

ManageEngine

Unified Endpoint Management and Security



A COMPREHENSIVE GUIDE ON THE
WHAT, WHY, AND HOW OF
WINDOWS 10 MIGRATION



INTRODUCTION

Microsoft released the Windows 7 operating system (OS) in 2009, and the Windows 10 OS in 2015, with several version updates released thereafter. In the global desktop OS arena, Windows 7 is a decade old but still holds a [market share](#) of 27 percent currently, while 53 percent utilize Windows 10.

Microsoft ended mainstream support for Windows 7 on January 13, 2015. For the past four years, Windows 7 has been in the extended support phase, but this will soon end. Extended Support for Windows 7 ends on January 14, 2020. When this deadline strikes, Microsoft will not provide free technical support for Windows 7, and will not release security fixes and updates. While Windows 10 is currently the most popular operating system, Windows 7 is the second most popular operating system. There is a dire need for Windows 7 users to migrate to Windows 10.



WHY SHOULD YOU MIGRATE TO WINDOWS 10?

Here are three compelling reasons why you should make your move today:

01

Microsoft has announced end of life for Windows 7.

After January 14, 2020, Microsoft will no longer provide free technical support, security updates, or patches for Windows 7. Cybersecurity experts claim that hackers are holding back potential Windows 7 exploits, ready to unleash them as soon as support ends. This leaves machines running Windows 7 woefully outdated and ripe for attack.

02

It will cost you an arm and leg to stay secure on Windows 7. Do you want to patch for a price?

If utilizing Windows 7 is necessary in your organization, even after the deadline strikes, you'll have to pay for Extended Security Updates (ESU) from Microsoft to stay secure, which is available to companies of all sizes for a hefty fee. The pricing model is on a per-device basis, with the [ESU price doubling each year](#) that it's offered.



Windows 7 Enterprise users

\$25 per device for the first year

\$50 per device for the second year

\$100 per device for the third year



Windows 7 Pro users

\$50 per device for the first year

\$100 per device for the second year

\$200 per device for the third year

Migrating from an older version of Windows to Windows 10 can take time, which is quickly running short as Windows 7 end of life approaches. Start planning your migration to Windows 10 while you still have time.

03

Windows 10 is abounding in features.

Windows 10 has a full feature palette:



Personalization of software that enables you to choose the apps that you want rather than apps forced upon you, plus you can select an **enhanced user interface**.



Consistent user experience and functionality between different endpoints.



Cross-buys where the purchased license for an app applies to all the user's compatible devices.



Must-have **security features** such as multi-factor authentication, automatic encryption of sensitive data, and preventing execution of software from unauthenticated vendors.



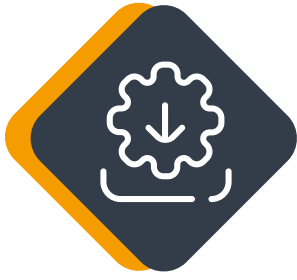
Windows 10 **automatically compresses the system files**, and the storage footprint of Windows can be reduced by 1.5 GB to 2.5 GB.



Online services and functionalities such as **Microsoft Edge**, the default web browser, and **Cortana**, Microsoft's intelligent personal assistant.

WHAT IS Endpoint Central ?

Endpoint Central is a **unified endpoint management (UEM) solution** that helps you take a holistic approach toward managing and securing endpoints such as **servers, desktops, laptops, smartphones, tablets, and point of sale (POS devices)** from a central location. Managing local offices, remote offices, and roaming users is a walk in the park with Endpoint Central. Using Endpoint Central, endpoints running **Windows, macOS, Linux, Android, iOS, iPadOS, tvOS, and Chrome OS** can be managed from a bird's-eye view. Endpoint Central's capabilities cover the entire **endpoint security and management spectrum.**



INSTALLING THE PRODUCT

To install Endpoint Central, check the following hardware and software requirements first.

- * [Hardware requirements](#)
- * [Software requirements](#) [Ports](#)
- * [used by UEM Central](#)

Once the prerequisites are met, follow these steps to install Endpoint Central:

- ▶ Endpoint Central is distributed in EXE format. Download and run the self-extracting EXE with the installation wizard.
- ▶ Follow the instructions provided within the installation wizard. This wizard will guide you through a series of instructions including the installation directory, and web server port.
- ▶ You can either install the product with the default values or change the values as required. If you are changing the web server port from the default port, which is 8020, ensure that you open the appropriate port in the firewall.
- ▶ Follow the instructions from the installation wizard until you finish the installation.



EXCLUSION FROM ANTIVIRUS

Endpoint Central and its dependent folders, like Distribution Server, and Endpoint Central Agent need to be excluded from the antivirus software to ensure hassle-free functioning. Antivirus software might restrict the Endpoint Central server from synchronizing or downloading the patch and software binaries, as well as upgrading the agent or the server to the latest version.

Follow the steps given in this [document](#) to ensure if the Endpoint Central folder has been excluded from antivirus.

Starting Endpoint Central server

Endpoint Central can be started by following any these methods:

- ▶ Navigate to **Start > Programs > ManageEngine Endpoint Central > Start Endpoint Central.**
- ▶ In the notification area of the task bar, right click on **ManageEngine Endpoint Central icon > Start Service.**
- ▶ Run **services.msc** and right click on **ManageEngine Endpoint Central Server > Start**

On starting Endpoint Central, the client is automatically launched in the default browser.

Launching the Endpoint Central client

To launch the Endpoint Central client:

- ▶ Open a **web browser** and type **http://hostname:8020** in the address bar. Here the host name refers to the DNS name of the machine where Endpoint Central is running.
- ▶ Specify the **user name and password** as **admin (default credentials)** in the respective fields and click on **Sign In**. Ensure you change the **default credentials** after you log in.



HOW SHOULD YOU MIGRATE TO WINDOWS 10 ?

Endpoint Central provides two major offerings for seamless migration to Windows 10:




Provisioning package configuration



Imaging and deploying the OS

System requirements for Windows 10

You can migrate from Windows 7 to Windows 10 only if the basic requirements for installing Windows 10 are met:

- 
- Processor**
1GHz or faster compatible processor, or system-on-a-chip (SoC)
 - RAM**
1GB for 32-bit, and 2GB for 64-bit
 - Hard drive size**
32GB or larger hard disk
 - Display**
800 x 600

Refer to [Microsoft's Windows 10 system requirements](#) for further details.



ASSESSMENT OF WINDOWS 7 MACHINES

Audit-ready reports come handy for any IT technician who is constantly juggling multiple endpoints. Such reports are generated automatically based on a predefined convention or customizable criteria. The best way to know how many machines are running Windows 7 and how many of them are eligible for the migration is to generate an automated report, and submit it to upper management for further evaluation.

1. To discover how many systems are running Windows 7:

- ▶ Navigate to the **Reports tab** from the Endpoint Central web console.
- ▶ Choose to create a **Custom Report** and provide a **name** for this report.
- ▶ The sub-module can be chosen either at computer-level or at hardware/software-level.
- ▶ Choose the **criteria** for generating the report. Here, the criteria is to check how many machines are running Windows 7. So, select the criteria as **Operating System** and provide the appropriate value.
- ▶ The final step is to customize columns that should and shouldn't be a part of the final report.
- ▶ You will be able to view the list of Windows 7 computers after generating the report.

2. To discover how many systems are eligible for Windows 10 migration:

- ▶ Navigate to the **Reports tab** from the Endpoint Central web console.
- ▶ Choose to create a **custom report**, provide a **name** for the report, and choose the **sub-module**.
- ▶ At the beginning of this section, we looked at the system requirements for installing Windows 10. Each of these requirements can be added as a criteria for generating the report. For instance, the RAM should be greater than 1GB and the disk space should be greater than 32GB.
- ▶ Upon generating this report, all the systems that meet the specified criteria will be displayed as systems that are eligible for the migration.

Depending on your IT realm and the migration environment, choose a process that is applicable to your situation:



In-place upgrade

Migrate to Windows 10 with user-specific data



Wipe-and-load

Perform a clean installation of Windows 10



IN-PLACE UPGRADE: MIGRATE TO WINDOWS 10 WHILE PRESERVING THE USER-SPECIFIC DATA

If you simply want to update from Windows 7 to Windows 10, follow these steps:

- ▶ Download the **Windows 10 ISO file** from the [Volume Licensing Service Center](#) or [MSDN](#). You can also download the ISO file from [Microsoft Software Download Center](#) if you have a license key to deploy the Windows 10 software package.
- ▶ Extract the downloaded **ISO file**, and store the extracted components on a **network share**. This share should have read permissions for everyone in the group and should be accessible from all the target computers.

Note: Ensure that the editions, architecture, and the OS languages of your target computers are compatible with the downloaded ISO file.

- ▶ From the Endpoint Central web console, navigate to the **Software Deployment** tab.
- ▶ Under Packages, click on **Add Package > Windows**.
- ▶ Provide a name for the package and choose the package type as **EXE/APPX/MSIEXEC/MSU**.
- ▶ Choose the license type as **Commercial**. The installable file should be located in **From Shared Folder**.
- ▶ Click **Browse** to locate **setup.exe**, and provide the following for "installation command with switches/arguments":

To activate the product key, use the given command line argument:

```
"\\<sharename>\<foldername>\setup.exe" /auto upgrade /quiet /PKey  
"XXXXX-XXXXX-XXXXX-XXXXX-XXXXX" /compat IgnoreWarning
```

If you do not have a product key, use the below given argument:

```
"\\<sharename>\<foldername>\setup.exe" /auto upgrade /quiet /compat  
IgnoreWarning
```

Example: "\\DC-machine-1\c\$\Desktopcentral\Software Repository
\win10_DVD\setup.exe" /auto upgrade /quiet /compat IgnoreWarning /
norestart

Note: If you are upgrading Windows 10 from build (1507, 1511, 1607, 1703, 1709, 1803, 1809, 1093) to 1909 (Windows 10 Nov 2019 Update), you need not provide any license key and the silent switch should be:

```
"\\<sharename>\<foldername>\setup.exe" /auto upgrade /quiet /compat  
IgnoreWarning
```

- ▶ Define the necessary **pre-deployment and post-deployment activities**, by defining the condition or a configuration.
- ▶ After defining all the verticals of the Windows 10 package, click on **Add Package**.
- ▶ Navigate to **Packages** found under Software Deployment, and select the **package** that you have just created.
- ▶ Select **Install/Uninstall software** and provide a **name** for the configuration.
- ▶ Configure the installation options by specifying the user account where the software needs to be installed. If user intervention is required, check the box to enable the end user to interact with the installation window.

- ▶ If you want to schedule the deployment, configure the scheduler options for installing after a specified date and time, or for setting an expiration date for the deployment.
- ▶ Choose an appropriate **deployment policy** for the Windows 10 deployment. (Learn more about [deployment policies](#).)
- ▶ Define the **targets**, configure the **execution settings** if required, and deploy the **package**.

If you want to deploy the Windows 10 package to remote offices:

- ▶ Create a **remote office** using Endpoint Central. Refer [this document](#) to learn more about managing your WAN agents from a central console.
- ▶ While defining targets, all the remote offices that you have created will be listed in the drop-down menu.
- ▶ Choose the appropriate **remote office(s)** as the target, and proceed with installing the **package**.

If **bandwidth consumption is a concern**, here are a few tips to optimize the bandwidth consumed in your network.

- ▶ Plan individual deployments by department, and schedule them at different times to regulate bandwidth consumption.
- ▶ Use a distribution server in your remote office for [bandwidth optimization](#).

An in-place upgrade should bring everything from the previous operating system into the latest one. This might lead to a cluttered environment because old and unused files can accumulate, and there could be junk registry entries for some uninstalled programs. Besides, a few applications might not be compatible with Windows 10.

How can you resolve "cluttered environment" issues?

- ▶ Define a pre-deployment activity as checking for existing versions of software so you can uninstall it/them before proceeding with the installation of Windows 10.
- ▶ After the deployment, make registry-level changes by configuring registry settings, based on your need.
- ▶ **Check for browser compatibility:** The default browser of Windows 10 is Microsoft Edge which has replaced Microsoft's Internet Explorer. This opens the floor for compatibility problems, as some legacy web applications can be rendered only via Internet Explorer and not via Edge.

The browser router feature helps you to redirect legacy websites to Internet Explorer, although Microsoft Edge is the default browser. This helps ensure there will be no break in executing the legacy application. Here's how you can configure the policy:

- ▶ Navigate to the **Browsers tab** from the Endpoint Central web console.
- ▶ From the left pane, choose **Policies > Browser router > Create policy.**
- ▶ Choose the **destination browser** to which the legacy websites need to be redirected. Select the **websites** that need to be routed.

- ▶ If different websites need to be targeted for different departments in your organization, you can group the websites and choose the corresponding website group.



WIPE-AND-LOAD INSTALLATION: MIGRATE TO WINDOWS 10 OS WITHOUT THE USER-SPECIFIC DATA

If you want to perform a clean installation of Windows 10, read on:

- ▶ Navigate to the **OS Deployment tab** from the Endpoint Central web console.
- ▶ From the left pane, select **Create Image**, and based on the imaging history, a list of computers will be displayed. You can either select a **computer from** this list to be imaged, or you can choose a **new computer**.
- ▶ If you choose to image a new computer, enter the necessary computer details for installation **of image creator components**.

Note: The system that is imaged should have admin\$ privileges, and remote access privileges. The system user should have administrator privileges.

- ▶ Image creator components will now be installed on the system that is to be imaged.

- ▶ The second step is to define the **image** by providing a **name**, and choosing the **disk partitions that need to be imaged**.
- ▶ The compression level is for deciding the image size. The lower the compression level, the faster the image creation process will be. Define the degree to which the **RAM** can be used by image creator components while imaging. Specify the **location** for storing the image.
- ▶ After creating the image, you can customize the **captured image** by defining multiple **deployment templates**. These templates comprise several post-deployment activities.
- ▶ The final step is to deploy the image to target computers. Here's how you can deploy the OS image:
 - ▶ The first step toward deploying an image is creating a **bootable media**. The machine has to be booted into ManageEngine's pre-installation environment. Three types of WinPE media can be created—using a USB device, by configuring PXE server, or using an ISO media.
 - ▶ The WinPE tool will come bundled with the server components. If not, you can download the tool either automatically or manually, and mount this to the chosen media.
 - ▶ After creating the bootable media, from the left pane, select **Deploy image > Add deployment task**.
 - ▶ Choose a **deployment template** that you would have created in the previous step depending on your target.
 - ▶ This will be followed by defining the targets: either **local office** or **remote offices**.

- ▶ The penultimate step is to configure the **deployment mode**. The two methods of deploying an image is using passcode and using the MAC address.
- ▶ For deploying using the passcode, a 4-digit PIN will be displayed on your screen as you create a deployment task from the Endpoint Central server. This **passcode** should be entered in the target machine to initiate the deployment process.
- ▶ For deploying using the MAC address, enter the **MAC addresses** of the target computers to initiate deployment process.
- ▶ The final step is to configure deployment settings; decide the **deployment method**—unicast, where the image is deployed one-by-one, and multicast, where the image is deployed to all the target computers simultaneously.
- ▶ After initiating the deployment task, boot the **target computers** using the created **WinPE media**. Initiate deployment of the **image** after booting the system.

If you want to deploy the Windows 10 image to remote offices, follow these steps:

- ▶ Create a remote office with a distribution server. Refer to the document on steps to [create a remote office](#).
- ▶ While creating a deployment task, choose the created **remote office** as the target for deploying Windows 10 image.
- ▶ To define the frequency at which images will be replicated to the remote office, [configure OS deployment settings](#).

If bandwidth consumption is a concern, here's what you should do:

- ▶ While creating a deployment task, the final step is to configure deployment settings. For optimizing the bandwidth, choose multicast as the deployment method. In a multicast deployment method, the image copy will be sent to multiple computers simultaneously to prevent excess bandwidth consumption.
- ▶ While deploying the image to remote office, configure the image replication policy for preventing bandwidth bottleneck issues.

After a clean installation of Windows 10, it is important to regain control over the system by investing a time to configure the Windows PC. Here's how you can configure it automatically to save you a substantial amount of time:

- ▶ While creating a deployment template, you can configure the post-deployment settings that will be conducted after deploying the OS on the target machines:
 - ▶ While deploying an image to multiple computers, these computers end up acquiring the same security identifier (SID). You can choose to generate a unique security identifier for the new machine to overcome issues of duplication.
 - ▶ For effortless management of the computers, define a naming pattern based on which target computers will be named automatically.
 - ▶ If you want these computers to be a part of one specific domain or organizational unit (OU), include the necessary details to ensure that they get added automatically as soon as Windows 10 OS is installed.
 - ▶ To start managing these computers right away, associate the corresponding user accounts.
 - ▶ Systems cannot function with just the operating system, and require supporting drivers and applications for a smooth operation. A set of applications or drivers can be installed silently on the target computers, post deployment.

FREQUENTLY ASKED QUESTIONS

01

I have acquired the image from a Dell machine.
Can I deploy this image on a Lenovo machine?



Yes, it is possible to capture the OS image and deploy a single base image to multiple computers, irrespective of their hardware. The OS alone will not suffice and requires a unique set of device drivers for smooth functioning. These drivers are different for different hardware configurations. Using our hardware independent deployment feature, you can overcome this hurdle by adding the compatible drivers automatically along with the OS. The driver repository is a collection of manually and automatically collected drivers. From this driver repository, the necessary drivers will be installed while deploying the image.

02**How can I image a computer that is turned off?**

The computer should be booted using the Windows pre-installed environment (WinPE) media that we create for deploying an image. This bootable media can be of three types—USB media, PXE server, or ISO media. Once the computer is booted, the imaging will be performed after the admin credentials are entered. Refer to these documents for more insights on [creating WinPE media](#) and [performing offline imaging](#).

03**What if the target computers are shut down prior to the deployment?**

For an in-place upgrade, you will have to define a deployment policy for deploying the package. While configuring the pre-deployment settings, you can enable the checkbox to wake the computers before deployment automatically.

For a clean installation, you will have to define a deployment task while deploying the image. While configuring the deployment mode, choose to initiate the deployment using the MAC addresses of the target computers. Read this document to learn more about [configuring wake on LAN settings](#).



WinPE media is required for performing offline imaging, and for deploying an image. Following are the supported versions for WinPE media:

- ▶ Windows PE 10.0 Media - Windows 10, Windows 8.1, Windows Server 2012 R2, Windows 8, Windows Server 2012
- ▶ Windows PE 5.0 Media - Windows 10, Windows 8.1, Windows Server 2012 R2, Windows 8, Windows Server 2012
- ▶ Windows PE 4.0 Media - Windows 10, Windows 8, Windows Server 2012, Windows 7, Windows Server 2008 R2, Windows Vista, Windows Server 2008
- ▶ Windows PE 3.0 Media - Windows 7, Windows Server 2008 R2, Windows Vista, & Windows Server 2008
- ▶ Windows PE 3.0 Media - Windows 7, Windows Server 2008 R2, Windows Vista, & Windows Server 2008

05**How do I check for free space before deploying the Windows 10 package?**

While creating a Windows 10 package, you can define a set of activities that should be performed before and after deploying the package. One such pre-deployment activity is to check for free space. Based on the system requirements of Windows 10, you can check if the requirement amount of disk space is available on the target computer, before proceeding with the installation. If it is not available, you can either create a configuration to delete unwanted files, or can perform a disk cleanup to delete junk files automatically.

06**What if the free space on the target computer is less than what's required?**

If the free space is less than required on the target computer, you can enable the disk adjustment settings. The data partitions can be extended by utilizing the unallocated spaces in the disk. Enabling the disk adjustment settings will neatly align the OS image, according to the disk size.

CONCLUSION

If you are still a Windows 7 user, you are in limbo. This guide will provide a comprehensive insight on the what, why, and how of Windows 10 migration. It is about time that you install Windows 10.

Reach out to us for a personalized demo of Endpoint Central, or if you need assistance in migrating to Windows 10. You can receive a free, 30-day trial to explore Endpoint Central

[**Schedule a demo**](#)[**Free trial**](#)