

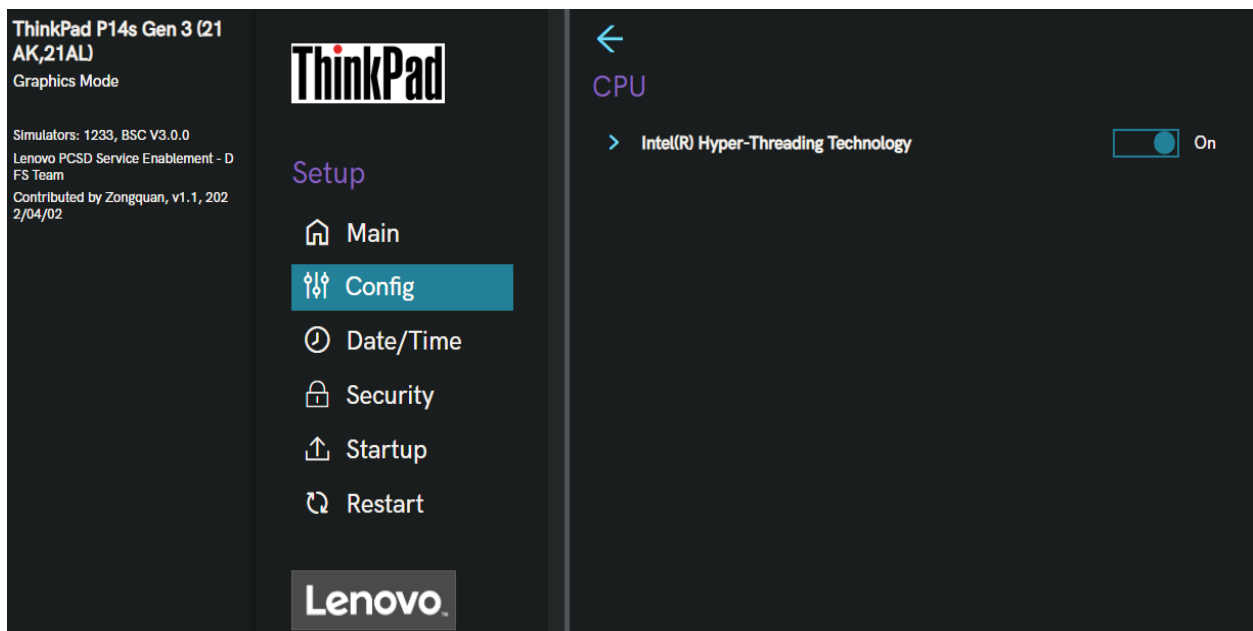
# How to use Dell Image Assist (DIA) to capture Dynamic Image

In order to perform this exercise you will need the following:

1. Windows 10 machine with virtualization feature enabled in the BIOS
2. Enable Hyper-V from Windows Features
3. Create virtual machine using Windows 10 ISO
4. Download Dell DIA file – Register first at Dell.com - Copy the file to virtual machine
5. Run Image Assist file to complete capture & restore process (as detailed below)

## ENABLE VIRTUALIZATION TECHNOLOGY IN BIOS:

<https://download.lenovo.com/bsco/index.html#/>



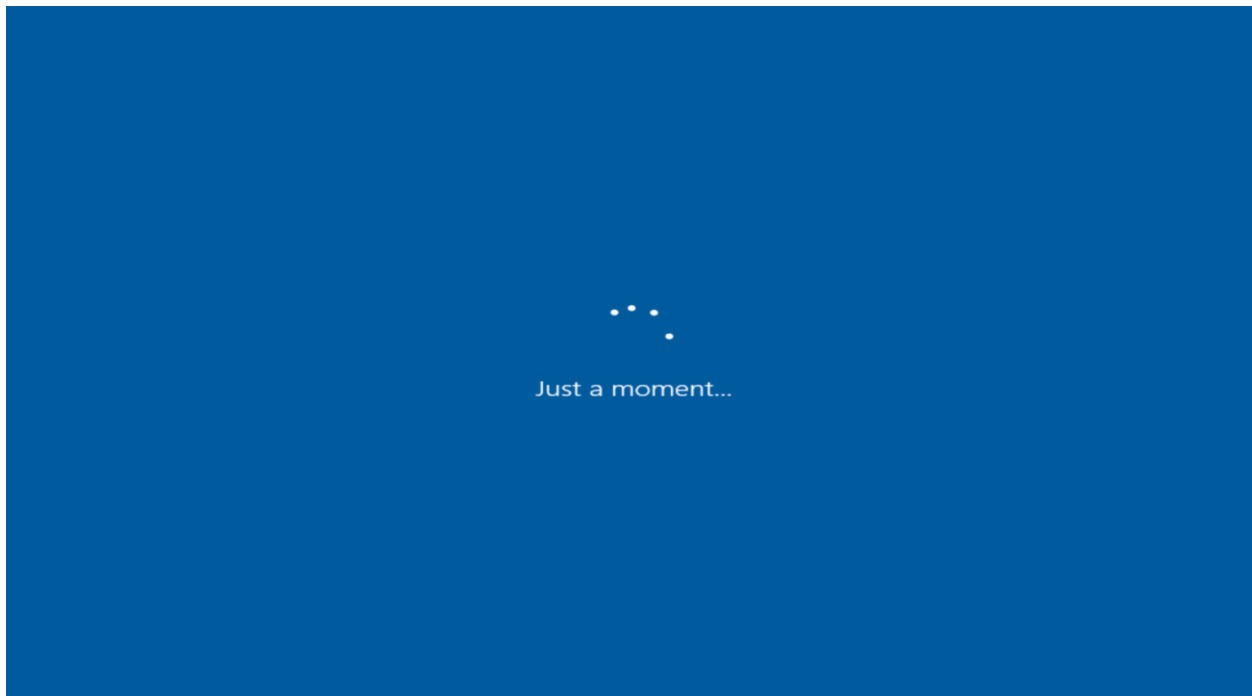
## ENABLE HYPER-V FEATURE:

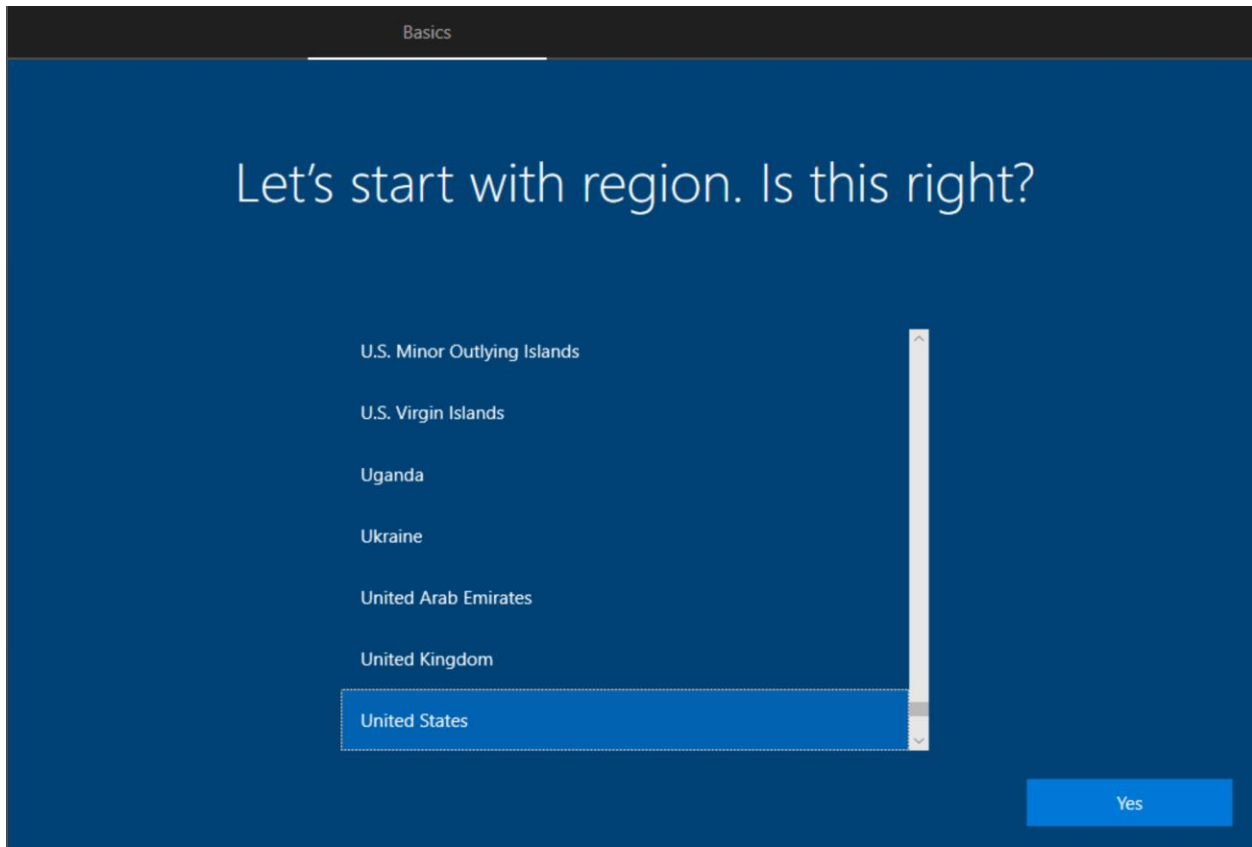
1. Go to **Control Panel > Program > Program and Features**.
2. Click **Turn Windows features on or off**.  
The Windows Features window is displayed.
3. Select **Hyper-V** and click **OK**.  
The system restarts to enable Hyper-V Manager.
4. Open **Hyper-V Manager**.

## **CREATE VIRTUAL MACHINE:**

1. Go to Hyper-V Manager page and click **Action**,>**New**,>**Virtual Machine**.  
The New Virtual Machine Wizard window is displayed.
2. Perform the following steps:
  - a. On the Before you Begin page, click **Next**.
  - b. On the Specify Name and Location page, perform the following steps and click **Next**.
    - i. Enter the name of the guest operating system.
    - ii. To create and save the virtual machine at a different location, select **Store the virtual machine in a different location** and browse to the desired location.
  - c. On the Specify Generation page, select **Generation 2** and then click **Next**.
  - d. On the Assign Memory page, increase the **Memory** to 4096 MB or greater, clear **Use Dynamic Memory for this Virtual Machine**, and then click **Next**.
  - e. On the Configure Networking page, from the **Connection** list, select **Not Connected**, and then click **Next**.
  - f. On the Connect Virtual Hard Disk page, select **Create Virtual Hard Disk**, verify the name, location, and size, and then click **Next**.
  - g. On the Installation Options page, select **Install an operating system from a bootable image file**, browse and select the image file, and then click **Next**.
  - h. On the Summary page, review the selections and click **Finish**.The virtual machine is created.
3. To configure additional settings, select your virtual machine, and in the Actions pane, click **Settings**.
4. Perform the following steps:
  - a. Click **Security** and select **Enable Trusted Platform Module**.
  - b. Click **Processor** and update the number of processors to a minimum of 4.
  - c. Click **Apply** and click **OK**.

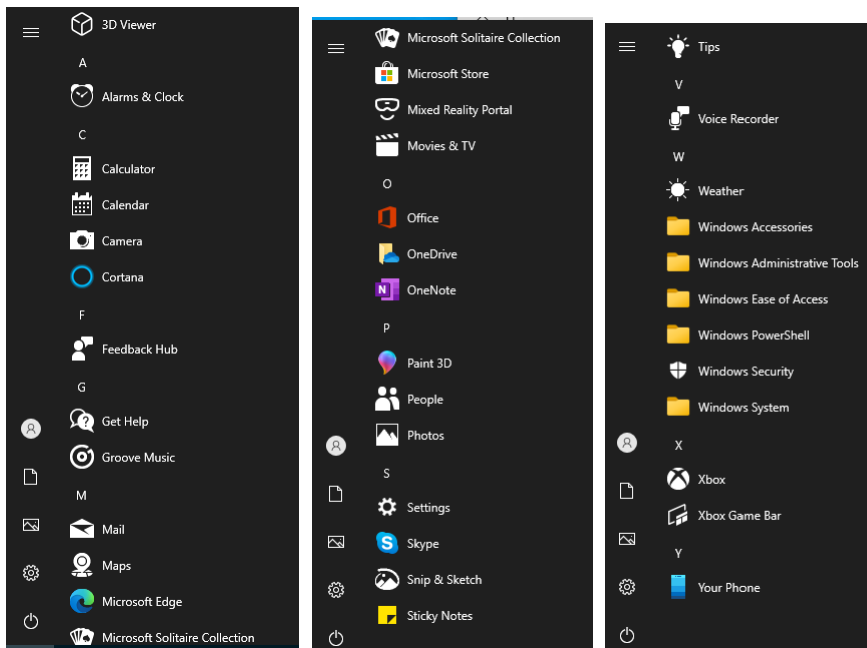
Power on virtual machine to install the OS. Wait for the install to complete and then you will see below





Click Yes – Setup Keyboard – and other steps. After that you will be logged into the system.

Below is Windows 10 Entp operating system. It does not have HOOPP business line of application. All LOB and MSI apps are installed during AutoPilot process (namely BigIP, Cylance, Office 365, ZScaler)





# Windows 10

Microsoft Windows  
Version 22H2 (OS Build 19045.2846)  
© Microsoft Corporation. All rights reserved.

The Windows 10 Enterprise operating system and its user interface are protected by trademark and other pending or existing intellectual property rights in the United States and other countries/regions.

This product is licensed under the [Microsoft Software License Terms](#) to:  
DELLTEST

OK

← Settings

Home

Find a setting

**Update & Security**

- Windows Update
- Delivery Optimization
- Windows Security
- Backup
- Troubleshoot
- Recovery
- Activation
- Find my device
- For developers

## Windows Update



### Updates available

Last checked: Today, 11:42 AM

Security Intelligence Update for Microsoft Defender Antivirus - KB2267602 (Version 1.391.2598.0)  
**Status:** Pending install

Windows Malicious Software Removal Tool x64 - v5.114 (KB890830)  
**Status:** Installing - 0%

2023-06 Cumulative Update for .NET Framework 3.5, 4.8 and 4.8.1 for Windows 10 Version 22H2 for x64 (KB5027538)  
**Status:** Pending install

2023-06 Cumulative Update for Windows 10 Version 22H2 for x64-based Systems (KB5027215)  
**Status:** Downloading - 100%

2023-04 Update for Windows 10 Version 22H2 for x64-based Systems (KB4023057)  
**Status:** Pending install

⏸ Pause updates for 7 days  
Visit Advanced options to change the pause period

🕒 Change active hours

## Device Manager

File Action View Help



- DESKTOP-3184546
  - Batteries
  - Computer
  - Disk drives
  - Display adapters
  - DVD/CD-ROM drives
  - Human Interface Devices
  - Keyboards
  - Mice and other pointing devices
  - Monitors
  - Network adapters
  - Print queues
  - Processors
  - Security devices
  - Software devices
  - Storage controllers
  - System devices


## INSTALL DELL ASSIST:

Downloads > Dell\_JAX >

Name	Date modified	Type	Size
IA_Dependencies	6/25/2023 11:44 AM	File folder	
<b>ImageAssist</b>	5/30/2023 6:04 PM	Application	178 KB
ImageAssist.exe.config	5/30/2023 5:51 PM	CONFIG File	9 KB
Version_Dell_JAX_11.0.6.4	5/30/2023 6:05 PM	Text Document	1 KB


User Account Control

Do you want to allow this app to make changes to your device?

 Image Assist

Verified publisher: Dell Inc  
File origin: Hard drive on this computer


[Show more details](#)



# Welcome to Image Assist


Setup in progress...

Version 11.0.6.4  
Copyright © 2014-2023 Dell Inc. or its subsidiaries. All Rights Reserved.



 | Image Assist

## Terms and Conditions

Please take a moment to read the license agreement and terms. If you accept the terms click "Next" to continue. 

accordance with such rules. The arbitration shall be conducted in the English language. For any ICC arbitration, the place of the arbitration shall be Austin Texas or another commercial center reasonably chosen by the arbitration panel to ensure that the award resulting from the arbitration shall be of an international character and enforceable under the New York Convention on the Recognition and Enforcement of Foreign Arbitral Awards. The arbitration panel shall be empowered to grant whatever relief would be available in court, including without limitation preliminary relief, injunctive relief and specific performance. Any award of the arbitration panel shall be final and binding immediately when rendered, and judgment on the award may be entered in any court of competent jurisdiction. Neither you nor Dell shall be entitled to join, consolidate, or include any claims belonging to or alleged or arising from, by, or on behalf of any third party to an arbitration brought hereunder, or arbitrate any claim as a class action, class representative, class member, or in a private attorney general capacity. The individual (non-class) nature of this dispute resolution provision goes to the essence of the parties' dispute resolution agreement, and if found unenforceable, the entire arbitration and dispute resolution provision shall be void. Consumer claimants (individuals whose transaction is intended for personal, family or household use) may elect to pursue their claims in small-claims court rather than arbitration. Dell will be responsible for paying any individual consumer's arbitration/arbitrator fees. Notwithstanding the foregoing, Dell may apply to any relevant government agency or any court of competent jurisdiction to preserve its rights under this EULA and to obtain any injunctive or preliminary relief, or any award of specific performance, to which it may be entitled, either against you or against a non-party; provided, however, that no such administrative or judicial authority shall have the right or power to render a judgment or award (or to enjoin the rendering of an arbitral award) for damages that may be due to or from either party under this EULA, which right and power shall be reserved exclusively to an arbitration panel proceeding in accordance herewith.

20. No Waiver. No waiver of breach or failure to exercise any option, right, or privilege under the terms of this EULA on any occasion by Dell shall be construed to be a waiver of a subsequent breach or right to exercise any option, right, or privilege.

21. No Assignment. Customer may not assign or transfer its interests, rights or obligations under this EULA, in whole or in part, whether voluntarily, by contract, or by merger (whether that party is the surviving or disappearing entity), stock or asset sale, consolidation, dissolution, through government action or order, or otherwise. Any attempt to assign this EULA without prior written consent from an authorized executive officer of Dell shall be null and void.

22. Entire Agreement. Unless you have entered into another written agreement with respect to the Software which has been signed by you and an authorized representative of Dell and which conflicts with the terms of this EULA, you agree that this EULA supersedes all prior written or oral agreements, warranties or representations with respect to use of the Software. If any term (or part thereof) of this EULA is found to be invalid or unenforceable, the remaining provisions (including other valid parts within the affected term) will remain effective. You acknowledge that you have read this EULA, that you understand it, that you agree to be bound by its terms, and that this is the complete and exclusive statement of the agreement between you and Dell regarding the Software.

By clicking "Next" I Accept the terms of this agreement.

## Which type of image do you want to create?

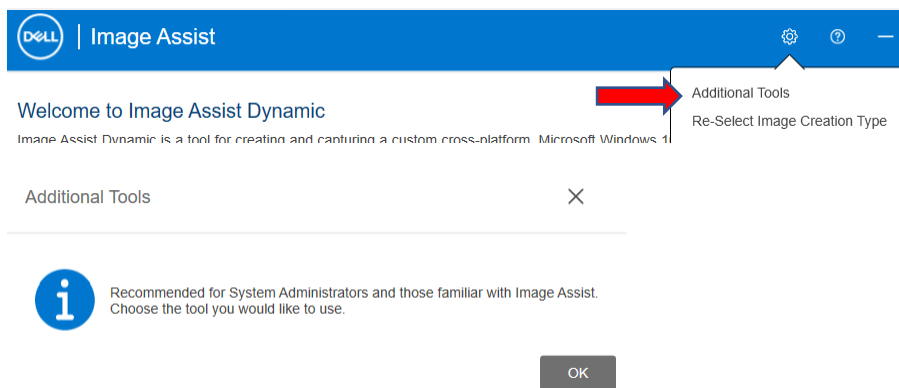
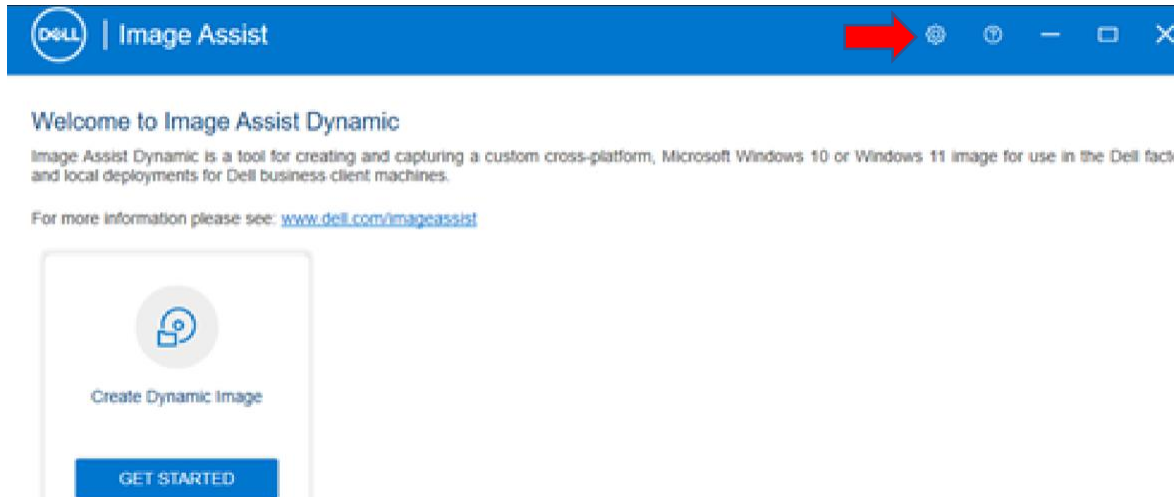
Select from the following options.

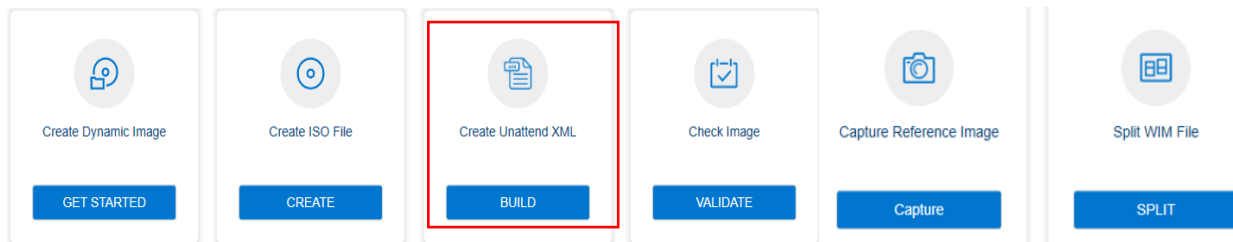
- Image Assist Dynamic - (Recommended)       Image Assist Static

Benefits	Dynamic	Static
Optimized for Dell factory use	✓	✓
Fast and easy	✓	✓
Create an image that works with Dell's Imaging and ProDeploy services	✓	✓
Allows for local restore of your custom image	✓	✓
Designed to work across multiple Dell models or platforms	✓	✗
Manages updated drivers on current and future Dell business systems	✓	✗
Creates a single restore USB drive for use locally across multiple systems	✓	✗
Designed to assist during the image creation process (Unattend.xml and Sysprep)	✓	✗
Limited to capturing a single platform image after it is configured	✗	✓

NEXT

In order to get image work for autopilot we have to create unattended file. Follow these steps.





Registered Owner – Type DELLTEST

Organization – [REDACTED]

Microsoft Licensing Model – Volume

Volume Licensing Type – MAK - [REDACTED]

Language Settings – English United States

Time Zone – Eastern

Workgroup or Domain – Workgroup

Computer Name – Auto Generate

Administrator Password – Blank

Ignore - User, Local, UAC & Additional Commands

Once xml file is created it is saved at C:\Windows\Panther folder. We need to modify xml file and it should reflect the following.

```
<?xml version="1.0" encoding="utf-8"?>
<unattend xmlns="urn:schemas-microsoft-com:unattend">
  <settings pass="specialize">
    <component name="Microsoft-Windows-Shell-Setup" processorArchitecture="amd64"
      publicKeyToken="31bf3856ad364e35" language="neutral" versionScope="nonSxS"
      xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State"
      xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
      <ComputerName>*</ComputerName>
      <ProductKey>[REDACTED]</ProductKey>
      <RegisteredOrganization>[REDACTED]</RegisteredOrganization>
      <TimeZone>Eastern Standard Time</TimeZone>
    </component>
    <component name="Microsoft-Windows-UnattendedJoin" processorArchitecture="amd64"
      publicKeyToken="31bf3856ad364e35" language="neutral" versionScope="nonSxS">
```

```

xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <Identification>
    <JoinWorkgroup>WORKGROUP</JoinWorkgroup>
  </Identification>
</component>
  <component name="Microsoft-Windows-Deployment" processorArchitecture="amd64"
publicKeyToken="31bf3856ad364e35" language="neutral" versionScope="nonSxS"
xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
  <RunSynchronous>
    <RunSynchronousCommand wcm:action="add">
      <Description>DEFAULT_UAC_EnableLUA</Description>
      <Path>cmd /c reg ADD HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System /v
EnableLUA /t REG_DWORD /d 1 /f</Path>
      <Order>1</Order>
    </RunSynchronousCommand>
    <RunSynchronousCommand wcm:action="add">
      <Description>DEFAULT_UAC_ConsentPromptBehaviorAdmin</Description>
      <Path>cmd /c reg ADD HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System /v
ConsentPromptBehaviorAdmin /t REG_DWORD /d 5 /f</Path>
      <Order>2</Order>
    </RunSynchronousCommand>
    <RunSynchronousCommand wcm:action="add">
      <Description>DEFAULT_UAC_PromptOnSecureDesktop</Description>
      <Path>cmd /c reg ADD HKLM\SOFTWARE\Microsoft\Windows\CurrentVersion\Policies\System /v
PromptOnSecureDesktop /t REG_DWORD /d 1 /f</Path>
      <Order>3</Order>
    </RunSynchronousCommand>
  </RunSynchronous>
</component>
</settings>
<settings pass="generalize">
  <component name="Microsoft-Windows-PnpSysprep" processorArchitecture="amd64"
publicKeyToken="31bf3856ad364e35" language="neutral" versionScope="nonSxS"
xmlns:wcm="http://schemas.microsoft.com/WMIConfig/2002/State"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
    <DoNotCleanUpNonPresentDevices>>false</DoNotCleanUpNonPresentDevices>
    <PersistAllDeviceInstalls>>false</PersistAllDeviceInstalls>
  </component>
</settings>
</unattend>

```

Make sure to save unattend xml file to shared folder or network share. After that delete xml file from C:\Windows\Panther folder before we proceed to next step.




**DELL | Image Assist**

## Welcome to Image Assist Dynamic

Image Assist Dynamic is a tool for creating and capturing a custom cross-platform, Microsoft Windows 10 or Windows 11 image for use in the Dell fact and local deployments for Dell business-client machines.

For more information please see: [www.dell.com/imageassist](http://www.dell.com/imageassist)



Create Dynamic Image

GET STARTED

←

⚠ You are using VLA licensing and will require a VLA license key or you will need to be connected to a VLA license server.

Please visit TechDirect <https://tdm.dell.com/portal/about-imageassist> for more information including:

1. [Training Videos](#)
2. [Documentation](#)
3. [User Forum](#)
4. [Drivers - Supported Systems](#)
5. [FAQ's and Articles](#)

**VLA License**

- Intel(R) Core(TM) i7-6650U CPU @ 2.20GHz
- Virtual Machine
- System Status
- Microsoft Windows 10 Enterprise 10.0.19045.3086 (22H2)

Here we will use the unattend xml file we created and saved before.

**DELL | Image Assist**

Configuration    Create ISO    Check Image    Prepare Capture    Capture

### Create Dynamic Image

**Do you want to create an ISO to restore and test your image in Hyper-V?**  
 To build a USB Key for testing outside of Hyper-V, you can run Image Assist from a physical system.

Yes     No

**Unattend XML File Required**

Create Unattend XML     Import previously created Unattend.xml

**Import Path**

C:\Users\TEST\Documents\Unattend.xml BROWSE

**Use customized default profile**

Retain current user settings

- Start Menu Layout
- Taskbar Layout
- Desktop Wallpaper
- Desktop Icons
- Desktop Settings

← BACK NEXT

Save ISO to shared folder or network share. We will use this ISO to restore the image later.

**Dell | Image Assist**

Configuration **Create ISO** Check Image Prepare Capture Capture

### Create ISO

Save Path: \\sprod4\temp\1 **BROWSE**

Preparing initial file setup	00:00
Copying Image Assist WinPE	00:00
Mounting Boot.wim	00:00
Configuring WinPE	00:00
Unmounting Boot.wim	00:00
<b>Total Elapsed Time: 00:00:00</b>	

**← BACK** **CANCEL** **CREATE ISO**

### ISO Creation Complete



Move the ISO to your host machine and then use it to mount as the CD-ROM on a Virtual Machine for restoring and testing a Dynamic captured image, virtually.

**OK**

**Dell | Image Assist**

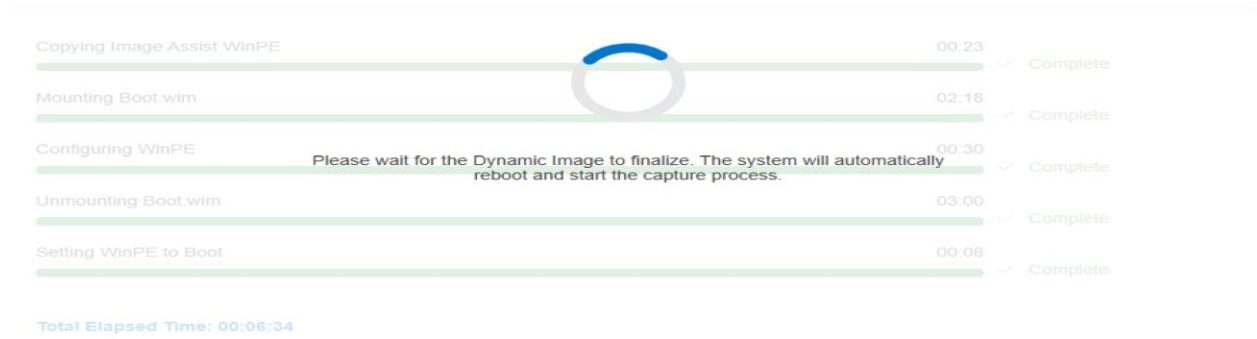
Configuration **Create ISO** **Creates Unattend XML** Check Image **Prepare Capture** Capture

### Prepare Capture

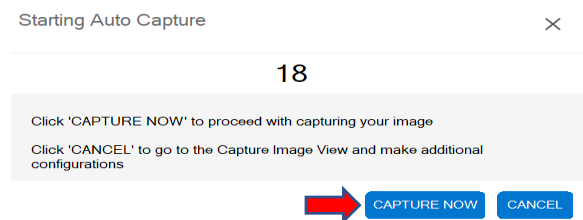
Copying Image Assist WinPE	00:23	✓ Complete
Mounting Boot.wim	02:18	✓ Complete
Configuring WinPE	00:26	
Unmounting Boot.wim	00:00	
Setting WinPE to Boot	00:00	
<b>Total Elapsed Time: 00:03:11</b>		

**CANCEL**

## Prepare Capture



On reboot you will see black screen to start image capture process. You can wait or click Capture Now



You can browse where to save WIM file. Save WIM file to shared folder or network share.

**Dell Image Assist**

**Capture Dynamic Image**

Configuration ✓ Create USB ✓ Create Unattend XML ✓ Check Image ✓ Prepare Capture ✓ Capture

Partition	Label	Size
System (E:)	96.00 MB	
Windows (C:)	126.39 GB	
Recovery (B:)	521.00 MB	

**Wim Name:** DIA\_Dynamic\_202306242346\_VIRTUALLMACHINE.wim  
**Save Path:** Z:\

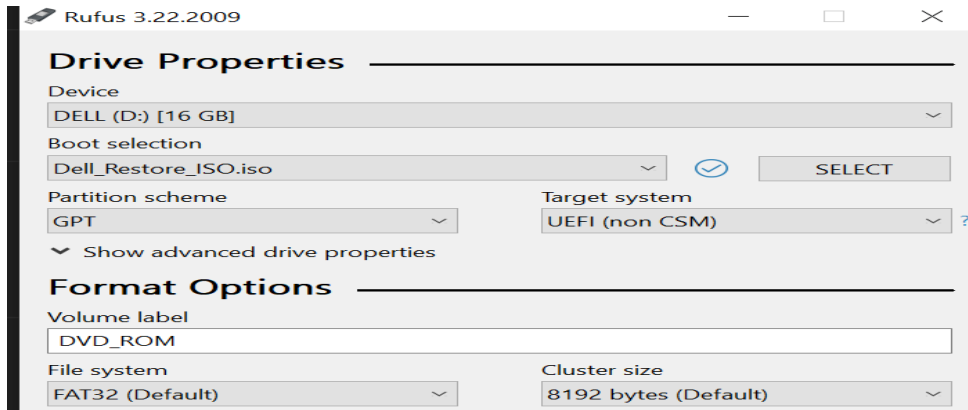
**Progress:**  
Capturing System Image: 00:08:23 ✓ Passed  
Copying File To Final Destination: 00:00:21 ✓ Passed  
Total Elapsed Time: 00:08:42

**File Browser:**  
B:\  
C:\  
EA  
Boot (X:)\  
Windows (Z:)

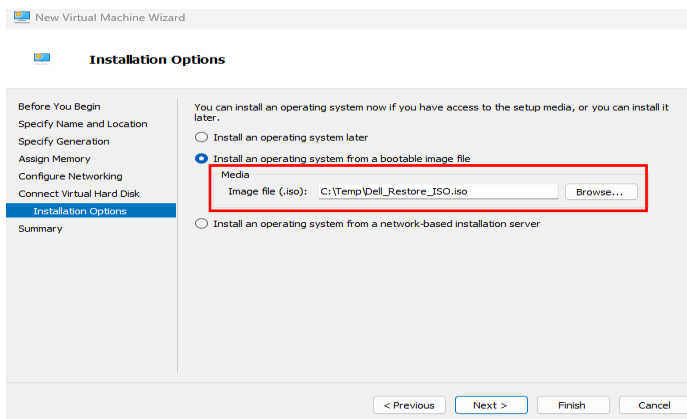
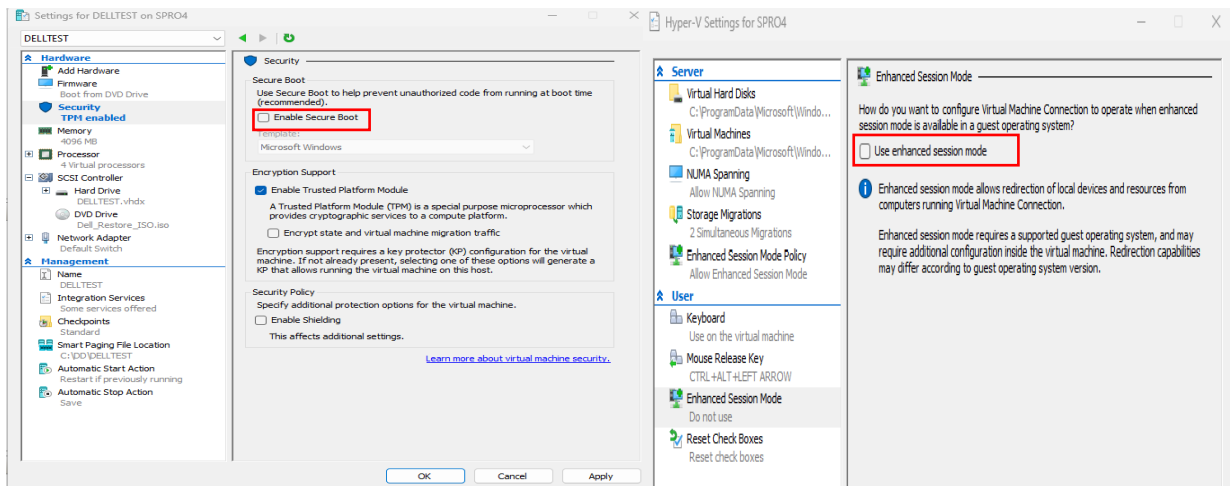
Now we have a working WIM file which should be tested and then shared/upload to Dell for factory imaging on new Dell hardware.

# How to restore captured Dell Image using WIM file

1. Create a virtual Machine
2. Boot VM with Dell\_Restore\_ISO file
3. If you want to use it on a Physical Machine – make a bootable USB using RUFUS. When you create bootable USB select Partition scheme – GPT – Don't use MBR USB will not boot.



Make sure Secure Boot is unchecked & Enhanced Session Mode is turned off





### Welcome to Image Assist Dynamic WinPE

Image Assist Dynamic WinPE allows you to capture your local hard drive as a WIM file. Additional capabilities include Restore Image and WinPE File Explorer. Dell recommends using Restore Image to test your WIM prior to submitting to the Dell factory.

Capture Image

CAPTURE

Restore Image

RESTORE

File Explorer

BROWSE

Please visit TechDirect <https://tdm.dell.com/portal/about-imageassist> for more information including:

- 1. Training Videos
- 2. Documentation
- 3. User Forum
- 4. Helpdesk
- 5. Drivers - Supported Systems
- 6. FAQ's and Articles

Hot Keys:

- F7 - Export log files and screenshots into a .zip file
- F8 - Launch a Microsoft Windows Command Prompt
- F9 - Capture a screen shot (Use F7 to export)
- F10 - Launch Task Manager
- F11 - Launch Registry Editor

Select WIM file we captured before and leave Driver Path blank since we use virtual machine to capture the image. Dell will use right driver package when they deploy the image.



### Restore Dynamic Image

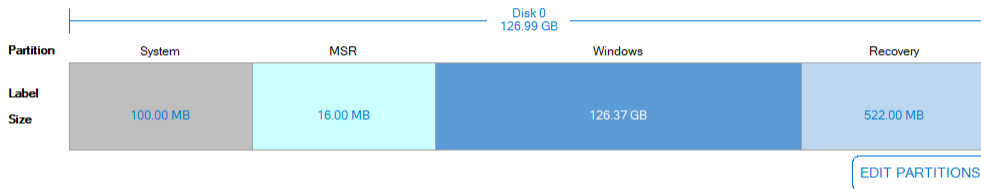
WIM File

Z:\DIA\_Dynamic\_202306251436\_VI\...\ACHINE.wim

BROWSE

Driver Path

BROWSE



Initiating Restore Process	00:00:00
Restoring Image	00:00:00
Finalizing Image	00:00:00

Total Elapsed Time: 00:00:00

← BACK

CANCEL

RESTORE IMAGE

Restore Process Complete



Please ensure all bootable USB keys are removed prior to selecting reboot.

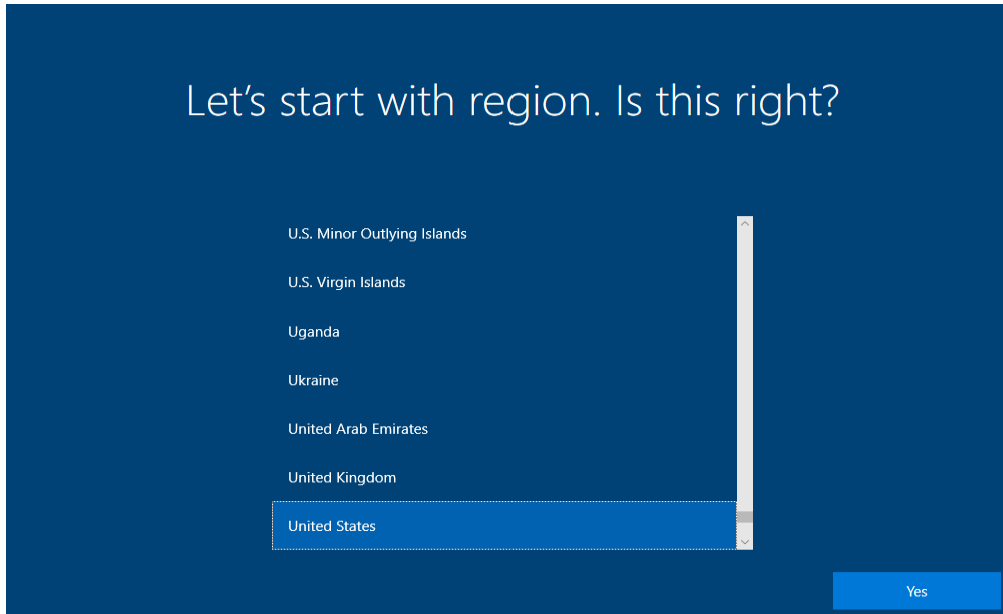
You may now shut down or reboot your system.



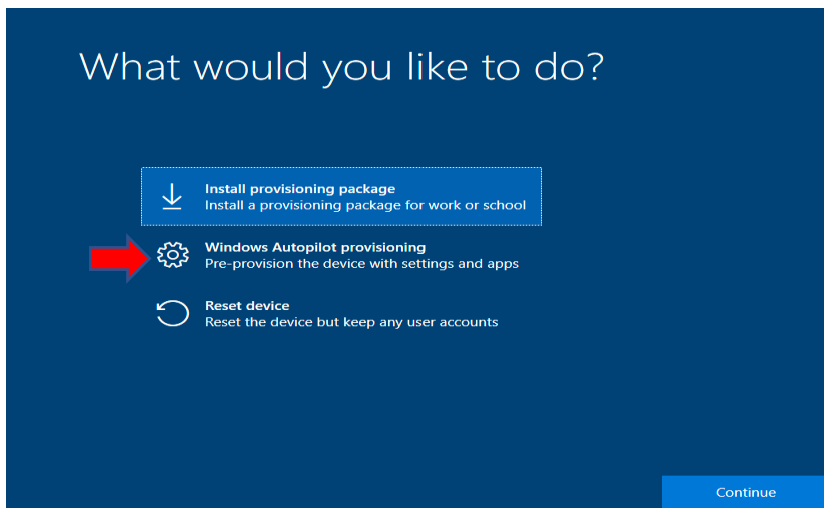
SHUT DOWN

REBOOT

On reboot we should see OOB screen like below.



Plug in Hardware Hash USB stick to capture hardware hash. Press Shift + F10 to open Command Prompt. Change Drive letter to D – Delete Comphash.csv file and run GetAutoPilot.cmd. Upload the hash at Endpoint – Wait for few minutes to start autopilot process.



I was able to test image on physical machine (Dell 7440). Autopilot was successful. All LOB and MSI apps installed, and the device is ready for deployment.



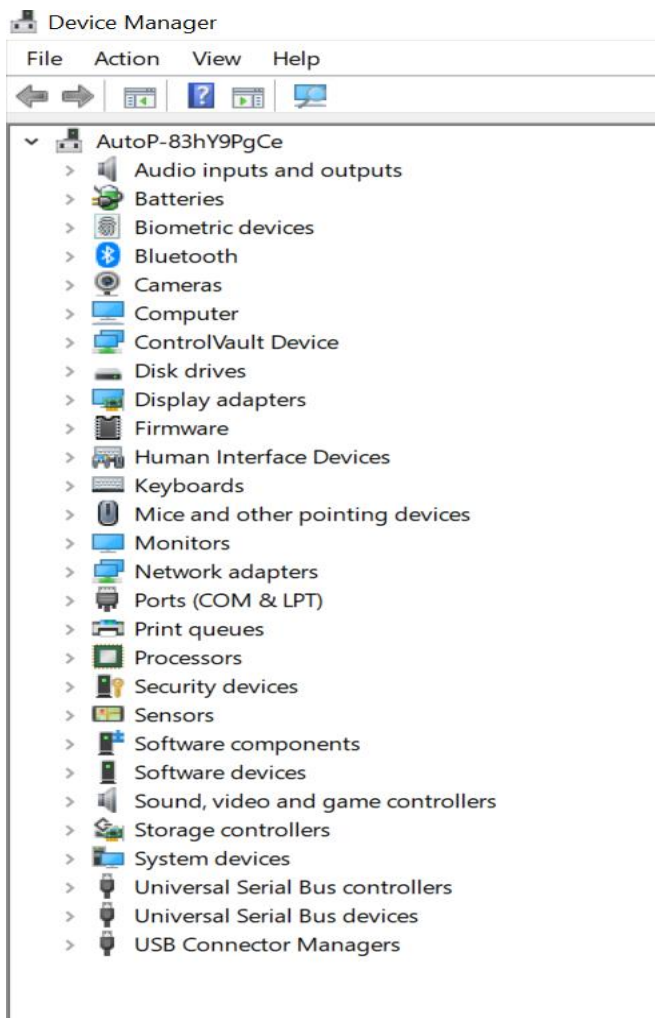
Microsoft Windows  
Version 22H2 (OS Build 19045.3086)  
© Microsoft Corporation. All rights reserved.

The Windows 10 Enterprise operating system and its user interface are protected by trademark and other pending or existing intellectual property rights in the United States and other countries/regions.

# Activation

## Windows

**Edition** Windows 10 Enterprise  
**Activation** Windows is activated using your organization's activation service



**USE LINK FOR REFERENCE:**

<https://www.dell.com/en-us/dt/services/deployment-services/ready-image.htm#scroll=off>

<https://www.dell.com/community/Image-Assist/Preparing-an-image-for-Autopilot/td-p/7338394>

<https://www.youtube.com/playlist?list=PLe5xhhyFjDPd2w2BaVZnWwKhM6ohfzgYB>