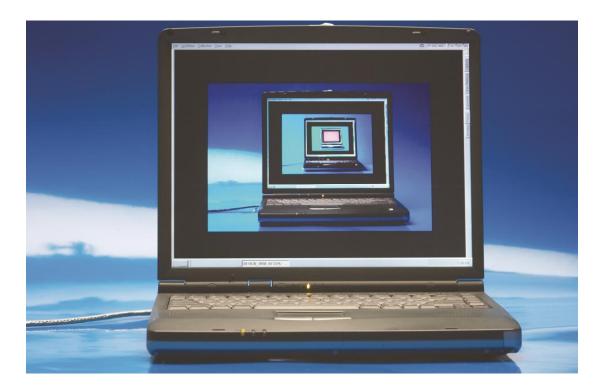
Visible Windows Chapter 4





Overview

- In this chapter, you will learn how to
 - Relate the history of Microsoft Windows
 - Explain the Windows interface
 - Identify the operating system folders of Windows
 XP, Windows Vista, and Windows 7
 - Describe the utilities in Windows that are essential to techs

Versions of Windows on the CompTIA A+ exams

Windows Family	Versions (32-bit)	Versions (64-bit)		
Windows XP	Windows XP Home	Windows XP 64-bit ver.		
	Windows XP Professional	Windows XP Professional x64 edition		
	Windows Media Center			
Windows Vista	Windows Vista Home Basic / Premium	Windows Vista Home Basic / Premium		
	Windows Vista Business	Windows Vista Business		
	Windows Vista Ultimate	Windows Vista Ultimate		
	Windows Vista Enterprise	Windows Vista Enterprise		
Windows 7	Windows 7 Starter	Windows 7 Home Premium		
	Windows 7 Home Premium	Windows 7 Professional		
	Windows 7 Professional	Windows 7 Ultimate		
	Windows 7 Ultimate	Windows 7 Enterprise		

Versions of Windows on the CompTIA A+ exams (continued)



Figure 1: Lots of Windows!

Brief History of Microsoft Windows

• Windows 3.x

 Graphic overlay of DOS

<u>File O</u> ptio	
	Network
Network 🕞	
	About Program Manager
Net Wal	Program Manager Microsoft Windows for Workgroups Microsoft Windows for Workgroups Version 3.11 WINDOWS. Copyright © 1985-1993 Microsoft Corporation
Accessories	This product is licensed to: VMUser
	Product Number:
	Memory: 103,850 KB Free

Figure 2: Windows for Workgroups

Windows NT

- First true Windows
 OS
 - Primarily used in high-end systems
 - Replaced FAT with NTFS



Figure 3: Windows NT 4.0

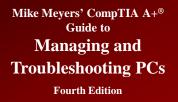
Brief History of Microsoft Windows (continued)

• Windows 9x

- First version of
 Windows for typical
 users
- Multiple versions, such as 95, 98, 98
 SE, and Me



Figure 4: Windows 95—the Windows of your forefathers



Windows 2000

- Based on Windows NT, but with a better interface
- Included support for NTFS
- Came in Professional and Server versions



Windows XP

- Replaced both Windows 2000 and 9x as the desktop for both home and office
- Multiple versions, such as Professional, Home, and Media Center



Windows XP Professional

- Big claim to fame: Windows domains
- Mainstream edition of XP

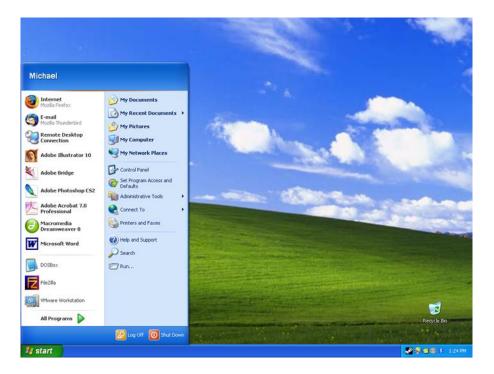


Figure 5: Windows XP Professional



Windows XP Home

- Easier to explain what Home can't do compared to Professional
 - No Windows domains
 - No encrypting file system
 - No support for more than one processor
 - No support for Remote Desktop
 - Cripples NTFS support simple file sharing
 - No group policies

Windows XP Home (continued)

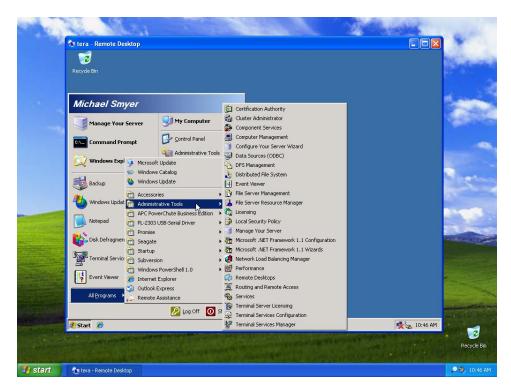


Figure 6: Remote Desktop

Windows XP Home (continued)

Important Documents Properties 🛛 🛛 🔀					
General Sharing Customize					
CLocal sharing and security					
To share this folder with other users of this computer only, drag it to the <u>Shared Documents</u> folder.					
To make this folder and its subfolders private so that only you have access, select the following check box.					
Make this folder private					
Network sharing and security					
To share this folder with both network users and other users of this computer, select the first check box below and type a share name.					
Share this folder on the network					
Share name: Important Documents					
Allow network users to change my files					
Learn more about <u>sharing and security</u> .					
Windows Firewall is configured to allow this folder to be shared with other computers on the network. <u>View your Windows Firewall settings</u>					
OK Cancel Apply					

Figure 7: Windows XP Home Sharing tab



Windows Media Center

• Same as Home, but adds Media Center



Figure 8: Windows XP Media Center



Windows Vista

- Vista Home Basic
 - Like XP Home, geared to basic home users

Vista Home Premium

 Home Basic with upgraded multimedia applications

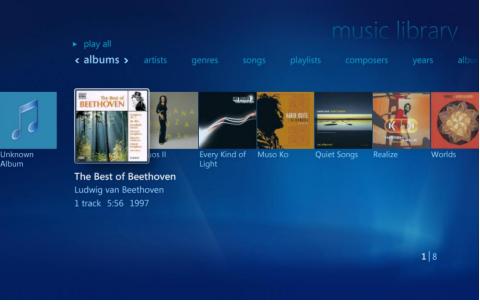


Figure 9: Vista Home Premium Media Center

Windows Vista (continued)

- Vista Business
 - Basic business version with security, file sharing, and domain access
- Vista Ultimate
 - Includes all other version features, plus more
- Vista Enterprise
 - enhanced Vista Business
 - includes extra features
 like BitLocker Drive
 Encryption



Figure 10: Vista Ultimate

Windows 7

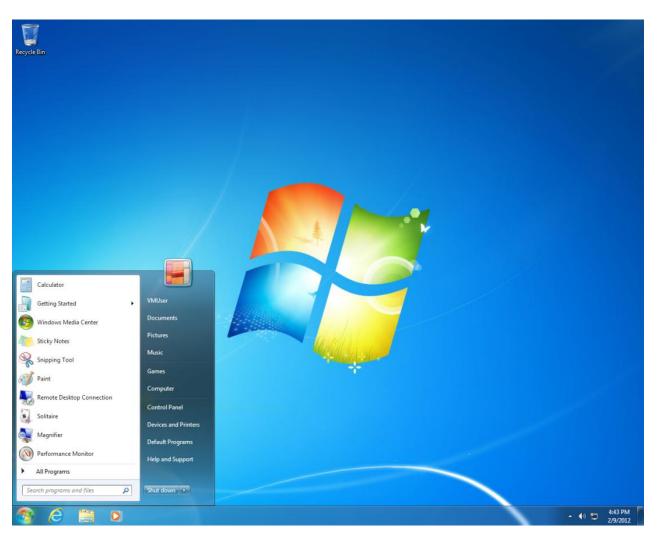


Figure 11: The Windows 7 desktop



Windows 7 (continued)

- The "fixed" version of Vista
- Windows 7 Starter
 - Stripped down version intended for netbooks
- Windows 7 Home Premium
 - Most basic and most widely released edition of Windows 7, includes a lot of media functionality and some advanced network functions

• Windows 7 Professional

 Adds support for joining domains, XP mode, and Remote Desktop Connection

Windows 7 Ultimate

– everything that Windows 7 has to offer



Windows 7 (continued)

• Windows 7 Enterprise

 Very similar to Windows Vista Enterprise and can only be purchased directly from Microsoft. It includes extra features designed for large Windows businesses, such as enhanced network searches, increased application security, and data protection using BitLocker.



- 64-bit CPUs came after 2001
 - Allow addressing of up to 16 TB of RAM
- 32-bit CPUs allow access to only 4GB of RAM
- x86 designates the 32-bit architecture
- x64 designates the 64-bit architecture



Enter 64-bit Windows (continued)

- Windows XP Professional x64 Edition
 - Runs on any AMD or Intel processor that supports both 32 bits and 64 bits
- All Windows Vista and 7 editions have x64 versions except for Windows 7 Starter

Most 32-bit software runs fine in 64-bit OS

- Some software requires emulation, called Compatibility Mode:
 - Right-click an executable and select Properties.
 - Select Compatibility tab.



Figure 12: Windows XP Professional x64 Edition

Enter 64-bit Windows (continued)

Control Panel	System and Maintenance + Sys	tem 👻 🍫 Search	
Tasks Device Manager Remote settings System protection Advanced system settings	View basic information Windows edition Windows Vista™ Ultimate Copyright © 2007 Micros Service Pack 2		e Contractions
	System Rating: Processor: Memory (RAM): System type:	5.0 Windows Experience Index Intel(R) Core(TM)2 Duo CPU E6750 @ 2 8.00 GB 64-bit Operating System	66GHz 2.66 GHz
	Computer name, domain, and Computer name: Full computer name: Computer description: Domain:	d workgroup settings MikesPC MikesPC.totalhome totalhome	Thange settings
See also Windows Update Security Center Performance	Windows activation Windows is activated Product ID:	🖬 🖷 👘 🎯 Change product key	eask for Genuine Microsoft software Learn more online

Figure 13: 64-bit Vista

Enter 64-bit Windows (continued)

🚱 🕞 🗢 📔 « Program Files 🕨 Widg	ets for XP 👻 🍫	Search	٩				
🌗 Organize 🔻 🏢 Views 🔻 🙆 Burr	1		0				
Favorite Links	Name	Date modified	Туре				
Documents	WidgetsXP.exe	9/14/2009 4:16 PM	Application				
Pictures			~				
🚯 Music							
More »							
Folders 🗸							
 Noteworthy Software Paragon Software Reference Assemblies Spybot - Search & Destroy Steam TmUnitedForever Widgets for XP Windows Calendar 	<		•				
1 item							
Figure 14: Finding an executable file							

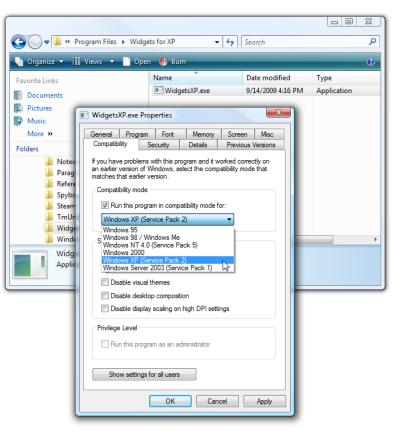


Figure 15: Compatibility mode options



Windows Interface

- All versions share common look and feel
 - Utilities same or similar
 - GUI works the same
 - Command-line interface has similar commands
 - Master one, and you're well on your way to mastering them all

Three areas of interest

- Common user interface
- Tech-oriented utilities
- Typical OS folders



User Interface

- Logon screen (XP Pro in a domain)
- Welcome Screen (XP Home and Pro not in a domain, Windows Vista, and Windows 7)

Log On to Windows		
Copyright © 1985-2001 Microsoft Corporation		Bambi
User name: Mike Meyers Password: OK Cancel Options >>	Windows To begin, click your user name	David Image: David
Figure 16: Windows XP logon screen	O Turn off computer	After you log on, you can add or change accounts. Just go to Control Panel and click User Accounts.

Figure 17: Windows XP Welcome screen

User Interface (continued)

Log On to Wi	ndows
Copyright © 1985-2 Microsoft Corporatio	
User name:	mikemeyers
Password:	•••••
Log on to:	TOTALHOME
	Log on using dial-up connection
	OK Cancel Shut Down Options <<

Figure 18: Windows XP domain logon screen



Figure 19: Windows 7 Welcome screen



• The primary interface to the computer; allows users to customize it

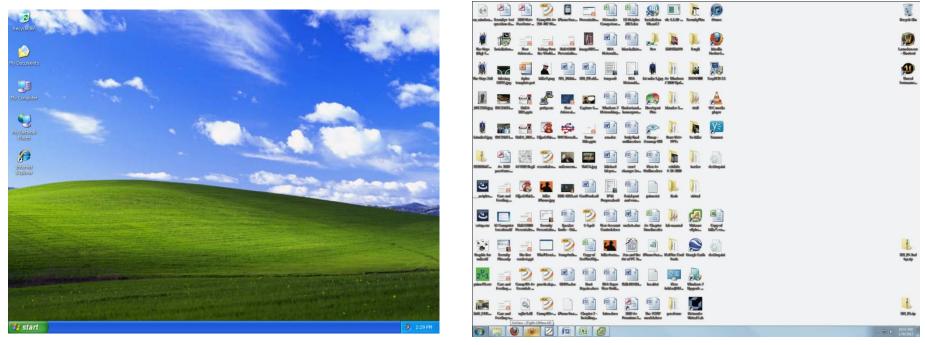
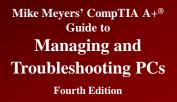


Figure 20: Windows XP desktop

Figure 21: Mike's messy desktop



Aero Desktop

• Unique to Vista and Windows 7

- Transparency
- Flip 3D



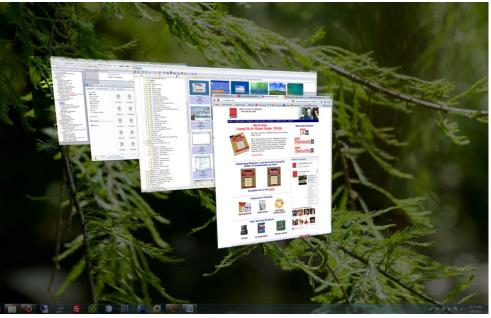


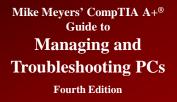
Figure 23: Flip 3D

Figure 22: Transparency



Aero Desktop (continued)

- Hardware requirements
 - DirectX 9 capable video card or better
 - 128 MB of video RAM
 - Windows Display Driver Model (WDDM) driver
 - Pixel Shader version 2.0
- Hot keys
 - WINDOWS KEY-TAB to open and cycle
 - WINDOWS KEY-TAB-SHIFT to cycle backward



Testing for Aero

- If WINDOWS KEY-TAB works, you have Aero
- Right-click desktop, select Personalize, and then Windows Color and Appearance

🚱 🔍 🗢 📕 « Personalization 🕨 Window Color and Appearance	← ← Search	٩
Window Color and Appearance You can change the color of windows, the Start menu, and the taskbar. your own color using the color mixer. Image: Color and Appearance Image: Color and Appearance Image: Color and Color and Color appearance Image: Color and Color appearance Image: Color appearance Image: Color intensity: Image: Color appearance Image: Color appearance	Pick one of the available colors or cre Orange Pink Frost	ate
	OK Cance	I

Figure 24: You've got Aero!



Testing for Aero (*continued***)**

🖉 🗢 💆 🕨 Control Pan	el Personalization	urch
Tasks	Personalize annearance and sounds	
Change deskto <u>p</u> icons	💐 Appearance Settings	
Adjust font size (DPI)	Appearance	
	Inactive Window	wn pictures to decorate the
	Window Text Message Box	is a picture or animation th t period of time.
		ting e-mail to emptying you
	Color scheme:	e pointer looks during such
	Windows Vista Basic Windows Standard Windows Classic	
	High Contrast White E High Contrast Black Effects High Contrast #2 Advanced	auditory elements at one ti vers, some computer sound
See also		
Task <u>b</u> ar and Start Menu	OK Cancel Apply	r fewer items fit on the scre

Figure 25: The lack of transparency and the flat window with no drop shadow show that Aero is not activated.



Aero Desktop

) 🕖 🦉 🕨 Control Panel 🔸	Appearance and Personalization Personalization				• 4 Search Control P	lanel
Control Panel Home Change desktop icons Change mouse pointers Change your account picture	Change the visuals and sounds on your Click a theme to change the desktop background, w My Themes (1)		screen saver all at once.			
	Unawed Theme Aero Themes (7) Windows 7 Basic and High Contrast Themes (6)	Characters	Landscapes	Nature	Save theme	Get more themes online
	Windows 7 Basic Windows Classic	High Contrast #1	High Contrast #2	High Contrast Black	High Contrast White	
See also Display Taskbar and Start Menu Ease of Access Center	Desktop Background Lake Houston April 2010-234	Window Color Sky		Sounds Windows Default		Screen Saver None

Figure 26: Select one of the Aero themes to activate the Aero Desktop in Windows 7.

Taskbar and Start Menu



Figure 27: Three different Windows Start buttons.

- Start Button accesses the Start Menu
- Example: Accesses All Programs – Accessories menu to open Notepad

<u> </u>	ntitled	- Notepa	ł			
File	Edit	Format	View	Help		
						~
						 Ŧ

Figure 28: Notepad application (note the buttons in the upper-right corner)

Taskbar and Start Menu (continued)



Figure 29: System tray showing several icons and the time



Figure 30: Quick Launch toolbar

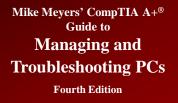
Taskbar and Start Menu (continued)



Figure 31: Pinned applications



Figure 32: A Jump List



The Many Faces of Windows Explorer

My Computer

- Provides access to drives, folders, and files
- Customizable: Can display different views, show hidden files, hide file extensions, and more

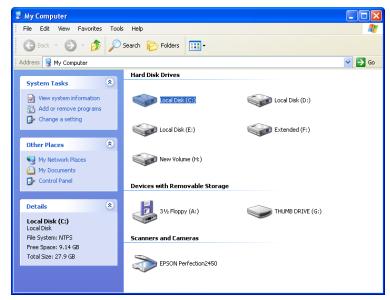


Figure 33: Windows Explorer in Windows XP displaying the drives installed, as well as common tasks on the left

The Many Faces of Windows Explorer (*continued*)

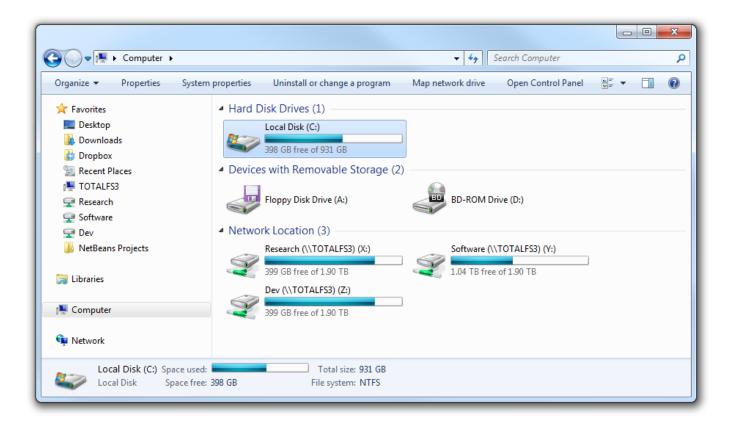


Figure 34: Windows Explorer in Windows 7 displaying the drives installed and showing tasks



Toggle Folder List (XP)

- The Folder List view enables you to copy and move files easily between drives and folders
- In Windows Explorer, click the Folders button
- Now copy and move some files
 - We do this all the time, but we don't think about what we're doing
 - When dragging files/folders, holding down the CTRL key copies the files/folders versus moving them

Toggle Folder List (XP) (*continued*)

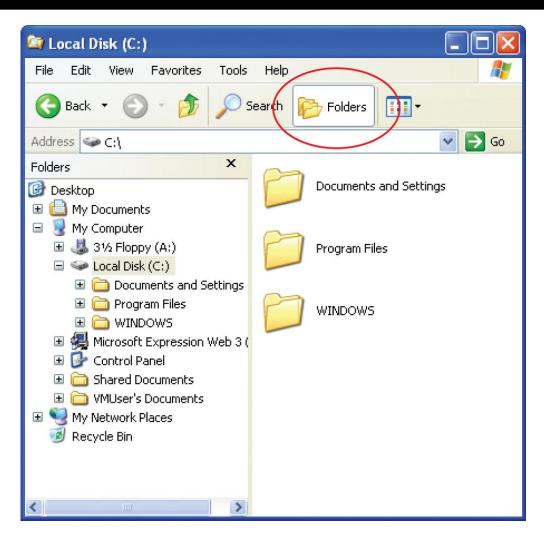


Figure 35: Windows Explorer in Windows XP with the Folders list toggled on

© 2012 The McGraw-Hill Companies, Inc. All rights reserved



Changing Views

• XP hides certain things by default

- Change Folder Options to see these things.
- In My Documents, click Tools | Folder Options
 - Select View tab
 - Select Show hidden files and folders
 - Deselect Hide extensions for known file types
 - Deselect Hide protected operating system files

Folder Options			
General View Search			
Folder views			
You can apply the view (such as Details or Icons) that			
you are using for this folder to all folders of this type.			
Apply to Folders Reset Folders			
Advanced settings:			
🕌 Files and Folders 🔺			
Always show icons, never thumbnails			
 Always show menus ✓ Display file icon on thumbnails 			
Display file icon on thumbhails Display file size information in folder tips			
Display the full path in the title bar (Classic theme only)			
Hidden files and folders			
 Don't show hidden files, folders, or drives Show hidden files, folders, and drives 			
Hide empty drives in the Computer folder			
Hide extensions for known file types			
Hide protected operating system files (Recommended)			
Restore Defaults			
OK Cancel Apply			

Figure 36: Folder Options dialog box



Changing Views

Fourth Edition

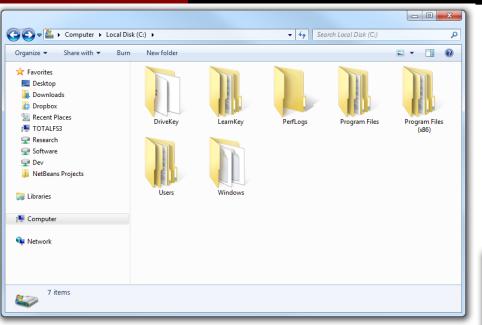
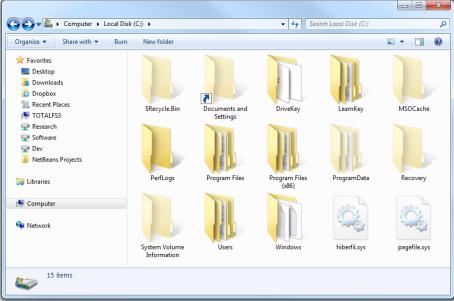


Figure 37: Default Computer view where many things are hidden

Figure 38: Computer displaying hidden files and folders

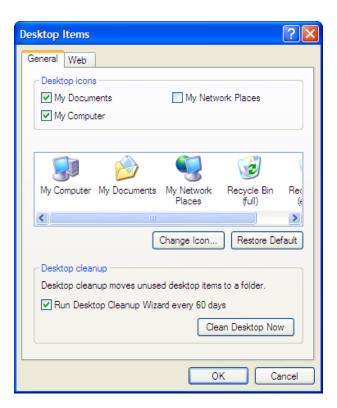




My Documents (Windows XP)

- Windows XP
 - My Documents Contains My Pictures, My Music, My Videos
 - Not on Desktop by default
 - Desktop items must be
 - configured

Figure 39: Windows XP Desktop Items dialog box



My Documents (Windows XP)

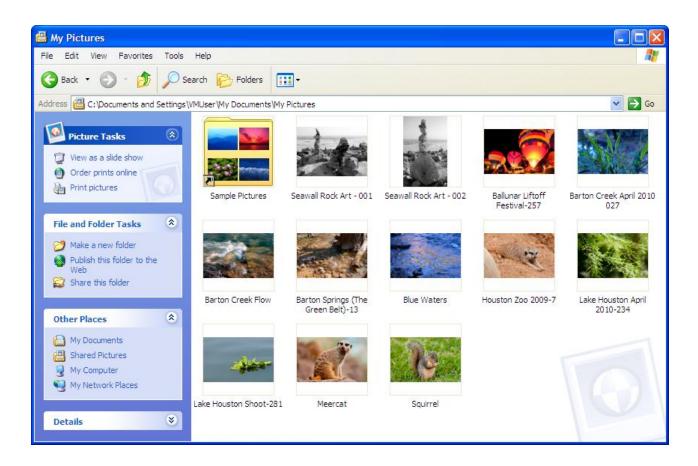


Figure 40: My Pictures subfolder in My Documents

User's Files (Windows Vista and 7)

Windows Vista/7

- Documents, Pictures, Music, Video
- Additional ones include Links, Searches, etc.

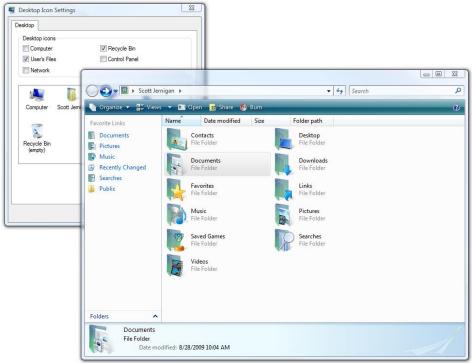


Figure 41: Typical user accounts folder in Windows Vista



Libraries (Windows 7)

- Windows 7 Libraries
 - Aggregates **folders** from multiple locations
 - Places them in a single, easy-to-find spot in Windows Explorer
 - Files and folders don't actually move—the library just creates links to them

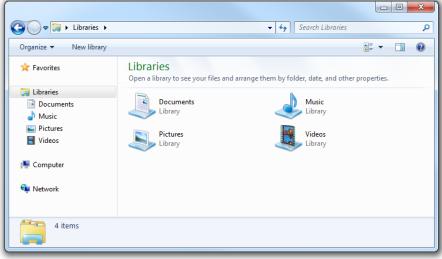
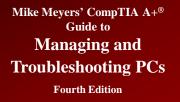


Figure 42: Libraries in Windows Explorer



User Interface

• Recycle Bin

- Deleted files sent to the Recycle Bin
- Can retrieve them if desired
- Size can be adjusted

My Network Places/Network

 Shows the current network connections available

• Windows Sidebar (Vista)

Enables small helper applications called Gadgets

Mike Meyers' CompTIA A+® Guide to Managing and Troubleshooting PCs

User Interface (*continued***)**

Fourth Edition

😵 Recycle Bin Properties
General
Recycle Bin Location Space Available
Local Disk (C:) 39.8 GB
Settings for selected location
Custom size: Maximum size (MB): 4085
Don't move files to the Recycle Bin. Remove files immediately when deleted.
✓ Display delete confirmation dialog
OK Cancel Apply

Figure 43: Windows 7 Recycle Bin Properties

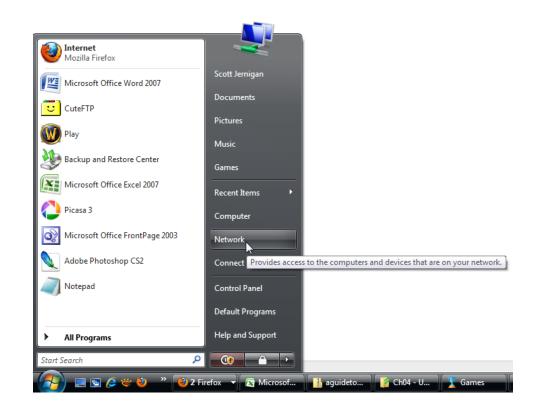


Figure 44: Network in Windows Vista

User Interface (continued)

Manual 20 E Timeline ScottJernigan Creating a change document for the new CompTIA A+ book. Exciting! about 21 hours ago chetman You may have your faults, Andy, but at least you got pants on." - 2:51 AM yesterday chetman We are all Cougars today. -1. 24 OF1 19 0 Post Update A 0 WARERAFT Thottbot <u>.</u> Engineering recipes >> Blackwater Raiders (RP) Medium

Figure 45: Windows Sidebar in action

© 2012 The McGraw-Hill Companies, Inc. All rights reserved

Hot Keys

Function Keys

Кеу	Function
F1	Help
F2	Rename
F3	Search menu
F5	Refresh the current window
F6	Move among selections in current windows

Hot Keys (continued)

Popular hot keys

Key Combination	Function
CTRL-ESC	Open Start menu
ALT-TAB	Switch between open programs
ALT-F4	Quit program
CTRL-Z	Undo the last command
CTRL-A	Select all the items in the current window
SHIFT-DELETE	Delete item permanently
SHIFT-F10	Open a shortcut menu for the selected item
SHIFT	Bypass the automatic-run feature for optical media

Hot Keys (continued)

Popular hot keys (continued)

Key Combination	Function
ALT-SPACE	Display the main window's System menu (from this menu you can restore, move, resize, minimize, maximize, or close the window)
ALT-ENTER	Open the properties for the selected object

Hot Keys (continued)

Working with text

Key Combination	Function
CTRL-C	Сору
CTRL-X	Cut
CTRL-V	Paste
CTRL-Z	Undo

Hot Keys (continued)

Windows Key shortcuts

Key Combination	Function
WINDOWS KEY	Start menu
WINDOWS KEY-D	Show desktop
WINDOWS KEY-E	Windows Explorer
WINDOWS KEY-L	Lock the computer
WINDOWS KEY-TAB	Cycle through taskbar buttons (or Flip 3D with Windows Aero in Vista/7)
WINDOWS KEY- PAUSE/BREAK	Open the System Properties dialog box



- Techs need to know where to find the important OS folders and files . . .
- And what to do when they get there!
 - System folder
 - Other folders, such as Program Files, Documents and Settings, and C:\WINDOWS

Operating System Folders (*continued*)

• System folder

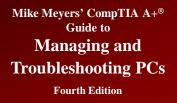
- Folder where the OS files are installed
- Called "SystemRoot" or referred to as %systemroot% in commands and scripts
- Typically C:\Windows in all XP, Vista, and 7 versions



Operating System Folders (*continued*)

- C:\%systemroot%\Fonts
 - All fonts reside here
- C:\%systemroot%\Offline Files (Offline Web Pages in Windows 7)
 - Web pages saved for offline viewing
- C:\%systemroot%\SYSTEM32
 Critical OS files
- C:\%systemroot%\Temp
 - Windows and apps create temp files here

© 2012 The McGraw-Hill Companies, Inc. All rights reserved



Program Folders

- C:\Program Files (All Versions)
 - For installed applications
- C:\Program Files (x86)
 - Only seen in 64-bit Windows
 - Where 32-bit apps are placed
 - 64-bit apps are placed in C:\Program Files



- C:\Documents and Settings (XP)
 All user personal files and settings
- C:\Documents and Settings\Default User (hidden)
 - All of the default settings for a user
- C:\Documents and Settings\All Users

 This folder stores information for any setting or application that's defined for all users on the PC

Personal File Locations (XP) (continued)

- C:\Documents and Settings\Shared Documents (XP only)
 - A set of folders accessible by every account on a computer
 - When using Windows XP's Simple File Sharing, this is the only folder on the computer that's shared
- C:\Documents and Settings\<User Name>
 - The location of a specific user account's My Documents folder

Personal File Locations (XP) (continued)

- C:\Documents and Settings\<User Name>\Desktop
 - The location of the desktop folder for a specific user account
- C:\Documents and Settings\<User Name>\<User name>\Documents
 - The location of the My Documents folder for a user account other than the one currently logged into the computer
- C:\Documents and Settings\<User Name>\Application Data (hidden)
 - A hidden folder that stores data used by various programs
- C:\Documents and Settings\<User Name>\Start Menu

Personal File Locations (XP) (continued)

- C:\Documents and Settings\<User Name>\Start Menu
 - The Start menu customized settings and shortcuts.

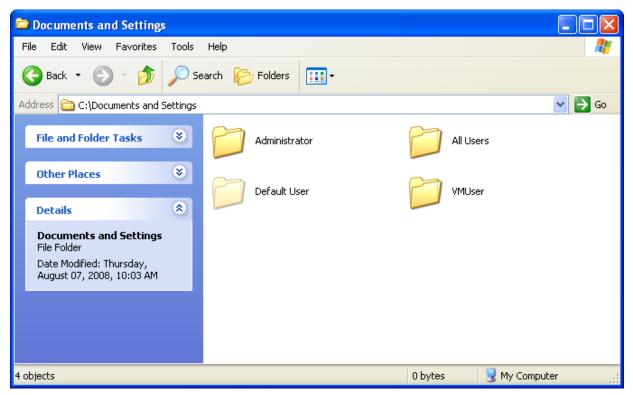


Figure 46: Contents of a typical \Documents and Settings folder in Windows XP

Personal File Locations (Vista/7)

- \Users\Default (hidden), \Users\All Users, and \Users\<User Name>
 - All of these folders retain the same functions as in Windows XP
- \Users\<User Name>
 - This folder still stores all settings defined for a particular user
- \Users\<User Name>\Desktop
 - Same as in Windows XP

Personal File Locations (Vista/7) (*continued*)

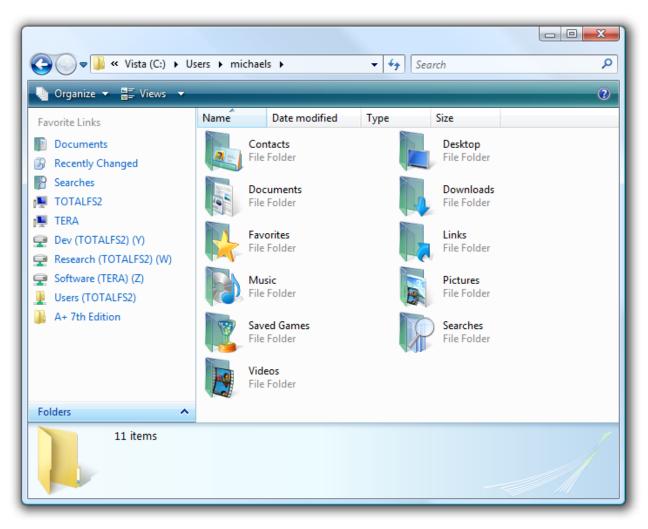


Figure 47: Contents of a typical \Users\<User Name>\ folder in Vista

Personal File Locations (Vista/7) (continued)

- \Users\<User Name>\Documents
 - This is the Documents folder for that user. Note that in Vista, it's simply known as "Documents," while in Windows 7, it is once again "My Documents."
- \Users\<User Name>\Downloads
 - Microsoft's preferred download folder for applications to use
- \Users\<User Name>\Start Menu
 - Same as in Windows XP



Tech Utilities

- Where to find the right tools for the job
 - 1. Right-click
 - 2. Control Panel
 - 3. Device Manager
 - 4. System Tools
 - 5. Command line
 - 6. Microsoft Management Console
 - 7. Administrative Tools



Right-Click

- Brings up a menu of options for that object
- Also called:
 - Alt menu
 - Context menu
- Works almost everywhere
- Properties selection very common



Right-Click (continued)

	-	Restore Move Size Minimize Maximize		
🗃 35513w (Read-Only		Close	Alt+F4	3
Figure 48: Ri running progra				

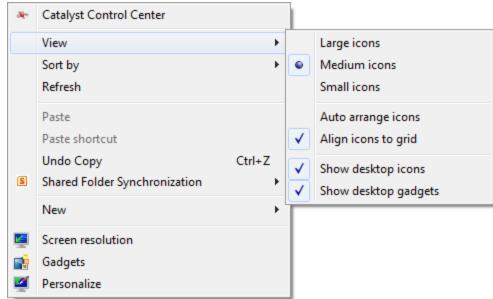
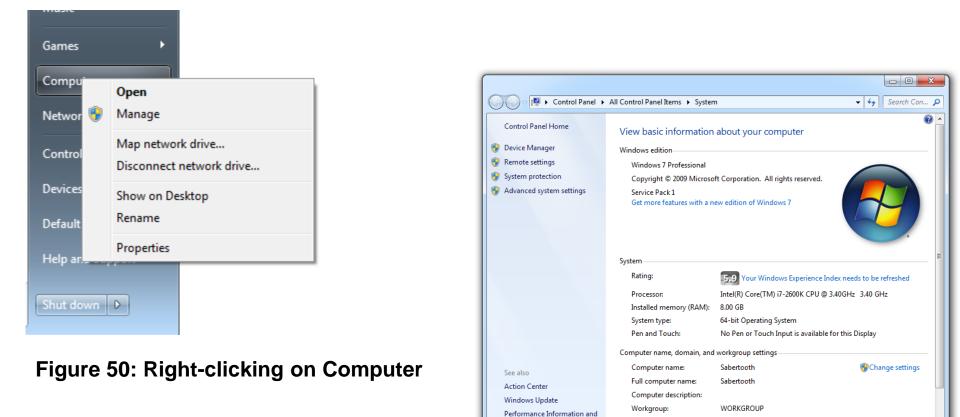


Figure 49: Right-clicking on the desktop in Windows 7 offers numerous settings Mike Meyers' CompTIA A+® Guide to Managing and Troubleshooting PCs

Right-Click (continued)

Fourth Edition



Tools

Figure 51: Computer properties

Windows activation



Control Panel

- Handles maintenance, upgrade, and configuration aspects for Windows
 - Start | Settings | Control Panel
 - Contains many mini-programs, called applets
 - Any icon in the Control Panel is a file with a CPL extension
 - Opens in Category View by default

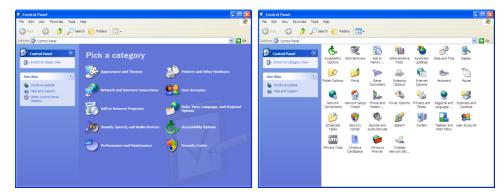


Figure 52: Windows XP Control Panel in two views: Category (left) and Classic (right)

© 2012 The McGraw-Hill Companies, Inc. All rights reserved

Control Panel (*continued***)**



Figure 53: Add Hardware Wizard of the Add Hardware applet



Figure 54: User Accounts window of the User Accounts applet

© 2012 The McGraw-Hill Companies, Inc. All rights reserved



Device Manager

- Used to configure hardware and drivers
- Access through
 - System applet in Control Panel
 - Properties of My Computer, Hardware (XP)
 - Properties of Computer, Device Manager (Vista/7)
 - 🖽-Break, Hardware
 - Computer Management
 - Start | Run, type devmgmt.msc, click OK

System Properties
System Restore Automatic Updates Remote
General Computer Name Hardware Advanced
Device Manager The Device Manager lists all the hardware devices installed
on your computer. Use the Device Manager to change the properties of any device. <u>Device Manager</u>
Drivers
Driver Signing lets you make sure that installed drivers are compatible with Windows. Windows Update lets you set up how Windows connects to Windows Update for drivers.
Driver <u>S</u> igning <u>W</u> indows Update
Hardware Profiles
Hardware profiles provide a way for you to set up and store different hardware configurations.
Hardware Profiles
OK Cancel Apply

Figure 55: Windows XP System applet with the Hardware tab selected

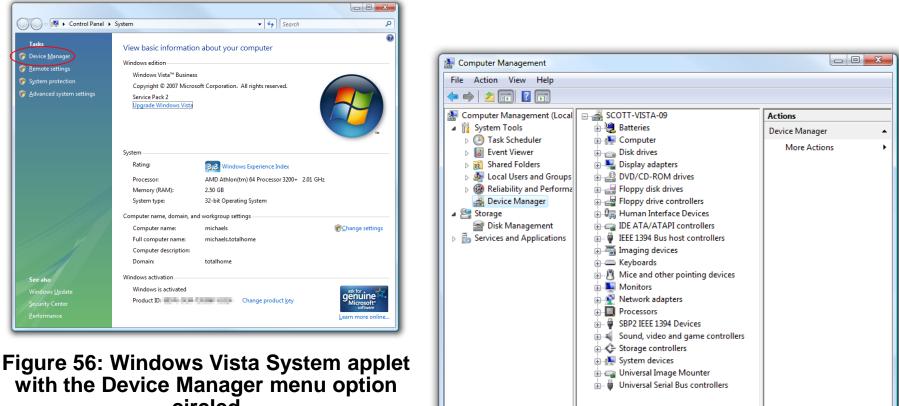


- Devices are organized in special groups called types.
- Problems identified with red "X" or a black exclamation point on a yellow background.
- Windows Vista/7 uses a down-arrow icon to display a manually disabled device.
- Can also update drivers here.
- First place to check for hardware issues.

Mike Meyers' CompTIA A+® Guide to Managing and **Troubleshooting PCs**

Device Manager (continued)

Fourth Edition



ш

Figure 57: Device Manager in Computer Management

circled

Device Manager (continued)

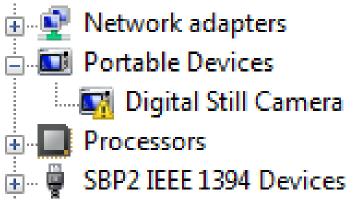


Figure 58: Problem device

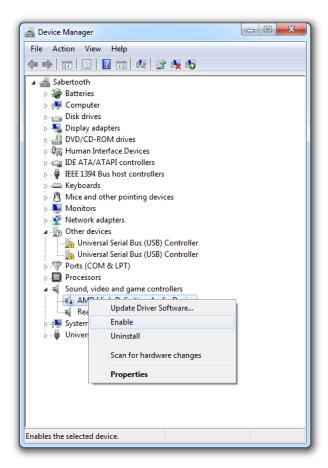


Figure 59: Enabling a disabled device

Device Manager (continued)

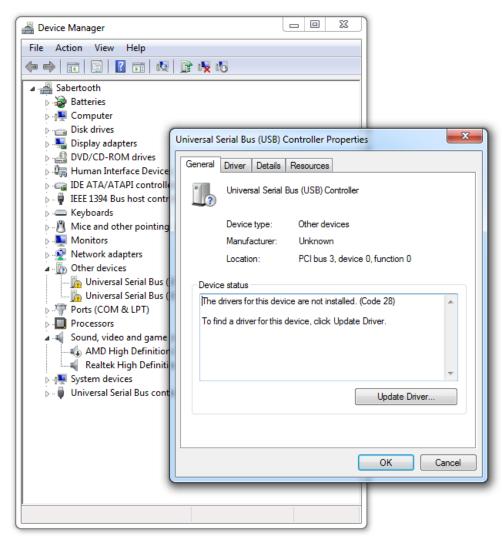


Figure 60: Problem device properties



Device Manager (*continued***)**

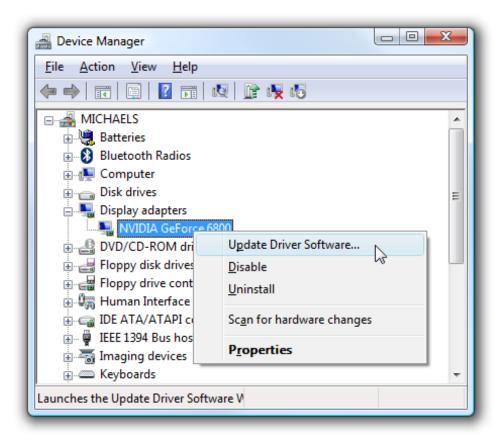
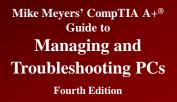


Figure 61: Selecting Update Driver Software in Windows Vista Device Manager



System Tools

• A collection of tech utilities found on the Start menu

- Start | All Programs | Accessories | System Tools

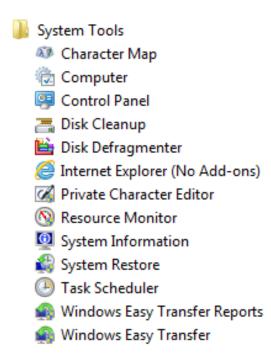
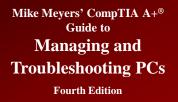


Figure 62: System Tools menu options

Backup (XP) and Backup Status and Configuration (Vista)

- Built-in backup utility
 - Enables you to back up selected files and folders to removable media such as tape drives
- Vista will only back up personal data with the Backup Status and Configuration Tool
 - Only allows you to back up to optical media, a hard drive, or a networked drive



Character Map (All)

- Enables use of characters that an application may not support
 - Enables you to copy any Unicode character into the Clipboard

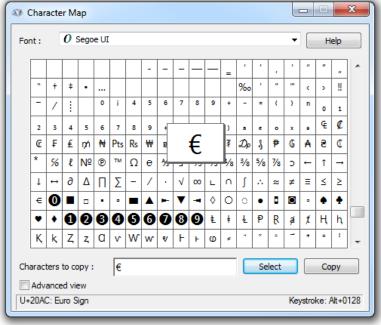
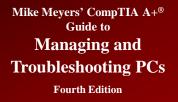


Figure 64: Character Map



Disk Tools

- Disk Cleanup (All)
 - Deletes temporary files
- Disk Defragmenter (All)
 - Used to defragment drives

File Settings and Transfer Tools

- Files and Settings Transfer Wizard (XP only)
 - Transfers user settings to a new PC
- Windows Easy Transfer (Vista/7)
 - Functions similarly to the Files and Settings Transfer Wizard

File Settings and Transfer Tools (continued)

Files and Settings Transfer Wizard Welcome to the Files and Settings fransfer Wizard This wizard helps you transfer files and settings from your old computer to your new one. You can transfer settings for Internet Explorer and Outlook Express, as well as desktop and display settings, dial-up connections, and other types of settings. The best way to use this wizard for transferring files and settings is to use either a direct cable connection or a network. Learn	Windows Easy Transfer Windows Easy Transfer enables you to transfer files and settings from one computer to another. No information is deleted from your old computer. During this process, you will not be able to use either computer. To ensure that program settings transfer from your old computer, make sure the programs are installed on the new computer before you start. Which versions of Windows work with Windows Easy Transfer? Go online to learn how to improve your transfer experience Which versions of Windows work with Windows Easy Transfer? Go online to learn how to improve your transfer experience Which versions of Windows work with Windows Easy Transfer? Go online to learn how to improve your transfer experience Which versions of Windows work with Windows Easy Transfer? Go online to learn how to improve your transfer experience Which versions of Windows and Windows Easy Transfer? Go online to learn how to improve your transfer experience We can transfer New computer Old computer You can transfer We raccountil Folders and files (including music, pictures, and video) Program settings Program settings Program settings Therm settings and favorites E-mail settings, contracts, and messages E-mail settings, contracts, and messages
more about connecting your computers. Please close any other programs before you continue. To continue, click Next.	Figure 66: Windows Easy Transfer

Figure 65: Files and Settings Transfer Wizard



Scheduled Tasks (All)

- Scheduled Tasks
 - Schedule any program to start and stop any time

defrag	? 🗙
Task Sched	lule Settings Security
.	VINDOWS\Tasks\defrag.job
<u>R</u> un:	C:\WINDOWS\system32\defrag.exe c: -f
	Browse
S <u>t</u> art in:	C:\WINDOWS\system32
<u>C</u> omments:	
R <u>u</u> n as:	TOTALHOME\michaels <u>S</u> et password
	i logged on cheduled task runs at specified time)
	OK Cancel Apply
Fia	ure 67: Task Scheduler



• One-stop location for configuring many security features on your computer

- Located in Control Panel

- Windows Vista and Windows 7 remove Security Center from System Tools
 - Windows Vista retains the Control Panel applet
 - Windows 7 has a beefed-up applet called the Action Center



System Information and Restore (All)

System Information

 shows tons of information about the hardware and software on your PC

System Restore

 enables you to take a "snapshot"—a copy of a number of critical files and settings—and return to that state later

Edit View Help							
stem Summary	2em	Value					
Hardware Resources	OS Name	Microsoft Windows 7 Professional					
Components	Version	6.1.7601 Service Pack 1 Bui	ild 7601				
Software Environment	Other OS Description	Not Available					
	OS Manufacturer	Microsoft Corporation					
	System Name	MBCHAELS-WS					
	System Manufacturer	System manufacturer					
	System Model	System Product Name					
	System Type	x64-based PC					
	Processor	Intel(R) Core(TM) i7 CPU 920 @ 2,67GHz, 2668 Mhz, 4 Core(s), 8 Logical					
	BIOS Version/Date	American Megatrends Inc. 1303, 3/8/2010					
	SMB3DS Version	2.5					
	Windows Directory	C:\Windows					
	System Directory	C:\Windows\system32					
	Boat Device	\Device\Harddisk\/olume1					
	Locale	United States					
	Hardware Abstraction Layer	Version = '6.1.7601.17514'					
	User Name	TOTALHOME\michaels					
	Time Zone	Central Standard Time					
	Installed Physical Memory (RAM)	4.00 G8					
	Total Physical Memory	3.99 GB					
	Available Physical Memory	966 MB					
	Total Virtual Memory	7.98 GB					
	Available Virtual Memory	3.88 G8					
	Page File Space	3.99 G8					
	Page File	C:\pagefile.sys					
Find what:			Find	Close Find			
Search selected category only	Search category names only						

Figure 68: System Information

cestore your computer to	the state it was in before the sele	cted event
low do I choose a restore poir	<u>tt2</u>	
Current time zone: Central Sta	ndard Time	
Date and Time	Description	Туре
2/9/2012 1:47:38 PM	Windows Update	Critical Update
2/9/2012 10:16:31 AM	Installed CombineZP	Install
2/6/2012 8:47:49 AM	Windows Update	Critical Update
Show more restore points		Scan for affected programs

Figure 69: System Restore

- Tracks CPU, memory, disk, and network usage on your computer
- Displays that information in charts and graphs
- Can help you track down performance or system resource issues



Command-Line Interface (CLI)

- Start | Run | cmd
- Not DOS
- DOS is dead, but CLI thrives in all versions of Windows

C:\>ver		
MS-DOS Version 6.00		
C:\>_		



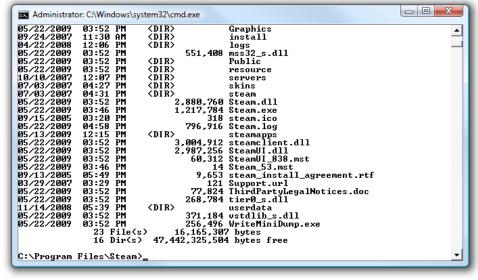


Figure 71: Command prompt in Windows Vista

Microsoft Management Console (MMC)

- Shell program holds utilities called snap-ins
- Start | Run | mmc
- Starts with blank console
- Add snap-ins: File | Add/Remove Snap-ins | Add
- Save the new customized console you created

Console1 - [Console Root]				Ad	Id or Remove Snap-ins			×
File Action View Favorites Window He	łp		_ @ ×		You can select snap-ins for t	his console from those available on	your computer and configure the selected	set of snap-ins. For
Console Root	Name		Actions		extensible snap-ins, you can	configure which extensions are en	abled.	
		There are no items to show in this view.	Console Root	4	Available snap-ins:		Selected snap-ins:	
			More Actions		Snap-in ActiveX Control Authorization Manager Certificates	Vendor Microsoft Cor Microsoft Cor	Console Root	Edit Extensions Remove
								Move Up
					Deskription: The ActiveX Control snaper	Microsoft Cor Microsoft Cor Microsoft Cor	with a results view containing an ActiveX o	
								OK Cancel

Figure 72: Blank MMC

Figure 73: Available snap-ins

Microsoft Management Console (MMC) (continued)

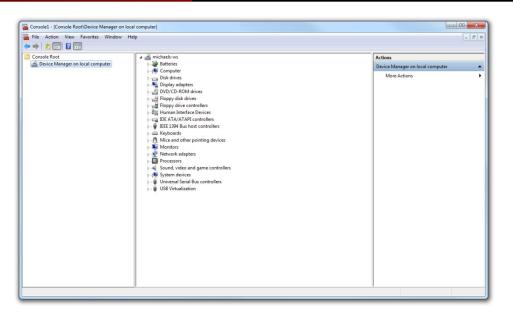


Figure 74: Device Manager as a snap-in



Figure 75: The Device Manager shortcut on the desktop



Tech Utilities: Administrative Tools

Administrative Tools

- A folder that holds many predefined MMC consoles built by Microsoft
- Control Panel | Administrative Tools
- The three most-used administrative tools:
 - Computer Management
 - Event Viewer
 - Performance or Reliability and Performance Monitor



Figure 76: Administrative Tools

Computer Management

• A predefined MMC that pulls together snap-ins related to many computer management options

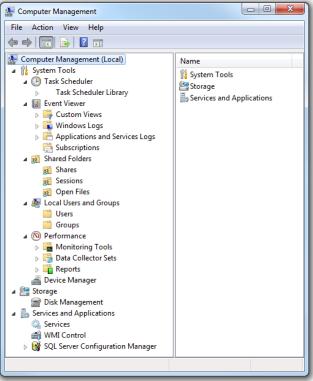


Figure 77: Computer Management applet



Event Viewer

Keeps track of events that happen with your computer

Event Viewer (Local)	Administrative Event	s Number of events: 2,756				_	Ac	tions
Custom Views Custom Views Administrative Events Administrative Events Windows Logis Security System Forwarded Events Subscriptions	Vumber of even							
	Level Error Error Error Karror Error Error Error Error Error Error Error Error Error Error	Inter 21/97/02/2016 6.8.4.4 ror 21/0/2012 90/61 4.6.4 ror 21/0/2012 90/61 4.6.4 ror 21/0/2012 80/61 3.6.4 raring 21/0/2012 80/61 3.6.4 ror 21/0/2012 80/61 3.6.4 ror 20/0/2012 80/61 3.6.4 ror 20/0/2012 80/65 PM ror 20/0/2012 10/51 55 AM ror 20/0/2012 10/51 55 AM ror 20/2012 10/51 55 AM		Service Control Ma Service Control Ma GroupPolicy PrintService User Profile Service GroupPolicy SidebySide SidebySide GroupPolicy		Event ID Task Category 7000 None 315 Sharing a printer 1058 None 1058 None 1058 None 72 None 1058 None 1058 None 1058 None		Open Saved Log * Create Custom View Import Custom View * Finter Current Custom View * Properties * Find Save All Events in Custom View Copy Custom View Copy Custom View Attach Task To This Custom To
	The service did no Log Name: Source: Event ID: Level: User: OpCode:	Events Utility service failed to trepond to the trans or cont System Service Control Manager 7000 Error N/A Info Event Log Online Help	o start due to the fr rol request in a tin Logged: Task Category: Keywords: Computer:	2/10/2012 9:08:14 AM				Help ent 7000, Service Control Manag Event Properties Attach Task To This Event Copy Save Selected Events Refresh

Figure 78: Event Viewer reporting system errors



Performance (Windows XP)

- System Monitor shows real-time data
- Performance Logs and Alerts shows captured data

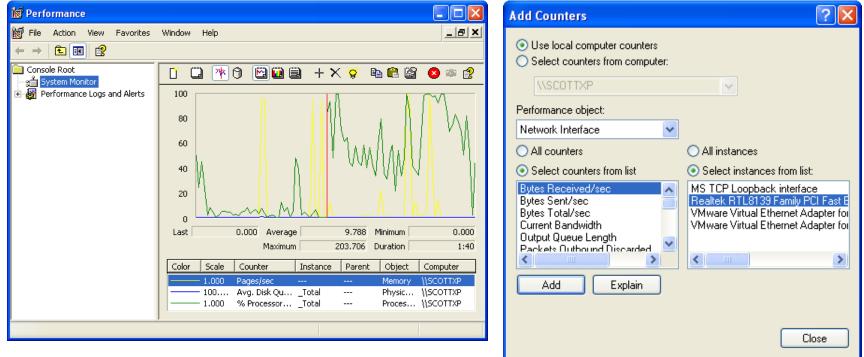


Figure 79: System Monitor in action

Figure 80: Setting up a throughput test

Performance (Windows XP) (continued)

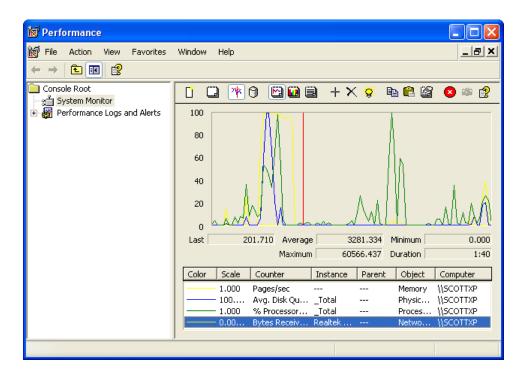


Figure 81: Downloading with blazing speed

Reliability and Performance Monitor / Performance Monitor (Windows Vista/7)

Vista/7's greatly enhanced performance tool

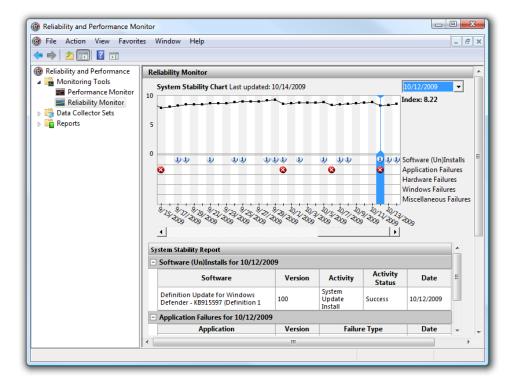


Figure 82: Reliability and Performance Monitor open to the Reliability Monitor screen in Vista



Services

Programs that run behind the scenes

ction View Help					
ces (Local) Services (Local)					
Select an item to view its description.	Name	Description	Status	Startup Type	Log On As
	ActiveX Installer (AxInstSV)	Provides Us		Manual	Local System
	Adaptive Brightness	Monitors a		Manual	Local Service
	Adobe Acrobat Update Service	Adobe Acro	Started	Automatic	Local System
	AMD External Events Utility			Automatic	Local System
	🔍 Apple Mobile Device	Provides th	Started	Automatic	Local System
	Application Experience	Processes a		Manual	Local System
	Application Identity	Determines		Manual	Local Service
	Application Information	Facilitates t	Started	Manual	Local System
	Application Layer Gateway Service	Provides su		Manual	Local Service
	Application Management	Processes in		Manual	Local System
	ASP.NET State Service	Provides su		Manual	Network Servie
	🔍 ASUS HM Com Service		Started	Automatic	Local System
	Background Intelligent Transfer Service	Transfers fil		Manual	Local System
	🔍 Base Filtering Engine	The Base Fil	Started	Automatic	Local Service
	BitLocker Drive Encryption Service	BDESVC hos		Manual	Local System
	Block Level Backup Engine Service	The WBENG		Manual	Local System
	Bluetooth Support Service	The Bluetoo		Manual	Local Service
	🍓 Bonjour Service	Enables har	Started	Automatic	Local System
	😪 BranchCache	This service		Manual	Network Servi
	🍓 Certificate Propagation	Copies user		Manual	Local System
	CNG Key Isolation	The CNG ke		Manual	Local System
	🍓 COM+ Event System	Supports Sy	Started	Automatic	Local Service
	COM+ System Application	Manages th		Manual	Local System

Figure 83: Services applet

Bluetooth Support Service Properties (Local Computer)
General Log On Recovery Dependencies
Service name: bthserv
Display name: Bluetooth Support Service
Description: The Bluetooth service supports discovery and association of remote Bluetooth devices. Stopping
Path to executable: C:\Windows\system32\svchost.exe +k bthsvcs
Startup type: Manual
Automatic (Delayed Start) <u>Help me configure :</u> Automatic <u>Manual</u>
Service status: Disabled
Start Stop Pause Resume
You can specify the start parameters that apply when you start the service from here.
Start parameters:
OK Cancel Apply

Figure 84: Bluetooth Support Service properties



Action Center (Windows 7)

- Provides a one-page aggregation of event messages, warnings, and maintenance messages
 - Separates issues into two sections, Security and Maintenance

Control Panel +	All Control Panel Items + Action Center + 49 Search Con
Control Panel Home	Review recent messages and resolve problems
Change Action Center settings	Action Center has detected one or more issues for you to review.
Change User Account Control settings	Security
View archived messages View performance information	Virus protection (Important)
	Windows did not find antivirus software on this Find a program online computer.
	Turn off messages about virus protection
	Maintenance
	Download and install a driver update A driver for USB 3.0 host controller is available online. Archive this message
	Set up backup Your files are not being backed up. Turn off messages about Windows Backup
See also Backup and Restore	If you don't see your problem listed, try one of these:
Windows Update	Troubleshooting
Windows Program Compatibility Troubleshooter	Find and fix problems

Figure 85: Action Center

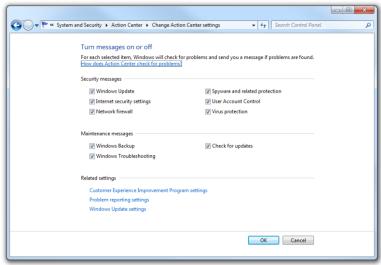


Figure 86: Change Action Center settings



Beyond A+

• Windows 8

- Expected to launch in mid-late 2012
- Not covered on the 220-801 and 220-802 exams
- Seeks to unify multiple Microsoft platforms
- New "Metro" interface

Windows Embedded

- Specialized OSs for embedded PCs
- Examples include cell phones, cash registers, fighter jet components, etc.

Beyond A+ (continued)

Start			Michael Smyer 🔎
kternet Factore	M News	Visual Developer Studio 11 Command Express Prompt	5 Piano
Windows Explorer	Q Tweet@rama	Microsoft Expression Blend 5	paintplay
Desktop	Stocks	Task Windows App Cert Kit	
//build/	 	Computer	picstream
Socialite			Tike Puzzle

Figure 87: The Windows 8 Metro UI

ile Options View Help					
Processes Performance App History St	artup Users	Details	Services		
Process State	s	0% CPU	78% Memory	0% Disk	0% Network
Applications (6)					
Internet Explorer		0%	29.9 MB	0 MB/s	0 Mbps
Microsoft Expression Blend		0%	55.8 MB	0 MB/s	0 Mbps
Microsoft Visual Studio 11 E		0%	46.8 MB	0 MB/s	0 Mbps
🧃 VirtualBox Guest Additions		0%	5.6 MB	0 MB/s	0 Mbps
Vindows Explorer		0%	26.3 MB	0 MB/s	0 Mbps
🖻 🙀 Windows Task Manager		0%	10.5 MB	0 MB/s	0 Mbps
Background processes (10)					
Antimalware Service Execut		0%	40.8 MB	0 MB/s	0 Mbps
COM Surrogate		0%	0.9 MB	0 MB/s	0 Mbps
Fast User Switching Utility S		0%	0.5 MB	0 MB/s	0 Mbps
Microsoft Windows Search		0%	6.2 MB	0 MB/s	0 Mbps
Microsoft.VisualStudio.Perf		0%	4.7 MB	0 MB/s	0 Mbps
📧 Runtime Broker		0%	1.7 MB	0 MB/s	0 Mbps

Figure 88: Windows 8's upgraded Task Manager