



# Managing HyperFlex Pods

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## Reports for HyperFlex Pods

Cisco UCS Director provides several different kinds of reports that you can use to view the current status of a pod and its components or to see how the pod or its component have performed over time. All of these reports can be manually refreshed for real-time data and exported to PDF, CSV, or XLS format for you to share with others.

The available reports include:

- Summary reports for comparison data and other information about the pod or its components. These reports display in bar, pie, and tabular chart widgets on **Summary** pages.
- Tabular reports for detailed information about specific components.
- Trend graphs for information about the performance of pod resources over time.
- Stack views for a graphical bar view of the infrastructure in a VM.
- More reports include Top 5 reports and other reports for detailed information about high-performing pod resources. You can customize some of these reports.

## Summary Reports

Summary reports enable you to view the status of your HyperFlex pods and to manage inventory lifecycle actions for the pods and their components. Each report displays as a widget on a **Summary** page at the pod level and the cluster level.

You can customize your **Summary** pages to hide one or more reports. You can export the content of these reports in PDF, CSV, or XLS format. You can also add some or all of these reports to your Cisco UCS Director dashboard for quick access.

The summary reports for All Pods comparison include the following in graphical and tabular formats:

- Active VM Distribution by Pod
- Total Storage Capacity by Pod (in GB)
- Overview

The summary reports for each HyperFlex pod include the following in graphical and tabular formats:

- Storage Capacity of the Pod (in GB)
- Cluster Nodes in Active vs Maintenance/Failed
- Active VMs vs Inactive VMs
- Summary of the pod components, including software versions and cluster status
- Storage Capacity Summary
- ESXi Host Versions

For more information about summary reports and reporting in Cisco UCS Director, see the [Cisco UCS Director Administration Guide](#).

## Tabular Reports

Tabular reports provide the status of the components in a HyperFlex pod. You can export the data from any tabular report in PDF, CSV, or XLS format. If you have scheduled inventory collection, the status is updated regularly. Otherwise, you can click **Refresh** on the tabular report to get real-time status.

You can access tabular reports from any page after you choose the HyperFlex pod. Reports are available for the following components:

- Clusters
- ESXi Hosts
- Datastores
- VM Templates
- VMs
- Service Requests

For some components, you can click a row in the tabular report and access more detailed information through **View Details**.

## Stack Views for VMs

Stack views provide information about a HyperFlex VM in a graphical format, including the compute, network, and storage configuration and resources available to that VM.

The stack view data includes:

	Compute	Network	Storage
OS	OS installed on the VM	OS installed on the VM	OS installed on the VM
VM	VM name	VM name	VM name
		Network adapter and port	Virtual disk
Hypervisor	Hypervisor version, IP address, and cluster	Hypervisor version, IP address, and cluster	Hypervisor version, IP address, and cluster
		Port group and VLAN	Datastore
		VSwitch	
Infrastructure	Server where the VM is located		HX Storage Cluster where the VM is located

To access the stack view, choose **VMs**, choose a VM, and then click **Stack View**.

## Inventory Collection

When you add a HyperFlex pod, Cisco UCS Director discovers and collects the inventory of that pod. You can view the collected inventory and the status of the HyperFlex pod and its components in the summary reports and on the report pages. This status can be updated on a regular schedule through system tasks and manually by component.

### Scheduled Refresh of Inventory Collection Through System Tasks

The HyperFlex system tasks enable you to schedule inventory collection for each HyperFlex pod. Depending on your business needs, you can set the same schedule for all HyperFlex pods or you can set a different schedule for some pods. You can specify the number of hours or minutes to automatically run the inventory collection and update the status of the HyperFlex pod.

For more information about scheduling system tasks, see the [Cisco UCS Director Administration Guide](#).

### Manual Refresh of Inventory Collection

Even if you have scheduled inventory collection with system tasks, you can manually perform an inventory collection for a HyperFlex pod or its components. For example, you can manually refresh the inventory and status in the following ways:

- **Refresh**—Updates the data in summary reports and tabular reports. This action is available for a HyperFlex pod and its components, such as clusters, controller nodes, datastores, disks, and VMs.
- **Inventory Collection**—Performs an inventory collection for a component of a pod. This action is available for individual components, such as a VM, an ESXi host, or an HX Server.

# HyperFlex Clusters

A HyperFlex (HX) cluster is a group of Cisco HX-Series Servers. Each Cisco HX-Series Server in the cluster is referred to as a node or host, and must be configured identically to ensure failover works correctly. You can use Cisco UCS Director to view and manage the following components of your HX Cluster:

- Cluster Summary
- Controller Nodes
- vSwitches

The **HX Cluster Consistent** column provides information regarding whether the vSwitch configuration is consistent across HX Cluster Nodes. The cluster is consistent if the vSwitch exists on each node, the vSwitch has the same number of uplinks and the uplinks have the same configuration, and the vSwitch has the same security configuration.

- DvSwitches

The **HX Cluster Consistent** column provides information regarding whether the DvSwitch configuration exists across HX Cluster Nodes.

- HX Servers
  - Disk Details
- Port Groups
  - VMs
- Dv Port Groups
  - VMs
- Physical NICs
  - VMs
- vmkNICs
- VLANs

The **Delete VLAN** unassociates the selected VLAN from the respective vNICs and then deletes the VLAN associated to the service profile or service profile templates.

## Creating a Port Group

The **Create a Port Group** task creates a new port group for the VM on the selected vSwitch. It also provides an option to create a VLAN on Cisco UCS and updates all of the vNICs of HyperFlex cluster nodes.

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**Step 1** Choose **Hyper Converged > HyperFlex**.

**Step 2** On the **HyperFlex** page, choose the pod.

**Step 3** On the **HyperFlex** page, click **Clusters**.

**Step 4** Click the row with the cluster that you want to manage and click **View Details**.

**Step 5** Click **Port Groups**.

**Step 6** Click **Create**.

**Step 7** On the **Create Port Group** screen, complete the required fields, including the following:

- a) Expand **Select vSwitch** and check the box for the vSwitch on which you want to create the VM port group.

**Note** Port groups are created on all hosts in the HX Cluster for the selected vSwitch even though you can select only one vSwitch at a time.

If you receive an error message "vSwitch is not consistent across all hosts", verify that the selected vSwitch exists on all hosts in the HX Cluster by checking **HX Cluster Consistent** column for the vSwitch on which you are trying to create the VM Port Group.

If the vSwitch is not consistent across all the hosts in the HX Cluster, go to VMware vCenter and configure the vSwitch on the remaining hosts. Verify that the selected vSwitch is consistent across all hosts in the HX Cluster and create the VM port group.

- b) **Connection Types** drop-down list is set to VM port group by default.
- c) In the **Port Group Name** field, enter a unique name for the VM port group.
- d) In the **VLAN ID** field, specify a numeric value between [1-3967] or [4048-4093] for a VLAN ID to associate it with the port group.

- A value of zero creates the port group but does not update the associated vNICs.

- To use an existing VLAN, enter that VLAN ID and check **Use Existing VLAN on UCS**. Click **Submit**.

If the value entered for the VLAN ID does not exist on the Cisco UCS, you receive an error message. Go to next step to create a VLAN.

- e) Check **Create VLAN on UCS** to create a new VLAN on Cisco UCS and complete the following fields:

- **VLAN Name**

- **Fabric ID:**

- **Common/Global**—A common/global VLAN is created on Cisco UCS.

- **Fabric A**—A VLAN is created under Fabric A on Cisco UCS.

- **Fabric B**—A VLAN is created under Fabric B on Cisco UCS.

**Step 8** Click **Submit**.

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## Deleting a Port Group

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**Step 1** Choose **Hyper Converged > HyperFlex**.

**Step 2** On the **HyperFlex** page, choose the pod.

**Step 3** On the **HyperFlex** page, click **Clusters**.

- Step 4** Click the row with the cluster that you want to manage and click **View Details**.
- Step 5** Click **Port Groups**.
- Step 6** Click the row with the port group with a VLAN ID that you want to delete and from the **More Actions** drop-down list, choose **Delete**.
- Step 7** On the **Delete Port Group** screen, complete the fields to delete the port group:
- From the **UCS VLAN Name** drop-down list, choose the Cisco UCS VLAN that you want to delete.  
Choose a value of **None**, if you do not want to delete the Cisco UCS VLAN.
  - Check **Delete even if VM Mappings exist** box if you have VMs associated with the port group. The VMs must be in power-off state.  
  
If the box is left unchecked, you can only delete the port groups that do not have VMs associated with it otherwise you receive an error message.
- Step 8** Click **Delete** to delete the selected Port group.
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## Creating a Dv Port Group

This task creates a new Dv port group on the selected vSwitch. It also provides an option to create a VLAN on Cisco UCS and updates all of the vNICs of HyperFlex cluster nodes.

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- Step 1** Choose **Hyper Converged > HyperFlex**.
- Step 2** On the **HyperFlex** page, choose the pod.
- Step 3** On the **HyperFlex** page, click **Clusters**.
- Step 4** Click the row with the cluster that you want to manage and click **View Details**.
- Step 5** Click **Dv Port Groups**.
- Step 6** Click **Create**.
- Step 7** On the **Create Dv Port Group** screen, complete the required fields, including the following:
- Expand **DvSwitch Name** and check the DvSwitch for which you want to create the Dv port group.
  - In the **Dv Port Group Name** field, enter a unique name for the Dv port group.
  - From the **Port Binding** drop-down list, choose from the following options to determine when ports are assigned to virtual machines connected to this distributed port group:
    - **Static Binding**—Assigns a port immediately and reserves it for the VM, guaranteeing connectivity. The port is disconnected when the VM is removed from the port group. This is the default binding type.
 

**Note** This option automatically sets the port allocation type as elastic. The default number of ports is eight. When all ports are assigned, a new set of eight ports is created.

It is recommend that you choose static port binding option for better performance. See VMware documentation for best practices.
    - **Dynamic Binding**—Assigns a port to a VM when the virtual machine is powered on and its NIC is in a connected state. The port is disconnected when the VM is powered off or the NIC of the virtual machine is disconnected.

- **Ephemeral - No Binding**—Creates a port and assigns it to a VM when the virtual machine is powered on and its NIC is in a connected state. When the VM powers off or the NIC of the virtual machine is disconnected, the port is deleted. This option gives you the flexibility to manage VM connections even when vCenter is down.
- d) In the **Number of Ports** field, enter a numeric value between [0-8192] for the number of ports that can be created within the Dv port group.
- If you chose **Static Binding**, the default value is 8. If you chose **Dynamic Binding**, the default value is 128. If you chose **Ephemeral**, this field is not displayed.
- However, you can edit the number of ports as per your environment.
- e) In the **VLAN ID** field, enter a numeric value between [1-3967] or [4048-4093] for a VLAN ID to associate it with the Dv port group.
- A value of zero specifies that the VLAN is not associated with the port group being created. This is the default value.
  - To use an existing VLAN, enter that VLAN ID and check **Use Existing VLAN on UCS**. Click **Submit**.
- Note** If the value entered for the VLAN ID does not exist on the Cisco UCS, you receive an error message. Go to next step to create a new VLAN.
- f) Check **Create VLAN on UCS** to create a new VLAN on Cisco UCS and complete the following fields:
- **VLAN Name**
  - **Fabric ID**—Choose from the following options:
    - **Common/Global**—A common/global VLAN is created on Cisco UCS.
    - **Fabric A**—A VLAN is created under Fabric A on Cisco UCS.
    - **Fabric B**—A VLAN is created under Fabric B on Cisco UCS.

**Step 8** Click **Submit**.

## Deleting a Dv Port Group

- Step 1** Choose **Hyper Converged > HyperFlex**.
- Step 2** On the **HyperFlex** page, choose the pod.
- Step 3** On the **HyperFlex** page, click **Clusters**.
- Step 4** Click the row with the cluster that you want to manage and click **View Details**.
- Step 5** Click **Dv Port Groups**.
- Step 6** Click the row with the port group with a VLAN ID that you want to delete and from the **More Actions** drop-down list, choose **Delete**.
- Step 7** On the **Delete Dv Port Group** screen, complete the fields to delete the port group:
- a) From the **UCS VLAN Name** drop-down list, choose the Cisco UCS VLAN that you want to delete.
- Choose a value of **None**, if you do not want to delete the Cisco UCS VLAN.

- b) Check **Delete even if VM Mappings exist** box if you have VMs associated with the port group. The VMs must be in power-off state.

If the box is left unchecked, you can only delete the port groups that do not have VMs associated with it otherwise you receive an error message.

**Step 8** Click **Delete** to delete the selected Port group.

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## ESXi Hosts

Cisco UCS Director supports all ESXi host operations on HyperFlex as it does for converged infrastructure. In addition, it supports the following ESXi host operations only for HyperFlex:

- ESXi HX Maintenance mode
- Reboot Host
- Collect Inventory

## Managing ESXi Hosts on a HyperFlex Pod

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- Step 1** Choose **Hyper Converged > HyperFlex**.
- Step 2** On the **HyperFlex** page, choose the pod.
- Step 3** On the **HyperFlex** page, click **ESXi Hosts**.
- Step 4** Choose an ESXi host and click one of the following:
- **ESXi HX Maintenance mode**
  - **Reboot Host**
  - **Collect Inventory**
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## Moving ESXi Hosts into and out of ESXi Maintenance Mode

See the [Cisco HyperFlex Data Platform Management Guide](#) for information about ESXi maintenance mode for ESXi hosts on HyperFlex.



**Note** Cisco UCS Director supports only ESXi maintenance mode for ESXi hosts on HyperFlex. Cisco UCS Director does not support Cisco HX maintenance mode. To use Cisco HX maintenance, right-click on the ESXi host in VMware vCenter and follow the prompts.

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- Step 1** Choose **Hyper Converged > HyperFlex**.
- Step 2** On the **HyperFlex** page, choose the pod.



- Step 3** On the **HyperFlex** page, click **ESXi Hosts**.
- Step 4** Choose the ESXi host that you want to move into or out of maintenance mode and click **ESXi HX Maintenance mode**.
- Step 5** On the **ESXi HX Maintenance mode** screen in **ESXi Action**, choose one of the following:
- **enter**
  - **exit**
- Step 6** Click **Submit**.
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## Managing HX Servers

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- Step 1** Choose **Hyper Converged > HyperFlex**.
- Step 2** On the **HyperFlex** page, choose the pod.
- Step 3** On the **HyperFlex** page, click **Clusters**.
- Step 4** Choose the cluster where the HX Servers are located and click **View Details**.
- Step 5** On the cluster details page, click **HX Servers**.
- Step 6** Choose the HX Server that you want to manage and click one of the following:
- **Power ON**
  - **Power OFF**
  - **Reset**
  - **Launch KVM Console**
  - **KVM Direct Access**
  - **Request Inventory Collection**
  - **View Details**
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## Managing Datastores

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- Step 1** Choose **Hyper Converged > HyperFlex**.
- Step 2** On the **HyperFlex** page, choose the pod.
- Step 3** On the **HyperFlex** page, click **Datastores**.
- Step 4** Click the row with the datastore that you want to manage and click one of the following:
- **Create**
  - **Delete**
  - **Edit**
  - **Mount**
  - **Unmount**

You can also click **View Details** on the datastore to access additional information and service request details for that datastore.

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## Managing VMs

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- Step 1** Choose **Hyper Converged > HyperFlex**.
- Step 2** On the **HyperFlex** page, choose the pod.
- Step 3** On the **HyperFlex** page, click **VMs**.
- Step 4** Click the row with the VM that you want to manage and click one of the following options:

Some of these options are available only from the **More Actions** drop-down list.

**Note** These options are not available on storage controller VMs.

- **Access VM Credentials**
- **Launch VM Client**
- **Launch VNC Console**
- **VMRC Console (HTML5)**
- **Assign VM**
- **Configure Lease Time**
- **Resize VM**
- **Power ON**
- **Power OFF**
- **Suspend**
- **Shutdown Guest**
- **Standby**
- **Reset**
- **Reboot**
- **Create Snapshot**
- **Mount ISO Image As CD/DVD Drive**
- **Revert Snapshot**
- **Mark Golden Snapshot**
- **Delete Snapshot**
- **Delete All Snapshots**
- **VM Disk Resize**
- **Inventory Collection Request for VM**
- **Create VM Disk**
- **Delete VM Disk**
- **Add vNICs**
- **Delete vNICs**
- **Configure VNC**
- **Unconfigure VNC**
- **Test VNC**

- **Clone**
- **VM Resync**
- **Move VM to VDC**
- **Migrate VM**
- **Clone VM as Image**
- **Convert VM as Image**
- **Enable/Disable VMRC Console**
- **Assign VMs to VDC**

You can also click **Stack View**, and **View Details** to access trend reports and details about service requests, VM action requests, events, VM snapshots, vNICs, disks, CD ROMs, VM access data, and linked clone VMs. These details are specific to features and actions related to VMware vCenter.

For detailed information about these features and actions, see the [Cisco UCS Director VMware vSphere Management Guide](#).

**Note** The **Linked Clone VMs** report does not provide any information about VMs that are provisioned through Readyclones. This report is populated only for VMs that are provisioned through Linked Clone.

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