cisco.



Cisco HyperFlex Systems Installation Guide for Microsoft Hyper-V, Release 3.0

First Published: 2018-04-24 Last Modified: 2019-09-18

Americas Headquarters

Cisco Systems, Inc. 170 West Tasman Drive San Jose, CA 95134-1706 USA http://www.cisco.com Tel: 408 526-4000 800 553-NETS (6387) Fax: 408 527-0883 © 2018–2019 Cisco Systems, Inc. All rights reserved.



CONTENTS

CHAPTER 1	Overview 1						
	Introduction 1						
	Installation Workflow 1						
CHAPTER 2	Preinstallation Information 3						
	Preinstallation Information 3						
CHAPTER 3	Preinstallation Checklist 7						
	System Requirements 7						
	Network Services 7						
	Port Requirements 8						
	Guidelines and Limitations 9						
	Preinstallation Tasks Summary 9						
	Adding DNS Records 10						
	Enabling Constrained Delegation 10						
CHAPTER 4	Installation 13						
	Installation Tasks Summary 13						
	Step 1 - Deploying HX Data Platform Installer 13						
	Step 2 - Cisco UCS Manager Configuration 21						
	Step 3 - Microsoft OS Installation 30						
	Step 4 - Hypervisor Configuration, HX Data Platform and Cluster Deployment 41						
	Configuring a Static IP Address on HX Data Platform Installer 49						
CHAPTER 5	Post Installation 51						
	Post Installation Tasks Summary 51						

	Create the First Datastore 51
	Confermine a Static ID Address for Line Migration and VM Naturals [7]
	Configuring a Static IP Address for Live Migration and VM Network 53
	(Optional) Post Installation Constrained Delegation 54
	Configure Local Default Paths 55
	Configuring a File Share Witness 56
	Checking the Windows Version on the Hyper-V Host 61
	Validate Failover Cluster Manager 61
	Deploying VMs on a Hyper-V cluster 63
	Install RSAT tools on the Management Station or Host 63
	Managing VMs using Hyper-V Manager 67
	Managing VMs using Failover Cluster Manager 68
	Configuring HyperFlex Share to SCVMM 69
	Re-enabling Windows Defender 71
CHAPTER 6	Troubleshooting Information 73
	Troubleshooting 73
CHAPTER 7	Appendix 75
	Rack Cisco HyperFlex Nodes 75
	Setting Up the Fabric Interconnects 75
	Configure the Primary Fabric Interconnect Using GUI 76
	Configure the Subordinate Fabric Interconnect Using GUI 78
	How to upload the iso and img file to the installer VM using WinSCP 79
	DNS Records 81
	Undating HX Service Account Password 82

I

I



Overview

- Introduction, on page 1
- Installation Workflow, on page 1

Introduction

This guide provides instructions on how to install and configure *Cisco HyperFlex Systems on Microsoft Hyper-V*.

To install *Cisco HyperFlex Systems on VMware ESXi*, refer to the installation guides available at: https://www.cisco.com/c/en/us/support/hyperconverged-systems/hyperflex-hx-data-platform-software/ products-installation-guides-list.html

To install *Cisco HyperFlex Systems for Edge (Remote and branch offices)*, refer to the deployment guides available at: https://www.cisco.com/c/en/us/support/hyperconverged-systems/ hyperflex-hx-data-platform-software/products-installation-and-configuration-guides-list.html

Installation Workflow

The following illustration and table summarize the installation workflow:



Task	Description	Reference	
Preinstallation	Rack HyperFlex nodes, and set up Cisco UCS Fabric Interconnects (FIs).	See: Rack Cisco HyperFlex Nodes, on page 75	
	Complete Preinstallation checklist.	Preinstallation Tasks Summary	
Installation	Deploy HX Data Platform Installer using Microsoft Hyper-V Manager	See: Step 1 - Deploying HX Data Platform Installer.	
	Configure Cisco UCS Manager using HX Data Platform Installer.	See: Step 2 - Cisco UCS Manager Configuration, on page 21(using HX Data Platform Installer)	
	Install Windows Server and Hyper V, Deploy HX Data Platform and create your initial cluster.	Step 3 - Microsoft OS Installation, on page 30	
	Create Domain Administrator (hxadmin) for Active Directory.	Enabling Constrained Delegation, on page 10	
Post Installation	Post HX Cluster Configuration tasks.	Configuring a File Share Witness, on page 56	



Preinstallation Information

• Preinstallation Information, on page 3

Preinstallation Information

To ease your installation, gather the following information that you would require during installation. Download the editable preinstallation sheet PDF from the following location:

Cisco HyperFlex Systems Preinstallation Information Sheet

Global Information

Cisco UCS Manager Version	DNS Server 1
NTP Server 1	DNS Server 2
NTP Server 2	Domain Name (AD)
Time Zone	SCVMM Host
SMTP	

Fabric Interconnect Information

Component	IP Address	Hostname	Username	Password	Description
FI-VIP			admin		
FI-A			admin		
FI-B			admin		
IP-Ext-Mgmt: (range)					Must be same subnet as FI mgmt at must at least have 1 ip pr. HX Node

I

Component	IP Address	Hostname	Username	Password	Description
Subnet					For EXT mgmt and FI mgmt
Default Gateway					For EXT mgmt and FI mgmt
HX Installer					
HX Installer Subnet					
HX Installer Gateway					

HX Installer Information

MACI	Pools Pr	efix (00:	25:B5)									
HX Nodes Hostemes	Hostneme	Node Magnet IP	Maagenet Subnet Mask	Maagenet Default Gate way	Node Data IP	HX Contoler Data IP	Data Subnet Mask	Data Default Gateway	(Optional) Live Migration IP	Live Myb&bet	Live Migaion Subnet	Live Migration Default Gateway
Node 1												
Node 2												
Node 3												
Node 4												
Node 5												
Node 6												
Node 7												
Node 8												
Microsoft Cluster Name												

HX Nodes Hotemes	Hostrame	Node Maagenet IP	Mangenet Subnet Mask	Maageneet Default Gateway	Node Data IP	HX Controller Data IP	Data Subnet Mask	Data Default Gateway	(Optional) Live Migration IP	Live Myb&b#	Live Migaion Subnet	Live Migration Default Gateway
HX Connect UI												
HX File Cluster Name												

VLAN Information

Usage	Name	Default VLAN ID	Chosen VLAN ID
Mgmt	hx-inband-mgmt	3091	
storage-data	hx-storage-data	3092	
Live Migration	hx-livemigrate	3093	
VM Network	vm-network	3094	

Hyper-V Information

HX Cluster Name	
Hyper-V Cluster Name	

Constrained Delegation

distinguished Name	
hxadmin password	



Preinstallation Checklist

- System Requirements, on page 7
- Guidelines and Limitations, on page 9
- Preinstallation Tasks Summary, on page 9

System Requirements

Hardware Requirements

Requirement	Description
Cisco HX Data Platform Servers	Cisco HyperFlex M5 Converged nodes:
	• All Flash—Cisco HyperFlex HXAF240c M5, HXAF220c M5
	• Hybrid—Cisco HyperFlex HX240c M5, HX220c M5
Cisco UCS Fabric Interconnects (FIs)	Cisco UCS Fabric Interconnects (FIs) 6200 and 6300

Network Services

Network Service	Description
DNS	Microsoft Active Directory and Active Directory integrated DNS are required for the HX Platform.
	Standalone DNS server is not supported. Non-Windows DNS servers are not supported.

Network Service	Descripti	on
NTP	Ensure th controller the Activ	at the time is synchronized between the r VMs and the hosts. For that purpose, use e Directory Time Synchronization Engine.
	Attention	Ensure that you use the Active Directory domain name as the NTP server when prompted by HX Data Platform Installer.
	Note	Do not nest all of your Active Directory servers in your Hyperflex cluster. Active Directory should reside outside of the Hyperflex cluster so that if the cluster were to encounter issues, you could still authenticate.
	Note	If you are using Active Directory as an NTP server, please make sure that the NTP server is setup according to Microsoft best practices. For more information, see Windows Time Service Tools and Settings. Please note that if the NTP server is not set correctly, time sync may not work, and you may need to fix the time sync on the client-side. For more information, see Synchronizing ESXi/ESX time with a Microsoft Domain Controller.

Port Requirements

If your network is behind a firewall, in addition to the standard port requirements, Microsoft recommends ports for the Hyper-V Manager and Hyper-V cluster. Verify that the following firewall ports are open.

Port Number	Protocol	Direction	Usage
80	HTTP/TCP	Inbound	HX Data Platform Installer
443	HTTPS /TCP	Inbound	HX Data Platform Installer
2068	virtual keyboard/Video/ Mouse (vKVM) / TCP	Inbound	hx-ext-mgmt IP pool (one IP per HX node)
22	SSH/TCP	Inbound/Outbound	HX Data Platform Installer
110 (secure POP port is TCP; 995)	POP3/TCP	Inbound/Outbound	
143 (secure IMAP port is TCP; 993)	IMAP4/TCP	Inbound/Outbound	

Port Number	Protocol	Direction	Usage
25	SMTP/TCP	Outbound	Mail Server
53 (external lookups)	DNS/TCP/UDP	Outbound	DNS
123	NTP/UDP	Outbound	NTP
161	SNMP Poll	Inbound	SNMP
162	SNMP Trap	Outbound	SNMP
8089	ТСР	Inbound	HX Data Platform Installer
445	SMB 2	Inbound	HX Controller VM

Guidelines and Limitations

For best experience with Microsoft Hyper-V installation, you must follow the specific guidelines listed below.

- Adding HyperFlex nodes to Microsoft System Center 2016 Virtual Machine Manager (Windows VMM 2016) evaluation version will cause errors. Refer to Microsoft help article for a resolution for this issue.
- The following features are NOT supported in the current release:
 - SED Drives
 - Native Replication
 - Cisco HyperFlex Edge
 - Stretched Clusters
 - Intersight-based deployment
 - · LAZ and scale beyond 8 nodes
 - HX M4 Hardware

Preinstallation Tasks Summary

Ensure the following is installed and configured prior to installing and deploying HyperFlex.

Task	Description
Rack HyperFlex nodes including Cisco UCS Fabric Interconnects set up	See: Rack Cisco HyperFlex Nodes, on page 75,
Verify Cisco UCS Manager version	

Task	Description
Verify VLANs	Configure the upstream switches to accommodate non-native VLANs. Cisco HX Data Platform Installer sets the VLANs as non-native by default.
Add DNS Records	You must add DNS A and PTR records for your installation. See: Adding DNS Records, on page 10
Configure Domain Administrator for Active Directory	See: Enabling Constrained Delegation, on page 10

Adding DNS Records

Prior to the installation you must add DNS A and PTR records to avoid installation failures.

Device	Description
Hyper-V host	For each host, add an A and PTR record.
Controller node	Controller VM IP address for the A record. This is eth0 on the management IP network.
Windows Failover Cluster	Windows Failover Cluster Object.
HX Connect UI	Cluster management IP address.

Refer to DNS Records section in this guide for the records shown as PowerShell commands to run directly on your environment.

Enabling Constrained Delegation

The steps in this topic must be completed to enable constrained delegation.

Constrained delegation is used to join computers to the Active Directory. You provide constrained delegation information through the HX Data Platform Installer. Constrained delegation uses a service account that is created manually. For example: hxadmin. This service account is then used to log in to Active Directory, join the computers, and perform authentication from the HyperFlex Storage Controller VM. The Active Directory computer accounts applied to every node in the HyperFlex cluster include:

- · Hyper-V host
- HyperFlex Storage Controller VM
- Hyper-V host cluster namespace
- · Server Message Block (SMB) Share namespace for the HyperFlex cluster

Procedure

Step 1 Create an hxadmin domain user account as HX service account.

Step 2 Create an Organization Unit (OU) in Active Directory (AD), for example, HyperFlex.

- a) Use the Active Directory Users and Computers management tool to create the OU. Select View > Advanced Features to enable advance features. Select the OU that you created. For example, HyperFlex > Properties > Attribute Editor.
- b) Find the distinguished name attribute in the OU, and record the information as this will be required in the Constrained Delegation wizard of the HX Data Platform Installer wizard. The values will look like this: OU=HyperFlex, DC=contoso, DC=com.

Use the **Get-ADOrganizationalUnit** cmdlet to get an organizational unit (OU) object or to perform a search to get multiple OUs.

```
Get-ADOrganizationalUnit
[-AuthType <ADAuthType>]
[-Credential <PSCredential>]
-Filter <String>
[-Properties <String[]>]
[-ResultPageSize <Int32>]
[-ResultSetSize <Int32>]
[-SearchBase <String>]
[-SearchScope <ADSearchScope>]
[-Server <String>]
[<CommonParameters>]
```

- **Step 3** Use Active Directory Users and Computers management tool to grant full permissions for the hxadmin user for the newly created OU. Ensure that Advanced features are enabled. If not, go back to Step 2.
 - a) Select the OU that you created. For example, HyperFlex > Properties > Security > Advance.
 - b) Click Change Owner and choose your hxadmin user.
 - c) Click Add in the Advanced view.
 - d) Select the principal and choose the hxadmin user. Then, choose Full Control, and click OK.



Installation

• Installation Tasks Summary, on page 13

Installation Tasks Summary

The following table summarizes the steps to complete Microsoft Hyper-V installation.

Task	Reference
Deploy HX Data Platform Installer	Step 1 - Deploying HX Data Platform Installer, on page 13
Configure Cisco UCS Manager <i>(using HX Data Platform Installer)</i>	Step 2 - Cisco UCS Manager Configuration, on page 21
Install Microsoft Windows Server	Step 3 - Microsoft OS Installation, on page 30
Hypervisor configuration, HX Data Platform and Cluster deployment	Step 4 - Hypervisor Configuration, HX Data Platform and Cluster Deployment , on page 41

Step 1 - Deploying HX Data Platform Installer

Deploy HX Data Platform Installer using **Microsoft Hyper-V Manager** to create a HX Data Platform Installer virtual machine.

Procedure

Step 1	Locate and download the HX Data Platform Installer.vhdx zipped file (for example, Cisco-HX-Data-Platform-Installer-v3.0.1a-build-hyperv.vhdx) from the Cisco Software Downloads site.
Step 2	Extract the zipped folder to your local computer and copy the .vhdx file to the Hyper-V host where you want to host the HX Data Platform Installer. For example, \\hyp-v-host01\\HX-Installer\Cisco-HX-Data-Platform-Installer-v3.0.1a-29499-hyperv.vhdx
Step 3	In Hyper-V Manager, navigate to one of the Hyper-V servers.

Step 4 Select the Hyper-V server, and right click and select New > Create a virtual machine. The Hyper-V Manager New Virtual Machine Wizard displays.

					Hyper-V Mar	nager
File Action	View Help					
🗢 🔿 🖄						
Hyper-V	Aanager Virtual V	Machines				
	New 🔸	Virtual Machine	CPU Usage	Assigned Memory	Uptime	Status
Import Virtual Machine Hyper-V Settings	Hard Disk Floppy Disk		No virtual machin	es were found on t	his server.	
	Virtual Switch Manager Virtual SAN Manager					
	Edit Disk Inspect Disk					
	Stop Service Remove Server Refresh					
	View +					
	Help	ints				
				No virtua	al machine selected	d.

Step 5 In the **Before you Begin** page, click **Next**.

🖳 New Virtual Machine Wiza	ırd	×
Before You	Begin	
Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary	This wizard helps you create a virtual machine. You can use virtual machines in place of physical computers for a variety of uses. You can use this wizard to configure the virtual machine now, and you can change the configuration later using Hyper-V Manager. To create a virtual machine, do one of the following: • Click Finish to create a virtual machine that is configured with default values. • Click Next to create a virtual machine with a custom configuration.	
	< Previous Next > Finish Cancel	

Step 6 In the **Specify Name and Location** page, enter a name and location for the virtual machine where the virtual machine configuration files will be stored. Click **Next**.

Note As a best practice, store the VM together with the .vhdx file.

I

8	New Virtual Machine Wizard	x
Specify Nar	me and Location	
Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Summary	Choose a name and location for this virtual machine. The name is displayed in Hyper-V Manager. We recommend that you use a name that helps you easily identify this virtual machine, such as the name of the quest operating system or workload. Name: HX-Installer You can create a folder or use an existing folder to store the virtual machine. If you don't select a folder, the virtual machine is stored in the default folder configured for this server. Image: C:\clusterStorage\volume1\hr-installer\ Image: C:\clusterStorage Image: C:\cluste	
	< Previous Next > Finish Cancel	

Step 7 In the **Specify Generation** page, select **Generation 1**. Click **Next**. If you select Generation 2, the VM may not boot.

New Virtual Machine Wiz	neration ×
Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary	 Choose the generation of this virtual machine. ④ Generation 1 This virtual machine generation supports 32-bit and 64-bit guest operating systems and provides virtual hardware which has been available in all previous versions of Hyper-V. ④ Generation 2 This virtual machine generation provides support for newer virtualization features, has UEFI-based firmware, and requires a supported 64-bit guest operating system. ① Once a virtual machine has been created, you cannot change its generation.
	More about virtual machine generation support
	< Previous Next > Finish Cancel

Step 8 In the Assign Memory page, set the start up memory value to 4096 MB. Click Next.

I

🖳 New Virtual Machine Wizar	d	×
Sign Memo	ry	
Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary	 Specify the amount of memory to allocate to this virtual machine. You can specify an amount from 32 MB through 12582912 MB. To improve performance, specify more than the minimum amount recommended for the operating system. Startup memory: 8192 MB ✓ Use Dynamic Memory for this virtual machine. (1) When you decide how much memory to assign to a virtual machine, consider how you intend to use the virtual machine and the operating system that it will run. 	1
	< Previous Next > Finish Cancel	

Step 9 In the **Configure Networking** page, select a network connection for the virtual machine to use from a list of existing virtual switches. Click **Next**.

 Configure Networking Before You Begin Specify Name and Location Specify Generation Asign Memory Connect Virtual Hard Disk Installation Options Summary 	New Virtual Machine Wizar	rd	×
Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary	Configure	Networking	
< Previous Next > Finish Cancel	Before You Begin Specify Name and Location Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Installation Options Summary	Each new virtual machine includes a network adapter. You can configure the network adapter to virtual switch, or it can remain disconnected. Connection: External Switch v	puse a

Step 10 In the **Connect Virtual Hard Disk** page, select **Use an existing virtual hard disk**, and browse to the folder on your Hyper-V host that contains the .vhdx file. Click **Next**.

I

New Virtual Machine Wizard						
Connect Vir	tual Hard Disk					
Before You Begin Specify Name and Location Specify Generation Assign Memory	A virtual machine requires storage so that you can install an operating system. You can specify the storage now or configure it later by modifying the virtual machine's properties. C Create a virtual hard disk Use this option to create a VHDX dynamically expanding virtual hard disk.					
Configure Networking Connect Virtual Hard Disk Summary	Name: HX-Installer.vhdx Location: C:\ClusterStorage\volume1\hx-installer\HX-Installer\Virtual Hard Die Size: 127 GB (Maximum: 64 TB)					
	 Use an existing virtual hard disk Use this option to attach an existing virtual hard disk, either VHD or VHDX format. 					
	Location: ClusterStorage\volume1\hx-installer\cisco-hx-data-platform-inst Browse O Attach a virtual hard disk later Use this option to skip this step now and attach an existing virtual hard disk later.	5				
	< Previous Next > Finish Cancel					

Step 11 In the **Summary** page, verify that the list of options displayed are correct. Click **Finish**.

Before You Begin Specify Name and Location	You have successfully completed the New Virtual Machine Wizard. You are about to create the following virtual machine.
Specify Generation Assign Memory Configure Networking Connect Virtual Hard Disk Summary	Name: HX-Installer Generation: Generation 1 Memory: 8192 MB Network: newprivate Hard Disk: C: \Users \Administrator.WIN-5RKBSHE0CFP \Desktop \ztemp \build \Cisco-HX-Data-Platfor
	< To create the virtual machine and close the wizard, click Finish.

Step 12

- After the VM is created, power it ON, and launch the GUI.
 - a) Right-click on the VM and choose Connect.
 - b) Choose Action > Start (Ctrl+S).
 - c) When the VM is booted, make a note of the URL (IP address of the VM). You will need this information in the following steps in the installation.

Step 2 - Cisco UCS Manager Configuration

The following procedure describes configuring Cisco UCS Manager using HX Installer.

Procedure

Step 1

Log into the HX Data Platform Installer using the following steps:

- a) In a browser, enter the URL for the VM where HX Data Platform Installer was installed. If you do not have the URL, go back to Step 13 in the earlier section on Step 1 Deploying HX Data Platform Installer.
- b) Use the credentials: username: root, password: Cisco123

Important Systems ship with a default password of Ciscol23 that must be changed during installation. You cannot continue installation unless you specify a new user supplied password.

I

- c) Read the EULA. Click I accept the terms and conditions.
- d) Verify the product version listed in the lower right corner is correct. This version must be 3.0(1a) or later. Click Login.

Cisco HyperFlex Connect × C Not Secure https://hx-eap-01-mgmt.r	iscolab dk/#/clusters/1	\$
	alialis	
	cisco	
	Cisco HyperFlex Connect	
	HyperFlex	
	3.0(1a)	
	1 JUSER NAME	
	PASSWORD I	
	Login	

Step 2 From the HX Data Platform Installer **Workflow** page, select **I know what I'm doing, let me customize my workflow**.



Step 3 On the next screen, click **Run UCS Manager Configuration** and then **Continue**.

🖡 🗢 💼 Hyperflex Installer 🛛 🗙 📃								e
E O A Not Secure https://10.101.1.228/#/credentials							Ŷ	0 :
cisco HyperFlex Installer					0	¢ ~		
		Workflow						
Select a Workflow								
	0	Run UCS Manager	Configuration					
		Bus Munervisor Co.	oferention					
		Non reperious co						
		Deploy HK Software	e					
	Create HX Duster		Dipand HX Cluster (*					
Show me the standard workflows					Continue			

Caution Do not choose any other workflow option at this point.

Step 4 Click **Confirm** in the pop-up that displays.

,	Warning	
	You have selected a custom option that splits the installation or expansion workflow. You must complete all tasks in the workflow to ensure a working HX storage cluster. If your nodes are data-at-rest encryption capable, custom installation is not supported. Cancel to return to the standard workflow. Confirm and Proceed to continue with a custom workflow.	
	Cancel Confirm and Proceed	306640

Step 5 UCS Manager Credentials

At this point the right side of the page is unused. Further in the setup process a configuration JSON is saved, so in subsequent installations the JSON file can be imported to add the data quickly.

Complete the following fields for UCS Manager.

Field	Description
UCS Manager Host Name	FQDN or the VIP address of the UCSM.
UCS Manager User Name and Password	Administrator user and password or an user with UCSM admin rights.

• • • Hyperfie	exinstaller ×					θ
← → C ▲ Not S	iecure Mtps://10.101.1.228/#/credentials					☆ [] i
	cisco HyperFlex Installer				0 0 0 0 0 ~	
	Credentials		Server Selection		UCSM Configuration	
	UCS Manager Credentials UCS Manager Host Name ucs-the-eap.clicolab.dk	UCS Manager User Name admin	Passeerd	٥	Configuration	

Click **Continue** to proceed. The installer will now try to connect to the UCSM and query for available servers. The configuration pane will be populated as the installer progresses. You can at any time save the JSON file so you can re-use it for subsequent installations. This feature works on all the different workflows in the installer. After the query finishes then you will get a screen with the available servers

Choose all the servers that you want to install in the cluster and click Continue.

Not Secure htt	lps://10	.101.1.2	28/#/servers										\$
abab cisco	5	Нуре	Flex Installer								٥	o ~	
			Credentials			Server Selec	tion		UCSM	Configuration			
s	Server	Selection Hyper	ion •V only runs on MS	servers. The list be	low is restricted to MS s	Configurers.	gure Server Ports	Refresh	Configur	ation		•	
Ŀ	Unas	sociated	(4) Associate	d ((0)					UCS Manage	r Host Name 😡	s-hx-eap.ciscola	b.dk	
		*	Server Name	Status	Model	Senal W792149070V	Assoc State	Actions	UCS Manage	r User Name		Imin	
	0		Server 2	unassociated	HXAF220C-MSSX	W2P21480781	none	Actions ~					
	0	(D)	Server 3	unassociated	HKAF220C-M5SX	WZP214807RE	none	none					
			Server 4	unassociated	HKAF220C-M55X	WZP2148075C	none	none					
									C Bac	k	Continue		



Step 6 VLAN Configuration

HyperFlex needs to have at least 4 VLANs to function, each needs to be on different IP subnets and extended from the fabric interconnects to the connecting uplink switches, to ensure that traffic can flow from the Primary Fabric Interconnect (Fabric A) to the Subordinate Fabric Interconnect (Fabric B).

Name	Usage	ID
hx-inband-mgmt	Hyper-V and Hyperflex VM mgmt	10
hx-storage-data	HyperFlex storage traffic	20
hx-livemigrate	Hyper-V Live Migration network	30
vm-network	VM guest network	100,101

Use the following illustration as a reference for entering values in this screen.

version and hypervisor and hype	erFlex management	VLAN for HyperFlex storage	e traffic
VLAN Name	VLAN ID	VLAN Name	VLAN ID
hx-inband-mgmt		hx-storage-data	
VLAN for VM Live Migration VLAN Name	VLAN ID	VLAN for VM Network	VLAN ID(s)

• Do not use VLAN 1 as it is not best practice and can cause issues with disjoint layer 2.

• vm-network can be multiple VLANs added as a comma separated list.

Caution Renaming the 4 core networks is not supported.

Step 7 Enter the remaining network configuration.

Field	Description	Value
MAC pool prefix	MAC address pool for the HX cluster, to be configured in UCSM by the installer. Ensure that the mac address pool isn't used anywhere else in your layer 2 environment.	00:25:b5: x x
IP blocks	The range of IP addresses that are used for Out-Of-Band management of the hyperflex nodes.	10.193.211.124127
Subnet Mask	The subnet mask for the Out-Of-Band network	255.255.0.0
Gateway	The gateway address for the Out-Of-Band network	10.193.0.1

• The Out-Of-Band network needs to be on the same subnet as UCS Manager.

• You can add multiple blocks of addresses as a comma separated line.

MAC Pool Prefix			
00:25:85:			
'hx-ext-mgmt' IP Pool for Out-of-ba	and CIMC		
'hx-ext-mgmt' IP Pool for Out-of-ba	and CIMC Subnet Mask	Gateway	

iSCSI Storage and FC Storage are used for adding external storage to the HyperFlex cluster. This is currently r supported for the Hyper-V Edition.

Step 8 Advanced Section

Field	Description	Example Value
UCS Firmware Server Version	Choose the appropriate UCS Server Firmware version.	3.2(3a)
HyperFlex Cluster Name	This user defined name will be used as part of the service profile naming In UCSM for easier identification.	
Org Name	The org. name is used for isolating the HX environment from the rest of the UCS platform to ensure consistency.	HX-Cluster1
		HX-Cluster1

Note

- The UCS C and B bundles must exist on the Fabric interconnect otherwise the installation will fail. If the right version is not available in the drop-down list, then upload it to UCSM before proceeding with this procedure.
 - Currently supported version for HyperFlex Hyper-V is 3.2(3a).

/LAN for Hypervisor and Hy	perFlex management	VLAN for HyperFlex stor	age traffic	Credentials	1
rLAN Name	VLANID	VLAN Name	VLAN ID	UCS Manage	er Host Name ucs-hx-eap.ciscolab.d
hx-inband-mgmt	2696	hx-storage-data	2697	UCS Manage	er User Name admi
				Server Sele	ction
VLAN for VM Live Migration		VLAN for VM Network		Server 2	WZP214807RI / HXAF220C-M55
VLAN Name	VLAN ID	VLAN Name	VLAN ID(s)	Server 3	WZP214807RE / HXAF220C-M55
hx-livemigrate	2698	vm-network	2699	Server 1	WZP2148075Y / HXAF220C-M55
				Server 4	WZP2148075C / HXAF220C-M55
00:25:85: 51					
00:25:85:51 hx-ext-mgmt' IP Pool P Blocks 10:101.2.243-247	for Out-of-band CIMC Subnet Mask 255.255.255.0	Gate	way .101.2.1		
002588-51 hx-ext-mgmt' IP Pool IP Blocks 10.101.2.243-247 DISCSI Storage	for Out-of-band CIMC Subnet Mask 255.255.255.0	Gate 10	way 101.2.1		
002568551 hx-ext-mgmt' IP Pool P Blocks 10.101.2.243-247 > ISCSI Storage > FC Storage Advanced	for Out-of-band CIMC Subnet Mask 255.255.255.0	Gate	way .101.2.1		
0025685-51 hx-ext-mgmt' IP Pool P Blocks 10.101.2.243-247 > ISCSI Storage > FC Storage Advanced UCS Server Firmware Version	for Out-of-band CIMC Subnet Mask 255.255.255.0 HyperFlex Cluster Nan	Gate 10	way .101.2.1		



Step 10

When the HX Data Platform Installer is finished, then you are ready to proceed to next step, Step 3 - Microsoft OS Installation, on page 30.

Start	Validations	UCSM Configuration
✓ UCSM Configuration Su	ccessful	and the second se

Step 3 - Microsoft OS Installation

For Microsoft OS installation, you will need to first configure a vMedia policy in Cisco UCS Manager to map the following two image files:

- Customer provided Windows 2016 Datacenter edition ISO, and
- Cisco provided Cisco HyperFlex Driver image.

These image files must be placed on a share that is reachable from Cisco UCS Manager and the Out-of-band subnet that was used in the previous installation step. If you do not have a location to serve the files from, then you can use the installer to host the files. Please see the section: How to upload the iso and img file to the installer VM using WinSCP.



Note Ensure network connectivity exists between the fileshare and all server management IP addresses.

Procedure

Step 1 Launch Cisco UCS Manager::

- a) In your web browser, type the Cisco UCS Manager IP address.
- b) Click Launch UCS Manager.
- c) In the login screen, enter the with the username as **admin** and the password set in the beginning of the installation. Click **Log in**.
- **Step 2** Create a vMedia policy for the Windows OS and Cisco driver images:
 - a) In the Navigation pane, click Servers.
 - b) Expand Servers > Policies > root > Sub-Organizations > hx-cluster_name > vMedia Policies
 - c) Right-click vMedia Policies and select Create vMedia Policy HyperFlex.



d) In the Create vMedia Policy dialog box, complete the following fields:

Field Name	Description		
Name	The name of the vMedia policy. For example, <i>HX-vMedia</i> .		
	This name can be between 1 and 16 alphanumeric characters. You cannot use spaces or any special characters other than - (hyphen), _ (underscore), : (colon), and . (period), and you cannot change this name after the object is saved.		
Description	A description of the policy. We recommend including information about where and when the policy should be used. Maximum 115 characters.		

Field Name	Description
Retry on Mount Failure	Designates if the vMedia will continue mounting when a mount failure occurs. This can be:
	• Yes • No
	Note The default setting is Yes. When Yes is selected the remote server will continue to try to mount the vMedia mount process until it is successful or you disable this option. If you select No, a warning message will appear indicating retry on mount failure will not work in case of mount failure.

Refer to the following screeshot as an example:

reate	e vMedia Po	olicy						? ×
ame ascriptio atry on M Media I	: HX- n : Mount Failure : Mounts	vMedia lo Yes						
+ -	Ty Advanced Filter	♠ Export	🖶 Print					٥
Name	Туре	Protocol	Authentica	Server	Filename	Remote Pa	User	Remap on
				dd 🗍 Dele	to O loto			
			04		10 10 10			
							ок	Cancel

e) On the icon bar under the vMedia Mounts pane, click + Add. In the Create vMedia Mount dialog box, complete the following fields:

Field Name	Description	Example Value	
Name	Name for the mount point.	Windows-ISO	
Description	Can be used for more information.	Windows Server 2016 image	
Field Name	Description	Example Value	
---------------------	---	---------------	
Device Type	 Type of image that you want to mount. This can be: CDD—Scriptable vMedia CD. HDD—Scriptable vMedia HDD. 	CDD	
Protocol	The protocol used for accessing the share where the ISO files are located.	НТТР	
Hostname/IP Address	IP address or FQDN of the server hosting the images.	10.101.1.92	
Image Name Variable	This value is not used in HyperFlex installation.	None	
Remote File	The filename of the ISO file that you want to mount.		
Remote Path	The path on the remote server to where the file resides		
Username	If you use CIFS or NFS a username might be necessary		
Password	If you use CIFS or NFS a password might be necessary		

Refer to the screenshot below as an example:

Create vMed	ia	Mount	? ×
Name	:	Windows-ISO	
Description	:	Windows Server 2016 Image	
Device Type	:		
Protocol	:		
Hostname/IP Address	:	10.29.149.212	
Image Name Variable	:	None Service Profile Name	
Remote File	:	en_windows_server_2016_x64_dvd_9327751.iso	
Remote Path	:	/images/	
Username	:		
Password	:		
Remap on Eject	:		
		ОК С	ancel
			362

f) Click **OK**. When you click **OK**, you will now be returned to the **vMedia Policies** screen, and you should see the information that you just submitted.

Create vMe	edia Policy						• ×
Name Description Retry on Mount Fail vMedia Mounts	: HX-vMedia :						
+ - Ty Adva	nced Filter 🔶 Export	Print					٥
Name Ty	/pe Protocol	Authentica	Server	Filename	Remote Pa	User	Remap on
Windo Cl	DD HTTP	Default	10.29.149	en_windo	/images/		No
		⊕ Ad	Id 🖲 Delete	1 Info			
						ОК	Cancel

- g) Repeat Steps 2e and 2f, however, change the type to HDD and the remote file name to the Cisco HyperFlex driver image.
- h) At the end of this step, the two vMedia mounts will be listed in the Create vMedia Policy screen as shown in the following screenshot:

Create v	Media Po	olicy					? ×
Name Description Retry on Mount vMedia Mount	: HX- : t Failure : N nts	vMedia					
+ - 72	Advanced Filter	♠ Export	🖶 Print				٥
Name	Туре	Protocol	Authentica	Server	Filename	Remote Pa User	Remap on
HX-Cis	HDD	HTTP	Default	10.29.149	HXInstall	/images/	No
Windo	CDD	HTTP	Default	10.29.149	en_windo	/images/	No
			⊕ A(dd 🗊 Delete	1 Info		
						ОК	Cancel

Step 3 Associate the vMedia Policy to a Service Profile:

a) In the Navigation pane, select Servers > Service Profile Templates > root > Sub-Organizations > hx-cluster_name > Service Template hx-nodes_name (example:hx-nodes-m5)

A F	FI-6332-A - Unified Comp ×								
← →	← → C ▲ Not secure https://10.29.149.205/app/3_2_3a/index.html								
altalta cisco	UCS Manager								
æ	Service Profile Templates	Service Profi / root / Sub- Organizations / HyperFlex / Service Tem							
<mark>문</mark> 윤	 Service Profile Templates root Sub-Organizations 	General Storage Network iSCSI vNICs vMedia Policy Boot Order Policies Actions Modify vMedia Policy							
≣	 HyperFlex Service Template compute-nodes Service Template compute-nodes- 	Global vMedia Policy Name : HyperFlex vMedia Policy Instance : org-root/org-HyperFlex/mnt-cfg-policy-HyperFlex Description							
	Service Template hx-hodes Service Template hx-hodes-m5 Sub-Organizations	Print * Writed a policy to install or re-install software on HyperFlex servers Retry on Mount Failure : Yes VMedia Mounts							
		Name Type Protocol Authentic Server Filename Remote P No data available							

- b) Click the vMedia Policy tab. Then, click Modify vMedia Policy
- c) Choose the vMedia Policy that you created earlier from the drop-down selection, and click OK twice.

Addify v	Media Pol	icy					
Name Description Retry on M	Select vMedia Create a Speci vMedia Policies HX-vMedia	Policy to us fic vMedia	se Policy	nstall software o	n HyperFlex ser	vers	
vMedia M	HyperFlex	♠ Export	🚔 Print	J			
Name	Туре	Protocol	Authent	icat Server	Filename	Remote Path	User

d) Under the General tab, verify that the vMedia policy is added to the Service Profile.

altalta cisco	UCS Manager	8	🦁 🙆 🚱 4 1 1	
æ	Service Profiles	Service Profiles / root / Sub- Organizations	/ HyperFlex / Service Profil	
2	 Service Profiles root 	C General Storage Network	ISCSI vNICs VMedia Policy Boot Order Virtual Machines FC Zor	nes Policies Se
몷	 Sub-Organizations HyperFlex 	Actions Modify vMedia Policy	Global vMedia Policy Name : HX-vMedia	
	rack-unit-1 (HXCLUS)		vMedia Policy Instance : org-root/mnt-cfg-policy-HX-vMedia Description :	
Q	 rack-unit-2 (HXCLUS) rack-unit-3 (HXCLUS) 		Retry on Mount Failure : Yes vMedia Mounts	
=	 rack-unit-4 (HXCLUS) 		+ - Ty Advanced Filter 🛉 Export 🖷 Print	
	 Sub-Organizations 		Name Type Protocol Authentic Server File	ename Remote P
			HX-Cis HDD HTTP None 10.29.149 HX	Install /images/
			Windo CDD HTTP None 10.29.149 en_	_windo /images/

- **Step 4** Modify Boot Policy and set the boot order to have CIMC CD/DVD to the list:
 - a) In the Navigation pane, click the Servers tab.
 - b) Expand Servers > Policies > root > > Boot Policies > *Boot Policy HyperFlex-m5*

C A Not secure https://192.168.5	Will/app/4_0_2b/index.html							\$	0010
UCS Manager		8 🗘 🤇	0 1 23				(•••
M	Servers / Policies / root / Sub- Organizations / so Conoral Events	ale-mx / Boot Policies / Boot Policy							
 Threshold Policies 	Actiona	Properties							
 ISCSI Authentication Profiles 	Delana	Name	ha-compute-m5						
 Weda Policies 	Show Policy Usage	Description	Recommended boot policy for HyperF	Plex servers					
 WC/M6A Pacement Policies 	Use Global	Owner	Local						
 Sub-Organizations 		Reboot on Boot Order Chang	0 1 0						
 scale-mx 		Entoroe vAICV46A/SCS Na	me i M						
 Adapter Policies 		Boot Mode	Stephy Oten						
 BIOS Policies 	Warning								
 Boot Policies 	The type [primary/secondary] does not indicate a t	boot order presence.							
 Boot Policy In-compute 	The type (primary/tecondary) does not indicate a to The effective order of boot devices within the same if Enforce vMCAMBASICS Name is used to fail and if an	boot order presence. e device class (LAN/CScrage/GCSI) is determined i if the vMC/DMBAN/CSI class out applic a confin am	ty PDe bus scan order.						
Boot Policy Ix-compute Boot Policy Ix-compute Boot Policy Ix-compute	The type (primary/secondary) does not indicate a ti The effective order of locit devices within the same if Enforce vACC/HEA/SCSI Name is selected and if it is not selected, the vNCa/HEA/SCSI name is selected.	boot order presence. e device class (LAN/Sociage/SCS) is determined (d the vNC/vNBA/SCS does not exist, a config em if they exist, otherwise the vNC/vHBA with the low	by PDe bus scan order. or will be reported. red PDe bus scan order is veed.						
Boot Polices Boot Policy Its -compute Root Policy Its -compute Root Policy Its -compute in Boot Policy MyperRes	The type (primary/secondary) does not indicate a t The effective order of boot devices within the same if Enforce VMC/VHIA/SCIS Name is executed an if it is not selected, the VVCs/VHIA/s are selected	boot order presence. e device class (LAVESocage/ASCSI) is determined in the vVCU-WEAKSCSI does not exait, a config em if they exist, otherwise the VAC/VHBA with the loss	by PDie bus scan order. or will be reported. est PDie bus scan order is used.						
Boot Policy In-compute Boot Policy In-compute Root Policy In-compute Boot Policy In-compute-end Boot Policy HyperFiles Boot Policy HyperFiles	The type (primary/secondary) does not indicate a T The effective order of focct devices within the sam of Enforce with/PMIRAIGES them is instincted and if it is not selected, the vVCs/vHi/Me are selected.	boot order presence. e device class (LAN/Stocage/AC(5)) is determined is the v4C/VHA/StOC does not basis, a config and if they exist, otherwise the JAPC/VHBA with the low Boot Onder	by PCIe bus scan order. or will be reported est PCIe bus scan order is used.						
Boot Policy In-compute Boot Policy In-compute Root Policy In-compute Boot Policy MyseRite Boot Policy MyseRite Boot Policy MyseRite Boot Policy MyseRite	The specific promoving constraints of the second at the free efficiency after of food (markers within the term of Endproce wIRCAHEARSOCH Remain is selected and if it is not selected, the wIRCAHEARS are selected () Local Devices	bott order presence. e drevos dasa (LANStonaper/GCSI) is determined the velCANBACID does not exat, a config em et velCANBACID does not exat, a config e	by PCIe bue scar coder. or will be reported the PCIe bue scan order is used. Doort ⊕ Print						0
Boot Polices Boot Policy In-compute Boot Policy In-compute Boot Policy In-compute Boot Policy In-polifies Boot Policy Inperfiles - In5 Boot Policy Inperfiles Diagnostics Policies	The host (somely-tecondry) does not related a 2 the effective and of block downed with the turn if informer and the turn of the turn of the turn if it is not selected, the which-fields are selected in turn of the turn of the turn of the turn of turn information of the turn of turn of turn of turn information of turn of turn of turn of turn information of turn of turn of turn of turn information of turn of turn of turn of turn of turn information of turn of turn of turn of turn of turn information of turn of turn of turn of turn of turn of turn information of turn of turn of turn of turn of turn of turn information of turn of turn of turn of turn of turn of turn of turn information of turn of t	bott order presence. e drevo dawa (LAKIStrage/IGCS) is determined the VACAPIASCI does not east, a config en if they exact, otherwese the JACCARIA with the be- Best Onder <u> </u>	by PCIe bue scan order. or will be reported erer PCie bue scan order is used. . Boont ⊕ Print or ▲ shatCAHBA/SSC	LUN Name	www	Sut Number	Boot Name	Boot Parts	O Description
Boot Pulces Boot Pulces Boot Pulces Boot Pulces Boot Pulces Boot Pulces MoonPulces MoonPulces MoonPulces MoonPulces MoonPulces Pulces Boot Pulces Dogrammers Cognities Cognities Cognities	The type (promy historybar) decoding) does not index a particular to the effective object of both decode with the type of the effective object of the decode with the effective object of the decode with the are selected in (i) Local Devices (ii) CAUC Mounted vMedia (iii) Jahn-	bot observations (AUC) in determined in the AUC) and AUC) in determined of the AUC) AUC) and AUC) and AUC) and AUC) and the AUC) AUC) and	ly PCIe bus scar order. Ir all be reported. rel PCIe bus scar order is used. Door ● Print Ir Ir Ir Ir Ir Ir Ir Ir Ir Ir	UUN Name	www	Stat Number	Boot Name	Boot Parts	Queoripson
Boot Pulces Cognotics Pulces Cognotics Pulces Cognotics Pulces Cognotics Pulces Cognotics Pulces Polyon Transmitted Polyon Pulces Polyon The Pulces Polyon Pulce Pulces Polyon Pulces Pulces Pulces Pulce Pulces Pulces Pulce Pulces Pulces Pulces Pulce Pulces Pulce Pulces Pulce Pulces Pulce	The host parent yearson boy does not incluse a the effective object of local does and white if a same of Enforce velocityBASECDI have a satisfied and if it is not successful to effective objective inclusion of the effective objective inclusion of the effective objective inclusion of the effective objective inclusion of the effective inclusion	tool outpersenses envoire data & AUVEDrougeNSCE() is determined がったいまた。 envoire data & AUVEDrougeNSCE() is determined がったいまた。 envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE() is determined envoire data & AUVEDrougeNSCE()	by PCIe bas scar order. or all be regored well FCIe bas scar breve is used. Boon ◆Pret ar • vNCAMBARGC. Type	UUN Name	www	Slot Number	Boot Name	Boot Parts	© Description
Boot Pulces Dogenesis Carginese Carginalise Pulces Pulce Pulces Pulce Pu	The two planes y bacedardy does not related as the effective object of local does not white the as if of effect on VECARATICS have a settled an if of a not sensed of the ArCANRATE are sended to a construction of the ArCANRATE are sended to be a constructed of the ArCANRATE and the ArCANRATE December 2010 and the ArCANRATE and the ArCANRATE December 2010 and the ArCANRATE and the ArCANRATE December 2010 and the ArCANRATE and the ArCANRATE and the ArCANRATE ARCANRATE AND ARCA	toot older prevents. en older state SLAVChougenSUSSER is determined of the vPCLANAUSCE dates not easy, a config are if they exist, otherwise the vPCLANEA with the low the vPCLANEAUSCE dates and vPCLANEAU with the low the vPCLANEAUSCE dates and vPCLANEAU with the low the vPCLANEAUSCE dates and vPCLANEAUSCE dates an	by PCIP bus scan order. In all be reported. end PCIP bus scan order is used. Boost ● Print Int ● VAICAMBANSC. Type	UUN Name	www	Suthanter	Boot Name	Boot Path	© Description
Boot Pulces Dogenities Pulces Sources	The type layership secondary deem on a relation of a secondary of the effective observation of the deem of the de	Not observentues. ChildhougestSCED is determined of the vPCLMBANECED does not easy, a config em of they excl, otherwise the vPCLMBA with the low Performance of the vPCLMBA with the vPCLMBA with the low Performance of the vPCLMBA with the vP	by PCIe bus scan order. or all be reported out PCe bus scan order is used. Equin	UUN Nome	www	Sut Number	Boot Name	Boot Path	Q Description
Boot Pulsions Boot Pulsions Boot Pulsions In-compute Boot Pulsiony Net-computes and Boot Pulsiony Networks Boot Pulsiony samboot Despreaches Pulsions Oraphics Card Pulsions Pulsion Terminange Pulsionges Pulsional Terminange Pulsions Pulsional Terminange Pulsions Pulsional Terminange Pulsions Pulsional Terminangement Pulsions	The host planetry biscondrol) dear on indicators of the efficience deal focus deareas which if is same if if an end searched of the deal dealers with the same if if an end searched of the dealers are searched if it is not searched of the dealers of the dealers in the dealers of the dealers of the dealers of the dealers in the dealers of the dealers of the dealers of the dealers in the dealers of the dealers of the dealers of the dealers in the dealers of the dealers of the dealers of the dealers of the dealers in the dealers of the dealers of the dealers of the dealers of the dealers in the dealers of the dealers of the dealers of the dealers of the dealers in the dealers of the dealers of the dealers of the dealers of the dealers in the dealers of the dealers of the dealers of the dealers of the dealers in the dealers of the dealers in the dealers of the dealers	Not other presence. en overs data & LAVEbougueNGCB() is determined of the vPCL/MBA/SCB does not exect, a config and of the vPCL/MBA/SCB does not exect, a config and the vPCL/MBA/SCB does not execut, a config and	by PCIe bas scar order. or all be regored with FCe bas scar breve is used. Boonr ♠ Pret ar • viaCAMBARGC. Type	UUN Nome	www	Sut Number	Boot Name	Boot Path	Q Description
Boot Pulces Cosplexes Cosplexes Cosplexes Cosplexes Soft/Readuh Access Profiles Cost Pulces Cost Pulces Cost Pulces Cost Pulces Cost Pulces Cost Pulces Cost Pulce Cost Pulces Cost Pulce Cost Pulces Cost Pulce Cost Pulce Cost Pulces Cost Pulce Cost Co	The host paramy biscondary data on an existent at the effective object of local datasets within the same of effective velocity/MARSECH human is unstand an effective velocity/MARSECH human is unstanded of a next second of the velocity/MARSECH human (e) Local Derivices (e) CARC Mounted vMedia (e) vMCs (e) vMEAs (e) SCGI VMCs (c) VMEAs	Not obde presence. en overs data (LAVCBougerASCEG) is determined of the vFCLMBAASCE dates not exect, a config are if they exect, of thermose the vFCLMBA with the the vFCLMBAASCE dates and they best Chefer + - ty_Atheneod filter # CocyCo 1 CocyCo 1 CocyCo 2	by PCIe bus scar order. or will be regorded ent PCe bus scar order is used. Secon ● Pint w • vh0Ch48ArtSCType	UUV Yome	www	Sut Number	Boot Name	Boot Path	Q Description
Boot Pulces Sources Montemance Pulces Montemance Pulces Montemance Pulces Sources Sou	The type layershipscondard dense of indexes of the type of the effective of the decision of the deserver of the decision of th	toot outer personse. We wave data & LAVEboguNACSB) is determined if it is VACUMANED to an extra a configuration of the second	by PCIe bas scan order. or all be regorded entificate bas scan order in used. Dopon ⊕ Prex ar • vieChMBAISC., Type	UUN Name	www.	Skit Number	Boot Name	Boot Path	© Description
Boot Pulsions Deagneetics Pulsions Orachess Crain Pulsions Pulsion Pulsions Pulsions Pulsions Pulsions Pulsions Pulsions Pulsions Monogeneeus Pulsions	The head beyone y become of the one of excess of the first and the first and of the other week of the other and the first and of the other week of the other	toot outer provence. en voer data (LAVEbougnet/SCB) is determined of the vice/LAVEA/SCB does not exit, a config and of the vice/LAVEA/SCB does not exit, a config and the	by PCIe bas scar order. or all be regional well Ce bas scar breve is used. Boont ◆ Pret ar • viaCAMBANSC	UUN Name 9 Move Up 4 M	WWW	Skit Number	Boot Name	Boot Parth	© Description
Boot Pulces Couptros Cou	The head binners biscondary data on an extense at the effective object of local datasets within the example of the effective object within the example of the end the end object of the effective object of the effective object object of the end of the counter of the end of the end of the object object of the end of the end of the object object of the end of the end of the end of the end of the end of the end of the end of the end of the end of the end of the object of the end of the end of the end of the end of the end of the end of the end of the end of the end of the object of the end of	Not tode present. en verse dass GAN/BhougenGCSB is determined if the vFCABANGCB dass not easy, a config and if they excel, offense the ub/CABANG with the lass bescholment bescholment Name CoCV/O 1 Cocil Dask 2 Cocil Dask Cocil Dask Cocil Dask Cocil Dask Cocil Dask	ty PCIe bas scar order. y will be regoried entif PCe bas scar order is used. .coort ● Pret w • VHCAMBANSC. Type	UUN Name	www.	Six Number	Boot Name	Boot Pan	© Description
 Bort Pulces Bort Pulcy Te-compute Bort Pulcy Te-compute Bort Pulcy Re-compute Bort Pulcy Reports Bort Pulcy Reports Bort Pulcy Sentocit Dagratics Pulces Cardia Card Pulces Pulce Gard Pulces Host Finnesse Publics Host Pulcy Reported Pulces Host Pulce Pulces Manipament Pulce	The has been viscontrally deen non-relations of the terms of the first one of the other terms of the other and the terms of the first one of the other and t	toot outer persona.	by PCIe too scan order. or all te regional entificate la contra relation of the relation in PCIe too scan order in used. Door ← Pret ar ←VacCAMBASSType	UNN Name	www.	Sict Number	boot Name	Boot Perh	O Description
 Boot Pulces Boot Pulces Boot Pulces In-compute Boot Pulces In-compute Boot Pulces In-good Pulces Boot Pulces In-good Pulces Desprectes Pulces Desprectes Pulces Desprectes Pulces Part Emergen Pulces Part Pulces Part Pulces Part Pulces Part Pulces Part Speci Pulces South Pulces South Pulces 	The head beyone y become by the order of excisers of the form of the order of the o	toot outer provence. we have data (AV/Shogund/SGR) is determined of the vi2/AV/ASGR data and exit, a config and of the vi2/AV/ASGR data and the vi2/AV/AV with the Percendent and a second	ty PCIe bas scar order. or all te regoried with FCe bas scar brev is used. Boont ◆ Print ar • viaCAMBARGC. Type	UM Name	WWW	Sax Number	Boot Name	Boot Pun	© Description

- c) In the **Boot Order** configuration pane, click **CIMC Mounted CD/DVD**. Then, click **Add CIMC Mounted CD/DVD** to add this to the boot order. Move it to the top of the boot order using the **Move up** button.
 - Important As shown in the screenshot below, the CIMC Mounted CD/DVD option must be highest in the boot order preceding the other options, Embedded Local Disk and CD/DVD.

Soot Order									
+ - Yr Advanced Filte	r 🕈 Exp	ort 🖷 Prir	t						\$
Name	Order.	vNIC/v	Туре	LUN N	WWN	Slot N	Boot N	Boot P	Descri
CIMC Mounted CD	1								
CD/DVD	2								
Local Disk	3								
		t Mo	ve Up 🖣	Move Dow	n 🖻 Del	oto			

d) Click Save Changes, and click OK in the Success dialog box. The modified boot policy is saved.

Step 5 Verify successful vMedia mounting:

- a) On the Equipment tab, select one of the servers.
- b) Click **Inventory** > **CIMC**, scroll down and ensure for mount entry #1(OS image) and mount entry #2 (Cisco HyperFlex driver image) you see status as **Mounted** and there are no failures.

I

altalta cisco	UCS Manager	🚫 📢 0 4	A 0			• •	990 000
æ	Al 🔹	Equipment / Rack-Mounts / Servers /	Server 1				
8	 Equipment Chassis 	General Inventory Virtual Ma	chines Hy	ybrid Display Installed F	Firmware SELLogs Cl	MC Sessions VIF P	aths Power Control Monitor> >
80	Rack-Mounts FEX			Boot-loader Version: 3.1 Running Version : 3.1(3a)	(3a))		
₽	Servers Server 1			Package Version: 3.2(3a) Backup Version: 3.1(2d) Update Status : Ready)c		
	 Server 2 Server 3 			Startup Version : 3.1(3a) Activate Status : Ready			
	Server 4 Server 4 Server 4			Actual Mount Entry 1			
	 Fabric Interconnect A (primary) 😳 			Mapping Name	Windows-ISO	Туре	CDD
-0	Fars			Protocol :	NTTP	Server	: 10.29.149.212
	 Pale Module PSUs 						
	 Fabric Interconnect B (subordinate) 😳 			Remote Path :	/images/	User Mount Failure Reason	None
	 Fans 			Authentication Protocol :	None	Remap on Eject	No
	 Fixed Module 			Actual Mount Entry 2			
	 Ethernet Ports 			Macoino Name	HX-Cisco-Driver	Type	HDD
	FC Ports			Protocol	HTTP	Server	10.29.149.212
	* Policies			Port :	80	Filename	HXInstall-HyperV-
	Port Auto-Discovery Policy						DatacenterCore-v3.0.1b- 29665.img
				Remote Path :	/mages/	User	
				Status :	Mounted	Mount Failure Reason	None
				Authentication Protocol :	None	Remap on Eject	No

- c) In the menu bar, click Servers and choose the first HyperFlex service profile.
- d) Click the General tab and choose Actions > KVM Console>>.
 - **Note** The KVM console will try to open in a new browser. Be aware of any pop-up blockers. Allow the pop-ups and re-open the KVM



- e) Reboot the host, launch the KVM Console, and power on the server to monitor the progress of the Windows installation. You should see the Loading Files screen appear. Windows should install automatically without user intervention. You should see a blue screen and within a few moments you should see the Setup is starting message. If automated installation does not begin, double-check that both images are mounted to the server.
- f) Once Windows installation completes, a command prompt will show up. Wait for the installation to complete. The host will then reboot a few times. The installation is complete when you get a clear command prompt at c:\users\administrator>
 - Note Ignore the prompt with the The system cannot find the file specified message.
 - Important Ensure that you have completed Steps e and f, on ALL servers that will be part of the HX cluster.
- g) Login to each server, enter the command C>Users>Administrator>Get-ScheduledTask and verify that the HX Install Bootstrap Launcher task is running.

Step 6 Remove the vMedia policy from the service profile:

- a) To un-map the vMedia policy from the service profile, go to Servers > Service Profile Templates > root > Sub-Organizations > hx-cluster_name > Service Template hx-nodes_name (example:hx-nodes-m5). Then, click on Modify vMedia Policy.
- b) Under the vMedia Policy drop-down selection, deselect the vMedia policy (*HX-vMedia*) previously used to map the two images.

Step 7 Restore the boot order to the one before installation:

- a) In the Navigation pane, click the Servers tab.
- b) Expand Servers > Policies > root > > Boot Policies > Boot Policy HyperFlex-m5

c) In the **Boot Order** configuration pane, use the **Move Down** button to move **CIMC Mounted CD/DVD** option to the bottom of the list.

Step 4 - Hypervisor Configuration, HX Data Platform and Cluster Deployment

After the installation of the OS is completed, perform the following steps to configure the hypervisor, install the HX Data Platform Software and configure the cluster.

Procedure

```
Step 1
```

1 Hypervisor configuration

- a) Re-open the HX Data Platform Installer and log in.
- b) You might need to "start over" because the previous workflow was finished. Click on the gear icon in the top right corner and select **Start Over**.
- c) In the main menu, select I know what I'm doing, let me customize my workflow. In the Warning dialog box, click Confirm and Proceed.
- d) Complete information for the UCS Manager, Domain Information and Hypervisor Credentials.

Field	Description	Default Value			
UCS Manager Host Name	FQDN or the VIP address of the UCSM				
UCS Manager User Name	Admin user or an user with UCSM admin rights	Admin			
Password	Password for the UCS Manager User Name				
Domain Name	Active Directory domain name th to be a member off.	at the HyperFlex cluster is going			
Local Administrator User Name	Local Administrative username on the Hyper-V Hosts	Administrator			
Local Administrator Password	Password for the local administrative user on the Hyper-V hosts	Cisco 123			

Note If you haven't changed the Administrator password for the Windows Hyper-V in the previous step the default value is as shown above.

The HX Data Platform Installer now connects to UCS Managaer and lists the relevant servers for the HX Cluster. The HX Data Platform Installer now validates UCS Firmware etc.

- e) Validate the selected servers and click **Continue**.
- f) Complete the network information as you have done in the chapter: Cisco UCS Manager Configuration using HX Data Platform Installer and ensure the data is the same. Click Continue to proceed to next screen.
- g) Configure Hypervisor Settings. Input the values for the Hypervisor configuration as show below

Field	Description	Example Value						
Configure common Hypervisor Settings								
Subnet Mask	Subnet mask for the hypervisor hosts management network	255.255.255.0						
Gateway	Default gateway for the hypervisor hosts management network	10.101.251.1						
DNS Servers	Comma separated list for the DNS Servers in the AD that the hypervisor hosts are going to be member of.	10.99.2.200,10.992.201						
Hypervisor Settings								
Static IP address	Management IP address for each host	10.101.251.41						
Hostname	Hostname for each host	HX-Hypv-01						

Note If you leave the checkbox **Make IP Addresses and Hostnames Sequential** as checked then the installer will automatically fill the rest of the servers sequential from the first.

Click Start to begin the Hypervisor Configuration.

The installation now continues and configures the Hypervisor hosts.

Important Be aware that even if the steps are completed as shown above, the Hypervisor configuration is not completed. The servers are working in the background until the installer reports an overall completion.

Step 2 HX Data Platform Deployment

- a) You may need to start over because the previous workflow was completed. In the top right corner of the install, select **Start Over**, confirm that you wish to start over.
- b) In the HX Data Platform Installer Workflow page, select I know what I'm doing, let me customize my workflow.
- c) Check the Deploy HX Software and Create HX Cluster and click Continue.
- d) In the warning message, click Confirm and Proceed.
- e) **Domain information, Constrained Delegation, Hypervisor Credentials**. Use the following table to complete the fields in this page.

Field Description		Example Value
Domain Information		
Domain Name	Active Directory Domain that the cluster will be a part of.	contoso.com

Field	Description	Example Value
HX Service Account	The HX service account that was created in the preinstallation phase.	hxadmin
	Important Verify that the Active Directory policies allow HX service account to have effective permissions to "Write servicePrincipalName" on the computer object created for smb namespace.	
Password	Password for the HX service account.	
Constrained Delegation		
HX Service Account and Password	Required for Constrained Delegation.	
Use HX Service Account	Uses the HX service account for Constrained Delegation. The user must be a domain administrator.	Click checkbox if HX service account is provided.
Configure Constrained Delegation now (recommended) or Configure Constrained Delegation later	Select one of the checkboxes. Constrained Delegation is required for VM Live Migration. To configure Contrained Delegation later, use the procedure described in Configuring a Static IP Address for Live Migration and VM Network, on page 53.	
Advanced Attributes (optional)		
Domain Controller	FQDN for the Domain Controller that you want to use specifically for the installation.	dc.contoso.com
Organization Unit	The OU created during the preinstallation phase can be used here Then, the OU will be the home for the HX nodes in the Active Directory.	OU=HyperFlex, DC=contoso, DC=com
Hypervisor Credentials	·	·

Field	Description	Example Value
Hypervisor Local Administrator User Name	Local administrator username on the Hyper-V hosts	Default username/password: administrator/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.

Click Continue.

f) IP Addresses. Click Add Server to add the servers you need for the cluster.

Complete the hostnames for the Hyper-V hosts and the Storage Controllers running on the Hyper-V hosts. These hostnames must be added to forward and reverse look up prior to this step. Remember that only Windows AD Integrated DNS is supported.

Complete the data IP addresses for both the Hyper-V hosts and controller VMs.

Note The management VLAN uses the addresses and Data VLAN does not.

Field	eld Description	
Management	<u>.</u>	<u>.</u>
Cluster Address	Hostname for the HX Connect UI	HX-EAP-01-MGMT
Subnet Mask	Subnet mask for the management VLAN	255.255.255.0
Gateway	Gateway address for the Management VLAN	10.101.251.1
Data		
Cluster Address	IP address for the HX cluster on the Data VLAN	10.101.252.50
Subnet Mask	Subnet mask for the management VLAN	255.255.255.0
Gateway	Gateway address for the management VLAN.	10.101.252.1

Use the following table to complete the fields in this page.

Click Continue.

Step 3 Cluster Configuration

a) Cisco HX Cluster Configuration.

Use the table below to complete the fields in this page.

Field	Description	Example Value
Cisco HX Cluster		
Cluster Name (SMB Access Point)	The cluster name to be used as the FQDN for the datastores.	HX-EAP-01
Replication Factor	Select the number of redundant data replicas across the HX storage cluster. Options are 2 or 3. This cannot be changed after the cluster is created. 3 is recommended for production workloads.	3 (Default Value)
Failover Cluster Name	The name used for the Windows Failover Cluster.	
Controller VM	1	
Create Admin Password		
Confirm Administrator Password		
System Services		
DNS Servers	Comma separated lists of DNS Servers.	10.99.2.200, 10.99.2.201
NTP Servers	The controller VMs needs must be in sync with Windows Active Directory, therefore you must point to your AD domain controllers for time synchronization.	dc1.contoso.com, dc2.contoso.com
DNS Domain Name	The domain name for the Active Directory.	contoso.com
Timezone	The timezone that you want the HX controllers to report in.	
Auto Support		
Enable Connected Services	Auto Support to ship telemetry data of the HX cluster to Cisco Support.	
Send Service ticket to	Email address or alias to receive a copy of the ticket sent to Cisco.	email_address

Field	Description	Example Value
Advance Networking		
Management VLAN tag	VLAN used for the Management Network. This must be the same as used earlier in the installation process for the management network.	
Data VLAN tag	VLAN used for the Management network. This must be the same as used earlier in the installation process for the data network.	
Advanced Configuration		
Enable Jumbo Frames on Data network	Sets the MTU size for the storage data network on the host vSwitches and vNICs, and each storage controller VM. The default value is 9000. To set your MTU size to a value other than 9000, contact Cisco TAC.	
	Ensure that jumbo frames run on the links connected to the storage VMs.	
Disk Partitions	Removes all existing data and partitions from all nodes added to the storage cluster. You must backup any data that should be retained. Select this option to delete existing data and partitions.	
	This is for manually prepared servers. Do not select this option for factory prepared systems. The disk partitions on factory prepared systems are properly configured.	
VDI	Configures for VDI only environments. To change the VDI settings after the storage cluster is created, shutdown or move the resources, make changes, and restart the cluster.	
Hypervisor Settings		
Primary DNS suffix	Completed in earlier steps in the installation.	

Field	Description	Example Value
Additional DNS suffixes	Complete this field if you need more suffices appended on your Hyper-V hosts.	

Refer to the illustration below as a sample entries for the various fields in this page.

Cluster Name (SMB Access Point)	Replication Factor	Failover Cluster Name 🕕	Credentials
hx-eap-01	3 0	HX-EAP-CLU01	Domain Name Ciscolab.dk
			HX Service Account hxadmin
Controller MM			Time Zone Romance Standard Time
controller vivi			Local Administrator User Name Administrator
Create Admin Password	Confirm Admin Password		IP Addresses
••••••	•••••		Cluster Name (SMB Access Point) hx-eap-01
			Management Cluster HK-EAP-01-MGMT
System Services			Data Cluster 10.101.252.50
system services			Management Subnet Mask 255.255.255.0
DNS Server(s)	NTP Server(s)	DNS Domain Name	Data Subnet Mask 255.255.255.0
10.99.2.200,10.99.2.201	Ciscolab.dk	ciscolab.dk	Management Gateway 10.101.251.1
Time Zone			Data Gateway 10.101.252.1
(UTC+01:00) Brussels, Copenhagen, Madrid,	, Paris 🔍 🕡		Server 0
			Management Hypervisor HX-EAP-1.Ciscolab.dk
Auto Support			Management Storage HX-EAP-1- Controller CNTL.Ciscolab.dk
Auto Support	Send service ticket notifications to		Data Hypervisor 10,101.252.41
 Enable Connected Services (Recommended) 	lagranbe@cisco.com		Data Storage Controller 10.101.252.51
			Server 1
Advanced Networking			Management Hypervisor HX-EAP-2.Ciscolab.dk
Autoriced Networking			Management Storage HX-EAP-2- Controller CNTL-Ciscolab.dk
Management VLAN Tag	Management vSwitch		Data Hypervisor 10.101.252.42
2996	vswitch-hx-inband-mgmt		Data Storage Controller 10.101.252.52
Data VLAN Tag	Data vSwitch		Server 2
2997	vswitch-hx-storage-data		Management Hypervisor HX-EAP-3.Ciscolab.dk
			Manazement Storage HX-EAP-3-
Advanced Configuration			K Back Start
umbo Frames	Disk Partitions	Virtual Desktop (VDI)	

b) Click **Start** to begin the deployment. The **Progress** page displays the progress of the configuration tasks: Start, Deploy Validation, Deploy, Create Validation, Cluster Creation.

Start	Deploy Validation	Deploy	Create Validation	Cluster Creation
Cluster C	reation in Progress			
Clus	ter Creation - Overall In Progress		Cluster Creation	\$
	hx-eap-01 In Progress	 ZK ensemble HxCluster ZK ensemble Init Management Service HxCluster Init Management Service 		
		Storage HxCluster Storage HxCluster		

Caution Do not skip validation warnings.

See the Warnings section for more details.

c) When the following screen is displayed, the installation process is completed.

I

Clu	ster Name hx-	еар-01 онине	HEALTHY					
Ver	sion			3.0.1a-29499	Domain Na	ime		Ciscolab.dk
Clu	ster Management I	P Address	HX-EAP-01-MGM	T.Ciscolab.dk	Failover clu	uster Name		HX-EAP-CLU01
Clu	ster Data IP Addres	is	1	0.101.252.50	DNS Server	r(s)		10.99.2.200, 10.99.2.201
Rep	lication Factor			Three copies	NTP Server	r(s)		Ciscolab.dk
Ava	ilable Capacity			6.4 TB				
Ser	vers							
м	odel	Serial Number	Management Hypervisor	Management Storage Co	ontroller	Data Network Hypervi	sor Data Net	work Storage Controller
ю	(AF220C-M5SX	WZP2148075Y	10.101.251.41	10.101.251.51		10.101.251.41	10.101.25	2.51
ю	AF220C-M55X	WZP2148075C	10.101.251.44	10.101.251.54		10.101.251.44	10.101.25	2.54
ю	CAF220C-M55X	WZP214807RI	10.101.251.42	10.101.251.52		10.101.251.42	10.101.25	2.52
ю	(AF220C-M5SX	WZP214807RE	10.101.251.43	10.101.251.53		10.101.251.43	10.101.25	2.53
						Back to Work	kflow Selection	Launch HyperFlex Connect

Configuring a Static IP Address on HX Data Platform Installer

During a default installation of the VM, the HX Installer will try and automatically obtain an IP address using DHCP. To ensure that you have the same IP address at every boot, you can assign a static IP address on the VM

Use the following commands to configure your network interface (/etc/network/interfaces) with a static IP address. Make sure you change the relevant settings to suit your network.

	Command or Action	Purpose
Step 1	Run the following command: ifdown eth0 .	Warning This step ensures that the interface is down before performing the static IP configuration. Failure to do so could lead to issues during the installation process that may require TAC support.
Step 2	Using your favorite editor, edit the /etc/network/eth0.interface file to match your environment. For example, add the following lines in the file:	<pre>auto eth0 # eth0 interface iface eth0 inet static # configures static IP for the eth0 interface metric 100 address XX.XX.XX # Static IP address fr the installer VM netmask 255.255.0.0 # netmask for the</pre>

Procedure

Installation

I

	Command or Action	Purpose
		Static IP addresss gateway XX.XX.X.X # gateway for the Static IP addresss dns-nameservers XX.XX.X.XXX #DNS name servers used by the HX installer dns-search <dns_search_name>.local # DNS search domain name used by the installer</dns_search_name>
Step 3	Save the file so that the changes take effect.	
Step 4	Run the following command: ifup eth0	
Step 5	Reboot the installer VM.	



Post Installation

• Post Installation Tasks Summary, on page 51

Post Installation Tasks Summary

After successful cluster configuration, perform the following addition post installation tasks to ensure that the cluster is ready to serve VMs.

Task	Reference
Create the First Datastore	Create the First Datastore, on page 51
Assign a static IP address for Live Migration and VM Network	Configuring a Static IP Address for Live Migration and VM Network, on page 53
(Optional) Constrained Delegation	(Optional) Post Installation Constrained Delegation, on page 54
Configure Local Default Paths	Configure Local Default Paths, on page 55
Configure File Share Witness	Configuring a File Share Witness, on page 56
Checking the Windows Version on the Hyper-V Host	Checking the Windows Version on the Hyper-V Host, on page 61
Validate Failover Cluster Manager	Validate Failover Cluster Manager, on page 61
Deploying VMs on a Hyper-V cluster	Deploying VMs on a Hyper-V cluster, on page 63
Configuring HyperFlex Share to SCVMM	Configuring HyperFlex Share to SCVMM, on page 69
Re-enabling Windows Defender	Re-enabling Windows Defender, on page 71

Create the First Datastore

Before you begin using the cluster, you must create a datastore. The datastore can be created in HX Connect UI.

Procedure

Step 1 Launch HX Connect UI from a browser of your choice from *https://Cluster_IP*/ or *https://FQDN*.

•••/	📾 Cisco HyperFlex Connect 🛛 🛪 🔤
e ⇒ c	A Not Secure https://tx-eap-01-mgmt.ciscolab.dk/#/clusters/1 🖈 1
	ultulu cisco
	Cisco HyperFlex Connect
	HyperFlex
	Typeritex
	3.0(1a)
	L USER NAME
	PASSWORD 🗢
	Lopn
	ана на полити и полити и полити и полити и полити. На полити и

- **Step 2** Log in with the following credentials:
 - Username—hxadmin
 - Password—Use the password set during cluster installation.
- **Step 3** In the Navigation pane, select **Datastores**.

O Cisco HyperFlex Connect ← → C ▲ Not Secure hillps://t	× -eap-01-mgmt.ciscolab.dk/#/clusters/1		a ☆ :
= "doub" HyperFlex Connect		hx-eap-01	2 0 0
B Dashboard	OPERATIONAL STATUS Online		
MONITOR	$\label{eq:result} \bigwedge_{\bullet} \begin{array}{l} \text{Resiliency health} \\ \text{Healthy} \odot \end{array}$	✓ 1 Node failure can be	tolerated
T- ACTIVITY ANALYZE	CAPACITY 1.1% 6.4 TB 71.7 68	STORAGE OPTIMIZATION OPTIMIZATION	ge optimization, compression and plication ratios will be calculated once we have ient information regarding cluster usage.
Lad Performance	4 HXXX5 4 Convu	rged	
System Information Datastores	IOPS Last 1 hour	• Read Ma	ac 0 Min:0 Avg:0 • Write Max: 4.8 Min:1.4 Avg: 3.05
1 Upgrade	^	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	/~~/
	Throughput (MBps) Last 1 hour	Read Marc	0 Min 0 Avg: 0 • Write Max: 0.02 Min 0.01 Avg: 0.01
	601 601		$\frown \frown \frown \frown$
	Latency (msec) Last 1 hour	Read Marc G	0 Min:0 Aug: 0 • Write Max: 31.59 Min:2.03 Aug: 2.69
	20		
About			Cluster Time : 04/22/2018 12:19:02 AM PDT

Step 4

In the Work pane, click Create Datastore.

Step 5 In the Create Datastore dialog box, complete the following fields:

Field	Description
Datastore Name	Enter a name for the datastore. Cisco recommends that you use all lower case characters for the datastore name.
Size	Select the size for the datastore.
Block Size	Select the block size for the datastore.

Note Cisco recommends 8K block size and as few datastores as possible to ensure the best performance.

Configuring a Static IP Address for Live Migration and VM Network

Log in to each Hyper-V node and execute the following commands in Power Shell to assign a static IP address for Live Migration and VM Network.

#	Command	Purpose
1	New-NetIPAddress -ifAlias "vSwitch-hx-livemigration" -IPAddress 192.168.73.21 -PrefixLength 24	Assigns a static IP address to the Live Migration network.
2	New-NetIPAddress -ifAlias "vswitch-hx-vm-network" -IPAddress 192.168.74.21 -PrefixLength 24	Assigns a static IP address to the VM network.

(Optional) Post Installation Constrained Delegation

♪

Attention

This step must be performed only if Constrained Delegation was not configured during initial installation. It is recommended that you perform this procedure using the HX Installer and not as part of post-installation.

Constrained Delegation gives granular control over inpersonation. When the remote management requests are made to the Hyper-V hosts, it needs to make those requests to the storage on behalf of the caller. This is allowed if that host is trusted for delegation for the CIFS service principal of HX Storage.

Constrained Delegation requires that the option for the security setting User Account Control: Behavior of the elevation prompt for Administrators in Admin Approval Mode is set to Elevate without Prompting. This will prevent the global AD policy from overriding policy on HX OU.

Perform the following procedure *on each Hyper-V host in the HX Cluster* to configure using **Windows Active Directory Users and Computers**.

Procedure

- Step 1 Click Start, click Administrative Tools, and then click Active Directory Users and Computers.
- **Step 2** Expand domain, and then expand the Computers folder.
- **Step 3** In the right pane, right-click on the computer name (for example, HX-Properties), and then click **Properties**.
- **Step 4** Click on the **Delegation** tab.
- **Step 5** Select Trust this computer for delegation to specified services only.
- **Step 6** Ensure that **Use any authentication protocol** is selected.
- **Step 7** Click Add. In the Add Services dialog box, click Users or Computers, and then browse or type the name of the Service Type (such as CIFS). Click OK. The following illustration can be used as an example.

		Н	X-EAP-1 F	ropertie	s		?	x
Loca	ation Manag	ged By	Object	Security	Dial-in	Attri	bute E	ditor
Gen	eral Operatin	g System	Member O	f Delega	ation Pas	ssword	Replic	ation
Dele beha	egation is a securi alf of another use	ty-sensitive r.	operation, w	nich allows s	ervices to ac	t on		
0	Do not trust this co	omputer for	delegation					
01	Frust this compute	r for delega	ation to any se	ervice (Kerbe	eros only)			
•	Frust this compute	r for delega	ation to specif	ied services	only			
(O Use Kerberos	only						
	Use any auther	entication p	rotocol					
	Services to which	this accou	unt can preser	nt delegated	credentials:			
	Service Type	User or C	omputer	Port	Servio	ce Ni		
	cifs	hx-eap-01	.Ciscolab.dk					
	cifs	HX-EAP-	1					
	WSMAN	HX-EAP-	1					
	<	1	II	Add	Remov	> e		
		C	Ж	Cancel	Apply		He	əlp

Step 8 Repeat these steps for all nodes.

Configure Local Default Paths

Configure the default local path for the VMs to ensure that they will be on the HX cluster datastore.

Run the following commands in PowerShell:

```
$Creds = Get-Credential -Message "User Credentials" -UserName <<current logon username>>
$hosts = ("hostname1","hostname2","hostname3","hostname4")
Invoke-Command -ComputerName $hosts -Credential $Creds -ScriptBlock {Set-VMHost
-VirtualHardDiskPath
"\\HX-EAP-01.ciscolab.dk\DS1_8K" -VirtualMachinePath "\\HX-EAP-01.ciscolab.dk\DS1_8K"}
```



Note

Remember to change the variables to suit your environment.

Configuring a File Share Witness

As a Microsoft best practice, ensure that you configure a Quorum witness datastore. Use the following procedure to configure a File Share Witness using **Failover Cluster Manager** (FCM).

Procedure

Step 1 Launch FCM.

Step 2 In the navigation pane, select your cluster. Then, in the **Actions** pane, select **More Actions** > **Configure Cluster Quorum Settings...**.



Step 3 The **Configure Cluster Quorum** wizard is launched. Click **Next**.





Configure Cluste	er Quorum Wizard	×
Select O	uorum Configuration Option	
Before You Begin	Select a quorum configuration for your cluster.	
Select Quorum Configuration Option	O Use default quorum configuration	
Select Quorum Witness	The cluster determines quorum management options, including the quorum witness.	
Confirmation	Select the quorum witness	
Configure Cluster Quorum Settings	You can add or change the quorum witness. The cluster determines the other quorum management options.	
Summary	You determine the quorum management options, including the quorum witness.	
	Failover Cluster Quorum and Witness Configuration Options	
	< Previous Next > Cancel	

Step 5 In the Select Quorum Witness screen, choose Configure a file share witness. Click Next.

I

🕕 Configure Cluste	r Quorum Wizard	×
Select Q	uorum Witness	
Before You Begin Select Quorum Configuration Option	Select a quorum witness option to add or change the quorum witness for your cluster configuration. As a best practice, configure a quorum witness to help achieve the highest availability of the cluster.	
Select Quorum Witness	 Configure a disk witness Adds a quorum vote of the disk witness 	
Configure File Share Witness Confirmation	 Configure a file share witness Adds a quorum vote of the file share witness 	
Configure Cluster Quorum Settings Summary	 Configure a cloud witness Adds a quorum vote of the cloud witness Do not configure a quorum witness 	
	Failover Cluster Quorum and Witness Configuration Options	
	< Previous Next > Cancel	

Step 6 In the Configure File Share Witness screen, specify the path to the File Share. Click Next.

Configure Cluster	r Quorum Wizard	×
Configure	e File Share Witness	
Before You Begin Select Quorum Configuration Option	Please select a file share that will be used by the file share witness resource. This file share must not be hosted by this cluster. It can be made more available by hosting it on another cluster.	
Select Quorum Witness	File Share Path:	
Configure File Share Witness	\\HX-EAP-01.ciscolab.dk\DS1_8K Browse	
Confirmation		
Configure Cluster Quorum Settings		
Summary		
	< Previous Next > Cancel	

Step 7 In the **Confirmation** screen, click **Next**.

遣 Configure Cluster Quorum Wizard X			
Configure	e Cluster Quorum Settings		
Before You Begin Select Quorum Configuration Option	Please wait while the quorum settings are configured.		
Select Quorum Witness			
Configure File Share Witness			
Confirmation			
Configure Cluster Quorum Settings			
Summary			
	C	ancel	

Step 8 In the **Summary** screen, click **Finish** to close the wizard.

Step 9 Alternatively, you can configure a file share witness using Windows PowerShell.

- a) Open a Windows PowerShell console as an administrator.
- b) Type Set-ClusterQuorum -FileShareWitness <File Share Witness Path>
- c) You should now see the File Share Witness configured for your cluster. When you navigate to your File Share Witness share you will see a folder created for your cluster.

 Cluster Core Resources 			
Name	Status	Information	^
Name: HX-EAP-CLU01	Online		
Cluster Infrastructure			
S Virtual Machine Cluster WMI	Online		
File Share Witness			
File Share Witness (\\HX-EAP-01.ciscolab.dk\DS1_8K)	Online		~
<			>

Cisco HyperFlex Systems Installation Guide for Microsoft Hyper-V, Release 3.0

Checking the Windows Version on the Hyper-V Host

Follow the steps below to check the version of Windows installed.

Procedure

- **Step 1** Login to the Hyper-V server as an administrator or HX Service Administrator account.
- **Step 2** In Powershell, run the following command:

C:\Users\adminhyperflex> Get-ItemProperty 'HKLM:\SOFTWARE\Microsoft\Windows NT\CurrentVersion'

Step 3 Verify the installed Windows version in the result of the command output.

Following is a sample output if you have installed Windows Server 2016.

ProductName : Windows Server 2016 Datacenter ReleaseId : 1607 SoftwareType : System UBR : 447

Step 4 In addition, verify the following:

- The UBR # should be greater than 1884. If not, upgrade the HyperV servers to the latest update. Refer
 to the Microsoft Knowledge Base article: KB4467691.
- If you are using a standalone HyperV manager outside HX nodes then, the Hyper-V management server should have a version UBR # greater than 1884. You must upgrade the Hyper-V management server if the version is 1884 or lower.

Validate Failover Cluster Manager

Procedure

```
Step 1
```

Open the Failover Cluster Manager Manager and click Validate Cluster and then click Next.

Witness: File Share Witness (\\HY)	PER4-SMB hx.local\chris_quor	um)	^ A	ctions
				TYPER4-FO.hx.local
 Configure 				G Configure Role
Configure high availability for a spec 2016 or supported previous versions	ific clustered role, add one or of Windows Server.	more servers (nodes), or copy roles from a cluster running Windows Server	4	Validate Cluster
To Configure Role		Fallover cluster topics on the Web	2	View Validation Report
Waldate Ouster				Add Node
Add Node				Close Connection
Copy Cluster Roles			4	Reset Recent Events
P Ouster-Aware Updating				More Actions
			_	View
 Navigate 			6	Refresh
		8	Properties	
Networks	Custer Events	(r) 200900		Help

Validate a Config	options	×
Before You Begin Testing Options Confirmation Validating Summary	Choose between running all tests or running selected tests. The tests examine the Cluster Configuration, Hyper-V Configuration, Inventory, Network, Storage, and System Configuration. Microsoft supports a cluster solution only if the complete configuration (servers, network, and storage) can pass all tests in this wizard. In addition, all hardware components in the cluster solution must be "Certified for Windows Server 2016." Run all tests (recommended) Run only tests I select	
	More about cluster validation tests Previous Next > Cancel]

Step 2 Select **Run all tests (recommended)** and then click **Next**.

After clicking Next, the validation procedure starts running.

Step 3 Verify that there are no validation failures. If there are any validation failures, click **View Report** and address any results that show **Failed**.

re You Begin	The following amount of time	validation tests are running. Depending on the test selec	tion, this may take a significant	
imation	Progress	Test	Result	^
	100%	List Environment Variables	The test passed.	
sting	100%	List Host Guardian Service client configuration	The test passed.	
nary	100%	List Memory Information	The test passed.	_
	100%	List Operating System Information	The test passed.	
	100%	List Plug and Play Devices	The test passed.	
	100%	List Running Processes	The test passed.	
	100%	List Services Information	The test passed.	
	0%	List Software Updates	Test is currently runni	V
	<		>	
	<	y running.	>	

Deploying VMs on a Hyper-V cluster

Deploying VMs on a Hyper-V cluster is a multi-step process as described below:

- Install Remote Server Administration Tools (RSAT) on the management station/host—You must install administrator tools such as Hyper-V Manager and Failover Cluster Manager as features Server Manager. For more information see, Install RSAT tools on the Management Station or Host, on page 63.
- Manage VMs—Connecting to all the Hyper-V nodes in the HX cluster and creating new VMs can be accomplished using either Hyper-V Manager or Failover Cluster Manager. For more information see, Creating VMs using Hyper-V Manager, on page 68, Creating VMs using Failover Cluster Manager, on page 68, or Creating ReadyClone VMs.

Install RSAT tools on the Management Station or Host

To install RSAT, complete the following steps:

Before you begin

RSAT tool installation requires the following:

- A server from which you can install, manage, monitor the VMs on the Hyper-V HX cluster.
- Administrator tools such as Hyper-V Manager, FCM, PowerShell, SCVMM.

Procedure

Step 1 In Server Manager, click Manage and then select Add Roles and Features. The Add Roles and Features wizard appears.



Step 2 In the **Before you begin** page, click **Next**.



- Step 3 In the Select installation type page, select Role-based or feature-based installation. Click Next.
- **Step 4** In the Server Selection page, select your server from the list. This server belongs to the same domain as the HX cluster. Click Next.

	nager • Das	hboard	• 🕲 I 🧗	Manage Tools	s View Hel
ashboard	WELCOME TO SE	RVER MANAGER			
ocal Server					
Add Roles and Features Wizard				-	u x
C. L. J. J. C. C.				DESTINATIO	ON SERVER
Select destination	server			Honolulu_H0HVD	OMLOCAL
Defers Vev Desis	Select a server or a s	virtual hard disk on which	to install roles and feature	3	
Installation Type	Select a server fr	om the server nool			
Server Selection	 Select a virtual h 	ard disk			
Server Roles	Server Pool				
Features					
	Filter:				
	Name	IP Address	Operating System		
	Honolulu.HXHVDO	M.LO 10.29.149.224	Microsoft Windows Ser	ver 2016 Datacenter E	valuation
	1 Computer(s) found	1			
	This page shows ser and that have been	vers that are running Wi added by using the Add	ndows Server 2012 or a new Servers command in Server	ver release of Window Manager. Offline sen	s Server, vers and
	newly-added server	s from which data collect	ion is still incomplete are n	ot shown.	
			2		

- **Step 5** In the Select Roles page, click Next.
- Step 6In the Features page, select Remote Server Administration Tools > Feature Administration Tools >
Failover Clustering Tools, and Role Administration Tools > Hyper-V Management Tools > Failover
Clustering Tools. Click Next.



- **Step 7** In the **Confirmation** page, click **Install**. Leave the **Restart the destination server if required** checkbox unchecked.
- **Step 8** The **Installation Progress** page displays installation progress. When installation completes, click **Close** to exit the wizard.



Managing VMs using Hyper-V Manager

Connecting to Hyper-V Nodes

Complete the following steps to connect to all the Hyper-V nodes in the Hyper-V HX Cluster.

Open t consol	he Server Manager dashboard and click Tools. Then, click Hyper-V Manager. The Hyper-V Manager e appears.				
In the left pane, select Hyper-V Manager and click Connect to Server					
In the (for ex	n the Select Computer dialog box, select Another computer and type in the name of the Hyper-V node for example, HXHV1) that belongs to the Hyper-V cluster. Click OK .				
Repeat	at all of the above steps for each node in the Hyper-V HX cluster.				
Note	For a fresh installation, the storage controller virtual machine (StCtlVM) in the only virtual machine that appears in Virtual Machines pane in the Hyper-V Manager console. Virtual machines appear in the list under this pane as they are added in each node. For more information on how to create VMs using Hyper-V Manager see: Creating VMs using Hyper-V Manager on page 68				

Creating VMs using Hyper-V Manager

Complete the following steps to create VMs using Hyper-V Manager.

Procedure

Step 1	Open Hyper-V Manager.
Step 2	Select the Hyper-V server, and right click and select New > Create a virtual machine . The Hyper-V Manager New Virtual Machine wizard displays.
Step 3	In the Before you Begin page, click Next.
Step 4	In the Specify Name and Location page, enter a name for the virtual machine configuration file. The location for the virtual machine click Next .
Step 5	In the Specify Generation page, choose either Generation 1 or Generation 2.
Step 6	In the Assign Memory page, set the start memory value 2048 MB. Click Next.
Step 7	In the Configure Networking page, select a network connection for the virtual machine to use from a list of existing virtual switches.
Step 8	In the Connect Virtual Hard Disk page, select Create a Virtual Hard Disk page, and enter the name, location and size for the virtual hard disk. Click Next .
Step 9	In the Installation Options, you can leave the default option Install an operating system later selected. Click Next.
Step 10	In the Summary page, verify that the list of options displayed are correct. Click Finish.
Step 11	In Hyper-V Manager, right-click the virtual machine and click Connect.
Step 12	In the Virtual Machine Connection window, select Action > Start.
•	

Managing VMs using Failover Cluster Manager

Creating VMs using Failover Cluster Manager

Complete the following steps to connect to the Windows Failover cluster (installed along with the Hyper-V HX cluster) and create new VMs using Failover Cluster Manager.

Procedure

Step 1	In the Failover Cluster Manager console, under the Actions pane, click Connect to Server	
Step 2	In the Select Cluster dialog box, click Browse to navigate to the Hyper-V HX cluster. Click OK.	
Step 3	In the left pane, click Roles > Virtual Machines > New Virtual Machines	
Step 4	In the New Virtual Machine dialog box, search and select the Hyper-V node where you wish to create new VMs. Click OK . The New Virtual Machine wizard appears.	
Step 5	In the Before You Begin page, click Next.	
Step 6	In the Specify Name and Location page, choose a name for the VM, and specify the location or drive where the VM will be stored. Click Next .	
Step 7	In the Specify Generation page, select the generation of virtual machine you want to use (Generation 1 or Generation 2) and click Next .	
Step 8	In the A	Assign Memory page, enter the amount of memory that you want for the VM. Click Next.
---------	--------------------	--
Step 9	In the	Connect Virtual Hard Disk page, enter the name, location and hard drive size. Click Next.
Step 10	In the l	installation Options page, select the install location for the OS. Click Next.
Step 11	In the S	Summary page, review the options selected and click Finish.
Step 12	Right-o click S	click on the newly created VM, and click Connect . In the Virtual Machine Connection window, tart .
	Note	By default, the Failover Cluster Manager will assign a default name for the 4 networks created.

Note By default, the Failover Cluster Manager will assign a default name for the 4 networks created. It is recommended to rename these network names.

What to do next

To enable redirection of datastore access requests from outside the HX cluster boundary through the management path, add the following entry to the hosts file on the (remote) machine running Hyper-V manager, Failover Cluster Manager, or SCVMM Console. For example, edit C:\Windows\System32\drivers\etc\hosts and add:

cluster_mgmt_ip \\smb_namespace_name\datastore_name

10.10.10.100 \\hxcluster.company.com\ds1

Configuring HyperFlex Share to SCVMM

Before you begin

Edit the /etc/hosts file on the host running the VMM admin console to resolve the **smb** access point to the cluster management IP address of HyperFlex cluster. This IP address is typically used to launch Cisco HX Connect.

Procedure

Step 1 Add the cluster to System Center - Virtual Machine Manager (VMM).

Step 2 In the VMM console, go to **Fabric** > **Servers** > **All Hosts**.

Step 3 Right-click on the cluster and select **Properties**.





In the **Properties** window, right-click **File Share Storage** > Add **File Storage**.





L



Step 6 Click **OK** and exit VMM. The HyperFlex Share is now mapped and VMs can be created on this share using SCVMM.

Re-enabling Windows Defender

Run the following commands to re-enable Windows Defender.

Install Defender from PowerShell

Install-WindowsFeature -Name Windows-Defender

(Optional) Install Defender GUI from PowerShell

Install-WindowsFeature -Name Windows-Defender-GUI



Troubleshooting Information

• Troubleshooting, on page 73

Troubleshooting

This section contains troubleshooting information for issues seen during Hyper-V deployment.

Symptom or Scenario	Workaround or Recommendation
File Witness Share is not configured.	Create a File Witness Share and configure it as a Witness Share in Failover Cluster Manager (FCM). It is recommended not use the Witness Share created for anything else.
Waiting for Storage Controller VM (SCVM) times out.	 Set the VLAN ID manually and retry, or, Delete the controller VM and retry.
HX Installer fails to join computers to the domain due to incorrect Active Directory credentials to HX Installer.	Restart HX Installer in the "Deploying HX Data Platform Installer and Cluster Configuration" phase in installation, and provide correct credentials.
Unreliable per node statistics displayed for a node in the duration when any of controller VMs are down in the cluster.	Use Windows side counters in the time when any of the controller VMs are down.

I

Symptom or Scenario	Workaround or Recommendation
The FQDN address for HX Connect may be inaccessible after successful cluster installation.	The default Internet Explorer security setting on Windows 2008 prevents HX Connect accessibility with the FQDN name. As a workaround, try one of the following:
	• Modify the Internet Explorer setting.
	• Use an IP address.
	• Use other supported browsers such as Chrome or Firefox.
For compute-only nodes, performance charts are unavailable in the HX Connect Dashboard page.	This is a l nly nodes.
Windows installation failed with the following error:	1. Switch the boot policy to Embedded
Could not detect system partition.	Disk (Ally).
In addition, setupact.log shows that the setup could not detect any available disk as a valid boot device.	2. For the Service Profile or Service Profile Template use boot policy that mirrors hx-nodes-m5 than compute-nodes-m5.
Migration failed due to incompatible processors.	A cluster may not have a combination of different CPU types.



UNATIE

Appendix

- Rack Cisco HyperFlex Nodes, on page 75
- Setting Up the Fabric Interconnects, on page 75
- How to upload the iso and img file to the installer VM using WinSCP, on page 79
- DNS Records, on page 81
- Updating HX Service Account Password, on page 82

Rack Cisco HyperFlex Nodes

For details on the HyperFlex cluster and node limits, see **Cisco HX Data Platform Storage Cluster Specifications** in the latest version of the Release Notes for Cisco HX Data Platform.

For details on the installation of Cisco HyperFlex nodes, refer to respective links from the following table:

Type of Node To Be Installed	Reference
Converged Nodes	
HyperFlex HX220c M5 Nodes	Cisco HyperFlex HX220c M5 Node Installation Guides
HyperFlex HX240c M5 Nodes	Cisco HyperFlex HX240c M5 Node Installation Guides

. . .

C.

Important Compute-only nodes are not supported with Hyper-V in 3.0(1a)

Setting Up the Fabric Interconnects

Configure a redundant pair of fabric interconnects for high availability. Connect the two fabric interconnects directly using Ethernet cables between the L1 and L2 high availability ports. Connect Port L1 on fabric interconnect A to port L1 on fabric interconnect B, and Port L2 on fabric interconnect A to port L2 on fabric interconnects to continuously monitor the status of each other.

Verify and obtain the following information before connecting the fabric interconnects.

Item	Description
Verify the physical connections of the fabric interconnects.	• Console port for the first fabric interconnect must be physically connected to a computer or console server.
	• Management Ethernet port (mgmt0) must be connected to an external hub, switch, or router.
	• L1 ports on both the fabric interconnects must be directly connected to each other.
	• L2 ports on both the fabric interconnects must be directly connected to each other.
Verify console port parameters on the	• 9600 baud
computer terminal. • 8 data • No pa	• 8 data bits
	• No parity
	• 1 stop bit
Obtain information for initial setup.	Collect the following information for initial setup:
	System name
	Password for admin account
	Three static IP addresses
	• Subnet mask for three static IP addresses
	Default gateway IP address
	• DNS server IP address
	• Domain name for the system

Both fabric interconnects must go through the same setup process. Set up the primary fabric interconnect and enable for cluster configuration. When you use the same process to set up the secondary fabric interconnect, it detects the first fabric interconnect as a peer.

Configure the Primary Fabric Interconnect Using GUI

You can either follow the procedure below for configuring the primary fabric interconnect or watch Cisco UCS Manager Initial Setup part 1.



Attention IPv4 addressing is required for HyperFlex.

Procedure

Step 1	Power up the fabric interconnect.
	You will see the power on self-test messages as the fabric interconnect boosts.
Step 2	If the system obtains a lease, go to step 6, otherwise, continue to the next step.
Step 3	Connect to the console port.
Step 4	At the installation method prompt, enter gui.
Step 5	If the system cannot access a DHCP server, you are prompted to enter the following information:
	• IPv4 address for the management port on the fabric interconnect.
	• IPv4 subnet mask for the management port on the fabric interconnect.
	• IPv4 address for the default gateway assigned to the fabric interconnect.
Step 6	Copy the web link from the prompt into a web browser and go to the Cisco UCS Manager GUI launch page.
Step 7	On the Cisco UCS Manager GUI launch page, select Express Setup.
Step 8	On the Express Setup page, select Initial Setup and click Submit.
Step 9	In the Cluster and Fabric Setup area:
	a) Click the Enable Clustering option.
	b) For the Fabric Setup option, select Fabric A.
	c) In the Cluster IP Address field, enter the IPv4 address that Cisco UCS Manager will use.

Step 10 In the **System Setup** area, complete the following fields:

Field	Description
System Name field	The name assigned to the Cisco UCS domain.
	In a standalone configuration, the system adds "-A" to the system name. In a cluster configuration, the system adds "-A" to the fabric interconnect assigned to fabric A, and "-B" to the fabric interconnect assigned to fabric B.
Admin Password field	The password used for the Admin account on the fabric interconnect.
	Choose a strong password that meets the guidelines for Cisco UCS Manager passwords. This password cannot be blank.
Confirm Admin Password field	The password used for the Admin account on the fabric interconnect.
Mgmt IP Address field	The static IPv4 address for the management port on the fabric interconnect.

Field	Description
Mgmt IP Netmask field or Mgmt IP Prefix field	The IPv4 subnet mask prefix for the management por on the fabric interconnect.
	NoteThe system prompts for a Mgmt IP Netmask or a Mgmt IP Prefix based on what address type you entered in the Mgmt IP Address field.
Default Gateway field	The IPv4 address for the default gateway assigned the management port on the fabric interconnect.
	NoteThe system prompts for a Default Gateway address type based on what type you entered in the Mgmt IP Address field.
DNS Server IP field	The IPv4 address for the DNS Server assigned to the fabric interconnect.
Domain Name field	The name of the domain in which the fabric interconnect resides.

Step 11 Click Submit.

Procedure

A page displays the results of your setup operation.

Configure the Subordinate Fabric Interconnect Using GUI

You can either follow the procedure below for configuring the subordinate fabric interconnect or watch Cisco UCS Manager Initial Setup part 2.

Step 1	Power up the fabric interconnect. You will see the power-up self-test message as the fabric interconnect boots.
Step 2	It the system obtains a lease, go to step 6, otherwise, continue to the next step.
Step 3	Connect to the console port.
Step 4	At the installation method prompt, enter gui.
Step 5	If the system cannot access a DHCP server, you are prompted to enter the following information:
	• IPv4 address for the management port on the fabric interconnect
	• IPv4 subnet mask for the management port on the fabric interconnect
	• IPv4 address for the default gateway assigned to the fabric interconnect
Step 6	Copy the web link from the prompt into a web browser and go to the Cisco UCS Manager GUI launch page.
Step 7	On the Cisco UCS Manager GUI launch page, select Express Setup.

Step 8	On the Express Setup page, select Initial Setup and	click Submit.
	The fabric interconnect should detect the configuration	n information for the first fabric interconnect.
Step 9	In the Cluster and Fabric Setup Area:	
	a) Select the Enable Clustering option.b) For the Fabric Setup option, make sure Fabric Fa	s is selected.
Step 10	In the System Setup Area, enter the password for the field. The Manager Initial Setup Area is displayed.	Admin account into the Admin Password of Master
Step 11	In the Manager Initial Setup Area, complete the following the following the setup of the setup o	owing:
	Field	Description
	Peer FI is IPv4 Cluster enabled. Please Provide Local Fabric Interconnect Mgmt0 IPv4 Address field	Enter an IPv4 address for the Mgmt0 interface on the local fabric interconnect.
Step 12	Click Submit .	
	A page displays the results of your setup operation.	

How to upload the iso and img file to the installer VM using WinSCP

You may choose to use the Installer VM as host for the ISO and IMG files to install Hyper-V. To accomplish that you need to upload the Windows ISO and the Cisco HyperFlex driver image to the installer.

For the pupose of this guide we will use WinSCP, you can use whatever SCP client you have available.

Procedure

- **Step 1** Download a SCP client for Windows. It could be WinSCP (https://winscp.net/eng/download.php) and install it on your workstation.
- Step 2 Connect to your installer VM from WinSCP. Username root and password 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.

Login	
ession	
<u>File protocol:</u>	
SCP V	-
Host name:	Port number:
10.101.1.228	22
<u>U</u> ser name:	Password:
root	•••••
<u>S</u> ave ▼	A <u>d</u> vanced ▼

Step 3 Accept the key and add to the cache.



- **Step 4** Once connected browse to the folder /var/www/localhost/images/ on the installer. Browse to where to local files are located on your machine.
- **Step 5** Transfer the files. Filenames can be copied if you access the URL in a browser: *http://<controller IP>/images/*



DNS Records

Refer to the list below for the DNS records that must be added to your environment.

Add-DnsServerResourceRecordA -Name "" -ZoneName "Ciscolab.dk" -AllowUpdateAny -IPv4Address "" -TimeToLive 01:00:00 -CreatePtr -computername

Add-DnsServerResourceRecordA -Name "" -ZoneName "Ciscolab.dk" -AllowUpdateAny -IPv4Address "" -TimeToLive 01:00:00 -CreatePtr -computername

Add-DnsServerResourceRecordA -Name "" -ZoneName "Ciscolab.dk" -AllowUpdateAny -IPv4Address "" -TimeToLive 01:00:00 -CreatePtr -computername

Add-DnsServerResourceRecordA -Name "" -ZoneName "Ciscolab.dk" -AllowUpdateAny -IPv4Address "" -TimeToLive 01:00:00 -CreatePtr -computername

Add-DnsServerResourceRecordA -Name "" -ZoneName "Ciscolab.dk" -AllowUpdateAny -IPv4Address "" -TimeToLive 01:00:00 -CreatePtr -computername

Add-DnsServerResourceRecordA -Name "" -ZoneName "Ciscolab.dk" -AllowUpdateAny -IPv4Address "" -TimeToLive 01:00:00 -CreatePtr -computername

Add-DnsServerResourceRecordA -Name "" -ZoneName "Ciscolab.dk" -AllowUpdateAny -IPv4Address "" -TimeToLive 01:00:00 -CreatePtr -computername

Add-DnsServerResourceRecordA -Name "" -ZoneName "Ciscolab.dk" -AllowUpdateAny -IPv4Address "" -TimeToLive 01:00:00 -CreatePtr -computername

Add-DnsServerResourceRecordA -Name "" -ZoneName "Ciscolab.dk" -AllowUpdateAny -IPv4Address "" -TimeToLive 01:00:00 -CreatePtr -computername

Add-DnsServerResourceRecordA -Name "" -ZoneName "Ciscolab.dk" -AllowUpdateAny -IPv4Address "" -TimeToLive 01:00:00 -CreatePtr -computername

Add-DnsServerResourceRecordA -Name "" -ZoneName "Ciscolab.dk" -AllowUpdateAny -IPv4Address "" -TimeToLive 01:00:00 -CreatePtr -computername

Add-DnsServerResourceRecordA -Name "-CNTL" -ZoneName "Ciscolab.dk" -AllowUpdateAny -IPv4Address "" -TimeToLive 01:00:00 -CreatePtr -computername

Add-DnsServerResourceRecordA -Name "-CNTL" -ZoneName "Ciscolab.dk" -AllowUpdateAny -IPv4Address "" -TimeToLive 01:00:00 -CreatePtr -computername

Add-DnsServerResourceRecordA -Name "-CNTL" -ZoneName "Ciscolab.dk" -AllowUpdateAny -IPv4Address "" -TimeToLive 01:00:00 -CreatePtr -computername

Add-DnsServerResourceRecordA -Name "-CNTL" -ZoneName "Ciscolab.dk" -AllowUpdateAny -IPv4Address "" -TimeToLive 01:00:00 -CreatePtr -computername

Updating HX Service Account Password

A new password must be updated within an HX Cluster if the password expired or was changed voluntarily. Perform the following step to update the Cisco HX Service Account Password.

Note The access to VMs and datastores will still continue to work without the new password. However, the cluster will experience some issues with the Alert, Systems Status, Support Bundle and Datastore Access reporting.

Before you begin

Ensure that the Cisco HX Service Account User Name is in the following format:

username@domain.com

Procedure

Run the resethypervored -u command from one of the Storage Controller node within the cluster.

Example:

The following is an example of the command with sample output:

```
root@cvmhv1:~# resethypervcred -u
Enter service admin name:administrator@domain.com
Enter service admin passwd:
Enter local admin name:administrator
Enter local admin passwd:
Hyperv creds updated successfully
```

Login to each controller vm as the root user and run restart hxHyperVSvcMgr.

After you have completed the reset and service restarts, then login to **HX Connect** as the HX Service Account User to verify your login works and HX Connect is displaying the cluster information.

I