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Let's go



Intersight Managed Mode (IMM) for UCS Manager admins

A technical overview of IMM

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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



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



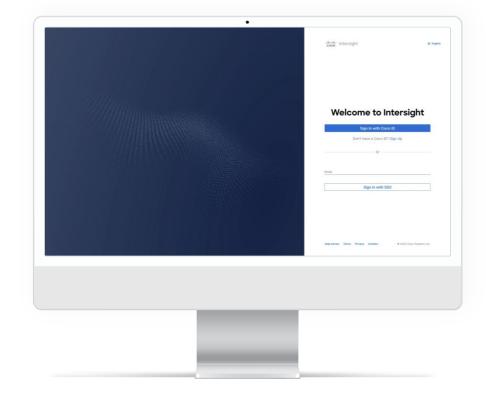
Automate

Networking and computing deployments and configuration



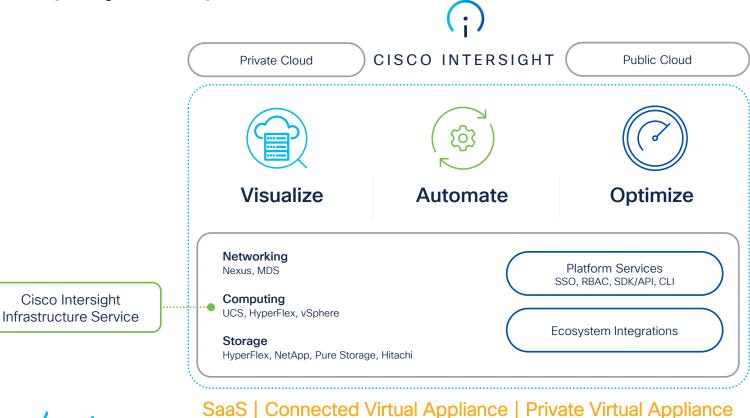
Optimize

Performance, cost, and user experience



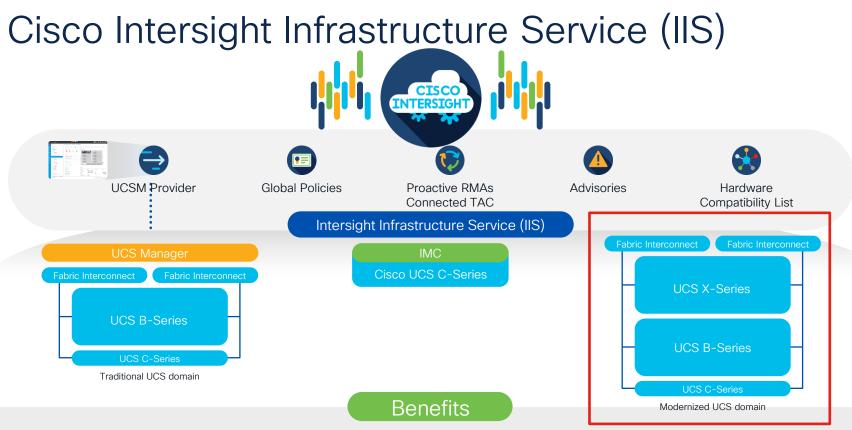


Simplify IT Operations



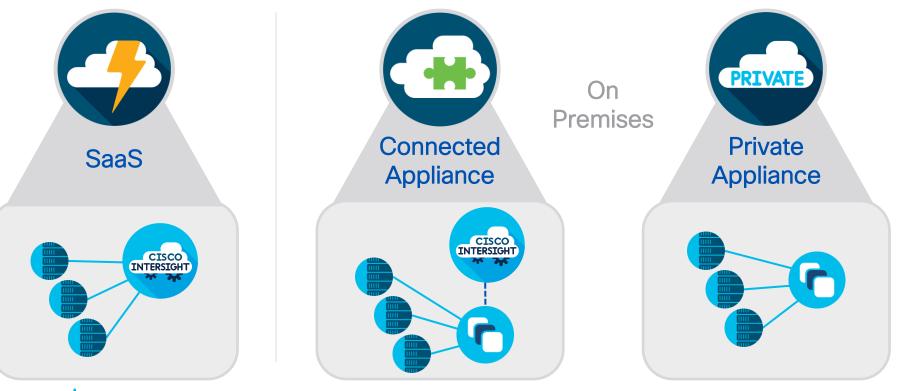
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Single Pane of Glass for the entire infrastructure | Common operational model | Proactive services

Intersight Deployment Modes

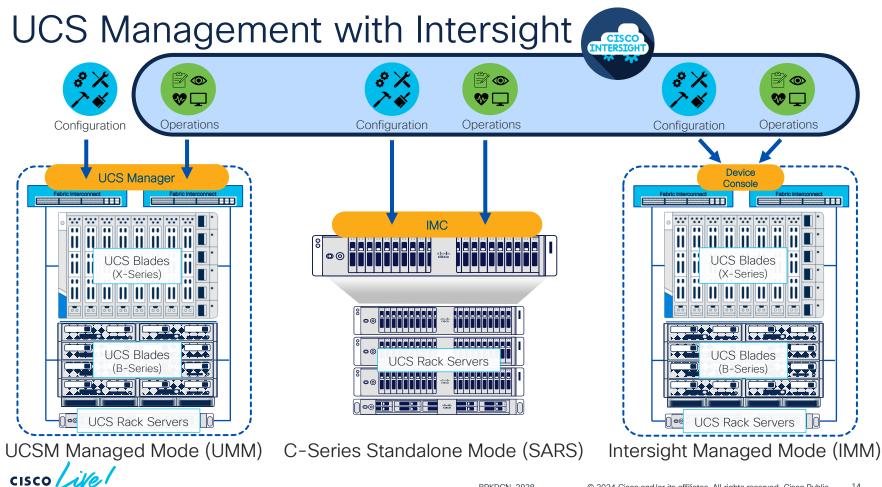


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What is Intersight Managed Mode?

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Intersight Managed Mode (IMM)

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UCS policy-based management for servers & fabric in Intersight

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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)

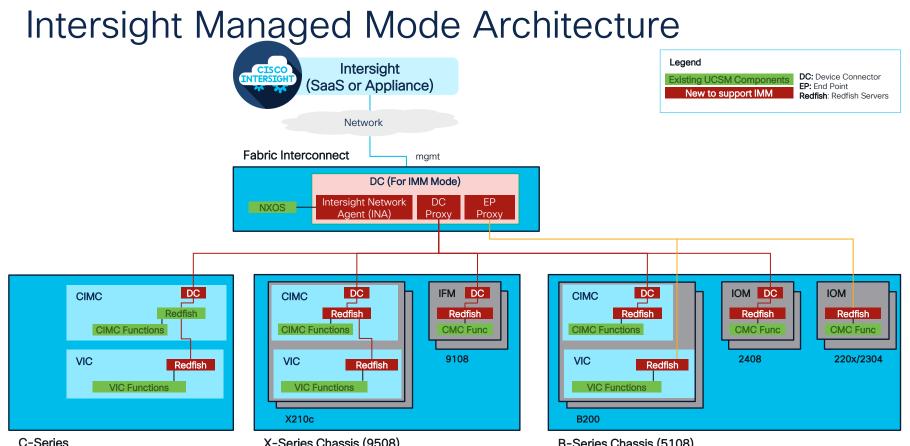
Scope

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

Scale

20 chassis / 160 servers (same as UCSM)

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C-Series

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)



	{
	"@odata.context": "/redfish/v1/\$metadata#Thermal.Thermal",
	<pre>"@odata.id": "/redfish/v1/Chassis/FCH22347N7W/Thermal",</pre>
	"@odata.type": "#Thermal.v1_6_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
	<pre>"@odata.id": "/redfish/v1/Chassis/FCH22347N7W/Thermal#/Temperatures/1",</pre>
	"MemberId": "1",
	"Name": "TEMP_SENS_REAR",
	"PhysicalContext": "Back",
	"ReadingCelsius": 33,
	"Status": {
	"Health": "OK",
34	"State": "Enabled"
	} ,
36	"UpperThresholdCritical": 75,
	"UpperThresholdFatal": 85
38	},

/redfish/v1/Chassis/{ChassisId}/Therma

Why Intersight Managed Mode?





Benefits of the IMM model



 Modern RESTful API with OpenAPI

Modernize

• 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
 for 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

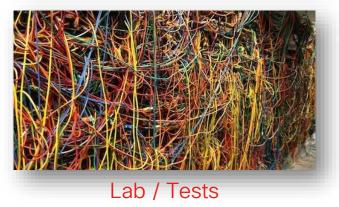




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New domain deployment / Greenfield





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How to use Intersight Managed Mode?

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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

Management mode

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):

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Device Console – System Information

cisco DEVICE CONSOLE ucs-bravo			0 6
SYSTEM INFORMATION DEVICE CONNECTOR INVENTORY	DIAGNOSTIC DATA		
Fabric Interconnect A (Primary)		Fabric Interconnect B (Subordinate)	
		Table Interconnect B (oubordinate)	
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)l42(3b)
Available Memory	50.38 MiB	Available Memory	50.38 MiB
Total Memory	62.76 MiB	Total Memory	62.76 MiB

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Device Console – Device Connector

cisco DEVICE CONSOLE ucs-bravo	0	Ŀ
SYSTEM INFORMATION DEVICE CONNECTOR INVENTORY DIAGNOSTIC DATA		
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 de please visit Help Center	rice connecto	tor,
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Device Connector Intersight Claimed to Account Intersight		
Claimed		

Device Console - Inventory

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ucs-bravo-1-3	Healthy	⊘ Active	UCSB-B200-M5	FCH223570ND			
ucs-bravo-1-4	Healthy	⊘ Active	UCSB-B200-M5	FCH223570BY		Power On	
O ucs-bravo-2-1	Healthy	⊘ Active	UCSB-B200-M5	FCH22347M5Q		Turn On Locator	
ucs-bravo-2-2	Healthy	 ⊘ Active 	UCSB-B200-M5	FCH22347N5N		Launch KVM	٠
						Launch API Explorer	
						Generate Tech Support Bu	undle

And... that's it!

Everything else is done on



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Organizations in Intersight

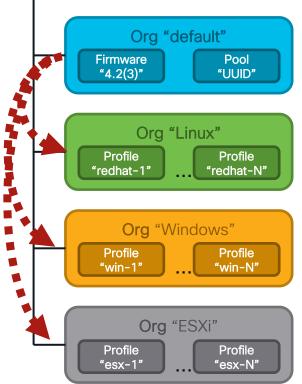
- Flat structure (no hierarchy like in UCSM/Central)
- Logical container to hold:
 - Logical resources (policies / pools / profiles / ...)
 - Physical resources (servers, storage, ...)
 - Grouped into Resource Groups
 - A physical resource can belong to multiple organizations
- Used to perform Role-Based Access Control
 - Users are assigned Roles (set of Privileges)
 - Roles are assigned a Scope ("all" or a list of organizations)
- Sharing between orgs
- Support of up to 50 orgs



Org "default"
Org "Linux"
Org "Windows"
Org "ESXi"

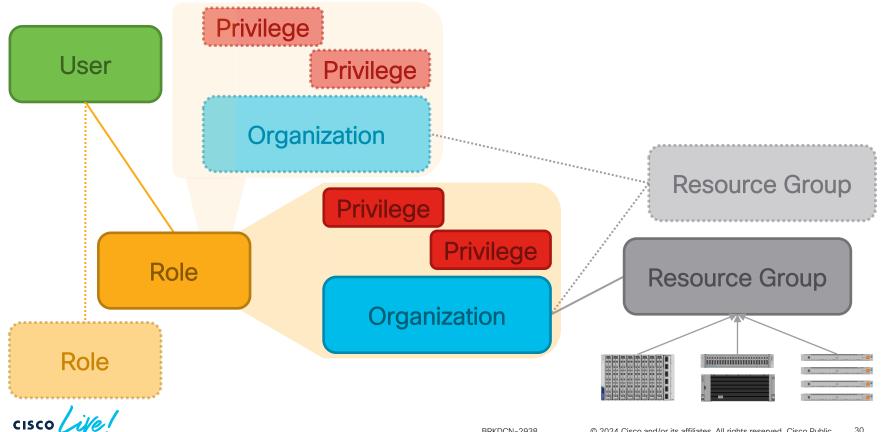
Organization Sharing

- Per organization setting
- Control sharing scope
 - · List of organizations to share with
- Limitations
 - Support of up to 200 sharing rules
 - No support for sharing if org is associated with Resource Groups (hardware)
 - No support for transitive sharing (no multilevel sharing)
 - No support for org sharing with Port Policy & sub-policies



https://www.cisco.com/c/en/us/products/collateral/cloud-systems-management/intersight/imm-con-sharing-across-organization-cloning-wp.html

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
- Policy resolution via MOID, not name-based



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/Switch
- SNMP/Syslog

Server Policies

- BIOS
- Boot

•

- Storage/SD Card
- LAN/SAN Connectivity
- IMC Access
- KVM/IPMI/Serial/vMedia
- SNMP/Syslog
- Power/Thermal
- Firmware

Chassis Policies

- SNMP
- IMC Access (for SNMP)
- Power/Thermal

Profiles

- Domain Profiles
- Server Profiles
- Chassis Profiles

Templates

- Domain Profile
 Templates*
- Server Profile Templates
- Chassis Profile
 Templates*
- vNIC/vHBA Templates*

* Other Templates in roadmap

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IMM Pools



Key differences with UCS Manager/Central

• No WWxN pools

 No Qualification policies* for Resource (Server) Pools

Missing/Removed



Rename pools

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

 Netmask/Prefix, Gateway, DNS on a per-IP Pool basis (per-block* in roadmap)

Changed

• No default pools

* In roadmap

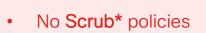


IMM Policies

Missing/Removed



Key differences with UCS Manager/Central





• 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 catalog values when creating Adapter policies

* In roadmap



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)*
- No support for static IP assignment*





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

 Improved change control (separate assign, deploy & activate steps)

* In roadmap

For your

reference

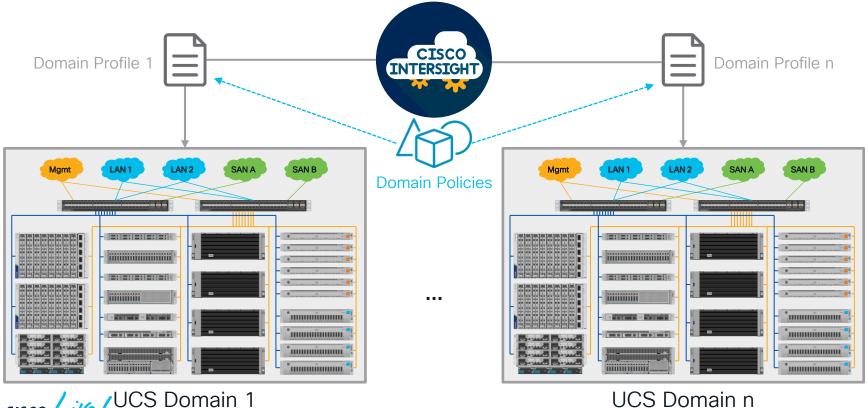


Managing UCS Domains

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UCS Domain Profiles

Policy-based configuration of the UCS fabric



cisco UVe UCS Domain 1

UCS Domain Profiles VLAN / VSAN Policy

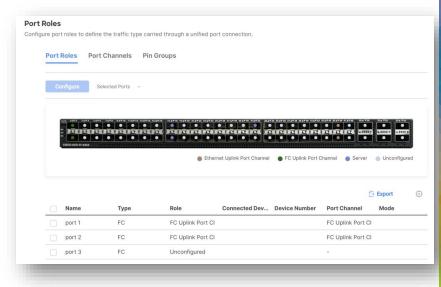
- Defines the list of VLANs / VSANs that need to be deployed at the Fabric Interconnect level
- Domain Profile can use:
 - a common policy for both Fabrics (common scenario for VLANs) or
 - separate policies (VSANs are often different on each Fabric Interconnect)
- VLANs can be defined using a range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

Filters	Search			
Platform Type	Ethernet Network Control	Link Control	O Port) Syst
	Ethernet Network Group	Multicast Policy	SNMP	• VLA
UCS Server	Flow Control	Network Connectivity	Switch Control	O VSA
UCS Domain	Link Aggregation	○ NTP	Syslog	
UCS Chassis				
HyperFlex Cluster				
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Kubernetes Cluster	or UCS Domains		_	
Kubernetes Cluster Kubernetes Cluster This policy is applicable only fi VLANS	r UCS Domains			
Kubernetes Cluster Kubernetes Cluster This policy is applicable only fit VLANS Add VLANs	r UCS Domains			
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Kubernetes Cluster This policy is applicable only fi VLANs Add VLANs Show VLAN Ranges Add Filter	ame : Sharing Type :		Auto Allow Yes	

UCS Domain Profiles

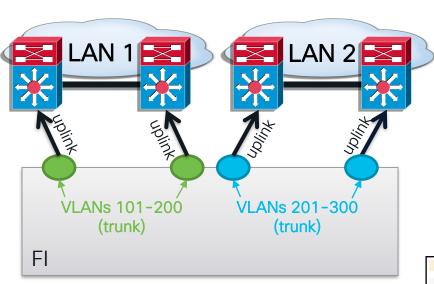
Port Policy

- 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) Recommended
- Ability to pre-define device ID for chassis/racks discovery





Disjoint Layer 2 configuration in IMM



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 To connect to disjoint L2 networks, VLANs can be filtered on uplink ports (or port-channels)

For your

reference

- 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

 VLANs should have one Multicast policy associated to it Configuration 		Role Ethernet Uplink	~	
Name / Prefix * Green Auto Allow On Uplinks O	VLAN IDs * [©] 101-200	Admin Speed Auto	FEC V O Auto	
Enable VLAN Sharing Multicast Policy * Selected Policy default ×		Ethernet Network Group Selected Policy Green		
VLAN Policy			Port Policy	

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UCS Domain Profiles

Switch Control Policy

- Defines the network settings of the Fabric Interconnects
- Ethernet & FC End-Host / Switch Mode
 - End-Host mode recommended
 - FC Switch mode for direct-attached SAN Storage
 - Reboot required to change mode
- Advanced settings
 - VLAN Port Count Optimization (16K \rightarrow 108K)
 - Reserved VLAN Range (128 internal VLANs)
 - MAC Address Aging settings
 - UDLD Settings
 - Fabric Port-Channel vHBA Reset

thernet 0			FC 💿	
End Host	 Switch 		● End Host	Switch
LAN Port (Count			
Enable \	/LAN Port Count C	Optimization ©		
ystem Res	erved VLANs			
		VLAN Start ID is 391 y VLAN policy. To ch		
eserved VLAN 915	Start ID *	۵	Reserved VLAN E 4042	nd ID
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	Iress Table Ag	ing Time Custom	Never	
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D	efault	-		0 second:
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UCS Domain Profiles

System Settings Policies

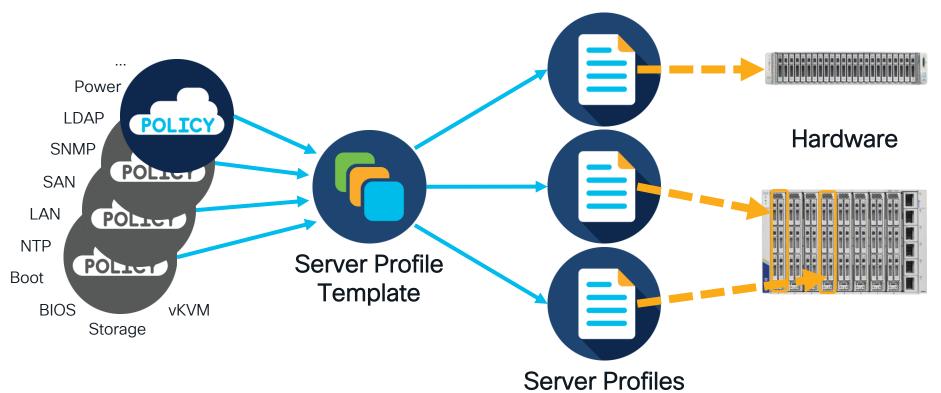
- These policies define the Fabric Interconnects configuration Similar to Domain Group settings in UCS Central.
 - Network Connectivity Policy: Defines DNS settings
 - NTP Policy: NTP & Timezone settings
 - System QoS Policy: QoS classes settings
 - Switch Control Policy: VLAN compression, MAC Address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

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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 (M5 servers only)
 - Storage Policy: Defines local storage settings (M.2 and RAID controllers)
 - Thermal Policy: Configures fan speed control (rack servers only)
- 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

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	Ena
	Enal
	Back

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 - Recommended
 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
- Graphical vNIC Editor for visual representation

Ma	inual vNICs Placement	Auto vNICs Place	ment
• For ma	nual placement option you need t	to specify placement for ea	ich vNIC. Learn more at H
Placement			
Simple	Advanced		
		PCI Link	
Slot ID *		© 0	
Switch ID *			
A		~ ©	
PCI Order			
PCI Order 0		٥ (
		©	
0	1	C ©	
0 List View	/ 🗆 🕯	00	Add vNIC
0 List View 🖃	/ 0 8	Tap the vNIC to select	t/deselect and
0 List View	/ 0 8		t/deselect and
0 List View ^ Slot 0 admin-a	/ 0 8	Tap the vNIC to select	t/deselect and sections to assign.
0 List View ^ Slot 0 admin-a 1 admin-b	/ 0 8	Tap the vNIC to select	t/deselect and
0 List View Slot 1 admin-a 3 vmdata-a	/ 0 8	Tap the vNIC to select	t/deselect and sections to assign.
0 List View Slot 1 admin-a 3 vmdata-a		Tap the vNIC to select	t/deselect and sections to assign.
0 List View Slot 1 admin-a 3 vmdata-a		Tap the vNIC to select	t/deselect and sections to assign.

Identities allocation



- Identities are allocated using an "Always Lowest ID" scheme
 - Across all blocks within the pool
 - Predictible allocation scheme identical to UCSM/Central
- MAC, WWNN, WWPN, UUID are allocated at Server Profile creation
- IP and IQN are allocated at Server Profile deployment
- No support for ID Range Access Control Policy*
- Maintains identifers when swapping LAN/SAN Connectivity
 Policy or Detaching/Attaching to Template
 - Only works when swapping policies (single operation) No detach & attach
 - Identifier is kept only if vNIC/vHBA has the same name

Select LAN Connectivity

 \times

ap

Policy "lan_esxi" will be changed to "lan_esxi_2". Changing the LAN Connectivity Policy may result in change of identitites "MAC, IQN, iSCSI Boot IP" if the pool ranges configured in the new policy do not include the existing identities.

	8 items found	10 v p	erpage K < 1 of 1 ≥ ≥ ∰
lan_esxi			lan_esxi_2
data1			-
data2			-
iscsi1			iscsi1
iscsi2			iscsi2
mgmt1			mgmt1
mgmt2			mgmt2
vmotion1			vmotion1
vmotion2	2		vmotion2
			K < 1 of 1 ≥ >
			Cancel Select
			* In roadr



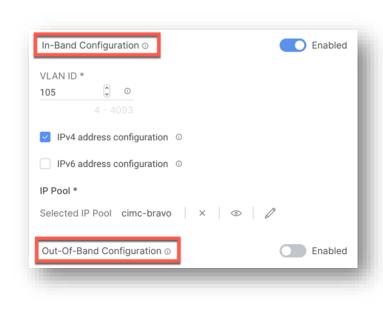
UCS Server Profiles & Templates

Server Management Policies

- Server management policies similar to UCS Manager/Central policies
 - Firmware Policy: Configures firmware package versions for all server models
 - 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)
 - No static IP assignment support*
- Inband configuration
 - VLANs 1-3 not supported (same as UCSM)
 - IPv4 & IPv6
- Out-Of-Band configuration
 - IPv4 only
 - No support for OS Install*
- Corresponds to "Management IP Address" +
 "Inband Profile" in UCS Manager



* In roadmap

50

Firmware Policy

- Automates firmware management within the Server Profile/Template
 - Replaces the Host Firmware Package Policy in UCS Manager/Central
 - Supports firmware upgrade & downgrade
- Downloads & stages firmware during Profile deployment phase
- Activates new firmware during Profile activation phase
- Per-model firmware version support (up to 6)
- Ability to exclude Storage Controllers & Drives (Advanced Mode)
- · Supported with Standalone & IMM servers

i You can add a m	aximum of six s	erver models.		
Server Model *		Firmware Version *		
UCSX-210C-M7	~ 0	5.2(0.230092)	~ ©	1
Server Model *		Firmware Version *		
UCSB-B200-M5	✓ 0	4.2(3g)	~ 0	ÎÎÎ

Improved change control

Assign

- Maps Server Profile to physical server
- "Reserves" hardware resources

 Pushes configuration to physical server and endpoints (VIC, CIMC, RAID ctrl, etc.)

Deploy

- Downloads & stages firmwares
- No reboot performed*

• Reboots server to activate deployed changes

Activate

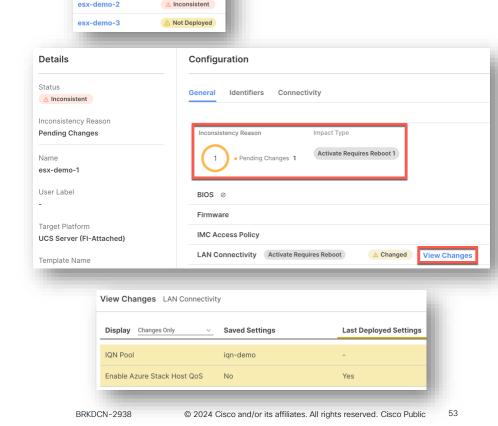
- Activates firmwares
- Reboot from Intersight or OS

* Except for Persistent Memory Policy



Improved change control

- No need for a "Maintenance Policy"
- Profile status: OK, Not Deployed, Inconsistent (with reason)
- Estimates impact of deploying & activating changes for each policy
 - "Activate Requires Reboot" indicates a reboot requirement
 - "Management Network Outage" indicates a CIMC connectivity loss
- Ability to view the pending changes before deploying, with a side-by-side comparison view
- Same change control for Domain & Chassis
 Profiles



Name

esx-demo-1

Status

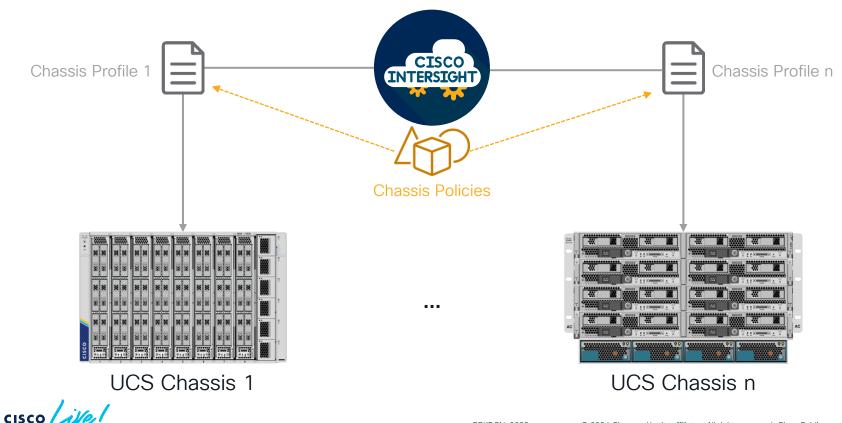
⊙ OK

Managing UCS Chassis

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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/s ٠ ervers-unifiedcomputing/intersight/products-releasenotes-list.html

FJ 1	Д 0 45 Δ 37 ⑦ Д
ntersight Help Center	Send Us Feedback Meet Intersight Command Palette Help Center
Getting Started reate an Intersight account, claim a target and you are good to go. Getting Started in Intersight Supported Systems Intersight Licensing API Documentation Security in the Intersight Platform	New Feature Highlights Learn more about the latest additions to the Intersight features. Cisco Intersight New Look Cisco Intersight Integrated Systems Cisco UCS X-Series Madular System Support Cisco End of Life Advisories
What's Coming to Intersight arm more about the new features and ncionality in preview. What is a feature preview? Custom Metric Widgets Custom Metric Widge	rs connectivity, Jiligence, all managed d platform, it offers the orde-3outd data center s flexible consumption • Workflow Designer and Task Designer that help you create new workflows and tasks respectively to manage targets. • Moveflow Designer



Cloning Objects

- Cloning Policies
 - Supports cloning across orgs
 - Triggers clone workflow for tracking
- Cloning Complex Policies (referencing other policies/pools) behavior:
 - · Reuse existing policies/pools (default)
 - Force clone all policies/pools (provide unique suffix)
- Cloning Profiles/Templates
 - Not applicable to Profiles derived from Template
 - Supports up to 25 clones per clone operation
 - Support for cloning across orgs in roadmap
- No support for cloning Pools

	··· Clone Details	
	Policy Name *	Organization *
ete	esx-demo_CLON	NE default
		default
ie 💮		demo
	Description	test-org
← Reques	e BIOS Policy	
CIONE	; BIOS FOILCY	
Details		Execution Flow
67		
Status		Process Clone Result
⊘ Success	5	
		⊘ Check Clone Status
Name		⊘ Start Clone Processing
Clone BIOS	SPOlicy	
	olicy and Pool Behav	viour
tached Po		
	and pools in the destination	organization with the same name, clone if not found \odot
Use policies	and pools in the destination	organization with the same name, clone if not found \odot
Use policies		-
Use policies		-
Use policies	icies and pools into the desti	-
Use policies Clone all poli Iffix Name *	icies and pools into the desti	ination organization ©
Use policies Clone all poli	icies and pools into the desti	ination organization ©
Use policies Clone all poli ffix Name *	icies and pools into the desti	ination organization ©

Number of Clones *

Where is my FSM?

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

~				Q Search	ı	$\bigcirc \frown 4$	ୟ ନ୍ 🚥	A 42 (୭ ୧	
quests									\times	
All Requests © +						69 items found	12 v per page	K < _1_of	6 > >	
Status In Progress 3		Execution Type							ж	
Name	Status	Initiator	Target Type	Target Name	Start Time	Duration	ID	Execution T	/ 9	
Chassis Inventory	O In Progress 29%	system@intersight	Chassis	ucs-bravo-1	a few seconds ago	6 s	63cd979c696f	Execute		
Chassis Inventory	O 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		
Chassis Discovery	Blade Disco	very								
Chassis Discovery	Details		Execution F	low						
Chassis Inventory	Details		Execution F	low						
Chassis Discovery Chassis Discovery	Status Ø Success		⊘ Sync Se	rver View Inventor	у					Jan 22, 2023 9
Chassis Discovery			⊘ Invento	y Server Power						Jan 22, 2023 9
Chassis Discovery	Name Blade Discovery		⊘ Power 0)ff Server						Jan 22, 2023 9
Deploy Domain Pro	ID 63cd9813696f6e2d31		⊘ Retrieve	Actual Boot Orde	Information					Jan 22, 2023 9
		155ad4e	⊘ Retrieve	Adapter Interface	Information					Jan 22, 2023 9
	Target Type Blade Server		⊘ Retrieve	Adapter Event Ch	annel Information					Jan 22, 2023 9
	Target Name ucs-bravo-1-3		⊘ Firmwar	e Inventory Summ	ary for Server Compone	ents				Jan 22, 2023 9
	Source Type		⊘ Create	Adapter External Ir	terfaces					Jan 22, 2023 9
	Blade Server		 Pre valie 	date Adapter upgra	ade					Jan 22, 2023 9
	Source Name ucs-bravo-1-3		⊘ Get upg	rade details for ad	apter					Jan 22, 2023 9
	Initiator		⊘ Configu	re Server Host Por	ts					Jan 22, 2023 9
	system@intersight		⊘ Wait for	Adapter Inventory						Jan 22, 2023 9
	Start Time Jan 22, 2023 9:09 PM		⊘ Retrieve	Server Inventory						Jan 22, 2023 9
	End Time		⊘ Wait For	r Storage Initializat	ion					Jan 22, 2023 9
	Jan 22, 2023 9:15 PM									

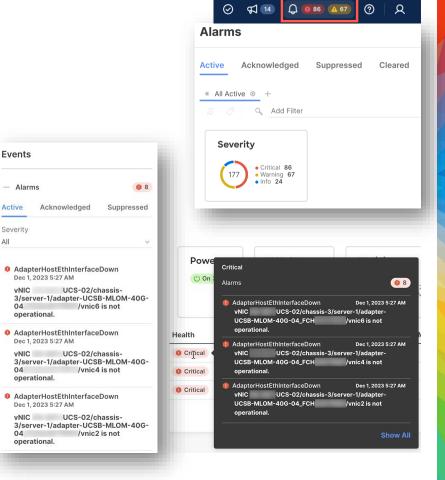
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BRKDCN-2938



Alarms & Notifications

- Drawer containing all alarms
 - Critical, Warning & Info levels
- Acknowledging an alarm removes it from the Active section
- Cleared alarms are available for troubleshooting & post mortem analysis
- Contextual alarms list in table views and detailed views (click to see details)
- New alarm codes with readable name (e.g. AdapterHostEthInterfaceDown)
 - Alarms Reference Guide: https://www.cisco.com/c/en/us/td/docs/unified_com puting/Intersight/IMM Alarms Guide/b cisco intersig ht alarms reference quide.html



Active

04

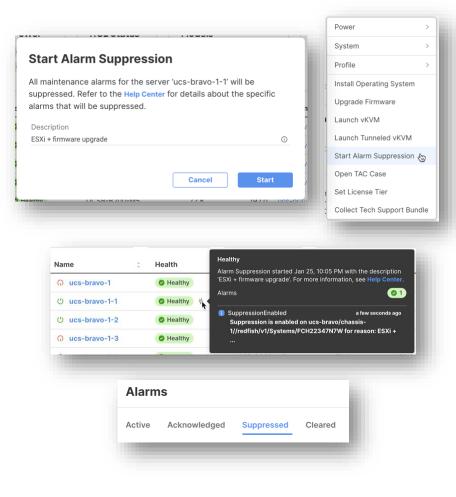
04

04

All

Alarm Suppression

- Temporarily mutes alarms
 notifications
- Useful during maintenance window or other planned activities (upgrades, etc.)
- Suppressed alarms can still be seen under the "Suppressed" tab in the Alarms drawer
- Applicable at physical server level



Managing Firmwares

UCS Servers

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

odels		Exclude Drives Exclude Storage Controllers	
5 • B200 M5 5	٩	Add Filter Version 2 Size 2 Release Date 2 Description	14 item
Model ©	0	4.2(3b) 678.44 MiB Jan 9, 2023 2:56 AM Cisco Intersight S	erver Bundle
UCSB-B200-M5	72.8	4.2(2e) 778.73 MiB Nov 28, 2022 9:14 AM Cisco Intersight S	Server Bundle
UCSB-B200-M5	72.8		
UCSB-B200-M5	72.8	192.0 ucs-bravo System >	
UCSB-B200-M5	72.8	192.0 ucs-bravo Profile >	
UCSB-B200-M5	72.8	192.0 ucs-bravo Install Operating System	
		Upgrade Firmware	

UCS Infrastructure

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

q	Add Filter							22 items found	odels		
	Version	÷	Size	÷	Release Dat	e ‡	Description		2	• 6454 2	
С	4.2(3b)			1.70 GiB	Jan 9, 2023	2:45 AM	Cisco Intersight Ir	nfrastructure Bundle			
	4.2(2d)			1.69 GiB	Nov 28, 202	2 9:02 Al	Cisco Intersight Ir	nfrastructure Bundle		Ports Used Ava	il ÿ
						4.2(3b)	ucs-bravo	9.3(5)142(3b) 54	4	9 45	
						4.2(3b)	ucs-bravo	9.3(5)142(3b)	Turn O	n Locator	
									Open 1	AC Case	
									Upgrad	de Firmware	1
									Replac	e UCS Domair	
									Collect	Tech Support	Bundle

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

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Where to download firmware bundles?

- For SaaS & CVA, download is automatically performed from intersight.com
 - When performing firmware upgrade operation on server(s)
 - When deploying Server Profile(s) with a Firmware Policy
- For PVA, firmwares need to be manually uploaded to the Software Repository first
 - Create an Intersight Appliance Account: <u>https://www.intersight.com/pvapp</u>
 - Download firmwares for:
 - Infrastructure (4GFI = 6400 series, 5GFI = 6500 series)
 - Servers (one file per server model)
 - Intersight Appliance & Appliance Intelligence bundle
 - Upload firmwares to Software Repository → Software section
 - · Help:

https://intersight.com/help/appliance/getting_started/downlo ading_software_packages_for_appliance

ftware Downloads						
are Catalog My Downloads						
Cisco UCS C-Series Rack-Mount Standalone Server Software (H Utility) must be downloaded from	ost Upg	rade Cisco Softwar Central	 Learn more other software 		Help . Center	
* All Downloads Appliance HyperFlex UCS Director	Firm	ware +			🕒 Export	340 items found $50 \sim$
Name : Type	÷	Version 0	Size	Description		C Release Date
ucs-intersight-infra-4gfi.4.3.2.240002.bin Firmware		4.3(2.240002)	1760.4 MiB	Cisco Intersight	Infrastructure B	Bundle Jan 25, 2024
intersight-ucs-server-c240-m7.4.3.2.240002.bin Firmware		4.3(2.240002)	829.1 MiB	Cisco Intersight	Server Bundle	Jan 24, 2024
intersight-ucs-server-c220-m7.4.3.2.240002.bin Firmware		4.3(2.240002)	807.6 MiB	Cisco Intersight	Server Bundle	Jan 24, 2024
intersight-ucs-server-c245-m6.4.3.2.240002.bin Firmware		4.3(2.240002)	724.1 MiB	Cisco Intersight	Server Bundle	Jan 24, 2024
intersight-ucs-server-c225-m6.4.3.2.240002.bin Firmware		4.3(2.240002)	712 MiB	Cisco Intersight	Server Bundle	Jan 24, 2024
intersignit-oc						
intersight-uc Seneral intersight-uc Seneral		a firmware version to ct Firmware Bundle The selected firmw	are bundle will	abric Interconnects to. be downloaded from in abric Interconnect traff		By default, the upgrade enables
ntersight-ue entersight-ue ntersight-ue tersight-ue entersight-ue	Select	a firmware version to ct Firmware Bundle The selected firmw Use Advanced Moc Add Filter	are bundle will le to exclude Fa	be downloaded from in abric Interconnect traff	ic evacuation.	29 items found
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Managing FI firmware cache

- All firmwares (infrastructure & server bundles) used to perform a firmware upgrade are automatically stored on Fl cache
 - Downloaded from intersight.com for SaaS & CVA
 - · Downloaded from Software Repository for PVA
 - Synchronized between both Fls
- If cache becomes full, it will prevent firmware to be downloaded
- Monitor cache space utilization under the FI inventory
- To clear cache space, use the clear-firmware-cache CLI command, specifying a firmware bundle ID to remove (use list-firmware-cache to list bundle IDs)
 - Perform clear on both Fabric Interconnects
- Automatic cache space management in roadmap

ics-bravo FI-A	C Healthy		A
eneral Inventory Con	nections UCS Domain Pro	file Topology	
Ports & Port Channels Fan Modules	Local Storage		
PSUs			
Local Storage	۹ Add Filter	G 9 items found 10 ∨ per p	bage 🔣 🔄 1_ of 1 ≥ > > 😳
	Partition	Size (MiB)	Capacity
	bootflash	84981	
	mnt_pss	120	- 6%
	opt	9951	• 2%
	spare	7936	. 1%
	usbdrive	9048	36%
	var_sysmgr	3800	
	var_tmp	600	• 1%
	volatile	2048	- 4%
	workspace	7935	

ucs-br	avo-A# list-firm	ware-cache	
DOWN	LOADED DATE	IDENTIFIER	IMAGE NAME
2023-	09-13	650216eb65676131019d57ad	ucs-intersight-infra-4gfi.4.3.2.230117.bin
2023-	10-30	653fbea3656761310100d082	intersight-ucs-server-b200-m5.4.2.3f.bin
2023-	11-02	6543c63e656761310112aeba	intersight-ucs-server-b200-m5.5.1.0.230054.bin
2023-	11-19	655a7771656761310121512d	intersight-ucs-server-210c-m6.5.2.0.230092.bin
2023-	11-19	655a77f56567613101215368	intersight-ucs-server-b200-m5.5.2.0.230100.bin
2023-	11-19	655a8bd9656761310121a9aa	intersight-ucs-server-c220m5.4.3.2.230270.bin
2023-	11-20	655bd6bd6567613101276637	ucs-intersight-infra-4gfi.4.3.2.230129.bin
2023-	11-22	655e0f9265676130057f6761	intersight-ucs-server-b200-m5.5.1.0.230073.bin
2023-	12-11	6576dd556567613101d09d47	intersight-ucs-server-b200-m5.4.2.3b.bin
2024-	01-24	65b1355d65676130059f01b7	intersight-ucs-server-b200-m5.5.1.0.230073.bin

ucs-bravo-A# clear-firmware-cache 6543c63e656761310112aeba 6543c63e656761310112aeba The Intersight cache will be cleared. Are you sure? Enter 'y' to continue:y Cache cleared

Handling Servers below minimum version

Intersight Managed Mode does not support the existing firmware version.

Message

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

Typical use case: RMA

				Upgrade 🏻 🏀
sion		2 UCSB-B200-M5	FCH22117BWA	
vers Below Minimum	Slot ID	0 Model	0 Serial	÷ 4
/ers	۹ Add Filter	G	Export 1 items found 10 v per page K	< 1 of 1 > > 🔅
rer		4.1(31)		
rmal		4.1(3k) 4.1(3h)		
odules	Servers Below Minimum Version	4.2(1a)		
		4.2(1b)		
I Inventory Conr	nections	4.2(1c)		
		4.2(1e)		Actions
sis 5-bravo-1 🧕	Healthy	4.2(1f)		Actions
		4.2(1h)		
cks		4.2(2d)	Upgrade	
		4.2(2e)		
		4.2(3b)		



Code

ComputeCimcFirmwareNo

Sever...

Upgrade Server

Warning

Server 'FCH22117BWA' will be upgraded. Choose server version

Source Name

ucs-bravo

VMware vLCM/HSM Integration

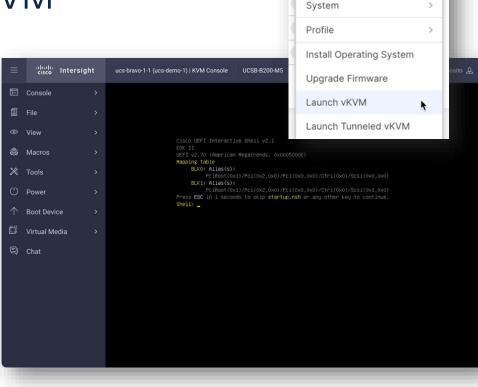
- Automate UCS servers firmware updates via vLCM
- Claim vCenter in Intersight
 - Enable HSM when claiming
- No additional setup/plugin required
- Select "Firmware and Driver Addon" bundle directly from vLCM (auto-populated)
- Run Pre-Check & Remediate Hosts
- Supported on SaaS & Appliance
- Supported with Standalone & IMM servers

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-------------	--

ist-prod.parlab.ciscolab	s.com	~ 0	Hostname/IP vc-prod.parlab	o.ciscolabs.com	
		0			
rname *			Password		
inistrator@vc-prod.loca	al	0	•••••		
Secure ©					
Enable Datastore	Browsing @				
Enable Datastore	browsing 0				
Enable Guest Metr	rics 0				
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Connecting to Virtual KVM

- Virtual KVM Policy
 - Enable/Disable vKVM
 - Tunneled vKVM support (via Intersight)
- Virtual Media Policy
 - Disabled by default
 - Virtual Media mounts
- IMC Access Policy required
 - Inband or Out of Band support
- Authentication
 - SSO from Intersight by default
 - Local User Policy required for KVM Direct
- One Time Boot device support
- Session Management: under System \rightarrow Sessions



⑦ Incomplete

Power

ucs-demo-1 ····

>

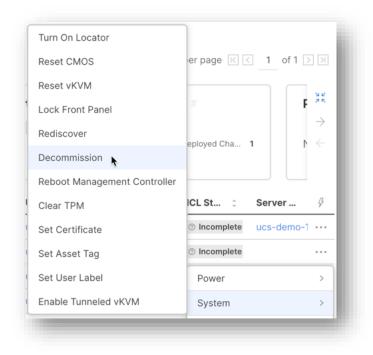
New Cisco vKVM with M5*/M6/M7 servers

* blades only



Decommission / Recommission / Remove

- 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
- Remove operation available when server is physically unplugged from the chassis





Power Cycle Chassis Slot (Slot Reset)

- For troubleshooting purposes only!
 - Power cycles both CIMC and server simultaneously
 - Highly disruptive to server operation
- Useful if CIMC is not reachable, or if server is stuck due to hardware/software issue and requires a reseat (hot plug) operation
- Action performed from Chassis view
- Resetting secondary slot for X410c M7 is not necessary

	ed slot in Chassis 'ucs-bravo-2' will be Power Cycled
4	This operation should be used as a last resort to recover a non- responding device. Device management will be interrupted. Allow time for management services to come up following the power cycle.
Slot ID	*
1	\vee





Collecting a Tech Support Bundle

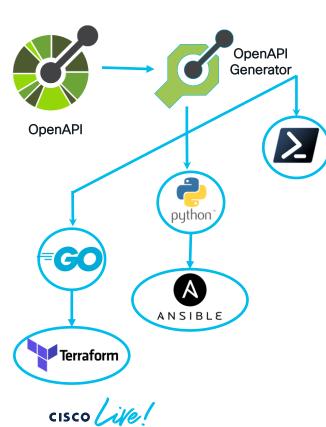
SYSTEM INFO

a few secon

- 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 disco P
- Connected TAC
 - Automated with SaaS and Connected Appliance

JUC			_						
•			0	Incomplete	ucs-demo-	1 •••			
				Power		>			
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				Profile		>			
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API is the new UI



ll' Intersight Developer C	Center	Guides API Reference Down	oads Support Q Vincent Esp
vice		REST C	REST Client
tersight	~	💷 /api/v1/compute/Blades 🔍 🔍	GET /api/v1/compute/Blades
		Parameters Response Model	Get /api/vi/compute/blades
Reference v1.0.11-10513	0	\$filter { string }	query + Query Parameter
comp	×		
		Filter criteria for the resources to return. A URI with a \$filter quer identifies a subset of the entries from the Collection of Entries. T	
		subset is determined by selecting only the Entries that satisfy the predicate expression specified by the \$filter option. The express	
ompute/Bladeldentities	~	language that is used in \$filter queries supports references to pro-	
and the second second second second		and literals. The literal values can be strings enclosed in single qu numbers and boolean values (true or false).	uotes,
ompute/Blades		numbers and boolean values (true of faise).	2 "ObjectType": "compute.Blade.List"
Read a 'compute.Blade'			3 "Results": [4 {
resource.		<pre>\$orderby { string }</pre>	query 5 "AccountMoid": "5984320b3e9520 6 "Adapters": [
Read a 'compute.Blade'		Determines what properties are used to sort the collection of res	ources. 7 {
resource.			8 "ClassId": "mo.MoRef", 9 "Moid": "63cd99456176752d3
		<pre>\$top { integer }</pre>	10 "ObjectType": "adapter.Uni query 11 "link": "https://www.inter
POST Update a 'compute.Blad resource.	e		12 }
		Specifies the maximum number of resources to return in the resp	Donse. 13], 14 "AdminPowerState": "",
PATCH Update a 'compute.Blad resource.	e'		15 "AlarmSummary": { 16 "ClassId": "compute.AlarmSum
100041001		<pre>\$skip { integer }</pre>	query 17 "Critical": 0,
ompute/Boards	~	Specifies the number of resources to skip in the response.	18 "Health": "Healthy", 19 "Info": 0,
ompute/Mappings	~		20 "ObjectType": "compute.Alarm 21 "Warning": 0
in parof in approximate		\$select { string }	22 },
ompute/Personalities	~	Agener formalt	24 "Ancestors": [
		Specifies a subset of properties to return.	25 { 26 "ClassId": "mo.MoRef",
ompute/PhysicalSummaries	Ŷ		27 "Moid": "63cd969d6176752d3
ompute/RackUnitIdentities	~	<pre>\$expand { string }</pre>	28 "ObjectType": "equipment.C query 29 "link": "https://www.inter
			30 } 31],
omnute/Packl Inite	~	Specify additional attributes or related resources to return in add	lition to 32 "AssetTag": "",

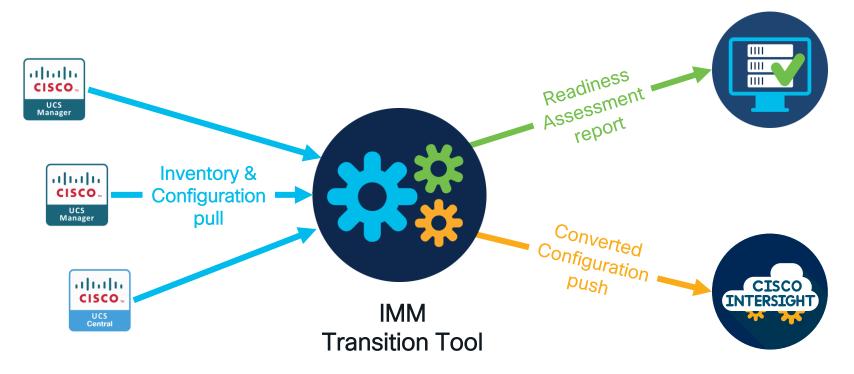
https://intersight.com/apidocs/

Transitioning to Intersight Managed Mode

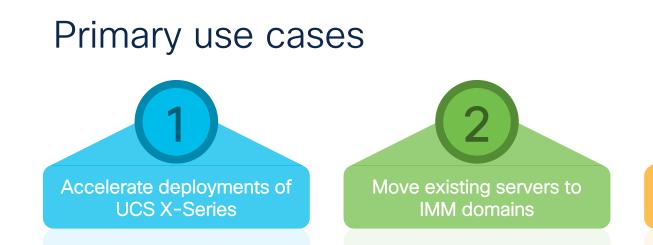
cisco live!



Introducing the IMM Transition Tool



cisco ivel



- 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.)

 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/M7)

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

* Roadmap

Additional use cases

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)

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



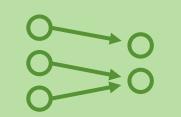
- Use IMM Transition Tool VM
 as a Software Repository
- Allows hosting of ISO images
 or firmware packages
- Can be leveraged to easily perform OS Installation or firmware upgrades on UCS servers

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Major Features



- Conversion/cloning of 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



Profile/Template based

- Selective conversion/cloning based on profiles/templates
- Only converts/clones policies attached to selected profiles/templates



Sample Readiness Report 1. Intersight Managed Mode Conversion Overall Summary 1.1 Intersight Managed Mode Conversion Score Hardware Compatibility 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 cisco ile





Additional Resources

- IMM Transition Tool demo videos
 - <u>https://www.youtube.com/watch?v=tHJJ-prOrO0</u>
 - <u>https://www.youtube.com/watch?v=Oqmf2CAPxtE</u>
 - <u>https://www.youtube.com/watch?v=duczkclCYrk</u>
- IMM Transition Tool download page
 - <u>https://ucstools.cloudapps.cisco.com/</u>
- IMM Transition Tool Documentation
 - User Guide: https://www.cisco.com/c/en/us/td/docs/unified_computing/Intersight/IMM-Transition-Tool/User-Guide-4-0/b
 Imm_transition_tool_user_guide_4_0.html
 - Release Notes: <u>https://www.cisco.com/c/en/us/td/docs/unified_computing/Intersight/IMM-Transition-Tool/b_imm_tt_rn.html</u>
- Transition CVDs
 - *FlexPod*: <u>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</u>
 - *FlashStack*: <u>https://www.cisco.com/c/en/us/products/collateral/servers-unified-computing/transition-flashstack-from-ucs-to-imm-wp.html</u>

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

















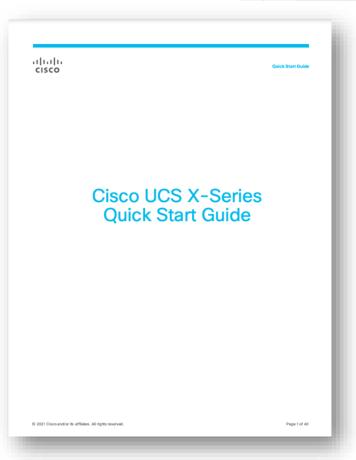


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X-Series Quick Start Guide

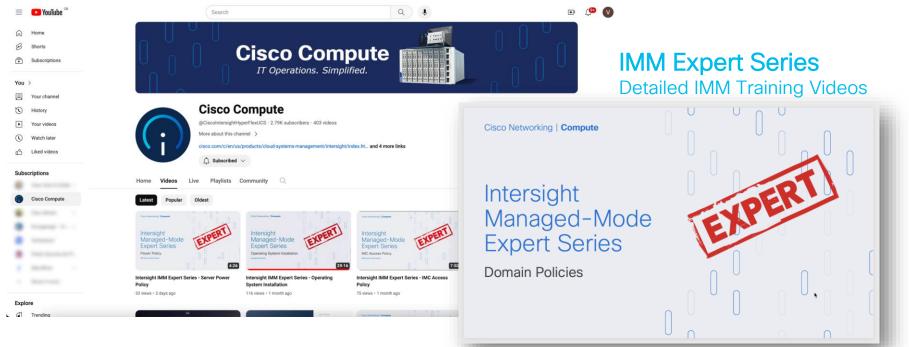
- Complete deployment guide for an X-Series IMM deployment from scratch
- Contains IMM domain, chassis and server configuration steps with all details
- <u>https://www.cisco.com/c/en/us/product</u> <u>s/collateral/servers-unified-</u> <u>computing/ucs-x-series-modular-</u> <u>system/ucs-x-series-quick-start-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







Cisco Compute YouTube Channel



https://www.youtube.com/@CiscoIntersightHyperFlexUCS

cisco ile



Thank you





cisco live!

Let's go