

Paul McFedries

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# Microsoft® Windows® Home Server 2011

**UNLEASHED**



**SAMS**

Paul McFedries

# Microsoft® Windows® Home Server 2011

**UNLEASHED**

Third Edition

**SAMS**

800 East 96th Street, Indianapolis, Indiana 46240 USA

## Microsoft® Windows® Home Server 2011 Unleashed, Third Edition

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# About the Author

**Paul McFedries** is a Windows expert and full-time technical writer. He has been authoring computer books since 1991 and has more than 70 books to his credit, which combined have sold more than four million copies worldwide. His recent titles include the Sams Publishing book *Windows 7 Unleashed* and the Que Publishing books *Networking with Microsoft Windows Vista* and *Tweak It and Freak It: A Killer Guide to Making Windows Run Your Way*. Paul is also the proprietor of Word Spy ([www.wordspy.com](http://www.wordspy.com)), a website devoted to lexpionage, the sleuthing of new words and phrases that have entered the English language. Please drop by Paul's website at [www.mcfedries.com](http://www.mcfedries.com), or follow Paul on Twitter at [twitter.com/paulmcf](https://twitter.com/paulmcf) and [twitter.com/wordspy](https://twitter.com/wordspy).

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# Dedication

*For Karen*

## Acknowledgments

*That's why editors and publishers will never be obsolete: a reader wants someone with taste and authority to point them in the direction of the good stuff, and to keep the awful stuff away from their door.*

—Walter J. Williams

Windows Home Server, like all versions of Windows, is loaded with good stuff, but it also comes with its share of awful stuff, too. One of the goals of *Microsoft Windows Home Server 2011 Unleashed* is to help you find the good portions of Windows Home Server and avoid the bad bits. I was helped tremendously in this by the editors at Sams, who not only bring terrific technical know-how to their jobs, but who can also spot chaff in a field of written wheat and aren't shy about separating the two. The result of all their efforts is a book that I think reads better, flows more logically, and has the best content possible.

My name may be the only one that adorns the cover, but tons of people had a big hand in creating what you now hold in your hands. You'll find a list of all the people who worked on this book near the front, but there are a few I'd like to thank personally:

**Rick Kughen:** Rick is the acquisitions editor for this book, and he was kind enough to electronically tap me on the shoulder and ask if I wanted to tackle this project. I immediately said yes (I've got to learn to be more coy about these things), and I'm glad I did because I had a blast writing this book.

**Mark Reddin:** Mark is the book's development editor, so it's his job to ensure that everything about the book makes sense: He ensures that the book covers every topic that it should cover—no more, no less; he ensures that the chapters are organized in a natural and sensible sequence; and he ensures that each chapter presents its information in a way that makes it easy for you to digest the material. Mark also has the rare and wonderful skill of asking the perfect question at the ideal time. If, while you're reading this book,

you think of a question and I answer it in the next paragraph, that's probably because Mark thought of it, too, and asked me to include a response in the book.

**Betsy Harris:** Betsy is the project editor, which means she's responsible for helping the book out of its relatively casual editorial clothes and into its more formal production duds. Coordinating the work of multiple editors, graphic artists, the production team, and, of course, the always fretful author is not easy. And to pull all that off with competence, aplomb, and a sense of humor, as Betsy did with this book, is a rare and remarkable feat.

**Karen Gill:** The job of copy editor requires a remarkable range of skills: a saint-like patience, an obsessive attention to detail, a prodigious memory, and the ability to hold your nose and type at the same time (when you come across a technical writer whose talents lie more toward the technical end of the authorial spectrum). Karen possesses all those skills in abundance, and this book became much better thanks to her editorial ministrations.

**Tim Barrett:** As the book's technical editor, it was Tim's job to double-check my facts, try out my techniques, and implement my tips and tricks. This is a crucial step in the editing process because it ensures that you get a book that's accurate, easy to follow, and won't lead you astray. Tim's patience in the face of this daunting work and his unparalleled Windows knowledge make him a tremendous asset and a joy to work with. Any book he tackles becomes better thanks to his helpful suggestions and tactful corrections. This book was no exception.

Thanks to all of you for another outstanding effort. And, of course, I'd be remiss if I didn't thank you, dear reader, for purchasing this book and letting me be your guide to unleashing Windows Home Server.

Paul McFedries  
February 2011

# We Want to Hear from You!

As the reader of this book, *you* are our most important critic and commentator. We value your opinion and want to know what we're doing right, what we could do better, what areas you'd like to see us publish in, and any other words of wisdom you're willing to pass our way.

As an associate publisher for Que Publishing, I welcome your comments. You can email or write me directly to let me know what you did or didn't like about this book—as well as what we can do to make our books better.

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When you write, please be sure to include this book's title and author as well as your name, email address, and phone number. I will carefully review your comments and share them with the author and editors who worked on the book.

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# Introduction

When you think of the word *server*, you probably first imagine either a massive main-frame hulking behind locked doors in the bowels of some large corporation or a powerful and expensive desktop-like device full of esoteric hardware that helps it—and perhaps a few others like it—run the network of a medium-sized company. The common thread here is that we’ve always thought of servers as *business* machines. With the exception of a few hardcore geeks and technical writers (not that the two designations are mutually exclusive), having a server in your home seemed, well, *excessive*. What home needs the power of a server? What home can afford the expense of such a high-end device?

But then a funny thing happened: times changed. All those one-computer households suddenly became two-, three-, and even four-computer households. Broadband became nearly ubiquitous, and of course every family member wanted a piece of the new pipe. We began digitizing our media en masse; we wanted to share that media with other members of the family and with other devices scattered around the house, and we discovered wireless computing and became addicted to working and playing anywhere we wanted. The result has been an explosion of home networks over the past few years.

However, it didn’t take long for amateur network administrators to learn something that their professional counterparts have known for many years: the larger the network, the more you need some device in the middle of it all to coordinate activities and offer a central repository for data. And our home networks have started to become quite large, with multiple computers, multiple devices such as wireless access points and network attached storage drives, and increasingly massive files, from multiple-megabyte digital audio files to multi-gigabyte digital video files. Suddenly we, too, needed a powerful machine in the middle of it all to keep things humming.

It helped significantly that extremely powerful computers had become extremely inexpensive, but one big problem remained: A server computer needs a server operating system (OS). Unfortunately, the only choices here simply weren’t reasonable or practical choices for the home: the powerful but expensive Windows Server 2008 or the various flavors of Linux, all of which are far too complex and arcane for the average home network.

However, the last piece of the puzzle fell into place when Microsoft announced Windows Home Server to the world in January 2007. Now we all had access to a server OS that was designed specifically for home networks. We had access to a server OS that was easy to configure, simple to use, inexpensive, and could run on a variety of hardware. We had a server OS that not only did the usual server tasks—store data and manage users—but also went much further with automatic backups for every computer, streaming media, and easy-to-configure access to any desktop from the network or from the Internet.

Welcome, then, to *Microsoft Windows Home Server 2011 Unleashed*, Third Edition. My goal in this book is to take you beyond the basic Windows Home Server Dashboard interface

and into the tremendously powerful behind-the-scenes features that enable you to get the most out of your investment without requiring an advanced networking degree.

This book also covers the new and changed features in Windows Home Server 2011, including the following:

- ▶ Windows Home Server Dashboard
- ▶ Windows Home Server Launchpad
- ▶ Windows Home Server Alert Viewer
- ▶ Improved add-in installation
- ▶ Remote Web Access
- ▶ Remote Web Access page customization
- ▶ Remote Web Access mobile browser features
- ▶ Improved router setup
- ▶ Using Remote Web Access with a custom domain name
- ▶ Easier home PC backup and restore
- ▶ Scheduling server backups

## Who Should Read This Book?

For a book like this, it doesn't make much sense to have a "typical reader" in mind when writing. First, there's just no such thing as a typical reader, so you'd be writing for an audience of none. Second, home networks are as varied and unique as the families who use them. There are simple two-computer homes; there are large one-computer-per-person households; there are families who qualify as media powerhouses who create, share, and play audio and video incessantly; there's the home-office crowd who use their network for work as well as play; and finally there's the Alpha Geek family with one person who's juiced not so much about Windows Home Server itself, but about getting his hands on the powerful Windows Server 2008 engine that comes with it.

In this book, I've tried to keep all these different families and situations in mind, and there's lots of content here for everyone. As a general rule, this book is for anyone who wants more from Windows Home Server. If you want to learn more about how Windows Home Server works, if you want to get more out of the unique features in Windows Home Server, and if you want to know how to use the powerful but hidden server features that are also part of the Windows Home Server package, this book is most definitely for you.

## How This Book Is Organized

To give you a sense of the overall structure of the book, the next few sections offer a brief summary of the five main parts of the book.

## **Part I: Unleashing Windows Home Server Configuration**

The five chapters in Part I show you how to get everything configured and connected so that you can start to take full advantage of what Windows Home Server has to offer. You learn how to set up Windows Home Server for networking and how to troubleshoot basic network woes (Chapter 1). You learn how to set up and manage user accounts (Chapter 2) and how to add various computer types—Windows 7, Vista, and XP, as well as Mac and Linux—and various devices—including Windows Mobile and Xbox 360—to the Windows Home Server network (Chapter 3). You learn how to configure various Windows Home Server settings, including the computer name, the password, and various startup options (Chapter 4), and delve deep into the new Windows Home Server storage system to learn how the system works; how to add, repair, and remove storage; and more (Chapter 5).

## **Part II: Unleashing Windows Home Server Networking**

Part II is the biggest section of the book, with nine chapters focused on various aspects of networking with Windows Home Server. You learn how to share files and folders (Chapter 6); connect to other computers, both over the network and over the Internet (Chapter 7); stream and share digital image, audio, and video (Chapter 8); use Windows Home Server's computer backup and restore features (Chapter 9); monitor your network (Chapter 10); and implement network security (Chapter 11). I close this section with three chapters that take you well beyond Windows Home Server's core capabilities: Chapter 12 shows you how to use the built-in web server to create powerful and flexible websites; Chapter 13 shows you how to download, install, configure, and use Windows SharePoint Services to run collaborative sites for your family; and Chapter 14 shows you how to implement the Windows Server Update Services to remotely patch your home computers.

## **Part III: Unleashing Windows Home Server Performance and Maintenance**

Part III takes you into some of the features of Windows Home Server that are less glamorous but still crucially important: performance tuning (Chapter 15), system maintenance (Chapter 16), and problem troubleshooting (Chapter 17).

## **Part IV: Unleashing Windows Home Server Advanced Tools**

The four chapters in Part IV take your Windows Home Server knowledge to a higher level with in-depth looks at some advanced tools and features. You learn how to use the Windows Home Server Registry (Chapter 18); how to use the command-line tools (Chapter 19); how to use power tools such as the Control Panel, the Local Group Policy Editor, and the Computer Management snap-ins (Chapter 20); and how to create Windows Home Server scripts, including scripts that control the incredibly powerful Windows Management Instrumentation (WMI) interface (Chapter 21).

## Part V: Appendixes

To round out your Windows Home Server education, Part V presents a few appendixes that contain extra goodies. You'll find a glossary of Windows Home Server terms (Appendix A), a complete list of Windows Home Server shortcut keys (Appendix B), and a list of online resources for Windows Home Server (Appendix C).

## Conventions Used in This Book

To make your life easier, this book includes various features and conventions that can help you get the most out of this book and out of Windows Home Server:

Steps	Throughout the book, I've broken many Windows Home Server tasks into easy-to-follow step-by-step procedures.
Things you type	Whenever I suggest that you type something, what you type appears in a <b>bold monospace</b> font.
Filenames, folder names, and code	These things appear in a monospace font.
Commands	Commands and their syntax use the monospace font as well. Command placeholders (which stand for what you actually type) appear in an <i>italic monospace</i> font.
Pull-down menu commands	I use the following style for all application menu commands: <i>Menu, Command</i> , where <i>Menu</i> is the name of the menu that you pull down and <i>Command</i> is the name of the command you select. Here's an example: File, Open. This means that you pull down the File menu and select the Open command.
Code-continuation character	When a line of code is too long to fit on only one line of this book, it is broken at a convenient place and continued to the next line. The continuation of the line is preceded by a code continuation character (➤). You should type a line of code that has this character as one long line without breaking it.

This book also uses the following boxes to draw your attention to important (or merely interesting) information.

**NOTE**

The Note box presents asides that give you more information about the current topic. These tidbits provide extra insights that offer a better understanding of the task.

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**TIP**

The Tip box tells you about Windows Home Server methods that are easier, faster, or more efficient than the standard methods.

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**CAUTION**

The all-important Caution box tells you about potential accidents waiting to happen. There are always ways to mess up things when you're working with computers. These boxes help you avoid those traps and pitfalls.

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## CHAPTER 8

# Streaming and Sharing Digital Media

Windows Home Server comes with support for Windows Media Connect, which is software that streams digital media from (in this case) the server to programs and devices that support Windows Media Connect. Supported programs include digital media players such as Windows Media Player and devices such as the Xbox 360 and Kodak Wireless Digital Picture Frame. The latter two are examples of *digital media receivers* (DMRs), or devices that can access a media stream being sent over a wired or wireless network connection and then play that stream through connected equipment such as speakers, audio receivers, or a TV. In Windows Home Server 2011, the server now supports Microsoft's Play To functionality, which enables the server to act as a *digital media server* (DMS).

Note, too, that Windows Media Connect uses standard protocols—specifically Hypertext Transfer Protocol (HTTP) and Universal Plug and Play (UPnP)—so, theoretically, any device that supports these protocols should also be able to receive Windows Home Server media streams. (Most UPnP devices have options to disable and enable UPnP, or “network control” as it’s sometimes called. Access the device settings, and make sure that UPnP is enabled.)

Windows Home Server offers four media streams: music, pictures, recorded TV, and videos. This chapter shows you how to get your devices ready for streaming and how to activate streaming via Windows Home Server. You also learn nonstreaming techniques for sharing photos, music, and videos via Windows Home Server.

### IN THIS CHAPTER

- ▶ Streaming Digital Media
- ▶ Sharing Photos
- ▶ Sharing Music
- ▶ Sharing Videos



## Streaming Digital Media

The ability to stream music over the network is one of Windows Home Server's most attractive features. Yes, you can activate the Media Streaming feature in Windows Media Player 12 (or the Media Sharing feature in Windows Media Player 11) and share your library over the network, but that sharing is limited to the media on your computer. Throw Windows Home Server's centralized storage into the mix, and you suddenly have a much wider variety of media to stream.

If you're in the market for a new DMR device, make sure it's a certified Digital Living Network Alliance (DLNA) device, because Windows Home Server 2011 now supports DLNA out of the box. This means that a DLNA-compatible device—it could be a Blu-ray player, a TV, a digital picture frame, or an Xbox 360 in Windows Media Center mode—will automatically find your server and stream content from it. If it's a Wi-Fi device, make sure it supports 802.11n for maximum wireless bandwidth.

### CAUTION

Before purchasing a DMR, check the device's wireless capabilities. Some older and less expensive devices can only connect to wireless networks that use Wired Equivalent Privacy (WEP) security. However, WEP has been superseded by Wi-Fi Protected Access (WPA), which is much more secure than WEP. If you use WPA or WPA2 (a more secure version of WPA) on your wireless network (as you should), make sure any DMR you purchase either supports WPA out of the box or can be updated to support WPA with a firmware upgrade.

## Getting Your Devices Ready

Getting a device ready to receive and play streaming media is a fairly straightforward affair that usually encompasses just the following steps:

1. Get the device ready for networking:
  - ▶ If the device is physically near a network router or switch, run a network cable from the device to the router or switch.
  - ▶ If you need to use a wireless connection, check to see if the device has built-in wireless (at least 802.11b) support. Many devices—including the Xbox 360—require separate wireless components to be plugged in to the device.
2. Turn on the device.
3. If you're using a wireless connection, set up the device to connect to your wireless network.
  - ▶ **SEE** Chapter 3, "Adding Devices to the Windows Home Server Network."
4. Use audio or video cables to connect the device to the appropriate output equipment, such as powered speakers, a receiver, a display, or a TV set.

After you have the device on the network, you should see an icon for it in Windows 7's Network folder, or Windows Vista's Network window. For example, Figure 8.1 shows a Network window with two media devices: an Xbox 360 and a Roku SoundBridge.

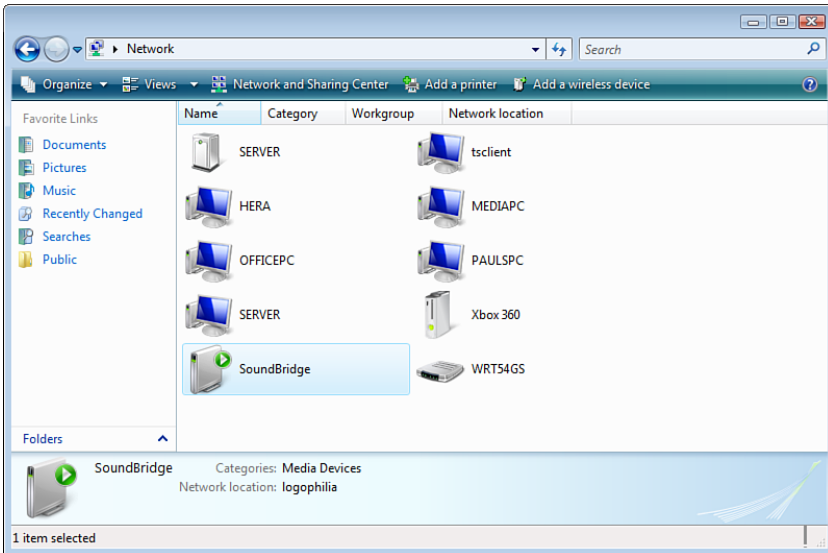


FIGURE 8.1 Devices that support Windows Media Connect should also appear in the Network window.

### TIP

Whatever device you use, it's always a good idea to install the latest firmware to ensure that you're using the most up-to-date version of the device interface. See the device documentation to learn how to upgrade the firmware.

### NOTE

You can also see many digital media devices in Windows XP with Service Pack 2 or later. Select Start, My Network Places, and then click the Show Icons for Networked UPnP Devices link in the Network Tasks section. (XP may install support for this feature at this point.) The devices appear in My Network Places in a new Local Network group.

Note, too, that some devices offer a link to their built-in control and settings pages. Right-click the device icon, and look for the View Device Webpage command. For example, Figure 8.2 shows the pages that appear for the Roku SoundBridge device.

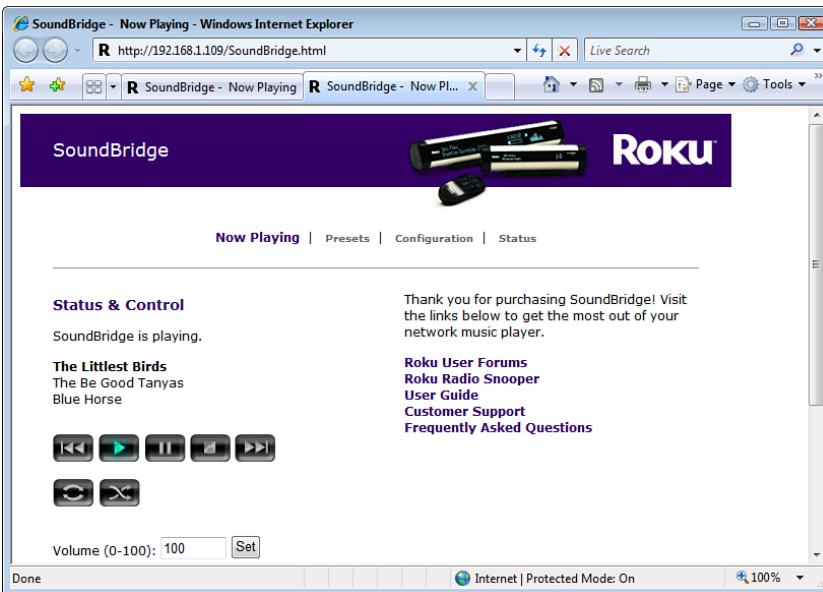


FIGURE 8.2 Right-click a device icon, and then click View Device Webpage to open the control and settings pages for the device.

### TIP

If you don't see the View Device Webpage command, you can also try opening the device directly in a web browser. Find the device's IP address (right-click the device icon and then click Properties) and then enter **http://address** in the web browser (where *address* is the device's IP address).

## Activating the Windows Home Server Media Server

The next step in getting media streaming up and running in Windows Home Server is to enable the server's built-in media server, and then enable Media Library Sharing for some or all of the shared media folders. You can stream any of the shared folders, but the four media folders are the most common: Music, Pictures, Recorded TV, and Videos. Before getting to the specifics, here are some notes to bear in mind:

- ▶ Media Library Sharing doesn't work with most copy-protected media, because generally you can only play that media on the computer or device that you used to purchase the media in the first place. You're still free to place copies of such media on the Windows Home Server shares, but you can only use the purchase device to play back the media stream.
- ▶ Media Library Sharing isn't related to sharing the files themselves through `\\server` and the Windows Home Server user accounts. With the latter, you can assign permissions such as Full Access or Read Only to tailor the access that a specific user

has to the folder contents. When you enable Media Library Sharing on a folder, however, *any* program or device that supports DLNA or Windows Media Connect can access the library and play the media it contains.

- ▶ As a consequence of the previous point, note that Media Library Sharing overrides any user restrictions that you've placed on a media folder. Even if the folder access level that you've assigned to a particular user is No Access, after you enable Media Library Sharing for that folder, the user can stream the folder contents to a DLNA or Windows Media Connect media player on his computer. If you have media in a folder that you don't want others to stream, you must move the files into a folder that doesn't have Media Library Sharing activated.

### CAUTION

A further consequence to the open nature of Media Library Sharing is that any computer or device that can access your network can also stream the media. Therefore, if your wireless network is not secured, anyone within range of the network has access to your streamed media. If you don't want this, secure your wireless network.

Here are the steps to follow to stream some or all of the Windows Home Server shared media folders:

1. Log on to the Windows Home Server Dashboard.
2. Click Server Settings to open the Server Settings dialog box.
3. Click the Media tab.
4. If the media server is currently off, click Turn On to activate it.
5. In the Video Streaming Quality section, use the list to select the streaming video level: Low, Medium, High, or Best.

### TIP

The higher the video streaming quality, the better the playback, but the greater the burden it puts on the server's processor. How do you know which level to choose? That's a bit tricky, because it depends on the horsepower of your server's processor. Microsoft's guidelines are, oddly, based on the processor score that you see in the Windows Experience Index, which is part of Windows 7 and Vista, but *not* Windows Home Server! Your best bet is to search the Web for processor scores for your server's processor. If you find it, choose low for a score less than 3.6; Medium for a score between 3.6 and 4.1; High for a score between 4.2 and 5.9; or Best for a score of 6.0 or better.

6. In the Media Library section, click Customize to open the Customize Media Library dialog box.
7. Select Yes for each media folder you want to stream, as shown in Figure 8.3.

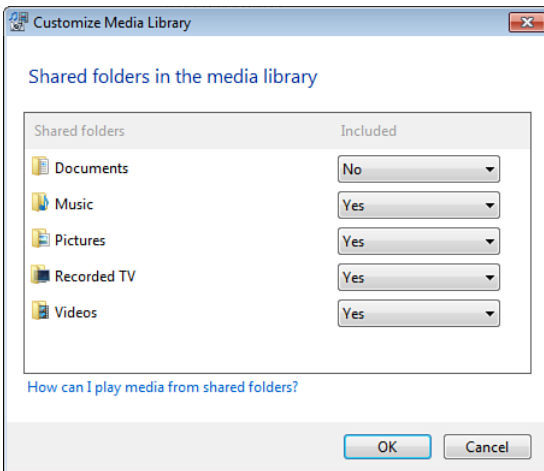


FIGURE 8.3 In the Customize Media Library dialog box, select Yes for each media share you want to stream over the network.

8. Click OK, and then click OK again. Windows Home Server immediately starts sharing the selected media folders.

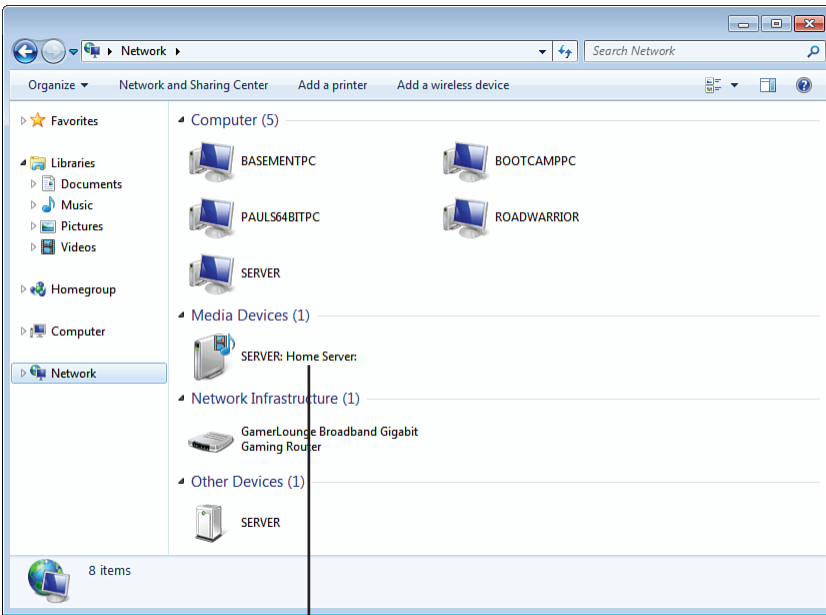
When you turn on media streaming, Windows Home Server activates a new media server “device,” which appears in the list of network devices, as shown in Figure 8.4.

## Playing Streamed Media in Windows Media Player

After you activate Media Library Sharing on a Windows Home Server share, Windows Media Player (which supports DLNA in version 12 and Windows Media Connect in versions 11 and later) immediately recognizes the new streams and adds them to its library.

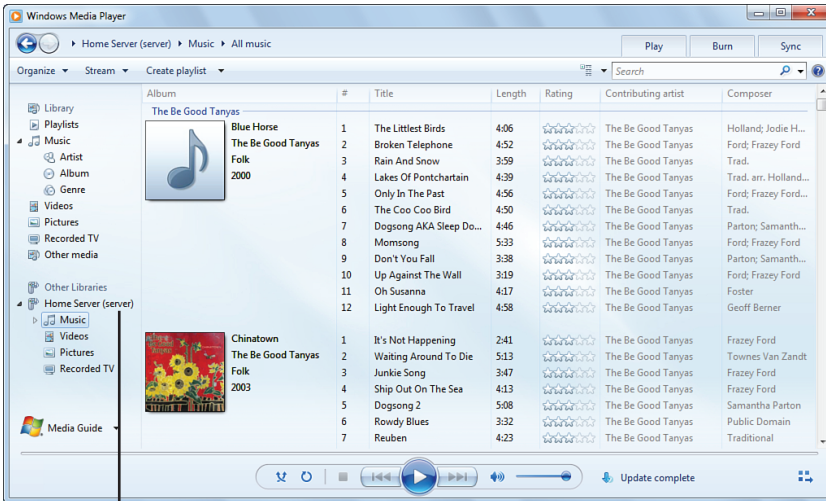
To play the streamed media, follow these steps:

1. Select Start, All Programs, Windows Media Player (or click the Windows Media Player icon in the taskbar).
2. In Media Player 11, click the Library tab.
3. In Media Player 11, pull down the Library menu and select a media category: Music, Pictures, or Video.
4. In the Navigation pane, click the Windows Home Server shared media library, the name of which in Media Player 12 always takes the following form (where *server* is the name of the Windows Home Server computer; see Figure 8.5. In Media Player 11, the library name is Home Server on server):  
Home Server (*server*)
5. Use the library properties (such as Artist and Album in the Music category) to open the media you want to view.
6. Play the media.



The media server device

FIGURE 8.4 When you turn on media streaming, the server’s media server device appears in the list of network devices.



Windows Home Server shared media library

FIGURE 8.5 Windows Media Player automatically adds the shared Windows Home Server media libraries to its own library.

This all works fine, but it's a bit cumbersome to have to deal with multiple libraries. Fortunately, if you're running Windows Home Server 2011 and you have Windows 7 on the client PC, the whole multiple library setup is a thing of the past. That's because Windows Home Server 2011 supports Windows 7's libraries, which are virtual folders that can gather content from multiple folders, including (crucially for our purposes here) network shares. When you install the Windows Home Server Connector on your Windows 7 PC, the program automatically adds the server shares to the appropriate Windows 7 libraries. For example, the server's Music folder gets added to Windows 7's Music library (see Figure 8.6), and the Pictures share appears in the Pictures library.

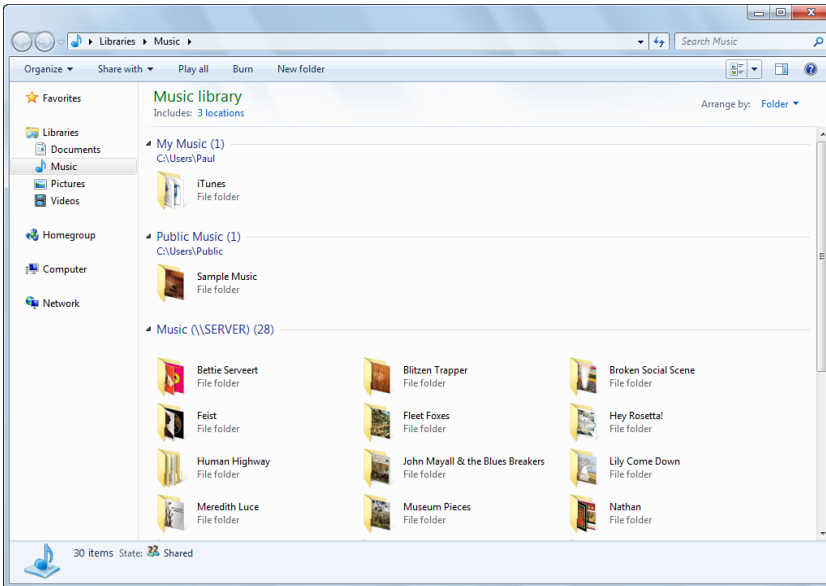


FIGURE 8.6 When you install Windows Home Server Connector on a Windows 7 PC, the server's shares are added automatically to the Windows 7 libraries.

Not only does this give you an easy way to access the server's shares, it means that Windows Media Center automatically adds the media files to its own library, because the program automatically scours the Music, Pictures, and Videos libraries for media content. In Figure 8.7, for example, I've opened the Artist genre of the Music section of the Media Center library. Because this machine stores no music of its own, all the artists shown are located in Windows Home Server's Music share.

## Playing Streamed Media in Windows Media Center

As with Windows Media Player, Windows Media Center (another DLNA and Media Connect application) automatically recognizes Windows Home Server's shared media libraries and sets them up in the Media Center interface.

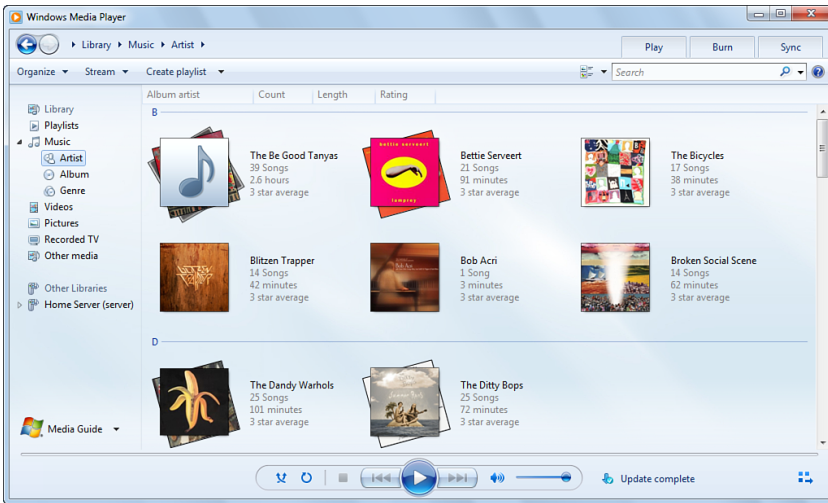


FIGURE 8.7 On a Windows 7 PC, Media Center automatically loads the Windows Home Server media shares into the library for easier access.

## NOTE

For some reason, Media Center takes quite a bit longer to add all the Windows Home Server media to its libraries. Whereas Media Player usually populates its libraries with Windows Home Server media within a few minutes (depending on how much media exists on the shares), Media Center can take considerably longer, even a few hours.

To play the streamed media, follow these steps:

1. Select Start, All Programs, Windows Media Center.
2. Select a media library:
  - ▶ For Windows Home Server music, select Music, Music Library.
  - ▶ For Windows Home Server photos, select Pictures + Videos, Picture Library.
  - ▶ For Windows Home Server TV recordings, select Home Server, TV Archive.
  - ▶ For Windows Home Server videos, select Pictures + Videos, Video Library.
3. Use the Media Center interface to open and play the media you want.

## Streaming Digital Media Over the Internet

One of the awesome new features in Windows Home Server 2011 is the capability to stream media—photos *and* videos—over the Internet. This happens through the Remote Web Access feature, and a special Silverlight plug-in renders high-quality video to the remote device. It's a sweet setup, but it does require three things:



- ▶ A fast Internet connection (DSL or cable)
- ▶ Remote Web Access turned on and set up with a domain name
- ▶ Silverlight installed on the client's web browser

## NOTE

Windows Home Server 2011 also includes welcome support for a range of video formats, including the following: 3GP, AAC, AVCHD, MPEG-4, WMV, and WMA, as well as most AVI, DivX, MOV, and Xvid files. As I write this, Windows Home Server 2011 doesn't support MPEG2 and AC3, but Microsoft has promised that these codecs will be supported when Windows Home Server 2011 is officially released. Note, too, that if a device doesn't have the proper codec to play back a video, the server will transcode the stream to different formats (and different resolutions, if necessary) on the fly to make the stream playable on the device.

To try this out, open the remote computer's web browser, navigate to your Remote Web Access domain name, and then log in. In the Remote Web Access Home page, use the Media Library section to select the media type you want to stream:

- ▶ **Browse Pictures**—Click this item to open the Pictures library, which shows thumbnail images of all the files in the server's Pictures share. Click Play Slideshow or double-click an image to view it (see Figure 8.8).

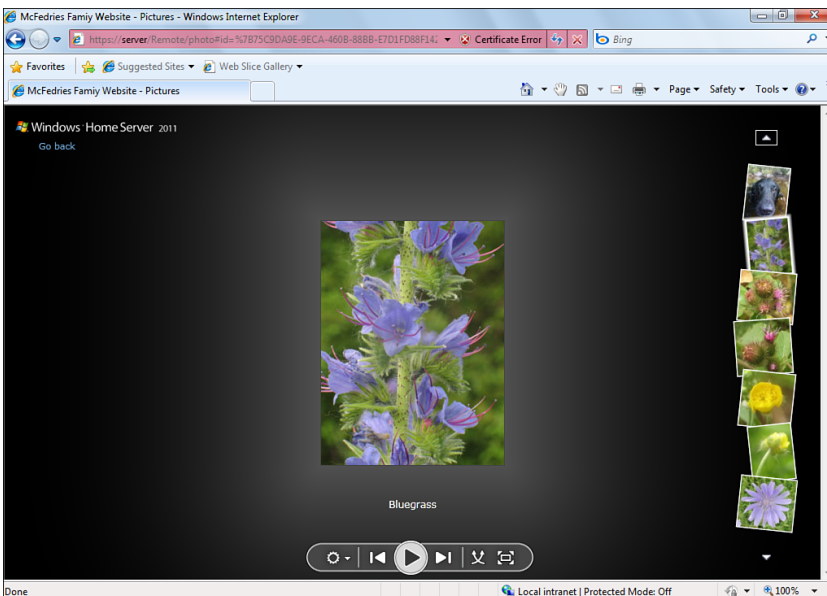


FIGURE 8.8 Open a picture to view it, and click Play to start the slide show.

- ▶ **Music**—Click this item to open the Music library, which shows thumbnail images of all the albums in the server's Music share. You can use the View menu to choose a different library view, such as Artists or Genre. Double-click an album (or whatever) to play it. Windows Home Server opens a separate window with the playback controls, as shown in Figure 8.9.

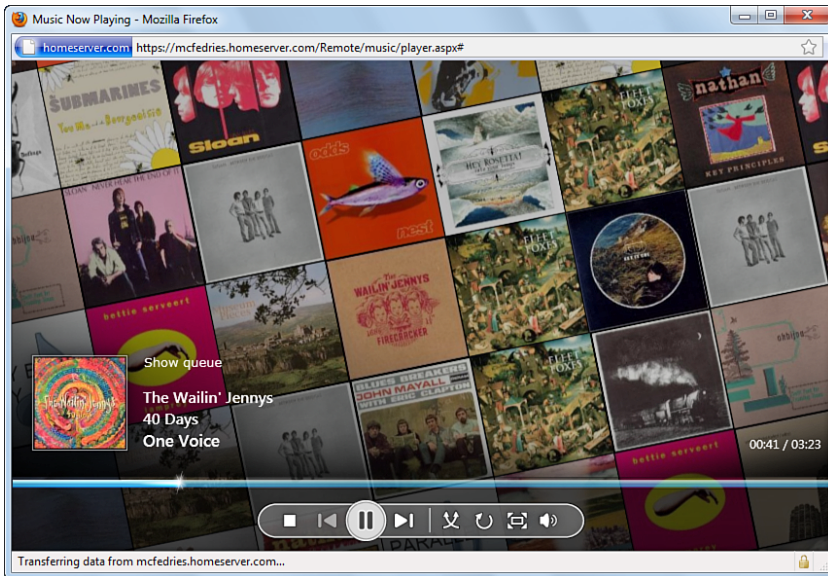


FIGURE 8.9 Double-click a music item to open this separate playback window, which includes the playback controls.

- ▶ **Videos**—Click this item to open the Videos library, which shows thumbnail images of all the items in the server's Videos share. Click a video to play it. Windows Home Server opens a separate window with the playback controls.

## Sharing Photos

Whether or not you activate Media Library Sharing for Windows Home Server's Pictures folder, you can still use this share as the central repository for some or even all of your family's photos. The next few sections take you through a few techniques that should make the shared Pictures folder easier to work with.

### Customizing the Pictures Share with a Template

When you access your user account's Pictures library (in Windows 7), Pictures folder (in Windows Vista), or My Pictures folder (in Windows XP), you see a few features that aren't part of the regular folder view, as follows:

- ▶ You get access to image-related file metadata, such as the date an image was taken and the image dimensions.

- ▶ In Windows 7 and Windows Vista, the task pane includes extra commands such as Slide Show and E-Mail.
- ▶ In Windows XP, the task pane includes a Picture Tasks group with links such as View as a Slide Show, Order Prints Online, and Print Pictures.

These extra features come from a special template that Windows applies to this type of folder. However, when you access the Windows Home Server Pictures share, Vista and XP treat it just like any other folder. (In Windows 7, if you access the Pictures share through the Pictures library, you get the extra image-related features; if you access the share via the Network folder, you don't see those features.) If you want access to the extras that you see in the local Pictures (or My Pictures in XP) folder, follow these steps to customize the Pictures share to use a picture folder template:

1. Open the folder containing the Windows Home Server shares.
2. Right-click the Pictures folder, and then click Properties to open the folder's property sheet.
3. Display the Customize tab.
4. In the list, select the template you want to apply:
  - ▶ **Picture and Videos**—(Windows Vista) Choose this template to give the folder the same features as Vista's Pictures folder.
  - ▶ **Pictures**—(Windows 7 and Windows XP) Choose this template to give the folder the same features as Windows 7's Pictures library or XP's My Pictures folder.
  - ▶ **Photo Album**—(Windows XP only) Choose this template to give the folder the same features as XP's My Pictures folder and display the folder in Filmstrip view by default.
5. If you want Windows to apply this template to all the subfolders in the Pictures share, click to activate the Also Apply This Template to All Subfolders check box.
6. (Windows XP only) If you also want to change the image used for the folder icon, click Choose Picture, choose a new picture in the Browse dialog box, and then click Open.
7. Click OK.

## Using Server Pictures as a Screensaver Slideshow

In the old days (a few years ago) when everyone was still using CRT monitors, you had to be careful to avoid *burn-in*, which is permanent damage to areas of the screen caused by continuously displaying a particular image over a long period. Whatever the image—it could be a menu bar, the Windows taskbar, or an application toolbar—if it was onscreen long enough, it eventually became a permanent part of the screen as a ghostly reflection of the original.

Now that most of us are using LCD monitors, burn-in is a thing of the past, but that doesn't mean that continuously displayed images are no longer a worry. LCDs suffer from

a similar problem called *persistence*, in which a long-displayed image persists onscreen as a faint version of the original. Fortunately, LCD persistence is usually temporary and can often be remedied just by turning off the monitor for a while (say, half an hour or so). However, persistence does become permanent on occasion, so further preventative measures are necessary.

The best of these measures is configuring a screensaver to kick in after an extended period of computer idleness. Windows 7, Vista, and XP come with built-in screensavers, but you can also set up a screensaver that displays a slideshow of images from a folder. If you have lots of pictures stored on Windows Home Server's Pictures share, this folder is perfect for a screensaver. Here are the steps to follow to set this up:

1. Use one of the following methods to display the Screen Saver tab:
  - ▶ In Windows 7 and Windows Vista, right-click the desktop, click Personalize, and then click Screen Saver. (Alternatively, select Start, Control Panel, Appearance and Personalization, Change Screen Saver.)
  - ▶ In Windows XP, right-click the desktop, click Properties, and then display the Screen Saver tab. (Alternatively, select Start, Control Panel, Display, Screen Saver.)
2. In the Screen Saver list, select Photos (in Windows 7 or Vista) or My Pictures Slideshow (in XP).
3. Click Settings.
4. Click Browse, use the Browse for Folder dialog box to select the \\SERVER\Pictures folder, and then click OK.
5. Configure any other screensaver options you want to use (such as the slide show speed), and then click Save (in Windows 7 or Vista) or OK (in XP).
6. Click OK to put the new screensaver into effect.

## Adding the Pictures Folder to Windows Media Player

If you're not streaming the Pictures share, you can still add it to Windows Media Player so that you can access it in the Pictures portion of the Media Player library. Note, however, that you don't have to bother with this in Windows 7 if you have the Windows Home Server Connector software installed, because the Connector automatically adds the \\SERVER\Pictures share to Windows 7's Pictures library.

Here are the steps to follow in Windows Media Player 11:

1. Select Start, All Programs, Windows Media Player.
2. Pull down the Library menu and select Add to Library. Media Player displays the Add to Library dialog box.
3. If you don't see the Monitored Folders list, click Advanced Options to expand the dialog box.
4. Click Add to display the Add Folder list.

5. Select Windows Home Server's Pictures share, and then click OK. Media Player adds the folder to the Monitored Folders list.
6. Click OK. Media Player begins adding the contents of the Pictures share to the library.
7. Click Close. (Note that you don't have to wait until Media Player has added all the pictures to the library; the process continues in the background, although it might take a bit longer than if you had left the dialog box open.)

To view the folder contents in Media Player, pull down the Library menu and select Pictures. In the Navigation pane, click Library, and then double-click the Folder view. You then see an icon for `\\SERVER\Pictures`, as shown in Figure 8.10. Double-click that icon to view the images.

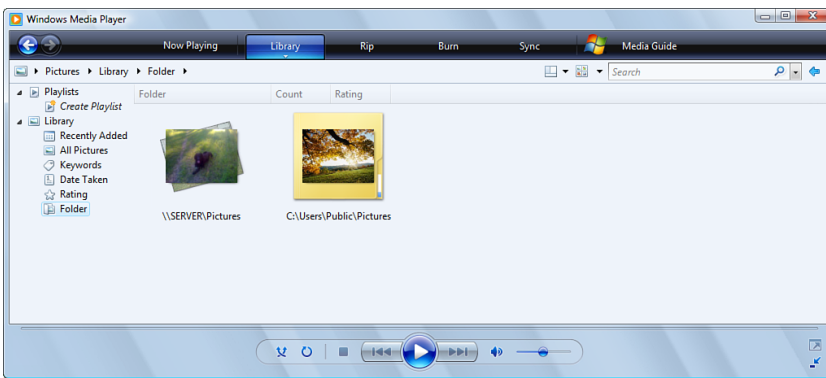


FIGURE 8.10 Double-click `\\SERVER\Pictures` to view the contents of the Pictures share in Media Player 11.

## Adding the Pictures Folder to Windows Live Photo Gallery

By default, Windows Live Photo Gallery includes the contents of your Windows 7 Pictures library. If you want to use the extensive Photo Gallery tools—fixing image problems, burning images to DVD, ordering prints online, and so on—with your server images, you need to add the Windows Home Server Pictures share to the program's Folders list. Here are the steps to follow:

1. Select Start, All Programs, Windows Live Photo Gallery.
2. Select File, Include a Folder. The Picture Library Locations dialog box appears.
3. Click Add to open the Include Folder in Pictures dialog box.
4. Select Windows Home Server's Pictures share. (In Windows 7, you can add the share either via your user account's Pictures library or via the network.)
5. Click Include Folder. Photo Gallery adds the folder to the library.
6. Click OK.

To view the folder contents in Windows Live Photo Gallery, click Pictures in the Folders pane, as shown in Figure 8.11.

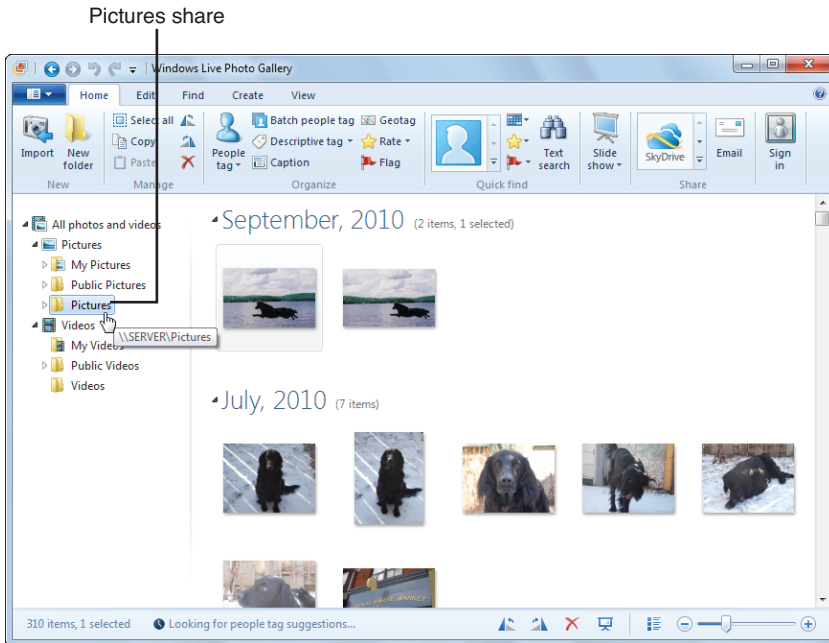


FIGURE 8.11 Click Pictures to view the contents of the Pictures share in Windows Live Photo Gallery.

## Adding the Pictures Folder to Windows Photo Gallery

By default, Vista's Windows Photo Gallery program includes your user account's Pictures and Videos folders, as well as the Public Pictures and Public Videos folders. To add the Windows Home Server Pictures share to the program's Folders list, follow these steps:

1. Select Start, All Programs, Windows Photo Gallery.
2. Select File, Add Folder to Gallery. The Add Folder to Gallery dialog box appears.
3. Select Windows Home Server's Pictures share.
4. Click OK. Photo Gallery asks you to confirm that you want to add the folder.
5. Click Add. Photo Gallery confirms that it has added the folder.
6. Click OK.

## Running a Slide Show from the Pictures Share

You saw earlier that you can configure a screensaver-based slide show that uses Windows Home Server's Pictures share as the image source. If you don't want to wait until the screensaver kicks in, you can run a slide show anytime you like. Windows 7, Vista, and XP give you several ways to run a slide show based on images from the Pictures share:

- ▶ If you added the Pictures share to Media Player (see "Adding the Pictures Folder to Windows Media Player," earlier), open the User 1 (*server*) branch, select Pictures, and then click Play.
- ▶ If you added the Pictures share to Windows Live Photo Gallery (see "Adding the Pictures Folder to Windows Live Photo Gallery," earlier), open Photo Gallery's Folders branch, select Pictures, and then click the Slide Show button. (You also can press F12 or Alt+S.)
- ▶ If you added the Pictures share to Photo Gallery (see the previous section "Adding the Pictures Folder to Windows Photo Gallery"), open Photo Gallery's Folders branch, select Pictures, and then click the Play Slide Show button. (You also can press F11.)
- ▶ If you applied a picture template to the Pictures share earlier (see "Customizing the Pictures Share with a Template"), open the share and either click Slide Show (in Windows 7 or Vista) or View as a Slide Show (XP).

## Changing the Default Picture Import Location to Windows Home Server

Both Windows Live Photo Gallery and Windows Photo Gallery come with a feature that enables you to import images from a digital camera or a document scanner. (Select File, Import from Camera or Scanner.) By default, the program imports the images to a subfolder in your user account's Pictures folder. If you prefer to import the images directly to Windows Home Server's Pictures share, follow these steps:

1. Select File, Options. The program's Options dialog box appears.
2. Select the Import tab.
3. Use the Settings For list to select the type of import you want to customize: Cameras, Video Cameras, or CDs and DVDs.
4. Click Browse to open the Browse for Folder dialog box.
5. Select Windows Home Server's Pictures share, and then click OK.
6. Repeat steps 3–5 to customize the other import types, if necessary.
7. Click OK to put the new options into effect.

## Sharing Music

When you think of the word *streaming*, you probably think about music, because it's the medium that's most closely associated with streaming and that's most easily streamed (because music files generally contain less information than, say, video files). However,

even if you don't activate Media Library Sharing for Windows Home Server's *Music* folder, you can still use this share to store your family's digital music files. To help make this easier, the next few sections show you some techniques for using and managing the *Music* share.

## Customizing the Music Share with a Template

Earlier you learned about the folder template that applies special features to the *Pictures* folder. There is also a template associated with the *Music* library (in Windows 7), the *Music* folder (in Windows Vista), and the *My Music* folder (in Windows XP). This template gives you a few features that aren't part of the standard folder view:

- ▶ You get access to music-related file metadata such as the *Artists*, *Album*, and *Genre*.
- ▶ In Windows 7 and Vista, the task pane includes extra commands such as *Play* and *Play All*.
- ▶ In Windows XP, the task pane includes a *Music Tasks* group with links such as *Play All*, *Play Selection*, and *Shop for Music Online*.

However, when you access the Windows Home Server *Music* folder, Vista and XP treat it like a regular folder. (In Windows 7, if you access the *Music* share through the *Music* library, you get the extra image-related features; if you access the share via the *Network* folder, you don't see those features.) If you want to see the extras that are part of the local *Music* (or *My Music*) folder, follow these steps to customize the *Music* share to use a music folder template:

1. Open the folder containing the Windows Home Server shares.
2. Right-click the *Music* folder, and then click *Properties* to open the folder's property sheet.
3. Display the *Customize* tab.
4. In the *Use This Folder as a Template* list, select the template you want to apply:
  - ▶ **Music Icons**—(Windows Vista) Choose this template to give the folder the same features as the *Music* folder. The folder opens in *Large Icons* view.
  - ▶ **Music Details**—(Windows Vista) Choose this template to give the folder the same features as the *Music* folder. The folder opens in *Details* view.
  - ▶ **Music**—(Windows 7 and Windows XP) Choose this template to give the folder the same features as the *My Music* folder.
  - ▶ **Music Artist**—(Windows XP) Choose this template for a folder that holds music by a single artist. This gives the folder the same features as the *My Music* folder and opens the folder in *Thumbnails* view, which displays an album art icon for each folder that holds an album by the artist.
  - ▶ **Music Album**—(Windows XP) Choose this template for a folder that holds music from a single artist. This gives the folder the same features as the *My Music* folder and opens the folder in *Tiles* view, which displays an icon for each track from the album.



5. If you also want Windows to apply this template to all the subfolders in the `Music` share, click to activate the `Also Apply This Template to All Subfolders` check box.
6. (Windows XP only) If you also want to change the image used for the folder icon, click `Choose Picture`, choose a new picture in the `Browse` dialog box, and then click `Open`.
7. Click `OK`.

## Adding the Music Folder to Windows Media Player

You saw earlier that when you activate Media Library Sharing for Windows Home Server's `Music` folder, it appears in Media Player's Navigation pane in the `User 1 (server)` branch (or the `User 1 on server` branch), where `server` is the Windows Home Server name. (See the earlier section "Playing Streamed Media in Windows Media Player.") However, even if you don't stream the `Music` share, you can still add it to Windows Media Player so that you can access it in the `Music` portion of the `Media Player` library. Note, however, that you don't have to bother with this in Windows 7 if you have the Windows Home Server Connector software installed, because the Connector automatically adds the `\\SERVER\Music` share to Windows 7's `Music` library.

Just follow these steps in Windows Media Player 11:

1. Select `Start, All Programs, Windows Media Player`.
2. Pull down the `Library` menu, and select `Add to Library`. Media Player displays the `Add to Library` dialog box.
3. If you don't see the `Monitored Folders` list, click `Advanced Options` to expand the dialog box.
4. Click `Add` to display the `Add Folder` list.
5. Select Windows Home Server's `Music` share, and then click `OK`. Media Player adds the folder to the `Monitored Folders` list.
6. Click `OK`. Media Player begins adding the contents of the `Music` share to the library.
7. Click `Close`. (Note that you don't have to wait until Media Player has added all the songs to the library; the process continues in the background, although it might take a bit longer than if you had left the dialog box open.)

To view the folder contents in Media Player, pull down the `Library` menu and select `Music`. In the `Navigation` pane, click `Library`, and then double-click the `Folder` view. You then see an icon for `\\SERVER\Music`, as shown in Figure 8.12. Double-click that icon to view the music.

## Changing the Default Rip Location to Windows Home Server

When you rip music from an audio CD in Windows Media Player, the resulting digital audio files are stored in a subfolder of your user profile's `Music` library (in Windows 7), `Music` folder (in Windows Vista), or `My Music` folder (in Windows XP). If you then want to stream those files over your network, you need to copy them to Windows Home Server's `Music` share.



FIGURE 8.12 Double-click `\\SERVER\Music` to view the contents of Windows Home Server's Music share in Media Player.

This two-step process is fine if you always want to maintain a local copy of the audio files. However, if you only access the music on Windows Home Server, having to both rip and move the audio files is a waste of time. A better idea is to rip your audio CDs straight to Windows Home Server.

Here are the steps to follow to change Media Player's rip location to Windows Home Server's Music folder:

1. Select Start, All Programs, Windows Media Player.
2. Select Tools, Options. (If you don't see the Tools menu, press Alt.) The Options dialog box appears.
3. Select the Rip Music tab.
4. In the Rip Music to This Location group, click Change to open the Browse for Folder dialog box.
5. Select `\\SERVER\Music`, and then click OK to return to the Options dialog box.
6. Click OK to put the new setting into effect.

## Sharing Videos

The rest of this chapter takes you through a few techniques to make Windows Home Server's shared Videos folder easier to use and manage.

### Customizing the Videos Share with a Template

In previous sections of this chapter, you learned about the folder templates that apply special features to the Pictures and Music folders (My Pictures and My Music in Windows XP). There is also a template associated with the Videos library (in Windows 7), the

Videos folder (in Windows Vista), and the My Videos folder (in Windows XP). This template provides some features that aren't part of the normal folder view:

- ▶ You get access to video-related file metadata, such as Date Taken and Duration.
- ▶ In Windows 7 and Vista, the task pane includes extra commands such as Play and Slide Show.
- ▶ In Windows XP, the task pane includes a Video Tasks group with links such as Play All and Copy to CD.

However, when you access the Windows Home Server Videos folder, Vista and XP treat it like a normal folder. (In Windows 7, if you access the Videos share through the Videos library, you get the extra video-related features; if you access the share via the Network folder, you don't see those features.) If you want to see the extras that are part of the local Videos (or My Videos) folder, follow these steps to customize the Videos share to use a video folder template:

1. Open the folder containing the Windows Home Server shares.
2. Right-click the Videos folder, and then click Properties to open the folder's property sheet.
3. Display the Customize tab.
4. In the Use This Folder as a Template list, select the template you want to apply:
  - ▶ **Picture and Videos**—(Windows Vista) Choose this template to give the folder the same features as Vista's Videos folder.
  - ▶ **Videos**—(Windows 7 and Windows XP) Choose this template to give the folder the same features as XP's My Videos folder.
5. If you also want Windows to apply this template to all the subfolders in the Pictures share, click to activate the Also Apply This Template to All Subfolders check box.
6. (Windows XP only) If you also want to change the image used for the folder icon, click Choose Picture, choose a new picture in the Browse dialog box, and then click Open.
7. Click OK.

## Adding the Videos Folder to Windows Media Player

If you turn on Media Library Sharing for Windows Home Server's Videos share, that folder appears in Media Player's Navigation pane as part of the User 1 (*server*) branch (or the User 1 on *server* branch), where *server* is the Windows Home Server name. (See "Playing Streamed Media in Windows Media Player.") If you're not streaming the Videos share, you can still add it to Windows Media Player's library in the Video section. Note, however, that you don't have to bother with this in Windows 7 if you have the Windows Home Server Connector software installed, because the Connector automatically adds the \\SERVER\Videos share to Windows 7's Videos library.

Here are the steps to follow in Windows Media Player 11:

1. Select Start, All Programs, Windows Media Player.
2. Pull down the Library menu, and select Add to Library. Media Player displays the Add to Library dialog box.
3. If you don't see the Monitored Folders list, click Advanced Options to expand the dialog box.
4. Click Add to display the Add Folder list.
5. Select Windows Home Server's Videos share, and then click OK. Media Player adds the folder to the Monitored Folders list.
6. Click OK. Media Player begins adding the contents of the Videos share to the library.
7. Click Close. (Note that you don't have to wait until Media Player has added all the videos to the library; the process continues in the background, although it might take a bit longer than if you had left the dialog box open.)

To view the folder contents in Media Player, pull down the Library menu and select Video. In the Navigation pane, click Library, and then double-click the Folder view. You then see an icon for `\\SERVER\Videos`, as shown in Figure 8.13. Double-click that icon to view the video files.

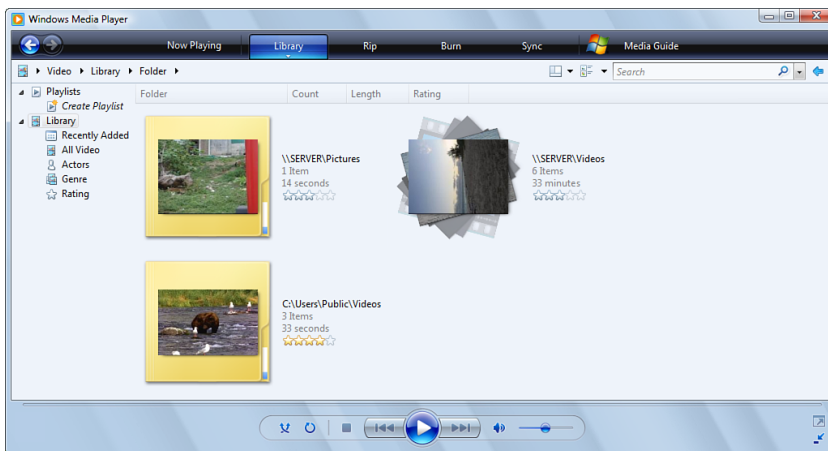


FIGURE 8.13 Double-click `\\SERVER\Videos` to view the contents of Windows Home Server's Videos share in Media Player.

If the Windows Home Server Videos share contains recorded TV shows, Media Player displays them separately. Pull down the Library menu and select Recorded TV. Figure 8.14 shows a Media Player icon for a Windows Home Server folder that contains some recorded TV content.

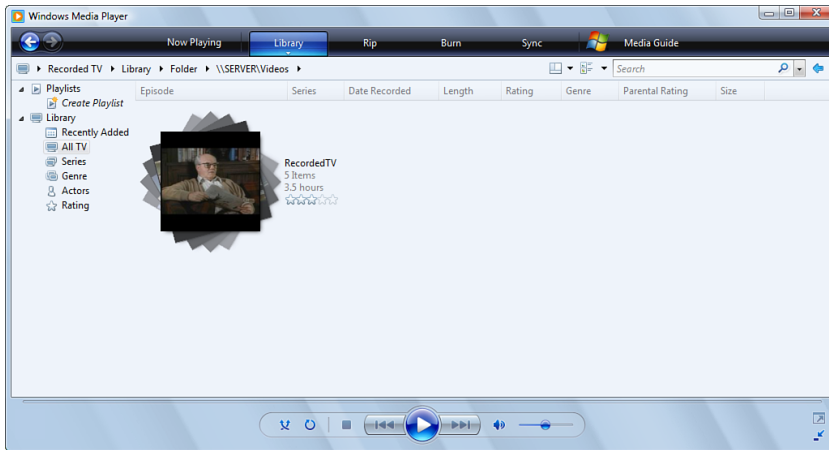


FIGURE 8.14 Media Player shows Windows Home Server’s recorded TV shows in the Recorded TV section of the library.

## Archiving Recorded TV on Windows Home Server

When you record TV in Windows Media Center, the program stores the resulting files—which use the Microsoft Recorded TV Show file type with the `.dvr-ms` extension—in the following folder:

```
%SystemDrive%\Users\Public\Recorded TV
```

If you want to stream your recorded TV shows to Windows Media Connect programs and devices on your network, you need to move or copy the Recorded TV files to Windows Home Server’s Recorded TV share.

As with ripping music (see “Changing the Default Rip Location to Windows Home Server,” earlier), this extra step is a hassle, particularly because Recorded TV files are often multigigabyte affairs that can take quite a while to transfer. A better solution is to record TV shows directly to Windows Home Server. In previous versions of Windows Home Server, this wasn’t as simple as tweaking a folder value, because by default Media Center has no such setting. It was possible to work around this problem by modifying some Media Center services and Registry settings (as I explained in the previous edition of this book), but it was a hassle.

Fortunately, it’s a hassle that’s now history. Windows Home Server 2011 comes with a new Windows Media Center Connector feature, which adds a Home Server menu item to the Media Center interface. The Home Server menu item includes a tile called TV Archive that enables you to configure Media Center to record TV shows directly to the server. Finally!

**CAUTION**

Recording a TV show is incredibly bandwidth-intensive, so the modification in this section stretches your home network to its limit. So, although it's possible to record shows to Windows Home Server on a 100Mbps wired or 54Mbps wireless connection, for best results, you really should do this only on a network that uses 1Gbps wired or 802.11n (248Mbps) wireless connections.

Assuming you've installed Windows Media Center Connector, follow these steps to configure TV archiving in Media Center:

1. In Windows Media Center, select Home Server, and then click TV Archive.
2. Click Settings. Media Center shows the TV archiving settings, as shown in Figure 8.15.

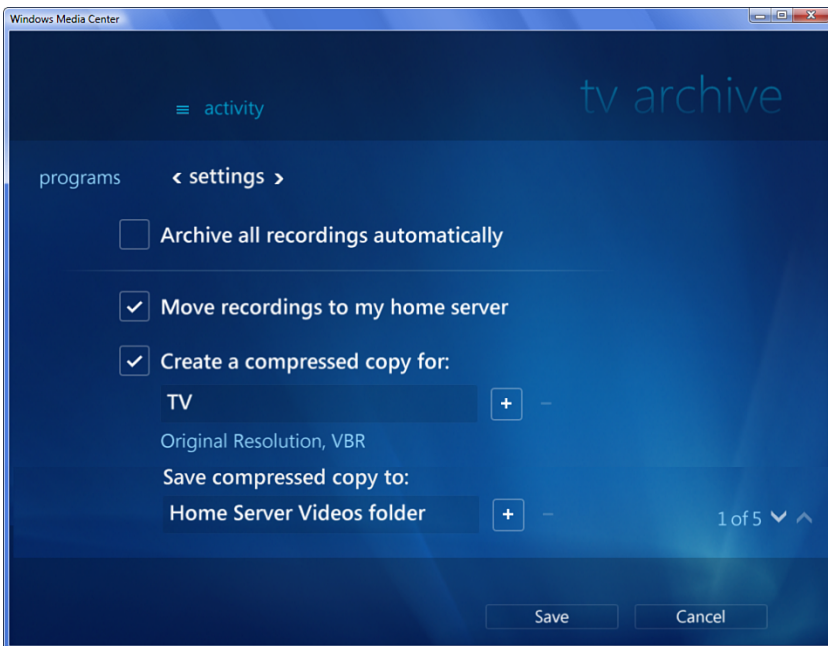


FIGURE 8.15 With Windows Home Server 2011's Windows Media Center Connector installed, use the TV Archive Settings tab to configure TV recording directly to the server.

3. If you want Media Center to archive all your TV shows—that is, shows you've already recorded and shows you record in the future—to Windows Home Server's Recorded TV share, activate the Archive All Recordings Automatically check box.
4. If you want Media Center to record TV shows directly to Windows Home Server's Recorded TV share, activate the Move Recordings to My Home Server check box.

**NOTE**

Actually, it's not really accurate to say that, if you activate the Move Recordings to My Home Server check box, Media Center records TV shows "directly" to the server. Instead, Media Center creates a temporary copy of the recorded TV show locally, and it then moves that copy to the server.

5. If you want Media Center to also create a compressed version of each recorded TV show, activate the Create a Compressed Copy For check box, and then choose a format and location:
  - ▶ **Create a Compressed Copy For**—Use this list to choose one of the following three formats: TV (uses the original resolution of the recording); Windows Mobile (320×240, 500Kbps bitrate); or Zune (720×480, 1,500Kbps). Note that in all cases, the resulting file uses the Windows Media Audio/Video (.wmv) format.
  - ▶ **Save Compressed Copy To**—Use this list to select a location for the compressed copies. The default is Home Server Videos folder, and you should leave that as is if you want your compressed copies on the server. Otherwise, you can choose either Public Videos Folder or Let Me Use a Different Folder. (The latter requires a path to the save location.)
6. Click Save to put the new settings into effect.

If you left the Archive All Recordings Automatically check box deactivated, you can select which of your existing recordings get archived to the server. In Media Center, select the Home Server item, and then click the TV Archive tile. You have two choices from here, as follows:

- ▶ **Series**—Click this tab to see a list of your recorded TV series. Activate the check box beside each series that you want to archive.
- ▶ **Programs**—Click this tab to see a list of your recorded TV programs. Activate the check box beside each program that you want to archive.

Click Save to put the settings into effect. Remember that how your existing series and programs are archived depends on the options you configured in the Settings tab:

- ▶ If you activated the Move Recordings to My Home Server check box, your selected series and programs are moved to the server's Recorded TV share.
- ▶ If you activated the Create a Compressed Copy for Server check box, Media Center creates compressed copies of your selected series and programs and stores the copies in the server's Videos share.

## From Here

- ▶ To learn how to add a user to Windows Home Server, **SEE** “Adding a New User,” **P. 32.**
- ▶ For information on connecting various devices to your Windows Home Server network, **SEE** Chapter 3, “Adding Devices to the Windows Home Server Network.”
- ▶ For details on changing user permissions, **SEE** “Modifying Permissions for a Windows Home Server Shared Folder,” **P. 119.**
- ▶ To learn how to work with the Registry, **SEE** Chapter 18, “Working with the Windows Home Server Registry.”



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