

2 Features and Editions

Windows 7 comes in 6 different editions which in most cases will be available in a 32bit and 64bit edition. This chapter looks at the difference between 32bit and 64bit and compares the features of the six editions. Understanding which features are available for each edition will allow you to make an informed decision about which edition of Windows 7 will meet your needs. Understanding the features of each edition will mean you will purchase the right edition the first time without having to pay for extra features that aren't really needed or paying for an upgrade later on.

32Bit verses 64bit

All editions of Windows 7 are available in 32bit and 64bit except for the Starter edition. Depending on how Windows 7 was purchased, you may have the option to install either one. The number of bits refers to the central processing unit (CPU) inside the computer. A 64bit CPU has the potential to run software and process data a lot faster than a 32bit CPU if the software on the computer has been designed to utilize it. Besides the processing power inside the CPU, the biggest difference between a 32bit CPU and a 64bit CPU is that a 32bit CPU can only use a maximum of 4GB of RAM.

A 64bit CPU will still run 32bit software so it's possible to install the 32bit version of Windows 7 on a 64bit system. However, installing a 32bit operating system will mean you will only be able to utilize a maximum of 4GB of ram, even if more than 4GB of ram is installed in the computer.

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If you purchase a new 64bit system, check that the operating system installed is 64bit. Sometimes a manufacturer will install a 32bit operating system on a 64bit system. If you want to use all the features 64bit hardware has to offer it is a good idea to re-install the operating system straight away. It is not possible to upgrade a 32bit operating system to a 64bit operating system at a later date.

Starter Edition

The starter edition has the least amount of features out of all the editions of Windows 7. The starter edition is also the only edition of Windows 7 that does not support 64bit. Even though all other 32bit editions of Windows 7 support a maximum of 4GB of RAM, the starter edition is limited to a maximum of 2GB of RAM. The Starter edition is often packaged with netbooks. Netbooks are noticeably smaller in comparison to other laptops and are lower priced. They are most often used while commuting and to log into social media sites, email and surfing the web.

Home Basic

The Home Basic Edition is only available in what Microsoft refers to as emerging markets and thus only available in certain parts of the world. It has more features than the starter edition, for example it includes an improved desktop experience using the Aero interface. The Aero interface provides the 3D looking glass effect in Windows. Most editions of Windows 7 offer full support for the Aero interface, except for Home Basic which only partially supports it.

Home Premium

This edition of Windows 7 is aimed for consumer use in the home. Most home users will find it will have enough features for general home use. The home premium edition lacks a lot of business and high performance features. Most noticeably lacking is the limitation of only being to install a maximum 16GB RAM and having support for only one CPU. The Home Premium is fine for the average home user that does not require extra performance, generally only needed for a high performance work station or computer enthusiasts.

Professional

The professional edition is aimed at the business user and computer enthusiasts. It offers additional features like encryption and domain support. Domains are used in business to centralize management of computers. This edition also supports 192GB RAM and two CPU's. Due to the extra hardware and features it supports it is often used in high performance workstations.

Enterprise/Ultimate

The Enterprise and Ultimate editions have all the features that are available in Windows 7. These editions are essentially the same, with the big difference being how they are purchased. The Enterprise edition is only available via a software agreement with Microsoft. These agreements are available to large customers. The Ultimate edition is available via retail or online to the consumer.

N Editions

Sold in Europe, any edition ending with N does not have Windows Media Player and other related technologies such as Windows Movie Maker. N editions come in Windows 7 Home Premium N or Windows 7 Professional N. The missing software can be downloaded and added to the operating system. For more information about the N edition and how to download the missing software, see the following web address. <http://windows.microsoft.com/en-us/windows7/products/What-is-Windows-7-N-edition>

K Editions

Editions ending with K are sold in Korea and come with hyperlink shortcuts already installed on the desktop to non-Microsoft instant messaging and media-player software. There is no difference in the edition besides the additional shortcuts found on the desktop.

KN Editions

Editions of Windows 7 ending in KN are the same as the K and N editions combined.

Features

Below is a summary of the different editions of Windows 7 and the key features that they have. The table lists the more common features. Following the table is an explanation of each of the features found in the table. You should ensure that any feature that you want to use in Windows 7 is supported by the edition of Windows 7 that you are planning to purchase.

	Starter	Home Basic	Home Premium	Professional	Enterprise & Ultimate
Backup and restore	Cannot backup to network	Cannot backup to network	Cannot backup to network	X	X
HomeGroup	Join only	Join only	X	X	X
Aero		Partial	X	X	X
Multiple Monitor		X	X	X	X
Mobility center for laptops		X	X	X	X
Domain Support				X	X
Presentation Mode				X	X
Dynamic Disks				X	X
Encrypting File System				X	X
BitLocker					X
64 bit support		X	X	X	X
Max Ram 32bit	2GB	4GB	4GB	4GB	4GB
Max Ram 64 bit	N/A	8GB	16GB	192GB	192GB

For a complete list of features, see either of the following two web addresses.

<http://windows.microsoft.com/en-us/windows7/products/compare?t1=tab15>

or http://en.wikipedia.org/wiki/Windows_7_editions

Backup and Restore

Backup and Restore allows you to backup and restore a complete operating system or individual documents and files. If the hardware on your computer were to fail, Backup and Restore allows you to restore the system to a replacement computer. You can also restore your computer back to a certain date or restore certain documents and files. Backup and restore can also be used to restore the computer if the operating system is damaged by software like viruses.

HomeGroup

HomeGroup is a feature that allows you to configure simple file and printing sharing at home. By one computer creating a HomeGroup, other computers on the local network can access files or printers in the HomeGroup by entering the HomeGroup password once prompted. No usernames are needed to be created in the HomeGroup. Once a resource is shared using HomeGroup, it is available to all computers in the HomeGroup. All editions of Windows 7 can access resources in a HomeGroup, however the ability to create a HomeGroup will require Windows 7 Home Premium or above. If your computer is in a domain, it can access resources in the HomeGroup but will not be able to share its resources in the HomeGroup.

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Aero

The aero interface provides a 3D look and feel to Windows 7 as well as translucency and live thumbnails. To test if Aero is operating on Windows 7 – hold down the windows key, and then tap the tab key. If Aero is enabled, this will bring up Flip 3D. Flip 3D will give you a 3D representation of all applications currently running, allowing you to cycle through to the application you want to use as shown below.

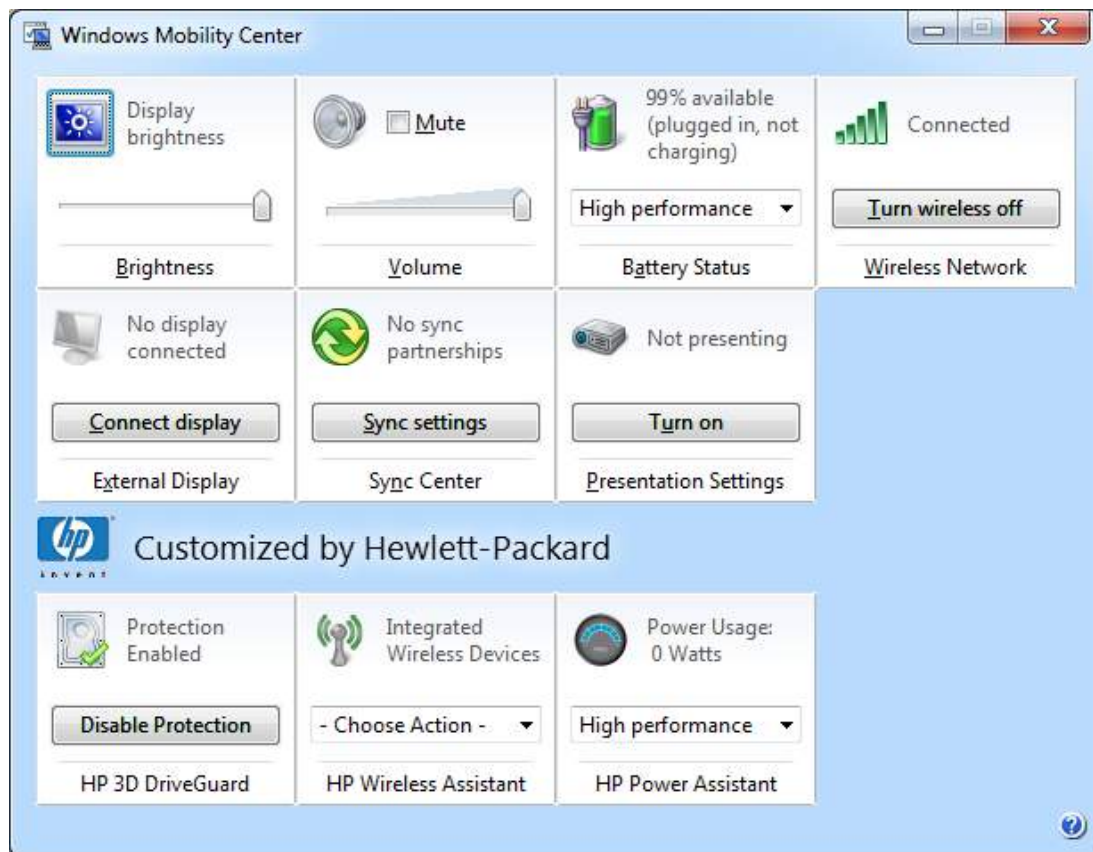


Multiple Monitors

Windows 7 allows multiple monitors to be plugged into the same computer. Some video cards will have more than one video output so multiple monitors will be able to use the same graphics card. This can also be done by using a special cable that splits the output from a single plug into two if the video card supports it. If your video card does not support additional monitors, you can install a second video card into your desktop computer in order to connect additional monitors. If using a laptop, you will most likely be able to connect an external monitor. Depending on the video card inside the laptop, you may be able to expand your desktop to utilize both the laptop screen and the second monitor. Or you can use the second monitor to mirror what is shown on the first screen.

Mobility Center for Laptops

This feature is only available on laptops. Mobility Center gives the user a tile based layout of laptop related features for quick easy access. The options include screen brightness, battery status, wireless network, external display and sync center. As well as the standard Windows 7 options provided by Microsoft, the manufacturer is able to add customized software, which will appear as another tile in the mobility center. An example of the mobility center is shown below. Notice at the bottom that additional tiles have been added by Hewlett Packard to this laptop.



Domain Support

If your computer is being used for business, the business owning the computer may have a domain setup. A domain is a collection of computers that share a centralized database. This allows the computers in the domain to be configured and administered as a whole.

Presentation Mode

Presentation Mode in Windows 7 refers to a set of desktop display settings you may wish to use when giving a presentation and using a screen projector. Presentation mode allows settings like screensaver to be disabled or different wallpaper to be displayed. You can access Presentation Mode through the start menu or via a hotkey.

Dynamic Disks

Dynamic Disks provides additional features in Windows 7 when using more than one hard disk. For instance, when using Dynamic Disks, two hard disks can be duplicated in a process called mirroring. Since both hard disks contain the same information, if one hard disk was to fail the other hard disk would continue to operate and no data would be lost. Dynamic Disks also allows multiple hard disks to be combined together so the operating system sees the hard disks as the one drive. Dynamic Disks is available on Windows 7 Professional and above.

Encrypting File System

Encrypting File System or EFS, is a system that allows individual files to be encrypted preventing them from being read by a third party without the users password. If EFS is used, make sure that the recovery key is backed up and put in a safe place. Without the recovery key, you will not be able to access encrypted files if the operating system is reinstalled or lost. Also, if you forget your password and it is reset this will also stop the files from being accessed unless other recovery options have been configured beforehand or the recovery key is used.

BitLocker

BitLocker is technology that allows the whole hard disk to be encrypted so that it cannot be read if the computer is stolen. BitLocker supports a number of different ways to access the data on the hard disk. Without special hardware, BitLocker supports a password or a key stored on a device like a USB key. BitLocker also supports Trusted Platform Module (TPM), which is a microchip embedded in the computer that can hold the BitLocker keys. A hardware solution like a TPM is an excellent solution for safeguarding the keys used by BitLocker to encrypt a drive.