Setting Up a HyperFlex Pod

Prerequisites

Before you configure this integration, you must complete the prerequisites in Cisco HyperFlex System and Cisco UCS Director.

Cisco HyperFlex System Prerequisites

The following prerequisites must be completed in your Cisco HyperFlex System before you integrate it with Cisco UCS Director:

Prerequisite	Link to Documentation
Install the Cisco HyperFlex HX-Series node.	Cisco HyperFlex HX-Series Install and Upgrade Guides
Install and configure the Cisco HyperFlex System software.	Cisco HyperFlex Systems Getting Started Guide
Create the Cisco HX Data Platform clusters in VMware vCenter.	Cisco HyperFlex Systems Getting Started Guide

Cisco UCS Director Prerequisites

The following prerequisites must be completed in Cisco UCS Director before you integrate your Cisco HyperFlex System:

Prerequisite	Link to Documentation
Install Cisco UCS Director.	Cisco UCS Director Installation Guides

Prerequisite	Link to Documentation
(Optional) Install Cisco UCS Director Bare Metal Agent.	Cisco UCS Director Installation Guides
Install the Cisco UCS Director licenses.	Cisco UCS Director Installation Guides
Create the required groups and users.	Cisco UCS Director Administration Guide

HyperFlex Pod Configuration

When you log in to Cisco UCS Director, the Converged screen is displayed. This screen displays the currently configured pods in your environment. From this screen, you can add a new pod, or you can select a pre-existing pod and view the resource details within the pod.

You can create pods manually or by using a guided setup wizard.

Add All Servers with the HyperFlex Pod Configuration Wizard

The **HyperFlex Pod Configuration** wizard guides you through the creation of a pod in Cisco UCS Director for your Cisco HyperFlex System. It automatically adds all servers in a Cisco UCS Manager account. If you use this wizard, there is no option to add only certain servers to the pod. For configuring HyperFlex pod using guided setup wizard, see Creating a HyperFlex Pod in Cisco UCS Director, on page 2

Add Either Selected Servers or All Servers with a Manual Setup

A manual setup enables you to add either selected servers or all servers in a Cisco UCS Manager account based on the number of physical server licenses purchased. For manual configuration of HyperFlex pod, see Manual Configuration of HyperFlex Pod in Cisco UCS Director, on page 4

After you complete the pod configuration, your Cisco HyperFlex System is available for datastore management and for VM provisioning.

Creating a HyperFlex Pod in Cisco UCS Director

Before you begin

You must complete all prerequisites in Prerequisites, on page 1.

Step 1 Choose **Administration** > **Guided Setup**.

Step 2 Double-click **HyperFlex Pod Setup** to launch the wizard.

If the **Guided Setup** screen launches when you open Cisco UCS Director, check the box for the **HyperFlex Pod Configuration** wizard and click **Submit** twice. You can then move to Step 4.

Step 3 On the **Overview** screen, review the content and click **Next**.

Step 4 On the **Pod** screen, do one of the following and then click **Next**.

- From the **Pod** drop-down list, choose an existing HyperFlex pod.

- Click **Add POD Form** to complete the fields to create a new HyperFlex pod and then click **Add**.

Step 5 On the **VMware** screen, do the following:

a) From the **Accounts** drop-down list, choose one of the following:

- An existing VMware cloud account
- **Select** to create a new VMware cloud account

b) If you chose **Select**, complete the fields in the **Create New Account** area.

To create a new account, you need the following:

- Cloud name
- vCenter or host address
- Credential policy or the user ID and password for a valid vCenter account with administrative or root privileges
- Port used to access the vCenter address
- Access URL

The remaining fields on the screen are optional.

c) Click **Next**.

Step 6 On the **Cisco UCS Manager** screen, do the following:

a) From the **Accounts** drop-down list, choose one of the following:

- An existing Cisco UCS Manager account
- **Select** to create a new Cisco UCS Manager account

b) If you chose **Select**, complete the fields in the **Create New Account** area.

To create a new account, you need the following:

- Account name
- Server address
- Credential policy or the user ID and password for a valid Cisco UCS Manager account with administrative privileges
- Transport type
- Port used to access that address

Note This process automatically adds all the servers to the pod. If the number of licenses are less than the number of servers, you receive an error message. To resolve this issue, cancel the guided setup wizard, and instead configure the HyperFlex Pod manually. See Manual Configuration of HyperFlex Pod in Cisco UCS Director, on page 4.

c) Click **Next**.

Step 7 On the **Cisco HyperFlex** screen, do the following:

a) From the **Accounts** drop-down list, choose one of the following:

- An existing Cisco HyperFlex account
- **Select** to create a new Cisco HyperFlex account

b) If you chose **Select**, complete the fields in the **Create New Account** area.

To create a new account, you enter the following:

- Account name
- Cluster management IP address
- Check **Use Credential Policy** check box if you want to use an existing credential policy and select a Credential policy from the drop-down list
- User ID and password for a valid Cisco HX Data Platform account with administrative privileges if you do not use a credential policy
- HTTPS port and SSH port that use the same HyperFlex credentials
- Connection Timeout (in Seconds) and Socket Read Timeout (in Seconds) required for the Cisco UCS Director to establish a connection with the Hyperflex device and retrieve information from the Hyperflex device respectively.

c) Click **Next**.

Step 8 On the **Summary** screen, review the status of each item that you configured in the wizard.

Step 9 Click **Close** if all items on the **Summary** screen are acceptable. To update your configuration, click **Back**.

Manual Configuration of HyperFlex Pod in Cisco UCS Director

Before you begin

Complete all prerequisites in Prerequisites, on page 1.

Verify that base licenses and server licenses to add Cisco UCS Manager and VMware accounts are available.

Step 1 Create (or select a pre-existing) a HyperFlex pod. See Adding a Pod, on page 5.

When selecting pod **Type**, choose **HyperFlex** pod from the drop-down list.

Step 2 Add (or select a pre-existing) a VMware account. See Creating a VMware Cloud, on page 6.

Step 3 Add (or select a pre-existing) a Cisco UCS Manager account. See Adding a Cisco UCS Manager Account, on page 9.

When selecting **Server Management**, choose **Selected Servers** from the drop-down list to add specific servers to the HyperFlex pod.

Step 4 Add (or select a pre-existing) a HyperFlex account. See Adding a HyperFlex Account, on page 11

Adding a Pod

Step 1 Choose **Administration** > **Physical Accounts**.

Step 2 On the **Physical Accounts** page, click **Pods**.

Step 3 Click **Add**.

Step 4 On the **Add Pod** screen, complete the following fields:

Name	Description
Name field	A descriptive name for the pod.
Type drop-down list	Choose the type of pod that you want to add. This can be one of the following: • **Flexpod** • **VersaStack** • **Generic** • **ExpressPod Medium** • **VSPEX** • **ExpressPod Small** • **Vblock** • **HyperFlex** • **Virtual SAN Pod** The nongeneric pod types accommodate only specific physical and virtual components. A generic pod does not require a specific pod license. You can add any type of physical or virtual component to a generic pod. For more information about bundled pod licenses (FlexPod, Vblock, and VSPEX), which include the necessary individual device licenses to run a pod, see the Cisco UCS Director Installation and Upgrade Guides. **Note** Only VersaStack and Generic pods are supported in the IBM accounts in Cisco UCS Director.
Site drop-down list	Choose the site where you want to add the pod. If your environment does not include sites, you can omit this step.
Description field	(Optional) A description of the pod.
Address field	The physical location of the pod. For example, this field could include the city or other internal identification used for the pod.

Name	Description
Hide Pod check box	Check to hide the pod if you do not want it to show in the Converged Check View. You can continue to add or delete accounts from the pod. For example, you can use this check box to ensure that a pod that does not have any physical or virtual elements is not displayed in the Converged View.

Step 5 Click **Add**.

What to do next

Add one or more accounts to the pod.

Creating a VMware Cloud

When creating a VMware cloud, you can specify a datacenter and clusters in one of the following ways:

- Within the credential policy
- In the **VMware Datacenter** and **VMware Cluster** fields
- From the **Discover Datacenters / Clusters** check box

Note Either a datacenter within the credential policy or the VMware datacenter and VMware cluster can be selected. Specifying the datacenter in the **Add Cloud** screen and in the credential policy form results in an error.

Step 1 Choose **Administration** > **Virtual Accounts**.

Step 2 On the **Virtual Accounts** page, click **Virtual Accounts**.

Step 3 Click **Add**.

Step 4 On the **Add Cloud** screen, complete the required fields, including the following:

Name	Description
Cloud Type drop-down list	Displays the available cloud types. Choose VMware. **Note** The following fields are displayed when VMware is chosen. Other cloud types display fields that are specific to that cloud type.
Cloud Name field	The cloud name. The name cannot include single quotes. **Note** Each cloud requires a unique name in Cisco UCS Director. Once a cloud has been added, all reports refer to the cloud using the Cloud Name.

Name	Description
Server Address field	The vCenter server address
Use Credential Policy check box	Check this check box if you want to use a credential policy for this account rather than enter the information manually.
Use Credential Policy drop-down list	If you checked **Use Credential Policy**, choose the crednetial policy that you want to use from this drop-down list. This field is only displayed if you choose to use a credential policy.
Server User ID field	The vCenter server username.
Server Password field	The vCenter server password.
Server Access Port field	The server port number.
Server Access URL field	The server access URL.
VMware Datacenter field	The data center name on the vCenter account.
Discover Datacenters / Clusters check box	Check this check box to discover and use any VMware datacenters and associated VMware clusters.
VMware Cluster field	The name of the VMware cluster in the vCenter account. This name allows you to discover, monitor, and manage the specified pod's resources. Leave the field blank if the entire vCenter account is managed by Cisco UCS Director.
Select Datacenters / Clusters field	Check the associated datacenters and clusters you want to use. **Note** This field is visible only when you check the **Discover Datacenters / Clusters** check box.
Enable SRM check box	Check this check box to enable Site Recovery Manager (SRM) for the account.
Primary SRM Server Address field	The IP address of the primary SRM server. **Note** This field is visible only when you check the **Enable SRM** check box.
Primary SRM Server User ID field	The user ID for the primary SRM server. **Note** This field is visible only when you check the **Enable SRM** check box.
Primary SRM Server Password field	The password of the user for the primary SRM server. **Note** This field is visible only when you check the **Enable SRM** check box.

Name	Description
Primary SRM Server Access Port field	The port number for the primary SRM server. For SRM version 6.0, enter 9086 as the port number. **Note** This field is visible only when you check the **Enable SRM** check box.
Remote SRM Server User ID field	The user ID for the remote SRM server. **Note** This field is visible only when you check the **Enable SRM** check box.
Remote SRM Server Password field	The password of the user ID for the remote SRM server. **Note** This field is visible only when you check the **Enable SRM** check box.
Use SSO check box	Check this check box to use Single Sign-On (SSO) for authentication. The SSO option is only available for Virtual SAN (VSAN). SSO credentials are required for VM provisioning using storage profiles on the Virtual SAN cluster.
SSO Server Address field	The IP address of the Single-Sign On server. **Note** This field is visible only when you check the **Use SSO** check box.
SSO Server User ID field	The user ID for the SSO server. **Note** This field is visible only when you check the **Use SSO** check box.
SSO Server Password field	The password of the user ID for the SSO server. **Note** This field is visible only when you check the **Use SSO** check box.
SSO Server Access URL field	The URL for SSO server access. **Note** This field is visible only when you check the **Use SSO** check box.
SSO Server Access Port field	The port number. For vCenter version 5.x, enter 7444 as the port number. **Note** This field is visible only when you check the **Use SSO** check box.
Server Access URL field	The URL for server access.
Description field	The description of the cloud.

Name	Description
Contact Email field	The contact email address for the cloud.
Location field	The location.
Pod drop-down list	Choose the converged infrastructure pod. When you choose a pod name, the VMware cloud account is made available in the converged infrastructure stack. **Note** You cannot add more than one virtual account to a virtual SAN pod.
Service Provider field	The service provider's name.

Step 5 Click **Add**.

Adding a Cisco UCS Manager Account

Before you begin

Add the pod to which this Cisco UCS Manager account belongs.

Step 1 Choose **Administration** > **Physical Accounts**.

Step 2 Click **Physical Accounts**.

Step 3 Click **Add**.

Step 4 On **Add Account** screen, do the following:

a) From the **Pod** drop-down list, choose the pod to which this account belongs.
b) From the **Category Type** drop-down list, choose **Computing**.
c) From the **Account Type** drop-down list, choose **UCSM**.
d) Click **Submit**.

Step 5 On the **Add Account** screen, complete the following fields:

Name	Description
Authentication Type drop-down list	Choose the type of authentication to be used for this account. This can be one of the following: • **Locally Authenticated**—A locally authenticated user account is authenticated directly through the fabric interconnect and can be enabled or disabled by anyone with admin or AAA privileges. • **Remotely Authenticated**—A remotely authenticated user account is any user account that is authenticated through LDAP, RADIUS, or TACACS+.

Name	Description
Server Management drop-down list	Choose how you want to have the servers in this account managed. This can be one of the following: • **All Servers**—All servers are managed. This option is the default. If you choose this option, all servers are added in the Managed state. • **Selected Servers**—Only selected servers are managed. You can add and remove servers from the managed server list as needed. If you choose this option, all servers are added in the Unmanaged state.
Account Name field	A unique name that you assign to this account.
Server Address field	The IP address of Cisco UCS Manager. For a cluster configuration, this is the virtual IP address.
Use Credential Policy check box	Check this check box if you want to use a credential policy for this account rather than enter the information manually.
Credential Policy drop-down list	If you checked the **Use Credential Policy** check box, choose the credential policy that you want to use from this drop-down list. This field is only displayed if you choose to use a credential policy.
User ID field	The username that this account will use to access Cisco UCS Manager. This username must be a valid account in Cisco UCS Manager. This field is not displayed if you choose to use a credential policy.
Password field	The password associated with the username. This field is not displayed if you choose to use a credential policy.
UCS Authentication Domain field	The authentication domain for the remotely authenticated account. This field is not displayed if you are using a locally authenticated account or if you choose to use a credential policy.
Transport Type drop-down list	Choose the transport type that you want to use for this account. This can be one of the following: • **http** • **https** This field is not displayed if you choose to use a credential policy.
Port field	The port used to access Cisco UCS Manager. This field is not displayed if you choose to use a credential policy.
Description field	(Optional) A description of this account.
Contact Email field	The email address that you can use to contact the administrator or other person responsible for this account.
Location field	The location of this account.

Name	Description
Service Provider field	(Optional) The name of the service provider associated with this account, if any.

Step 6 Click **Add**.

tests the connection to Cisco UCS Manager. If that test is successful, it adds the Cisco UCS Manager account and discovers all infrastructure elements in Cisco UCS Manager that are associated with that account, including chassis, servers, fabric interconnects, service profiles, and pools. This discovery process and inventory collection cycle takes approximately five minutes to complete.

The polling interval configured on the **Administration** > **System** > **System Tasks** tab specifies the frequency of inventory collection.

Adding a HyperFlex Account

Step 1 Choose **Administration** > **Physical Accounts**.

Step 2 On the **Physical Accounts** page, click **Physical Accounts**.

Step 3 Click **Add**.

Step 4 On the **Add Account** screen, complete the following fields:

Name	Description
Pod drop-down list	Choose the HyperFlex pod to which this physical account belongs.
Category drop-down list	Choose Storage.
Account Type drop-down list	Choose **HyperFlex**.

Step 5 Click **Submit**.

Step 6 On the **Add Account** screen, complete the following fields:

Name	Description
Account Name field	A unique name for the physical account that you want to add.
Description field	A description of the account.
Cluster Management IP Address field	The HyperFlex cluster management IP address.
Use Credential Policy check box	Check this box if you want to use a credential policy for this account rather than enter the information manually.

Name	Description
Credential Policy drop-down list	If you checked **Use Credential Policy**, choose the credential policy that you want to use from this drop-down list. This field is only displayed if you choose to use a credential policy.
Username field	The username for accessing this account. This field is not displayed if you choose to use a credential policy.
Password field	The password associated with the username. This field is not displayed if you choose to use a credential policy.
HTTPs Port field	Enter server port number that you want to use for the account. This field is not displayed if you choose to use a credential policy.
Connection Timeout (Seconds) field	The time, in seconds, required for the Cisco UCS Director to establish a connection with the Hyperflex device. The value ranges from 0 to 1800 where 0 represents an infinite timeout.
Socket Read Timeout (Seconds) field	The time, in seconds, required for the Cisco UCS Director to retrieve information from the Hyperflex device. The value ranges from 0 to 1800 where 0 represents an infinite timeout.
Contact field	The contact email address for the account.
Location field	The location.

Step 7 Click **Submit**.

Cisco UCS Director tests the connection to Cisco HyperFlex. If that test is successful, it adds the account and discovers all infrastructure elements that are associated with that account. This discovery process and inventory collection cycle takes approximately five minutes to complete.

The polling interval configured on the **Administration** > **System** > **System Tasks** tab specifies the frequency of inventory collection.