



Preparing for Upgrade

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HyperFlex Upgrade Preparation



Note The following upgrade process only applies to when a user is upgrading from Cisco HX Release 3.5(2x) or later.

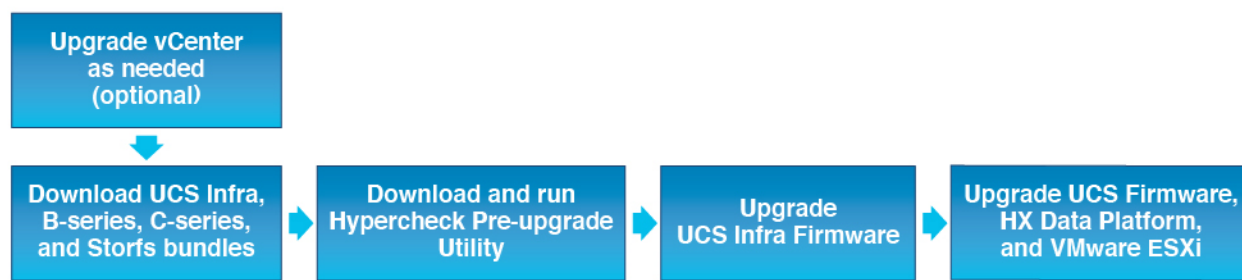


Note If you are upgrading one of the following rather than a HyperFlex standard cluster:

- For HyperFlex Edge clusters, see [HyperFlex Edge Upgrade](#).
- For Stretched clusters, see [Stretched Cluster Upgrade](#).
- For split-upgrade procedures, see [HyperFlex Offline Upgrade Workflow](#).

The following image describes the general upgrade workflow for a full-stack HyperFlex standard cluster.

HyperFlex Upgrade Workflow



The upgrade requires you to complete the following tasks in this order:

1. Complete all tasks in the Prerequisites section of this guide.
2. Run the Hypercheck Health & Pre-Upgrade tool on your HyperFlex systems to ensure its stability and resiliency [Hypercheck : Hyperflex Health & Pre-Upgrade Check Tool](#)
3. Verify that your VMware vCenter version is 6.5 U3 or later and that vCenter and your target ESXi version are compatible. See, *VMware Product Interoperability Matrices* on the VMware site. Also, verify the vCenter version is compatible with the target HXDP version.

Checking Cluster Storage Capacity

Cisco recommends that you check the cluster storage capacity before starting the upgrade of an existing installation of Cisco HX Data Platform. If the storage utilization in the cluster is equal to 76% or more (capacity + overhead), the upgrade validation fails.

Refer to the *HX Storage Cluster Overview* chapter in the [Cisco HyperFlex Data Platform Administration Guide](#) for background details about checking cluster storage capacity.

Perform the following validations on each HyperFlex node before starting the upgrade.

- Verify that the HyperFlex cluster is healthy and online.
- Verify all HyperFlex cluster nodes are connected to the vCenter and are online.
- Verify that DRS is enabled and set to fully automated if licensed for DRS. If DRS is Disabled, manual intervention is required to vMotion the VMs manually when prompted by the upgrade process.
- Verify vMotion is configured on all the nodes, If vMotion is not configured, see [Verify vMotion Configuration for HX Cluster](#) before starting the upgrade.
- Verify that ESXi Agent Manager (EAM) health is normal.
- Verify the health of the UCSM Fabric Interconnect cluster in Cisco UCS Manager.

Verify Health of an UCS Fabric Interconnect Cluster in Cisco UCS Manager

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- | | |
|---------------|---|
| Step 1 | Verify if the high availability status of the fabric interconnects shows that both the fabric interconnects are up and running. See the Cisco UCS Manager System Monitoring Guide for more information. |
| Step 2 | Verify that all servers have been discovered. |
| Step 3 | Verify that the HyperFlex servers have no faults. |
| Step 4 | Verify that vNIC faults are cleared to ensure VMware ESXi vSwitch uplinks are up and operational. |
| Step 5 | Verify that the data path is up and running. See the Cisco UCS Manager Firmware Management Guide for more information. |
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Viewing HyperFlex Cluster Health

Using CLI

Log into any controller VM in the storage cluster. Run the command `stcli cluster storage-summary --detail` or `hxcli cluster info [flags]`.

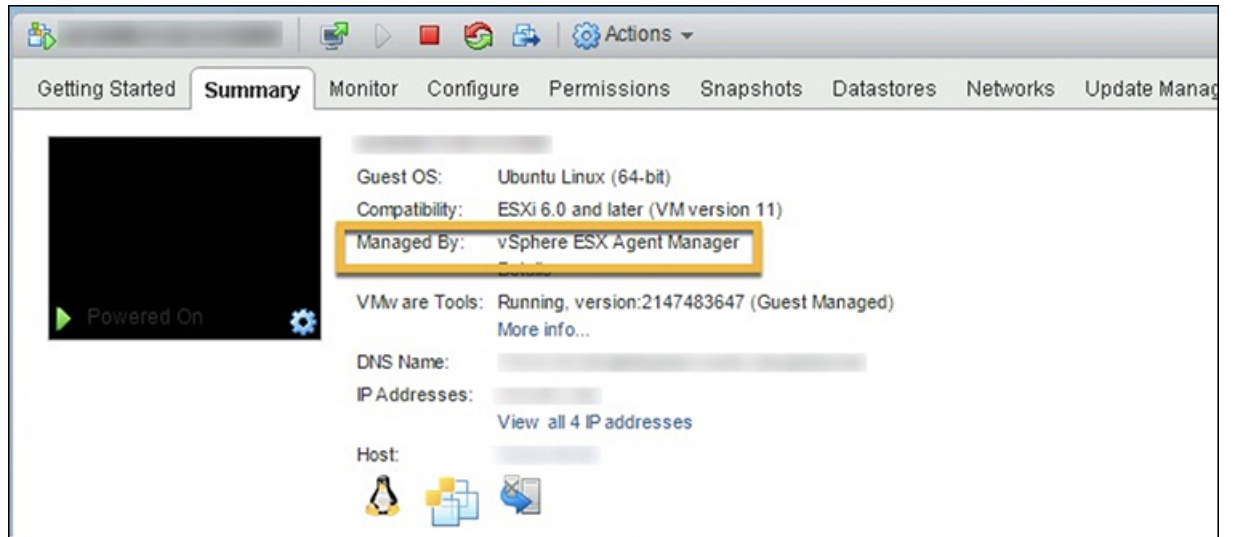
```
address: 192.168.100.82
name: HX-Cluster01
state: online
uptime: 0 days 12 hours 16 minutes 44 seconds
activeNodes: 5 of 5
compressionSavings: 78.1228617455
deduplicationSavings: 0.0
freeCapacity: 38.1T
healingInfo:
  inProgress: False
resiliencyDetails:
  current ensemble size:5
  # of ssd failures before cluster shuts down:3
  minimum cache copies remaining:3
  minimum data copies available for some user data:3
  minimum metadata copies available for cluster metadata:3
  # of unavailable nodes:0
  # of nodes failure tolerable for cluster to be available:2
  health state reason:storage cluster is healthy.
  # of node failures before cluster shuts down:3
  # of node failures before cluster goes into readonly:3
  # of hdd failures tolerable for cluster to be available:2
  # of node failures before cluster goes to enospace warn trying to move the existing
data:na
  # of hdd failures before cluster shuts down:3
  # of hdd failures before cluster goes into readonly:3
  # of ssd failures before cluster goes into readonly:na
  # of ssd failures tolerable for cluster to be available:2
resiliencyInfo:
  messages:
    Storage cluster is healthy.
    state: healthy
    hddFailuresTolerable: 2
    nodeFailuresTolerable: 1
    ssdFailuresTolerable: 2
spaceStatus: normal
totalCapacity: 38.5T
totalSavings: 78.1228617455
usedCapacity: 373.3G
clusterAccessPolicy: lenient
dataReplicationCompliance: compliant
dataReplicationFactor: 3
```

Sample response that indicates the HyperFlex storage cluster is online and healthy.

Viewing ESX Agent Manager

If the HyperFlex cluster you are upgrading was deployed originally with HXDP Release 3.5(1x) or earlier, the HyperFlex controller VM is managed by the ESX Agent Manager (EAM). Alternatively, you can check

if the HyperFlex Controller VM is managed by EAM by logging into vCenter > **Click on the HyperFlex Controller VM > Summary**. If you see **Managed By: vSphere ESX Agent Manager**, your HyperFlex Controller VM is being managed by EAM and you should verify the EAM health by following the process below. Otherwise, this section should be skipped.



Verifying EAM Health:

From the vSphere Web Client Navigator, select **Administration > vCenter Server Extensions > vSphere ESX Agent Manager > Summary**.

Verify that ESX Agent Manager (EAM) health is normal.
