

Hitachi Content Platform Gateway Windows VM ISO Installation Guide

v4.2.0

Windows Only

This document describes how to install the Hitachi Content Platform Gateway software onto a Windows VM using the ISO installation.

MK-HCPG006-00

March 2022

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Chapter 1 Introduction

The objective of this document is to describe how to install the HCP Gateway Windows software onto a VM from a Windows 4.2.0 ISO.

The HCP Gateway Windows 4.2.0 ISO **HCPG-420-Windows-Appliance.iso** must be copied to a datastore on the VMWare ESXi host before creating the new VM.

The Windows 4.2.0 ISO contains 5 different disk configurations. The first 3 options (HCPG without SAN) are for deploying the ISO onto an ESXi hosted VM and the last 2 are for deploying the ISO onto a Hitachi appliance with SAN storage. The appropriate number of SCSI Controllers and Hard Disks need to be created in the VM (see below for the details). Please refer to the **HCP Gateway v4_2_0 Windows Appliance ISO Installation Guide** for instructions for deploying the ISO onto a Hitachi appliance with SAN storage.



1. The **HCPG (2-disks) (C & D on one disk, E one disk)** option requires the VM to be configured with 2 ESXi VMDK disks and 2 SCSI Controllers
 - **Hard disk 1 - connected to SCSI Controller 0 configured as type LSI Logic SAS** - must be at least 200GB and will be used by the Windows OS as the C: drive and by the MariaDB database as the D: drive. The C: and D: drives require a minimum of 100GB each. The formula for determining the size of the D: drive is 4GB per 1 million files, so if the

expectation is that the Gateway will handle 100 million files, the size of Hard Disk 1 should be set to at least 500GB (100GB for the C: drive and 400GB for the D: drive)

- **Hard disk 2 - connected to SCSI Controller 1 configured as type LSI Logic SAS** - this is the cache drive and must be at least 100GB and will be the E: drive. This disk must be sized according to the amount of data the customer wants to keep in the cache, including the amount of data being written to and read from the HCP Gateway that is temporarily stored on the cache. The capacity will need to be increased if compression and encryption are used on the HCP Gateway shares to compress/encrypt and decompress/decrypt files.

NOTE: It is required to add SCSI Controller 1 and save the VM configuration before adding any disks to SCSI Controller 1.

2. The **HCPG (3-disks) (C, D, E, on separate disks)** option requires the VM to be configured with 3 ESXi VMDK disks and 2 SCSI Controllers

- **Hard disk 1 - connected to SCSI Controller 0 configured as type LSI Logic SAS** - must be at least 100GB and will be used by the Windows OS as the C: drive
- **Hard disk 2 - connected to SCSI Controller 0 configured as type LSI Logic SAS** - must be at least 100GB and will be used by the MariaDB database as the D: drive. The formula for determining the size of the D: drive is 4GB per 1 million files, so if the expectation is that the Gateway will handle 100 million files, the size of Hard Disk 2 should be set to at least 400GB
- **Hard Disk 3 - connected to SCSI Controller 1 configured as type LSI Logic SAS** - this is the cache drive and must be at least 100GB and will be the E: drive. This disk must be sized according to the amount of data the customer wants to keep in the cache, including the amount of data being written to and read from the HCP Gateway that is temporarily stored on the cache. The capacity will need to be increased if compression and encryption are used on the HCP Gateway shares to compress/encrypt and decompress/decrypt files.

NOTE: It is required to add SCSI Controller 1 and save the VM configuration before adding any disks to SCSI Controller 1.

3. The **HCPG with local storage (4 disks) (C, D, Cache, Local Storage)** option requires the VM to be configured with 4 ESXi VMDK disks and 2 SCSI Controllers

- **Hard disk 1 - connected to SCSI Controller 0 configured as type LSI Logic SAS** - must be at least 100GB and will be used by the Windows OS as the C: drive
- **Hard disk 2 - connected to SCSI Controller 0 configured as type LSI Logic SAS** - must be at least 100GB and will be used by the MariaDB database as the D: drive. The formula for determining the size of the D: drive is 4GB per 1 million files, so if the expectation is that the Gateway will handle 100 million files, the size of Hard Disk 2 should be set to at least 400GB
- **Hard Disk 3 - connected to SCSI Controller 1 configured as type LSI Logic SAS** - this is the cache drive and must be at least 100GB and will be the E: drive. This disk must be sized

according to the amount of data the customer wants to keep in the cache, including the amount of data being written to and read from the HCP Gateway that is temporarily stored on the cache. The capacity will need to be increased if compression and encryption are used on the HCP Gateway shares to compress/encrypt and decompress/decrypt files.

- **Hard Disk 4 - connected to SCSI Controller 1 configured as type LSI Logic SAS** - this is the local storage drive and must be at least 100GB and will be the L: drive. This disk must be sized according to the amount of data the customer wants to keep in local storage. In Windows Explorer, create the folder **L:\Storage** and use this folder when adding a local storage in the HCP Gateway UI Storage page.

NOTE: It is required to add SCSI Controller 1 and save the VM configuration before adding any disks to SCSI Controller 1.

The minimum VM Resources for HCP Gateway on Windows Server:

- CPU/cores 10 cores (hyper threading enabled)
- Memory 128 GB RAM
- OS Disk C:\ 100 GB
- Database Disk D:\ 100 GB (4 GB per million files)
- Cache Disk E:\ 1 TB+ (see notes below)
- Network 2 x 1 GigE (1 Data and 1 Management network) or 1 x 10 GigE

(4 Network Interfaces are needed if using Clustering)

The recommended VM Resources for HCP Gateway on Windows Server:

- CPU/cores 20 cores (hyper threading enabled)
- Memory 128 GB RAM per CPU (total of 256 GB RAM)
- OS Disk C:\ 100 GB
- Database Disk D:\ 1-2 TB (4 GB per million files)
- Cache Disk E:\ 1 TB+ (see notes below)
- Network 1 x 1 GigE (Management network) and 1 x 10 GigE (Data network)

(4 Network Interfaces are needed if using Clustering)

Recommended CPU & RAM Sizing

Total Number of Files	Total CPU Cores	Total RAM
250M	20	256GB
500M	20	256-512GB
1B	20	512GB

Cache Disk Sizing

If using local storage, do not use the cache drive for local storage, add a separate drive for local storage.

In the Windows version, the E:\ drive contains the following components:

- Virtual File System - E:\SAM
- Temporary cache - E:\Cache
- Reports - E:\Reports
- Backup Restore – E:\Backup\Restore

When sizing the Cache Disk (E:\ drive in Windows) the primary consideration is the space required by the cache and the items listed above. When data is ingested into the HCP Gateway it lands in a temporary cache, where it stays for 3 minutes to enable file close operations. Cache storage is governed by policies. A Tiering Policy can be used to set the minimum time a file remains on cache (e.g. 1 month or 1 minute). A Copy Policy is used to keep files on the cache until they are subject to the Caching Policy and also write them to the HCP storage after the Copy time expires. Shares created with an Archive Mode policy or a Server Mode Tiering or Copy policy can be configured to keep files in cache until they are subject to the Caching Policy. The Caching Policy works with a high and low watermark. Files remain in the cache until the high watermark is reached then the HCP Gateway drains the cache on a first in first out basis. The Cache Disk is also used as a temporary storage location when recovering the HCP Gateway Database from Backup.

Chapter 2 Documentation Conventions

The following conventions are used throughout this manual to represent specific types of information.

All images, diagrams, or drawings are listed as Figures in the following format:

Select Mode (1)

Select Read/Write option (2)

Select Apply (3)

Select Cancel (4)



WARNING: Precautionary note in a box.

Note: Commentary or additional information need on the topic.

Chapter 3 Create New VM from CD/DVD ISO

Open the VMWare ESXi host console and navigate to the feature to create a new VM that will be installed using the HCP Gateway 4.2.0 Windows ISO in the CD/DVD drive. Enter the VM name (1), **Guest OS family** (2), **Guest OS Version** (3) then select **Next** (4) to continue. On the next screen, select the datastore that will contain the VM configuration files and virtual disks and select **Next**.

New virtual machine - Test-HCPGW-420-ISO (ESXi 7.0 U2 virtual machine)

1 Select creation type
2 Select a name and guest OS
3 Select storage
4 Customize settings
5 Ready to complete

Select a name and guest OS

Specify a unique name and OS

Name
Test-HCPGW-420-ISO 1

Virtual machine names can contain up to 80 characters and they must be unique within each ESXi instance.

Identifying the guest operating system here allows the wizard to provide the appropriate defaults for the operating system installation.

Compatibility ESXi 7.0 U2 virtual machine

Guest OS family Windows 2

Guest OS version Microsoft Windows Server 2019 (64-bit) 3

Enable Windows Virtualization Based Security i

Back Next Finish Cancel 4

Select the appropriate resources for the VM to meet the customer requirements from the options documented above in **Chapter 1 Introduction**. This example shows **Option 2** (3 disks C, D, E, on separate disks) documented above in **Chapter 1 Introduction**.

- **CPU** (1) - take into account whether the HCP Gateway shares will be handling compression, encryption and deduplication.
- **Memory** (2) - take into account whether the HCP Gateway shares will be handling compression, encryption and deduplication. Also take into account how many files will be handled by the Gateway, as the number of files increases, additional memory can be allocated to the MariaDB database.
- **Hard disk 1** (3) - must be at least 100GB and will be used by the Windows OS for the C: drive
- **Hard disk 2 (Add a new Standard Hard Disk)** (4) - must be at least 100GB and will be used for the MariaDB database D: drive. The formula for determining the size of the D: drive is 4GB per 1 million files, so if the expectation is that the Gateway will handle 100 million files, the size of Hard Disk 2 should be set to at least 400GB

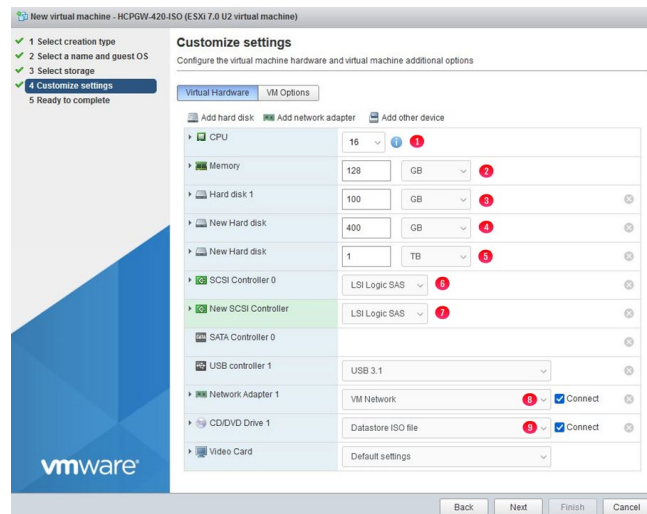
- **Hard Disk 3 (Add a new Standard Hard Disk) (5)** - this is the cache drive and must be at least 100GB. This disk must be sized according to the amount of data the customer wants to keep in the cache and the amount of data being written to and read from the HCP Gateway. The capacity will need to be increased if compression and encryption are used on the HCP Gateway shares to compress/encrypt and decompress/decrypt files.
- **SCSI Controller 0 (6)** - accept the default, for this example, LSI Logic SAS.
- **SCSI Controller 1 (7)** - accept the default, for this example, LSI Logic SAS.

NOTE: It is required to add SCSI Controller 1 and save the VM configuration before adding any disks to SCSI Controller 1.

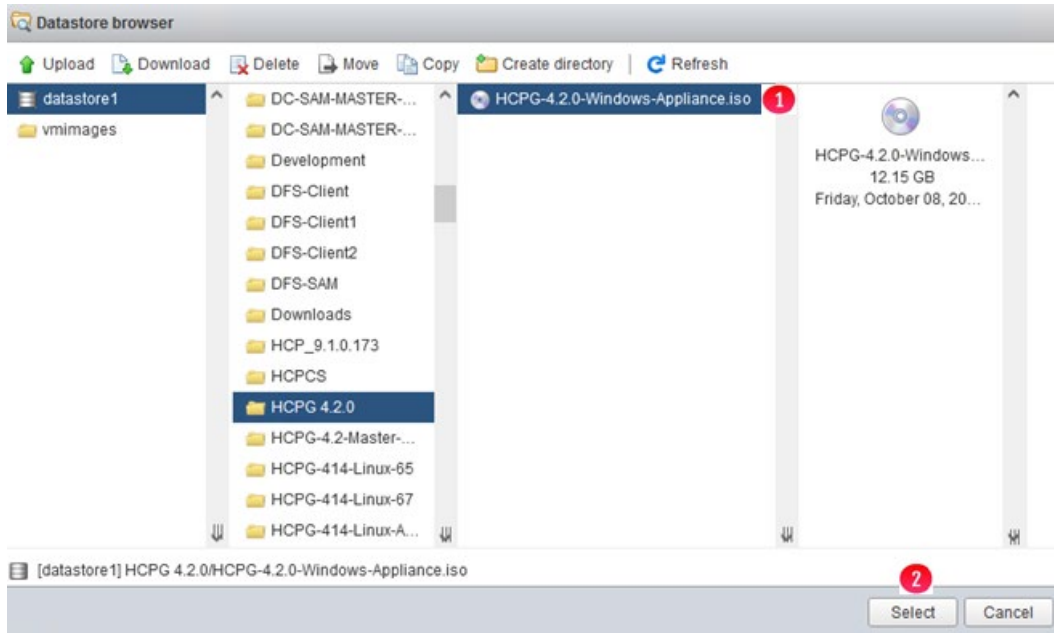
- **Network Adapter 1 (8)** - select the appropriate network for the HCP Gateway and select **Connected**. Additional Network Adapters can be added to the HCP Gateway to meet customer requirements, for example, to separate the management network from the data network.

Note that if the ESXi host supports the **VMXNET 3** adapter type, set the adapter type to **VMXNET 3** and make sure VMWare Tools are installed after creating the VM.

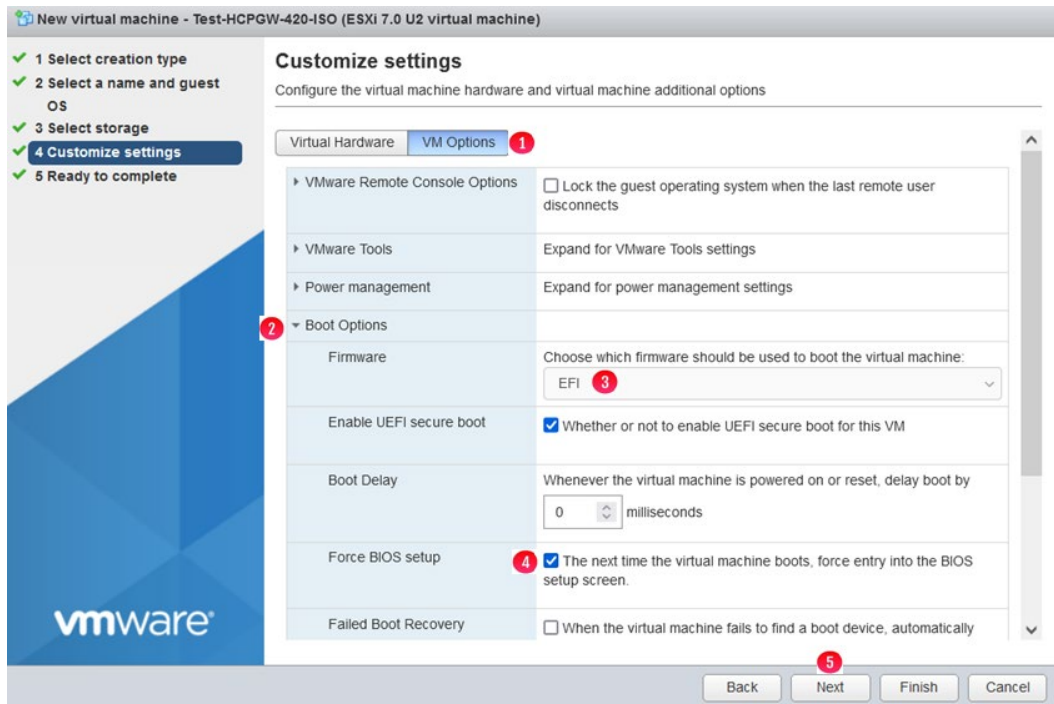
- **CD/DVD Drive 1 (9)** - select **Datastore ISO file** and select **Connected**, which will bring up a VMWare ESXi Datastore browser



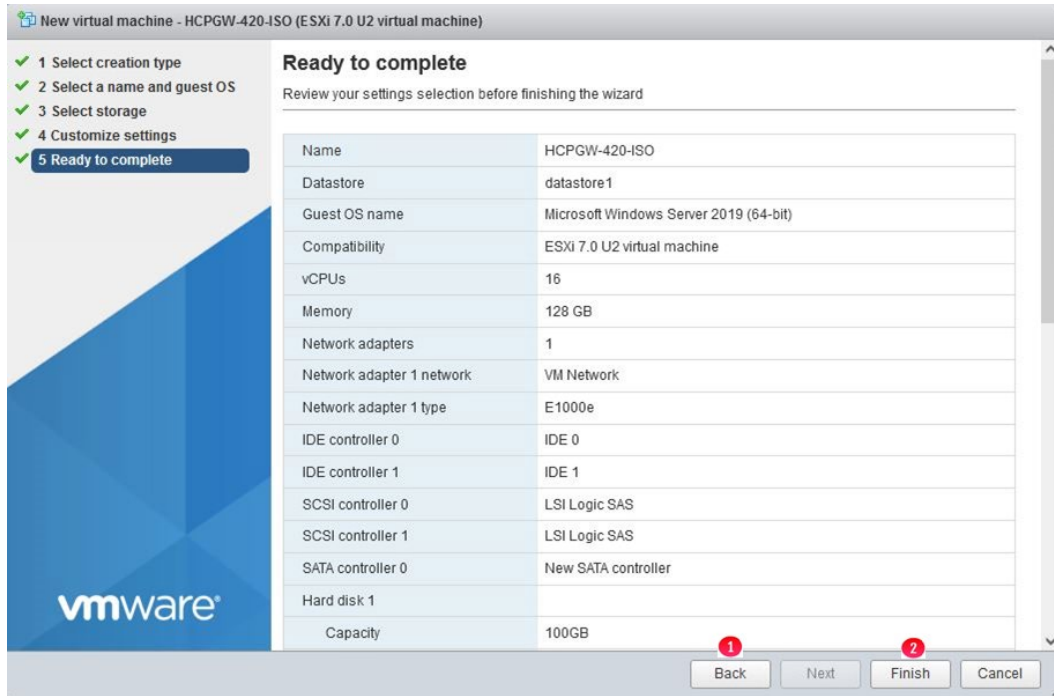
In the VMWare ESXi Datastore Browser, select the **HCP Gateway Windows 4.2.0 ISO** (1) and select **Select** (2) to continue.



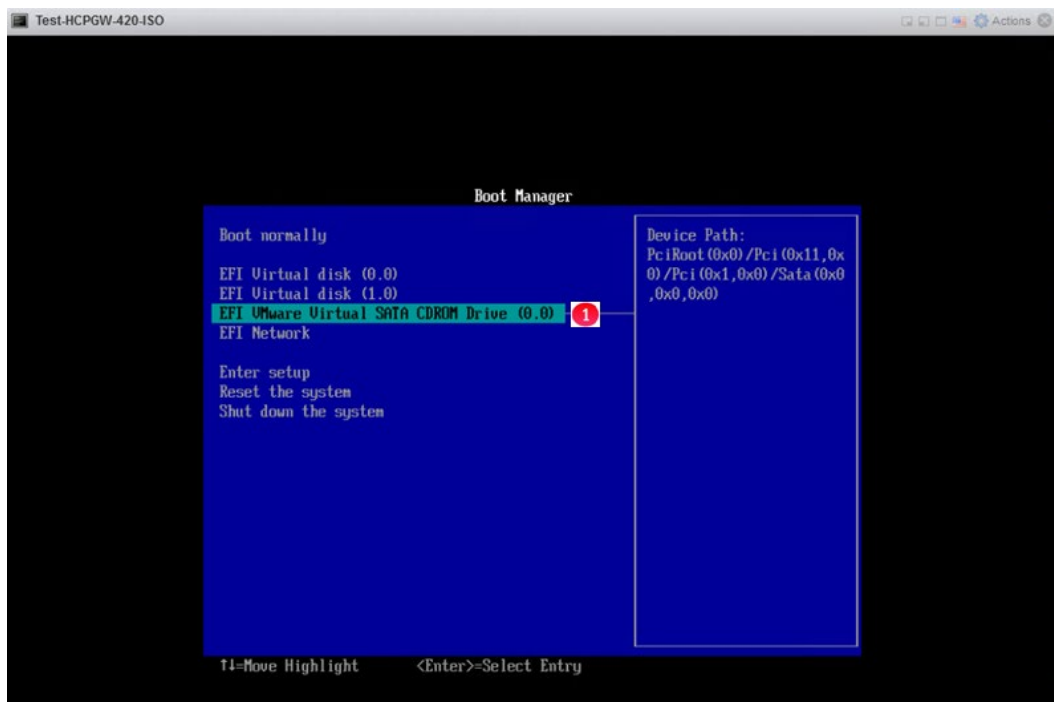
Select **VM Options** (1), open the **Boot Options** (2), select **Firmware** option **EFI** (3), select **Force BIOS setup** (4), select **Next** (5) to continue.



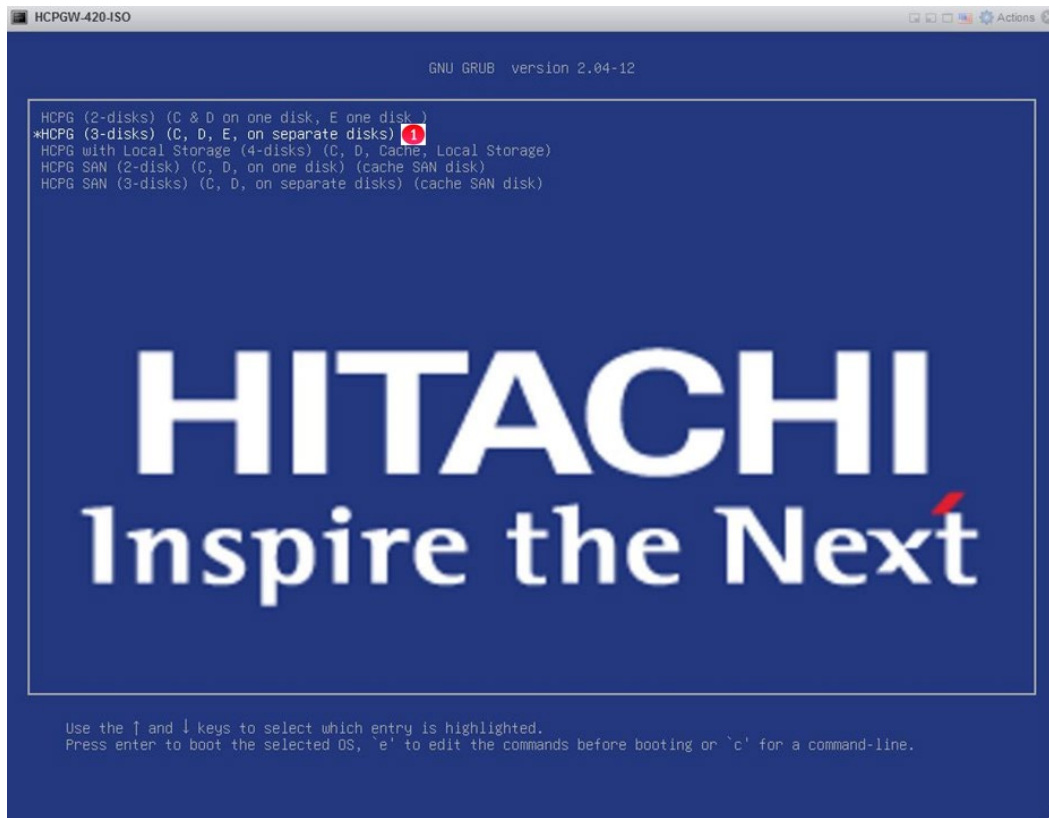
Review the selections, select **Back** (1) to go back and make any modifications or select **Finish** (2) to create the VM.



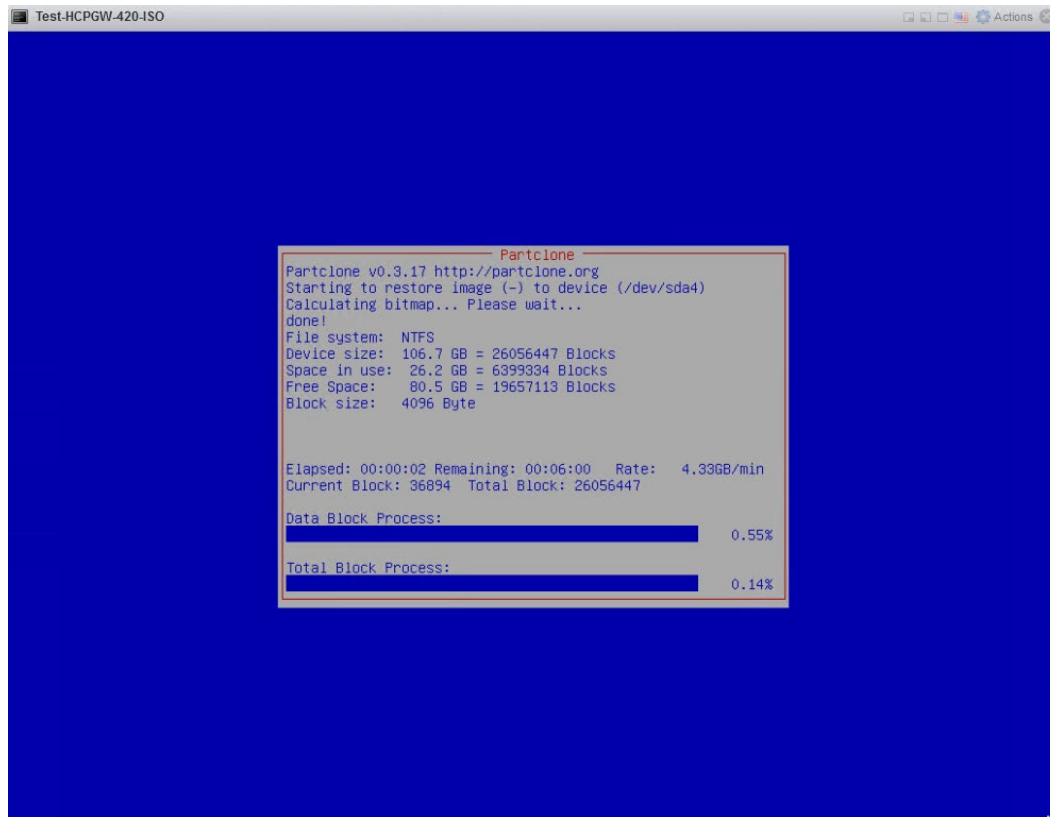
After the VM is created, power on the VM and open a console window. In the **Boot Manager**, select **EFI VMware Virtual SATA CDROM Drive (0.0)** (1) and select the **Enter** key



For this example, select the **HCPG (3-disks) (C, D, E, on separate disks)** (1) and select the Enter key.



The installation process will begin. The Windows Operating system with HCP Gateway software will be installed to the VM. Screens like the one shown below will appear where a step may take a few minutes to complete.



After the installation is complete, the VM will shut down. Disconnect the CD/DVD from the VM before powering on the VM.

Chapter 4 Create New VM from USB ISO

Open the VMWare ESXi host console and navigate to the feature to create a new VM that will be installed using the HCP Gateway 4.2.0 Windows ISO on a USB stick attached to the ESXi host. Enter the VM name (1), **Guest OS family** (2), **Guest OS Version** (3) then select **Next** (4) to continue. On the next screen, select the datastore that will contain the VM configuration files and virtual disks and select **Next**.

New virtual machine - Test-HCPGW-420-ISO (ESXi 7.0 U2 virtual machine)

1 Select creation type
2 Select a name and guest OS
3 Select storage
4 Customize settings
5 Ready to complete

Select a name and guest OS

Specify a unique name and OS

Name
Test-HCPGW-420-ISO 1

Virtual machine names can contain up to 80 characters and they must be unique within each ESXi instance.

Identifying the guest operating system here allows the wizard to provide the appropriate defaults for the operating system installation.

Compatibility ESXi 7.0 U2 virtual machine

Guest OS family Windows 2

Guest OS version Microsoft Windows Server 2019 (64-bit) 3

Enable Windows Virtualization Based Security i

Back Next 4 Finish Cancel

Select the appropriate resources for the VM to meet the customer requirements from the options documented above in **Chapter 1 Introduction**. This example shows **Option 2** (3 disks C, D, E, on separate disks) documented above in **Chapter 1 Introduction**

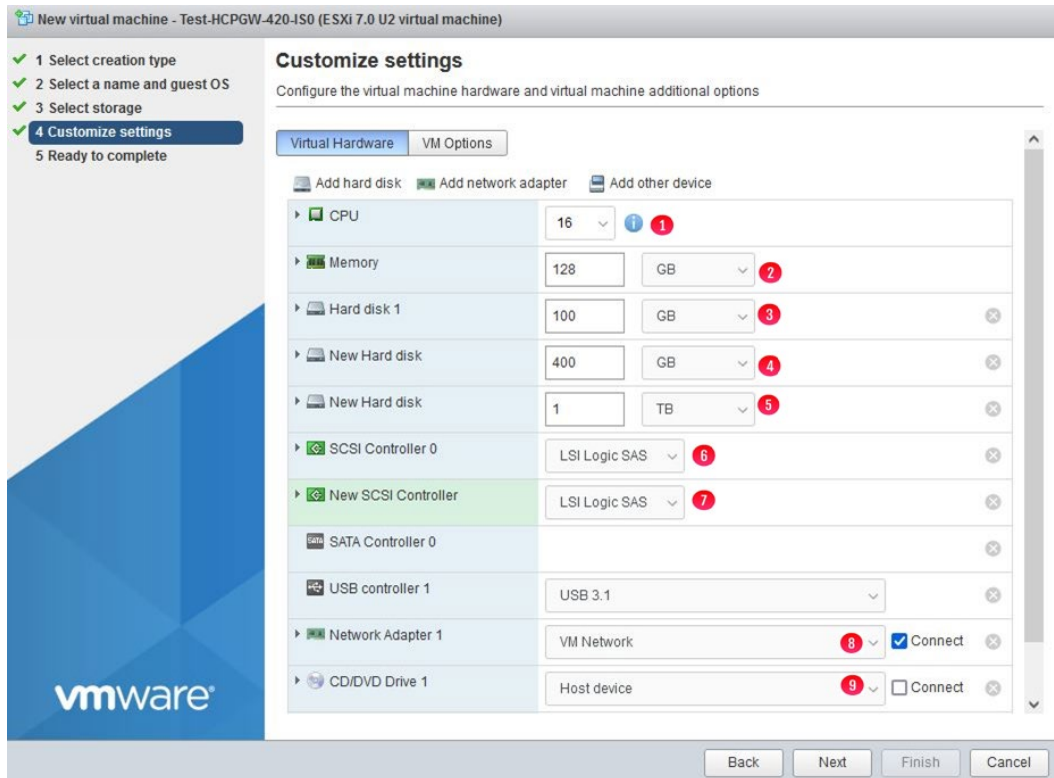
- **CPU (1)** - take into account whether the HCP Gateway shares will be handling compression, encryption and deduplication.
- **Memory (2)** - take into account whether the HCP Gateway shares will be handling compression, encryption and deduplication. Also take into account how many files will be handled by the Gateway, as the number of files increases, additional memory can be allocated to the MariaDB database.
- **Hard disk 1 (3)** - must be at least 100GB and will be used by the Windows OS for the C: drive
- **Hard disk 2 (Add a new Standard Hard Disk) (4)** - must be at least 100GB and will be used for the MariaDB database D: drive. The formula for determining the size of the D: drive is 4GB per 1 million files, so if the expectation is that the Gateway will handle 100 million files, the size of Hard Disk 2 should be set to at least 400GB
- **Hard Disk 3 (Add a new Standard Hard Disk) (5)** - this is the cache drive and must be at least 100GB. This disk must be sized according to the amount of data the customer wants to keep in the cache and the amount of data being written to and read from the HCP Gateway. The capacity will need to be increased if compression and encryption are used on the HCP Gateway shares to compress/encrypt and decompress/decrypt files.
- **SCSI Controller 0 (6)** - accept the default, for this example, LSI Logic SAS.
- **SCSI Controller 1 (7)** - accept the default, for this example, LSI Logic SAS.

NOTE: It is required to add SCSI Controller 1 and save the VM configuration before adding any disks to SCSI Controller 1.

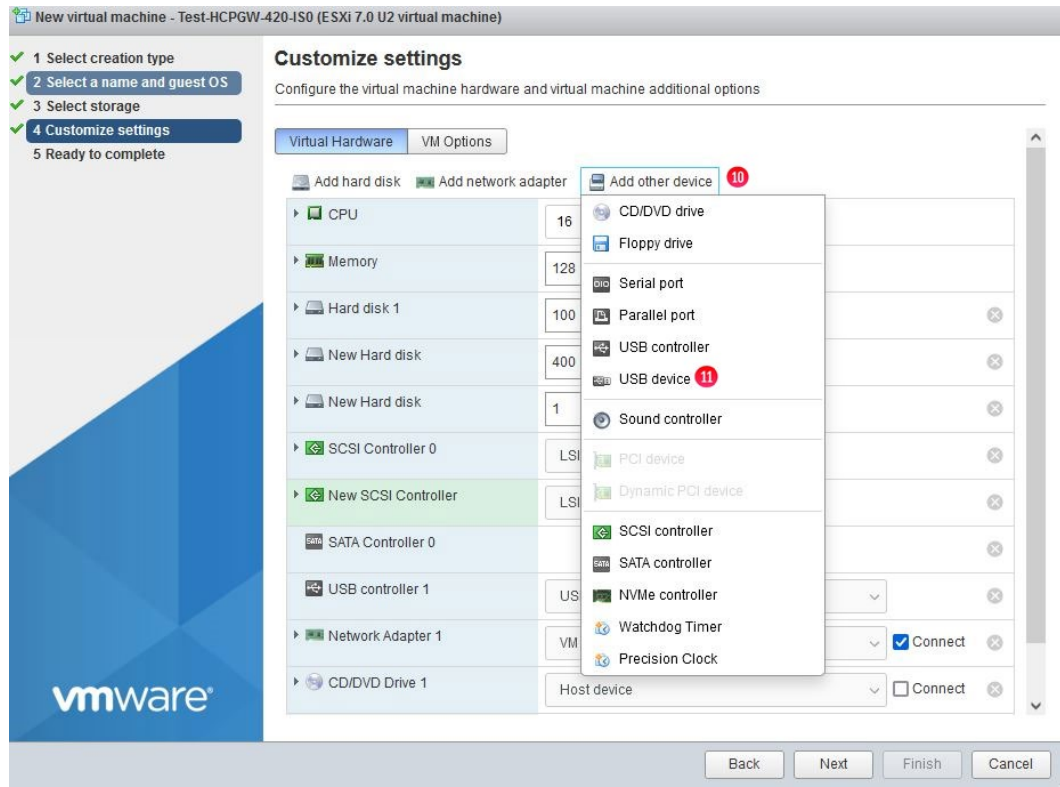
Network Adapter 1 (8) - select the appropriate network for the HCP Gateway and select **Connected**. Additional Network Adapters can be added to the HCP Gateway to meet customer requirements, for example, to separate the management network from the data network.

Note that if the ESXi host supports the **VMXNET 3** adapter type, set the adapter type to **VMXNET 3** and make sure VMWare Tools are installed after creating the VM.

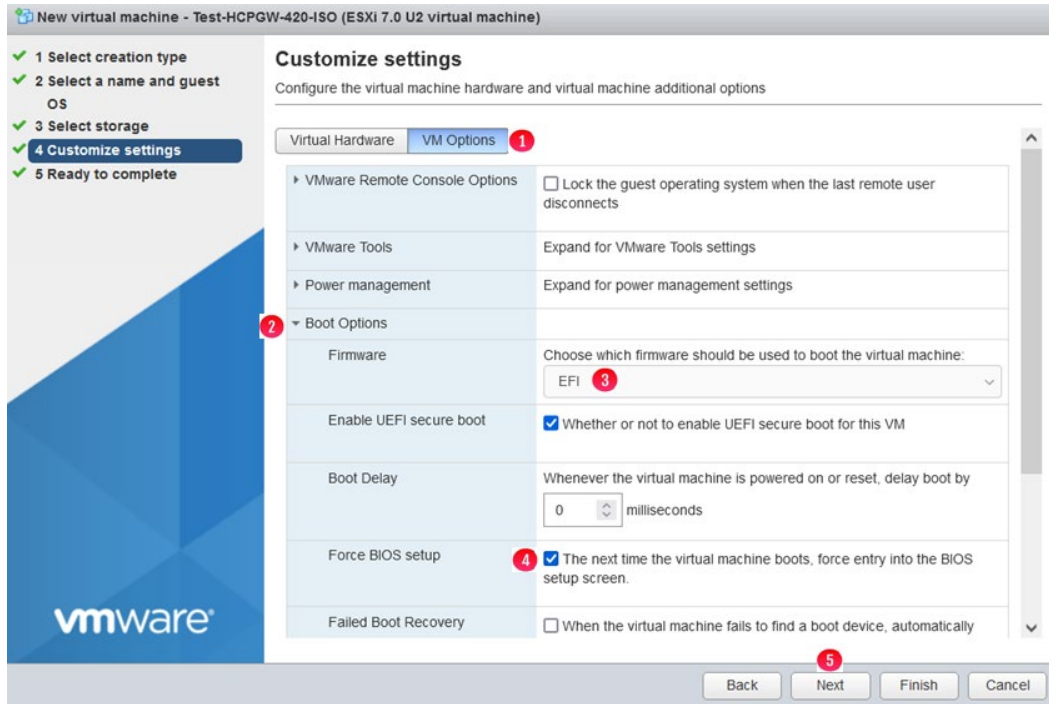
- **CD/DVD Drive 1 (9)** - unselect **Connect**, which will disconnect the CD/DVD drive. Note that if the CD/DVD drive is required, then leave it connected.



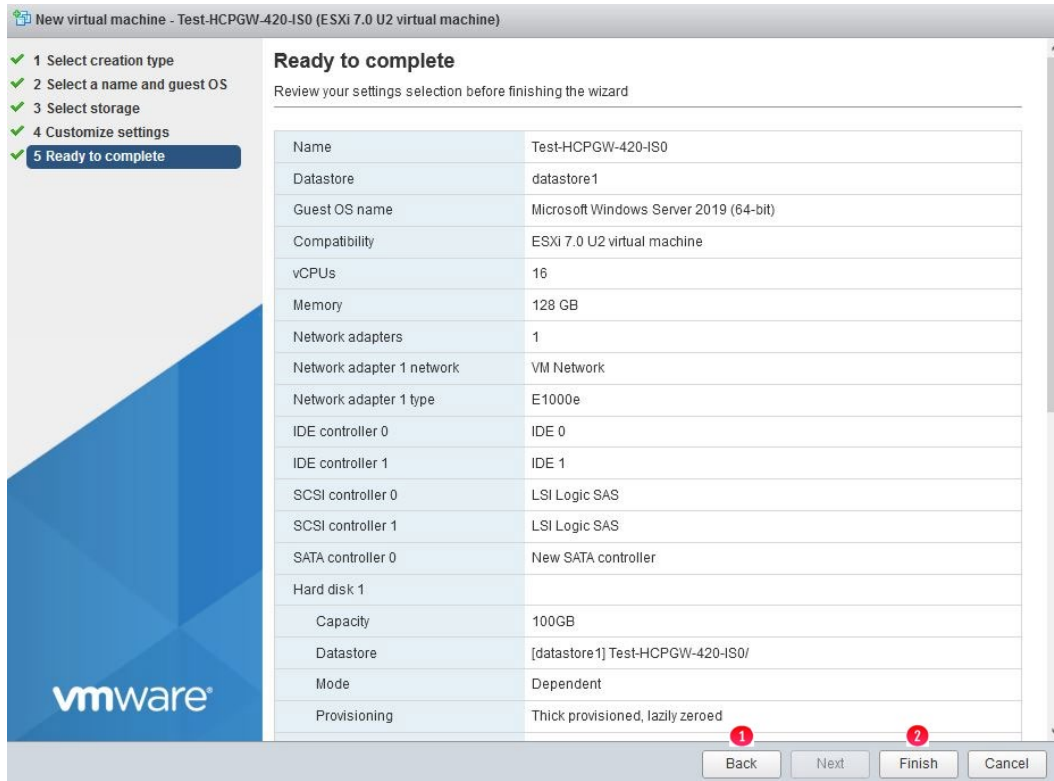
- **Add other device (10)** - select **Add other device (10)** then select **USB device (11)**



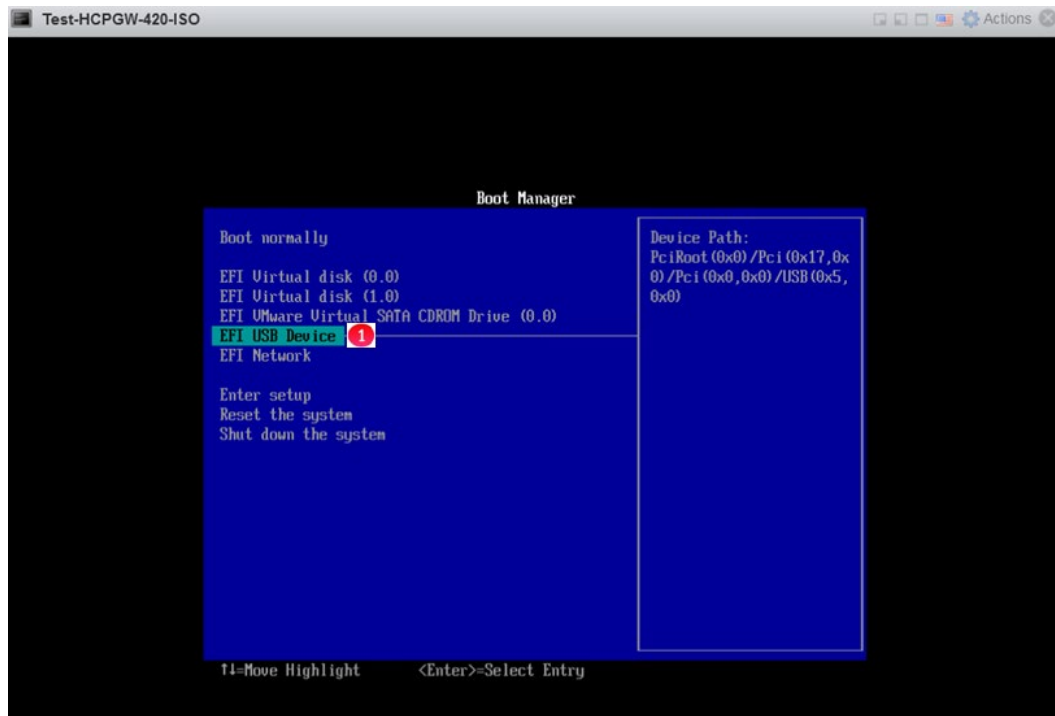
Select **VM Options** (1), open the **Boot Options** (2), select **Firmware** option **EFI** (3), select **Force BIOS setup** (4), select **Next** (5) to continue.



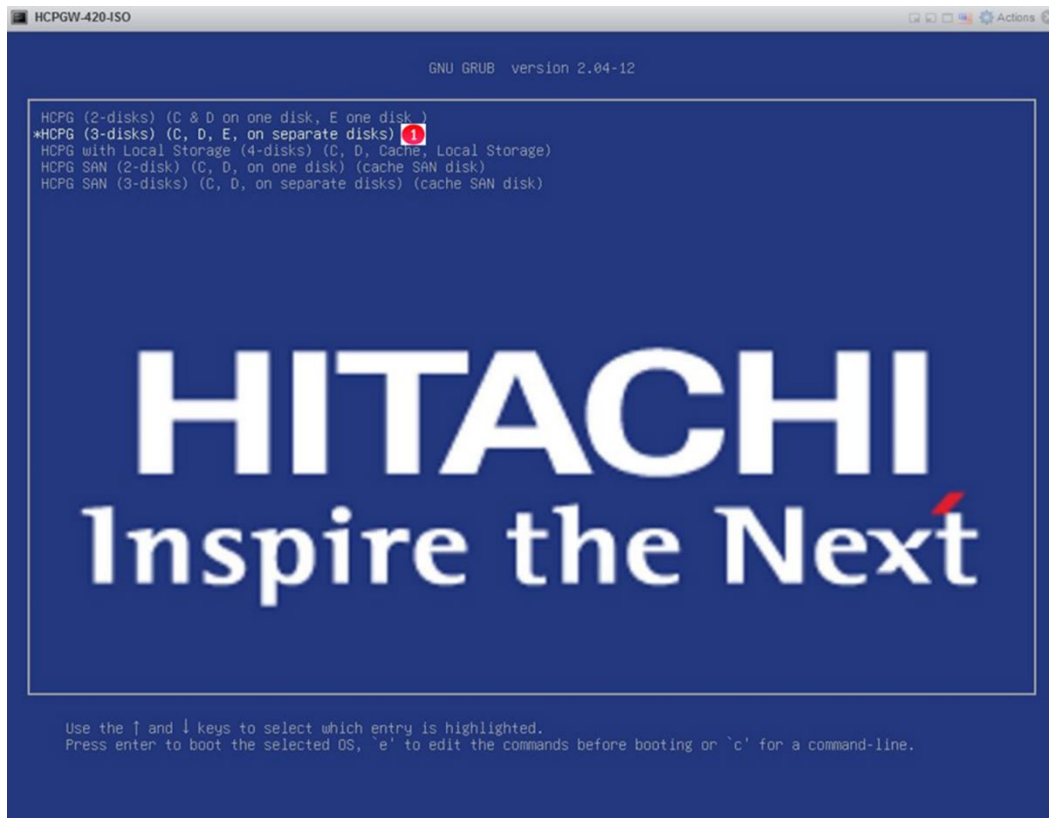
Review the selections, select **Back** (1) to go back and make any modifications or select **Finish** (2) to create the VM.



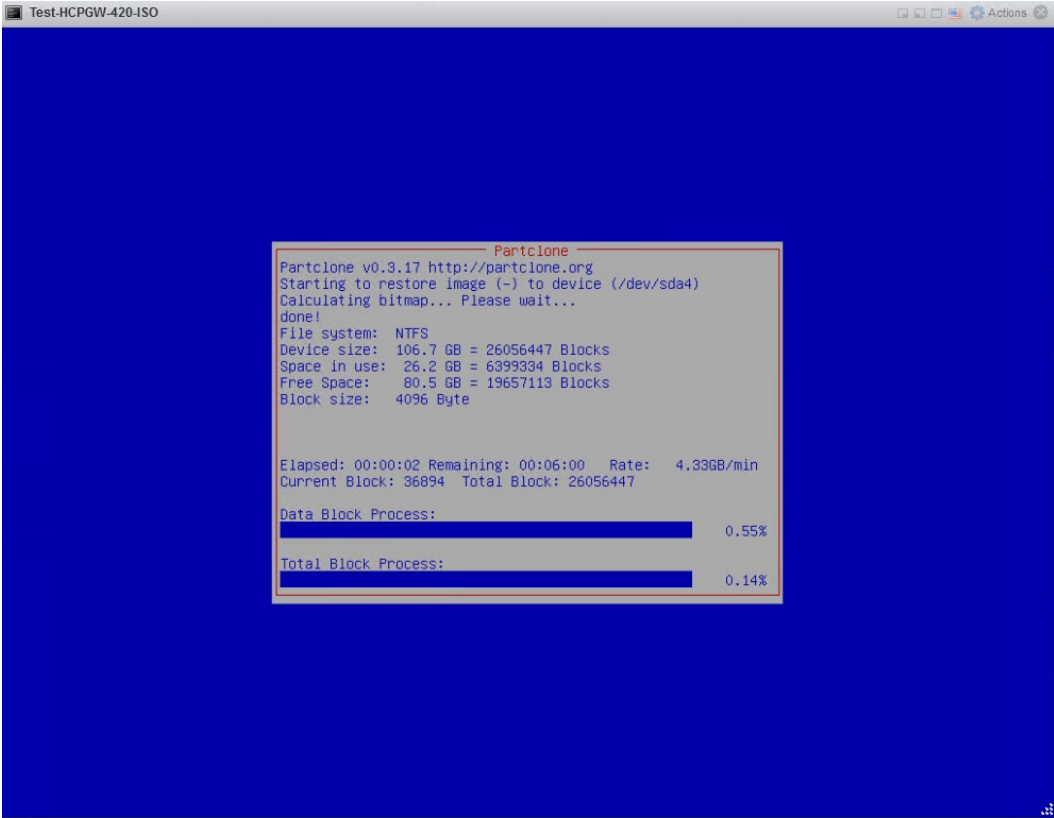
After the VM is created, power on the VM and open a console window. In the **Boot Manager**, select **EFI USB Device (1)** and select the **Enter** key



For this example, select the **HCPG (3-disks) (C, D, E, on separate disks)** (1) and select the Enter key



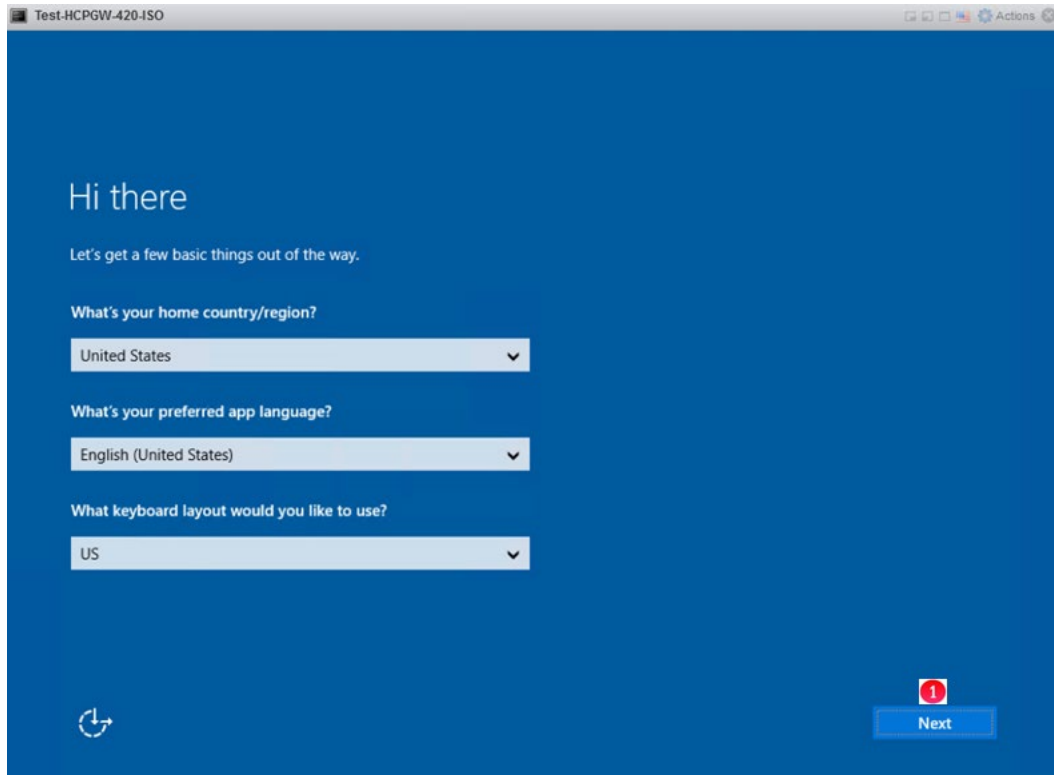
The installation process will begin. The Windows Operating system with HCP Gateway software will be installed to the VM. Screens like the one shown below will appear where a step may take a few minutes to complete.



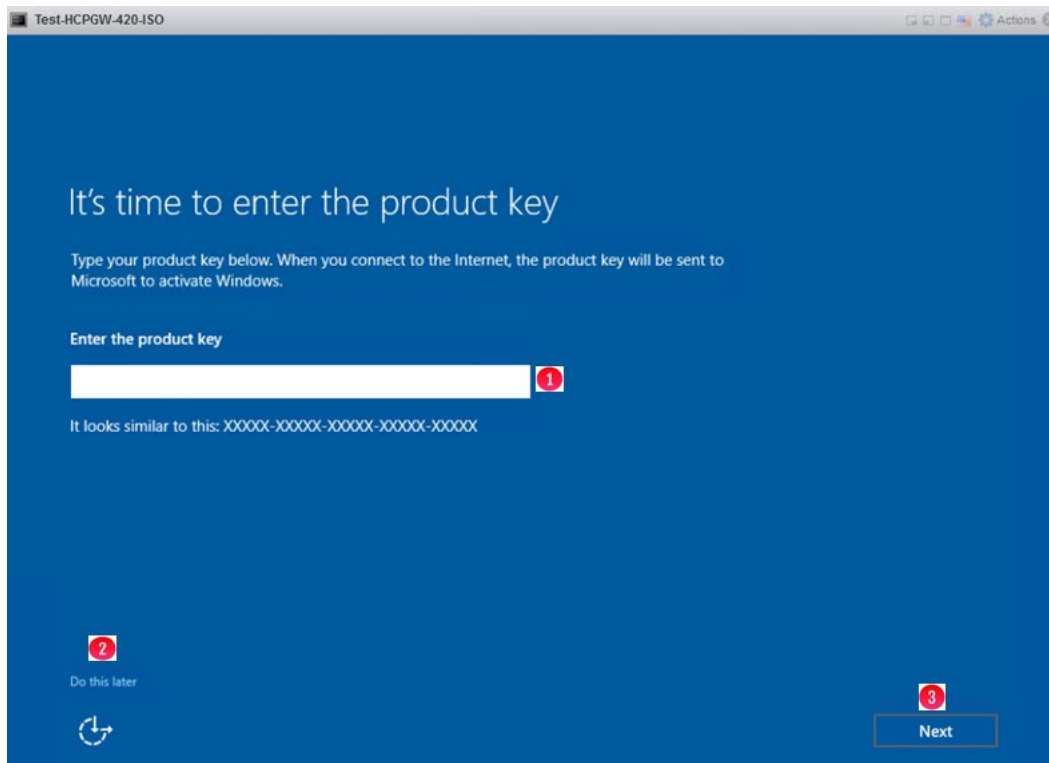
After the installation is complete, the VM will shut down. Disconnect the USB from the VM before powering on the VM.

Chapter 5 Windows Configuration Tasks

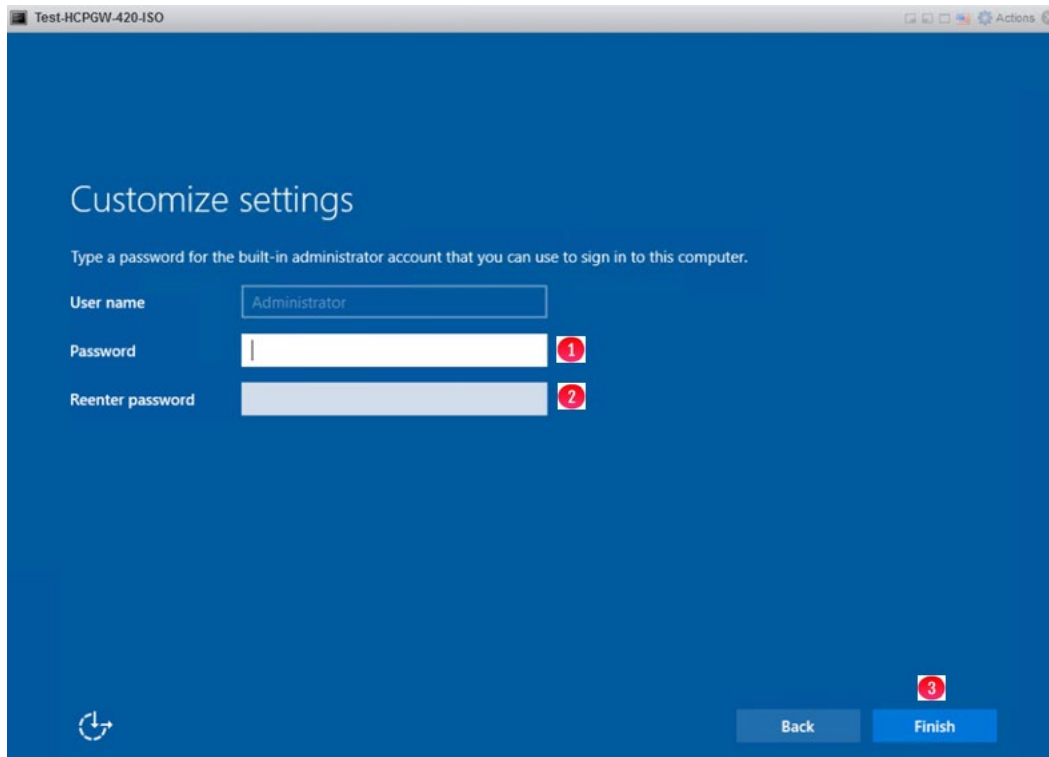
Power on the VM, wait for the Windows prompt to select the locale information for the HCP Gateway VM then select **Next** (1).



If available, enter the customer's product key (1) and select **Next** (3), else, select **Do this later** (2).

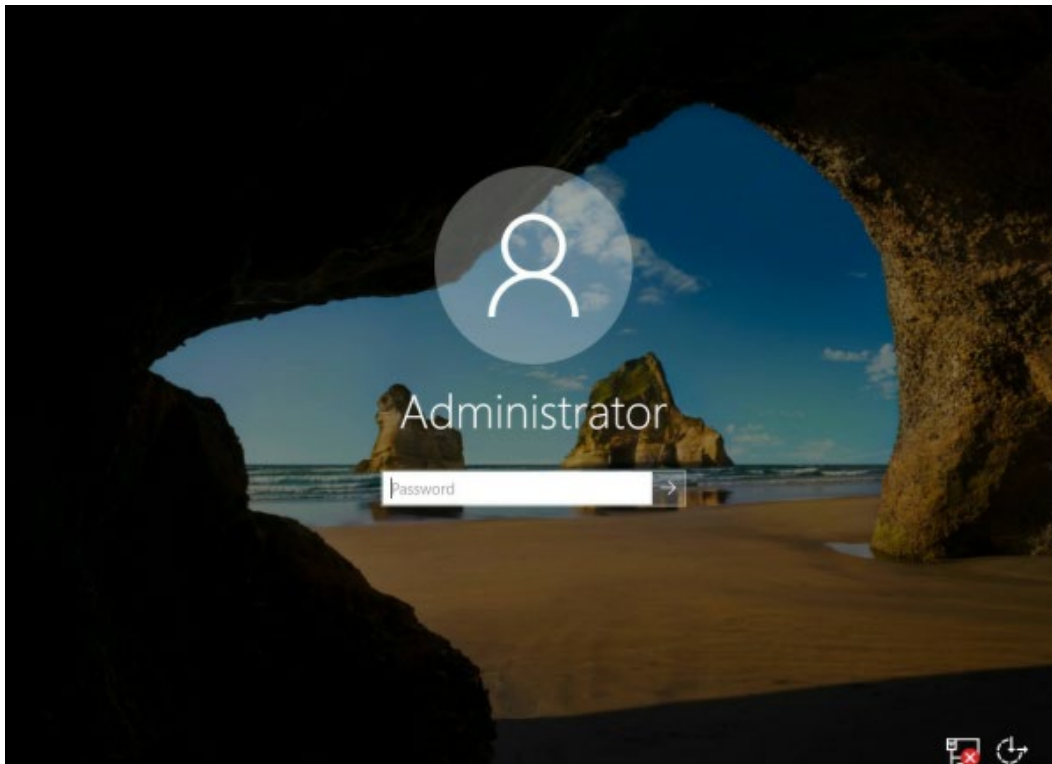


On the **License terms** screen, accept the License terms. On the **Customize settings** screen, enter a password for the local Administrator account (1), confirm the password (2), select **Finish** (3) to complete the creation of the HCP Gateway VM. The installation script will log the user out.

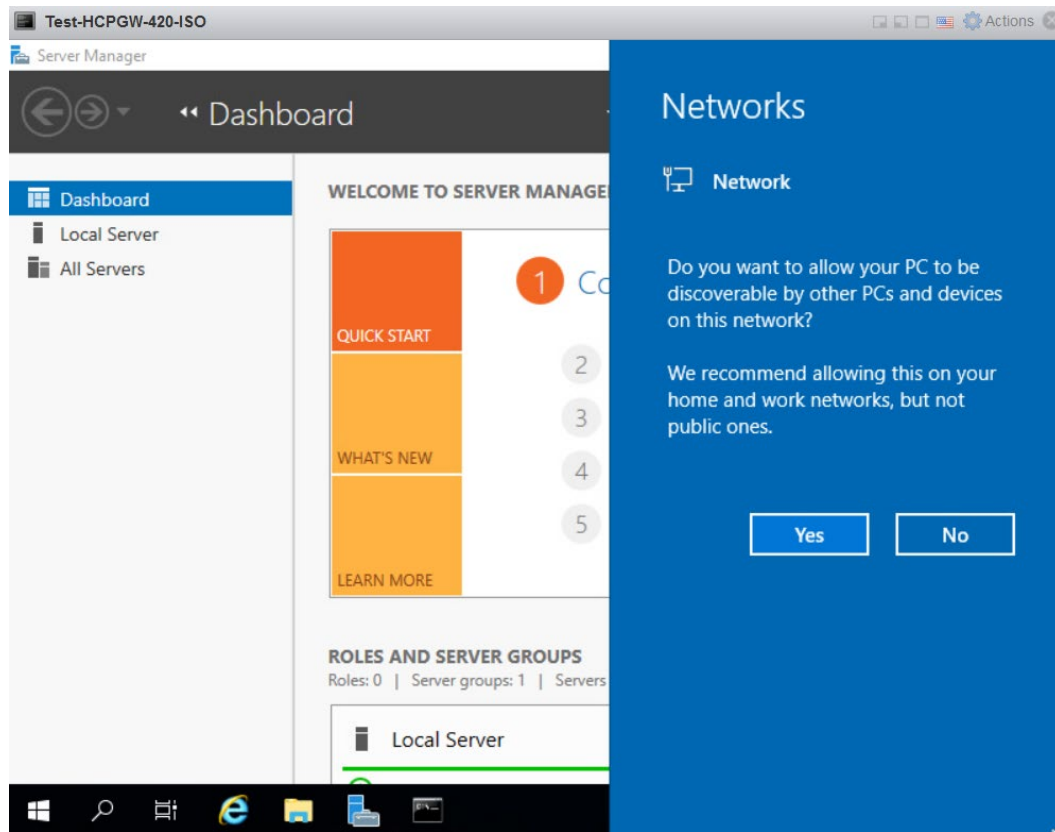


Login to the Windows OS as the Administrator user with the password that was entered in the previous step.

WARNING: Once you log in, the system will perform several automatic actions (closing/opening command windows and screens), except for the **Networks** prompt below, wait for the system to reboot, **DO NOT INTERFERE WITH THIS CONFIGURATION PROCESSING!**



After the system has completed all its automated steps. Do not enter anything in Server Manager. When you see the **Networks** prompt below, select **Yes**, unless you don't want the system to be discoverable by other PCs, then select **No**. **Wait for the system to reboot.**



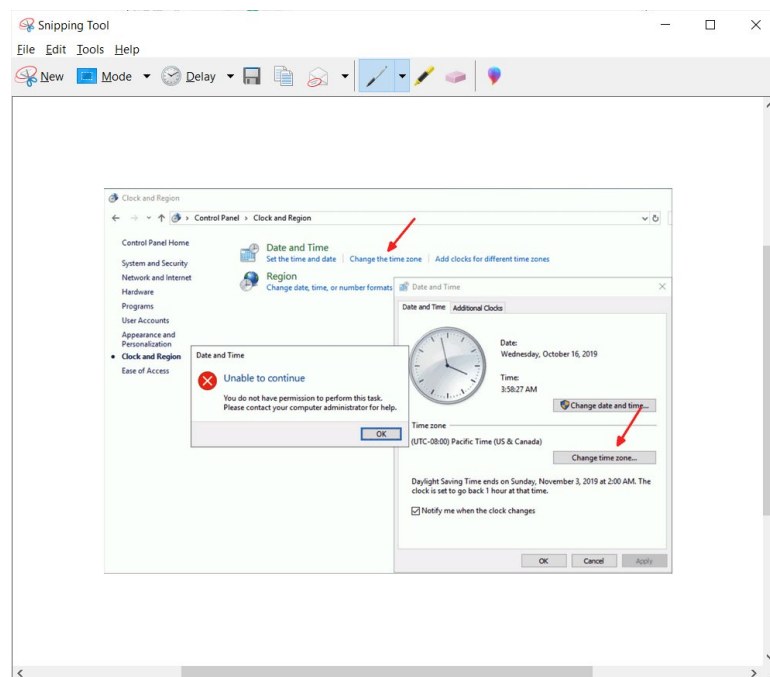
After the system comes back up, Login to the Windows OS as the Administrator user with the password that was entered earlier.

IMPORTANT NOTE: If using the browser on the HCP Gateway, Internet Explorer can't open the HCP Gateway UI because it doesn't support TLS v1.3. Use the Firefox browser to access the HCP Gateway UI when logged into the HCP Gateway.

If it is required to run the SAM VFS service as a user-supplied domain service account, there is a **sam.account** parameter that needs to be updated in the **C:\SAM\etc\sam\sam.properties** file.

- The default setting is to use the local System account, **sam.account=SYSTEM** and verify that **Local SYSTEM** is the **Log on As** account for the **SAM VFS** service in Windows services.
- If there is a domain service account that has read/write access to all of the files on the Gateway, use that account for the **sam.account** parameter in the **C:\SAM\etc\sam\sam.properties** file and verify that it is the **Log on As** account for the **SAM VFS** service in Windows services.

NOTE: In Windows Server 2019, if you receive this error **Unable to continue** when setting the Time Zone



Then open a Windows Powershell running as Administrator and for this example, set the timezone to US Mountain Standard Time. In Powershell, enter the command **Get-TimeZone -ListAvailable | where StandardName -like "Mountain*"** (1). Locate the timezone **Mountain Standard Time** (2). Enter the command **Set-TimeZone -name "Mountain Standard Time"** (3). Verify the timezone was set correctly by entering the command **Get-TimeZone** (4).

```

Administrator: Windows PowerShell
PS C:\temp\Powershell> Get-TimeZone -ListAvailable | where StandardName -like "Mountain*" 1
Id                : Mountain Standard Time (Mexico)
DisplayName       : (UTC-07:00) Chihuahua, La Paz, Mazatlan
StandardName     : Mountain Standard Time (Mexico)
DaylightName     : Mountain Daylight Time (Mexico)
BaseUtcOffset    : -07:00:00
SupportsDaylightSavingTime : True

Id                : Mountain Standard Time 2
DisplayName       : (UTC-07:00) Mountain Time (US & Canada)
StandardName     : Mountain Standard Time
DaylightName     : Mountain Daylight Time
BaseUtcOffset    : -07:00:00
SupportsDaylightSavingTime : True

PS C:\temp\Powershell> Set-TimeZone -name "Mountain Standard Time" 3
PS C:\temp\Powershell> Get-TimeZone 4

Id                : Mountain Standard Time
DisplayName       : (UTC-07:00) Mountain Time (US & Canada)
StandardName     : Mountain Standard Time
DaylightName     : Mountain Daylight Time
BaseUtcOffset    : -07:00:00
SupportsDaylightSavingTime : True

```

If needed to set the HCP Gateway UI admin password, open a Windows Powershell screen running as Administrator or use the one opened earlier, change directory to the **C:\SAM\PS** (1,2,3) directory and execute **.\setRunOnce.ps1** (4)

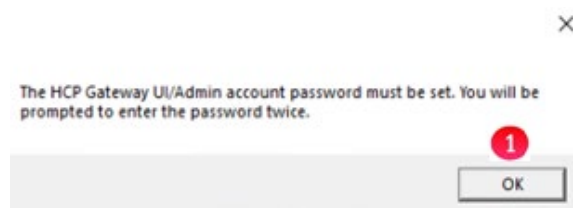
```

Administrator: Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.

PS C:\Users\Administrator> cd\ 1
PS C:\> cd SAM 2
PS C:\SAM> cd ps 3
PS C:\SAM\ps> .\setRunOnce.ps1 4
Changing RunOnce script.
PS C:\SAM\ps>

```

Close the Powershell screen and reboot the server. When the server reboots, wait for the dialog box, select **OK** (1) and follow the prompts to enter the new password for the HCP Gateway UI admin account.



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