

## Introduction to Windows 8 - Consumer Beta Version

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**Important Note:** This information is preliminary and subject to change after the official release in late 2012. All screen captures and information is based upon the Windows 8 Consumer release version of the program and information available through the Microsoft website.

Microsoft has announced Windows 8 will be available in four editions:

- Windows 8
- Windows 8 Professional
- Windows 8 Enterprise
- Windows 8 Run Time (Windows 8 RT)

The early beta-release of Windows 8, called Windows 8 Consumer edition, is most like the Windows 8 Professional edition because of the PC features included in the Consumer version. The Consumer edition includes features, such as BitLocker and the ability to join a network domain. These two features are not typically available in a Home Edition of Windows operating system.

The two editions of Windows 8 that will be available for purchase by the average consumer will be called Windows 8 and Windows 8 Professional. Windows 8 edition designed for the typical average user. The Windows 8 Professional edition is designed for a person with a more technical background, and who desires more computer technical configurations, such as manually configuring a network connection and joining a network at the office that is controlled by a server.

The Enterprise edition is designed for large collection of computers that are under single management such as large business or corporate environment, educational institutions, and government organizations. The Windows 8 Enterprise edition will contain all the options available in the Professional edition, and also include a few more advanced features such as foreign language packages. The Enterprise edition will not be available for purchase by the general public.

The Windows 8 RT edition also will not be available to the general public. The Windows 8 RT edition is designed especially for Advanced RISC Machine (ARM) type devices. The acronym RISC represents Reduced Instructional Set Computing. In other words, an ARM is a specially designed CPU that operates with a reduced number of instructions, which means it has limited abilities when compared to a typical desktop or laptop computer system. ARM

type of processors are used for devices that have a much more limited capacity, such as a smart phone, or digital personal assistant, tablet devices, digital cameras, iPods, game consoles, etc. When Windows 8 is installed on ARM type devices, Microsoft uses a new acronym (WOA) to identify the ARM Windows Edition. The compound acronym WOA represents Windows On ARM.

Below is a chart used to compare a few of the many features listed by Windows 8 edition.

### Major Features

Feature	Windows 8	Windows 8 Pro	Windows RT
Upgrade from Windows 7 Starter, Home Basic, Home Premium	Yes	Yes	No
Upgrade from Windows 7 Pro and Ultimate	No	Yes	No
Apps, SkyDrive, Calendar, People, Reader, Messaging	Yes	Yes	Yes
Drive Encryption	No	No	Yes
Storage Spaces	Yes	Yes	No
Windows Media Player	Yes	Yes	No
Sync	Yes	Yes	Yes
Reset and Refresh	Yes	Yes	Yes
Picture Password	Yes	Yes	Yes
Trusted Boot	Yes	Yes	Yes
BitLocker and BitLocker to Go	No	Yes	No
Join Domain	No	Yes	No
Encrypting File System EFS	No	Yes	No
Remote Desktop Host	No	Yes	No
BitLocker and BitLocker To Go	No	Yes	No

**Note: Edition features may change by final release in the Fall of 2012. You can check the latest list of features at that time at the Microsoft Windows 8 website.**

### Hardware Specifications.

Windows 8 Consumer edition will run on 32 or 64 bit systems as well as an ARM device.

Note: Old legacy devices that do not support a screen resolution of a minimum of 1024 will not properly display Apps (Applications) designed for Windows 8. The system will still install and run, but the applications are designed for a minimal screen resolution of 1024 x 768. Windows 8 has a new feature called side-by-side apps. The side-by-side apps feature is designed to allow two different apps to be displayed on the screen at the same time. The side-by-side apps feature requires a minimal screen resolution of 1366 x 768.

Below is a summary of Windows 8 hardware requirements:

**Hardware Requirements Summary**

<b>Processor</b>	<b>32-bit</b>	<b>64-bit</b>
<b>CPU Speed</b>	<b>1 GHz</b>	<b>1 GHz</b>
<b>RAM</b>	<b>1 GB</b>	<b>2 GB</b>
<b>HDD space</b>	<b>16 GB</b>	<b>20 GB</b>
<b>Screen Resolution Minimum for Metro</b>	<b>1024 x 768</b>	<b>1024 x 768</b>
<b>Screen Resolution for side-by-side apps</b>	<b>1366 x 768</b>	<b>1366 x 768</b>
<b>Graphics Support</b>	<b>Directx9 or higher</b>	<b>Directx9 or higher</b>

The user interface for Windows 8 has been completely redesigned, and resembles a typical tablet or smart phone interface that utilizes touch screen technology. Even with the new design, you can still use a mouse and keyboard short-cuts to navigate the new Windows 8 operating system when installed on a PC, however it will require learning some new methods to perform old tasks.

### **Metro Start Screen**

Our first impression is that the new operating system has caused some concern among hard core PC users because of the missing Start menu button. It has been replaced with a new Metro style Start screen. On the next page, is a large screen capture of the default Windows 8 Metro style **Start** screen used for the Window 8 Consumer interface.



**Windows 8 Start Display**

Large icons are now referred to as “charms” or “tiles” by Microsoft, and each represents a program application or “app.” The design was updated from the typical default Windows desktop to support the use of touch-screen type of devices. You can still use a mouse and keyboard, but you will soon see that it is easier to use a touch screen device from the Start screen. We note that availability of touch screen devices will be a limitation of Windows 8 for some time to come in the universal environment.

## **Logon Accounts**

There are now two types of Login accounts used in Windows 8 - **Local User account** and **Microsoft Login Account**. The local user account is a typical account that you use to logon to previous versions of Windows Computer. Your assigned user name and password when you setup your computer. The Microsoft login account is based upon an email user name and password, and it will automatically connect to the Internet or “Cloud” during the logon process. Notice the upper right hand corner of the screen capture above of the Start screen, and you see my logon account represented by my email account name Richard at the

[RMRoberts website](#). The Microsoft login account is created when you first install Windows 8, or you may already have a Microsoft user account. When you use a Microsoft user account to login, you will be automatically connected to the Internet and Microsoft Cloud, which in turn automatically updates and synchronizes with your Hotmail account, Facebook, LinkedIn or most any other Cloud-type account. If you logon with just a local account, you will simply see your local user name. Login, by default, is the Microsoft user account, not the local account. You will be able to switch between a typical user login account, and a Microsoft login account as the default login method, by changing the user account configuration.

Below is an example of a screen capture of the default PC user interface. It is in stark contrast when compared to the new Metro style user interface.

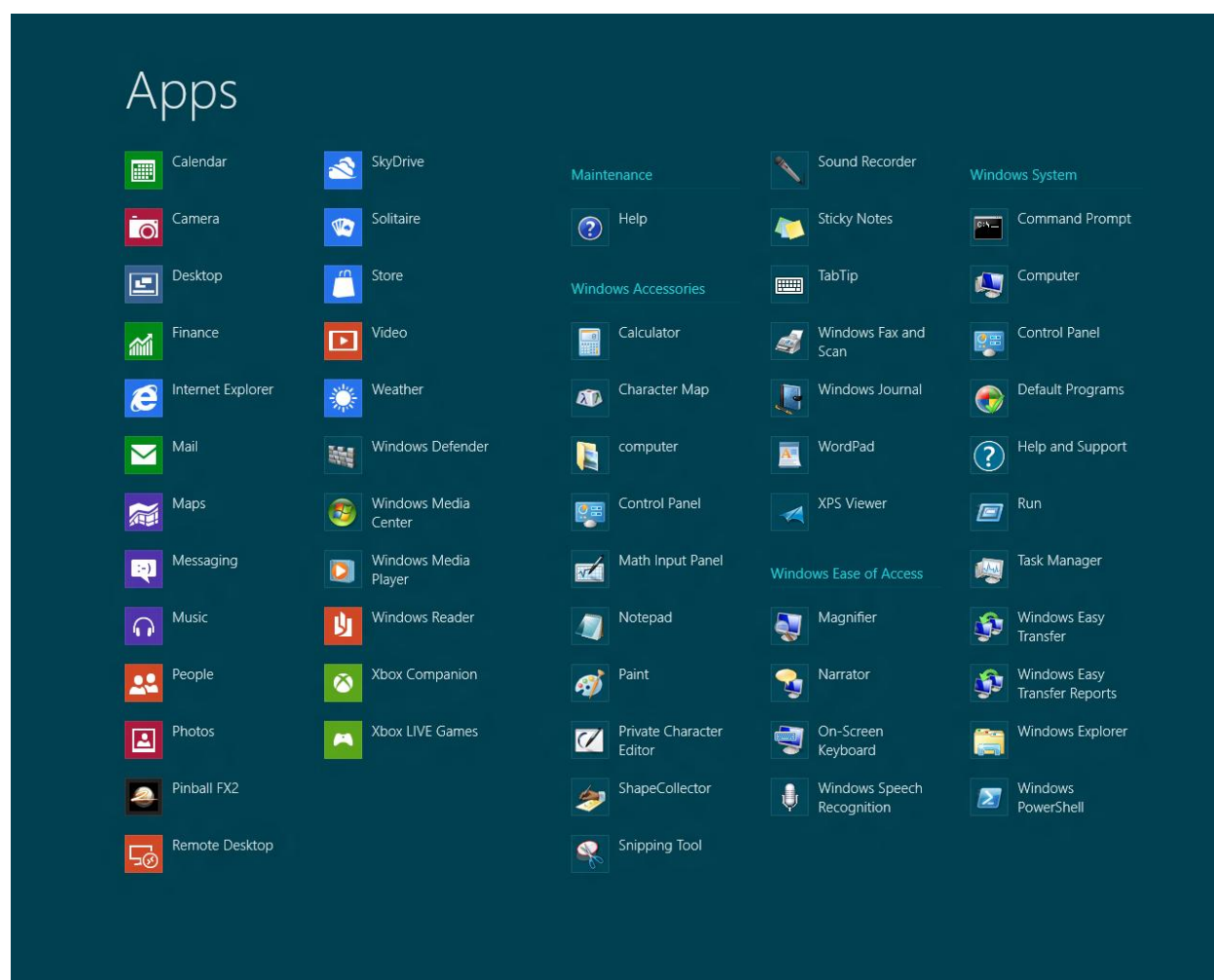


**Win 8 PC Desktop**

To return to the metro start screen, you once again move the mouse to the bottom left corner, and the charm for the metro start screen will appear. Select the start-charm, and you will return to the start screen. You also have the option to select the PC desktop tile from the tile collection on the Start display in order to go to the PC desktop. Look closely at the metro-style Windows 8 start display on page 4, and you will see a tile, with a fish in the center that

resembles the default PC desktop display. Selecting the fish tile will take you to the PC desktop screen. A third method, is to simply press the Windows logo key, and the display will switch back between the PC desktop and the Metro Start screen.

You can still access the PC style control panel and other common Microsoft Windows application and programs, but many have changed from the Windows 7 version. Also be aware that, when you install software application programs such as Microsoft Office, they will appear as a tile in the desktop display. You would then simply select the appropriate tile with the mouse to open the program, or as it is referred to now, appropriate “app.” Below, you can see a screen capture of many of the apps installed by default in Windows 8 Consumer Edition.



### ***All Apps***

The left side of the Apps screen is a collection of apps designed especially for Windows 8, and many are Cloud-Based applications such as SkyDrive. You also see a collection of the familiar PC applications on the right side such as Windows Accessories, Windows Ease of Access, and Windows System. When you install additional programs or apps, they too will appear as different Apps on the Windows 8 display.

## Windows 8 Short cut keys

Since Windows 8 has been designed to work with a touch screen display, users must learn some new short cut keys, as well as some new mouse moves to navigate through the system. Below are some of the most common short cut keys you will need to learn to efficiently navigate the Windows 8 desktop system.



**Windows Logo Key** - Pressing the Windows logo returns to the Start screen.

**Logo + C** display charms on right side of screen.

**Logo + H** Share .

**Logo + K** displays Devices charm.

**Logo + I** (letter I, not L) displays Settings Charm.

**Logo + Q** displays all apps and a search apps dialog box, as well as settings and files access.

**Logo + W** displays search settings.

**Logo + F** displays search files.

**Logo + D** open the desktop

**Logo + +**(plus) key zoom in.

**Logo + -** (minus) key zoom out.

**Ctrl + Alt + Del** Produces the four options. **Lock, Switch User, Sign out, Task Manager.**

**Alt + F4** from PC Desktop – **Shut Down, Switch User, Sign out, Sleep, Restart.**

**F1** Display Help

**ESC** Cancel Key combination and return to previous screen display.

The short cut keys will take some practice. You should practice them often to become proficient.

**Shutting down the system** can be accomplished by pressing **Ctrl – Alt – Del** key combination, and then selecting the shutdown charm in the bottom right corner.

**To close an app** – Move mouse to top of screen and a small hand appears. Drag the hand down to the bottom of the screen, and it disappears.

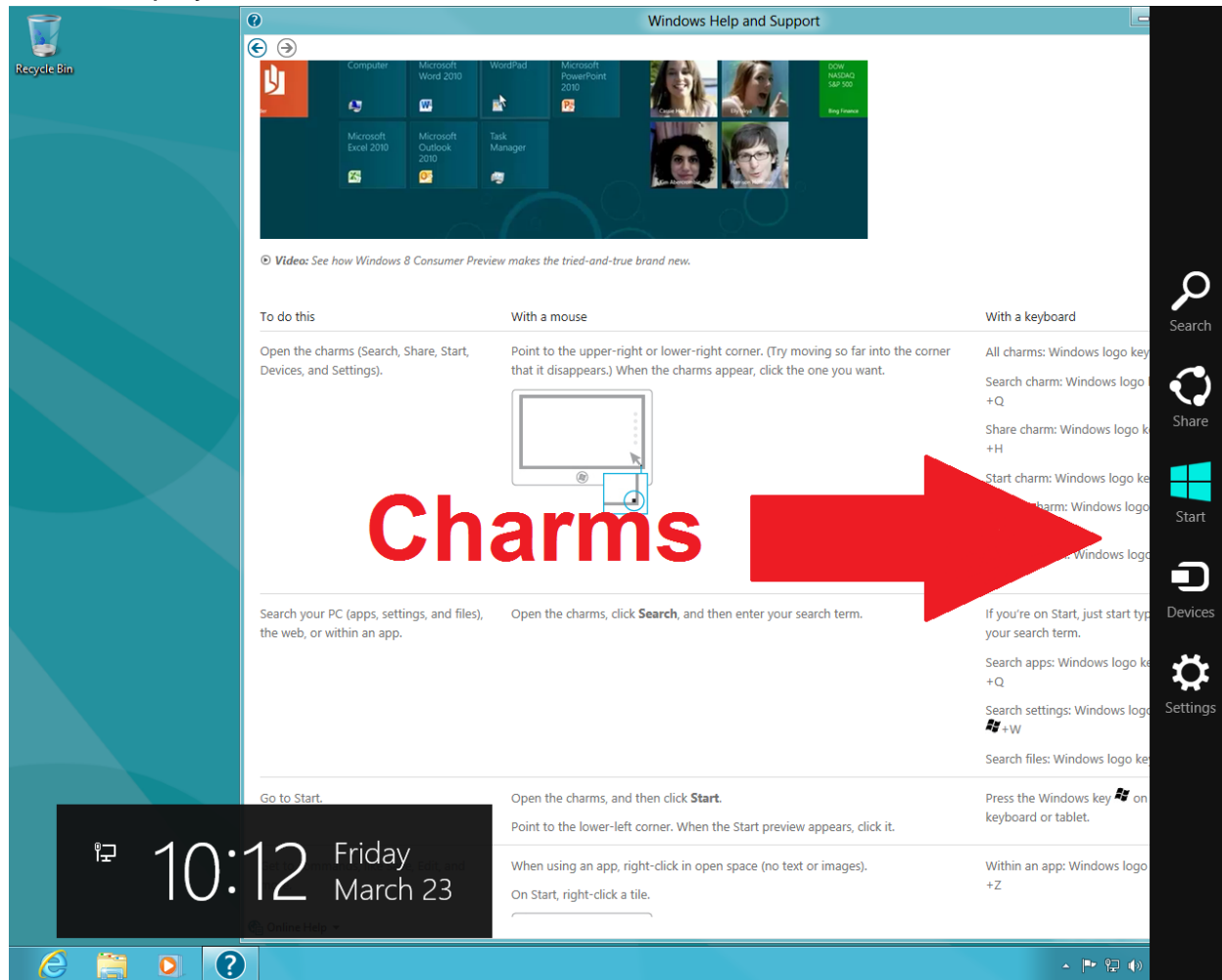
**Access drop down menu of common management tools.** Point mouse to bottom left corner until the desktop tile appears. Right-click on the Desktop tile and a drop down menu will appear, with a variety of commonly requested choices, such as Program and Features, Network Connections, Power Options, Event Viewer, System, Device Manager, Computer Management, Command Prompt, Command Prompt (Admin), Task Manager, Control Panel, Windows Explorer, Search, Run and finally Desktop.

There is a student handout of shortcut keys located at the following link. [\(link here.\)](#)



## Five Charms

There are five charms placed along the right side of the display which will provide access to the most common user functions. Look at the screen capture below, and you can see the Search, Share, Start, Devices and Settings charms displayed on the right hand side of the screen display.



### Charms

You can access the charms by pressing the Windows Logo key, in combination with the keyboard letter C. Think of the keyboard letter “C” as representing the term charm. The standard five charms found in the Consumer edition of Windows 8 are Search, Share, Start, Devices, and Settings.

**Search** charm will conduct a search of the PC or the Internet.

**Share** allows for instant sharing of apps photos, documents, links and more.

**Start** goes to the Start screen or last app opened.

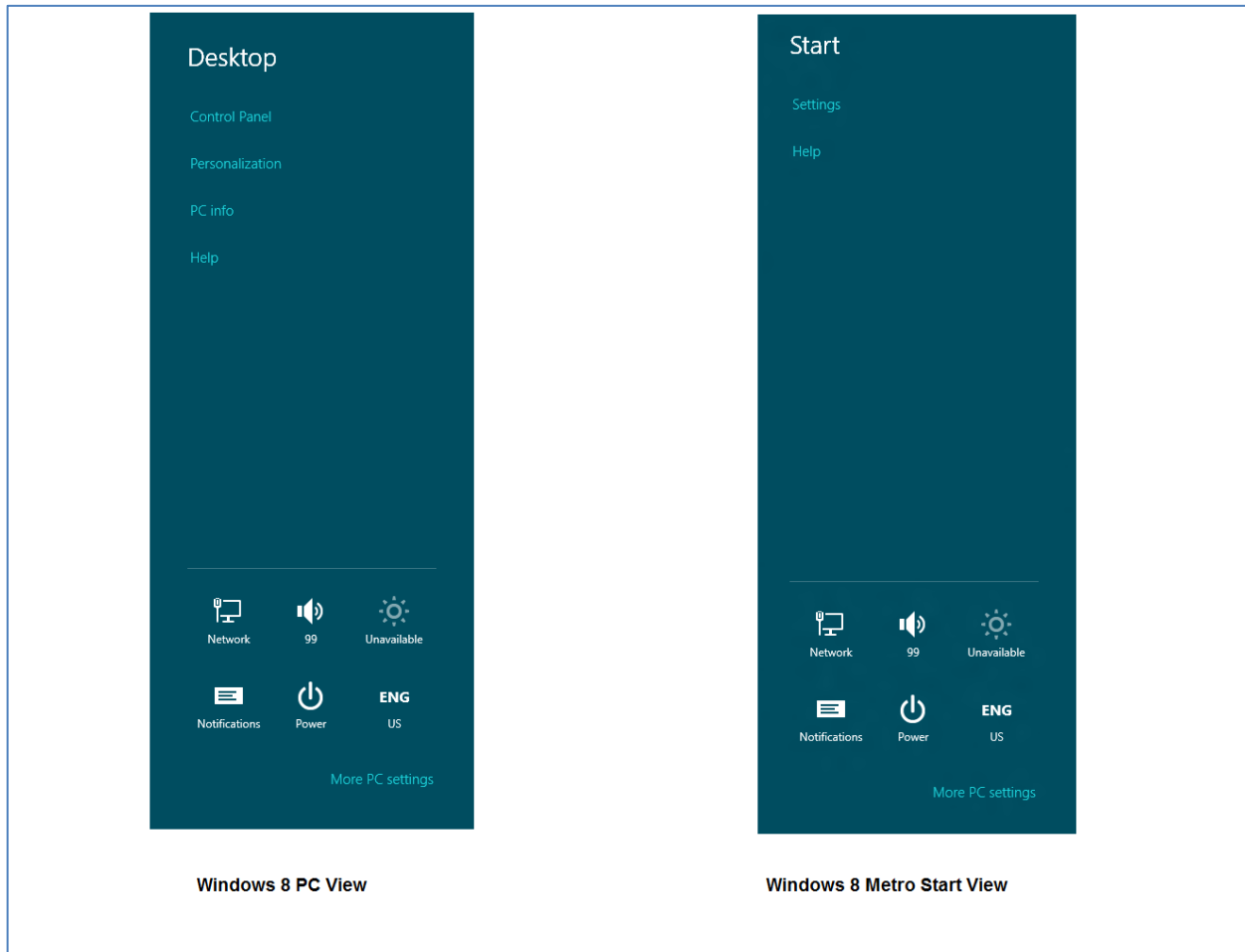
**Devices** is used to send files to printers, TV, and more.

**Settings** is used to change system configurations.



## Settings Charm

Accessing the Setting charm from the PC desktop and Metro Start screens will produce a collection of settings charms along the right side of the screen display. Look at the screen capture below to see a comparison of the results when the Settings charm is selected from the PC desktop as compared to the Start screen interface.

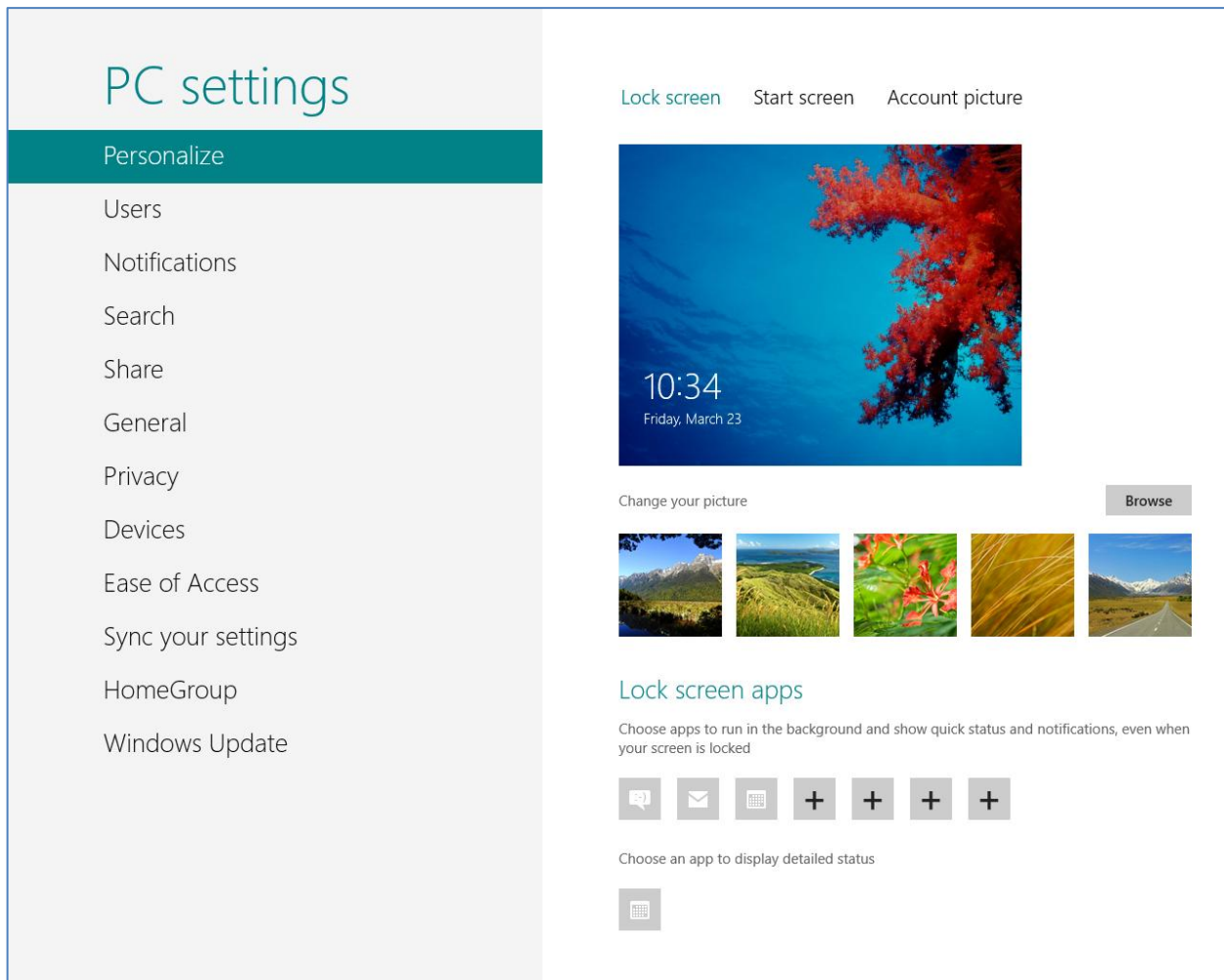


### *Settings PC and Start View*

You can see that there are some discrepancies between the two results. This is will be typical of all the various charms results, depending on the screen from which you access them. The additional selection will be directly related to the configuration options used for the PC desktop and the Start. This is to be expected. Notice (above) that the Control Panel is an option under Desktop, but not under Start. There is no Control Panel feature found in Start, even though as you know, there has been a control Panel option in Windows desktop system for many years. Notice also, the option for More PC Settings is located in the bottom right corner of both Desktop and Start. Selecting the **More PC Settings** from the bottom right side will produce many more additional configuration settings, as will be explored in the next section.

## PC Settings

PC Settings is where you make many of the most common PC configuration settings such as personalized desktop appearance, user account configurations, sharing, HomeGroup and more. Look at the screen capture below, and you can see a list of all PC Settings listed along the left side.



### **PC Settings**

The PC Settings options are similar to previous versions of Windows. You will already be familiar with most, if you are already familiar with Windows 7 or Vista. They are listed on the next page.

**Personalize** - Colors, background, lock screen, and your account picture

**Desktop Personalization** - Themes, taskbar, and more

**Ease of Access** - Settings for Narrator, Magnifier, and more

**Language Preferences** - Keyboards, other input methods, display language, and more

**App Settings** - Certain settings in your apps, but not all

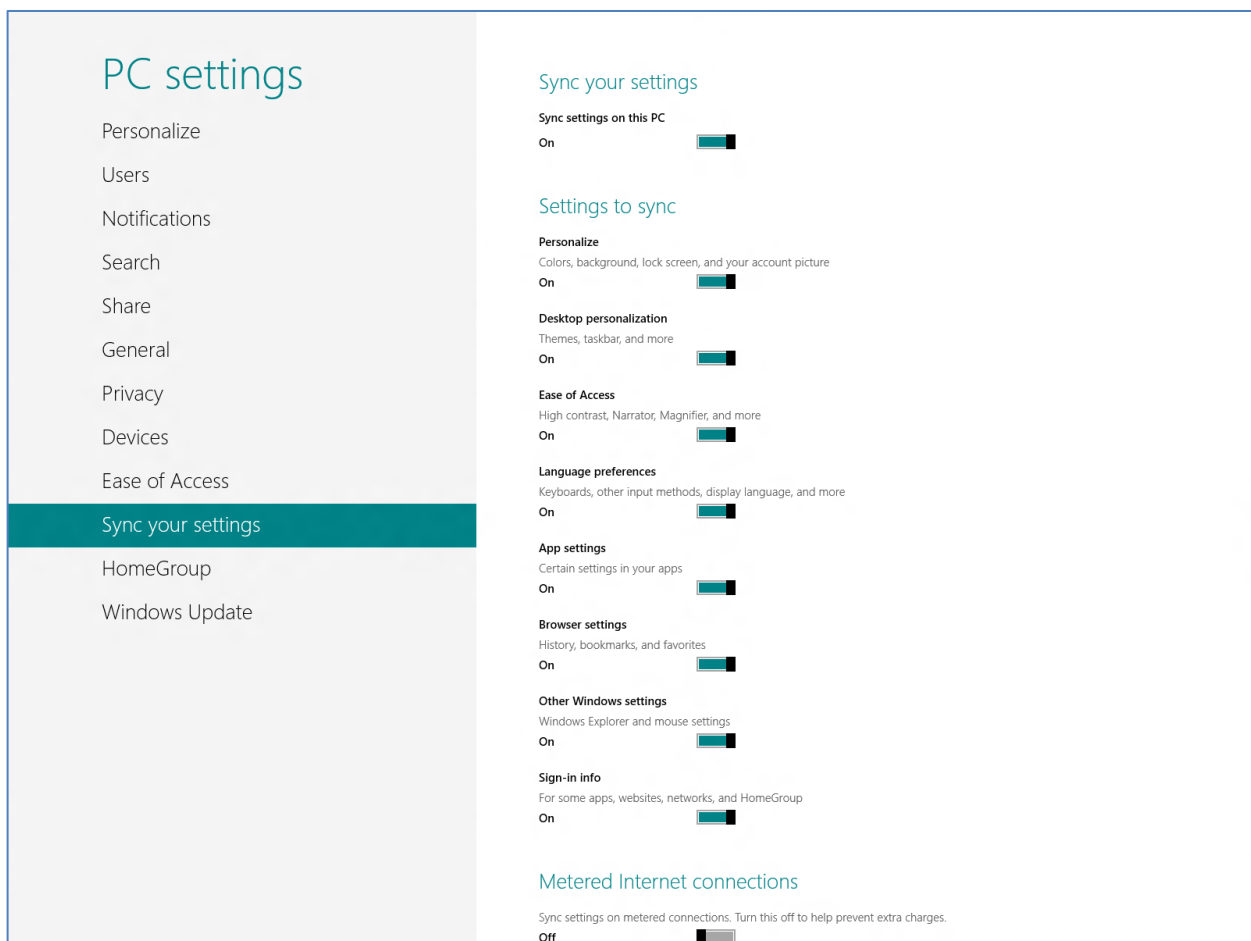
**Browser Settings** - Internet Explorer history and bookmarks (favorites)

**Other Windows Settings** - Windows Explorer and mouse settings

**Sign-in Info** - For some apps, websites, networks, and HomeGroup

## Sync Your Settings

File synchronization is not new by the Sync Your Settings option, however in Windows 8 it is redesigned, with many additional options and easier to use. Look at the screen capture below to see the Sync Your Settings in Windows 8, with the list of optional settings that can be synchronized between all your Windows 8 devices, such as other Windows 8 PCs, laptops, tablets and smart phone.



### Win 8 Sync Settings

The Sync your settings feature will allow you to automatically synchronize your desktop appearance, application settings, browser settings, Internet history, and especially your sign-

in information. This is really a nice feature for people who own or use more than one device for example a desktop, a laptop and a Windows tablet or phone. Sync is also referred to as Active Sync and Exchange Active Sync. The technology is also available in other operating systems such as Apple and Android products.

Note: You will not be able to Sync your settings if you logon using only your local user account, ***you must have a Microsoft account.***

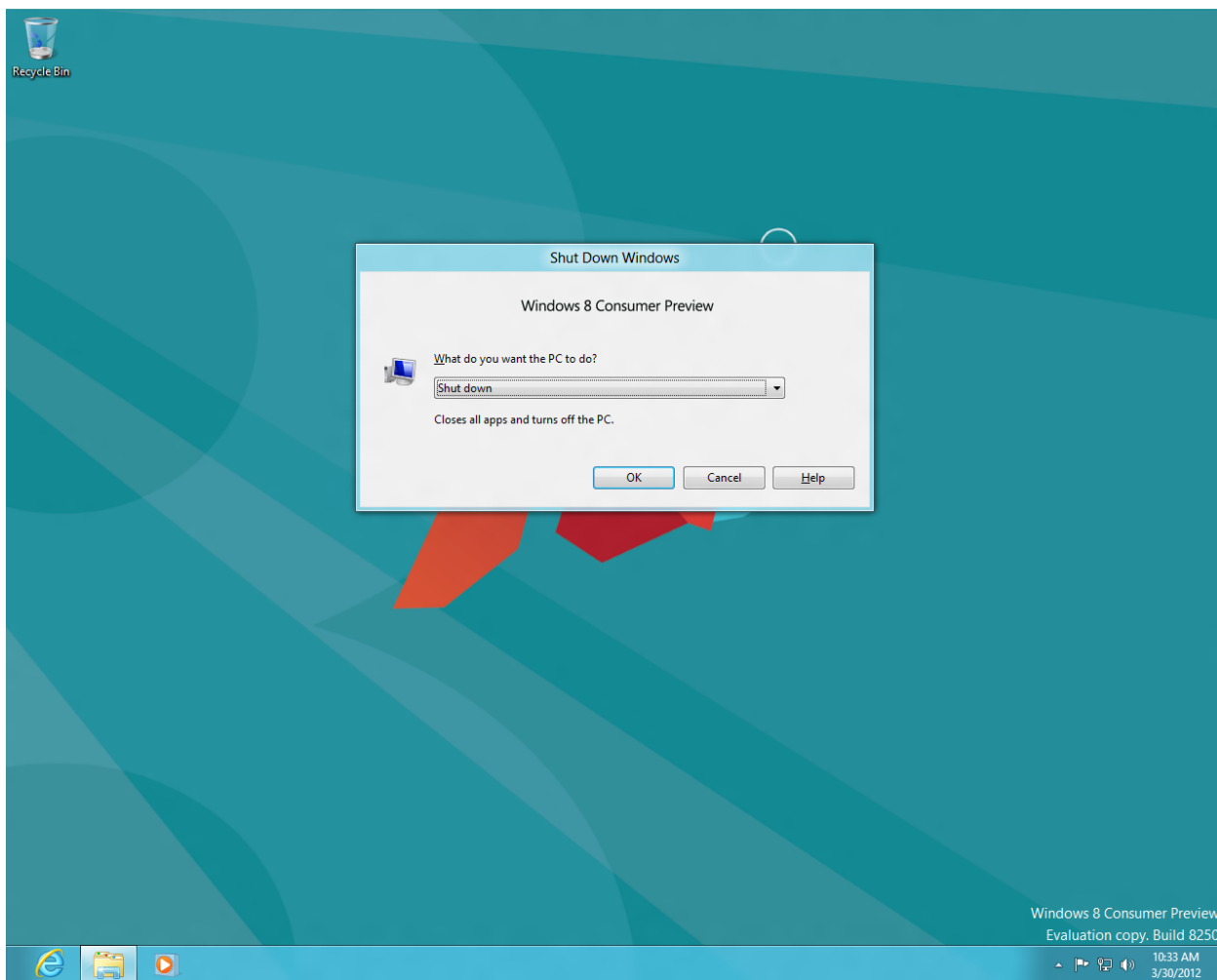
## **Shutdown Windows 8**

Since the Start button has been removed, you may have difficulty adjusting to a new method to shutdown Windows 8. There are several methods that can be used to shut down the Windows 8 system.

From the PC desktop Windows press Alt + F4 to shut down the system. Pressing Alt + F4 from the Metro Start screen will not produce any shutdown or logoff options. Only from the PC desktop will Alt + F4 produce the desired result.

From the Metro Start screen interface press Ctrl + Alt + Del, and then select the shutdown button in the lower right corner.

On the next page, is a screen capture of the Windows 8 PC desktop after the Alt + F4 key combination has been pressed.

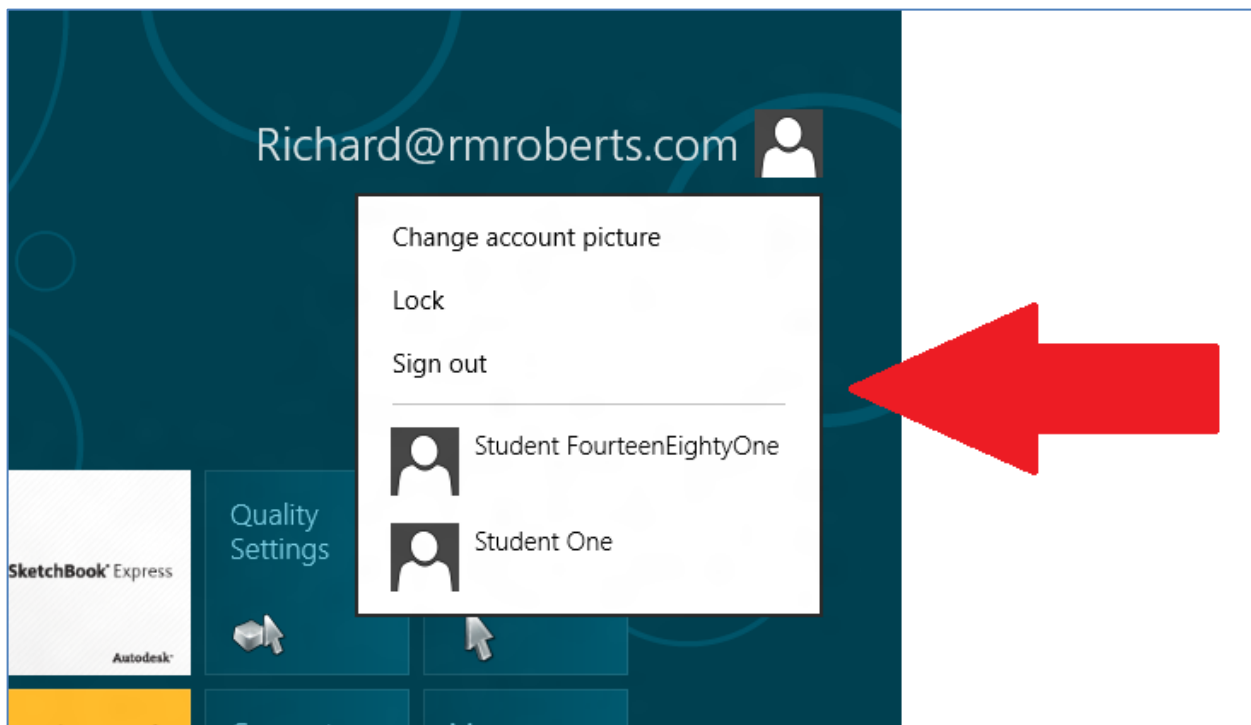


## ***Shut Down***

Additional options are switch user, sign out, sleep, and restart. Shut down is the default option presented.

## **Sign Out**

To sign out or switch users from the Metro Start screen, you simply click on the displayed user account name displayed in the upper right corner of the Start screen, and a drop down list of options and user accounts will appear. Look at the screen capture below to see the results of selecting the user account on the Metro Start screen.



***Sign Out Cropped***

You can lock the computer, sign out of your login, or switch to another user account. Using the key combination Ctrl+Alt+Del also produces Lock, Switch User, Sign out and task manager.

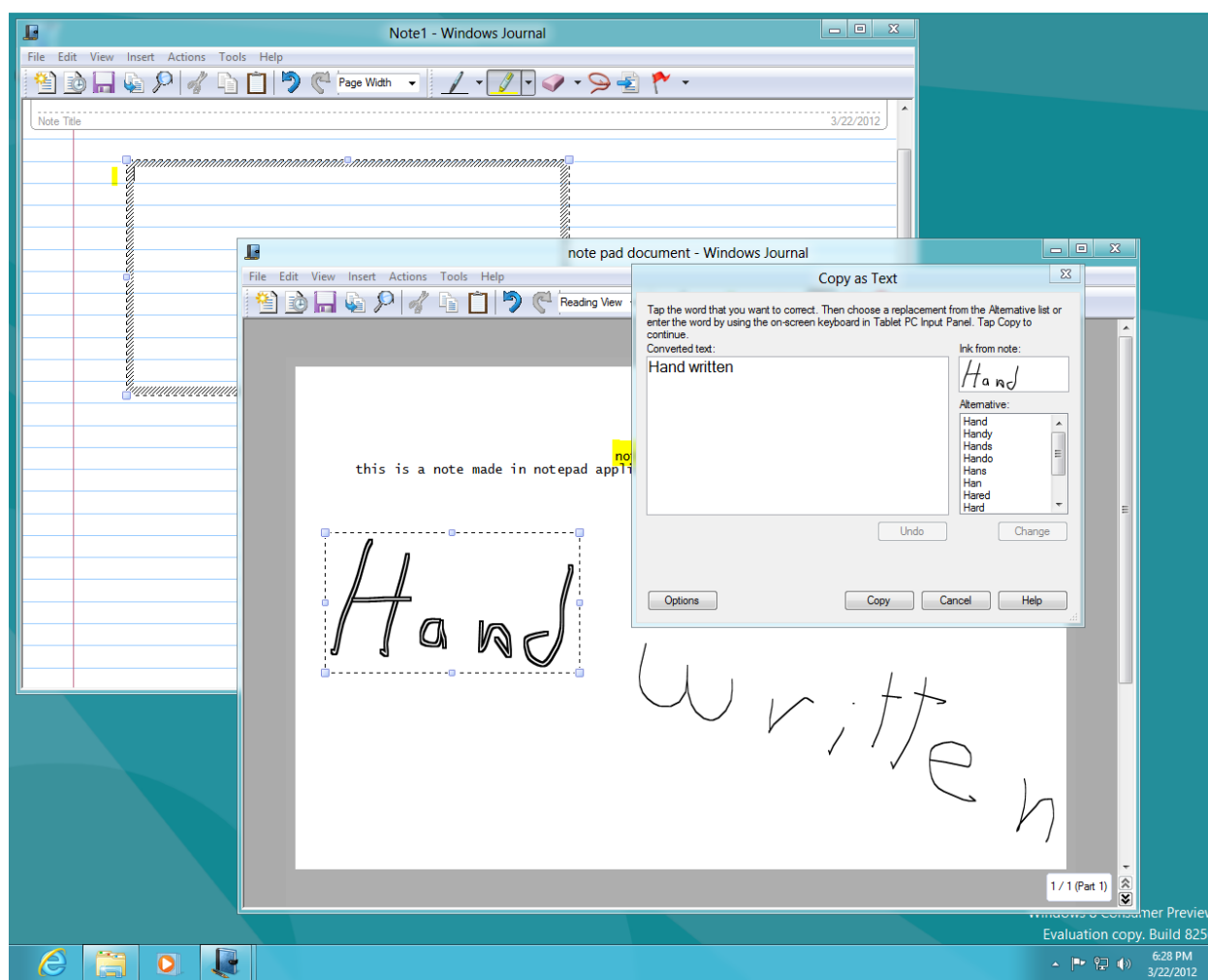
## **Two New Additional Authentication Methods**

You still login to your PC or Start screen using the traditional secret password, but now there are two **new** authentication methods for use with the Windows 8 operating system. These two additional login security methods were designed to more easily accommodate touch screen devices such as tablets and phones. You can authenticate using either a PIN number, or a picture. The PIN number option is created in the User's account properties windows. The PIN will be a four digit number you create yourself. When using the picture authentication method, you first select a picture. Then, you "draw" directly on the touch screen creating a combination of circles, straight lines, and taps locations. The size, direction, and location of your gestures become your picture password.

## **Windows Journal**

In this article, we will only introduce one of the many apps that come with Windows 8 by default. The Windows Original WordPad and Notepad text applications are still a part of the default operating system, but there is also a new text application called Windows Journal.

Below, is a screen capture of the new Windows Journal interface which appears as a writing tablet with a tool bar across the top of the screen. Also, are screen captures of the hand writing feature, and copy as text feature.



You can conveniently write printed letters/words on the Windows Journal in a meeting or while take notes in a class. Later, you can convert the written note(s) to text using the “Copy as Text” option. After the notes have been copied as text, they can then be exported to software application such as Works or Word or even posted to your cloud account. This will prove to be a very handy feature of the Windows 8 tablet version.

## Storage Spaces

Windows 8 has also introduced a new disk storage management option called Storage Spaces. Storage Spaces allows you to create an automatic backup location for all your data in the same style or method as a RAID system. RAID systems typically require intervention by a computer tech to setup the RAID properly, but with Windows 8, the task has become almost fool-proof. I say “almost” because I’ve seen the simplest configuration go wrong.



The advantage of Storage Spaces over a RAID system is that fact that you do not need a third party RAID application, or drivers. Everything required is included in the Windows 8 system. You simply add an additional disk or two if you like, and the Windows 8 computer automatically detects it, and adds it to your list of storage spaces. You can then create a *pooled* storage space, which means that your data will be automatically saved in two places at once, thus ensuring that you will have a copy of all your important data in the event of a system failure.

## Trusted-Boot and Measured-Boot Security

Two security features have been integrated into the Windows 8 operating system called Trusted-Boot and Measured-Boot. Whatever security feature, or a combination of both, will depend on the hardware or the device. Another factor will be if the Windows 8 is being installed on a legacy device that does not contain the latest security feature hardware. While the two security features called Trusted-Boot and Measured-Boot will at first appear very much the same, the differences will become apparent when directly related to the particular device hardware.

### Trusted Boot

Trusted Boot is a Windows 8 security feature that checks the integrity of the operating system during the boot operation. Trusted boot basically only allows digitally signed software to boot and run on the computer device. Trusted-Boot is also referred to as Secure Boot, or UEFI Secure boot. Trusted Boot requires UEFI firmware, rather than BIOS. You can think of UEFI as a modern version of BIOS. Trusted Boot is designed to prevent malware, such as root kits from hijacking the boot operating and taking over the computer. The anti-malware is loaded and run before non-critical Windows 8 files. If the software is not approved by Microsoft, then you will not be able to install the software application. This operational protocol is also common to other operating systems and devices, such as Android and Apple devices.

To be able to install “unauthorized” software applications on a trusted-boot type of device, you must use a third party software application designed specifically for that device. The term used to access the device by by-passing the Trusted-Boot feature is referred to as **jail breaking** or **rooting**. Specifically, by-passing the OS protective feature on Apple products is called jail breaking and for Android products is rooting. For example, if you want to install a third party application on a device using trusted-boot feature, you would first need to jail break or root the device, thus becoming the overall system administrator. After by-passing the Trusted-Boot feature, you can then install unauthorized software applications. This is a classic example of the way security features are compromised soon after they are developed. There is no name for by passing the Microsoft Trusted-Boot associated with Windows 8 OS as of yet but it can be assumed it will be either rooting or jail breaking.

Note: Secure-boot is an open source security application, not a Microsoft proprietary application.

## Measured Boot

Measure Boot is another new security feature that works with the Trusted Platform Module **TPM**. Measured Boot verifies the successful launch of the operating system, and then stores the information in the TPM chip. This information is then used to validate computers integrity, which is required before any remote services feature is enabled. The remote service can access the information stored in the TPM chip, thus verifying that the computer contains no malware and is safe to allow the computer or device to join the Cloud service or the network. The Measured Boot is required for cloud computing and other types of remote services. The Measured boot feature ensures that the computer or other device is equipped with a up-to-date anti-malware (antivirus) software, and that the anti-malware was initialized and the computer is virus free. The Measured-boot feature is used to limit the spread of malware across networks, and the Internet to servers. Measured boot is an essential feature for cloud computer services and remote server access. The Trusted Boot and the Measured Boot features have been designed to ensure that the operating system is not infected with malware.

### Comparison Measured- Boot and Trusted-Boot

Security Feature	Secure-Boot	Measured-Boot
Inspect OS system boot loader to determine changes or replacement.	Yes	Yes
TPM required	No	Yes
Automatic System Update	Yes	No
Scan boot path and BIOS code	No	Yes
Requires UEFI firmware	Yes	No

Secure Boot requires UEFI type of firmware, and Measured boot does not, however, Measured Boot can be implemented on a system that utilizes UEFI firmware. Neither the Trusted Boot, nor the Measured Boot features will be noticed by computer or device users. They operate in a transparent manner, and the actions of the security features will not be detected or observed by the user. The only time they may become aware of these security features is when they are denied access to a remote website or cloud service resulting from the lack of a security feature. For example, a user may attempt to connect to a cloud service and be denied because the computer does not have up-to-date antivirus software, or up-to-date operating system security patches installed.

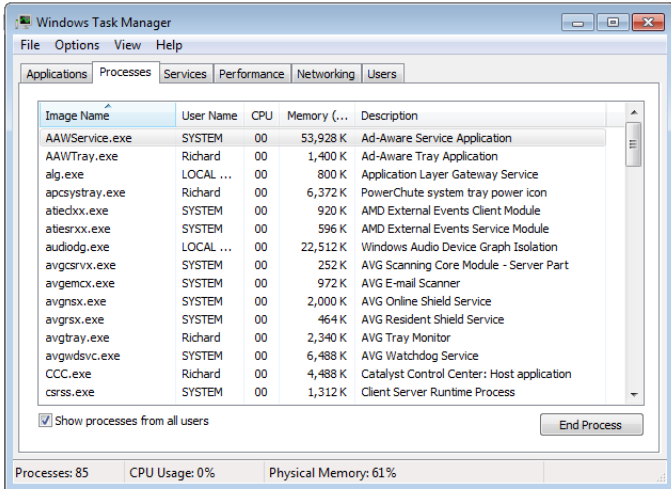
To learn more about Trusted-boot and Measured boot, check the following Microsoft link or conduct a search using the key terms “Microsoft Trusted boot Measured-boot.”

<http://msdn.microsoft.com/en-us/library/windows/hardware/br259097.aspx>

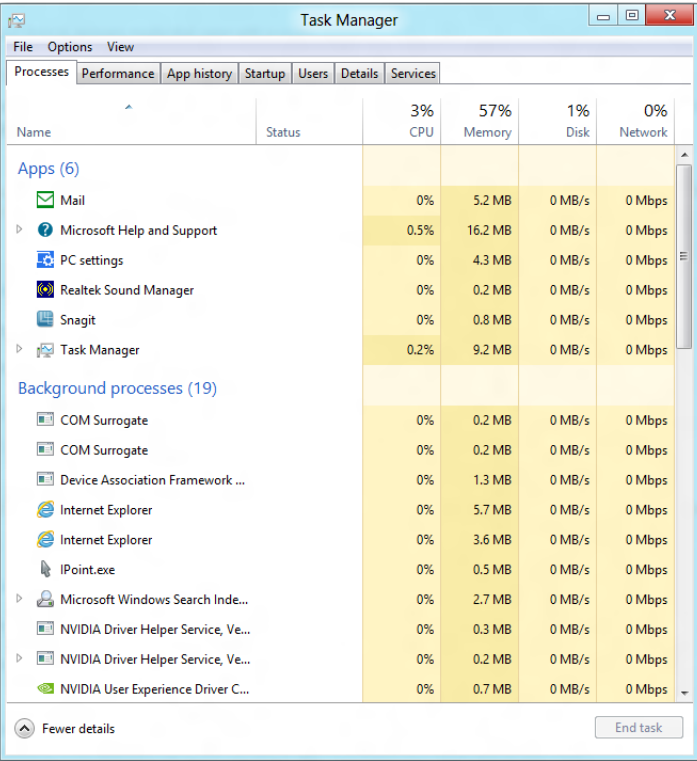
Note: Infecting a device that is using the latest security features will become very difficult, but you can be sure that in the near future, hackers will find a way to circumvent these two security features and the spread of malware will continue. We will always need to be aware of this fact.

**Task Manager**

The Task Manager has been redesigned to include a new look and some new features as well as some new selection tabs.



**Windows 7**



**Windows 8**

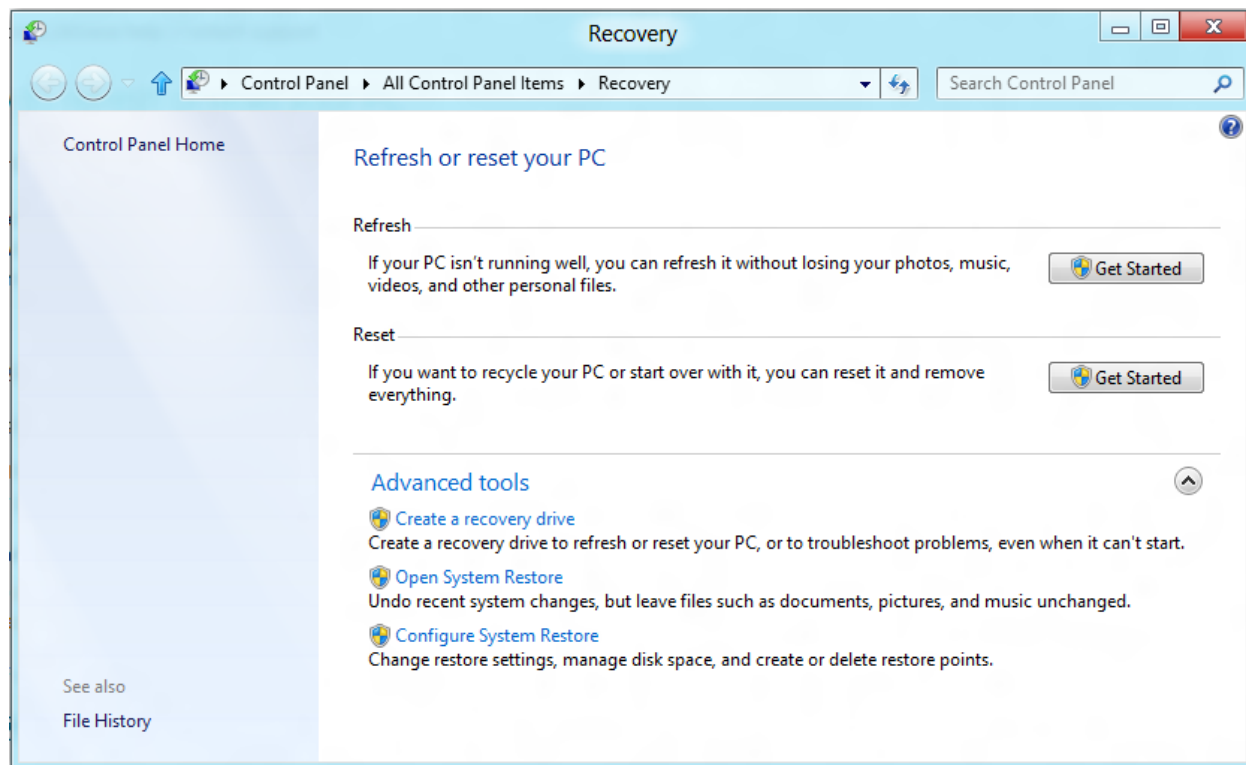
**Task Manager Comparison**

Both Windows 7 and Windows 8 still have the Services and Performance tabs. In Windows 7, there is a separate tab for Applications, but in Windows 8, applications are now incorporated into the processes tab area list. After selecting the Processes tab in Windows 8, you will see the applications listed at the top of the column, followed by the background

processes running on the computer. If you scroll down farther, you would also see a list of Windows processes. Notice how the Windows 8 Process tab has the percentages displayed for the CPU, Memory, disk, and network located at the top of the columns. This is a nice new feature. The Windows 7 Networking tab has been removed from Windows 8. Windows 8 has added an App History, Startup, Users, and Details tab to the task manager. The Windows 8 task manager tab Applications, listed only applications running on the computer. The Windows 8 equivalent tab is the Apps history tab, which list not only currently running apps, but all apps for the system and their history. This is more appropriate design since the new Windows 8 is Apps oriented. Our discussion of Windows 8 Task Manager will end here since this is only an introduction to Windows 8 Consumer. I promise there will be much more about the new design of Task Manager in Windows 8 in the near future.

## Recovery Reset and Refresh

System recovery has been changed from previous version of windows by introducing two new wizard based on past technologies. The recovery wizards are designed to automatically repair your Windows 8 system with limited user interaction referred to as system refresh or system reset. Look at the screen capture below of the recovery options.



### Recovery

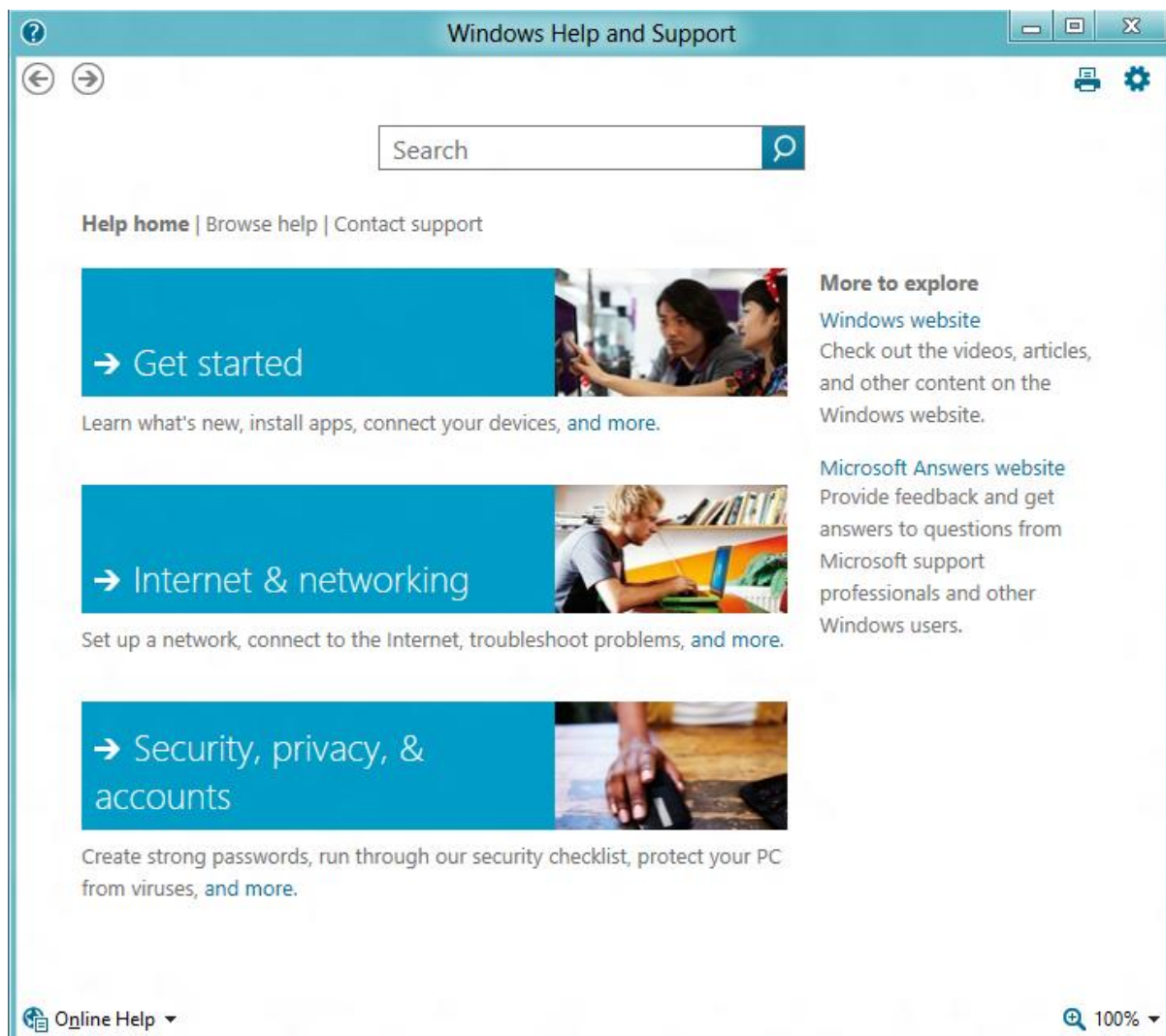
When you refresh Windows 8 the operating system, the operating system is reinstalled and you retain your personal files, settings, and all apps that come with the Windows 8 operating

system, as well as all apps from the Microsoft Application Store. Any apps from other vendors will not be reinstalled but a list of those missing applications will be listed so that you can reinstall them from the other vendors or from a backup copy.

When you choose to reset your Windows 8 system, you again reinstall the operating system, but you will lose all your personal files, your personalized settings as well as all of your applications configuration except the standard apps that come with the operating system. The advanced options allow you to create a recovery drive, open a system restore point, or configure a system restore point. These three features were available in previous versions of the operating system.

## Windows 8 Help

To learn more about the basics of Windows 8 all you need to do is from the Start screen, press F1 on the keyboard to display Windows 8 Help. Look at the screen capture below.



### F1 Help

The three main selections are **Get Started**, **Internet & Networking**, and **Security, Privacy, & Accounts**. Get Started will provide you basic information about such topics as how to use a touch screen with Windows 8, what's new with the keyboard and mouse, Installing a program, Add view and manage your device and printers, and common sound problems. This is a great place as it says to get started learning the basics of Windows 8 interface.

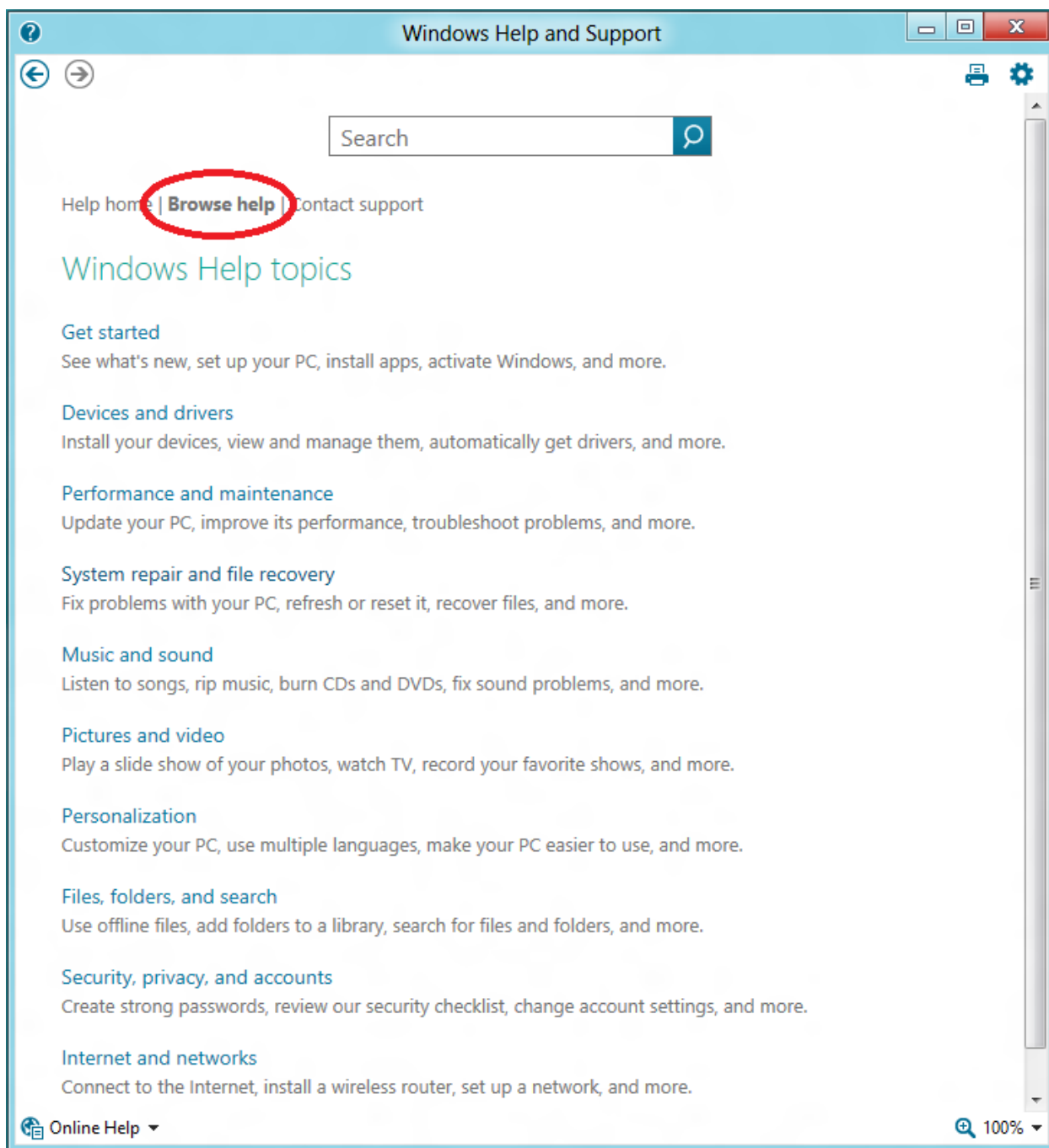
Internet & Networking provides basic “how to” information on topics such as connect to the Internet, setup a network and common problems associated with a network, the Internet connection and wireless connections.

The third major topic presented is Security, Privacy, & Accounts. This is where you will get information about setting up user accounts, parental controls, virus protection, and protection from malicious software.

All three major help topics will prove to be a great asset to your mastery of Windows 8 operating system.

There is also a Windows Help and Support Search option. You simply type in the topic and a list of links will automatically be generated.

Another place to seek help is the Browse Help optional link. Below is a screen capture of Windows 8 Help and Support after selecting the “and more” link.



### ***Browse Help***

The Browse Help link produces a long list of the most common topics you will most likely need to reference when learning how to manage and configure Windows 8. The general three topics first presented on the Home Help are also included.

From the Desktop or the Start screen you can also access Help from the Settings side bar panel. Look back at figure titled "Settings PC and Start View" on page 9, and you will see where Help is accessed in the Settings side bar.



Many other features found in Windows 8 may appear to be new but have actually been introduced in Windows 7. To learn more about Windows 8 AppLocker, BitLocker, and Direct Access feature, and more, please review our previous article on Windows 7 at our website or select the link below.

[http://www.rmroberts.com/FTP\\_files/CSR2012/IntroductiontoWindows7forWebsite.pdf](http://www.rmroberts.com/FTP_files/CSR2012/IntroductiontoWindows7forWebsite.pdf)

Note: BitLocker encryption is an option in the Consumer beta release.

As stated at the begging of this article, the information in this article is based upon the **beta** release of Windows 8 Consumer edition, and there will no doubt be many changes in the final released version. This article will be updated after the final release.

Check back at our website [www.RMRoberts.com](http://www.RMRoberts.com) for the final updated version or join our [email newsletter list](#) to automatically be notified of all new articles, and practice tests.

If you have not already installed a copy of Windows 8 Consumer, you can download it from The Microsoft website at the following link.

<http://windows.microsoft.com/en-US/windows-8/consumer-preview>