Upgrade Nutanix HCI Cluster Server Firmware without LCM via Intersight.

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Introduction

This document describes the process to perform a firmware upgrade for Cisco Nutanix HCI clusters through Cisco Intersight.

Background Information

While it is recommended to use Life Cycle Manager (LCM) when remediating firmware for ISM/IMM Clusters, specific scenarios such as hitting a bug or Field Notice (FN) can require selecting a specific version for an upgrade or downgrade. In these cases, firmware changes can be applied through Intersight.

Unlike the LCM process, a firmware upgrade through Intersight requires edit and patch firmware manually on a per-host basis. It is recommended to understand the workload and capacity of the cluster before execution of these actions.

The user manually places the host in Maintenance Mode, applies the firmware change via Intersight, and then exits Maintenance Mode. This is repeated for each node in the cluster.

Tip: To know more details about number of simultaneous missing nodes that a cluster can withstand

refer to Nutanix documentation Cluster Fault Tolerance.

Note: LCM does not perform server firmware updates for Compute-Only (CO) nodes connected to external storage. Upgrade through Intersight can be applied for these clusters.

Manual Upgrade Steps at a Glance

1. Edit each of the Firmware Policies with the new firmware version.
2. Deploy All profiles without immediate reboot to stage the firmware.
3. Place single node in Maintenance Mode via Prism Element or Prism Central.
4. Activate the profile for the server in Maintenance Mode to power cycle the server and apply firmware.
5. Repeat steps 3 and 4 for all nodes in the cluster.
6. Verify Upgrade is complete and Cluster is Healthy

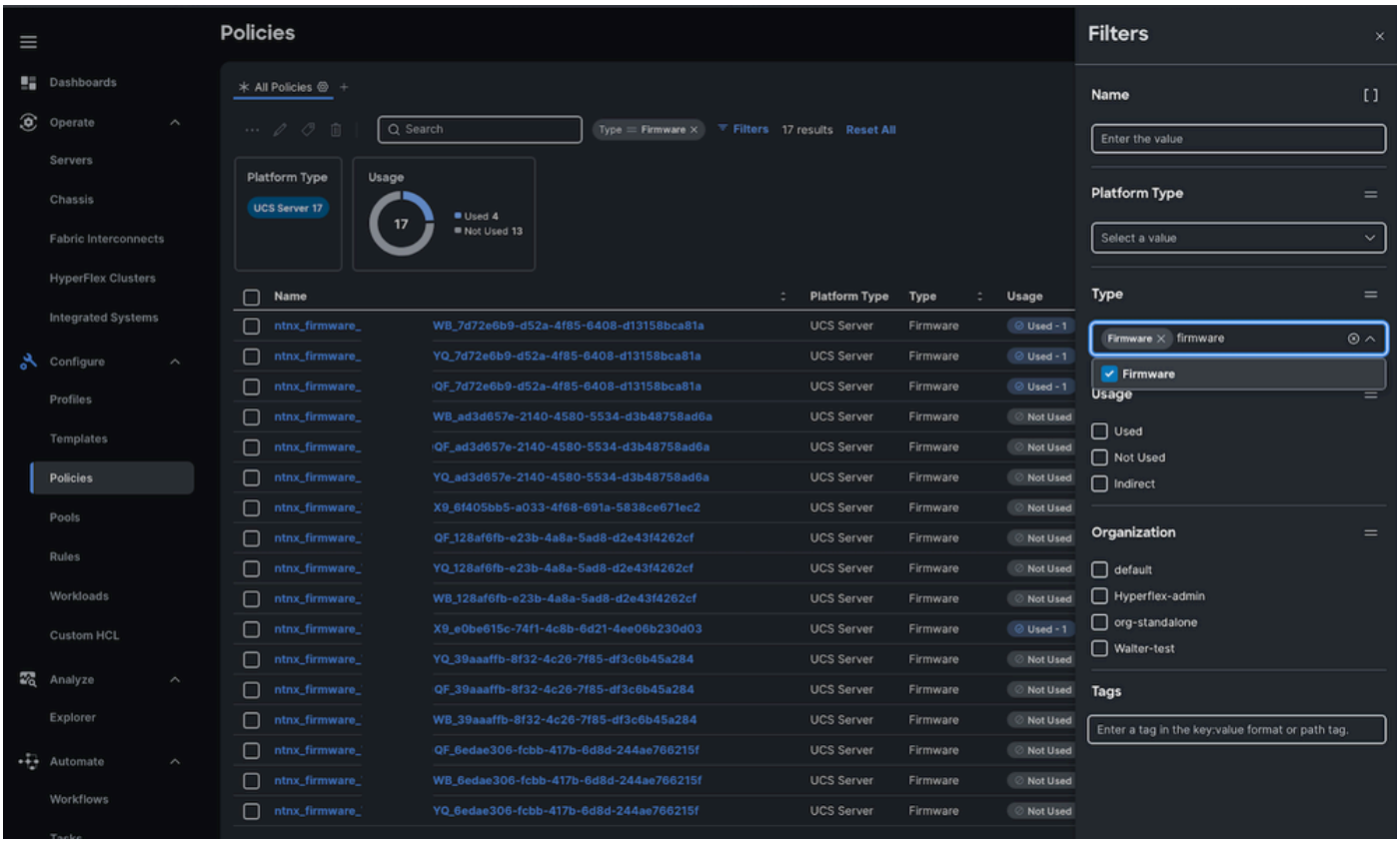
Modify Firmware Policies

Intersight pushes firmware through a Firmware Policy. Each node has its own policy, and new versions are selected by editing these policies.

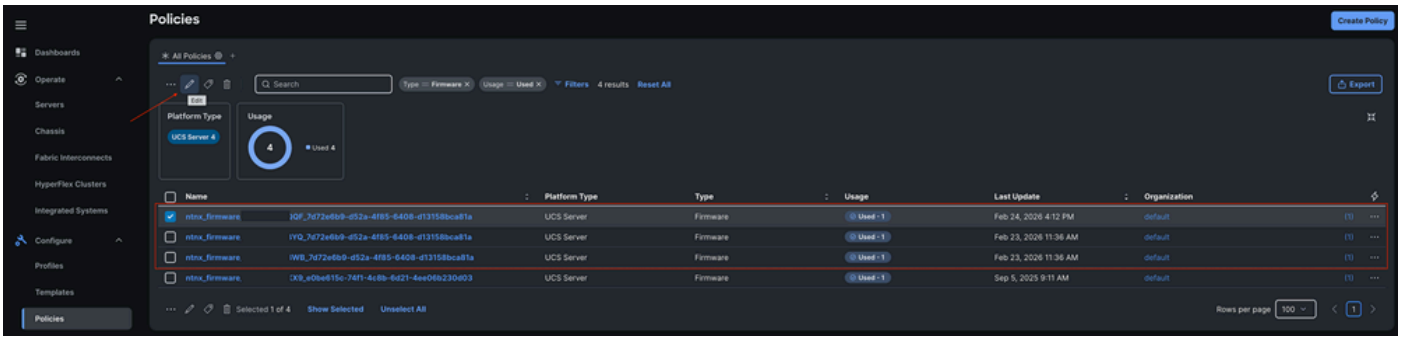
The syntax for the firmware policy name is: *ntnx_firmware_<Serial Number>_<Deployment UUID>*

Locate and Edit Policies

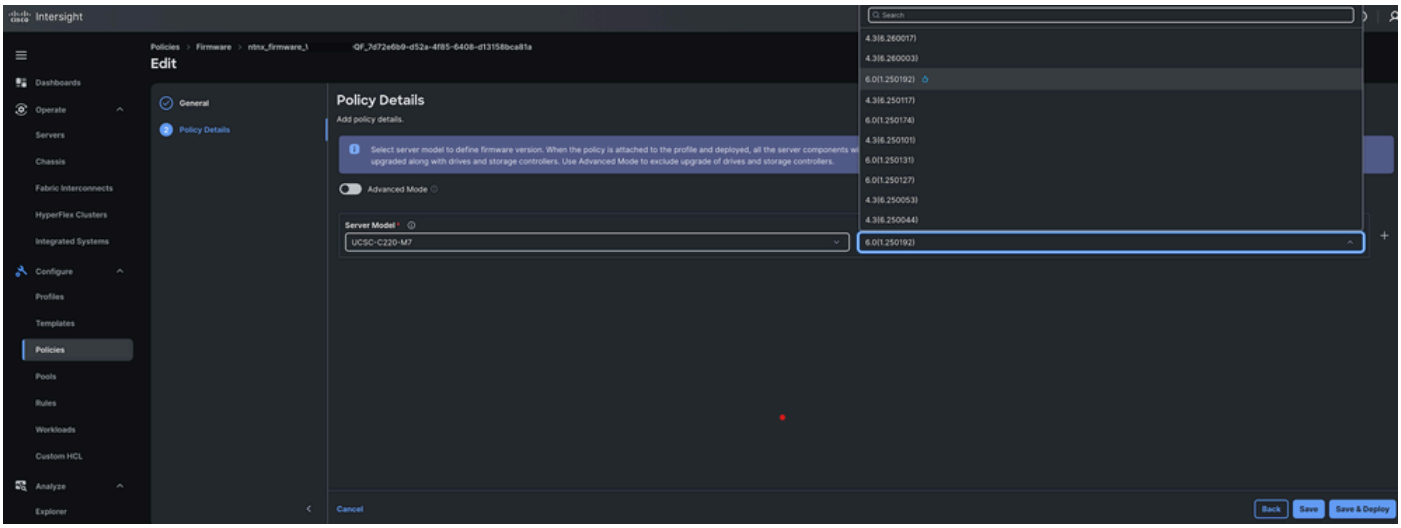
Navigate to **Policies** > Click **Filters** > Check Firmware.



Select the Policy to modify and click **edit.**

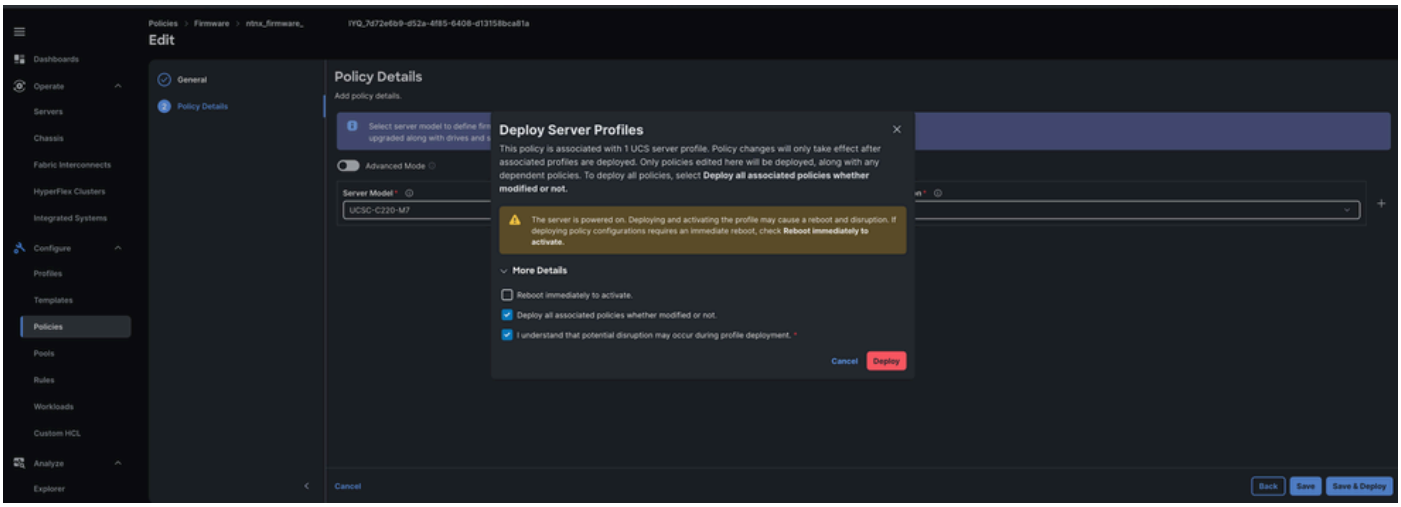


Select the desired firmware version from the drop-down list and then click **Save & Deploy.**



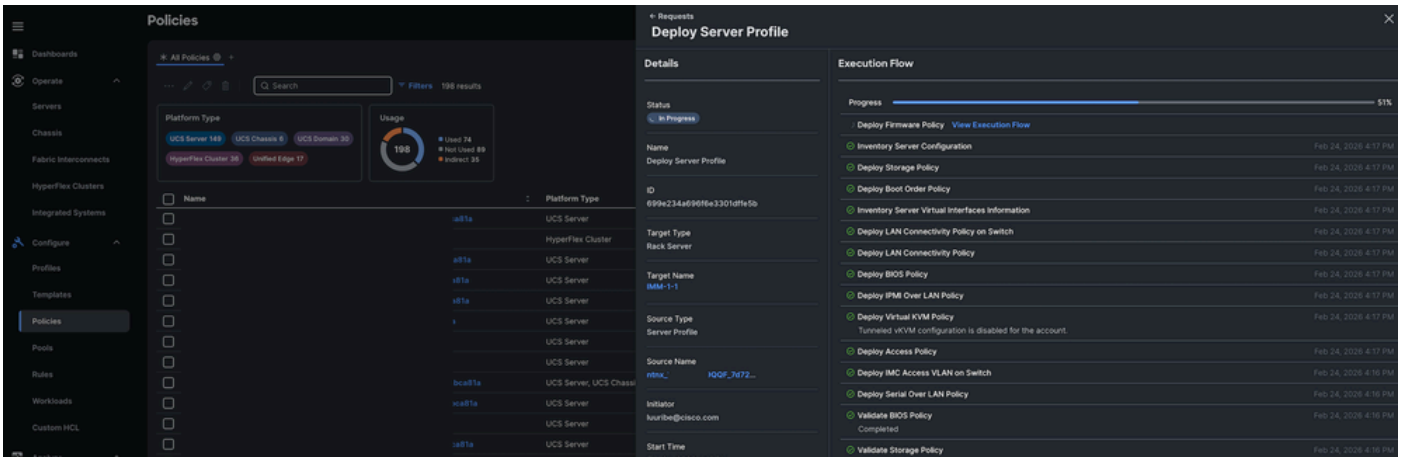
Stage the Firmware

When server profile is re-deployed, ensure the **Reboot Immediately** option is **unchecked**. This stages the new firmware on the blade; the change is only executed after the next power cycle.

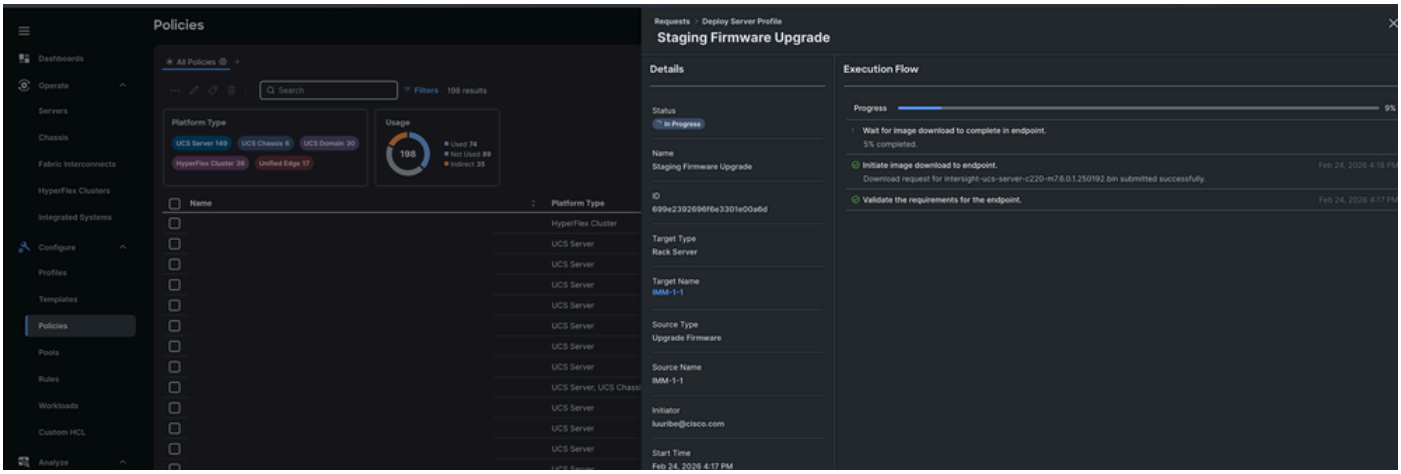


Once deployment starts:

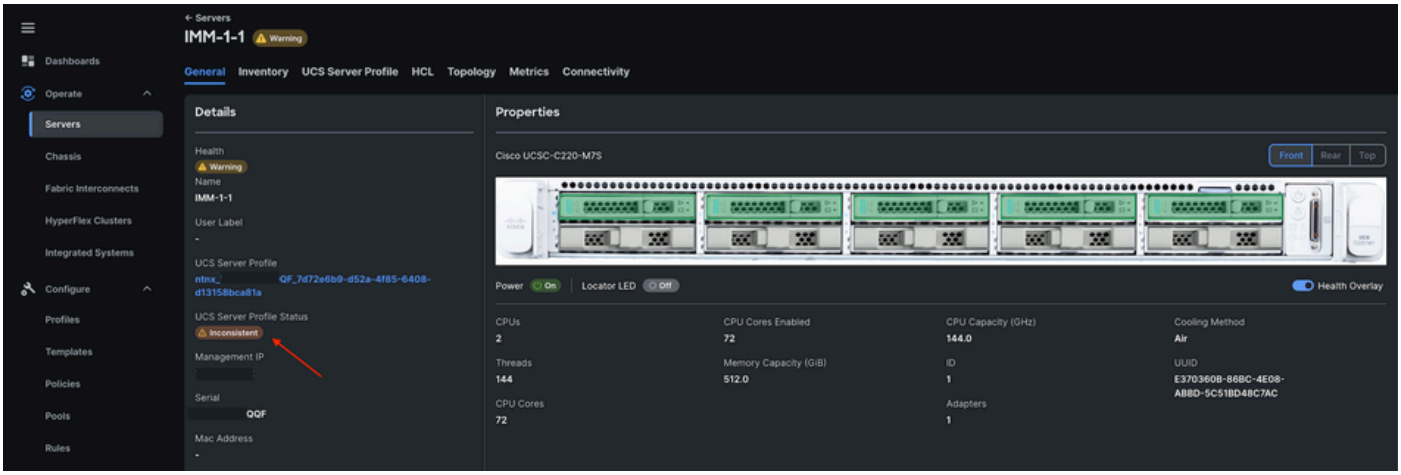
- A new workflow appears in the **Requests** tab.



- The firmware download is initiated.



- After the server is deployed without an immediate reboot, the Server Profile shows an **Inconsistent** status. This is expected until the profile is activated.



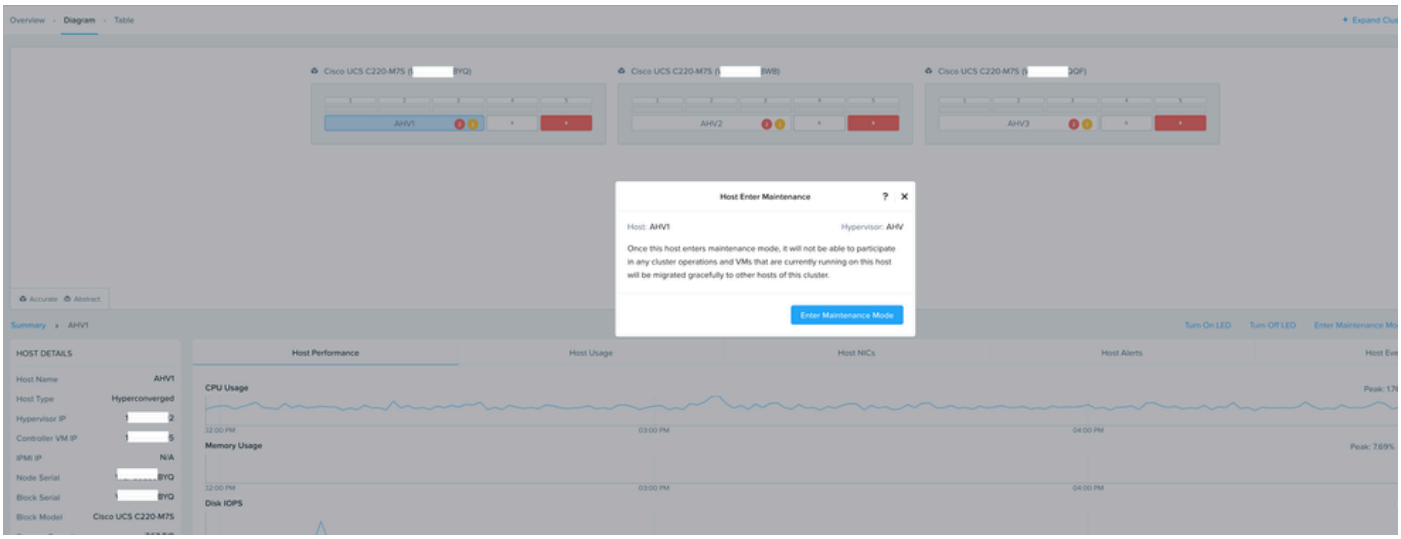
Continue to edit all the firmware other policies and deploy without Immediate reboot.

Place Servers in Maintenance Mode Through Prism Central or Prism Element

To avoid disruption, servers must be placed into Maintenance Mode to migrate workloads before the reboot.

Through Prism Element

1. Navigate to **Hardware** > **Diagram**.
2. Select the **AHV#**.
3. Select Enter **Maintenance Mode.**



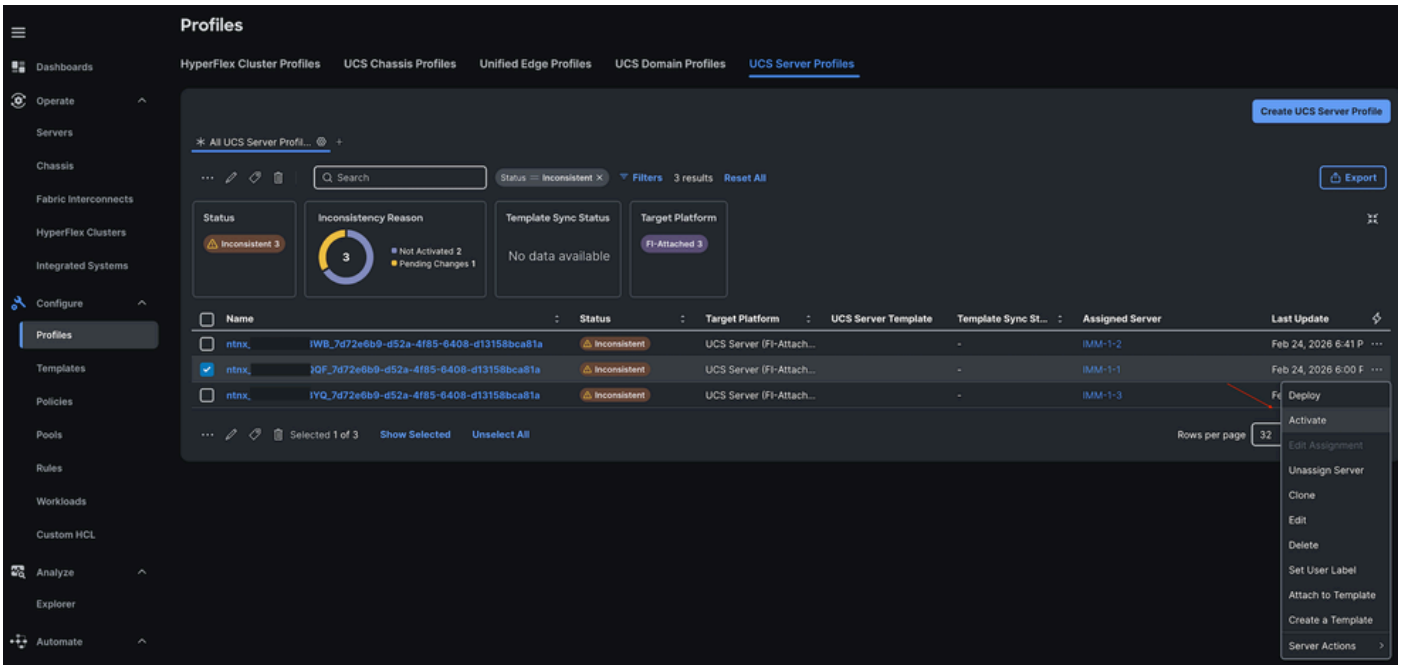
Through Prism Central

1. Navigate to **Infrastructure** > **Hardware** > **Clusters**.
2. Select the **Cluster**.
3. Select the specific Node to place it in **Maintenance Mode**.

Activate Profiles and Push Firmware

Once the host is in Maintenance Mode firmware can be pushed to the Node

1. Navigate to the **Profiles** tab.
2. Locate the profile of the server in Maintenance Mode by the Serial Number.
3. Select **Actions** > **Activate**.

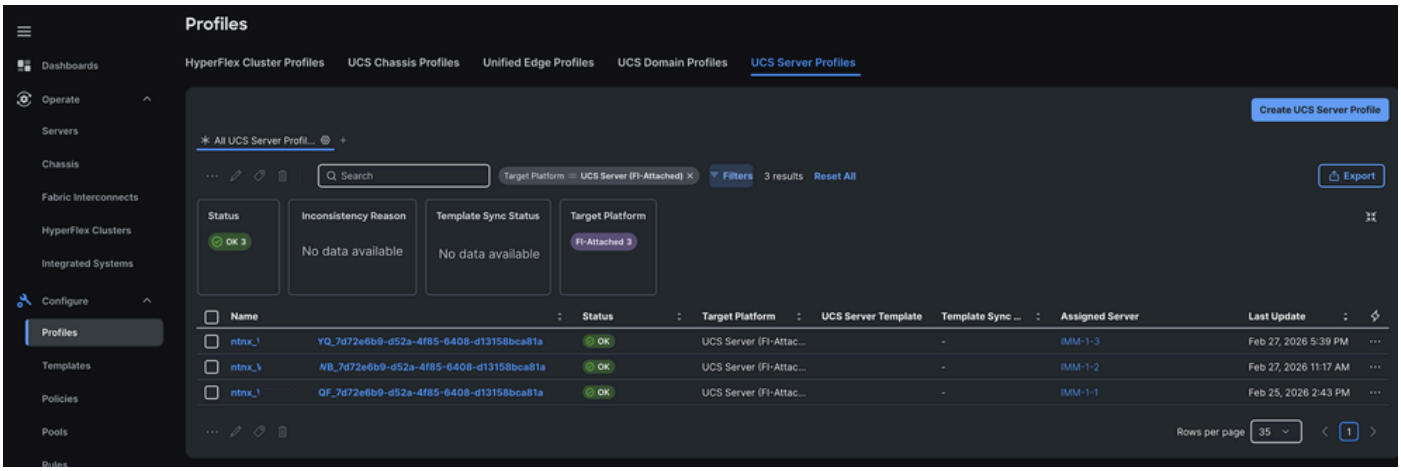


(Optional) Monitor the firmware upgrade progress through the KVM console.

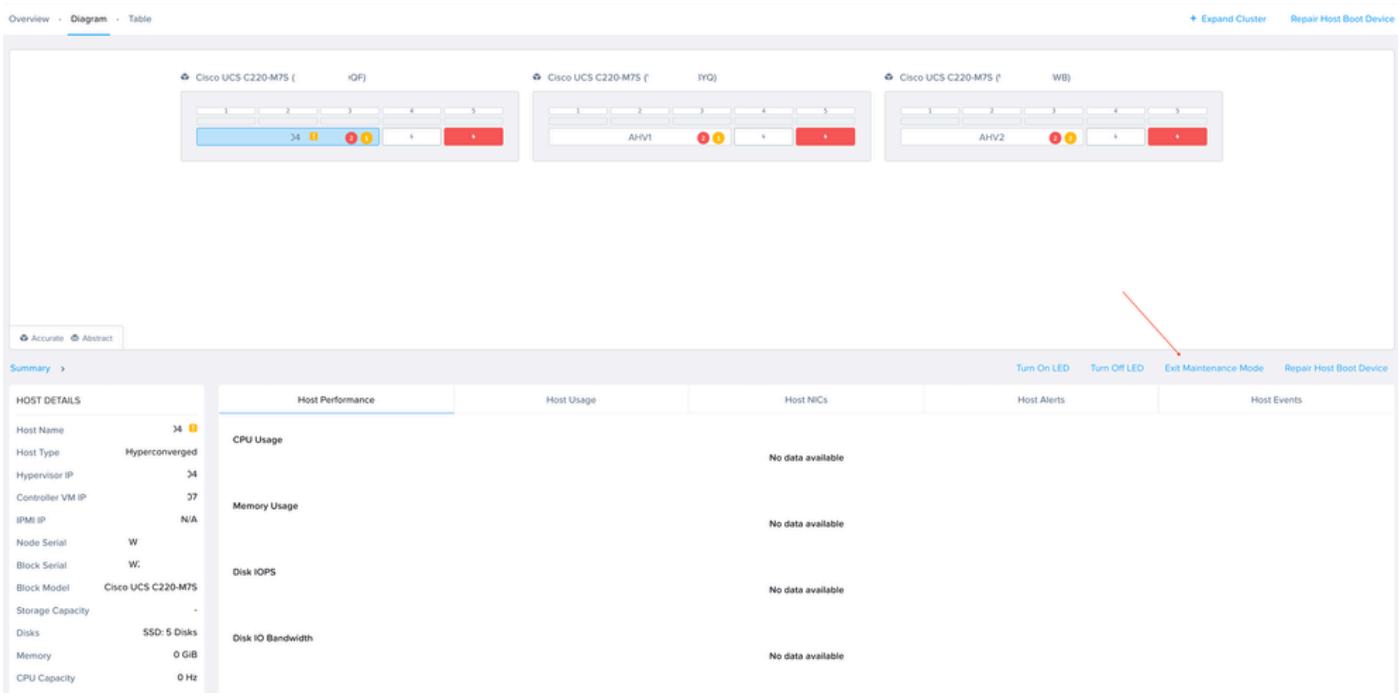


Verify Upgrade and Exit Maintenance Mode

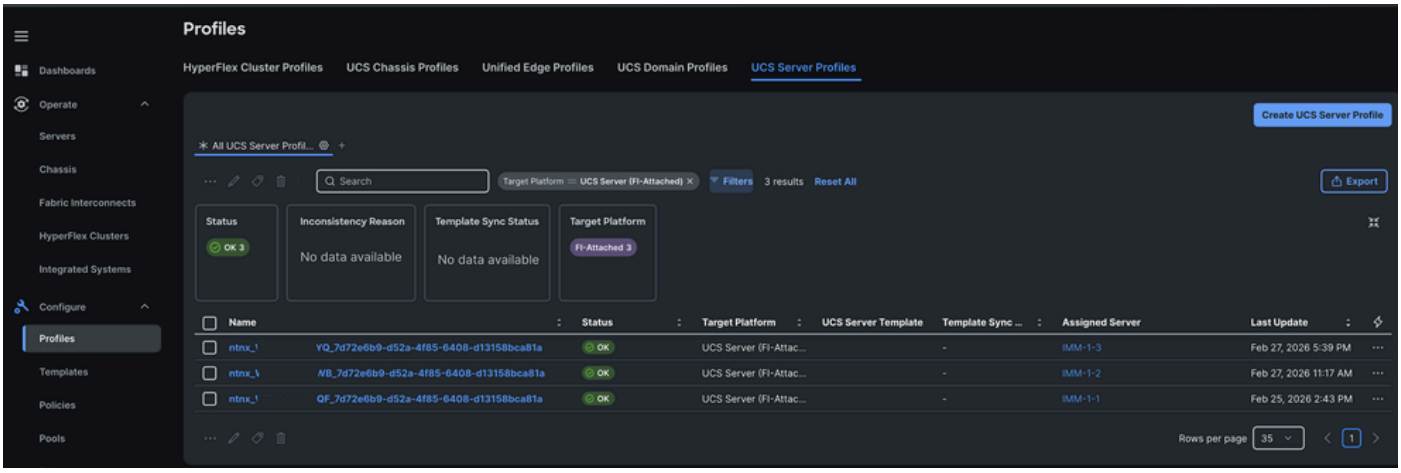
Once the activation is complete the Server Profile status transitions to **OK**.



The node can now be taken out of Maintenance Mode.

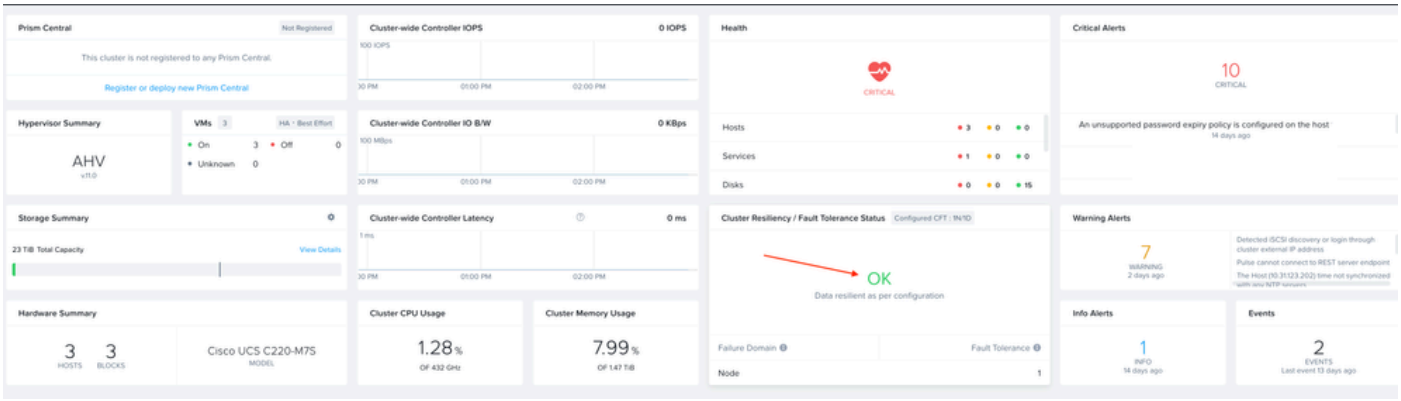


Repeat the process for the remaining nodes until all profiles show an OK Status.



Verify Cluster Health

In Prism verify **Cluster Resiliency** is **OK.**



Related Information

[Cisco UCS Hardware Compatibility List]

[Nutanix Platform Compatibility and Interoperability Matrix]

[KB-15110 LCM Pre-check: test_cisco_validate_credentials_and_setup]

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.