

Windows 10

Have you heard?

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Windows 10

Microsoft will release Windows 10 on July 29 2015, and will be delivering the update to millions of existing users of Windows 7 and 8. . Microsoft has added a very strong upgrade incentive by removing the cost for most users. The release is part of a new wave of Windows releases which Terry Myerson, the Microsoft Executive Vice President of Operating Systems, projects will be on 1 billion devices worldwide within the next 2 or 3 years.

Windows 7 and 8 Home and Professional editions qualify for a free upgrade to Windows 10 during the first year after release. Windows 7 and 8 Enterprise editions are excluded, but typically, these customers are on Software Assurance schemes that allow free upgrade by another route. If the Microsoft figures come close to its estimates, it suggests a huge opportunity for developers.

Here is a closer look at Windows 10 and what you can expect!

What is Windows 10?

Windows 10 is not just another release. Microsoft is introducing a concept it calls “Windows as a service,” which means that the operating system will be continuously updated, although it has options for businesses to move at a slower pace in order to retain stability.

Further, Windows 10 is not just for PCs. Microsoft has refactored Windows so that the same operating system, in different configurations, will run on a range of devices including PCs, laptops, tablets, smartphones, Xbox consoles and “HoloLens” augmented reality headsets.

Windows 10 is a second attempt for Microsoft at moving its core operating system into the mobile era. Windows 8, released in late 2012, was a bold re-imagining of Windows that divided the system into two personalities, one that was a new touch-friendly environment originally called Metro, and the other the traditional desktop. Metro is powered by a runtime layer called the Windows Runtime (WinRT), for which apps are written using the .NET languages (C# or Visual Basic), HTML and JavaScript, or C++. WinRT apps are sandboxed from each other and from the operating system, with data sharing only through a controlled mechanism called Contracts. Apps are normally delivered from the Windows Store – hence the alternative name, Store apps – though businesses and developers can also use “sideloading” to install these apps without using the Store.

Windows 8 has not proved altogether successful. Users familiar with Windows struggled to navigate between two different environments, and the new-style apps often looked huge and unwieldy on PCs with large displays. A particular point of contention was how the Start menu, introduced in Windows 95, was replaced with a full-screen implementation that forced users to go back and forth between Metro and desktop.

Microsoft mitigated some of these issues in a Windows 8.1 update, but many businesses have remained on Windows 7, now over five years old. In addition, the Windows app market did not take off in quite the way Microsoft envisioned. The Microsoft aim with Windows 10 is to create a version of Windows that will be an easy and familiar upgrade for Windows 7 users while also introducing many new features, and remaining suitable for tablet and mobile users as well as desktop PCs.

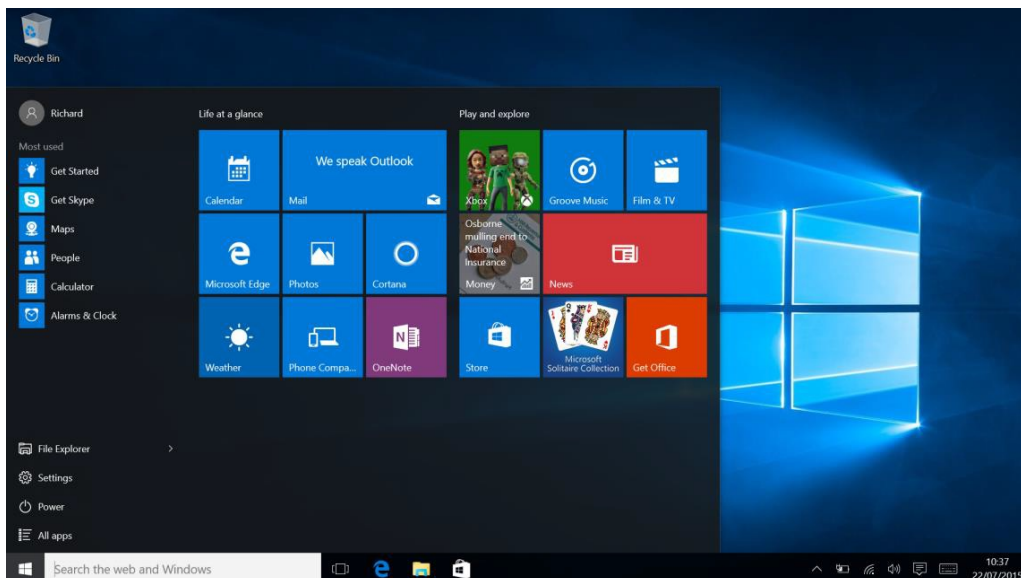


Figure 1: The revived Windows 10 Start menu

Windows 10 no longer has a dual personality, with a revised Start menu back on the desktop, and all apps running in Windows, whether they are written for WinRT or with the Win32 (or Win64) Windows API.

This arrangement means that users no longer need to think about whether an app is or isn't a Store app (now also known as the Universal Windows Platform (UWP), thanks to compatibility with Windows 10 on other devices); they are all just Windows applications.

Under the covers, there are still key differences between WinRT and the full Windows API. UWP apps are still sandboxed, and only a subset of the Windows API is available. The user interface for a WinRT app is most often defined in XAML, the XML language also used by Silverlight and Windows Presentation Foundation, but with different controls and enough incompatibilities, that code cannot be ported directly.

The Win32 and Win64 API, on the other hand, is common to all versions of Windows, and now that WinRT apps also run in a window, there is no longer a sharp distinction from the user's perspective. This means that by writing to the full Windows API developers can support Windows 7 or even Windows XP as well as running well in Windows 10.

What's new in Windows 10?

Just by being more approachable than Windows 8, will not win users over to Windows 10. Fortunately, there are a host of new features that may prove effective. Here are some of the highlights:

1. New Start Menu with Live Tiles.

This counts as a new feature whether you come from Windows 7 or Windows 8, since it differs from both. An "All apps" hierarchical view on the left functions in a similar way to the Windows 7 Start Menu, while a new panel of tiles lets users pin frequently used applications, and to see updates.

2. Multiple desktops.

Windows 10 lets you add virtual desktops so you can organize your work more easily. For example, you could have a document open in one desktop, and graphics applications in another, switching between them when your focus changes from one to the other. A new Task View button on the taskbar shows all open desktops as well as the applications running on the current desktop, so you can easily switch between them.

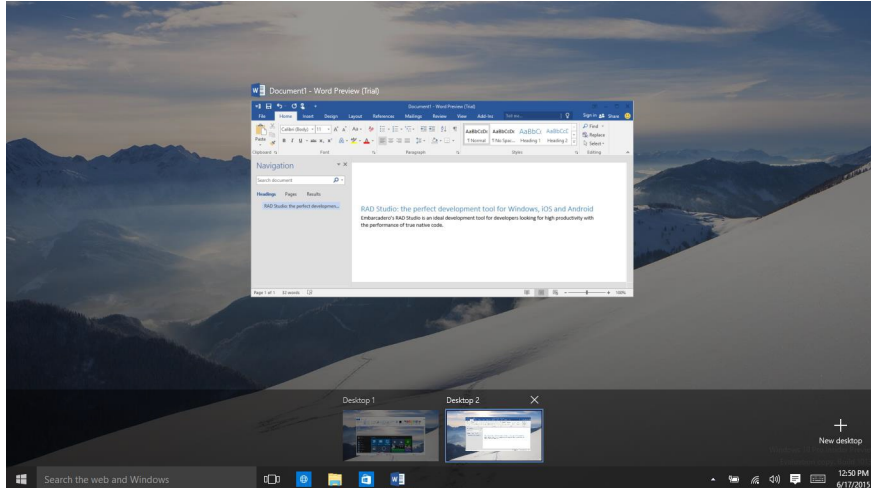


Figure 2: Multiple desktops in Windows 10

3. DirectX 12.

The latest version of the Windows hardware-accelerated graphics API is a major upgrade. Microsoft is claiming 20% performance improvement as well as support for more GPU features. Key to the improved performance is better use of GPU parallelism as well as the ability to scale better across multiple CPU cores. Many existing GPUs can take advantage of DirectX 12, so users need only upgrade to Windows 10.

- ## 4. Tablet and touch-screen support without the hassles of Windows 8.
- Touch-friendly apps written for Windows 8 still run, but in a window. Another feature aimed at tablet users is Continuum, which prompts the user to engage Windows 10 “tablet mode” when a tablet is undocked or the keyboard is folded back on a convertible. In tablet mode, apps including the Start menu run full-screen. It is also worth mentioning the Universal version of Microsoft Office, which provides mobile versions of Word, Excel and PowerPoint, can be freely downloaded from the Windows Store.

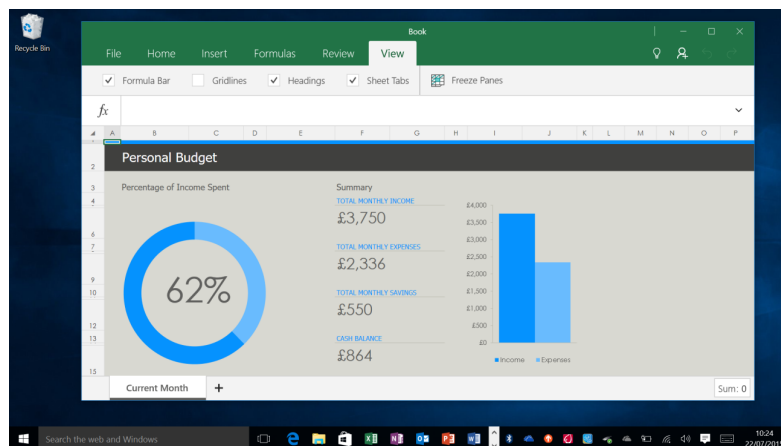


Figure 3: New “Universal” versions of Microsoft Office applications including Excel, Word and PowerPoint will only run on Windows 10

5. Cortana.

The Microsoft personal assistant is built into Windows 10, though users do have an option to disable it as required. Cortana can answer queries – using typed or voice input - such as “when is my next meeting” or “what is the weather tomorrow”. Developers can extend Cortana with custom voice commands and interactions with third-party apps.

6. Enhanced command prompt.

Advanced Windows users frequently turn to the command prompt to get things done. The Windows 10 command prompt supports standard clipboard shortcuts like Ctrl-C and Ctrl- V, for copy and paste, line-by-line text selection, word wrap, Find dialog, and automatic buffer resize when you resize the command window.

7. The Edge.

The Edge browser is the Microsoft new web browser, and focuses on modern web standards without attempting to maintain compatibility with earlier versions of Internet Explorer (IE). The result is a much faster web browser that will be improved with new standard support more quickly than was possible with IE. Edge already outperforms IE on many benchmarks, such as Google's Octane 2.0 where Edge is typically at least 80% faster than IE.

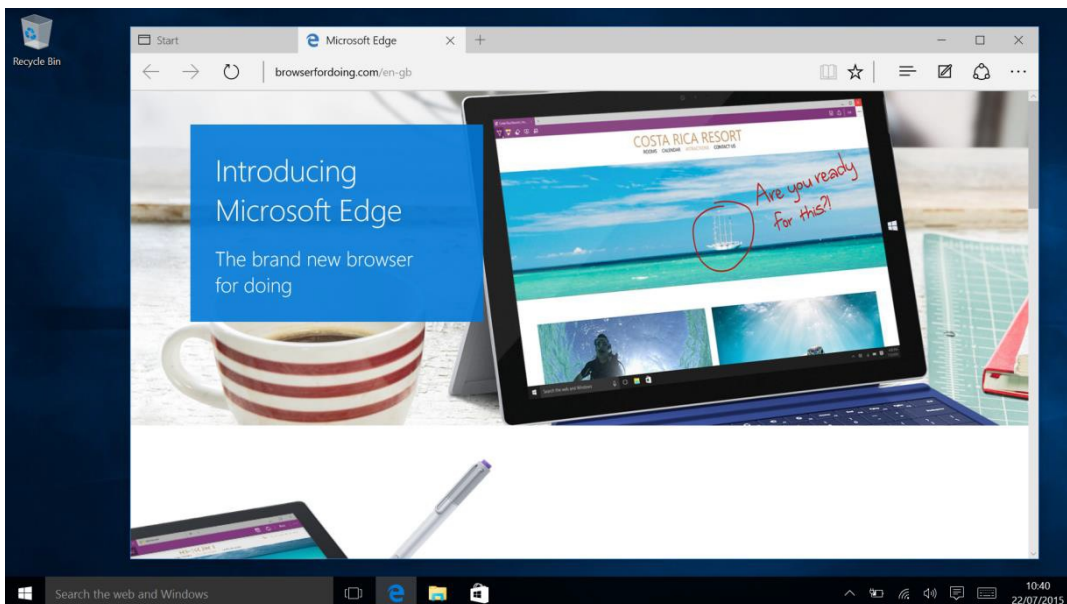


Figure 4: The Edge browser, new in Windows 10, offers fast, standards-based web browsing

8. New Notification panel.

In Windows 7 or Windows 8, you often need to open Control Panel, or the Metro-style Settings app, to make configuration changes. Windows 10 has common settings such as network and VPN, screen brightness, Bluetooth and Airplane mode, in a panel which you can open from the taskbar or, on a tablet, by swiping in from the right. The full Settings app is also improved in Windows 10, with better organisation, a more consistent appearance, and fuller coverage.

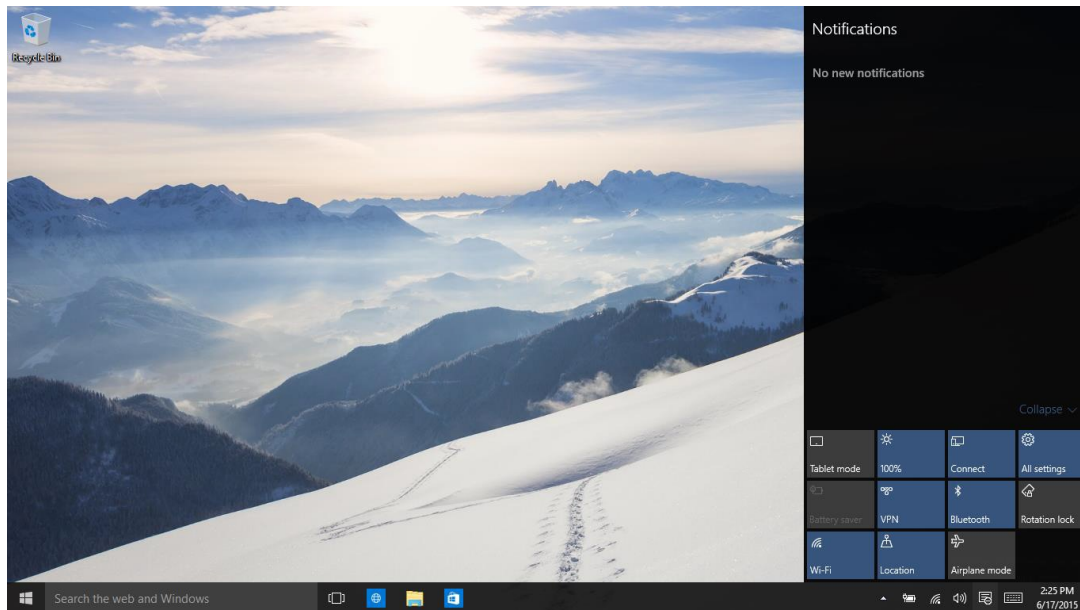


Figure 5: The Notifications panel in Windows 10 brings together key settings and alerts

9. Windows 8 enhancements that you may have missed.

With all the excitement about Metro, improvements Microsoft made to the Windows 8 desktop may have gone unnoticed. Copying files works better than in Windows 7, thanks to an improved file copy dialog that supports multiple file operations such as pause, resume and cancel. The Windows 8 Task Manager is also improved, with a detailed Performance view, colour coded to show the most stressed resources. Multiple display support is better, with desktop scaling for high-resolution displays and the ability to show the taskbar across multiple monitors. Start up is faster than Windows 7 thanks to “hybrid boot”, which uses elements of hibernation to speed up the boot process. These features and many more all carry over to Windows 10.

Windows 10 is the most significant PC release for many years, and promises to revitalise the PC. Amplicon are happy to advise, offer or customise this Operating System to suit you specific needs and requirements.