

M.2 Firmware Upgrade with Host Upgrade Utility

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Introduction

This document describes how to perform M.2 drive firmware upgrade when M.2 drive firmware on Unified Computing System Manager (UCSM) gets stuck when activated. This issue arises when combined UCS and Hyperflex (HX) upgrade is performed from HX Connect and it happens only in scenarios where the M.2 drive running firmware is D0MU049 and it is upgraded to firmware D0MH072.

Background Information

Follow this workaround in order to perform the upgrade of M.2 drive firmware from D0MU049 to an intermediate version of D0MU054 from where you can perform the upgrade to D0MH072. The issue is firmware specific and is applicable to all cluster types.

Note: Perform the upgrade activity as a rolling upgrade one node at a time. Ensure that the cluster is healthy all the time.

UCS Server Firmware Package

UCS 3.2.3e C, 3.2.3g C, UCS 4.0.1a C

UCS 3.2.3h C, UCS 4.0.1b C

UCS 4.0.4e C

M.2 Drive FW

ucs-micron-sata-mtfddav240tcb.**D0MU049**.bin

ucs-micron-sata-mtfddav240tcb.**D0MU054**.bin

ucs-micron-sata-mtfddav240tcb.**D0MH072**.bin

Refer to release bundle information for any changes to this package information.

Workaround/Steps

Step 1. Verify whether M.2 drive runs the impacted firmware. Navigate to **UCSM > Equipment > Rack-Mounts > Servers > Server < ID >** as shown in the image.

Name	Model	Package Version	Running Version	Startup Version
Adapters:				
BIOS	Cisco HXAF240c M5SX H...	3.2(3g)C	C240M5.3.1.3e.0.06131...	C240M5.3.1.3e.0.06131
Board Controller	Cisco HXAF240c M5SX H...	3.2(3g)C	31.0	31.0
CIMC Controller	Cisco HXAF240c M5SX H...	3.2(3g)C	3.1(3g)	3.1(3g)
Persistent Memory				
SAS Expander 1	SAS Expander UCS-C240	4.0(2d)C	65.02.15.00	65.02.15.00
Storage Controller PC... Lewisburg SSATA Contro...				
Disks				
Disk 1	UCS-M2-240GB	4.0(1a)C	D0MU049	D0MU049

You need to upgrade the firmware on M.2 drive from D0MU049 to D0MU054 prior to upgrading the HX node to 4.0.4e C-bundle.

Step 2. Prior to loading HUU, ensure that Service-Profile has a host-firmware policy set to **"Not Set"**. This step is important to avoid conflict between service-profile and the actual hardware.

Failure to set Host-Firmware-Policy to **"Not Set"** will cause the system to downgrade the drives again to version D0MU049 per Host-Firmware-Policy applied as shown in the image.

Properties for: HyperFlex-m5

General

Events

Actions

Delete

Show Policy Usage

Use Global

Modify Package Versions

Modify Backup Package Versions

Properties

Name : **HyperFlex-m5**

Description : Recommended Host Firmware Packages for M5 Hyp

Owner : **Local**

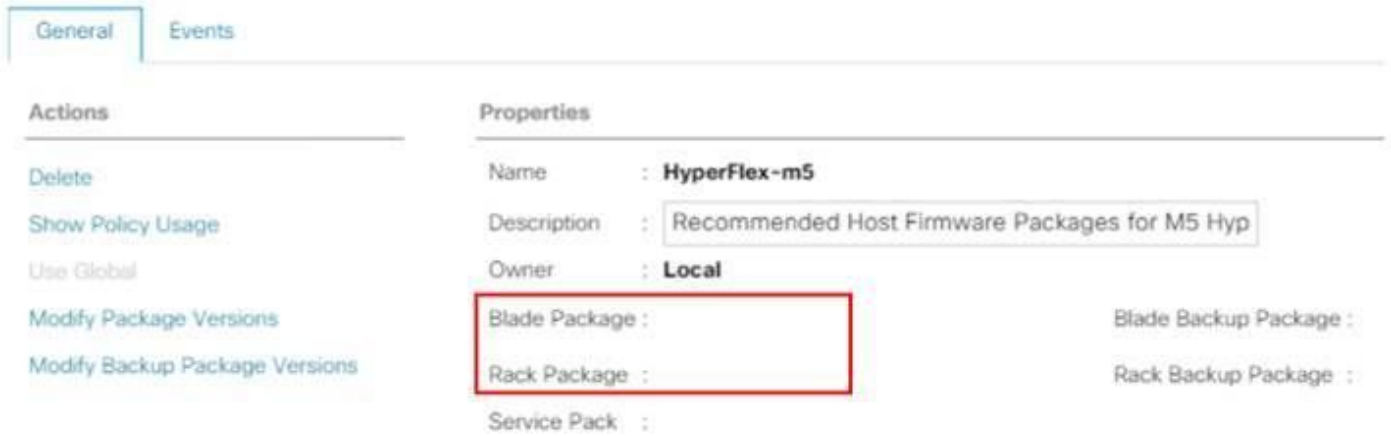
Blade Package : **4.0(2d)B**

Rack Package : **4.0(2d)C**

Service Pack :

Blade Backup Package :

Rack Backup Package :



Step 3. Download 4.0.2d HUU for C-series platform that corresponds to HX-series. In this example, HUU for **HXAF240c M5SX - ucs-c240m5-huu-4.0.2d.iso** is used.

Download the ISO from [here](#).

Step 4. Open Keyboard/Video/Mouse (KVM) to the server that you would like to upgrade the M.2 firmware on and Map HUU via Virtual Media.

Activate Virtual Media as shown in the image.



Select HUU and click **Map Drive**.



Step 5. Manually restart the server and navigate to the boot menu. Press F6 at the BIOS screen.



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Press <F2> BIOS Setup : <F6> Boot Menu : <F7> Diagnostics

Press <F8> CIMC Setup : <F12> Network Boot

Bios Version : C240M5.3.1.3e.0.0613181139

Platform ID : C240M5

Processor(s) Intel(R) Xeon(R) Bronze 3106 CPU @ 1.70GHz

Total Memory = 128 GB Effective Memory = 128 GB

Memory Operating Speed 2133 Mhz

Cisco IMC IPv4 Address : 0.0.0.0

Cisco IMC MAC Address : 70:0F:6A:3B:0F:9C

Entering Boot Menu ...

Please select boot device:

Cisco vKVM-Mapped vDVD1.24

M.2-SLOT-1: Mircon_5100_MTFDDAV

UEFI: Built-in EFI Shell

Enter Setup

↑ and ↓ to move selection
ENTER to select boot device
ESC to boot using defaults

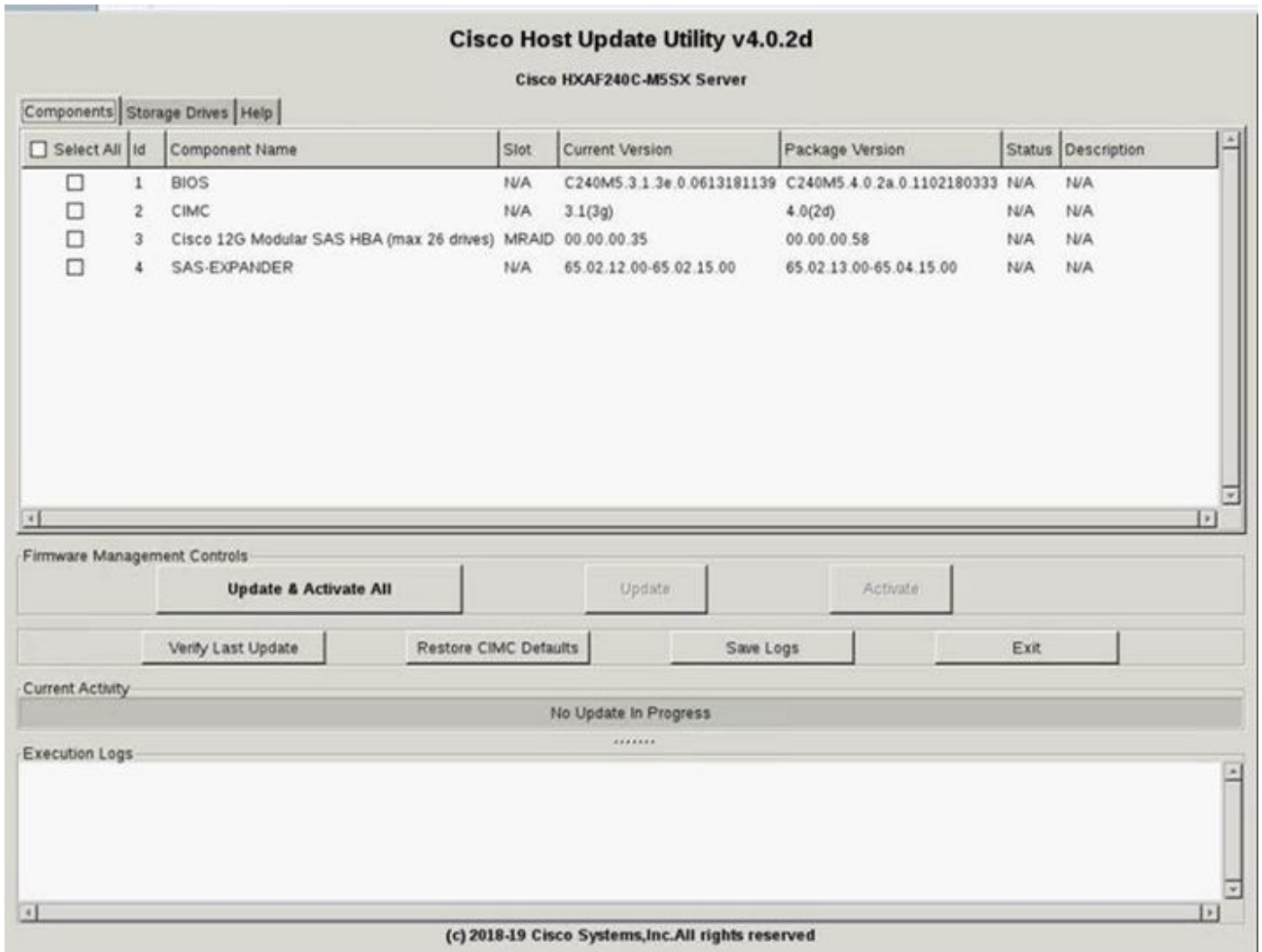
Step 6. Select **Cisco vKVM-Mapped vDVD** option. You should start to see the HUU loading.

```
ISOLINUX 3.86 0x58d0099c ETCD Copyright (C) 1994-2010 H. Peter Anvin et al
Loading /vmlinuz0.....
.....
Loading /EFI/BOOT/initrd0.img.....
.....
_
```

Step 7. Once the HUU loads successfully, you need to acknowledge the End User License Agreement.

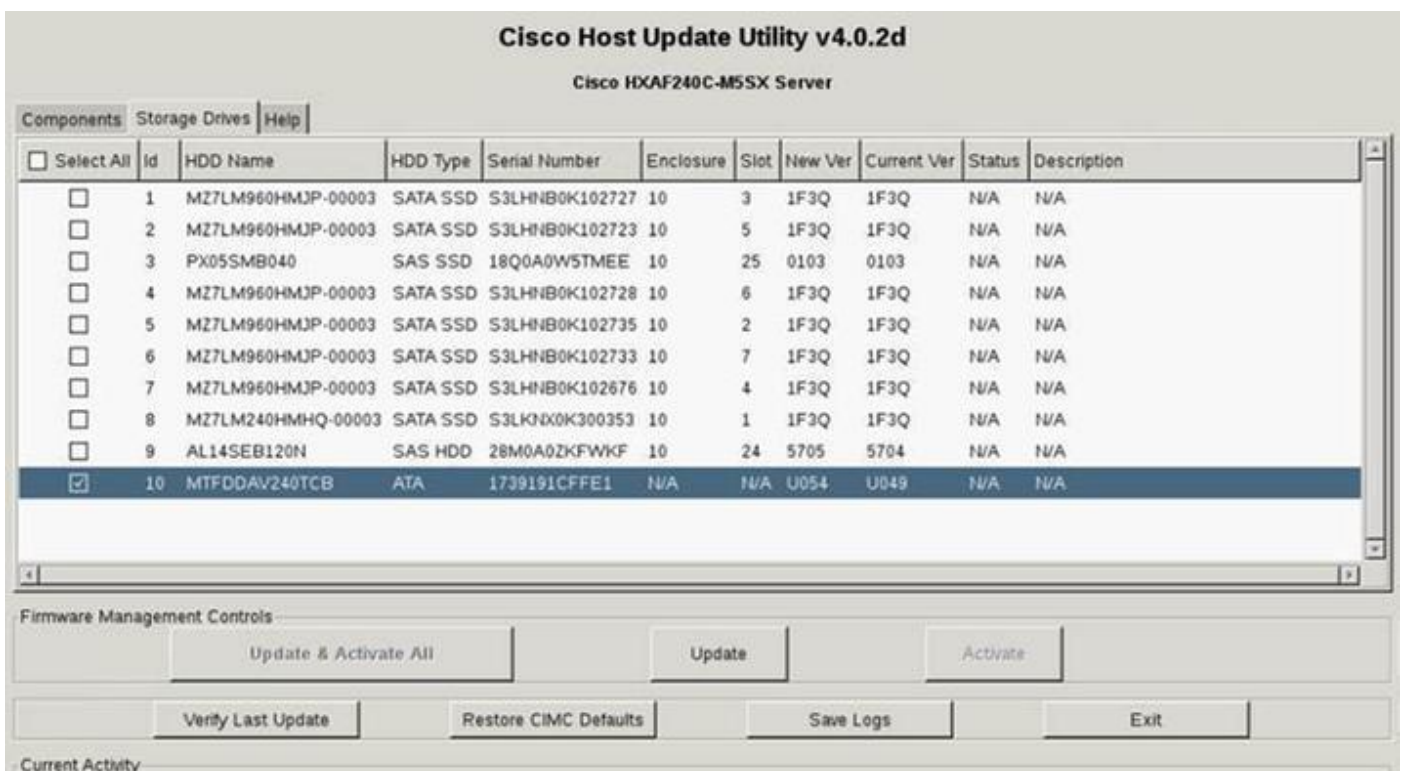


Step 8. The server will discover all the components and you should see all the components once complete.

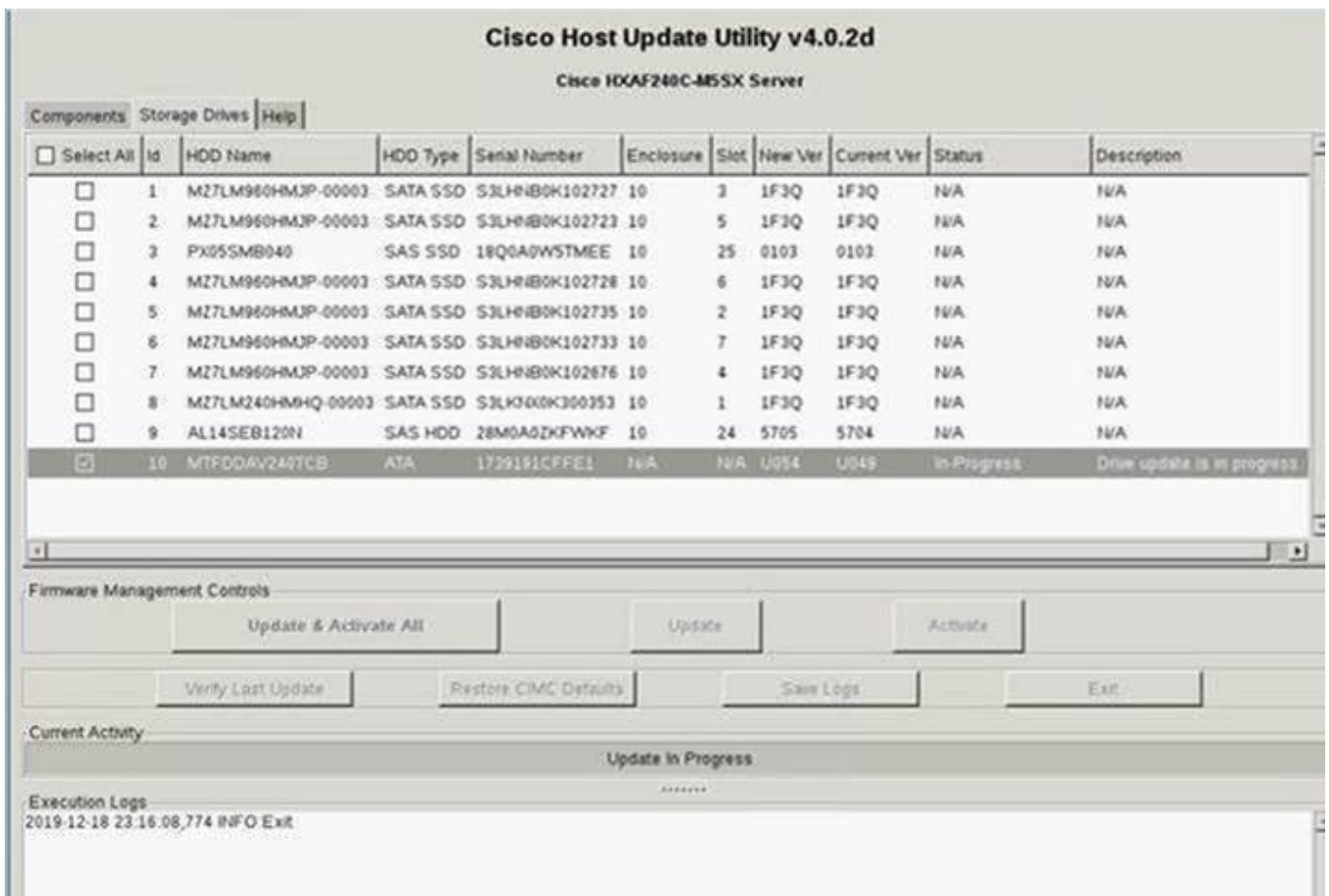
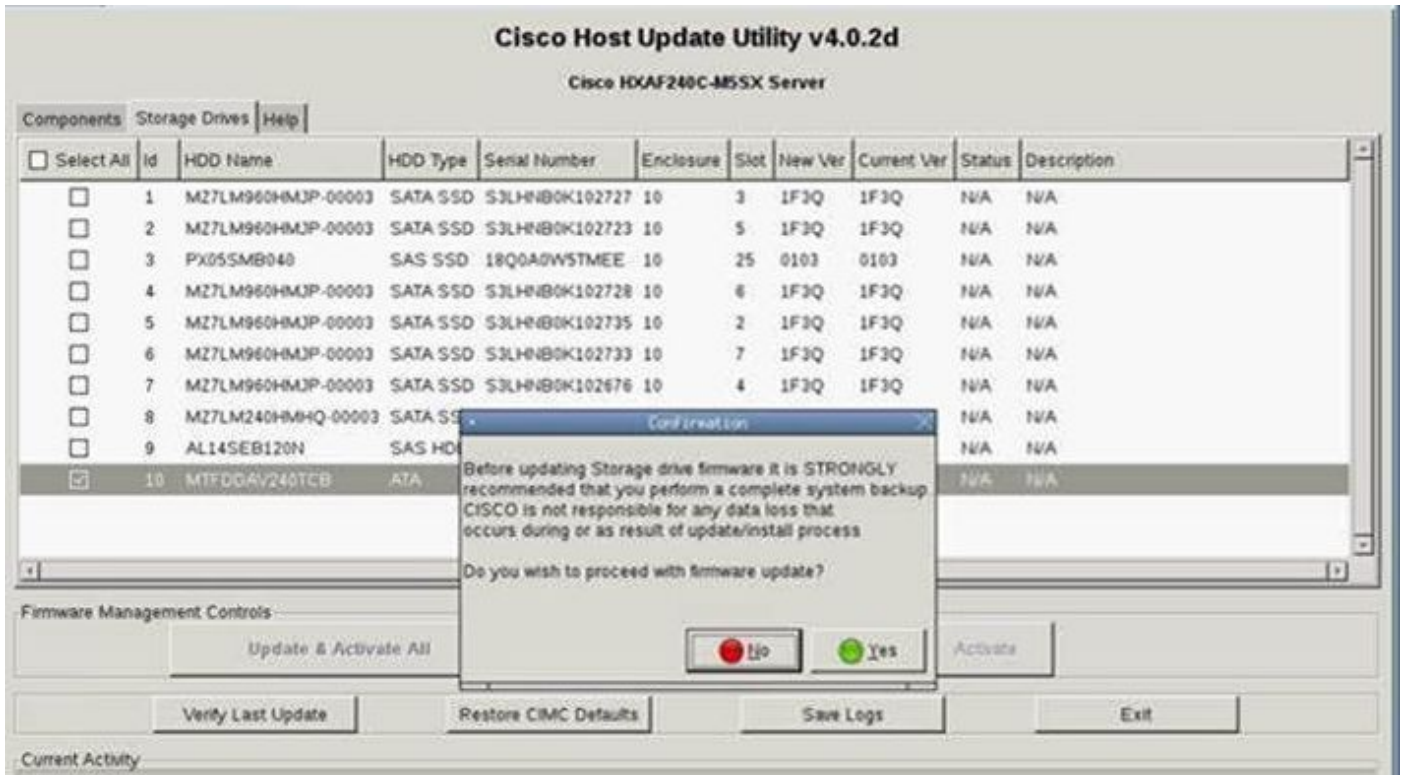


Do not select **Update & Activate All**. It is always recommended to upgrade integrated servers with the use of Host Firmware Policy only.

Under the **Storage Drives** tab, select M.2 drive as highlighted here and click the **Update** button.



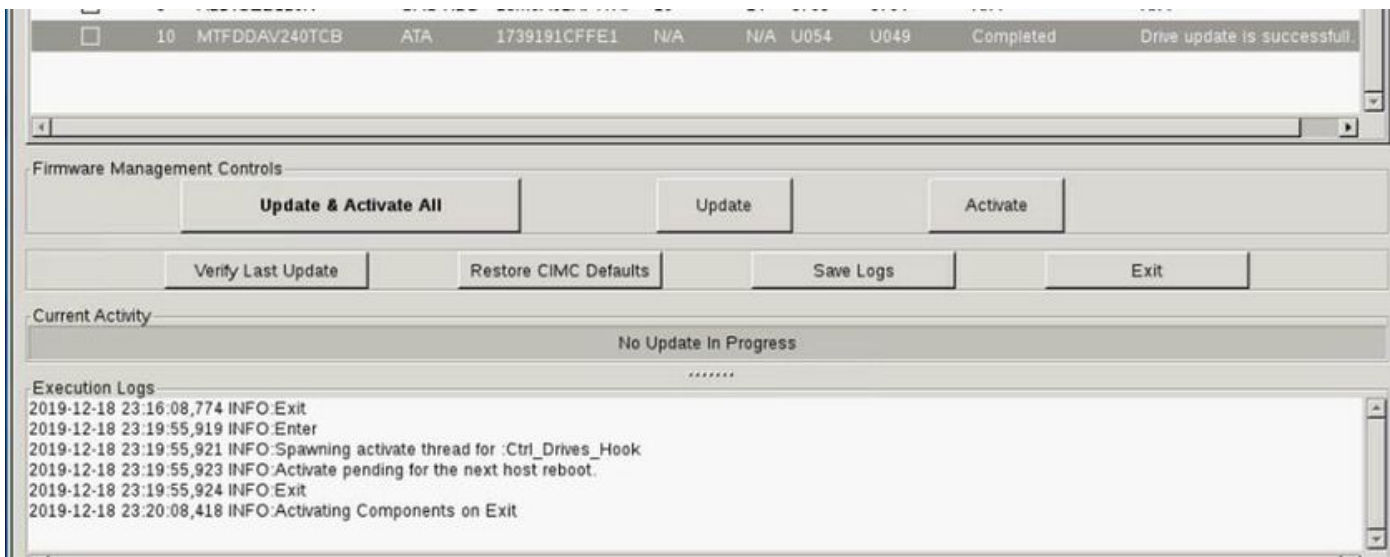
Accept the confirmation message and proceed with the update. Once done, the system will start the update process.



Step 9. Select M.2 drive and click **Activate**. Hit **Yes** in order to proceed with the activation process as shown in the image.



The system will report a successful update process as shown in the image.



Step 10. Select **Exit** in order to activate the new firmware on the M.2 drive. The system should reload automatically. Un-map the HUU from the KVM session. The system should boot successfully to the operating system.

Even though the firmware on M.2 drive is upgraded with HUU, UCSM does not have any visibility on this change. Hence, UCSM will continue to report D0MU049.

Storage Controller	Model	Capacity	FW Version	Status
Storage Controller PC...	Lewisburg SSATA Contro...		N/A	N/A
Disks				
Disk 1	UCS-M2-240GB	4.0(Ta)C	D0MU049	D0MU049
			N/A	N/A
				Ready

Verify

Use this section in order to confirm that your configuration works properly.

VMware ESXi

Run the command **esxcli storage core device list** on the ESXi and confirm the firmware version of the drive.

```

[root@hx-01-esxi-01:~] esxcli storage core device list

t10.ATA_____Micron_5100_MTFDDAV240TCB_____MSA23010YAS
Display Name: Local ATA Disk
(t10.ATA_____Micron_5100_MTFDDAV240TCB_____MSA23010YAS)
Has Settable Display Name: true
Size: 228936
  
```


Device Type: Direct-Access
Multipath Plugin: NMP
Devfs Path:
/vmfs/devices/disks/t10.ATA_____Micron_5100_MTFDDAV240TCB_____MSA23010YAS
Vendor: ATA
Model: Micron_5100_MTFD
Revision: U054 <--- firmware version

Or, check the dmesg as shown here:

```
[root@JCLPPESXi01:/vmfs/volumes/049b1811-a0767ff4] dmesg | grep -i ATA-10  
2020-01-16T17:36:22.945Z cpu2:33483)<6>ata1.00: ATA-10: Mircon_5100_MTFDDAV240TCB, D0MU054, max  
UDMA/133  
[root@JCLPPESXi01:/vmfs/volumes/049b1811-a0767ff4]
```

Hyper-V

```
PS C:\Users\Administrator.HX11HV> Get-PhysicalDisk | Get-StorageFirmwareInformation  
  
PhysicalDisk           : MSFT_PhysicalDisk (ObjectId = "{1}\RCH-HX-11-WFC\root/Microsoft/Windo...)  
SupportsUpdate         : True  
NumberOfSlots         : 1  
ActiveSlotNumber      : 0  
SlotNumber            : {0}  
IsSlotWritable        : {True}  
FirmwareVersionInSlot : { D0MU054}  
  
PS C:\Users\Administrator.HX11HV> _
```

Troubleshoot

There is currently no specific troubleshooting information available for this configuration.