

Guidelines for Adding Cisco HyperFlex to an Existing UCS-FI Domain

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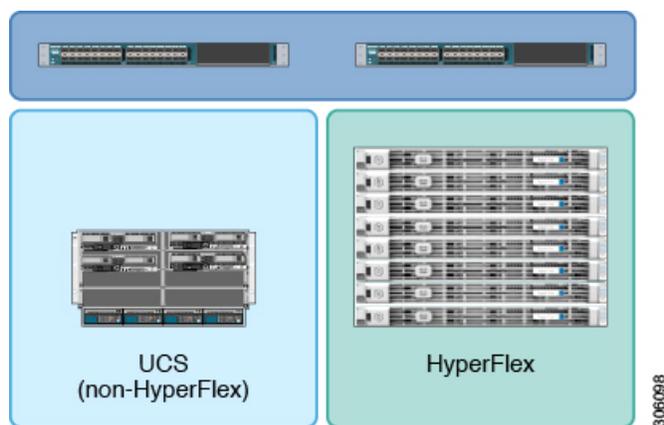
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Overview

In a Cisco HyperFlex cluster configuration, you can either add:

- Cisco UCS nodes (non-HyperFlex) to the same HX-FI domain
- HyperFlex nodes to an existing UCS-FI domain

This document provides guidelines for adding HyperFlex nodes to an existing UCS-FI domain.



Compatibility

Adding HyperFlex nodes to an existing UCS-FI domain is supported only in Cisco HX Data Platform 2.0 and later.

Deployment Checklist

Configuring HX on an existing pair of fabric interconnects running other non-HX workloads could impact your existing workloads if specific checks are not completed. In preparation for adding HyperFlex to your existing UCS-FI domain, complete the following tasks before opening a Cisco TAC case to complete your deployment.



Note Do NOT attempt to add HyperFlex to your existing UCS-FI domain on your own.

1. From the UCS side, create one backup each of the following: Full state, All configuration, System configuration, and Logical configuration. For more information on creating backups, see the [Backup and Restore](#) section of the Cisco UCS Manager Administration Management Guide.
2. Make sure that you have reviewed and prepared the “[Preinstallation Checklist for Cisco HX Data Platform](#).”
3. Make sure that you are running both server and infrastructure firmware at minimum version 3.1(2b) for Hybrid HX or All Flash HX. In addition, check the latest [Cisco HyperFlex Interoperability Matrix](#) and [Cisco HyperFlex Data Platform Release Notes](#) to determine the recommended and minimum required Cisco UCS Manager versions.
4. Verify QoS Settings—The Cisco HX Data Platform Installer will overwrite the QoS global system class settings. The settings of Platinum, Gold, Silver, Bronze, and Fiber Channel class will get overwritten as shown in the diagram. If the MTU value is configured as Jumbo for any class, the Cisco HX Data Platform Installer does not change the value to normal. The overwritten settings will become your QoS configuration on your Fabric Interconnect.

A maintenance window is imperative. Changes at the global level can cause momentary traffic disruption.

In Cisco UCS Manager, navigate to **LAN > LAN Cloud > QoS System Class**. If you do not plan carefully, it may result in blackholed traffic, disconnected storage, or other service impacting issues.

Priority	Enabled	CoS	Packet Drop	Weight	Weight (%)	MTU	Multicast Optimized
Platinum	<input checked="" type="checkbox"/>	5	<input type="checkbox"/>	4	25	9216	<input type="checkbox"/>
Gold	<input checked="" type="checkbox"/>	4	<input checked="" type="checkbox"/>	4	25	normal	<input type="checkbox"/>
Silver	<input checked="" type="checkbox"/>	2	<input checked="" type="checkbox"/>	best-effort	6	normal	<input checked="" type="checkbox"/>
Bronze	<input checked="" type="checkbox"/>	1	<input checked="" type="checkbox"/>	best-effort	6	9216	<input type="checkbox"/>
Best Effort	<input checked="" type="checkbox"/>	Any	<input checked="" type="checkbox"/>	best-effort	6	normal	<input type="checkbox"/>
Fibre Channel	<input checked="" type="checkbox"/>	3	<input type="checkbox"/>	5	32	fc	N/A



Note Only Best Effort QoS can be modified from the values set by the Cisco HX Installer.

5. The Cisco HX Data Platform Installer will create at least 4 distinct global VLANs in Cisco UCS Manager:

VLAN	Purpose
hx-inband-mgmt	ESXi and Controller VM management
hx-storage-data	ESXi Storage data and Controller VM data plane
hx-vmotion	ESXi vMotion interface
vm-network	Guest VM traffic (Can be a comma-separated list).

Ensure that your VLAN names specified in the installer are not currently defined in Cisco UCS Manager. In addition, note the following:

- If the VLANs are defined in Cisco UCS Manager, the installer will delete the existing VLAN and replace it with the same name and new ID. This will result in a network outage.
 - If you plan on reusing a VLAN ID that is already defined, allow the Cisco HX Data Platform Installer to create a second VLAN object with the same ID. It is permissible to have multiple VLAN objects referencing the same VLAN tag.
 - When creating additional clusters on the same domain, remember to change the VLAN names so that they are unique per cluster.
 - Cisco HX Data Platform Installer will create 8 distinct MAC pools under each HX sub-org in Cisco UCS. In addition, note the following:
 - Each vNIC template is mapped to one MAC pool containing 100 addresses.
 - Cisco HX Data Platform Installer will prompt for a MAC pool prefix where you specify the first two hexagonal characters of the address after the OUI of 00:25:B5.
 - The MAC pools are further numbered either A or B denoting Fabric Interconnect A or B.
 - The MAC pools are numbered sequentially from 1 to 8 based on vNIC order.
 - Ensure that the prefix you choose is not in use on this FI domain or any other domain.
 - When deploying additional clusters on the same FI, choose different prefixes for each MAC pool.
 - HyperFlex uses the global ext-mgmt pool for communication with each server.
 - Depending on the existing environment, either In-band, Out-of-Band(OOB) management, or both will be in use.
 - If Outband ext-mgmt pool is already in use:
 - You must check to see if there is enough space in the existing pool for the number of HX nodes, if not a new pool must be created.
 - If there is no ext-mgmt pool in use:
 - When you go to create a pool, it will randomly assign addresses to servers in the inventory.
 - Ensure that you have enough addresses in the pool to cover all servers, not just HX servers.
6. Cisco UCS Manager allows for 2 no-drop classes to be used. Fibre Channel priority requires a no-drop class and cannot be changed. If you are using a no-drop class that is anything other than Platinum, then you will need to modify your QoS design as no-drop for Platinum is required for a HyperFlex deployment.
 7. Cisco UCS 6332 or 6332-16UP Fabric Interconnects require that both the FIs to reboot for QoS modifications to take effect.

Contacting Cisco TAC

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Using the TAC Support Case Manager online tool is the fastest way to open S3 and S4 support cases. (S3 and S4 support cases consist of minimal network impairment issues and product information requests.) After you describe your situation, the TAC Support Case Manager automatically provides recommended solutions. If your issue is not resolved by using the recommended resources, TAC Support Case Manager assigns your support case to a Cisco TAC engineer. You can access the TAC Support Case Manager from this location:

<https://mycase.cloudapps.cisco.com/case>

For S1 or S2 support cases or if you do not have Internet access, contact the Cisco TAC by telephone. (S1 or S2 support cases consist of production network issues, such as a severe degradation or outage.) S1 and S2 support cases have Cisco TAC engineers assigned immediately to ensure your business operations continue to run smoothly.

To open a support case by telephone, use one of the following numbers:

- Asia-Pacific: +61 2 8446 7411
- Australia: 1 800 805 227
- EMEA: +32 2 704 5555
- USA: 1 800 553 2447

For a complete list of Cisco TAC contacts for Enterprise and Service Provider products, see <http://www.cisco.com/c/en/us/support/web/tsd-cisco-worldwide-contacts.html>.

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