Adding Disk Space to a Virtual Engine

The topic describes how to increase the amount of drive space on a VMware virtual machine or on a Hyper-V virtual machine allocated to the Extreme Management Center 64-bit virtual engine without having to interrupt engine service on the network.

The virtual engine contains a preconfigured hard drive where the operating system and engine software is installed. The size of the hard drive takes into account two important factors: that hard drive space is often a premium resource and that insufficient drive space can prevent the software from running correctly.

With proper file management, the preconfigured disk space should be sufficient for most networks. However, in some scenarios, the disk space amount is not sufficient and new disk space needs to be added.

The Extreme Management Center virtual engine is configured to use Logical Volume Management (LVM). This allows multiple drives to be presented to the operating system as a single contiguous drive. It also provides a mechanism for dynamically adding additional volumes to the main volume group.

The process described in this topic includes adding a new virtual hard drive to the virtual engine, and then running commands to include the new drive in the logical volume group and expand the file-system to format the additional disk space.

NOTES: Prior to adding a new drive to the virtual engine, it is recommended that you run the following command on the engine command line and make note of the existing drives:

```
ls -la /dev/sd*
```

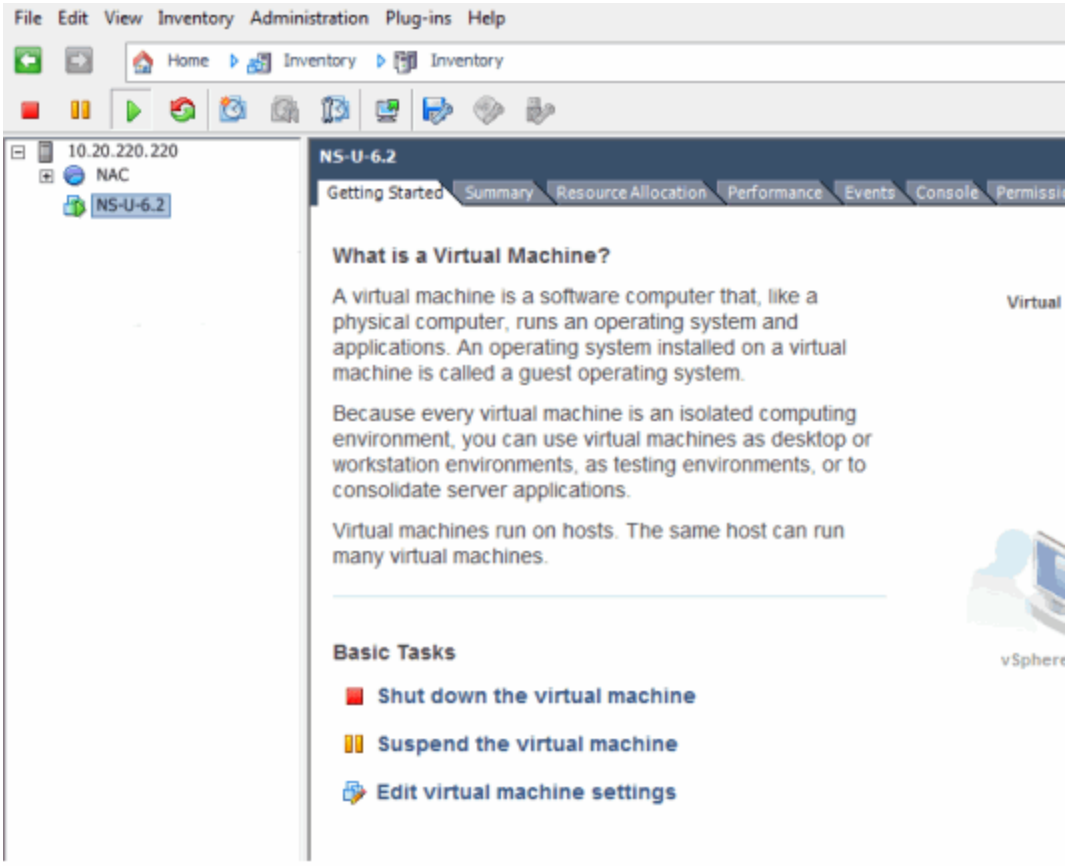
Once the additional drive space is added, re-running this command helps to identify the drive name is added.

It is also recommended that you take a snapshot of the VM before adding a new drive. That way, if anything goes wrong, you can easily revert back to the original VM without needing to reinstall Extreme Management Center. Refer to the vSphere client documentation or Hyper-V documentation for instructions on creating a snapshot.

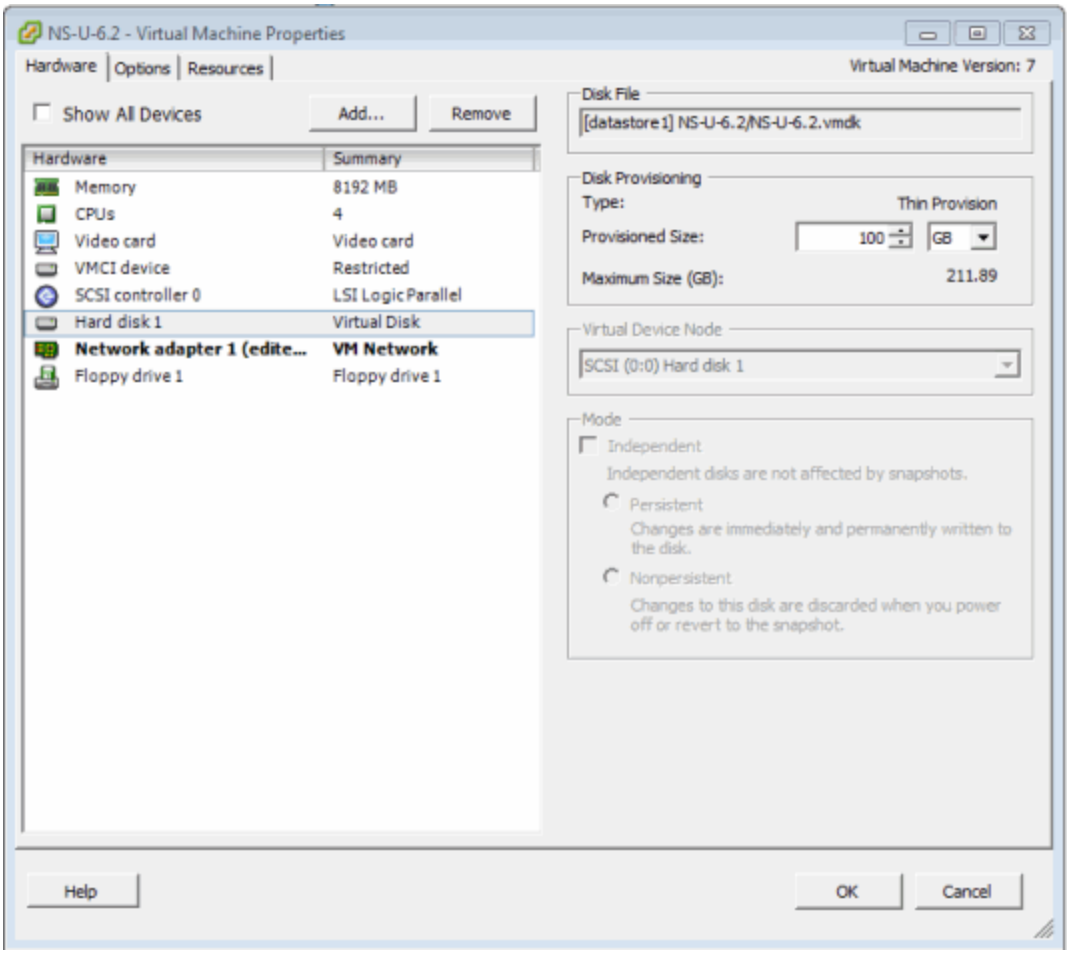
Adding a Virtual Drive on a VMware Virtual Machine

The steps to add a virtual drive on a VMware virtual machine are performed in the VMware vSphere client with the target virtual machine (VM) selected. You do not need to shut down the virtual machine or any of its processes to perform the steps.

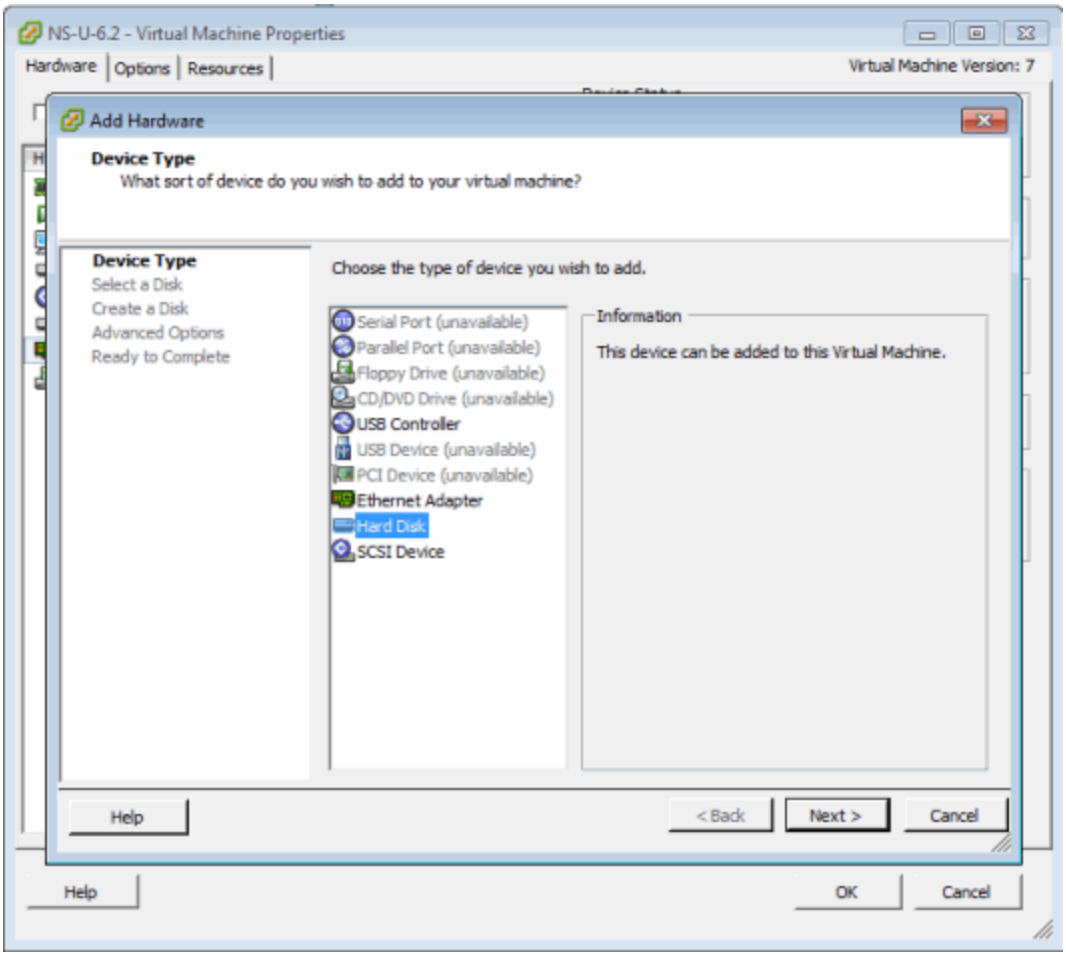
1. In the vSphere client, select the target VM. On the **Getting Started** tab, click **Edit virtual machine settings**.



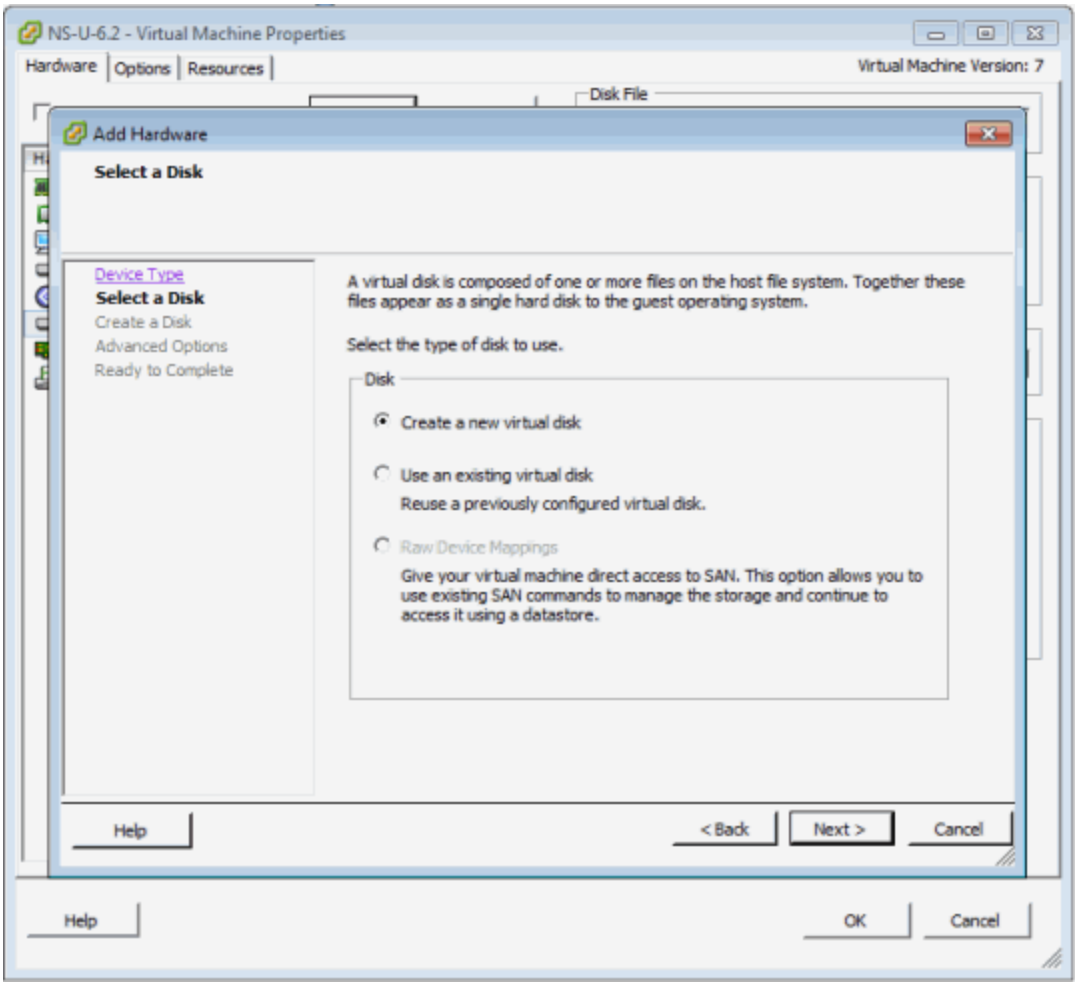
2. On the **Hardware** tab, verify that there is a single virtual hard disk configured for the VM. Click the **Add** button.



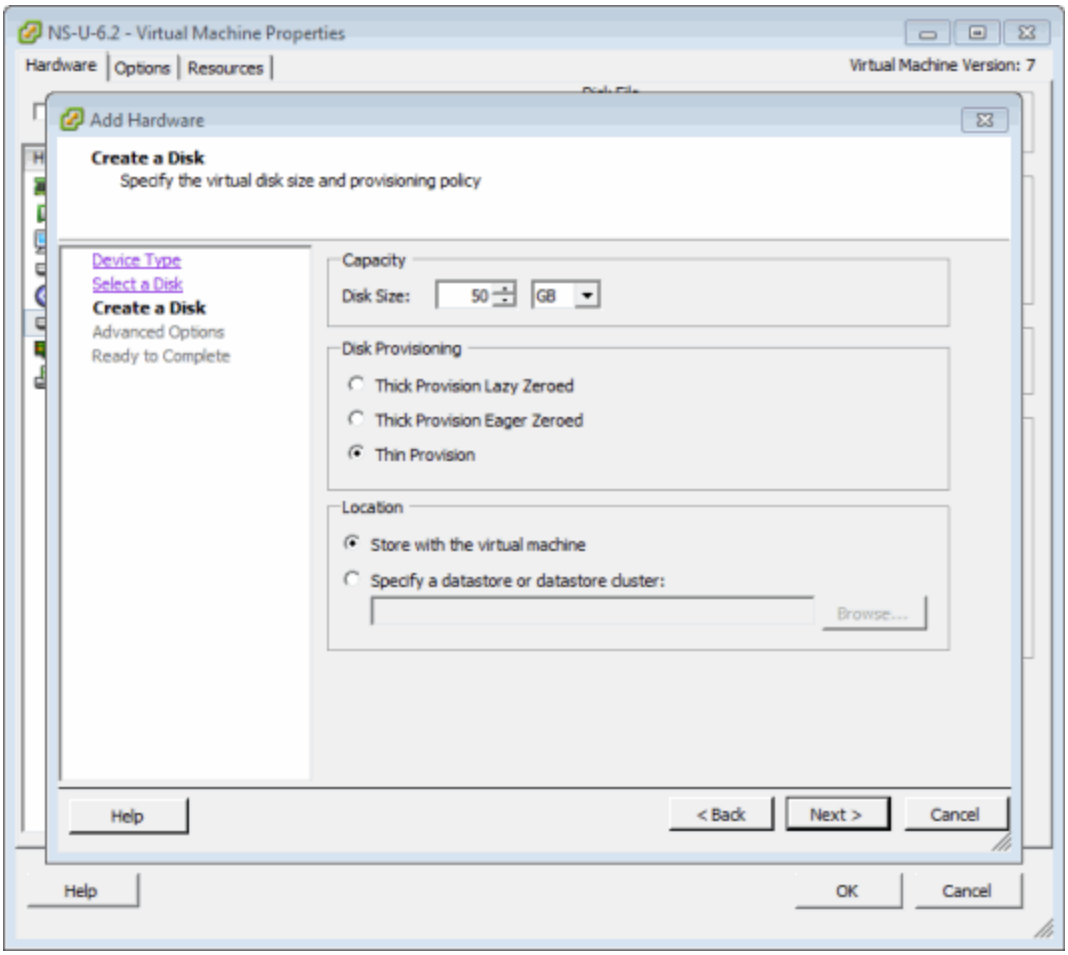
3. In the Add Hardware window, select Hard Disk to add a new hard disk, and then click **Next**.


NS-U-6.2 - Virtual Machine Properties
Hardware
Options
Resources
Virtual Machine Version: 7
Add Hardware
Device Type
What sort of device do you wish to add to your virtual machine?
Device Type
Select a Disk
Create a Disk
Advanced Options
Ready to Complete
Choose the type of device you wish to add.
Serial Port (unavailable)
Parallel Port (unavailable)
Floppy Drive (unavailable)
CD/DVD Drive (unavailable)
USB Controller
USB Device (unavailable)
PCI Device (unavailable)
Ethernet Adapter
Hard Disk
SCSI Device
Information
This device can be added to this Virtual Machine.
Help
< Back
Next >
Cancel
Help
OK
Cancel

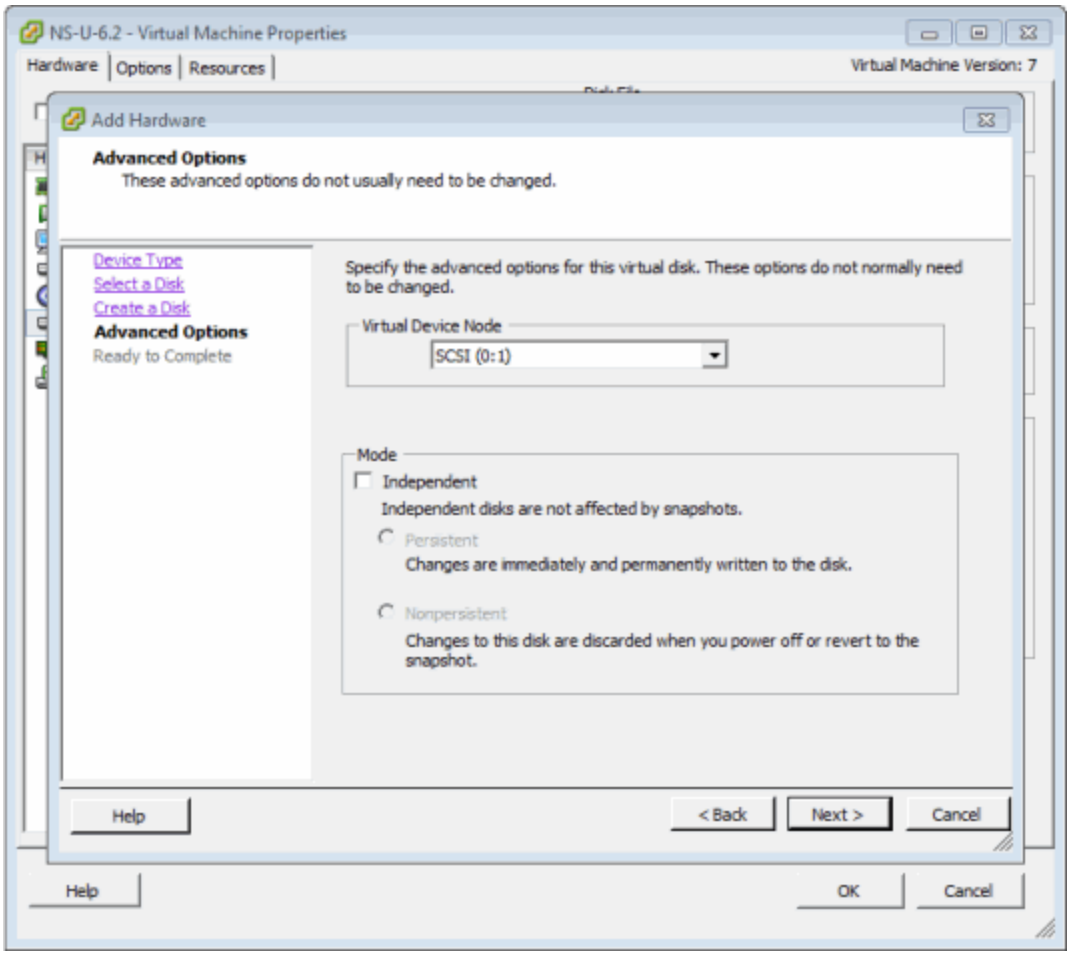
4. Select the **Create a new virtual disk** option and click **Next**.



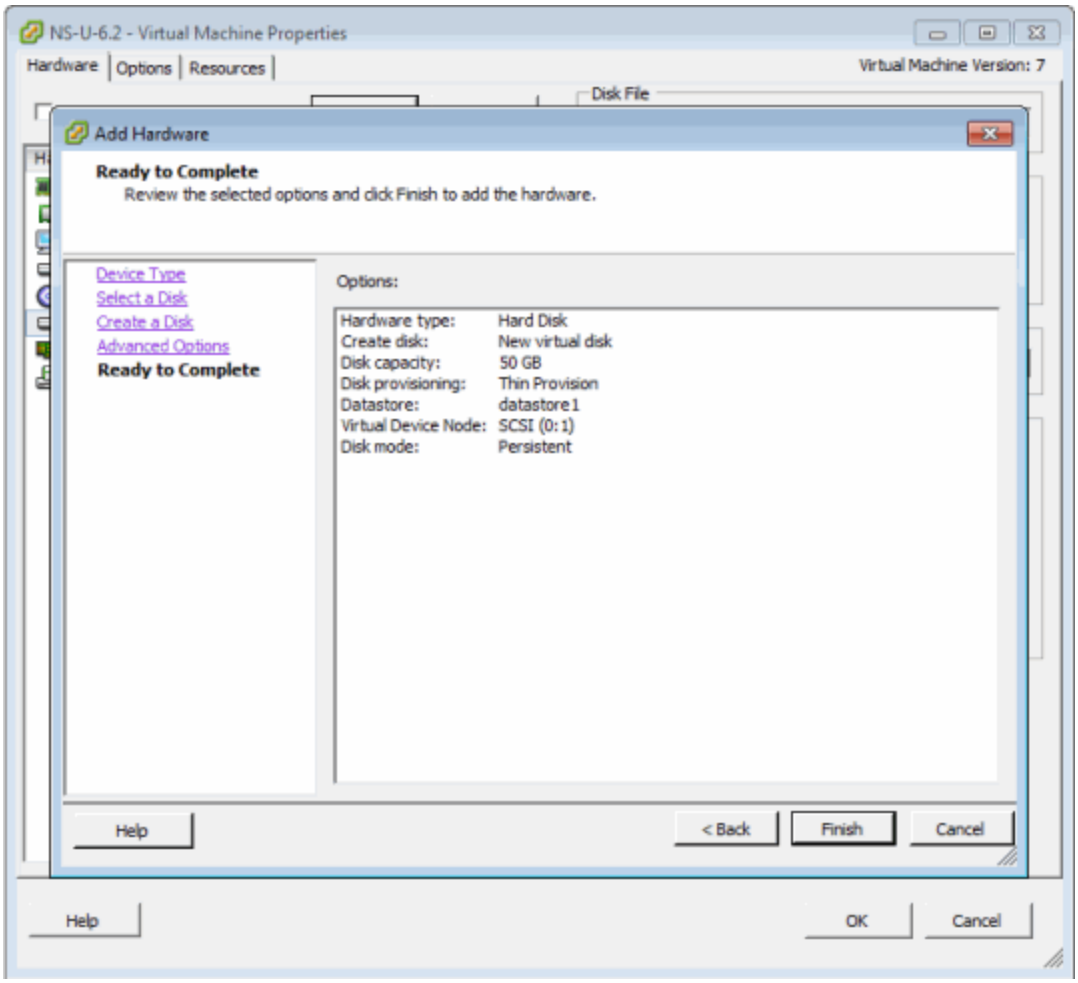
5. Enter the desired size of the new disk. Select the **Thin Provision** option and click **Next**.


NS-U-6.2 - Virtual Machine Properties
Hardware
Options
Resources
Virtual Machine Version: 7
Add Hardware
Create a Disk
Specify the virtual disk size and provisioning policy
Device Type
Select a Disk
Create a Disk
Advanced Options
Ready to Complete
Capacity
Disk Size:
50
GB
Disk Provisioning
Thick Provision Lazy Zeroed
Thick Provision Eager Zeroed
Thin Provision
Location
Store with the virtual machine
Specify a datastore or datastore cluster:
Browse...
Help
< Back
Next >
Cancel
Help
OK
Cancel

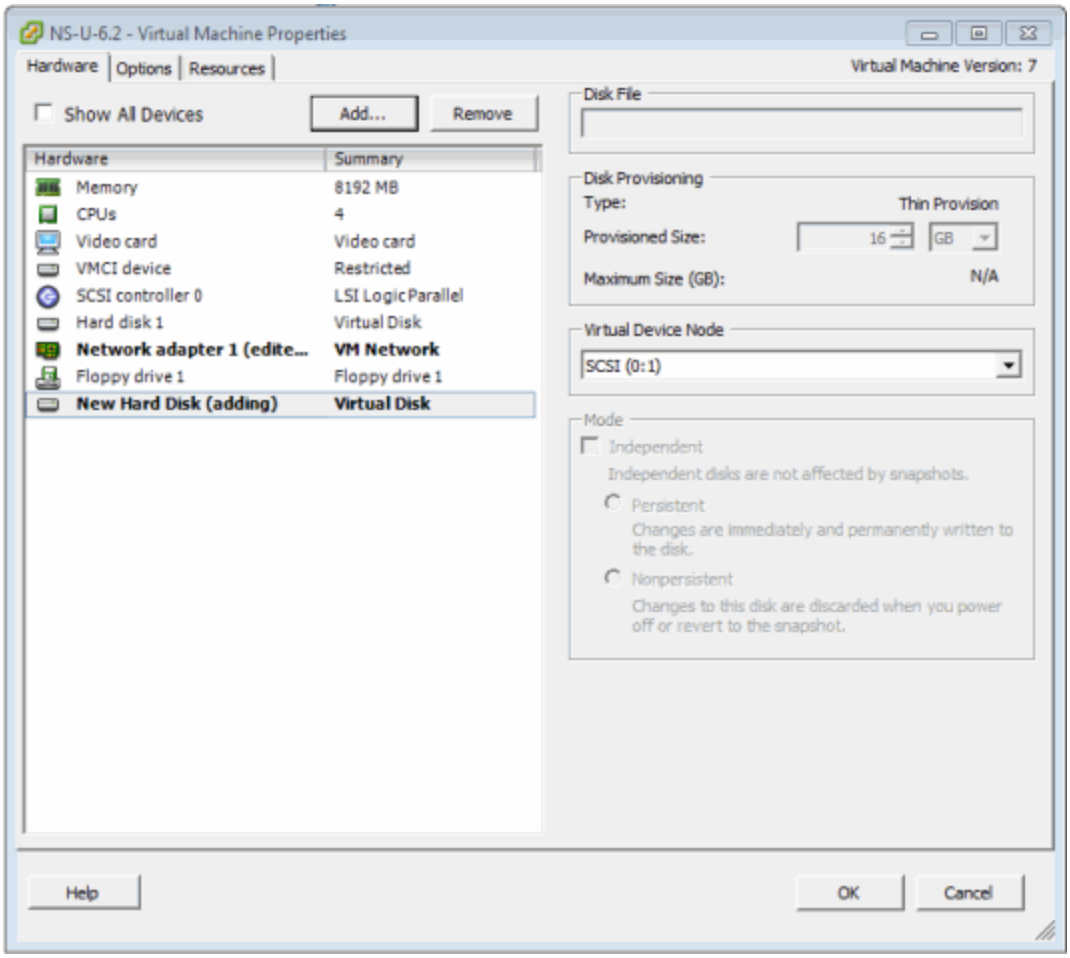
6. Leave the default **Virtual Device Node** value of SCSI (0:1) and click **Next**.



7. Review the summary of selected options and click **Finish**.



8. The **Hardware** tab shows the new hard disk that was added. Click **OK** to save the change.



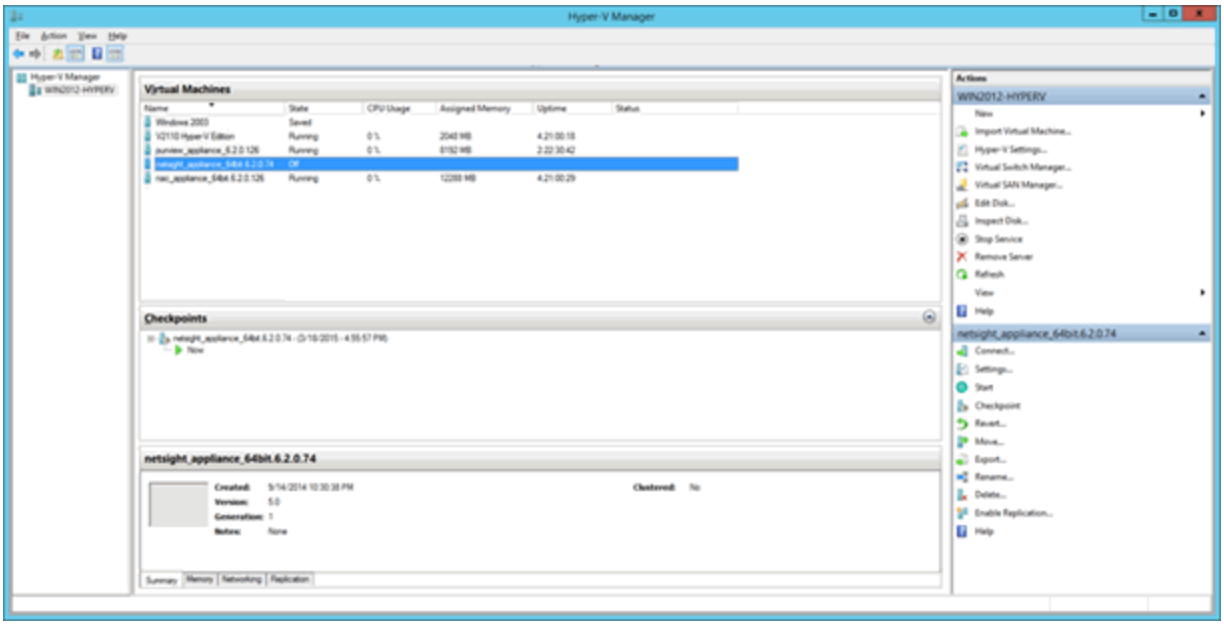
Repeating these steps to add additional drives results in different labels for those drives. For example, the label on the first drive you add is /dev/sdb, while the next drive added is labeled /dev/sdc.

In order to make the additional space available to the operating system, follow the instructions in the "Accessing the New Drive" section.

Adding a Virtual Drive to a Hyper-V Virtual Machine

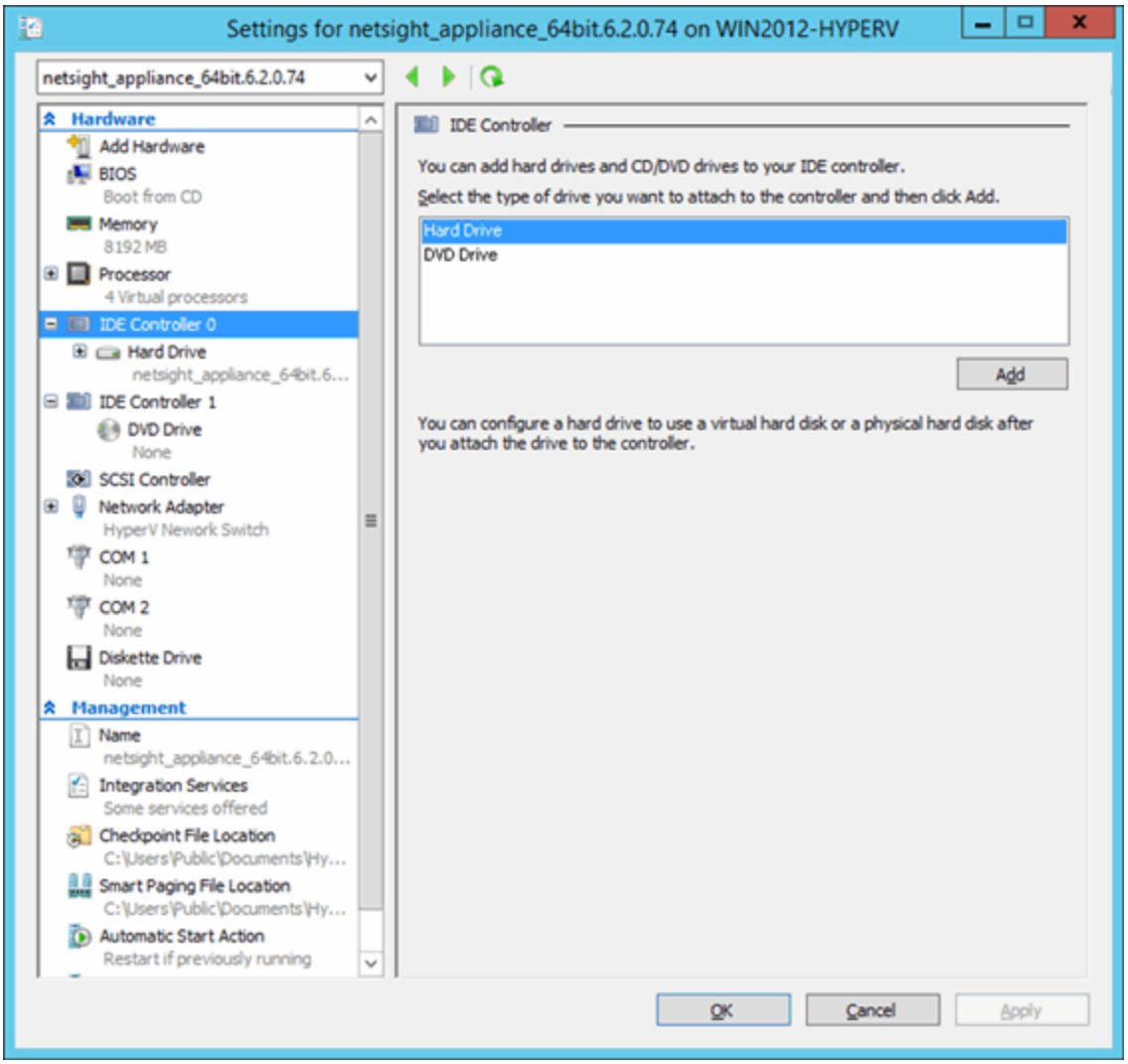
The steps to add a virtual drive on a Hyper-V virtual machine are performed in the Hyper-V Manager application with the target virtual machine (VM) selected. You need to shut down the virtual machine to perform the steps.

1. Open Hyper-V Manager.
2. Select the target VM.
3. Shutdown the VM.



4. Click the **Settings...** link in the Actions pane.

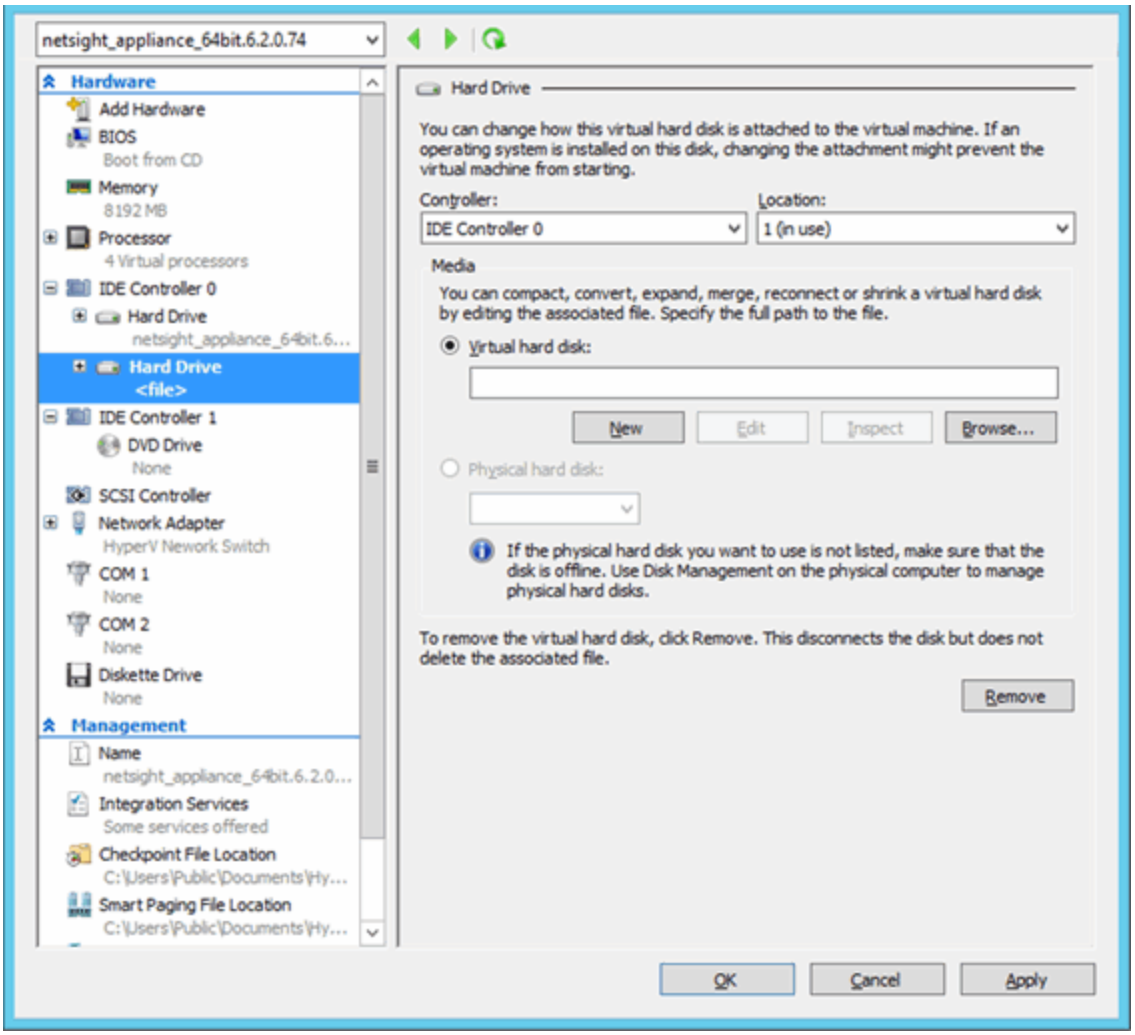
   The Settings window opens for the VM.



5. Select **IDE Controller 0** in the Hardware left-hand panel, **Hard Drive** in the IDE Controller area, and then click the **Add** button.

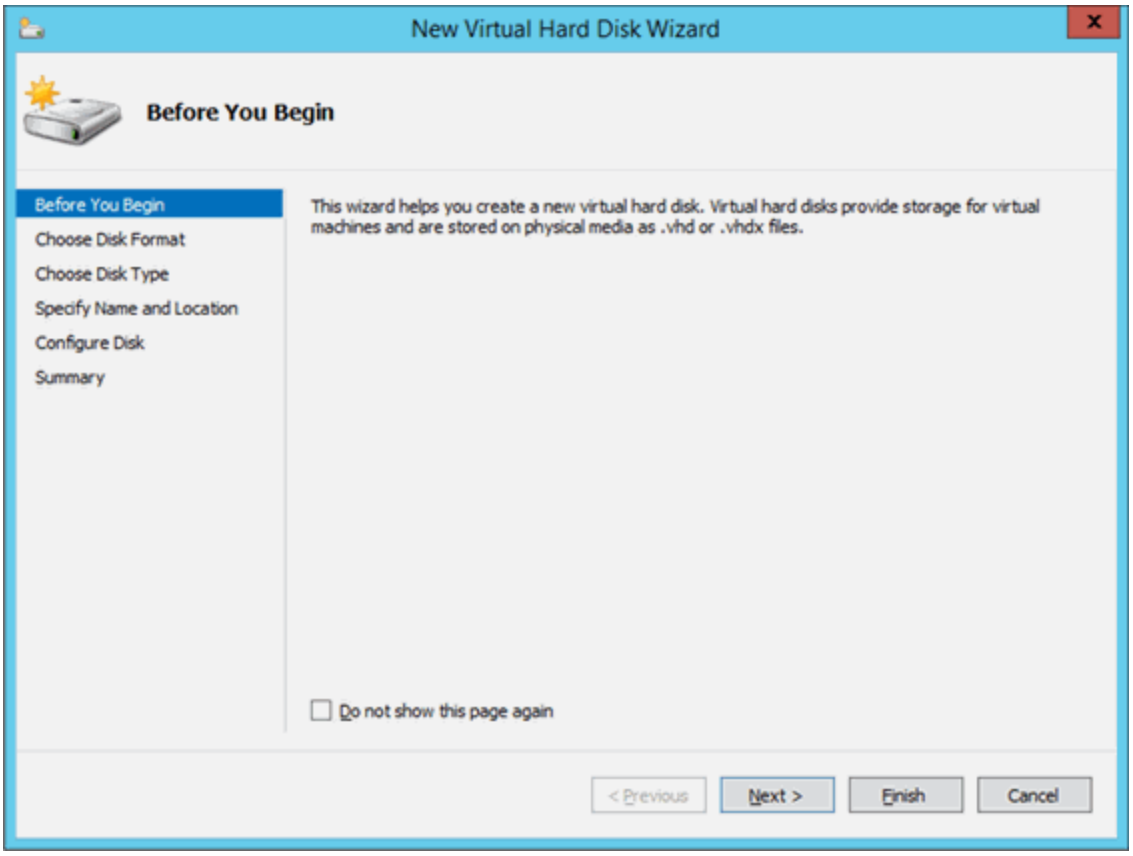
   A new hard drive appears in the Hardware left-hand panel within the IDE Controller 0 navigation tree.

6. Select the new hard drive in the Hardware left-hand panel, if necessary.



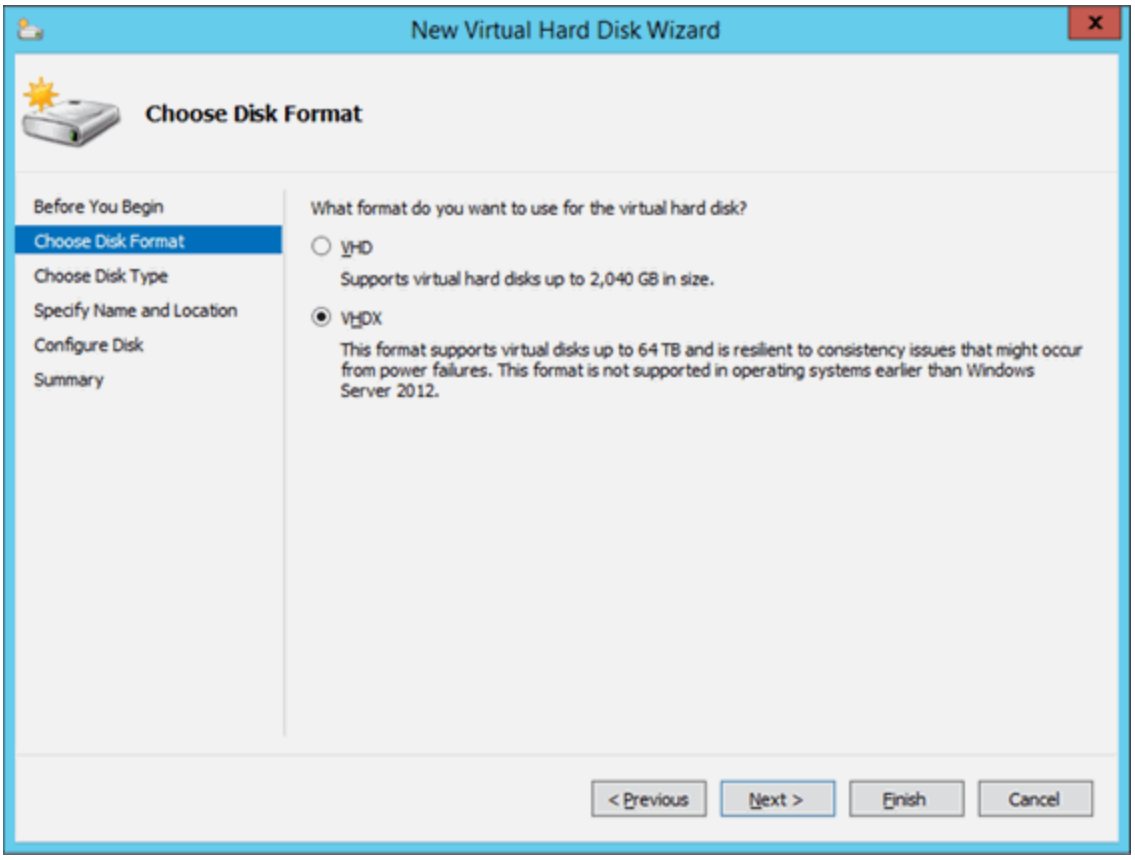
7. Click the **New** button under the Virtual hard disk field to add a new virtual hard disk.

   The New Virtual Hard Disk Wizard opens to the Before you Begin window.



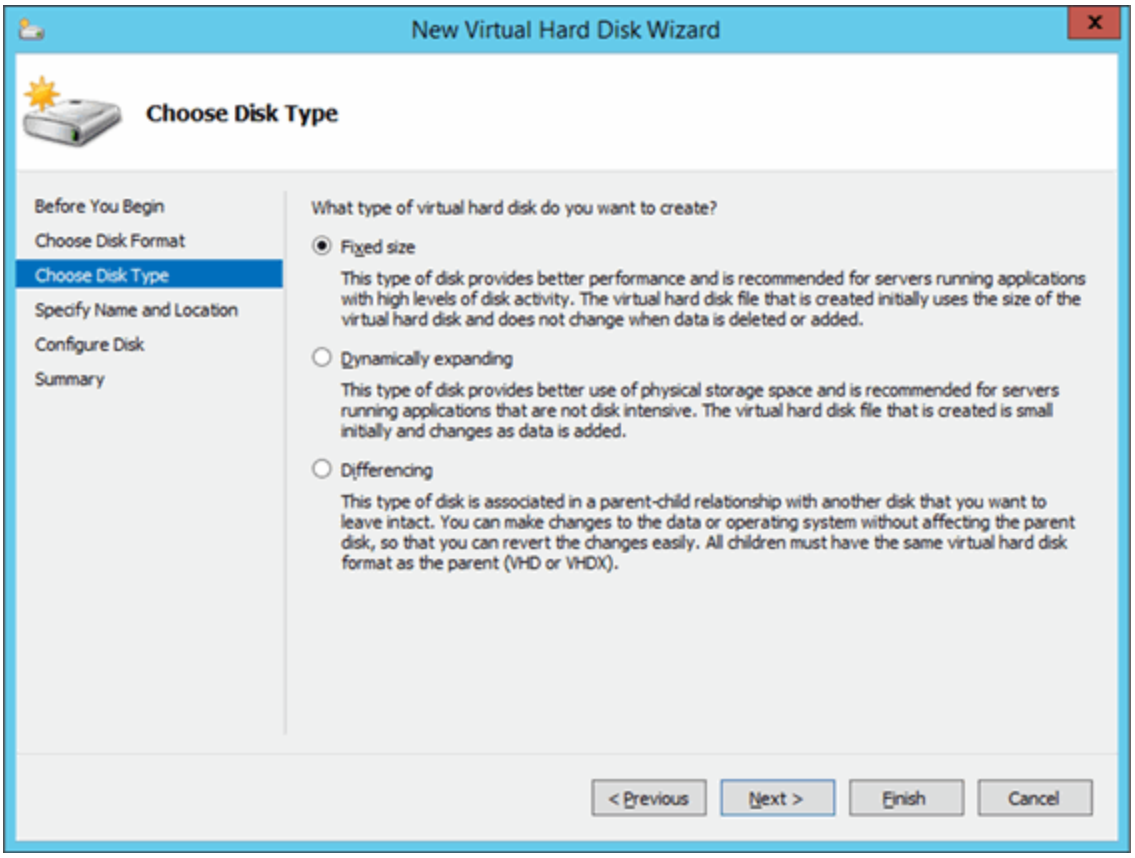
8. Click **Next**.

   The Choose Disk Format window opens.



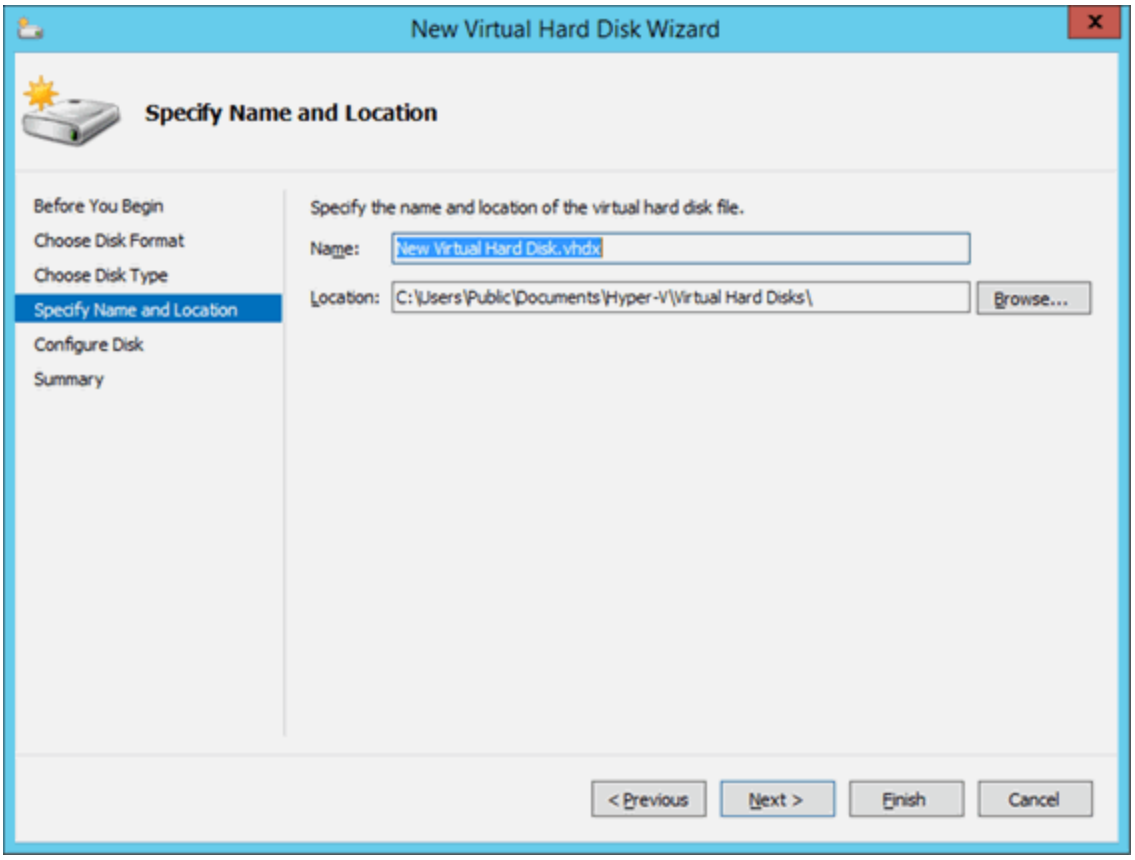
9. Select **VHDX** and click **Next**.

   The Choose Disk Type window opens.



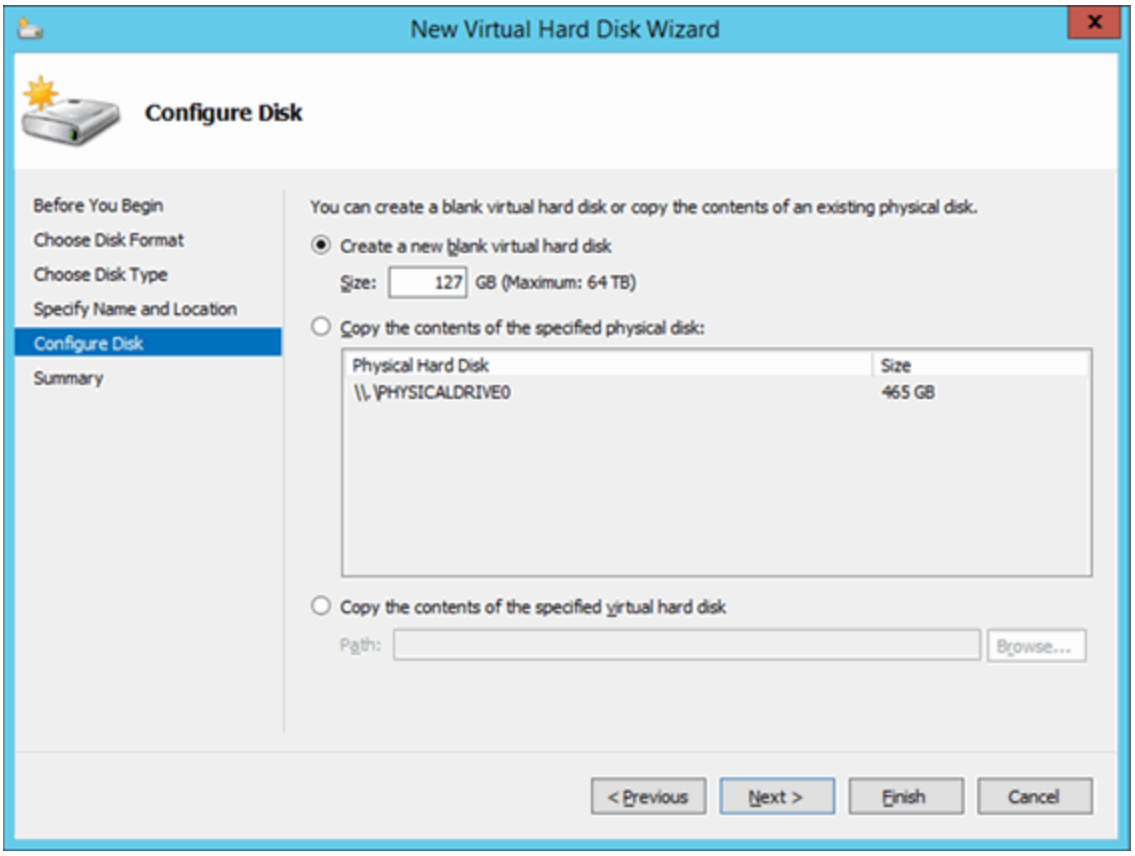
10. Select the appropriate disk type depending on your configuration and click **Next**.

    The Specify Name and Location window opens.



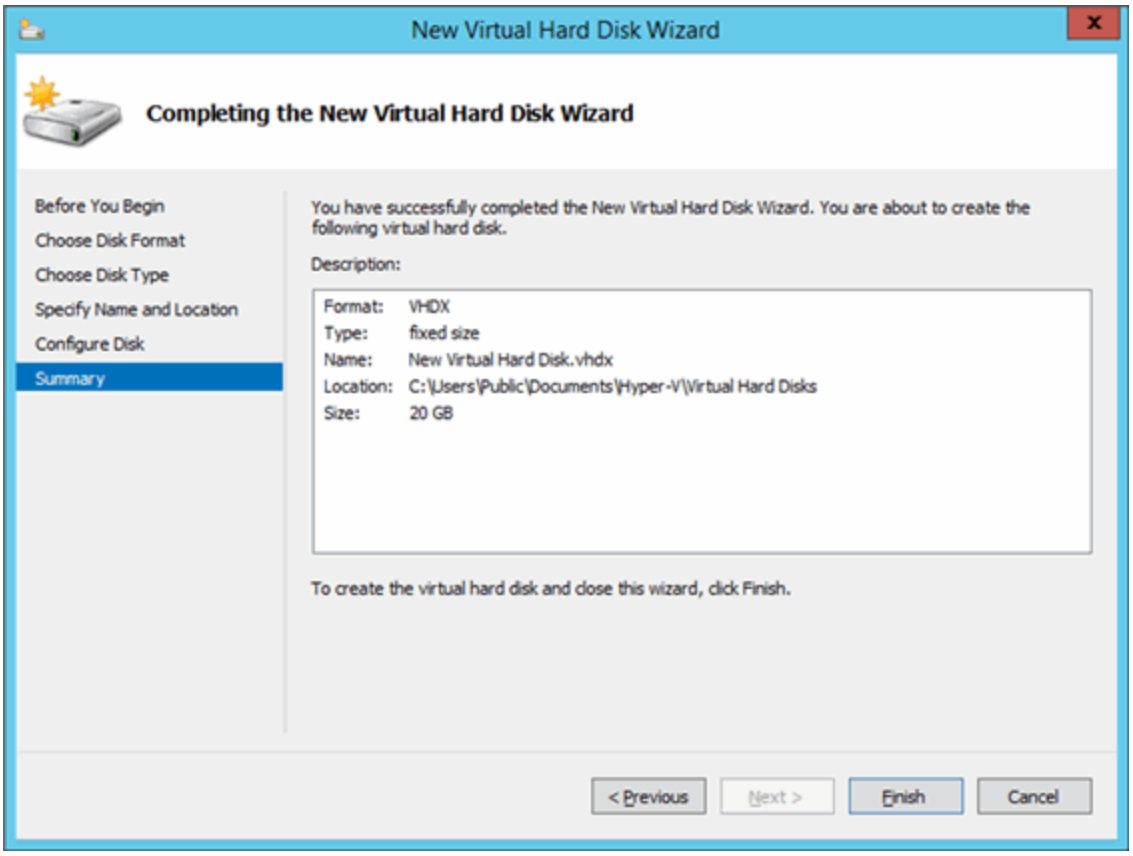
11. Enter a **Name** and a **Location** for the virtual hard disk and click **Next**.

    The Configure Disk window opens.



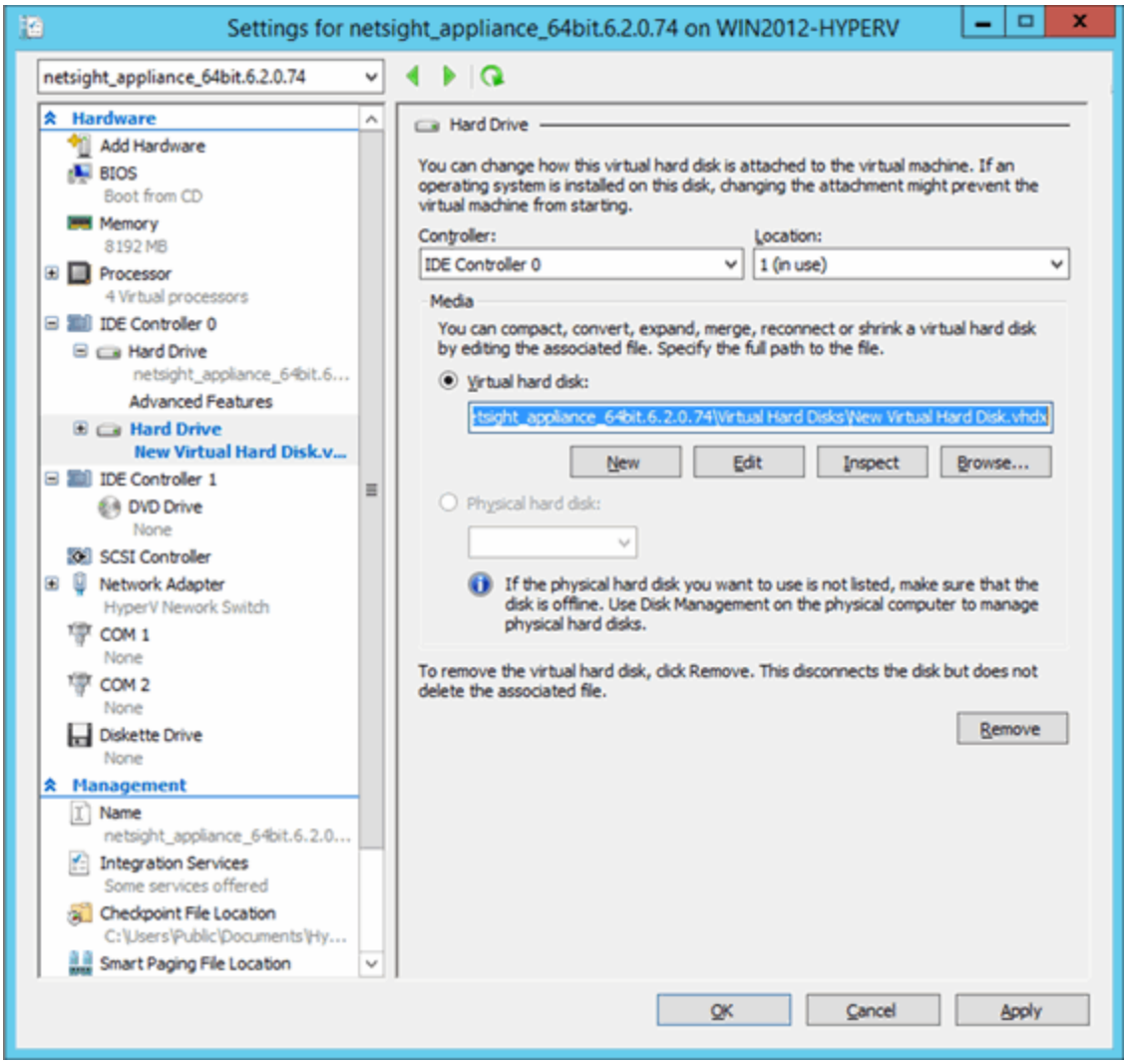
12. Select **Create a new blank virtual hard disk**, enter the **Size** of the new virtual hard disk in gigabytes, and click **Next**.

    The Completing the New Virtual Hard Disk Wizard window opens.



13. Verify the information in the Description field is accurate and click **Finish** to create the new virtual hard disk.

    The Settings window opens for the VM.



14. Click **OK** to save the changes to the virtual machine.

Accessing the New Drive

After you add the new hard drive, you must run the following script in order to allow the engine to access the additional space. The script must be run by the root user.

1. Enter the following in the engine command line prompt:
    a. Type `cd ~root/scripts` and press **Enter** to open the scripts directory.

b. Type `./expandLVM.sh` and press Enter to run the script.

2. Type y and press Enter when the following confirmation message is displayed:

   WARNING:

   This script attempts to locate a new virtual drive and add it to the current LVM configuration. This script formats the new drive; use only in accordance with official instructions to increase the size of the hard drive.

   Would you like to proceed? [n]:

The script runs, allowing the engine to access the new drive.

Reinstalling the Engine Software

If it becomes necessary to reinstall engine software onto the virtual engine, all hard disks except the first hard disk must be removed from the VM before the VM is booted from the new image. Failure to do this may cause the install to fail.

Following the reinstall, take a new snapshot of the VM after it is reconfigured with the appropriate disk space. If you revert to a snapshot prior to the reinstall, the VM hard drive returns to its original preconfigured size. Refer to the vSphere client documentation or Hyper-V documentation for instructions on creating a snapshot.

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