Windows 10 IoT Enterprise LTSC 2021 Operating System

Recovery Guide



Notes, cautions, and warnings

(i) NOTE: A NOTE indicates important information that helps you make better use of your product.

CAUTION: A CAUTION indicates either potential damage to hardware or loss of data and tells you how to avoid the problem.

MARNING: A WARNING indicates a potential for property damage, personal injury, or death.

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Steps to configure USB key for ISO Imaging

Step 1: Pre-requisites:

Steps

- 1. Download the appropriate Windows 10 IoT Enterprise LTSC 2021 operating system ISO image from Dell Support page.
- 2. Download and install the Dell OS Recovery Tool (available for Microsoft Windows only).
- **3.** USB flash drive with at least 32 GB of free space.
- 4. Administrator user rights and at least 64 GB of available hard drive space to download the Dell operating system recovery image.
- 5. A wired network connection for network stability is recommended.
- 6. It is recommended to disable any anti-virus software during the download.

Step 2: Download and install the Dell OS Recovery Tool

Steps

1. Launch the downloaded Dell OS Recovery Tool and click INSTALL.



Figure 1. Dell USB Recovery Tool Application

2. Click CLOSE and launch the application from the desktop shortcut.

| 🚭 Dell Update Package | × |
|---|-------|
| V (A00) | 0 |
| The update installer operation is successful. | |
| View Installation Log | CLOSE |
| © 2009 - 2021 Dell Inc. All rights reserved. | |

Figure 2. Dell USB Recovery Tool Application

3. Click SWITCH TO ADVANCED RECOVERY.

|) | | |
|---|--|---|
| OS Recovery Tool | | |
| Automated Recovery Welcome, Admin Having trouble with your system? Start by selecting the computer you'd like to recover. | Step 1: Select a computer This computer Not avaliable No 0S Images defined for the product. | Another computer Service Tag/Express Service Code Enter service tag |
| NOTE: You'll need a USB with 16 GB of space available. Existing content will be deleted. | | |
| @ -@-@-@ | SWITCH TO ADVANCED RECOVERY | CANCEL NEXT |

Figure 3. OS Recovery Tool

4. Browse to and select the appropriate downloaded ISO image and click **NEXT**.

| OS Recovery Tool | | |
|---|---|---|
| | | |
| Advanced Recovery | Select preference | |
| Welcome, Admin. This app will help you recover and install your OS Image. Get started by selecting which device you want to create a recovery key to support. | Select an OS image Browse No image selected | Select from available 0S images For this computer For another computer |
| | SWITCH TO AUTOMATED RECOVERY | CANCEL |

Figure 4. OS Recovery Tool

5. Click BURN OS.

| (mil) | | 0 – | × |
|--|--|---------|---|
| OS Recovery Tool | | | |
| Advanced Recovery We'll walk you through the process of downloading and saving the software you'll need to recover your computer. Insert a rewriteable USB drive with 16 GB of space available. | Step 1: Select USB drive USB drive D: Samsung Type-C USB Device, DELLRESTORE, 32GB Partition Style MBR I understand that the selected drive will be reformatted and existing data will be deleted. | | |
| @ -0 | Recovery Image C:\Users\Admin\Desktop\DellWyse_OptiPlex_3000_OSRI_USBImage_Feb2022.ISO SWITCH TO AUTOMATED RECOVERY | BURN OS | |

Figure 5. OS Recovery Tool

6. Wait for image registration to complete and click **Close**.

| | | 0 | - | × |
|---|---|-------------------------|-----|---|
| OS Recovery Tool | | | | |
| Advanced Recovery | Step 2: Save local OS image for recovery | | | |
| SupportAssist OS Recovery will automatically download and save to your USB drive. | Start extract iso 8 minu | utes, 50 seconds remain | ing | |
| | | | | |
| | | | | |
| | Recovery Image C:\Users\Admin\Desktop\DellWyse_OptiPlex_3000_OSRI_USBImage_Feb20; | 22.ISO | | |
| ∞ —@ | Destination D:DELLRESTORE-32GB | 0 | | |
| | | | | |



| STEP 2: DOWNLOAD AND SAVE | Saving to USB drive | |
|---|-----------------------------|--|
| SupportAssist OS Recovery will | Verflere made | |
| automatically download and save to your USB drive. | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | Recovery Image Custom Image | |
| | | |

Figure 7. OS Recovery Tool

 Remove the USB drive. This completes the Recovery USB drive creation.

Re-Imaging or Deploying the recovery image created in a USB drive

Steps

- 1. Insert the Windows 10 IoT OS Recovery USB Key created into the USB port of the appropriate device.
- 2. Power on the device.
- 3. Press F2 to enter BIOS setup.
- 4. Enter the BIOS admin password to unlock the BIOS for any required changes. Dell default password is Fireport.

() NOTE: The screenshots depict an example of the BIOS screen in a Latitude 3440 device. The version information differs based on the application that you use to install. The screens may differ slightly based on the BIOS version on your device. The BIOS options that are mentioned will be similar, and must be checked and updated as per the requirements.

5. Go to Integrated Devices and enable the Enable USB boot support option. This option is enabled by default.

| BIOS Setup | | - | ••) 96% |
|--|--|--------------------------|-----------------|
| Latitude 3440 | Integrated Devices | Q | ŝ |
| Advanced HelpText Admin Setup Password ON ON | | SEARCH | VIEW ALL |
| | Camera | | |
| Overview Boot Configuration Integrated Devices | Click the checkbox to enable the Camera. | | |
| Storage Display | Audio | | |
| Connection | Enable Audio | | |
| Power Security | Use this setting to switch all integrated audio On/Off, or enable/disable the microphone and the internal speaker separately. | | - 1 |
| Passwords | C on | | |
| Update,Recovery System Management | Enable Microphone Enable Internal Speaker | | - 1 |
| Keyboard | | | |
| Pre-boot Behavior Virtualization Support | USB Configuration | | - 1 |
| Performance System Logs | When USB Boot Support is enabled, bootable USB mass storage devices (such as HDO, flash drive, CD/DVD) can boot through the boot sequence or boot menu. USB port functional in an OS environment. If disabled, the bootable USB mass storage devices are prevented from booting through the boot sequence and boot menu, but USB port functional in an OS environment. Image: Storage devices (such as HDO, flash drive, CD/DVD) can boot through the boot sequence and boot menu, but USB port functional in an OS environment. Image: Storage devices (such as HDO, flash drive, CD/DVD) can boot through the boot sequence and boot menu, but USB port functional in an OS environment. | rts are also orts are | |
| | Unobrusive Mode | | |
| | When the feature is enabled, this option will turn off all system light and sound. Toggling 4/hz+ <shiftz+ enters and exits unobtrusive mode.</shiftz+ | | ~ |
| About | LOND DEFAULTS APPLY CHANGES 0 changes were mude | | EXIT |

Figure 8. Integrated Devices

6. Go to Storage, SATA/NVMe Operations and enable the ACHI/NVMe option. This option is enabled by default.

| BIOS Setup | | - | •) 96% | |
|--|---|-----------------|-----------------|---|
| Latitude 3440 | Storage | Q | £₽ | |
| Advanced HelpText Admin | Storage | SEARCH | VIEW ALL | |
| Setup Password | SATA/NVMe Operation | | | - |
| ON ON | SATA/NVMe Operation | | | I |
| 2 | Set the operating mode of the integrated storage device controller. | | | I |
| Overview Boot Configuration Integrated Devices Storage Display Connection Power Security Passwords Udukte Recover | Disabled All integrated storage devices are disabled. All CI/NVMe Storage device is configured to support AHCI/NVMe mode Storage device is configured to support AHCI/NVMe mode AHCI/NVMe mode Storage device is configured to support AHCI/NVMe mode AHCI/NVMe mode Storage device is configured to support AHCI/NVMe mode Storage device is configured to support AHCI/NVMe Storage device is configured to support Storage device is configured to support AHCI/NVMe Storage device is configured to support Storage device is configured to Storage device is configured to Storage device is configured Storage device is configured Storage device is configured Storage device is Storage device is Storage device is Storage | | | |
| System Management Kryboard Pre-boat Behavior Virtuskazisten Sapport Performance System Logs | Storage Interface Port Enablement Select onboard drives to enable: This page allows you to select the onboard drives you would like to enable. M 2 Pole SSD C ON | | | |
| About | SMART Reporting Enable SMART Reporting If S.M.R.T (Self-Monitoring, Analysis, and Reporting Technology) is enabled, the BIOS can receive analytical information from integrated drives and send notifications possible future failure of the hard drive. LOAD DEFAILTS APPLY OWNEES 0 | s during startu | p about EXIT | |

Figure 9. Storage, SATA/NVMe Operations

7. Go to Virtualization Support, set Enabler Pre-Boot DMA Support to OFF, set Enable OS Kernel DMA Support to OFF.

| BIOS Setup | | | =) 96% |
|--|--|---------------|---------------|
| Latitude 3440 | Virtualization Support | | Ê |
| Advanced Help Test Admin Setup ON ON Password Overview Boot Configuration Integrated Devices | Intel® Virtualization Technology Enable Intel® Virtualization Technology (VT) When OR, the system will be able to run a virtual machine monitor (VMM). © ON | SEARCH | VIEW ALL |
| Storage Display Connection Power Security Passwords Updiate,Recovery | VT for Direct I/O Enable Intel® VT for Direct VO When On, the system will be able to perform Virtualization Technology for Directed I/O (VT-d), VT-d is an Intel method that provides virtualization for memory map I/O. ON | | |
| oyasın mərəşənini Kəşbəri Pirebod Bəhələr Virtualization Suport Pərformance System Logi | DMA Protection These settings control the BIOS support for Preboot and Kernel DMA protections. The settings are provided for compatibility purposes, since some older hardware is capable It is recommended that these settings are set to enabled and are only disabled if there is an issue with specific hardware. Enable Pre-Boot DMA Support This setting controls Pre-boot DMA protection for both Internal and External ports. Enable OFF Enable OFF | not DMA | |
| About | Enable US Kerne LWAN SUPPORT This setting controls Kernel DMA protection for both internal and External ports. This setting does not directly enable DMA protection in the OS. However, for OS's that protection, the setting will indicate to the OS that the BIOS supports the feature. The setting will indicate to the OS that the BIOS supports the feature. The setting will indicate to the OS that the BIOS supports the feature. The setting will indicate to the OS that the BIOS supports the feature. The setting will indicate to the OS that the BIOS supports the feature. The setting will indicate to the OS that the BIOS supports the feature. The setting will indicate to the OS that the BIOS supports the feature. The setting will indicate to the OS that the BIOS supports the feature. The setting will indicate to the OS that the BIOS supports the feature. The setting will indicate to the OS that the BIOS supports the feature. The setting will indicate to the OS that the BIOS supports the feature. The setting will indicate to the OS that the BIOS supports the feature. The setting will indicate to the OS that the BIOS supports the feature. The setting will indicate to the OS that the BIOS supports the feature. The setting will be added a set indicate to the OS that the BIOS supports the feature. The setting will be added a set indicate to the OS that the BIOS supports the feature. The setting will be added a set indicate to the OS that the BIOS supports the set indicate to the OS that the BIOS set | t support DM/ | EXIT |

Figure 10. Vitalization Support

- 8. Click **Save** and then click **Exit**.
- 9. When the device reboots, press F12 to trigger the Boot Menu and select the bootable Windows 10 IoT OS Recovery USB Key and press Enter.

| Latitude 3440 | | | SERVICE TAG BIOS REVISION WV01YL5 1.1.2 |
|--|--|---|---|
| One-Time Boot Settings Control the boot flow for the SupportAssist OS Recovery Tool. | Pre-Boot Tasks Change important BIOS settings on your system, configure how y | our device works and troubleshoot issues using this interface. | |
| NOTE: Once a system and/or admin password is set, the system will always prompt for system and/or admin password during boot. | BIOS SETUP Configure BIOS options and control how your system functions. | DIAGNOSTICS Run system tests to identify any issues. | BIOS UPDATE Search for and install the latest BIOS updates from various services. |
| UEFI Boot Devices Windows Boot Manager | SupportAssist OS Recovery | BIOS Flash Update - Remote BIOS and Firmware Update Over-the-Air | Device Configuration |
| Merlin Non-Pxe UEFI KBG50ZNS256G NVMe KIOXIA 256GB | | | |
| 32RC503XEJ26 1 2012 UEFI JetFlash Mass Storage Device 092NNIEVH0JVBFH3 | | | |
| 品 UEFI HTTPs Boot (MAC:C4CBE1071102) | | | |
| | | | |
| | | | |
| | | | |

Figure 11. Boot Menu

10. Select the operating system image and click **OK**. The installation process starts.

| | Dell Wyse USB Imaging Tool | ወ |
|--|---|-----|
| Device info Platform Latitude 3440 Media stor 25605 Gystem Latitude 3440 USB drive Used Space 12.608 Prec Space 12.608 Total Space 32.008 | Pull device image to USB drive Image to push to this device Choose image to push to this device Image to push to this device Image to push to this device | 3,5 |
| Merlin Version 4.1.3 | | 1 |

Figure 12. USB Imaging tool

The image that is shown above is an example image. The screen reflects the image that you created in the USB pen drive.

- **11.** After the installation is completed, the device reboots.
- **12.** Remove the operating system Recovery USB drive.
- 13. Press F12 to trigger the Boot Menu and select SSD/HDD storage where Win 10 IOT OS is installed.
- 14. Press Enter.

Windows IoT boots to the desktop.



Capturing image to the created USB drive

Steps

- 1. Insert the Windows 10 IoT OS Recovery USB Key created into the USB port of the appropriate device.
- 2. Power on the device.
- 3. When the device reboots, press F12 to trigger the Boot Menu and select the bootable Windows 10 IoT OS Recovery USB Key.
- 4. Press Enter.

| Latitude 3440 | | | SERVICE TAG BIOS REVISION WV01YL5 1.1.2 |
|--|--|---|---|
| One-Time Boot Settings Control the boot flow for the SupportAssist OS Recovery Tool. | Pre-Boot Tasks Change important BIOS settings on your system, configure how y | our device works and troubleshoot issues using this interface. | |
| NOTE: Once a system and/or admin password is set, the system will always prompt for system and/or admin password during boot: | BIOS SETUP Configure BIOS options and control how your system functions. | DIAGNOSTICS Run system tests to identify any issues. | BIOS UPDATE Search for and install the latest BIOS updates from various services. |
| UEFI Boot Devices | SupportAssist OS Recovery Analyze, repair and restore your system. | BIOS Flash Update - Remote BIOS and Firmware Update Over-the-Air | Device Configuration Configure device settings |
| Merlin Non-Pxe UEFI KBG50ZNS256G NVMe KIOXIA 256GB 32RC503XEJ26 1 | | | |
| UEFI JetFlash Mass Storage Device 092NNIEVH0JVBFH3 | | | |
| | | | |
| | | | |
| | | | |

Figure 13. Pre-Boot tasks

5. Select Pull Device Image to USB Drive.

| | Dell Wyse USB Imaging Tool | Ċ |
|---|---|-----|
| Device info Platform Lattude 3440 Hofds size 2568 System Lattude 3440 USB drive • Und Space 12 608 | Pull device image to USB drive | |
| Total Space 32.008 | Mitro LLISULZUZI LUITURE 449.JutyZUZB OS, HOH PRE, ZSHE/ZOZB 17:32 PM | 765 |
| | | |
| | | |
| | | |
| Martin Varian 4.1.2 | | |
| restormer waar BRUIT N. 152 | | |

Figure 14. Pull Device Image to USB Drive

6. Click OK on the Compressing and Pulling Image to USB drive screen.

| ressing and Pulling device image to USB drive | |
|---|----------------------|
| aster Boot Record | |
| xn-Pxe Files berating Systems | |
| OS with CMOS | |
| | |
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| | |
| | |
| | |
| | |
| | Click OV to continue |
| | CITCK OK to CONTINUE |

Figure 15. Compressing and Pulling Image to USB drive

Image Capturing starts and displays the progress screen.

7. After the image capture is completed, remove the bootable Windows 10 IoT OS Recovery USB Key and click Restart.

| All done! | | |
|---|---|---------|
| | | |
| | | |
| | | |
| | | |
| | | |
| (\checkmark) | | |
| \bigcirc | | |
| The Device image was successfully pulled to your USB drive | | |
| Remove the USB key and click on Restart to reboot the device!!! | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | k | Restart |

Figure 16. USB Imaging tool screen