

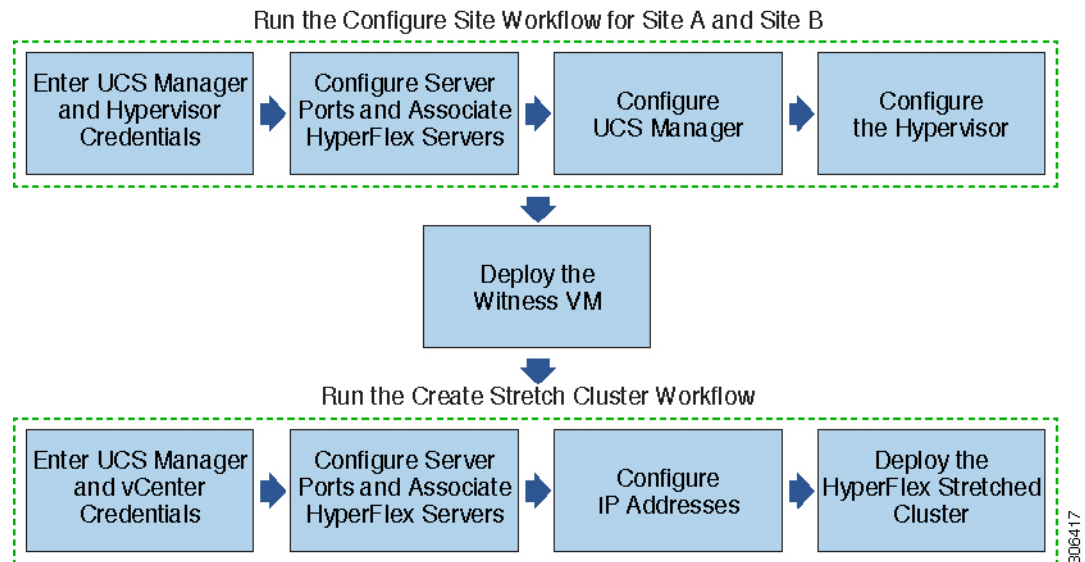


Installation

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Installation Overview

The following installation workflow summarizes the steps that are involved in creating a Stretch Cluster, using the HX Data Platform Installer.



Follow this workflow during installation:

Step	Description	Reference
Create the Stretch Cluster sites—Run the Configure Site workflow for Site A and Site B.	Log into the HX Data Platform Installer. Enter UCS Manager credentials and Hypervisor credentials for both the sites.	Enter Credentials, on page 3
	Configure the server ports and associate HyperFlex servers.	Associate HyperFlex Servers, on page 5
	Configure VLAN, MAC Pool, 'hx-ext-mgmt' IP Pool for Out-of-Band CIMC, inband CIMC, iSCSi Storage, and FC Storage.	Configure UCS Manager, on page 6
	Configure the Hypervisor.	Configure Hypervisor: HX Release 5.0(x) and Earlier, on page 9
Download and deploy the Witness VM.	Note A witness VM is mandatory in a HyperFlex Stretch Cluster environment.	Deploying the Witness VM Node
Create your HyperFlex Stretch Cluster—Run the Create Stretch Cluster workflow.	Enter UCS Manager Credentials for Site A and Site B, and vCenter credentials.	Enter Credentials, on page 11
	Configure the server ports and associate HyperFlex servers.	Associate HyperFlex Servers, on page 13
	Configure IP addresses.	Configure IP Addresses, on page 14
	Deploy the HyperFlex Stretch Cluster.	Deploy a HyperFlex Stretched Cluster, on page 15

Create the Stretch Cluster Sites

Before you begin

- Complete the prerequisites. Refer to the [Common Site Interlink and Witness Requirements](#) for more details.
- Download and deploy the Witness VM for each cluster.

Use the following procedure to install and configure a Cisco HyperFlex Stretch Cluster using the HX Data Platform Installer.

Step 1 Log into the HX Data Platform Installer.

- Step 2** On the **Workflow** page, from the **Create Cluster** drop-down list, select **Stretch Cluster**. Click **Continue**.
- Step 3** On the **Credentials** page, enter UCS Manager and Hypervisor credentials. See [Enter Credentials, on page 3](#) for more details.
- Step 4** On the **Server Selection** page, configure the server ports and associate HyperFlex servers. See [Associate HyperFlex Servers, on page 5](#) for more details.
- Step 5** On the **UCSM Configuration** page, configure VLAN, MAC Pool, 'hx-ext-mgmt' IP Pool for Out-of-Band CIMC, iSCSI Storage, and FC Storage. See [Configure UCS Manager, on page 6](#) for more details.
- Step 6** On the **Hypervisor Configuration** page, configure the subnet mask, gateway, and complete the hypervisor settings. See [Configure Hypervisor: HX Release 5.0\(x\) and Earlier, on page 9](#) for more details.
- Step 7** Click **Configure Site** to begin cluster creation. The **Progress** page displays the progress of various configuration tasks.
- Caution** Do not skip validation warnings.
See the **Warnings** section for more details.

What to do next

Using the HX Data Platform Installer, proceed to create your HyperFlex stretch cluster. See [Create Your HyperFlex Stretch Cluster, on page 10](#) for more details.

Enter Credentials

Enter UCS Manager credentials and hypervisor credentials for both the sites across the Stretch Cluster.

Before you begin

- Complete the installation prerequisites. Refer to the [Common Site Interlink and Witness Requirements](#) for more details.
- Download and deploy the Witness VM.

- Step 1** Log in to the HX Data Platform Installer with root user credentials. For first time log in, you will be prompted to change the default password set in the factory.
- In a browser, enter the URL for the VM where HX Data Platform Installer was installed.
 - Enter the following login credentials.
 - Username: **root**
 - Password: **Cisco123**
 - Read the EULA, select the **I accept the terms and conditions** checkbox, and click **Login**.

- Step 2** In the **Change factory default password** screen, complete the following fields, and click **Change Password & Login**.

Field	Description
New password	Enter a new hypervisor password.
Re-enter new password	Re-enter the new hypervisor password.

Step 3 On the **Workflow** page, from the **Create Cluster** drop-down list, select **Stretch Cluster**. Click **Continue**.

Step 4 On the **Credentials** page, select **Configure Site**.

To perform cluster creation, you can import a *JSON configuration* file with the required configuration data. The following two steps are optional if importing a JSON file, otherwise you can input data into the required fields manually.

Note For a first-time installation, contact your Cisco representative to procure the factory preinstallation JSON file.

- a. Click **Select a file** and choose your *JSON file* to load the configuration. Select **Use Configuration**.
- b. An **Overwrite Imported Values** dialog box displays if your imported values for Cisco UCS Manager are different. Select **Use Discovered Values**.

Step 5 Enter the following credentials for UCS Manager:

UCS Manager Credentials for this site

Field	Description
UCS Manager Host Name field	Enter the UCS Manager FQDN or IP address. For example, <i>10.193.211.120</i> .
UCS Manager User Name field	Enter the administrative level username. For example, <i><admin></i> .
Password field	Enter the administrative level password. For example, <i><root></i> .
Site Name field	Specify a unique site name.

Step 6 Enter the following credentials for the Hypervisor:

Hypervisor Credentials

Field	Description
Admin User Name field	Enter the administrative username. For example, <i><admin></i> username. The username is root for factory nodes.
The hypervisor on this node uses the factory default password check box	Select the check box, if you are changing the factory default password for the hypervisor. To enter the current hypervisor password, uncheck this check box. You can now enter the hypervisor password in the Enter current hypervisor password field.
New Password	Create a new password for the hypervisor. Important You are required to change the factory default password.
Confirm New Password	Reenter the new password for the hypervisor.

Step 7 Click **Continue** to begin associating HyperFlex Servers. See [Associate HyperFlex Servers, on page 5](#).

Associate HyperFlex Servers

On the **Server Selection** page, the **Configuration** pane on the right displays a detailed list of the **Credentials** used. The **Server Selection** page displays a list of unassociated HX servers under the **Unassociated** tab, and the list of discovered servers under the **Associated** tab.

Field	Description
Locator LED column	Turn on to locate a server.
Server Name column	Name that is assigned to the server.
Status column	<ul style="list-style-type: none"> • Inaccessible • Ok
Model column	Displays the server model.
Serial column	Displays the serial number of the server.
Service Profile column [Only for Associated Servers]	Service profile that is assigned to the server.
Actions drop-down list	<ul style="list-style-type: none"> • Launch KVM Console—Choose this option to launch the KVM Console directly from the HX Data Platform Installer. • Disassociate Server—Choose this option to remove a service profile from that server.

Before you begin

Ensure that you completed entering UCS Manager, vCenter, and Hypervisor credentials on the **Credentials** page. See [Enter Credentials, on page 3](#).

Step 1 Click the **Configure Server Ports** button to discover any new HX nodes. In the **Configure Server Ports** dialog box, list all ports to be configured as server ports. Click **Configure**.

Note Typically, the server ports are configured in Cisco UCS Manager before you start the configuration.

Step 2 Select the servers under the **Unassociated** tab to include in the HyperFlex cluster.

If HX servers do not appear in this list, check Cisco UCS Manager and ensure that they have been discovered.

Note If there are no unassociated servers, the following error message is displayed:

No unassociated servers found. Login to UCS Manager and ensure server ports are enabled.

Step 3 Click **Continue** to configure UCS Manager. See [Configure UCS Manager, on page 6](#).

Configure UCS Manager

On the **UCSM Configuration** page, you can configure VLAN, MAC Pool, 'hx-ext-mgmt' IP Pool for Out-of-Band CIMC, iSCSi Storage, and FC Storage.

Before you begin

Associate servers on the HyperFlex cluster. See [Associate HyperFlex Servers, on page 5](#).

Step 1 In the **VLAN Configuration** section, complete the following fields:

Note Use separate subnet and VLANs for each of the following networks.

Field	Description
VLAN for Hypervisor and HyperFlex management	
VLAN Name field	hx-inband-mgmt
VLAN ID field	Default—3091
VLAN for HyperFlex storage traffic	
VLAN Name field	hx-storage-data
VLAN ID field	Default—3092
VLAN for VM vMotion	
VLAN Name field	hx-vmotion
VLAN ID field	Default—3093
VLAN for VM Network	
VLAN Name field	vm-network
VLAN ID(s) field	Default—3094 A comma-separated list of guest VLANs.

Step 2 In the **MAC Pool** section, configure the **MAC Pool Prefix** by adding in two more hex characters (0-F).

Note Select a prefix that is not used with any other MAC address pool across all UCS domains.

Example:
00:25:B5:A0.

Step 3 In the **'hx-ext-mgmt' IP Pool for Out-of-Band CIMC** section, complete the following fields:

Field	Description
IP Blocks field	The range of IP addresses designated for the HyperFlex nodes. The IP addresses can be a comma-separated list of values for the guest VLANs. For example, <i>10.193.211.124-127, 10.193.211.158-163</i> .
Subnet Mask field	Set the subnet to the appropriate level to limit and control IP addresses. For example, <i>255.255.0.0</i> .
Gateway field	Enter the IP address. For example, <i>10.193.0.1</i> .

Step 4 If you want to add external storage, configure **iSCSI Storage** by completing the following fields:

Field	Description
Enable iSCSI Storage check box	Select to configure iSCSI storage.
VLAN A Name field	Name of the VLAN associated with the iSCSI vNIC, on the primary fabric interconnect (FI-A).
VLAN A ID field	ID of the VLAN associated with the iSCSI vNIC, on the primary fabric interconnect (FI-A).
VLAN B Name field	Name of the VLAN associated with the iSCSI vNIC, on the subordinate fabric interconnect (FI-B).
VLAN B ID field	ID of the VLAN associated with the iSCSI vNIC, on the subordinate fabric interconnect (FI-A).

Step 5 If you want to add external storage, configure **FC Storage** by completing the following fields:

Field	Description
Enable FC Storage check box	Select to enable FC Storage.
WWxN Pool field	A WWN pool that contains both WW node names and WW port names. For each fabric interconnect, a WWxN pool is created for WWPN and WWNN.
VSAN A Name field	The name of the VSAN for the primary fabric interconnect (FI-A). Default— <code>hx-ext-storage-fc-a</code> .
VSAN A ID field	The unique identifier assigned to the network for the primary fabric interconnect (FI-A). Caution Do not enter VSAN IDs that are currently used on the UCS or HyperFlex system. If you enter an existing VSAN ID in the installer which utilizes UCS zoning, zoning will be disabled in your existing environment for that VSAN ID.

Field	Description
VSAN B Name field	The name of the VSAN for the subordinate fabric interconnect (FI-B). Default— <code>hx-ext-storage-fc-b</code> .
VSAN B ID field	The unique identifier assigned to the network for the subordinate fabric interconnect (FI-B). Caution Do not enter VSAN IDs that are currently used on the UCS or HyperFlex system. If you enter an existing VSAN ID in the installer which utilizes UCS zoning, zoning will be disabled in your existing environment for that VSAN ID.

Step 6 In the **Advanced** section, do the following:

Field	Description
UCS Server Firmware Version drop-down list	Select the UCS server firmware version to associate with the HX servers from the drop-down list. The UCS firmware version must match the UCSM version. See the latest Cisco HX Data Platform Release Notes for more details. For example, <i>3.2(1d)</i> .
HyperFlex Cluster Name field	Specify a user-defined name. The HyperFlex cluster name is applied to a group of HX Servers in a given cluster. The HyperFlex cluster name adds a label to service profiles for easier identification.
Org Name field	Specify a unique <i>Org Name</i> to ensure isolation of the HyperFlex environment from the rest of the UCS domain.

Step 7 Click **Continue** to configure the Hypervisor. See [Configure Hypervisor: HX Release 5.0\(x\) and Earlier, on page 9](#).

Configure Hypervisor: HX Release 5.5 and later

Starting with HXDP release 5.5(1a) all new stretch cluster installations auto-configure Intersight Arbitrator via HyperFlex Classic installer without the need of an external witness service in a third site. (Stretch Cluster deployments from Intersight is not supported).

If your installation is before 5.5(1a) continue to the [Configure Hypervisor: HX Release 5.0\(x\) and Earlier, on page 9](#) section of this guide.

Configure Hypervisor: HX Release 5.0(x) and Earlier



Note Review the VLAN, MAC pool, and IP address pool information on the **Hypervisor Configuration** page, in the **Configuration** pane. These VLAN IDs may be changed by your environment. By default, the HX Data Platform Installer sets the VLANs as non-native. Configure the upstream switches to accommodate the non-native VLANs by appropriately applying a trunk configuration.



Attention You can skip configuring Hypervisor in case of a reinstall, if ESXi networking has been completed.

Before you begin

Configure VLAN, MAC Pool, and 'hx-ext-mgmt' IP Pool for Out-of-Band CIMC. If you are adding external storage, configure iSCSI Storage and FC Storage. Select the UCS Server Firmware Version and assign a name for the HyperFlex Stretch Cluster. See [Configure UCS Manager, on page 6](#).

Step 1

In the **Configure Common Hypervisor Settings** section, complete the following fields:

Field	Description
Subnet Mask field	Set the subnet mask to the appropriate level to limit and control IP addresses. For example, <i>255.255.0.0</i> .
Gateway field	IP address of gateway. For example, <i>10.193.0.1</i> .
DNS Server(s) field	IP address for the DNS Server. Note <ul style="list-style-type: none"> • If you do not have a DNS server, do not enter a hostname in any of the fields on the Cluster Configuration page of the HX Data Platform Installer. Use only static IP addresses and hostnames for all ESXi hosts. • If you are providing more than one DNS server, check carefully to ensure that both DNS servers are correctly entered, separated by a comma.

Step 2

On the **Hypervisor Settings** section, select **Make IP Addresses and Hostnames Sequential** to make the IP addresses sequential. Complete the following fields:

Note You can rearrange the servers using drag and drop.

Field	Description
Name column	Name assigned to the server.
Locator LED column	Turn on to locate a server.
Serial column	Displays the serial number of the server.
Static IP Address column	Input static IP addresses and hostnames for all ESXi hosts.
Hostname column	Do not leave the hostname fields empty.

Step 3 Click **Configure Site** to begin cluster creation. The **Progress** page displays the progress of various configuration tasks.

Caution Do not skip validation warnings.
See the **Warnings** section for more details.

What to do next

Run the Create Stretch Cluster workflow from the HX Data Platform Installer to create your HyperFlex Stretch Cluster. See [Create Your HyperFlex Stretch Cluster, on page 10](#) for more details.

Create Your HyperFlex Stretch Cluster

Use the following procedure to create a Cisco HyperFlex Stretch Cluster using the Cisco HX Data Platform Installer.

Before you begin

- Complete the prerequisites. Refer to the [Common Site Interlink and Witness Requirements](#) for more details.
- Ensure that you run the *Configure Site* workflow for both sites.
- Download and deploy the Witness VM.

- Step 1** Log into the Cisco HX Data Platform Installer.
- Step 2** On the **Workflow** page, from the **Create Cluster** drop-down list, select **Stretch Cluster**. Click **Continue**.
- Step 3** On the **Credentials** page, select **Create Stretch Cluster**. Enter UCS Manager credentials for site 1 and site 2. Enter vCenter credentials. Click **Continue**. See [Enter Credentials, on page 11](#) for more details.
- Step 4** On the **Server Selection** page, configure the server ports and associate HyperFlex servers. See [Associate HyperFlex Servers, on page 13](#) for more details.
- Step 5** On the **IP Addresses** page, configure the IP addresses to be applied to the storage cluster. See [Configure IP Addresses, on page 14](#) for more details.
- Step 6** On the **Cluster Configuration** page, configure and deploy the HyperFlex Stretch cluster. See [Deploy a HyperFlex Stretched Cluster, on page 15](#) for more details.

- Step 7** Click **Start** to begin deploying the Stretch cluster. The **Progress** page displays the progress of the various configuration tasks.
-

What to do next

Click **Launch HyperFlex Connect** to manage your HyperFlex Stretch Cluster.

Enter Credentials

Enter UCS manager credentials for site 1 and site 2, and enter credentials for the vCenter.

Before you begin

- Complete the prerequisites. Refer to the [Common Site Interlink and Witness Requirements](#) for more details.
- Download and deploy the Witness VM.
- Complete configuring the HyperFlex Stretch Cluster. See [Create the Stretch Cluster Sites, on page 2](#) for more details.

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- Step 1** Log into the Cisco HX Data Platform Installer.

- a) In your web browser, enter the IP address or the node name for the Cisco HX Data Platform Installer VM. Click **Accept** or **Continue** to bypass any SSL certificate errors. On the Cisco HX Data Platform Installer login page, verify the Cisco HX Data Platform Installer **Build ID** in the lower right corner of the login screen.
- b) In the login page, enter the following credentials:

Username: root

Password (Default): Cisco123

Important Systems ship with a default password of Cisco123 that must be changed during installation. You cannot continue installation unless you specify a new user supplied password.

- c) Read the EULA, check the **I accept the terms and conditions** check box, and click **Login**.

- Step 2** On the **Workflow** page, from the **Create Cluster** drop-down list, select **Stretch Cluster**. Click **Continue**.

- Step 3** On the **Credentials** page, select **Create Stretch Cluster**.

- Step 4** Enter the following UCS Manager credentials for Site 1 and Site 2.

To perform cluster creation, you can import a *JSON configuration* file with the required configuration data. The following two steps are optional if importing a JSON file, otherwise you can input data into the required fields manually.

- Note** For a first-time installation, contact your Cisco representative to procure the factory preinstallation JSON file.
- a. Click **Select a file** and choose your *JSON file* to load the configuration. Select **Use Configuration**.
 - b. An **Overwrite Imported Values** dialog box displays if your imported values for Cisco UCS Manager are different. Select **Use Discovered Values**.

UCS Manager Credentials for Site 1

Field	Description
UCS Manager Hostname field	UCS Manager FQDN or IP address for site 1. For example, <i>10.193.211.120</i> .
User Name field	Enter the administrative level username. For example, <i><admin></i> username.
Password field	Enter the administrative level password. Enter the <i><root></i> password.
Site Name field	Specify a unique site name.
Org Name field	Specify a unique org name, to ensure isolation of the HyperFlex environment from the rest of the UCS domain.

UCS Manager Credentials for Site 2

Field	Description
UCS Manager Host Name field	Enter the UCS Manager FQDN or IP address for site 2. For example, <i>10.193.211.120</i> .
User Name field	Enter the administrative level username. For example, <i><admin></i> username.
Password field	Enter the administrative level password. Enter the <i><root></i> password.
Site Name field	Specify a unique site name.
Org Name field	Specify a unique org name. This ensures isolation of the HyperFlex environment from the rest of the UCS domain.

Step 5 Enter the following credentials for the vCenter.

vCenter Credentials

Field	Description
vCenter Server field	Enter the vCenter server FQDN or IP address. For example, <i>10.193.211.120</i> . Note <ul style="list-style-type: none"> • vCenter Server input is optional if building a nested vCenter. See the Nested vCenter TechNote for more details. A vCenter server is required before the cluster can be made operational. • The vCenter address and credentials must have root level administrator permissions to the vCenter.

Field	Description
User Name field	Enter the administrative username. For example, <i>administrator@vsphere.local</i> .
Admin Password field	Enter the administrative level password. Enter the <i><root></i> password.

Step 6 Click **Continue** to begin associating HyperFlex servers. See [Associate HyperFlex Servers, on page 13](#).

Associate HyperFlex Servers

On the **Server Selection** page, the **Configuration** pane on the right displays a detailed list of the **Credentials** used. The **Server Selection** page displays a list of unassociated HX servers under the **Unassociated** tab, and the list of discovered servers under the **Associated** tab.

Field	Description
Locator LED column	Turn on to locate a server.
Server Name column	Name that is assigned to the server.
Status column	<ul style="list-style-type: none"> • Inaccessible— • Ok—
Model column	Displays the server model.
Serial column	Displays the serial number of the server.
Service Profile column [Only for Associated Servers]	Service profile that is assigned to the server.
Actions column	<ul style="list-style-type: none"> • Launch KVM Console—Choose this option to launch the KVM Console directly from the HX Data Platform Installer. • Disassociate Server—Choose this option to remove a service profile from that server.

Before you begin

Ensure that you completed entering UCS Manager, vCenter, and Hypervisor credentials on the **Credentials** page. See [Enter Credentials, on page 11](#).

Step 1 Click the **Configure Server Ports** button to discover any new HX nodes. In the **Configure Server Ports** dialog box, list all ports to be configured as server ports. Click **Configure**.

Note Typically, the server ports are configured in Cisco UCS Manager before you start the configuration.

Step 2 Select the servers under the **Unassociated** tab to include in the HyperFlex cluster.

If HX servers do not appear in this list, check Cisco UCS Manager and ensure that they have been discovered.

Note If there are no unassociated servers, the following error message is displayed:

No unassociated servers found. Login to UCS Manager and ensure server ports are enabled.

Step 3 Click **Continue** to configure IP addresses. See [Configure IP Addresses, on page 14](#).

Configure IP Addresses

Before you begin

Associate servers on the HyperFlex cluster. See [Associate HyperFlex Servers, on page 13](#).

Step 1 On the **IP Addresses** page, select **Make IP Addresses Sequential** to make the IP Addresses sequential.

Step 2 When you enter IP addresses in the first row for Hypervisor, Storage Controller (Management) and Hypervisor, Storage Controller (Data) columns, the HX Data Platform Installer incrementally autofills the node information for the remaining nodes.

For each HX node, enter the Hypervisor and storage controller IP addresses. For the IP addresses, specify if the network belongs to the Data Network or the Management Network.

Field	Description
Management Hypervisor field	Enter the static IP address that handles the Hypervisor management network connection between the ESXi host and the storage cluster.
Management Storage Controller field	Enter the static IP address that handles the storage controller VM management network connection between the storage controller VM and the storage cluster.
Data Hypervisor field	Enter the static IP address that handles the Hypervisor data network connection between the ESXi host and the storage cluster.
Data Storage Controller field	Enter the static IP address that handles the storage controller VM data network connection between the storage controller VM and the storage cluster.

Step 3 The IP address provided here are applied to one node in the storage cluster. In the event the node becomes unavailable the affected IP address is moved to another node in the storage cluster. All nodes must have a port configured to accept these IP addresses.

Provide the following IP addresses:

Field	Description
Management Cluster Data IP Address field	Enter the management network IP address for the HX Data Platform storage cluster.

Field	Description
Data Cluster IP Address field	Enter the IP address of data network for the HX Data Platform storage cluster.
Management Subnet Mask field	Enter the subnet information for your VLAN and vSwitches. Provide the management network value. For example, <i>255.255.255.0</i> .
Data Subnet Mask field	Provide the network value for the data network. For example, <i>255.255.255.0</i> .
Management Gateway field	Provide the network value for your management network. For example, <i>10.193.0.1</i> .
Data Gateway field	Provide the network value for your data network. For example, <i>10.193.0.1</i> .
Witness IP field	Provide the IP address of the witness VM.

- Step 4** Click **Continue** to deploy the HyperFlex Stretch cluster. See [Deploy a HyperFlex Stretched Cluster, on page 15](#) for more details.

Deploy a HyperFlex Stretched Cluster

On the **Cluster Configuration** page, for the Cisco HX Storage Cluster complete the following fields to begin deploying the HyperFlex cluster.

Before you begin

Ensure that you completed configuring IP addresses on the **IP Addresses** page. See [Configure IP Addresses, on page 14](#).

- Step 1** In the **Cisco HX Cluster** section, complete the following fields:

Field	Description
Cluster Name field	Specify a name for the HX Data Platform storage cluster.
Replication Factor drop-down list	Specify the number of redundant replicas of your data across the storage cluster. Set the replication factor to 4, for 2 copies in each site.

- Step 2** In the **Controller VM** section, create a new password for the Administrative User of the HyperFlex cluster.
A default administrator username and password is applied to the controller VMs. The VMs are installed on all converged and compute-only nodes.

- Important**
- You cannot change the name of the controller VM or the controller VM's datastore.
 - Use the same password for all controller VMs. The use of different passwords is not supported.
 - Provide a complex password that includes 1 uppercase character, 1 lowercase character, 1 digit, 1 special character, and a minimum of 10 characters in total.
 - You can provide a user-defined password for the controller VMs and for the HX cluster to be created. For password character and format limitations, see the section on Guidelines for HX Data Platform Special Characters in the *Cisco HX Data Platform Management Guide*.

Step 3 In the **vCenter Configuration** section, complete the following fields:

Field	Description
vCenter Datacenter Name field	Enter the vCenter datacenter name for the Cisco HyperFlex cluster.
vCenter Cluster Name field	Enter the vCenter cluster name.

Step 4 In the **System Services** section, complete the following fields:

Field	Description
DNS Server(s) field	Enter a comma-separated list of IP addresses of each DNS server.
NTP Server(s) field	Enter a comma-separated list of IP addresses of each NTP server. Note All hosts must use the same NTP server, for clock synchronization between services running on the storage controller VMs and ESXi hosts.
DNS Domain Name field	Enter the DNS FQDN or IP address.
Time Zone drop-down list	Select the local time zone for the controller VM, to determine when to take scheduled snapshots. Scheduled native snapshot actions are based on this setting.

Step 5 In the **Auto Support** section, select **Enable Connected Services** to enable Auto Support and Cisco Intersight management.

Field	Description
Enable Connected Services (Recommended) check box	Select to enable Auto Support and Cisco Intersight management. Log on to HX Connect to configure these services or selectively turn them On or Off .
Send service ticket notifications to field	Enter the email address where SR notifications should be sent when triggered by Auto Support.

Step 6 In the **Advanced Networking** section, complete the following fields:

- Note** When repurposing existing HyperFlex hardware for stretched cluster, the VM Network port group may not have configured with the correct vSwitch. You must manually configure the VM network on the correct vSwitch.

Field	Description
Management VLAN Tag - Site 1 field	Enter the correct VLAN ID if using trunk ports. Enter 0 if using access ports. Note Use the same Management VLAN Tag for site 1 and site 2.
Management VLAN Tag - Site 2 field	Enter the correct VLAN ID if using trunk ports. Enter 0 if using access ports. Note Use the same Management VLAN Tag for site 1 and site 2.
Management vSwitch field	Default is vswitch-hx-inband-mgmt. Note Do not modify the name of the vSwitch.
Data VLAN Tag - Site 1 field	Enter the correct VLAN ID if using trunk ports. Enter 0 if using access ports. Note Use the same Data VLAN Tag for site 1 and site 2.
Data VLAN Tag - Site 2 field	Enter the correct VLAN ID if using trunk ports. Enter 0 if using access ports. Note Use the same Data VLAN Tag for site 1 and site 2.
Data vSwitch field	Default is vswitch-hx-storage-data.

Step 7 In the **Advanced Configuration** section, do the following:

Field	Description
Jumbo frames Enable Jumbo Frames check box	Check to set the MTU size for the storage data network on the host vSwitches and vNICs, and each storage controller VM. The default value is 9000. Note At the time of installation, you can select the MTU size as either 1500 or 9000 bytes. Note If you want to change the MTU size from 9000 to 1500 after installation, you must change the MTU size in Cisco UCS, Data vSwitch, VMkernel, and Controller VM Ethernet1 interface.

Field	Description
Disk Partitions Clean up Disk Partitions check box	<p>Check to remove all existing data and partitions from all nodes added to the storage cluster for manually prepared servers. Select this option to delete existing data and partitions. You must backup any data that should be retained.</p> <p>Attention Do not select this option for factory prepared systems. The disk partitions on factory prepared systems are properly configured.</p>
Virtual Desktop (VDI) check box	<p>Check for VDI only environments.</p> <p>Note To change the VDI settings after the storage cluster is created, shutdown or move the resources, make changes, and restart the cluster.</p>

Step 8 Click **Start** to begin deploying the HyperFlex stretched cluster. The **Progress** page displays the progress of various configuration tasks.

Caution Do not skip validation warnings.
 See the **Warnings** section for more details.

What to do next

- Some validation errors require you to go back and re-enter a parameter (for example, an invalid ESXi password, incorrect NTP server, bad SSO server, or other incorrect input). Click **Re-enter Values** to return to the **Cluster Configuration** page and resolve the issue.
- When complete, the HyperFlex servers are installed and configured. The deployed cluster status shows as **Online** and **Healthy**.
- Click **Launch HyperFlex Connect** to manage your HyperFlex stretched cluster.

Configuring VMware vCenter High Availability Settings for Stretch Cluster

The HyperFlex Stretch Cluster works as designed using the default installation values. This section provides the recommended settings for configuring VMware vSphere high availability for Stretch Cluster during custom configuration.



Note Use the default value for the fields for which the settings are not captured in this section.

Before you begin

Create the HyperFlex Stretch Cluster sites.

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- Step 1** Log on to vCenter with the vSphere Web Client.
- Step 2** Select the Stretch cluster and click **Configure**.
- Step 3** Choose **Configure > vSphere Availability** and click **Edit**.
- Step 4** Check the **Turn on vSphere HA** check box.
- Step 5** Click **Failures and Responses**.
- Step 6** In the **Failure conditions and responses** screen, complete the following fields:
- **Enable Host Monitoring**—Check this check box to enable the host monitoring.
 - **Host Failure Response**—From the drop-down list, choose **Restart VMs**.
 - **Response for Host Isolation**—From the drop-down list, choose **Power off and Restart VMs**.
 - **Datastore with PDL**—From the drop-down list, choose **Power off and Restart VMs**.
 - **Datastore with APD**—From the drop-down list, choose **Power off and Restart VMs (conservative)**.
 - **VM Monitoring**—From the drop-down list, choose the required option for VM monitoring. By default, **Disabled** is displayed.
- Step 7** Click **Admission Control** and set to **Disable**.
- Step 8** Click **Heartbeat Datastores**. In the **Heartbeat Datastores** screen, click the **Use datastores only from the specified list** radio button and choose the HyperFlex datastores.
- Step 9** Click **Advanced Options**, and add the following options:
- | Option | Value |
|--------------------------------|--|
| das.usedefaultisolationaddress | Leave entries for the das.isolationaddresses blank, in which case VMware defaults to the management network gateway address. If you prefer to enter values, then use the Management Network gateway for das.isolationaddress0.

You can use any other existing IPs for additional isolation addresses, however it is a best practice that these are not cluster hosts, including the cluster CIP, or FI VIPs for additional isolation addresses. If you enter addresses, be sure to set das.usedefaultisolationaddress to False . |
| das.isolationaddress0 | The IP address for Management Network Gateway. |
| das.isolationaddress1 | The existing IP address that is outside the cluster. Do not use FI VIPs, Cluster IP (CIP), or cluster host IP. |
- Step 10** Click **OK**.
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Using Intersight Private Virtual Appliance

This workflow intended for users who are unable to use the Intersight cloud (for example air-gaped/dark site network).

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- Step 1** Install new Stretch Cluster cluster. For additional information see, [Installation Overview, on page 1](#)
- Step 2** If this is a air-gaped/dark site install (no internet) **HxConnect > System Information > Witness (INTERSIGHT)** should show offline status.
- Step 3** Claim the cluster via the appliance.

Example:

```
# netstat -tanp |grep <PVA IP>:443
```

```
tcp 0 0 10.64.65.21:40150 <PVA IP>:443 ESTABLISHED 9280/hxdp
```
