



Dell
Business Client
Re-Image "How-To" Guide
Latitude Tablet and 2-in-1 System

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1 Overview

The purpose of this document is for reimaging Dell Latitude Tablet. These images include the Dell recommended software stack and settings, drivers, and applications which are tested and validated with the system.

Drivers and applications must be installed on Dell Latitude Tablet in a prescribed order to ensure optimal performance. Failure to install drivers and applications in this document may result in undesirable performance.

Dell provides drivers and applications that are not included in Microsoft Operating Systems. These drivers are required to enable the new technologies and features of Dell Latitude Tablet. Reinstalled images should be built from a clean hand installed OS load and following the steps in this guide. Dell does not recommend starting from an image built on previous generations of products or other computer systems.

Dell recommends ensuring BIOS settings are correctly set and using the latest device drivers and applications when imaging their systems.

This "How-To" guide applies to the following systems:

- Latitude 5175
- Latitude 5179
- Latitude 7275
- XPS 9250

2 "How-To"

2.1 Supported Operating Systems

The following Microsoft operating systems have been validated for use on Dell Latitude Tablet

| | Win8.1 64bit | Win10 64bit |
|---------------|--------------|-------------|
| Latitude 5175 | ● | ● |
| Latitude 5179 | ● | ● |
| Latitude 7275 | ● | ● |
| XPS 9250 | | ● |

2.2 Latest Drivers / Applications and Utilities

Dell recommends always obtaining the latest and most updated BIOS, drivers, firmware, and applications. Dell validated and tested drivers and applications are located on Dell's support web site <http://www.dell.com/support>

- Enter the Service Tag or select the product model and the model number
- Select Operating System (Win8.1 64-Bit or Win10 64-Bit version must be selected)
- Choose drivers and downloads

These drivers are required to enable the features of the Dell Latitude 5175/5179/7275 and Dell XPS 9250. The needed drivers and their supporting applications can be retrieved from the following URLs:

Latitude 5175: <http://www.dell.com/support/home/us/en/04/product-support/product/latitude-5175-laptop/drivers>

Latitude 5179: <http://www.dell.com/support/home/us/en/04/product-support/product/latitude-5179-laptop/drivers>

Latitude 7275: <http://www.dell.com/support/home/us/en/19/product-support/product/latitude-7275-laptop/drivers>

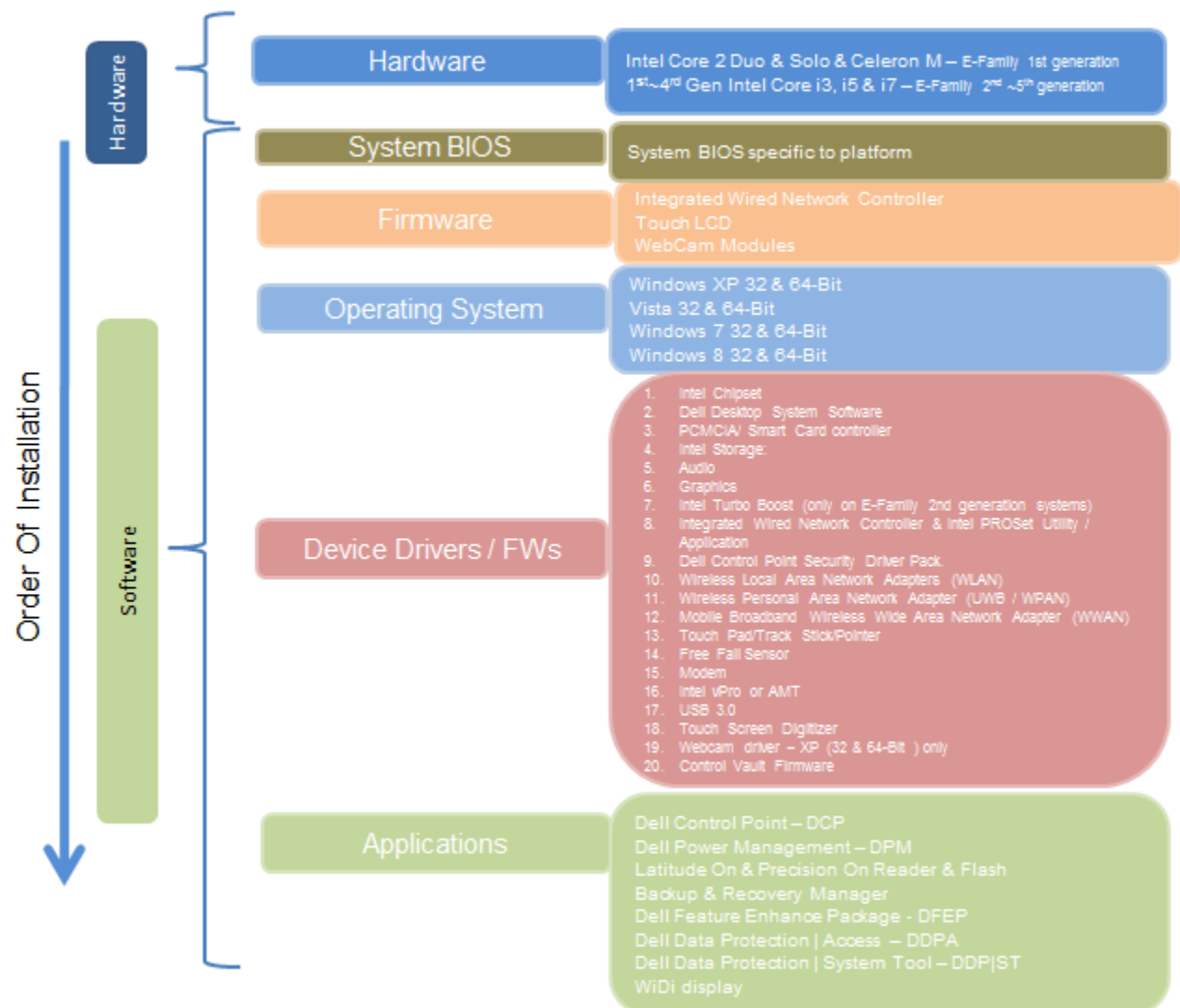
XPS 9250: <http://www.dell.com/support/home/us/en/19/product-support/product/xps-12-9250/drivers>

2.3 Installation Sequence Overview

The list below is a **general overview** of drivers and applications that should be installed on Dell Latitude systems in a prescribed order to ensure optimal performance. Actual system configurations may vary.

Note: Dell Alienware, Inspiron, Studio, XPS and Vostro Laptops may have different installation sequence. Please refer to Dell Support Website for these Laptops.

2.3.1 Installation Sequence Overview



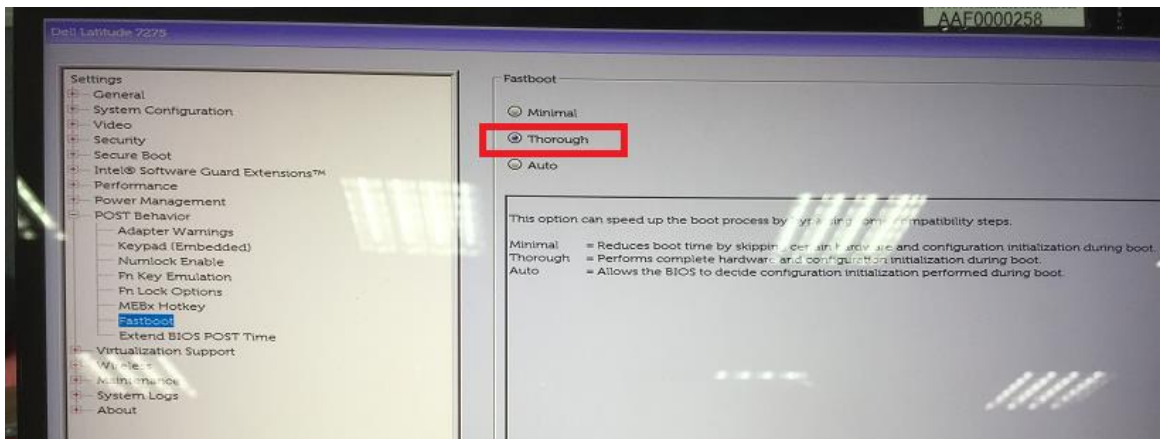
2.4 BIOS

Dell recommends flashing the latest BIOS available to system. This is posted on Dell's driver & downloads support web site (dell.com/support) under the "BIOS" section.

Some of the BIOS settings are critical to Operating System performance and installation. These are recommended settings as follows:

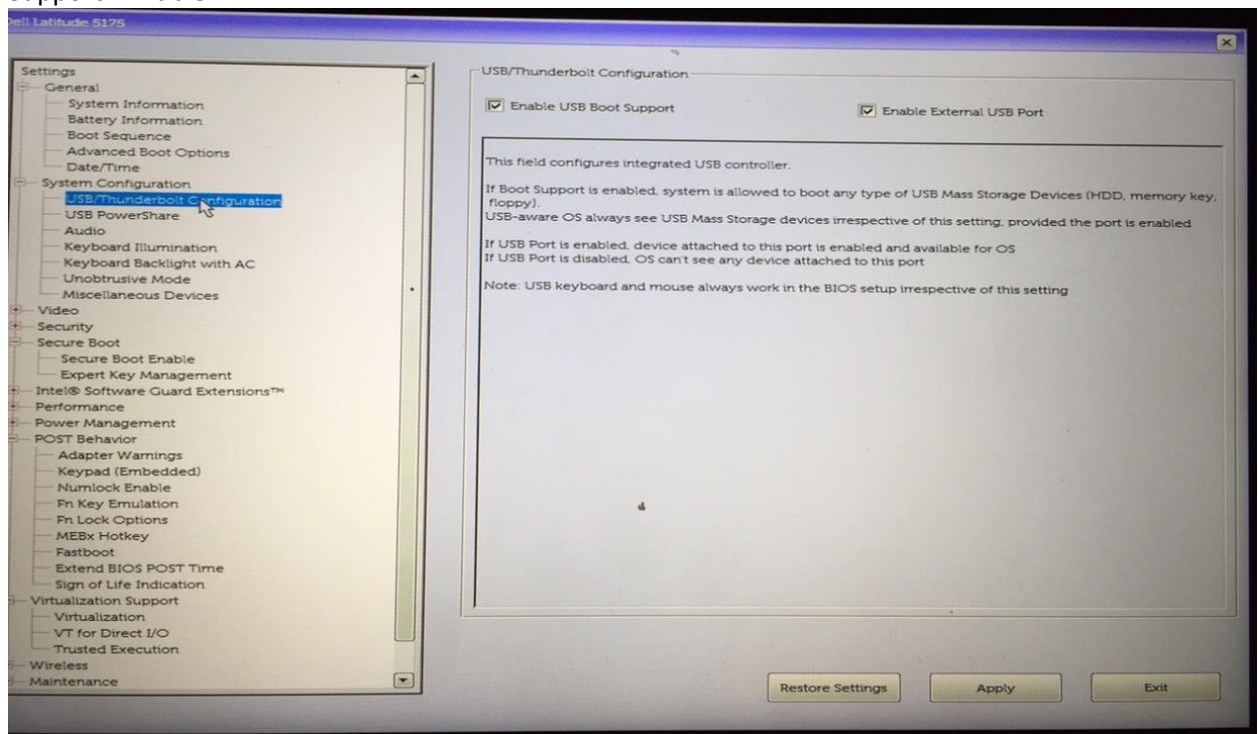
1. POST Behavior-> Fastboot->Thorough

- The system USB configuration must be set to allow for USB boot. Change the BIOS default setting from Minimal mode to Thorough.

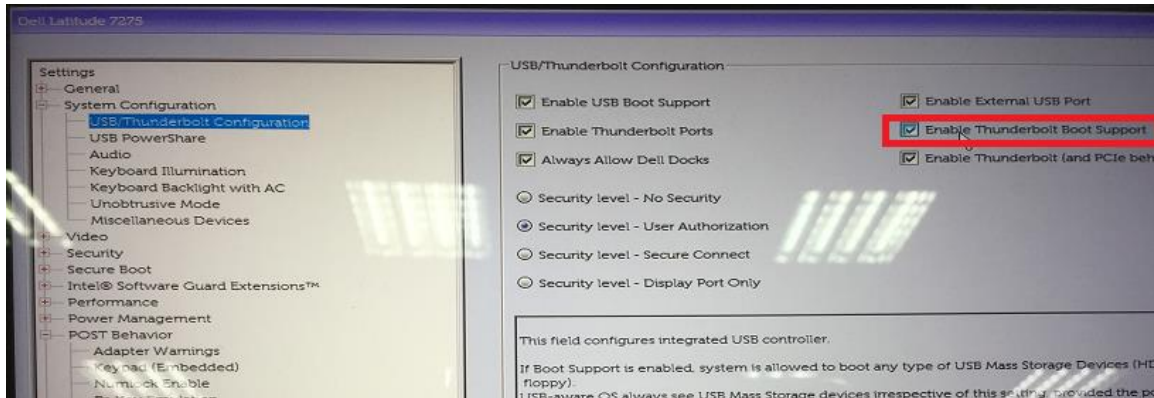


2. System Configuration->USB/Thunderbolt Configuration

For Latitude 5175/5179: System Configuration->USB/Thunderbolt Configuration->Enable Boot Support - Enable

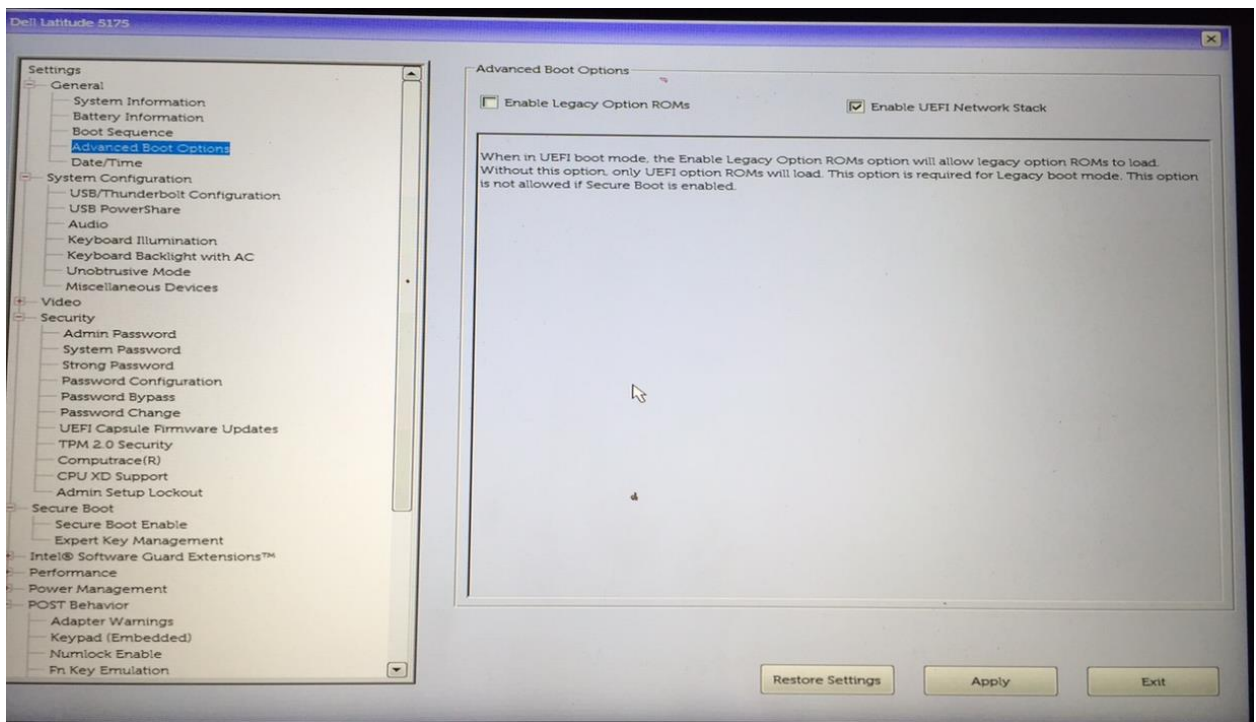


For Latitude 7275/XPS 9250, we recommended to additional enable Thunderbolt Boot Support for TypeC USB Dock device. System Configuration->USB/Thunderbolt Configuration->Enable Thunderbolt Boot Support. The Type-C device will be identified and boot to external device via Type-C.



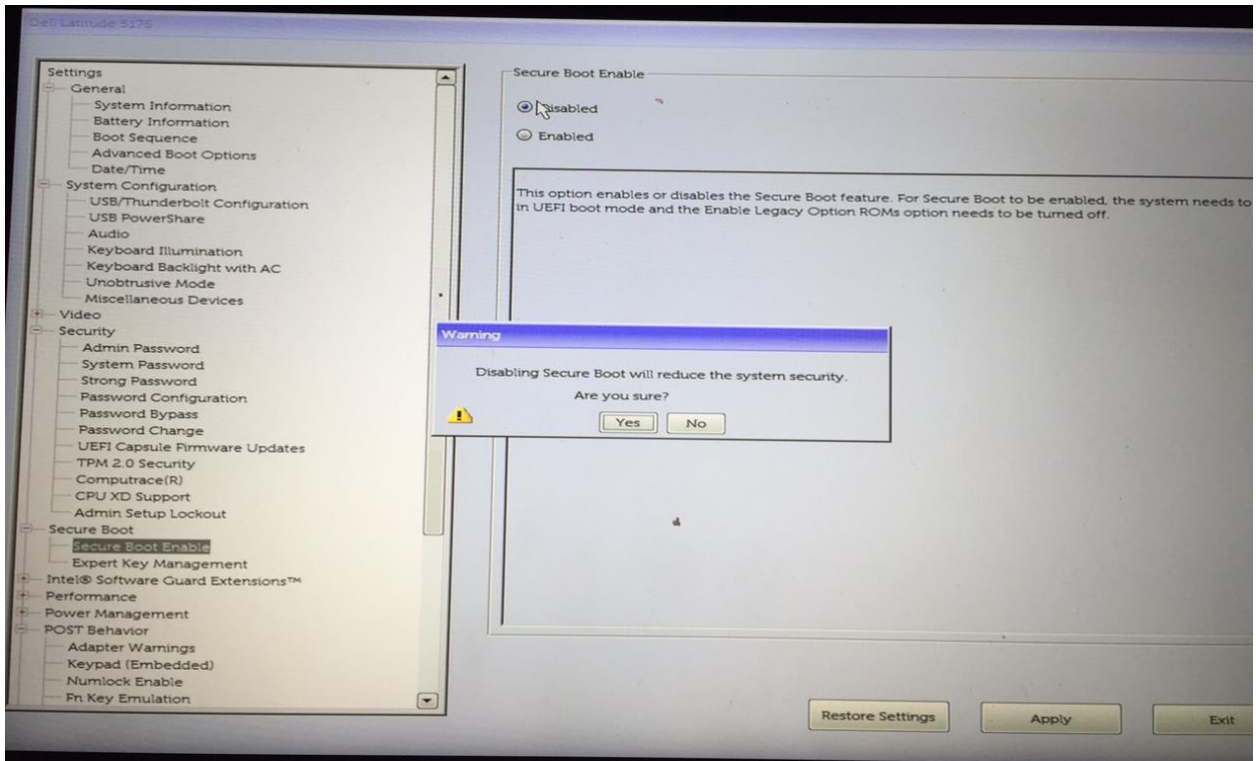
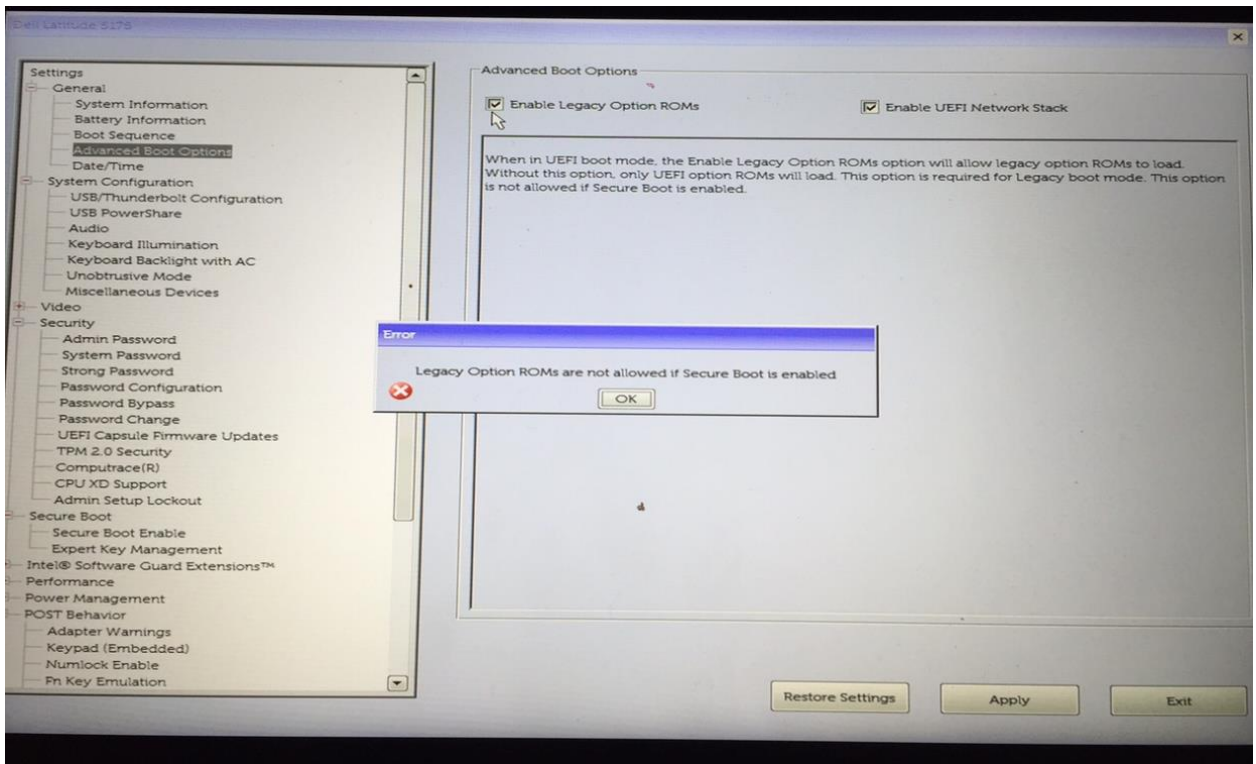
2. In order to boot to PXE from an Ethernet network device, the UEFI network stack must be enabled. General->Advanced Boot Options->Enable Legacy Option ROMs/Enable UEFI Network Stacks

For UEFI Mode: Enable IEFI Netork Stack



For Legacy Mode: Enable Legacy Option (The additional setting for Enable Legacy Option ROM, Secure Boot Enable > Disable)

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3 OS

3.1 Two basic methods to install OS image

1. Hand install from UEFI bootable USB flash drive that contains the OS install files.
2. Automated image install/deployment through Enterprise solutions such as Microsoft’s SCCM.

3.1.2 Hand Install through USB Flash Drive

Microsoft™ has made it easier than ever to create USB flash drive install media. Just download the “Media Creation Tool” (MCT) available from these URLs for the desired OS.

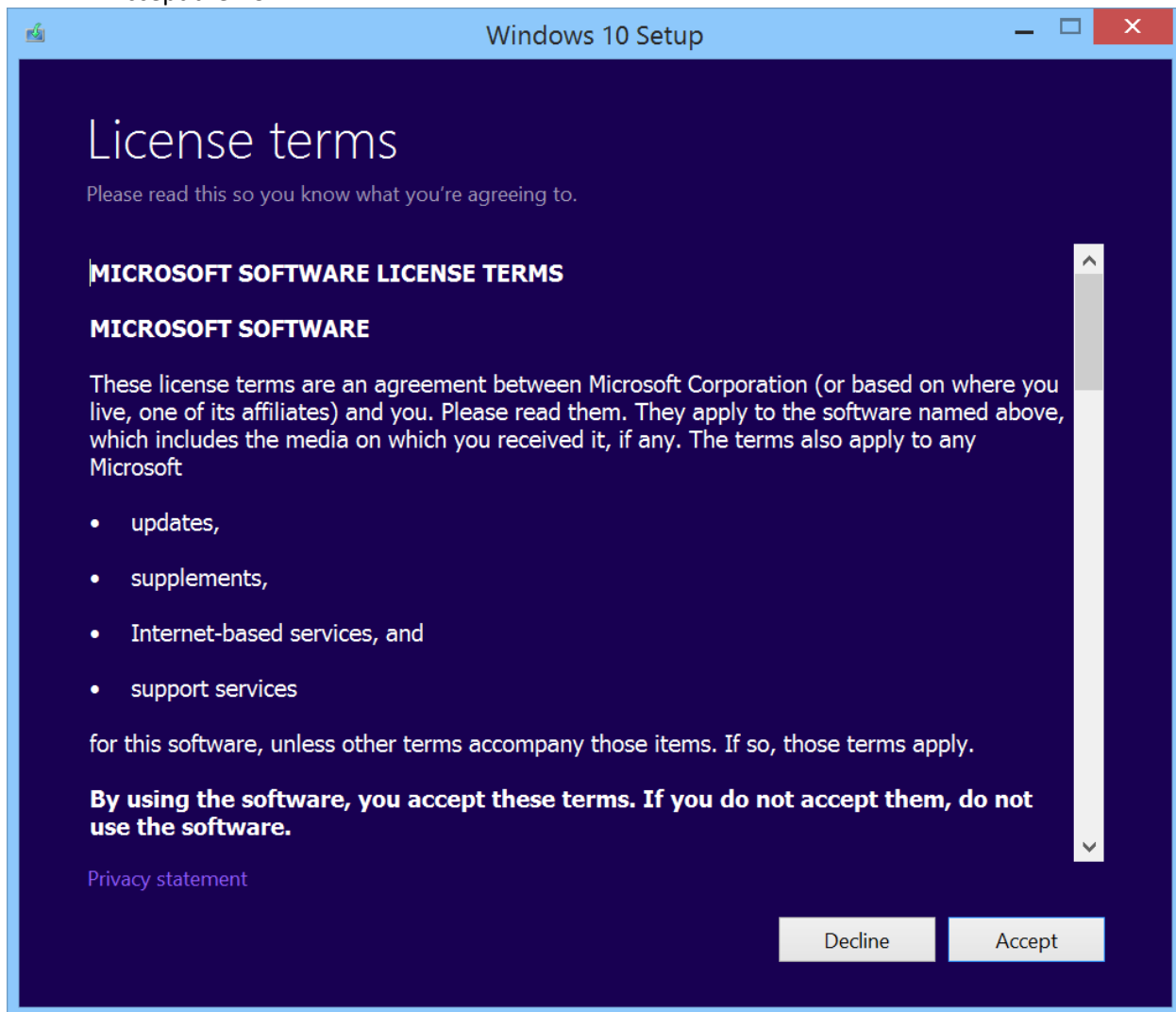
Windows 10 - 64 Bit - <https://www.microsoft.com/en-us/software-download/windows10>

Windows 8.1 - 64 Bit - <http://windows.microsoft.com/en-us/windows-8/create-reset-refresh-media>

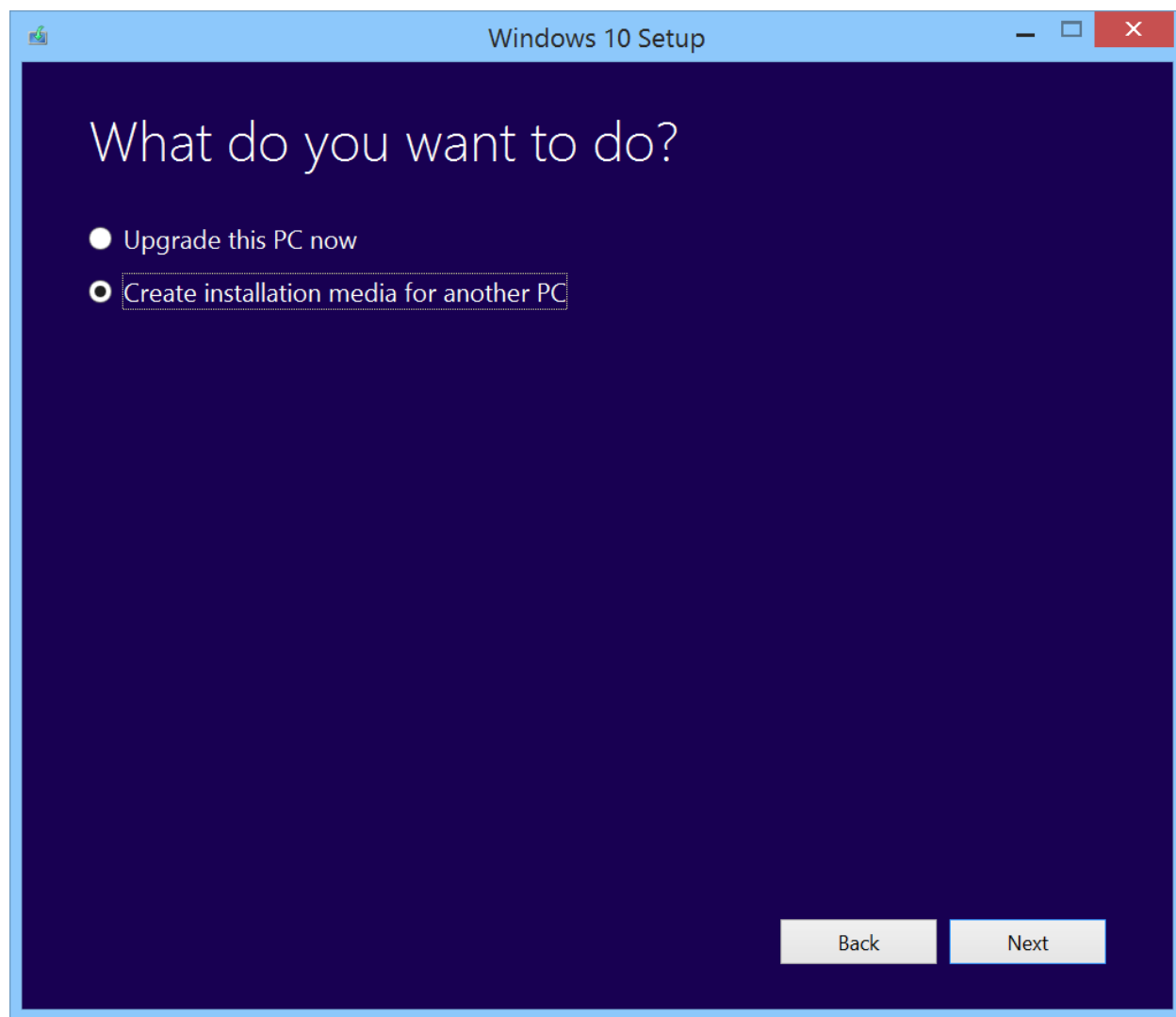
3.1.2.1 Windows 10 – USB install media creation

Download the Windows 10 MCT to any workstation running Windows 7 or higher. Run the tool as admin and follow the prompts.

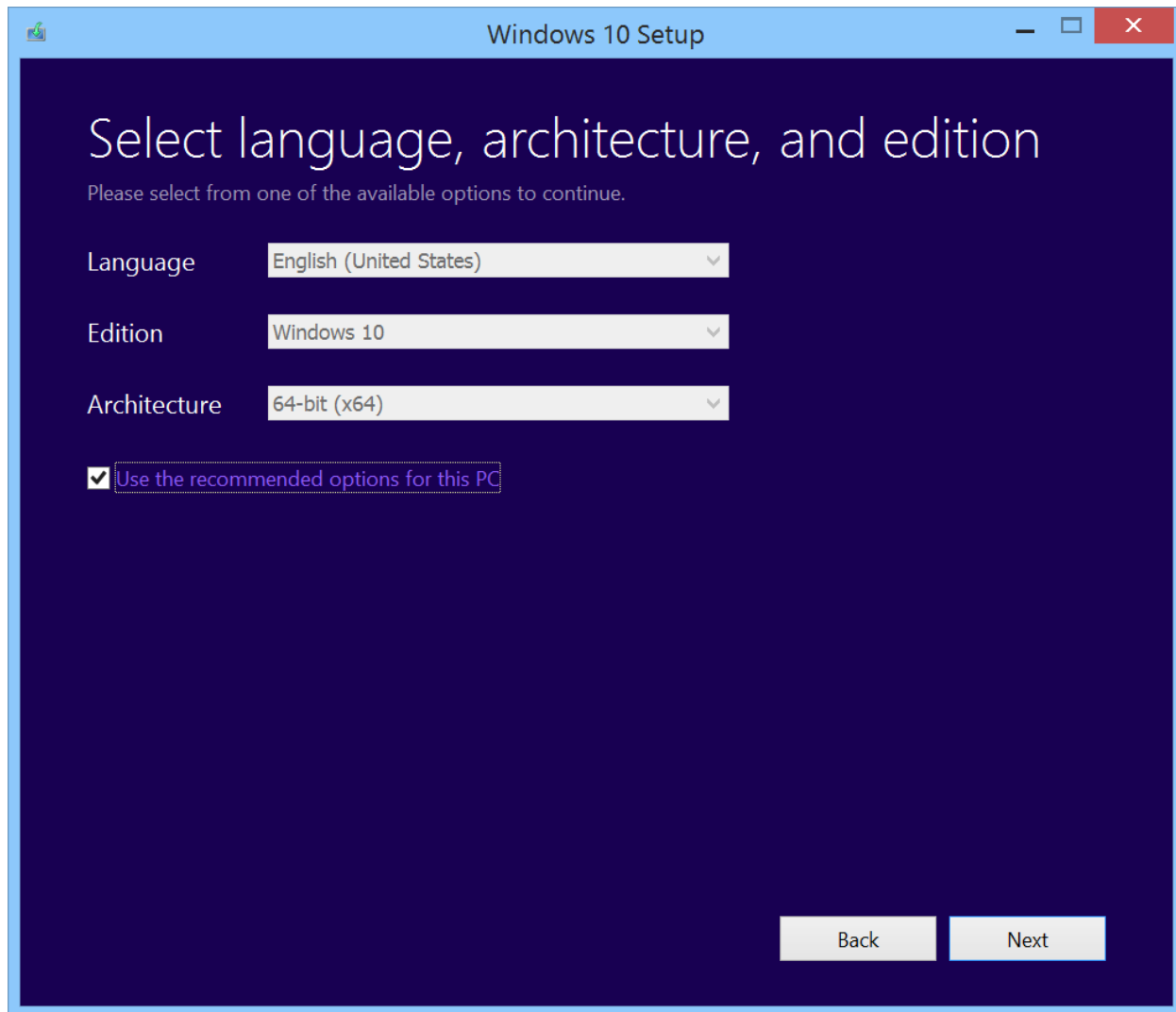
1. Accept the EULA.



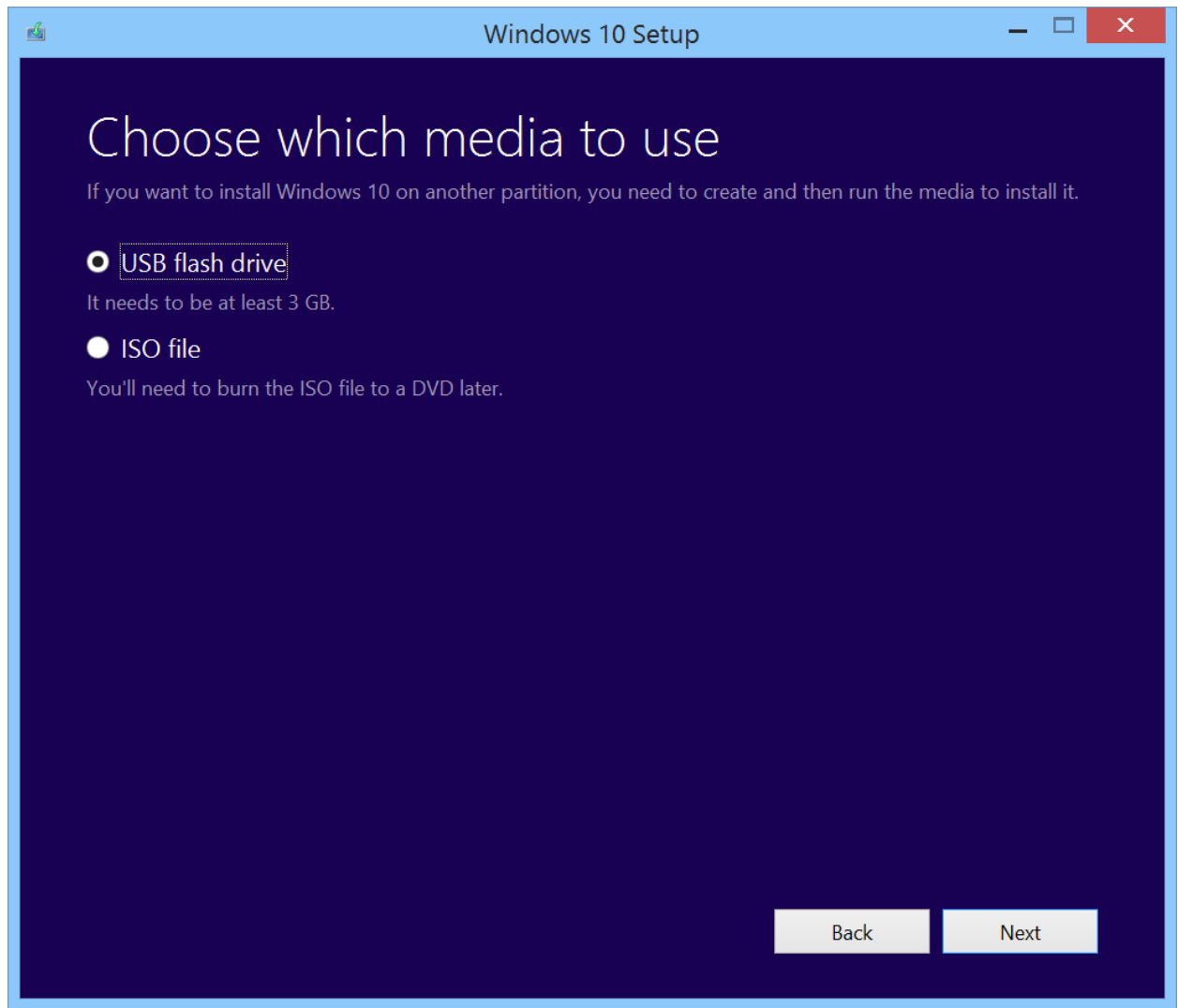
2. Select “Create installation media for another PC”.



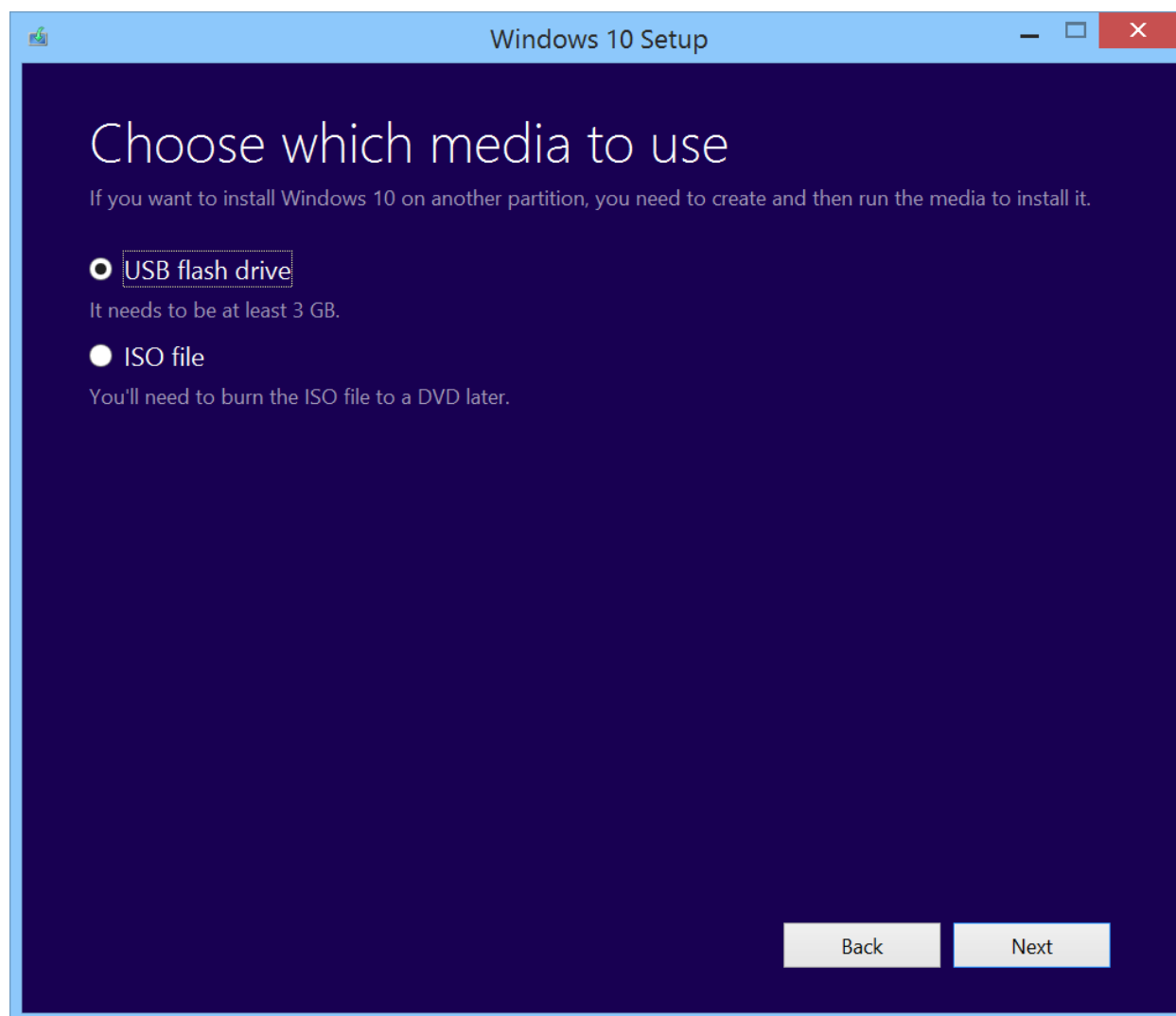
3. Select "Language, Edition and Architecture".



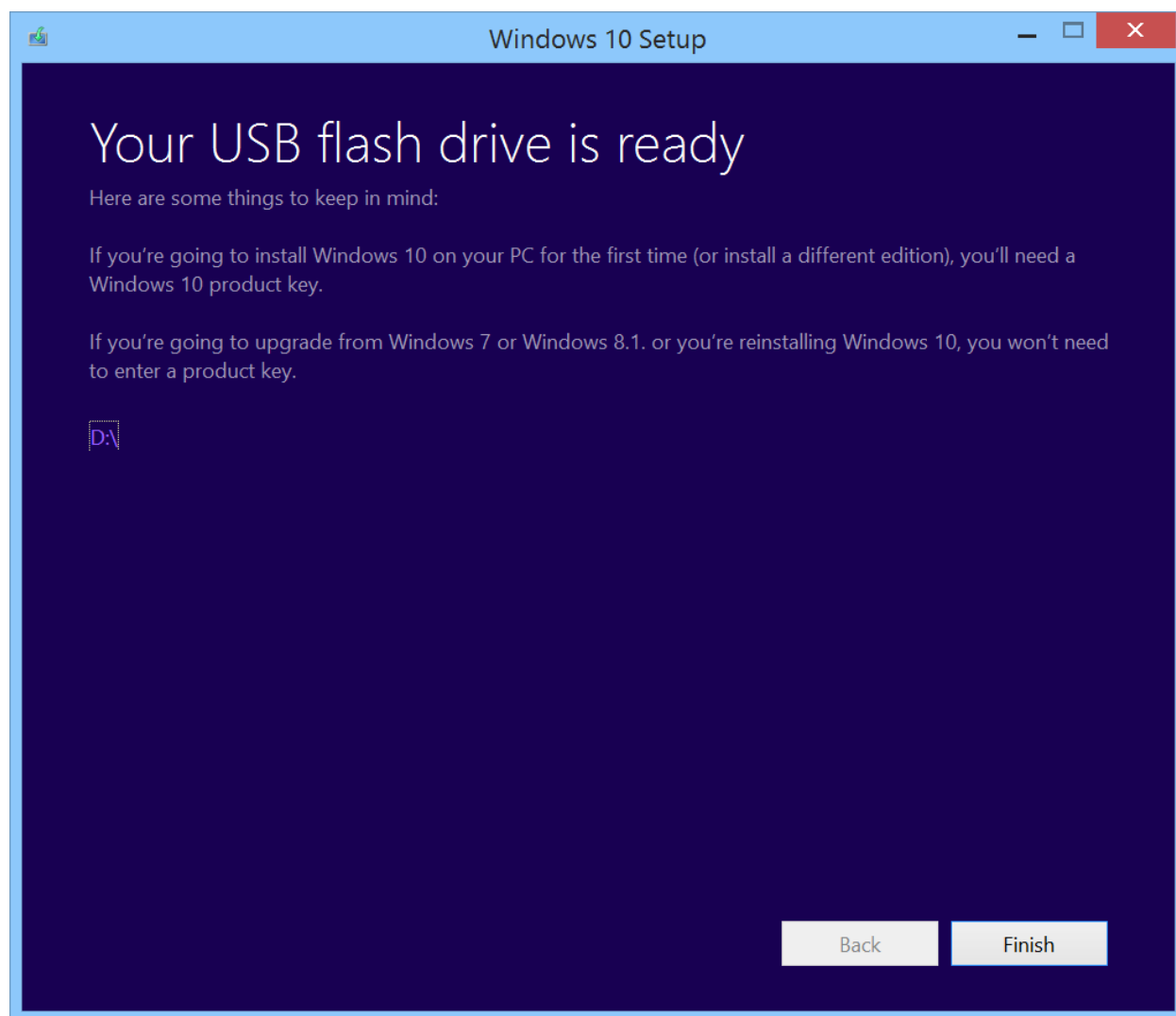
4. The MCT can create an ISO image or prepare a USB flash drive to boot the installer. Select "USB flash drive" and click next.



5. The MCT will show a list of USB flash drives that it has detected, select the drive to be used as the install device from the list and click next. It is recommended that the USB flash drive have storage space of 4GB or greater. The MCT will download the Windows 10 install files and create a bootable USB flash drive. The process will take several minutes.



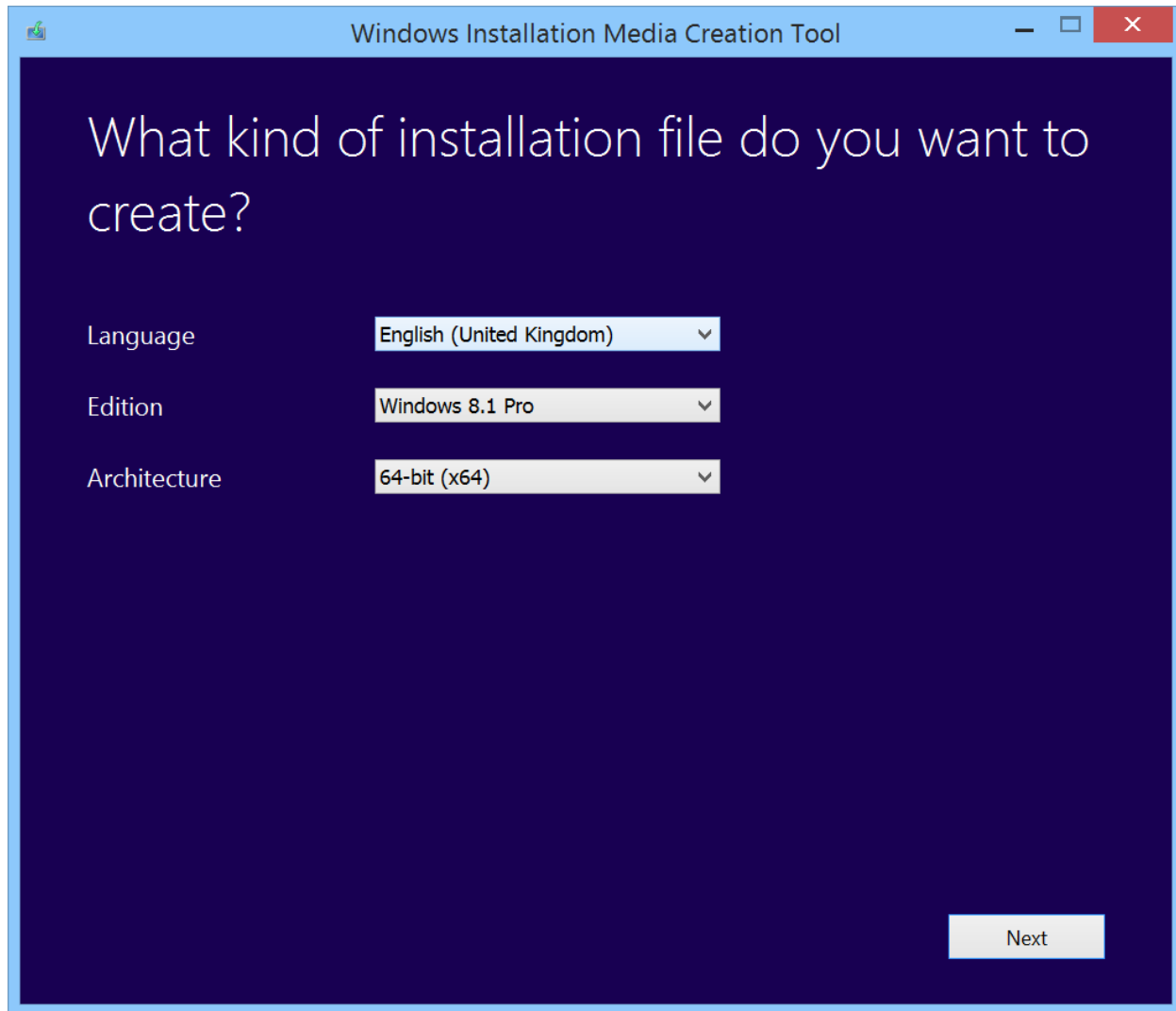
- When the MCT has completed, select Finish. The USB flash drive is now ready to boot the Windows 10 installer.



3.1.2.1.2 Windows 8.1 – USB install media creation

Download the Windows 8.1 MCT to any workstation running Windows 7 or higher. Run the tool as admin and follow the prompts.

1. When 1st run, the tool prompts for selection of Language, OS edition and Architecture. Select the required settings and then click next. The rest of the process is similar to the process previously outlined for Windows 10.



Recommended Drivers / Applications Installation Order

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Dell recommends always obtaining the latest and most updated drivers, firmware, and applications on Dell's support web site <http://www.dell.com/support>

For best results, Dell recommends installing drivers / applications one by one - by following driver sequence in below table

| Sub Function | Category | Systems | | | |
|---|------------------|---------------|---------------|----------------|----------|
| | | Latitude 5175 | Latitude 5179 | Latitude 7275 | XPS 9250 |
| | | R: Request | O: Option | X: Not support | |
| Intel Chipset Device Software | Chipset | R | R | R | R |
| Intel(R) USB 3.0 eXtensible Host Controller Adaption Driver (Win8.1 only) | Chipset | R | R | R | R |
| Realtek USB GBE Ethernet Controller Driver | Networks | R | R | R | R |
| Windows Update ¹ | N/A | R | R | R | R |
| Intel HD, 5300, 5500, 6000, 515, 520, 530, P530, Iris 540 Graphics driver | Video | R | R | R | R |
| Realtek High-Definition Audio Driver | Audio | R | R | R | R |
| Intel Rapid Storage Technology Driver and Management Console ² | Serial ATA | R | R | R | R |
| Intel 8260/7265/3165/7260 WiFi Driver | Networks | R | R | R | R |
| Intel 8260/7265/3165 Bluetooth Driver | Networks | R | R | R | R |
| INTEL 8260/7265 WAPI Application | Networks | R | R | R | R |
| Intel 8260/7265/7260/3165 WiDi Utility | Networks | R | R | R | R |
| INTEL 8260/7265 WAPI Application | Networks | R | R | R | R |
| Intel(R) Management Engine Components Installer Driver | Chipset | R | R | R | R |
| Intel Dynamic Platform and Thermal Framework | Chipset | R | R | R | R |
| Intel Integrated Sensor Solution | Chipset | R | R | R | R |
| Intel HID Event Filter Driver | Chipset | R | R | R | R |
| Realtek PCI-E Memory Card Reader Driver | Chipset | R | R | R | R |
| Intel Serial IO Driver(Win8.1) | System Utilities | R | R | R | R |
| Intel Virtual Button Driver | System Utilities | R | R | R | R |
| Connected Standby Battery Saver Settings (Win10) | System Utilities | R | R | R | X |
| Power Saving - Hibernate after CS(Win8.1) | System Utilities | R | R | R | X |
| Intel(R) Thunderbolt(TM) Controller Driver ³ | Chipset | X | X | R | R |

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| | | | | | |
|--|---------------------------------|---|---|---|---|
| Intel(R) Thunderbolt(TM) 3 Firmware Update ³ | Chipset or Docks/Stands | X | X | R | R |
| Realtek USB GBE Ethernet Controller Driver for Dell Thunderbolt Dock and Dell Dock ³ | Docks/Stands | R | R | R | R |
| Realtek USB Audio Driver for Dell Wireless Dock, Dell Thunderbolt Dock, and Dell Dock ³ | Docks/Stands | R | R | R | R |
| Update for the USB audio/mouse on Dell Thunderbolt Dock and Dell Dock ³ | Docks/Stands | X | X | R | R |
| ASMedia USB 3.0 Extended Host Controller Driver for Dell Thunderbolt Dock ³ | Docks/Stands | X | X | R | R |
| Active Pen Control Panel | Drivers for OS Deployment | R | R | X | X |
| ALPS Track Pad Firmware Update Utility | Mouse, Keyboard & Input Devices | X | X | R | R |
| Intel 2D imaging Driver | Mouse, Keyboard & Input Devices | R | R | R | R |
| Dell Unifying Application | Mouse, Keyboard & Input Devices | X | X | X | R |
| Intel/NXP Near Field Communications Driver | Modem/Communications | R | R | X | X |
| Dell Wireless 5811e LTE Mobile Broadband Driver and GPS Driver | Modem/Communications | R | R | R | R |
| Dell ControlVault2 Driver | Security | X | R | X | X |
| Dell ControlVault2 Firmware | Security | X | R | X | X |
| Dell Help & Support Application | Application | X | X | X | ○ |
| Dell Foundation Services | Application | ○ | ○ | ○ | ○ |
| Dell Digital Delivery Application | Application | ○ | ○ | ○ | ○ |
| Dell Update Application | Application | ○ | ○ | ○ | ○ |
| Dell Data Protection Security Tools | Dell Data Protection | ○ | ○ | ○ | ○ |
| Dell Data Protection Encryption | Dell Data Protection | ○ | ○ | ○ | ○ |
| Dell Data Protection Endpoint Recovery | Dell Data Protection | X | X | ○ | ○ |
| Dell Data Protection Endpoint Security Suite | Dell Data Protection | X | X | ○ | ○ |
| Dell Data Protection Protected Workspace | Dell Data Protection | X | X | ○ | ○ |
| SanDisk X300 Series SSD Firmware Update | Serial ATA | ○ | ○ | ○ | ○ |
| SanDisk Z400s Series SSD Firmware Update | Serial ATA | X | X | X | ○ |
| Dell Command Power Manager | System Utilities | ○ | ○ | ○ | ○ |
| Dell Command Configure | Systems Management | ○ | ○ | ○ | ○ |
| Dell Command Deploy WinPE | Systems | ○ | ○ | ○ | ○ |

| | | | | | |
|---|--------------------|---|---|---|---|
| Driver Pack | Management | | | | |
| Dell Command Monitor | Systems Management | ○ | ○ | ○ | ○ |
| Dell Command Deploy Driver Pack | Systems Management | ○ | ○ | ○ | ○ |
| Dell Command Update | Systems Management | ○ | ○ | ○ | ○ |
| Dell Command Intel® vPro™ Out of Band | Systems Management | X | X | ○ | ○ |
| Dell Command Integration Suite for System Center 2012 | Systems Management | X | X | ○ | ○ |

¹ Dell recommends performing Microsoft Windows updates to ensure the latest security, reliability, and compatibility updates are installed. These updates can be downloaded from Windowsupdate.Microsoft.com

² Intel Rapid Storage Technology (IRST) driver is required to be installed on Operating Systems in AHCI, IRRT, RAID On, and RAID SATA modes

³ Dell Dock (WD15) and Dell Thunderbolt Dock (TB15) Driver Set: to fully support new generation [Dell Dock](#) and [Dell Thunderbolt Dock](#), DELL highly recommend installing the following BIOS/Drivers step by step

1. Flash the latest BIOS available to the system. This is posted on Dell's driver & downloads support web site (dell.com/support) under the "BIOS" section. Restart system before next step.
2. Install Intel(R) Thunderbolt Controller Driver available to the system. This is posted on Dell's driver & downloads support web site (dell.com/support) under the "Chipset" section. Restart system before next step.
3. Install Intel(R) Thunderbolt 3 Firmware Update available to the system. This is posted on Dell's driver & downloads support web site (dell.com/support) under the "Docks/Stands" section. Restart system before next step.
4. Install Realtek USB GBE Ethernet Controller Driver for Dell Thunderbolt Dock and Dell Dock available to the system. This is posted on Dell's driver & downloads support web site (dell.com/support) under the "Docks/Stands" section.
5. Install Realtek USB Audio Driver for Dell Wireless Dock, Dell Thunderbolt Dock, and Dell Dock available to the system. This is posted on Dell's driver & downloads support web site (dell.com/support) under the "Docks/Stands" section.
6. For Windows 8.1 and Windows 10 OS only, install Patch for the USB audio/mouse issue on Dell Thunderbolt Dock and Dell Dock available to the system. This is posted on Dell's driver & downloads support web site (dell.com/support) under the "Docks/Stands" section. Restart system.
7. For Dell Thunderbolt Dock only, install ASMedia USB 3.0 Extended Host Controller Driver for Dell Thunderbolt Dock available to the system. This is posted on Dell's driver & downloads support web site (dell.com/support) under the "Docks/Stands" section. Restart system

NOTE: Dock is required to connect to system during driver installation

4 To install the OS with a bootable USB flash drive/SCCM:

4.1.1.1 To install the OS using a UEFI bootable USB flash drive with a USB-C dock:

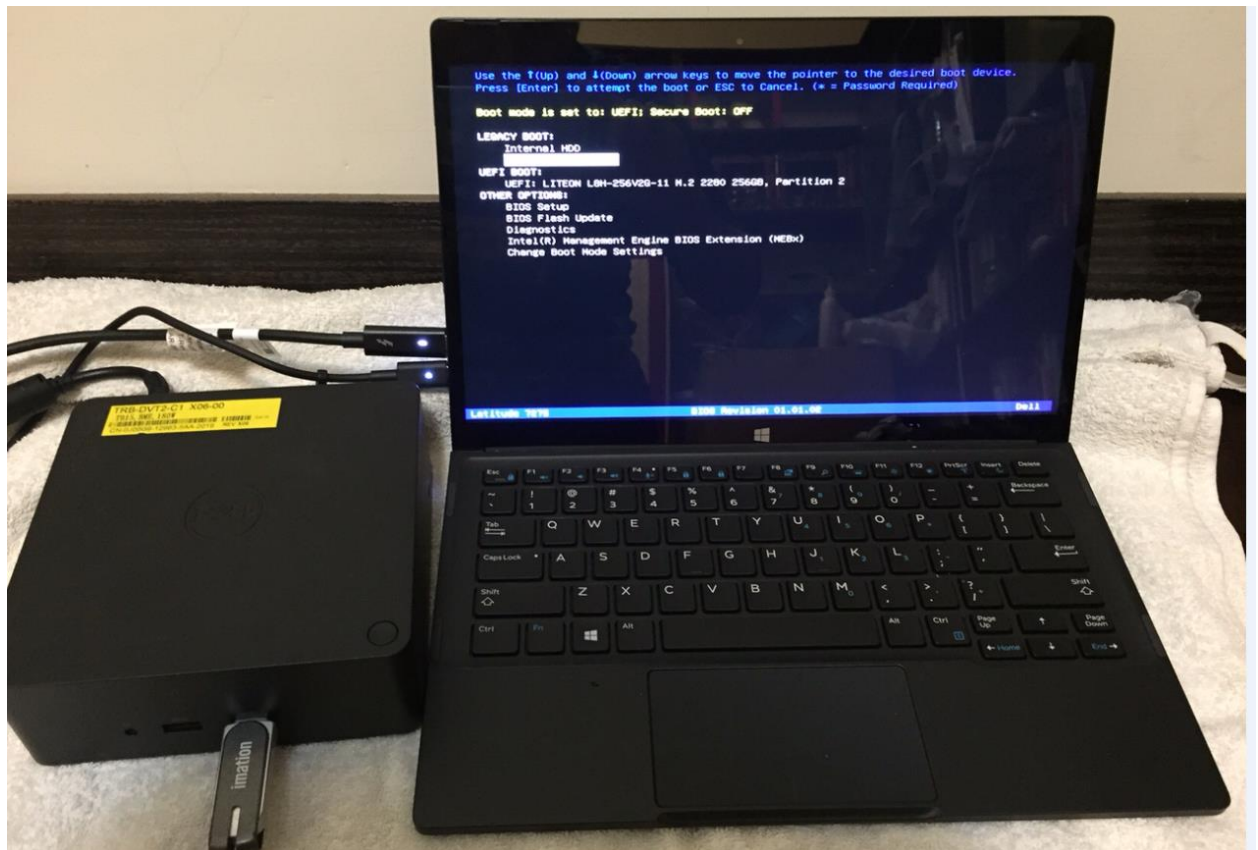
As soon as the Dell splash screen is displayed, press the F12 to bring up the one-time boot selection menu. For this example, the Dell Dock TB15 was used in conjunction with a Latitude 7275. The process for the XPS 9250/Latitude 5179/5175 would be similar.

After pressing enter, the system will then boot to the USB flash drive and start the OS installer. Follow the OS installer prompts to complete the OS install process.

After the OS is installed, the device drivers and supporting application must be installed in order to provide full system functionality.

The drivers and apps can be downloaded from Dell web site and placed on a USB flash drive and then copied to a scratch or temporary folder on the system. After the driver files and apps have been copied to the system, they can be manually installed or installed by script(s).

The recommended install order for device drivers and apps is outlined below in paragraph "3.2 Recommended Drivers / Applications Installation Order"



4.1.2 Installation through Microsoft's SCCM

Latitude 5175/5179/7250 and XPS 9250 supports PXE network booting for connection to automated install and deployment servers. It is recommended to use the network capabilities of the USB to Ethernet adapters or docking unit to provide PXE boot and network support for the system. With UEFI boot mode, the PXE boot image provided by the PXE server must be a WinPE boot.wim that can boot in UEFI mode. In order for WinPE to connect to the network image server after startup, the boot wim

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image file must have the drivers installed for the Latitude/XPS system's network device. Latitude and XPS can boot both standard PXE DOS (initrd) and UEFI images; dependent on BIOS boot mode and USB to Ethernet adapters.

Support PXE network booting for connection to automated install and deployment servers. It is recommended to use the network capabilities of the docking unit to provide PXE boot and network support for the system.



As an example of Latitude 5175/5179 boot up system with Ethernet connection to the WD15 docking, as soon as the Dell splash screen is displayed, press the F12 to bring up the one-time boot selection menu.

For UEFI mode, Use the arrow keys to highlight "USB NIC (IPV4)" or "USB NIC (IPV6)" and press Enter.

```
Use the ↑(Up) and ↓(Down) arrow keys to move the cursor.
Press [Enter] to attempt the boot or ESC to Cancel.
If Keyboard is not available use VolumeUp button to move the cursor and
press VolumeDown button to select.
Boot mode is set to: UEFI; Secure Boot: ON
UEFI BOOT:
  Windows Boot Manager
  UEFI: LITEONIT L8T-128L9G-11 M.2 2280 128GB
  USB NIC(IPV4)
  USB NIC(IPV6)
OTHER OPTIONS:
  BIOS Setup
  BIOS Flash Update
  Diagnostics
  Change Boot Mode Settings
```

If the network topology is IPv4: Use the keyboard arrow keys or the system's Volume-Up button to highlight, "Onboard NIC (IPv4)" then press Enter or press the Volume-Down button on the tablet.

If the network topology is IPv6: Use the keyboard arrow keys or the system's Volume-Up button to highlight, "Onboard NIC (IPv6)" then press Enter or press the Volume-Down button on the system.

For Legacy mode, use the arrow keys to highlight the "USB NIC" then press enter.

```
Use the ↑(Up) and ↓(Down) arrow keys to move the cursor.
Press [Enter] to attempt the boot or ESC to Cancel.
If Keyboard is not available use VolumeUp button to move the cursor and
press VolumeDown button to select.
Boot mode is set to: LEGACY; Secure Boot: OFF
LEGACY BOOT:
  MiniCard SSD
  USB NIC
UEFI BOOT:
  Windows Boot Manager
  UEFI: LITEONIT L8T-128L9G-11 M.2 2280 128GB
  USB NIC(IPV4)
  USB NIC(IPV6)
OTHER OPTIONS:
  BIOS Setup
  BIOS Flash Update
  Diagnostics
  Change Boot Mode Settings
```

Latitude 5175/5179/7250 and XPS 9250 have PXE code included in the UEFI BIOS that can boot the following USB-C network devices.

| USB-C/Thunderbolt to Ethernet Controller |
|---|
| Dell P/N: D59GG (USB-C to Gigabit Ethernet) |
| Dell P/N: 5FDDV (Dell Dock WD15) |
| Dell P/N: J00G9 (Dell Dock TB15) |

4.1.3 Device Drivers / Apps

Dell provides pre-packaged driver and app Cab files for OS deployment through SCCM or other deployment services. The Cab files can be downloaded from:

Latitude 5175:

<http://www.dell.com/support/home/us/en/04/product-support/product/latitude-5175-laptop/drivers>

Latitude 5179:

<http://www.dell.com/support/home/us/en/04/product-support/product/latitude-5179-laptop/drivers>

Latitude 7275:

<http://www.dell.com/support/home/us/en/19/product-support/product/latitude-7275-laptop/drivers>

XPS 9250:

<http://www.dell.com/support/home/us/en/19/product-support/product/xps-12-9250/drivers>

4.1.3.1 SCCM System Drive Partition Setup

Follow Microsoft's recommended drive partition guidelines for UEFI based systems located at this URL,

[https://msdn.microsoft.com/en-us/library/windows/hardware/dn898510\(v=vs.85\).aspx](https://msdn.microsoft.com/en-us/library/windows/hardware/dn898510(v=vs.85).aspx)

The guideline includes a "Diskpart" script example for creating the required OS partitions.

More information with respect to capturing and applying Windows, System, and Recovery Partitions can be found here:

[https://msdn.microsoft.com/en-us/library/windows/hardware/dn898498\(v=vs.85\).aspx](https://msdn.microsoft.com/en-us/library/windows/hardware/dn898498(v=vs.85).aspx)

4.1.3.2 Other Useful Information:

Deploying Windows 10 through SCCM:

[https://technet.microsoft.com/en-us/library/mt297520\(v=vs.85\).aspx](https://technet.microsoft.com/en-us/library/mt297520(v=vs.85).aspx)

Deploying Windows 8.1 through SCCM:

<https://technet.microsoft.com/en-us/library/dn744284.aspx>