Dell

Consumer Client

Re-Image “How-To” Guide XPS Notebook

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1. Overview

The purpose of this document is to detail the required steps for re-imaging XPS notebooks.

Dell XPS notebooks systems ship with Microsoft operating systems (see Chapter 2.1 for detail). 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 XPS systems in a prescribed order to ensure optimal performance. Failure to install drivers and applications as detailed 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 XPS products, including the 128GB Solid State Drive or 256GB PCIe Solid State Drive or 512GB PCIe Solid State Drive or 1024GB PCIe Solid State Drive. Re-installed 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 (including SATA configurations modes) are correctly set and using the latest device drivers and applications when imaging their systems.

This “How-To” guide applies to the following XPS systems:

2. “How-To”

2.1. Supported Operating Systems

The following Microsoft operating systems have been validated for use on notebook computers:

- Windows 10 64-Bit: Validated on XPS-13-9360

2.2. XPS New Features & Image Impact

Dell XPS systems feature new hardware technologies which require a new software stack, drivers, and/or applications. These products are not compatible with previous images built or installed on none XPS Dell products. Images between different XPS models are also not compatible

Among these new hardware and technologies are:

2.2.1. New Features Offered on XPS systems, All Generations:

Note: Not all features are available on all systems

- New BIOS architecture – XPS
- Chipset
- Intel Core i3 i5& i7 Dual Core CPUs that include updated integrated graphics
- Thunderbolt™ 3 supports
- Solid State Drive / PCIe Solid State Drive
- Intel RST (Rapid Start Technology)
- Graphics controller (Intel)
- Wireless
- Bluetooth
- USB 3.0/3.1
- Precision Touchpad
- Touch Screen
- Miracast

2.3. 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 website http://support.dell.com/

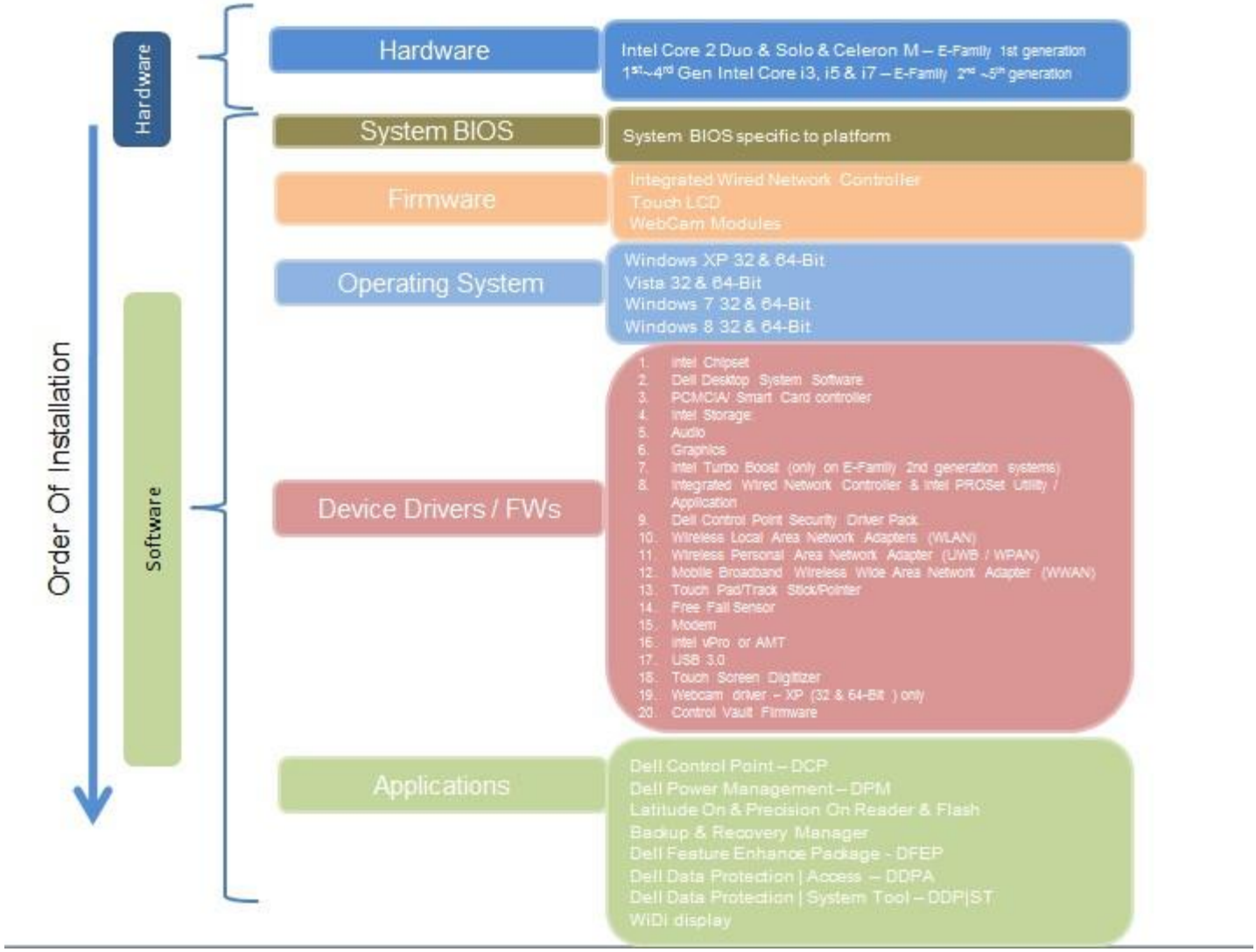
- Enter the Service Tag or select the product model and the model number
- Select Operating System (64-Bit version must be selected)
- Choose drivers and downloads

2.4. Installation Sequence

The list below is a general overview of drivers and applications that must be installed on Dell XPS 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.

2.4.1. Installation Sequence Overview



2.4.2. Installation Sequence & Features at a Glance:

2.4.2.1. BIOS, Drivers and Firmware:

- BIOS
- Intel Chipset - Helps Windows control system board components and controllers.
- Media Memory Card - Enables and enhances the Media Memory controller
- Intel Storage:

  Intel Rapid Storage Technology
- Audio - Enables and enhances the audio controller
- Graphics:
  1) Enhances and optimizes video performance
  2) Enables & provides additional functionality that are not included in MS native VGA driver
     - ✓ User customized Power Management features
     - ✓ Portability & behavioral profiles
     - ✓ Multiple monitor support
- Networking & Communication
  1) Wireless Local Area Network Adapters (WLAN) - Enables and enhances the Wireless
  2) Bluetooth (BT) - Enables and enhances the Bluetooth Adapter

2.4.2.2. Applications*:*

- Dell Update
- Dell Command Update

2.5. BIOS

2.5.1. SATA Operation:

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

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

Settings ➔ System Configuration ➔ SATA Operation ➔ Raid ON mode

- RAID mode is selected, Intel Rapid Storage Technology driver must be installed in conjunction with the installation of the Operating System. See section "2.6.4 Intel Rapid Storage Technology" of this document

2.5.2. TPM Security:

These options enable and configure the Trusted Platform Module (TPM). If TPM is to be deployed, TPM must be enabled in the BIOS Setup program

Security ➔ TPM Security➔ Clear TPM

- Disabled: The BIOS will not turn on the TPM during POST. The TPM will be non-functional and invisible to the Operating System
- Enabled(Default): The BIOS will turn the TPM during POST so that it can be used by the Operating System
- TPM On = The TPM will be enabled and activated
- Clear = The BIOS clears the information stored in the TPM

2.6. Recommended Drivers / Applications Installation Order

For best results, Dell recommends installing drivers / applications in the following order:

2.6.1. Intel Chipset Device Software

Microsoft Operating Systems might not include the updated Intel Chipset Device Software for Dell notebooks. The Intel Chipset Device Software is available on Dell's driver & downloads support web site (support.dell.com) under the "Chipset" section.

2.6.2. Critical Microsoft QFEs

- Dell recommends installing all of the latest available fixes specific to the systems.
- Please enable the Windows Update and connect to Internet.

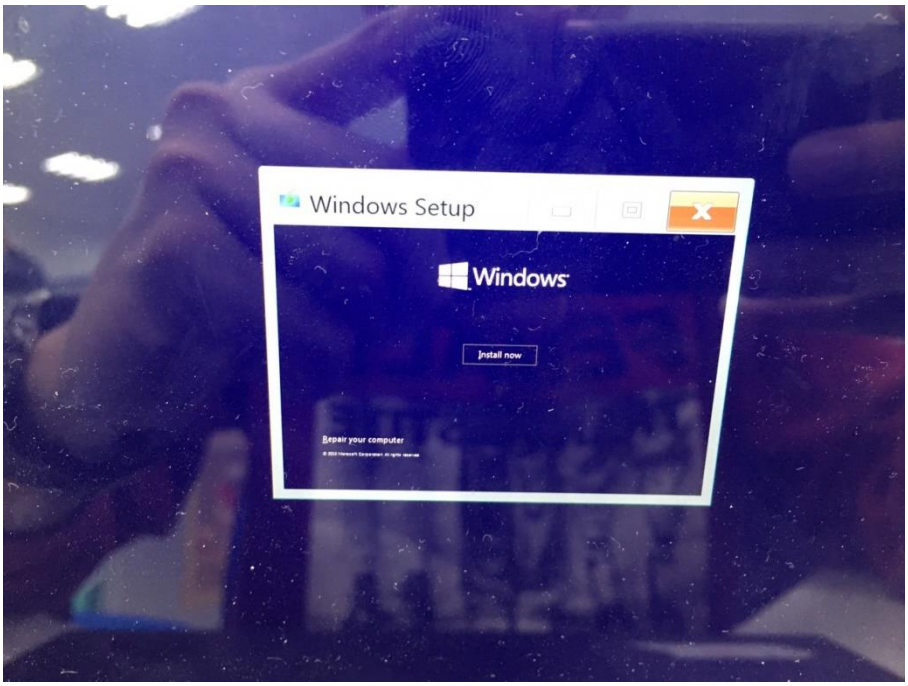
2.6.3. Media Memory Card Controller

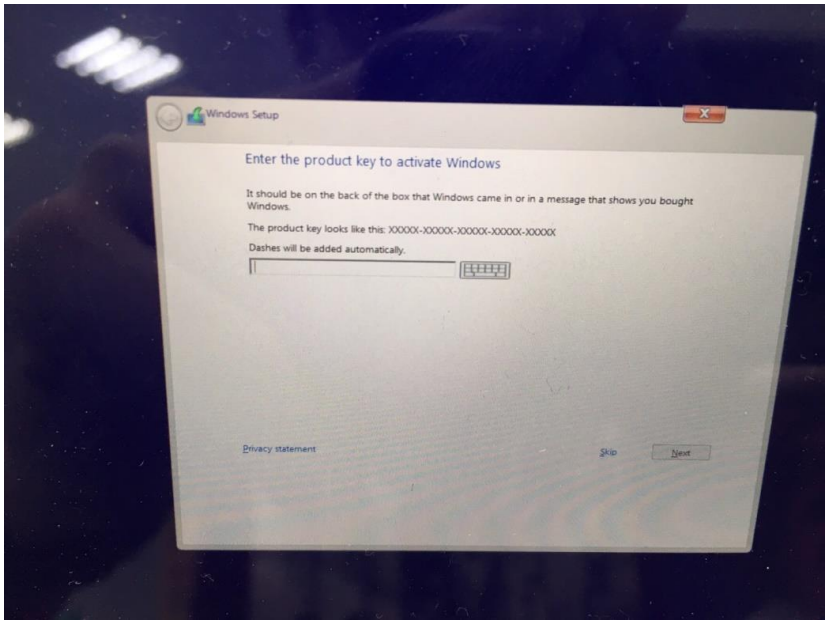
- Microsoft Operating Systems do not include the Memory Card controller driver. Install the following driver provided by Dell:
  1) Realtek driver is available on Dell's driver & downloads support web site (support.dell.com) found under the "Chipset" section

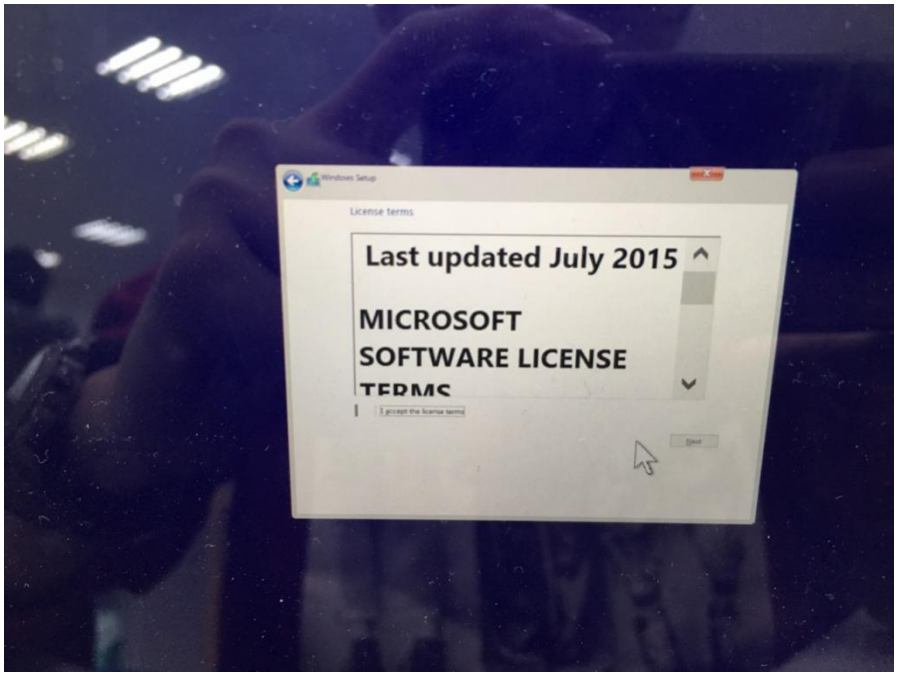
2.6.4. Intel Rapid Storage Technology

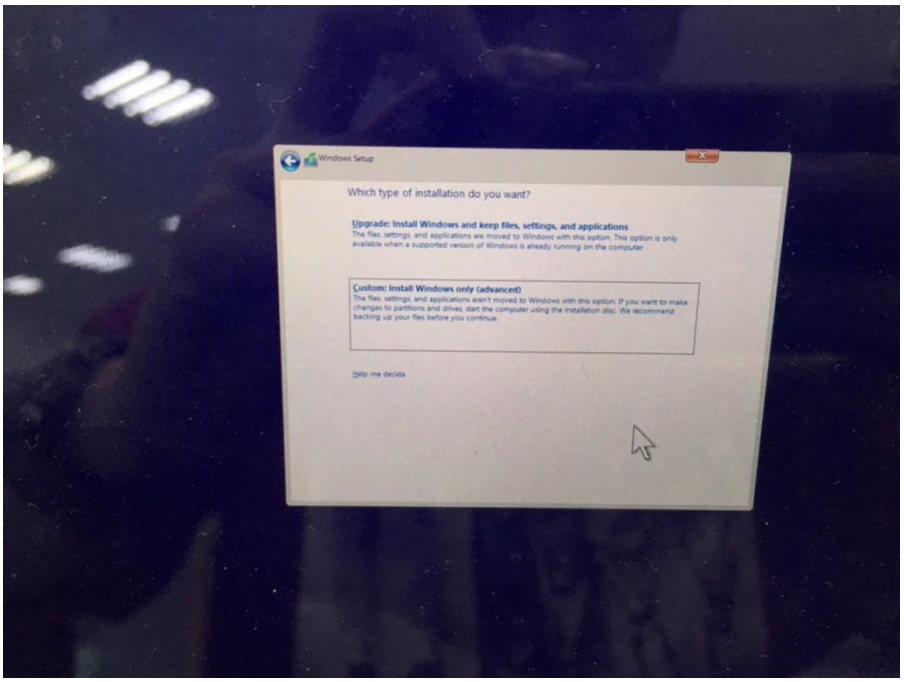
- The Intel Rapid Storage Technology (IRST) driver is required to be installed on Operating Systems in RAID mode.
- The Intel IRST application must also be installed
- The SATA operation modes are configured in the BIOS. Refer to the BIOS section 2.5
- If the SATA mode is configured in RAID mode, the IRST driver must be installed during the initial Operating System installation stages. The IRST driver is only available from Dell
- If SATA configuration mode in the BIOS is set to RAID, install the Dell IRST driver and application available on Dell's driver & downloads support web site (support.dell.com) under the "Serial ATA" section

- Follow these steps to install the IRST driver:
  1) For Microsoft Windows 10 (64-Bit) Operating Systems:
  2) Installing the Intel IRST driver after the installation of the Operating System
     - ✓ Boot to the Operating System DVD or Boot from PXE , then start to load IRST driver for detecting PCIe Solid State Drive via below command and then installation OS
     - ✓ Plug in Win10 Pure OS installation key to unit and then boot to USB key.

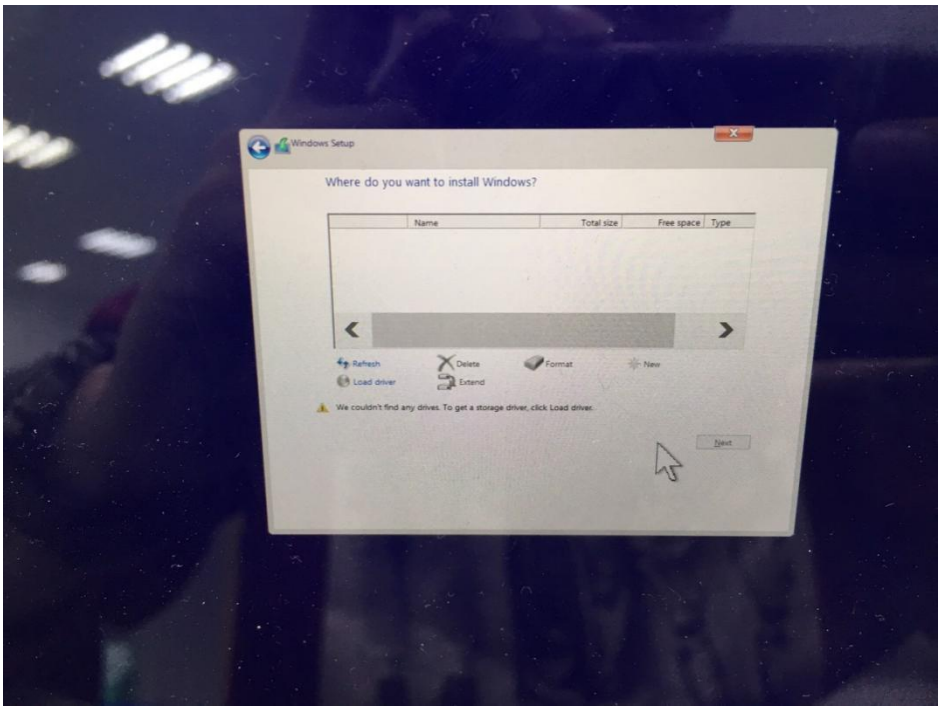




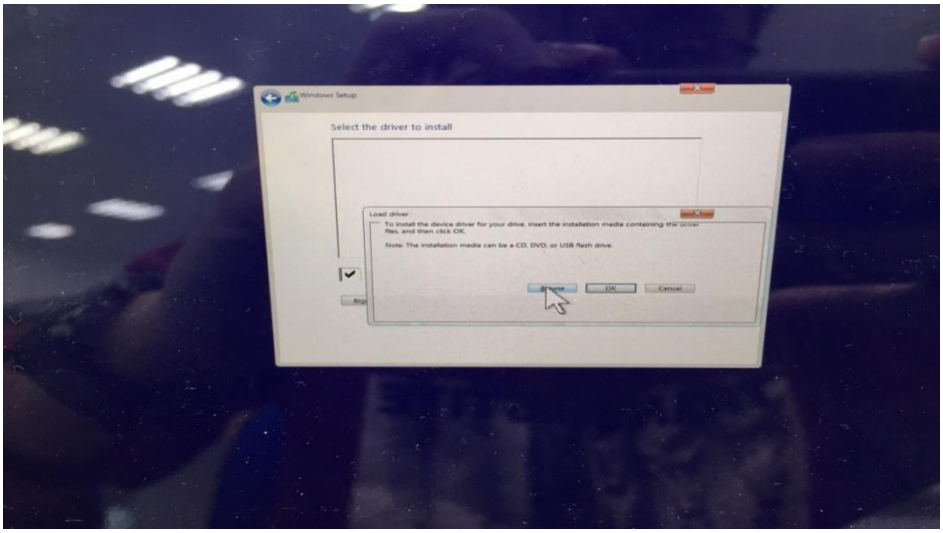

Windows Setup
License terms
Last updated July 2015
MICROSOFT
SOFTWARE LICENSE
TERMS
I accept the license terms
Next

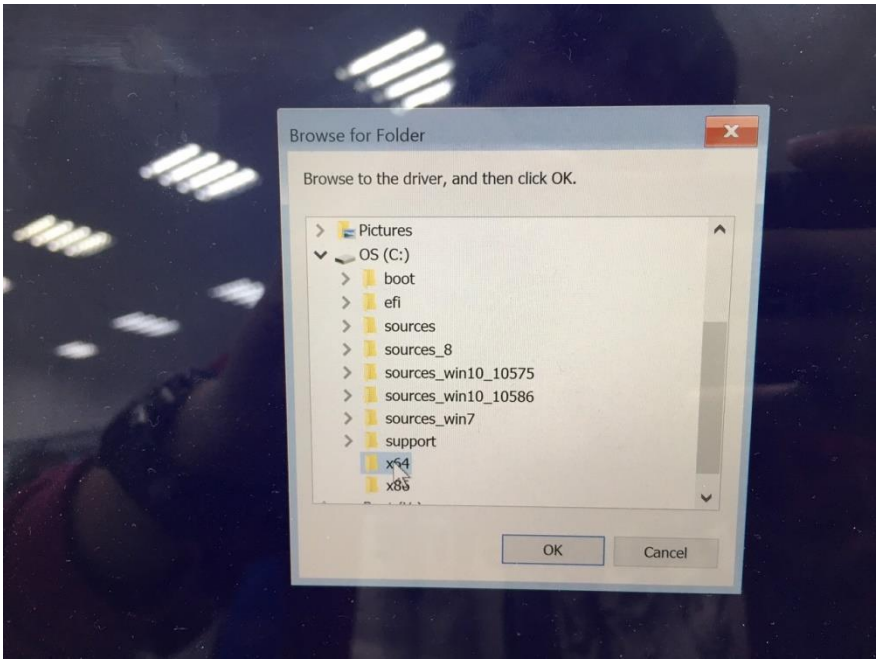

Windows Setup
Which type of installation do you want?
Upgrade: Install Windows and keep files, settings, and applications
The files, settings, and applications are moved to Windows with this option. This option is only available when a supported version of Windows is already running on the computer.
Custom: Install Windows only (advanced)
The files, settings, and applications aren't moved to Windows with this option. If you want to make changes to partitions and drives, start the computer using the installation disc. We recommend backing up your files before you continue.
Help me decide

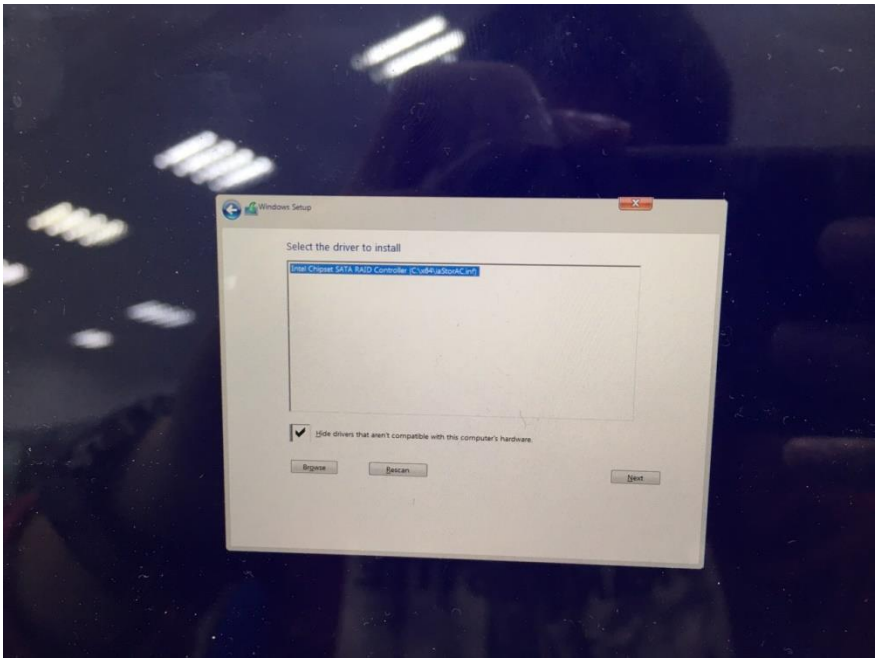
✓ Select Load driver

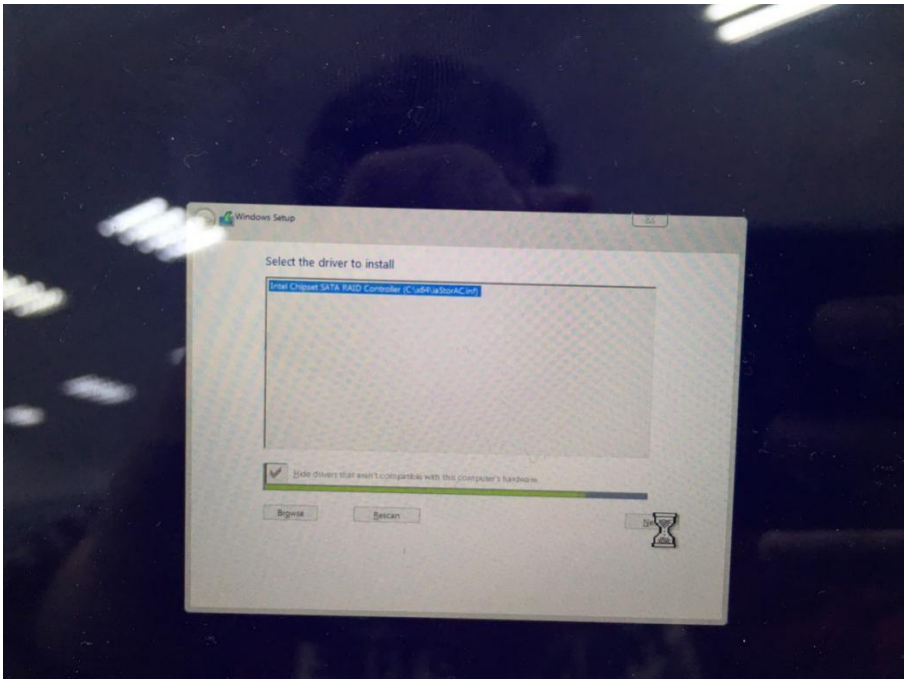


✓ Press “browse” to find IRST driver file(iastorAC.inf) and load It.

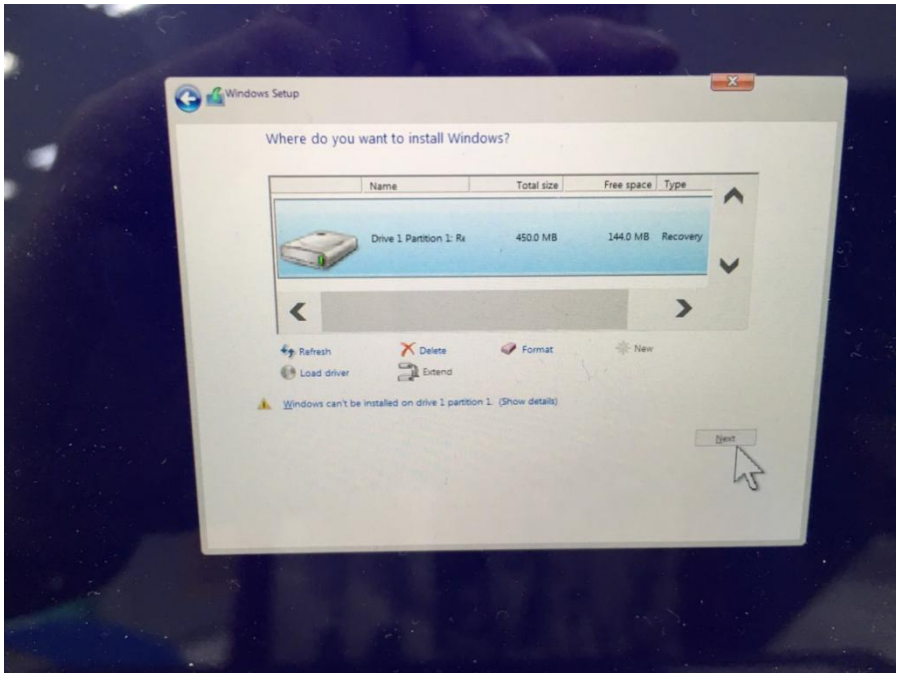



Browse for Folder
Browse to the driver, and then click OK.
Pictures
OS (C:)
boot
efi
sources
sources_8
sources_win10_10575
sources_win10_10586
sources_win7
support
x64
x86
OK
Cancel


Windows Setup
Select the driver to install
Hide drivers that aren't compatible with this computer's hardware.
Browse
Rescan
Next



✓ Unit will detect the NVME SSD and then follow step by step to finish Win10 OS installation.



✓ After completing the OS installation, insert the Dell RDVD

✓ Select the IRST driver and follow the installation procedure

Note: the latest IRST driver can also be obtained from support.dell.com under the “SATA Drivers” section

2.6.5. Graphics

- Microsoft Operating Systems include the VGA graphics drivers only. Therefore for optimum graphics performance, Dell recommends installing the Dell graphics driver applicable to their system available on Dell's driver & downloads support web site (support.dell.com) under the "Video" section.

2.6.6. Audio

- Microsoft Operating Systems do not include the Audio driver recommended by Dell. The HD Audio driver is available on Dell's driver & downloads support web site (support.dell.com) under the "Audio" section

2.6.7. Dell Command Power Manager – DCPM

- DCPM is a Dell developed application providing a advanced set of power management configuring and alerting capabilities
  1) Dell customized power plans and extensions
  2) Battery Health Information
  3) Advanced Charge mode
- The DCPM Application is available on Dell's driver & downloads support web site (support.dell.com) under "System Utilities" section

2.6.8. Wireless Local Network Adapters (WLAN)

- Win10 64-Bit Operating Systems do not provide native device driver support for WLAN controllers featured in Dell systems. To obtain wireless network functionality, install the Wireless LAN device driver applicable to the WLAN devices installed in the notebook computer found under the "Network" section posted on Dell's driver & downloads support web site (support.dell.com). The installer also provides WLAN application support which provides additional features including enterprise authentication enhancements

  Note: With Miracast, you can quickly connect your laptop to your TV and projector using the Killer Wireless or Intel Wireless solution that's already built into your laptop. Because it's based on Wi-Fi*, there are no cables between the laptop and TV/Projector.
  Dell's driver & downloads support web site (support.dell.com).

2.6.9. Touchpad

- Microsoft Windows 10 Operating System includes the Touchpad drivers, users don’t need to install additional Touchpad drivers.

2.6.10. USB 3.0/3.1

- Microsoft Windows 10 64-Bit Operating Systems include the USB 3.0 driver.

2.6.11. Webcam

- Microsoft Windows 10 Operating System includes the Webcam drivers, users don’t need to install additional Webcam drivers.
- For video capturing / streaming features, install webcam software available from a variety of third party providers and as freeware.

Appendix

Appendix A

.NET Framework Requirements

What is .NET Framework?

The .NET Framework is a software framework from Microsoft, which is bundled with Windows operating systems. The .NET Framework is intended to be used by most applications created for the Microsoft Windows platform.

Appendix B

Dell Dock WD15

What is the Dell Dock WD15?

It is the Typec-C dock product for extension a lot of I/O device usage.

Need User connect the dock via Type-C Cable.

Dell Dock WD15 support document were web-post under Select a product/Electonics & Accessories/Docking Stations/Dell Dock WD15.

http://www.dell.com/support/home/us/en/19/product-support/product/dell-dock-wd15/research

Dock WD15 divers list & Downloads address as below

- Realtek USB Audio Driver
- Realtek USB GBE Ethernet Controller Driver

http://www.dell.com/support/home/us/en/19/product-support/product/dell-dock-wd15/drivers

Appendix C

Dell Thunderbolt Dock TB15

What is the Dell Thunderbolt Dock TB15?

It is the Type-C dock product for extension a lot of I/O device usage. Need User connect the dock via Type-C cable.

Dell Thunderbolt Dock TB15 support document were web-post under Select a product/Electronics & Accessories/Docking Stations/Dell Thunderbolt Dock TB15.

http://www.dell.com/support/home/us/en/19/product-support/product/dell-thunderbolt-dock-tb15/drivers

Dock TB15 divers list & Downloads address as below

- Realtek USB Audio Driver
- Realtek USB GBE Ethernet Controller Driver
- Asmedia USB3.0 Extend Host Controller Driver

http://www.dell.com/support/home/us/en/19/product-support/product/dell-thunderbolt-dock-tb15/drivers

To fully support new generation Dell Thunderbolt Dock TB15, DELL highly recommend installing the following BIOS/Drivers step by step on 64 bit Windows OS .

1) Connect the AC adapter to the Dell Thunderbolt Dock (TB15), and then connect the USB Type-C connector to the system.
2) 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.
3) 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.
4) 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.
5) Install Intel® HD Graphics Driver available for the system. This is posted on Dell's driver & downloads support web site (dell.com/support) under the "Video" section. Restart system before next step.

6) 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..
7) For Dell Thunderbolt Dock only, install ASMedia USB 3.0 Extended Host Firmware Utility 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.
8) Install Realtek USB GBE Ethernet Controller Driver for Dell Thunderbolt Dock TB15 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.
9) Install Realtek USB Audio Driver for Dell Thunderbolt Dock TB15 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.
10) Install the Dell Thunderbolt Dock Firmware Update Tool 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.

NOTE: After the update process completes, it's desired to shut down the computer and perform below steps in order to make the new firmware take effect.

- Power off the system.
- Disconnect the Thunderbolt 3 (Type-C) cable from the computer and then remove the AC adapter of dock from the power outlet.
- Then follow the recommended steps of connecting the AC adapter to the dock first and then attaching the Thunderbolt cable to the computer.
- Power on the computer with the docking station connected.

Dell provides the **Dell Update** Application on a business client supported platforms to simplify the BIOS, firmware & driver update experience. This application is located under the "**Systems Management**" section of the Dell Support website (www.dell.com/support). Be sure to pick your system type from the list or enter your service tag to ensure you get the right version for your system.

NOTE: The Dell Thunderbolt Dock Firmware Update, and Intel HD Graphics Driver are excluded in Dell Command | Update v2.2.0.

Dell also provides pre-packaged CAB pack for OS deployment through System Center Configuration Manager (SCCM) or other deployment services, which now contains prerequisite drivers for Dell Thunderbolt™ Dock. The CAB files can be downloaded from the "Systems Management" section of the Dell Support website (www.dell.com/support).

NOTE: After image deployment process, users have to further complete Intel Thunderbolt 3 Firmware Update and Dell Thunderbolt Dock Firmware Update prior to using the docking station properly.