

Windows Developer Preview

■ Windows 8 guide

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Windows

More than two out of three PCs today are mobile devices—laptops, netbooks, notebooks, tablets, and slates. Nearly every PC is capable of wireless connectivity. Screens range from under ten inches to wall-mounted monitors to multiple HD screens. Storage has grown from megabytes to terabytes and is moving to the cloud. Multi-core processing and powerful graphics are normal. Touch screen mobile phones with the rich capabilities they bring together have changed the way we view computing. The explosion of social technologies, cloud-based services, and access to web services through apps give people powerful new ways to connect and share. Modern computing focuses much more on people and apps than on the operating system. These changes in the landscape motivated the most significant changes to Windows.

reimagined

But reimagining Windows® doesn't mean starting over from scratch. Windows 7 fundamentals like speed, reliability, security, and compatibility make it the best operating system Microsoft has ever created. The next version of Windows (codenamed Windows 8) is being designed to build on what is great about Windows 7, delivering richer security features, faster startup, and longer battery life that runs on a wider choice of devices and chipsets. Windows 8 extends these fundamental features with a new touch-optimized interface. Windows 8 also provides the platform to create a whole new generation of full-screen apps that are based on modern web standards and available through the new Windows Store. We've redesigned the Windows experience and built on everything you already love.

New and beautiful user interface

Metro style

Windows 8 introduces a new Metro style interface, which shows the information important to you, embodies simplicity, and gives you control. The interface is a personalized layout with clean typography and animations to make interacting with your PC fluid and intuitive. The new interface is built for touch. With touch, you can do what you want to do quickly and naturally. The new Start screen puts all of your apps in front of you for immediate access. You don't have to remember where things are. And whether you want to type, click, or swipe, Windows 8 is optimized for easier navigation so moving around the operating system is effortless with either a finger, or a mouse and keyboard.



See your apps and content at a glance on the Start screen

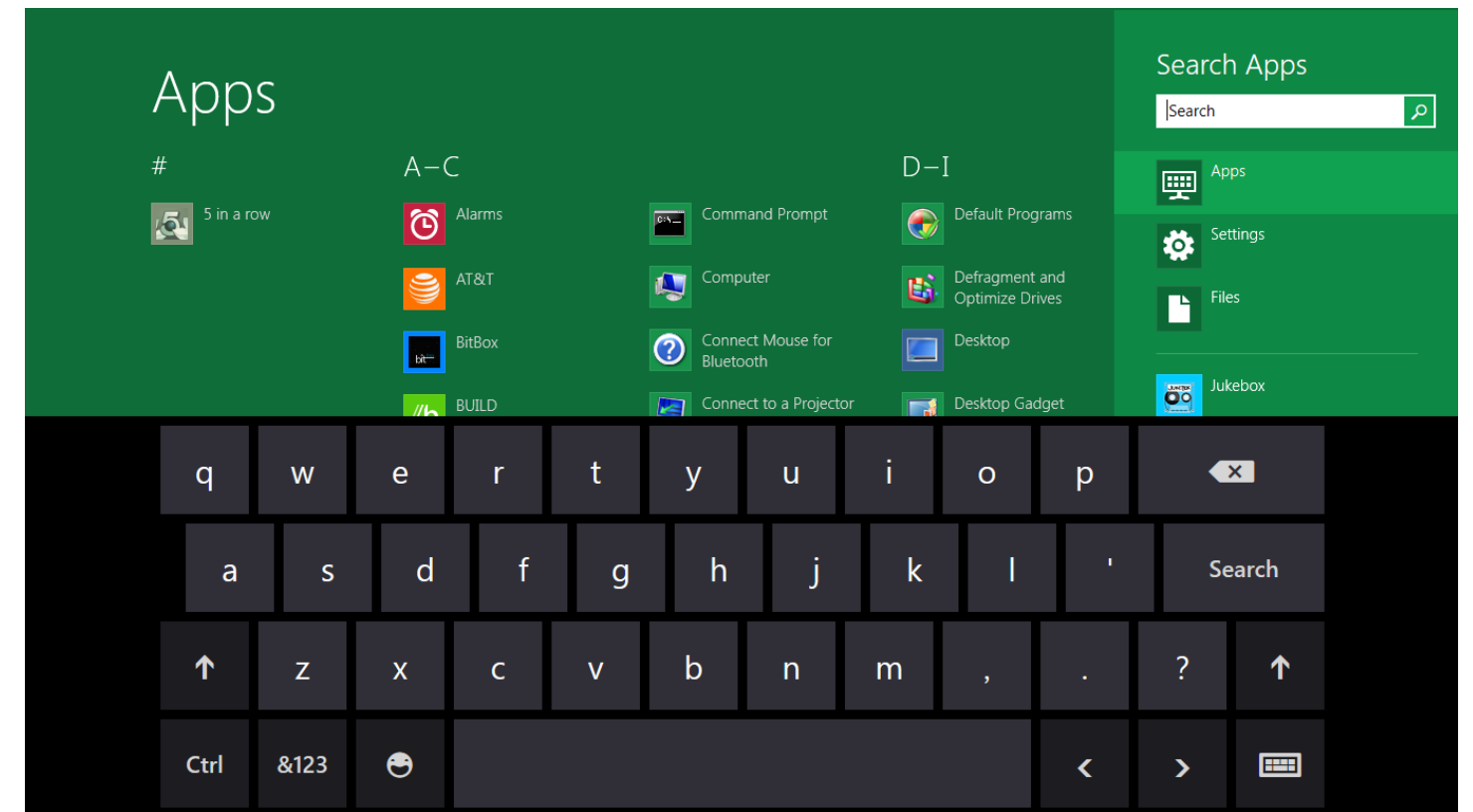
It all starts here

The new Start screen gives you a fast way to interact with all of your apps and content. The tiles are alive with information, showing you what's going on at any time. Information that you care about — the weather, your friends' status updates, the top movie in your Netflix queue, your next calendar appointment — is all there at a glance. You can personalize your Start screen with shortcuts to your favorite things, like websites, a playlist, or photo albums. You decide where you want things on the screen and how you want them grouped. You can optimize for efficiency by adding speed bumps between groups of apps so that you don't have to swipe back and forth when you're panning through your Start screen.

Touch keyboard

Windows 8 has two touch keyboards for ultimate mobility and flexibility. An improved, full-sized touch keyboard with larger buttons and a unique thumb keyboard make it easy to use your computer on the go. Whether you're walking around or sitting down, it's more comfortable and natural to type using your thumbs when the keyboard is split.

The touch keyboard in Windows 8 includes several features to speed up your typing and make it more accurate. Improved keyboard technology is designed to minimize inaccurate key strokes while automatically correcting mistyped words without slowing you down. To make typing more efficient, Windows suggests words on screen as you type, allowing you to choose the suggested word with a single tap.



The touch keyboard is there when you need it

The keyboard adapts to different languages. On touch-based computers, the layout of the keyboard automatically adjusts to the language you choose for Windows. Your input and language settings automatically apply to the whole computer rather than to just specific programs.

One Windows – many shapes

Support for ARM-based chipsets, touch, and sensors makes Windows 8 work beautifully on your choice of a full spectrum of devices, such as 10-inch slates with all-day battery life, ultra-lightweight laptops, and powerful all-in-ones with 27-inch high-definition screens. Regardless of which device you use, improvements in the core of the Windows operating system result in faster boot time, more efficient app management, and substantially reduced memory usage. Windows 8 is powerful and responsive.

Powered by apps

Metro style apps built for Windows 8 are beautiful, intuitive, and the focal point of your experience. They're immersive, filling your entire screen so there are no distractions. Apps can adapt to a variety of form factors and screen resolutions, such as thin slates or large monitors, and can work on x86, x64, and ARM platforms. Apps work together, making it easy to search, share, and send content between them. When you're connected to the Internet, your apps come alive with activity and show you the latest content so that you can stay up to date at a glance.

Windows 8 gives you the important apps you need for your daily life, including a touch browser. And Windows Store delivers everything you expect for getting apps. You'll find the apps you want. You can be confident that they're very safe because we screen them. You'll enjoy the flexibility of browsing, downloading, and buying or trying (if available).

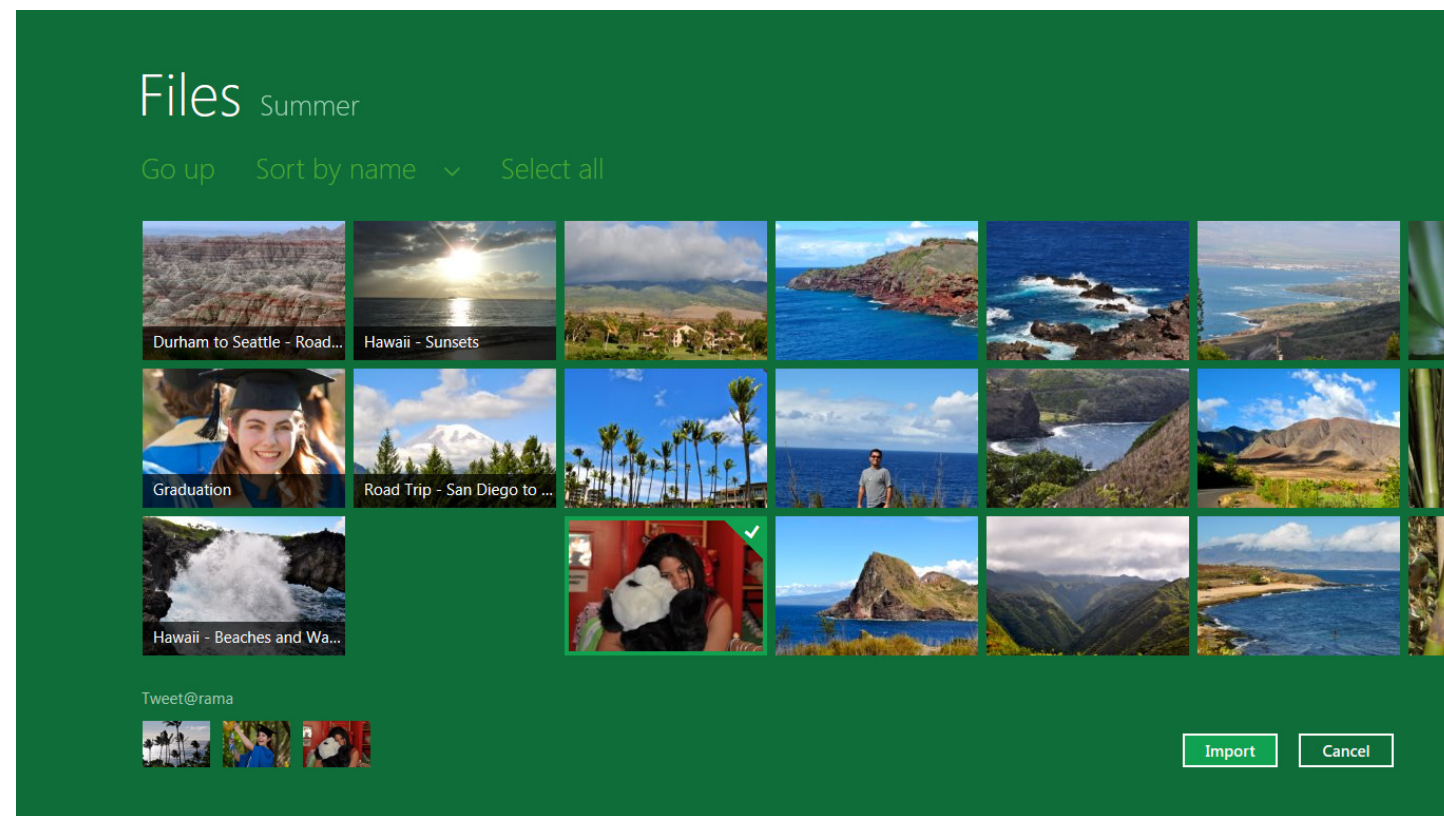
Your apps are ready for you on any Windows 8 PC you use—desktop, laptop, tablet—whether yours, a friend's, or a family member's. With a connected account, you can download your apps and use them wherever you are.

Your apps come with you

When you sign in with your connected Microsoft account to another PC running Windows 8, your Metro style apps and settings go with you, so it's just like you're using your own PC. You'll also be signed in to all of the websites you were signed in to. Your connected account is like a portable, personal PC that appears on any Windows 8-based PC you're using. You're always ready to pick back up where you left off no matter where you are.

Apps can work together

Apps can communicate with each other in Windows 8. So, if you want to send pictures in email, and they're in different places like Facebook, Flickr, or on your hard drive, you can easily pick and send the ones you want. Windows 8 provides a single view.



Pick the files you want to send or share from one place

Always on and always connected

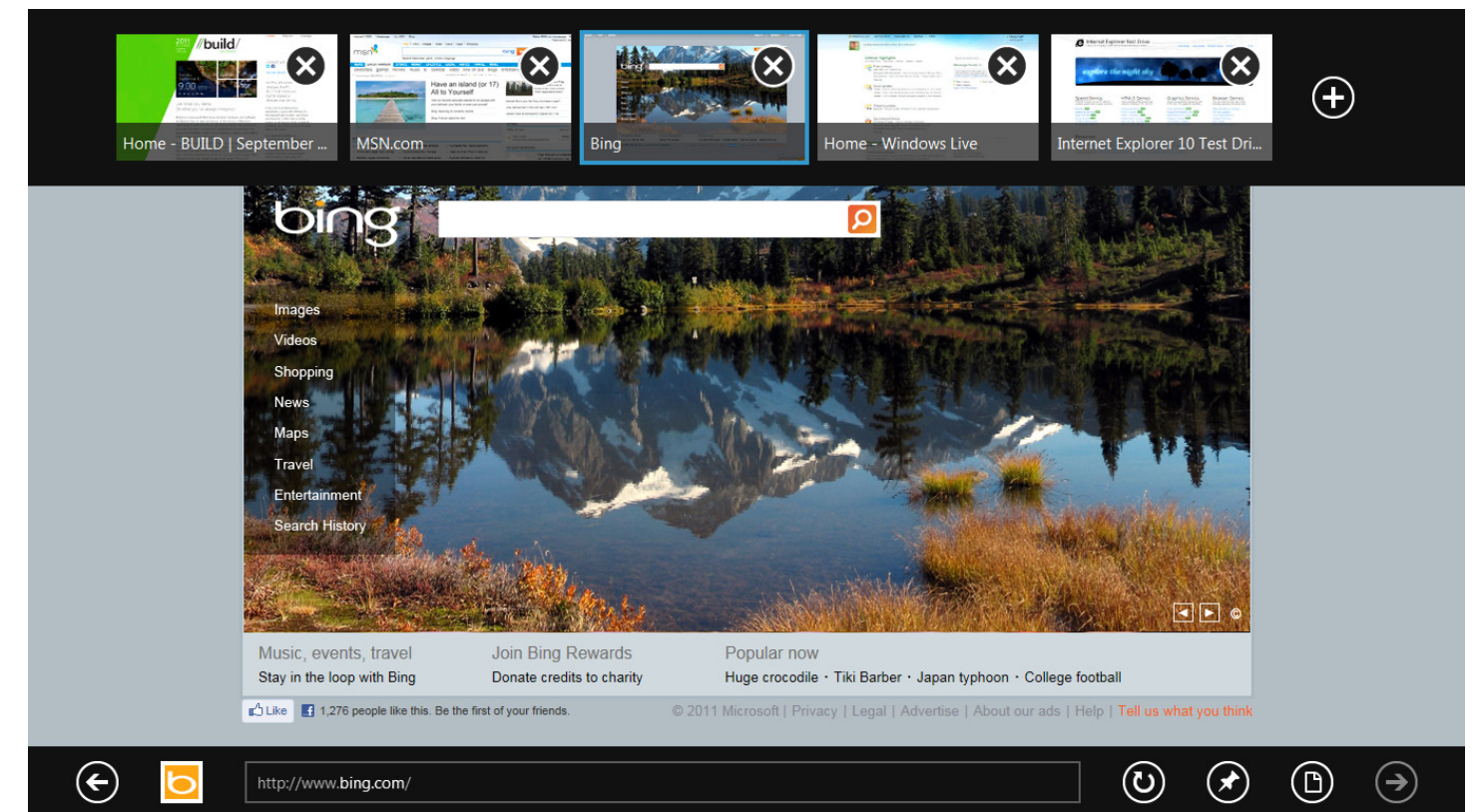
Metro style apps run and stay up to date even when the PC is on standby. When you're connected to the Internet, you'll receive information updates, email, VoIP calls, instant messages, and be able to stream music or other content in the background. When Windows comes out of standby, your apps don't need time to catch up.

Great apps right out of the box

Whether it's entertainment, getting work done, staying in touch, being informed, or keeping memories, you'll have the important apps you need. They look rich and beautiful, bring together all of your online content, and run in full screen, so nothing comes between you and what you're doing.

Internet Explorer 10: the web by touch

Metro style Internet Explorer 10 provides a fast and fluid touch-first browsing experience that's all about your sites, making them feel increasingly more app-like. With faster performance, leading security protection, more hardware acceleration, and site-ready HTML5 support, IE10 continues to allow developers to build a richer and more beautiful web.



Touch browsing is fast, fluid, and intuitive

Touch browsing, not just browsing on a touch device

Internet Explorer 10, optimized for touch browsing, is built for speed and fluidity. Gesture-based navigation is intuitive and fast. You can pan, zoom, and navigate naturally. And when you need it, the navigation bar includes touch-friendly controls for common navigation tasks. The IE 10 touch experience has all the benefits of Windows, so you can snap applications side by side and quickly access the charms for searching and sharing. Internet Explorer 10 delivers a touch browsing experience that makes the web feel as seamless as everything else on your Windows 8 device.

Your sites are at the center

The Metro style interface of Internet Explorer 10 is cleaner and the browser gets out of the way, so the focus is on your favorite sites. The navigation bar appears only when you want it, so there's more room for your sites. A ready-when-you-need-it touch keyboard is intelligently integrated into the browser. Like IE9 on Windows 7, you can pin your favorite websites to the new Windows Start screen. This makes them feel more like an app because you can access them with a single tap. And if your favorite site has a Metro style app available, IE10 lets you know so you can just switch to the app if you want.

Experience a more beautiful web

By taking advantage of Windows and your device's hardware, IE10 continues the IE9 commitment to loading sites so fast that it feels nearly instantaneous. The hardware acceleration pioneered in Internet Explorer 9 allows web developers and designers to build increasingly rich and immersive experiences. And because real-world security and privacy threats still plague the modern web, IE10 continues to provide a more secure and trusted browser. Building on the security platform of Windows and harnessing the world's leading cloud-based reputation system, SmartScreen, Internet Explorer 10 will help keep you more secure when browsing the web.

Windows Store

The new Windows Store features great apps you might be familiar with and others you'll love getting to know. It's easy for you to find the apps you want, ranging from exciting new games, to the productivity tools you already know and trust on Windows.

You can browse and compare thousands of apps—we make it easy for you by grouping apps in familiar categories, highlighting frequently downloaded apps, and showing how other users have rated what they've purchased. For many apps, you can try before buying if you're a bit skeptical. Once you've decided, you can buy with peace of mind, knowing that downloaded apps have been screened and checked for viruses. And you can install your purchased apps on up to five Windows 8 PCs.

Desktop

On x86 and x64 PCs, the apps you're used to using, like Microsoft® Office Word® and Excel®, CAD/CAM, and Adobe Photoshop, still run on the desktop the way they always have. When you want to use one of these apps, you can get to it right from your Start screen. You simply tap and go. Windows opens your app on the desktop, and you can use touch or your keyboard and mouse.

Compatibility

On x86 and x64 PCs, Windows 8 supports Windows 7 desktop applications and devices so you don't have to compromise or give up what you're used to. On these PCs, your existing Windows 7-based applications just work.

More for power users

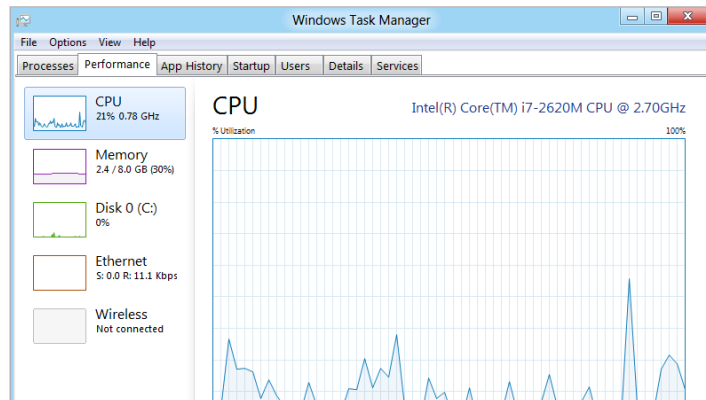
If you want to push the limits of your PC experience, we've invested in the features most often used by power users. We redesigned Windows Explorer and Task Manager to greatly enhance productivity, and developed new, flexible options for multi-monitor setups.

File management with ease

We've enhanced Windows Explorer to make file navigation and common file management tasks straightforward. The ribbon organizes Explorer's rich functionality, surfacing previously buried features and has new commands like ISO mounting and single-window move or copy. We've brought back a long-lost favorite: the Up button. We've also introduced a new enhanced copy experience so you can view and manage all of your file operations in one place.

Task Manager

The new Task Manager is your easy-to-use, all-in-one dashboard for monitoring and controlling your PC so you always know what's going on with it. The information is presented in color-coded tiles to help draw your eye to items that are using the bulk of a resource. You can keep track of your system efficiently and in real-time, taking advantage of summary graphs and detailed information on processes, applications, and history. You can see the services associated with each process on one screen.



Task Manager shows you how your PC is performing

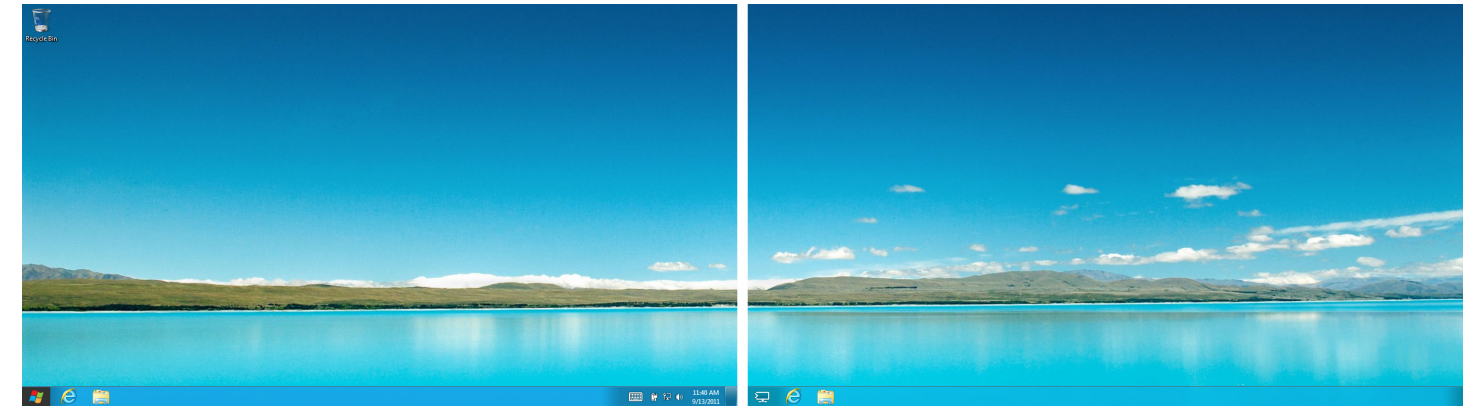
The screenshot shows the Processes tab of Windows Task Manager. It displays a table of running processes with columns for Process, Status, CPU, Memory, Disk, and Network. The following table represents the data shown in the screenshot:

Process	Status	CPU	Memory	Disk	Network
Applications (8)					
COM Surrogate		0%	19.9 MB	0 MB/s	0 Mbps
Internet Explorer		0%	61.3 MB	0 MB/s	0 Mbps
Microsoft Expression Blend ...		0%	45.8 MB	0 MB/s	0 Mbps
Microsoft Visual Studio 11 E...		0%	37.4 MB	0 MB/s	0 Mbps
Paint		0%	7.9 MB	0 MB/s	0 Mbps
Tweet@rama		1.6%	46.5 MB	0 MB/s	0 Mbps
Windows Explorer		1.0%	52.2 MB	0 MB/s	0 Mbps
Windows Task Manager		1.9%	10.6 MB	0 MB/s	0 Mbps
Background processes (17)					

The Process tab shows you what's using PC resources

Multi-monitor options

Using multiple monitors is more flexible than ever before. New options allow you to display the Start screen on one monitor and the desktop on the other. Display different desktop backgrounds on each monitor or stretch your image across both. There are also options to have duplicate or unique task bars on each monitor.



Multiple monitors now work as one big workspace

Push-Button Reset

There's nothing more frustrating than having a major PC failure and spending hours reconstructing your computer's original state or paying to have someone do the work for you. Windows 8 comes with a number of options to restore your PC to its original state. You can do a basic reset, which gives you an easy option to restart fresh while retaining all of your documents, accounts, personal settings, and even the apps you've downloaded from the Windows Store.

Windows 8 also provides some new, advanced options. You can do a complete reset, which restores the PC to the state it was in when originally purchased. And you can also create a reset disk, which is great for power users who have invested time to personalize and configure their PC. Restore from USB Key restores your PC from a thumb drive, saving space and giving you a convenient backup tool in the event that your hard drive is damaged and needs to be replaced.

Windows Update

Nobody likes to be interrupted when they're in the middle of doing something important. At the same time, it's important that you keep your PC up to date.

Windows 8 takes care of keeping your computer up to date, including most maintenance activities, without getting in your way. If you turn on Windows Update during setup and your computer needs an update, Windows can install it when you're not using your computer or at a time you've specified. When an update requires a reboot, there's a grace period, allowing you to pick a time that's convenient for you. As a result, you see far fewer prompts about maintenance, updates, or reboots. You won't be slowed down by interruptions, and your PC will keep performing well.

Developing for Windows 8

Great apps start with great developers. Windows 8 gives you the platform and tools to create rich app experiences where your customers focus on tasks that are important to them. Apps are at the center of the Windows 8 experience. They're alive with activity and vibrant content. Your customers immerse themselves in your full-screen, Metro style app allowing them to focus on their content rather than on the operating system.

Signing up to sell your app through Windows Store means you can tap into the broad customer reach of Windows, which spans markets around the world. You'll draw from a wealth of new tools and services so you can develop and deploy apps faster and more profitably. Of course, you can also reach and engage new customers using the commerce platform of your choice.

With Windows 8 you can leverage your existing skills and code assets to create great experiences for your customers.

- Web developers can use their HTML5, CSS3, and JavaScript skills to build native applications for Windows.
- .NET Developers can use XAML, C#, and Visual Basic to build beautiful Metro style apps.
- Game developers can use the power of DirectX 11.1 to build amazing, immersive gaming experiences.
- Driver developers can use the new, integrated Microsoft® Visual Studio® development environment to increase productivity.

With Windows 8, you're ready to imagine, build, and sell the next great app.

Windows Runtime and app model

The Windows Runtime (WinRT) is a straightforward set of APIs used to build Metro style apps. WinRT lets you build apps that look great and are intuitive for your customers to use. WinRT APIs are available to developers in multiple languages, including JavaScript, C++, C#, and Visual Basic. The new Windows SDK for Metro style apps also includes a subset of traditional Win32, Component Object Model (COM), and .NET Framework APIs, as well as HTML5 and CSS3 APIs that are accessible to Metro style app developers.

Choose from a broad range of app programming languages

To build fully native and robust apps that make the most of a Windows 8-based PC, you can develop using web programming technologies or familiar Windows programming techniques. Windows Metro style apps using JavaScript leverage the combination of HTML5 and CSS3 to build the user interface, along with JavaScript for app logic. Windows Metro style apps using C++, C#, or Visual Basic use XAML markup for the user interface, with C++, C#, or Visual Basic for app logic. Game developers can build Metro style games using C++ and DirectX 11.1 to take full advantage of graphics hardware, or build casual games using HTML5 or XAML.

Compatibility with existing frameworks

WinRT APIs are accessible to other Microsoft programming frameworks, like the .NET Framework or Windows C Runtime Library. Desktop apps can access WinRT functionality by including the `Using` keyword in your code. WinRT features are represented by the Application Binary Interface (ABI), which makes Windows APIs accessible from other programming languages. The ABI is exposed in metadata assemblies (.winmd files), allowing static languages (like C#) and dynamic languages (like JavaScript) to understand the structure of the WinRT API.

Build component libraries with extensible frameworks

The new Windows 8 app models feature native extensibility, which you can use to build your own reusable component libraries. You first build your own custom components with C++, C#, or Visual Basic. Then, you can use JavaScript or any other supported language to call these components from your apps.

Shell integration

When you create a Metro style app, you get deep integration with the new Windows 8 features, including the app bar, edge, live tiles, and contracts with other apps. Your app participates fully in the touch-first interface and modern user experience. When it runs, your app becomes the focus of attention, and the operating system chrome recedes into the background.

Adding Metro style to your apps

Your apps get a predictable, Metro style UI that's tailored to the device by using Windows 8 controls. The controls are designed for both touch devices and for mouse and keyboard. By default, your apps convey the Windows personality, which is a familiar user experience that customers understand. Here are the three kinds of controls that you can use.

Standard controls: these include everything you need to display, enter, and manipulate data and content. Control families include view, text, pattern, overlay, media (audio and video), content, collection, and basic.

Collection controls: These help designers to create rich content experiences in consistent, touch-friendly ways. They include built-in support for drag-and-drop operations, and they let you customize display modes by using styling and templates. Examples are the simple list, grid view, grouped grid view, flip view, and semantic zoom.

Intrinsic controls: These are available in the Windows Library for JavaScript (WinJS), and they go beyond the limitations of CSS3 box-type controls, if you need more flexibility in your interface design or you want to integrate your own brand into your customers' experience.

Creating immersive user interfaces with adaptive layout

Windows 8 gives you creative options for adapting an app experience dynamically to the size of the screen area, changes in orientation, and different display capabilities using CSS3. These features enable you to give your customers a fluid, natural-feeling experience in your Metro style apps. Here are some examples.

Animation: Create smooth, animated experiences and elements with HTML5 and CSS3 that embody the Metro style. Take advantage of a comprehensive set of pre-defined animations that are lively and unique, yet familiar to users.

3-D transformations: Add smooth, fluid visual experiences, such as perspective transforms and flipping elements on and off the screen. In the past, you'd have to create these effects using native code, but now you can create them with HTML5 and CSS3.

Flexible box layout: Create flexible containers that expand proportionally to fill any remaining space in an HTML5 layout. This is great for designers to use to create key components of apps, such as toolbars or navigational elements.

Grid layout: Position and size content elements into cells on a grid structure that you define with fixed, fractional, or automatic units.

Multi-column layout: Mimic newspaper and magazine layouts by creating a single column of HTML5 content in multiple parallel columns with equal width and height.

Graphics

DirectX gaming power underlies Windows 8, so you have several options when creating Metro style game apps. You can write full-screen, chrome-free games with smooth, flicker-free action using HTML5, JavaScript,

and CSS3. Or, write impressive 2D and lightweight 3D games using XAML with managed C# or Visual Basic. You can also use the full processing abilities of modern graphics hardware using native C++ and HLSL with DirectX 11.1.

Create immersive games using the power of DirectX

The new Windows 8 graphics stack is better integrated, making Direct2D, Direct3D, and DirectCompute components easier to use together and requiring fewer duplicated resources than before. Capabilities previously available only in XNA, such as DirectXMath, XAudio2, and XInput, are now available. For the ultimate experience in gaming and video, use DirectX 11.1 to bring stereoscopic 3D to your apps.

Media and sensors

Building immersive experiences that take full advantage of modern hardware isn't hard with Windows 8. You can integrate audio and video content using declarative APIs with support for many popular codecs. Sensor support helps you build experiences that are tailored to the user's context with powerful Win32 APIs or easy-to-use WinRT components.

Integrate audio and video

Metro style apps built for Windows using JavaScript have access to the <Audio> and <Video> tags, which enable you to embed a video or audio clip with a single line of HTML code. Similarly, XAML developers have access to the <MediaElement>, a powerful control for media integration. A wide variety of codecs are supported, including h.263, h.264, AAC, and MP3. Enhancements to Media Foundation improve compatibility and performance for desktop application developers.

Metro style apps also have access to the Windows.Media namespaces in the WinRT for capturing and transcoding media, as well as using PlayTo to stream audio, video, or images to networked devices. With camera capture support, you can create capture controls, use a preview window, and specify resolution and codecs for media capture, all without calling complex APIs. And for apps that just need a basic camera capture without additional control, the CameraCaptureUI class can capture a photo or video in only one method call, which uses a Windows-provided dialog so that you don't need to create any UI for the capture operation.

Build experiences that are tailored to the user with sensors

The Windows 8 sensor platform is an end-to-end solution that includes guidelines for the hardware manufacturer, developers of class drivers and those that develop against the Win32 API and the Windows runtime component.

The Win32 API enables you to integrate sensor data into your application without writing a lot of code. You can "discover" available sensors, register to receive event notifications, and control the interval at which the hardware issues events. The variety of sensors supported by the API is virtually unlimited—if the sensor data is published by the Human Interface Device (HID) class driver, you can access it.

The WinRT component enables you to quickly access input from seven sensors: accelerometer, inclinometer, gyrometer, compass, ambient-light, orientation, and simple orientation of your device (this does not include

geo-location). The orientation sensor fuses data from several physical sensors to provide a quaternion and a rotation matrix as output. Game developers can use these components in a variety of game genres to control the user's perspective and orientation.

Building for the tailored web

Windows 8 is a great platform for building apps. It's also the leading platform for building beautiful, fast, and highly secure websites. Web services enhance the user experience and can take advantage of functionality provided by SkyDrive, Hotmail, and Windows Live Messenger. Notification services let your app continue to add value, even when it isn't running.

Developing for Internet Explorer 10

Internet Explorer 10 is the most exciting browser from Microsoft for developers. With support for modern standards like HTML5, CSS3, and SVG, as well as hardware-accelerated graphics and compiled JavaScript, Internet Explorer lets you build the next generation of web experiences.

Internet Explorer 10 continues to challenge the notion that the web is inferior to native apps by putting hardware accelerated HTML5 at the core and makes it possible for developers to build the next class of great web experience.

Microsoft is continuing to deliver on our commitment to HTML5 with IE10 and Windows 8, providing a great platform to push web development forward. Internet Explorer provides a standards-based web platform that is fully interoperable across both the desktop and the new Metro style IE 10 browser, enabling developers to write the same HTML5 markup across both experiences.

With the release of IE10, developers get even more support for HTML5, enabling them to create rich visual effects and animations with hardware accelerated CSS transitions, animations, 3D transformations, along with CSS3 text shadow, gradients, and SVG filter effects. Building increasingly sophisticated page layouts is possible with support for CSS3 grid, flexible box layout, multi-column, figures, CSS3 regions, and hyphenation, as well as HTML5 Forms and Input Controls.

The IE10 platform also includes support for local storage including IndexedDB, Application Cache, Async scripts, Web Workers, ES5 Strict mode support, Web Sockets, HTML5 file APIs, drag-drop, history, and sandboxing. These features give developers an increasingly sophisticated, standards-based, programming model that is ideal for creating modern web experiences.

Microsoft's commitment to HTML5 now extends beyond the browser to Windows. With the introduction of Windows Metro style apps using JavaScript, web developers that build amazing JavaScript and HTML5 sites will be able to quickly and easily turn those into even richer applications that take full advantage of the underlying capabilities of Windows. Using familiar HTML5 programming models and toolsets, developers can start building beautiful, interactive web sites and Metro style apps with great performance and security. With Internet Explorer 10 and Windows, HTML5 continues to open up new possibilities for developers to reimagine the web.

Live Connect

Live Connect provides a set of controls and APIs that enable applications to integrate Single Sign On (SSO) with Microsoft connected accounts and enable users to access information from SkyDrive, Hotmail, and Messenger. Apps can recognize the user and personalize the experience by leveraging SSO, provide access to the user's contacts and calendar from Hotmail, or upload photos, documents, and other content to SkyDrive.

Windows Push Notification Service

Apps developed for Windows 8 are alive with activity and vibrant content, even when they're not running. Using the Windows Push Notification Service (WNS), apps can receive secure messages from your website, and send them to your app's live tile or provide a notification to the user. For example, you can use WNS to notify a user that it's their turn in a multiplayer online game. Or, create a restaurant review app that displays a notification when a hot new restaurant opens and also notifies you when someone comments on your last review. It's not necessary for your app to be open to continue adding value and this enhances the battery life of your customer's device. You can take advantage of the new functionality provided by WNS services using the Windows Store, which automatically provisions your app's ID and makes sending notifications to your app easier.

Contact Picker

The Contact Picker integrates support for contact selection directly within Windows. It enables any app to participate as a contact provider, letting other apps access contact data stored by your app. The user decides whether an app can share data which keeps it under his or her control. Unifying contact data makes it easier to build great apps that enable access to the people your users care about most, making them more fun, social, and alive with activity.

Develop with the best in modern tools and frameworks

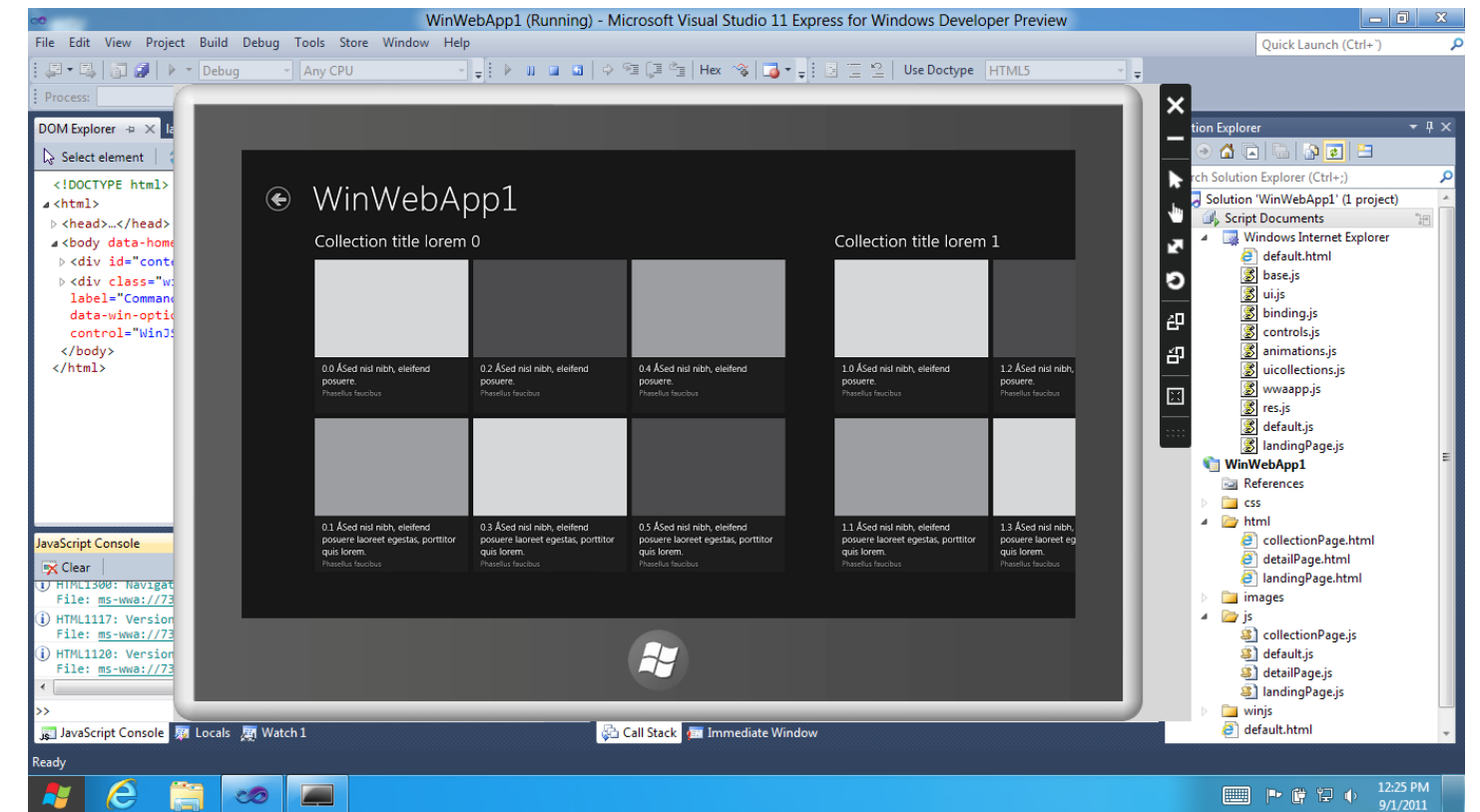
The new Windows 8 SDK and Windows Dev Center provide everything you need to start building your apps. The Windows 8 SDK includes free versions of Microsoft® Visual Studio® 2011 Express and Microsoft® Expression Blend®, as well as the latest tools, APIs, compilers, debuggers, sample apps, documentation, templates, tutorials, and guidance from the experts. Get complete end-to-end solutions with SDK tools.

The SDK for Metro style Apps provides exceptional capabilities to support your app development scenarios when you have complex interactions between apps, the operating system, and hardware. In addition, the tools in the Assessment and Deployment Kit (ADK) measure system performance to help ensure that the software and hardware you develop is of the highest quality.

Visual Studio 2011, Express, and Expression Blend work perfectly with Windows 8

Microsoft® Visual Studio® 2011 Express is a free, lightweight version of the powerful Visual Studio integrated development environment (IDE). Visual Studio Express is packaged with Expression Blend, a visual design tool that helps you work with HTML5 and XAML. Expression Blend also gives you access to Windows controls

and an integrated tool to profile user interfaces. To help you write games in DirectX and HLSL, Visual Studio Express has a new graphics authoring and debugging IDE. If you write device drivers, Visual Studio Express now integrates a full set of tools and interfaces to help you write, build, compile, sign, test, debug, and verify drivers, along with tools to port your existing driver files to new Visual Studio Express project and solution files.



Visual Studio Express helps you develop Metro style apps

App telemetry

The Windows Dev Center provides a Dashboard that includes many ways to improve your apps by monitoring their success. View reports on downloads, revenue, usage, in-app transactions, customer ratings, market trends, and crash and hang data.

Windows 8 developers can access reports and telemetry data that show failure-based and cause-centric data indicating how reliable their products are in the field, how often they crash or hang, and how they compare to other apps in the ecosystem (no personal or company information is revealed). These new reports are consistent and actionable so you can find issues quickly and efficiently.

Build on the broad reach of the Windows Store

Windows 8 and Windows Store make it simple for millions of customers to find, try, and buy useful, high-quality apps from practically anywhere in the world. The Windows 8 ecosystem creates an environment that makes it easy to distribute, update, and get paid for the apps that you develop.

Maximize your earnings

With the revenue-sharing approach of Windows Store, your apps have the potential to bring in strong revenue from the start and let you add more value over time by offering upgrades, new functionality, and purchases from within the app. When you submit an app to Windows Store, you can specify whether the app is free, a trial version of the full app, free and supported by advertising, or a paid version.

Take advantage of in-app purchase options

With in-app purchases, you can set up your app to let a customer buy content or new functionality, such as unlocking the next level of a game. You can put the purchase options—displayed in the local currency—in the best places in your app for your customers.

Sell anywhere or everywhere

In the Windows Store submission system, you choose the specific countries or regions to sell your app, and you set a single price for your app that will be converted to local currencies worldwide.

A better way to sell your apps

Windows 8 and Windows Store provide a flexible way to get your app to market. Store policies for approving an app are clear and straightforward. The Store has the capability to remove apps when necessary and different ways for customers to discover and install your apps. Windows Store has tools to monitor acquisition rate, revenue, and app quality.

Fundamentals, devices, and security

Windows 8 is built on the rock-solid foundation of Windows 7, and it features many improvements in performance, security, privacy, and system reliability. Everything that consumers, developers, and IT pros have come to love about Windows 7 is still there – only better. Refinements to the kernel improve system responsiveness, security, and performance. Improvements in the driver model and tools chain for driver development improve system stability and reliability. And Windows now runs on ARM devices as well as x86 and x64. You'll benefit from innovative security features and your apps run faster on Windows 8.

Fundamentals

System requirements

Windows 8 works great on the same hardware that powers Windows Vista and Windows 7:

- 1 gigahertz or faster 32-bit or processor
- 1 gigabyte (GB) RAM (32-bit) or 2 GB RAM (64-bit)
- 16 GB available hard disk space (32-bit) or 20 GB (64-bit)
- DirectX 9 graphics device with WDDM 1.0 or higher driver

Of course, taking advantage of touch input requires a screen that supports multi-touch.

Apps run on ARM, x86, and x64 architectures

In addition to running on x86 and x64 devices, Windows 8 delivers even greater flexibility by running on ARM devices. Depending on the technology you use, write your Metro style apps once and they can run on any supported architecture. You can also take advantage of the unique capabilities of your customers' PCs.

Connectivity

Many apps benefit when you're connected. For example, Windows automatically switches to the network connection with the best quality and enables your apps to throttle down their bit rate, which enables your apps to deliver the best possible user experience. On certain networks, as network usage approaches a customer's usage limit (typically set by their internet service provider), Windows can automatically block further network connections to protect your customer from overage charges.

Wi-Fi and mobile broadband

Windows 8 improves mobile network connectivity by making it easier to use Wi-Fi hotspots as an alternative to mobile broadband connections. Windows 8 treats a mobile broadband network as a metered connection.

Windows 8 also includes an integrated set of radio controls so you can turn network radios on and off, as well as control all of them at once via a convenient 'flight mode' switch.

Devices

Metro style device apps

Device companion apps launch when a user connects a Windows certified device, like a camera or TV, to a Windows 8 PC. Hardware manufacturers can now use the device metadata XML to specify a Metro style device app that automatically downloads and launches when the device is plugged into the PC. These apps can provide more enjoyable customer experiences, such as sharing photos from a camera or connecting to a social network. Plus you don't have to manage app distribution and updates. You can even design the Metro style device app to provide a unique experience for each country or region.

Class drivers

Windows 8 includes new built-in drivers that support a broad range of devices, including printers, sensors, touch-input devices, and displays. That means that, in many cases, you won't even need to produce a device driver to accompany your hardware because Windows provides a class driver for you. When users set up their device, it will just work.

The new HID class driver supports common sensors such as heat, light, temperature, pressure, current, and motion. In addition, this driver allows a hardware manufacturer to integrate unique sensors, like a blood-pressure monitor or a glass-breakage sensor. Guidelines for developing HID-compatible devices are available on the Windows Dev Center.

Security

Metro style apps run in a more secure environment

Metro style apps run in a security context with restrictions that control runtime access to sensitive resources. An app declares its required capabilities in its manifest, and the customer can view the capabilities in the app summary in the Windows Store. When customers buy the app, they provide consent for the app to use only those capabilities. The app can also ask them to use the resources they previously agreed to, giving customers further control over their data. So when they use the app, there can be a consistent interface to control ongoing app access to resources like a microphone or webcam.

Apps can read and write to user data stores with an improved data-access model, and the app's user data is isolated to that app and to that user. All of the user's connected devices can access this app data.

If you write your Metro style apps in HTML5 and JavaScript, the security model is similar to browser-based scripts. These apps can access content stored in a local or web-based compartment. If script files packaged with the app download any content from the Web, that content can run only with restricted capabilities.

Cryptography made simple

Cryptography is now much easier to use. A simplified programming interface enables you to effortlessly encrypt, decrypt, and digitally sign content. You can also create certificate requests and install issued certificates. You can use certificates stored locally or on smart cards.

If your web service is secured using, for example, SSL and is using the new APIs to develop a Metro style app that can use your service, you can easily create and install certificates that are specific to your package. This can help ensure a seamless and error-free experience for your customers without requiring you to purchase certificates from a certification authority.

SmartScreen filter

SmartScreen is a set of sophisticated technologies to help protect you from malicious websites and programs. Whether you're downloading or running a new program on the desktop, SmartScreen has you covered. SmartScreen continues to provide protection from phishing and socially engineered malware attacks using URL and application reputation and removes unnecessary warnings for programs and publishers with an established reputation. To add another layer of protection, SmartScreen is now integrated with program launch to screen programs downloaded from the web. It also shows new warnings before higher-risk programs can run and will block known malware.

Windows Defender

To ensure legitimate antimalware protection to all users, Windows 8 provides Windows Defender. It monitors and protects against viruses and other malware in real time and detects and removes malware if your computer becomes infected. With Windows 8, third-party antimalware software becomes even more effective: by loading approved antimalware drivers during the boot process, antimalware software can start from a known good state and continue its vigilant watch over your PC from that point on.

Secured boot

Secured boot stops malware in its tracks and makes Windows 8 significantly more resistant to low-level attacks. Even when a virus has made it onto your PC, Windows will authenticate boot components to prevent any attempt to start malware before the operating system is up and running. If the component isn't correctly signed by Microsoft, Windows will begin remediation and start the Windows Recovery Environment, which will automatically try to fix your operating system.

Windows 8 for business

To help companies unleash the full power of their workforce, Windows 8 puts people at the center of every experience. This means enabling personalized and seamless connections to people and information while helping to protect sensitive data from device to data center with built-in malware resistance, strong authentication, and data encryption.

Windows 8 works with today's hardware. Combined with tools that simplify compatibility testing and deployment, Windows 8 works with your existing client management infrastructure including compliance and security processes. It helps IT pros keep their systems running smoothly and securely.

Mobility and connectivity virtually anywhere

With Windows 8, business users can seamlessly connect to content, devices, and people that are important for work. With Windows To Go users will experience increased mobility and business continuity without the need to carry a laptop or tablet. An encrypted USB device will securely start their managed business desktop with access to corporate resources from any computer capable of running Windows 8, virtually anywhere.

DirectAccess helps remote users to securely access resources within a corporate network – such as SharePoint sites, line of business applications, and file shares – without the need for a user-initiated connection back to the corporate network. Windows 8 also uses metered connection services that inform users about paid data usage, and enables users and apps to optimize for cost and bandwidth.

Windows To Go

Enterprise IT pros can provide users with bootable USB storage devices containing a copy of Windows 8, along with their business apps, data, and settings. When users are finished and log off, they simply remove the USB device, leaving no data or information behind.

DirectAccess

Windows 8 includes several important improvements to DirectAccess, focused on simplifying networking infrastructure requirements, lowering deployment costs, and improving manageability. DirectAccess in Windows 8 better supports existing infrastructure, such as non-IPv6 server resources and simplifies deployment for smaller organizations by not requiring Public Key Infrastructure (PKI).

Flexible access to file information

IT pros can create and maintain dynamic, organization-based access policies for files, folders, or shares. These are based on configurable criteria, such as user roles, their departments, country or region, the sensitivity of the data being accessed, and the health of the device being used to access that data.

Data security and management

Businesses can better protect business data throughout the data creation, storage, and access lifecycle. PCs running Windows 8 can better resist malware because of a trusted boot-up process that automatically repairs drivers and reinforces policies—with no action required from users. IT pros can require new apps to run in restricted environments, reducing user down-time and the theft of sensitive data.

Data encryption is improved as well. Windows 8 enables an always-on data encryption mechanism, running in the background to help ensure that data is safe even when the device is lost. Windows 8 includes easy-to-use tools so IT pros can identify accepted and forbidden apps run on business computers.

Windows 8 simplifies access control management to help ensure the right people have access to appropriate data across corporate infrastructure.

AppLocker

AppLocker contains new capabilities that enable it to manage both desktop and Metro style applications. IT pros can create security policies that allow or deny specific applications from being run by specific users or groups of users.

BitLocker

Windows 8 delivers a rich set of improvements in BitLocker that help businesses reduce the risk of unauthorized data access. For Windows 8 business customers, BitLocker delivers better performance than today's software-only encryption by supporting fast, hardware encrypting drives. BitLocker only encrypts sectors that have data, incrementally encrypting the drive as free space is used. The user experience is improved through hard drive pre-encryption with clear key and standard user pin reset.

Measured boot

Windows can further validate the boot process beyond Secured Boot. The startup processes are now signed, protected, and measured. They're then stored in the TPM chip to prevent rootkit or malware infection. For TPM-based systems, Windows 8 will perform a comprehensive chain of measurements during the boot process, called measured boot, which can be used to validate the boot process to prevent rootkits and other malware.

Improved Active Directory-based activation

Windows 8 enables activation of Windows-based computers based on user identities in the Active Directory®, without requiring additional infrastructure. Windows Server also includes a new Volume Activation role to quickly and efficiently configure servers as a Key Management Server host to activate both Windows 7 and Windows 8 clients.

Active Directory-based activation lets Windows 8 systems be activated in an enterprise environment using their current Active Directory implementation and the same Windows product activation technologies used by IT pros for licensing today.

Client Hyper-V

Microsoft® Client Hyper-V® is a flexible, robust, and high performance client virtualization technology that enables IT pros and developers to run multiple operating system instances simultaneously on their Windows 8 computer. This lowers costs by consolidating hardware and improving efficiency through VM compatibility with server Hyper-V.

Streamlined deployment

Windows 8 provides easy-to-use and powerful tools to simplify image creation, testing, deployment, and activation. Windows 8 makes setup and deployment of remote access solutions easy and highly secure. IT pros can enable pre-encryption of computers at the time of deployment and enable standard users to create a pin at the first use. They also can enable secure volume activation of computers based on user identities in the directory services without additional infrastructure setup.

IT pros can increase the performance of system images with graphic analysis of the impact of installed software. Virtualization takes a leap forward with a built-in, high-performance client virtualization technology to develop, test, and run multiple operating systems on the same computer.

Finally, IT pros can now deploy multiple languages in a single image, making global distributions easier to create and manage.

Thank you