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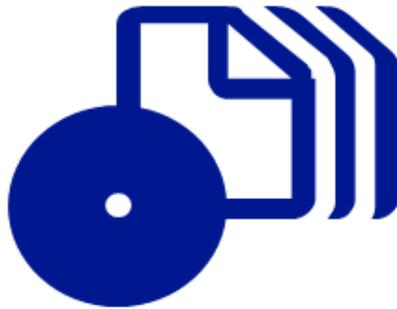
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*To the doctors, nurses, and other dedicated health-care professionals
who have done so much for our families, our friends, and ourselves.*

— Ed Bott, Carl Siechert, and Craig Stinson

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Foreword

INDIVIDUALLY and collectively, the three authors who wrote *Windows 7 Inside Out* have been working with Windows for as long as many of the most senior developers at Microsoft. Ed, Carl, and Craig focus on Windows from a unique perspective—they are experts and enthusiasts who want to share their expertise and enthusiasm with you.

With Windows 7, our development team was dedicated to building a brand new release of the OS while also making sure your investments in hardware and software are effectively brought forward. We took a deliberate approach to building new features, refining existing features, and making sure at every step we were true to our goals of delivering an awesome release of Windows. Ed, Carl, and Craig do an awesome job of providing readers with the ins and outs of the full range of features of Windows 7, which will help you to get the most out of the product.

As we engineered Windows 7, we opened a dialog with a broad community of enthusiasts on our Engineering Windows 7 blog (blogs.msdn.com/e7). Through this blog, we discussed the engineering side of building Windows 7—from the bottom up, so to speak. We know that for many, these topics were interesting as Windows 7 was being developed. Through the blog and through all of our forms of learning as we developed Windows 7, we were asked many questions not just about the “how” but about the “why” of features. We offered our insights from the product development perspective. With their unique perspective, few are more qualified to offer further explanations of the ins and outs of Windows 7 than the authors of *Windows 7 Inside Out*.

With Windows 7 now in the hands of customers around the world, our collective interests turn to making the most of Windows 7. I know from 15 years of following the work of Ed, Carl, and Craig that they have the same commitment to delivering real-world advice from a perspective that is grounded in experience and knowledge of how Windows works. Over the years, they’ve met with many teams here in Redmond to talk about Windows and how they can help you, our shared customers and readers, be more productive. I hope you enjoy *Windows 7 Inside Out*.

Steven Sinofsky
President, Windows Division
Microsoft Corporation

Acknowledgments

If we tried to list all the people who have helped us in one way or another on this project, we'd have to add another 50 pages. So we apologize in advance to those we don't thank by name.

We'd like to acknowledge the tremendous assistance offered by Steve Ball, Mark Russinovich, Dan Plastina, Gabe Aul, Charlie Owen, Chris Flores, and Jerry Koh of Microsoft. They are among literally dozens of developers, product managers, and technical professionals at Microsoft who enthusiastically shared their time and their deep knowledge of Windows 7 with us. Our thanks also to their bosses, Jon DeVaan and Steven Sinofsky, for their support in making those contacts possible. We also benefitted greatly from a nonstop public dialogue with our fellow beta testers, bloggers, Microsoft MVPs, and Windows enthusiasts.

Our production team was led by the extraordinarily capable Curt Philips, who somehow makes this grueling process look easier each time. Technical editor Randall Galloway was indispensable in helping us triple-check the fine details that we strive to get right and also did a fine job putting together the companion CD. We owe a big debt to Roger LeBlanc, copyeditor, and Andrea Fox, proofreader, for helping us weed out typos or grammatical errors.

Our partners and collaborators at Microsoft Press have been a source of support for many terrific years: big thanks to Juliana Aldous, product planner; Sandra Haynes, content development manager; and Valerie Woolley, project editor.

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And although they didn't add anything directly to the content of this book, we'd like to offer our thanks and admiration to Luke Akard, M.D., F.A.C.P.; Mark A. Dayton, M.D., Ph.D.; Michael Dugan, M.D.; Jan Jansen, M.D., Ph.D.; and James Thompson, D.O., F.A.C.P. Without these life-saving professionals, we quite literally would have been unable to write this book.

Thanks to one and all.

*Ed Bott, Carl Siechert, and Craig Stinson
August 2009*

Conventions and Features Used in This Book

This book uses special text and design conventions to make it easier for you to find the information you need.

Text Conventions

Convention	Meaning
Abbreviated commands for navigating menus	For your convenience, this book occasionally uses abbreviated commands. For example, “Click View, Sort By, Name” means that you should click the View menu, then click Sort By, and finally click the Name command.
Boldface type	Boldface type is used to indicate text that you type.
Initial Capital Letters	The first letters of the names of tabs, dialog boxes, dialog box elements, and commands are capitalized. Example: the Save As dialog box.
<i>Italicized type</i>	<i>Italicized</i> type is used to indicate new terms.
Plus sign (+) in text	Keyboard shortcuts are indicated by a plus sign (+) separating two key names. For example, Ctrl+Alt+Delete means that you press the Ctrl, Alt, and Delete keys at the same time.

Design Conventions

INSIDE OUT

Get more details about a process

These are the book’s signature tips. In these tips, you’ll get the straight scoop on what’s going on with the software—inside information about why a feature works the way it does. You’ll also find handy workarounds to deal with software problems.

Sidebars

Sidebars provide helpful hints, timesaving tricks, or alternative procedures related to the task being discussed.

TROUBLESHOOTING

Some folders no longer display using their saved view settings

Look for these sidebars to find solutions to common problems you might encounter. Troubleshooting sidebars appear next to related information in the chapters. You can also use “Index to Troubleshooting Topics” at the back of the book to look up problems by topic.

Cross-references point you to other locations in the book that offer additional information about the topic being discussed.

CAUTION !

Cautions identify potential problems that you should look out for when you’re completing a task or problems that you must address before you can complete a task.

Note

Notes offer additional information related to the task being discussed.

About the CD

The companion CD that ships with this book contains tools and resources to help you get the most out of your *Inside Out* book.

What's on the CD

Your *Windows 7 Inside Out* CD includes the following:

- **eBook** A complete electronic version of *Windows 7 Inside Out*.
- **Troubleshooting tips** “Before You Call Tech Support” helps you to troubleshoot issues on your own.
- **References** Microsoft resources to help keep your computer up to date and secure.
- **Bonus content** Links to downloadable gadgets and other tools to help you customize *Windows 7*; an eBook of *Microsoft Computer Dictionary, Fifth Edition*; and links to the authors' website, product demos, and product support.

Digital Content for Digital Book Readers: If you bought a digital-only edition of this book, you can enjoy select content from the print edition's companion CD. Visit <http://www.microsoftpressstore.com/title/9780735626652> to get your downloadable content. This content is always up-to-date and available to all readers.

System Requirements

The following are the minimum system requirements necessary to run the CD:

- Windows Vista, Windows XP with Service Pack 2, Windows Server 2003 with SP1 or Windows Server 2008, or newer operating system
- 500-megahertz (MHz) processor or higher
- 2 gigabytes (GB) of storage space (a portion of this disk space will be freed after installation if the original download package is removed from the hard drive)
- 256 megabytes (MB) of RAM
- CD-ROM or DVD-ROM drive

- 1024 by 768 or higher resolution monitor
- Windows or Windows Vista-compatible sound card and speakers
- Microsoft Internet Explorer 6 or newer

For descriptions of the system requirements for running Windows 7, visit

<http://windows.microsoft.com/en-us/windows7/products/system-requirements/>

Support Information

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<http://support.microsoft.com/gp/selfoverview/>

Personalizing Windows 7

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ONE of the most obvious changes that Microsoft made in moving from Windows Vista to Windows 7 is the taskbar, which has a bold new look, lots of new functionality, and new ways to customize, all of which we explain in this chapter. We also cover the many new techniques that make it easier to perform various window tasks, such as maximizing, resizing, and so on.

A subtler change is the inclusion of the word *Personalize* prominently in the user interface of the new operating system. Certainly, earlier versions of Windows could be tailored, customized, and modified to suit a user's needs and preferences—in a word, personalized. But the *P* word itself was missing. Now, when you right-click your desktop, the shortcut menu that pops up features an icon-festooned Personalize command. Personalize Windows is also one of the items that appear in the new operating system's Getting Started task list.

So the message is clear: It's your operating system; make it reflect your tastes, your needs, your style. Make it work for you. More than any previous version of Windows, Windows 7 provides myriad tools for doing just that—tools that we survey in this chapter.

What's in Your Edition?

The ability to personalize your computing environment by changing desktop backgrounds, window colors, and sounds is not available in Windows 7 Starter edition. Lack of Aero support in Starter edition means you can't get transparent window frames, live taskbar previews, and other visual effects, and Aero Peek is unavailable. And Starter edition does not support the use of multiple monitors. All other features described in this chapter are available in all editions.

Working with the New Taskbar and Start Menu

The *taskbar* is that strip of real estate along one screen edge (bottom by default) that contains the Start menu button, program buttons, and status icons. The taskbar made its first appearance in Windows 95. In the years since, it has slowly evolved: installing Internet Explorer 4 in Windows 95 also added a Quick Launch toolbar and other toolbars; Windows XP reduced clutter by introducing taskbar grouping; and Windows Vista added taskbar previews, small window representations that increased your chances of clicking the correct taskbar button for the program you want to bring to the front.

The evolution continues in Windows 7, but at a generation-skipping pace. The Windows 7 taskbar (see Figure 4-1) continues to serve the same basic functions as its progenitors—launching programs, switching between programs, and providing notifications—but in a way that makes these basic tasks easier and more efficient.

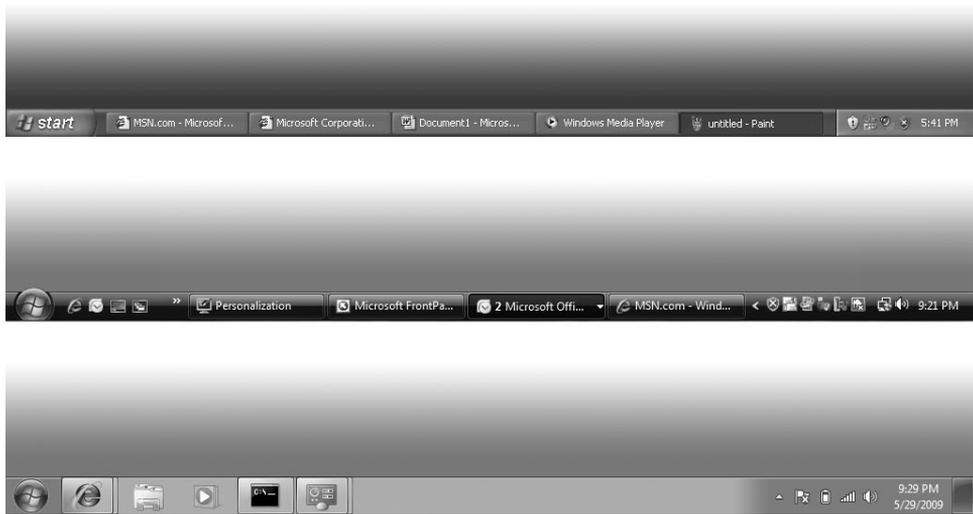


Figure 4-1 Although the taskbar designs in Windows XP (top), Windows Vista (center), and Windows 7 (bottom) comprise the same basic elements, the appearance has evolved a bit—and the functionality has advanced by leaps and bounds.

Opening and Monitoring Programs from Taskbar Buttons

As in previous Windows versions, the taskbar houses the Start menu button, a button for each running program, and the notification area. You can use these task buttons to switch from one running program to another. You can also click a task button to minimize an open window or to restore a minimized window. But in a departure from earlier Windows

versions, which had separate bands dedicated to a Quick Launch bar (from which you can open programs) and to taskbar buttons (which represent programs that are currently running), the Windows 7 taskbar combines these functions. That is, buttons between the Start button and the notification area can be used both for opening programs and for switching between programs.

Adding and Removing Pinned Programs, Documents, and Folders

Programs that you use often (the ones that you might've had on the Quick Launch toolbar in the past) can be easily pinned to the taskbar so that a single click launches them. To open a program that is pinned to the taskbar, you don't need to open the Start menu or dig down to find a desktop shortcut. To pin a program to the taskbar, simply drag its icon or a shortcut (from the desktop, from the Start menu, or from any other folder) to the taskbar. Alternatively, right-click a program icon wherever you find it and choose Pin To Taskbar.

To remove a pinned program from the taskbar, right-click the pinned icon and choose Unpin This Program From Taskbar. This same command also appears on other shortcuts to the program, including those on the desktop and on the Start menu.

You can also pin frequently used documents and folders to the taskbar, using similar methods:

- To pin a document to the taskbar, drag its icon or a shortcut to the taskbar. If the taskbar already has a button for the program associated with the document, Windows adds the document to the Pinned section of the program's Jump List. (For more information about Jump Lists, see "Using Jump Lists on the Taskbar and Start Menu" on page 107.) If the document's program is not on the taskbar, Windows pins the program to the taskbar and adds the document to the program's Jump List.
- To pin a folder to the taskbar, drag its icon or a shortcut to the taskbar. Windows adds the folder to the Pinned section of the Jump List for Windows Explorer.
- To open a pinned document or folder, right-click the taskbar button and then click the name of the document or folder.
- To remove a pinned document or folder from the Jump List, right-click the taskbar button and point to the name of the document or folder to be removed. Click the pushpin icon that appears.

INSIDE OUT Restore the Quick Launch toolbar

Some habits die hard. If you just can't bear to give up the Quick Launch toolbar, you can display it in Windows 7. To do so, add the hidden Quick Launch folder as you would any other folder. (For details, see "Using Additional Toolbars" on page 112.) In the New Toolbar dialog box, type `%AppData%\Microsoft\Internet Explorer\Quick Launch` in the Folder box.

To mimic the appearance of the Quick Launch toolbar in previous Windows versions, unlock the taskbar. (Right-click the taskbar and, if there's a check mark by Lock The Taskbar, choose that command.) Right-click the Quick Launch toolbar and clear the Show Title and Show Text commands. Then drag the handle (the dotted line) on the left side of the Quick Launch toolbar so that it's next to the Start button, and drag the handle on the right side of the toolbar to set the width you want. Then relock the taskbar.

If you later decide you don't need the Quick Launch toolbar after all, right-click the taskbar and select Toolbars, Quick Launch to remove the check mark and the toolbar.

Opening Programs

To open a program, click its taskbar button. A few simple (but not obvious) tricks let you do more:

- To open a new instance of a program, Shift+click its taskbar button. This is useful for programs that are already running, in which an ordinary click switches to the existing instance or, if you already have multiple open instances, displays the window thumbnails. (If you have a wheel mouse or other three-button mouse, middle-click serves the same purpose as Shift+click.)
- To open a new instance with administrative privileges, Ctrl+Shift+click a taskbar button.

Switching Tasks

When you open a pinned program, the appearance of its taskbar button changes to indicate that the program is running, as shown in Figure 4-2. The icon for a running program has a button-like border, and when you mouse over the button, the background color becomes similar to the program's window colors. A program that has more than one window or tab open appears as a stack of buttons. Opening other programs adds a button for each program to the taskbar.

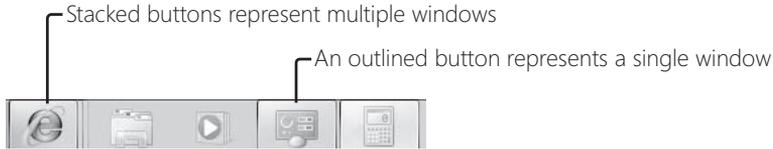


Figure 4-2 Taskbar buttons for programs that are not running have an icon but no border and share the same background as the taskbar itself.

As in previous Windows versions, you can switch to a different program by clicking its taskbar button. Much of the guesswork required to pick the correct taskbar button in previous versions is gone in Windows 7, however. Now, when you hover the mouse pointer over a taskbar button, a thumbnail image of the window appears next to the taskbar button. If a taskbar button represents more than one window (because the program has multiple open windows), hovering the mouse pointer over the taskbar button displays a preview of each window.

Still not sure which is the correct window? Use another new Windows 7 feature, *Aero Peek*. Hover the mouse pointer over one of the preview images, and Windows brings that window to the fore and indicates the location of all other open windows with outlines, as shown in Figure 4-3.



Figure 4-3 Aero Peek makes it easy to see the contents of a window, even when it's buried among a stack of open windows.

Note

Taskbar preview images and Aero Peek are available only when you use an Aero theme. (For more information about Aero and themes, see “Understanding and Using Windows Aero” on page 126.) If you’re not using an Aero theme, hovering the mouse pointer over a taskbar button displays each window’s full title.

When the preview (or the title bar, if you’re not using Aero) of the window you want is displayed, simply click that preview to switch to that window. You also have the option of closing a window by clicking the red *X* in the upper right corner of the preview or by middle-clicking anywhere in the preview image. Other basic window tasks are available on the context menu that appears when you right-click the preview image.

INSIDE OUT

Use Ctrl+click to cycle through windows

If you’re not using Aero, you don’t get thumbnail previews and you can’t use Aero Peek to view full-size windows or tabs before you switch to them. However, if you hold down the Ctrl key while you click a taskbar button that represents a group of windows, you’ll see each window in turn. Release the Ctrl key when you see the one you want.

INSIDE OUT

Use shortcut keys for taskbar buttons

The first 10 taskbar buttons are accessible by keyboard as well as mouse. Press Windows logo key+1 for the first, Windows logo key+2 for the second, and so on (using 0 for the tenth). Using one of these shortcuts is equivalent to clicking the corresponding taskbar button: if its program isn’t running, it starts; if it has a single open window, you switch to that window; if it has multiple open windows, Windows displays previews of all windows and a “peek” view of the first window.

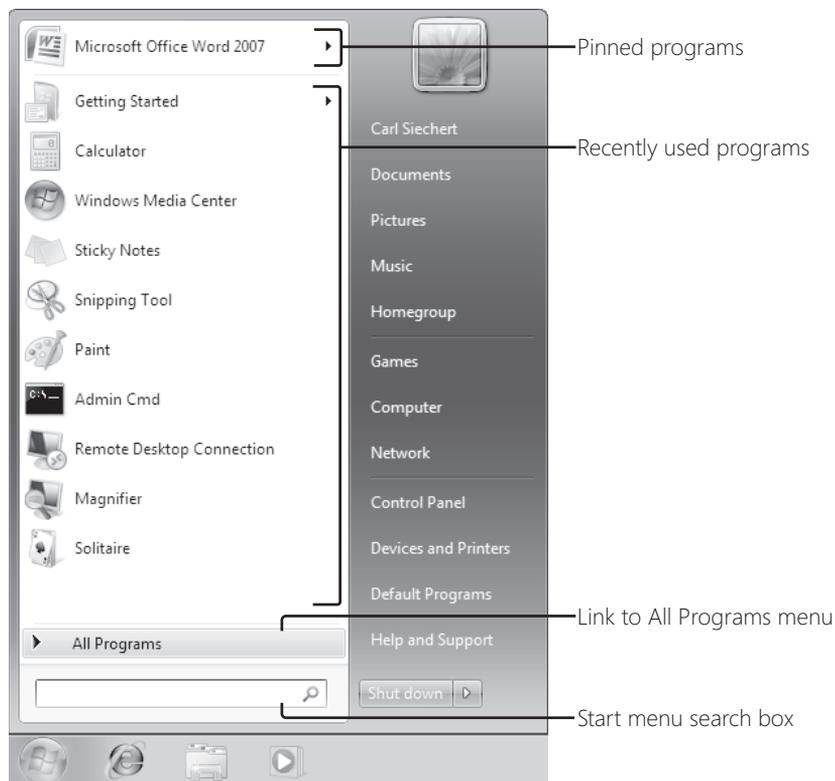
Note that you can move taskbar buttons, which therefore determines the key number that opens a particular icon. To move a taskbar button, simply drag it to the desired location.

Another useful shortcut key is Windows logo key+T, which brings focus to the first item on the taskbar, as indicated by a faint glow at the bottom of that taskbar button. At that point, you can repeatedly press Windows logo key+T, Shift+Windows logo key+T, or the arrow keys to select other taskbar buttons. When a taskbar button is selected, you can press Spacebar to “click” the button, press the Menu key to display its Jump List, or press Shift+F10 to display its context menu.

As you use Windows 7, you'll notice other enhancements to the taskbar. Some taskbar previews do more than simply show a thumbnail image of the window; for example, the preview for Windows Media Player includes basic player controls (previous, pause/play, and next). And with some taskbar buttons, you don't even need to display a preview to know what's going on with the program; windows or dialog boxes that show a progress bar, for example, indicate their progress with a colored background in the taskbar button itself.

Opening Programs from the Start Menu

Although improvements to the taskbar in Windows 7 have reduced the number of necessary trips to the Start menu (shown below), the Start menu continues to provide access to nearly everything you need to do in Windows.



Like the default Start menu in Windows XP and Windows Vista, the Windows 7 Start menu is a two-column affair, the left side of which is reserved for the programs you use most often or that you have used most recently. Windows 7 devotes the right side of the menu to various important system folders, such as your Documents and Pictures folders, Control Panel, and Devices And Printers.

Four areas of the Start menu make it easy to run the programs and open the documents you need most. They are listed here in descending order of convenience and ease of use:

- **Pinned programs** The area in the upper left corner of the Start menu, above the horizontal line, is reserved for the programs you want to be accessible at all times. After you have pinned an item to this part of the Start menu, it stays there (unless you subsequently remove it).
- **Recently used programs** Windows populates the area directly below the pinned programs with programs that you have used recently. You can change the number and types of programs that appear here; for details, see “Customizing the Left Side of the Start Menu” on page 117.
- **Start menu search box** The Start menu includes a search box (at the bottom on the left, directly below All Programs). You can get to anything on the menu, no matter how deeply nested it might be, by typing a few characters into this box. In the preceding illustration, for example, Microsoft Office OneNote 2007 does not appear on the left side of the menu because we haven’t pinned it to the top of the menu or used it recently. Navigating to this program’s menu entry would require a couple of clicks and a bit of scrolling (one click to open All Programs, another to open Microsoft Office). As Figure 4-4 shows, three characters in the search box are enough to bring Microsoft Office OneNote 2007 to the Programs area of the search results, at the top of the Start menu.

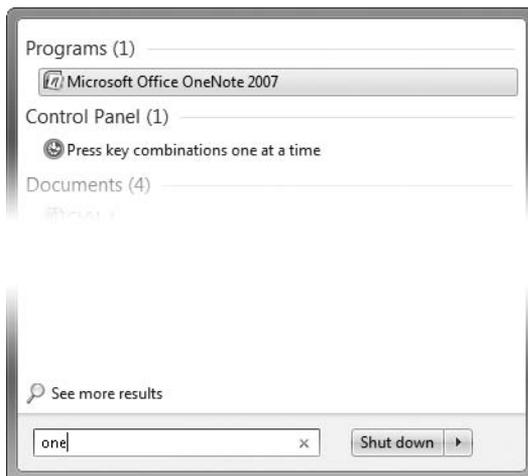


Figure 4-4 Typing **one** into the search box is sufficient to bring Microsoft Office OneNote 2007 to the top of the Start menu.

Provided you’re not completely averse to typing, the search box pretty much eliminates the hassle of finding items that are buried several folders deep within the menu

structure. The Start menu search box doesn't limit its searches to programs, however; it's an entry point to the full-fledged search capabilities of Windows 7. For complete details, see Chapter 9, "Using Windows Search."

- **All Programs folder** Clicking All Programs opens a hierarchically arranged list of program icons similar to that found in earlier Windows versions. The All Programs menu is generated by merging the contents of two folders:
 - A personal folder, located at %AppData%\Microsoft\Windows\Start Menu\Programs
 - An "all users" folder, located at %ProgramData%\Microsoft\Windows\Start Menu\Programs

As you might expect, items stored in the personal folder appear only on your own Start menu. Items stored in the "all users" folder appear on the Start menu of everyone who has an account on your computer.

Adding and Removing Pinned Programs

To add a program to the pinned programs area of the Start menu, right-click it wherever you see it (elsewhere on the Start menu, for example) and choose Pin To Start Menu. The item will take up residence at the bottom of the pinned programs area. If you'd like to give it a more prominent location, drag it upward.

Note

If no shortcut menu appears when you right-click an item, and you can't drag the item to the pinned programs area, open the Customize Start Menu dialog box. (For details, see "Personalizing the Start Menu" on page 116.) In the list of options, select Enable Context Menus And Dragging And Dropping.

To remove an item from the pinned programs area, right-click it and choose Unpin From Start Menu.

Using Jump Lists on the Taskbar and Start Menu

A powerful addition to the taskbar and Start menu is the *Jump List*, a menu of options closely related to the program associated with a taskbar button or an entry on the Start menu. Programs that are written to take advantage of Jump Lists in Windows 7 might include on the Jump List various common commands and tasks that can be performed with that program.

Jump Lists can be big timesavers even with older programs. For those programs, Windows adds to the Jump List a list of recently used documents, making it easy to reopen a recent document quickly.

In addition, each taskbar Jump List includes commands to open the program, to pin (or unpin) the program to the taskbar, and to close all open windows represented by the button.

Figure 4-5 shows Jump Lists for Internet Explorer.

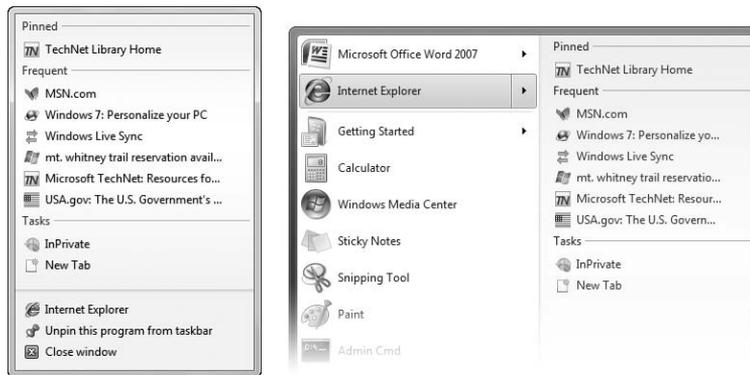


Figure 4-5 A taskbar Jump List (left) usually includes commands not on a Start menu Jump List (right).

To open a taskbar Jump List, use either of these techniques:

- Right-click the taskbar button.
- Using a stylus (or your finger, if you have a touch-capable computer), drag the taskbar button away from the edge of the screen in a flicking motion. When you release, the Jump List appears.
- The preceding technique was created for use with tablet and touch computers, but it also works with a mouse: point to the taskbar button, press the left mouse button, drag away from the taskbar, and release the mouse button.

On the Start menu, a Jump List is available only for programs that have been pinned and those in the recently used list. To display the Jump List associated with a Start menu item, click the arrow next to the program name or simply hover the mouse pointer over the menu item.

Most of the Jump List content is created by the program's author or, in the case of recent items, generated by Windows. To keep favorite documents always available on the Jump List, you can pin an item in the recent documents list: point to it and click the pushpin icon, or right-click it and choose Pin To This List.

To protect your privacy or simply to clean up a cluttered list, you can remove an item from the recent list or the pinned list: right-click and choose Remove From This List (or, for pinned items, Unpin From This List).

INSIDE OUT

Clear recent items from all Jump Lists

The recent items lists on Jump Lists, grouped by program, largely replace the need for a Recent Items menu on the Start menu, which is disabled by default in Windows 7. (If you want to restore the Recent Items menu, open the Customize Start Menu dialog box and select Recent Items.) Like the Recent Items menu in previous Windows versions, the recent items shown on Jump Lists are derived from the contents of the folder %UserProfile%\Recent. Note that you can't add items to recent lists by making direct additions to %UserProfile%\Recent. For the purposes of building these lists, Windows simply ignores anything in the Recent folder that it didn't put there itself.

To clear all recent items (but not pinned items) from Jump Lists and from the Recent Items menu, right-click the Start button and choose Properties. On the Start Menu tab of the Taskbar And Start Menu Properties dialog box, clear the Store And Display Recently Opened Items In The Start Menu And The Taskbar check box. Windows clears out the %UserProfile%\Recent folder when you do this.

Personalizing the Taskbar and Start Menu

The new look of the taskbar and the default selection of commands on the Start menu are not for everyone. In this section, we describe the tools and methods for customizing them to work the way you like.

Changing the Taskbar's Appearance and Behavior

As described in the following sections, you can modify the order, size, appearance, and grouping of taskbar buttons and change the overall taskbar size and location. Many of these changes are made most easily through the Taskbar And Start Menu Properties dialog box (see Figure 4-6), which you can open by right-clicking an unoccupied area of the taskbar and choosing Properties.

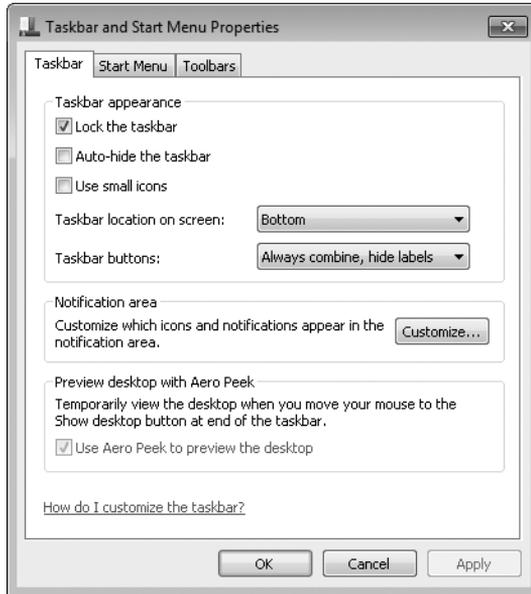


Figure 4-6 You can also display this dialog box by right-clicking the Start button, choosing Properties, and clicking the Taskbar tab.

Changing the Order of Taskbar Buttons

One of the most useful personalizations you can make doesn't require a visit to any dialog box. To change the order of buttons on the taskbar, simply drag them to the place you want. Pinned program icons retain their order between sessions, allowing you to quickly find your most used programs in their familiar (to you) location.

Changing the Size, Appearance, and Grouping of Taskbar Buttons

Two items on the Taskbar tab of Taskbar And Start Menu Properties control the size and appearance of taskbar buttons:

- **Use Small Icons** Select Use Small Icons if you want to reduce the height of taskbar buttons, making them similar to the button size in earlier Windows versions.
- **Taskbar Buttons** The default setting for Taskbar Buttons is Always Combine, Hide Labels. This setting suppresses the display of labels (window titles) and causes Windows to always group multiple windows from a single application into a single taskbar button.

With either of the other settings (Combine When Taskbar Is Full or Never Combine), Windows displays the window title (or as much as it can fit) on the taskbar button, much like it does in earlier versions of Windows. (See Figure 4-7.) The difference

between these settings is that with Combine When Taskbar Is Full each window gets its own separate taskbar button until the taskbar becomes too crowded, whereupon Windows groups windows from a program into a single taskbar button. With Never Combine, taskbar buttons continue to diminish in size as you open more windows.



Figure 4-7 Selecting Use Small Icons and Combine When Taskbar Is Full results in a taskbar similar to what you see in Windows XP or Windows Vista.

Changing the Taskbar's Size and Appearance

The default height of the taskbar is enough to display one taskbar button. (If you switch between large and small icons, the taskbar automatically adjusts its height to fit.) You can enlarge it—and given the typical size and resolution of computer displays these days, enlarging it is often a great idea. Before you can change the taskbar's dimensions, you need to unlock it. Right-click an unoccupied area of the taskbar, and if a check mark appears next to the Lock The Taskbar command, click the command to clear the check mark. Then position the mouse along the border of the taskbar furthest from the edge of the screen. When the mouse pointer becomes a two-headed arrow, drag toward the center of the screen to expand the taskbar. Drag the same border in the opposite direction to restore the original size.

Getting the Taskbar Out of Your Way

By default, the taskbar remains visible even when you're working in a maximized program. If that's inconvenient for any reason, you can tell it to get out of the way. In the Taskbar And Start Menu Properties dialog box, shown in Figure 4-6, select Auto-Hide The Taskbar. With this option selected, the taskbar retreats into the edge of the desktop whenever any window has the focus. To display the taskbar, move the mouse pointer to the edge of the desktop where the taskbar is "hidden."

Note

Regardless of how you set the auto-hide option in the Taskbar And Start Menu Properties dialog box, you can make the taskbar visible at any time by pressing the Windows logo key or Ctrl+Esc.

Moving the Taskbar

The taskbar docks by default at the bottom of the screen (the main screen, if you have more than one), but you can move it to any other edge, including any edge of a secondary screen. To move the taskbar, select a Taskbar Location On Screen option in Taskbar And Start Menu Properties.

As an alternative, you can manipulate the taskbar directly: Unlock it (right-click an unoccupied spot and choose Lock The Taskbar—unless no check mark appears beside that command, which means that taskbar is already unlocked). Then drag any unoccupied part of the taskbar in the direction you want to go. (Don't drag the edge of the taskbar closest to the center of the screen; doing that changes the taskbar's size, not its position.)

Using Additional Toolbars

A seldom-used feature of the taskbar is its ability to host other toolbars. Optional toolbars might comprise shortcuts to folders, documents, and applications, or they might be mini-applications that operate entirely within the confines of the taskbar. Toolbars you can choose to install include the following:

- **Address** The Address toolbar provides a place where you can type an internet address or the name and path of a program, document, or folder. When you press Enter or click the Go button, Windows takes you to the internet address, starts the program, opens the document, or displays the folder in a Windows Explorer window. The Address toolbar is functionally equivalent to the Start menu's Run command or the address bar in Windows Explorer or Internet Explorer.
- **Links** The Links toolbar provides shortcuts to internet sites; it is equivalent to the Links toolbar in Internet Explorer.
- **Tablet PC Input Panel** The Tablet PC Input Panel toolbar provides a single tool—an icon you can click (or, more likely, tap with a stylus) to display or hide the panel that encompasses the writing pad and touch keyboard. (For details about using the Tablet PC Input Panel, see "Using the Writing Pad and Touch Keyboard" on page 935.)
- **Desktop** The Desktop toolbar provides copies of all the icons currently displayed on your desktop. In addition, it includes links to your Libraries, Homegroup, Computer, Network, Control Panel, and other user profile folders. When you click the toolbar's double arrow, a cascading menu of all the folders and files on your system appears.

Note

Pinned icons on the taskbar obviate the Quick Launch toolbar, a regular taskbar feature since the days of Windows 95. But if you prefer to use it, we show you how: see the tip “Restore the Quick Launch toolbar” on page 102.

Installing and Removing Toolbars To install a new toolbar or remove one you’re currently using, right-click any unoccupied part of the taskbar or any existing toolbar. Choose Toolbars from the shortcut menu that appears, and then choose from the ensuing submenu. A check mark beside a toolbar’s name means that it is already displayed on the taskbar. Clicking a selected toolbar name removes that toolbar.

Note

You can also display any of the predefined toolbars (listed earlier) or remove any currently displayed toolbar using the Toolbars tab of the Taskbar And Start Menu Properties dialog box.

Sizing and Positioning Toolbars Before you can change a toolbar’s size or position on the taskbar, the taskbar itself must be unlocked. To do that, right-click an unoccupied area of the taskbar and, if a check mark appears next to the Lock The Taskbar command, click the command to clear the check mark.

When the taskbar is not locked, a dotted vertical bar appears at the left edge of every toolbar. (If the taskbar is displayed vertically against the left or right edge of the desktop, the bar is horizontal and appears at the top of the toolbar.) This is the toolbar’s handle. To reposition a toolbar within the taskbar, drag the handle.

Note

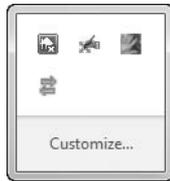
Unlike Windows XP, Windows 7 insists that toolbars be docked to the taskbar.

Creating a New Toolbar Any folder on your system can become a toolbar. To create a new toolbar, right-click an existing toolbar or a spot on the taskbar, choose Toolbars, and then choose New Toolbar. In the next dialog box, navigate to a folder and click Select Folder.

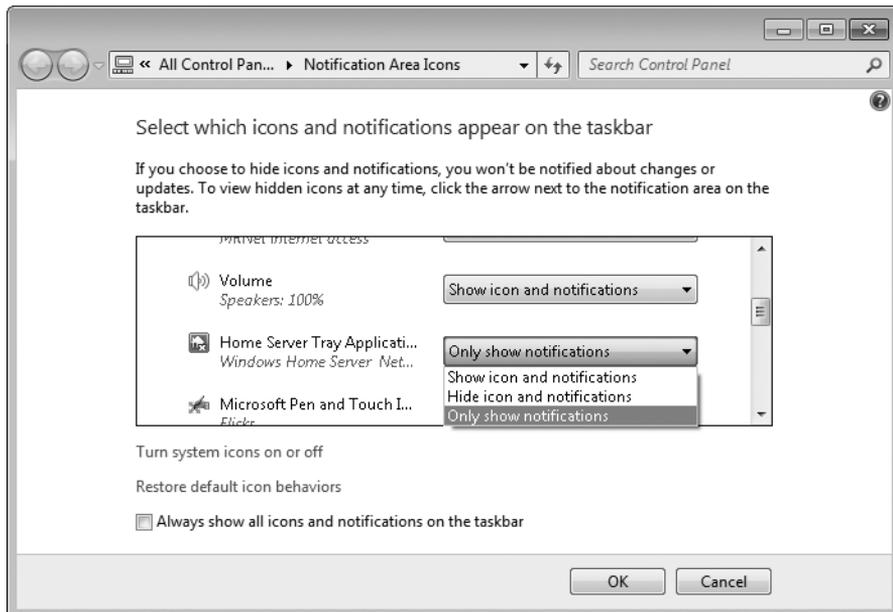
The folder's name becomes the name of the new toolbar, and each item within the folder becomes a tool.

Controlling How Notifications Appear

In previous versions of Windows, the *notification area* (also sometimes called the system tray or the status area) often becomes crowded with tiny icons—many of which don't "notify" you of anything. To deal with notification-area congestion, Windows 7, by default, keeps a few icons visible at all times but hides the icons that you aren't actually using. And unlike previous Windows versions, the notification area doesn't consume an increasingly large chunk of the taskbar; new icons are corralled in a box that appears only when you click the arrow at the left end of the notification area to display the hidden items.



You can personalize this behavior in the Notification Area Icons control panel. To get there, display the hidden notification area icons and click Customize. Alternatively, begin typing **notification** in the Start menu search box or the Control Panel search box, and then click Notification Area Icons.



For each notification area icon, you can select one of three options:

- **Show Icon And Notifications** Selecting this option displays the icon on the taskbar at all times.
- **Hide Icon And Notifications** With this option, the icon appears only when you click the arrow at the left end of the notification area. Notifications from the program are squelched.
- **Only Show Notifications** Like the previous option, this one hides the icon, but it allows its program to pop up notification messages.

The system icons (Clock, Volume, Network, Power, and Action Center) can be remanded to the box of hidden icons by selecting either of the last two options. But if you'd rather banish one or more of them altogether, click Turn System Icons On Or Off. The dialog box shown in Figure 4-8 appears.

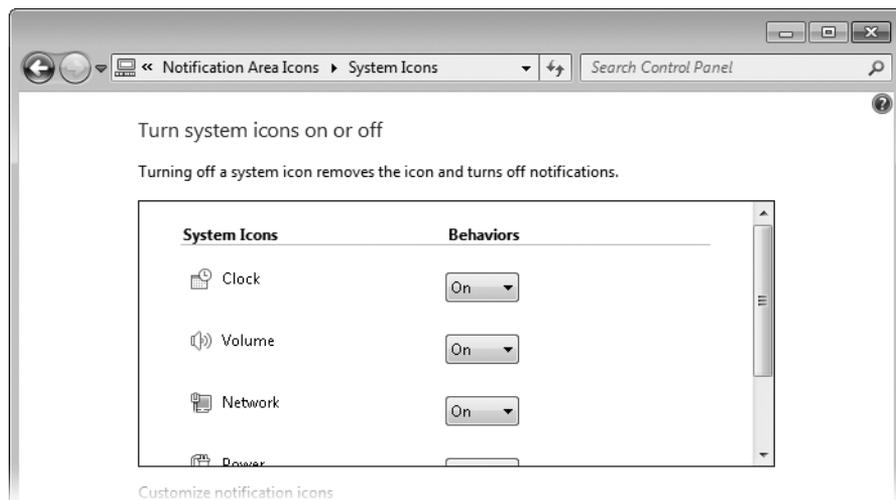


Figure 4-8 Windows displays four (or five, for battery-powered computers) notification area icons unless you modify the System Icons options here.

One final option can come in handy if you don't like having to click the arrow to display hidden icons (and you don't mind having a string of notification area icons as long as your arm). If you want to see all your notification area icons at all times, select Always Show All Icons And Notifications On The Taskbar. This is an all-or-nothing proposition, but remember that you can turn off any of the system icons you don't use. Also, some well-behaved programs have an option (usually accessible by clicking the notification area icon and choosing Options) to not display their icons.

INSIDE OUT

Drag notification area icons

Perhaps the easiest way to specify the appearance option for a notification area icon is to simply drag the icon—a technique you can apply to system icons (except Clock) as well as to other notification area icons. Dragging an icon to the hidden area sets it to Only Show Notifications, whereas dragging to the taskbar is equivalent to selecting Show Icon And Notifications. Dragging also lets you specify the order of icons in each area.

INSIDE OUT

Use a keyboard shortcut for notification area tasks

If you're one of those users whose fingers never leave the keyboard, you can press Windows logo key+B to move the focus to the notification area. Use the arrow keys to highlight different icons on the taskbar or, when the arrow is highlighted, press Spacebar to display the hidden icons. You can then use arrow keys to select an icon, and the Menu or Shift+F10 keys to display the icon's menu.

Personalizing the Start Menu

Although Windows 7 does not offer a "classic" Start menu as found in Windows XP and Windows Vista, it offers plenty of other personalization options. Begin your fine-tuning on the Start Menu tab of the Taskbar And Start Menu Properties dialog box (shown in Figure 4-9), which you reach by right-clicking the Start button and choosing Properties.

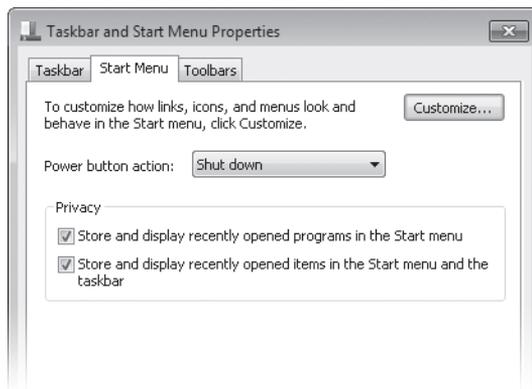


Figure 4-9 Options and check boxes on the Start Menu tab of the Taskbar And Start Menu Properties dialog box let you control the default action of the Power button and erase evidence of what you've been doing at your computer.

Many more options become available when you click **Customize** to display the **Customize Start Menu** dialog box, shown in Figure 4-10.

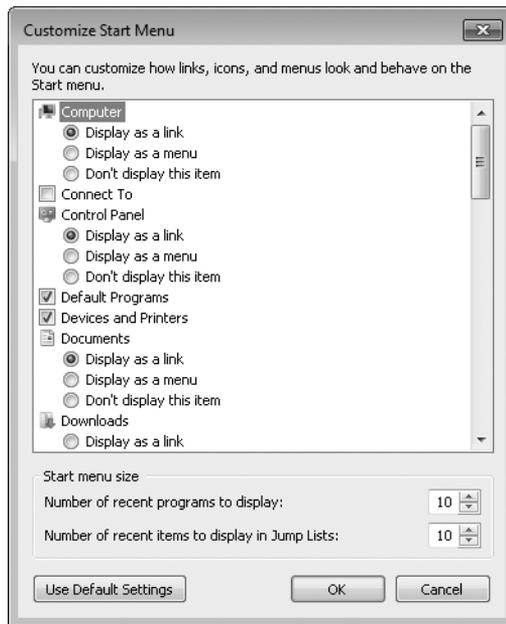


Figure 4-10 Don't fail to scroll down in this crowded dialog box to expose many more options.

Customizing the Left Side of the Start Menu

Quite apart from which programs appear in the pinned programs section at the top of the left side of the Start menu (see “Adding and Removing Pinned Programs” on page 107 for information about customizing that aspect of the menu), you have several choices that control the menu's left side.

For starters, your choices under **Privacy** on the **Start Menu** tab of **Taskbar And Start Menu Properties** (shown earlier in Figure 4-9) determine whether Windows keeps track of recently used programs and displays them below the pinned programs, and whether Windows keeps track of recently opened documents and displays them as a **Jump List** associated with a pinned or recently used program. If you choose to keep those options enabled, you can proceed to the **Customize Start Menu** dialog box (shown in Figure 4-10) and, using the settings under **Start Menu Size**, specify the maximum number of recent programs to include on the Start menu (the allowable range is 0 through 30) and the maximum number of recent items to include on each **Jump List** (0 through 60).

INSIDE OUT

Control which programs are included in the recent list

The list of recently used programs—the items that appear below the pinned programs on the left side of the Start menu—is controlled by Windows. The list includes only shortcuts to executable files you open, such as .exe files and .msc files. The following items are excluded by default (for more information, see Knowledge Base article 282066, “Frequently Used Programs Not Automatically Added to the Start Menu,” at w7io.com/0401):

- Programs listed in the `AddRemoveApps` value of the registry key `HKLM\Software\Microsoft\Windows\CurrentVersion\Explorer\FileAssociation`. By default, the following items are excluded: `Setup.exe`, `Install.exe`, `Isuninst.exe`, `Unwise.exe`, `Unwise32.exe`, `St5unst.exe`, `Msoobe.exe`, `Lnkstub.exe`, `Control.exe`, `Werfault.exe`, `Wlrmldr.exe`, `Guestmodemsg.exe`, `Msiexec.exe`, `Dfsvc.exe`, and `Wuapp.exe`. By modifying this registry value, you can tailor the exclusion list to suit your needs.
- Items whose shortcut names include any of the following text: Documentation, Help, Install, More Info, Readme, Read Me, Read First, Setup, Support, What’s New, or Remove. This list of exclusion strings is specified in the `AddRemoveNames` value of `HKLM\Software\Microsoft\Windows\CurrentVersion\Explorer\FileAssociation`.
- Items in the Games folder (Professional, Ultimate, and Enterprise editions only). Apparently to prevent workers who goof off from getting in trouble, business editions of Windows 7 exclude games from the list of recently used programs.

Other options scattered about the Customize Start Menu dialog box (all selected by default) determine the appearance and behavior of the left side of the Start menu:

- **Sort All Programs Menu By Name** When selected, Windows always sorts the All Programs menu alphabetically. Clear this option to display the menu in the order that items were added to it, or in the order you create by moving items around the menu.
- **Use Large Icons** Clear this option if you want to fit more items on the left side.
- **Enable Context Menus And Dragging And Dropping** When this option is selected, you can move items on the left side of the menu and on the All Programs menu by dragging. In addition, context menus (the menu that appears when you right-click an item on the left side of the menu or on the All Programs menu) are enabled. Clearing this option disables both capabilities.
- **Highlight Newly Installed Programs** When this option is selected, new programs are highlighted with a colored background so that they’re easy to find; if you find that distracting, clear the option.

- **Open Submenus When I Pause On Them With The Mouse Pointer** When this option is selected, Jump Lists and cascading menus on the right side of the Start menu appear when you hover the mouse; when this option is cleared, you must click the arrow to display these items.

Customizing the Right Side of the Start Menu

The right side of the Start menu has an assortment of buttons that open various data folders and system folders. Options in Customize Start Menu (shown in Figure 4-10) let you add to or subtract from this collection, and they let you control the behavior of certain items.

INSIDE OUT

Change your Start-menu picture

The picture that appears at the top of the right side of the Start menu is the one associated with your user account (the one that also appears on the Welcome screen). If you're not happy with it, click it. That will take you to the User Accounts section of Control Panel, where you can specify a different picture.

Choosing Link, Menu, or No Show Several of the items in the Customize Start Menu list offer you the choice of Display As A Link, Display As A Menu, and Don't Display This Item. The first option displays a button that opens the folder in Windows Explorer, whereas the second option displays a button that opens the folder's contents as a submenu sprouting from the side of the Start menu. Following is a list of folders you can customize in this manner:

- Computer
- Control Panel
- Documents
- Downloads
- Games
- Music
- Personal Folder
- Pictures
- Recorded TV
- Videos

INSIDE OUT

Use links and submenus interchangeably

You can have it both ways. If you opt for submenus, you can still open items in Windows Explorer. Just right-click and choose Open.

Displaying Other Folders Other folders don't offer the link vs. submenu option, but your Start-menu customization is not complete until you decide whether to include any of these folders for single-click access:

- Favorites Menu (displays your Favorites menu as a cascading submenu)
- Homegroup (displays shared resources on your home network)
- Network (displays computers and devices on your network)
- Recent Items (displays your 15 most recently opened documents, from all applications)
- Default Programs (opens the Control Panel tool for specifying which program opens each document type)
- Devices And Printers (opens the Control Panel tool for managing your computer hardware)
- System Administrative Tools (displays a menu of advanced system-management programs)
- Connect To (displays a list of available network connections)
- Help (opens Help And Support)

Displaying the Run Command The Run command, a perennial favorite of computer enthusiasts, is no longer a standard Start menu feature. You can make sure it's still part of *your* Start menu by selecting Run Command in the Customize Start Menu dialog box.

You might find you can live comfortably without the Run command. When you're tempted to type a program name in the Run dialog box, try typing it in the Start menu search box instead. The Search feature won't always get you where you want to go (it's no good when you need a command-line switch, for example), but it's more versatile than you might expect. Typically, you can run an executable by simply typing its name in the search box and pressing Enter, just as you would in the Run dialog box. On the other hand, the Run dialog box remembers command strings that you have entered before, and the search box has nothing to replace that.

INSIDE OUT

Open the Run dialog box with a keypress

Whether or not your Start menu includes it, you can always get to the Run dialog box by pressing Windows logo key+R.

Controlling Where the Search Box Searches

Two options in the Customize Start Menu dialog box let you customize the behavior of the Start menu search box:

- **Search Other Files And Libraries** The default setting, Search With Public Folders, includes in a Start-menu search the same document files and folders that are included in other searches. (For details, see “Configuring Search and Indexing Options” on page 308.) With the other settings, you can limit the scope of a search to exclude public folders, or you can completely disable the search of documents and folders.
- **Search Programs And Control Panel** With this option selected (the default setting), searches look for program names and Control Panel tools or tasks that match your search text.

For more information, see “Searching from the Start Menu” on page 319.

Mastering Window Management with Windows 7 Tricks

Windows 7 includes a host of keyboard shortcuts and mouse gestures that greatly simplify the everyday tasks of managing windows: resizing, moving, minimizing, switching, and so on. These new methods are easily learned and remembered—but they’re not easily discovered. In this section, we’ll show you the way.

And don’t worry: All the keyboard shortcuts and other tricks you’ve used in previous versions of Windows continue to work the same way in Windows 7.

Resizing and Moving Windows

New mouse gestures in Windows make it easy to work with certain windows without being distracted by the clutter of others:

- *Aero Snap* has three functions. The first one makes it easy to maximize a window or restore it to its previous size and position. Simply drag the title bar to the top of the screen to maximize it, or drag the title bar away from the top edge to restore it. (Although Windows has long offered comparable capability with the Maximize and Restore buttons in the title bar, this new gesture offers a much bigger target. This feature also makes it possible to move a maximized window from one screen to another on a multimonitor system.)

The second *Aero Snap* function makes it easy to split the screen space between two windows for easy side-by-side editing or comparisons: drag a window title bar to the

left edge of the screen, and it snaps to fill the left half of the screen. (Note that the window resizes when the mouse pointer hits the edge of the screen. So to use this feature with minimal mouse movement, start your drag action by pointing at the title bar near the edge you're going to snap to.) Drag a title bar to the right edge to fill the right half of the screen. Begin dragging a window that has been resized this way away from the edge of the screen, and it returns to its previous size and position.

The third function is useful if you want full-height side-by-side windows but you don't want them to fill exactly half the screen width. It's also good for obtaining maximum window height without making text lines too long to read, especially on wide-screen monitors. Drag the top window border (not the title bar) to the top edge of the screen, or drag the bottom border to the bottom edge of the screen. With either action, when you reach the edge the window snaps to full height, without changing its width. When you drag the border away from the window edge, the opposite border snaps to its previous position.

- *Aero Shake* minimizes all windows except the one you want to use. To do that, point to the window's title bar, hold down the mouse button, and quickly move it back and forth a few times. Suddenly, all windows except that one retreat to the taskbar. This one takes a bit of practice, but once you get the hang of it you'll probably use it often. It requires only three "shakes"—a smooth left, right, left motion is best—not maniacal shaking.

Note

Although the names of these features include the word *Aero*, unlike the *Aero Peek* feature, you do not need to have *Aero* enabled to use these mouse gestures. Without *Aero*, you lose some of the associated visual effects, but the outcome is the same.

Windows 7 includes keyboard shortcuts that correspond with the preceding mouse gestures. These are shown in Table 4-1.

The new taskbar in Windows 7 also uses a new trick to expose the traditional window menu: hold the Shift key as you right-click a taskbar button. For a button that represents a single window, the menu includes commands to Restore, Move, Size, Minimize, Maximize, and Close the window. Shift+right-clicking a grouped taskbar button displays commands to arrange, restore, minimize, or close all windows in the group.

Table 4-1 Keyboard Shortcuts and Mouse Gestures for Resizing and Moving Windows

Task	Keyboard Shortcut	Mouse Gesture
Maximize	Windows logo key+ Up Arrow	Drag title bar to top of screen
Resize window to full screen height without changing its width	Shift+Windows logo key+Up Arrow	Drag top or bottom border to edge of screen
Restore a maximized or full-height window	Windows logo key+ Down Arrow	Drag title bar or border away from screen edge
Minimize a restored window	Windows logo key+ Down Arrow	Click the Minimize button
Snap to the left half of the screen	Windows logo key+ Left Arrow*	Drag title bar to left edge
Snap to the right half of the screen	Windows logo key+ Right Arrow*	Drag title bar to right edge
Move to the next monitor to the left	Shift+Windows logo key+Left Arrow	Drag title bar
Move to the next monitor to the right	Shift+Windows logo key+ Right Arrow	Drag title bar
Minimize all windows except the active window (press again to restore windows previously minimized with this shortcut)	Windows logo key+ Home	“Shake” the title bar
Minimize all windows	Windows logo key+M	
Restore windows after minimizing	Shift+Windows logo key+M	

* Pressing this key repeatedly cycles through the left, right, and restored positions. If you have more than one monitor, it cycles these positions on each monitor in turn.

INSIDE OUT Disable Aero Snap and Aero Shake

If you find it disconcerting to have windows snap to a certain size and position when you drag their title bars, you can disable Aero Snap. Unfortunately, the setting for doing so is no more obvious than the mouse gestures themselves. In the Start menu search box or in Control Panel, type **mouse** and then click Change How Your Mouse Works. Near the bottom of the window that appears, select Prevent Windows From Being Automatically Arranged When Moved To The Edge Of The Screen. Selecting this option disables Aero Snap and Aero Shake altogether, including keyboard shortcuts.

Viewing the Desktop and Gadgets

Sometimes you need to get to the bottom of things, whether it's to use a desktop icon, view a desktop gadget, or simply enjoy your gorgeous desktop background. Windows 7 has some ways to simplify these tasks.

If you're using Aero, you can view the desktop with an overlay of outlines representing all open windows, as shown in Figure 4-11; simply point to the Show Desktop tool, the empty space at the right end of the taskbar. (If your taskbar is on the left or right side of the screen, Show Desktop is at the bottom.) When you move the mouse pointer away, the previous window arrangement returns. You can get the same effect by pressing Windows logo key+Spacebar.



Figure 4-11 View the desktop, including gadgets, without a single mouse click.

For a more lasting effect, click Show Desktop, and all windows are hidden. (This works with or without Aero enabled.) To restore the previous arrangement, click Show Desktop again. If you prefer to use the keyboard, Windows logo key+D toggles between these two views.

You can bring your gadgets to the fore without minimizing or hiding your open windows; simply press Windows logo key+G. For more information about desktop gadgets, see “Using and Customizing Desktop Gadgets” on page 146.

Switching Between Windows

In addition to the taskbar-centric methods described in “Switching Tasks” on page 102, the time-honored task-switching keyboard shortcuts continue to work in Windows 7. Alt+Tab cycles among the open windows (and, with Aero enabled, invokes Aero Peek); Shift+Alt+Tab reverses the order. Windows logo key+Tab cycles through the open windows using the visually flashy Flip 3D feature introduced in Windows Vista.

Personalizing Theme Elements: Visuals and Sounds

The most obvious way to personalize your Windows experience is to customize its visual appearance—the desktop background, the window colors, and so on—and to select the sounds that Windows uses to let you know what it’s up to. Those settings are made in the aptly named Personalization, a Control Panel tool that appears when you right-click the desktop and choose Personalize. You can also open Personalization, which is shown in Figure 4-12, by starting to type **personalization** in the Start menu search box or in the Control Panel search box, and then clicking the Personalization link that appears.

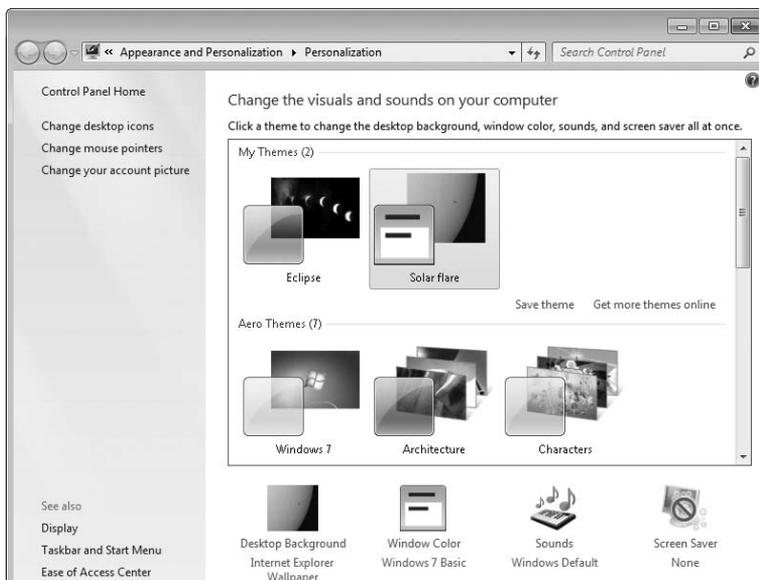


Figure 4-12 Personalization is your home base for setting backgrounds, colors, sounds, screen savers, desktop icons, and mouse pointers.

A *theme* in Windows 7 is an *über* configuration that combines and names the various personalization settings that you can make. Themes can incorporate the following:

- Desktop background
- Window color
- Settings that you make in the “advanced” Window Color And Appearance dialog box
- Sound scheme
- Screen saver
- Desktop icons
- Mouse pointer scheme

Note that these are all settings that pertain to your own profile; that is, they’re specific to your user account. Settings that apply to all users at your computer, such as screen resolution, are not included in the current theme.

Windows 7 includes some terrific predefined themes, and you can select one simply by clicking it in Personalization. The theme is applied right away, so if you don’t like what you see and hear, you can select another before you close Personalization.

For information about saving your own settings as a theme and using themes that others have created, see “Saving, Sharing, and Finding Theme Settings” on page 139.

Understanding and Using Windows Aero

This chapter contains several references to *Windows Aero*, which is the default graphical user interface in most editions of Windows. The Aero interface uses *desktop composition* to achieve effects such as these:

- Transparent window frames
- Live previews of running programs via buttons on the taskbar
- Live previews of the windows that you can switch to by pressing Alt+Tab
- Flip 3D—a feature that shows all open windows (and the desktop) as a three-dimensional stack when you press the Windows logo key+Tab
- Smoother window dragging
- Interactive window controls (Close buttons that glow on hover, for example)
- Animated window closings and openings

With desktop composition on, applications write to video card memory buffers instead of directly to the screen, and the Desktop Window Manager feature of Windows 7 arranges the video surfaces in the appropriate order and presents the results to the screen.

In a nutshell, the requirements to use Aero are as follows:

- Windows 7 Home Premium, Professional, Ultimate, or Enterprise (Aero is not available with Windows Starter edition)
- A DirectX 9–class graphics processing unit (GPU) with a Windows Display Driver Model (WDDM) 1.0 or higher display driver
- An Aero-based theme (one from the Aero Themes category in Personalization or one based on any of those themes)

Turning Aero Off

Even if you're not wild about transparency and animation, there's plenty to like about Aero. Smoother window dragging, the preview icons on the taskbar, and the improved task-switching features are well worth the price of admission—for most users. Nevertheless, admission is not entirely free; the Aero interface uses more graphics memory than the non-Aero interface—especially because achieving smoother window movement requires Aero to store the contents of all open windows in video memory, not just the windows that are currently visible.

If Aero slows you down or annoys you for any other reason, you can turn it off. In Personalization, choose any of the themes in the Basic And High Contrast Themes category. For a solid, if stolid, user interface that retains the new look and feel of Windows 7 without taxing your graphics subsystem, choose Windows 7 Basic.

What if you like transparency but don't care for the animated opening and closing of windows or certain other effects? In the Start menu search box, type **effects** and then click Adjust The Appearance And Performance Of Windows. Clearing the Animate Windows When Minimizing And Maximizing check box, on the Visual Effects tab in Performance Options, turns off these animated transitions. Other options let you squelch other unwanted Aero effects.

Customizing the Desktop Background

You can perk up any desktop with a background image. Your background can be supplied by a graphics file in any of several common formats (.bmp, .gif, .jpg, .png, and .tif). And you're not stuck with a static image, either. You can set up a slide show of images, and you can even use an RSS feed to supply new images.

To select a background, right-click the desktop, choose Personalize from the shortcut menu, and then click Desktop Background. The Picture Location box in Desktop Background (shown in Figure 4-13) provides a selection of useful categories. The Windows Desktop Backgrounds category itself is divided into several image categories. The Top Rated Photos category includes pictures from your own Pictures library to which you've assigned a four-star or five-star rating. You might want to maximize the dialog box to get a better look at the offerings.

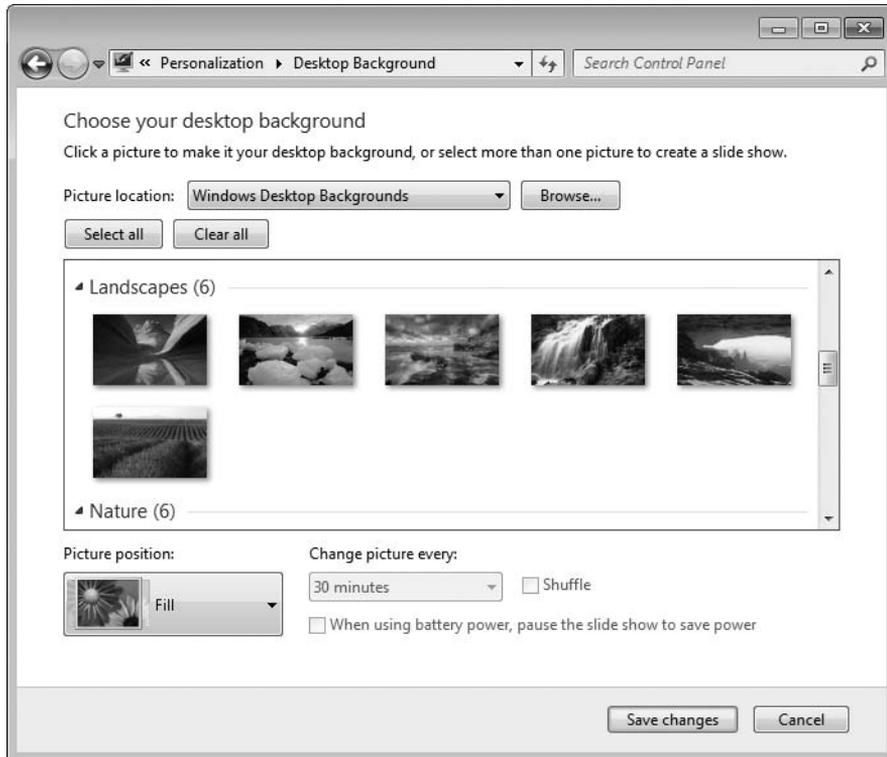


Figure 4-13 If you get tired of the wallpaper selections that come with Windows, you can always use your own pictures instead.

If you don't find what you need, click Browse. Folders to which you navigate via the Browse button will subsequently appear in the Location list, making it easy for you to go back and grab a different image from the same folder.

INSIDE OUT

Find more great photographs hidden in your Windows installation

In the Windows Desktop Backgrounds picture location, you might've noticed a category with your country name or region as its name; the category includes a number of photographs taken in that place. With a little digging, you can find pictures of other places already installed on your hard drive. To do so, follow these steps:

1. Display "super-hidden" files. In the Start menu search box, type **folder options**. On the View tab of Folder Options, select Show Hidden Files, Folders, And Drives and clear Hide Protected Operating System Files (Recommended). Then click Apply.
2. In Desktop Background, click Browse, and navigate to %Windir%\Globalization\MCT. (On most systems, %Windir% is C:\Windows.) The MCT folder has a subfolder for each installed country. Expand one of those, and then select the subfolder with the country name spelled out. (For example, the full path might be C:\Windows\Globalization\MCT\MCT-ZA\South Africa.)
3. Return to Folder Options, undo the changes you made in step 1 (or simply click Restore Defaults), and click OK.

The newly found pictures appear in Desktop Background. And it's easy to get back to these pictures later; the country name now appears as an option in the Picture Location list.

You can select one or more images in Desktop Background. (To select multiple images, click a category name or select the check box that appears when you point to each image you want to use. Alternatively, Ctrl+click each image.) When you select multiple images, Windows switches among the selected images periodically, creating a slide show effect.

After you have chosen your images, select one of the five Picture Position options to let Windows know how you want to handle images that are not exactly the same size as your screen resolution.

Then, if you've selected more than one image, specify how often you want Windows to change the background; the settings range from 10 seconds to 1 day. Selecting Shuffle causes the backgrounds to be chosen randomly from your selected images; otherwise, Windows cycles through the images in the same order they appear in Desktop Background.

INSIDE OUT Use pictures from an RSS feed

If you want an ever-changing collection of pictures to use as your desktop background, you can configure a theme to obtain images from an RSS feed. If you post your own photos to a photo-sharing site, for example, you could configure your computer to pick up those pictures and use them. (Not every photo feed works, however. You must use one that includes the photo as an enclosure. Flickr is one service that uses enclosures.) Because Windows 7 doesn't provide an interface for enabling RSS-fed images as desktop backgrounds, the easiest way to set one up is to edit an existing .theme file that includes a slide show. Open it in Notepad and, in the [Slideshow] section, remove the ImagesRootPath line and all ItemPath lines. Replace them with a line like this (using the URL to the RSS feed, of course):

```
RSSFeed=http://www.example.com/rssfeed
```

For complete details about .theme files, see the MSDN article "Creating and Installing Theme Files" at w7io.com/0402.

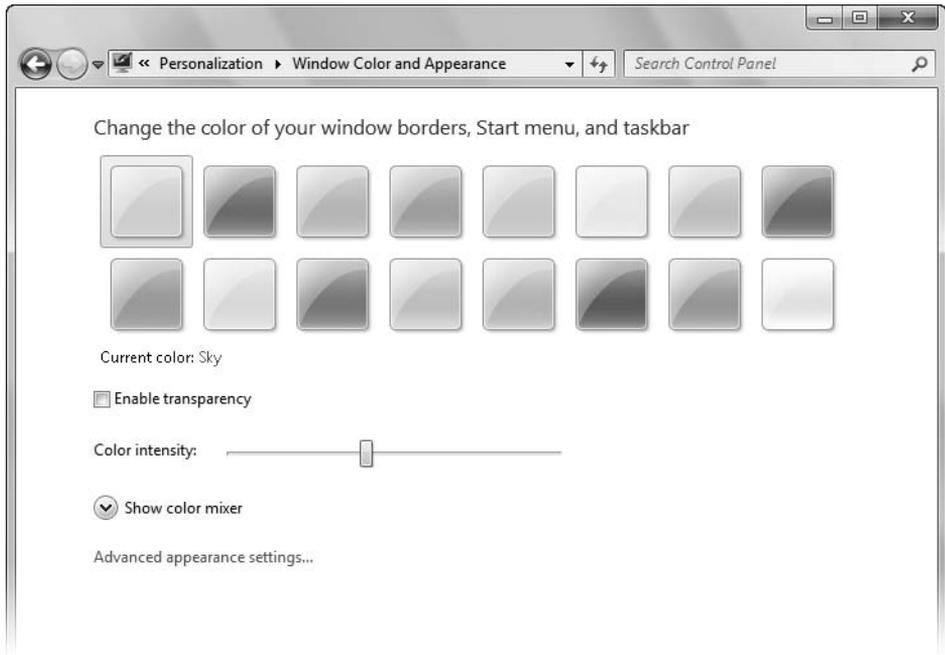
Here are some other ways to change the wallpaper:

- Right-click an image file in Windows Explorer, Windows Photo Viewer, or Windows Live Photo Gallery and choose Set As Desktop Background. This centers the selected image.
- Right-click an image in Internet Explorer and choose Set As Background. This displays the selected image using the current picture position setting.
- Open any image file in Paint, open the Paint menu (the icon to the left of the Home tab), and choose Set As Desktop Background. A submenu lets you choose among Fill, Tile, and Center picture positions.

Selecting Colors and Modifying Color Schemes

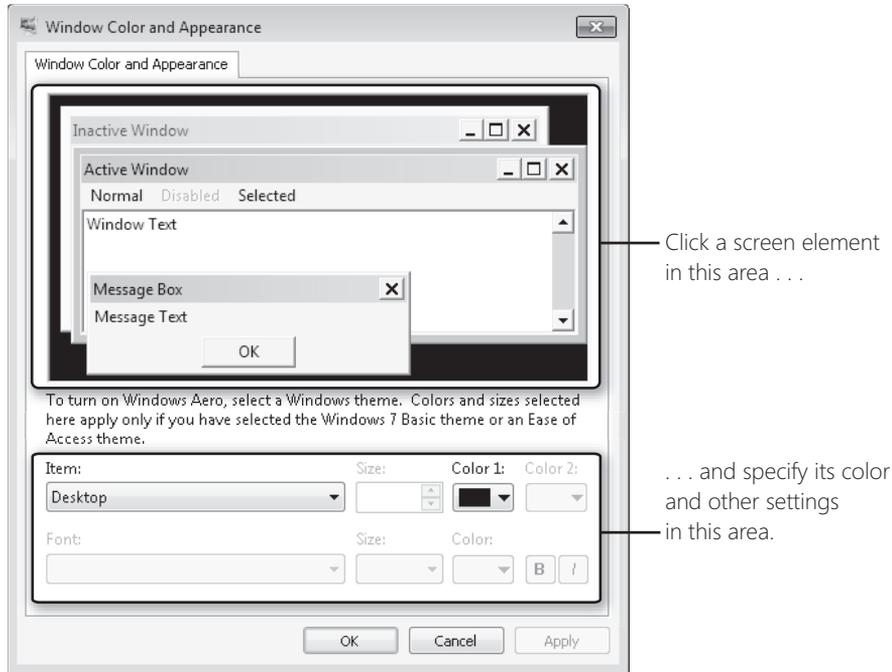
With a beautiful desktop background in place, your next personalization step might be to select a complementary color for the window borders, Start menu, and taskbar. To do that, right-click the desktop, choose Personalize, and then click Window Color.

If you're using an Aero theme, Window Color And Appearance appears, as shown below. If none of the 16 choices meets your needs exactly, you can click Show Color Mixer and dial in your own blend of Hue, Saturation, and Brightness.



You can also adjust the transparency of your window frames. Dragging the Color Intensity slider to the right makes window frames darker and less transparent. If you want lighter colors but don't fancy transparency at all, clear the Enable Transparency check box. You might find this "Aero sans trans" approach convenient at times if you need to generate pictures of windows for presentation purposes and don't want the pictures to include distracting "behind the scenes" material.

If you're not using an Aero theme, clicking Window Color displays a different Window Color And Appearance dialog box, as shown next.



Note

This same dialog box appears when you click **Advanced Appearance Settings** in the **Aero** version of **Window Color And Appearance**. There's no particular reason to go there if you're using **Aero**, however, as most settings in this dialog box apply only to **basic** and **high-contrast** (that is, **non-Aero**) themes.

Each basic and high-contrast theme comprises a group of settings that specifies fonts and sizes of certain interface elements, as well as colors. In the sample window of the **Window Color And Appearance** dialog box, click the screen element you want to change. Then use the lists and buttons at the bottom of the dialog box to make your color, font, and size selections. For title bars, you can specify two colors; Windows creates a gradient from **Color 1** (at the left end of the title bar) to **Color 2** (at the right end). The **Item** list includes some items that don't appear in the sample window, so you might want to review it in its entirety before you move on.

The **Color** button for each item opens a selection of standard colors. If you don't see the one you're looking for, click the **Other** button. Windows then displays a **Color** dialog box. Should you fail to find exactly the color you want in the **Basic Colors** palette, you can define your own custom colors. Change the color that appears in the **Color** box, either by adjusting the positions of the hue/saturation crosshair and the luminosity arrow or by specifying

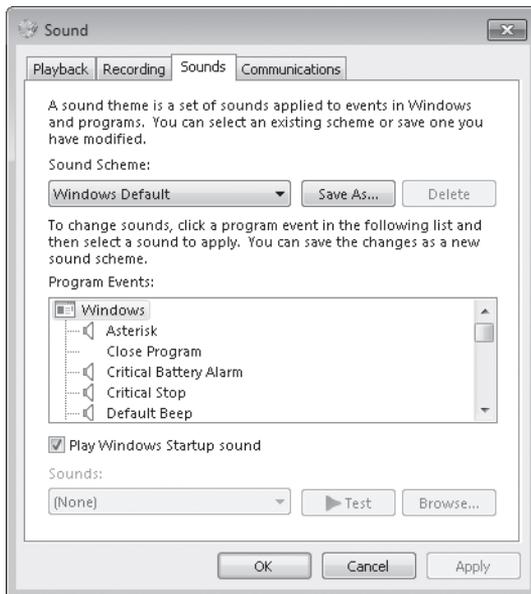
numeric values. When you have found the color you want, click Add To Custom Colors. If you want to replace an existing custom color, select it before you specify your new color.

CAUTION!

The Window Color And Appearance dialog box itself has a distinctly 20th-century appearance. The squared-off windows in its sample area betray its ancient heritage, and the text below the sample window gives fair warning. You won't find Undo or Default buttons anywhere. Experiment carefully and keep your own mental cookie trail. If you want to be absolutely sure you can find your way out of the woods, create a restore point before you proceed. (See "Configuring System Protection Options" on page 393.)

Selecting Sounds for Events

To specify the sounds that Windows plays as it goes through its paces, right-click the desktop, choose Personalize from the shortcut menu, and then click Sounds. In the Sound dialog box (shown below), you can select a predefined collection of beeps, gurgles, and chirps that Windows plays in response to various system and application events. Simply choose an item in the Sound Scheme list.



In the same dialog box, you can customize the sound schemes. To see what sounds are currently mapped to events, scroll through the Program Events list. If an event has a sound associated with it, its name is preceded by a speaker icon, and you can click Test to hear it.

To switch to a different sound, scroll through the Sounds list or click Browse. The list displays .wav files in %Windir%\Media, but any .wav file is eligible. To silence an event, select (None), the item at the top of the Sounds list.

If you rearrange the mapping of sounds to events, consider saving the new arrangement as a sound scheme. (Click Save As and supply a name.) That way, you can experiment further and still return to the saved configuration.

The Sound dialog box is also the place to silence the Windows Startup sound. Perhaps you've had this experience: You arrive a moment or two late for a meeting or class, discreetly turn on your computer at the end of the table or back of the room, and then cringe as your speakers trumpet your arrival. True, the Windows Startup sound is less raucous in Windows 7 than it was in Windows XP. But it's still a recognizable item, apt to cause annoyance in libraries, classrooms, concert halls, and other hushed venues. You can't substitute your own tune, but you can turn the startup sound off. In the Sound dialog box, clear the Play Windows Startup Sound check box.

INSIDE OUT **Mute your computer**

If you like event sounds in general but occasionally need complete silence from your computer, choose **No Sounds** in the Sound Scheme list when you want the machine to shut up. (Be sure to clear the **Play Windows Startup Sound** check box as well.) When sound is welcome again, you can return to the **Windows Default** scheme—or to any other scheme you have set up. Switching to the **No Sounds** scheme won't render your system mute (you'll still be able to play music when you want to hear it), but it will turn off the announcement of incoming mail and other events.

If you want to control sound levels on a more granular level—perhaps muting some applications altogether and adjusting volume levels on others—right-click the volume icon in the notification area and choose **Open Volume Mixer**. (Alternatively, click the icon and then click **Mixer**.) **Volume Mixer** provides a volume slider (and a mute button) for each output device and each running program that emits sounds.

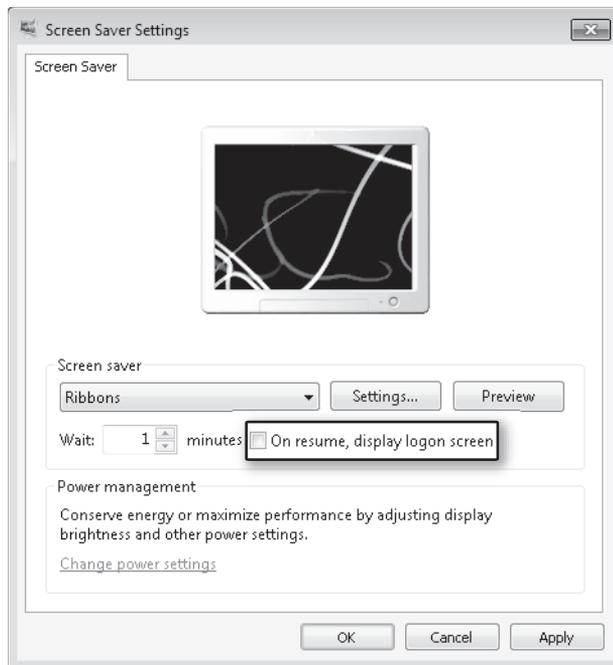
Choosing a Screen Saver

Screen savers don't save screens. (In long-gone days when screens were invariably CRTs and many offices displayed the same application at all hours of the working day, having an image move about during idle times probably did extend the service life of some displays.) And they certainly don't save energy. But they're fun to watch. To see the current offerings, right-click the desktop, choose **Personalize** from the shortcut menu, and then click **Screen Saver**.

Note

If you use a multimonitor setup, some of the screen savers supplied with Windows (specifically, 3D Text and Photos), unfortunately, “save” only the primary screen. The others go blank when the screen saver goes into action.

The Screen Saver Settings dialog box (shown below) includes a handy On Resume, Display Logon Screen check box. If you work in an environment where privacy is not a big concern, you can save yourself some hassle by clearing this check box. (Password entry might also be required when your computer wakes from sleep; for details, see “Customizing a Power Plan” on page 150.)



Customizing Mouse Pointers

As you have undoubtedly noticed, Windows has dispensed with the time-dishonored hourglass mouse pointer. That might be a welcome development, particularly if you’ve logged a lot of hours with earlier versions of Windows. On the other hand, if you think an hourglass depicts the passage of time more unambiguously than a rolling doughnut, you can easily bring back the old shape. You can customize the entire array of pointer shapes your system uses by right-clicking the desktop, choosing Personalize, and then clicking Change Mouse

Pointers (in the left pane of Personalization, shown in Figure 4-12). On the Pointers tab of the Mouse Properties dialog box, you can select a pointer type in the Customize box, and then click Browse to select an alternative pointer shape. (The Browse button takes you to %Windir%\Cursors and displays files with the extensions .cur and .ani. The latter are animated cursors.)

Just as Windows encapsulates a collection of sound choices as a sound scheme, it wraps up a gamut of pointer shapes as a mouse-pointer scheme. The system comes with a generous assortment of predefined schemes, making it easy for you to switch from one set of pointers to another as needs or whims suggest. Figure 4-14 shows the list.

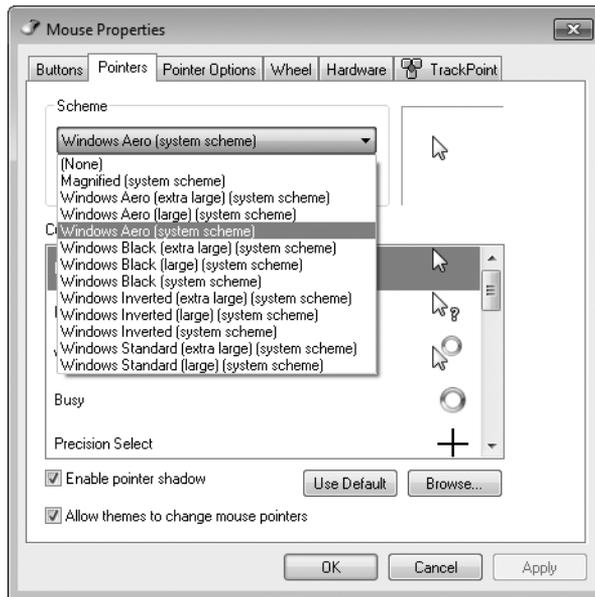


Figure 4-14 Some of the predefined mouse-pointer schemes are better suited for challenging light conditions than the default (Windows Aero) scheme.

If you sometimes use your portable computer in lighting conditions that make it hard for you to find the pointer, consider switching to one of the large or extra large schemes. If nothing else, those will give your eyeballs a larger target to pursue.

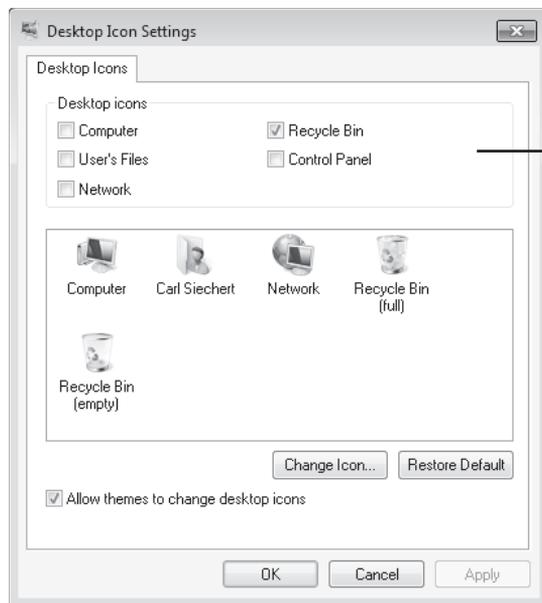
For something perhaps more novel than large or animated pointers, try one of the inverted schemes. These make your mouse pointer appear to pass behind the text on your screen, rather than in front of it. (It's an acquired taste.)

If you're inclined to roll your own mouse scheme (by using the Browse button to assign cursor files to pointer types), be sure to use the Save As command and give your work a name. That way you'll be able to switch away from it and back to it again at will.

It's worth taking a minute or two to explore the remaining tabs in the Mouse Properties dialog box. Some of the more useful options there are Button Configuration (on the Buttons tab), which lets you swap the roles of the left and right mouse buttons; Display Pointer Trails, in the Visibility section of the Pointer Options tab (this one makes the mouse cursor even easier to find in lousy lighting conditions); and Select A Pointer Speed, in the Motion section of the Pointer Options tab. This last option governs the rate at which the pointer travels in response to mouse movement. If you have switched to a high-DPI setting (see "Making Text Easier to Read" on page 143) and a higher-resolution display, you might also need to increase the pointer speed to accommodate the increased number of pixels on your screen.

Configuring Desktop Icons

A fresh, cleanly installed Windows 7 desktop (as opposed to one generated by an upgrade installation) includes a single lonely icon—Recycle Bin. If you want other system icons, right-click the desktop, choose Personalize, and click Change Desktop Icons (in the left pane). The Desktop Icon Settings dialog box, shown below, provides check boxes for five system folders—Computer, the root folder of your own profile (User's Files), Network, Recycle Bin, and Control Panel.



You can choose to display or hide any of these five system icons

If you're really into customization, you can change any of the five icons that appear in the large box in the center. Note that the Control Panel icon does not appear in this center box even if you select its check box; Windows doesn't provide a way to change it.

To change an icon, select it in the center box and click Change Icon. You'll find an interesting assortment of alternative icons in the file %Windir%\System32\Imageres.dll. (Be sure to use the horizontal scroll bar to see them all.) If none of those suit you, try browsing to %Windir%\System32\Shell32.dll.

Note

The icons you choose for system folders become part of a theme, if you save the configuration as described in the next section. However, other settings for desktop icons, including which ones you choose to display, their size, and their arrangement, are not saved in the theme file, allowing you to safely change themes without the risk of changing any of these customizations.

After you've populated your desktop with icons, you might want to control their arrangement. If you right-click the desktop, you'll find two commands at the top of the shortcut menu that will help in this endeavor. To make your icons rearrange themselves when you delete one of their brethren, click View and then click Auto Arrange Icons. To ensure that each icon keeps a respectable distance from each of its neighbors (and that the whole gang stays together at the left side of your screen), click View, Align Icons To Grid. And if your icons occasionally get in the way (for example, if you want to take an unimpeded look at the current desktop background image), click View, and then click Show Desktop Icons. (Return to this command when you want the icons back.)

INSIDE OUT Customize icon spacing and size

If you're really into desktop icons, you might find it worthwhile to move the ones you have closer together—so that you'll have room for more or to keep the current collection from completely overrunning the desktop. The most effective way we've found to do that is by adjusting the Icon size in the Window Color And Appearance dialog box for non-Aero themes. (In the Start menu search box, type **color**. Then click Change Window Colors And Metrics.) The Size setting for the Icon item, curiously enough, does not change the size of icons. (We explain how to change icon size in a moment.) The Size setting does change the icons' spacing, however. Reducing the value from the default 32 to 16 (the minimum) produces a compact icon display without sacrificing readability. You can also change the spacing, of course, with the Icon Spacing (Horizontal) and Icon Spacing (Vertical) items, which have a default value of 43.

To adjust the icon size, click the desktop, hold the Ctrl key, and then turn the mouse scroll wheel forward or back. This method produces a continuous zoom effect; if you want to get back to a standard size, right-click the desktop, click View, and select a size.

To change the sort order of your desktop icons, right-click the desktop and click Sort By. You can sort on any of four attributes: Name, Size, Item Type, or Date Modified. Sorting a second time on any of these attributes changes the sort order from ascending to descending (or vice versa).

Saving, Sharing, and Finding Theme Settings

If you've got all the visual and aural aspects of your profile set up just the way you want them, and you want to be able to experiment further but still return to the current settings, it's time to revisit Personalization (right-click the desktop and choose Personalize), shown earlier in Figure 4-12 on page 125. At the top of the themes list, in the My Themes category, you'll see Unsaved Theme if you have made changes to whatever theme was previously in effect. To make those changes reusable, click Save Theme and supply a name. (The name you furnish is the display name that appears in Personalization; you needn't follow restrictive file-naming rules that prohibit several common punctuation symbols.)

If you make additional changes, you'll once again generate an Unsaved Theme entry. There's no limit to the number of themes you can create. Windows saves each group of settings as a .theme file in your %LocalAppData%\Microsoft\Windows\Themes folder. (A .theme file is a standard text file that describes all the theme settings. For complete details about theme files, see "Creating and Installing Theme Files" at w7io.com/0402.) You can delete unwanted items from the My Themes list; simply right-click the item you no longer want and choose Delete Theme. Note that you can't delete the theme that's currently in use.

After you create a theme you like, you might want to use it on your other computers or share it with other users. Because a .theme file is just a text file, it doesn't contain the graphic images of your desktop, the sound files you use for various events, or other necessary files that make up the entire theme experience. For the purpose of sharing themes, Windows uses a .themepack file, which includes the .theme file as well as all other nonstandard theme elements. A .themepack file uses the standard compressed folder (.zip archive) format to envelop its component files. To create a .themepack file of an item in My Themes, first select it to make it the current theme. Then right-click it and choose Save Theme For Sharing. Unless you specify otherwise, Windows saves the .themepack file in the default save location of your Documents library.

To use a theme that was saved in .theme or .themepack format, simply double-click it. (Of course, a .theme file won't offer the full experience if the theme components aren't available on your computer in folders to which you have access.)

Because themes are so easily portable, you can find many compelling Windows 7 themes online. Start your quest by clicking Get More Themes Online (under My Themes in Personalization), where Microsoft offers a nice selection.

CAUTION!

If you search for themes elsewhere on the internet, be sure to download theme files only from people or companies you know and trust. Some theme elements (most notably, screen savers, which include executable program code) have long been notorious vectors for viruses and spyware. (A study released in 2009 by the security software vendor McAfee found “screen savers” to be the web’s most dangerous search term, because the results pages often lead to malware downloads. As Windows 7 gains in popularity, searches for “free themes” are likely to produce risky results too. You can read the study at w7io.com/0403.) Also, other types of malware could be disguised as a theme pack. (That is, you think that by double-clicking a file you’re installing a theme, but you could in fact be installing a nefarious program instead.)

Configuring Your Display

The previous sections about themes and desktop backgrounds describe how to put eye-pleasing elements on your screen. Another important personalization step is to properly configure your display hardware for your purposes and preferences, which is the subject of the following sections.

Configuring Screen Resolution

Changing the screen resolution changes the number of pixels that Windows displays on your screen. Increasing the resolution—say, from 1024 by 768 to 1600 by 1200—lets you see more action on your display: more windows, more text, larger graphics, and so on—with various tradeoffs. Text at a given point size will appear smaller at higher resolutions. A mouse at a given pointer speed will require more arm and wrist motion to traverse a high-resolution screen than a low-resolution one. And higher resolutions use more video memory. In short, the right resolution for you depends on your hardware, your preferences, and visual acuity.

To change the screen resolution, right-click the desktop and choose Screen Resolution. To make a change, click Resolution and drag the slider up or down. (See Figure 4-15.)

Note

A change in screen resolution affects all accounts at a particular computer, not just the account that makes the change.

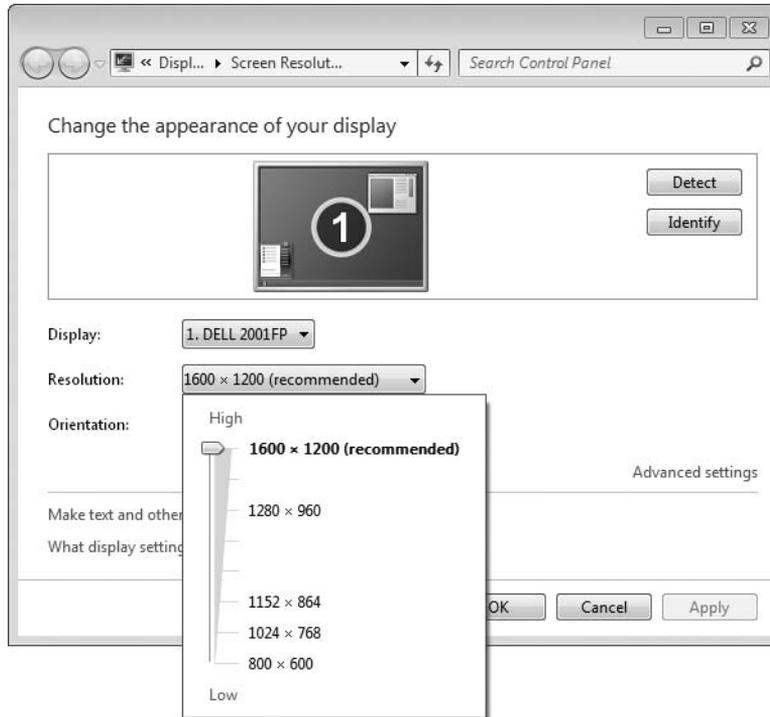


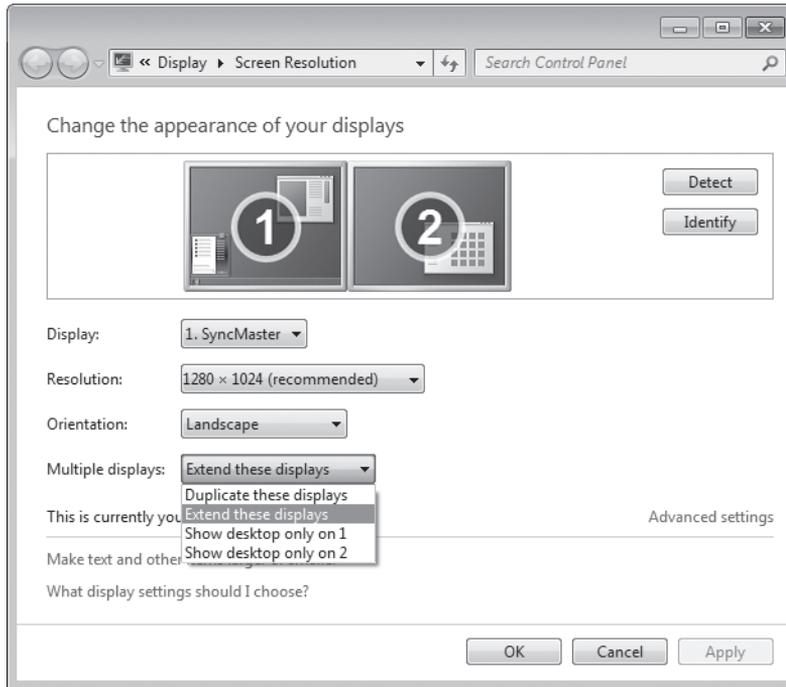
Figure 4-15 Click Advanced Settings to adjust the color depth or examine the drivers for the display adapter and monitor.

Configuring a Multimonitor Display

Extending your desktop across two or more monitors can be a great way to increase your productivity. You can do your main work on one screen and keep auxiliary information, e-mail, or even Windows Media Player open and visible on the second. Or if you work with large spreadsheets or database tables, you can spread them across multiple screens so that you can see more data without having to set your resolution to stratospheric levels.

If your display adapter supports two monitors (these days, most do), the Screen Resolution dialog box shows two boxes, labeled 1 and 2, when you have a second monitor connected. (Of course, if you have more than two monitors attached, Windows displays a numbered box for each one.) You can click these boxes to configure the monitors independently. If adjusting the settings for monitor 1 appears to be affecting what you consider to be monitor 2, click Identify. Windows displays large white numerals on your screen temporarily to let you know which screen is which. If it happens that screen 2 is on the left of screen 1, drag the boxes in Screen Resolution so that they match the physical layout of your monitors.

Assuming you want to add screen space to your visual layout, be sure to select **Extend These Displays in Multiple Displays**. If you prefer to have your second monitor function as a duplicate display (for example, to make a presentation easier for a group of clients to see), select **Duplicate These Displays**.



Some third-party programs exist to enhance your multimonitor experience. For example, with DisplayFusion from Binary Fortress Software (w7io.com/0408), you can put a different desktop background on each monitor or have a single image span multiple monitors.

INSIDE OUT Change multimonitor options with a keyboard shortcut

Windows logo key+P, the keyboard shortcut for switching to a network projector, also provides a quick and easy way to switch among multimonitor display arrangements.



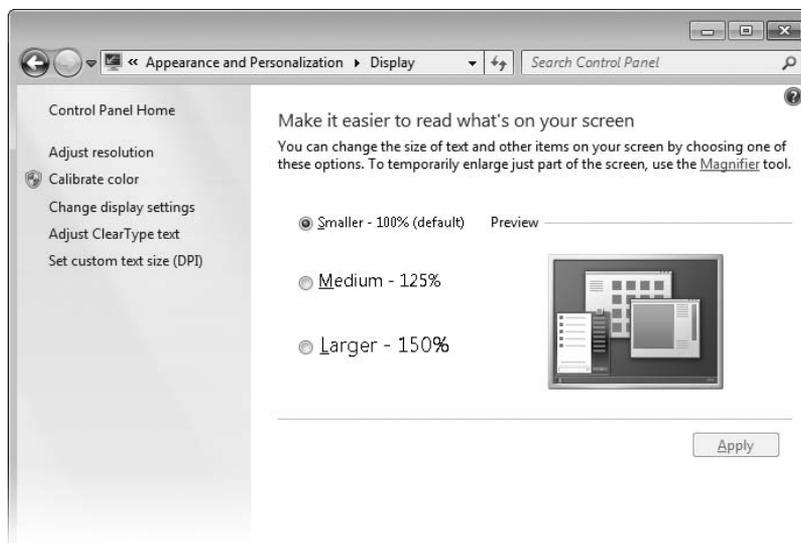
Making Text Easier to Read

In earlier versions of Windows, users who wanted larger text sometimes bumped up the point size for one or more screen elements. Scaling up this way was problematic, though, because not all elements of the Windows user interface could be scaled successfully. Dialog box text in particular was a problem, so users sometimes found themselves looking at large title bars and scroll bars and large menu text, but small dialog-box text. Windows 7 offers a better way.

If you like to work at high screen resolutions but you find yourself straining to read the text, you can try the following:

- Look for scaling (“zoom”) commands in the text-centric programs you use. Many programs, including most modern word processors, include these scaling features. Scaling text up to a readable size this way is a good solution for particular programs but doesn’t change the size of icon text, system menus (such as the Start menu), or system dialog boxes.
- To enlarge part of the screen, use the Magnifier tool. (For more information, see “Adjusting Ease of Access Options” on page 153.)
- Use the scaling options in the Display control panel—the “better way” offered by Windows 7. Adjusting the scaling to a higher level enables you to have readable text at higher screen resolutions.

To adjust display scaling, right-click the desktop and choose Personalize. In Personalization, click Display, a link in the left pane. (Alternatively, type **display** in the Start menu search box and click Display.) Select one of the options shown below.



For a greater range of settings, as well as greater precision, click Set Custom Text Size (DPI). (DPI stands for *dots per inch*.) Figure 4-16 shows the Custom DPI Setting dialog box.

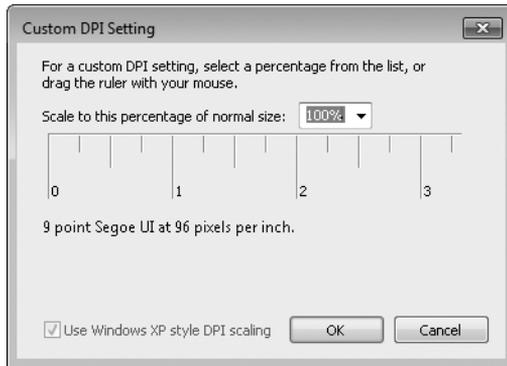


Figure 4-16 You can set the scaling from 100% to 500% of normal (96 DPI).

To change the scaling factor, drag any part of the ruler. Alternatively, you can either select a value in the Scale To This Percentage Of Normal Size list or type directly into this box. What scaling factor is right? It depends on many things—the size and resolution of your screen, the programs you use, your eyes, and your preferences. You will likely need to try more than one combination of screen resolution and scaling factor to get your system exactly the way that works best for you.

The Use Windows XP Style DPI Scaling check box offers a measure of compatibility for (mostly older) applications that are not written to use high DPI settings. Some compromise is required: when selected, some elements (dialog box text or icons, for example) might not align or resize properly, whereas clearing this option causes blurry text in some applications. By default, for DPI settings of 120% or below, the option is selected; for larger sizes it is cleared.

When you change DPI scaling, you must log off before the change takes effect. After you log on again, test some text-centric applications to see if you like the result. If you don't, return to the Display dialog box and try another setting.

TROUBLESHOOTING

Some programs produce fuzzy text

If you're running Aero and have applied a nondefault font scaling factor, some of your older programs might produce fuzzy text. Newer DPI-aware programs get information about the current scaling factor from the operating system and adjust themselves accordingly. Older applications that were not designed with DPI scaling in mind assume they are running under the default scale of 96 DPI, and the operating system scales them. A side effect of this is that fonts and icons can sometimes appear fuzzy. If you find a particular program's display unsatisfactory, right-click its entry in the Start menu, choose Properties from the shortcut menu, and click the Compatibility tab. In the Settings section, select Disable Display Scaling On High DPI Settings.

Using Font Smoothing to Make Text Easier on the Eyes

ClearType is a font-smoothing technology that reduces jagged edges of characters, thus easing eye strain. Although it is optimized for LCD (flat panel) displays, ClearType is turned on by default on all systems, regardless of display type. Microsoft believes that ClearType improves readability on both cathode-ray tube (CRT) and LCD displays, but if you're a CRT user you should probably try turning ClearType off to see which works better for you. (You can also turn font-smoothing off altogether by clearing the Smooth Edges Of Screen Fonts check box on the Visual Effects tab of Performance Options, but it's hard to imagine any benefit from doing so.)

To check or change your font-smoothing settings, type **cleartype** in the Start menu search box and click Adjust ClearType Text. Doing so opens ClearType Text Tuner, which, in its first screen, has a check box that turns ClearType on when selected. The ensuing screens that appear each time you click Next offer optometrist-style choices ("Which is better, number 1 or number 2?") to help you reach ClearType perfection.

Windows includes seven new fonts that are optimized for ClearType. The names of six of these—Constantia, Cambria, Corbel, Calibri, Candara, and Consolas—begin with the letter *c*—just to help cement the connection with ClearType. If you're particularly prone to eye fatigue, you might want to consider favoring these fonts in documents you create. (Constantia and Cambria are serif fonts, considered particularly suitable for longer documents and reports. The other four are sans serif fonts, good for headlines and advertising.) The seventh ClearType-optimized font, Segoe UI, is the typeface used for text elements

throughout the Windows user interface. (Windows also includes a ClearType-optimized font called Meiryo that's designed to improve the readability of horizontally arrayed Asian languages.)

For information about how ClearType works, visit Microsoft's ClearType site, at w7io.com/0404.

Calibrating Your Display's Colors

To get the most accurate rendition of images and colors on your screen, you should calibrate it. You've probably noticed, but perhaps not fiddled with, the buttons on your monitor that control various display settings. A new tool included with Windows 7, Display Color Calibration, helps you to calibrate your screen using your monitor's display controls as well as various Windows settings. With Display Color Calibration, you set gamma, brightness, contrast, color balance, and other settings, all of which are explained in the on-screen descriptions.

To run Display Color Calibration, in the Start menu search box, type **display** and then click Calibrate Display Color. (Even easier, type **dccw**, the name of the executable file for Display Color Calibration, and press Enter.) Calibrate Color is also an option in the Display control panel. No matter how you start it, Display Color Calibration opens a full-screen application that leads you through the steps of adjusting your display by making settings and adjusting monitor controls until the images displayed at each step look their best.

Using and Customizing Desktop Gadgets

One of the most conspicuous new features in Windows Vista was Windows Sidebar, a repository for miniprograms (called *gadgets*) that can amuse, inform, and distract you all day long. Windows 7 continues to support gadgets, but they're no longer constrained to the sidebar along one edge of your screen; they can be scattered anywhere on your desktop.

You can easily add or remove gadgets whenever you feel the need for something new on your computer screen. The gadget gallery that comes with Windows includes about a dozen offerings but has a handy link to a much larger online gallery.

To add a gadget to your desktop, right-click the desktop and choose Gadgets to summon the gadget gallery.



For clues about what a gadget might do, select it and click Show Details. To install a gadget, you can either drag it to the desktop or right-click it and choose Add. After you have installed a gadget, you'll probably want to prod it with your mouse (try both buttons, and click on various parts) to see what tricks it knows and what options it offers. Each gadget is different, but they're all designed to make their features discoverable. Many gadgets sprout a wrench icon when you point to them; click it to make settings and customizations. Some gadgets (Weather, for example) include a Make Smaller or Make Larger icon, which changes the amount of information the gadget displays.



Many gadgets rely on online updates (weather and stocks, for example). When you don't have an internet connection, these gadgets show information from the last online update and include a time stamp at the bottom that shows how old the data is.

To remove a gadget, click the Close button. Gadgets that you close remain in the gallery for easy recovery; if you want to remove a gadget from your computer, open the gadget gallery, right-click the gadget, and choose Uninstall. If you'd rather hide your gadgets temporarily without removing them, right-click the desktop and choose View, Show Desktop Gadgets to remove the check mark and hide your gadgetry.

To get to the online gadget site, click Get More Gadgets Online, in the bottom right corner of the gadget gallery. If you download a gadget from this site, it takes up residence in the gallery, so you can easily close it and reopen it whenever you want. The search box in the gadget gallery is also a list. By opening the list, you can filter the gallery to show recently installed gadgets or gadgets from particular publishers.

INSIDE OUT

Display desktop gadgets with a single keystroke

Bring all your gadgets to the foreground at any time by pressing Windows logo key+G. If you want to view just your gadgets without the clutter of other open windows, press Windows logo key+D. (Press it again to restore the windows.)

Setting Power and Sleep Options

Do power settings really make a difference? In a word, yes. You can not only achieve greater battery life on a portable computer with the appropriate settings, but you can save considerable amounts of energy on desktop computers. The green effect of reducing power consumption can be significant, whether you interpret “green” to mean saving dollars or saving the environment. Microsoft has published a white paper that describes the changes in Windows 7 power management and helps you to assess the energy savings, financial savings, and environmental savings of proper power management; download it from w7io.com/0405. You can calculate your own savings using the Energy Star Computer Power Management Savings Calculator, a Microsoft Office Excel spreadsheet you can download at w7io.com/0406.

INSIDE OUT

Diagnose energy efficiency and sleep problems

Windows 7 includes a command-line tool called Powercfg that can analyze your system for common energy efficiency and battery life problems. The tool is used primarily by hardware manufacturers and device driver developers, but it can provide useful information for end users. To use it, close all applications, and then open a Command Prompt window (in the Start menu search box, type **cmd** and press Enter). At the command prompt, type **powercfg -energy**. After the program finishes running and the command prompt returns, type **energy-report.html**, and a diagnostic report opens in your web browser.

The report can also tell you what is preventing a computer from sleeping (or waking) as it should. This problem can be caused by a driver, application, or service that doesn't respond properly to sleep notifications. Drivers and applications that have been certified for Windows 7 have been tested not to block sleep.

Selecting a Power Plan

Power management in Windows 7 is significantly different from power management in Windows XP, both in its user interface and in its under-the-hood operation. Windows provides three predefined power plans, and some computer manufacturers include additional predefined plans. To select a power plan, open Power Options (in the Start menu search box, type **power** and click Power Options), shown in Figure 4-17.

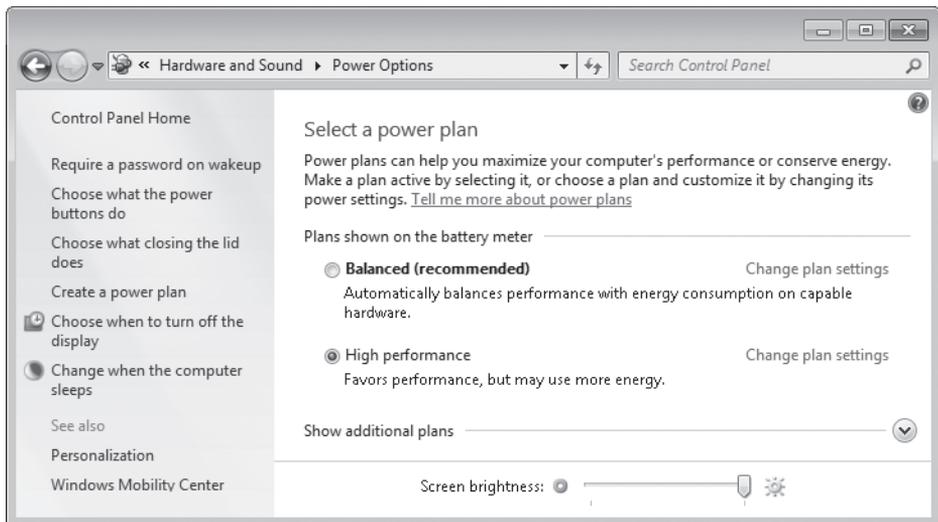
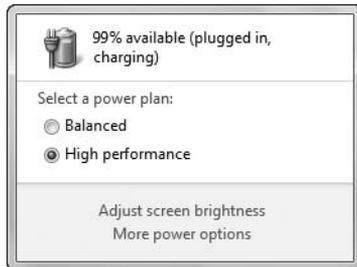


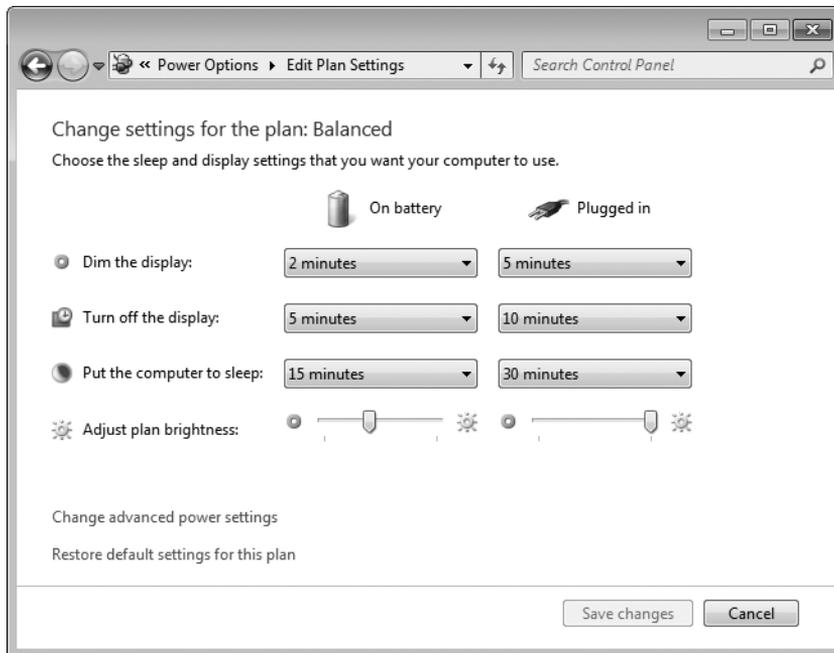
Figure 4-17 Use the Create A Power Plan link in the left pane to add to the list of ready-made power schemes. Click Change Plan Settings to adjust individual options for a plan.

On a portable computer, there's an easier way to switch plans: click the Power icon in the notification area and make your selection.



Customizing a Power Plan

To customize the current power plan, click one of the links in the left pane of Power Options, or click Change Plan Settings next to the name of any plan. As you dig into Power Options, you'll discover a wealth of useful settings, especially on notebook computers, where you can make adjustments that are different based on whether a system is running on batteries or on AC power.



You can do additional fine-tuning by clicking Change Advanced Power Settings in the window shown above.

Note

If you've made changes to a predefined power plan, you can restore its default settings by clicking Change Plan Settings and then clicking Restore Default Settings For This Plan. Not sure what those default settings are? The United States Environmental Protection Agency will tell you; visit w7io.com/0407.

Understanding Sleep States

When you click Choose What The Power Buttons Do (in the left pane of Power Options), you'll see that for each power switch, you can specify Do Nothing, Sleep, Hibernate, or Shut Down. What do these terms mean?

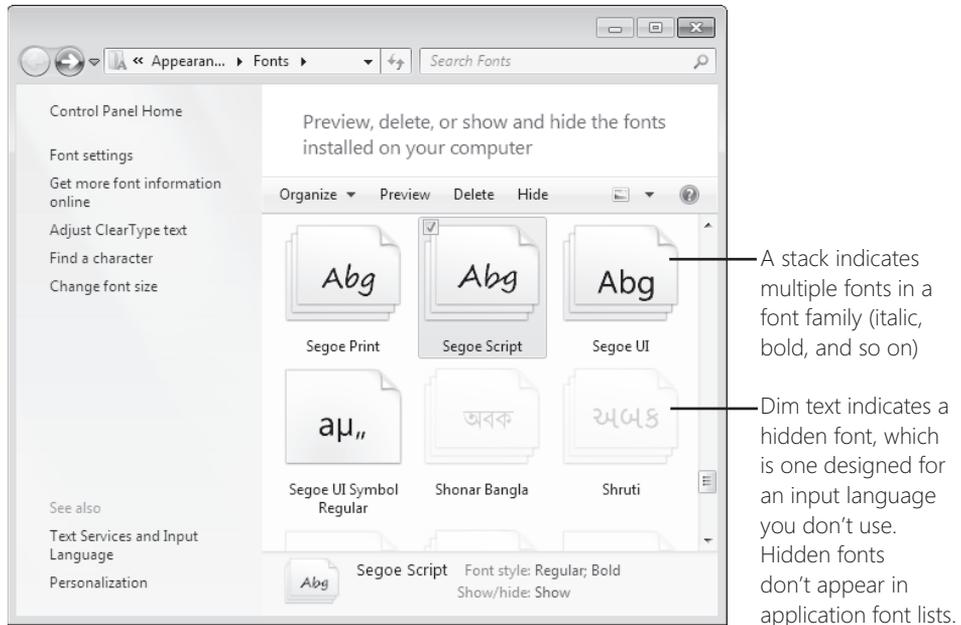
- Do Nothing disables the switch.
- Sleep switches to a low-power sleep state that allows quick resumption.
- Hibernate copies an image of memory to the hard disk and powers off the computer, enabling you to return to where you left off.
- Shut Down performs an orderly shutdown of Windows and switches off the power.

By default, when you choose Sleep, Windows 7 uses *hybrid sleep*, which combines the benefits of the low-power sleep state (the system uses just enough power to keep everything in volatile memory, ready to resume quickly) and hibernation (saves the contents of memory to a hard disk so that nothing is lost if power is shut off or the battery drains completely).

Working with Fonts

The days when your choice of fonts ended just beyond Arial and Times New Roman are long gone; if you include all the language variants and style variants (bold, italic, and so on), Windows 7 comes with hundreds of fonts. Something else that is gone (and won't be missed): the Add Fonts dialog box, which has been in every version of Windows virtually unchanged since Windows 3.1.

The headquarters for font management is Fonts in Control Panel, which is shown next. From this list of fonts, you can select a font (or a font family, which appears as a stack) and then click Preview to open a window that shows the font's characters in sizes ranging from 12 point to 72 point. (A *point* is a printer's measurement that is still used in modern digital typography. There are 72 points to an inch.)



The primary font format used by Windows is OpenType, which is a format jointly developed by Microsoft and Adobe as an extension of Apple's TrueType format. Windows also supports TrueType fonts and PostScript Type 1 fonts. To install a new font, you can drag its file from a folder or compressed .zip archive to Fonts in Control Panel. But it's not necessary to open Fonts; the simplest way to install a font is to right-click its file in Windows Explorer and choose Install. Because font file names are often somewhat cryptic, you might want to double-click the file, which opens the font preview window, to see what you're getting. If it's a font you want, click the Install button.

CAUTION!

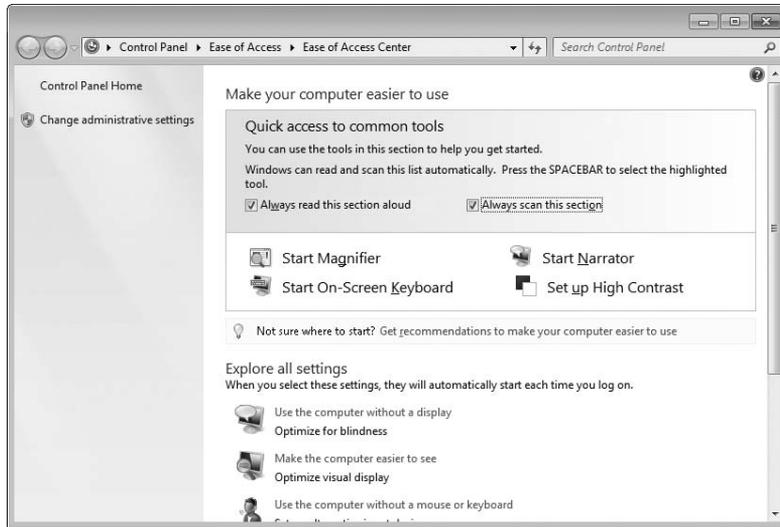
Download and install fonts only from people or companies you know and trust.

Note

PostScript Type 1 fonts normally comprise two or three files. The one you use to install the font—regardless of which method you use—is the .pfm file, whose file type is shown in Windows Explorer as Type 1 Font File.

Adjusting Ease of Access Options

The Windows family has had a longstanding commitment to making computing accessible and easier to use for persons with vision, hearing, or mobility impairments. Windows 7 groups these options into the Ease Of Access Center, which you can find in Control Panel or by using its keyboard shortcut, Windows logo key+U.

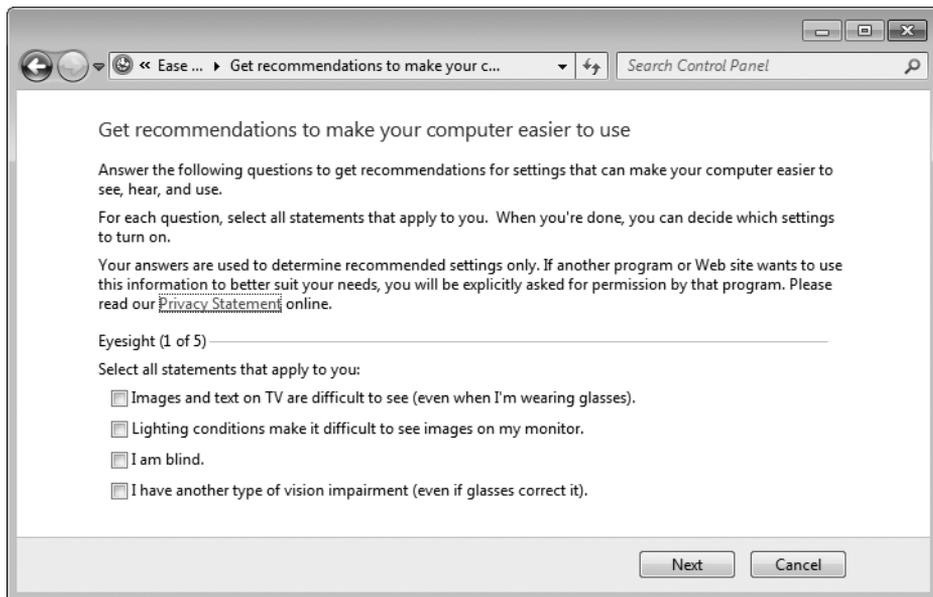


The Ease Of Access Center provides a prominent link to each of the following tools, which can be used alone or in combination:

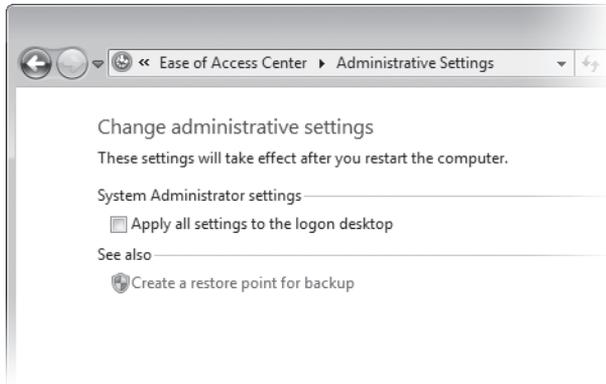
- **Magnifier** This tool enlarges part of the screen, making it easier for persons with vision impairments to see objects and read text. (You can also launch Magnifier with a keyboard shortcut: Press Windows logo key+plus sign to launch it and zoom in. Press again to zoom in more, or press Windows logo key+minus sign to zoom out.)
- **Narrator** This tool converts on-screen text to speech and sends it to your computer's speakers. This option allows people who are blind or have severe vision impairments to use Windows.
- **On-Screen Keyboard** This tool provides an alternate means for Windows users with impaired mobility to enter text using a pointing device. Options that appear when you click Options let you control how On-Screen Keyboard works—you can choose whether to select a letter by clicking, for example, or by allowing the pointer to pause over a key for a specific amount of time.

- **High Contrast** This tool uses a high-contrast color scheme (by default, white text on a black background) that makes it easier for visually impaired users to read the screen.

Many more tools—including Windows stalwarts Mouse Keys (uses the numeric keypad to control the mouse pointer), Sticky Keys (lets you press key combinations one key at a time), and Filter Keys (ignores repeated keystrokes)—are available through links at the bottom of the Ease Of Access Center. However, the easiest way to configure your computer for adaptive needs in one fell swoop is to click Get Recommendations To Make Your Computer Easier To Use, a link near the center of the page. The link launches a wizard, shown below, which walks you through the process of configuring accessibility options.



If you want accessibility options to be available at all times, even before logging on to the computer, click the Change Administrative Settings link in the left pane. This option (shown next) applies any changes you make to the logon desktop. If you choose not to enable this option, you can still turn accessibility features on or off at the logon screen; click the small blue Ease Of Access icon in the lower left corner of the logon screen to display a list of available settings, and then press the Spacebar to enable each one.



Windows 7 offers another useful accessibility tool in speech input. For details, see “Using Speech Recognition and Voice Commands” on page 938.

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