

The background features a vibrant, abstract design. On the left, there are horizontal, wavy bands of color in shades of red, orange, yellow, and green. On the right, a bright white light source emits a series of colorful rays in shades of blue, cyan, and yellow, creating a sunburst effect.

CISCO *Live!*

Let's go

#CiscoLiveAPJC



The bridge to possible

Intersight Managed Mode (IMM) for UCS Manager Admins

A technical overview of IMM

Greg Scarlett – Technical Solutions Architect – CCIE 42291
BRKCOM-2938

CISCO *Live!*

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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

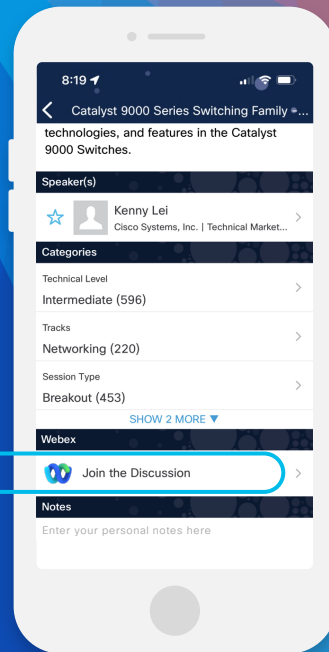
Questions?

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 June 9, 2023.

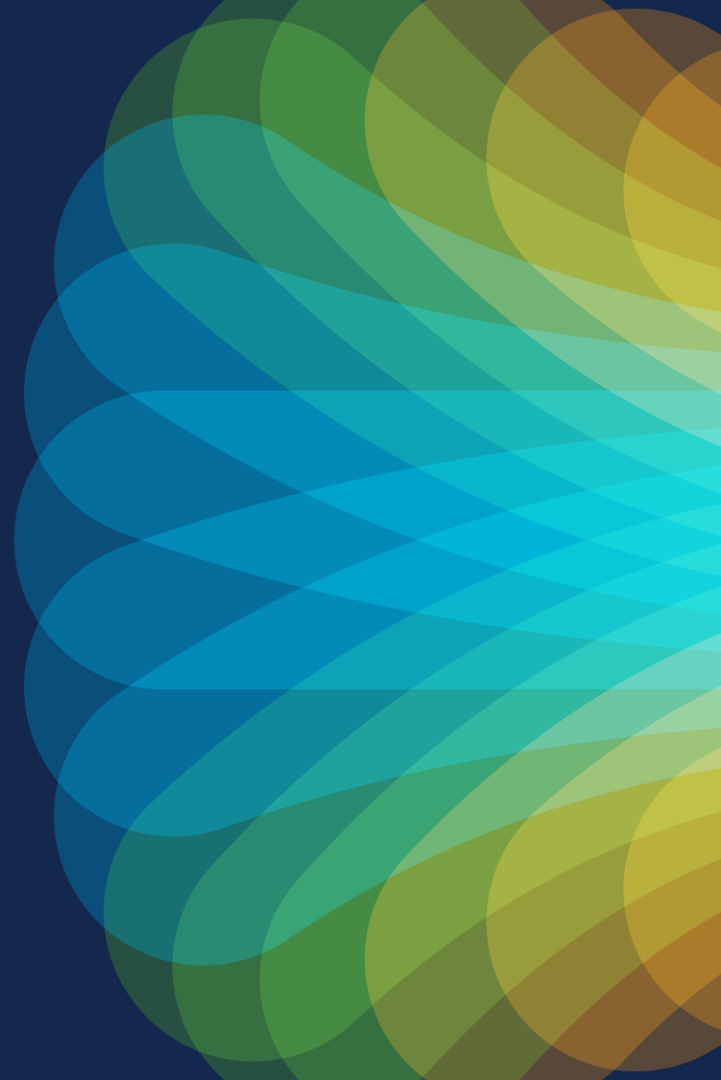


<https://ciscolive.ciscoevents.com/ciscolivebot/#BRKCOM-2938>

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



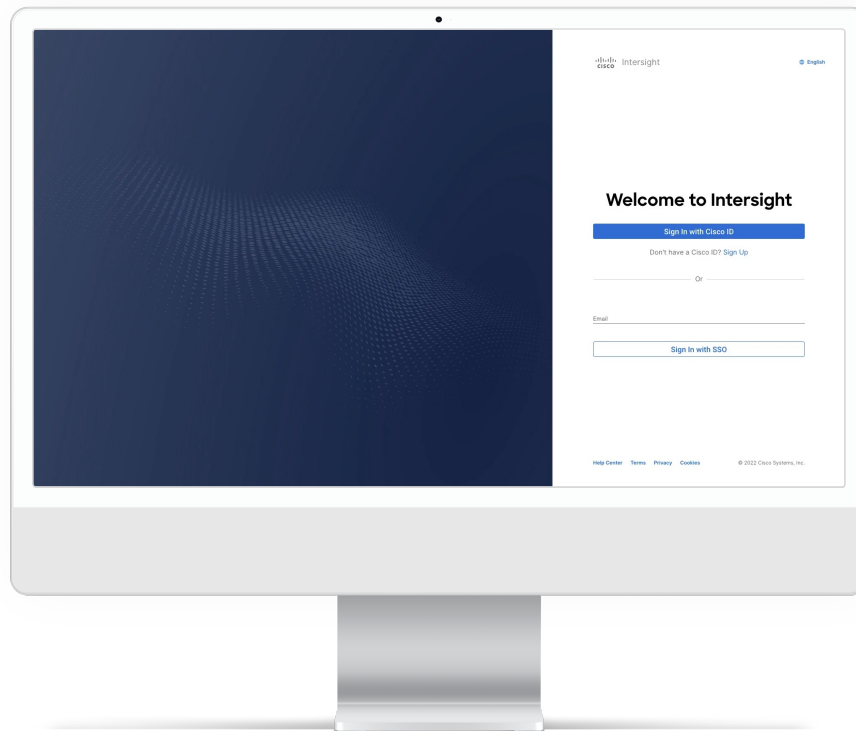
Automate

Networking and computing deployments and configuration

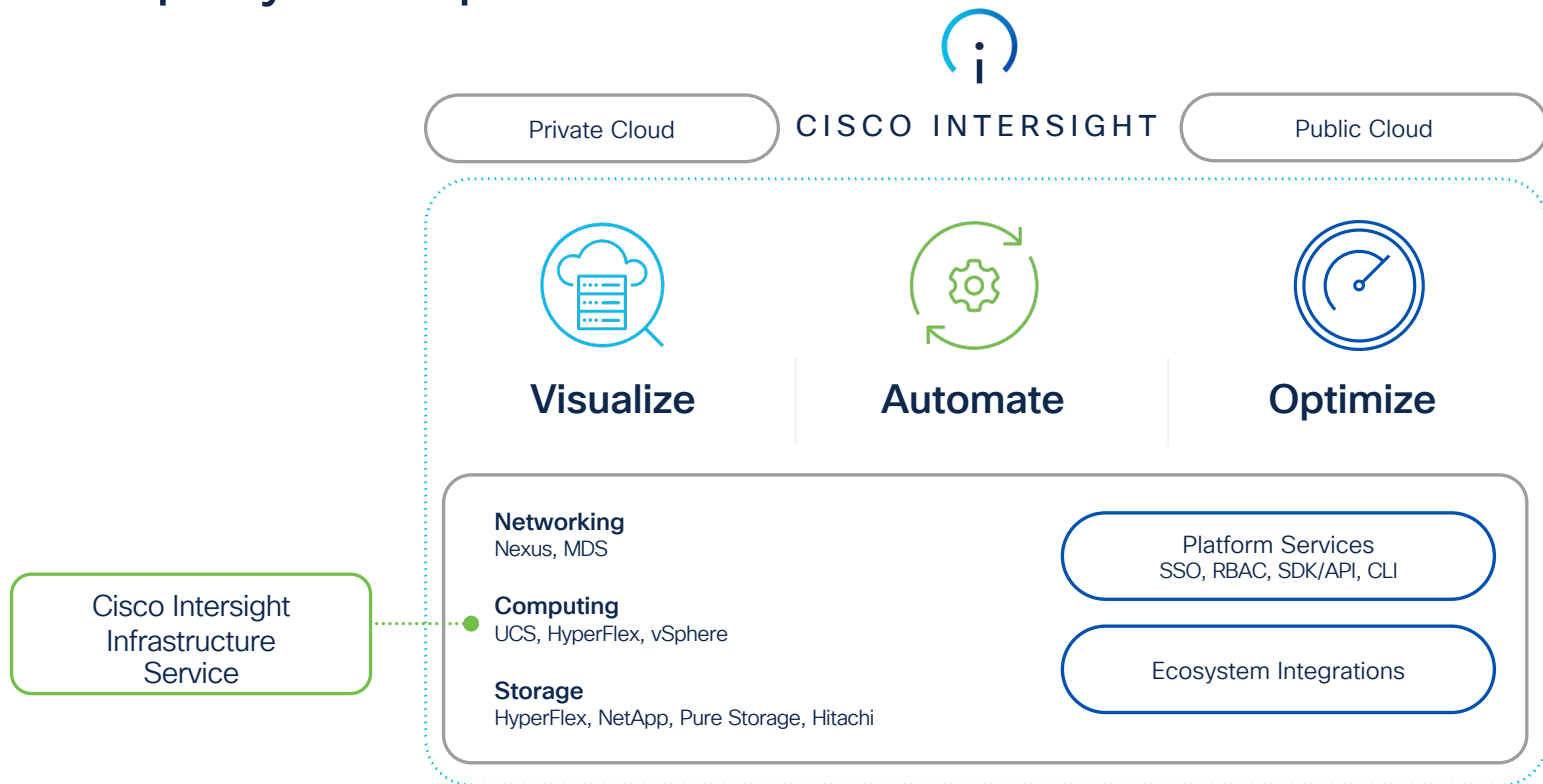


Optimize

Performance, cost, and user experience

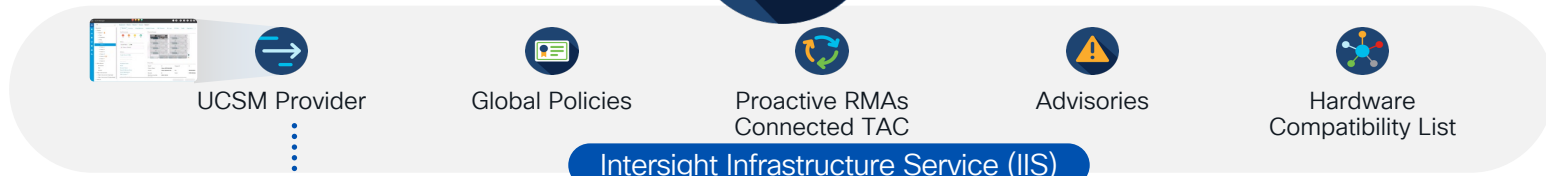


Simplify IT Operations

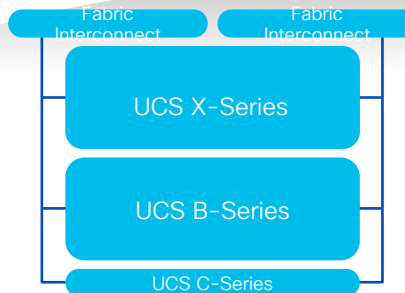


SaaS | Connected Virtual Appliance | Private Virtual Appliance

Cisco Inter sight Infrastructure Service (IIS)

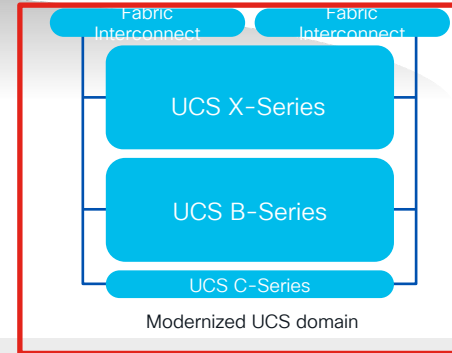


UCS Manager



IMC
Cisco UCS C-Series

Benefits



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

Intersight Device Connector

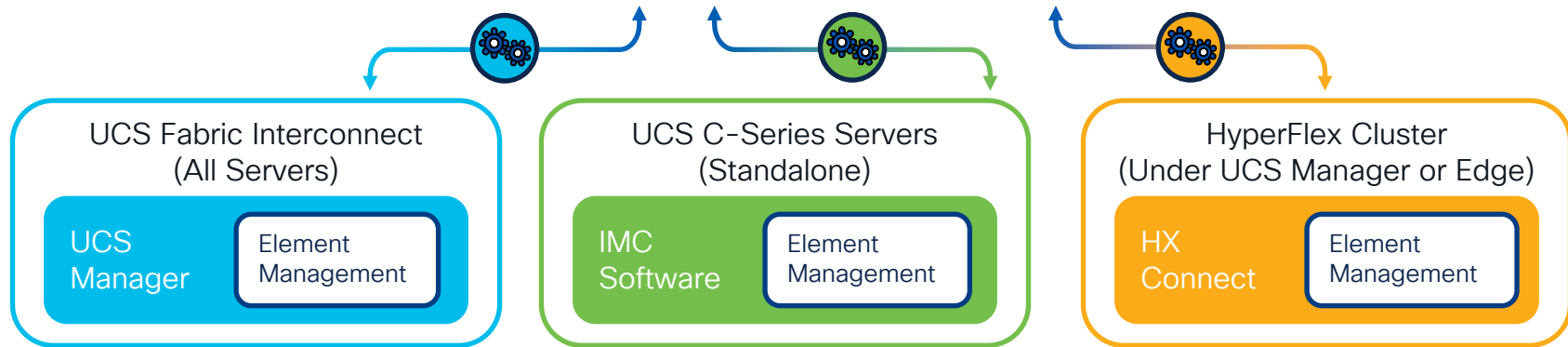
A very light and autonomous piece of software allowing:

- 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



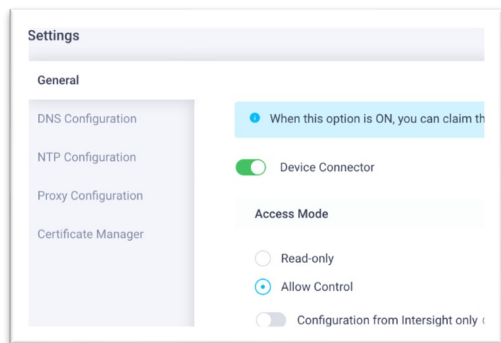
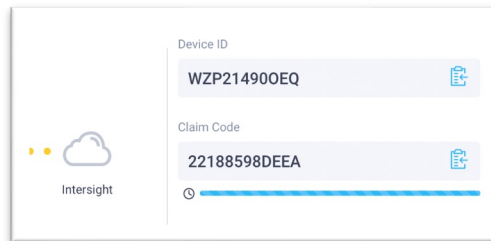
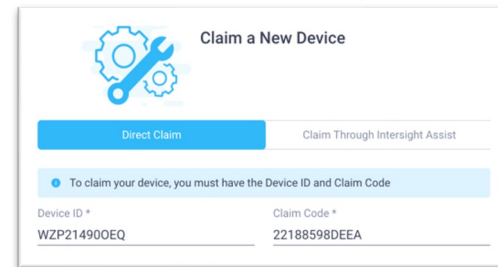
1 Configure device with IP connectivity to Intersight



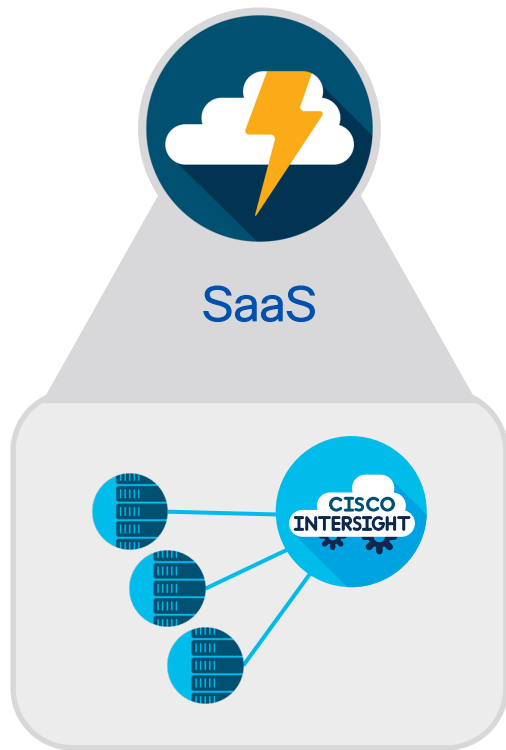
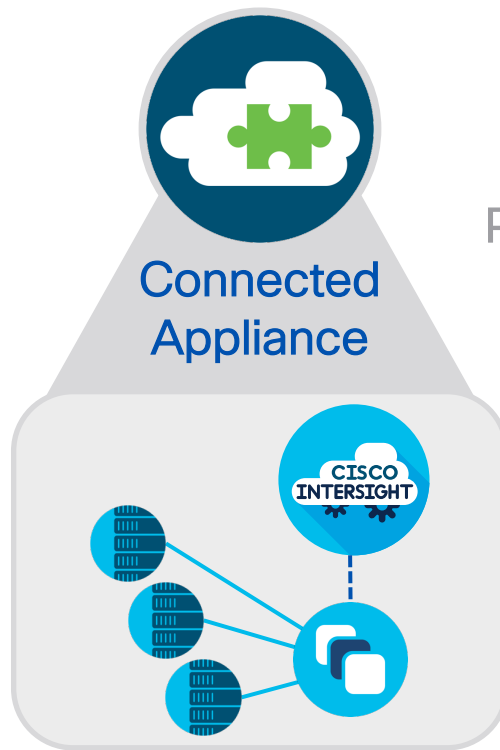
2 Copy Device ID & Claim Code from device



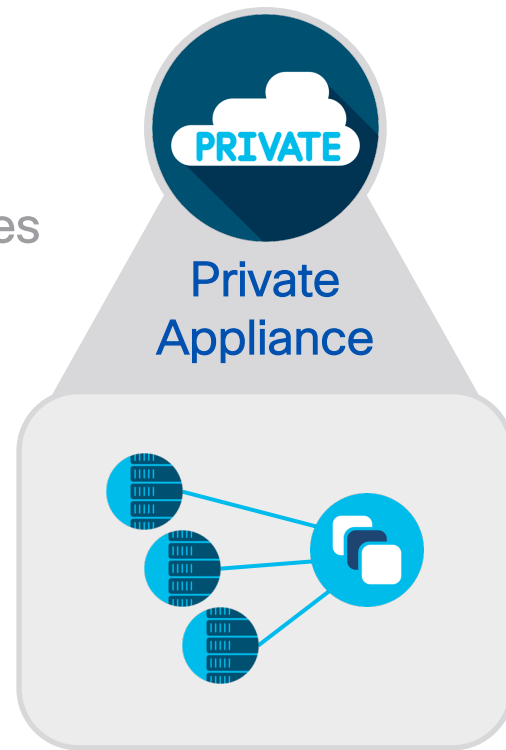
3 Paste Device ID & Claim Code to Intersight



Intersight Deployment Modes



On
Premises



What is Intersight Managed Mode?

UCS Management with Intersight



Configuration



Operations



Configuration



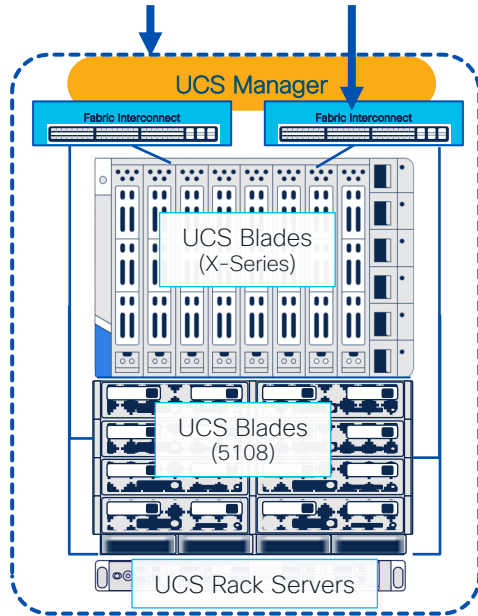
Operations



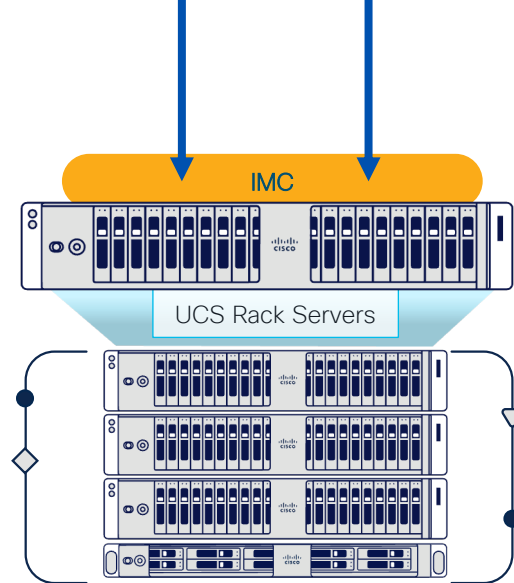
Configuration



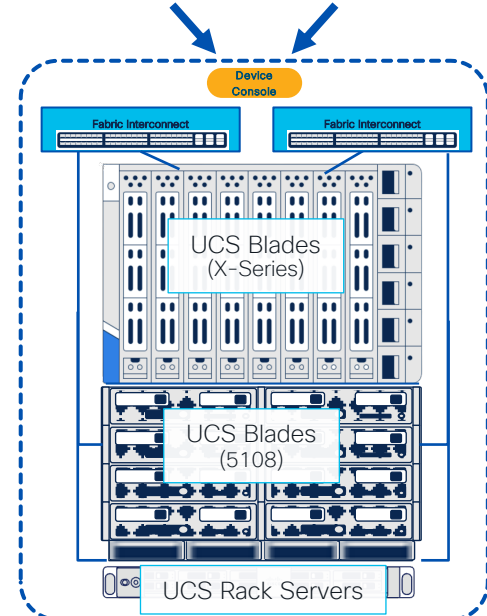
Operations



UCSM Managed Mode (UMM)

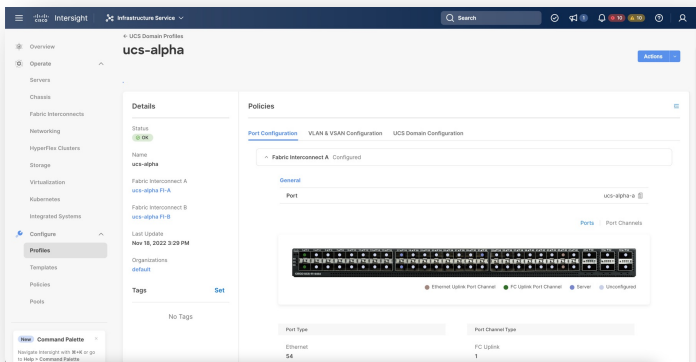
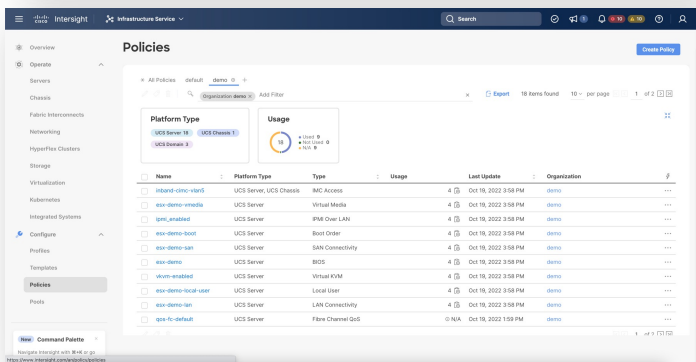


C-Series Standalone Mode



Intersight Managed Mode (IMM)

Intersight Managed Mode (IMM)



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 & M7
- 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)

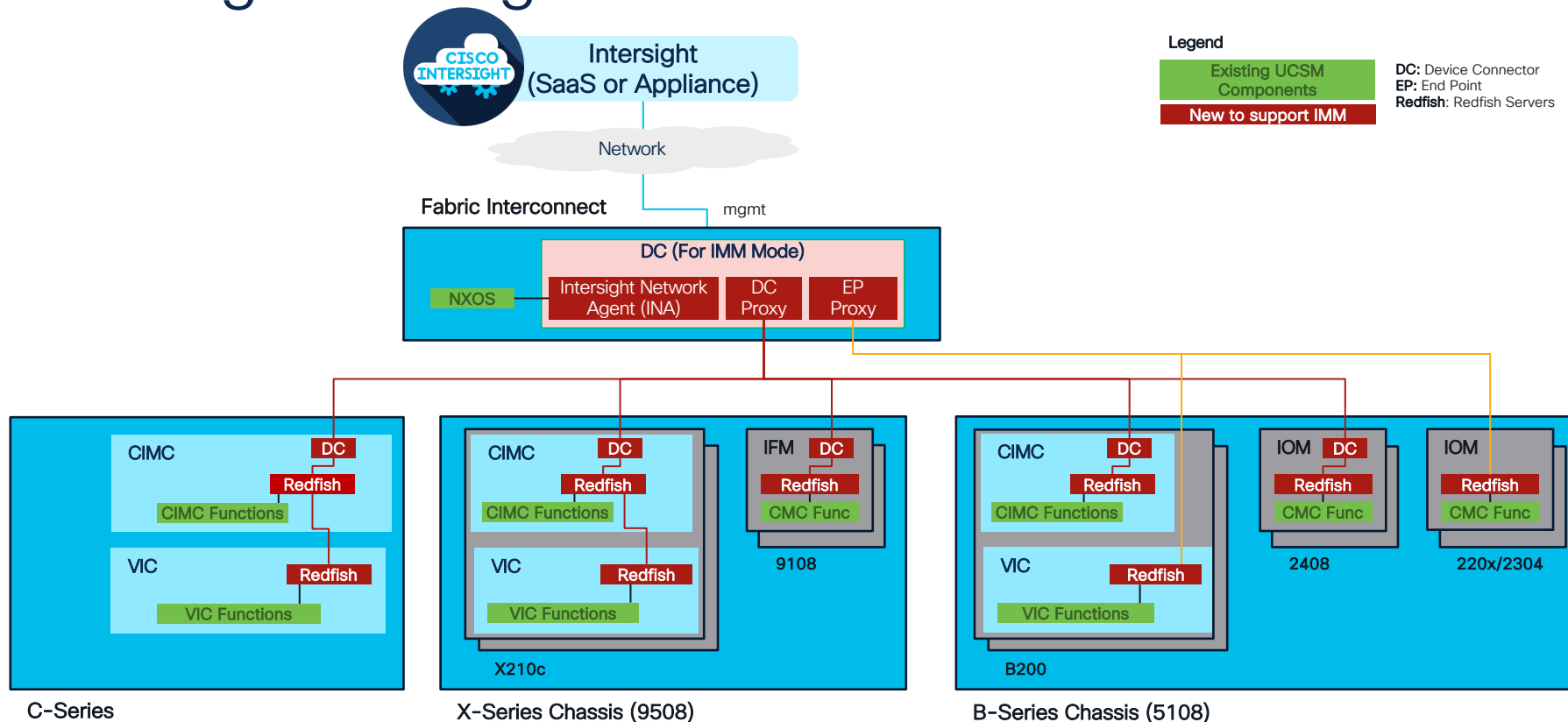
Scope

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

Scale

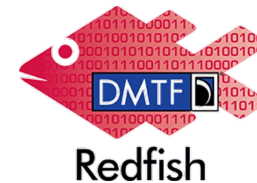
20 chassis / 160 servers (same as UCSM)

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

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{
  "@odata.context": "/redfish/v1/$metadata#Thermal.Thermal",
  "@odata.id": "/redfish/v1/Chassis/FCH22347N7W/Thermal",
  "@odata.type": "#Thermal.v1_5_2.Thermal",
  "Description": "Represents the properties for Temperature",
  "Id": "Thermal",
  "Name": "Thermal",
  "Status": {
    "Health": "OK",
    "State": "Enabled"
  },
  "Temperatures": [
    {
      "@odata.id": "/redfish/v1/Chassis/FCH22347N7W/Thermal#/Temperatures/0",
      "MemberId": "0",
      "Name": "TEMP_SENS_FRONT",
      "PhysicalContext": "Front",
      "ReadingCelsius": 22,
      "Status": {
        "Health": "OK",
        "State": "Enabled"
      },
      "UpperThresholdCritical": 75,
      "UpperThresholdFatal": 85
    },
    {
      "@odata.id": "/redfish/v1/Chassis/FCH22347N7W/Thermal#/Temperatures/1",
      "MemberId": "1",
      "Name": "TEMP_SENS_REAR",
      "PhysicalContext": "Back",
      "ReadingCelsius": 33,
      "Status": {
        "Health": "OK",
        "State": "Enabled"
      },
      "UpperThresholdCritical": 75,
      "UpperThresholdFatal": 85
    }
  ]
}
```

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

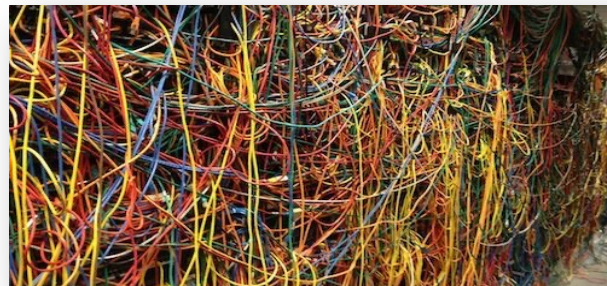
When should you start using IMM?

Hardware refresh



X-Series adoption

New domain deployment / Greenfield



Lab / Tests

How to use Intersight Managed Mode?

Setting up a domain in Intersight Managed Mode

Management 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):
y
```

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 tabs, there are two columns of system information for 'Fabric Interconnect A (Primary)' and 'Fabric Interconnect B (Subordinate)'. Each column lists various attributes like Health, Management IPs, Model, Serial, Firmware Version, Available Memory, and Total Memory.

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 – Device Connector

The screenshot displays the Cisco Device Console interface for a device named "B26-Matt-FI". The top navigation bar includes "SYSTEM INFORMATION", "DEVICE CONNECTOR" (which is the active tab), "INVENTORY", and "DIAGNOSTIC DATA". Below the navigation bar, a message states: "The Device Connector is an embedded management controller that enables the capabilities of Cisco Intersight, a cloud-based management platform. For detailed information about configuring the device connector, please visit [Help Center](#)".

The main content area is titled "Device Connector" and features a "Settings" gear icon and a "Refresh" circular arrow icon. A toggle switch labeled "ACCESS MODE" is currently set to "ALLOW CONTROL". The central diagram illustrates the connection flow: "Device Connector" (represented by a monitor icon) connects via a dotted line to "Internet" (represented by a globe icon), which then connects via another dotted line to "Intersight" (represented by a cloud icon). Below this diagram, a green progress bar indicates the status "Claimed" with a green checkmark icon.

On the right side, the "Device ID" is displayed as "FD0245219WV&FD0250314VG" with a copy icon. Below this, it shows "Claimed to Account" as "TME-Dev" with a help icon, and an "Unclaim" link.

The bottom left corner of the interface shows the version number "1.0.11-3416".

Device Console - Inventory

CISCO 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	-	...
ucs-bravo-2-1	Healthy	Active	UCSB-B200-M5	FCH22347M5Q	-	...
ucs-bravo-2-2	Healthy	Active	UCSB-B200-M5	FCH22347N5N	-	...

- Power On
- Turn On Locator
- Launch KVM
- Launch API Explorer
- Generate Tech Support Bundle

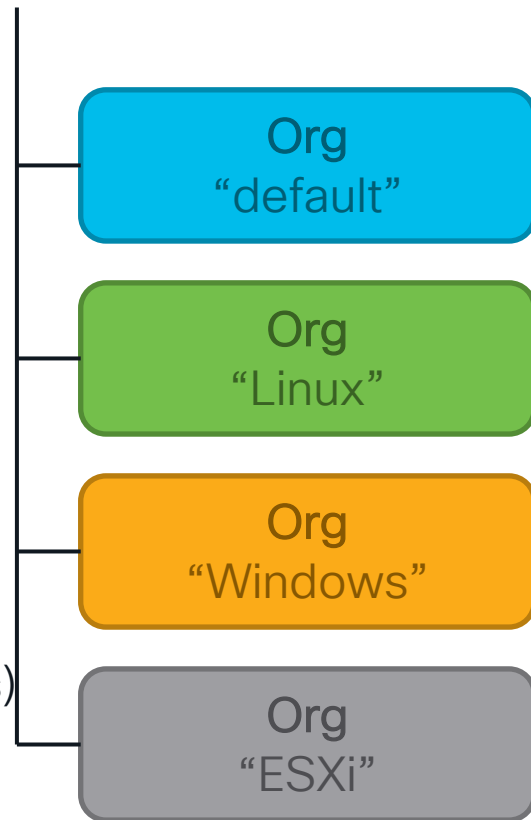
And... that's it!

Everything else is done on ...

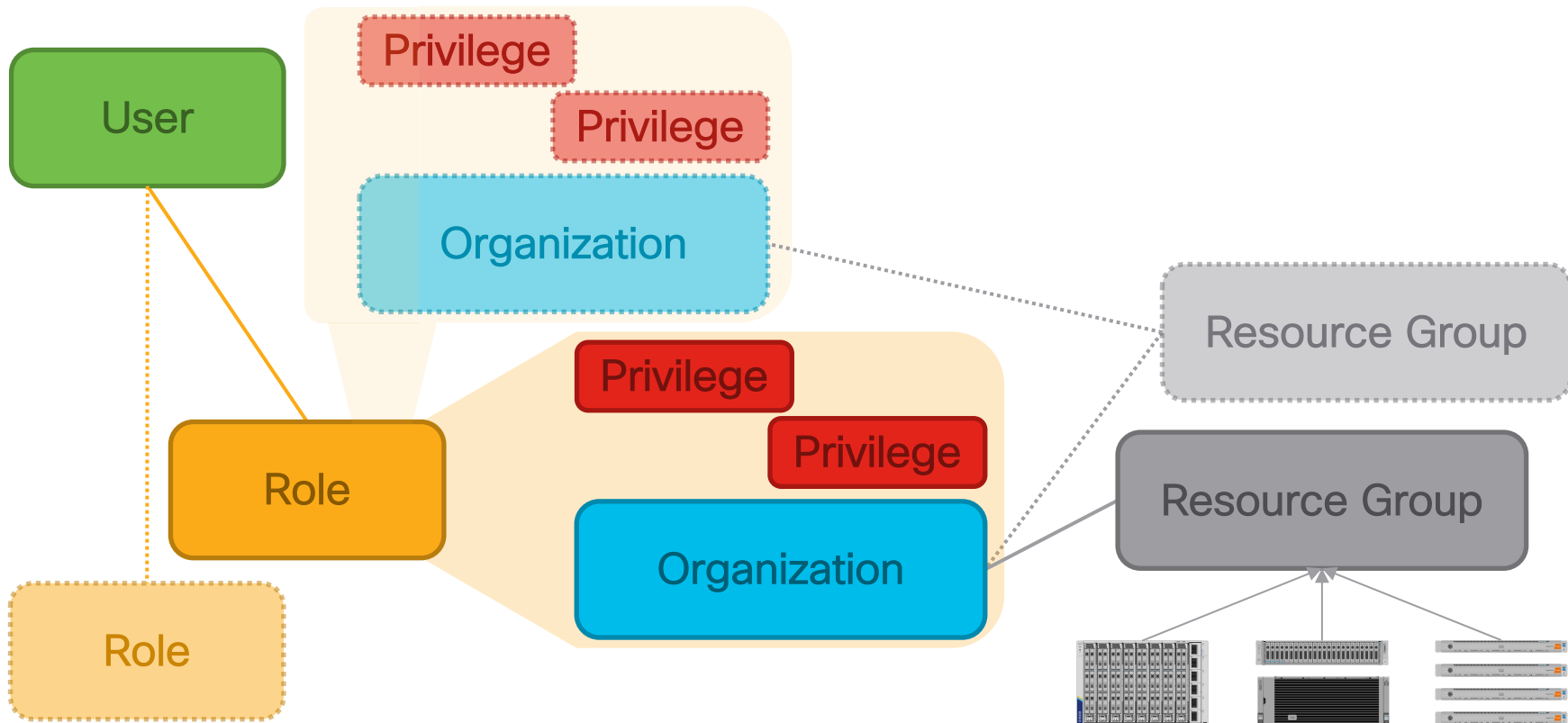


Organizations in Intersight

- **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 specified Orgs

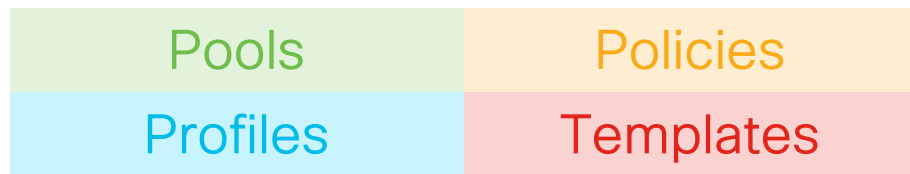


Role-Based Access Control with Intersight



Policy-based Model

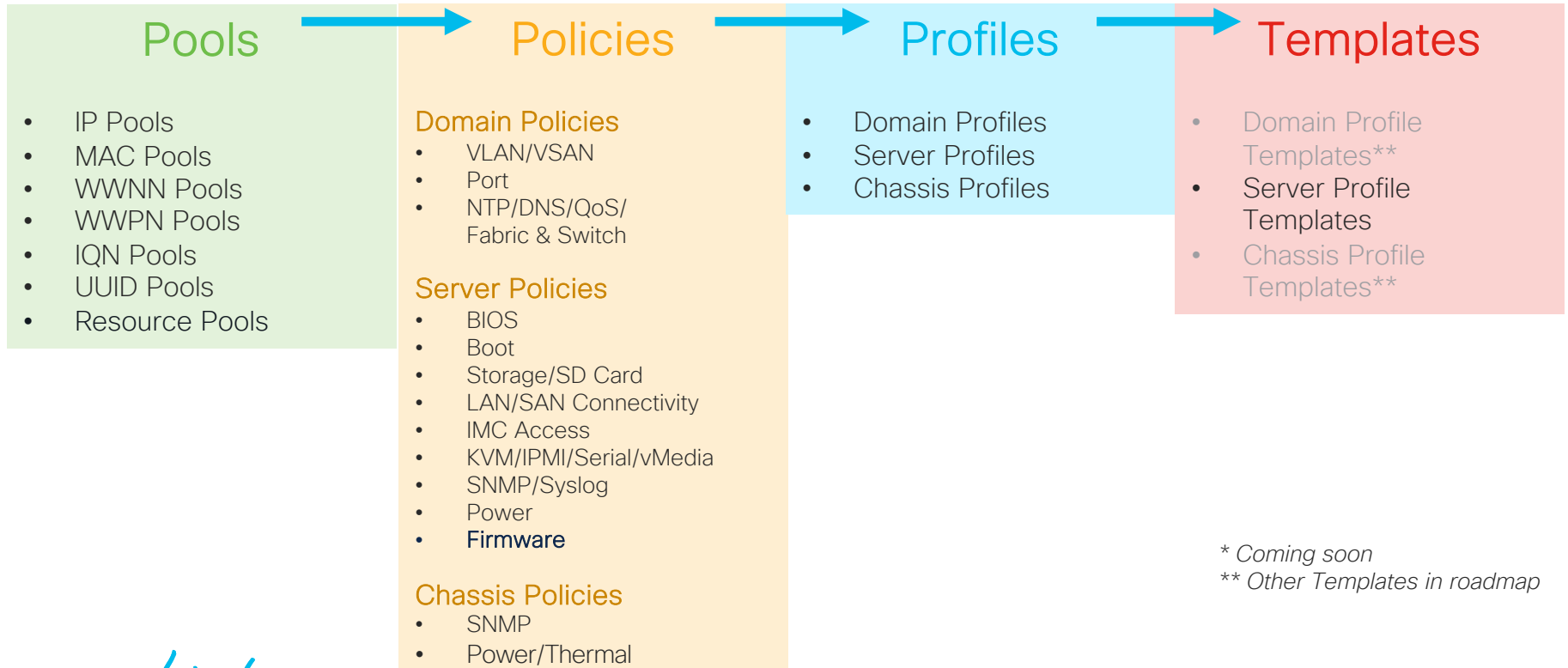
- Similar to UCS Manager / Central



- Everything is configured via policies
 - Servers, Chassis, Fabric
- Provides configuration consistency
- Ensures compliance
- No Hierarchy – Policy Resolution (* No Default Policy Behavior)

Intersight Managed Mode

Pools, Policies, Profiles & 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 vNIC/vHBA Templates – Future Ask



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 (per-se)
- **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

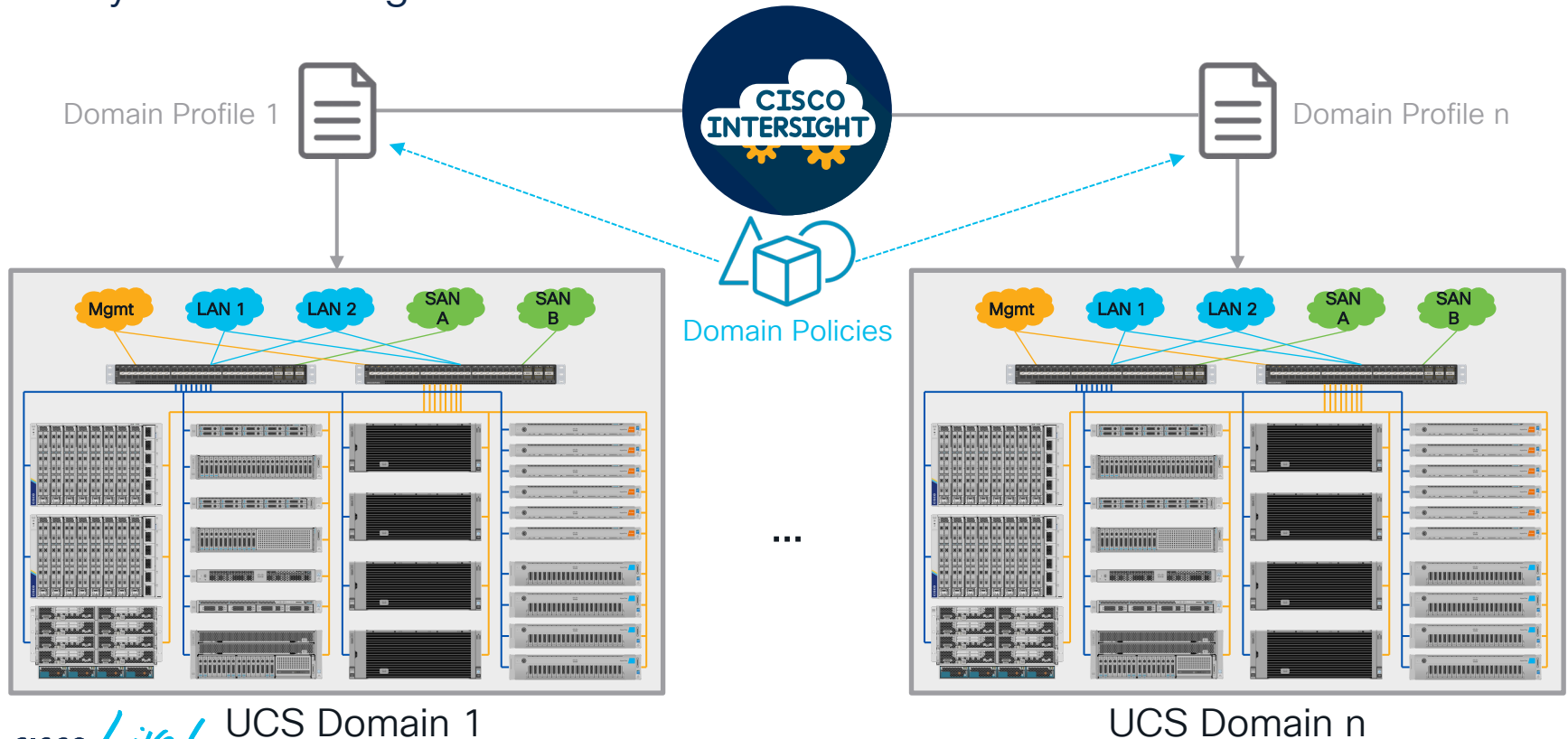
- **Improved change control** (separate assign & deploy steps) * **Huge Improvement!**

* In roadmap

Managing UCS Domains

UCS Domain Profiles

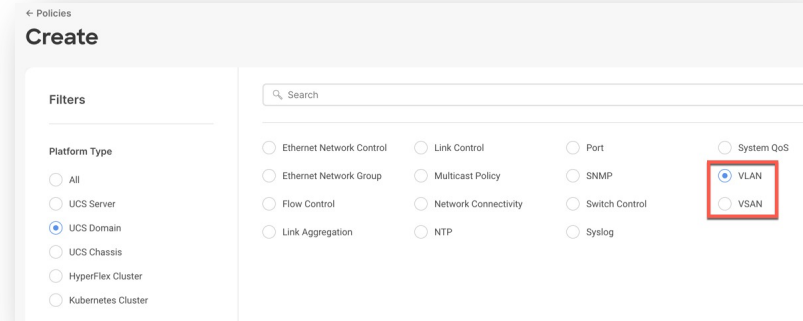
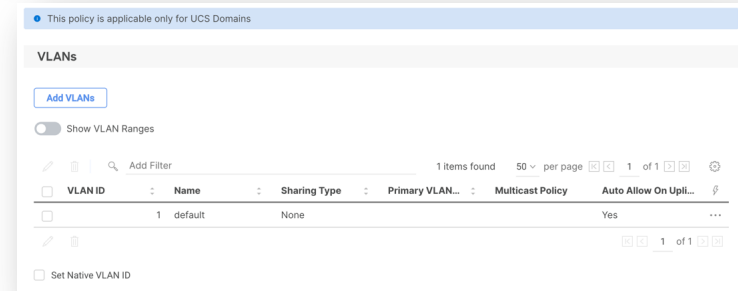
Policy-based configuration of the UCS fabric



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
- All VLANs require a Multicast Policy



UCS Domain Profiles

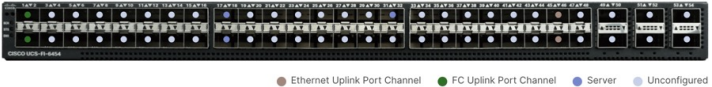
Port Policy

- 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 & CONTROL) *** Recommend!
- Can Control Chassis/Server Discovery Order (Port Policy – Server Ports)

Port Roles
Configure port roles to define the traffic type carried through a unified port connection.

[Port Roles](#) [Port Channels](#) [Pin Groups](#)

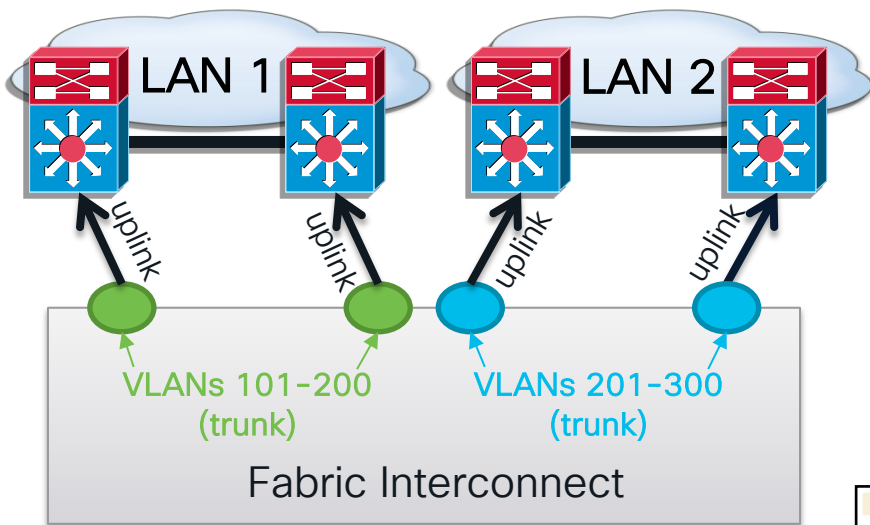
[Configure](#) Selected Ports -



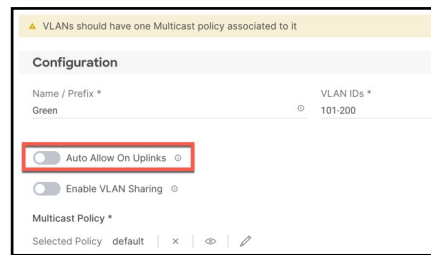
[Export](#)

☐	Name	Type	Role	Connected Dev...	Device Number	Port Channel	Mode
☐	port 1	FC	FC Uplink Port Cl			FC Uplink Port Cl	
☐	port 2	FC	FC Uplink Port Cl			FC Uplink Port Cl	
☐	port 3	FC	Unconfigured			-	

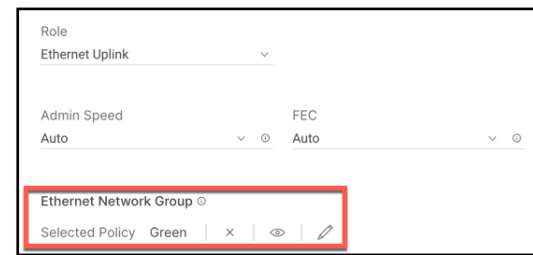
Disjoint Layer 2 configuration in IMM



- 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 Domain 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

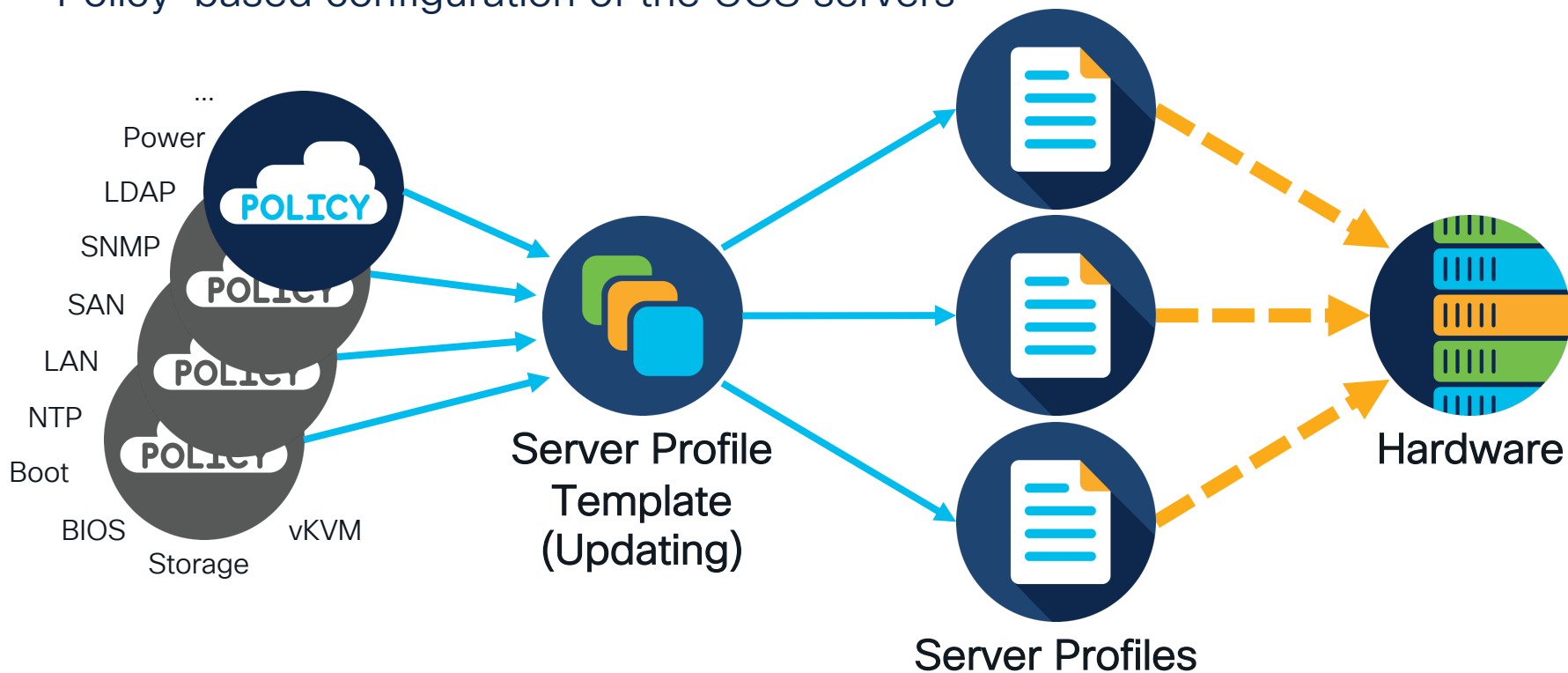
- Policies define Fabric Interconnects configuration
Similar to Domain Group settings in UCS Central.
 - **Network Connectivity Policy**: Defines DNS settings
 - **NTP Policy**: NTP & Timezone settings
 - **System QoS Policy**: QoS classes settings
 - **Switch Control Policy**: VLAN compression, MAC 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)

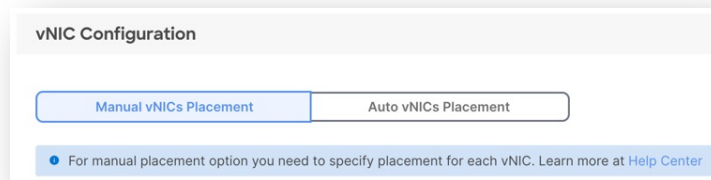
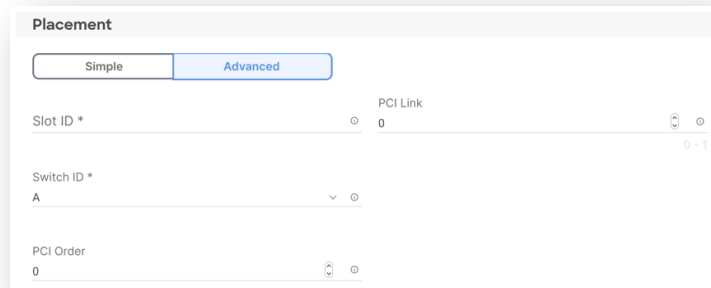
Storage Policy

- **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 displays the 'Storage Policy' configuration window. At the top, there are three tabs: 'All Platforms', 'UCS Server (Standalone)', and 'UCS Server (FI-Attached)'. The 'All Platforms' tab is selected and highlighted with a red box. Below the tabs, the 'General Configuration' section is visible. It includes a toggle switch for 'Use JBOD drives for Virtual Drive creation' which is currently turned off. Below this, there are two dropdown menus: 'Unused Disks State' set to 'No Change' and 'Default Drive State' set to 'Unconfigured Good'. Further down, the 'M.2 RAID Configuration' section has a toggle switch set to 'Enable'. The 'MRAID/RAID Controller Configuration' section has a toggle switch set to 'Enable', which is highlighted with a red box. The 'MRAID/RAID Single Drive RAID0 Configuration' section has a toggle switch set to 'Enable'. At the bottom of the window, there are three buttons: 'Cancel', 'Back', and 'Create'.

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



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

In-Band Configuration  Enabled

VLAN ID *
105  
4 - 4093

☒ IPv4 address configuration 
☐ IPv6 address configuration 

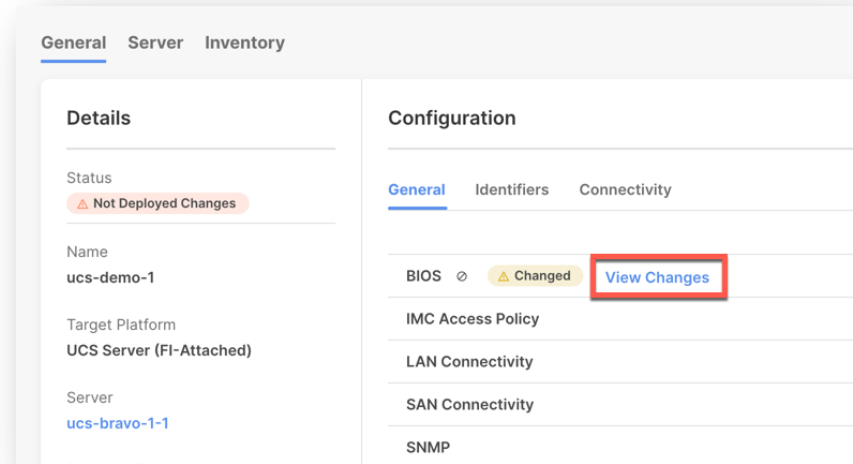
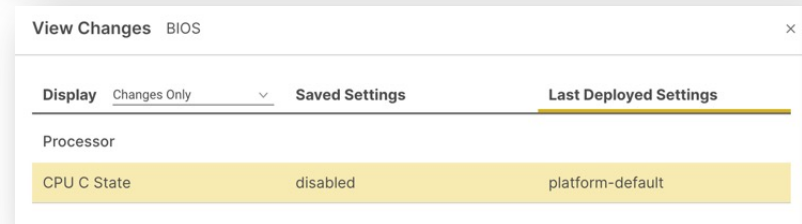
IP Pool *
Selected IP Pool cimc-bravo | x |  | 

Out-Of-Band Configuration  Enabled

* In roadmap

Improved change control

- No need for a “Maintenance Policy”
- Server Profile must be redeployed for changes to be applied – requires manual intervention
- Ability to view the pending changes before deploying, with a side-by-side comparison view
- New Estimate Impact capability will alert you if you need to reboot the server, and give you option to do with with the deployment of the changes
- Same change control for Domain & Chassis Profiles

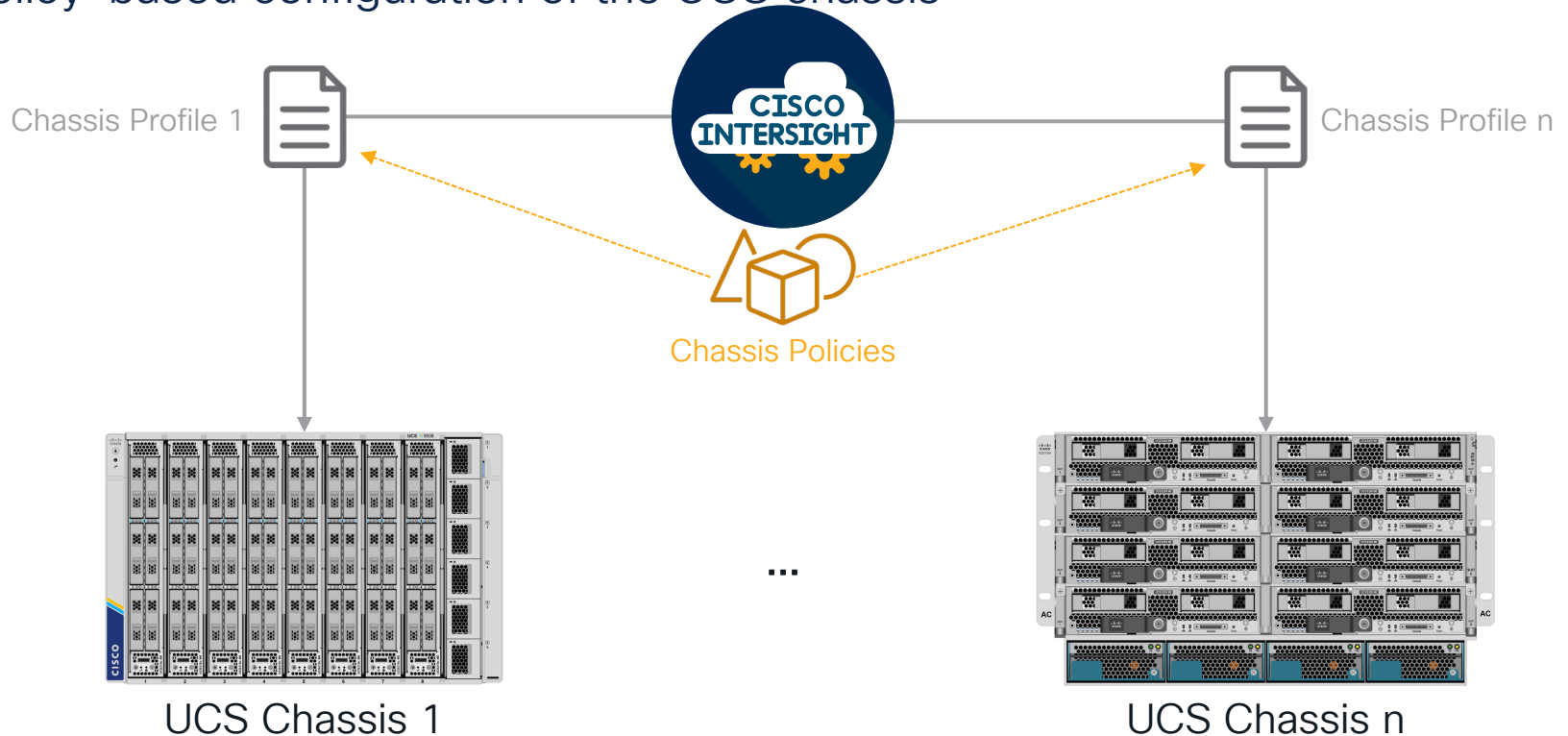


Managing UCS Chassis



UCS Chassis Profiles

Policy-based configuration of the UCS chassis



UCS Chassis Profiles

Chassis Policies

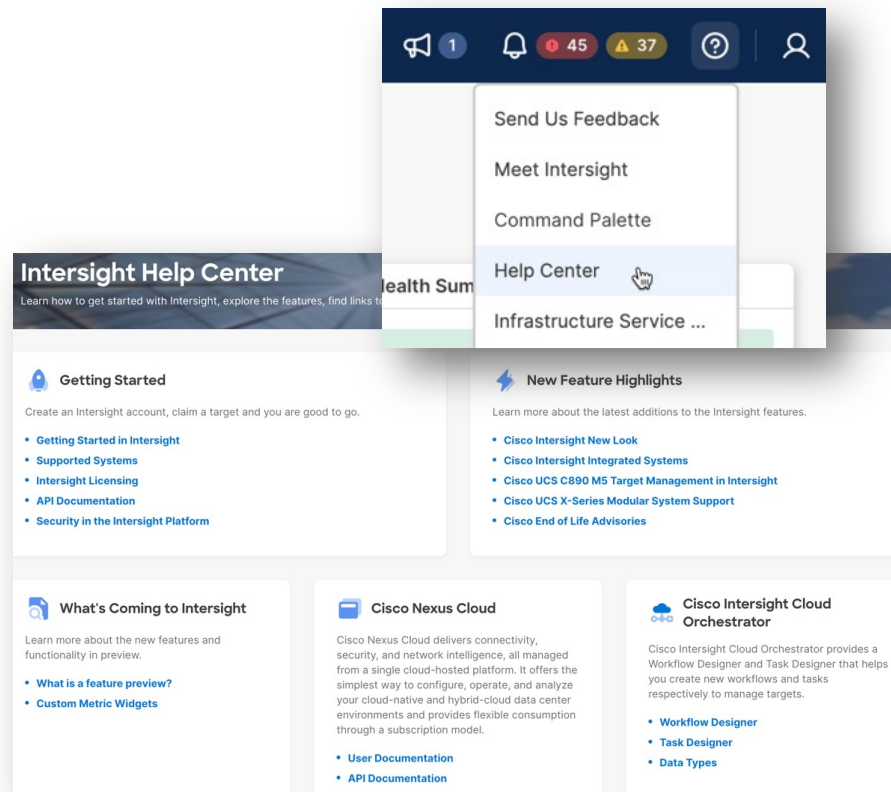
- **Chassis policies** – to support per-chassis settings (different from UCSM)
 - IMC Access Policy: Defines VLAN/IP address for chassis CMC (used by SNMP)
 - Power Policy: Configures power management (redundancy & power budget)
 - SNMP Policy: SNMP settings
 - Thermal Policy: Fan control settings
- 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 displays the Cisco UCS Manager interface. At the top, a navigation bar contains a search icon and a 'Requests' icon highlighted with a red box. Below the navigation bar, the 'Requests' page is shown, featuring a summary of request counts (69 items found) and a table of requests. A modal window titled 'Blade Discovery' is open, providing detailed information about a specific request. The modal includes sections for 'Details' and 'Execution Flow'.

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	63cd979c696f	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: 63cd9813696f6e2d3155ad4e

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 recently in production

The screenshot shows the 'Models' section of the UCS Manager interface. A summary card indicates 5 models of type B200 M5. Below is a table with 14 items:

Model	Version	Size	Release Date	Description
UCSB-B200-M5	4.2(3b)	678.44 MiB	Jan 9, 2023 2:56 AM	Cisco Intersight Server Bundle
UCSB-B200-M5	4.2(2e)	778.73 MiB	Nov 28, 2022 9:14 AM	Cisco Intersight Server Bundle
UCSB-B200-M5	192.0	ucs-bravo	System	>
UCSB-B200-M5	192.0	ucs-bravo	Profile	>
UCSB-B200-M5	192.0	ucs-bravo	Install Operating System	>
UCSB-B200-M5	192.0	ucs-bravo	Upgrade Firmware	>

A dropdown menu is open for the 'Upgrade Firmware' action, showing options: 'Turn On Locator', 'Open TAC Case', 'Upgrade Firmware' (highlighted), 'Replace UCS Domain', and 'Collect Tech Support Bundle'.

UCS Infrastructure

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

The screenshot shows the 'Fabric Interconnect Traffic Evacuation' section of the UCS Manager interface. A summary card indicates 22 items found. Below is a table with 2 items:

Version	Size	Release Date	Description
4.2(3b)	1.70 GiB	Jan 9, 2023 2:45 AM	Cisco Intersight Infrastructure Bundle
4.2(2d)	1.69 GiB	Nov 28, 2022 9:02 AM	Cisco Intersight Infrastructure Bundle

A dropdown menu is open for the 'Upgrade Firmware' action, showing options: 'Turn On Locator', 'Open TAC Case', 'Upgrade Firmware' (highlighted), 'Replace UCS Domain', and 'Collect Tech Support Bundle'.

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**

Message	Sever...	Code	Source Name
Intersight Managed Mode does not support the existing firmware version. l	Warning	ComputeCimcFirmwareNc	ucs-bravo

The screenshot displays the Cisco Intersight interface for managing a UCS chassis. The main view is titled 'ucs-bravo-1' and shows a 'Healthy' status. The 'Inventory' tab is selected, and the 'Servers Below Minimum Version' section is active. A table lists servers that need upgrading:

Slot ID	Model	Serial
	2 UCSB-B200-M5	FCH22117BWA

An 'Upgrade Server' dialog is open, showing a list of available firmware versions for the selected server. 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 dialog.

VMware vLCM/HSM Integration

- Automate UCS servers firmware updates via vLCM
- **Claim vCenter** in Intersight (Need Assist for SaaS)
 - Advantage License
 - 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-cva.complablab

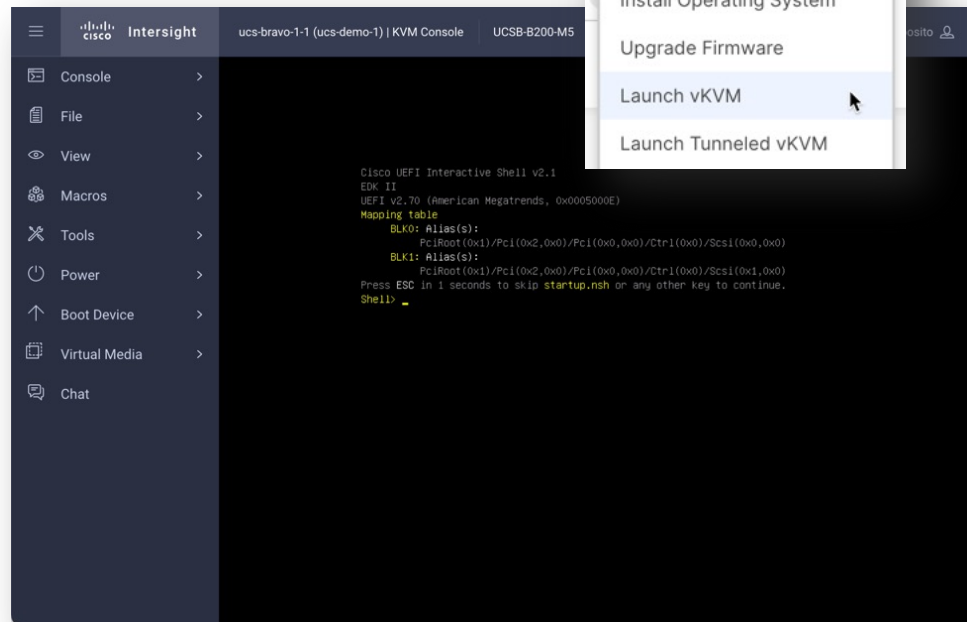
Hardware Support Manager

Select a firmware and driver addon

Addon name	Addon version	Supported ESXi versions
☐ CR-4.2(1f)	4.2(1f)	7.0.0, 7.0.1, 7.0.2, 7.0.3
☐ CR-4.1(3f)	4.1(3f)	7.0.0, 7.0.1, 7.0.2, 7.0.3
☐ CR-4.1(3d)	4.1(3d)	7.0.0, 7.0.1, 7.0.2, 7.0.3
☐ CR-4.1(3c)	4.1(3c)	7.0.0, 7.0.1, 7.0.2, 7.0.3
☐ CR-4.1(3b)	4.1(3b)	7.0.0, 7.0.1, 7.0.2, 7.0.3
☐ CR-4.1(2h)	4.1(2h)	7.0.0, 7.0.1, 7.0.2, 7.0.3
☐ CR-4.1(2g)	4.1(2g)	7.0.0, 7.0.1, 7.0.2, 7.0.3
☐ CR-4.1(2f)	4.1(2f)	7.0.0, 7.0.1, 7.0.2, 7.0.3

Connecting to Virtual KVM

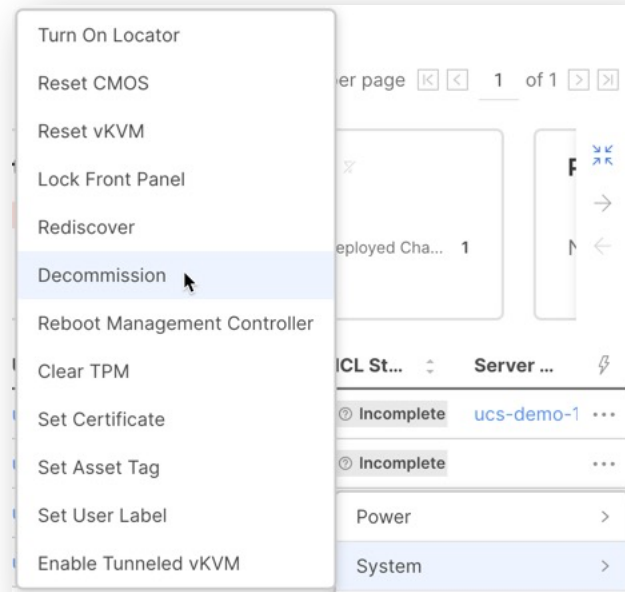
- **Virtual KVM Policy**
 - Enable/Disable vKVM
 - Tunneled vKVM support (Intersight Pathing)
- **Virtual Media Policy**
 - Disabled by default
 - Virtual Media mounts
- **IMC Access Policy** required
 - Virtual Media supported on Inband only
- **Authentication**
 - SSO from Intersight by default
 -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



New Cisco vKVM with M5*/M6 servers

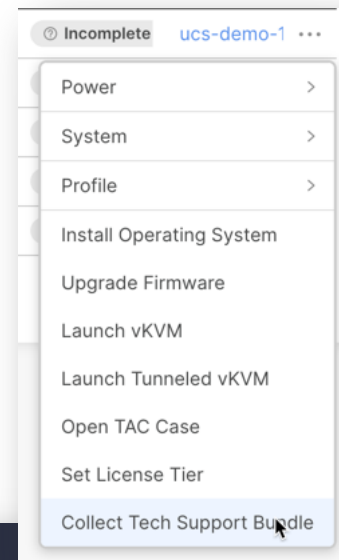
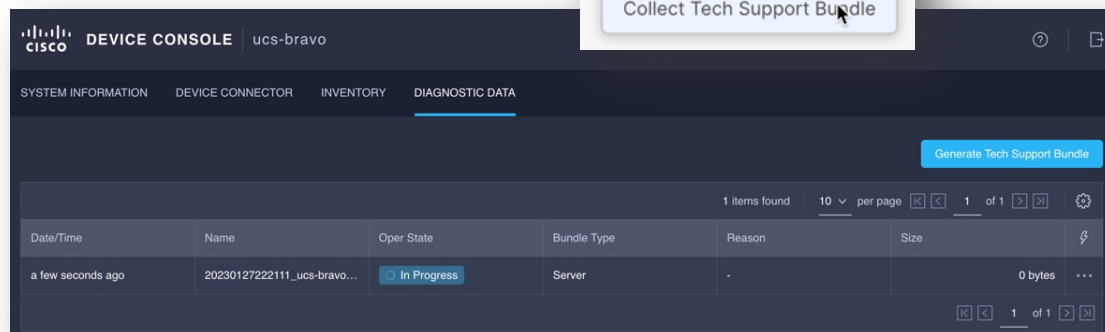
Decommission / Recommission

- 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

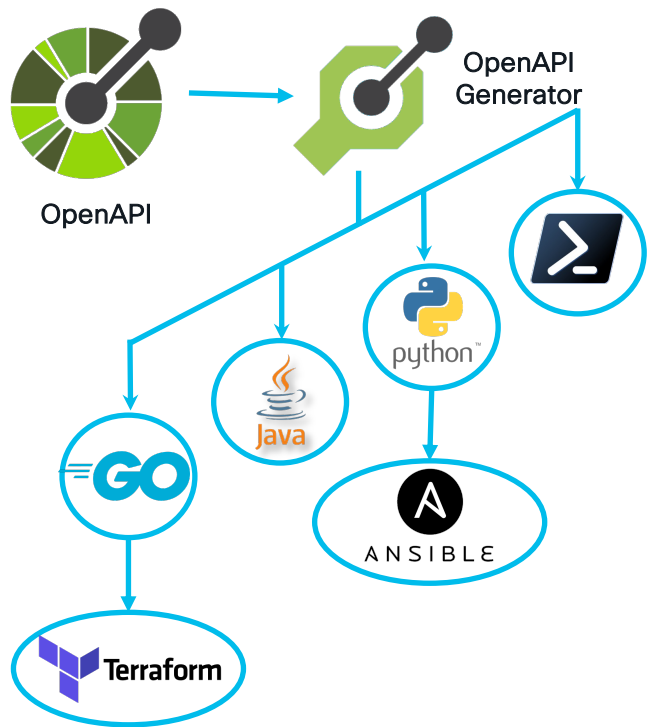


Collecting a Tech Support Bundle

- **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



API is the new UI

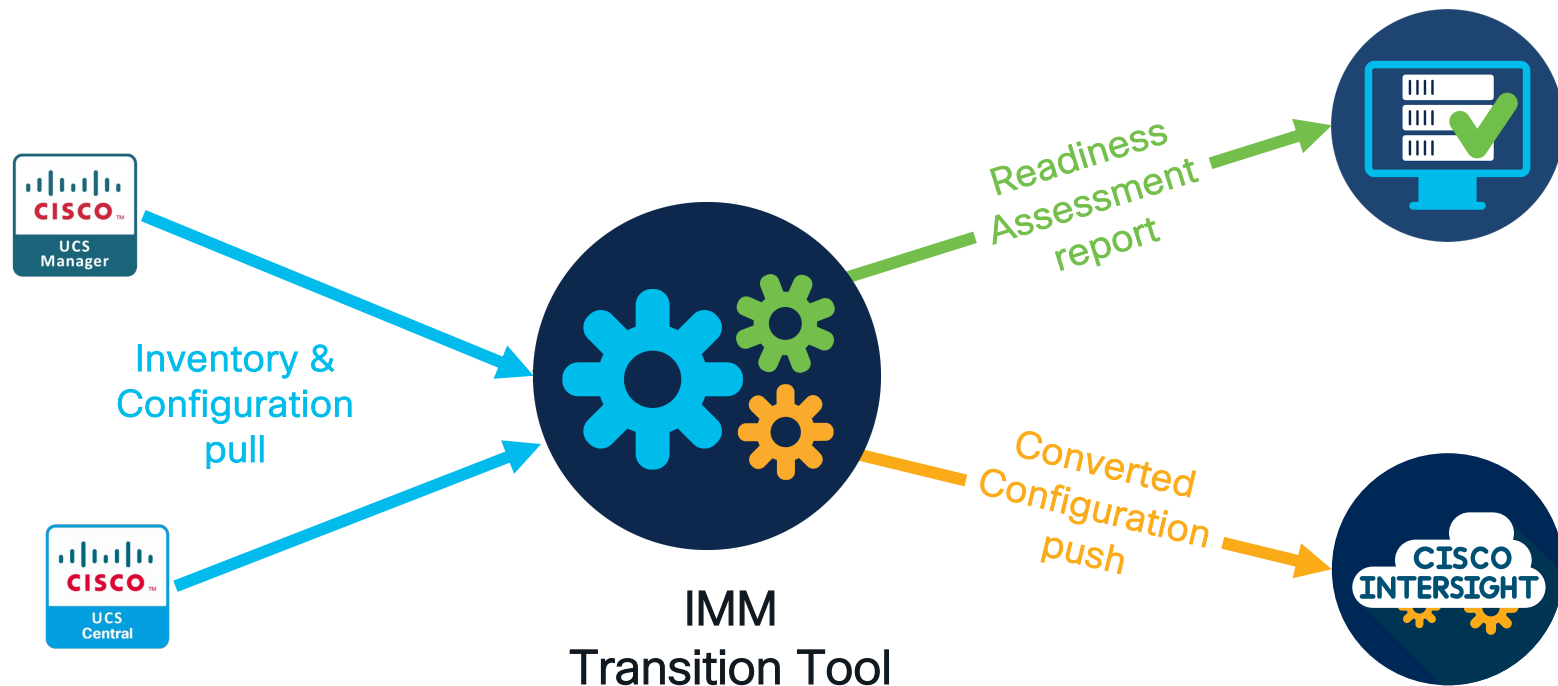


The screenshot shows the Cisco Intersight Developer Center interface. The top navigation bar includes links for Guides, API Reference, Downloads, and Support, along with a user profile for Vincent Esposito. The main content area displays the API Reference for the 'compute/Blades' endpoint. It lists various API methods (GET, POST, PATCH) and their descriptions. A REST Client is also visible on the right, showing a GET request to '/api/v1/compute/Blades' with a 200 Success response. The response body is a JSON object containing details about the blades, including their class IDs, mo IDs, and health status.

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

Transitioning to Intersight Managed Mode

Introducing the IMM Transition Tool



<https://ucstools.cloudapps.cisco.com/#/downloadApp>

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*

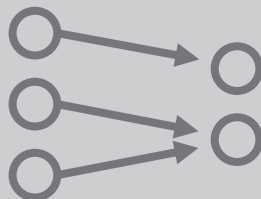
- **Automatically claim** various UCS devices (UCSM, CIMC)
- Use CSV input file for providing **credentials**
- Support claiming to Intersight **SaaS** or Connected/Private Appliance

Release 4.0 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



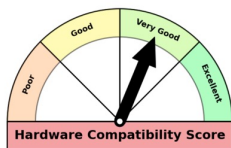
Cloning Intersight accounts/instances

- 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



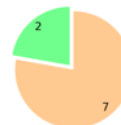
IMM Ready
Requires Upgrade
Not Compatible

Racks



IMM Ready
Requires Upgrade
Not Compatible

Adaptors

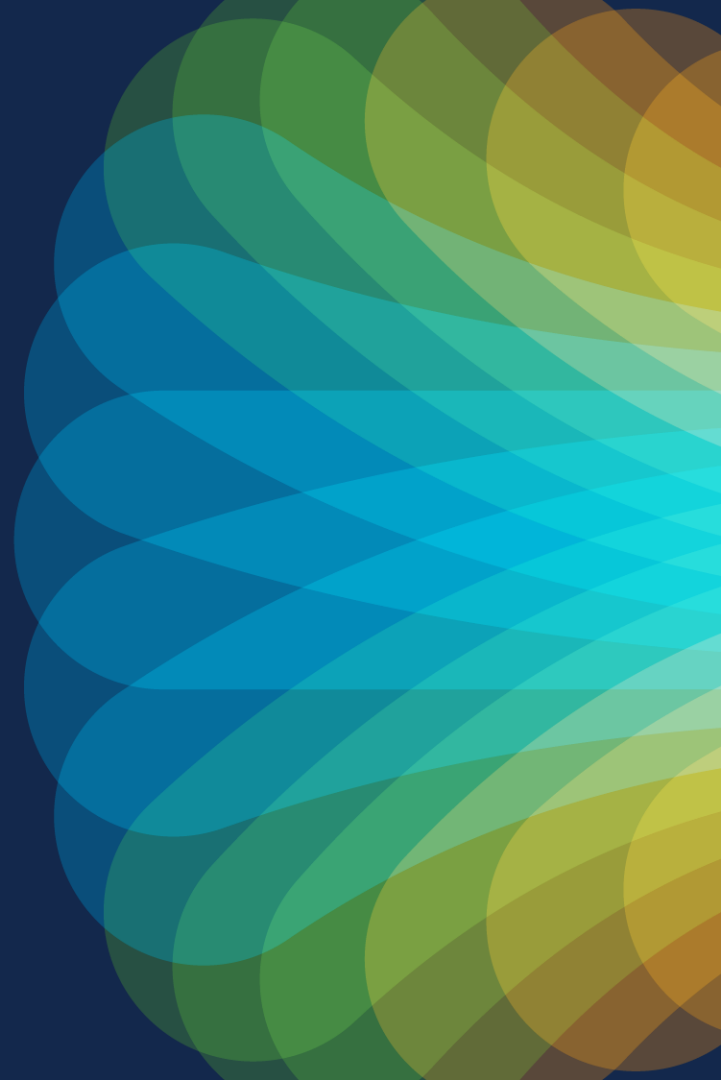


IMM Ready
Requires Upgrade
Not Compatible

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
 - Release Notes: 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



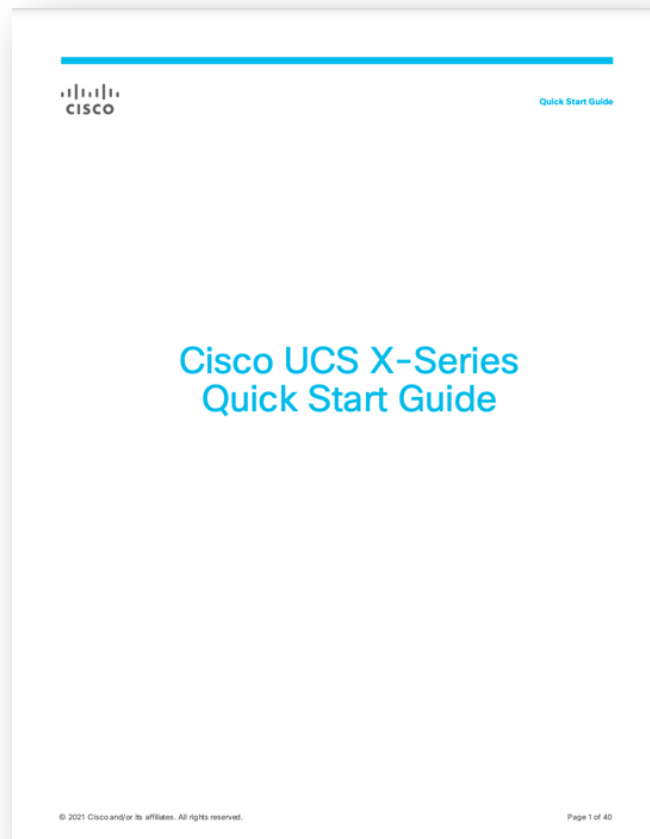
Safer Operations



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>



UCS YouTube Channel – Subscribe!

The screenshot shows the YouTube channel page for "Cisco Intersight, HyperFlex & UCS". The channel has 2.42K subscribers and 376 videos. The banner features the text "Cisco Intersight, HyperFlex & UCS" and "IT Operations. Simplified." with an image of server racks. The video grid displays four "Intersight IMM Expert Series" videos, each marked with a red "EXPERT" stamp. The videos are: "Link Aggregation Domain Policy" (9:42), "Management Modes and Order of Ops Overview" (9:00), "Multicast Domain Policy" (7:17), and "Flow Control Domain Policy" (8:53). The left sidebar includes navigation options like Home, Shorts, Subscriptions, and a list of subscriptions including Cisco and District 117 Toastm....

Cisco Intersight, HyperFlex & UCS
@CiscoIntersightHyperFlexUCS 2.42K subscribers 376 videos
More about this channel >

HOME VIDEOS LIVE PLAYLISTS COMMUNITY CHANNELS ABOUT

Latest Popular

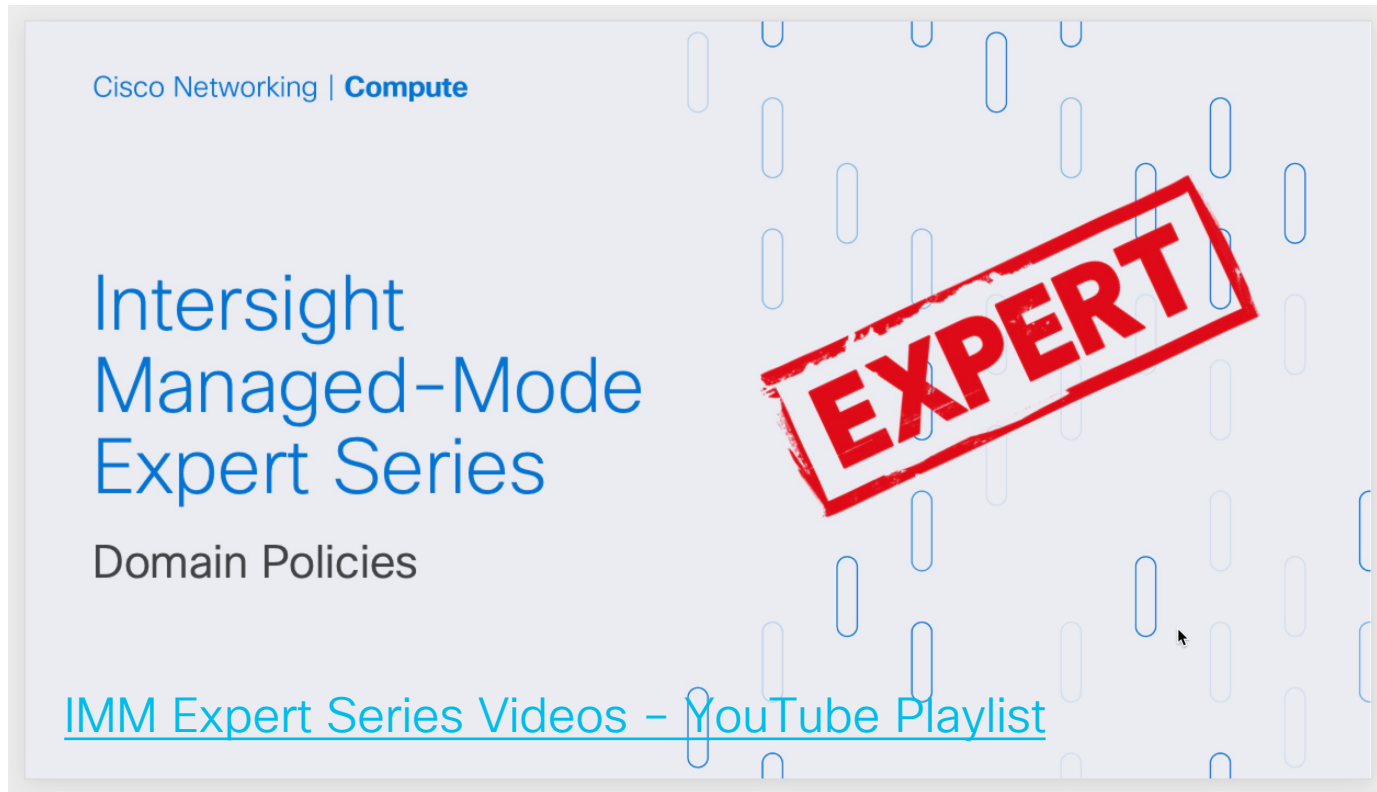
Intersight IMM Expert Series - Link Aggregation Domain Policy
4 views • 3 hours ago

Intersight IMM Expert Series - Management Modes and Order of Ops Overview
16 views • 3 hours ago

Intersight IMM Expert Series - Multicast Domain Policy
No views • 3 hours ago

Intersight IMM Expert Series - Flow Control Domain Policy
5 views • 3 hours ago

New Help! – Detailed IMM Training Videos



Cisco Networking | **Compute**

Intersight
Managed-Mode
Expert Series

Domain Policies

[IMM Expert Series Videos – YouTube Playlist](#)

EXPERT



Did you know?

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one-on-one session with
a technical expert!

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to meet, greet, whiteboard & gain
insights about your unique questions
with the best of the best.



Meet the Expert Opening Hours:

Tuesday	3:00pm – 7:00pm
Wednesday	11:15am – 7:00pm
Thursday	9:30am – 4:00pm
Friday	10:30am – 1:30pm

Session Surveys

We would love to know your feedback on this session!

- Complete a minimum of four session surveys and the overall event surveys to claim a Cisco Live T-Shirt



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- Book your one-on-one Meet the Expert meeting
- Attend the interactive education with DevNet, Capture the Flag, and Walk-in Labs
- Visit the On-Demand Library for more sessions at www.CiscoLive.com/on-demand

Questions?

Greg Scarlett
grscarle@cisco.com



The bridge to possible

Thank you

CISCO *Live!*

#CiscoLiveAPJC

The background is a vibrant, abstract graphic featuring a rainbow color palette. On the left, there are horizontal, wavy bands of color transitioning from red at the top to blue at the bottom. On the right, a bright white light source emits a series of sharp, radiating lines in various colors, creating a sunburst or starburst effect that blends into the wavy bands.

cisco *Live!*

Let's go

#CiscoLiveAPJC