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# 1

## Introducing Windows 8.1

*This chapter introduces Microsoft's latest operating system, Windows 8.1. We see what editions are available, the new features and which features have been removed since the last edition. We also take a look at some free Microsoft software.*

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The original IBM PC was supported by PC-DOS and the more generic MS-DOS operating system, developed for IBM-compatible PCs.



There have also been many interim versions providing fixes and updates, as well as specialized versions such as Media Center editions.

# Windows releases

There have been many versions of Microsoft Windows. The operating system was initially designed for IBM-compatible PCs, but was later extended to support larger computers such as servers and workstations. A derivative version, Windows CE, was also developed for smaller devices such as PDAs and cell phones.

The main versions of Windows that have been released include:

Date	Client PC	Server	Mobile
1985	Win 1.0		
1987	Win 2.0		
1990	Win 3.0		
1993		Win NT 3.1	
1995	Win 95		
1996		Win NT 4.0	Win CE 1.0
1998	Win 98		
2000	Win ME	Win 2000	Win CE 3.0, Pocket PC 2000
2001	Win XP		Pocket PC 2002
2003		Win Server 2003	Win Mobile 2003
2006	Win Vista		
2007		Win Home Server,	Win Mobile 6
2009	Win 7	Win Server 2008	
2010			Win Phone 7
2012	Win 8	Win Server 2012	Win Phone 8

The first three versions of Windows listed were designed for the 16-bit processor featured in the PCs of the day. Windows 95, 98 and ME added support for 32-bit processors. Windows NT was for 32-bit only while XP and 2000 added 64-bit support. Windows Vista, Windows 7 and Windows 8, and the newer server editions, provide support for both 32-bit or 64-bit processors.

Each version of Windows builds on the functions and features included in the previous versions, so that the knowledge and experience you have gained will still be valuable, even though the appearance and the specifics of the operations may have changed.

# Windows 8.1

With the original Windows 8, and now Windows 8.1, Microsoft has created an operating system designed to be compatible with a range of different devices.

To make this possible, it comes with a modern interface which, in this book, we will refer to as the Windows 8.1 interface. This is a touchscreen interface of the type used in smartphones and tablets. Each installed program, or app as they are known, is displayed on the Start screen as a tile.

The apps themselves are more streamlined than traditional programs and, accordingly, offer much less in the way of configuration options. The whole setup is designed to be clean, straightforward and quick, and thus much less demanding of system resources. Much of the eye-candy seen in Windows 7, such as Aero and transparent window borders, has been removed.

This leads us to the rationale behind the interface. As two of the primary requirements for mobile devices are power efficiency and touchscreen control, its introduction clearly indicates that Microsoft considers mobile devices to be where the future lies.

Compatibility is another factor. Windows 8.1 shares its styling and its kernel code with multiple platforms including smartphones, tablets, PCs and even the Xbox. This move toward cross-compatibility is one which is intended to establish Microsoft in the mobile market.

A key element in this is the OneDrive app, which we'll look at later. OneDrive enables users to store all their data and apps online and synchronize that data across all their devices. As a result, they will be able to log into OneDrive on any Windows 8.1 device and immediately access their data, preference settings, etc. Whatever or whoever's device they are using, it will be as though they are using their own.

There is a lot more to Windows 8.1 than just the interface though. A Desktop version is also available, which we will look at. However, we'll start by taking a look at the features the Windows 8.1 interface has to offer.



Windows 8.1 comes in four editions:

1. Windows 8.1
2. Windows 8.1 Pro
3. Windows 8.1 Enterprise
4. Windows 8.1 RT



OneDrive is the original SkyDrive facility. It was renamed for copyright reasons. Its features and functions remain unchanged.



The Start screen is the most noticeable feature in Windows 8.1.

# New features in Windows 8.1

Each new version of Windows adds new features and facilities. In Windows 8.1, these include:

- **Start screen** – an interface that enables the operating system to be used on a range of devices. These include PCs, tablets and smartphones
- **Lock screen** – a customizable screen that prevents the user from making inadvertent inputs to a touchscreen device
- **Windows Store** – similar to Apple’s App Store, Windows Store provides a convenient and secure location for the acquisition of apps designed for Windows 8.1
- **Touch gestures** – users who have a touchscreen can control their devices with gestures such as tapping and swiping
- **File Explorer** – an improved version of Windows Explorer that provides better access to common commands
- **Internet Explorer 11**– runs either as a Desktop program or a full-screen app optimized for use on touchscreens
- **Picture password** – a security feature that enables a highly secure password to be set
- **Hardware support** – Windows 8.1 provides support for USB 3, enabling faster data transfer
- **Networking** – support for mobile broadband is improved, e.g. automatic configuration of connection settings, and the monitoring of mobile data usage
- **Refresh** – a system recovery utility that “refreshes” a Windows 8.1 installation by reverting it to an “as new” state without losing programs, data and settings
- **Reset** – this utility deletes all the user’s data, settings and programs and then reinstalls a new copy of Windows 8.1. The procedure is the equivalent of a “clean installation” but is much easier and also quicker
- **Standard apps** – Windows 8.1 provides a number of pre-installed apps, such as Mail, Weather, News, and Photos

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- **Startup** – Windows 8.1 provides a hybrid boot mode that hibernates the kernel. This enables the system to boot up faster on subsequent restarts
- **Microsoft account integration** – user accounts can be linked to a Microsoft account. This enables the integration and synchronization of data with other Microsoft services
- **File History** – this utility provides a type of “ongoing” backup that automatically makes a backup whenever changes are made to the system
- **ISO & VHD mounting** – enables ISO and VHD image files (commonly used in backup images) to be opened without the need for third-party software
- **Storage Spaces** – offers data protection by means of virtual hard drives (similar to RAID)
- **Encrypting File System (EFS) and BitLocker** – EFS enables individual files to be encrypted, while BitLocker enables entire drives to be encrypted
- **Sideload Windows Store apps** – this feature allows users to install apps without having to go through Microsoft’s Windows Store and is mainly used by app developers
- **Boot from VHD** – this enables a PC to be booted directly from a virtual hard disk. Intended for use by system administrators
- **Hyper-V** – PC virtualization software that enables a fully functional virtual computer to be built and run within Windows 8.1
- **Windows To Go** – this feature allows Windows 8.1 to be booted, and run, from portable storage devices such as flash drives and external hard drives
- **UEFI Secure Boot** – a security mechanism based on the Unified Extensible Firmware Interface (UEFI) that prevents viruses infecting a system during the boot procedure



Windows 8.1 includes true multi-touch technology, with gestures for zooming, rotating and selecting.



One of the most improved features in Windows 8.1 is the Task Manager.



Not all of Windows 8.1's features are available in all editions.



Windows RT 8.1 is the only edition that comes with a built-in version of Microsoft Office 2013. Programs provided are Word, Excel, PowerPoint and OneNote.

# Editions of Windows 8.1

The table below shows the new features in Windows 8.1 and also some old features that have been revamped and improved. As you can see, some of the features are specific to certain editions.

Features/Editions	RT	8.1	Pro	Ent
Picture Password	Y	Y	Y	Y
Start Screen	Y	Y	Y	Y
Touch Keyboard	Y	Y	Y	Y
File Explorer	Y	Y	Y	Y
Standard Apps	Y	Y	Y	Y
Refresh and Reset	Y	Y	Y	Y
Windows Defender	Y	Y	Y	Y
Improved Task Manager	Y	Y	Y	Y
ISO & VHD Mounting	Y	Y	Y	Y
Microsoft Account Integration	Y	Y	Y	Y
Internet Explorer 11	Y	Y	Y	Y
SmartScreen	Y	Y	Y	Y
Remote Desktop (* client only)	Y*	Y*	Y	Y
Windows Store	Y	Y	Y	Y
Storage Spaces	-	Y	Y	Y
Windows Media Player	-	Y	Y	Y
BitLocker and EFS	-	-	Y	Y
Sideload Windows Store Apps (^ Limited)	Y^	-	Y^	Y
Boot From VHD	-	-	Y	Y
Windows Domain Access	-	-	Y	Y
Group Policy	-	-	Y	Y
Hyper-V	-	-	Y	Y
AppLocker	-	-	-	Y
Windows To Go	-	-	-	Y
DirectAccess	-	-	-	Y
BranchCache	-	-	-	Y
RemoteFX Virtualization				Y
Network File System	-	-	-	Y
Microsoft Office Apps	Y	-	-	-

# Features removed

Windows 8.1 has been designed to run on a variety of platforms, a move that has necessitated radical changes to its underlying architecture.

As it is now intended to run as smoothly on a low-powered tablet as it does on a high-powered PC, the emphasis of the new design has been on the elimination of all unnecessary overheads. To this end, many of the features found in previous versions of Windows have been removed.

These include the following:

- Start menu
- Aero Glass theme
- Windows Basic and Windows Classic themes
- Games
- Windows Media Center
- Windows DVD maker
- DVD playback
- Aero Flip 3D
- Desktop gadgets
- Windows CardSpace
- Windows XP Mode
- Default user account pictures
- File Explorer command bar
- “Windows updates are available” notifications
- The media guide in Windows Media Player
- Many of the sound files have been removed
- Many fonts have been removed



For users who cannot live without the Start menu, a free alternative is available at <http://classicshell.sourceforge.net>



Windows 8.1 does not provide Windows Media Center. However, WMC is available via the Add features option (see pages 18-19).

# Windows Media Center

Of all the features removed in Windows 8.1, Windows Media Center (WMC) is the one we are going to highlight here. The reason is that while the others have all gone for good, WMC is still available.

You will, however, have to pay for it. If you are running Windows 8.1, you will need to install the Windows 8.1 Pro Pack – this includes WMC. The price for this at the time of printing is \$99.99. If you are already running Windows 8.1 Pro, you must install the Windows 8.1 Media Center Pack – this costs \$9.99.

Proceed as follows:

- 1 Open Search on the Charms bar
- 2 Enter add features in the search box and then click Settings
- 3 In the search results, click Add features to Windows 8.1



Note that the Windows Media Center pack also provides support for DVD playback.

- 4 A new screen opens. If you need to purchase a product key, click I want to buy a product key online. Then follow the steps to purchase and enter a product key  
  
If you already have a product key, click I already have a product key
- 5 Enter your product key and click Next



...cont'd

- 6 Read the license terms, select the check box to accept the license terms, and then click Add features
- 7 If you were running Windows 8.1, your PC will restart automatically, after which Windows 8.1 Pro with Windows Media Center will be available for use
- 8 If you were running Windows 8.1 Pro, your PC will restart automatically, after which Windows Media Center will be available for use



The version of WMC supplied in the Windows Media Center pack is the same as in Windows 7.



- 9 To access Windows Media Center, open the Start screen and scroll across to the right. At the end of the screen you will see the WMC tile
- 10 Alternatively, open the Search charm, type Windows Media Center and press Enter. WMC will open



Windows Server 2012 and Windows 8.1 Embedded are not relevant for home users.

# Related operating systems

The Windows 8.1 operating system isn't used just in personal computers; related editions are found in tablets, smartphones, server systems, and in embedded systems. Getting a handle on what all these versions do, and what they do it on, can be confusing so we'll attempt to clarify things here.

## Windows Server 2012

Windows Server is designed for use with the server systems that provide corporate networking, Internet/intranet hosting, databases, enterprise-scale messaging, etc. It is a specialized operating system that provides functionality not required in home computing.

## Windows 8.1 Embedded

Embedded systems are basically small computational and sensor-based electronic components that collect data and automate simple actions. These devices are widely embedded in many consumer and industrial applications such as vending machines, refrigerators, digital music players, automobiles and routine assembly line tasks.

Microsoft have focused on a section of this market called “intelligent systems”, which combine processing power with networking and cloud computing to bring more computational prowess to devices. To this end, it produces a version of Windows known as Windows Embedded, the current version of which is 8.1.

## Windows Phone 8.1

Windows Phone 8.1 is intended for use with smartphones and nothing else. Just as with Apple's iOS and Google's Android, it provides typical smartphone functions, such as email, maps, internet browsing, contacts, etc. One notable difference is that the live tiles on a Windows Phone 8.1 smartphone provide more, and more current, information than the largely static icons found in iOS and Android.

## Windows RT 8.1

Windows RT 8.1 has been designed for use on tablet devices, such as Microsoft's Surface tablet. Essentially, it is a “stripped down” or “lite” version of Windows 8.1. Accordingly, it lacks several Windows 8.1 features – Windows Media Player for example. The main difference, however, is that RT 8.1 will only run applications sourced from the Windows Store.



Windows 8.1 (8.1, Pro & Enterprise) is found predominantly on desktops and laptops. It does, however, have the potential to be used on all types of computers.

# OneDrive and Cloud

A very important function built-in to Windows 8.1 is its ability to utilize what is commonly known as the “Cloud”. Essentially, cloud computing is a technology that uses the Internet and centralized remote servers to maintain data and applications. It allows consumers and businesses to use applications they don’t own, and to access their personal files on any computer that has Internet access. The technology enables much more efficient computing by centralizing data storage, processing and bandwidth.

So how do you get into the cloud? There are actually several ways: One is to open an account with a dedicated service such as DropBox. You will be given a free amount of storage space, typically up to 18GB (*correct at the time of printing*) in which you can store virtually anything you choose to. If you need more, you will be charged a fee depending on the amount required.

A second way is to buy a product from a major software manufacturer. A typical example is True Image from Acronis – a data backup program. Buy this, and you will be given access to 250GB of online storage that enables you to create cloud-based backups.

A third way is courtesy of a Windows app called OneDrive, which can be accessed on the Start screen. OneDrive is basically a portal that allows you to access 7GB of online storage (*correct at the time of printing*) that comes free with Windows 8.1.



To access your storage space, you will have to log in with a Microsoft account. Note that if you are already logged in to your Windows 8.1 device with a Microsoft account, you won’t need to log in again to access OneDrive.



You don’t have to use the OneDrive app supplied with Windows 8.1. You can download a desktop version from <http://windows.microsoft.com/en-US/onedrive/download>. This runs on the Desktop and can be installed on any PC (except those with Windows RT) – all you need is a Microsoft account.



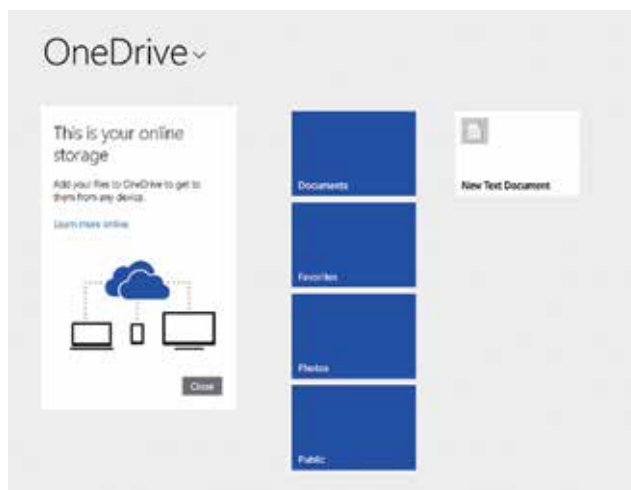
You can log in to OneDrive with any browser. Go to <https://onedrive.live.com>



You can pin the OneDrive app to the taskbar and Start screen for faster access.

...cont'd

Once logged in, you will see that OneDrive has started you off with a number of pre-configured folders as shown below:



You can delete these folders, rename them, create more folders, nest folders within folders, and upload/download files.

Once uploaded, your data can be accessed from any device, be it a smartphone, tablet, or PC, from anywhere in the world and at any time. You can also access, and upload, data from within programs in Microsoft's Essentials suite of applications, and Microsoft Office 2010 and 2013.

One of the coolest features of OneDrive is that it enables online sharing and collaboration. On a personal level you can, for example, share your holiday snaps with friends and family regardless of where they are, while business applications include accessing documents while on the move or sharing documents between offices.

A key aspect of OneDrive is that it enables data to be synchronized across a range of devices. For example, emails on your main PC can be automatically loaded on to your smartphone or tablet and vice versa. You can also synchronize various settings, such as personalization, e.g. desktop background, theme, colors, passwords, app settings and many more. This enables users to maintain the computing environment they are comfortable in across all their computing devices.



If you access OneDrive directly from a browser, you will have a "lite" version of Microsoft Office with which to create documents while online.

# Microsoft Office 2013

Microsoft Office is a very important application for many people so we will take a brief look at it here and how it fits in with Windows 8.1.

The first thing to mention is that Office 2013 can only be installed on Windows 7, Windows Server 2008, or later. It is not compatible with Windows Vista or earlier versions of Windows.

We don't have room here to discuss the ins and outs of Office 2013 but one new feature that's worth mentioning is its support for cloud computing. Users have an option in the "Save As" menu that allows them to save documents directly to their OneDrive account. Also, it is possible to store office settings, documents, templates, dictionaries, and more on OneDrive. This allows users to synchronize their office applications across all their devices for a consistent working environment.

Another important feature in Office 2013 is support for touchscreens. This makes it the first Microsoft Office suite that can be used with tablets and smartphones.

This leads us on to Office 2013 and Windows RT. Users of RT devices will find that a customized version of Office 2013 is pre-loaded, i.e. its free. However, they should be aware that the RT version does not have all the features of the full version. Amongst other things, for example, there is no support for macros, third-party add-ins and Visual Basic for Applications.



Nor does it offer all the applications in the suite – you just get Word, Excel, PowerPoint, Outlook and OneNote.



Office 2013 will not run on versions of Windows prior to Windows 7.



The version of Office 2013 bundled with Windows RT is not the full version.



The latest version is Windows Essentials 2012 (correct at the time of printing).



Windows Essentials 2012 can be downloaded from <http://windows.microsoft.com/en-US/windows-live/essentials-home>



Windows Essentials 2012 will not run on Windows RT or versions prior to Windows 7.

# Windows Essentials

Mention of free Microsoft applications brings us to the Windows Essentials suite. This is a collection of free Microsoft applications that offer email, photo-sharing, blog publishing, security services, and more.

Applications in the suite are designed to integrate with each other, with Microsoft Windows operating systems (Windows 8.1 in particular), and also with Microsoft web-based services such as OneDrive and Outlook.com; with the intention of providing a seamless computing experience.

Windows Essentials 2012 includes the following applications:

- Mail
- OneDrive
- Movie Maker
- Photo Gallery
- Writer

For free downloads to customize, protect, and enhance your computer, go to <http://windows.microsoft.com/en-US/windows/downloads>



From here, you can get sets of pictures, window colors and sounds from the Personalization Gallery to personalize your computer. You can also download a free language pack to see Windows in the language of your choice.