

# Windows 8



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# Windows reimagined



The new Windows 8 Release Preview Start screen

Welcome to the Windows 8. Windows has been reimagined to focus on your life. The beautiful, fast, and fluid design is perfect for a range of hardware: from compact, touch-enabled tablets and lightweight laptops, to PCs and large, powerful all-in-ones with high-definition screens. It's smooth, intuitive, and gives you instant access to your people, apps, and stuff, so you spend less time searching and more time doing.

You'll love browsing through the Windows Store and downloading apps to help you work more efficiently, or installing the latest games so you can compete with friends. Apps can work together, too, so you can share photos, maps, contacts, links, and whatever else you want.

No matter what you want to do, you can get it done quickly in Windows 8. Whether you're completing a project, playing a game, or reading a book, with Windows 8, you can use touch, mouse, and keyboard together—seamlessly—to do what you want, the way you want. No need to choose one or the other. It starts quickly and it's cloud-connected so you can access your photos, documents, and settings on any Windows 8 PC.

## Windows 7, only better

Behind the new look of Windows 8 is the rock-solid foundation you've come to expect from Windows 7. Immerse yourself in the exciting features of a new generation of PCs while enjoying the full power of Windows. In addition to the new look of the Start screen, Windows 8 incorporates the desktop that you're familiar with. Think of the desktop as one of the many apps you can run in Windows 8. In the desktop, you'll see all the settings, devices, and features you used in Windows 7—and you can run the desktop apps you ran in Windows 7, too.

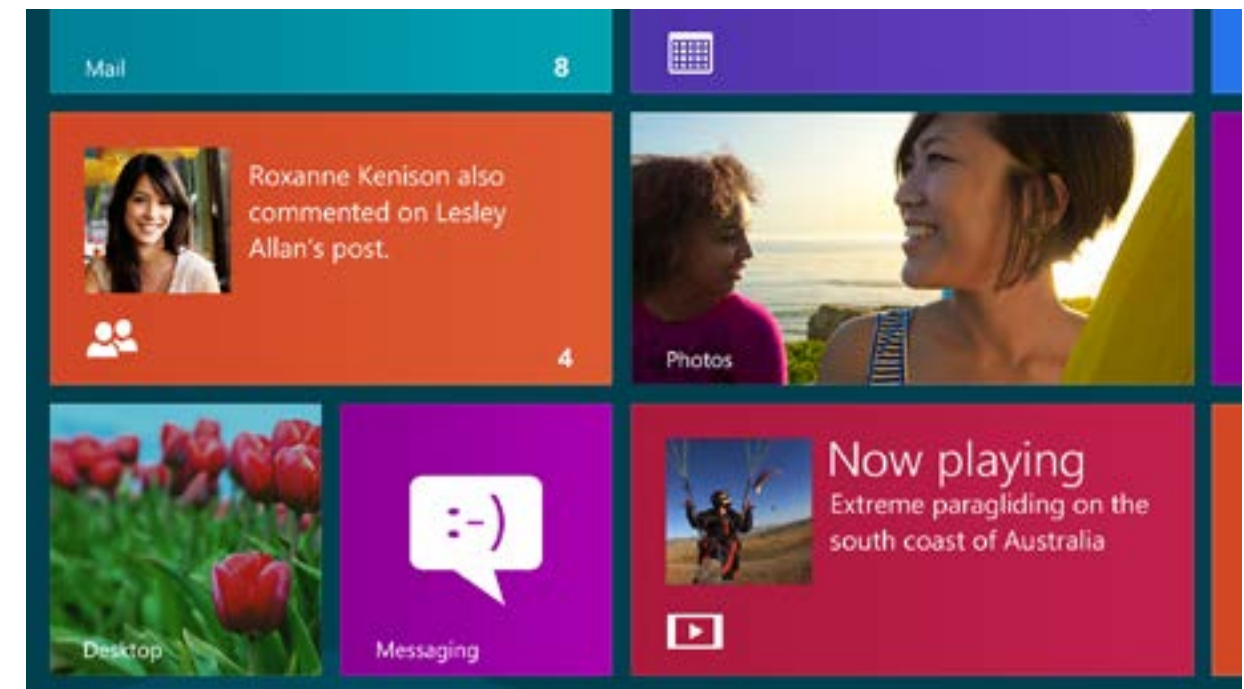
Just like Windows 7, security and reliability features are built into Windows 8. Everything that was great about Windows 7 is even better. For example, you can sign in using a text password, or you can create a picture password using gestures on your Windows 8 touch screen.

## The new Start screen

The new Start screen has all of the information you care about in one place, such as your contacts, the weather, and the next appointment on your calendar. Windows 8 is truly yours: websites, playlists, photo albums, contacts, and your favorite apps are front and center. Because you decide how to organize and group things on the screen, viewing and interacting with content is faster than ever.

The tiles on your Start screen are brimming with content, and they change and update in real time so you can see what's going on and stay on top of things. You can share and connect with other people in a couple of clicks, and get real-time updates about things like news, sports, and what your friends are up to. Check your schedule or get the latest weather forecast. Tiles are a quick way to see it all. Launch apps, switch between tasks, and check notifications without digging for information. It's all right here on the Start screen.

Windows 8 also incorporates the PC desktop that you're already familiar with. In the desktop, you'll see that the settings and features you used in Windows 7 are still there.



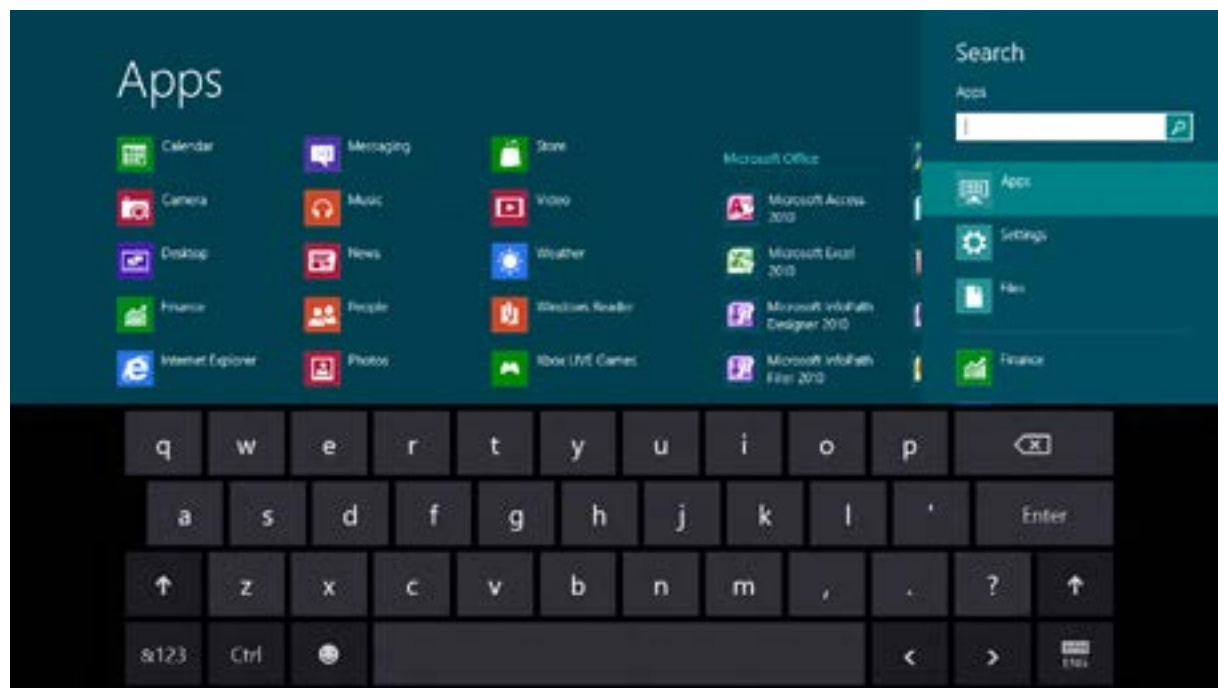
[Click the Desktop tile to get to the familiar Windows desktop](#)

## Touch, keyboard, and mouse: seamless integration

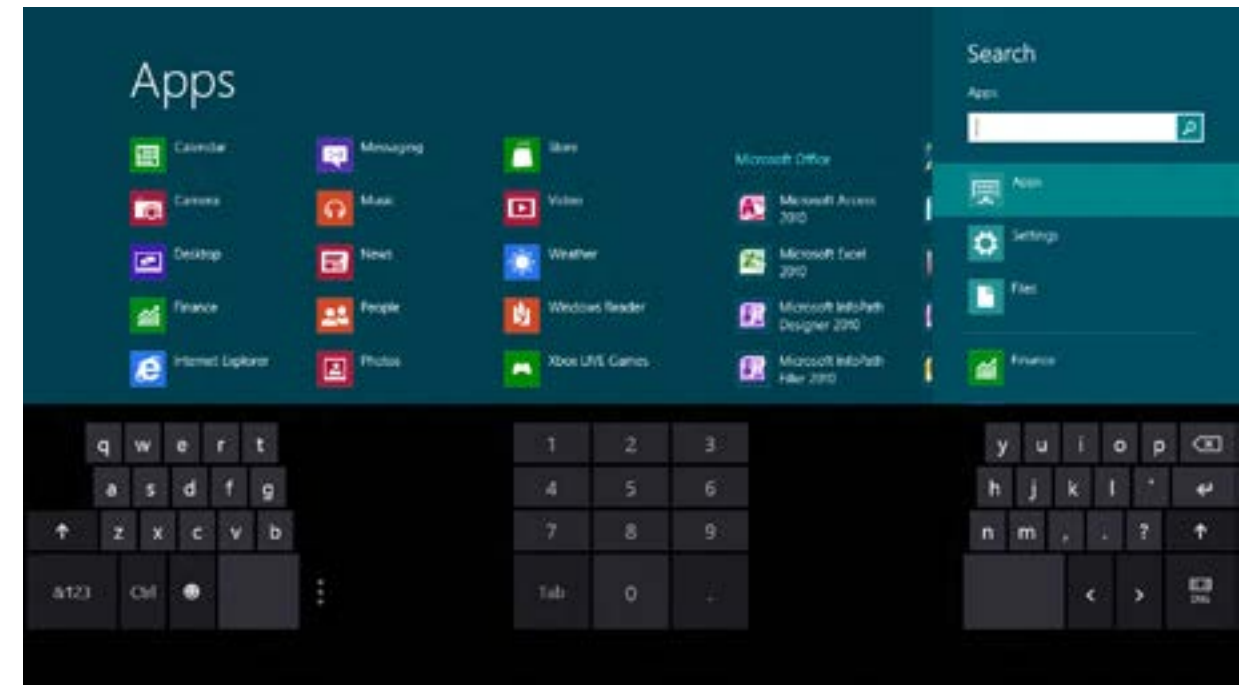
Windows 8 is hands-on and designed to eliminate the need to choose. You don't have to "work" on your PC and "play" on your tablet. The most efficient way to get stuff done is immediately available. Whether you're browsing apps, reading a book, or typing on the go with touch, creating a project that requires the more productive horsepower of a traditional mouse and keyboard, or doing everything at once, Windows 8 makes it easy. You use whatever works best, whenever it works best. No tradeoffs.

On new, touch-enabled PCs, the things you can do with a mouse and keyboard are just as easy to do with touch. You can switch between apps, organize your Start screen, and pan and zoom. With the touch keyboard, you can navigate, type, and interact on the go. Because you work in different ways depending on which app you're using, Windows 8 makes it easy to use whichever method works best.

The touch keyboard has two modes designed to suit the way you work. You get a full-sized keyboard with large buttons, or a handy thumb keyboard that splits the keys on either side of the screen, making it easy and more comfortable to use on the go. Typing feels natural whether you're sitting down or walking around.



Type naturally with the touch keyboard



The innovative thumb keyboard makes typing on portable devices easier

The Windows 8 keyboard speaks your language. On new, touch-enabled PCs, the keyboard layout automatically adjusts to the language you choose for Windows, so your language settings apply to the whole PC rather than just certain apps. Whether you want to type and click, swipe and tap, or do a combination of both, you can navigate and work easily and efficiently in the language of your choice with Windows 8.



# The new language of touch

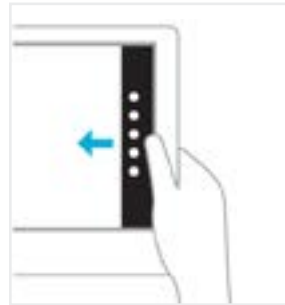
On new, touch-enabled PCs, you can move things on your screen comfortably. Here are a few common Windows 8 gestures.

## Swipe from the right edge for system commands

Swiping from the right side of the screen reveals the charms with system commands.

Swiping from the left brings up previously used apps.

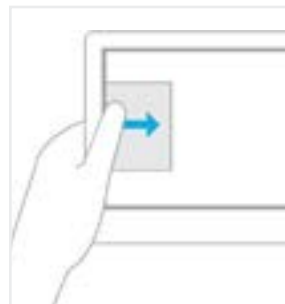
**Mouse equivalent:** Place the mouse pointer in the lower or upper right corner of the screen and move your mouse up the right edge.



## Swipe in from the left to switch apps

Swiping in from the left reveals thumbnails of your open apps so you can switch to them quickly.

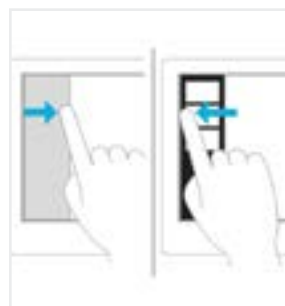
**Mouse equivalent:** Place the mouse pointer in the upper-left and click to cycle through apps or lower-left corner of the screen to see the Start screen.



## Swipe in and out on the left brings up previously used apps

Swiping in and back out on the left brings up the most recently used apps and you can select an app from that list.

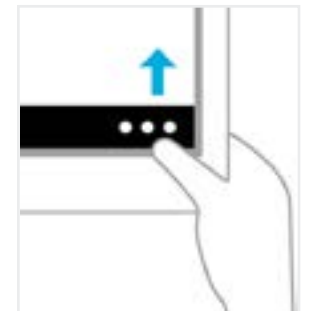
**Mouse equivalent:** Place the mouse in the upper left and slide down the left side of the screen to see the most recently used apps.



## Swipe from the bottom or top edge for app commands

App commands are revealed by swiping from the bottom or top edge. You can swipe from the top to the bottom of the screen to dock or close the current app.

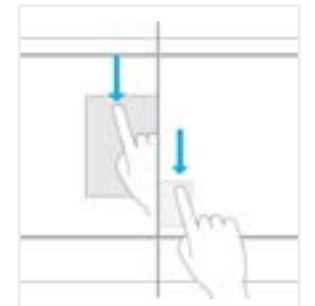
**Mouse equivalent:** Right-click the app to see the apps commands.



## Drag an app to close it

You don't have to close apps. They won't slow down your PC and they'll close on their own if you don't use them for a while. If you want to close an app, drag the app to the bottom of the screen.

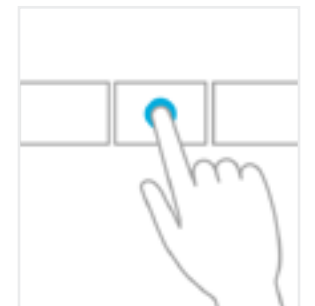
**Mouse equivalent:** Click the top of the app and drag it to the bottom of the screen.



## Press and hold to learn

You can see details when you press and hold. In some cases, pressing and holding opens a menu with more options.

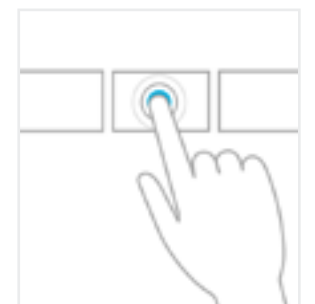
**Mouse equivalent:** Point to an item to see more options.



## Tap to perform an action

Tapping something causes an action, such as launching an app or following a link.

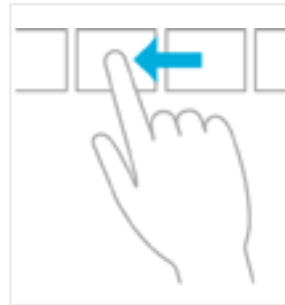
**Mouse equivalent:** Click an item to perform an action.



### Slide to drag

This is mostly used to pan or scroll through lists and pages, but you can use it for other interactions, too, such as moving an object or for drawing and writing.

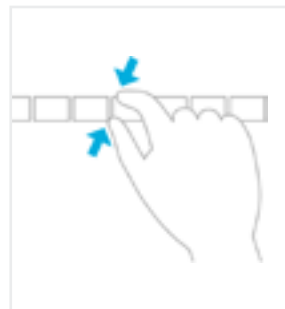
**Mouse equivalent:** Click, hold, and drag to pan or scroll. Also, when you use a mouse and keyboard, a scroll bar appears at the bottom of the screen so you can scroll horizontally.



### Pinch or stretch to zoom

Zooming provides a way to jump to the beginning, end, or a specific location within a list. You can start zooming by pinching or stretching two fingers on the screen.

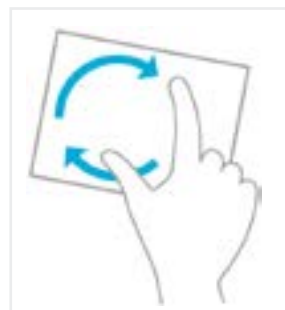
**Mouse and keyboard equivalent:** Hold down the control key on the keyboard while using the mouse wheel to expand or shrink an item or tiles on the screen.



### Rotate to turn

Rotating two or more fingers turns an object. You can turn the whole screen 90 degrees when you rotate your device.

**Mouse equivalent:** Support for rotating an object depends on whether the specific app supports it.





# Windows 8 is cloud-connected

Your Microsoft account is like a portable, personal PC that appears on any Windows 8 device you're using. Sign in to your Windows 8 device with your Microsoft account and you're immediately connected to the people, files, and settings you care about. Your PC comes to life with all the things that make Windows yours, including your Start page, themes, language preferences, browsing history, and browser favorites. You can connect your favorite services to your Microsoft account, too—services like Microsoft Hotmail, Microsoft Messenger, Facebook, LinkedIn, Twitter, and more. And you can immediately get to your photos, docs, and other files, whether they're on Microsoft SkyDrive, Facebook, Flickr, or other services.

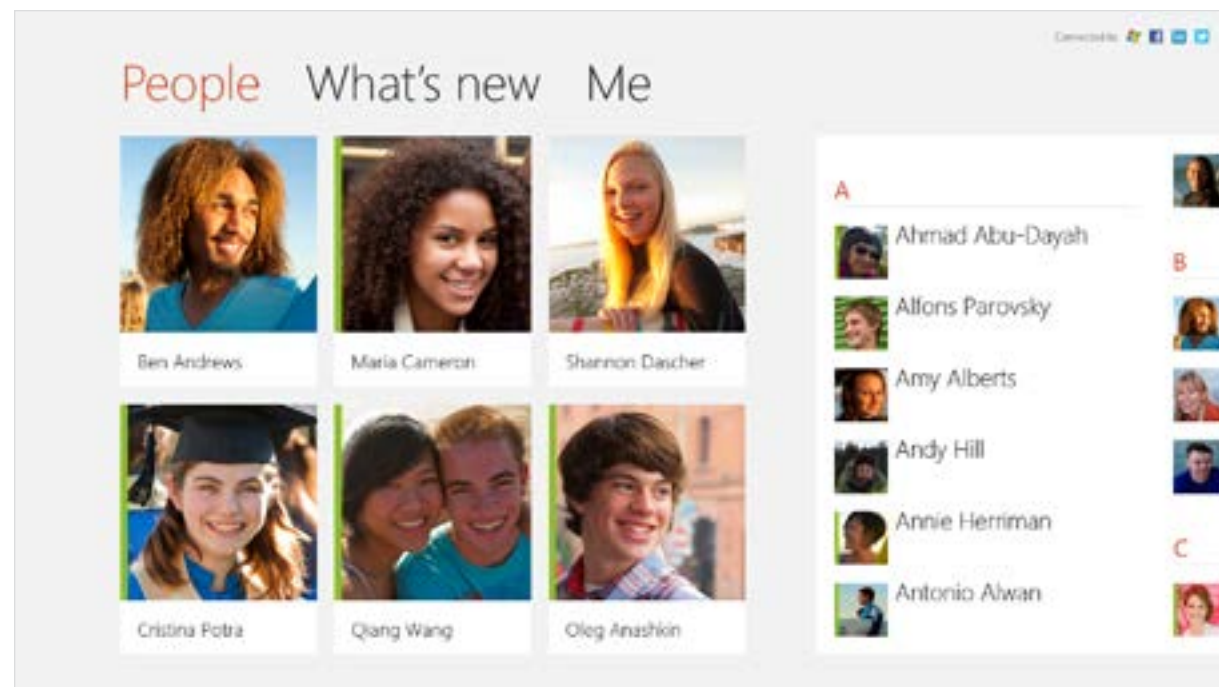
## Your Windows everywhere

Sign in and your Windows 8 device becomes yours because your personalization, desktop background, and settings are all there. Whether you set it up once just the way you want it or change it often, when you sign in even a brand-new PC lights up with everything that makes Windows yours. And anyone you share your Windows 8 PC with can have their own personalized, cloud-connected access by signing in with their own Microsoft account.

Start a project on one PC, and finish it on another. When you use the cloud to store your information, the boundaries between devices dissolve. Your apps, games, music, photos, files, and settings aren't stored on one device because they're in one place: the cloud. Sign in to any of your Windows 8 PCs and access all of your stuff from virtually anywhere.

## Connected to your people

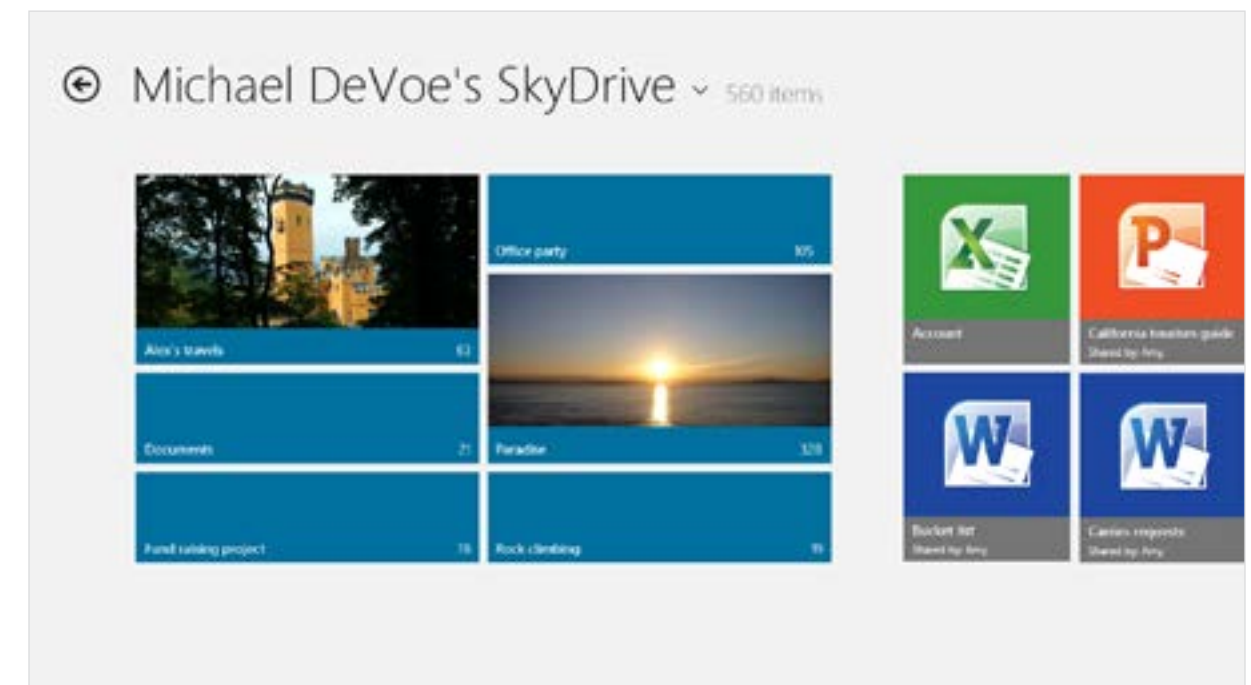
Use mail and messaging apps to communicate with all your friends, family, and co-workers. And you won't need to invite them twice. If you have contacts all over the place, you're in luck because whether you originally added a contact in Hotmail, Messenger, Facebook, Twitter, Gmail, or some other service, if you choose to connect them, that contact is available in your apps as soon as you sign in to your PC with your Microsoft account. You can have a fully connected address book with the People app. See the people you care about, their updates, and all the different ways to communicate and share with them—all in one place.



The People app helps you keep track of what's going on—all in one place.

## Connected to your files

Your Microsoft account goes where you go. You can switch from one Windows 8 device to another and be ready to pick up where you left off just by signing in. When your files are in the cloud and you have an Internet connection, you can access photos and other files on Microsoft SkyDrive just like you access other things on your PC, and you can get to them from any web-connected device.



SkyDrive and an Internet connection give you access to practically everything on your PC

## Family Safety in the cloud

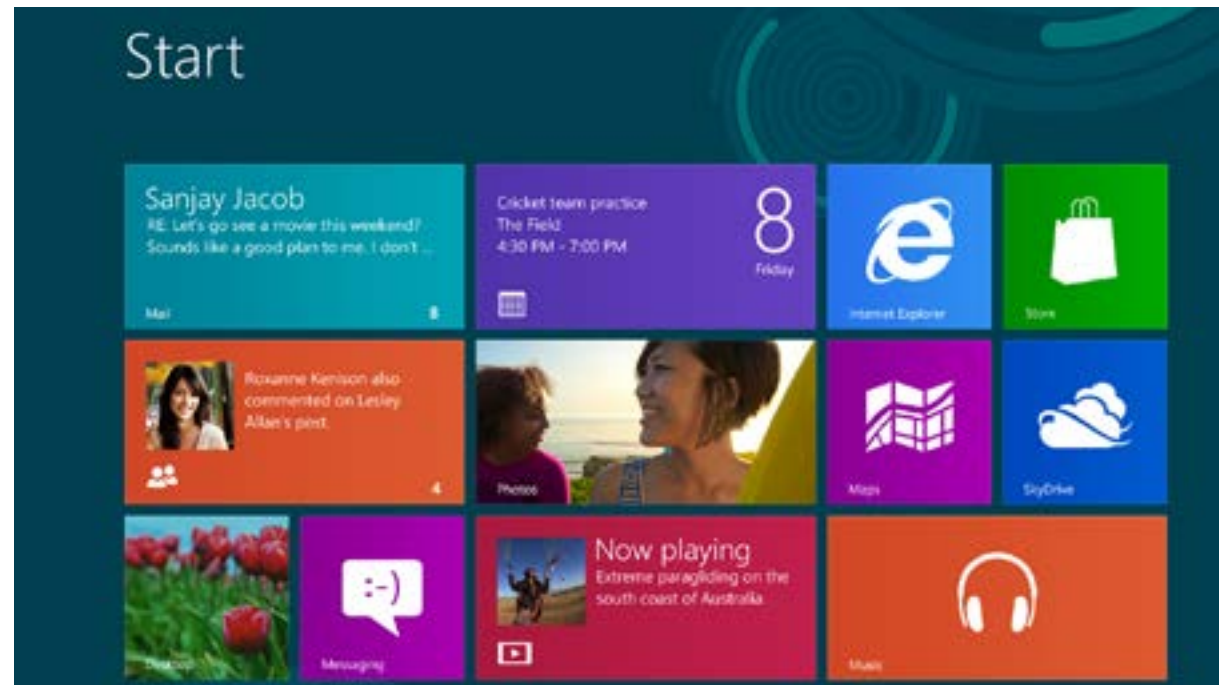
With Microsoft Family Safety, you can set up accounts for your children so you don't have to worry as much about their online activity. Family Safety will monitor your children's activities and let you know what they're doing. By connecting your account, you'll be able to get weekly email reports in your inbox. You can also set up web filtering, time limits, and app restrictions.

# All the apps you want

Apps are the heart of Windows 8. You'll be able to get up to speed quickly with a set of built-in apps for the things you do the most. Designed for your connected lifestyle, these apps integrate with the services you already use.

## Built-in apps

With Windows 8, your entire PC is cloud-connected. You'll have new Microsoft Mail, Calendar, SkyDrive, Photos, People, and Messaging apps that are connected to services like Facebook, LinkedIn, and Twitter just by adding them to your Microsoft account.



Use built-in apps for the things you do the most

With SkyDrive, you don't need to worry about being able to access your documents and photos on other PCs because when they're in SkyDrive, you can access them from any device with an Internet connection.

The Xbox apps and the Video and Music apps give you the best in entertainment. Videos you buy are available for playback both on Windows 8 and on your Xbox 360. Get access to over 15 million songs, and play back songs in your personal library, all with the Music app. You also get the best games on the premiere gaming service, the Xbox Live Games app. Connect and play with friends, and create your own unique gamer Avatar. You can even find and purchase games for your Xbox 360.

Mail allows you to see all of your accounts in one place, whether it's Hotmail, Gmail, or your company's Exchange mail. You can pin email accounts to the Start screen so you can see your new mail on the live Mail tile without opening the Mail app. You can even pin individual folders to stay up to date. Want to read or reply? Click the tile and go straight to your inbox. You can even send a file from your PC and have it automatically uploaded to SkyDrive for recipients to see.

Just like the Mail app, Calendar combines your information by pulling together your multiple calendars into a single day, week, or month view. You decide which of your calendars are shown, and you can adjust the colors to suit your preferences. Pinning the Calendar app to the Start screen means you see upcoming events on the tile. You can even choose to see upcoming appointments on the Windows lock screen so you won't have to unlock your PC to see what's going on.

The Photos app pulls all of your pictures together into one place. So now your albums from Facebook, Flickr, SkyDrive, and all of the pictures you store on your PC are there when you connect your Microsoft account to these services.

The People app is your most complete address book. You can include contacts from Hotmail, Messenger, Facebook, Twitter, LinkedIn, Gmail, and others. Quickly see what's new, share an update, comment, or initiate a conversation with the Messaging app.

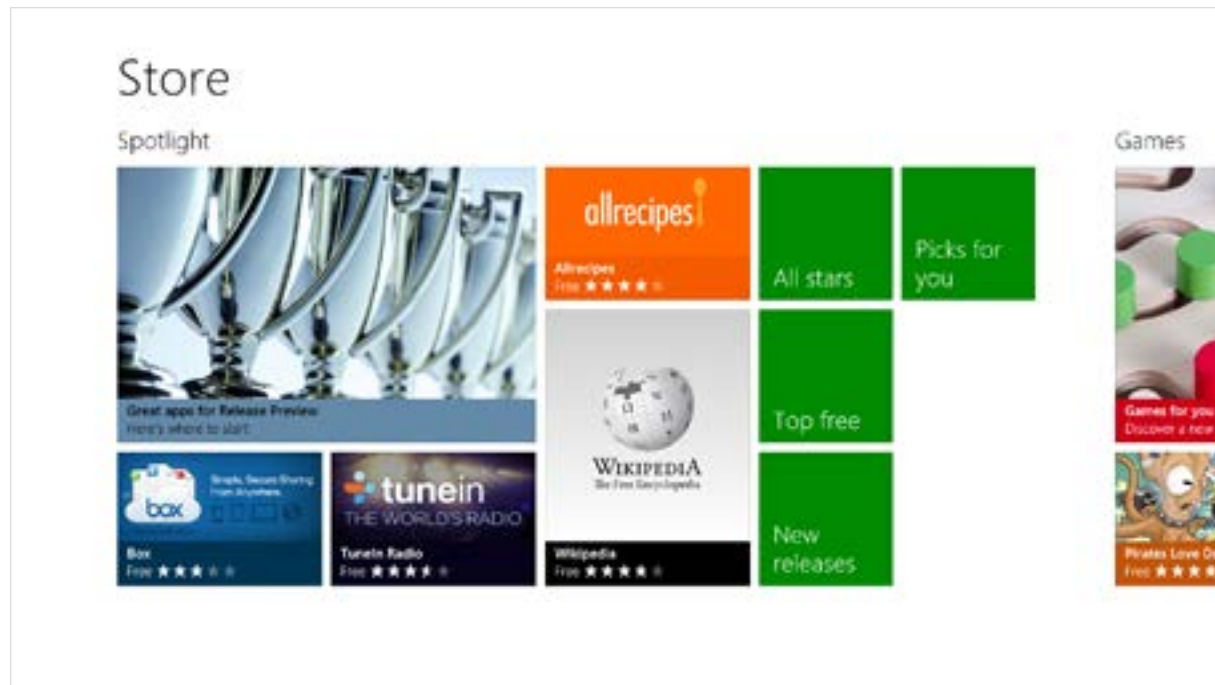
With the Messaging app on your Windows 8 PC, you can chat with Messenger or Facebook friends from one convenient place.

With the Reader app, you can read PDF, XPS or OXPS documents. You can interact with your PDFs by highlighting, adding text annotations, printing, and sharing.

## Apps work together

In Windows 8, apps work together so you can share information between them and streamline your work. For example, the Photos and Mail apps are connected, so you can select a picture from an album in your Photos app and email it to one of your contacts with a single click. No more opening your mail separately and attaching the picture. You can enable apps to include content from SkyDrive, share with your contacts in the People app, and send mail to people you know.





You can choose from a variety of apps in the Windows Store

After you decide, you can buy with peace of mind because before an app makes it to the Windows Store, it's screened and checked for viruses.

You can download your apps on more than one Windows 8 PC so there's no need to buy it twice. After you install an app from the Windows Store, you can sign in to the Store on up to five other PCs and see a list of all of the apps you own. You can pick and choose the apps you want to install on other PCs without having to search for and install them individually.

## Designed for discovery

The Windows Store is designed to make it easy to discover apps without getting lost. You can search or browse by category or lists of top apps to find the apps you want. You'll see compelling apps featured on the front page and you'll have no trouble finding apps because they're organized in categories like New releases, Top paid, Top free, and Rising stars.

## Protecting children

Using Family Safety, you can change settings to determine what your children can download and see in the Windows Store. Setting up a rating level filters the apps and games that children can access and provides a safer environment based on your preferred restrictions.

# Windows on a wide range of hardware

With Windows 8, you don't have to choose between a fun touch device and a hard-working PC because you can have it both ways. Prefer a mouse and keyboard? Great. Prefer touch? Enjoy the convenience. Windows 8 will run on amazing hardware, from tablets to laptops to all-in-ones with large, high-definition screens. Whether you like to stay put or work on the go, you can enjoy the power, convenience, and versatility of Windows.



## Flexibility

Windows 8 has the flexibility you need. It combines the convenience and mobility of a tablet with the productivity of a laptop or PC and gives you a great experience—practically anywhere.

## Longer life

Windows 8 is designed to deliver a great experience across many different devices, from ultra-fast desktops to low-power tablets. Because Windows 8 can run on low-power CPUs, you can work much longer on a single charge. That means you can stay connected so your PC is ready when you are. Battery life is longer and connections are stronger so you'll be able to find a device to suit you for work or play.

Lower power requirements are also helped by the growing number of energy-efficient devices that are designed to work with Windows 8.



From mobile slates to powerful all-in-ones, Windows 8 will be available on a range of hardware

## Share between devices

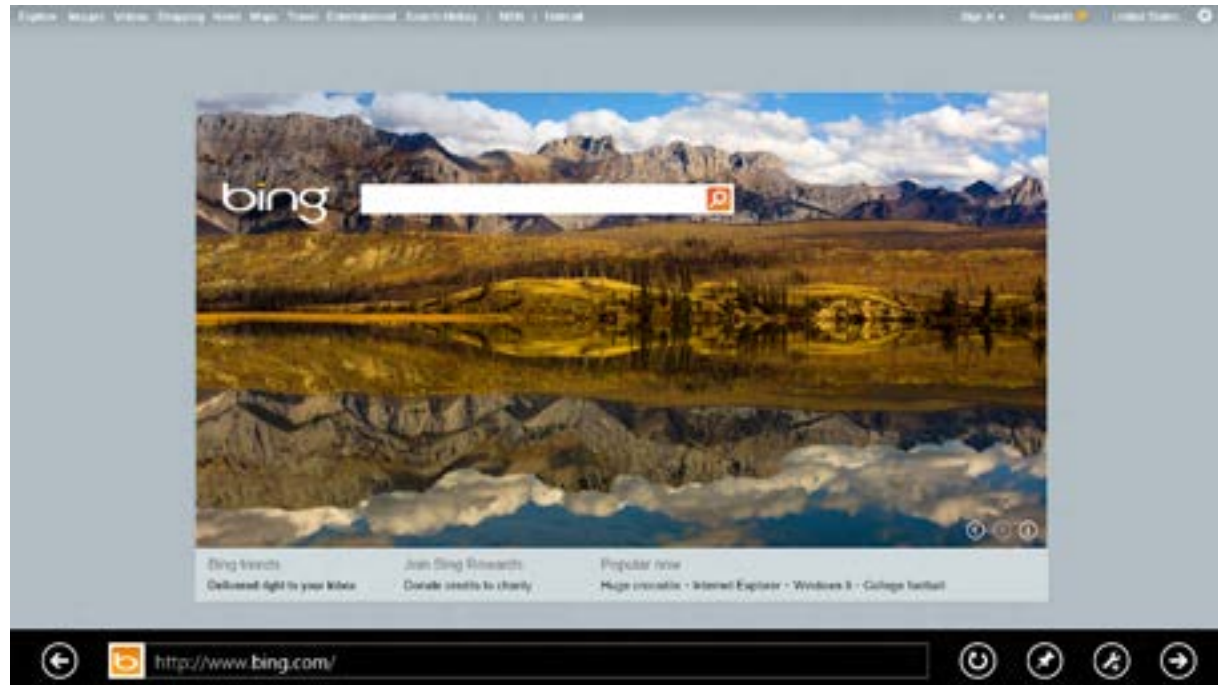
Tap and Do works on mobile devices equipped with Near Field Communications (NFC) so you can tap two devices together and share information. Tap and Setup is another feature available with Windows 8 that lets you easily connect wireless devices, like keyboards, mice, headphones, and speakers by simply tapping them against your PC. No more PINs or complicated setup steps!

## More options for devices

Windows senses compatible wireless printers, TVs, speakers, and Xboxes on your home network and makes them ready to use automatically. Setup can be as easy as connecting your device to your home network.

# Internet Explorer – reimagined for Windows 8

Built for speed, Internet Explorer brings you a faster web. By taking advantage of Windows 8 and your device's hardware, Internet Explorer makes browsing as fast and fluid as everything else on your Windows 8 device. Internet Explorer 10 provides an edge-to-edge, fast, and fluid experience that gives you less browser and more web.



Internet Explorer 10 puts your websites front and center

## Less browser, more web

Internet Explorer 10 puts the focus on the web, not the browser. It dedicates your entire screen to your websites so the web is literally edge-to-edge. There only when you need them, browser tabs and navigation controls appear and then quietly get out of the way when you don't want them anymore.

## Fast and fluid

With Internet Explorer 10, the web is fast. By taking advantage of Windows 8 and your device's hardware, browsing with Internet Explorer is as fast and fluid like the rest of Windows 8. Every navigation, every action you want to do on the web is a swipe or a tap away. And with the continued innovations in hardware acceleration, Internet Explorer allows web developers and designers to build increasingly rich and immersive web experiences that run as fast as local apps on your Windows 8 PC.



All of your open sites in one convenient location

## A more trusted web

Internet Explorer 10 continues to provide a trusted browsing experience, helping to keep you safe from the real-world security and privacy concerns that come with the modern web. Building on the security platform of Windows and harnessing SmartScreen Filter, Internet Explorer is recognized as a leader in protecting against socially-engineered malware and phishing, and it will help keep you more secure when browsing the web. Internet Explorer gives you choice and better control over your online privacy with innovative Tracking Protection privacy controls.

## Based on standards

Internet Explorer has one underlying platform that supports HTML5 and enables the same markup to work across many other modern browsers. And with extensive support for additional standards spanning HTML5, CSS3, and EcmaScript5, Internet Explorer 10 provides developers with a standards-based platform they can use to write increasingly rich and beautiful sites that are free of plug-ins.

# Windows 8 for business

The way people work has changed dramatically during the last several years. People use technology in the home and at work interchangeably. They're mobile and expect access from anywhere. Technology at home is rapidly becoming central and people don't want to give up the convenience of their personal devices and services when they enter the workplace.

## Focused on business and people

Windows 8 is reimagined to support different working styles. It's more intuitive so you can find what you need faster and easier. The new look of Windows and the new app model make it easier for businesses to create their own line-of-business apps to help improve productivity.

Windows 8 improves on Windows 7 fundamentals like speed, reliability, security, and other essentials that are important to IT administrators. And it works seamlessly with an existing Windows management infrastructure.

## The better business tablet

Windows 8 tablets bring together the convenience and mobility of a tablet with the productivity of a PC. With full support for touch, mouse, and keyboard, Windows 8 tablets run the majority of apps that run on Windows 7 PCs today. Windows 8 provides new opportunities for line-of-business apps, especially on tablets. Line-of-business Windows 8 apps can help enhance productivity, with full-screen apps that allow workers to more easily interact with the apps.

## New possibilities for mobile productivity

With Windows 8, it's easier for people in your business to get connected and stay connected. IT pros can help ensure that corporate data is safer and more secure. Great new features and enhancements mean that road warriors can take their Windows 8 computers with them, confident that the built-in Wi-Fi and mobile broadband solutions can help them stay connected whether they're on-site with a customer, waiting for a flight, or working from a branch office.

**Built-in mobile broadband features** in Windows 8 add support for 3G and 4G telecommunication, enabling business users on the go to connect to the Internet immediately. Windows 8 mobile broadband support can help businesses keep data usage costs low with built-in mobile broadband metering. As mobile users move between locations, Windows 8 automatically uses Wi-Fi hotspots, if they're available.

**Windows To Go** is a cost-effective solution for alternative workplace scenarios. In Windows 8 Professional and Windows 8 Enterprise editions, IT administrators can provide employees with a corporate Windows image on a compatible USB storage device that includes line-of-business apps, settings, and corporate data. Off-site users can have a consistent Windows 8 experience on any Windows 7 or Windows 8 logo-certified corporate or personal PC. With Windows To Go, employees get a rich, consistent, and personalized Windows 8 experience that's as secure as a fully managed PC. When they shut down, they can remove the USB device and no data is left on the host PC.

**DirectAccess** allows remote users to more securely and seamlessly access resources inside of a corporate network without having to launch a separate virtual private network (VPN) connection to the corporate network.

**BranchCache** downloads files and apps from a corporate headquarters, storing this data in the branch office. Client PCs in the branch office can access the content locally, rather than repeatedly downloading it from headquarters. By using BranchCache, you can reduce the time required for branch workers to access data on the network.

In Windows 8, BranchCache can store more data and serve more clients. Multiple hosted cache servers can be used in a single office, making deployment possible in offices of any size. The feature also includes cache encryption and removes the requirement for additional disk encryption technologies. This helps simplify deployment and helps to improve data security. Windows 8 uses Windows file server's state-of-the-art technology to divide files into small pieces and eliminate duplicates. This results in greater bandwidth savings and better network performance.

## Enhanced end-to-end security

Windows 8 provides enterprise-class security capabilities that keep clients more secure against malware intrusion, better protected with easy-to-deploy data encryption, and more protected with strong access control to resources.

**Trusted Boot** helps protect the end-to-end boot process and virtually eliminates the possibility for malware to hijack the boot process or hide from antimalware software. On Windows devices equipped with UEFI 2.3.1, the UEFI Secure Boot feature ensures that the OS loader is the first piece of software that starts. The Windows 8 Trusted Boot feature protects the integrity of the remainder of the boot process, including the kernel, system files, boot critical drivers, and even the antimalware software itself. The system's antimalware software is the first 3rd party application or driver to start. Moving antimalware into the Trusted Boot process prevents it from being tampered with. In the event that malware is able to successfully tamper with the boot process Windows can automatically detect and repair the system.

**Measured boot** validates, signs, and stores boot information in the Trusted Platform Module (TPM) chip. This enables a remote service to validate a computer's integrity (called remote attestation).



**BitLocker** drive encryption helps protect corporate data on mobile PCs that include a TPM chip. On Windows 8 Professional and Windows 8 Enterprise editions, BitLocker now encrypts hard drives more quickly, helping to keep data safe without significantly interrupting worker productivity. BitLocker now supports encrypted drives, which are hard drives that come pre-encrypted from the manufacturer. BitLocker offers a variety of solutions for different business needs.

**AppLocker** is a simple and flexible mechanism that allows IT administrators to specify exactly the apps that are allowed to run on employees' PCs. On Windows 8 editions that support Group Policy, AppLocker uses Group Policy to allow or restrict the types of files that people can use. This helps prevent unapproved or potentially harmful apps.

**SmartScreen** services are a set of sophisticated technologies that help protect users from malicious sites and software that they might encounter on the Internet. If this is turned on at startup, the technologies check the reputation of any new app or website, helping to keep users safe no matter what browser they're using. This helps to prevent malware and other viruses from infiltrating your organization.

## Manageability and virtualization advancements

With new device form factors and more mobile devices entering the workplace, managing devices and corporate data is more critical than ever. The trusted management and security features that millions of businesses depend on every day are a part of Windows 8, and Windows 8 works well with today's hardware options. Combined with tools that simplify compatibility testing and deployment, Windows 8 integrates seamlessly into most existing client management infrastructures.

## Windows 8 is built for business

Individuals in the workplace are increasingly influencing the technology they use at work. This trend puts high expectations on IT administrators to keep their users productive and secure anytime, anywhere and across a broad range of devices.

Windows 8 is the ideal solution for businesses because it has the power and familiarity of the desktop, new ways for users to interact with line-of-business apps, and support for more mobile form factors. Along with the end-to-end security features and manageability enhancements, Windows 8 can help your employees be more productive and help keep your data more secure. Windows 8 is great for businesses because it delivers the experiences people will love and the enterprise-grade capabilities that IT departments need.

# Built on a solid foundation

Most people don't think about what's under the hood—and you certainly don't need to with Windows 8. You can rest assured that Windows 8 has the flexibility to meet your needs. It runs on different hardware systems, such as ultra-thin, ultra-light, and all-in-ones, so you can choose a device that suits you.

If you're used to working with apps like Microsoft Office and Adobe Photoshop, they'll run smoothly with the full power of Windows on the Windows 8 desktop. From the desktop, all the familiar Windows 7 apps and devices are at your fingertips. It's just as efficient as Windows 7, and it's got the performance you expect from Windows.



## Rock-solid

Windows 8 is built on the rock-solid foundation of Windows 7, but it's been improved on all fronts. You can install Windows 8 on the same hardware that powers Windows Vista and Windows 7, and you'll love how it works on new devices, too. We've designed Windows 8 with Windows 7 apps in mind because we know people often have older apps they need to use.

**Speed.** You'll notice improved performance and system reliability. Even on lower-power systems, Windows 8 is responsive. Your PC starts quickly, your apps run faster, and you're more secure from start to finish.

**Compatibility.** Getting going with Windows 8 is a breeze. Windows 8 automatically supports a wide range of devices, including printers, cameras, media players, and displays. It's designed so when you plug in your device, it works. If a device has a companion app and you've turned on device companion apps during setup, you'll receive the app automatically so you can share photos, connect with friends, and much more. And because Windows requires less memory, there's more room to run your apps.

**Connected.** Many apps are better when you're connected. Windows helps keep you connected by switching to the network with the best quality so you can have a great experience with your PC. Windows 8 provides a number of new features that make it effortless to connect your PC to available networks and help keep you connected as you change locations. Windows 8 connects to one network at a time and prioritizes networks that are typically less expensive and faster. Windows also automatically switches you from a lower-prioritized network to a higher-prioritized network, if one becomes available.

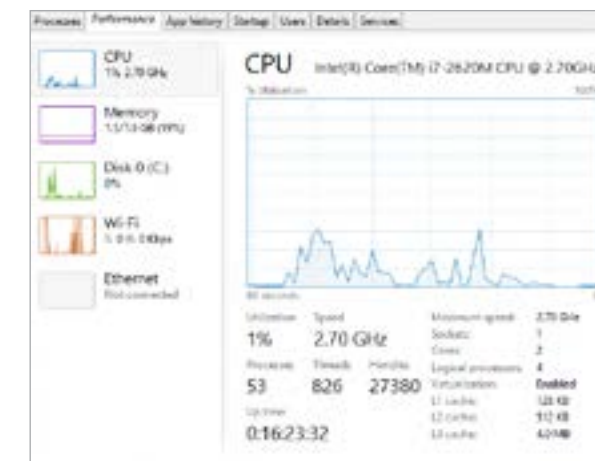
**Better Protected.** Windows Defender provides antimalware protection so you can be more secure from start up to shut down. If you don't have another malware scanner installed, Defender monitors and helps protect your PC against viruses and other malware in real time and detects and removes malware if your PC becomes infected. Windows 8 provides new ways for antimalware software to reduce its impact on system performance. Windows 8 manages antimalware software to help keep your PC safe while keeping an eye on performance.

## 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. The new, flexible options help you use your PC efficiently and quickly.

**File management.** Windows Explorer is enhanced to make file management and navigation straightforward. The ribbon organizes Windows Explorer and reveals features that used to be hidden. We've brought back a long-lost favorite: the Up button. It's easier to view and manage all of your file operations in one place.

**Task Manager.** The new Task Manager is a handy dashboard that you can use to monitor and control your PC so you always know what's going on. Color-coded tiles present information in a way that's easy to understand. You can keep track of resources efficiently and in real-time with graphs and details about processes, apps, and history.



Easy-to-read data about your PC's performance

The screenshot shows the App History tab in Windows Task Manager. It displays a list of running applications and background processes. The table has columns for Name, Status, CPU, Memory, Disk, and Network. The 'App (3)' section lists Calendar, Microsoft Lync 2010 (32 bit), and Task Manager. The 'Background processes (22)' section lists various system services like Adobe Acrobat Update Service, Antimalware Service Executable, Device Association Framework, Host Process for Microsoft Connect, Live Communications Service, Microsoft Lync 2010 NAP Core, Microsoft Security Client User Interface, and Microsoft Windows Search Indexing.

Straightforward app management

**Multiple monitors.** If you're one of the many people who use multiple monitors, you'll find it more flexible than ever. With many types of hardware, you can display the Start screen on one monitor and the desktop on the others. Desktop backgrounds can be different on each monitor or can stretch across your screens.



Windows 8 Consumer Preview works seamlessly with multiple monitors

Windows 8 all the corners and edges alive on all monitors. You can bring up Start, the charms, and app switching from the corners of any monitor. And you can launch and move full-screen apps to any monitor.

**Restore and reset your PC.** Windows 8 comes with a number of options to restore your PC. You can refresh your PC, which keeps all your documents, accounts, personal settings, and modern apps but returns Windows to its original state. If you want to completely reset your PC, you can restore your PC to the state it was in when you first got it. You can create a recovery drive on a USB key with the files needed to refresh or reset your PC even if Windows 8 can't boot. Restoring from USB drive is a good option if you have a tablet without a disc drive or you just want to save space.

**Windows Update.** Windows 8 keeps your PC up to date while staying out of your way. If you turn on Windows Update during setup and your PC needs an update, Windows can install it when you're not using your PC or at a time you've specified. When an update requires you to restart your PC, we've given you more time to act on it so you can pick a time that works for you. That means you'll see fewer prompts about maintenance, updates, or restarting. You won't be slowed down by interruptions, and your PC will keep performing well.

# Developing for Windows 8

If you're a developer, Windows 8 gives you an amazing platform to reach people around the world who use Windows every day to be more productive, creative, and have fun. With Windows 8, you have unprecedented access and opportunity to reach that worldwide customer base early. Windows 8 represents the most significant platform opportunity available to developers because you have the chance to reach millions of people with your amazing Metro style apps.

Apps are at the center of the Windows 8 experience. They're vibrant and alive with activity. Users are immersed in your full-screen, Metro style apps, where they can focus on the content they care about rather than on the operating system.

Developers can take advantage of the services Microsoft provides so their apps will light up when they're connected to the cloud. When developers connect apps to the cloud using the Live SDK, they can take advantage of single sign-on, which gets users even deeper into their app experience because they'll be able to more easily store data and communicate with their friends and family.

Signing up to sell your app in the Windows Store means you can tap into the worldwide user base of Windows, even at the stage. You'll draw from a wealth of new tools and services, including updated versions of Visual Studio Express 2012 RC for Windows 8, Blend for Visual Studio 2012 RC, an optimized Windows 8 SDK, and telemetry data for your app, so you can develop and deploy apps faster and more profitably.

With Windows 8, you can leverage your existing skills and code assets to create Metro style apps for your customers.

- Web developers can use their HTML5, CSS3, and JavaScript skills, as well as their experience with third-party JavaScript libraries.
- Microsoft .NET Framework and Silverlight developers can use their XAML, C#, and Visual Basic skills.
- Developers looking for maximum performance for their games and other graphics-intensive apps can use the power of Microsoft DirectX 11.

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

# Apps take center stage

Windows 8 makes it easy to build full-screen Metro style apps that are fun to use and explore. Flexible and easy-to-use controls, built-in animations, and layout options make your apps feel fast and fluid. Live tiles on the Windows Start screen display information from your website or service and help ensure your app is useful—even when it's not running. When users acquire additional apps, their experience is enriched when those apps participate in app contracts. For example, when an app implements the Search contract, users can search its content from an unrelated app. Users can also choose to share content from one app with another. And apps can be optimized to the user's context, hardware, and preferences.

## Metro style app principles

More than just an app platform, Metro style is a design philosophy that puts content before chrome and helps you build attractive, easy-to-use apps that will delight your customers with their intuitive and common interaction model. Some principles common to great Metro style apps include:

**Content before chrome.** Content is at the heart of Metro style apps, and putting content before chrome is fundamental to the design of Metro style apps.

**Fast and fluid.** User interactions and transitions are quick and intuitive, and animations are deliberate and purposeful.

**Support for multiple states.** Metro style apps support a full-screen, immersive state, and a minimal, snapped view that runs while a second app takes up the majority of screen space.

**Support for the right contracts.** App contracts provide a way for apps to work together that lets users search across apps or choose to share content from one app to another. Their experience improves as users add more apps that support contracts to their PC.

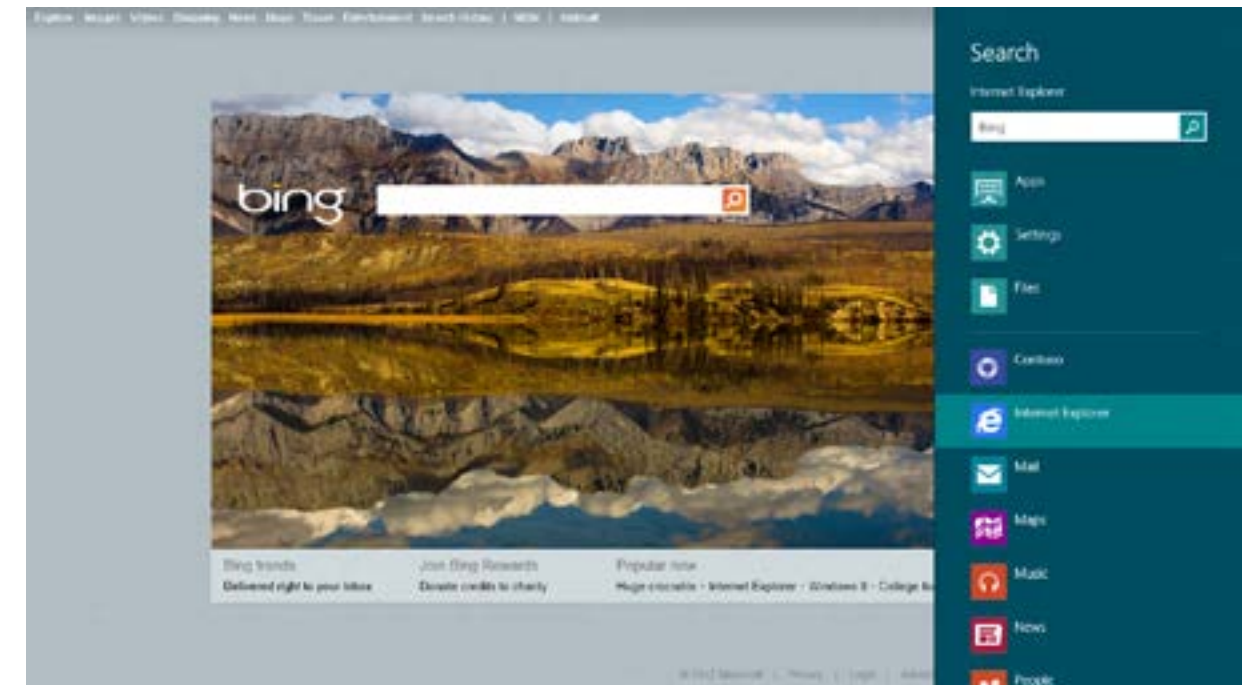
**Live tiles.** Useful information appears on the app's tile on the Start screen even when the app isn't running.

**Settings and data roam through the cloud.** Users get a great, continuous experience, regardless of where they sign in.

Embracing these principles makes your app more usable, increases its visual appeal, and helps you deliver an experience that's consistent and familiar to your users.

## App contracts

App contracts are a way for users to seamlessly search across and share content between unrelated apps. They extend the usefulness of your app by eliminating the need to work with varying standards or app-specific APIs to access data stored or created by another app, all while keeping users in your branded experience. You don't need to know anything about the target app other than its declared support for the target contract – it just works.



Users can search the content in your app and all other apps that support the Search contract

Windows 8 provides support for several contracts, including:

**Search.** When you implement the Search contract, users can search not only within your app's content but content from other apps that use the Search contract, as well.

**Sharing.** The Share contract lets you help users share content from your app with another app or service, and vice versa, if the user chooses to do so.

**PlayTo.** You can help your users play digital media to Windows-certified DLNA devices from within your app by supporting the Play To contract.

**App to App picking.** This contract lets users pick files from one app directly from within another app.

**Settings.** This provides quick, in-context access to settings that affect the user's app experience, including whether your app can access the user's location.

**Print.** This contract lets users print content on any printer compatible with Windows 8.



## Fast and fluid

With Windows 8, we created a touch-optimized platform that you can interact with in an intuitive way. As a result, interactions with the operating system and UI elements feel natural and responsive. Animations and transitions are used deliberately, and effects are subtle and designed to enhance the connection between you and the PC. App layout and presentation are simplified with easy-to-use layout APIs and presentation controls.

**The built-in animations library** lets you create smooth, animated experiences from a comprehensive set of predefined animations that are lively and unique. With 3-D transformations you can add smooth, fluid, visual experiences like perspective transforms and flipping elements on and off the screen.

**Semantic zoom** is a touch-optimized way to navigate through large content collections. Users can pan or scroll through their content, and then zoom in or out to view more or less information. This lets apps present content in a more tactile, visual, and informative way than traditional navigation and layout patterns like tabs.



[Semantic Zoom](#) helps you navigate large content collections

**Flexible layout options** make app layout easy and consistent with Windows 8. Flexbox, a feature of CSS3, lets you create containers that expand proportionally to fill any remaining space. The VariableSizedWrapGrid control provides similar functionality for XAML developers. Grid layouts are available both in HTML 5 and XAML, and give you the ability to position and size content in a grid structure that you define with fixed, fractional, or automatic units. Grid layouts can be oriented horizontally or vertically. Multi-Column Layout can be used to imitate complex layouts, such as those found in newspapers and magazines.

## Versatile input methods

There are a number of different input methods to think about when designing apps, including touch, mouse, keyboard, and pen. Windows 8 makes it easy to support each method by following the principle of “design for touch and get mouse and keyboard for free.”

Pointer APIs allow you to work with any input method without knowing the origin of the input data. Higher-level gesture APIs let you use predefined touch gestures and detect multi-touch events in your apps. You can also build custom touch gestures or use input-specific APIs to provide a unique experience in your app.

## Tailored experiences

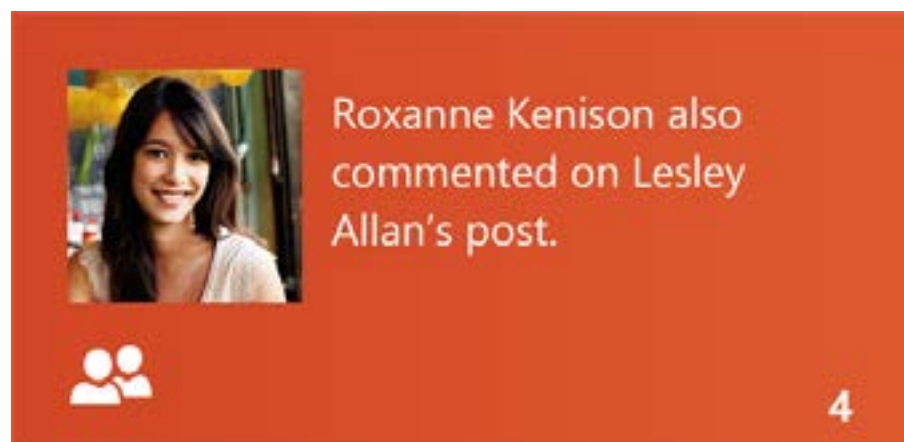
Building experiences that take full advantage of the latest hardware is easier with Windows 8. Sensor APIs help you build apps that are tailored to the user’s context, and apps scale gracefully to support both compact and large form factors.

**The Windows 8 sensor platform** is an end-to-end solution that includes support for both desktop and Metro style app development. The Win32 API lets you integrate sensor data without writing a lot of code. Windows Runtime Components let you quickly access input from eight sensors, including accelerometer, geolocation, inclinometer, gyrometer, compass, ambient-light, orientation, and simple orientation of a device.

**Windows 8 scales apps** to ensure consistent physical sizes for UI elements regardless of the pixel density of the screen. As a developer, your work is minimal—just provide scalable resources and Windows takes care of the rest.

## Tiles are connected and alive

Through tiles on the Start screen, apps are alive with activity and can deliver vibrant content, even when they're not running. Using live tiles, your app can provide useful, at-a-glance data to the user, while minimizing battery usage. Windows Push Notification Services (WNS) enables your app to receive messages and send them to your app's live tile or provide a notification to the user.



Live tiles bring your app to life, even when it's not running



# Build apps using what you know

Windows 8 lets you build Metro style apps using a variety of programming languages and tools. You can program your apps using C#, C++, or Visual Basic, while using XAML to declaratively describe the user interface. Or you can build apps using web technologies like HTML5, CSS3, and JavaScript. Developers looking for the best possible performance on Windows 8 can use Microsoft DirectX 11.1 with C++.

## Extensible and compatible with existing 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 and compile them as portable libraries. Then, you can use any supported language to call these components from your apps.

**The Windows Runtime (WinRT)** is a straightforward set of APIs used to build Metro style apps. WinRT APIs are available to you in all supported languages, including JavaScript, C++, C#, and Visual Basic. WinRT APIs are accessible to other Microsoft programming frameworks, like the .NET Framework or Windows C Runtime Library. Traditional Windows desktop apps can also access a subset of the new WinRT functionality, in addition to the proven Win32 and .NET APIs.

**Metro style apps with HTML5 and JavaScript** take advantage of powerful advancements in standards-based web technology. It's now possible to build fully native Windows apps with the simplicity and flexibility of standards-compliant HTML markup, JavaScript, and CSS3 using the new Windows Library for JavaScript. Visual Studio Express 2012 RC for Windows 8 provides access to an extensive library of application templates to streamline and accelerate app development.

**XAML** lets you carry all of your knowledge forward in C#, Visual Basic, and C++. If you're familiar with Silverlight or WPF, you'll be right at home with Windows 8 development. The new Windows 8 controls have been fully implemented in XAML, enabling you to build user experiences with the new Windows personality.

**DirectX graphics** are at the core of Windows 8. You have several options when creating Metro style games. You can write full-screen, chrome-free games with smooth, flicker-free action using HTML5, JavaScript, and CSS3. Or, write impressive 2-D and lightweight 3-D games using XAML with managed C# or Visual Basic. You can also take advantage of the full processing capabilities of modern graphics hardware using native C++ and HLSL with DirectX 11.1. No matter which model you choose to develop your Metro style app, if the hardware supports it, your app will always be hardware accelerated.

## Powerful tools and all the resources you need

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 Visual Studio Express 2012 RC for Windows 8 and Blend to jumpstart your development. The Windows 8 Dev Center provides access to hundreds of sample apps, documentation, tutorials, and guidance from the experts.

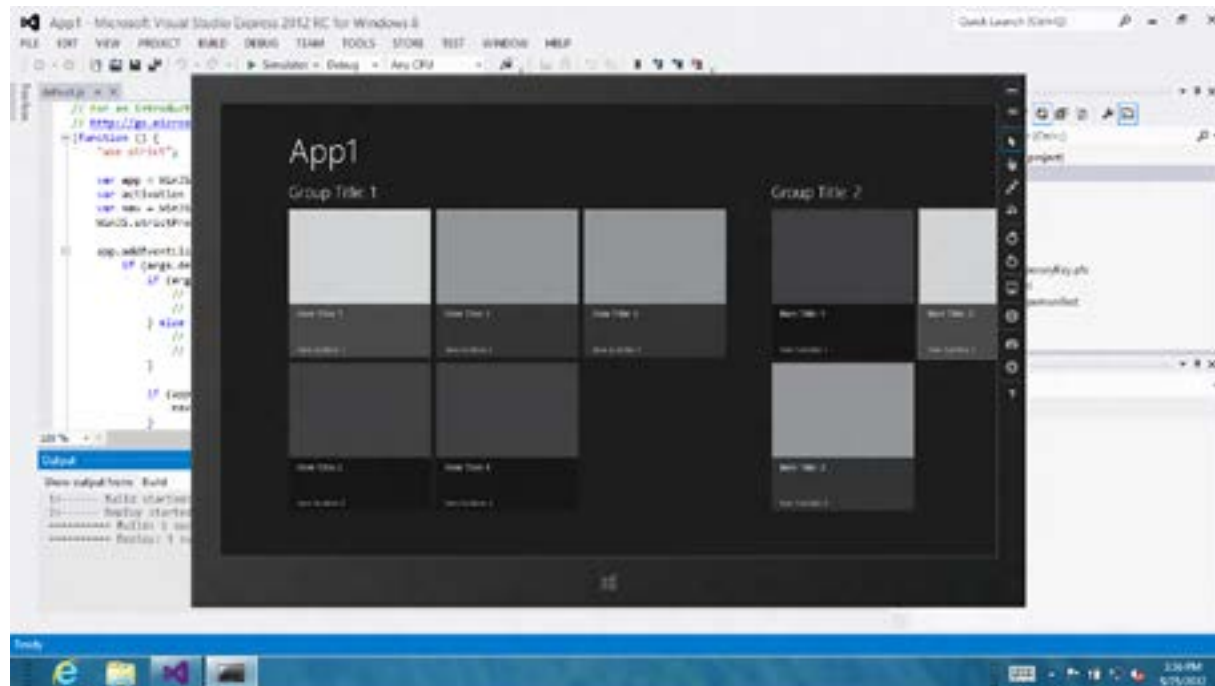
**The Windows SDK for Metro style apps** provides a complete development experience. It includes only the tools and resources you need to get started quickly. Samples and documentation have been moved online to minimize download time. The WinRT API surface has been optimized to simplify development. And the inclusion of Visual Studio Express 2012 RC for Windows 8 and Blend provides you with first-class development and design tools for Metro style app development.

**The Assessment and Deployment Kit (ADK)** helps you measure system performance to ensure that the software and hardware you develop is of the highest quality.

**Visual Studio 11 Express 2012 RC for Windows 8** is a free, lightweight version of the powerful Visual Studio integrated development environment (IDE). Visual Studio Express 2012 RC for Windows 8 is packaged with Blend, which now also helps you work with HTML5 and CSS3. Blend provides access to Windows controls and an integrated tool to profile user interfaces.

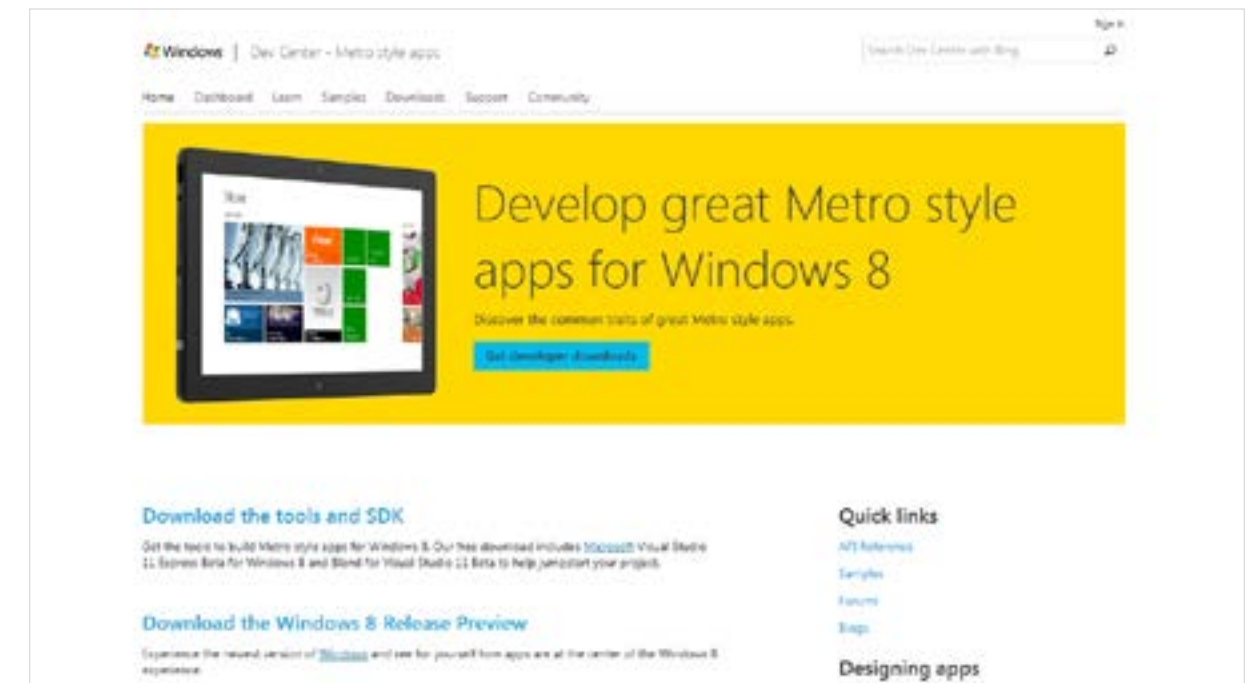
**The Windows Driver Kit (WDK)** now integrates with Microsoft Visual Studio Professional or Ultimate editions to provide a full set of tools and interfaces to help you write, build, compile, sign, test, debug, and verify drivers, along with tools to port your existing driver files to new Visual Studio projects.

**A library of templates** is included in Visual Studio Express 2012 RC for Windows 8 to jumpstart development of your Windows 8 app. The templates include common layout and interaction models, including fixed layout, grid app, navigation app, and split app. With Windows 8 and Visual Studio Express 2012 RC for Windows 8, you can build apps with Metro style UI using Windows 8 controls. The controls are designed to work equally well with touch devices or mouse and keyboard. Using Windows 8 controls and templates, your apps will convey the Windows personality with an intuitive and consistent user experience.



Visual Studio templates jumpstart your app development process and help you build Metro style apps quickly

**A new, unified Windows Dev Center** (<http://dev.windows.com>) brings together all the necessary tools, reference content, code samples, how-to information, and community forums that you need to quickly get up and running with Metro style apps, desktop apps, or driver development. The Windows 8 sample gallery includes hundreds of samples demonstrating the breadth of the development platform, including nearly every developer feature included in Windows 8. Community members are encouraged to add their own code samples to the Samples Gallery. In addition, the new Windows Design Center (<http://design.windows.com>) includes case studies, reusable design assets, and prescriptive guidance for creating beautiful, easy-to-use Metro style apps for Windows.



The new Windows Dev Center

## Line-of-business app development

Enterprise developers can create Windows 8 apps that are critical for their business and feel confident that they maintain control over the deployment and access to their apps. Businesses can directly sideload their apps built for Windows 8 onto their Windows 8 domain-joined PCs, bypassing the Windows Store.

An app created in an enterprise can stay within the corporate firewall and be centrally managed, updated, and distributed. IT Pros can disable access to the Windows Store by using Group Policy, and specific apps within the Windows Store can be allowed or blocked by using AppLocker.

Windows 8 retains the power and flexibility of the Windows desktop. Many of the innovations that were included in Windows 7 are also available in Windows 8, from Jump Lists to Snap. The majority of your existing line-of-business apps that run on Windows 7 will also run on Windows 8 (32-bit and 64-bit versions).

## Hyper-V

Microsoft Hyper-V on Windows 8 is a flexible and robust client virtualization technology that enables enterprise developers to test multiple configurations of apps and operating systems on a single PC instead of each configuration requiring its own PC. On editions of Windows 8 that support Hyper-V, IT Pros can test and manage multiple environments from a single PC, perform app compatibility tests, or test without risking changes to a PC that is actively in use. Hyper-V supports both 32-bit and 64-bit versions of Windows, and IT Pros can manage their client virtual machines seamlessly.



## Selling in a global marketplace

The Windows Store supports the distribution of free and paid apps in dozens of markets worldwide, so most customers can find and install the apps they want in the language of their choice. The Windows Store supports market-specific catalogs, tailored for customers in many specific locales, as well as market-specific payment providers. You can choose the catalogs in which your app is listed.

## Flexible business models

The Windows Store provides you with the freedom to choose the business model that's right for your apps. The Store provides full platform support for free apps, trials (both time-based and feature-based), and paid apps, as well as in-app purchases. You're free to manage customer transactions directly using your own or third-party services for in-app purchases and subscriptions, or use the services provided by the Windows Store. For apps that are supported by ads, you're free to choose the ad platform that best meets your goals.

## Transparent terms and onboarding process

To help ensure predictability and eliminate uncertainty, app certification requirements are provided in plain language. The Windows App Certification Kit lets you test your apps for many issues prior to submission. If your app is rejected, you'll get useful feedback so you can address the issues quickly and resubmit your app for publication. And you'll know where your app is at every step of the certification process, from upload to final certification and acceptance, using the dashboard.

The screenshot displays the 'Windows App Certification Kit - Test Results' for the 'Microsoft.Camera' app. The app version is 5.2.8376.0, published by Microsoft Corporation, and tested on Microsoft Windows 8 Release Preview (6.2.8380.0) on 5/24/2012 at 11:02:07 AM. The overall result is 'PASSED'. The tests performed include:

- Crashes and hangs test
  - App launch tests: PASSED
  - Crashes and hangs: PASSED
- App manifest compliance test
  - App manifest: PASSED
- Windows security features test
  - Binary analyzer: PASSED
- Supported Metro style API test
  - Supported APIs: PASSED
- Performance test
  - Bytecode generation: PASSED
  - Performance launch: PASSED
  - Performance suspend: PASSED
- App manifest resources test
  - App resources validation: PASSED
- Debug configuration test
  - Debug configuration: PASSED

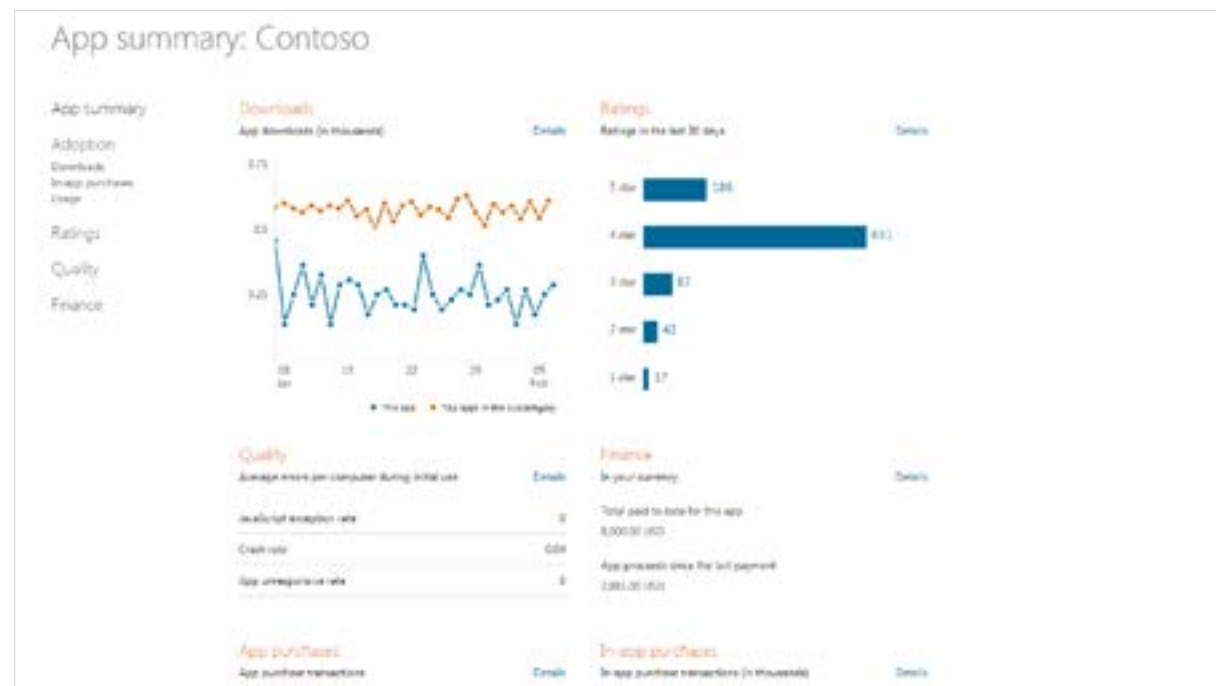
Test your apps and find issues before uploading them to the Windows Store using the Windows App Certification Kit



## Your personal app dashboard

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

You can access reports and telemetry data that show failure-based and causal data and that indicate how reliable your products are in the field, including how often they crash or hang. You can also compare how well your app is doing in terms of sales, downloads, and usage compared to other similar apps (no personal or company information is revealed). These new reports are consistent and actionable so you can find issues quickly and efficiently.



The Windows Store dashboard includes all the tools you need to monitor your app's success

## Designed for discovery

The Windows Store catalog is indexed by search engines, so apps are easy to find. Web search results point to a web version of the app listing page, which is based on the same content as the Store listing. Promoting apps from your website is easy. In fact, with just a line of markup, you can promote your app through the app button within the browser, visible to anyone running Internet Explorer 10 on Windows 8.

## Best economics

Windows 8 represents the single biggest platform opportunity available, and business terms of the Windows Store represent a developer-first point of view. With access to millions of potential customers around the world, development choices that let you use the skills you already have, rich platform capabilities for building Metro style apps, business terms that maximize your revenue opportunity, and flexible business models for the apps you create, Windows 8 and the Windows Store provide an unprecedented opportunity for you to imagine, build, and sell your apps.

# Windows 8 is here

From start to finish, we've reimagined Windows. It works the way you do and it keeps you connected to the people, websites, and things you love most.

Apps are at the heart of Windows 8. Beautifully designed for your connected lifestyle, apps integrate with the services you already use. Keep in touch with friends, browse the web, and store data in the cloud. It's all possible.

No matter how you work and play, you can customize Windows 8 and work the way you want, whenever you want.

Made for business and home PCs, Windows 8 can handle your tasks. And if you're a developer, the Windows Store provides you with unprecedented opportunity.