

## Readme

### Installing Microsoft Windows\* 7 from USB Drives onto USB 3.0 Computers

Windows 7 installation media does not include native driver support for USB 3.0, so during installation, when you get to the screen to select your preferred language, a keyboard or mouse connected to a USB 3.0 port does not respond. Any Intel® NUC that has only USB 3.0 ports is affected.

This Readme document describes three methods to resolve the problem:

- [Windows 7\\* USB 3.0 Creator Utility](#)
- [DISM Graphical User Interface \(GUI\) Tool](#)
- [DISM Command Line Tool](#)

#### [Troubleshooting](#)

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### Windows 7\* USB 3.0 Creator Utility

The Windows 7 USB 3.0 Creator Utility automates the steps to update a Windows 7 installation image so that it contains USB 3.0 drivers.

#### Assumptions

- You have a valid copy of Windows 7 on ISO or DVD.
- You have Administrator access to another working computer (the Admin system) with Windows 7 or later to follow these steps.
- You have downloaded and unzipped the [Windows 7 USB 3.0 Creator Utility](#).

#### 1. Create a USB flash drive installer

Use your Windows 7 DVD or ISO image to create a bootable USB flash drive. Instructions on how to do are found on [Microsoft's site](#).

#### 2. Run the Utility

- a) Download and unzip the Windows 7 USB 3.0 Creator utility to a temporary folder on the Admin system.
- b) Connect the USB device containing the Windows 7 image to the Admin system.
- c) Right-click the file **Installer\_Creator.exe** and select **Run as administrator**.
- d) Browse to the root of the USB drive.
- e) Click **Create Image** to begin the creation process.
- f) Wait for the process to finish. It can take up to 15 minutes.

#### 3. Install Windows 7 on the target Intel NUC

Using the updated installer, proceed with the Windows 7 installation as you normally would.

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### DISM Graphical User Interface (GUI) Tool

The DISM Graphical User Interface (GUI) Tool updates a Windows 7 installation image so that it contains USB 3.0 drivers.

#### Assumptions

- You have a valid copy of Windows 7 on ISO or DVD.
- You have Administrator access to another working computer (the Admin system) with Windows 7 or later to follow these steps.
- The Admin system has .NET Framework 4.0 installed.
- The Admin system has at least 10GB free disk space.
- You have downloaded and installed the DISM GUI from <https://dismgui.codeplex.com/>.

### Create USB Flash Drive Installer

1. Use your Windows 7 DVD or ISO image to create a bootable USB flash drive. Instructions on how to do are found on [Microsoft's site](#).
2. Leave the flash drive connected to your administrator console system.

### Copy install.wim and boot.wim to the Admin System

1. Create a temporary working directory on the Admin system, such as **C:\WIM**.
2. Create a mount point under your working directory: **C:\WIM\MOUNT**.
3. Locate the boot.wim and install.wim image files in the \sources directory on your Windows 7 flash drive.
4. Copy both these files to your working directory. It is strongly recommended that, if you have disk space (approximately 3GB), to make a second unmodified copy of these files.

### Obtain Current USB 3.0 Drivers

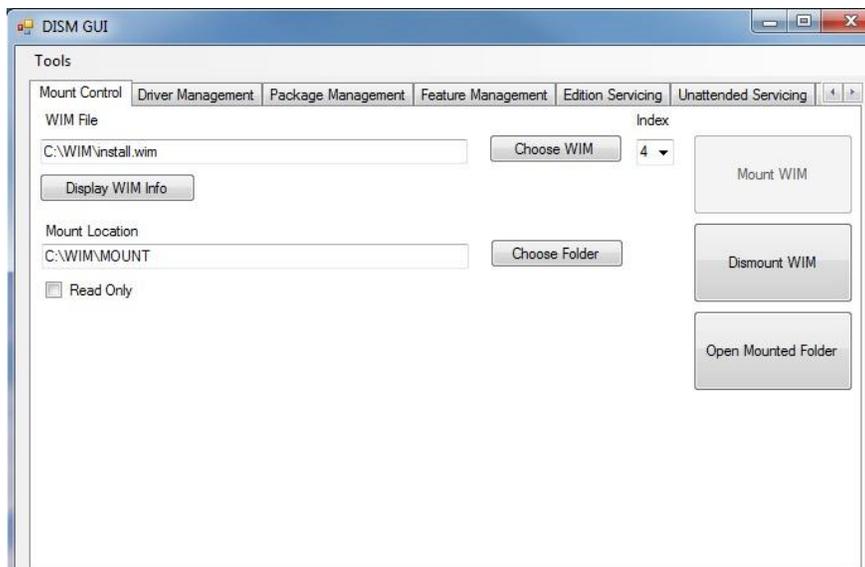
1. Download the current USB 3.0 drivers for your Intel NUC from [Download Center](#) to the Admin system.
2. Extract but do not install the USB 3.0 driver package.
3. Create a driver folder in your working directory for the 64-bit drivers (**C:\WIM\USB3**).
4. Copy the x64 folder from the extracted files to that location (**C:\WIM\USB3\x64**).

### Run the DISM GUI Tool

Right-click on DISM GUI.exe and select **Run as Administrator**. Follow these steps:

#### 1. Mount install.wim Image

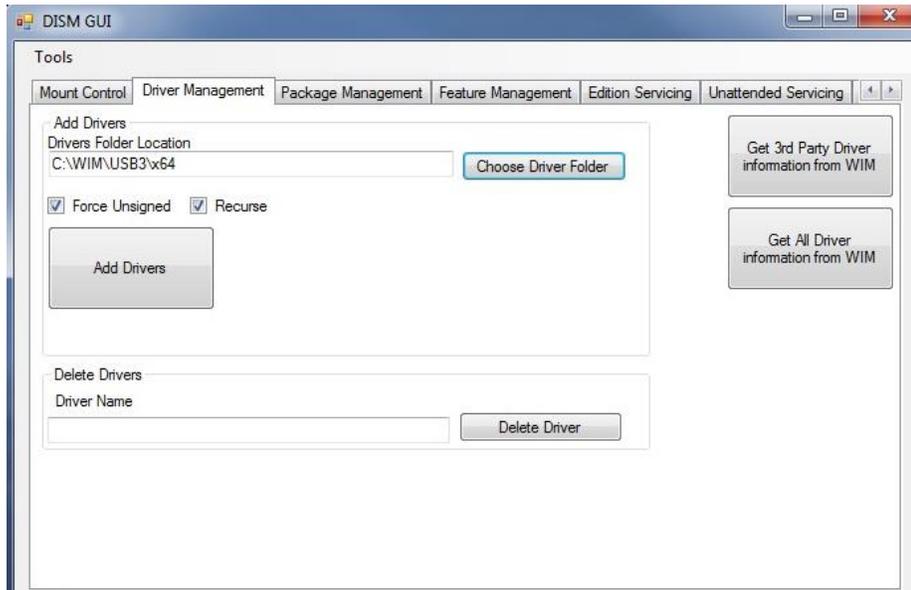
- a) On the Mount Control tab, click the **Choose WIM** button.
- b) Navigate to where you copied install.wim (C:\WIM, for example) and click **Open**.
- c) Choose the index number for the version of Windows 7 you have from the drop-down list under **Index**.
  - 1 = Home Basic
  - 2 = Home Premium
  - 3 = Professional
  - 4 = Ultimate
- d) Click the **Choose Folder** button for the Mount Location. Browse to the proper folder (C:\WIM\MOUNT, for example) and click **OK**.
- e) Verify the **Read Only** checkbox is clear and click the **Mount WIM** button.



The mounting process may take a few minutes, depending upon the speed of the Admin system and the size of the install.wim file.

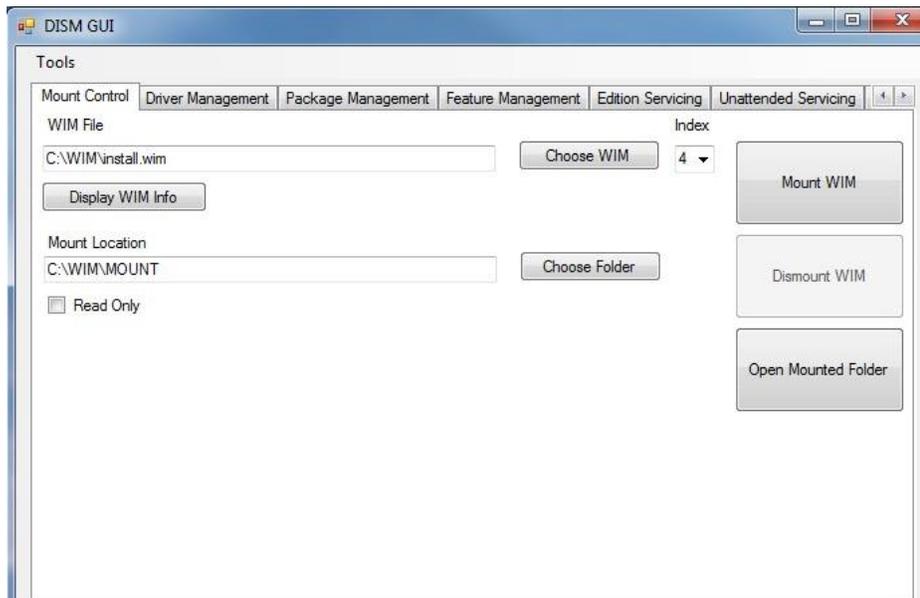
## 2. Add USB 3.0 Drivers to install.wim Image

- a) On the **Driver Management** tab, click the **Choose Driver Folder** button.
- b) Select the location of your USB 3.0 drivers and click **OK**.
- c) Verify the **Recurse** checkbox is selected.
- d) If your drivers are unsigned or reported to be unsigned, select the **Force Unsigned** checkbox.
- e) Click the **Add Drivers** button.



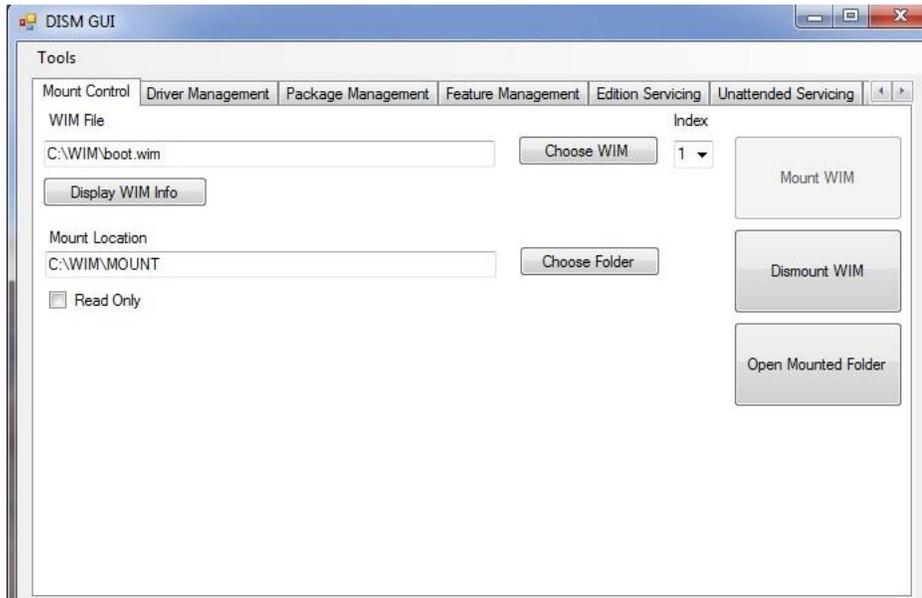
## 3. Commit Changes to install.wim Image and Unmount

- a) On the **Mount Control** tab, click the **Dismount WIM** button.
- b) Select **Yes** to commit the changes. This may take a few minutes.



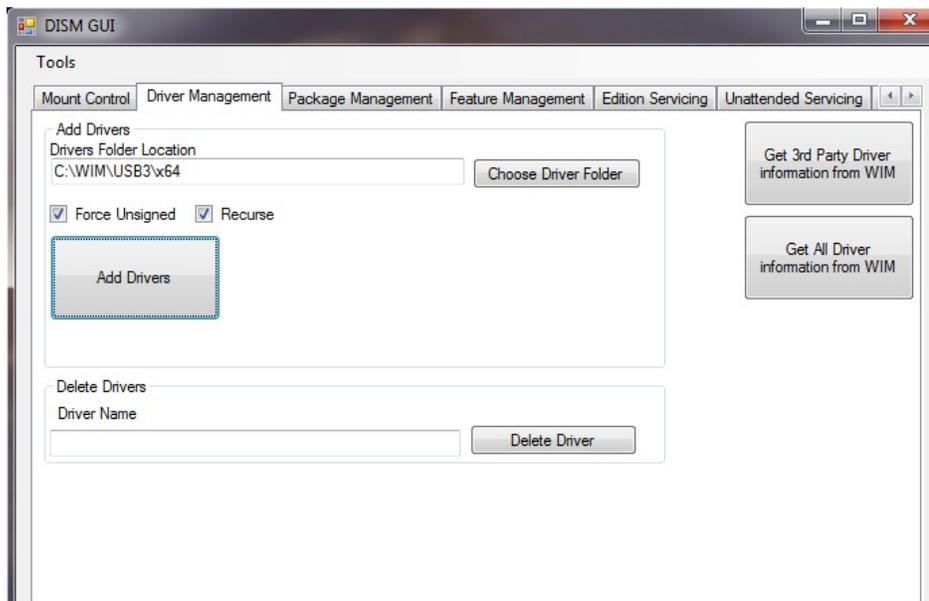
#### 4. Mount boot.wim Image Index 1 (Windows PE)

- On the **Mount Control** tab, click the **Choose WIM** button.
- Navigate to where you copied boot.wim (C:\WIM in the example) and click **Open**.
- Choose index number 1 (for Windows PE) from the drop-down list under **Index**.
- The Mount Location should still contain the appropriate folder. If not, click the **Choose Folder** button for the Mount Location. Browse to the proper folder (C:\WIM\MOUNT, for example) and click **OK**.
- Verify the **Read Only** checkbox is clear and click the **Mount WIM** button.



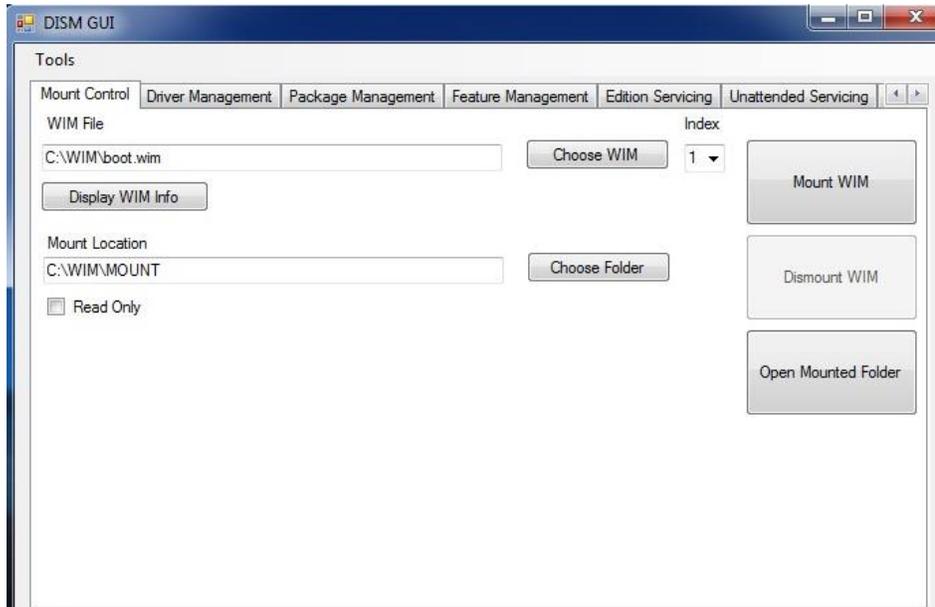
#### 5. Add USB 3.0 Drivers to boot.wim Image

- On the **Driver Management** tab, all options should still be set up from adding them to the previous image. If not, click the **Choose Driver Folder** button. Select the location of your USB 3.0 drivers and click **OK**.
- Verify the **Recurse** checkbox is selected.
- If your drivers are unsigned or reported to be unsigned, select the **Force Unsigned** checkbox.
- Click the **Add Drivers** button.



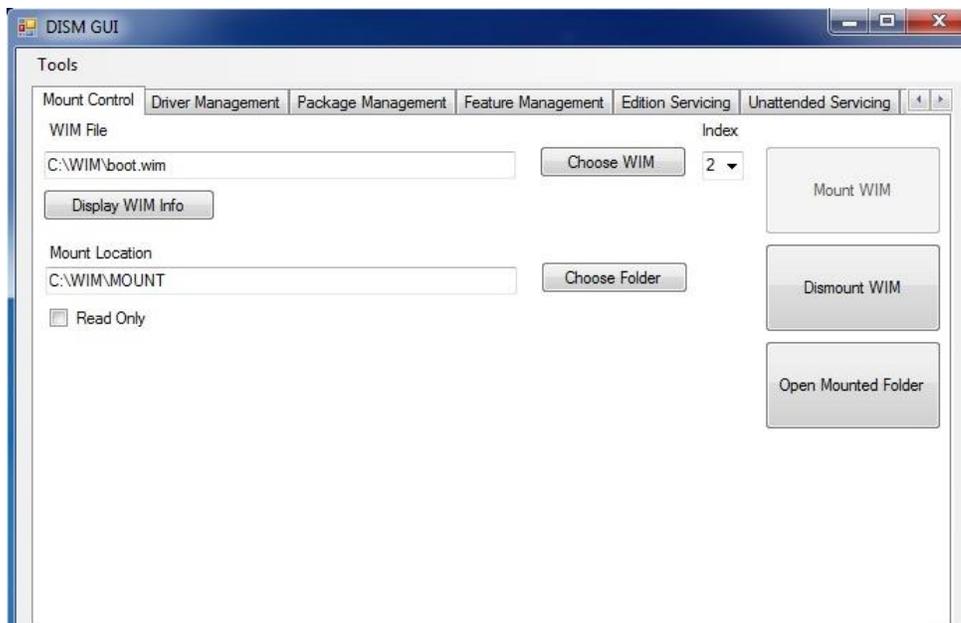
## 6. Commit Changes to boot.wim Image and Unmount

- On the **Mount Control** tab, click the **Dismount WIM** button.
- Select Yes to commit the changes. This will take about 30 seconds to finish.



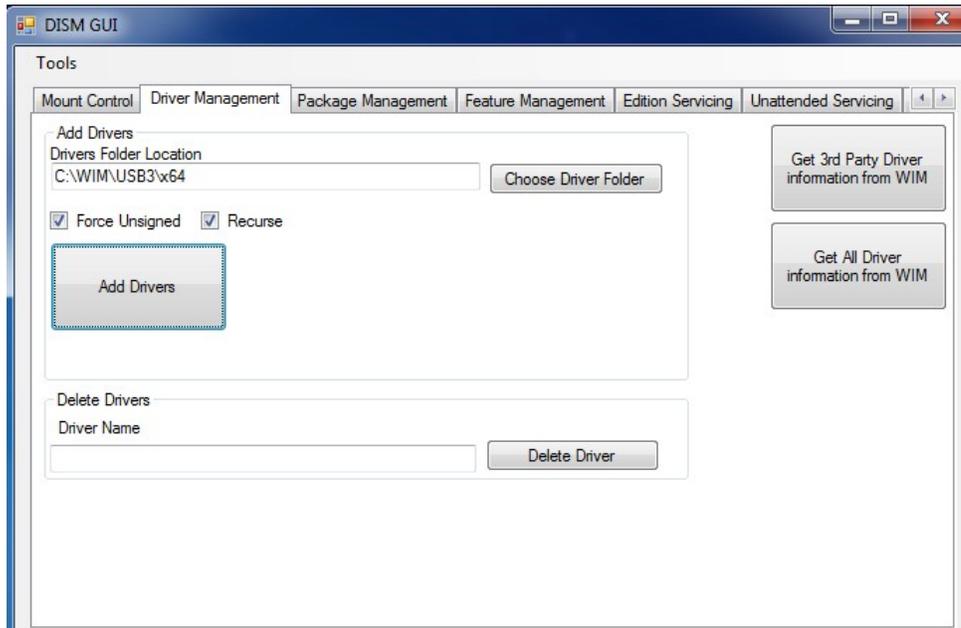
## 7. Mount boot.wim Image Index 2 (Windows Setup)

- On the **Mount Control** tab, you should see boot.wim still listed as the WIM file from the previous step. If not, click the **Choose WIM** button. Navigate to where you copied boot.wim (C:\WIM, for example) and click **Open**.
- Choose index number 2 (for Windows Setup) from the drop-down list under **Index**.
- The Mount Location should still contain the appropriate folder. If not, click the **Choose Folder** button for the Mount Location. Browse to the proper folder (C:\WIM\MOUNT, for example) and click **OK**.
- Verify the **Read Only** checkbox is clear and click the **Mount WIM** button.



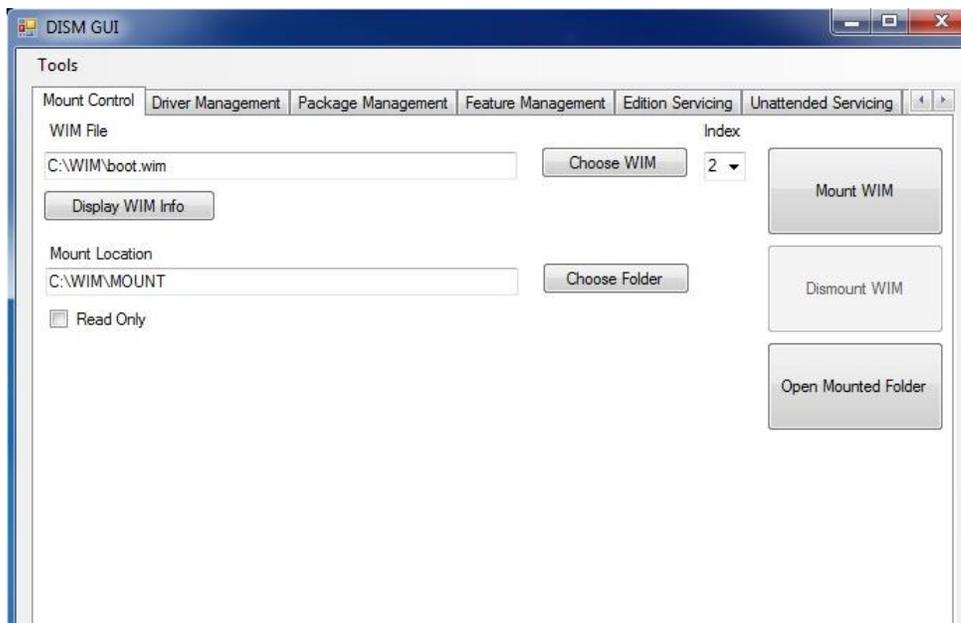
## 8. Add USB 3.0 Drivers to boot.wim Image

- a) On the Driver Management tab, all options should still be set up from adding them to the previous image. If not, click the **Choose Driver Folder** button. Select the location of your USB 3.0 drivers and click **OK**.
- b) Verify the **Recurse** checkbox is selected.
- c) If your drivers are unsigned or reported to be unsigned, select the **Force Unsigned** checkbox.
- d) Click the **Add Drivers** button.



## 9. Commit Changes to boot.wim Image and Unmount

- a) On the **Mount Control** tab, click the **Dismount WIM** button.
- b) Select **Yes** to commit the changes. This will take about 30 seconds to finish.



## 10. Copy Modified WIM files Back to the USB Flash Drive Installer

- a) Copy the newly-modified install.wim and boot.wim files back to the \sources directory of the Windows 7 USB Flash Drive Installer, overwriting the original files.
- b) Eject and remove the USB Flash Drive from the Admin system.

## Install Windows 7 on the target Intel NUC

Using the updated installer, proceed with the Windows 7 installation as you normally would.

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## DISM Command Line Tool

The DISM Command Line Tool updates a Windows 7 installation image so that it contains USB 3.0 drivers.

### Assumptions

- You have a valid copy of Windows 7 on ISO or DVD.
- You have Administrator access to another working computer (the Admin system) with Windows 7 or later to follow these steps.
- The Admin system has at least 10GB free disk space.

### Create USB Flash Drive Installer

1. Use your Windows 7 DVD or ISO image to create a bootable USB flash drive. Instructions on how to do are found on [Microsoft's site](#).
2. Leave the flash drive connected to your administrator console system.

### Copy install.wim and boot.wim to the Admin System

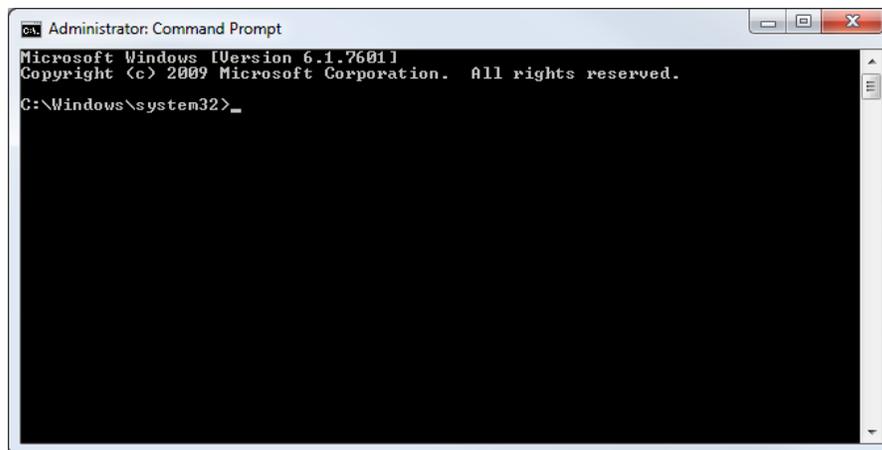
1. Create a temporary working directory on the Admin system, such as **C:\WIM**.
2. Create a mount point under your working directory: **C:\WIM\MOUNT**.
3. Locate the boot.wim and install.wim image files in the \sources directory on your Windows 7 flash drive.
4. Copy both these files to your working directory. It is strongly recommended that, if you have disk space (approximately 3GB), to make a second unmodified copy of these files.

### Obtain Current USB 3.0 Drivers

1. Download the current USB 3.0 drivers for your Intel NUC from [Download Center](#) to the Admin system.
2. Extract but do not install the USB 3.0 driver package.
3. Create a driver folder in your working directory for the 64-bit drivers (**C:\WIM\USB3**).
4. Copy the x64 folder from the extracted files to that location (**C:\WIM\USB3\x64**).

### Run the DISM Tool

1. Open an Administrator Command Prompt window.



2. Enter each of the following DISM command lines in turn:

Action	DISM command line
Mount the install.wim image	<p><b>dism.exe /Mount-WIM /WimFile:"C:\WIM\install.wim" /index:4 /MountDir:"C:\WIM\MOUNT"</b></p> <p>Set /index: to 1 – 4 depending, on the version of Windows 7 you have:            1 = Home Basic            2 = Home Premium            3 = Professional            4 = Ultimate</p>
Add USB 3.0 drivers to the install.wim image	<p><b>dism.exe /image:"C:\WIM\MOUNT" /Add-Driver /driver:"C:\WIM\USB3\x64" /ForceUnsigned /recurse</b></p>
Commit changes to install.wim image and unmount	<p><b>dism.exe /Unmount-wim /mountdir:"C:\WIM\MOUNT" /commit</b></p>
Mount boot.wim image Index 1 (Windows PE)	<p><b>dism.exe /Mount-WIM /WimFile:"C:\WIM\boot.wim" /index:1 /MountDir:"C:\WIM\MOUNT"</b></p>
Add USB 3.0 drivers to boot.wim image	<p><b>dism.exe /image:"C:\WIM\MOUNT" /Add-Driver /driver:"C:\WIM\USB3\x64" /ForceUnsigned /recurse</b></p>
Commit changes to boot.wim image and unmount	<p><b>dism.exe /Unmount-wim /mountdir:"C:\WIM\MOUNT" /commit</b></p>
Mount boot.wim image Index 2 (Windows Setup)	<p><b>dism.exe /Mount-WIM /WimFile:"C:\WIM\boot.wim" /index:2 /MountDir:"C:\WIM\MOUNT"</b></p>
Add USB 3.0 drivers to boot.wim image	<p><b>dism.exe /image:"C:\WIM\MOUNT" /Add-Driver /driver:"C:\WIM\USB3\x64" /ForceUnsigned /recurse</b></p>
Commit changes to boot.wim image and unmount	<p><b>dism.exe /Unmount-wim /mountdir:"C:\WIM\MOUNT" /commit</b></p>

**Copy Modified WIM Files Back to the USB Flash Drive Installer**

1. Copy the newly-modified install.wim and boot.wim files back to the \sources directory of the Windows 7 USB Flash Drive Installer, overwriting the original files.
2. Eject and remove the USB Flash Drive from the Admin system.

**Install Windows 7 on the target Intel NUC**

Using the updated installer, proceed with the Windows 7 installation as you normally would.

## **Troubleshooting**

Some customers report that a new Windows 7 installation image created using these steps STILL fails to provide USB functionality during Setup. The following workaround has been identified:

1. When the "Install Windows" message appears for the first time, disconnect and reconnect the USB mouse and keyboard.
2. The devices will be reinitialized.

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