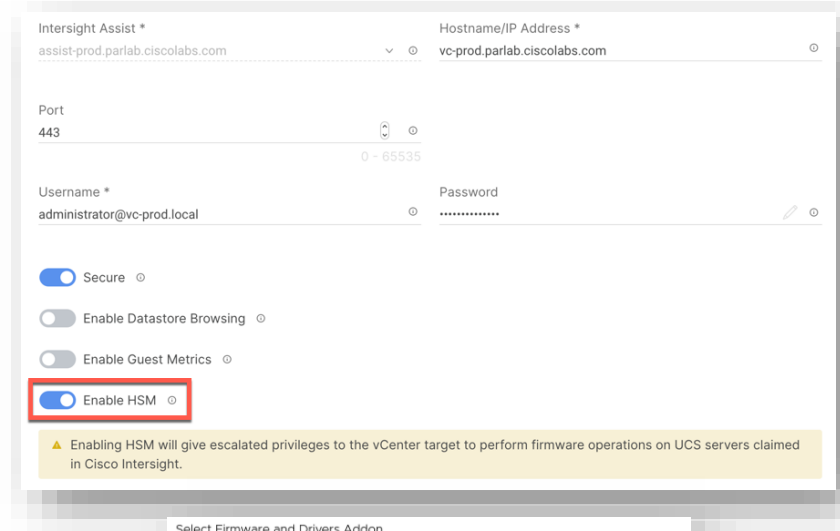
- Alarm generated
- Mechanism to upgrade server firmware (CIMC, BIOS & VIC) running older versions
- Supports both M5 blades & racks
- Found under chassis/FI inventory
- Typical use case: RMA

The screenshot displays the Cisco UCS Manager interface. At the top, a message bar shows a warning: "Intersight Managed Mode does not support the existing firmware version. l" with a yellow warning icon and the text "Warning ComputeCimcFirmwareNc ucs-bravo". Below this, the "Upgrade Server" dialog is open, showing a list of available firmware versions for the server "FCH22117BWA". The versions listed are 4.2(3b), 4.2(2e), 4.2(2d), 4.2(1h), 4.2(1f), 4.2(1e), 4.2(1c), 4.2(1b), 4.2(1a), 4.1(3k), and 4.1(3h). The "Upgrade" button is visible. In the background, the "Servers Below Minimum Version" table is visible, showing one item found.

Slot ID	Model	Serial
	2 UCSB-B200-M5	FCH22117BWA

# VMware vLCM/HSM Integration

- Automate UCS servers firmware updates via vLCM
- **Claim vCenter** in Intersight
  - Enable HSM when claiming
- **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



Intersight Assist \*  
assist-prod.parlab.ciscolabs.com

Hostname/IP Address \*  
vc-prod.parlab.ciscolabs.com

Port  
443

Username \*  
administrator@vc-prod.local

Password  
\*\*\*\*\*

☒ Secure

☐ Enable Datastore Browsing

☐ Enable Guest Metrics

☒ **Enable HSM**

▲ Enabling HSM will give escalated privileges to the vCenter target to perform firmware operations on UCS servers claimed in Cisco Intersight.

Select Firmware and Drivers Addon

Select the hardware support manager  
Intersight HSM via Intersight vCenter lab

Hardware Support Manager

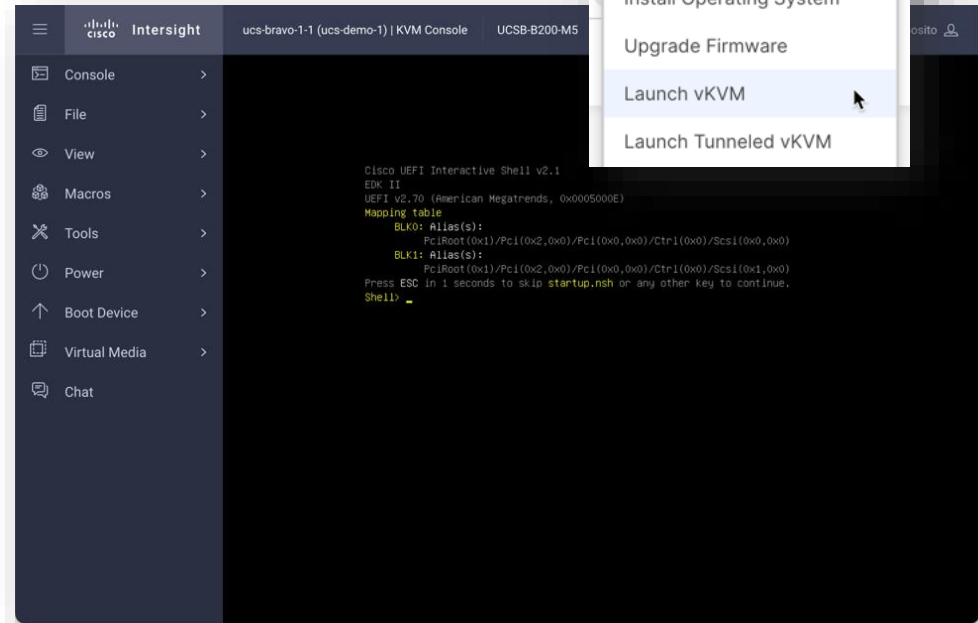
Select a firmware and driver addon

Addon name	Addon version	Supported ESXi versions
<input type="radio"/> CR-4.2(1f)	4.2(1f)	7.0.0, 7.0.1, 7.0.2, 7.0.3
<input type="radio"/> CR-4.1(3f)	4.1(3f)	7.0.0, 7.0.1, 7.0.2, 7.0.3
<input type="radio"/> CR-4.1(3d)	4.1(3d)	7.0.0, 7.0.1, 7.0.2, 7.0.3
<input type="radio"/> CR-4.1(3c)	4.1(3c)	7.0.0, 7.0.1, 7.0.2, 7.0.3
<input type="radio"/> CR-4.1(3b)	4.1(3b)	7.0.0, 7.0.1, 7.0.2, 7.0.3
<input type="radio"/> CR-4.1(2f)	4.1(2f)	7.0.0, 7.0.1, 7.0.2, 7.0.3
<input type="radio"/> CR-4.1(2g)	4.1(2g)	7.0.0, 7.0.1, 7.0.2, 7.0.3
<input type="radio"/> CR-4.1(2f)	4.1(2f)	7.0.0, 7.0.1, 7.0.2, 7.0.3



# Connecting to Virtual KVM

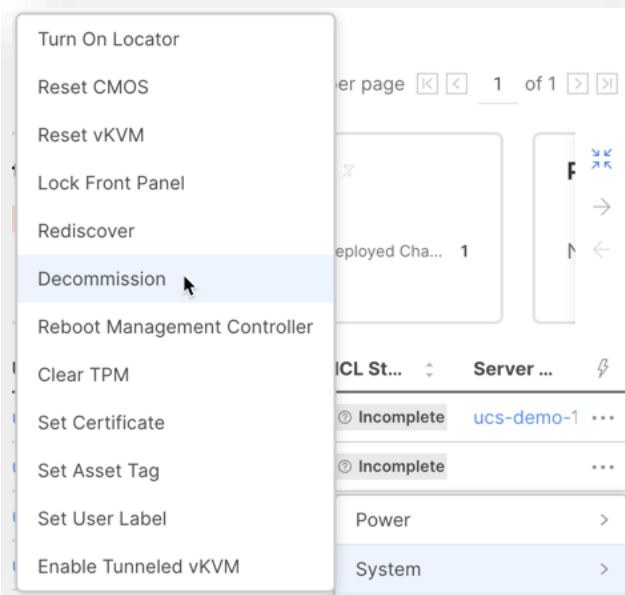
- **Virtual KVM Policy**
  - Enable/Disable vKVM
  - Tunneled vKVM support
- **Virtual Media Policy**
  - Disabled by default
  - Virtual Media mounts
- **IMC Access Policy** required
  - Virtual Media supported on Inband only
- **Authentication**
  - SSO from Intersight by default
  - Local User Policy required for KVM Direct
- **One Time Boot** device support
- Session Management: under System → Sessions



New Cisco vKVM with M5\*/M6 servers

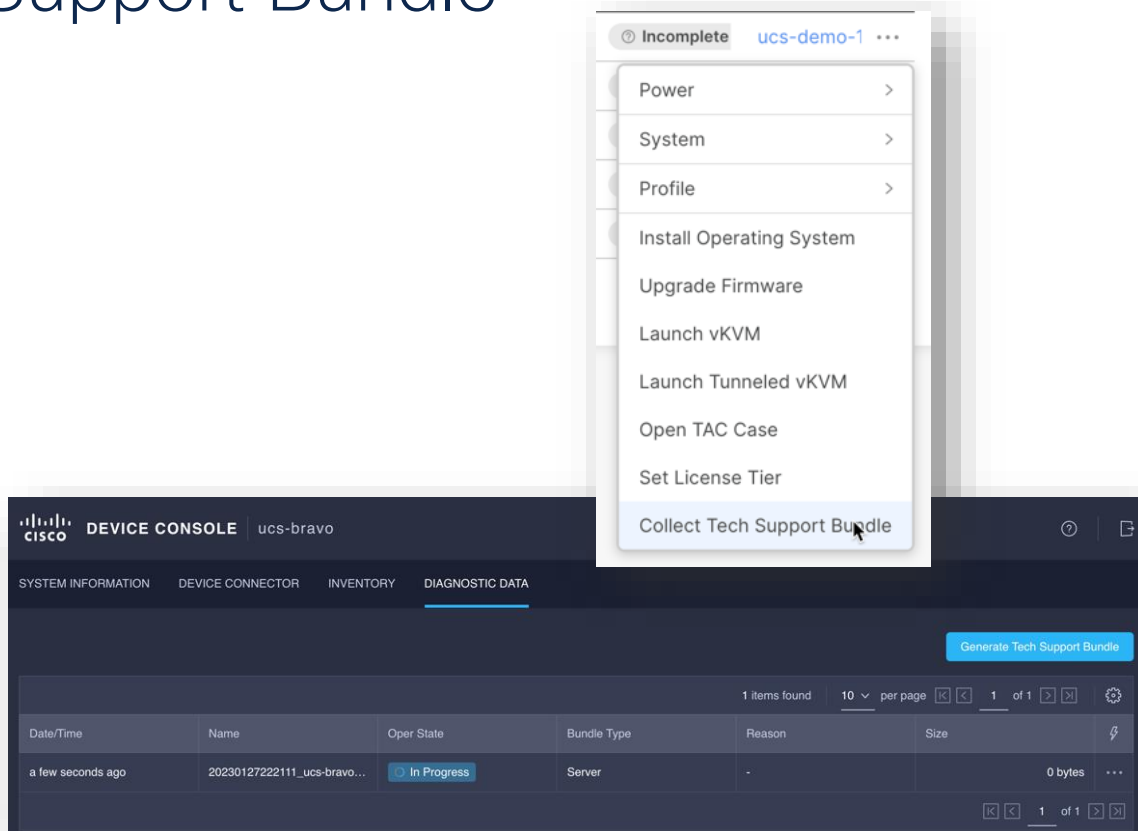
# Decommission / Recommission

- Similar to UCS Manager
- To **recommission**:
  - Fabric Interconnect → Connections → Decommissioned
  - Can also be removed
- Ability to **change ID** of chassis / rack server / FEX when recommissioning



# Collecting a Tech Support Bundle

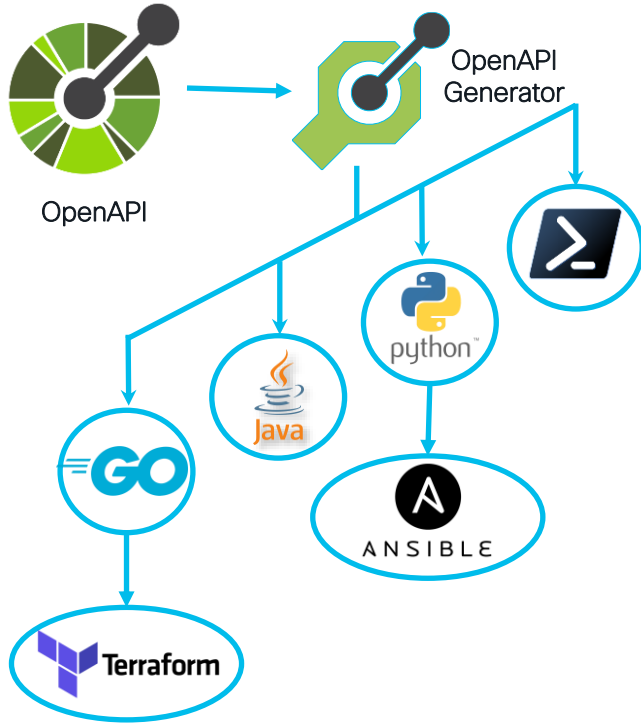
- **From Intersight**
  - Action menu of the equipment
  - Download under System → Tech Support Bundles
- **From Device Console**
  - Action menu of the equipment under Inventory
  - Download under Diagnostic Data
- **Connected TAC**
  - Automated with SaaS and Connected Appliance



The screenshot displays the Cisco Device Console interface for a device named 'ucs-bravo'. The 'DIAGNOSTIC DATA' tab is selected, showing a table with one entry: a bundle named '20230127222111\_ucs-bravo...' in an 'In Progress' state. A 'Generate Tech Support Bundle' button is visible in the top right. An action menu is open, listing various options, with 'Collect Tech Support Bundle' highlighted at the bottom.

Date/Time	Name	Oper State	Bundle Type	Reason	Size
a few seconds ago	20230127222111_ucs-bravo...	In Progress	Server	-	0 bytes

# API is the new UI



CISCO *Live!*

The screenshot displays the Cisco Intersight Developer Center interface. The top navigation bar includes links for Guides, API Reference, Downloads, and Support, along with a user profile for Vincent Esposito. The main content area is titled "REST Client" and shows the endpoint `GET /api/v1/compute/Blades`. The "Parameters" tab is active, displaying a list of query parameters with their descriptions and values. The "Response Text" tab is also visible, showing the JSON response for the endpoint.

**Service:** Intersight

**API Reference v1.0.11-10513**

**GET /api/v1/compute/Blades**

**Parameters** Response Model

**\$filter { string }** query

Filter criteria for the resources to return. A URI with a \$filter query option identifies a subset of the entries from the Collection of Entries. The subset is determined by selecting only the Entries that satisfy the predicate expression specified by the \$filter option. The expression language that is used in \$filter queries supports references to properties and literals. The literal values can be strings enclosed in single quotes, numbers and boolean values (true or false).

**Sorterby { string }** query

Determines what properties are used to sort the collection of resources.

**Stop { integer }** query

Specifies the maximum number of resources to return in the response.

**Sskip { integer }** query

Specifies the number of resources to skip in the response.

**Sselect { string }** query

Specifies a subset of properties to return.

**Sexpand { string }** query

Specify additional attributes or related resources to return in addition to

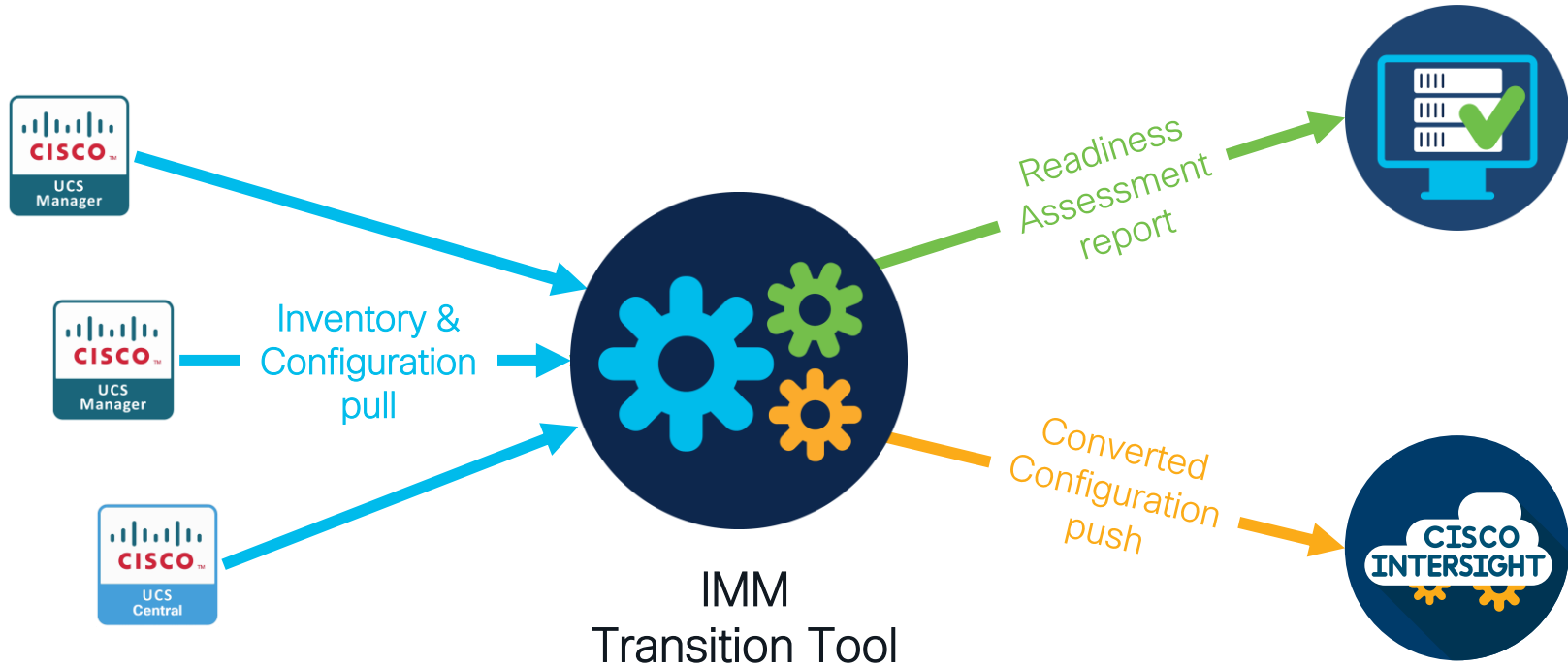
**Response Text** Response Info

```
1 {
2   "ObjectType": "compute.Blade.List",
3   "Results": [
4     {
5       "AccountMoid": "5984328b3e95200001",
6       "Adapters": [
7         {
8           "ClassId": "mo.MoRef",
9           "Moid": "63cd99456176752d31c83",
10          "ObjectType": "adapter.Unit",
11          "link": "https://www.intersight.com/odata/v1/Adapters(63cd99456176752d31c83)",
12        }
13      ],
14      "AdminPowerState": "",
15      "AlarmSummary": {
16        "ClassId": "compute.AlarmSummary",
17        "Critical": 0,
18        "Health": "Healthy",
19        "Info": 0,
20        "ObjectType": "compute.AlarmSummary",
21        "Warning": 0
22      },
23      "Alerts": [],
24      "Ancestors": [
25        {
26          "ClassId": "mo.MoRef",
27          "Moid": "63cd99456176752d31c83",
28          "ObjectType": "equipment.Chassis",
29          "link": "https://www.intersight.com/odata/v1/Equipment(63cd99456176752d31c83)",
30        }
31      ],
32      "AssetTag": ""
33    }
34  ]
35}
```

<https://intersight.com/apidocs/>

# Transitioning to Intersight Managed Mode

# Introducing the IMM Transition Tool



# Primary use cases

1

## Accelerate deployments of UCS X-Series

- Extends existing **Service Profile Templates** to Intersight
- Automatically converts related **server policies** (boot, BIOS, LAN/SAN connectivity, etc.)
- Converts **fabric configuration** (VLANs/VSANs, port configuration, etc.)

2

## Move existing servers to IMM domains

- Automatically **converts** existing **Service Profiles** to Intersight Server Profiles
- Maintains all **server identities** (MAC, WWN, etc.)
- Allows **transition** to new server generation (e.g. M3/M4 to M6)

3

## Migrate an entire UCS domain to IMM\*

- Assesses **hardware & firmware compatibility**
- Performs **complete conversion** of UCS Manager domain to IMM mode
- **Requires domain downtime**
- Handles **all necessary operations** automatically

# Additional use cases

4

## Intersight form-factor migration

- Perform **form-factor** migration of policies (between Intersight SaaS, CVA & PVA)
- Clones **org structure** and **policies, profiles, templates**
- Supports **server, domain & chassis** policies (no support for HyperFlex & Kubernetes)

5

## Bulk claim of devices to Intersight\*

- **Automatically claim** various UCS devices (UCSM, CIMC)
- Use CSV input file for providing **credentials**
- Support claiming to Intersight **SaaS** or Connected/Private Appliance

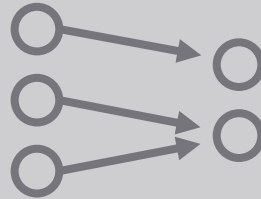


# Release 3.0 Major New Features



## Conversion with identities preservation

- Conversion of Service Profiles with **preservation of their identities** (IP, MAC, WWPN, WWNN, UUID)
- User-selectable option in the Transition Settings



## Advanced Organization Mapping

- Gives **more flexibility** to control where converted policies are placed
- Supports **one-to-one** and **many-to-one** mapping



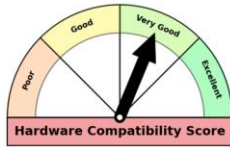
## Cloning Intersight accounts/instances

- Allows quick **config replication** between Intersight instances
- Cloning of all **FI-Attached & Standalone** policies, pools, profiles, templates (no support for HX & IKS)

# Sample Readiness Report

## 1. Intersight Managed Mode Conversion Overall Summary

### 1.1 Intersight Managed Mode Conversion Score



This score reflects the overall UCS Domain hardware compatibility with Intersight Managed Mode. It takes into account all hardware components (fabric and servers). A detailed view can be found below.

### 3.2.16 Port Policies

These policies are used for converting attributes of the port roles of Fabric Interconnects in UCS Manager.



#### Port Policies are separate for each Fabric Interconnect

Source port configuration is different for both fabrics



#### Ignoring Link Profile configuration for FCoE Port-Channel

Different Link Profiles are configured on the following Member Interfaces: ['33']



#### Ignoring FCoE Storage Ports configuration as it is not yet supported in IMM

['A/1/14, A/1/21/4, B/1/39']



#### Ignoring SAN Ports configuration as Source FI Model is not supported in IMM

['UCS-FI-6332-16UP']



#### Ignoring source FI (6332-16UP) SFP+ ports configuration

Destination FI Model (6536) does not have any SFP+ ports

## Fabric Interconnects



IMM Ready  
Requires Upgrade  
Not Compatible

## Chassis



IMM Ready  
Requires Upgrade  
Not Compatible

## IO Modules



IMM Ready  
Requires Upgrade  
Not Compatible

## Blades



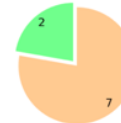
IMM Ready  
Requires Upgrade  
Not Compatible

## Racks



IMM Ready  
Requires Upgrade  
Not Compatible

## Adaptors



IMM Ready  
Requires Upgrade  
Not Compatible

# Additional Resources

- IMM Transition Tool demo videos
  - <https://www.youtube.com/watch?v=tHJJ-prOrO0>
  - <https://www.youtube.com/watch?v=Oqmf2CAPxtE>
  - <https://www.youtube.com/watch?v=duczkclCYrk>
- IMM Transition Tool download page
  - <https://ucstools.cloudapps.cisco.com/>
- IMM Transition Tool Documentation
  - User Guide: [https://www.cisco.com/c/en/us/td/docs/unified\\_computing/Intersight/IMM-Transition-Tool/User-Guide-3-0/b\\_cisco\\_intersight\\_managed\\_mode\\_user\\_guide\\_3\\_0/m\\_new\\_changed\\_info\\_imm\\_tt\\_3.html](https://www.cisco.com/c/en/us/td/docs/unified_computing/Intersight/IMM-Transition-Tool/User-Guide-3-0/b_cisco_intersight_managed_mode_user_guide_3_0/m_new_changed_info_imm_tt_3.html)
  - Release Notes: [https://www.cisco.com/c/en/us/td/docs/unified\\_computing/Intersight/IMM-Transition-Tool/b\\_imm\\_tt\\_rn.html](https://www.cisco.com/c/en/us/td/docs/unified_computing/Intersight/IMM-Transition-Tool/b_imm_tt_rn.html)
- Transition CVDs
  - *FlexPod*: <https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-manager/transition-a-cisco-ucs-in-flexpod-from-ucs-manager-to-cisco-intersight.html>
  - *FlashStack*: <https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/transition-flashstack-from-ucs-to-imm-wp.html>

# Key Takeaways



# Summary

- Intersight is **much more** than UCS Manager/Central
- **Same DNA**: Policy-based Server & Fabric Management
- **Additional** features (OS Install, HCL, Advisories)
- **Improved** Change Control
- Policies **everywhere** (Domain & Chassis Profiles, natively Multi Domain)
- **Modernized** Platform (OpenAPI, Redfish, Automated Updates, Feedback, ...)
- IMM Transition Tool can help **assess** readiness and **convert** config

Intersight Managed Mode is the future of UCS Management

# Call to Action

 **Adopt Intersight** by claiming your existing domains

 **Start using IMM** in the lab / new deployments

 Consider **UCS X-Series** as your next-gen server platform

 **Generate a Readiness Report** with the IMM Transition Tool



## IMM Advantage



Modernized



Policies Everywhere



Simplified



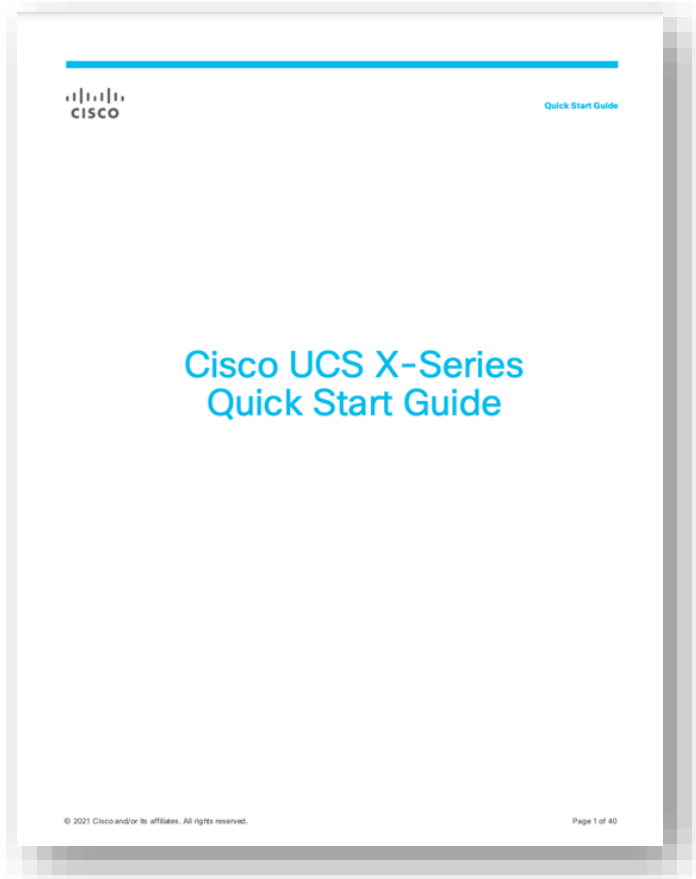
Safer Operations



Multi Domain

# X-Series Quick Start Guide

- **Complete deployment guide** for an X-Series IMM deployment from scratch
- Contains IMM domain, chassis and server configuration steps with all details
- <https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/ucs-x-series-modular-system/ucs-x-series-quick-start-guide.html>



# Complete your Session Survey

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





# Continue your education



Visit the Cisco Showcase for related demos.



Book your one-on-one Meet the Engineer meeting.



Attend any of the sessions at the DevNet, Capture the Flag, and Walk-in Labs zones



Visit the On-Demand Library for more sessions at [www.CiscoLive.com/on-demand](http://www.CiscoLive.com/on-demand)



The bridge to possible

# Thank you

CISCO *Live!*

CISCO *Live!*

