Technical Whitepaper

Installing Windows 7 through USB Type C

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1 Introduction

Windows 7 does not come with built-in USB 3.1 drivers support during install. Since the drivers are missing, once you boot into the OS installation set up, the communication through the USB type C port is lost.

This guide provides instructions on how to prepare to install Windows 7 through a USB Type C port.

2 Drivers and updates

The following driver and Windows updates will be needed for this process:

2.1 USB 3.1 driver

Download Intel® USB 3.1 eXtensible Host Controller v15.2.30.250. This package provides drivers for Alpine Ridge USB3.1 Controller for Windows 7:

- Intel(R) USB 3.1 eXtensible Host Controller Driver
- Intel(R) USB 3.1 Hub Driver

The drivers are available on **HP Support**: (http://support.hp.com/us-en/)

2.2 Windows updates

- KB2990941 (https://support.microsoft.com/en-us/kb/2990941)
- KB3087873 (https://support.microsoft.com/en-us/kb/3087873)

3 Procedure overview

1. Download and extract the USB 3.1 drivers (see Drivers and updates on page 4).

2. Download and extract the Windows updates (see Windows updates on page 4).

   NOTE: The downloaded drivers and updates should be placed in a location on your system that is easy to find or remember.

3. Create a bootable Windows 7 image on a USB flash drive.

4. With the bootable Windows 7 flash drive inserted, launch the Windows Command Prompt.

   NOTE: You must run the Command Prompt as an Administrator.

5. Follow the steps to modify the **install.wim** (see Modifying install.wim on page 6) and **boot.wim** files (see Modifying boot.wim on page 7).

6. Eject and remove the USB flash drive, then attach it to the computer on which Windows 7 will be installed using a USB Type C-to-USB Type A dongle.

7. Turn on or restart the computer and enter the system BIOS by pressing the **f10** key when the HP logo appears, then make the following modifications.

   a. Turn fast boot off

   b. Change USB settings to No Security

   c. Enable Legacy boot

   d. Disable Secure boot

8. Save changes, restart the system, and enter the boot menu by pressing the **f9** key when the HP logo appears.

9. Select "Legacy boot" from the options provided.

10. Follow the on-screen instructions to install Windows 7.

4 Modifying install.wim

Using the command prompt as Administrator, enter the following commands:

1. Type the following command to get the WIM index information.

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

   NOTE: `<install_wim_file>` is the path to the **install.wim** (usually d:\sources\install.wim).

   An index or name value is required for most operations that specify a WIM file. Note the index number of the windows version you are installing.

2. Create a directory to mount the windows image.

   ```
   MD <mount_directory1>
   ```

   EXAMPLE: `MD C:\temp\installw7`

3. Mount install.wim to the directory created in step 2.

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

   For `<Name>`, fill in the name of the Windows version, i.e. "Windows 7 Professional."

4. Apply the update package (.msu) file:

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

   NOTE: `<msu_file>` is the path to each one of the updates KB2990941 and KB3087873 (see Windows updates on page 4 and Procedure overview on page 5). You will need to run this step twice, once for each update package.

5. Inject the downloaded USB 3.1 drivers (see USB 3.1 driver on page 4).

   ```
   Dism /Image:<mount_directory1> /Add-Driver /Driver:<driver_folder> /Recurse /forceunsigned
   ```

   `<driver_folder>` is the location of the USB 3.1 drivers on the flash drive (see Procedure overview on page 5).

6. Unmount the **install.wim**.

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

5 Modifying boot.wim

Using the command prompt as Administrator, enter the following commands:

1. Type the following command to get the WIM index information.

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

    NOTE: `<boot_wim_file>` is the path to the **boot.wim** (usually d:\sources\boot.wim).

    An index or name value is required for most operations that specify a WIM file. Note the index number of the windows version you are installing.

2. Create a directory to mount the windows image.

    ```
    MD <mount_directory1>
    ```

    EXAMPLE: `MD C:\temp\bootw7`

3. Mount boot.wim to the directory created in step 2.

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

4. Inject the downloaded USB 3.1 drivers (see USB 3.1 driver on page 4).

    ```
    Dism /Image:<mount_directory1> /Add-Driver /Driver:<driver_folder> /Recurse
     /forceunsigned
    ```

    `<driver_folder>` is the location of the USB 3.1 drivers on the flash drive (see Procedure overview on page 5).

5. Unmount the **boot.wim**.

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