

Installing Windows® 7 on NVMe



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Overview

Windows® 7 does not include NVM Express (NVMe) support during installation. If you use NVMe, you might experience issues when installing Windows® 7. This white paper provides instructions for inserting Windows updates for NVMe support and then deploying the Windows® 7 image.

Downloading the updates

1. Go to <https://support.microsoft.com/en-us/kb/2990941>.
2. Select **Hotfix Download Available**, and then follow the on-screen instructions to download hotfix KB2990941.
3. Go to <https://support.microsoft.com/en-us/kb/3087873>.
4. Select **Hotfix Download Available**, and then follow the on-screen instructions to download hotfix KB3087873.

Deploying the image

Note

If you are using Microsoft® System Center Configuration Manager to deploy the Windows® 7 image, the USB flash drive with NVMe support might be assigned to Drive 1. For instructions on targeting the specific disk and partition where you want to install the operating system, see [Appendix A: Deploying the image using Configuration Manager](#).

1. Create a USB flash drive that contains a bootable Windows® 7 image.
2. Connect the USB flash drive into a computer where you can modify the image to include the NVMe drivers.
3. Run **Command Prompt** as an administrator.
4. Configure **install.wim**. See [Configuring install.wim](#).
5. Configure **boot.wim**. See [Configuring boot.wim](#).
6. Disconnect the USB flash drive, and then connect it to the computer that you will install Windows® 7 on.
7. Reboot the computer and start the BIOS. See your computer's user manual for instructions on starting the BIOS.
 - Disable fast boot.
 - Make sure that **USB** is set to **No Security**.
 - Make sure that **Legacy Boot** or **UEFI Boot** is enabled.
 - Make sure that **Secure Boot** is disabled.
8. Save changes, reboot the computer, and start the BIOS.
9. Under the boot mode (**Legacy Boot** or **UEFI Boot**), select the USB flash drive.
10. Follow the on-screen instructions to install Windows® 7.
11. Once the installation is complete, check to see if the STORPORT.SYS was updated:
 - Open File Explorer.
 - Go to Windows\System32\drivers.
 - Find storport.sys, and right click.
 - Choose Properties.
 - Open the Details tab, and confirm that the Product Version is 6.1.7601.23172.

Configuring install.wim

1. Enter the following command to retrieve the WIM index information:

```
DISM /Get-WimInfo /WimFile:<install_wim_file>
```

Note

<install_wim_file> is the path to the install.wim file. Generally, this is d:\sources\install.wim.

2. Most operations that specify a WIM file require a name or index value. Be sure to note the index number of the Windows version that you are deploying.
3. Create a directory to mount the Windows image to. Enter the following command:

```
MD <mount_directory1>
```

For example, MD C:\temp\installw7 creates the folder installw7 in C:\temp.
4. Mount install.wim to this directory. Enter the following command:

```
DISM /Mount-Wim /WimFile:<install_wim_file> /name: "<Name>" /MountDir:<mount_directory1>
```

Note

<Name> is the name of the Windows version; for example, Windows® 7 Professional.

5. Enter the following command to insert the update:

```
DISM /image:<mount_directory1> /Add-Package /Packagepath:<msu_file>
```

Note

<msu_file> is the path to hotfix KB2990941, which you downloaded using the procedure in [Downloading the updates](#).

6. Make a directory for the downloaded hotfix KB3087873:

```
MD <KB3087873_directory>
```

For example: MD C:\KB3087873
7. Copy the .msu file downloaded from the link for KB3087873 into this new directory.
8. Type the following command to move to that specific directory:

```
CD <KB3087873_directory>
```
9. Expand the contents of the msu using the following command:

```
EXPAND "<.msu file name>" -f:* \."
```

For example: EXPAND "Windows6.1-KB3087873-v2-x64.msu" -f:* \."
10. Further expand the contents using the following command:

```
EXPAND *.* -f:* \."
```
11. Many files will be in the directory. Confirm the file update-bf.mum exists.
12. Install the package "update-bf.mum" using DISM with the following command:

```
DISM /image:<mount_directory1> /Add-Package /Packagepath: "update-bf.mum"
```
13. Once the installation is complete, unmount install.wim. To unmount, enter the following command:

```
DISM /Unmount-Wim /MountDir:<mount_directory1> /Commit
```

Configuring boot.wim

Note

If you need to create an operating system DVD, go to <https://support.microsoft.com/en-us/kb/2990941> and follow the on-screen instructions under **How to insert hotfixes and drivers and then create a bootable Windows Setup DVD**.

1. Enter the following command to retrieve the WIM index information:

```
Dism /Get-WimInfo /WimFile:<boot_wim_file>
```

Note

<boot_wim_file> is the path to the boot.wim file. Generally, this is d:\sources\boot.wim.

2. Most operations that specify a WIM file require an index value. Be sure to note the index number for Windows Preinstallation Environment.

3. Create a directory to mount the Windows image to. Enter the following command:

```
MD <mount_directory2>
```

For example, MD C:\temp\bootw7 creates the folder bootw7 in C:\temp.

4. Mount boot.wim to this directory. Enter the following command:

```
DISM /Mount-Wim /WimFile:<boot_wim_file> /index:2 /MountDir:<mount_directory2>
```

5. Insert the updates into the Windows Preinstallation Environment. Enter the following command:

```
DISM /image:<mount_directory2> /Add-Package /Packagepath:<msu_file>
```

Note

<msu_file> is the path to hotfix KB2990941, which you downloaded using the procedure in [Downloading the updates](#).

6. Insert the updates into the Windows Preinstallation Environment. Enter the following command:

```
DISM /image:<mount_directory2> /Add-Package /Packagepath: "update-bf.mum"
```

Note

The packagepath is based on the assumption that you have NOT changed directories since step 12 of Configuring install.wim. If you have changed directories, please replace "update-bf.mum" with the correct location of update-bf.mum (this is the same file which was checked for in step 11 of [Configuring install.wim](#)).

7. Copy all files from the <mount_directory2>\sources to the <USB_drive>:\sources location on the USB drive. Several files will be replaced by newer versions.

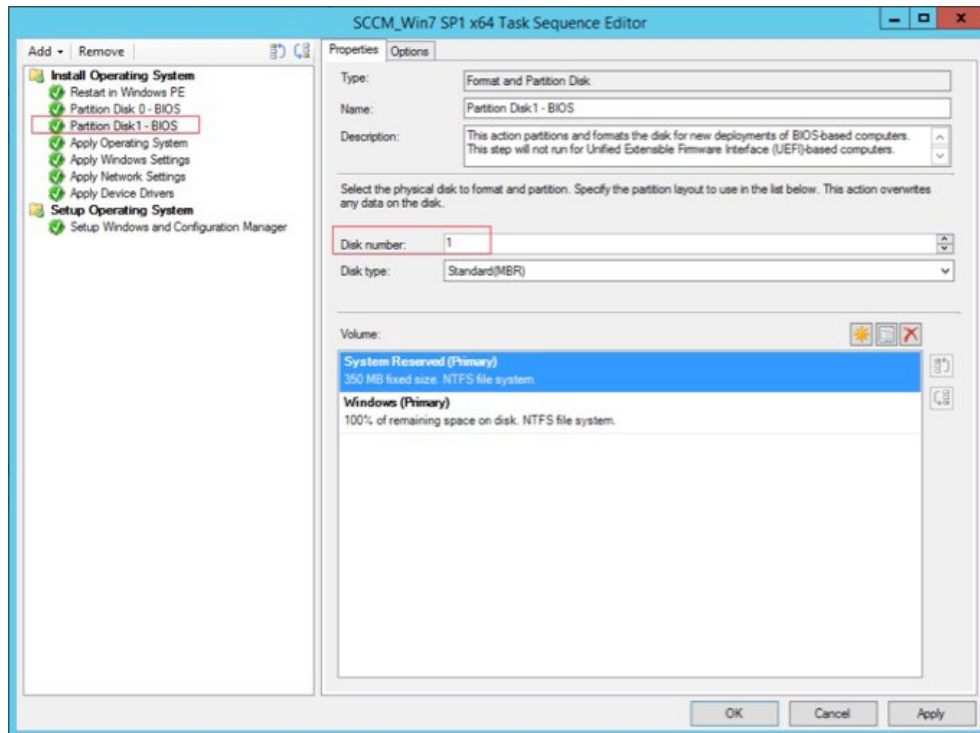
8. Unmount boot.wim. Enter the following command:

```
DISM /Unmount-Wim /MountDir:<mount_directory2> /Commit
```

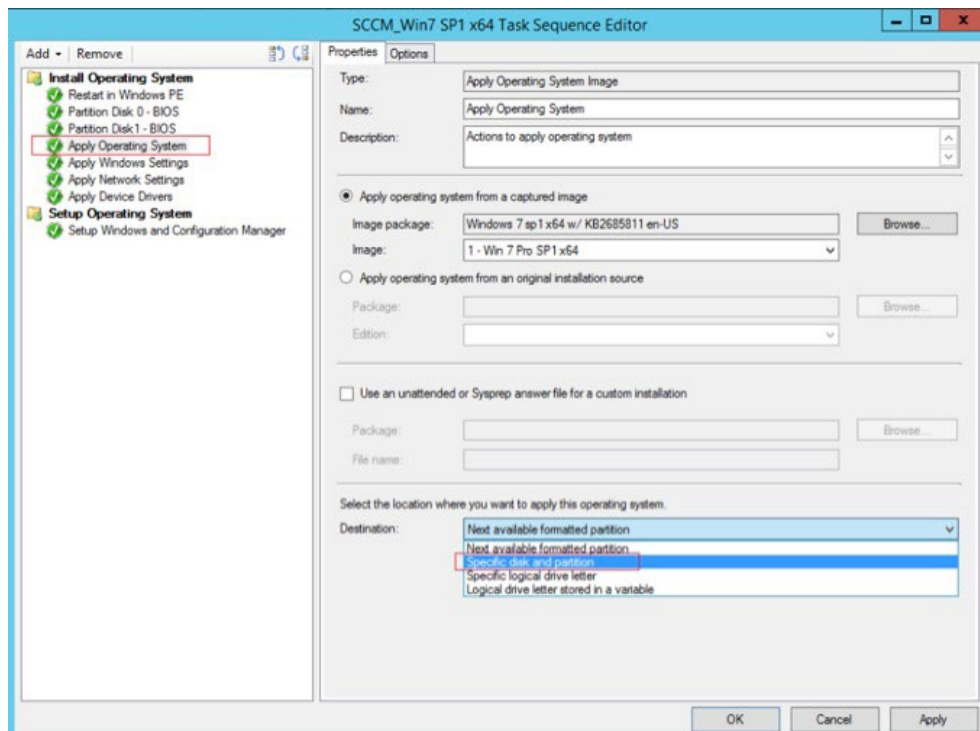
Appendix A: Deploying the image using Configuration Manager

To target the specific disk and partition where you want to install the operating system:

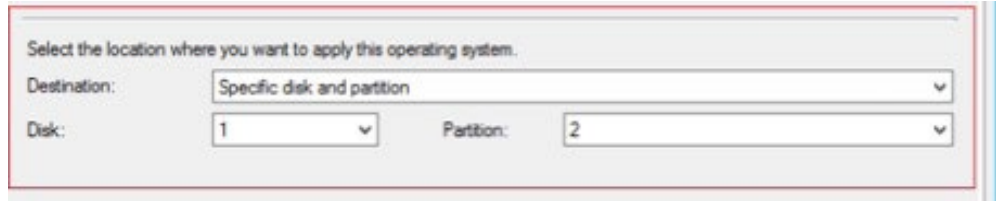
1. In Configuration Manager, select **1** as the **Disk number** to format and partition.



2. Under Destination, select Specific disk and partition.



3. Under **Disk**, select **1**.
4. Under **Partition**, select **2**.



Select the location where you want to apply this operating system.

Destination:

Disk: Partition:

For more information

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