# Cisco HyperFlex HTML Plugin for VMware vCenter

## Cisco HyperFlex vCenter Plugin

Cisco HyperFlex offers the flexibility of monitoring and managing content via Cisco HX Connect, Cisco HyperFlex Plugin, or Storage Controller VM command line. This chapter describes managing and monitoring content through the Cisco HyperFlex Plugin. The installation workflow is the same for single and linked mode vCenter instances.

The Cisco HyperFlex vCenter Plugin is integrated with the vSphere Web Client and supports all of the HX Data Platform post-installation management and monitoring functions. Access the Cisco HyperFlex vCenter Plugin directly through the vSphere Web Client Navigator.

## Cisco HyperFlex HTML5 Plugin for VMware vCenter

This section describes how to monitor and manage your HyperFlex clusters from the VMware vCenter using the Cisco HyperFlex HTML5 plugin.

## Cisco HyperFlex HTML5 Plugin Prerequisites

The following hardware and software prerequisites apply to the Cisco HyperFlex HTML5 Plugin:

- Cisco HyperFlex HTML5 plugin for VMware vCenter support was introduced in Cisco HX Release 4.0(2a) and later on vCenter 6.5U2 and later.

- Browser compatibility: The Cisco HyperFlex HTML plugin works with Chrome, Firefox and IE.

- Cisco HyperFlex HTML5 plug-in 2.2.0 is the minimum version supported. If the running version is 2.1.0 or 1.0.1, upgrade to the latest version.

- HTML-Plugin v2.2 supports vCenter Linked Mode.

- The installation workflow is the same for single and linked mode vCenter instances.

- Administrative Privileges are required for managing users and roles.

- Beginning with HX Release 5.0(1a) full HTML5 plugin feature functionallity requires the license status to be In-compliance.

- HXDP Release 4.5(2a) and 5.0(x) does not support Cisco HyperFlex Flash Plugin (the original plugin).

# Install and Register the vCenter HTML5 Plugin

Install the Cisco HyperFlex HTML5 plugin with the VMware vSphere web client. During the plugin installation process, enter the required information that matches your HX release:

| HX Release 4.5(1a) | HX Release 4.5(2a) and later |
| --- | --- |
| vCenter Server FQDN/IP | HX Storage controller VM admin password |
| vCenter server Username and Password | vCenter Username & Password |
| HX Controller VM Password | - |
| Storage Controller VM root password | - |
| Storage Controller VM admin password | - |

**Table 1: CLI Arguments**

| Option | Required or Optional | Description |
| --- | --- | --- |
| -h, --help | Optional | Shows the help message relative to the listed command and exits. |
| -u, --unregister | Optional | Unregister Cisco HyperFlex vCenter plugin. |
| -s, --show | Optional | Displays the HTML5 vCenter plugin details. |
| -v, --verbose | Optional | Make the operation more verbose. |

**Before you begin**

- Check and confirm the HTTP (port 80) and HTTPS (port 443) connectivity between vCenter and Controller VMs.

- For deployments using Cisco HX Release 4.5 and later, review the Secure Admin Shell feature.

- HTML-Plugin v2.2 supports vCenter Linked Mode.

- The installation workflow is the same for single and linked mode vCenter instances.

**Step 1** Download the Cisco HyperFlex HTML plugin for VMware vCenter from the Cisco Software Download site.

**Step 2** Copy the `HyperFlex-VC-HTML-Plugin-2.2.0.zip` file into a temporary directory in one of the controller VMs and unzip.

a) The file transfer may be completed by using sftp cli or any file transfer app such as winscp or filezilla.

To use sftp transfer via a file transfer app copy the file to the /tmp folder on SCVM, using HX admin account.

b) SSH to that SCVM and login with admin account.

c) Change to the `/tmp` directory using the command "`cd /tmp`".

**Example:**

```
"cd /tmp"
```

d) Unzip the plugin file `HyperFlex-VC-HTML-Plugin-2.2.0.zip` using the command unzip.

**Example:**

```
unzip HyperFlex-VC-HTML-Plugin-2.2.0.zip
```

**Step 3** Execute the `python install_vc_plugin` script and enter:

- vCenter FQDN/IP address

- Administrator username and password of vCenter server

- Controller VM root password

**Example:**

```
root@SampleController59FDELZQJT:~/build# python install_vc_plugin.py
Initiating installation of Cisco HyperFlex vCenter plugin...
Enter vCenter FQDN/IP: cs-vc67-1.eng.storvisor.com
Enter administrator vCenter username: administrator@user.local
Enter password for administrator@user.local:
Enter storage controller password:
Copying plugin to storage controller VMs...
  Copying plugin to 172.16.0.157
  Copying plugin to 172.16.0.159
  Copying plugin to 172.16.0.161
Cisco HyperFlex vCenter Plugin version '2.0.0' is registered successfully with vCenter server
cs-vc67-1.eng.storvisor.com
```

**Step 4** Log on to vCenter and a blue banner message appears to confirm that the new plugin is installed.

**Step 5** Log out and log in again to vCenter to see the Cisco HyperFlex menus for HTML5 plugin.
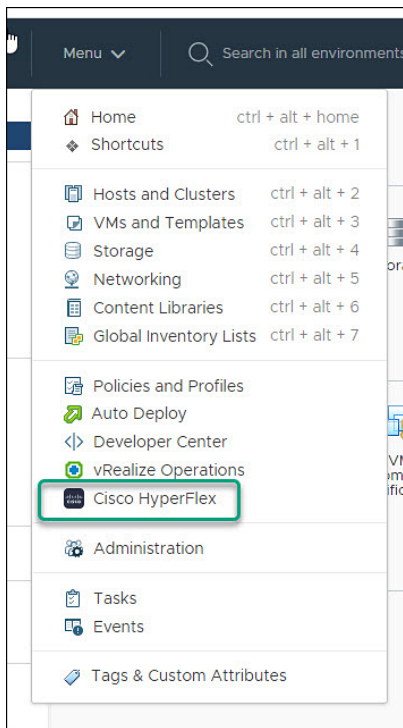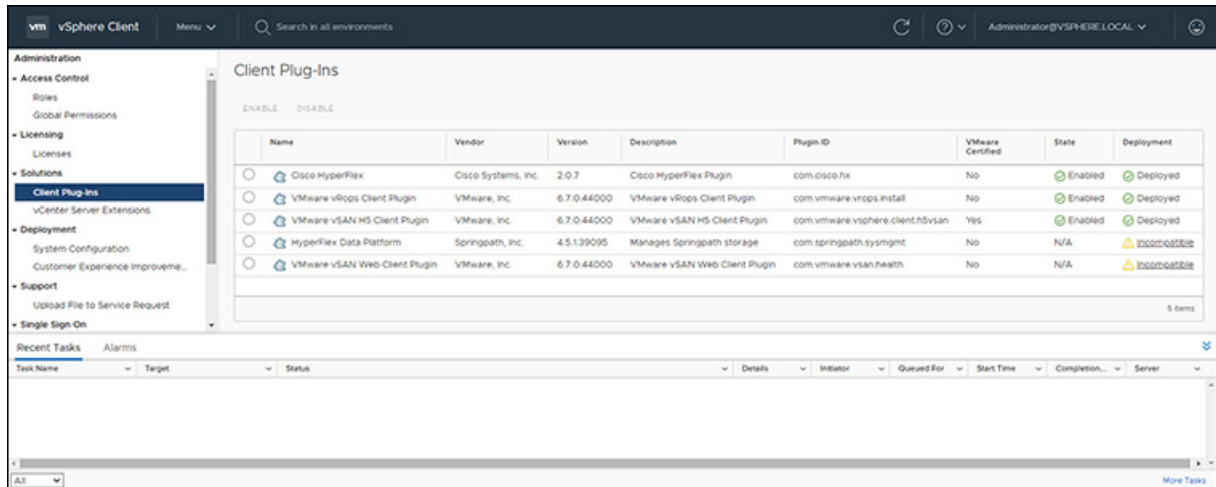
# Verifying the Cisco HyperFlex HTML5 Plugin Installation from the vSphere Client

To verify Cisco HyperFlex plugin installation from the vSphere Client UI.

### Before you begin

The HTML5 plugin should be installed on vCenter server.

Launch the vSphere client, select **Menu** > **Administration** > **Solutions** > **Client Plug-Ins**

## Uninstalling the HyperFlex HTML5 Plugin

To uninstall the HX Data Platform HTML5 Plugin, perform the following steps.

**Step 1**    Execute the uninstall script as `python install_vc_plugin.py -u` and enter the following credentials:

- vCenter FQDN/IP address

- Administrator username and password for the vCenter server

**Step 2**    Restart vSphere UI service of vCenter server.

## Upgrading the HTML5 Plugin

When you want to upgrade to the latest HTML plugin, download the Cisco HyperFlex HTML plugin for VMware vCenter from the Cisco Software Download site.

**Before you begin**

Use this task only if the version of the HTML Plugin installed on the vCenter server is before 2.2.x.

**Step 1**    Download the Cisco HyperFlex HTML plugin for VMware vCenter from the Cisco Software Download site.

**Step 2**    Copy the `HyperFlex-VC-HTML-Plugin-2.2.x.zip` file into a temporary directory in one of the controller VMs and unzip.

    a) The file transfer may be completed by using sftp cli or any file transfer app such as winscp or filezilla.

       To use sftp transfer via a file transfer app copy the file to the /tmp folder on SCVM, using HX admin account.

    b) SSH to that SCVM and login with admin account.

    c) Change to the /tmp directory "cd /tmp"

      d)   Unzip the plugin file `HyperFlex-VC-HTML-Plugin-2.2.x.zip`

**Step 3**      Execute `python install_vc_plugin` script and enter:

- vCenter FQDN/IP address

- Administrator username and password of vCenter server

**Step 4**      Select **Y** to continue the Upgrade process with controller root and admin password.

**Step 5**      Logout and log in again into vCenter to see Cisco HyperFlex listed in the vCenter menus.
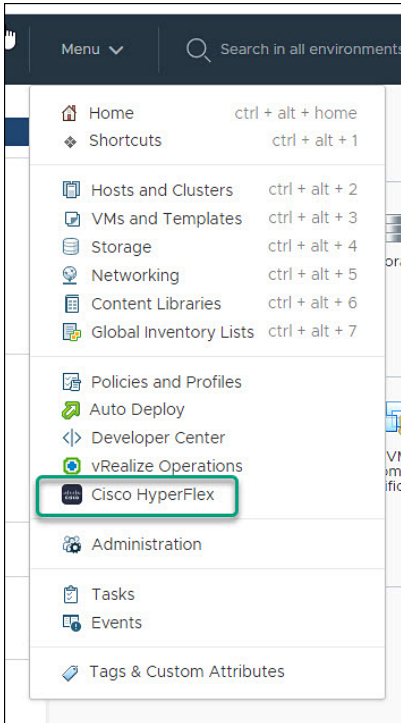


# Using the Cisco HyperFlex HTML5 Plugin

The following table defines feature support by plugin version:

*Table 2: HTML5 Plugin Feature Support*

| Feature | Plugin Version 2.0.0 | Plugin Version 2.1.0 | Plugin Version 2.2.0 |
|---|---|---|---|
| Discover the Registered HX Cluster | ✓ | ✓ | ✓ |
| Rename Clusters<br>1 | - | ✓ | ✓ |
| View HX Cluster Summary | ✓ | ✓ | ✓ |

| | | | |
|---|---|---|---|
| View Cluster and Datastore Performance Charts | ✓ | ✓ | ✓ |
| Disks View | ✓ | ✓ | ✓ |
| Nodes View | ✓ | ✓ | ✓ |
| HX Datastore Management | ✓ | ✓ | ✓ |
| VM Summary and Top VM Consumers | ✓ | ✓ | ✓ |
| Network Management | - | ✓ | ✓ |
| iSCSI Management [2] | - | ✓ | ✓ |
| Events and Alarms | ✓ | ✓ | ✓ |
| Manage Tasks | - | ✓ | ✓ |
| HX Snapshots and clones at the virtual machine level | - | ✓ | ✓ |
| Schedule Snapshot [3] | - | ✓ | ✓ |
| Manage users and access to HX clusters | ✓ | ✓ | ✓ |
| Cross-launch HX Connect for upgrade | ✓ | ✓ | ✓ |
| Embedded vCenter server actions at the Host and Clusters level | ✓ | ✓ | ✓ |
| HTML 5 License Status [4] | - | - | ✓ |
| Linked Mode | - | - | ✓ |

[1] Requires HXDP Release 4.5(x) or later.
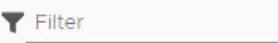[2] Requires HXDP Release 4.5(x) or later.
[3] Requires HXDP Release 4.5(x) or later.
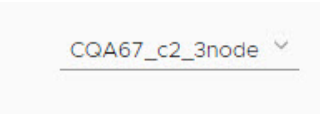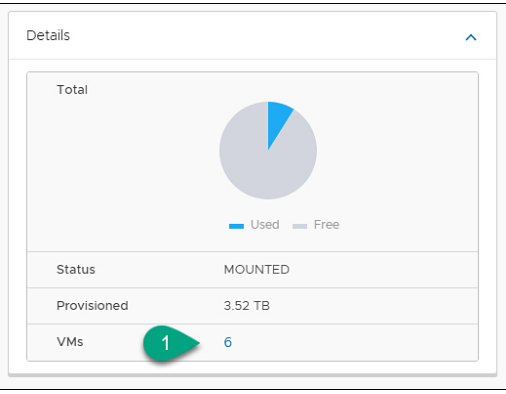[4] Requires HXDP Release 5.0(x) or later.

# Navigating the HTML5 plugin

Accessing the Cisco HyperFlex HTML5 Plugin is easily accessed from the vSphere Menu or the Shortcuts list.

| vSphere Menu | vSphere Shortcut List |
|---|---|
| | |
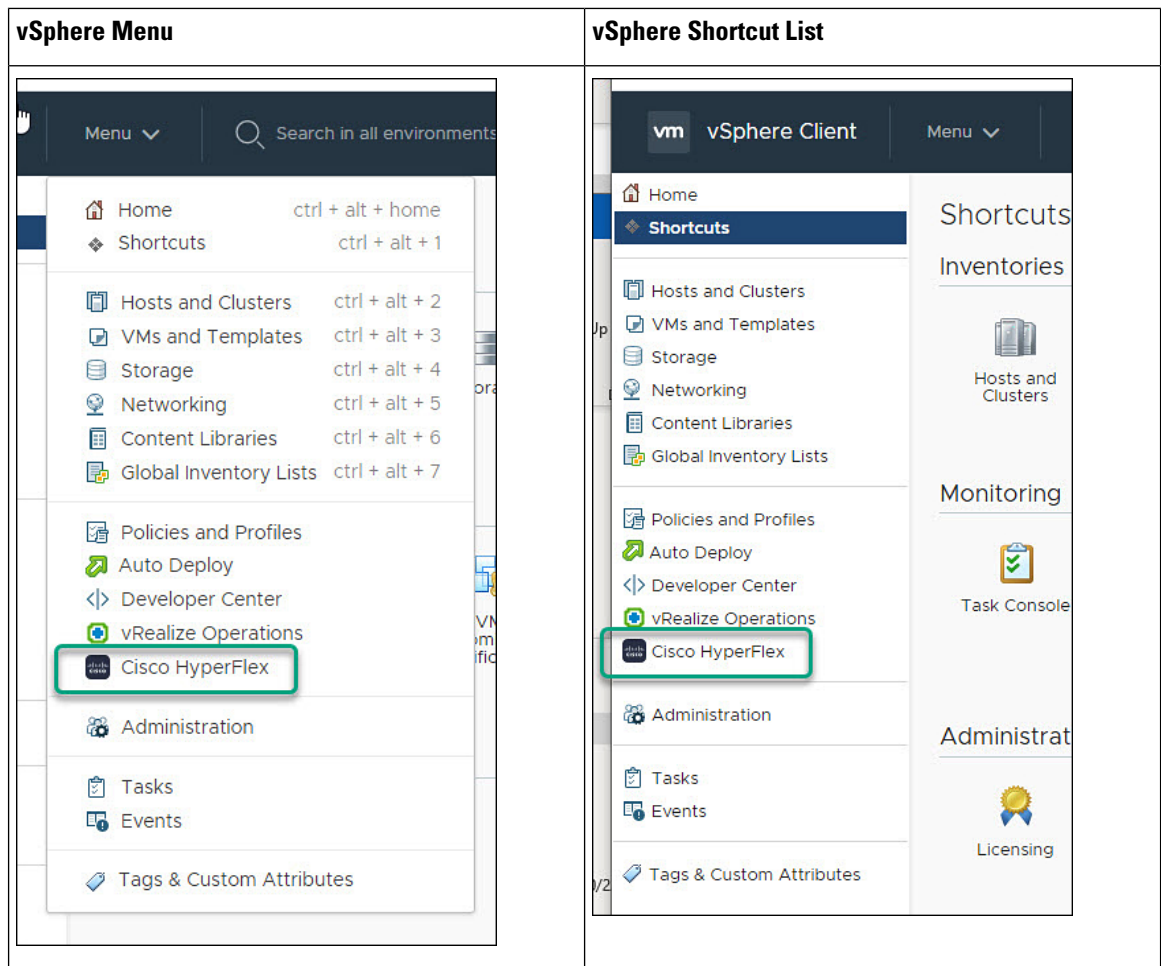
The Cisco HyperFlex HTML5 Plugin has functionality that is common throughout the plugin. This section describes the icons and their usage.

| Icon | Usage |
|---|---|
| Cisco HyperFlex | Cisco HyperFlex Plugin. When installed, this icon is found on the Menu and the Shortcuts list. |
| (refresh icon) | Refresh the view.<br><br>**Note**    The cluster list uses dynamic function loading, the Scanning Clusters icon indicates when the cluster list is complete. |
| Scanning Clusters | Indicates that the cluster table is still populating. The icon disappears when the cluster list is complete. |
| Filter | Filter the content seen in the browser. |

| Icon | Usage |
|------|-------|
|  | Expand or collapse the contents. |
| CQA67_c2_3node | Navigate between clusters. |
| VC CLUSTER EVENTS | Use the VC Cluster button to jump from the HyperFlex Events or Alarms view to vCenter Events or Alarm Page. |
|  | Clicking on a VM count (number) takes the user directly to the Datastore page which list all VMs for that datastore. |

# Cluster Management

## Managing Users and Access to HX Clusters

The vCenter plugin requires the user to have administrator privileges. You can create a user and assign administrator role to that user from **Permissions** tab on cluster level.

To manage users and access to HX clusters, assign the **No Access** Role to all the clusters for that user.

**Note** Administrative Privileges are required for managing users and roles.

## Discover the Registered HX Cluster

To discover your HX clusters and map the vSphere managed objects in your deployment perform the following steps:

**Step 1** Login to the vSphere web client.

**Step 2** Select **Menu** > **Cisco HyperFlex**

**Step 3** Click **Rescan** to refresh the list of HX clusters displayed.
Registered clusters are displayed in HyperFlex Cluster table along with a summary of the cluster details.

**Step 4**    If you have added new HX Cluster(s) to the vCenter server and they are not appearing in the cluster list, Click the **Rescan** icon on top of the cluster list grid to reload the cluster list from HyperFlex. The [○ Scanning Clusters] icon indicates that the cluster table is still populating. The icon disappears when the cluster list is complete.

# Rename Cluster

The rename cluster was introduced in HX Release 4.5. To rename a cluster, perform the following steps:



**Step 1**    Log in to the vSphere web client.

**Step 2**    Select **Menu** > **Cisco HyperFlex**
The HyperFlex Clusters List appears.

**Step 3**    Click on the row of the cluster that you want to rename.
The **Rename** button appears for supported clusters.

> **Note**    The rename cluster feature is supported on HXDP Release 4.5 and later.

**Step 4**    Click the **Rename** button.
The Rename Cluster window appears.

**Step 5**    Type the new name on the **Cluster Name:** line.

**Step 6**    Click **OK** to confirm the name change.

# View the HX Cluster Summary

To view a summary of the HX Clusters in your deployment perform the following steps:

**Step 1**    Log in to the vSphere web client.

**Step 2**    Select **Menu** > **Cisco HyperFlex**

**Step 3**    Click the discovered HX cluster name to view its summary.

**Step 4**    Click on **Summary** to view details about Total Nodes, Datastores, HyperFlex Version, Model, vCenter Cluster, ESXi Version and Uptime.
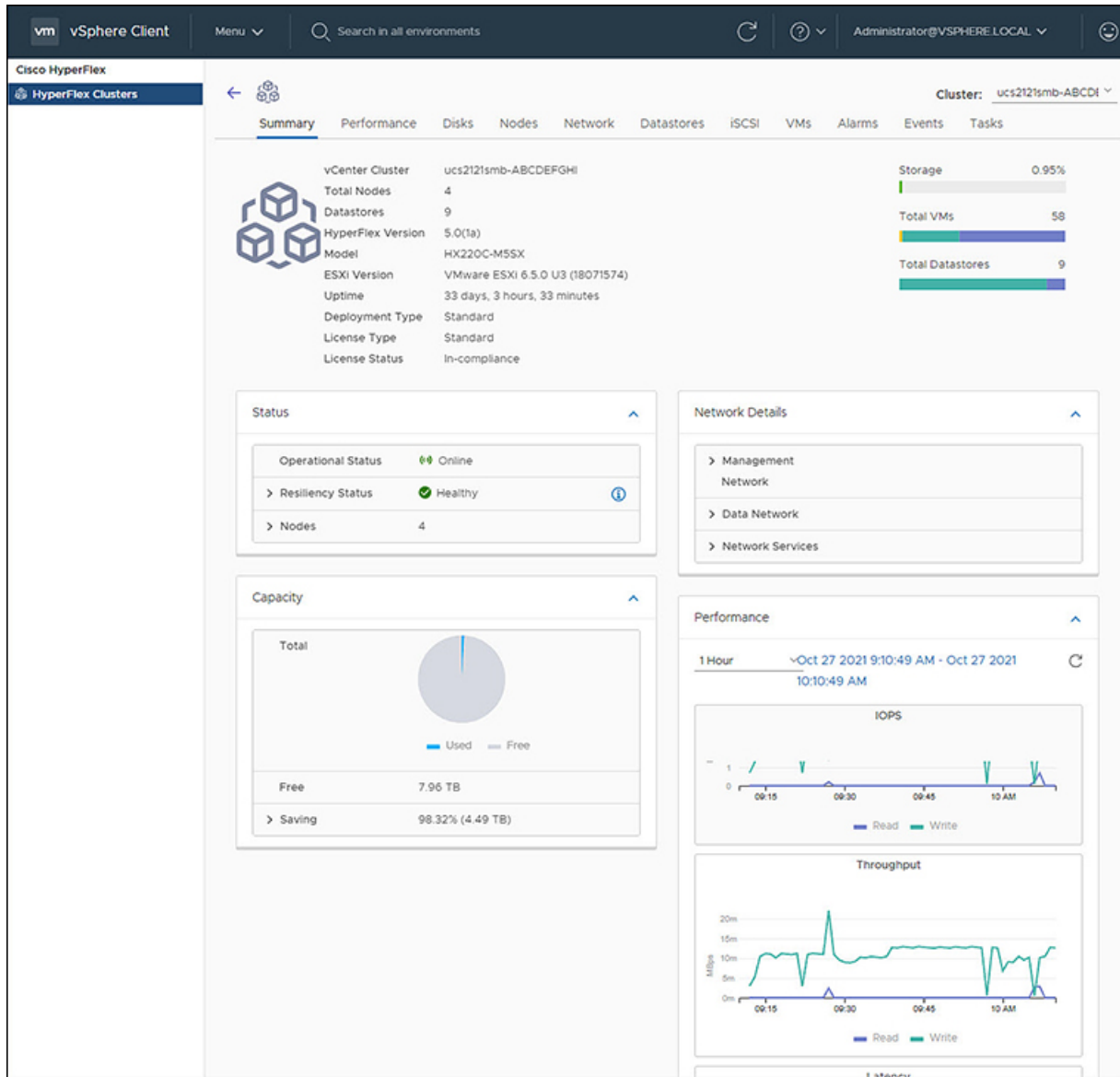
**Table 3: Cluster Summary View Details**

| Field Name | Additional Information |
|---|---|
| vCenter Cluster | Name of the vCenter cluster |
| Total Nodes | Total number of nodes |
| Datastore | Datastore connected to the cluster |
| HyperFlex Version | Version of HyperFlex on the cluster |
| Model | Model name |
| ESXi Version | ESXi Version |

| Field Name | Additional Information |
|---|---|
| Uptime | Length of time that the cluster has been up and running |
| Cluster Type | Type of cluster |
| Deployment Type | Type of cluster deployment. Valid options are Standard and Edge. |
| License Type[5] | Type of License. Valid options include: Evaluation, Standard, and Enterprise.<br><br>**Note**      New users enjoy a 90-day grace period to register the license. After 90-days a "License is not in compliance" appears and product features are limited. |
| License Status[6] | License status. Status include: In-compliance, Out of Compliance, and License expires in *x* days, Cluster not registered with Cisco Licensing. Cluster not registered with Cisco Licensing. |
| Storage Capacity Bar | A graphical representation of the percentage of total storage used. Hover over the bar to view the amount of storage used. |
| Total VMs Bar | A graphical representation of the total number of VMs in the cluster. |
| Total Datastore Bar | Total number of datastores connected to the cluster. Hover over the bar to view the number of datastores mounted and unmounted. |

[5] Added in HX release 5.0(x)
[6] Added in HX release 5.0(x)

a) The summary view includes four portlets with additional details about the cluster: Status, Network Details, Capacity and Performance.

Use the arrows to collapse and expand the portlet contents.

**Table 4: Status Portlet**

| Field Name | Additional Information |
|---|---|
| Operational Status | Online or Offline |
| Resiliency Status | Warning or Healthy<br><br>Click the arrow to collapse or expand additional Resiliency Status details:<br><br>• **Host(s) failure tolerance** - Number of host failures tolerated<br><br>• **Replication Factor**- Number of copies<br><br>• **Creation time**- Cluster creation time<br><br>• **Persistent Device failures tolerable**- Number of device failures tolerated<br><br>• **Caching Device failures tolerable**-Number of caching device failures tolerated |

| Field Name | Additional Information |
|---|---|
| Nodes | Number of nodes in the cluster. <br><br> Click the arrow to collapse or expand additional Nodes details: <br><br> • Node Type <br><br> • Version |

*Table 5: Capacity Portlet*

| Field Name | Additional Information |
|---|---|
| Total | Used and Free Capacity expressed as a percentage |
| Total Capacity | Amount of usable capacity |
| Used | Used Capacity |
| Free | Free Capacity |
| Saving | Total amount space saved <br><br> Click the arrow to collapse or expand the details about the saved space with Compression and Deduplication. The data is expressed as a percentage. |

*Table 6: Network Details Portlet*

| Field Name | Additional Information |
|---|---|
| Management Network | Management Network details <br><br> Click the arrow to view the following Management Network details: <br><br> • Management IP address / FQDN <br><br> • VLAN <br><br> • Default Gateway |
| Data Network | Data network details <br><br> Click the arrow to view the following Data Network details: <br><br> • Data IP address / FQDN <br><br> • VLAN <br><br> • Default Gateway |
| Network Services | Network Services details <br><br> Click the arrow to view the following Network Services details: <br><br> • DNS Server(s) <br><br> • NTP Server(s) |

**Table 7: Performance Portlet**

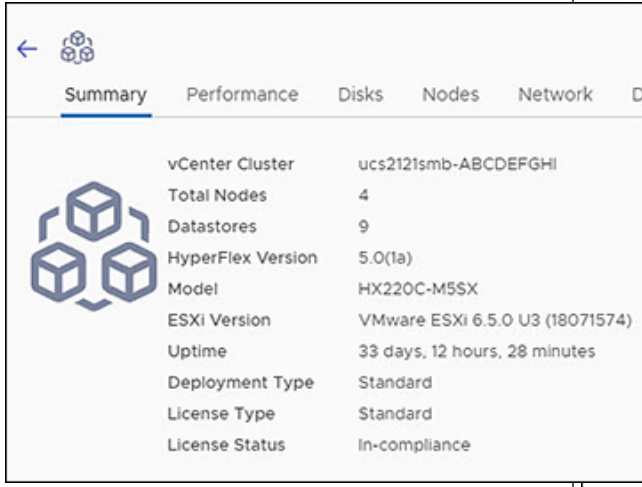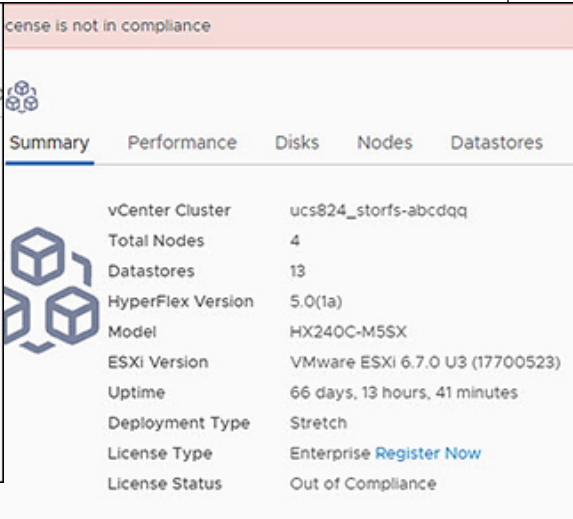| Field Name | Additional Information |
|---|---|
| General Usage<br><br>• Performance charts are visible when the License Status is **In-compliance**.<br><br>• Click on the Time Interval list to select the length of time viewed in the performance chart.<br><br>• Hover over the chart line to display totals for a specific time.<br><br>• Click the refresh arrow to refresh the view.<br><br>• The Scanning Cluster icon indicates that the cluster table is still populating. The icon disappears when the cluster list is complete.<br><br>• To change the timezone, click the current time interval, complete the Time Range pop-up, and click **OK**. The time seen reflects the browser time. | |
| IOPS | Display IOPS performance chart |
| Throughput | Display Throughput performance chart |
| Latency | Display Latency performance chart |

## Register your license

New users have a 90-day grace period to register their license. During the 90-days you have full access to all feature functionality. To continue using the complete set of features, perform the following steps to register your license using the in-product link.

### Before you begin

Beginning with HX Release 5.0(1a) full HTML plugin feature functionallity requires the license status to be In-compliance. Verify the your License type and Status on the Summary Page, if you need to register your license, complete this task.

*Table 8: License Compliance Examples*

| License In-Compliance | License Out of Compliance |
|---|---|
| ← ⚙️ <br><br> Summary  Performance  Disks  Nodes  Network <br><br> vCenter Cluster  ucs2121smb-ABCDEFGHI <br> Total Nodes  4 <br> Datastores  9 <br> HyperFlex Version  5.0(1a) <br> Model  HX220C-M5SX <br> ESXi Version  VMware ESXi 6.5.0 U3 (18071574) <br> Uptime  33 days, 12 hours, 28 minutes <br> Deployment Type  Standard <br> License Type  Standard <br> License Status  In-compliance | ...cense is not in compliance <br><br> ⚙️ <br> Summary  Performance  Disks  Nodes  Datastores <br><br> vCenter Cluster  ucs824_storfs-abcdqq <br> Total Nodes  4 <br> Datastores  13 <br> HyperFlex Version  5.0(1a) <br> Model  HX240C-M5SX <br> ESXi Version  VMware ESXi 6.7.0 U3 (17700523) <br> Uptime  66 days, 13 hours, 41 minutes <br> Deployment Type  Stretch <br> License Type  Enterprise Register Now <br> License Status  Out of Compliance |

**Step 1**   Starting on the vSphere web client **Summary** page, click the discovered HX cluster name to view its summary.

**Step 2**   In the License Type summary, click the **Register Now** link. The "Smart Software Licensing Product Registration window appears.

① License is not in compliance

← ⚙️

Summary  Performance  Disks  Nodes  Datastores

vCenter Cluster  ucs824_storfs-abcdqq
Total Nodes  4
Datastores  13
HyperFlex Version  5.0(1a)
Model  HX240C-M5SX
ESXi Version  VMware ESXi 6.7.0 U3 (17700523)
Uptime  66 days, 13 hours, 41 minutes
Deployment Type  Stretch
License Type  Enterprise Register Now  ◄ 1
License Status  Out of Compliance
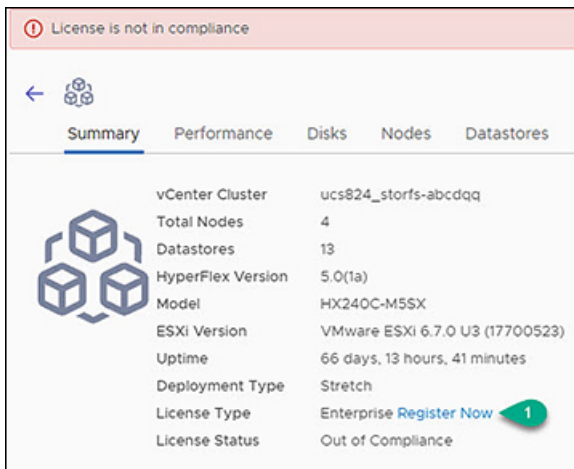
**Step 3**   Type the Product Instance Registration Token on the field provided
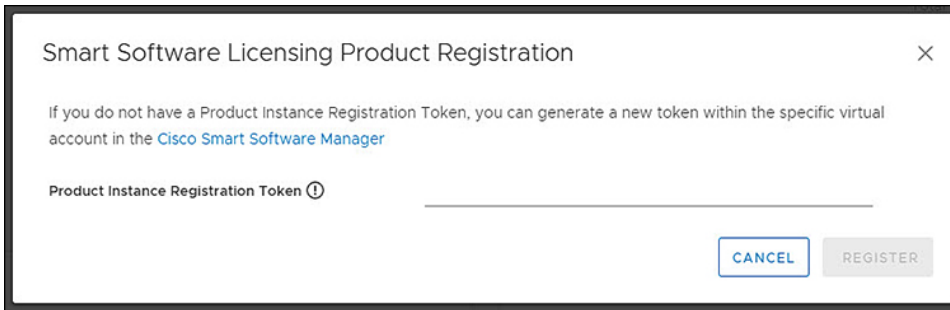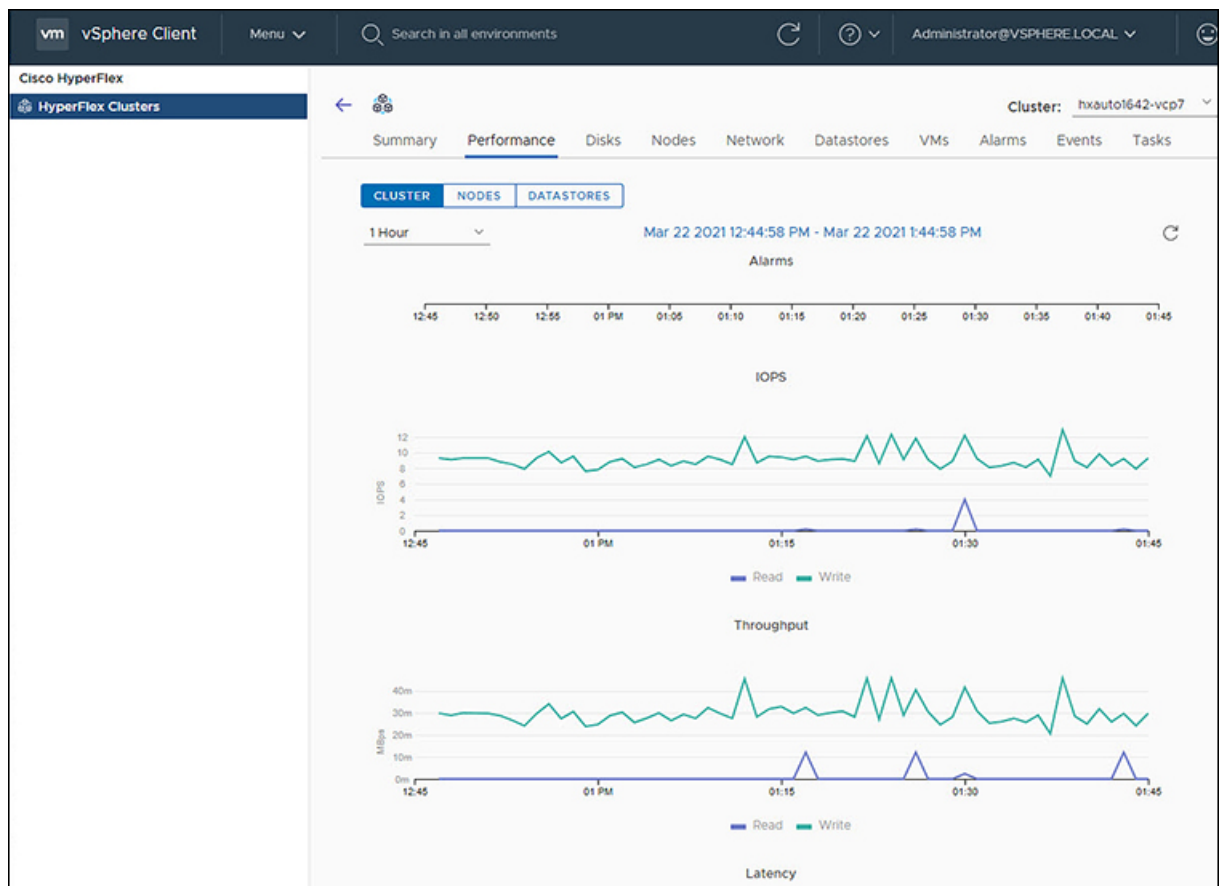
**Note**    If your registration token is not available, generate a new one by clicking on the **Cisco Smart Software Manager** Link and follow the prompts.

**Step 4**    Click **Register** to complete the action.

## View Cluster and Datastore Performance Charts

The **Performance** tab displays performance details for both the cluster and for the datastore for the last hour.



General Usage:

• Click on the Time Interval list to select the length of time viewed in the performance chart.

> ✎
>
> **Note**    The Alarms chart appears with time interval selections of 1 Month or less.

• Use the drop-down Cluster list on the top right to navigate between the clusters.

• Hover over the chart line to display totals for a specific time.

• Click the refresh arrow to refresh the view.

• To change the timezone, click the current time interval, complete the Time Range pop-up, and click **OK**. The time seen reflects the browser time.

**Before you begin**

Beginning with HX Release 5.0(1a), Performance charts are only visible when the license status is In-compliance.

| | |
|---|---|
| **Step 1** | Log in to the vSphere web client. |
| **Step 2** | Select **Menu** > **Cisco HyperFlex**. |
| **Step 3** | Click on HX Cluster you want to review. |
| **Step 4** | Select the **Performance** tab. The Alarms, IOPS, ThroughPut, and Latency charts appear. |
| **Step 5** | Click on the Time Interval list to select the time-span viewed in the performance chart. |

# Disks

To view the Disks details page, perform the following steps:



| | |
|---|---|
| **Step 1** | Log in to the vSphere client. |

**Step 2**    Select **Menu** > **Cisco HyperFlex**

**Step 3**    Click the Cluster name that you want to view.

**Step 4**    Using the Cluster Summary Tabs, Click **Disks**.
The Disk Detail view appears.

*Table 9: Disks Details*

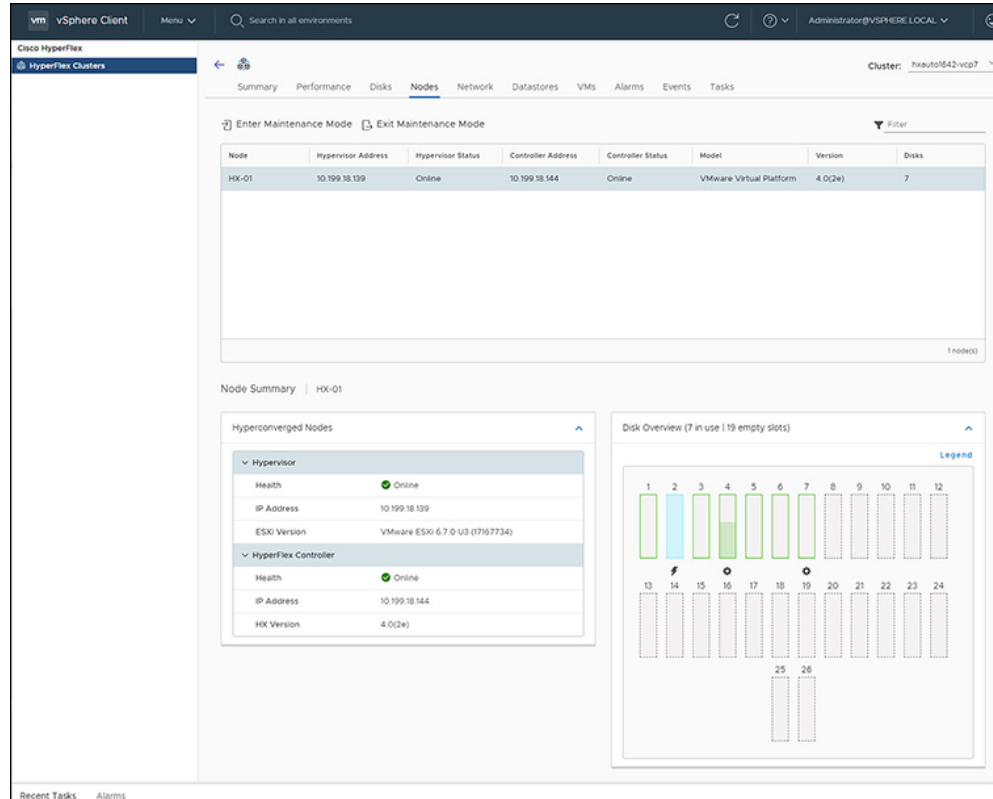| Field Name | Additional Information |
|---|---|
| Node | Node Name |
| Slot | Slot number |
| Status | Slot Status. Valid values: Available or Claimed |
| Capacity | Total capacity of the slot |
| Type | Type of disk. Valid values include: Rotational, Solid state |
| Usage | How the disk is being used. Valid values include: Caching, Persistence, System |

**Step 5**    (Optional) **Locate a physical server using the Turn On LED button**

**Note**    Beginning with HX Release 5.0(1a), The Turn On/Off LED button functionality requires the license status to be In-compliance.

a) Click the **Turn On LED** button to illuminate the LED light on the associated physical server.

b) When finished, click the **Turn Off LED** button to turn the LED light off.

# Nodes

To view node details specific to the Cluster, Host, and VMs, perform the following steps:



**Step 1**      Log in to the vSphere client.

**Step 2**      Select **Menu** > **Cisco HyperFlex**

**Step 3**      Click the Cluster name that you want to view.

**Step 4**      Using the Cluster Summary Tabs, Click **Nodes**.
The Nodes list appears.

**Table 10: Nodes List Details**

| Field Name | Additional Information |
|---|---|
| Node | Node name. |
| Hypervisor Address | IP address of the Hypervisor. |
| Hypervisor Status | Hypervisor status. Valid values: Online and Offline. |
| Controller Address | IP address of the Controller. |
| Controller Status | Controller status. Valid values: Online and Offline. |
| Model | Type of node. |

| Field Name | Additional Information |
|---|---|
| Version | HXDP version in use. |
| Disks | Number of disks associated with the node. |
| Site | Column is displayed only for Edge deployments. |

**Step 5** Click the Node name that you want to view details. The Node Summary portlet appear below the Nodes list.

a) The Node Summary view includes two portlets with additional details about the node: Hyperconverged Nodes and Disk Overview.
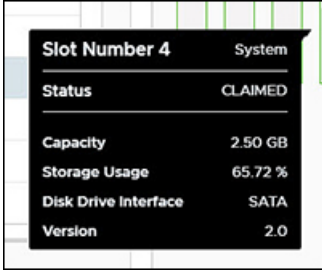
Use the arrows to collapse and expand the portlet contents.

*Table 11: Hyperconverged Nodes Portlet*

| Field Name | Additional Information |
|---|---|
| Hypervisor | **Health** - Online or Offline<br>**IP Address** - IP address of the Hypervisor<br>**ESXi Version** - Installed ESXi Version |
| HyperFlex Controller | **Health** - Online or Offline<br>**IP Address** - IP address of the HyperFlex Controller<br>**HX Version** - Installed HyperFlex Version |

*Table 12: Disk Overview Portlet*

| Field Name | Additional Information |
|---|---|
| Disk Overview | Notes the number of slots in use and the number that are empty. |
| Legend | Legend for icons and colors used in the disk graphics. |

| Field Name | Additional Information |
|---|---|
| Disk graphic | Hover over a disk to display details for that disk.<br><br>Slot Number 4 — System<br>Status — CLAIMED<br>Capacity — 2.50 GB<br>Storage Usage — 65.72 %<br>Disk Drive Interface — SATA<br>Version — 2.0<br><br>Details include:<br>• Slot Number and type of usage<br>• Disk Status: Claimed or Unclaimed<br>• Capacity<br>• Storage Usage as a percentage.<br>• Disk Drive Interface<br>• Version |

**Step 6**    (Optional) **Enter or Exit Maintenance Mode**

a) Click the Node name that you want to put into or take out of Maintenance Mode.

b) Click **Enter Maintenance Mode** or **Exit Maintenance Mode**.

**Note**    Beginning with HX Release 5.0(x), the Enter and Exit Maintenance Mode button functionality is enabled when the license status is In-compliance.

**Note**    If you have a 3- or 4-node cluster, only one node will go into maintenance mode.

# Network

## Network: Create New VLAN

The Network page allows users to create a VLAN without going through UCS. To create a VLAN from the vSphere client perform the following steps:

**Step 1**    Log in to the vSphere client.

**Step 2**    Select **Menu** > **Cisco HyperFlex** > **Create VLAN**

**Step 3**    The Create VLAN window appears.
Complete the fields in the Create VLAN window:

*Table 13: Create VLAN*

| Field Name | Additional Information |
|---|---|
| VLAN ID | To create one VLAN, enter a single numeric ID. A VLAN ID can:<br><br>• Be between 1 and 3967<br><br>• Be between 4049 and 4093 |
| VLAN Name | This name can be between 1 and 32 alphanumeric characters. You cannot use spaces or any special characters, and you cannot change this name after the object has been saved |
| UCS Manager Host IP or FQDN | UCS Manager FQDN or IP address.<br><br>For example, 10.193.211.120 |
| UCS Username | <admin> username.<br><br>For example, sample_user1 |
| UCS Password | <root> password. |

**Step 4**     Click **OK**.
A VLAN is created.

> **Note**     Creating VLANs is a one-way operation. You can not view VLANs in the HTML plugin. To see the newly created VLAN go to UCS, and then verify the newly created vLAN in the ESXi vSwitch.
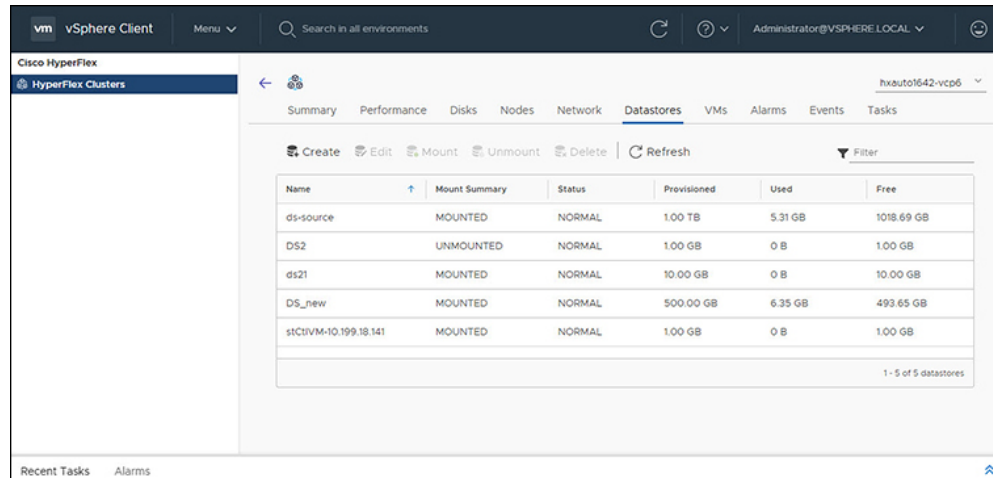
# HX Datastore Management

## Managing Datastores

The Datastore page allows users to view datastore details, create, edit, mount, unmount or delete datastores on a Cluster.

> **Note**     Beginning with HX Release 5.0(1a), the Create and Delete Datastore buttons are enabled when the license status is In-compliance.

**Step 1**  Log in to the vSphere client.

**Step 2**  Select **Menu** > **Cisco HyperFlex**

**Step 3**  Click the cluster that you want.

**Step 4**  Click **Datastore**.
The Datastore Detail Table appears. Use the arrows to advance to the next or previous page, and first or last page of datastores.

*Table 14: Datastore Table Details*

| Field Name | Additional Information |
|---|---|
| Name | Datastore name |
| Mount Summary | Mounted or Unmounted |
| Status | Status of the Datastore: Valid values include: Normal |
| Provisioned | Amount of space provisioned |
| Used | Amount of space used |
| Free | Amount of space available |

**Step 5**  Click on a Datastore name in the table to view additional details about the Datastore.
SUMMARY is auto-selected and the Details and Trends portlets appear below the table.

*Table 15: Details Portlet*

| Field Name | Additional Information |
|---|---|
| Total | Graph of space provisioned and used |
| Status | Mounted or Unmounted |
| Provisioned | Amount of space provisioned |

| Field Name | Additional Information |
|---|---|
| VMs | Number of VMs created on the datastore |
| | Clicking on a VM count (number) takes the user directly to the Datastore page which list all VMs for that datastore. |

*Table 16: Trends Portlet*

| Field Name | Additional Information |
|---|---|
| General Usage:<br><br>• Click on the Time Interval list to select the length of time viewed in the performance chart.<br><br>• Hover over the chart line to display totals for a specific time.<br><br>• Click the refresh arrow to refresh the view.<br><br>• The Scanning Cluster icon indicates that the cluster table is still populating. The icon disappears when the cluster list is complete.<br><br>• To change the timezone, click the current time interval, complete the Time Range pop-up, and click **OK**. The time seen reflects the browser time. | |
| IOPS | Display IOPS performance chart |
| Throughput | Display Throughput performance chart |
| Latency | Display Latency performance chart |

*Table 17: Hosts Portlet*

| Field Name | Additional Information |
|---|---|
| Host Name | Displays the IP address of the host for the selected datastore. |
| Mount Status | Specifies if the Host is Mounted or Unmounted. |
| Accessable | Specifies if the Host is accessable or not. |

**Related Topics**

View iSCSI and Datastore Summary from the Configure Tab, on page 39

## Create New Datastore

To create a new datastore:
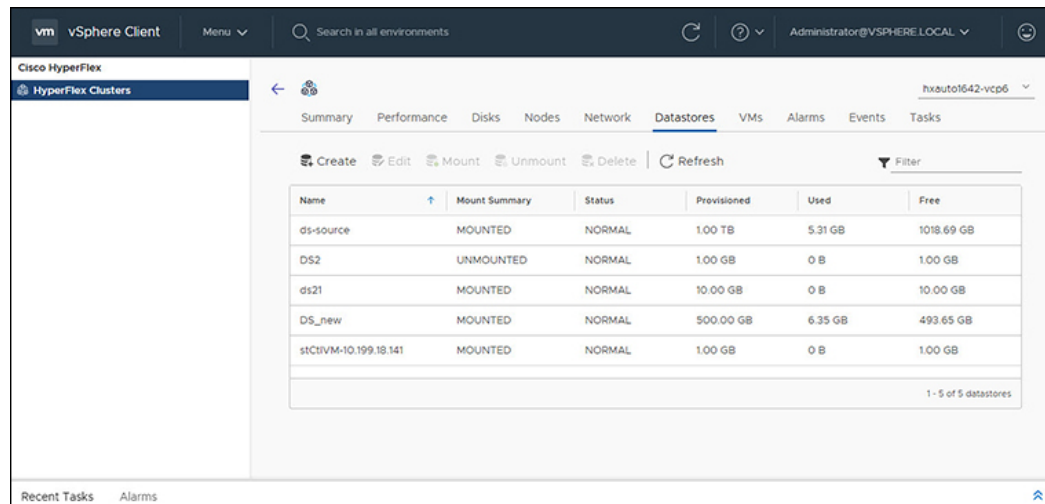
**Before you begin**

• Beginning with HX Release 5.0(1a), the Create Datastore button is enabled when the license status is In-compliance.

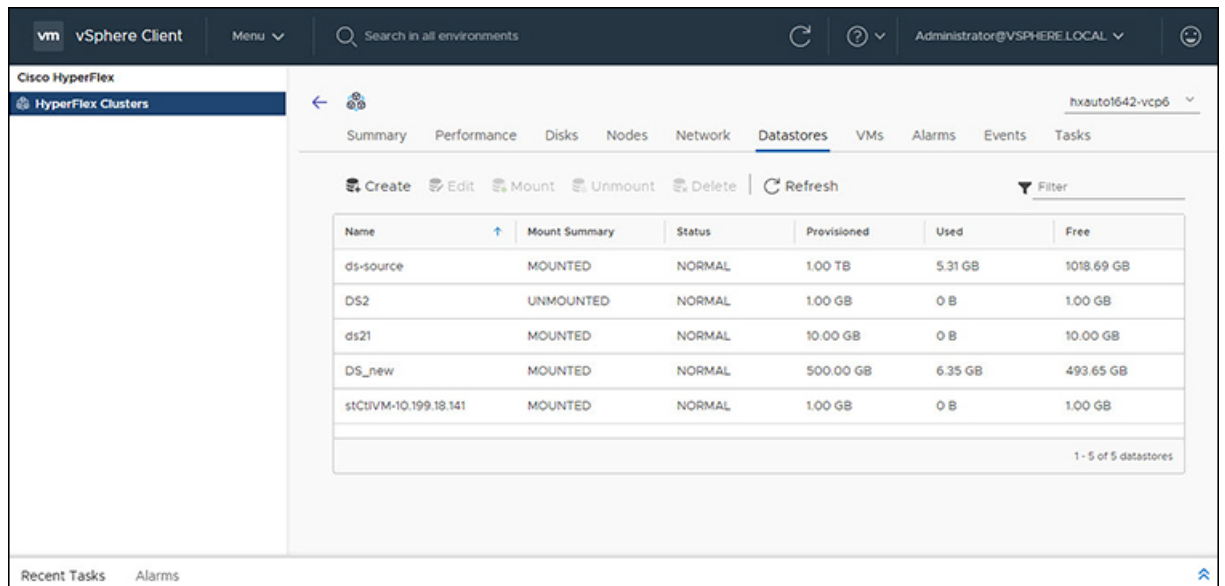• Log in to the vSphere client and Select **Menu** > **Cisco HyperFlex**.

**Step 1**      Click the cluster that you want.

**Step 2**      Click **Datastore**.

**Step 3**      Click the **Create** button. The Create New Datastore window appears.

     a)    Enter the Datastore Name.
     b)    Enter the Size, and select GB or TB.
     c)    Select the Block Size, Select 4K or 8K.

**Step 4**      Click **OK**. A new Datastore is created and added to the Datastore table list.

**Step 5**      If the new Datastore does not appear in the list, click the **Refresh** arrow and recheck the list.

**Edit Datastore**

To edit an existing datastore:

Note    You can only change the name of a datastore after it has been Unmounted.

**Before you begin**

Login to the vSphere client and Select **Menu** > **Cisco HyperFlex**.

**Step 1**   Click the cluster that you want.

**Step 2**   Click **Datastore** and select Datastore for Edit action.

**Step 3**   Click the **Edit** button. The Edit Datastore window appears.

**Step 4**   Edit the Datastore details.

**Step 5**   Click **OK** to save your changes. The Datastore information is updated.

## Mount or Unmount Datastore

The Mount and Unmount buttons are active based on the current status of the datastore. A Mounted datastore offers the option to Unmount the datastore, while an Unmounted datastore offers the option to Mount the datastore. To Mount or Unmount a datastore:

**Before you begin**

• Remove any VMs created or registered to the datastore before starting the Unmount action.

• Login to the vSphere client and Select **Menu** > **Cisco HyperFlex**.

**Step 1**   Click the cluster that you want.

**Step 2**   Click **Datastore** and select Datastore for Mount (Unmount) action.

**Step 3**   Click the **Mount**(**Unmount**) button.

The Mount (Unmount) Datastore window appears with a confirmation question "Do you want to mount (Unmount) the datastore?"

**Step 4**  Click **OK** to continue with the Mount (Unmount) action, or click **Cancel** to exit the Mount (or Unmount) Datastore window. The datastore status is changed from Mounted to Unmounted or Unmounted to Mounted.

## Delete Datastore

To delete a datastore:

### Before you begin

- Beginning with HX Release 5.0(1a), the Delete Datastore button is enabled when the license status is In-compliance.

- Remove any VMs created or registered to the datastore and unmount the datastore before starting the Delete Datastore action.

- Login to the vSphere client and Select **Menu** > **Cisco HyperFlex**.

**Step 1**  Click the cluster that you want.

**Step 2**  Click **Datastore** and select Datastore for Delete action.

**Step 3**  Click the **Delete** button.

The Delete Datastore window appears with the confirmation question "Do you want to delete the datastore?"

**Step 4**  Click **OK** to continue with the delete action, or **Cancel** to exit the Delete Datastore window.
The selected Datastore is deleted from the Datastore table list.

## VMs

To view VM details specific to the Cluster, Host, and VMs, perform the following steps:
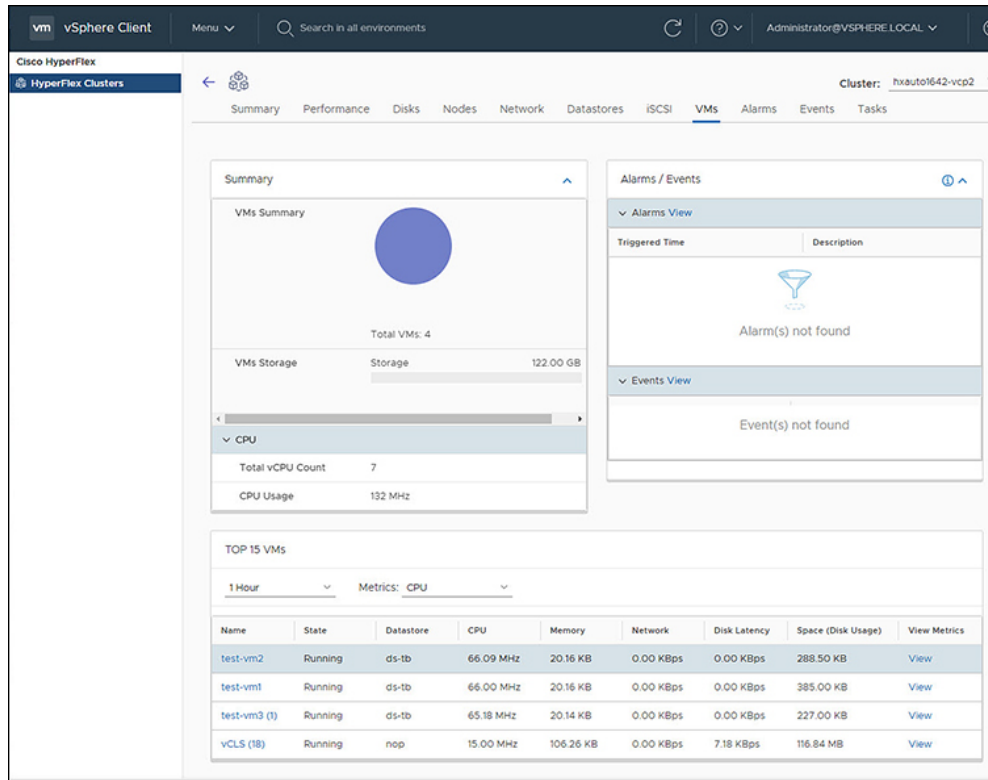
**Step 1**     Log in to the vSphere client.

**Step 2**     Select **Menu** > **Cisco HyperFlex**

**Step 3**     Click the Cluster name that you want to view.

**Step 4**     Using the Cluster Summary Tabs, Click **VMs**.
The VM Detail displays three portlets: Summary, Alarms/Events and Top 15 VMs.

*Table 18: Summary Portlet*

| Field Name | Additional Information |
|---|---|
| VMs Summary | Usage diagram of user VMs in use. Hover over to view the number of VMs running, suspended, and off. |
| | Total VMs: The total count of all user VMs. |
| | **Note**     Controller VMs are not included in the summary. |
| VMs Storage | The sum of all user VMs storage. Total storage capacity for all user VMs appears above image. Hover over the graphic to view the current amount of storage being consumed. |
| VMs Memory | Amount of point-in-time memory. Total memory capacity is listed, hover over the graphic to view the current amount of memory used. |

| Field Name | Additional Information |
|---|---|
| CPU | **Total vCPU Count** - Total CPU count for all VMs in the cluster.<br><br>**CPU Usage** - Number of cycles per second a given CPU is using. |

*Table 19: Alarms/Events Portlet*

| Field Name | Additional Information |
|---|---|
| Alarms | Displays Alarms for the VMs during the last week (7days).<br><br>Click **View** to navigate to the Alarms Details view.<br><br> • **Triggered Time**-Date and time the alarm occurred.<br><br> • **Description**-Alarm Description. |
| Events | Displays Events for theVMs during the last week (7days).<br><br>Click **View** to navigate to the Events Details view.<br><br> • **DateTime** - Date and time the event occurred.<br><br> • **Description**- Event description. |

*Table 20: Top 15 VMs Portlet*

| Field Name | Additional Information |
|---|---|
| Time list | Specify the measurement of time to show the top 15 VMs. List options include: 1 Hour, 1 Day, or 1 Week. |
| Metrics List | Select the metric type used to populate the table. Options include: CPU, Memory, Disk Latency, Network, and Space.<br><br> • CPU, Memory, Disk Latency, Network - only report metrics for VMs in a running condition. VMs that are switched off are not included.<br><br> • Space - counts all VMs regardless of their state. |
| Name | VM Name - Clicking on the VM name redirects users to the graph or monitoring page of VM being viewed in vCenter. |
| State | Current state of the VM. Valid values are Running, Off and Suspended. |
| Datastore | Datastore Name |
| CPU | CPU usage in megahertz used durineg the interval. |
| Memory | Amount of host physical memory consumed for backing up guest physical memory pages. |
| Disk Latency | Highest latency value across all disks used by the host |
| Network Throughput | Network utilization during the interval (combined transmit and receive rates). |

| Field Name | Additional Information |
|---|---|
| Space (Disk Usage) | Amount of disk space the VM is using |
| View Metrics | Link to view CPU, Memory, Disk Latency, and Network Throughput performance tables for that specified VM. The usage values displayed are for the five-minute average for all.<br><br>Use the hover feature to display the matrices simultaneously and evaluate any visible spikes in the data. |

# Events

To view events specific to the Cluster, Node, Host, VM or Disk, perform the following steps:
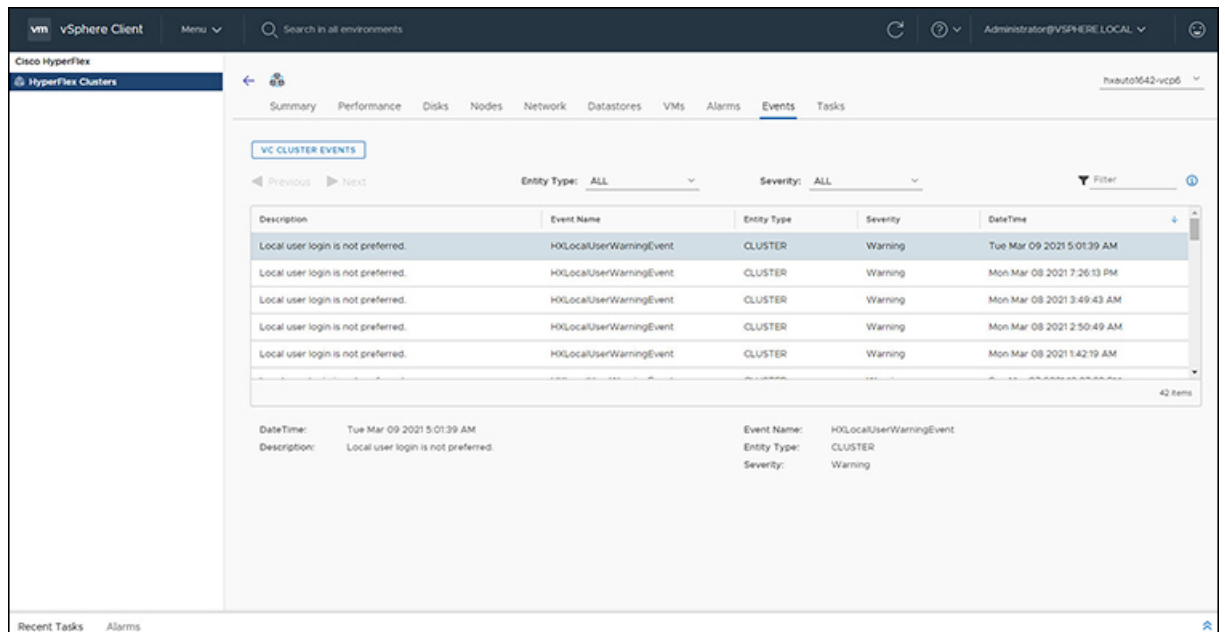


**Step 1**     Log in to the vSphere client.

**Step 2**     Select **Menu** > **Cisco HyperFlex**.

**Step 3**     Click the Cluster name that you want to view.

**Step 4**     Using the Cluster Summary Tabs, Click **Events**.
The Events Detail view appears.

**Table 21: Event Details**

| Field Name | Additional Information |
|---|---|
| Description | Text description of the event |
| Event Name | Event name |

| Field Name | Additional Information |
|---|---|
| Entity Type | Entity affected. Values include: All, Cluster, Node, Virtual Machine, and Disk |
| Severity | Event severity level. Valid values include: All, Info, Warning, Error, and Critical |
| DateTime | Date and time the event occurred |

**Step 5**  (Optional) Use filters to limit the results that appear in the Events Table.

| Filter | Filter Options |
|---|---|
| Entity Type | All, Cluster, Node, Virtual Machine, and Disk |
| Severity | All, Info, Warning, Error, and Critical |
| Filter | Type a keyword in the Filter option to filter the table contents seen in the browser |

**Step 6**  In the list of events, Click on the event name that you want more information about.
The details appear below the Events table. Details include:

- Description

- Event Name

- Entity Type

- Severity

- DateTime

## Alarms

To view alarms specific to the Cluster, Host, and VMs, perform the following steps:

**Note**  Acknowledged alarms on HX Connect or HTML plugin does not acknowledge the equivalent vCenter alarm.
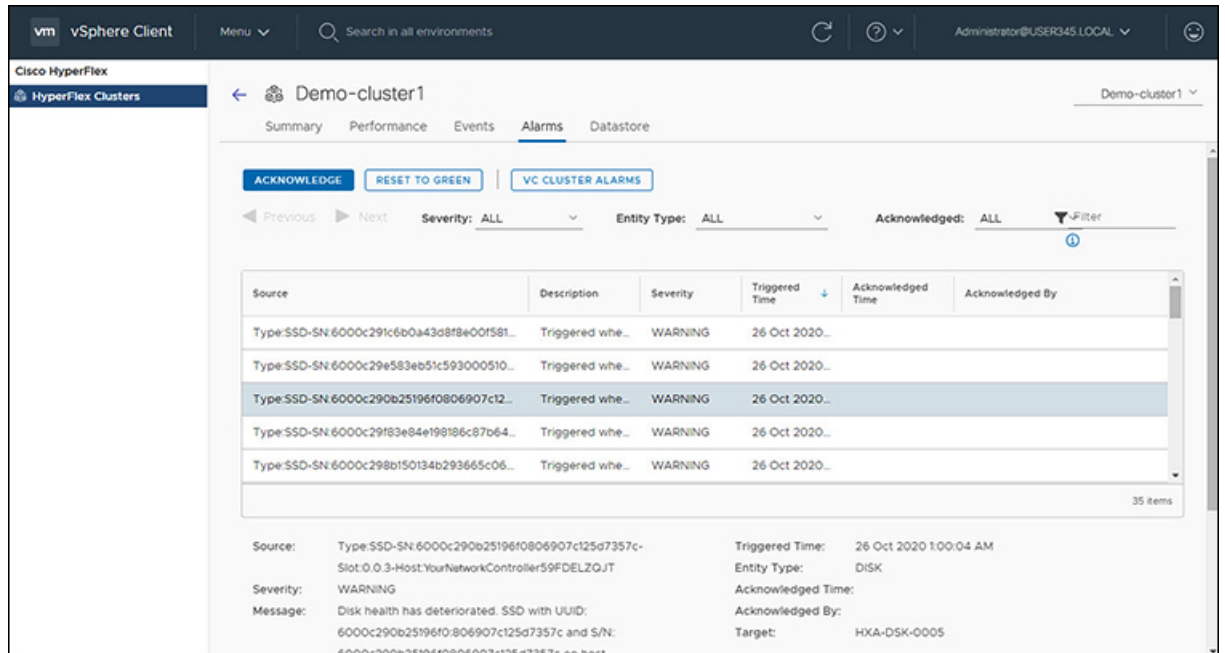
**Step 1**    Log in to the vSphere client.

**Step 2**    Select **Menu** > **Cisco HyperFlex**

**Step 3**    Click the Cluster name that you want to view.

**Step 4**    Using the Cluster Summary Tabs, Click **Alarms**.
The Alarms Detail view appears.

*Table 22: Alarm Details*

| Field Name | Additional Information |
|---|---|
| Source | Text description of the alarm |
| Description | Alarm name |
| Severity | Alarm severity level. Valid values include: All, Info, Warning, and Error |
| Triggered Time | Date and time the alarm occurred<br>Use the arrow to sort and re-sort the table results |
| Acknowledged Time | Time when the Alarm was acknowledged |
| Acknowledged by | Auto-enters who acknowledged the alarm |

**Step 5**    (Optional) Use filters to limit the results that appear in the Alarms Table.

| Filter | Filter Options |
|---|---|
| Severity | All, Info, Warning, and Error |
| Entity Type | All, Cluster, Node, Virtual Machine, Disk and Datastore |

| Filter | Filter Options |
|--------|----------------|
| Acknowledged | All, True, and False |
| Filter | Type a keyword in the Filter option to filter the table contents seen in the browser |

**Step 6**   Click the **Acknowledged** button to acknowledge that the alarm has been seen.
Clicking the **Acknowledged** button auto-enters who acknowledged the alarm in the **Acknowledged by** field.

**Step 7**   Click the **Reset To Green** button to remove the alarm from the list.

## Tasks

View asynchronous tasks that are happening on the platform to validate maintenance, perform the following steps:



**Step 1**   Log in to the vSphere client.

**Step 2**   Select **Menu** > **Cisco HyperFlex** > **Tasks**

**Step 3**   Click the Task that you want to view.
The sub-tasks appear in the table below the list of tasks.

**Table 23: Task List**

| Field Name | Additional Information |
|------------|----------------------|
| Description | Description of the task |

| Field Name | Additional Information |
|---|---|
| Name | Task Name |
| Entity Type | Type of task, Valid values include: NODE, DP_Summary, Virtual Machine, Disk and Datastore. |
| Entity ID | Device ID number |
| State | Specifies the success or failure of the task. |
| Triggered Time | Date and time the task occurred |

*Table 24: Task Details*

| Field Name | Additional Information |
|---|---|
| Sub-task name | Name of the task. |
| Success indicator | Description of the action and the status of the task when it completed. A check icon preceding the description identifies that the task was successful. Review this list to identify where a task failed. |

**Step 4**      (Optional) Use the **Entity Type** list to filter the table results.

# vCenter: HyperFlex Plugin Embedded Actions

## vCenter Server Actions at the Host and Cluster Level

### Create New Datastore

To create a new datastore from the Hosts and Clusters level, perform the following steps:
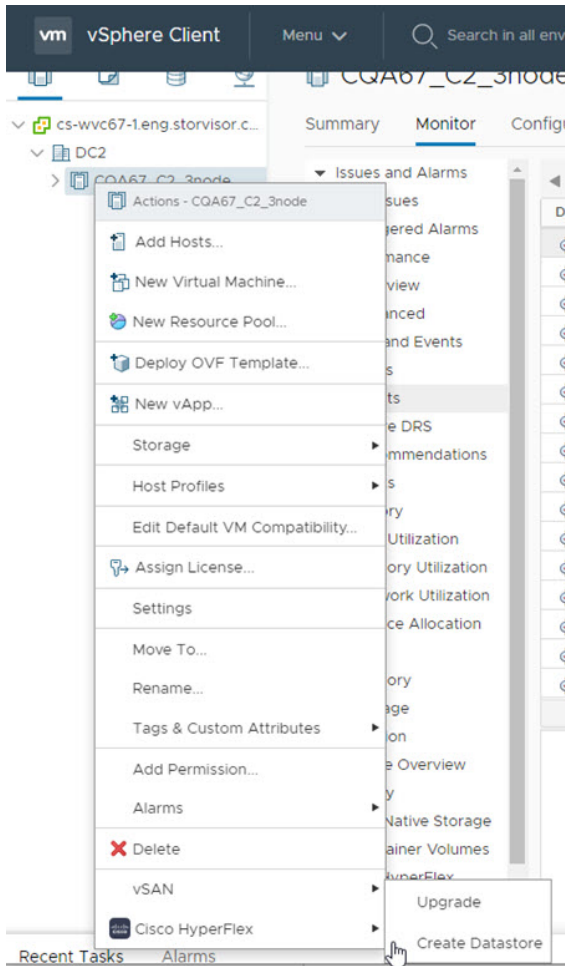
**Before you begin**

Beginning with HX Release 5.0(1a), this functionality is enabled when the license status is In-compliance.



**Step 1**    Access the **Hosts & Clusters** either from the vSphere Menu or the Shortcut link.
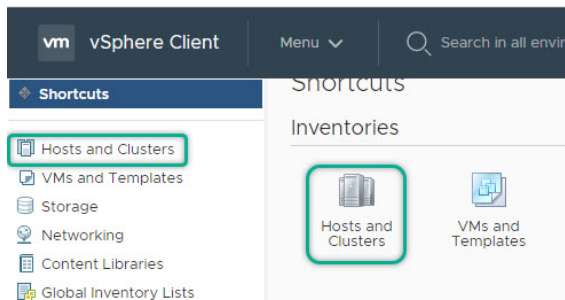


**Step 2**    Right click on the cluster and select **Cisco HyperFlex** > **Upgrade**. **Upgrade** Launches HyperFlex Connect and takes the user directly to the upgrade page to complete the upgrade process.

**Step 3**    Right click on the cluster and select **Cisco HyperFlex** > **Create Datastore**.

The Create New Datastore window appears.

**Step 4** Complete the fields in the New Datastore Window.

- Enter the Datastore Name

- Enter the Size, and select GB or TB.

- Select the Block Size, Select 4K or 8K.

- Click **OK**.

**Related Topics**

# Enter or Exit Maintenance Mode

To enter or exit Maintenance Mode from the Host level from the vSphere web UI perform the following steps:
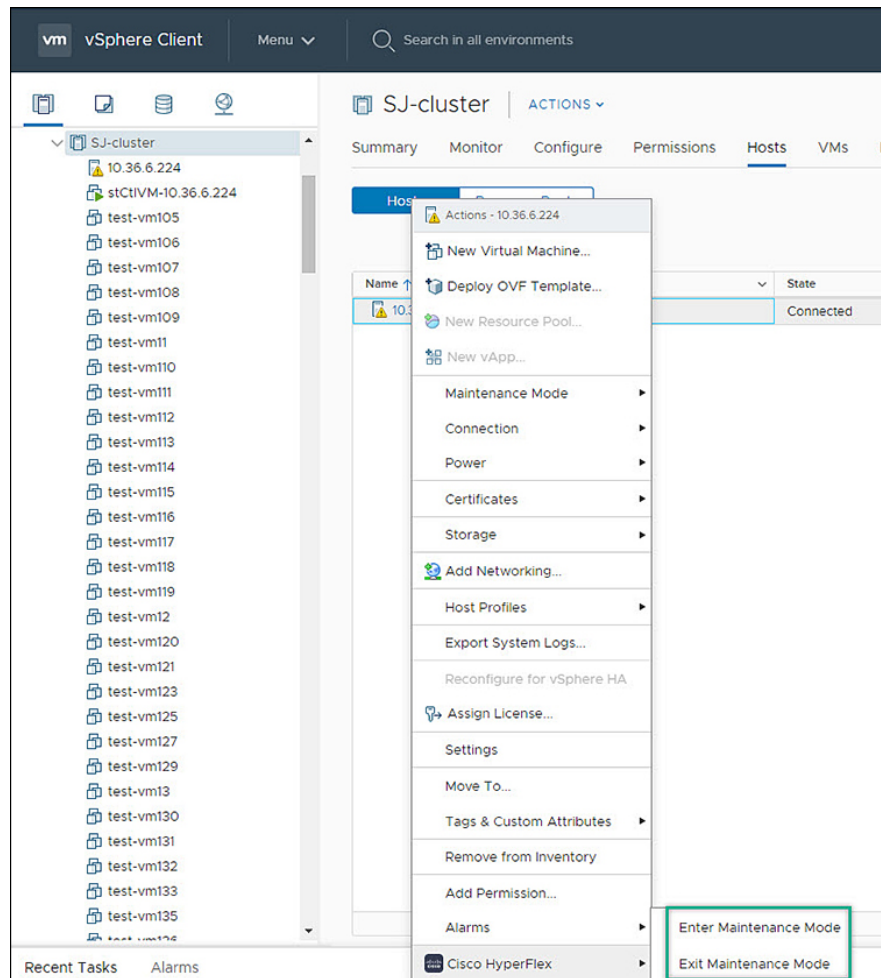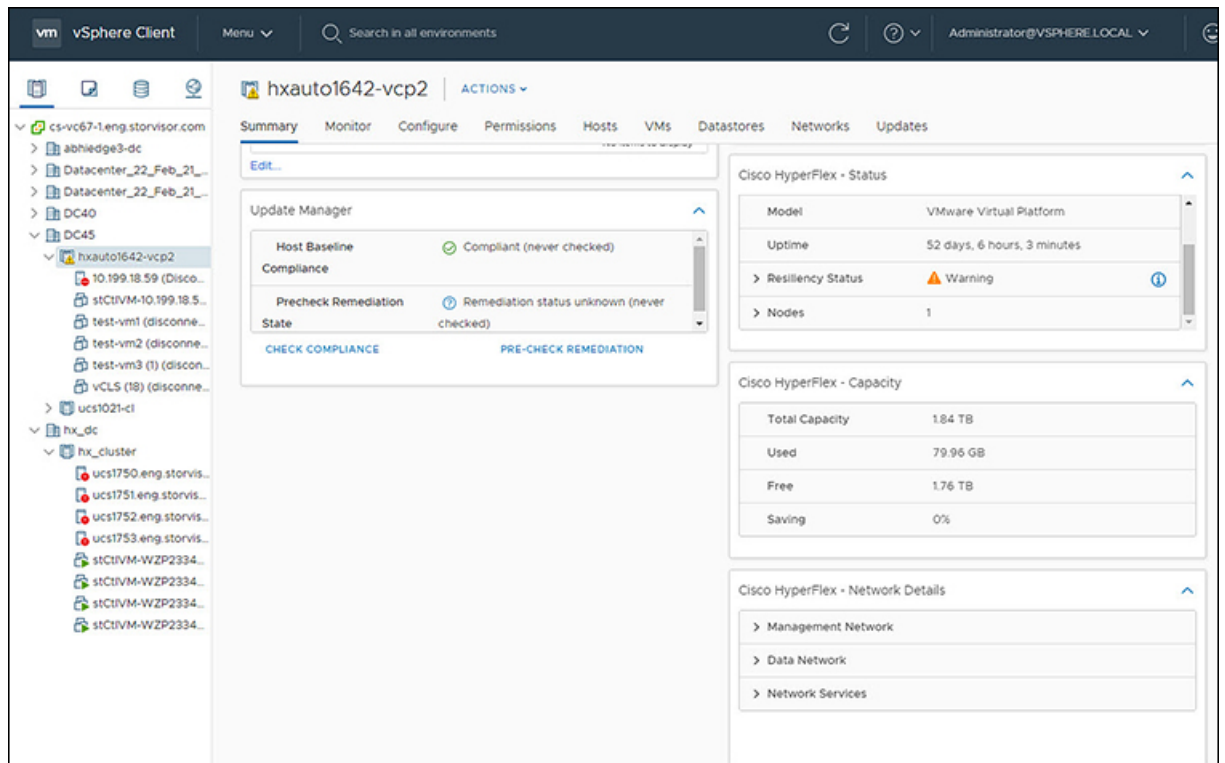
**Before you begin**

Beginning with HX Release 5.0(1a), this functionality is enabled when the license status is In-compliance.

Step 1    Access **Hosts & Clusters** either from the vSphere Menu or the Shortcut link.

Step 2    Click on the cluster name and select the **Hosts** tab.
The summary page appears.

Step 3    Right click on the host and select **Cisco HyperFlex** > > **Maintenance Mode** > **Enter (or Exit) MainenanceMode** to enter or Exit HyperFlex Maintenance Mode.

# View HTML5 Plugin Portlets from the Summary Tab

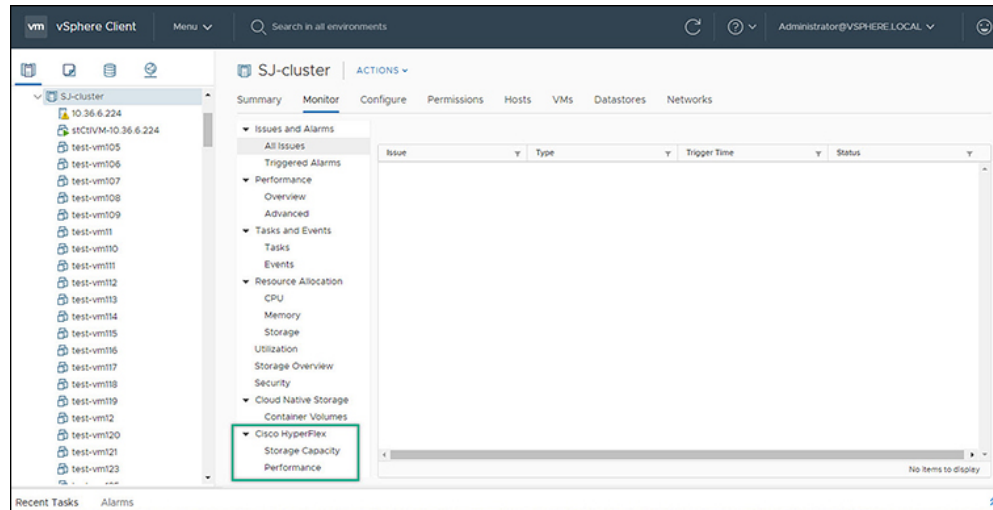To view Cisco HyperFlex HTML5 Plugin Portlets from the vSphere web UI perform the following steps:

**Step 1** Access **Hosts & Clusters** either from the vSphere Menu or the Shortcut link.

**Step 2** Click on a cluster name and select the **Summary** tab. The summary page appears.

**Step 3** Scroll down and use the arrow in each portlet to show or hide the portlet details.

**Related Topics**

## View HTML5 Plugin Portlets from the Monitor Tab

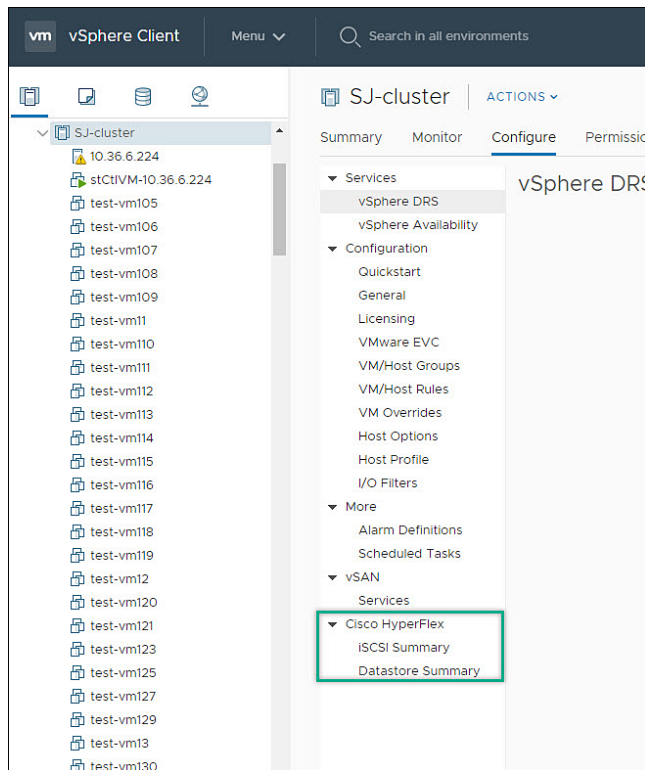To view Cisco HyperFlex HTML5 Plugin Portlets from the vSphere web UI perform the following steps:

**Step 1**     Access **Hosts & Clusters** either from the vSphere Menu or the Shortcut link.

**Step 2**     Click on a cluster name and select the **Monitor** tab.

**Step 3**     Scroll down the Monitor navigation panel and locate **Cisco HyperFlex**.

**Step 4**     Click on **Storage Capacity** or **Performance** to display the related Cisco HyperFlex HTML5 Plugin chart.

**Related Topics**

# View iSCSI and Datastore Summary from the Configure Tab

To view the iSCSI and Datastore Summary Pages from the vSphere web UI perform the following steps:

**Before you begin**

The iSCSI features are supported in Cisco HyperFlex Release 4.5(x) and later.

**Step 1**  Access **Hosts & Clusters** either from the vSphere Menu or the Shortcut link.

**Step 2**  Click on a cluster name and select the **Configure** tab.

**Step 3**  Scroll down the Monitor navigation panel and locate **Cisco HyperFlex**.

**Step 4**  Click on **iSCSI Summary** or **Datastore Summary** to display the related Cisco HyperFlex HTML5 Plugin page.

**Step 5**  Use the buttons to perform all maintenance tasks as defined in the related topics.

**Related Topics**

iSCSI: Targets

iSCSI: Initiator Groups

iSCSI: LUNs

# vCenter Server Actions at Virtual Machine Level

## Snapshot Now
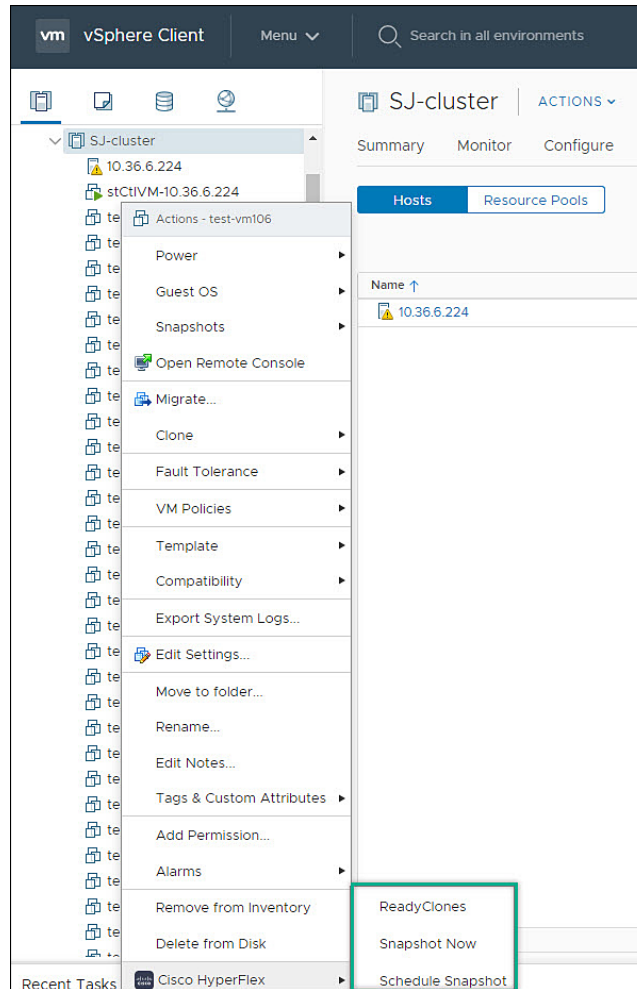


**Before you begin**

Access the **VMs and Templates** either from the vSphere Menu or the Shortcut link.

---

**Step 1**      Right click on the virtual machine. Select **Cisco HyperFlex** > **Snapshot Now**.

**Step 2**      The **Take VM Native Snapshot** window appears. Complete the following fields:

- **Name**- Snapshot name

- **Description** - Description of the snapshot

- **Quiesce guest file system** - Check box.

**Step 3** Click **OK** to create a VM Snapshot. You will see the snapshot task active in the background. After the Snapshot is complete it will be listed in the Snapshot Manager.
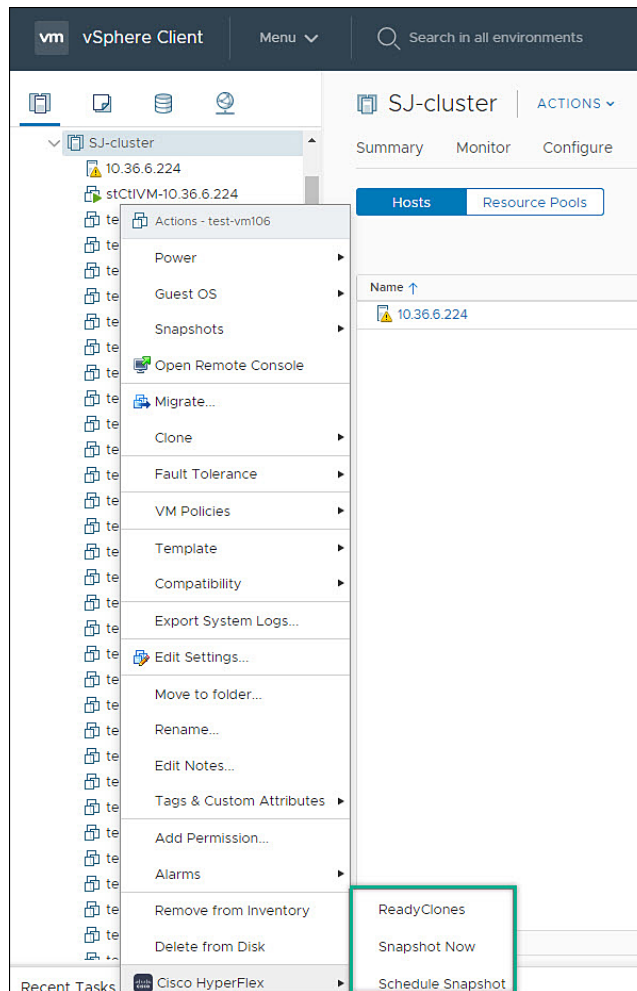
# ReadyClones

### Before you begin

- Beginning with HX Release 5.0(1a), the ReadyClones feature is enabled when the license status is In-compliance.



- Access the **VMs and Templates** either from the vSphere Menu or the Shortcut link.

**Step 1**   Right click on the virtual machine. Select **Cisco HyperFlex** > **ReadyClones**.

**Step 2**   The **Ready Clones** window appears. Complete the General Settings Fields:

- **Number of Clones**- Valid entry 1-256

- **Customization specifications** - If configured, select from the list

- **Resource Pool** - If configured, select from the list

**Step 3**   Complete the Clone Name Fields:

- **Power on VMs after cloning**- Check box

- **Name of VM Prefix** - Type VM prefix

- **Starting clone number**- The default is 1

- **Increment clone number by** - The default is 1

• **Use same name for Guest Name**- Uncheck to provide a guest name

# vCenter Server Actions at the Storage Level

## Edit Datastore

From the Datastore level users have the ability to edit existing datastores.

### Before you begin

Access the **Datastores** either from the vSphere Menu or the Shortcut link.

**Step 1** Right click on the datastore name.

**Step 2** Select **Cisco HyperFlex** > **Edit Datastore**.
The Edit Datastore window appears.

**Step 3** Edit the Datastore details.

**Step 4** Click **OK** to save your changes.

### Related Topics

## Delete Datastore

From the Datastore level users have the ability to delete existing datastores.

### Before you begin

Access the **Datastores** either from the vSphere Menu or the Shortcut link.

**Step 1** Right click on the datastore name.

**Step 2** Select **Cisco HyperFlex** > **Delete Datastore**
The Delete Datastore window appears.

**Step 3** Click the **Delete** button.
The Delete Datastore window appears with the confirmation question "Do you want to delete the datastore?"

**Step 4** Click **OK** to continue with the delete action, or **Cancel** to exit the Delete Datastore window.

### Related Topics

# Cisco HyperFlex Flash Plugin for VMware vCenter

Cisco HyperFlex Flash plugin for VMware vCenter, enables virtualization administrator to manage and monitor the Cisco HyperFlex physical infrastructure.

## Cisco HyperFlex Flash Prerequisites

The following hardware and software prerequisites apply to the Cisco HyperFlex Flash Plugin:

**Note**

The Cisco HyperFlex Flash Plugin is the original plugin. HXDP Release 4.5(1a) is the final release that supports the Cisco HyperFlex Flash Plugin. This change coensides with the end of flash support in popular browsers. It is recommended that users upgrade to the Cisco HyperFlex HTML5 Plugin for VMware vCenter , on page 1.

- Browser compatibility: The Cisco HyperFlex Flash Plugin works with all browsers where vSphere Client and HyperFlex Connect work.

## Launching HyperFlex Menu Options from vSphere

You can launch HyperFlex Connect from the vSphere Client UI in a new browser tab and perform management actions in the HyperFlex UI.

- To launch HyperFlex Connect Ready Clone in a new browser tab; in the vSphere client atVirtual Machine level, select **Actions** > **Cisco HyperFlex Systems** > **Ready Clone**

- To launch HyperFlex Connect Dashboard in a new browser tab; in the vSphere client at HX Cluster level, select **Actions** > **Cisco HyperFlex Systems** > **Summary**

## Checking Cluster Rebalance and Self-Healing Status from the Flash Plugin

The storage cluster is rebalanced on a regular schedule and when the amount of available storage in the cluster changes. A rebalance is also triggered when there is a change in the amount of available storage. This is an automatic self-healing function.

**Important**

Rebalance typically occurs only when a single disk usage exceeds 50% or cluster aggregate disk usage is greater than 50%.

You can check rebalance status through the HX Data Platform plugin or through the storage controller VM command line. For directions on using the VM command line, see Checking Cluster Rebalance and Self-Healing Status.

Check the rebalance status through HX Data Platform plugin.

a) From the vSphere Web Client Navigator, select **vCenter Inventory Lists** > **Cisco HyperFlex Systems** > **Cisco HX Data Platform** > *cluster* > **Summary**.

   The **Status** portlet lists the **Self-healing status**.

b) Expand the **Resiliency Status** to see the **Self-healing status** section. The Self-healing status field lists the rebalance activity or N/A, when rebalance is not currently active.

The **Recent Tasks** tab in the HX Data Platform plugin displays a status message.

# Setting a Disk Beacon through the HX Flash Plugin

Beaconing is a method of turning on an LED to assist in locating and identifying a node (host) and a disk. Nodes have the beacon LED in the front near the power button and in the back. Disks have the beacon LED on the front face.

You set a node beacon through Cisco UCS Manager. You set a disk beacon through the Cisco HX Data Platform plugin or HX Connect user interface.

Turn on and off a disk beacon using the HX Data Platform Plugin.

a) From the vSphere Web Client Navigator, select **vCenter Inventory Lists** > **Cisco HyperFlex Systems** > **Cisco HX Data Platform** > *cluster* > **Manage**.

b) From **Manage**, select **Cluster** > *cluster* > *host* > **Disks** > *disk*.

c) Locate the physical location of the object and turn on the beacon.

   From **Actions** drop-down list, select **Beacon ON**.

d) After you locate the disk, turn off the beacon.

   From **Actions** drop-down list, select **Beacon OFF**

   The beacon LED for all the disks on the selected node are toggled, except Housekeeping SSDs and cache NVMe SSDs. Housekeeping SSDs or cache NVMe SSDs do not have functioning LED beacons.