Upgrade Infrastructure and Server Firmware in Intersight Managed Mode

Contents

Introduction Prerequisites Requirements Components Used Fabric Firmware Upgrade Server Firmware Upgrade Verify Related Information

Introduction

This document describes the process to perform firmware upgrades in all the fabric components in a Cisco UCS Domain. This includes the two Fabric Interconnects (FIs), I/O modules (IOM), and blade servers through Intersight Managed Mode (IMM).

Prerequisites

Requirements

Cisco recommends that you have knowledge of these topics:

- Intersight
- Cisco Unified Computing System (UCS)

Before you upgrade your Intersight managed FI firmware, consider these prerequisites:

- Only Cisco UCS 6400 Series FIs in a Cisco UCS Domain can be upgraded.
- You must have at least the next available storage in the FI partitions to download the firmware bundle:

90 percent free space in /var/tmp20 percent free space in /var/sysmgr30 percent free space in /mnt/pss18 percent free space in /bootflash

- All servers in the Cisco UCS domain must be at license tier Essentials or higher.
- The minimum bundle release version is 4.1(2a).

Components Used

The information in this document is based on these software and hardware versions:

- Cisco UCS 6400 Series FI, initial firmware 4.2(1e)
- UCSB-B200-M5 blade server, initial firmware 4.2(1a), Premier license tier
- Intersight SaaS

The information in this document was created from the devices in a specific lab environment. All of the devices used in this document started with a cleared (default) configuration. If your network is live, ensure that you understand the potential impact of any command.

Fabric Firmware Upgrade

In order to start with the infrastructure firmware upgrade, you can choose any of the two FIs and click **Upgrade firmware**.

* All Febrie	Alfabic Interconnects																	
20 V per page IC 1 of the second line and lin																		
Health		Connection Connection Connection Connection	on rected 10 Connected 6	Firmware Version	ns 9.3(3)42(2	Models		Contract Status										
Name			Health		Contract Status		Manageme		Model		Expansion Modules		UCS Domain Profile	Ports Used	Available			
			Critical		Not Covered		10.31.123.	168	UCSFI-64	и						9.3(5)42(1c)		
			Critical		Not Covered		10.31.123.	167	UCSFI 64	и						9.3(5)142(1c)	Open TAC Case	
0																	Upgrade Firmw	are

This redirects to the screen where the upgrade wizard initializes.

Upgrade Firmware	
Version Select a firmware version to upgrade the Fabric Interconnects to.	
 About Firmware Upgrade Do not show this page again 	
	Start →

Step 1. Confirm the UCS environment (columns Fabric Interconnect A and Fabric Interconnect B) and current firmware version. Click **Next.**

E Progress				Step 1 General Ensure selected Fabric Interco requirements for firmware upp	nnects meet rade.			
3 Summary	Confirm Fabric Interconnects	Selection 1 Selected						
	Infrastructure firmware Add Filter	e upgrade can be performed only on a	a pair of Fabric Interconnects at o	nce	1 items	found <u>10 v</u> per page K	< <u>1</u> #1 > > ©	
	💟 Domain Name :	Model	Fabric Interconnect A Serial	Firmware Version	Model	Fabric Interconnect B Serial	Firmware Version	
		UCS-F1-6454	FD02440009X	9.3(5)i42(1c)	UCS-FI-6454	FD/024270LDM	9.3(5)142(1c)	
	Selected 1 of 1 Show S							
< Back	Cancel							Next >

Step 2. Click the target firmware version. Click Next.

즌 Progress				Ē	Step 2 Version Select a firmware version to upgrade the Fabric						
1 General					inverconnects to.						
Version	Se	lect Firmware Bundle				Advanced Mod	e 🕕				
3 Summary		The selected firmware bundle will be downloaded from intersight.com. By default, the upgrade enables Fabric Interconnect traffic evacuation. Use Advanced Mode to exclude Fabric Interconnect traffic evacuation.									
		Add Filter			10 items found	10 ∨ per page (K < 1 of 1 > >					
		Version : S	Size :	Release Date 0	Description						
		0 4.2(1h)	1.66 GiB	Sep 16, 2021 10:49 PM	Cisco Intersight Infrastructure Bundle						
		4.2(11)	1.66 GiB	Aug 17, 2021 1:28 PM	Cisco Intersight Infrastructure Bundle						
		O 4.2(1e)	1.67 GiB	Aug 4, 2021 7:21 AM	Cisco Intersight Infrastructure Bundle						
		O 4.2(1d)	1.66 GiB	Jun 27, 2021 9:57 PM	Cisco Intersight Infrastructure Bundle						
		4.1(51)	1.71 GiB	Jul 8, 2021 11:25 PM	Cisco Intersight Infrastructure Bundle						
		4.1(31)	1.64 GiB	Sep 3, 2021 12:47 AM	Cisco Intersight Infrastructure Bundle						
		─ 4.1(3d)	1.65 GiB	Jun 1, 2021 2:09 PM	Cisco Intersight Infrastructure Bundle						
		4.1(3d)	1.64 GIB	Jul 30, 2021 4:10 PM	Cisco Intersight Infrastructure Bundle						
		4.1(3c)	1.65 GiB	May 11, 2021 10:47 AM	Cisco Intersight Infrastructure Bundle						
		4.1(3b)	1.65 GiB	Jan 27, 2021 9:25 PM	Cisco Intersight Infrastructure Bundle						
		elected 1 of 10 Show Sel				K < <u>1</u> of 1					
< Back											

Step 3. This is a summary that shows the selected devices and the target firmware versions. A green arrow shows on the firmware version when the target firmware is higher than the current version, otherwise, it shows a yellow arrow.

Selected firmware bundle will be downloaded to the Fabric Interconnects and upgraded. Click on Requests to monitor the progress of the firmware upgrade. Firmware Version 4.2(1f) (*) Size 1.66 GiB Fabric Interconnects to be Upgraded Fabric Interconnect A Fabric Interconnect A Fabric Interconnect B Domain Name Model Serial Firmware Version Model Serial Firmware Version Model Serial Firmware Version Model Serial Firmware Version Model Serial Firmware Version Model Serial Firmware Version Model Serial Firmware Version Model Serial Firmware Version Model Serial Firmware Version Model Serial Firmware Version Model Serial Firmware Version Model Serial Firmware Version K (* 1 of 1 2 *)	Step 3 Summary Confirm configuration and initiate the upgrade.								
Firmware Version 1.66 GiB Fabric Interconnects to be Upgraded I items found 10 ~ per page K < 1 of 1 > 20 Fabric Interconnect A Fabric Interconnect A Domain Name Model Fabric Interconnect A Domain Name Model Fabric Interconnect A Fabric Interconnect A Firmware Version Model Serial Firmware Version UCS-TS-MXC-P25 UCS-FI-6454 FD02440009X 9.3(5)/42(1c) @ K < 1 of 1 > 20	 Selected firmware bur 	ndle will be downloaded to the	Fabric Interconnects and up	graded. Click on Reque	sts to r	nonitor the progress of the fi	mware upgrade.		
Version 4.2(1f) (c) Size 1.66 GiB Fabric Interconnects to be Upgraded Organian Name: Model Fabric Interconnect A 1 items found 10 ~ per page (c) 1 of 1 (c) (c) Domain Name: Model Fabric Interconnect A Firmware Version Model Serial Firmware Version UCS-TS-MXC-P25 UCS-F1-6454 FD02440009X 9.3(5)42(1c) (c) UCS-F1-6454 FD024270LDM 9.3(5)42(1c) (c) K (c) 1 of 1 2	Firmware								
Fabric Interconnects to be Upgraded Q. Add Filter 1 items found 10 × per page (C 1 of 1 2 Domain Name Model Fabric Interconnect A Serial Firmware Version Model Serial Firmware Version UCS-TS-MXC-P25 UCS-FI-6454 FD02440009X 9.3(5)42(1c) ① UCS-FI-6454 FD024270LDM 9.3(5)42(1c) ① K 1 of 1 2 2 C 1 of 1 2 C		4.2(1f) @		Size		1.6	6 GiB		
Q_Add Filter 1 Items found 10 × per page 1 of 1 > Image: Constraint of 1 Image: Constraint of 1 <thimage: 1<="" constraint="" of="" th=""> Image: Constra</thimage:>	Fabric Interconnects to b	e Upgraded							
Domain Name : Fabric Interconnect A Fabric Interconnect B Firmware Version UCS-TS-MXC-P25 UCS-F1-6454 FD02440009X 9.3(5)(42(1c)) ① UCS-F1-6454 FD024270LDM 9.3(5)(42(1c)) ①	Q Add Filter						10 v per page 🔣 🔇		
UCS-TS-MXC-P25 UCS-F1-6454 FD02440009X 9.3(5)/42(1c) ① ICS-F1-6454 FD024270LDM 9.3(5)/42(1c) ① K 1 of 1 2 2 1 of 1 2 2 1 0 2 1 0 2 1 0 2 1 0 2 1 0 1 2 2 1 0 1 2 1 0 1 2 1 0 1 <td< th=""><th>Domain Name 🔅</th><th>Model</th><th>Fabric Interconnect A Serial</th><th></th><th></th><th>Model</th><th>Fabric Interconnect B Serial</th><th></th><th></th></td<>	Domain Name 🔅	Model	Fabric Interconnect A Serial			Model	Fabric Interconnect B Serial		
		UCS-FI-6454	FD02440009X	9.3(5)I42(1c)		UCS-FI-6454	FD024270LDM	9.3(5)142(1c)	

Once you click **upgrade** you must confirm it one last time. At this point the FIs do not require a reboot yet.

Upgrade Firmwa	are
Firmware will be installed sure you want to upgrade	d on the selected Fabric Interconnects. Are you e firmware?
	Cancel Upgrade

In order to monitor the upgrade, navigate to **Requests** and click **Active.** Click the activity's name to see the complete workflow tasks.



Requests > Upgrade	Firmware		Ç ■ 3 ▲ 2 ◯ 1 ¢\$ 32 Q, ③ ③ ④
Details		Execution Flow	
Status	O In Progress	Progress	
Name	Upgrade Firmware 6151e543696f6e2d334ec382	Whit for image download to complete in endpoint. 14% completed.	
Target Type Target Name	Fabric Interconnect UCS-TS-MXC-P25-6454-IMM FI-A UCS-TS-MXC-P25-6454-IMM FI-B	Initiate image download to the endpoint. Download ucs-intersignt-infra-4grl.4.2.17 bin request is submitted successfully.	
Source Type Source Name	Firmware Upgrade	 Validate the requirements for the endpoint. Validation of pre-upgrade space availability completed successfully. 	
Initiator	@cisco.com		
Start Time	Sep 27, 2021 10:37 AM		
End Time			
Duration	6 m 55 s		
Organizations			

In order to complete the process you must acknowledge the reboot for Fabric B and then for Fabric A.

Note: Before you proceed with the reboot of the second FI, ensure that the data path is ready on the first fabric. In order to verify this you can use the API or the CLI with the command **(nxos)# show pinning border-interfaces.**

Workflow tasks are as follows:

- Download intersight FI bundle from Intersight software repository
- Upgrade IOMs
- Evacuate data traffic on FI B
- Activate FI B
- Wait for User Ack : for FI reboot
- Wait for activate to complete
- Evacuate data traffic on the FI A
- Activate FI A
- Wait for User Ack : for FI reboot
- Wait for activate to complete

Server Firmware Upgrade

Choose the server you want to upgrade and from the **Actions** drop-down list, choose **Upgrade Firmware.**

OPERATE > Servers > U	CS TS MXC P25 6454 IMM 1	1-1		🗘 🗖 313 🔺 271 🛛 🕑	¢‡ 32	۵ 🕲		£
General Inventory UCS Se	ver Profile HCL						Actions	
Details		Properties				Events	Power	
Health	C Healthy	Cisco UCS8-8200-M5		Front View	Top View	+ Alarms	System	
Name	UCS-TS-MXC-P25-6454-					+ Requests	Install Operating Sys	stem ts
User Label	IMM-1-1 IMM_server	_				+ Advisories	Upgrade Firmware	15
Management IP	10.31.123.210						Launch vKVM	
Serial	FLM2402001F		-				Open TAC Case	
	UCS8-8200-M5						Set License Tier	
Vendor	Cisco Systems Inc							

This initializes the firmware upgrade.

Step 1. Confirm it is the correct server and verify the current firmware version.

Servers > Upgrade Firmware				٩	🖬 313 🔺 271 🛛 🖂 🬾	32 9 0 0			
				Step 1					
General C Version			₹ ×= ×=	General Ensure selected servers meet requirements for firmware upgrade.					
3 Summary	Confirm	m Servers Selection 1 Selected							
					1 items found 10 v per page				
		Name 3	User Label 🗘	Model 0	Firmware Version	UCS Domain			
			IMM_server	UCSB-B200-M5	4.2(1a)	UCS-TS-MXC-P25-6454-IMM			
	Selec	ted 1 of 1 Show Selected Un							

Step 2. Click the radio button next to the target firmware version.

C Progress		Step 2 Version Select a firmware version to upgrade the servers to.									
3 Summary	Sele	Select Firmware Bundle Advanced Mode									
	•	The selected firmware bundle will be downloaded from intersight.com. All the server components will be upgraded along with drives and storage controllers. Use Advanced Mode to exclude upgrade of drives and storage controllers.									
		Add Filter				5 items found 10 v per page K <					
		Version :	Size :	Release Date :	Description						
) 4.2(1b)	577.84 MiB	Sep 13, 2021 8:35 AM	Cisco Intersight Server Bundle						
) 4.2(1a)	575.41 MiB	Aug 6, 2021 7:36 PM	Cisco Intersight Server Bundle						
) 4.1(3d)	510.98 MiB	Aug 16, 2021 11:48 AM	Cisco Intersight Server Bundle						
) 4.1(3c)	506.01 MiB	Jun 1, 2021 1:48 PM	Cisco Intersight Server Bundle						
) 4.1(3b)	494.63 MiB	Jan 27, 2021 11:17 PM	Cisco Intersight Server Bundle						
	Sel	ected 1 of 5 Show Se									

Step 3. This is a summary that shows the server and the target firmware version. A green arrow shows on the firmware version when the target firmware is higher than the current version, otherwise, it shows a yellow arrow.

🔄 Progress			-		Step 3				
General Version					Summary Confirm config	uration and initiate the	upgrade.		
Summary	A	irmware							
		ersion	4.2(1b) 👁			Size		577.84 MiB	
	s	ervers to be Upgraded							
		Add Filter					1 items fo	ound <u>10 ~</u> per page 📧	
		Name :	User Label	Model		Firmware Version		Requires Reboot 🛈	UCS Domain
			IMM_server	UCSB-B200-M	5	4.2(1a)		Yes	UCS-TS-MXC-P25-6454-IMM

In the Upgrade Firmware dialog box, you can choose immediately reboot or you can acknowledge the reboot later.

Upgrade Firmware Firmware will be installed on next boot. To reboot immediately, please enable the option below. Reboot Immediately to Begin Upgrade Upgrade

In order to monitor the upgrade, navigate to Requests and click Active.

ୟ II ସ I ସ I ସ I ସ I ସ I ସ I ସ I ସ I ସ I	, © 2
	Requests All Active Completed ×
Export 60 items fo	 Upgrade Firmware UCS-TS-MXC-P25-6454-IMM-1 a few seconds ago

Click the activity's name to see the complete workflow tasks.

Requests > Upgrade Firmware					ß	¢\$ 32	٩	Θ	0	٩
Details		Execution Flow								
Status		Restore power settings for server.								
Name	Upgrade Firmware									
ID	61533125696f6e2d33db6334	Wait for firmware upgrade to complete.								
Target Type	Blade Server									
Target Name		Initiate firmware upgrade.								
Source Type	Firmware Upgrade									
Source Name	UCS-TS-MXC-P25-6454-IMM-1-1	Cancel the previous firmware upgrade task if it is in pending state.								Sep 28, 2021 10:22 AM
Initiator	@cisco.com	Initiate firmware upgrade on adapter.								Sep 28, 2021 10:22 AM
Start Time	Sep 28, 2021 10:13 AM									
End Time	Sep 28, 2021 10:49 AM	Wait For BIOS POST Completion.								
Duration	35 m 58 s									
Organizations		Power On server.								
		Find image source to download.								

The workflow tasks are as follows:

- Download Intersight server bundle from Intersight software repository
- Upgrade the adapters (for blade)
- Upgrade the server
- Wait for the server to reboot
- Wait for the completion of the upgrade

Verify

 In order to verify the FI local storage free space, choose one of the FIs, click Inventory, and click Local Storage.

OPERATE > Fabric Interconnects > UCS-TS-MXC-P25-6	5454-IMM FH8	🗘 🖪 313 🔺 272 🕞	¢‡ 32 <i>d</i> © ⊙ ₹
General Inventory Connections UCS Domain Pro	offe		Actions 🗸
Sections 2	Local Storage		
Ports & Port Channels			
Fan Modules	Add Filter		8 items found 10 → per page 1 < 1 of 1 > >
PSUs	Partition :	Size (MiB) :	Capacity :
Local Storage	bootflash	84981	38%
	opt	9951	
	spare	7936	
	usbdrive	9048	32%
	var_sysmgr	3800	
	var_tmp	600	
	volatile	2048	
	workspace	7935	6x

After the infrastructure upgrade, you can verify the installation log. This shows the new version, the timestamps of the upgrade and allows you to confirm a successful upgrade.

```
UCS-TS-MXC-P25-6454-IMM-A(nx-os) # show install all status
This is the log of last installation.
<Mon Sep 27 07:01:30>
Verifying image bootflash:/ucs-6400-k9-system.9.3.5.I42.1e.bin for boot variable "nxos".
-- SUCCESS <Mon Sep 27 07:02:18>
<Mon Sep 27 07:02:18>
Verifying image type.
-- SUCCESS <Mon Sep 27 07:02:24>
<Mon Sep 27 07:02:25>
Preparing "nxos" version info using image bootflash:/ucs-6400-k9-system.9.3.5.I42.le.bin.
-- SUCCESS <Mon Sep 27 07:02:26>
<Mon Sep 27 07:02:26>
Preparing "bios" version info using image bootflash:/ucs-6400-k9-system.9.3.5.I42.le.bin.
-- SUCCESS <Mon Sep 27 07:02:28>
<Mon Sep 27 07:03:14>
Performing module support checks.
-- SUCCESS <Mon Sep 27 07:03:16>
<Mon Sep 27 07:03:16>
Notifying services about system upgrade.
-- SUCCESS <Mon Sep 27 07:03:29>
```

Compatibility check is done: Module bootable Impact Install-type Reason

Images are upgraded according to following table: Module Image Running-Version(pri:alt) New-Version Upg-Required _____ ____ 1 nxos 9.3(5)I42(1c) 9.3(5)I42(1e) yes 1 bios v05.42(06/14/2020):v05.40(01/17/2020) v05.42(06/14/2020) no 1 fpga IO-0x19 MI-0x10 IO-0x22 MI-0x10 yes Install is in progress, please wait. <Mon Sep 27 07:03:31> Performing runtime checks. -- SUCCESS <Mon Sep 27 07:03:32> <Mon Sep 27 07:03:32> Setting boot variables. -- SUCCESS <Mon Sep 27 07:04:11> <Mon Sep 27 07:04:11> Performing configuration copy. -- SUCCESS <Mon Sep 27 07:04:14> Module 1: <Mon Sep 27 07:04:14> Refreshing compact flash and upgrading bios/loader/bootrom. Warning: please do not remove or power off the module at this time. -- SUCCESS <Mon Sep 27 07:05:11> <Mon Sep 27 07:05:11> Install has been successful.

Related Information

- <u>Cisco Intersight Managed Mode Configuration Guide: Managing Firmware</u>
- <u>Cisco Intersight Managed Mode (IMM) UCS Blade Firmware Upgrades</u>
- <u>Technical Support & Documentation Cisco Systems</u>