Image Assist Dynamic for Multiple Platforms Version 11.1

User's Guide

D&LL Technologies

Notes, cautions, and warnings

ⓘ 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.

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

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Introduction

Image Assist is a tool set that enables you to use Dell imaging services to quickly create and maintain a ready-to-deploy Microsoft Windows image. Depending on your requirement, use Image Assist Static or Image Assist Dynamic to create an image.

To use Image Assist Static, install the **Image Assist Static** tool.

Image Assist Dynamic

The Image Assist Dynamic tool enables you to create and capture a custom cross-platform, ready-to-deploy Microsoft Windows image. This image is supported on:

- All current and future models of Dell OptiPlex, Dell Latitude, and Dell Precision systems.
- Certain models of Dell XPS, Dell Vostro, and Dell Venue Pro systems.

(i) **NOTE:** For the list of systems that support Image Assist, see the system models that are listed in the **Dell Family Driver Packs** page at Dell.com/FamilyPacks.

Image Assist Dynamic enables you to:

- Reduce the number of base images that you manage.
- Reduce the time required to transition to new systems.
- Provide a single image for factory installation of new systems and for refreshing existing systems within your environment.

By default, the image and the necessary drivers are installed before the systems are shipped from Dell factory. Use Image Assist Dynamic to locally deploy the image to multiple Dell systems in your environment.

(i) **NOTE:** It is your responsibility to verify the image content and test the captured images.

(i) **NOTE:** Some partition sizes or orders may be modified to work with the Dell factory processes or to adhere to Microsoft guidelines.

(i) **NOTE:** To comply with the Image Assist license agreement, you must configure and customize the systems using Dell Client Configuration Services.

Supported operating system and recommended framework

- Image Assist is supported on 64-bit Windows 10 and Windows 11 operating systems.
- Microsoft .NET Framework 4.8 or later must be installed on the system.

New and enhanced features

- Option to include SupportAssist for Business PCs in the custom image.
- User interface enhancements and bug fixes.

Getting started with Image Assist

This section provides information about setting up your system, downloading Image Assist, and installing it.

Setting up your system

Related video: How to set up Image Assist

You can create an image using a virtual machine or a physical system. But, it is recommended that you use a virtual machine to create an image. Image Assist works at its best when initiated from a virtual machine. On a virtual machine, you can create a Windows image with reduced number of errors that you can use to optimize future deployments. For more information about virtual machines, see Using Image Assist Dynamic on virtual machine.

Before you begin using Image Assist, ensure that you:

- Are using the Windows 10 or Windows 11 operating system.
- Disable BitLocker encryption on the system.
- Document the image build. This document helps in troubleshooting the image, if necessary. Update the document when you create a new image.
- Update the build base to the latest version of BIOS which is available at Dell Support.
  - (i) **NOTE:** BIOS updates are not required if you are using a virtual machine as the build base.
- Back up your work before capturing the image.
- Install the Dell driver for the Onboard Ethernet Network Controller if network access is required. This driver does not have any impact on the cross-platform image.
- Configure the system screen resolution to 1024 x 768.

Ensure that you do not install the following software, drivers, tools, or applets on your image before configuring your system. If any of the following are found, the image may not be processed successfully at the Dell factory. You must uninstall them, recapture the image, and then resubmit a compliant image. However, you can install the software, drivers, tools, or applets on your image after system configuration.

- Tools and drivers
  - VMware Tools
  - Windows Update drivers
- Software
  - (i) **NOTE:** The applications that may cause conflicts when installed in the Dynamic image can be scripted for installation using **First Logon Commands** or **Additional Synchronous Commands** while creating an Unattend XML file. See Creating an Unattend XML file.
  - Anti-virus software (Reference recommended installation note above)
  - Remote management programs that automatically install drivers such as, Symantec pcAnywhere and Netop
  - Modem dialing software that requires Dial-Up Networking (DUNS) connections
  - Authentic, Energetic, Reflective, and Open (AERO) should be disabled on the build base
  - A fully enabled encryption technology such as BitLocker, PGP (Whole Disk Encryption), and so on
  - Dell OpenManage Client Instrumentation (OMCI)
    - (i) **NOTE:** You can install OMCI after deploying the image, because the OMCI version may vary depending on your target system.
  - Faronics Deep Freeze software
- Dell applets
  - Conexant D330 Modem Digital Line Detect v.92 Modem
  - Dell ControlPoint
  - Dell Data Protection
  - Dell TrueMobile Wireless clients
  - Dell broadband clients

- Intel Rapid Start Technology
- Audio clients
- Video control panels

ⓘ **NOTE:** If you use a physical system, disconnect the network cable and disable the wireless device on the system to prevent automatic driver installation.

ⓘ **NOTE:** If you edit the registry, log file, or the file location where Image Assist is checking, the image may be rejected.

Download Image Assist

Steps

1. Register and sign in to TechDirect.
2. From the TechDirect dashboard, go to **Build and deploy** > **Dell Image Assist**.
   The **Image Assist** page is displayed.
3. On the **Download Dell Image Assist** card, click **DOWNLOAD**.

Results

The Image Assist installer package (.zip) is downloaded.

Install Image Assist Dynamic

Steps

1. Right-click the Image Assist installer package (.zip) and click **Extract All**.
   The **Select the Destination and Extract Files** window is displayed.
2. Select a folder to which you want to extract the installer files and click **Extract**.
3. Go to the folder where you extracted the files.
4. Double-click **Image Assist.exe**.
   The **User Account Control** window is displayed.
   ⓘ **NOTE:** The User Account Control window is not displayed if you are logged in to the system as an administrator or if you have disabled the User Account Control notification.
5. Click **Yes**.
   The **Terms and Conditions** page is displayed.
6. Read and accept the terms and conditions and then click **Next**.
7. Select **Image Assist Dynamic** and click **Next**.

   ⓘ **NOTE:** To capture a Microsoft Windows image for a single platform, see the *Image Assist Static for Single Platform User's Guide* on the Image Assist documentation page.

Results

After the installation is complete, the **Welcome to Image Assist Dynamic** page is displayed.

ⓘ **NOTE:** When an update to Image Assist is available, you are prompted about the update if you are using a virtual machine and the virtual machine is online. Updating to the latest version enables you to experience full benefits of the updated Image Assist features.

Using Image Assist Dynamic

Image Assist Dynamic helps you prepare a custom cross-platform Windows image that includes the operating system, licenses, applications, desktop customization, and network configuration settings.

Create and capture Dynamic image

Related video: How to capture and restore a dynamic image using Dell Image Assist Dynamic

Prerequisites

If you are using the Hyper-V Manager to capture the image, ensure that you switch from **Enhanced session** to **Basic session** before capturing the image.

Steps

1. On the Image Assist home page, in the **Create Dynamic Image** card, click **GET STARTED**.
2. To create a bootable Image Assist USB drive or ISO file, select **Yes**.

   (i) **NOTE:** If you are using Hyper-V Manager, you can only create a bootable ISO file. If you are using VMware Workstation Pro, you can create a bootable USB drive or a bootable ISO file.

3. To include SupportAssist for Business PCs to your custom image, select **Yes**.

   SupportAssist for Business PCs monitors each PC and proactively detects both hardware and software issues. If you include SupportAssist in your custom image, further configuration is necessary to activate SupportAssist and start managing your PC fleet. For more information about the configuration, see the *Configuring and deploying SupportAssist (Dell Image Assist or Dell Ready Image)* section in the *SupportAssist for Business PCs Deployment Guide* available on the SupportAssist for Business PCs documentation page.

   (i) **NOTE:** To install SupportAssist for Business PCs, .NET Desktop Runtime version 6.0.1 or later must be installed on the PC fleet. See Microsoft .NET 6.0. .NET Desktop Runtime version 7.0.x and 8.0.x are not supported.

4. To enable Image Assist to create a Sysprep answer file, select one of the following options and click **NEXT**.
   - To create an Unattend XML file, select **Create Unattend XML**.
   - To import an existing Sysprep answer file, click **Import previously created Unattend XML**.
5. For Windows 10: To retain system user settings such as start menu layout, taskbar layout, desktop wallpaper, desktop icons, and desktop settings, select **Retain Current User Settings** in the **Use customized default profile** section.

   (i) **NOTE:** If you are using the Windows 11 operating system, you can choose to retain the system user settings in the **CopyProfile** section on the **Create Unattend XML** page. **CopyProfile** does not retain Start menu and taskbar layouts.

   (i) **NOTE:** The Office 365 icons that are pinned to the taskbar and retained in the current profile are not captured in the Dynamic image.

   (i) **NOTE:** The default Microsoft icons that are pinned to the taskbar may be captured in the Dynamic image even if you have unpinned the icons from the taskbar.

6. If you have chosen to create a bootable Image Assist USB drive, insert a USB drive, click **OK**, and then click **CREATE USB**.
7. On the **Create Unattend XML** page, enter the required information, review and change the selections, if necessary, and then click **CREATE UNATTEND**. See Creating an Unattend XML file.
   The Unattend XML file is created and then the image is checked for common build errors.
8. If failures are detected during the **Check Image** process, click **RESOLVE ISSUES** and the tool helps fix the issues. For more information about the common build errors, see Checking the image.
   - If the issues are resolved, a confirmation message is displayed.
   - If the issues are not resolved, click the corresponding **Failed** link and review the issue description to solve the issues manually.

(i) **NOTE:** To resolve driver issues, you can attempt to uninstall the drivers from the device manager or see the vendor documentation for uninstallation instructions.

(i) **NOTE:** To resolve software issues, you can attempt to uninstall the software from **Add or remove programs**.

- If you are unable to solve the issues manually, and need assistance, contact the Dell OS Imaging Helpdesk. To contact the helpdesk, on the Image Assist Dynamic home page, click (?) and click **Get Support**.

9. To auto capture the image, click **CAPTURE IMAGE** or wait for the capture process to start automatically.
   To modify the capture settings, click **CANCEL** before the countdown ends.

   After the image is captured, a confirmation window is displayed.

10. Click **COPY** to save the WIM file to a USB drive or to a different location.

    (i) **NOTE:** You must test the image before you submit it to Dell factory. For more information, see Restore and test image.

    (i) **NOTE:** To automate the restore process, save the dynamic image in the **Dell_Images** folder, and the driver packs in the **Dell_Driver_Packs_Local** folder.

11. Note the path where the file is saved and click **SHUT DOWN** to turn off the system.

Restore and test image

Related video: How to capture and restore a dynamic image using Dell Image Assist Dynamic

About this task

Restoring a Dynamic image and drivers enables you to test your WIM file before you submit it to Dell factory.

(i) **NOTE:** If you are restoring a Reference image, there is no option to select drivers.

(i) **NOTE:** If you have included SupportAssist in your custom image, further configuration is necessary to activate SupportAssist. Therefore, SupportAssist may not be available for testing until the configuration and activation are complete. For more information about the configuration, see the *Configuring and deploying SupportAssist (Dell Image Assist)* section in the *SupportAssist for Business PCs Deployment Guide* available on the SupportAssist for Business PCs documentation page.

Steps

1. Boot to the Image Assist Dynamic USB drive or ISO file.
2. On the **Welcome to Image Assist Dynamic WinPE** page, in the **Restore Image** card, click **RESTORE**.
   The **Restore Image** page is displayed.
3. Click **BROWSE**, select the WIM file that you want to restore, and then click **OK**.
4. Click **BROWSE**, go to the location where the driver is saved, and then click **OK**.

   (i) **NOTE:** If a valid driver pack is not detected, an error message is displayed.

5. To edit the partitions, click **EDIT PARTITIONS**.
6. Click **RESTORE IMAGE**.
   After the image is restored, a confirmation window is displayed.
7. In the **Restore process complete** window, perform one of the following steps:
   - Click **SHUT DOWN** to turn off the system.
   - Click **REBOOT** to immediately restart the restored system.

Image Assist Dynamic tools

Additional tools are recommended for system administrators or users familiar with Image Assist.

Create a bootable USB drive or ISO file

Related video: How to create a bootable Image Assist USB drive or ISO file

About this task

Create a bootable USB drive or ISO file that you can use to capture and restore images.

ⓘ **NOTE:** If you are using Hyper-V Manager, you can only create a bootable ISO file. If you are using VMware Workstation Pro, you can create a bootable USB drive or a bootable ISO file.

Steps

1. On the Image Assist home page, click ⚙ and click **Additional Tools**.
2. In the **Create USB Drive or ISO File** card, click **CREATE**.
   The **Create USB Drive or ISO file** page is displayed.
3. Select one of the following options:
   - **Bootable USB**—to create a bootable USB drive.
   - **Bootable ISO**—to create a bootable ISO file.
4. If you selected **Bootable USB**, perform the following steps:
   a. If a USB drive is not connected to the system, Image Assist displays a message prompting you to connect a USB drive. To continue, click **OK**, connect the USB drive, and then click **RESCAN**.
      After the scan, the USB drive is automatically detected and the disk name is displayed.
   b. Click **CREATE USB**.
      The bootable Image Assist USB drive is created, and a confirmation message is displayed.
   c. Remove the USB drive and then click **OK**.
5. If you selected **Bootable ISO**, perform the following steps:
   a. By default, the ISO file is saved in the C:\ drive. To change the path, click **BROWSE** and select a folder.
   b. Click **CREATE ISO**.

Results

The bootable Image Assist ISO file is created, and a confirmation message is displayed.

Creating an Unattend XML file

Related video: How to create an unattend XML file using Image Assist

Image Assist detects the system settings and creates an Unattend XML file that is used in the Sysprep process while preparing the image. This file enables you to customize the Windows installation to eliminate manual configuration of each system.

The Unattend XML file does not contain all the settings available in Windows System Image Manager. If you require additional settings, open the Unattend XML file in Windows System Image Manager and configure the additional settings.

ⓘ **NOTE:** Ensure that you validate and test the Unattend XML file before submitting the image to Dell.

The following table describes the various fields and options that you can configure while creating the Unattend XML file:

Table 1. Fields and description of the Unattend XML file

Fields and options	Description
Owner and Organization	Customize your Windows Setup by providing the registered owner and organization.
Microsoft Licensing Model	Activates your copy of Windows. For more information, see Windows Licensing.
Language Settings	Select the primary language settings of the operating system.
Time Zone	Select the time zone for the destination systems.
Workgroup or Domain	Specify a workgroup or domain.
Computer Name	Provides an autogenerated system name or allows you to customize the system name.
Administrator Password	Provide the administrator password for all destination systems.
User Account Creation	Create a local system administrator account and set a password.
Local System Administrator Account	Enable the local system administrator account.
CopyProfile	Retain system user settings such as desktop wallpaper, desktop icons, and desktop settings.
User Account Control (UAC)	Select different User Account Control attributes which help prevent unauthorized changes to the operating system.
Additional Synchronous Commands	Add commands that automatically run synchronously at the end of the setup process.
First Logon Commands	Configure Windows to automatically run a command when a user logs in for the first time.

Create an Unattend XML file

Steps

1. On the Image Assist home page, click ⚙ and click **Additional Tools**.
2. In the **Create Unattend XML** card, click **BUILD**.
   The **Create Unattend XML** page is displayed.
3. Perform the following steps:
   a. In the **Owner and Organization** section, enter the registered owner and organization.
   b. In the **Microsoft Licensing Model** section, if you have installed your operating system using the Original Equipment Manufacturer (OEM) license, **OEM** is selected by default. If **VLA** is detected, in the **Volume Licensing Type** section, select **Multiple Activation Key (MAK)** or **Key Management Server (KMS)**.
   c. In the **Language Settings** section, select a language.
   d. In the **Time Zone** section, select a time zone for the destination systems.
   e. In the **Workgroup or Domain** section, select **Workgroup** or **Domain**.

      If you select **Domain**, you are prompted to enter the username and password of your domain.
   f. In the **Computer Name** section, assign a name to the destination system.
   g. In the **User Account Creation** section, select **Prompt end user to create a local admin account and set password** to create a local admin account and set a password.
   h. In the **Local System Administrator Accounts** section, select **Enable Local System Administrator Account** to enable the local admin account.
   i. In the **CopyProfile** section, select **Retain current user settings** to retain the system user settings such as desktop wallpaper, desktop icons, and desktop settings.
   j. In the **User Account Control** section, select an appropriate option to prevent unauthorized changes to the operating system.

k. In the **Additional Synchronous Commands** section, enter the commands that you want to automatically run synchronously at the end of the setup process and click the + icon.

l. In the **First Logon Commands** section, enter the commands to configure Windows to automatically run a command the first time a user logs in and click the + icon.

4. Click **CREATE UNATTEND**.

Results

The Unattend XML file is created and saved at `%SYSTEMDRIVE%\Windows\Panther`.

Checking the image

Related video: How to check an image for errors

Image Assist performs multiple checks to ensure that the system is ready for Sysprep and image capture. It also validates the software for common build errors that would prevent Dell from successfully deploying the image in the factory.

Image Assist checks the following sections of the operating system:

- Registry
- Services
- ReArm
- Policy
- Sysprep
- Unattend XML
- AppX package
- Software
- Drivers

The most common build errors that you may encounter are:

- Installed device drivers
- Appx Sysprep failures
- Configured encryption software
- Errors in the Unattend XML file

Image Assist checks if the Unattend. XML file is available at `%SYSTEMDRIVE%\Windows\Panther`. It also checks if all the required entries are available in the generalize section and adds the missing entries, if any.

Image Assist also checks if any of the following software, drivers, tools, or applets are available in the system or virtual machine. If any of the following are found, the image may not be processed successfully at Dell factory. You must uninstall them, recapture the image, and then resubmit a compliant image.

- Tools and drivers
  - VMware Tools
  - Windows Update drivers
- Software
  - Common third-party software which may cause known conflicts with deployment
  - Remote management programs that automatically install drivers such as, Symantec pcAnywhere and Netop
  - Modem dialing software that requires Dial-Up Networking (DUNS) connections
  - Authentic, Energetic, Reflective, and Open (AERO) should be disabled on the build base
  - A fully enabled encryption technology such as BitLocker, PGP (Whole Disk Encryption), and so on
  - Dell OpenManage Client Instrumentation (OMCI)

    You can install OMCI after deploying the image, because the OMCI version may vary depending on your target system.

  - Faronics Deep Freeze software
- Dell applets
  - Conexant D330 Modem Digital Line Detect v.92 Modem
  - Dell ControlPoint
  - Dell Data Protection
  - Dell TrueMobile Wireless clients
  - Dell broadband clients

- Intel Rapid Start Technology
- Audio clients
- Video control panels

(i) **NOTE:** If you use a physical system as your build base, disconnect the network cable and disable the wireless device on the system to prevent automatic driver installation.

(i) **NOTE:** If you edit the registry, log file, or the file location where Image Assist is checking, the image may be rejected.

Check the image

Steps

1. On the Image Assist home page, click ⚙ and click **Additional Tools**.
2. In the **Check Image** card, click **Validate**.
   The **Check Image** page is displayed. Image Assist checks the image and verifies the registry, files, rearm, Sysprep, software, driver, policy, and Unattend.XML.
3. If failures are detected during the **Check Image** process, click **RESOLVE ISSUES** and the tool helps fix the issues. For more information about the common build errors, see Checking the image.
   - If the issues are resolved, a confirmation message is displayed.
   - If the issues are not resolved, click the corresponding **Failed** link and review the issue description to solve the issues manually.
     (i) **NOTE:** To resolve driver issues, you can attempt to uninstall the drivers from the device manager or see the vendor documentation for uninstallation instructions.

     (i) **NOTE:** To resolve software issues, you can attempt to uninstall the software from **Add or remove programs**.
   - If you are unable to solve the issues manually, and need assistance, contact the Dell OS Imaging Helpdesk. To contact the helpdesk, on the Image Assist Dynamic home page, click ⑦ and click **Get Support**.

Capture a Reference image

Related video: How to capture a reference image using Dell Image Assist

About this task

Optionally, Image Assist allows you to capture a Reference image that can be used as a snapshot or restore point. This image is not Syspreped and is not valid for factory use. When you are restoring a Reference image, there is no option to select drivers.

Steps

1. On the Image Assist home page, click ⚙ and click **Additional Tools**.
2. In the **Capture Reference Image** card, click **CAPTURE**.
   The **Prepare Reference Capture** page is displayed.
3. Click **RUN** to capture the Reference image.
   After the capture process is complete, the system is restarted and the **Capture Dynamic Image** page is displayed.
4. To auto capture the image, click **CAPTURE IMAGE** or wait for the capture process to start automatically.

   To modify the capture settings, click **CANCEL** before the countdown ends.

   After the image is captured, a confirmation window is displayed.
5. Click **COPY** to save the WIM file to a USB drive or to a different location.
   (i) **NOTE:** You must test the image before you submit it to Dell factory. For more information, see Restore and test image.

   (i) **NOTE:** To automate the restore process, save the dynamic image in the **Dell_Images** folder, and the driver packs in the **Dell_Driver_Packs_Local** folder.
6. Note the path where the file is saved and click **SHUT DOWN** to turn off the system.

Split a WIM file

Related video: How to split a WIM file using Dell Image Assist

About this task

Image Assist allows you to split a Windows image (.wim) file into a set of smaller .swm files. If your .wim file size is too large to store on a FAT32 USB drive, you can split the .wim file so that it can be stored on the USB drive.

Steps

1. On the Image Assist home page, click ⚙ and click **Additional Tools**.
2. In the **Split WIM File** card, click **SPLIT**.
   The **Split WIM File** page is displayed.
3. Click **Browse** and select the .wim file.
4. Click **Split**.
   The WIM file is split into multiple .swm files and saved in the same folder where the .wim file is available.
5. On the confirmation window, click **OK**.

Using Image Assist Dynamic on virtual machine

You can create an image using a physical system or a virtual machine. But, it is recommended that you use a virtual machine to create an image. If you are using a physical system, it is recommended that you use a Dell OptiPlex, Dell Latitude, or Dell Precision system.

The following are the advantages of using a virtual machine to create an image:

- Lesser development time
- Ability to create and use snapshots or checkpoints to test different configurations quickly
- No hardware issues
- Prevents the installation of other applications which may be installed as part of a driver installation
- Easy to navigate between lab, test, and production environments
- Easy to recapture an image even after modifications and additions to the operating system
- Minimum failures while resolving issues during the **Check Image** process

(i) **NOTE:** If you use a physical system, more time is required to create an image because of the hardware drivers that are installed during the process.

(i) **NOTE:** If you use a physical system to build the dynamic image, ensure that you do not connect the system to the Internet.

Supported virtual machines

Image Assist Dynamic supports Hyper-V and the two most recent versions of VMware Workstation. Other virtual machine technology solutions may work, but have not been fully validated with Image Assist Dynamic.

The following table describes the key features and the support with each of the virtual machines:

Table 2. Key features of virtual machines

Key features	VMware Workstation Pro	Hyper-V
UEFI support	Supported	Supported
Native USB support	Supported	Not supported
Snapshot or Checkpoint capability	Supported	Supported

Using VMware Workstation Pro

This section provides information about using VMware Workstation Pro to set up a virtual machine.

After the virtual machine is set up, you can download, install, and use Image Assist. For more information, see Getting started with Image Assist and Using Image Assist Dynamic.

Create a new virtual machine in VMware Workstation Pro

Related video: How to create a virtual machine in VMware Workstation Pro

Prerequisites

You must have VMware Workstation Pro installed on your system.

Steps

1. Open the VMware Workstation Pro application and click **Create a New Virtual Machine**.
   The **New Virtual Machine Wizard** page is displayed.
2. Click **Next**.
3. On the **Guest Operating System Installation** page, select one of the following options and click **Next**.
   - **Installer disc**
   - **Installer disc image file (ISO)**
   - **I will install the operating system later**
   The **Select the Guest Operating System** page is displayed.
4. Select the guest operating system and from the **Version** list, select the version of the operating system.
5. Click **Next**.
   The **Name the Virtual Machine** page is displayed.
6. Enter a name for the virtual machine, click **Browse**, and then select a location to save the virtual machine.
7. Click **Next**.
8. On the **Specify Disk Capacity** page, enter the required maximum disk size.
9. Select **Store virtual disk as a single file**, click **Next**, and then click **Finish**.

Results

The virtual machine is created.

Modify virtual machine settings in VMware Workstation Pro

Steps

1. Open the VMware Workstation Pro application, select the virtual machine from the left pane, and then click **Edit virtual machine settings** from the right pane.
2. On the **Hardware** tab, perform the following steps:
   a. Click **Memory** and change the value of **Memory for this virtual machine** from 1024 MB to 4096 MB or greater.
   b. Click **Processors** and update the number of processors to a minimum of 4.
   c. Click **Sound Card** and clear **Connect at power-on**.
3. If you are using Windows 11, perform the following steps:
   a. On the **Options** tab, click **Access Control**, click **Encrypt**, and then enter a password.
   b. Power off the virtual machine and click **Edit virtual machine settings**.
   c. On the **Hardware** tab, click **Add**.
   d. In the **Add Hardware Wizard** window, select **Trusted Platform Module** and click **Finish**.
4. Click **OK**.

Install Windows on VMware Workstation Pro

Related video: How to install Windows 11 on VMware Workstation Pro

Steps

1. Open the VMware Workstation Pro application, select the virtual machine from the left pane, and then click **Power on this virtual machine** from the right pane.
2. Press any key on your keyboard to boot from CD or DVD.
3. Enter your language, select other preferences, and then click **Next**.
4. Click **Install Now**.
   If the **Activate Windows** page is displayed, perform one of the following steps:
   - To use the Windows MAK volume license, enter a product key.
   - To use OEM version of Windows, click **I don't have a product key**.
5. Select the operating system that you want to install and click **Next**.
6. Read and accept the license agreement and then click **Next**.

7. Select **Custom: Install Windows only (advanced)**.
8. Select the unallocated space and click **Next**.
   The Windows operating system is installed, and the virtual machine is restarted.
9. Select the region and keyboard layout, set up the network if required, and then click **Connect now**.
10. Enter the username, password, and other preferences for the system, and then click **Next**.

Results

The Windows operating system is installed on the virtual machine and you can download, install, and use Image Assist to create an image.

Connect a USB drive to VMware Workstation Pro

Prerequisites

Ensure that a USB drive is connected to the host system.

Steps

1. On the VMware Workstation Pro home page, go to **VM** > **Removable devices** > **USB device** > **Connect (Disconnect from host)**.
2. Click **OK**.

Boot from CD or DVD ISO file in VMware Workstation Pro

Steps

1. Open the VMware Workstation Pro application, select the virtual machine from the left pane, and then click **Edit virtual machine settings** from the right pane.
2. In the **Hardware** tab, click **CD/DVD (SATA)**.
3. Select **Use ISO image file**, click **Browse**, and then select the ISO file.
4. Click **Open** and click **OK**.

Using Hyper-V Manager

This section provides information about using Hyper-V Manager to set up a virtual machine.

After the virtual machine is set up, you can download, install, and use Image Assist. See Getting started with Image Assist and Using Image Assist Dynamic.

⚠ **CAUTION: Before you restore and test your image, ensure that the size of the drive in Hyper-V Manager is larger than the attached external hard drive.**

Enable Hyper-V Manager on Windows

Related video: Activating Hyper-V Manager

Steps

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**.

Results

Hyper-V Manager is enabled and your system name is displayed below the Hyper-V Manager title.

(i) **NOTE:** If you are using an older version of Hyper-V Manager on your system, the virtual machine is not enabled and your system name is not displayed below the Hyper-V Manager title. To enable Hyper-V Manager again, clear the Hyper-V option in the **Windows Features** window, and restart your system. After restart, perform the steps again to enable the Hyper-V Manager.

Create a virtual machine in Hyper-V Manager

Related video: How to create a virtual machine in Hyper-V Manager

Steps

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**.

Install Windows on Hyper-V Manager

Related video: How to install Windows 11 on Hyper-V Manager

Steps

1. Open **Hyper-V Manager**, select your virtual machine, and in the **Actions** pane, click **Connect**.
2. Press any key on your keyboard to boot from CD or DVD.
3. Enter your language, select other preferences, and then click **Next**.
4. Click **Install Now**.
   If the **Activate Windows** page is displayed, perform one of the following steps:
   ● To use the Windows MAK volume license, enter a product key.
   ● To use OEM version of Windows, click **I don't have a product key**.
5. Select the operating system that you want to install and click **Next**.
6. Read and accept the license agreement and then click **Next**.
7. Select **Custom: Install Windows only (advanced)**.
8. Select the unallocated space and click **Next**.

The Windows operating system is installed, and the virtual machine is restarted.

9. Select the region and keyboard layout, set up the network if required, and then click **Connect now**.
10. Enter the username, password, and other preferences for the system, and then click **Next**.

   After Windows is configured, you can connect the system host hard drive and USB to the virtual machine, if required.

11. In the **Connect to my VM** window, click **Show Options** and click the **Local Resources** tab.
12. Click **More** and select **Drivers** and **Other supported Plug and Play (PnP) devices**.
13. Expand the lists to verify if all the options are selected and click **OK**.
14. Select the **Display** tab, select **Save my settings future connection to this virtual machine** option, and then click **Connect**.
15. Log in to your system and verify if the hard drive is connected.

Results

The Windows operating system is installed on the virtual machine and you can download, install, and use Image Assist to create an image.

ⓘ **NOTE:** Ensure that you switch from **Enhanced session** to **Basic session** before capturing the image.

Frequently asked questions

1. **How many Windows images should I capture for my Image Assist project?**

   You can capture several images using Image Assist. However, it is recommended that you capture the following images:

   - Reference or Maintenance image—the image captured before the sysprep process.
   - Gold or Dynamic image—the image captured after the sysprep process.

2. **Can I use a virtual machine to build an image?**

   Yes, it is recommended to use a virtual machine to build an image. For more information, see Using Image Assist Dynamic on virtual machine.

3. **Can I use the default Dell factory installed operating system to create a Dynamic image?**

   No, Dell factory installed operating systems are not supported by Image Assist Dynamic. You must format the hard drive and rebuild the image using your operating system media.

4. **What backups should I capture while creating an image?**

   You must backup the following:

   - Base—this backup is the operating system installed with customized profile changes. It also includes the Windows updates without drivers.
   - Base and Apps—this backup may include multiple images or snapshots as you test the functionality of scripts that may have to be processed for first logon or to run synchronous commands.
   - Reference or Maintenance—this backup is the image that is configured before you install Image Assist. This snapshot can be used for updating the image periodically.

5. **What languages is the Image Assist user interface available in?**

   The user interface is available in all Microsoft operating system languages and German, Dutch, English, Spanish, French, Italian, Japanese, Korean, Brazilian Portuguese, Chinese Simplified, and Chinese Traditional. If Image Assist does not support your operating system language, the user interface is displayed in English.

6. **Where are the driver packs for Image Assist located?**

   The driver packs for Image Assist are available at Dell.com/FamilyPacks.

7. **Can I create an Unattend XML file without completing the sysprep process?**

   Yes, you can create an Unattend XML file using **Additional Tools**. For more information, see Create an Unattend XML file.

8. **How do I check if my build base contains drivers or software that are not compatible with Image Assist?**

   The **Check Image** process verifies if your build base contains incompatible drivers or software. For more information, see Checking the image.

9. **Why are there more recent drivers on Dell.com/support?**

   Drivers used during the development process are tested and qualified by our Dell Product Group for both platform and factory integration. At times, newer drivers are provided by vendors. To provide the drivers to customers quickly, the drivers are validated and posted on Dell.com/support.

10. **Are there known issues with some USB drives during restore?**

    Yes, we have seen drives from some manufacturers not performing as expected with the read or write functionality. If you have issues when you create, boot, capture, or restore an image, try a different drive or USB port.

11. **Can I create an ISO version of the Image Assist USB drive?**

    Yes, you can create an ISO version of the Image Assist USB drive by using **Additional Tools**. For more information, see Create a bootable USB drive or ISO file.

12. **Why do I see alignment issues when I boot from the USB PE key?**

WinPE supports the base VGA display settings. Therefore, the display in the WinPE environment might not be aligned properly. Some text may also be cut off, and window elements may not be positioned properly. Also, on some systems, video cards and monitors may not be able to display full resolution graphics. For more information, see Technet.microsoft.com.

13. **Where can I download Hyper-V Manager?**

   Hyper-V Manager is a Windows integrated optional feature. For more information about Hyper-V Manager, see Using Hyper-V Manager.

14. **Where can I find more information about Image Assist?**

   For more information about Image Assist, go to the Dell Image Assist page.

Glossary

The following table describes the terms used in this guide:

Table 3. Glossary

Name	Description
Image	The image is a file encapsulating the operating system, software, and settings configured on the system.
Reference or maintenance image	To prepare a Reference build, several tasks must be performed such as installing an operating system, running Windows updates, configuring desktop, customizing policies, and so on.
	Eventually, you may want to update the build base by installing additional Windows updates, updating applications, changing the policies, and so on. To save time from creating an image each time, you can backup the system state before you run Image Assist Dynamic. This image is called the Reference or Maintenance image.
	The Reference or Maintenance image is an image that you maintain when you want to make updates to the Gold or Dynamic image.
Gold or Dynamic image	The Gold or Dynamic image is an image produced at the end of the Image Assist Dynamic process.
	The image is used in the Dell factory for shipping systems with dynamically updated drivers. It can also be used to reimage your systems onsite by using the bootable USB drive created by Image Assist Static.
Unattend XML	The Unattend XML is an XML file that contains settings, definitions, and values that are used during Windows Setup.
	In this file, you can specify various setup options such as time zone, default language, domain-specific settings, product key, organization name, system name, and so on. You can also specify values related to Windows installation, such as first logon commands, additional synchronous commands, and so on.

Resources

This section provides information about the documentation resources and other useful links that provide more information about Image Assist.

Table 4. Documentation

For more information about	See	Available at
How to install and use Image Assist Dynamic for Multiple Platforms	*Image Assist Dynamic for Multiple Platforms Online Help*	On the Image Assist Dynamic home page, click ⑦.
	Image Assist Dynamic for Multiple Platforms User's Guide	Image Assist documentation
How to install and use Image Assist Static for Single Platform	*Image Assist Static for Single Platform Online Help*	On the Image Assist Static home page, click ⑦.
	Image Assist Static for Single Platform User's Guide	Image Assist documentation
Summary of recent changes, enhancements, known issues, fixes, and limitations in the release	Image Assist Release Notes	Image Assist documentation
Using VMware Workstation Pro or Hyper-V Manager to download, install, and use Image Assist	Image Assist Virtualization Tutorials	Dell Image Assist Virtualization Tutorials
Image Assist benefits and features	Image Assist home page	Image Assist
Image Assist for PCs peer-to-peer questions and discussions	Image Assist community page	Image Assist Community

Videos

- How to set up Image Assist
- How to capture and restore a dynamic image using Dell Image Assist Dynamic
- How to create a bootable Image Assist USB drive or ISO file
- How ro create Unattend XML using Dell Image Assist
- How to check an image for errors
- How to capture a reference image using Dell Image Assist
- How to split a WIM file using Dell Image Assist
- How to create a virtual machine in VMware Workstation Pro
- How to install Windows 11 on VMware Workstation Pro
- Activating Hyper-V Manager
- How to create a virtual machine in Hyper-V Manager
- How to install Windows 11 on Hyper-V Manager