

Overview

Deployment Options

New and Improved in Windows 7

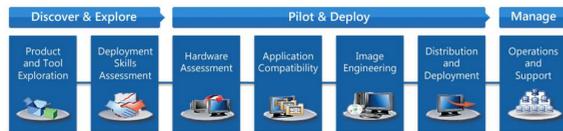
Windows 7 builds on the technologies introduced in the Windows Vista operating system to streamline desktop deployment. Improvements include:

- Improved application and hardware readiness**
Windows 7 natively mitigates an extended and prioritized list of applications. It also provides more ways for users to apply compatibility modes by using troubleshooting features to help mitigate incompatible or unknown applications. In addition, Windows 7 simplifies assessment and readiness for IT professionals with free tools like the Application Compatibility Toolkit (ACT) and the Microsoft Assessment and Planning (MAP) Toolkit.
- Enhanced imaging and file delivery**
With Windows 7, you have more options for building images and can service images (including virtual hard disk images) throughout the lifecycle with tools like Deployment Image Servicing and Management (DISM), Windows Deployment Services (WDS), and the Microsoft Deployment Toolkit (MDT).
- Streamlined installation and file migration**
Windows 7 improves the installation experience with a faster and more consistent setup, powerful task sequencing tools, and faster transfer of user files and settings. Windows 7 also gives you more tools to reduce or eliminate the deployment impact to users.

The Deployment Process

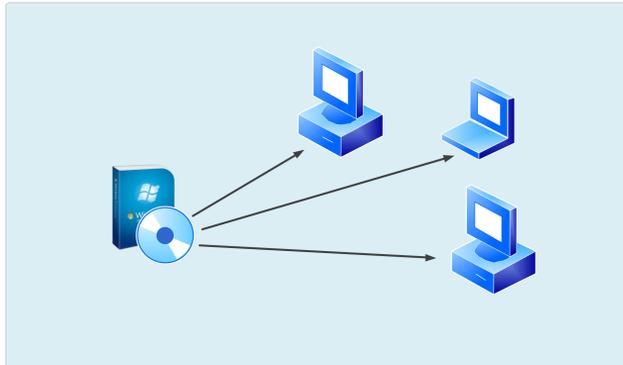
Traditionally, operating system deployment involves the collection of existing user data and settings, installation of the new operating system along with drivers and applications, and activation of the operating system followed by the restoration of user data and settings and the customization of applications, language preferences, and other user-specific items.

For the IT professional working in a small or midsize business, it is often necessary to take a holistic approach to deployment—one that includes preliminary steps such as exploring new features and tools, updating your deployment skills, and conducting a pilot or proof of concept that demonstrates to management the value of upgrading to the latest operating system.



- Product and Tool Exploration**
Learn about the latest features for end users, the newest improvements for IT professionals, free deployment tools, and changes in deployment and manageability for Windows 7. Visit <http://technet.microsoft.com/windows/discover-and-explore-windows-7>.
- Deployment Skills Assessment**
Quickly identify the strengths and gaps in your knowledge of the latest planning and deployment processes by visiting the Windows 7 Deployment Learning Portal on TechNet <http://technet.microsoft.com/windows/deployment-learning-portal>.
- Hardware Readiness Assessment**
Simplify the process of determining if your organization's computers can run Windows 7 effectively, and find out if hardware or driver upgrades might be needed, with the free Microsoft Assessment and Planning Toolkit available at www.microsoft.com/map.
- Application Compatibility/Software Assessment**
Applications typically pose the biggest obstacle for operating system upgrades. Conduct a thorough inventory of all critical business applications, and evaluate the runtime compatibility of those applications, with the free Application Compatibility Toolkit from Microsoft. Use the tool to remediate/fix applications or explore other compatibility solutions at <http://technet.microsoft.com/windows/appcompat>.
- Imaging**
With the Windows Imaging Format (WIM), a file-based compressed image, it is now possible to build a single image per operating system architecture for all hardware types and languages. Select the imaging strategy that best fits your company's needs:
Thick Image – Build an image on a reference machine, install all applications, and apply all updates to the operating systems and the applications; this results in a very large single image that can be deployed across the organization.
Thin Image – Install little or nothing on the reference machine, capture the image, and customize during deployment; this strategy is very simple and easy to implement
Hybrid Image – Build an image on a reference machine, install the core applications that everyone in the company uses, and do additional customization during deployment; this is a combination of the two other strategies
Imaging tools have come a long way since the days of sector-based drive cloning made popular during the Windows XP days. Utilize imaging tools like the Windows Automated Installation Kit (AIK), DISM, the Windows Pre-installation Environment (WinPE), and MDT to build, customize, deploy, and maintain images effectively.
- Distribution and Deployment**
This poster presents a detailed overview of the methods you can use to deploy Windows 7 in your organization: manual installation, standard image, and automated installation. Select the deployment method that will best enable you to streamline the migration process.
- Operations and Support**
Windows 7 offers powerful scripting capabilities, advanced troubleshooting features, and flexible administrative control features to help you increase automation, improve user productivity, and meet compliance requirements. Now, with the cloud-based Windows Intune™ service, you can also easily manage and support your desktop environments remotely. Learn more at <http://technet.microsoft.com/windows/windows-intune>.

Manual Installation



Description

This is a hands-on, manual deployment of Windows 7 that involves:

- Manual installation of the operating system installation from the retail or volume license (VL) media
- Manual installation of applications from their media
- Manual configuration of each client computer

This method incorporates minimal automation and is recommended for organizations with a small number of client computers and a single edition of the Windows 7 operating system.

Want step-by-step instructions? Visit <http://technet.microsoft.com/library/ee523221.aspx>.

Advantages

- Works well for small businesses
- Does not require a significant investment
- Easy to implement if you have no information technology (IT) staff or an IT staff without deployment experience
- Can help save money and resources in a small, unmanaged network environment
- Flexibility — can customize each machine based on the user's needs and preferences
- Allows for manual activation or activation via the Key Management Service (KMS)

Limitations

- Can be a time-consuming process
- Doesn't scale to larger organizations, because it requires media (USB hard disk, DVDs, and so on) and a technician to deploy Windows 7 to the client computer
- Using one Unattend.xml file with multiple Windows 7 editions is not supported, as each Windows edition can expose different features and settings through the file
- Doesn't support in-place upgrades—you have to refresh computers with a new Windows 7 installation and transfer user data and settings using a tool like Windows Easy Transfer

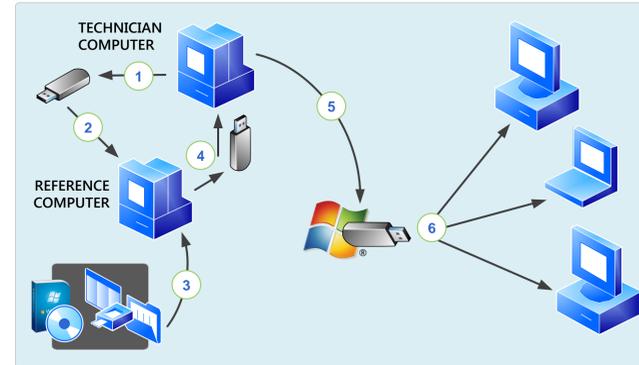
Requirements

- Windows 7 installation media (retail or Volume License)
- Windows SIM from the Windows Automated Installation Kit (optional)
- A USB flash drive (UFD) on which to store the Unattend.xml file

Tools

- Windows Automated Installation Kit - <http://technet.microsoft.com/library/dd349343.aspx>
- Windows Setup or Windows Easy Transfer

Standard Image



Description

The Standard Image method is similar to Manual Installation, but uses an operating system image that includes a base image with customizations and standard applications. Creation of the custom image for the Standard Image method is an online process, which means that you:

- Install Windows 7 on a reference computer
- Customize it as required by installing applications, device drivers, and updates
- Capture the custom image and deploy that image to your client computers.

This method is recommended for organizations with up to 200 client computers and a small network, possibly in multiple locations. It is ideal for businesses that have an information technology (IT) generalist on staff and that often use partners to help with technology adoption.

Want step-by-step instructions? Visit <http://technet.microsoft.com/library/ee523217.aspx>.

Advantages

- Faster and more efficient deployment process (than Manual Installation)
- Helps automate installation, allowing you to bypass interaction with the Setup program during installation
- Supports the creation and deployment of a custom image
- Fewer problems and reduced support issues, because configurations are consistent across all client computers
- Allows many updates to the standard image to be performed offline (without having to install, customize, and recapture the image)
- Allows for manual activation or activation via the Key Management Service (KMS)

Limitations

- Doesn't scale to larger organizations, because it requires media (USB hard disk, DVDs, and so on) and a technician to deploy Windows 7 to the client computer
- Works best with one image, i.e. if your business has similar applications and configurations across most of its client computers
- Works best when you rarely change images—licensing restrictions limit the number of times that you can update an image to which you apply the Sysprep online
- Doesn't support in-place upgrades—you have to refresh computers with a new Windows 7 installation and transfer user data and settings using a tool like Windows Easy Transfer

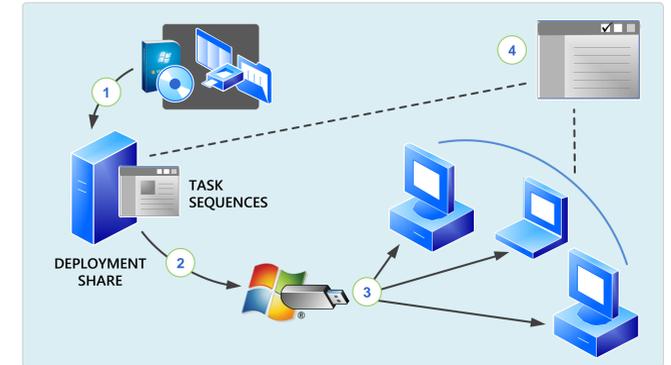
Requirements

- Windows 7 Volume License media provided by Microsoft
- Windows Automated Installation Kit (AIK)
- USB flash drive (UFD) or USB hard disk from which to install the standard image
- Reference computer on which to create and customize the standard image

Tools

- Microsoft Application Compatibility Toolkit - <http://technet.microsoft.com/library/cc722055.aspx>
- Windows Automated Installation Kit - <http://technet.microsoft.com/library/dd349343.aspx>
- ImageX
- Sysprep

Automated Installation



Description

The Automated Installation method requires some manual interaction at the beginning of installation, but the remainder of the process is automated using the Microsoft® Deployment Toolkit (MDT), the deployment tools in the Windows 7 operating system, and the Windows Automated Installation Kit (AIK). The basic process is as follows:

- Create a deployment share. Stock it with the operating system, applications, device drivers, and updates.
- Build a task sequence for each configuration you want to deploy.
- Create and copy boot images to portable storage device. Deploy the images to your client computers.

This is the recommended method for organizations with 200-500 client computers; at least one location with more than 25 users; and a dedicated, managed network based on Windows Server®, possibly in multiple locations. It is ideal for businesses with an information technology (IT) staff that sometimes use partners to help with technology adoption.

Want step-by-step instructions? Visit <http://technet.microsoft.com/library/ee523213.aspx>.

Advantages

- Helps reduce deployment and support costs by automating application, device driver, and update installation as well as operating system configuration
- Easier to build and maintain over time
- Fewer problems, because configurations are consistent across all client computers.
- Scalable—as your business grows, you can easily extend MDT 2010 to provide a nearly zero-touch experience by doing nothing more than configuring a database and deploying the Windows Deployment Services role.
- Allows for manual activation or activation via the Key Management Service (KMS)

Limitations

- Works best for midsize organizations
- Requires a file server
- Requires Systems Center as part of the infrastructure

Requirements

- Windows 7 Volume License (VL) media provided by Microsoft
- Microsoft Assessment and Planning (MAP) Toolkit
- Microsoft Deployment Toolkit (MDT)
- Application Compatibility Toolkit (ACT)
- Windows Automated Installation Kit (AIK)—which includes the User State Migration Toolkit (USMT)
- File server on which to store the distribution share
- One of the following: a) media with which to start client computers during deployment or b) a server configured with the Windows Deployment Services role

Tools

- Microsoft Assessment and Planning Toolkit - <http://technet.microsoft.com/solutionaccelerators/dd627342.aspx>
- Microsoft Application Compatibility Toolkit - <http://technet.microsoft.com/library/cc722055.aspx>
- Microsoft Deployment Toolkit - <http://technet.microsoft.com/solutionaccelerators/dd407791.aspx>
- Windows Automated Installation Kit - <http://technet.microsoft.com/library/dd349343.aspx>