

HP MediaSmart Server User's Guide

Table of Contents

Welcome to the HP MediaSmart Server.....	1
HP Help.....	1
Windows Home Server Console Help.....	1
Getting Started.....	3
Key Steps for Setting up Your Server.....	3
Finding a Home for Your Server.....	3
Setting it up.....	5
Installing the Software.....	7
Congratulations! Start Using Your Server.....	28
Getting to Know the Server.....	31
Windows Home Server Console.....	31
The Control Center.....	56
Server for iTunes.....	59
Settings for iTunes.....	59
Media Collector.....	61
HP Media Collector Features.....	61
Before You Configure HP Media Collector.....	63
Configure HP Media Collector General Settings.....	63
Configure Media Collector for Photos.....	64
Configure Media Collector for Music.....	65
Configure Media Collector for Videos.....	66
Streaming Media.....	69
Streaming Media Features.....	69
How Media Streaming Works.....	70
Configure TwonkyMedia for Streaming Media.....	74
Settings for iTunes.....	74
Web Media Streamer.....	75
About Web Media Streamer.....	75
Web Media Streamer Pages.....	75
Music Page.....	75
Music Page—Artists View.....	75
Music Page—Folders View.....	77
Music Page—Playlists View.....	79
Photos Page.....	80
Photos Page—Date View.....	80
Photos Page—Folder View.....	81
Photos Page—Full Screen View.....	83
HP Photo Publisher.....	85
HP Photo Publisher Home Page.....	85
HP Photo Publisher Log on Page.....	86
Upload Photos or Create an Album.....	86
Select Photos.....	87
Server Continues Uploading.....	88
Snapfish.....	89

Flickr	90
Facebook	92
Picasa	93
HP Photo Viewer	95
HP MediaSmart Photo Viewer Home Page	95
HP Photo Viewer Slideshow	95
Upload Photos or Create an Album	100
Select Photos	101
Online Backup	103
Server Online Backup Features	103
Before Using Server Online Backup	103
Server Online Backup Dashboard	103
Button Bar	104
Windows Home Server Settings	107
Mac Features	111
Installing and Uninstalling the Mac Software	111
The Control Center	115
Mac Backup	117
Troubleshooting & FAQs	121
Errors & Lights	121
Network & Firewall	129
Power Management	139
Server Recovery and Factory Reset	139
Server Storage	145
Streaming Media	146
Product Information	159
Product Specifications	159
Regulatory Statements	162
WM-DRM 10 Licensed Technology	165
Limited Warranty and Technical Support Statement	166
Welcome to the HP MediaSmart Server	171
Licenses, Copyrights and Notices for Open Source Components	175
FlickrJ:	175
Software License Agreement (BSD License)	175
Facebook Java API: The MIT License	175
Gdata Java Client: Apache License	176
JCIFS : GNU LESSER GENERAL PUBLIC LICENSE	179
Firefly: GPL License	187
ImageMagick: Compatible with GPL	193
TaskScheduler: The Code Project Open License (CPOL) 1.02	196
MiscUtil.dll: MiscUtil	200
Facebook Development Platform Java Client	201
Facebook API License	202
Software License Agreement (BSD License)	202
PacketVideo	203
Glossary	219

Index 225

Welcome to the HP MediaSmart Server

The HP MediaSmart Server is a home server for families with multiple computers on a home network who want to enjoy their digital experiences when and where they want. The HP MediaSmart Server includes remote access to files, automatic computer backups, virtually unlimited storage expandability, and *media streaming* to the entertainment center. Help is available from most windows on the HP MediaSmart Server.

HP Help

HP Help includes the types of help shown in the following table. Additionally, the online User's Guide provides links to topics in the Windows Home Server Help.

	User's Guide —Contains online help, installation instructions, guidance for set up, using the product, tutorials, recovery information, and other important information.
	Online Help —A Help button is available on most pages.
	HP Support Web site —Additional support and informational articles are available at http://www.hp.com/support .

Windows Home Server Console Help

Some tasks, such as creating users and using *shared folders*, are done through the Windows Home Server Console.

1. At the computer, double-click the Windows Home Server icon  in the system tray.
2. Log on to the Windows Home Server Console.
3. Click **Help** in the upper right corner, indicated by a  icon, or click help buttons on dialog boxes.

Windows Home Server Console Help	
Main Topics	Description
Welcome to the Windows Home Server Console	Learn what the Windows Home Server tray icon colors mean. This topic also provides an overview of adding user accounts, organizing files, configuring backups, and customizing server settings.
Computers & Backup	Explains how backups work and how to configure, restore, and troubleshoot backups.
User Accounts	How to add users to your server.
Shared Folders	Adding, opening, removing, viewing the history of shared folders, and using <i>folder duplication</i> .

HP MediaSmart Server User's Guide

Server Storage	View, add, repair, and remove hard drives from total storage.
Network Health	What health notifications mean and what to do about them.
Windows Home Server Settings	How to configure backups, passwords, media sharing, remote access, add-ins, resources, and more.
Remote Access	How to set up the server to easily access your files away from home.

Getting Started

Key Steps for Setting up Your Server

Complete the following steps to set up the HP MediaSmart Server on your home network.

To set up the HP MediaSmart Server

1. Connect the HP MediaSmart Server to your network and turn it on.
For additional information, see [Connecting the Server](#).
2. Update the trusted programs list for any firewall or *anti-virus software* on your computer.
For additional information, see [Updating Your Firewall's Trusted Program List](#).
3. Install the HP MediaSmart Server software on one computer.
For additional information, see [Installing the First Computer](#).
4. Install the HP MediaSmart Server software on additional computers.
For additional information, see [Installing Additional Computers](#).

Finding a Home for Your Server

Server Location

Find a suitable place to locate your HP MediaSmart Server before you install the software on your computers. The location you choose must have either an available wired network connection to your broadband *router* or a switch connected to your broadband router.

The server also requires adequate ventilation to ensure it does not get too hot:

- Do not locate the server in an unventilated space.
- Make sure that the server's front and back panels are not blocked.
- Check that the location of the server is not too hot. Maximum environmental temperature for operating the server is 35 °C (95 °F).

Network Requirements

To successfully use the HP MediaSmart Server, your network must meet the following requirements:

Network Requirements	
Requirement	Recommended
Server connection	100 <i>Mbps</i> to 1000 Mbps (Gigabit Ethernet) wired connection
Home computers	One or more computers running a supported operating system with a wired or wireless network connection. For a list of supported operating systems, see

	Supported Operating Systems.
Internet connection	Broadband connection, such as DSL or cable, required for remote access functionality.
<i>Router</i>	An external Internet broadband router with 100 Mbps (or faster) Ethernet connection to the server for remote access functionality and wired or wireless connections to the computers on the network. Additionally, your router must have <i>DHCP</i> enabled to provide an automatic <i>IP address</i> to the server.

Supported Operating Systems

The following operating systems are supported to work with the HP MediaSmart Server:

Supported Operating Systems		
Windows Vista ^a	Windows XP ^a	Mac OS X
Windows Vista Home Basic	Windows XP Home with Service Pack 2 (SP2)	Mac OS X 10.5 or later
Windows Vista Home Basic 64-bit	Windows XP Professional with SP2	
Windows Vista Home Premium	Windows XP Home with SP3	
Windows Vista Home Premium 64-bit	Windows XP Professional with SP3	
Windows Vista Ultimate	Windows XP Media Center Edition 2005 with SP2 and Rollup 2	
Windows Vista Ultimate 64-bit	Windows XP Media Center Edition 2004 with SP2	

a. Remote access is not supported by Windows Vista Home (all versions); the Business, Enterprise, and Ultimate versions of Windows Vista support remote access. For more information, see *Why can't I connect to some computers?* in the Windows Home Server Console Help.

b. Windows XP Professional and Windows XP Media Center Editions support remote access. Windows XP Home does not support remote access.

Wireless Support

You must connect the HP MediaSmart Server to your *router* (or switch) with an Ethernet cable. The server does not support wireless connection to your router. However, computers connected wirelessly to a wireless access point or router are supported.

Additional Software

Internet Explorer 6.0 or later is required to run the HP MediaSmart Server software.

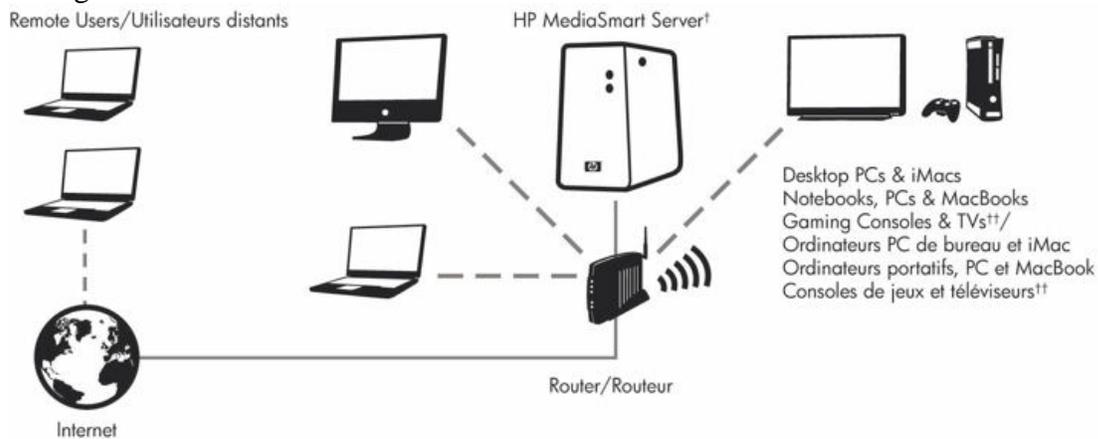
Download Internet Explorer from <http://www.microsoft.com/downloads>.

iTunes 7.1 or later is required for combining household music libraries and streaming music with iTunes. Download iTunes from <http://www.apple.com/itunes/download>.

Setting it up

Connecting the Server

How you connect the HP MediaSmart Server to your network depends on the network configuration.



This example shows a broadband *router* connecting the following:

- HP MediaSmart Server
- Desktop computer
- Laptop with a wireless adapter
- TV connected to a network-enabled *media streaming* device, such as an Xbox 360
- Remote users connecting to the HP MediaSmart Server and home network through an Internet browser

The server requires a *DHCP*-enabled router to get its *IP address*. By default, most routers include a DHCP server. For more information, check your router documentation.

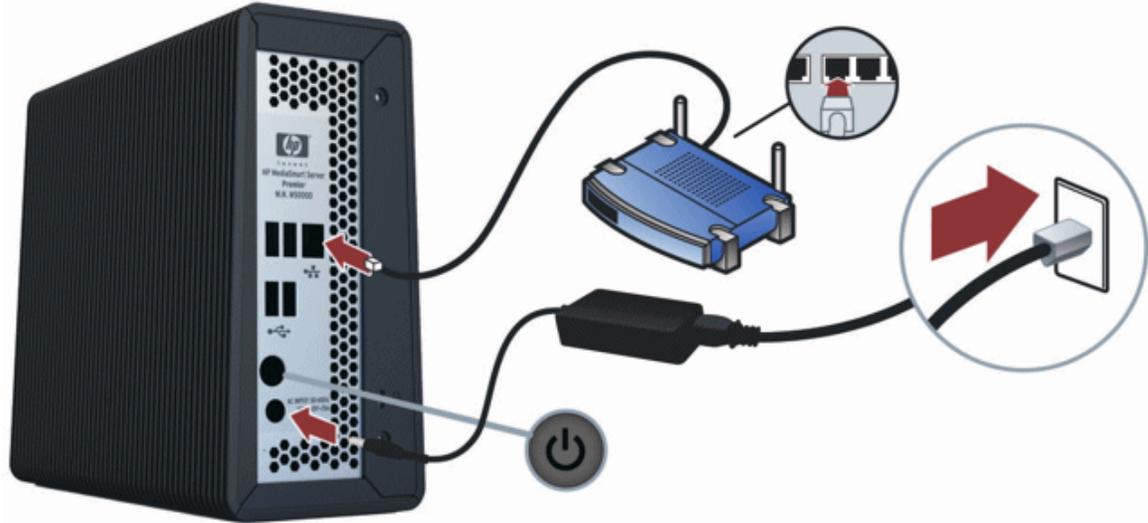
⚠ Caution

If you have wireless functionality on your network, be sure to enable your router's

security settings, such as [WPA](#) or [WEP](#), to protect your network. See the documentation that came with your router.

Turning on the Server

Connect the HP MediaSmart Server to a power source and to a [router](#).



To power on the server

1. **Plug in.** Plug one end of the power cord into the server's power receptacle and the other end into an electrical outlet.
2. **Connect.** Connect one end of the Ethernet cable to the server and the other end to an available Ethernet port on your router or to a switch that is connected to your router.
3. **Power on.** Press the Power button on the back of the server.
The server takes approximately 60 seconds to startup. The indicator lights blink and change color throughout the startup process. Wait for all of the server lights to be pulsing before proceeding with the software installation.

Important

Do not attach USB devices to the HP MediaSmart Server during initial setup. For additional information, see [Adding and Removing an External USB Drive](#), [eSATA Drive](#), or [SATA Port Multiplier](#).

Checking the Server Lights

The lights on the front of the HP MediaSmart Server indicate the status of the server. After the HP MediaSmart Server startup completes and prior to the first software installation, the indicator lights show:

- Power—breathing aqua white
- Hard drive—breathing aqua white
- Health—breathing aqua white

After you complete the software installation, all lights should be solid aqua white.

If the lights are not solid aqua white, see the following:

- [Power-on indicator is off](#)
- [Why is the server's health indicator light red?](#)

Installing the Software

Updating Your Firewall's Trusted Program List

The HP MediaSmart Server Software Installation Disc installs several programs that enable your computer to communicate with the HP MediaSmart Server over your network. Software firewalls installed on your computer can block this communication and prevent the computer from locating the HP MediaSmart Server on your network. The following steps are recommended before installing the HP MediaSmart Server programs:

- Launch your firewall and *anti-virus software* and update the trusted programs list.
- Verify that your firewall and anti-virus software is set to "Learn" new programs. After the HP MediaSmart Server software is installed, the firewall should prompt you to allow the installed programs to communicate with the server. The HP MediaSmart Server requires that the following programs be excepted
 - DoTask
 - HPHSConnector
 - MediaAggregator
 - MountBackup
 - RestoreOffProc
 - WHSTrayApp
 - WHSConsoleClient
 - Windows Home Server Connector
- If you are using a firewall or anti-virus program that cannot automatically update its trusted software list, please contact the firewall or anti-virus software vendor to find out how to manually add software to the trusted software list.

Hubs and Network Health Light

Some network hubs, as opposed to switches or routers, may reduce performance between your computer and the HP MediaSmart Server, or the hub may prevent your computer from communicating with the server. If this is a problem, the network health indicator light on the front of the server will be off. Replacing the hub with a switch may improve the network performance or restore connectivity.

Installing the First Computer

Use the Software Installation Disc to install both the HP MediaSmart Server software and the Windows Home Server Connector software. You can also install the Server software using a Web browser with this link: <http://HPSERVERLX:55000>. See [Web Browser Install Process](#).

 Note:

You must first install the client software via a Windows computer. You can install the Mac software after the Server has been configured.

The software installation consists of the following:

- HP Update (if not already installed)
- Windows components—Windows Installer 3.1 and .NET 2.0 or later software. (Installed only if they are not already on the computer)
- HP MediaSmart Server software
- Windows Home Server Connector

Windows Home Server Setup runs only on the first computer where the software is installed.

Checking for Administrative Privileges

You must have administrative privileges on your home computer to install the software. Complete the following instructions for Windows Vista or Windows XP to view or change user account settings.

- In Windows Vista, click **Start**, **Control Panel**, and then **User Accounts and Family Safety**.
- In Windows XP, click **Start**, click **Control Panel**, and then double-click **User Accounts**.

About the HP MediaSmart Server Software

The HP MediaSmart Server software installs first. This software provides a user interface and includes these tools:

- **Windows Homer Server Console** gives access to all the server's features
- **HP Media Collector** provides a central location for your photos, music, and videos
- **HP Photo Publisher** and **HP PhotoViewer** allow you to publish and share photos securely over the Web
- **Web Media Streamer** allows you play photos, music, and videos when away from home
- **TwonkyMedia Server** allows you to play photos, music, and videos on your television, stereos, and home computers

Microsoft Windows Home Server Connector Install Instructions

Note

About the Windows Home Server Connector

The Windows Home Server Connector:

- Connects your computer to the server.
- Automatically backs up your computer every night.
- Monitors the health of the network and computers.
- Enables configuration of the server from your computer.

Installing the Software

There are two ways to initiate the software installation process. One is through the Software Installation Disc, the other is through a web browser.

Web Browser install process

Once the Server is powered up and ready for the software install, (all the LED's will be in a pulsing state.) Open a Web Browser type the following address

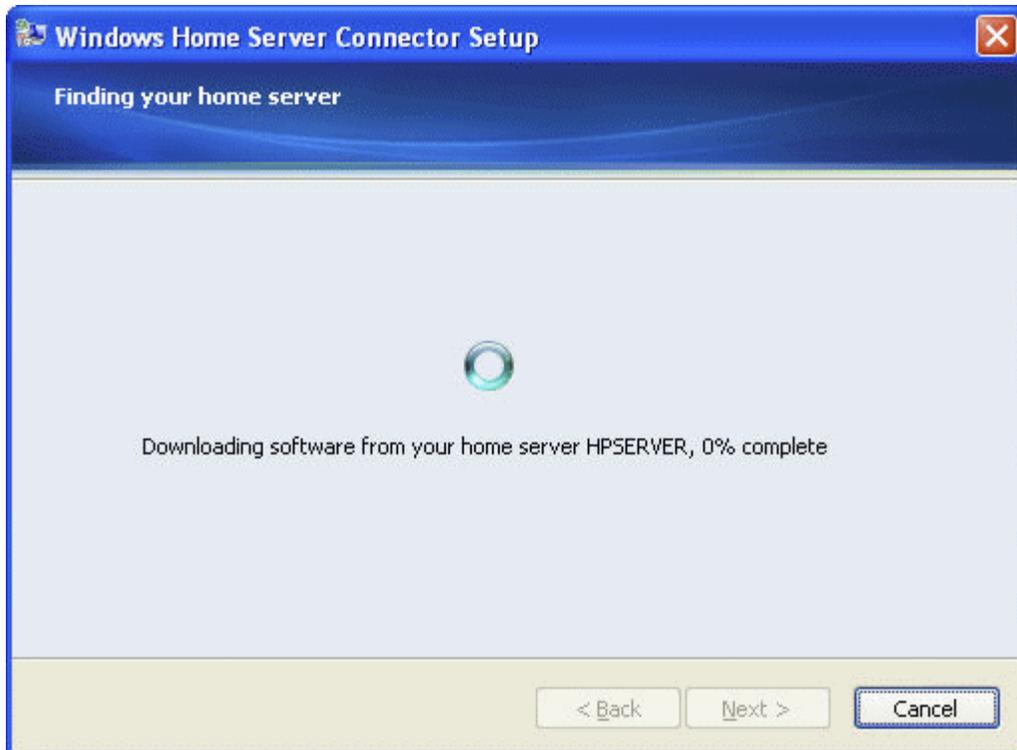
http://HPSERVERLX:55000 and the Windows Home Server Connector Setup window will open. Click the **Download Now** button.

Note

You can come back at a later date to get the toolkit, or contact information. Type the Address <name of server:55000> in this example HPSERVERLX:55000



A file download security warning and a Internet Explorer dialog box may pop up. Click **Run**.



A dialog box will appear stating that software is being downloaded from your HPSEVERLX. Click **Next**, when the download is complete. The **Install Wizard** opens and gives you the rest of the installation instructions.

-or-

Inserting the Software Installation Disc

The Software Installation Disc first installs the HP MediaSmart Server software and then the Microsoft Home Server Connector software on your computer.



1. Insert the Software Installation Disc into a computer connected to your network. The installation starts.
2. Follow the instructions on each installation page. The remainder of this chapter describes important parts of the installation, but not every step is described.
3. For users wishing to install Mac Features, you need to complete the Windows Home Server Connector install from a Windows Client, then you can install the Mac Features.
4. See the **Install Wizard** for the rest of the installation instructions.

Install Wizard

The Install Wizard will open up now; click **Next**, and accept the end user license agreement when it opens.



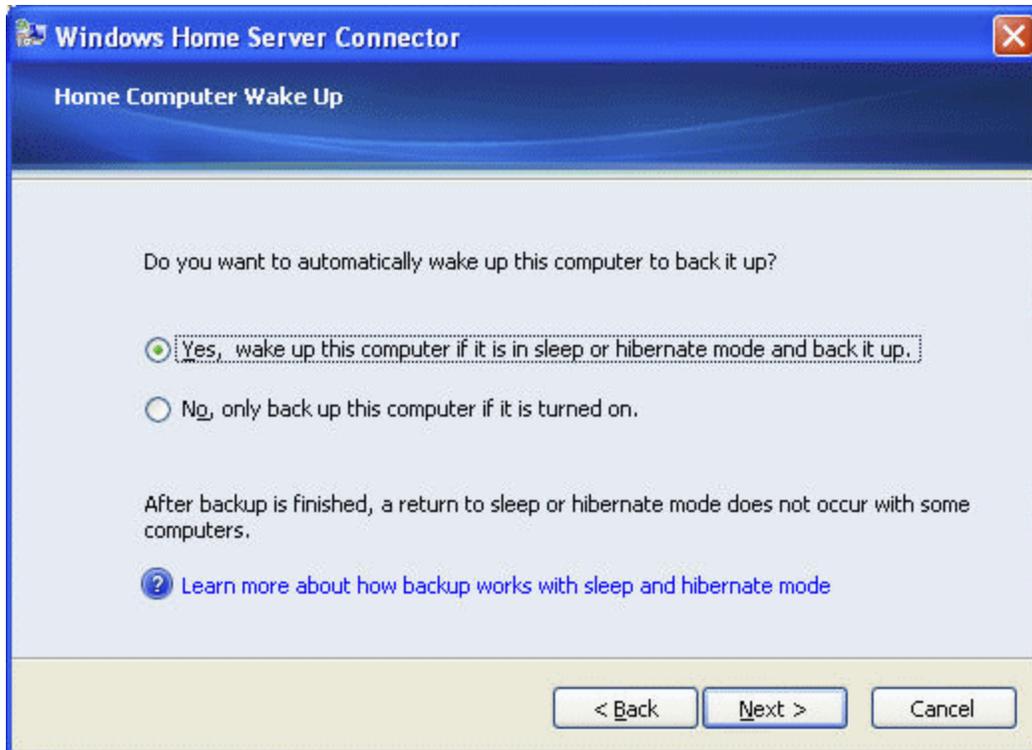
The Welcome to the Windows Home Server Connector! screen will open up, telling you what is going to happen next. Click **Next**.



A Windows Home Server Connector Updates dialog box will open asking to download updates. HP Recommends that you accept this dialog and allow the server to download and install the updates. Click **Next**.



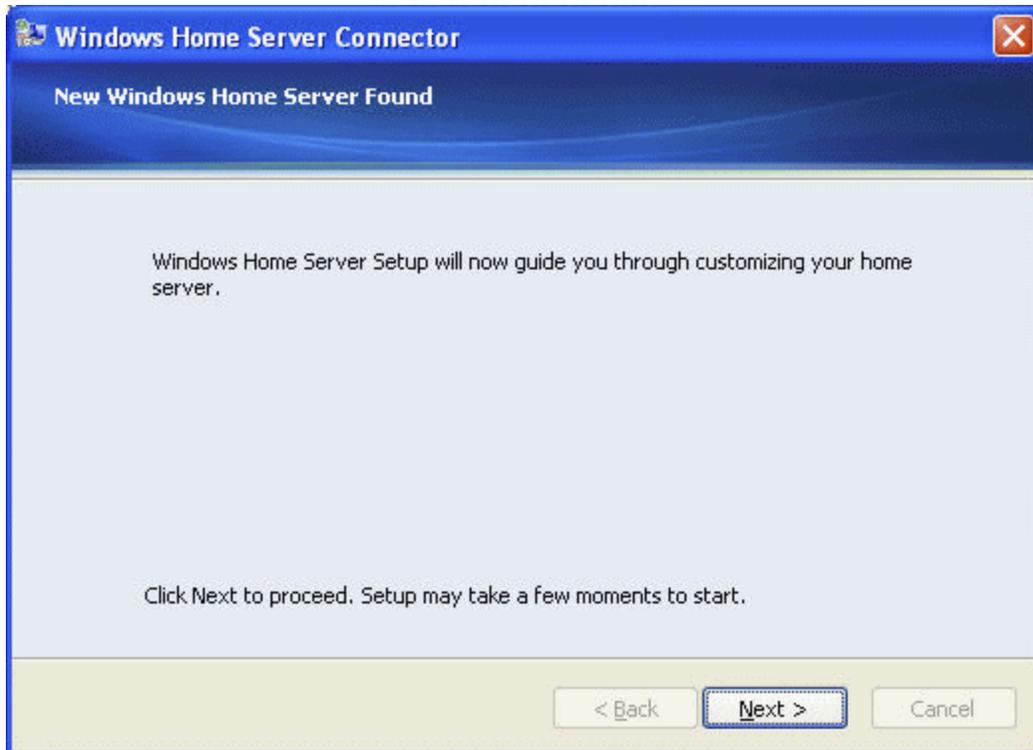
A dialog box will open asking if you want the computer to wake from a hibernation state for a scheduled backup. Click **Next**.



Finding the Server

The Windows Home Server Connector installations looks for and connects to your HP MediaSmart Server. If the installation cannot find your server, see [Network Connection Issues](#).

Once the server is found, click **Next** to continue the installation.



Initializing Windows Home Server

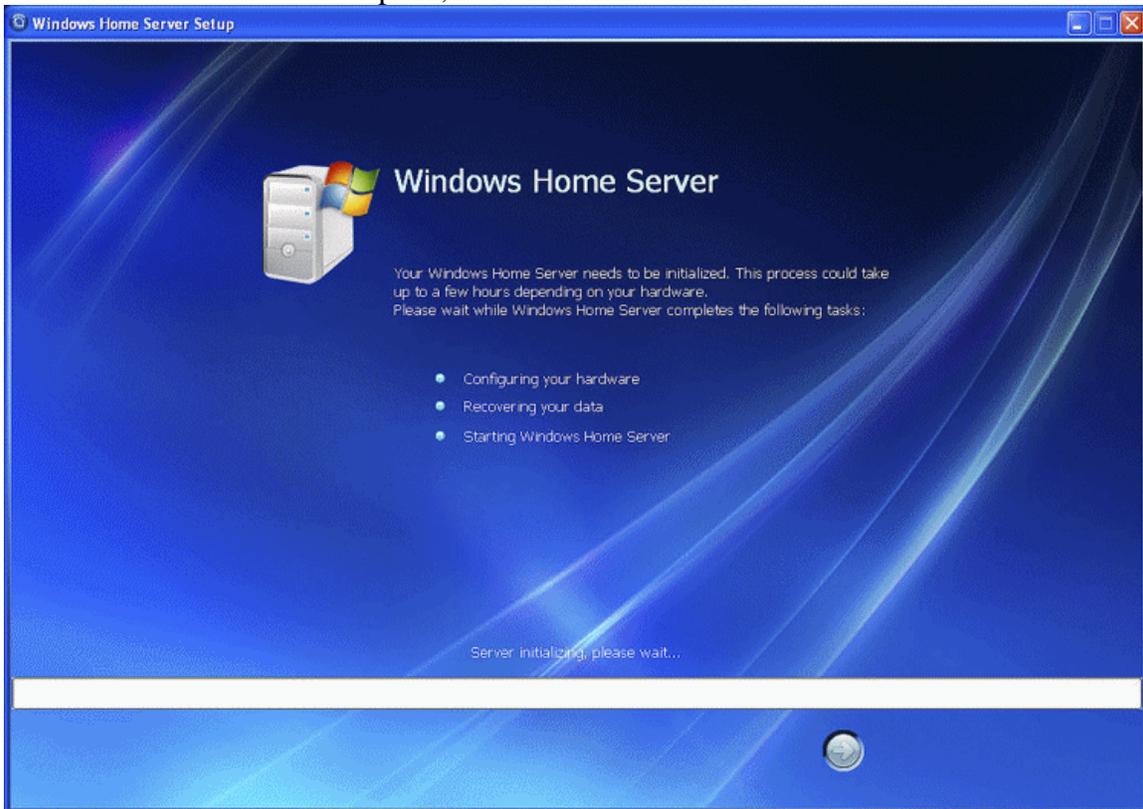
The Windows Home Server initialization begins and can take several hours depending on your hardware. Please wait while Windows Home Server:

- Configures your hardware
- Recovers your data
- Starts Windows Home Server

A welcome screen will come up, click the **next arrow** to begin the Windows Home Server installation process.



An information screen will appear letting you know where the initializing process is at. Once the initialization is complete, click the next **arrow** to continue.



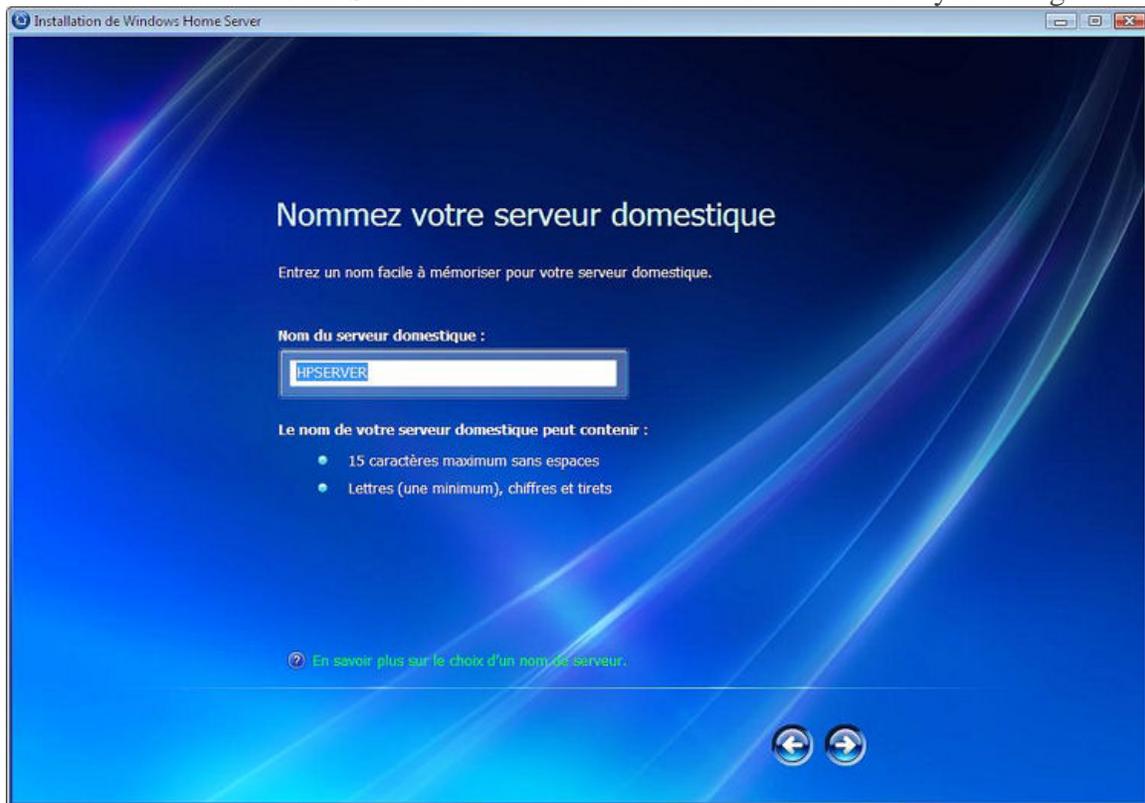
Naming the HP MediaSmart Server

Type a name for your server. Server names can be:

- 15 characters maximum with no spaces
- Letters (at least one), numbers and hyphens

 **Note**

This is the only time you can name your server. It cannot be changed later. The default name is **HPSERVERLX**. Write down the server name if you change it.



Setting the Server Password

On the Windows Home Server password page, you are asked to create a *strong password*. A strong password must be at least 7 characters long and must fulfill three of the following four requirements:

- Uppercase characters
- Lowercase characters
- Numbers
- Symbols (such as !, @, and #)



 **Note**

A *password hint* can be seen by anyone who clicks the Password hint button. It is recommended that you write your password down somewhere safe.

 **Important**

The server password is not the same as a user password. For additional information on user accounts and passwords see, *Why should logon names match?* in the Windows Home Server help.

Help Protect Windows Home Server Automatically

Windows Home Server Setup automatically downloads and installs relevant important updates from Windows Update to help make your home server more secure. Choose if you want Windows Home Server to continue automatically downloading updates after Setup and click the next **arrow**.

 **Note**

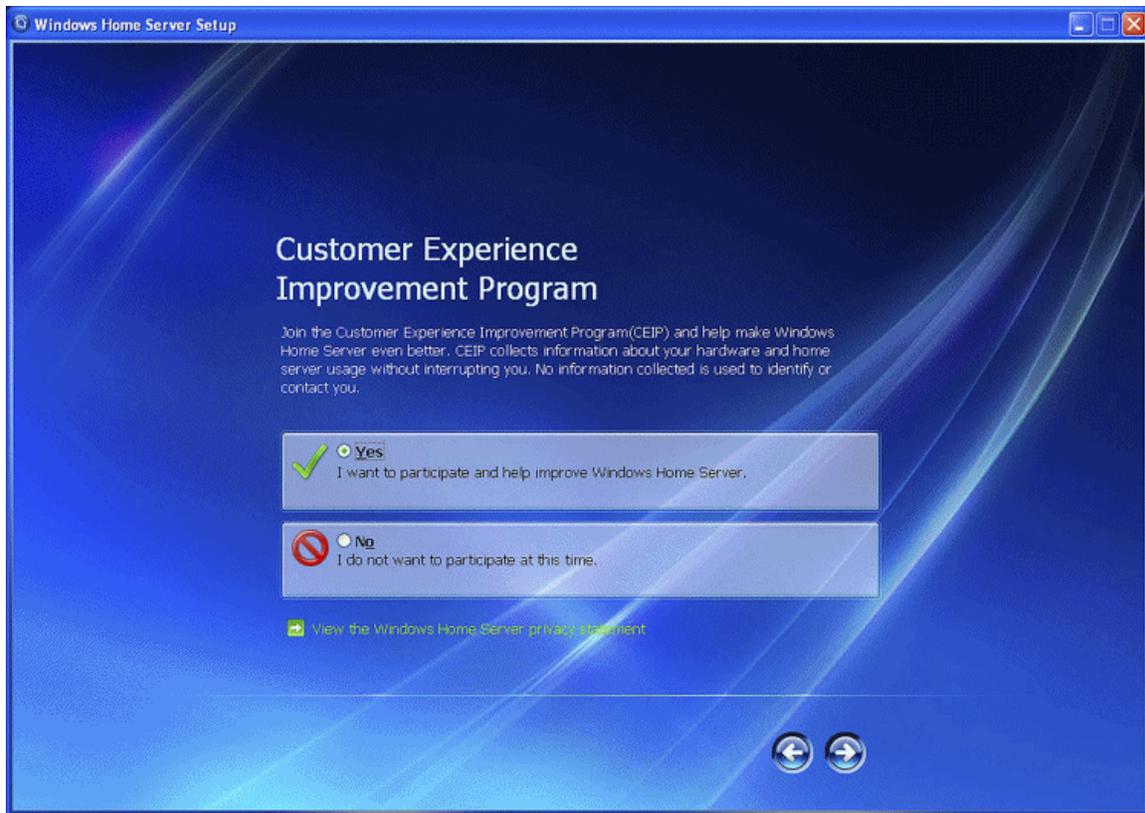
It is recommended that you turn on **Automatic Windows Updates**.



Customer Experience Improvement Program

Join the Customer Experience Improvement Program (CEIP) and help make Windows Home Server even better. CEIP collects information about your hardware and home server usage without interrupting you. No information collected is used to identify or contact you.

Choose if you want to participate in this program and click the next **arrow**.



Windows Error Reporting

To help understand the problems you may encounter with Windows Home Server, Windows Error Reporting can automatically report them to Microsoft. Any personal information inadvertently collected in the reports will not be used.

Choose if you want to participate in this program and click the next **arrow**.



Checking for Windows Home Server Updates

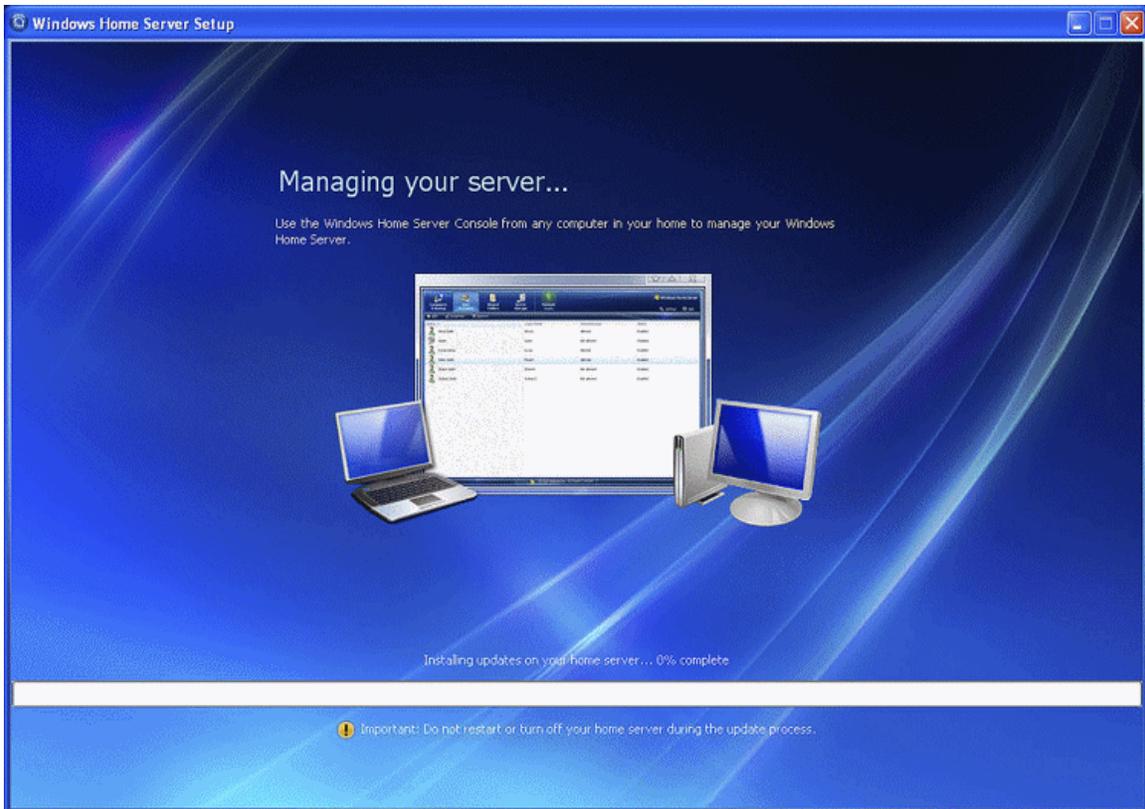
The Windows Home Server installation checks for any relevant important updates. This may take some time to complete, but does not require additional information from you.

 **Important**

Do not restart or turn off your home server during the update process.



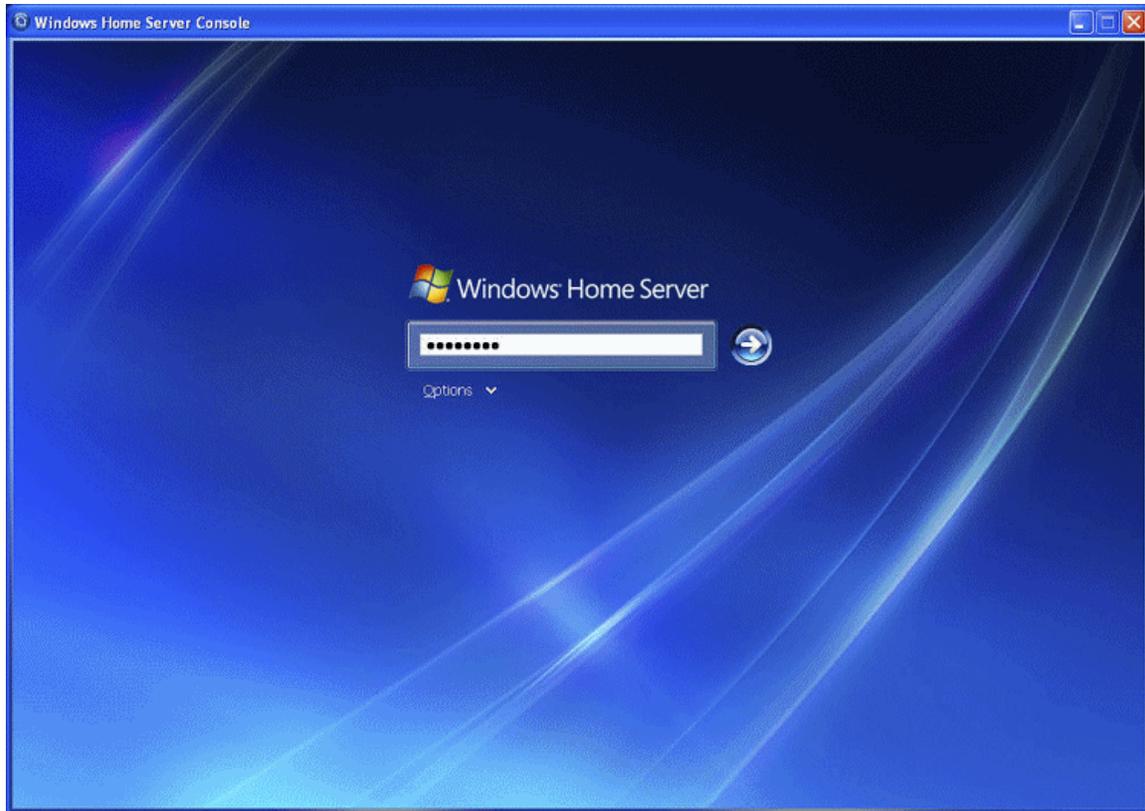
While the server is updating a series of screens will appear describing features of the software.



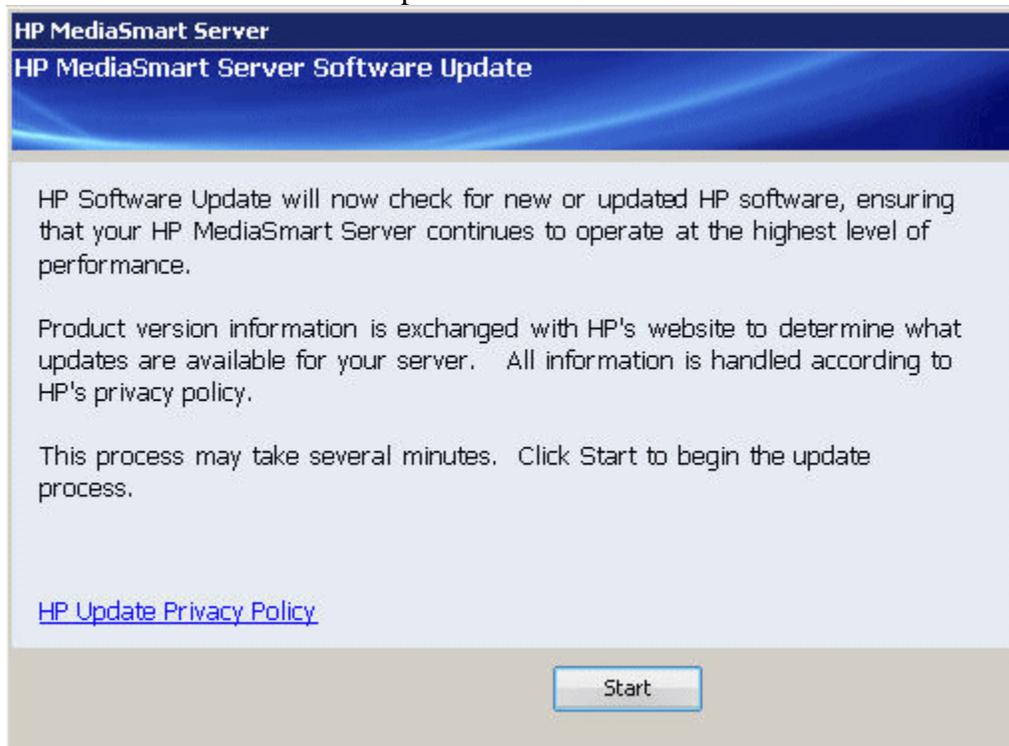
Once the server is ready to use a screen will appear telling you that the server is ready for you to administer. Click the **Start arrow**.



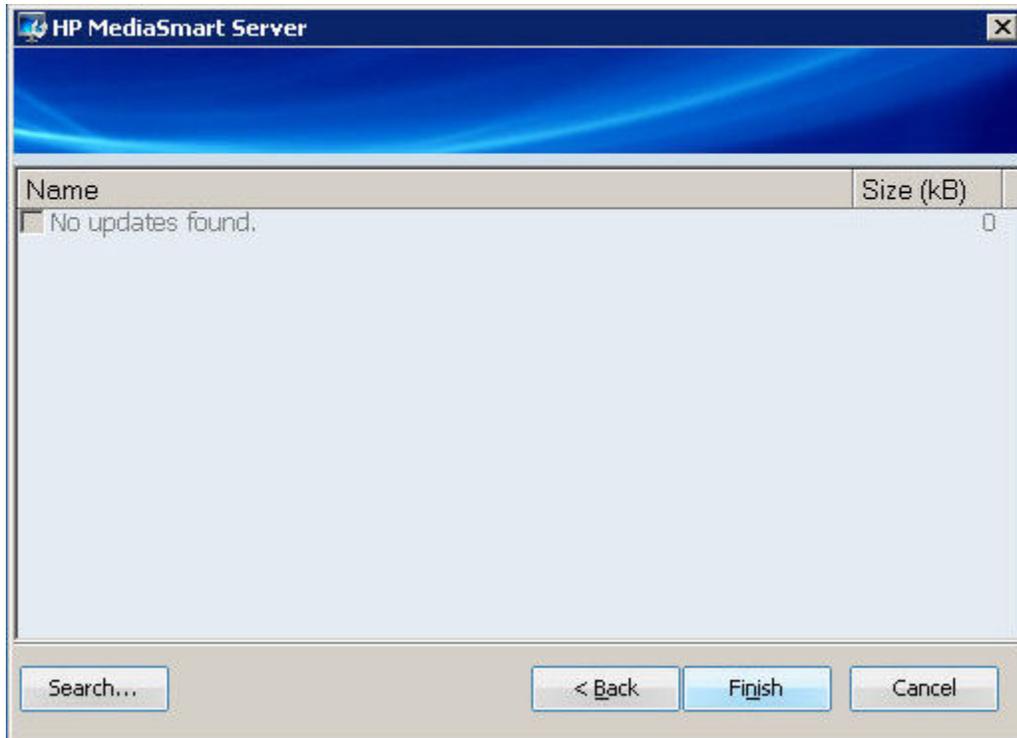
The Logon screen for the Windows Home Server Console will open up. Enter the password and click the next **arrow**.



Once you have successfully logged on, the Server will initiate a search for HP MediaSmart Server Software updates. Click **Start**.



When the results screen appears, click **Finish**.



Installing Additional Computers

You can install the server through a [Web browser](#) or you can use the Software Installation Disc to install the HP MediaSmart Server and Windows Home Server Connector software on the other computers on the home network. Install the software on one computer at time.

If you misplaced or damaged your Software Installation Disc, you can also install the software for your computer directly from the server. For more information, see [To install from the server using Windows XP](#) or [To install from the server using Windows Vista](#).

Installing the Software

There are two ways to initiate the software installation process. One is through a web browser; the other is through the Software Installation Disc.

Web Browser install process

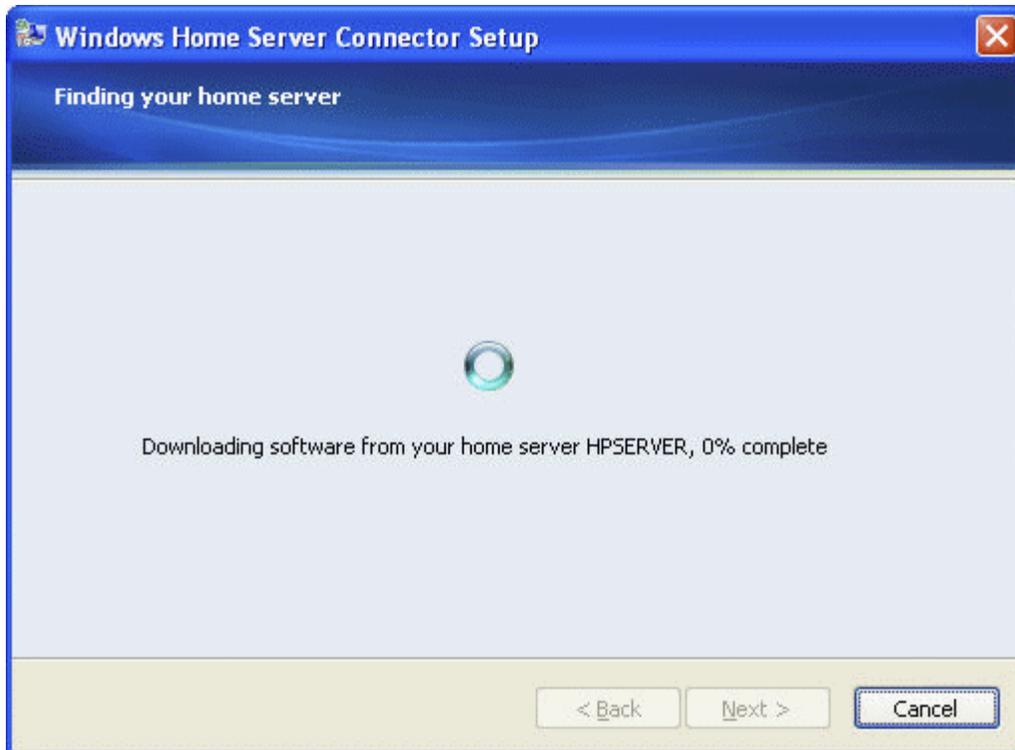
Once the Server is powered up and ready for the software install, (all the LED's will be in a pulsing state.) Open a Web Browser type the following address **http://HPSERVERLX:55000** and the Windows Home Server Connector Setup window will open. Click the **Download Now** button.

Note

You can come back at a later date to get the toolkit, or contact information. Type the Address <name of server:55000> in this example HPSERVERLX:55000



A file download security warning and a Internet Explorer dialog box may pop up. Click **Run**.



A dialog box will appear stating that software is being downloaded from your HPSEVERLX. Click **Next**, when the download is complete. The Install Wizard opens and gives you the rest of the installation instructions.

To install from the Software Installation Disc

1. Insert the Software Installation Disc into a computer connected to the home network.
You must have administrative privileges to install. For additional information, see [Installing the Software on the First Computer](#).
2. Follow the instructions on the installation wizards.
The installation process is identical to installing on the first computer except for the following:
 - The Windows Home Server Setup does not run.
 - Your server password is required to install, as shown in the following figure:



To install from the server using Windows XP

1. At the computer, click **Start**, and then click **My Computer**.
2. Do one of the following:
 - Click **My Network Places**.
 - Under **Other Places**, click **My Network Places**.
3. In the **Add Network Place Wizard**, use the following (*UNC*) network address:
 \\<name of the server>\software
 For example, \\HPSERVERLX\software
 When the wizard completes, you should see **software on <name of server>** in the My Network Places window.
4. Double-click the network place, and then open the **Home Server Connector Software** folder.
5. Double-click **Install.exe** and follow the instructions on the installation wizards.

To install from the server using Windows Vista

Follow these steps for installing the server on 32-bit or 64-bit operating systems.

Note

To find out which version of Windows Home Server you have installed, double-click the Windows Home Server icon  in the system tray. Click **Settings**, and then click **Resources** in the left menu of the Windows Home Server Settings dialog box. The version should say Windows Home Server with Power Pack 1.

1. At the computer, click **Start**, and then click **Network**.
2. Under **Network Tasks**, click **Add a network place**.

3. In the **Network Place Wizard**, use the following UNC network address:
\\<name of the server>\software
For example, \\HPSERVERLX\software
When the wizard completes, you should see the name you chose for the network place in the window.
 4. Double-click the network place, and then open the **Home Server Connector Software** folder.
 5. Double-click **Install.exe** and follow the instructions on the installation wizards.
-  **Note**
Network discovery must be turned on to access the server. See To ensure that Network Discovery is turned on.

Setting up Additional Computers

After installing the software on the Software Installation Disc, there are a few setup options for you to consider.

- The home computer is automatically set up to be backed up each night. If you want to customize back up settings for this computer, see Backing up and restoring a computer.
- If you created individual user accounts in Windows Home Server for one or more family members that use this computer, you also need to set up computer user accounts for them if you want them to be able to access features on the server without logging on. For additional information, see User Accounts in the Windows Home Server help.
- If there is an iTunes library on this computer that you want to include in an aggregated iTunes library on the server, set up this computer to copy its iTunes library to the server. For additional information, see [Set up iTunes](#).

Congratulations! Start Using Your Server

Some HP MediaSmart Server features, such as backups and *shared folders*, are pre-configured and ready to go as soon as the first software installation is complete. Other features require some set up before you can use them.

Backups

After running the Software Installation Disc on your first home computer it is automatically added to the list of computers that are backed up by the HP MediaSmart Server each night. Run the Software Installation Disc on additional home computers to enable them to communicate with the server and to add them to nightly backups.

To customize the hard-drive volumes to back up, or to exclude folders from the backup

1. At the computer, double-click the Windows Home Server icon in the task tray and log on.

2. Click the **Backups & Computers** tab.

Shared Folders and Media Sharing

Start copying digital assets from your computer to shared folders on the HP MediaSmart Server.

1. At the computer, double-click the HP MediaSmart Server desktop icon.



Or you can click the Shared Folders icon.

2. Copy Photos, Music, or Videos to the appropriate shared folder or click Server to create shared folders for other digital content.



Note

From the **Media Sharing** page on the Windows Home Server **Settings** tab, you can turn on digital *media streaming* for the Photos, Music, or Videos shared folders. Click **On** for each folder that you want to stream from.

Set up Additional Features

For the next steps, we recommend that you set up these features:

- User Accounts for each person in your home
- Remote Access so that you can access your server when you're away from home
- Server Online Backup
- HP Media Collector

At the computer, double-click the Windows Home Server icon  in the task tray and log on. The **MediaSmart Server** tab should be active.

Getting to Know the Server

Windows Home Server Console

Opening the Windows Home Server Console

The Windows Home Server Console is where you manage and configure the HP MediaSmart Server. You can access the Windows Home Server Console in the following ways:

- [To open the WHS Console from the Start menu](#)
- [To open the WHS Console from the HP MediaSmart Server desktop icon](#)
- [To open the WHS Console from the system tray](#)

To open the WHS Console from the Start menu

1. At the computer, click **Start, All Programs**, and then select **Windows Home Server Console**.
2. Log on to the Windows Home Server Console.

To open the WHS Console from the HP MediaSmart Server desktop icon

1. From the computer desktop, double-click HP MediaSmart Server icon.



HP MediaSmart
Server

2. In the Control Center, click the **Tools** tab.
3. Click **Home Server Console**.
4. Log on to the Windows Home Server Console.

To open the WHS Console from the system tray

1. At the computer, double-click the Windows Home Server icon  in the system tray.
2. Log on to the Windows Home Server Console.

The MediaSmart Server Tab

The MediaSmart tab contains the tools and settings for managing the HP features.

Welcome

This is the Home Server Console, you can set up and manage all of the HP MediaSmart Server features from here. The following items are already set up for you:

- Automatic PC backups [Learn more](#)

HP MediaSmart Server User's Guide

- Streaming Media (TwonkyMedia, Server for iTunes, and Web Streamer) [Learn more](#)
- McAfee Antivirus [Learn more](#)

For the next steps, we recommend that you set up these features:

- User Accounts for each person in your home
- Remote Access so that you can access your server when you're away from home
- Server Online Backup
- HP Media Collector

You can find these items on the left buttons of this screen.

Note

You can rearrange the buttons by dragging and dropping or with the top and bottom arrows.

Remote Access settings

Enjoy your digital experiences when and where you want. Remote Access gives you and your family access to:

- Files and supported computers from any location
- Remote Management of your server
- Remote *Media Streaming*
- HP Photo Viewer
- HP Photo Publisher

HP Photo Publisher

Publish photos from your Server to your favorite photo-sharing site. Friends and family can see your photos on the Internet. Uploading your photos is a simple 4-step process:

1. Log on to the HP Photo Publisher
2. Log on to the photo-sharing site
3. Select the photos you want to share
4. Upload your photos

Media Collector

Media Collector copies media files from the computers in your network and organizes them on the server. Media Collector continuously copies files. You can enable collection for any or all the PCs in your home.

You choose the organization structure:

- Photos - by date or existing structure
- Music - by artist/album or existing structure
- Videos - move or copy to the server

Mac Features

Your HP MediaSmart Server works with Mac OSX 10.5 and later. You can:

- Use Time Machine to back up your Mac to the HP MediaSmart Server.

- Get easy access to *shared folders* on the server using your Control Center.

Settings for iTunes

Your HP MediaSmart Server includes a Server for iTunes. This server allows you to stream your music and playlists to computers that are running iTunes, or compatible devices.

Server Summary

Review important information about your Server at a glance.

Media Smart Server Online Backup

Online Backup uses an Amazon S3™ account to save your important files to a remote location on the Internet. You can also browse and restore your online files back to your Server. This feature is an Add-in that you can uninstall at any time.

The Windows Home Server Tabs

The Windows Home Server enables you to share, store, access, and automatically protect your pictures, videos, music, and files. It contains the following tabs:

- **Computers & Backups**—view and customize backups. Also, view the status of your home computers. For more information, see *Computers & Backup* in the Windows Home Server Console Help.
- **User Accounts**—add, remove, and modify user accounts. For more information, see *User Accounts* in the Windows Home Server Console Help.
- ***Shared Folders***—add, open, remove, and view the properties of the shared folders on your server. For more information, see *Shared Folders* in the Windows Home Server Console Help.
- **Server Storage**—view, add, repair, and remove hard drives from server storage. For more information, see *Server Storage* in the Windows Home Server Console Help.
- **Network**—displays health notifications from your server and your home computers. For more information, see *Network Health* in the Windows Home Server Console Help.
- **Settings**—configure general settings, such as date and time, backups, passwords, media sharing, remote access, add-ins, resources, and more. For more information, see *Server Settings* in the Windows Home Server Console Help.
- **Help**—access the Windows Home Server Console Help.

About HP Add-ins for Windows Home Server

HP add-ins are software programs that extend the functionality of Windows Home Server. HP is working with PacketVideo to provide enhanced media streaming using the TwonkyMedia add-in. The McAfee add-in delivers server side anti-virus protection.

TwonkyMedia

The TwonkyMedia enhanced *media streaming* software add-in for the HP MediaSmart Server enables you to view photo thumbnails, available music album art, and stream content from any shared folder using a digital media player or a digital media receiver.

Note

It is suggested that you use one media streaming program, either Windows Media Connect or TwonkyMedia described above. Windows Media Connect is part of Windows Home Server and is already installed on the HP MediaSmart Server. Conversely, Hewlett-Packard partnered with PacketVideo to provide the TwonkyMedia add-in. For a comparison of these programs, see [Windows Media Connect 2.0 and TwonkyMedia Comparison](#).

McAfee Anti-virus Protection

To receive McAfee Anti-virus protection, you must activate the service. The McAfee anti-virus add-in with Total Protection Service is a comprehensive security management solution that:

- Checks for viruses, spyware, unwanted programs, and other potential threats. Every time a file is accessed on your Windows Home Server, Total Protection Service scans the file to make sure it is free of viruses and spyware.
- Sends security status information for your server to an administrative web site that is unique to your account, known as the McAfee SecurityCenter. You can visit the SecurityCenter to check detection reports or to set up security rules, known as policies, to define the types of programs that do not pose a security threat.
- Updates itself automatically at regular intervals with the latest versions of components and detection definition (dat) files. This ensures that Total Protection Service is always able to protect you against the latest threats.

Total Protection Service typically operates in the background without any interaction on your part.

To learn more about the McAfee anti-virus add-in, see their online documentation in one of the following languages:

- **English**—
<http://us.mcafee.com/root/campaign.asp?cid=39906&l=enu&action=whshelp>
- **French**—
<http://us.mcafee.com/root/campaign.asp?cid=39906&l=fra&action=whshelp>
- **German**—
<http://us.mcafee.com/root/campaign.asp?cid=39906&l=deu&action=whshelp>
- **Spanish**—
<http://us.mcafee.com/root/campaign.asp?cid=39906&l=esp&action=whshelp>

After you activate McAfee antivirus protection, you receive a seven month trial period. Internet access is required to receive updates. Subscription is required for updates after seven months.

For additional information, see Add-ins in the Windows Home Server help.

Using Windows Home Server

User Accounts

Enabling the Guest Account

If you want everyone to use the same logon account to access the HP MediaSmart Server, enable the guest account. If the Guest account is enabled with no password, family members are not required to logon when they use home computers. Additionally, all family members can have Full access to all *shared folders* through the Guest account.

Important

If you enable the Guest account, everyone that connects to your home network has the same privileges. That may mean that they all have full access to shared folders and other resources on your server. To protect your home network from unwanted connections, see [Securing your server from intruders](#).

Notes

-  We strongly recommend that you enable the Guest account and give the Guest account full permission on all your photos, music, and videos shared folders; this ensures that Media Collector always has access to all shares.
-  The Guest account cannot be used to access the server from outside of the home using remote access.

To enable the guest account

1. At the computer, double-click the Windows Home Server icon  in the system tray.
2. Log on to the Windows Home Server Console.
3. Click the User Accounts tab at the top of the page, the User Accounts Setup dialog displays.
4. Click Enable Guest.

 If you have already asked the Enable Guest checkbox not to show again, double-click Guest account and click Enable.

Creating Individual User Accounts

If family members want to access information on your home network from an Internet café, coffee shop, or other location outside of your home, they need individual user accounts with strong passwords on their computer or laptop and on the server.

Important

When you create user accounts on the server, use logon names and passwords that match the logon names and passwords of existing user accounts on your home

computers. Creating matching user accounts enables family members to automatically log on to the server when they log on to their home computer. If the user accounts and passwords do not match, you will be prompted to type a user name and password when you open the server's shared folders. If your computer does not have a password or if the computer uses a factory default user name, you can change these parameters to eliminate the need to enter your user name and password when you access a shared folder.

To create a user account for a home computer running Windows XP

1. At the computer, click **Start**, **Control Panel**, and then **User Accounts**.
2. Click **Add** to create a user account.

-or-

Click **Change an Account** to change a logon name or password for an existing account.

A *strong password* is suggested to ensure security and is required to use remote access. A strong password must be at least 7 characters long and must fulfill three of the following four character criteria:

- Uppercase characters
- Lowercase characters
- Numbers
- Symbols (such as !, @, #, and so on.)

A *password hint* helps you remember your password. The password hint can be seen by anybody who clicks the link to display it.

To create a user account for a home computer running Windows Vista

1. At the computer, click **Start** and then **Control Panel**.
2. Under **User Accounts and Family Safety**, select **Add or remove user accounts**.
3. Add user accounts or make changes to existing user accounts.

A strong password is suggested to ensure security and is required to use remote access. A strong password must be at least 7 characters long and must fulfill three of the following four character criteria:

- Uppercase characters
- Lowercase characters
- Numbers
- Symbols (such as !, @, #, and so on.)

A password hint helps you remember your password. The password hint can be seen by anybody who clicks the link to display it.

To create user accounts on the server

1. At the computer, double-click the Windows Home Server icon  in the system tray.
2. Log on to the Windows Home Server Console.
3. Click the **User Accounts** tab at the top of the page. If the User Accounts Setup dialog displays click **OK**.
4. Click **Add**, this will open the **Add User Account** screen. enter user information. Check the **Enable Remote Access for this user** check box. Make an appropriate choice concerning allowing access to computer and folders.
5. Click **Next**.

6. Enter and confirm a strong **password**. A strong password is suggested to ensure security and is required to use remote access. A strong password must be at least 7 characters long and must fulfill three of the following four character criteria:
 - Uppercase characters
 - Lowercase characters
 - Numbers
 - Symbols (such as !, @, #, and so on.)
7. Click **Next**.
8. Select access to shared folders
9. Click **Finish**.
10. Click **Done**.

Repeat for each user account that you want to add.

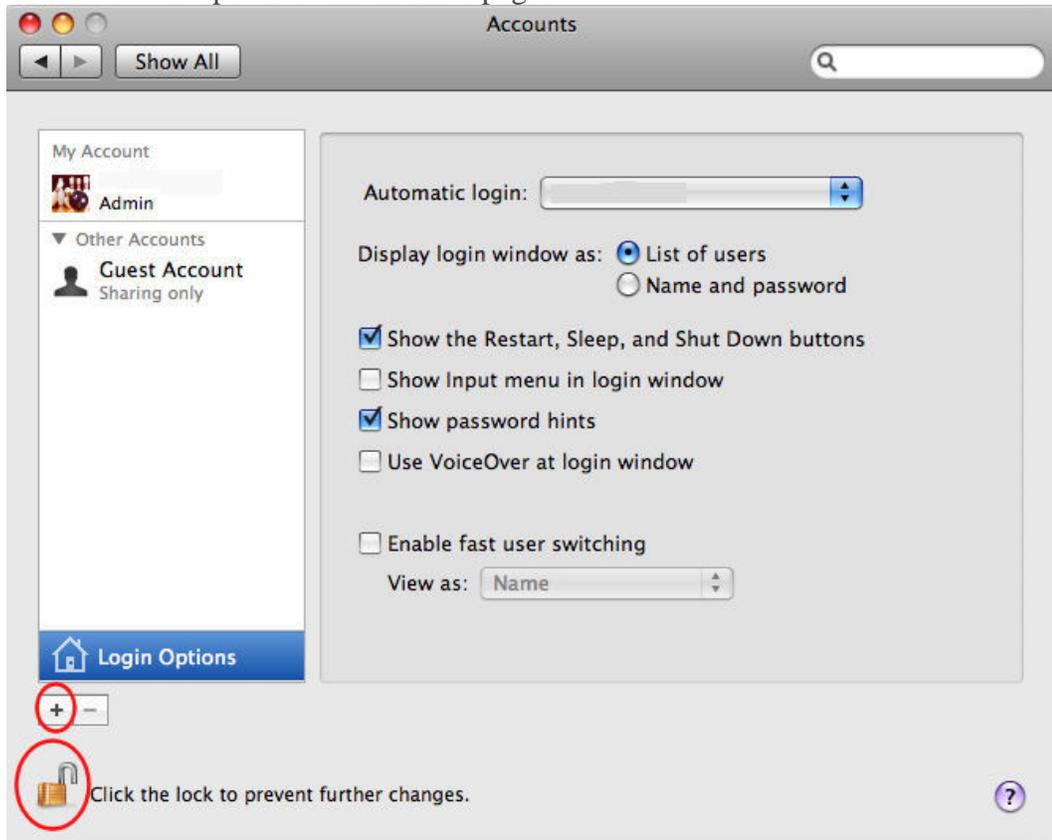
Add a user account for a home computer running Mac

1. Click **System Preferences, Accounts.**



2. If the accounts page is locked, click the lock and enter you credentials to unlock the page.

3. Click the + to open the new account page.



4. Enter the user information.

A *strong password* is suggested to ensure security and is required to use remote access. A strong password should be at least 7 characters long and fulfill three of the following four character criteria:

- Uppercase characters
- Lowercase characters
- Numbers
- Symbols (such as !, @, #, and so on.)

A *password hint* helps you remember your password.

5. Click **Create Account**.

The screenshot shows a 'New Account' dialog box with the following fields and options:

- New Account:** A dropdown menu currently showing 'Standard'.
- Name:** An empty text input field.
- Short Name:** An empty text input field.
- Password:** A text input field with a key icon on the right to toggle visibility.
- Verify:** A text input field for re-entering the password.
- Password Hint:** A text input field with the label '(Recommended)'.
- Turn on FileVault protection:** An unchecked checkbox.
- Buttons:** A help button (?), a 'Cancel' button, and a 'Create Account' button.

Backing up and Restoring a Computer

Backing up and restoring a computer is available through the **Computers & Backups** tab on the Windows Home Server console.

To access the **Computers & Backups** tab

1. At the computer, double-click the Windows Home Server icon  in the system tray.
2. Log on to the Windows Home Server Console.
3. Click the **Computers & Backups** tab.

For assistance backing up or restoring a computer, see the following in the Windows Home Server Console Help:

- Computers & Backup
- How does backup work?
- Managing and Configuring Backups
- Restoring Computer Backups
- Removing a Computer
- Troubleshooting Computers & Backup

Securing your Server from Intruders

The HP MediaSmart Server is designed as a device that is always on, which comes in handy for accessing files any time your network users need or want them. Additionally, remote access can allow visitors to view, add, and delete photos and videos. If not properly secured, these features present security risks, so you'll want to ensure that unauthorized users can't access your server and the files stored on it.

The following security measures help protect your network and computers:

- Firewall protection
- Wireless security
- *Anti-virus software*
- User name and password protection
- Remote Access security

Firewall protection

A firewall is a hardware device or software program that protects your network from unauthorized access. It protects your system from hackers running programs, sending email, and gaining access to your private information. The following types of firewalls protect your network and computers:

- Broadband *router* firewall
- Windows Home Server firewall
- Personal firewall

Broadband router firewall

The HP MediaSmart Server requires a broadband router. Broadband routers allow multiple computers and devices to share an internet connection using *NAT* (Network Address Translation) technology. NAT allows all the computers and devices on your network to use a single internet connection (*IP address*). NAT acts as a firewall by masking the real IP addresses of your network components—including the HP MediaSmart Server—which keeps them from being seen outside the home.

Some broadband routers implement Stateful Packet Inspection (SPI), which adds enhanced security by examining each packet of information before allowing it into the network. SPI can prevent advanced forms of incursions like Denial of Service attacks.

Windows Home Server firewall

Windows Home Server includes Windows Firewall, which protects communications between the server and the computers on your home network. This firewall is configured to allow remote access. It is not configurable by the user.

Personal firewall

A personal firewall is a software application that protects an individual computer. Because a personal firewall is behind the broadband firewall, it will protect the computer on which it is installed from attacks from other computers within the network.

Firewall ports

The following table lists the ports used by the server.

Ports used by the server		
Type	Port numbers	Description
TCP	80, 443	Standard Web site
TCP	55000, 56000	internal (subnet only) Web site for Windows Home Server Web services
TCP	1138	Transport

TCP	8912	Backup and beacon
UDP	8912	Backup and beacon
TCP	2869	<i>UPnP</i> (Universal Plug and Play)
UDP	1900	UPnP
TCP	3389	Remote desktop
TCP	4125	Remote access (when enabled)
TCP	139, 445	File and print sharing
UDP	137, 138	File and print sharing
UDP	10284, 10283, 10282, 10281, 10280, 10243	Media connection

The following topics in the Windows Home Server Console Help discuss how to configure your router for port forwarding:

- Configuring your broadband router
- Why can't I connect to some computers?
- Learn more about router port forwarding

Wireless security

If your router comes with wireless capability, it has a piece of equipment called a Wireless Access Point (*WAP*). A WAP can come within an *all-in-one-gateway*, router, or as a standalone unit. In many cases, WAP's security settings are toggled off by default and you must manually turn on the security settings. If the security settings are toggled off, anyone can access your network and may be able to get into the server and any computer or other device on your network. Firewalls and anti-virus software do not keep intruders out of wireless networks.

Most wireless networking equipment supports two forms of data encryption as security features:

- Wired Equivalent Privacy (*WEP*)
- Wi-Fi Protected Access (*WPA*)

For more information on how to configure the security for your wireless network, see the user's guide that came with your networking equipment.

Anti-virus software

You should install anti-virus software on all the computers on your network, and configure the software from one of the computers to scan all the *shared folders* on the server. You might be required to assign (*map*) drive letters to all your shared folders to enable the anti-virus software to scan the server.

Important

Remember to keep your anti-virus definitions up-to-date.

User name and password protection

User names and passwords help secure the server by requiring authentication for managing the server, accessing shared files, and using remote access.

- **Server password** - during the first install of the HP MediaSmart Server, you are asked to create a *strong password* to allow access for managing your server from the Windows Home Server console. This password will protect the server from unwanted changes.
- **User account passwords** - each person who uses your network must have a user account so they can access shared folders on the server or, if configured, use remote access. For more information, see User Accounts and Setting User Accounts Password Policy in the Windows Home Server Console Help.
- **Computer passwords** - by using the same user name and password for logging onto a computer as for the server user account, you can avoid having to enter the user name and password when accessing a shared folder. Requiring logon to each computer on your network adds a level of security. For more information, see Why should logon names match? in the Windows Home Server Console Help.

Remote Access security

By default Remote Access is turned off.

Using a computer to remotely access the files on your server is protected in several ways:

- Security certificate
- *HTTPS* (encrypted Secure Sockets Layer (SSL) *protocol*)
- User account with strong password

Security certificate

When you install the HP MediaSmart Server software on your home computers, the Windows Home Server Connector software adds the Windows Home Server security certificate to the computer's trusted certificate list. This security certificate helps secure the information that is exchanged between the server and your computer's *Web browser*. The best way to access the files on the server while away from home is from a computer that has a browser and Internet access.

Using remote access to access your server from public or other untrusted computers is not recommended. Doing so can potentially expose your server to malicious software and viruses.

HTTPS

Remote Access is secure because the connection between the remote computer and the server is done over HTTPS. HTTPS uses the encrypted Secure Sockets Layer (SSL) protocol, the same protocol used for banking transactions and retail commerce.

User Account with strong password

Remote access does not allow logging on from the Guest or Administrator account. Moreover, the user account must be enabled for remote access, which requires a strong password to ensure that authentication is as secure as possible.

HP MediaSmart Photo Viewer

If you have configured a Domain name to your Server, any photos that are placed into photo viewer are viewable by any one that finds your domain. The Photos that are found and seen on this manner can not be deleted, nor can they be modified. Deleting photos can only be done by users that have successfully logged into the Server.

Shared Folders

Shared folders are places for you to organize and store files on your home server so that you can share them with other people on your network.

See the following topics for using shared folders:

- [Windows Home Server Console Help for shared folders](#)—Windows Home Server Console contains a Shared Folders tab, where you can add, view the properties of, open, and remove shared folders on the server.



Note

Do not delete the shared folders that come with the HP MediaSmart Server—Music, Photos, Public, Software, or Videos. Likewise, do not delete the Mac shared folder if you intend to use Mac features.

- [Accessing shared folders from your computer](#)—describes the various ways you can access shared folders.

Windows Home Server Console Help for shared folders

For assistance using shared folders, see the following in the Windows Home Server Console Help:

- Shared Folder
- Adding a shared folder
- Viewing shared folder properties
- Opening a shared folder
- Removing a shared folder
- Viewing shared folder history
- What is *Folder Duplication*?

Accessing shared folders from your computer

For convenience, the HP MediaSmart Server provides several ways to access shared folders:

- At the computer, click **Start** and **Run**. Type `\\HPSERVERLX` or the name of your server and click **OK**.
- [To access shared folders from the Control Center](#)
- [To access shared folders from the desktop shortcut](#)
- [To access shared folders from the system tray](#)
- [To access shared folders from My Network Places in Windows XP](#)
- [To access shared folders from Network in Windows Vista](#)

To access shared folders from the Control Center

1. At the computer, click **Start**, **All Programs**, and then select **HP MediaSmart Server**.
2. Click one of the following:
 - **Server**—opens a folder that contains all your shared folders.
 - **Photos**—opens a folder for sharing photos.
 - **Music**—opens a folder for sharing music.
 - **Videos**—opens a folder for sharing videos.

To access shared folders from the desktop shortcut

1. At the computer, go to the desktop, and then double-click the Shared Folders on

Server shortcut .

2. Double-click the shared folder you want to open.

To access shared folders from the system tray

1. Right-click the Windows Home Server  icon.
2. Click **Shared Folders**.
3. Double-click the shared folder you want to open.

To access shared folders from My Network Places in Windows XP

1. At the computer, click **Start**, and then click **My Network Places**.
2. Double-click the shared folder you want to open.
3. If the shared folders are not in My Network places, you can add them manually.

To access shared folders from Network in Windows Vista

1. At the computer, click **Start**, and then **Network**.

2. In Network, double-click the computer icon next to **SERVER** . If you changed the default name of the server, that name appears next to the computer icon instead.

3. Double-click the shared folder you want to open.

How to Add Shared Folders to Network Places

How to add *shared folders* to network places in Windows XP and Windows Vista.

- [To add shared folders to My Network Places in Windows XP](#)
- [To add a network place in Windows Vista](#)

To add shared folders to My Network Places in Windows XP

1. At the computer, click **Start**, and then click **My Computer**.
Note
If you use the classic start menu, click My Computer on the desktop.
2. Under **Other Places**, click **My Network Places**.
3. Under **Network Tasks**, click **Add a network place**.
4. In the **Add Network Place Wizard**, click **Next**.
5. Highlight **Choose another network location**, and then click **Next**.
6. To add the network place, you have two options:

- In the **Internet or network address box**, enter the path to the shared folder you want to *map*, and then click **Next**.
For example, enter \\HPSERVERLX\Music
Where **HPSERVERLX** is the default name. If you changed the name of the server, use that name. **Music** is the shared folder's name.
 - Click the **Browse** button and then use Windows Explorer to locate the network place.
The path is usually: Entire Network, Microsoft Windows Network, Workgroup, <Name of Server>.
7. After locating the shared folder, click to highlight it, and then click **OK**.
The location will appear in the **Folder** box.
 8. Specify whether you want to reconnect every time that you log on to your computer, and then click **Finish**.

Once you create a network place for one of the shared folders, the other shared folders on the server will be available on My Network Places.

To add a network place in Windows Vista



Note

Network discovery must be turned on to add a shared folder to Network places in Windows Vista.

1. At the computer, click **Start**, and then click **Network**.
2. Under **Network Tasks**, click **Add a network place**.
3. In the Network Place Wizard, click **Next**.
4. Highlight Choose another network location, and then click **Next**.
5. To add the network place, you have two options:
 - In the **Internet or network address box**, enter the path to the shared folder you want to map, and then click **Next**.
For example, enter \\HPSERVERLX\Software
Where **HPSERVERLX** is the default name. If you changed the name of the server, use that name. **Software** is shared folder's name.
 - Click the **Browse** button and then use Windows Explorer to locate the network place.
The path is usually: Entire Network, Microsoft Windows Network, Workgroup, <Name of Server>.
After locating the shared folder, click to highlight it, and then click **OK**.
The location will appear in the **Internet or network address** box.
6. To create a name for the network place, enter a name in the **Type a name for this network place** box, and then click **Next**.
7. Specify whether you want to reconnect every time that you log on to your computer, and then click **Finish**.

HP MediaSmart Server Settings

Power

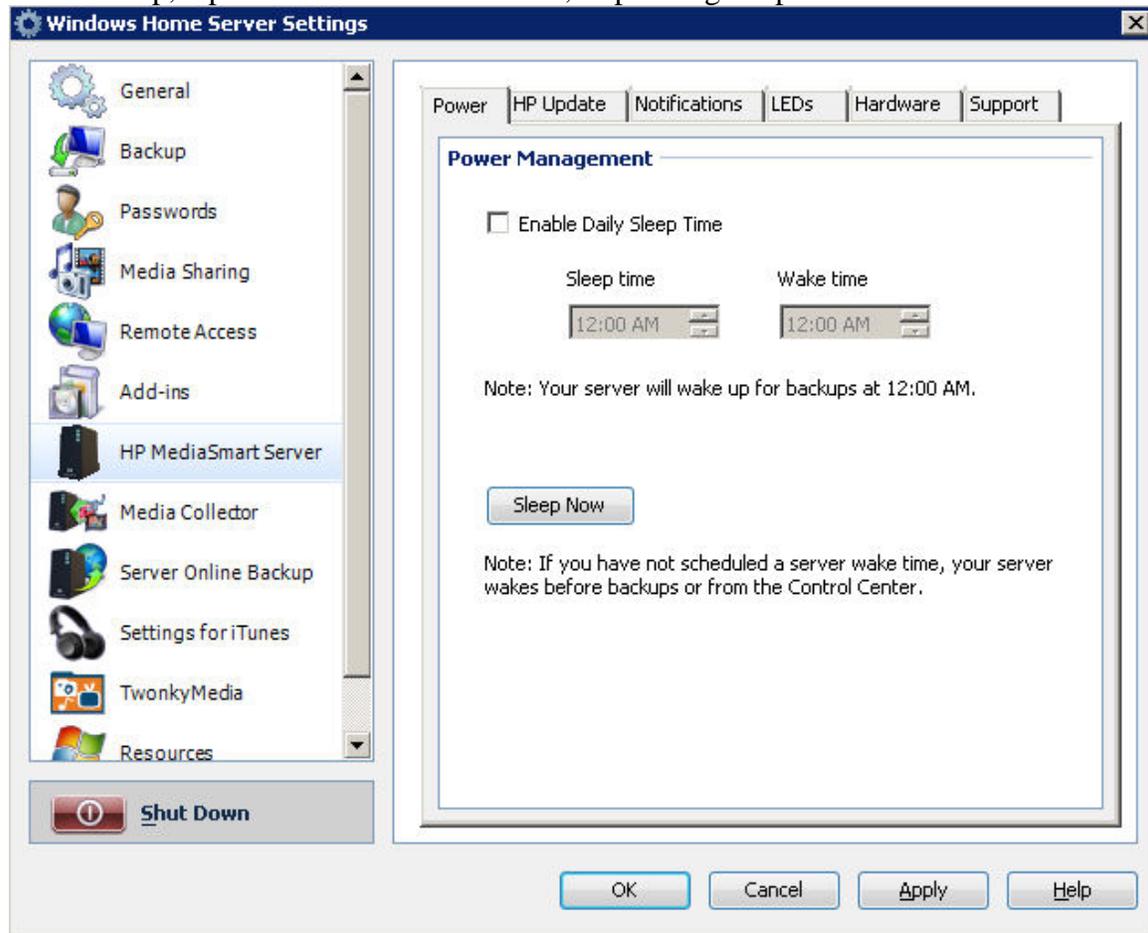
The Power Management screen allows you to put the Server into a sleep mode to save power.

The **Enable Daily Sleep Time** checkbox allows the Server to be put into a sleep mode and wake up based on times entered into the **Sleep time** and **Wake time** fields.

 **Note**

The server will wake up for a scheduled backup.

Clicking the **Sleep Now** button puts the Server into sleep mode. The server will wake up for a backup, input from the Control Center, or pressing the power button on the Server.



HP MediaSmart Server Software Update

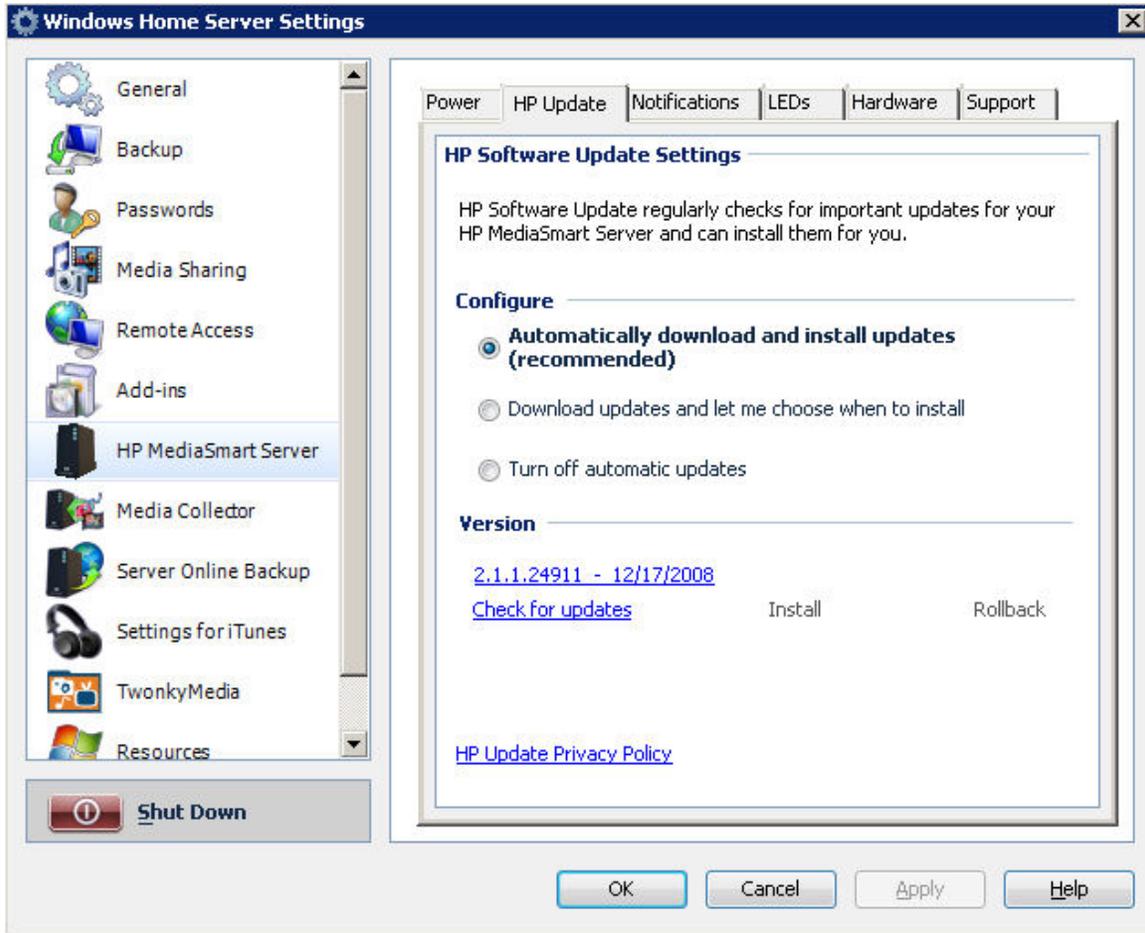
Use the HP MediaSmart software update to keep your server and home computers current with the latest HP software, online help, and new features.

HP MediaSmart software update does not update the Microsoft Windows Home Server operating system. For information about updating Windows Home Server, see [Configuring Windows Update in the Windows Home Server Console Help](#).

- [To Configure HP MediaSmart Software Update](#)
- [To Update Client Computers](#)
- [To Run the HP Software Update Install Wizard](#)

To Configure HP MediaSmart Software Update

1. At the computer, double-click the Windows Home Server icon  in the system tray.
2. Log on to the **Windows Home Server Console**.
3. Click the **Settings** link.
4. Click **HP MediaSmart Server**
5. HP MediaSmart Server tab



In the **Configure** section you have choices to

Configure HP Software Update Options	
Option	Additional information
Automatically download and install updates (recommended)	Requires no user action. Downloads and installs updates on the server in the background. If necessary the server will automatically reboot.
Download updates and let me choose when to install	Requires user action. Your computer notifies you that an update has been downloaded and is ready to install on the server. Additionally, the

	Install link turns blue under HP MediaSmart software updates. To update the server after an update is downloaded, click Install under HP MediaSmart software updates in the Windows Home Server Console
Turn off automatic updates	Not recommended. To get updates with this choice you will have to click Check for updates located in the Version section.

6. To manually control updates
 - **In the Version section**
The software version and date is shown.
 - The **Check for updates** link is available.
Select this link to immediately check for available software updates.
 - The **Rollback** link will become active (text will be blue) when a software update has been installed. You would use this link if you want to revert to the previous software version.
Select this link to uninstall the current software update.

To Update Client Computers

If an update is available, here's what happens:

1. A notification displays on the client computers indicating that the HP MediaSmart Server wants to download the HP software update to the computers.
2. After the update downloads, the install begins.

 **Note**

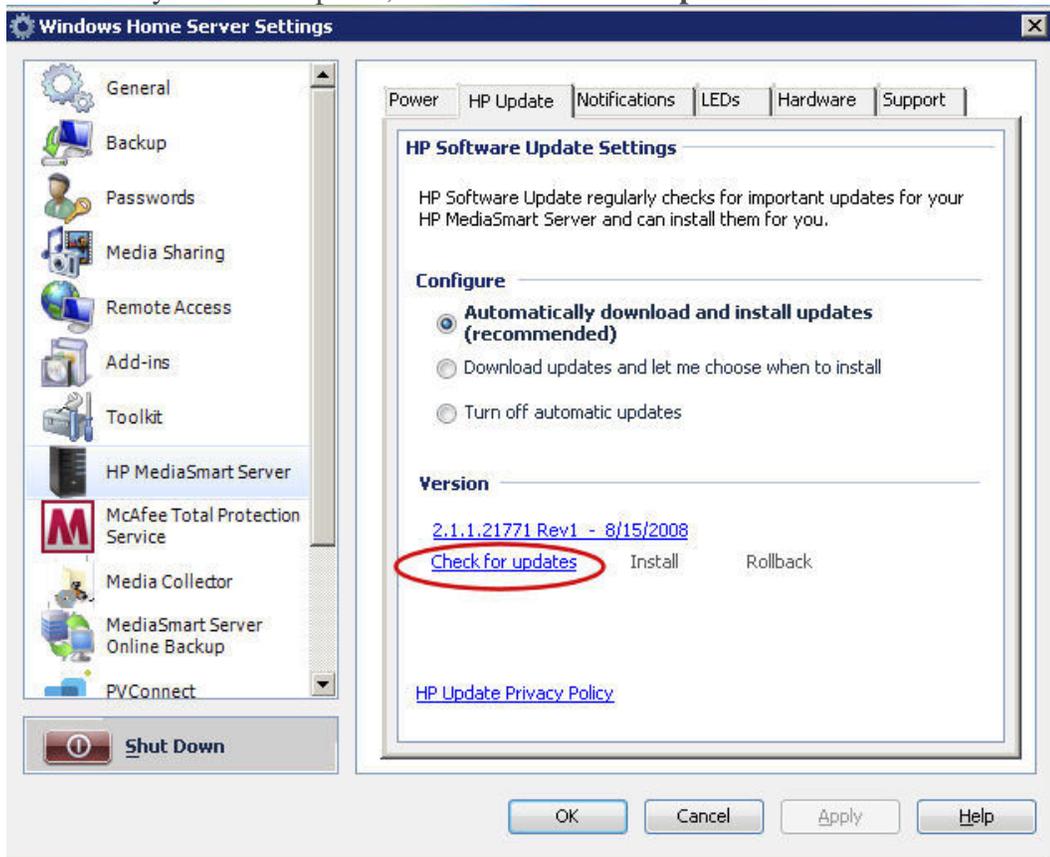
Home computers may not be able to communicate with the server if updates are installed on the server but they have not been installed on the home computer.

To Run the HP Software Update Install Wizard

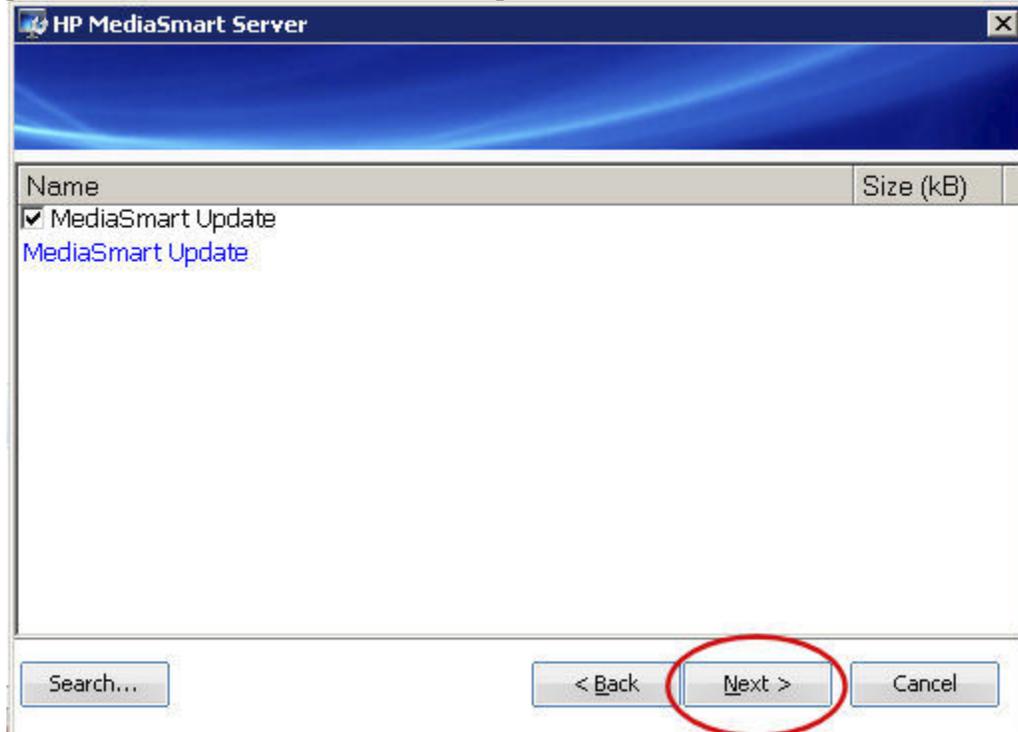
- [How to manually Check for Updates](#)
- [How to manually Install an update copied to the Server](#)
- [How to uninstall an update](#)

How to Manually Check for Updates

1. To manually install an update; click the **Check for updates** link.

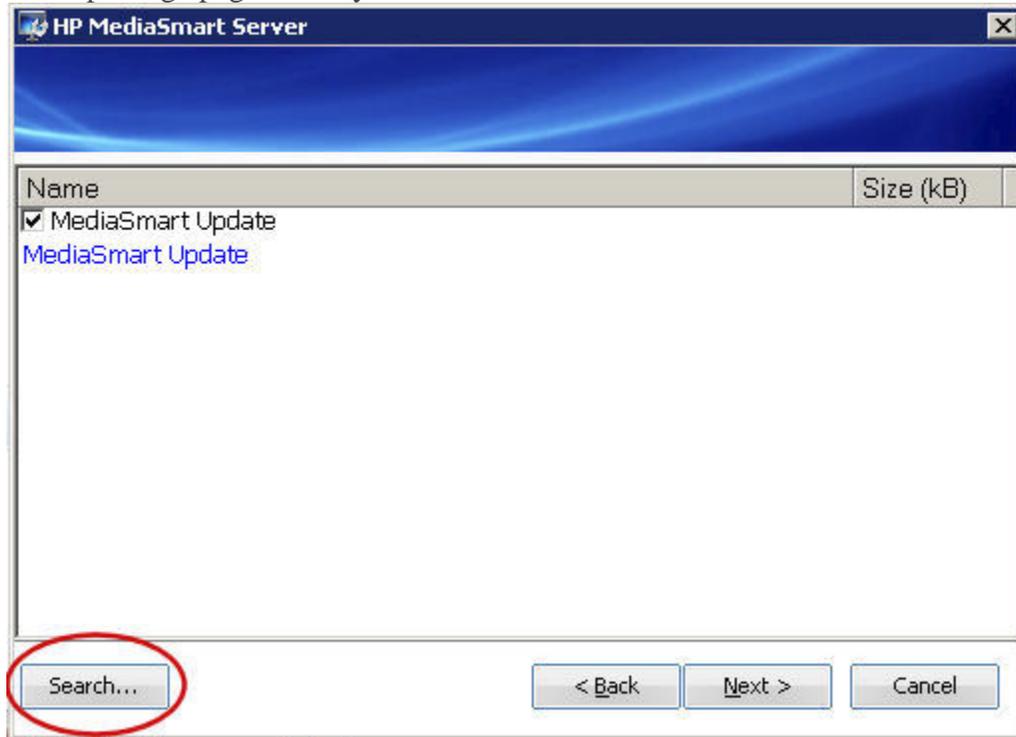


2. If an update is found it will be listed as below. Click **Next** to start the install process, follow default choices to complete the software install.



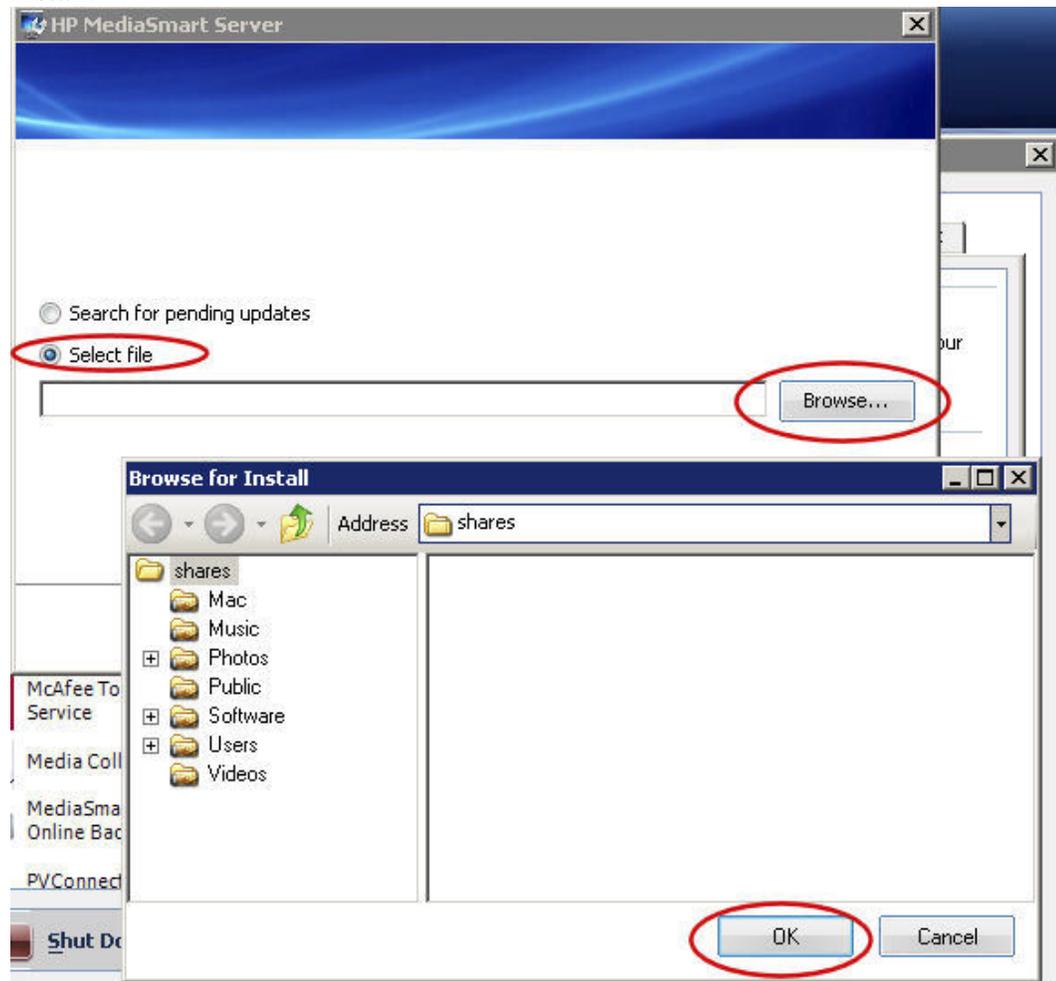
How to Manually Install an Update Copied to the Server

1. If you have downloaded a software update from the www.hp.com site, you can manually install it by copying the software update package to your Server. To manually install an update you've copied to the home server; click the **Check for updates** link. After the install wizard checks for pending updates, you will see the select package page where you can select the **Search** button.



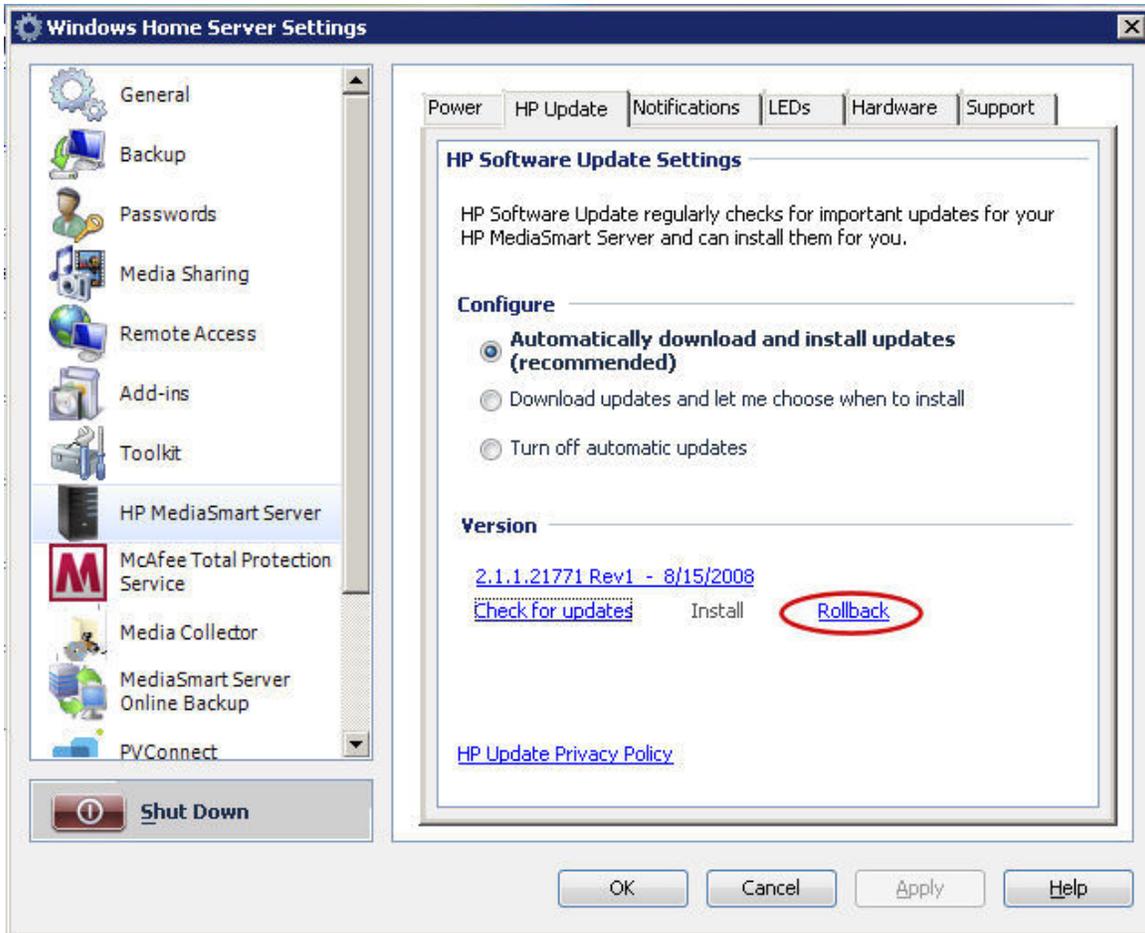
2. Click the **Select file** radio button. You can manually type the full path to the file that you copied to the Server or select the **Browse** button, navigate to the file, and select **OK**. Once the file name is entered in the Select File field click **Finish** to start the install process and follow default choices to complete the software

install.



How to Uninstall an Update

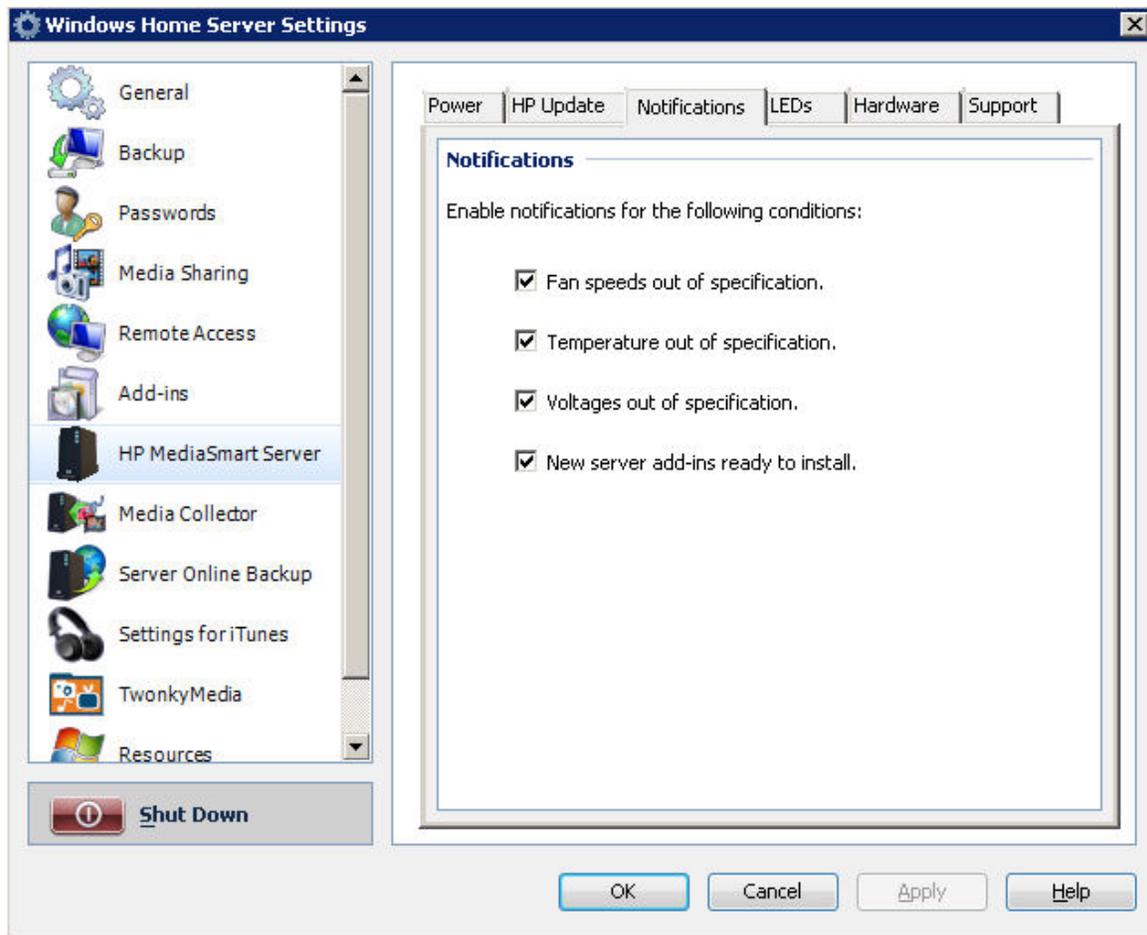
If you desire to go back to the previous version of the HP Software Click the **Rollback** link, click **Yes** in the confirmation screen.



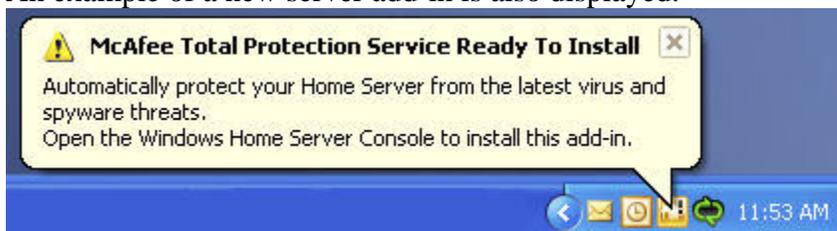
Notifications

The Notifications screen gives you control of which notifications will show up as messages in your system tray.

The example below has all notifications turned on.



An example of a new server add-in is also displayed.

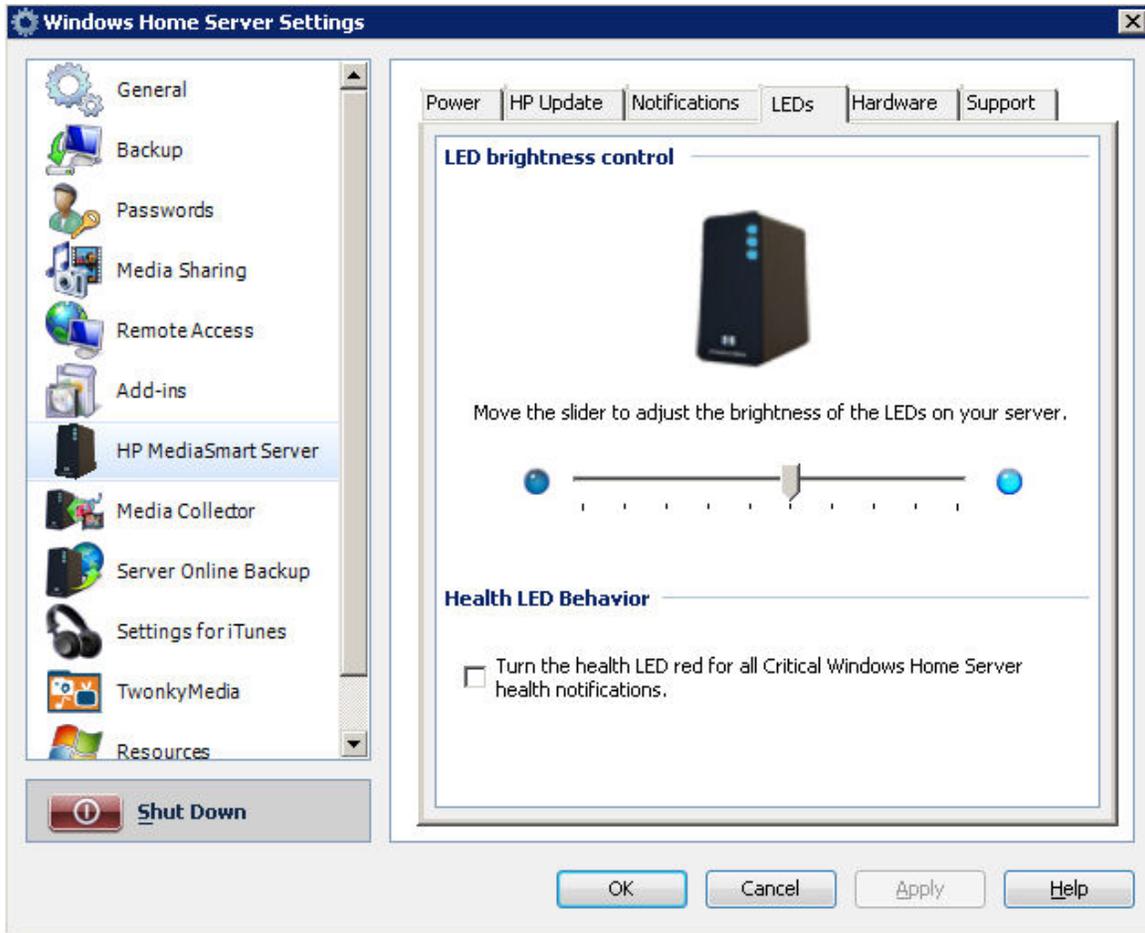


LED

The LED screen gives you control of two different LED behaviors.

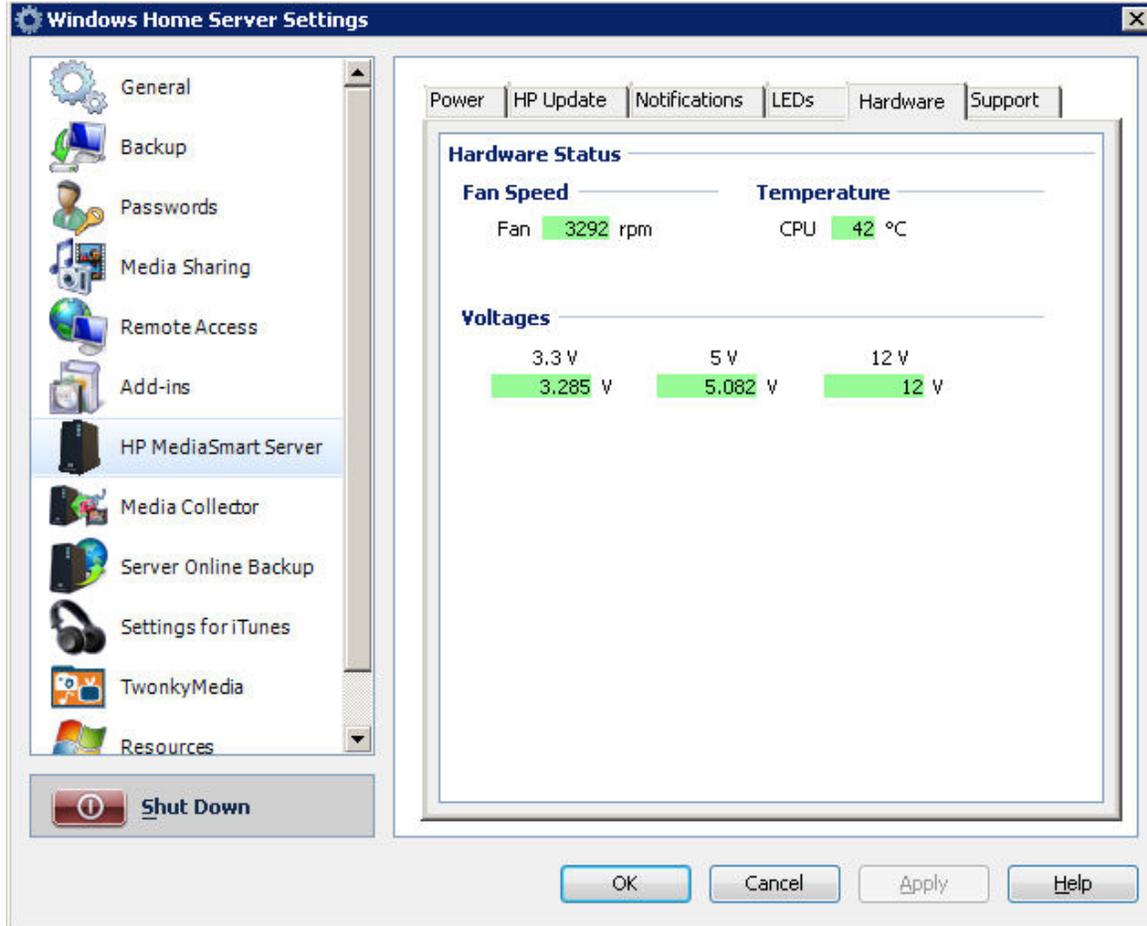
The LED brightness control allows you to adjust the brightness of all LEDs on the front panel of the Server. Grab the slider and move for a brighter or dimmer LED.

The **Health LED Behavior** checkbox allows for the Server's health LED to show red you for any Critical Windows Home Server health notifications.



HP MediaSmart Server Settings, Hardware Tab

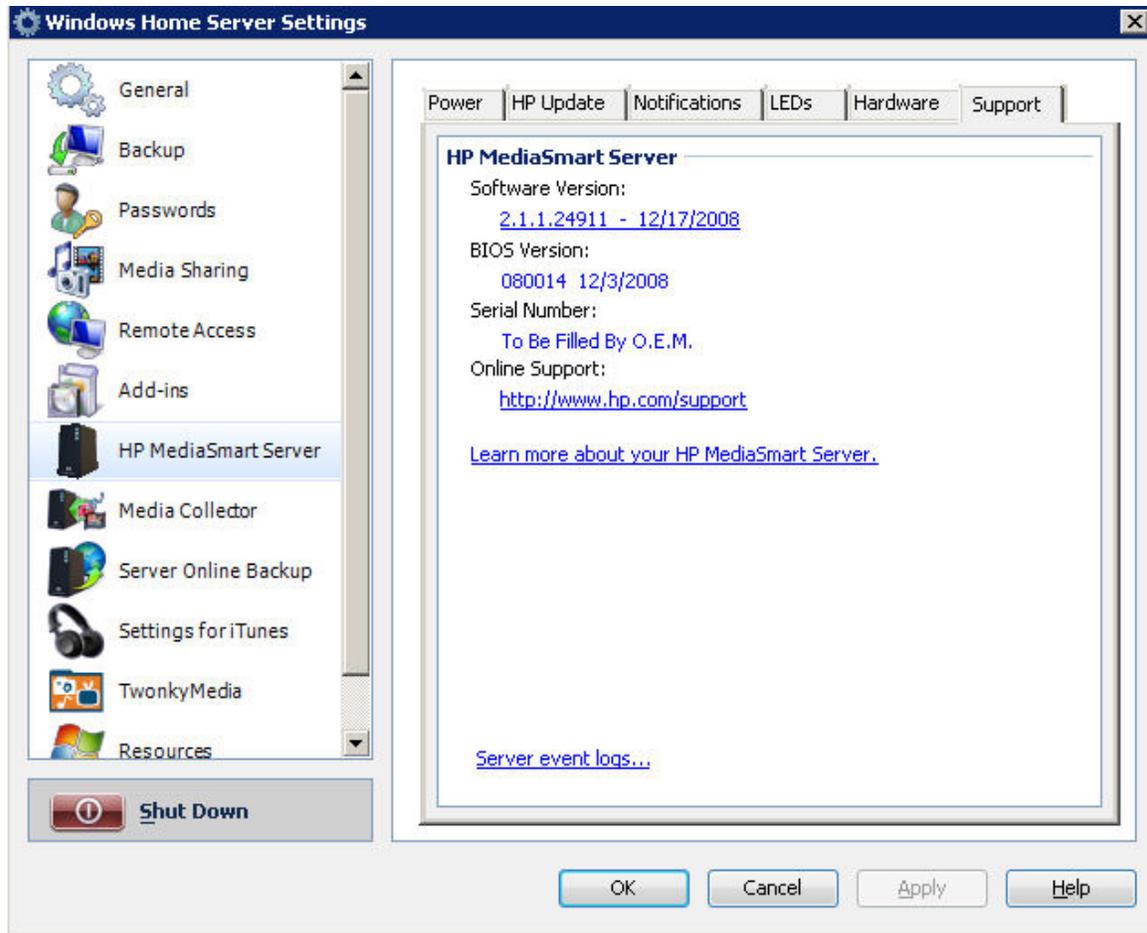
Information presented on this screen is gathered from various sensors within the Server Solution:



HP MediaSmart Server Settings, Support Tab

The Support tab shows:

- The HP Software Version
- The *BIOS* Version
- The Serial Number of the Server
- Links for Online Support and More information
- Access to the Server event logs



The Control Center

Opening the Control Center

The Control Center is the starting point for accessing the features of the HP MediaSmart Server. The Control Center has three sections:

- **Browse**—Access your *shared folders*.
- **Tools**—Tools and settings for configuring your server.
- **Help & Support**—Learn to use the HP MediaSmart Server and connect to online support.

The Control Center can be accessed from the following:



Windows Start menu—at the computer, click Start, All Programs, and then select HP MediaSmart Server.



Desktop icon—at the computer, double-click the HP MediaSmart Server icon on the desktop.

The Browse Section

Shared Folders

Shared folders are places to help you get started saving and organizing your files so that you can share them with other people on your network.



Server—opens a folder that displays a list of all your shared folders.



Photos—opens a folder that displays a list of photos and photo subfolders.



Music—opens a folder that displays a list of music and music subfolders.



Video—opens a folder that displays a list of videos and video subfolders.

If the logon name for the user account on your server does not match the logon name for your computer, you must enter a user name and password. For information about creating matching user accounts, see *Why should logons names match?* in the Windows Home Server Console Help.

The Tools Section

Use the tools and settings on this tab to configure your HP MediaSmart Server.



HP Photo Publisher—Publish photos from your Server to your favorite photo-sharing site. Friends and family can see your photos on the Internet.



Home Server Console—opens the Windows Home Server Console, where you manage and configure the server. For more information, see *Windows Home Server Console* in the *Windows Home Server Console* help.



Backup now—immediately backs up your computer. All files not backed up since the last nightly backup are backed up. For more information, see *Backup Now* in the *Windows Home Server Console* Help.



Wake Server—Click Wakeup Server if you want to use the HP MediaSmart Server during sleep hours. All of the lights on the Server will be off when it is in sleep mode. For more information, see [Power](#).

The Help & Support Section

Get information about using, configuring, and getting accessories for your HP MediaSmart Server.



User's Guide—contains installation information, setup instructions, how to use the server, tutorials, and other important information.



Online support—go to the HP Support web site, where you can get more information about the HP MediaSmart Server.



Registration—Click to go to <https://register.hp.com> and register your HP MediaSmart Server. Registering your Server ensures that your information is on file with HP if you should need technical support services.



Need accessories?—get accessories for your server and shop HP Home & Home Office.

Server for iTunes

Settings for iTunes

Media Collector provides the ability to copy your iTunes music library and playlists to your HP MediaSmart Server. You can centralize your iTunes library for playback on any computer on your home network that runs iTunes.

Your Server is enabled for iTunes by default. To set up your Server for iTunes follow these steps:

1. At the computer, double-click the Windows Home Server icon  in the system tray.
2. Log on to the Windows Home Server.
3. In the left pane of the **HP MediaSmart Server** tab, click the **Server for iTunes** button. In the right pane click the **Configure** button. The **Windows Home Server Settings** window opens. Here you can set up the following:
 - **Status**—enable or disable.
 - **Shared name**—specify the shared name you want to display in iTunes.
 - **Require password**—check to require password. The default setting here is no password. If you assign a password, then only users who provide the correct password can play music from your Server's shared library.
 - **Check interval**—how often to check for music that has been added to the shared Music folder on the server. By default this is set to check every 15 minutes.
5. Click **OK** to finish.

Media Collector

HP Media Collector Features

HP Media Collector takes media files from the computers on your network and copies them to your HP MediaSmart Server. This allows you to maintain a comprehensive library of music, photos, and videos in one location in your home. You can stream media to your television and stereo. You can share music with iTunes applications on other computers in your network. You can even stream media to the Internet where any computer with a Web browser can play it.



Media Collector copies only media files. It does not collect other file types, such as Microsoft Office documents.

Media Collection

HP Media Collector scans your computers for music, image, and video files and it copies them to the Server. You can choose how, where, and when Media Collector gathers your media. For example:

- You can tell Media Collector to look for videos in all folders or only in your My Videos folders.
- You can tell Media Collector to look for music and not to look for photos and video.
- You can tell Media Collector to gather photos from your computer and not from your children's computers.

Schedule

Media Collector scans the computers in your network on an automatic schedule that you choose. After you enable media collection and set the schedule, Media Collector collects new media files when you add them to your computers.



If you go to the Windows Server Console and reduce the interval between scans, this won't take effect until the next scheduled scan, unless you log off your computer and log back on again.

Media Collection Order

When all media types are enabled for collection, Media Collector collects photo files first; then music files, and it takes video files last.

[Before you Configure Media Collector](#)

HP Media Collector Default Settings

Media Collector is disabled by default. Before Media Collector can begin to copy media to your HP MediaSmart Server, you must enable each media type.

Media Collector copies media files only from computers that are installed as clients on your Windows Home Server network. For example, if you have a computer that you use only for gaming and you have not made it part of your Windows Home Server network, this computer is not available for Media Collection.

Organization Options and Defaults

You can tell HP Media Collector how you want to organize your media on your HP MediaSmart Server. For example, you can organize media in these ways:

Photos

- By date taken, or existing file structure
- Default is existing file structure

Music

- By Artist/Album or existing file structure
- Default is Artist/Album

Videos

- By existing file structure
- You can configure Media Collector to copy or move the files
- Default is copy

Ignored Directories and Skipped Files

HP Media Collector skips picture files that are less than 45 K in size. Media Collector ignores some directories for each media. See the list below:

Photos

temporary internet files, My Music folder, windows system directories

Music

temporary internet files, windows system directories

Videos

temporary internet files, windows system directories, mov files located under My Pictures, Pictures

Supported File Formats

The files and types listed below are compatible for Media Collection:

Photos

jpg, gif, tif, pct, mov files located under My Pictures, Pictures

Music

mp3, wma, m4a, aac, wav, playlists (m3u, wpl), album art

Videos

AVI, MOV, m4v, MPEG, MP2, WMV, FLV, DIVX, DVR-MS, M2TS

Music Duplication

 When HP Media Collector copies music files from all your computers and users, it attempts to reduce duplicates. For example, if two users have the same music file, Media Collector copies only one file to the Server.

Before You Configure HP Media Collector

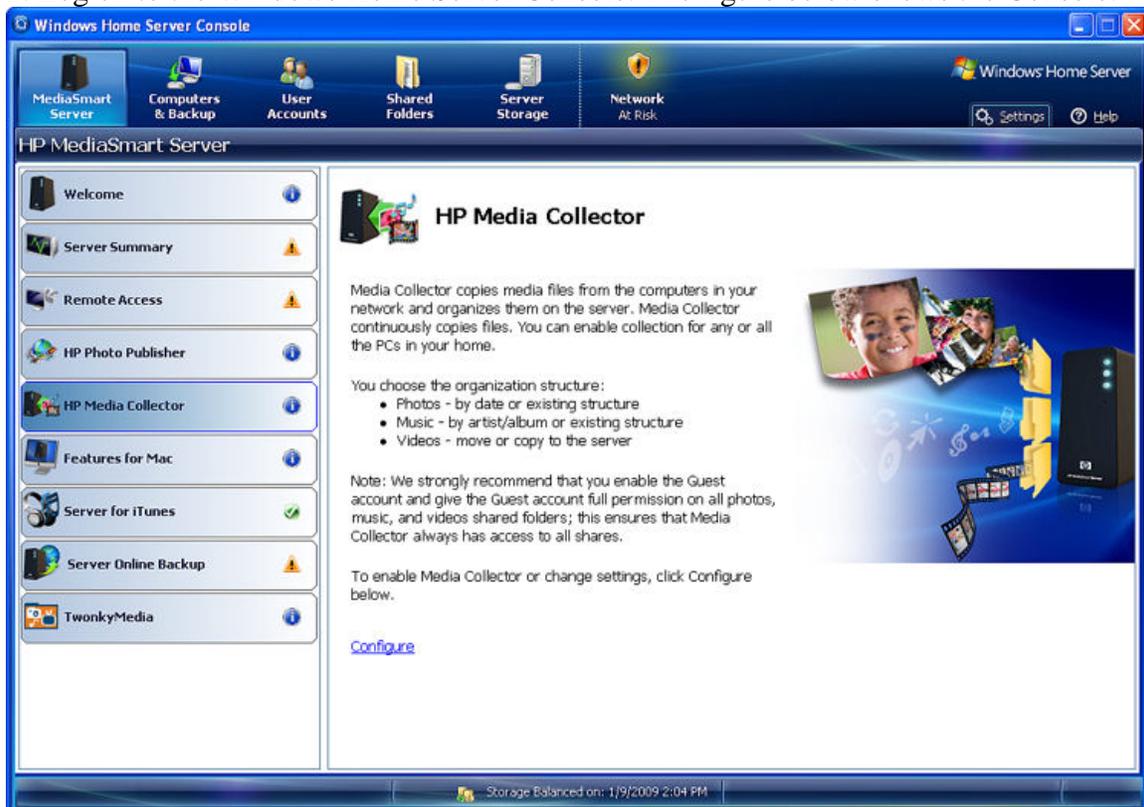
 **Note** We strongly recommend that you enable the Guest account and give the Guest account full permission on all your photos, music, and videos shared folders; this ensures that Media Collector always has access to all shares.

The first time that you open the Media Collector tab in the **Windows Home Server Settings** window, all your computers are listed in the **Included computers** box. When you [add a new computer](#), it shows up in the **Available Computers** list. To add the new computer to Media Collector's scan schedule, simply move it to the **Included computers** box.

When enabled, Media Collector automatically scans the **Included computers** for media. Media Collector does not scan computers in the **Available computers** box. You can move a computer out of the **Included computers** box and into **Available computers** if you want to disable media collection for that computer.

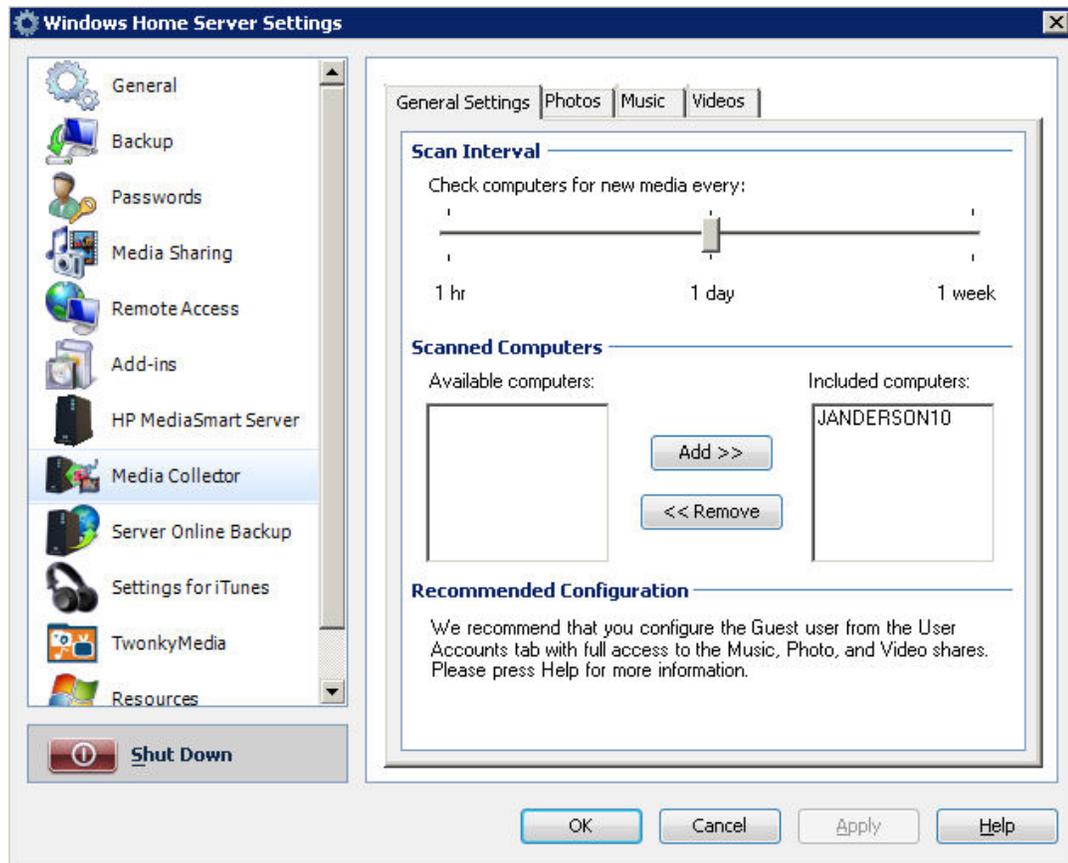
Configure HP Media Collector General Settings

1. At the computer, right-click the Windows Home Server icon in the system tray to open the Windows Home Server Console.
2. Log on to the Windows Home Server Console. The figure below shows the Console.



3. In the HP MediaSmart Server tab, click the Media Collector button.
4. In the right pane, click the Configure link. This opens the Windows Home Server Settings window. You can configure Media Collector General settings here.
 - **Scan Interval**—set how often the Media Collector scans your computers
 - **Scanned Computers**—**Add** or **Remove** computers from the Included list. (Available computers are Windows Home Server clients. Included Computers are scanned for media collection.)

The figure below shows the Media Collector General Settings window.



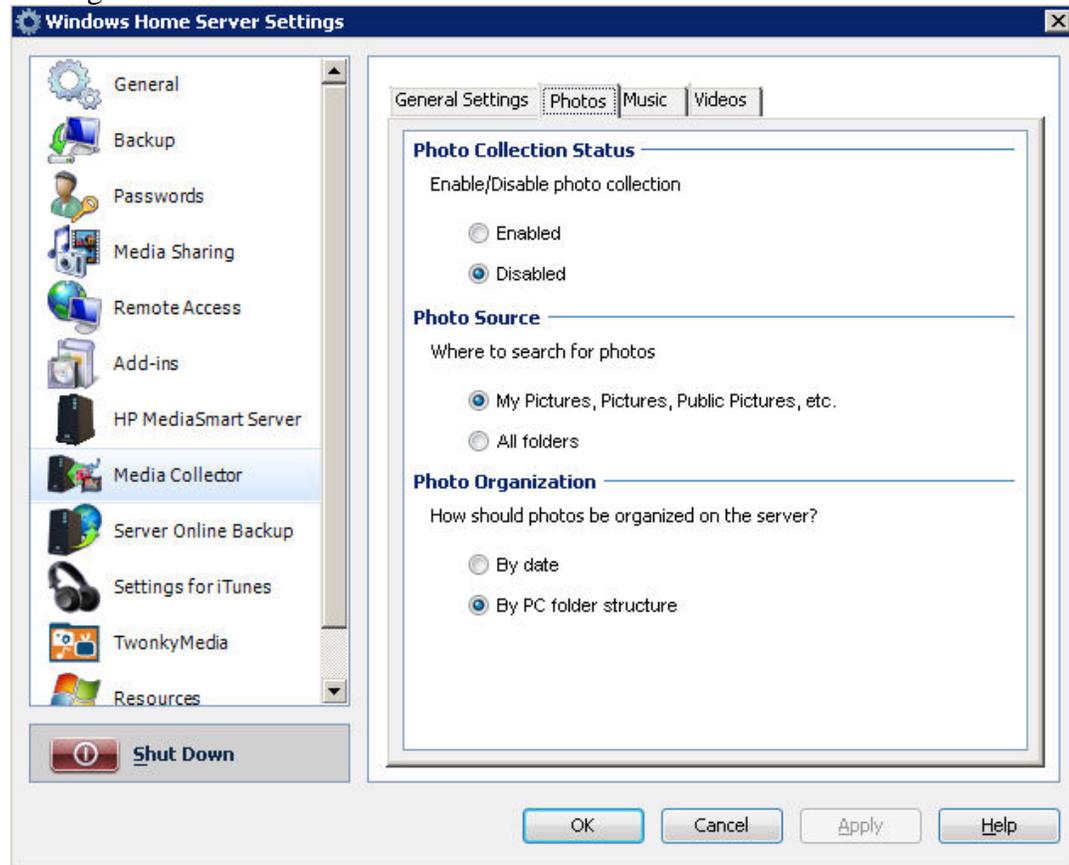
Click here to learn how to:

- [Configure Media Collector Photos](#)
- [Configure Media Collector Music](#)
- [Configure Media Collector Videos](#)

Configure Media Collector for Photos

1. In the **Windows Home Server Settings** window, click on Media Collector in the left pane.
2. Click the **Photos** tab to configure Photos collection. You can configure these settings in this tab:
 - **Photo Collection Status**—Enable or Disable photo collection
 - **Photo Source**—My Pictures folders or All Folders
 - **Photo Organization**—Organize by date or by PC folder structure

The figure below shows the Photos tab.

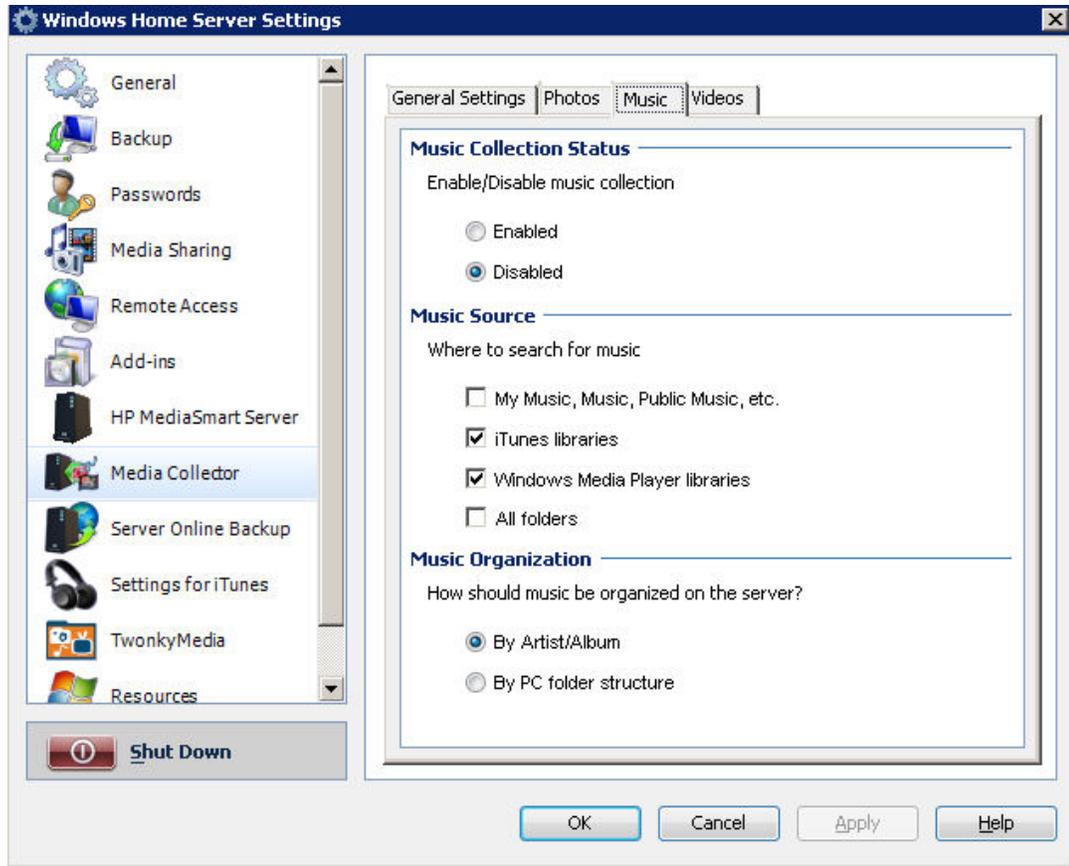


Configure Media Collector for Music

To Configure Media Collector for Music, follow the steps below:

1. In the **Windows Home Server Settings** window, click on Media Collector in the left pane.
2. Click the **Music** tab to configure Music collection. You can configure these settings in this tab:
 - **Music Collection Status**—Enable or Disable music collection
 - **Music Source**—My Music folders, iTunes libraries, Windows Media Player libraries, or All Folders
 - **Music Organization**—Organize by Artist/Album or by PC folder structure

The figure below shows the Music tab.

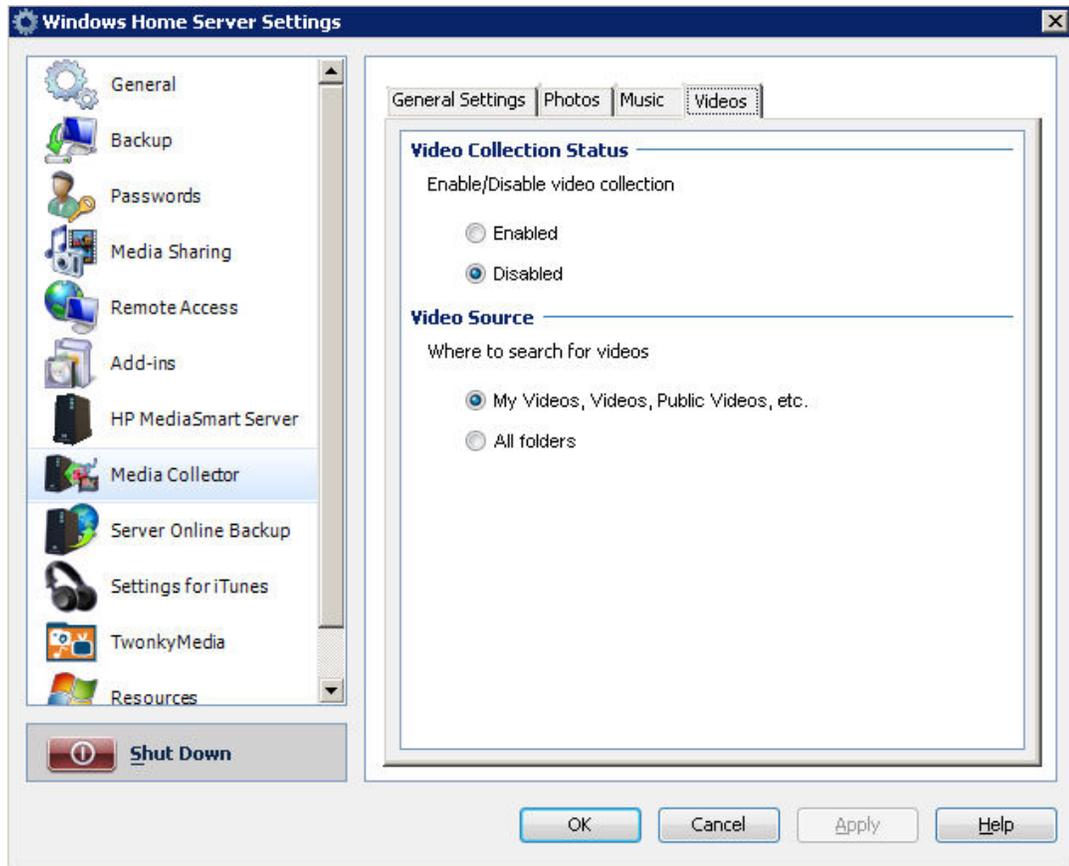


Configure Media Collector for Videos

To configure Media Collector for Videos, follow the steps below:

1. In the **Windows Home Server Settings** Window, click **Media Collector** in the left pane.
2. Click the **Videos** tab to configure Video collection. You can configure these settings in this tab:
 - **Video Collection Status**—Enable or Disable photo collection
 - **Video Source**—My Pictures folders or All Folders
 - **Move or Copy**—Copy files to your Server or Move files to the HP MediaSmart Server without leaving a copy on the client computer

The figure below shows the Videos tab.



Streaming Media

Streaming Media Features

Streaming Media

Streaming media allows you to enjoy your videos, music, and photos in any room of your home and outside your home. Even when you are away from home, you can enjoy your media on any computer that has a [Web browser](#).

Streaming Media Requirements

Before Streaming Media can work, you must:

- Store media on the HP MediaSmart Server
- Set up and enable Remote Access
- Set up Digital Media Receivers in your home

Streaming Media Types

Your HP MediaSmart Server can only stream media files such as music, photos, and videos. Non-media files are not available for streaming (Microsoft Word files, Spreadsheet files, etc).

Putting Media on the HP MediaSmart Server

You can put media on your HP MediaSmart Server in two ways:

- Drag and drop media files to the folders on your Server
- Configure Media Collector to copy files to your Server

Media Collector scans the computers in your home network and copies media to the server. You can choose how often Media Collector copies files; and you can choose what Media Collector copies and how to organize media on the server.

Streaming to your Television, Stereo, and Home PC

Your HP MediaSmart Server uses Digital Media Servers to stream media from the Server to a Digital Media Receiver that is attached to your television and stereo.

Streaming to a Remote Computer

You can stream from the Internet using the HP Web Streamer application. When you are traveling, you can stream media from your HP MediaSmart Server to any computer that has a [Web browser](#).

Your Server has a Digital Media Server called TwonkyMedia and a Web server. TwonkyMedia prepares your media for streaming and the Web server streams media to the Internet where your computer can play it on a Web browser.

Streaming to iTunes

You can listen to the music files from your HP MediaSmart Server using iTunes. You cannot stream photos or videos to iTunes, only music files. iTunes can stream DRM-protected media.

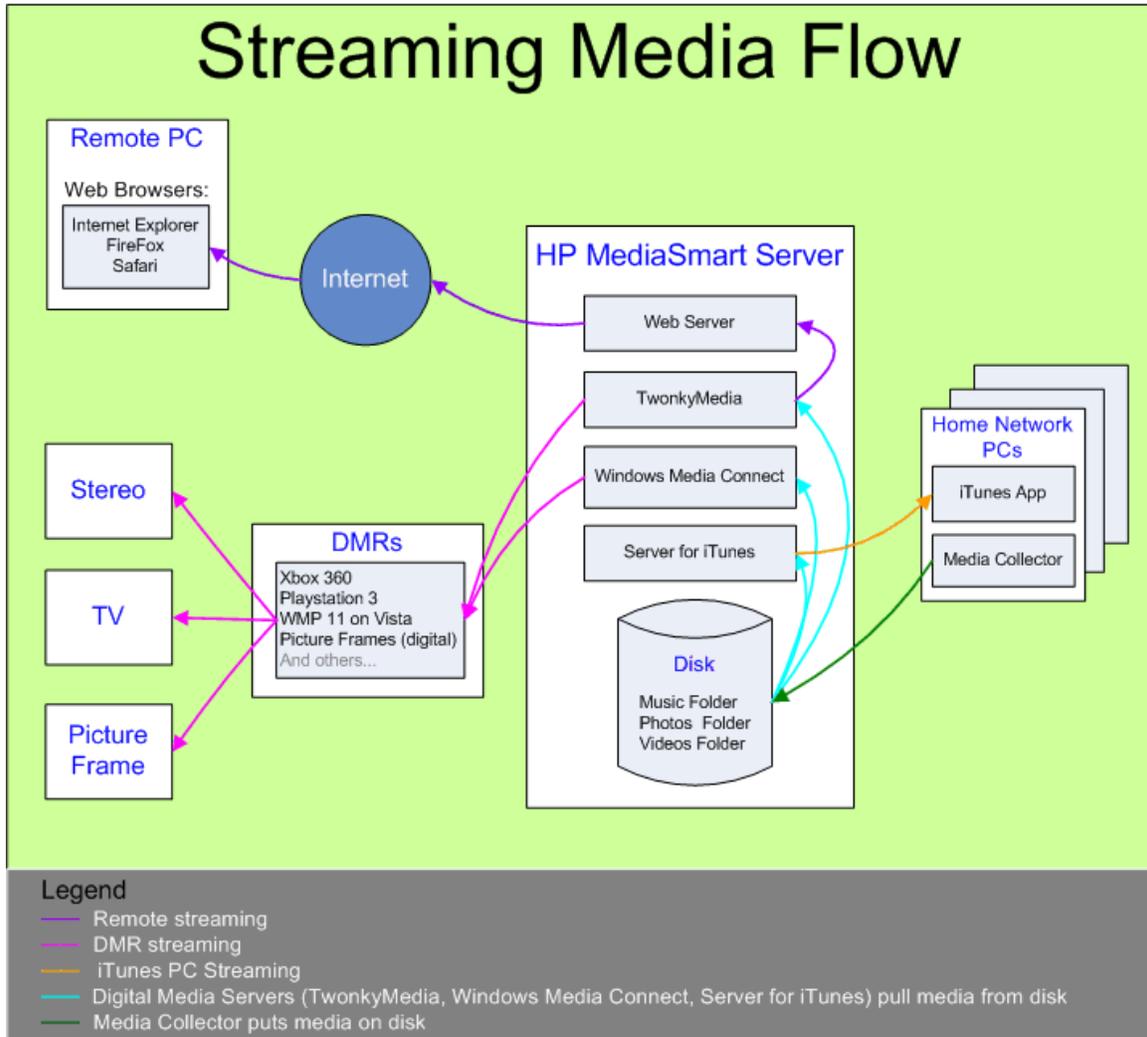
How Media Streaming Works

Streaming Media Servers

The HP MediaSmart Server includes three types of servers. These servers stream media from the HP MediaSmart Server to your devices:

- Web Server—Streams media to the Internet where you can access it from any computer that has a *Web browser*
- Digital Media Servers—Your Server has two Digital Media Servers:
 - Packet Video's TwonkyMedia—Prepares your media for the Web server to stream to the Internet and streams media to Digital Media Receivers (*DMR*) in your home. We strongly recommend that you use TwonkyMedia. TwonkyMedia is enabled by default in the HP MediaSmart Server. TwonkyMedia can stream media to remote locations and it can stream most file types.
 - Windows Media Connect—Streams to DMRs. Windows Media Connect cannot stream to a Web server. It cannot stream as many file types as TwonkyMedia and it is disabled by default in the HP MediaSmart Server.
- Server for iTunes—Streams to iTunes applications on the computers in your network. This server is included in your MediaSmart Server. It looks like a new device to your iTunes application, but it does not use one of your iTunes licenses.

The figure below shows how these servers take media from the disk on your HP MediaSmart Server and stream it to your various receivers.



TwonkyMedia Features

We strongly recommend that you use TwonkyMedia as your Digital Media Server. TwonkyMedia is enabled by default in your MediaSmart server. TwonkyMedia includes these features:

- Allows your digital media receiver (*DMR*) to see photo thumbnails for pictures and album artwork for music
- Supports remote *media streaming*
- Supports more media formats than Windows Media Connect
- Complies with the *Digital Living Network Alliance* (DLNA) *protocol* which allows support for more DMRs

File Compatibility for Local Streaming

The table below compares local streaming file compatibility between TwonkyMedia and Windows Media Connect.

TwonkyMedia and Windows Media

Connect File Compatibility		
File Types	TwonkyMedia	Windows Media Connect
Music Formats		
3gp	Yes	
ac3	Yes	
aiff	Yes	
asf	Yes	Yes
FLAC	Yes	
LPCM	Yes	
m4a	Yes	
mp1	Yes	
mp2	Yes	
mp3	Yes	
mp4	Yes	
mpa	Yes	
ogg	Yes	
wav	Yes	Yes
wma	Yes	Yes
Picture Formats		
bmp	Yes	Yes
gif	Yes	Yes
jpg	Yes	Yes
png	Yes	Yes
tif, tiff	Yes	Yes
Video Formats		
3gp	Yes	
asf	Yes	
avi	Yes	Yes
DivX	Yes	
dvr-ms	Yes	Yes
m1v	Yes	
m4v	Yes	
mpe	Yes	
mpg/mpeg	Yes	Yes
MPEG-1	Yes	Yes
MPEG-2	Yes	
MPEG-2-T-S	Yes	
MPEG-4	Yes	

vdr	Yes	
vob	Yes	
wmv	Yes	Yes
Xvid	Yes	
Playlist Formats		
m3u	Yes	Yes
pla	Yes	
wpl	Yes	Yes

TwonkyMedia Default Settings

TwonkyMedia has these default settings in your HP MediaSmart Server:

- Enables three folders for *media streaming* (You can add more. See below.):
 - **Music**—music only (album art is displayed but is not shared as a picture)
 - **Photos**—music, photos, and videos
 - **Videos**—videos only
- Gives all newly-detected DMRs access to your media

 You can change these default settings by clicking the TwonkyMedia button on the HP MediaSmart Server tab of your Windows Home Server Console

UPnP A/V and DLNA

Universal Plug and Play Audio Video (*UPnP* A/V) and Digital Living Network Alliance (DLNA) define standard network protocols for streaming media.

- **UPnP A/V** is a set of network protocols that allow networked devices to communicate seamlessly in a home networking environment. The Digital Media Servers on your HP MediaSmart Server, TwonkyMedia and Windows Media Connect, use UPnP/AV.
- **DLNA** is a set of standards (that includes UPnP A/V) for sharing media between devices. TwonkyMedia is DLNA compliant. Windows Media Connect is not. This compliance allows TwonkyMedia to work with more DMRs.

TwonkyMedia and Remote Streaming

You can stream media to your laptop in the hotel room or to your friend's computer in London. TwonkyMedia takes media from the folders on your disk and streams this to the Web server. The Web server streams your media files to the Internet where you can access them from any computer that has an Internet browser.

Configure TwonkyMedia for Streaming Media

Configure TwonkyMedia for Streaming Media

TwonkyMedia is enabled by default in your **HP MediaSmart Server**. To configure or change TwonkyMedia settings, follow these steps:

1. At the computer, double-click the Windows Home Server icon  in the system tray.
2. Log on to the Windows Home Server.
3. In the left pane of the **HP MediaSmart Server** tab, click the **TwonkyMedia** button. The right pane shows current TwonkyMedia status for Shared Content, Media Sharing Folders, and Enabled Media Receivers.
4. In the right pane, click **Media Server Settings**. The **Windows Home Server Settings** window opens. You can change settings here by using these tabs:
 - **Media Sharing Folders**—Add, Edit, or Remove.
 - **Media Receivers**—Add, Edit, or Remove. Check Automatic Sharing here to enable sharing for new media receivers automatically.
 - **Maintenance**—Rebuild the database, and Reset to Default all media server settings. Create and View Log Files for debugging purposes. And you can change the default Web server port.
5. Click **OK** to finish.

Settings for iTunes

Settings for iTunes

Media Collector provides the ability to copy your iTunes music library and playlists to your HP MediaSmart Server. You can centralize your iTunes library for playback on any computer on your home network that runs iTunes.

Your Server is enabled for iTunes by default. To set up your Server for iTunes follow these steps:

1. At the computer, double-click the Windows Home Server icon  in the system tray.
2. Log on to the Windows Home Server.
3. In the left pane of the **HP MediaSmart Server** tab, click the **Server for iTunes** button. In the right pane click the **Configure** button. The **Windows Home Server Settings** window opens. Here you can set up the following:
 - **Status**—enable or disable.
 - **Shared name**—specify the shared name you want to display in iTunes.
 - **Require password**—check to require password. The default setting here is no password. If you assign a password, then only users who provide the correct password can play music from your Server's shared library.
 - **Check interval**—how often to check for music that has been added to the shared Music folder on the server. By default this is set to check every 15 minutes.
5. Click **OK** to finish.

Web Media Streamer

About Web Media Streamer

Web Media Streamer is a Web application. To access Web Media Streamer, open a [Web browser](#) and type your personal URL address in the address bar. An example URL is: smithfamily.HPHome.com.

The browser goes to the Windows Homer Server home page. When you click on the Web Media Streamer icon, this takes you to the Log on screen. Here you can enter your HP MediaSmart Server user account name and password.

This takes you to the Web Media Streamer application. Web Media Streamer opens at the Music page, Artists View.

Web Media Streamer Pages

The Web Media Streamer application has two pages: Music and Photos. Each page has different views for browsing your media.

Format Compatibility

The files and types listed below are compatible for Web [Media Streaming](#):

Audio Formats

MP3, AAC-LC, PCM

Compatibility for Audio

.wma, .mp3, .m4a, .mp4, .aac, .wav

Compatibility for Photo

.jpg, .tif, .tiff, .png, .gif, .bmp

HP MediaSmart Server Requirements

Before you can run Web Media Streamer you must:

- Install Flash 9 plugin for the [Web browser](#) on your computer
- [Configure TwonkyMedia for Streaming Media](#) on your HP MediaSmart Server
- Configure Remote Access on your Server

Music Page

The music page has three views: [Artists View](#), [Folders View](#), and [Playlists View](#). To change views, click the **Artists**, **Playlists**, or **Folders** button.

Music Page—Artists View

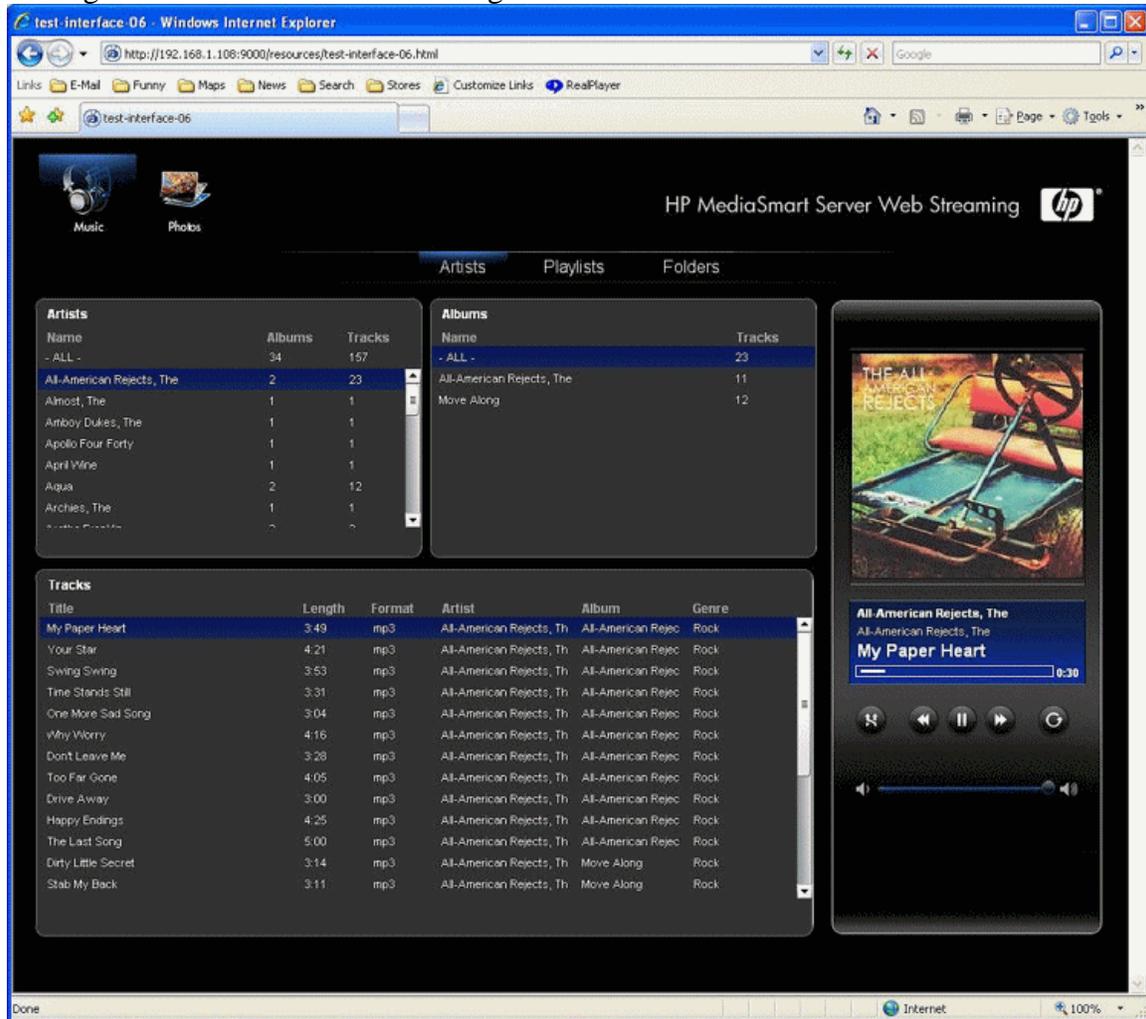
The Artists view on the Music page has three selection panels (Artists, Albums, Tracks) and a media Player.

– **All** – The Artists and Albums panels have an – **All** – item at the top. This allows you to select all artists or albums and this option always stays on screen.

Selection Bar

This blue bar shows the item selected in each panel. When you open Web Media Streamer, the Selection Bar highlights what you last selected.

The figure below shows the Music Page—Artist View



Selection Panel Behavior

In the Artists and Albums panels, names sort alphabetically.

The Albums column shows the number of albums for – **All** – and for each artist. The Tracks column shows the number of tracks for – **All** – and for each artist.

When you select an artist, the albums for that artist appear in the Albums panel. The tracks for the selected album appear in the tracks panel.

In the Tracks panel, Tracks sort first by artist then by album, then by track order. The columns: Length, Format, Artist, Album, and Genre give information about each track.

 **Note**

If the format of the music track file is not supported by Web Media Streamer, the track is grayed out.

Player

From the top down, the Player shows these features:

- Player window shows album art (if available)
- Blue Display area – shows artist on top line, album in the middle line, track name on the bottom line. Below the Text the progress bar shows the amount of time played. The number on the right shows time played in minutes and seconds.
- Progress Bar—Click the progress bar at the place you want to play
- Player Controls are in left to right order:
 - Shuffle
 - Previous Track
 - Play/Pause toggle
 - Next track
 - Repeat
- Below the player controls is the volume control slider bar. You can grab and move this to left and right.

Music Page—Folders View

The Folders View of the Music page has two selection panels and a media player. The top selection panel shows folders in a typical file browser view.

Tracks Panel

The tracks panel shows tracks sorted by track number. The columns: Length, Format, Artist, Album, and Genre give information about each track.

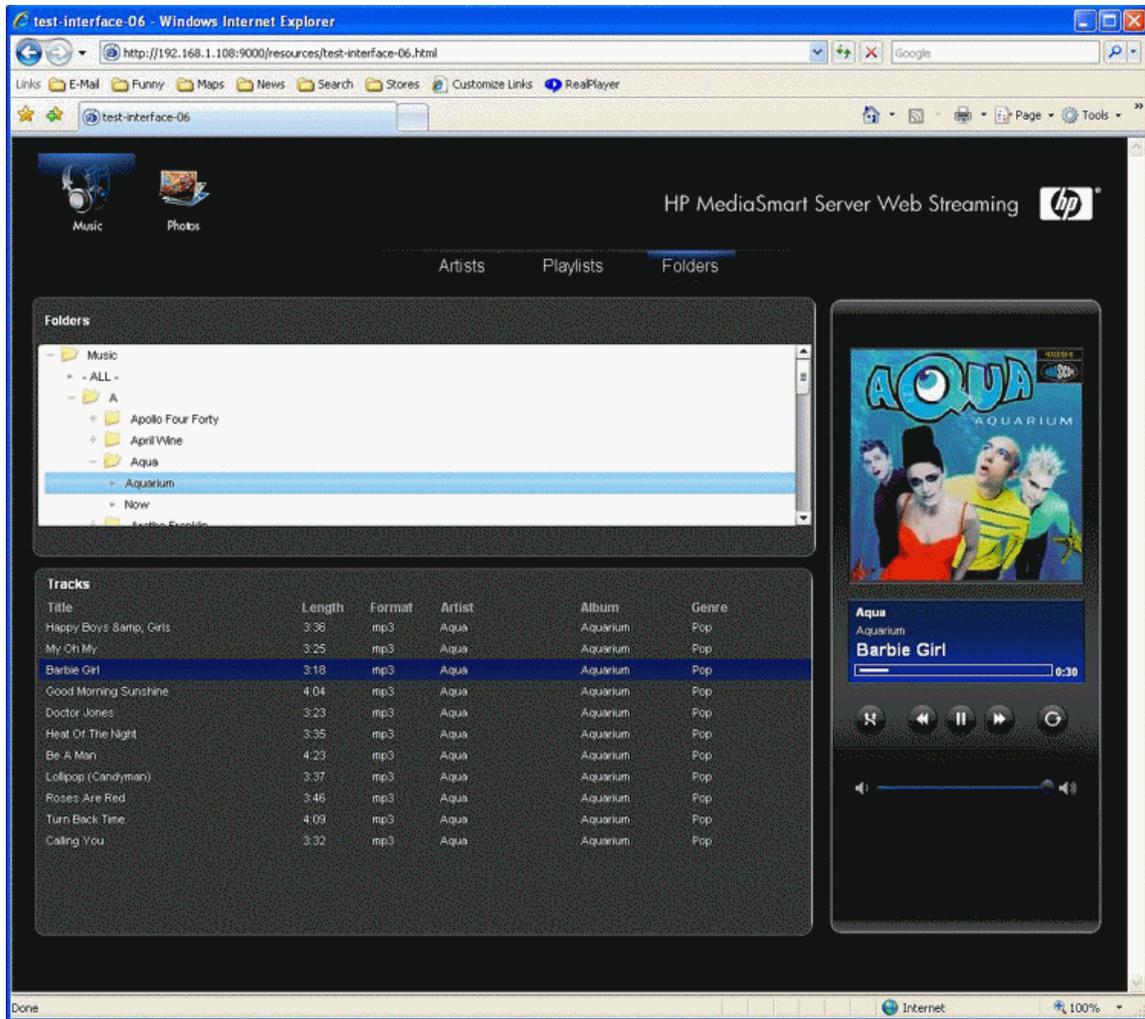
 **Note**

Music tracks in sub folders are not included in the Tracks panel list.

Selection Bar

This blue bar shows the item selected in each panel. When you open Web Media Streamer the Selection Bar highlights what you last selected.

The figure below shows the Music Page—Folders View



Player

From the top down, the Player has these features:

- Player window—shows album art (if available)
- Blue Display area—shows artist on top line, album in the middle line, track name on the bottom line. Below the text the progress bar shows the amount of time played. The number on the right shows time played in minutes and seconds.
- Progress Bar—Click the progress bar at the place you want to play
- Player Controls are in left-to-right order:
 - Shuffle
 - Previous Track
 - Play/Pause toggle
 - Next track
 - Repeat
- Below the player controls is the volume control slider bar. You can grab and move this to left and right.

Music Page—Playlists View

The Playlists View has two selection panels and a media player.

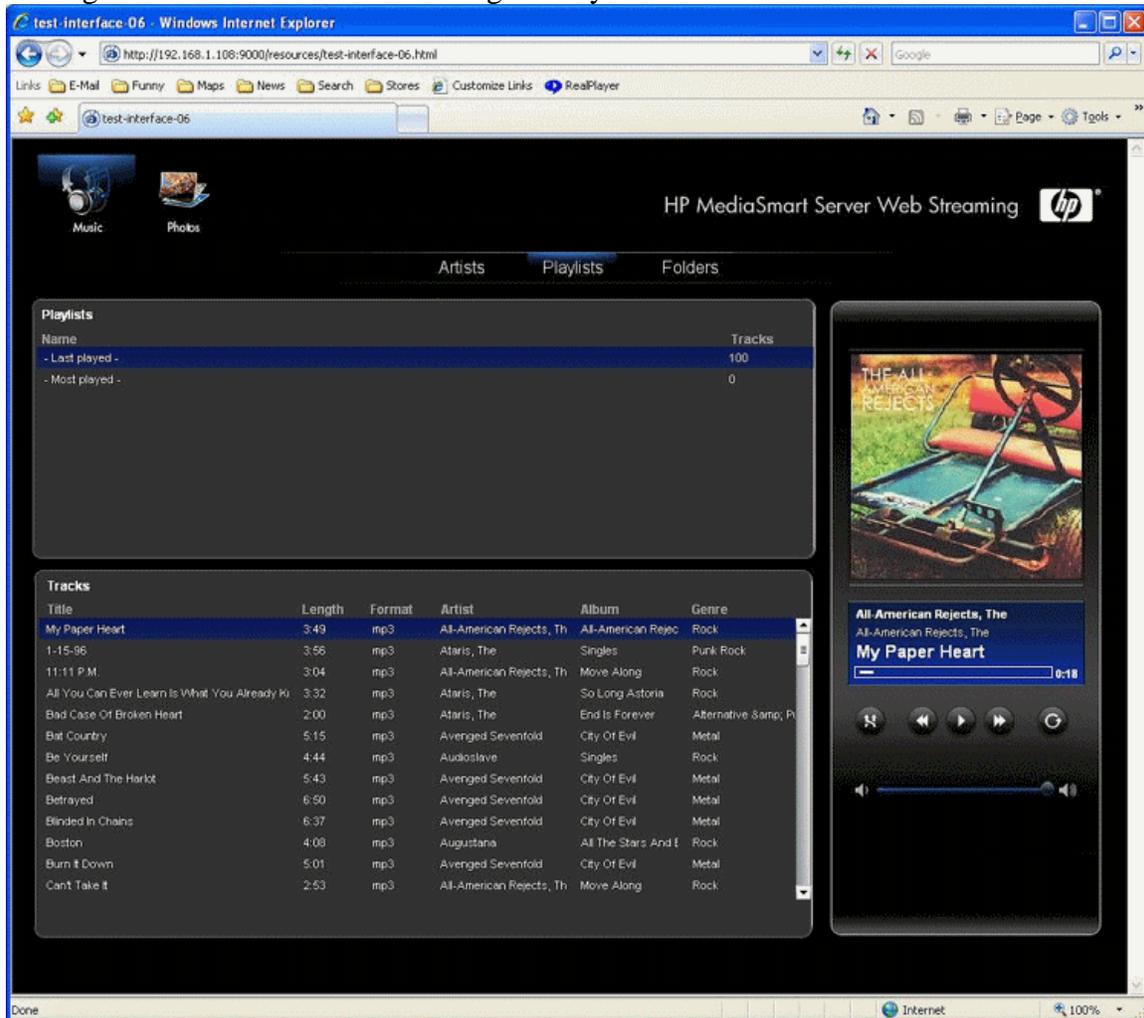
There are two pre-defined playlists: **-Last played-** and **-Most played-**. And the user's personal playlists are listed below

Tracks from the selected playlist display in the Tracks panel. Playlist tracks sort in playlist order.

Selection Bar

This blue bar shows the item selected in each panel. When you open Web Media Streamer the Selection Bar highlights what you last selected.

The figure below shows the Music Page—Playlist View



Player

From the top down, the Player shows these features:

- Player window—shows album art (if available)

- Blue Display area—shows artist on top line, album in the middle line, track name on the bottom line. Below the Text the progress bar shows the amount of time played. The number on the right shows time played in minutes and seconds.
- Progress Bar—Click the progress bar at the place you want to play
- Player Controls are in left –to –right order:
 - Shuffle
 - Previous Track
 - Play/Pause toggle
 - Next track
 - Repeat
- Below the player controls is the volume control slider bar. You can grab and move this to left and right.

Photos Page

The photos page has three views: the [Date View](#), the [Folders View](#), and the [FullScreen View](#). To change views, click the **Date** or **Folders** button.

Photos Page—Date View

The Photo Page, Date View has three selection panels and one media player.

The year panel has a column showing years and a column showing the number of photos in that year.

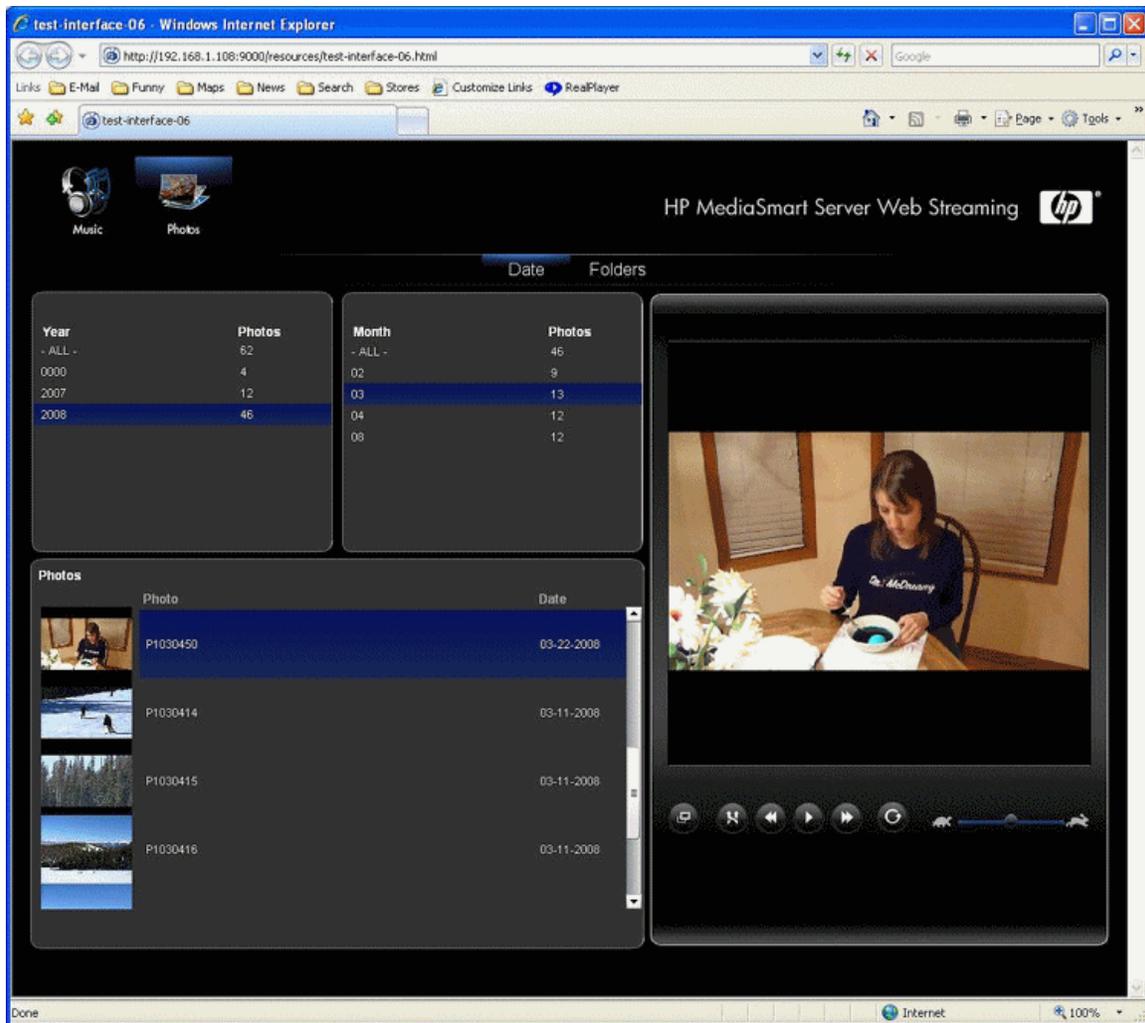
The Month panel shows two columns: The month column shows the number of the month and only the months that have photos show up.

The Photos panel has three columns: thumbnails, photo filename and a column showing the date of the photo.

Selection Bar

This blue bar shows the item selected in each panel. When you open Web Media Streamer the Selection Bar highlights what you last selected.

The figure below shows the Photos Page—Date View



Player

From the top down, the Player has these features:

- The Player window previews the image
- Below the Player window is the control bar showing these controls in left to right order
 - Full Screen –displays the picture in your full browser window
 - Shuffle—plays previews of pictures in random order
 - Previous photo
 - Play—plays pictures in slideshow mode in order
 - Next photo
- Below the control bar is the Speed Control Slider bar (Turtle slow and Rabbit fast).

Photos Page—Folder View

The Photos Page, Folder View has two selection panels and one media player

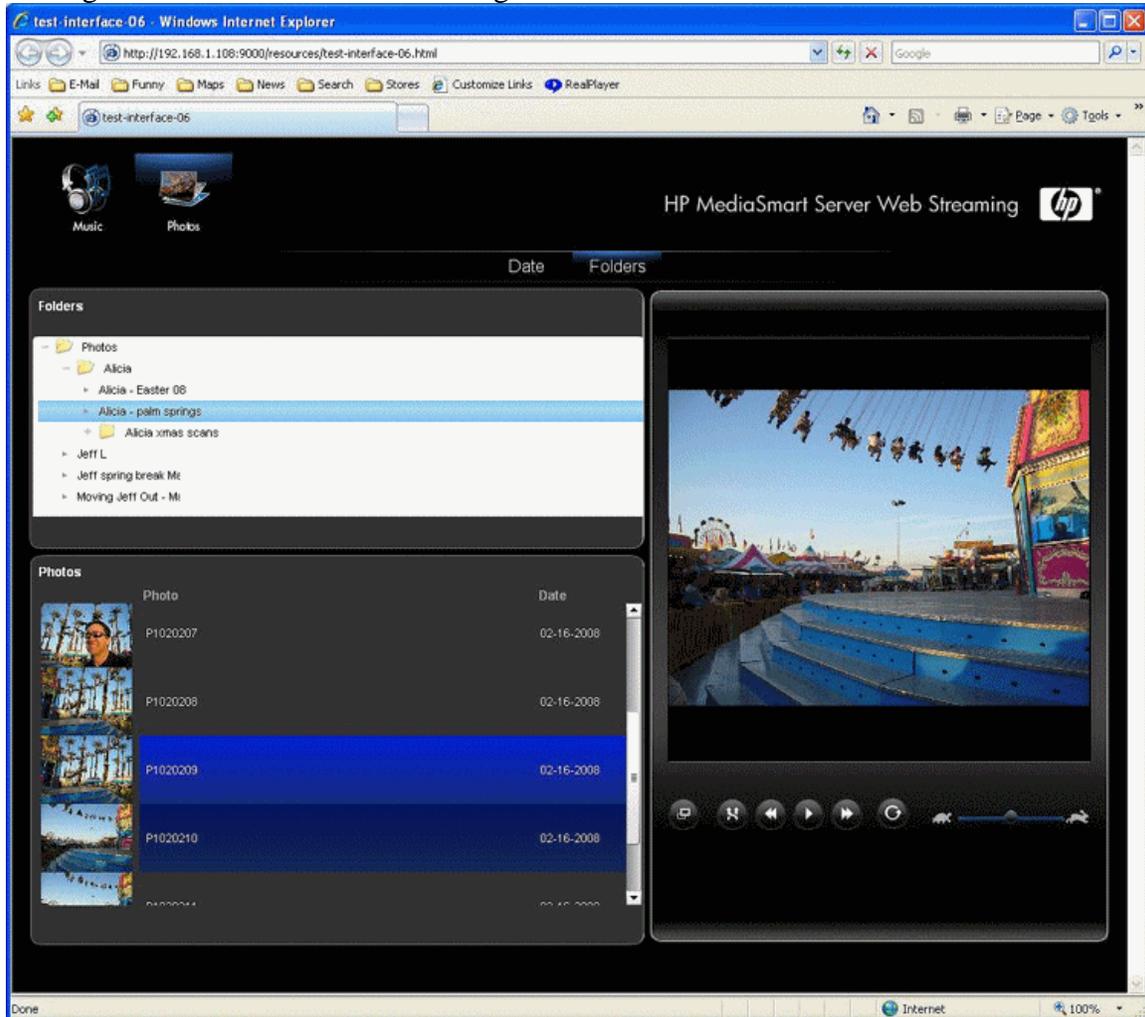
HP MediaSmart Server User's Guide

- The top selection panel shows folders in a typical file browser view.
- The Photos panel has three columns: thumbnails, photo filename and a column showing the date of the photo.

Selection Bar

This blue bar shows the item selected in each panel. When you open Web Media Streamer the Selection Bar highlights what you last selected.

The figure below shows the Photos Page—Folder View



Player

From the top down, the Player has these features:

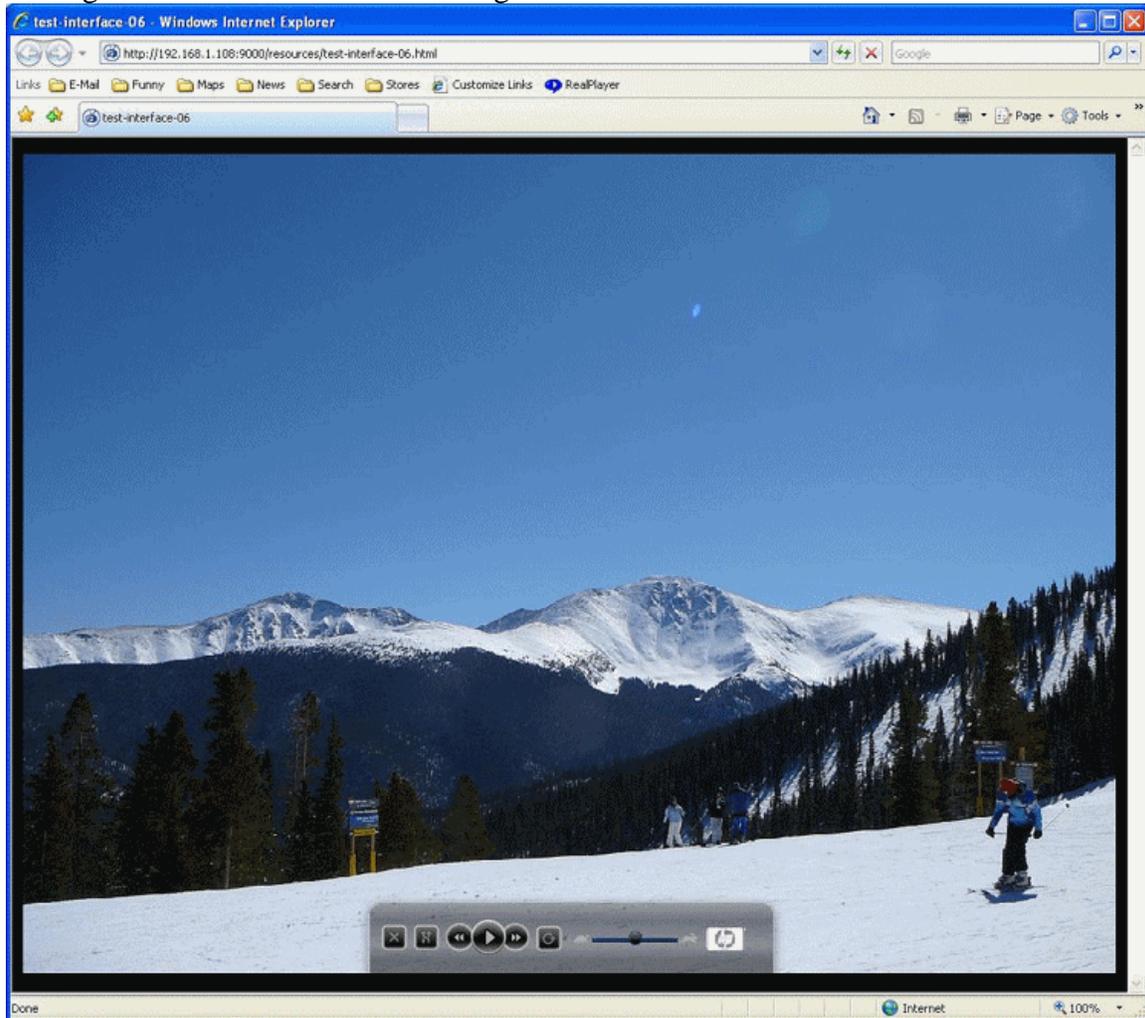
- The Player window at top shows the image
- Below the Player window is the control bar showing these controls in left to right order
 - Full Screen –displays the picture in your full browser window
 - Shuffle—plays previews of pictures in random order

- Previous photo
- Play—plays pictures in slideshow mode in order
- Next photo
- Below the control bar is the Speed Control Slider bar (Turtle slow and Rabbit fast).

Photos Page—Full Screen View

This view shows the picture in the full *browser window*. There is no player. The player controls appear in a semi-transparent gray bar in the bottom center of the picture. The left control is an X to close.

The figure below shows the Photos Page—Full Screen View



HP Photo Publisher

HP Photo Publisher Home Page

To access the HP Photo Publisher Home Page, log onto the Windows Home Server Console. At the HP MediaSmart Server tab, click the HP Photo Publisher button in the left pane to open the Photo Publisher home page.

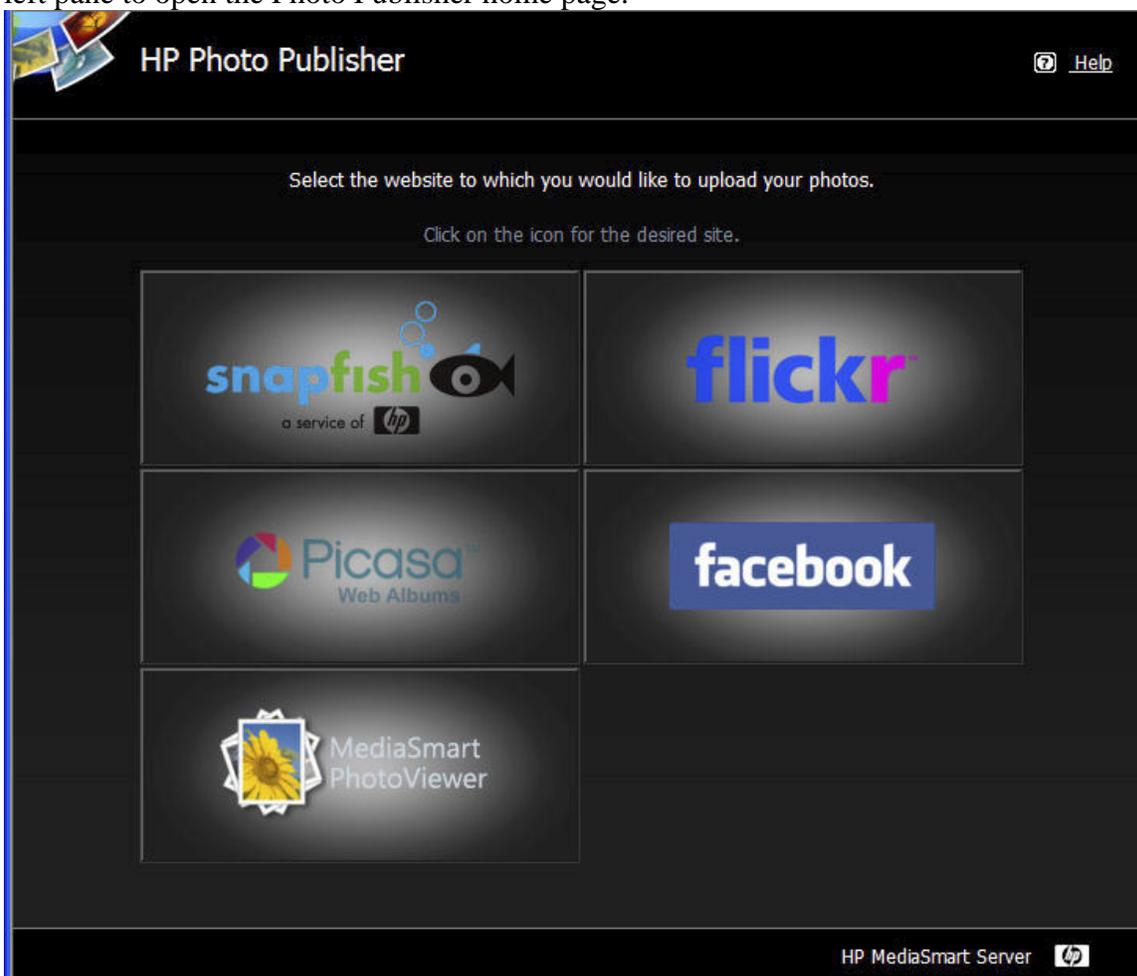


Photo Publisher allows you to post photos from your Server to the photo sharing and social networking sites shown above.

File Compatibility

The table below tells what file types are accepted at the various photo sharing and social networking sites:

	*.jpg, *.jpeg	*.gif	*.png	*.bmp
--	---------------	-------	-------	-------

Picasa	X	X	X	X
Snapfish	X			
facebook	X	X	X	X
flickr	X	X		
MediaSmart Photo Viewer	X	X	X	

Some limitations, by site, for the free account:

- At time of writing; flickr only allows for 3 photo sets, and a limit of 100MB worth of photo uploads each calendar month.
- At time of writing; facebook allows only 60 photos for album, but you can have an unlimited number of albums
- At time of writing; Picasa has a storage limit of 250mb
- At time of writing; Snapfish does not have any restriction to number of photos uploaded.

HP Photo Publisher Log on Page

To login to HP Photo Publisher, enter your credentials. Click **Login**.

Upload Photos or Create an Album

Here you can select to upload to an existing album or you can create a new album or set. Use the drop down arrow beside the upload to an existing album field, to select an existing album on the photo sharing site.

To create a new album on the photo sharing site you can enter a name and the album is created for you.

 **Note**

Flickr uses the term **set** instead of **album**. Another term that Flickr uses is **photo stream**. The **photo stream** is the default presentation mode for Flickr and uses no sets.



Select Photos

Photo Publisher will query the server and present a list of folders and photos available to the current user.

Click the **Arrow** to see an expanded view of folders



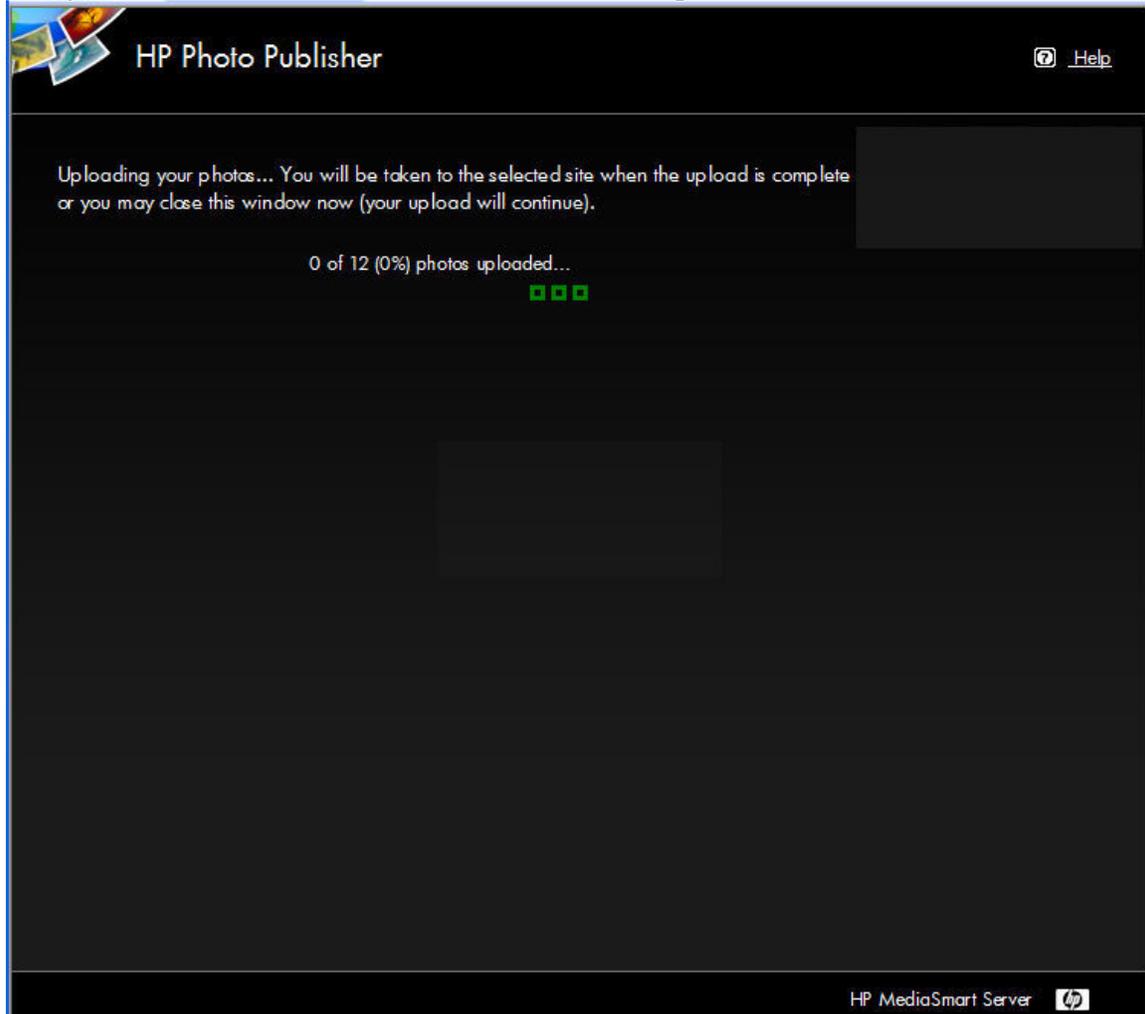
You can select an entire folder by putting a check in the checkbox by the folder, or you can select individual files using the checkboxes beside individual files. Once you have finished your selections click **Finish**. The photos selected will now upload to the photo sharing site you are logged onto.

Only file types that are supported by the photo sharing site are available to upload. The table below tells what file types are accepted at the various photo sharing and social networking sites:

	*.jpg, *.jpeg	*.gif	*.png	*.bmp
Picasa	X	X	X	X
Snapfish	X			
facebook	X	X	X	X
flickr	X	X		
MediaSmart Photo Viewer	X	X	X	

Server Continues Uploading

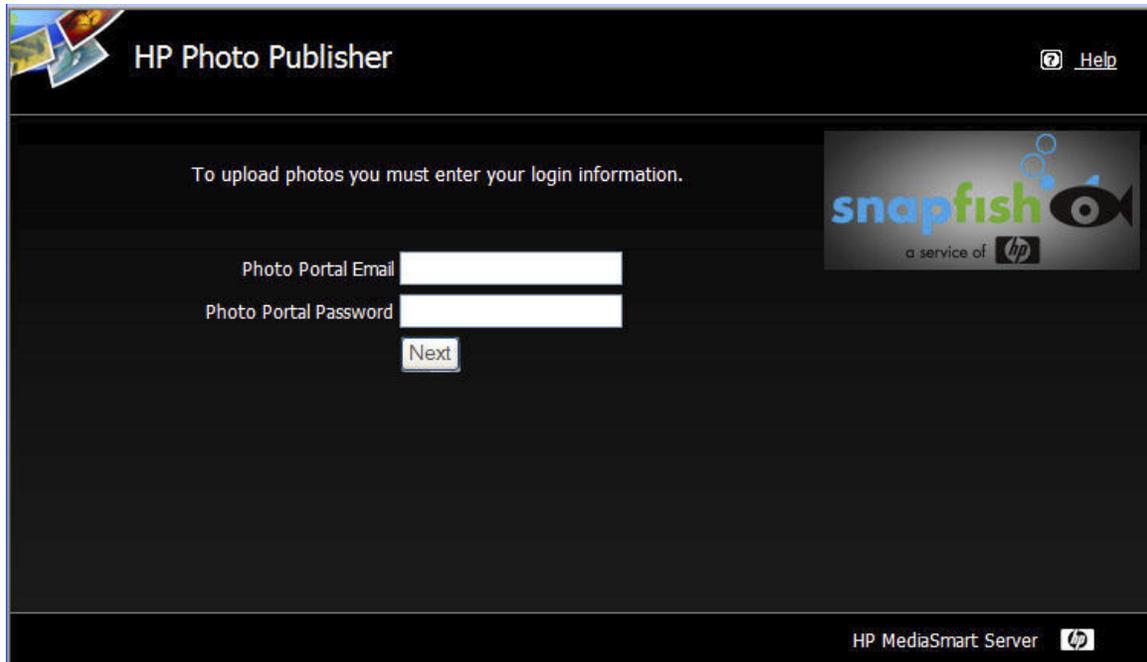
This page gives a status concerning the uploading of the photos.
If the browser stops responding, you can close the browser, or you can visit another Web site; your HP MediaSmart Server will continue the upload.



Snapfish

Snapfish Logon

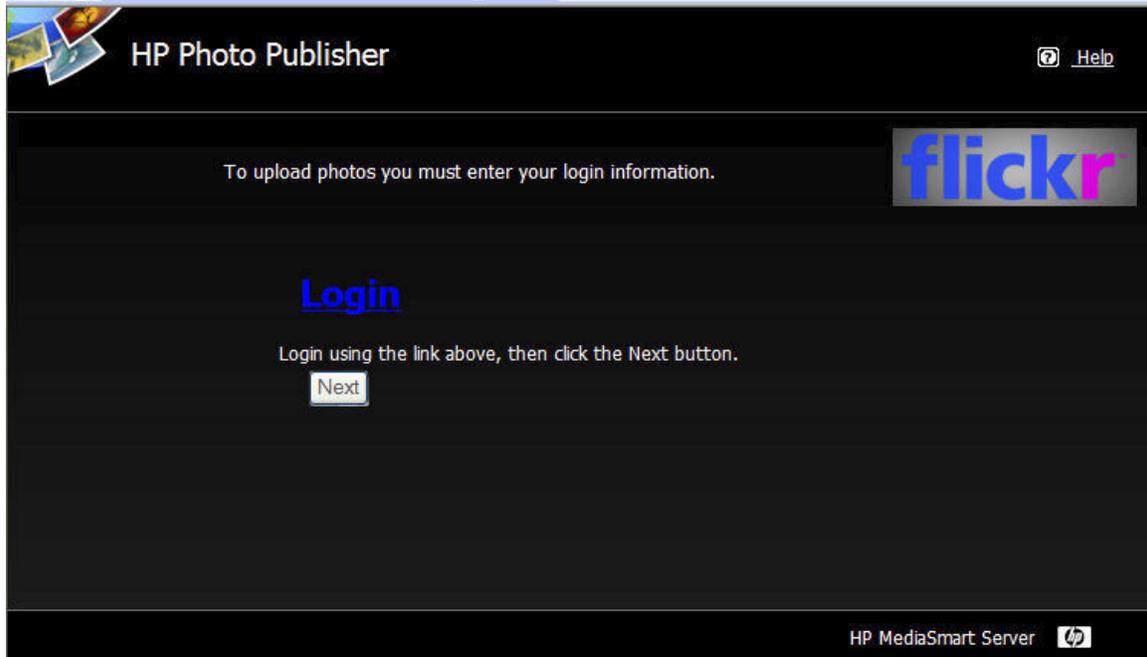
To login to Snapfish, enter your credentials. Click **Next**.
After your credentials are accepted, this takes you to a page where you can create or add to albums.



Flickr

Flickr Log On Page

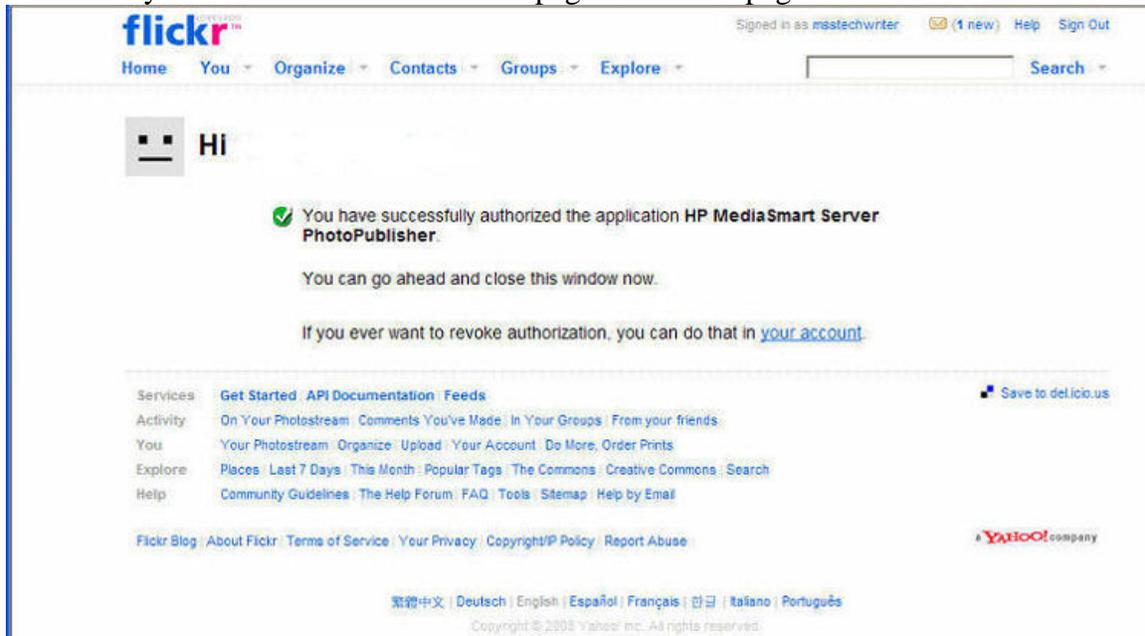
To logon to Flickr, click the blue **Log On** link as shown below.



This takes you to the Flickr sign in page. Enter your credentials and return to the HP Photo Publisher page.

Flickr then asks you to allow HP MediaSmart Server to link to your account.
 Click **OK, I'LL ALLOW IT**

This takes you to the Flickr confirmation page. Close this page.

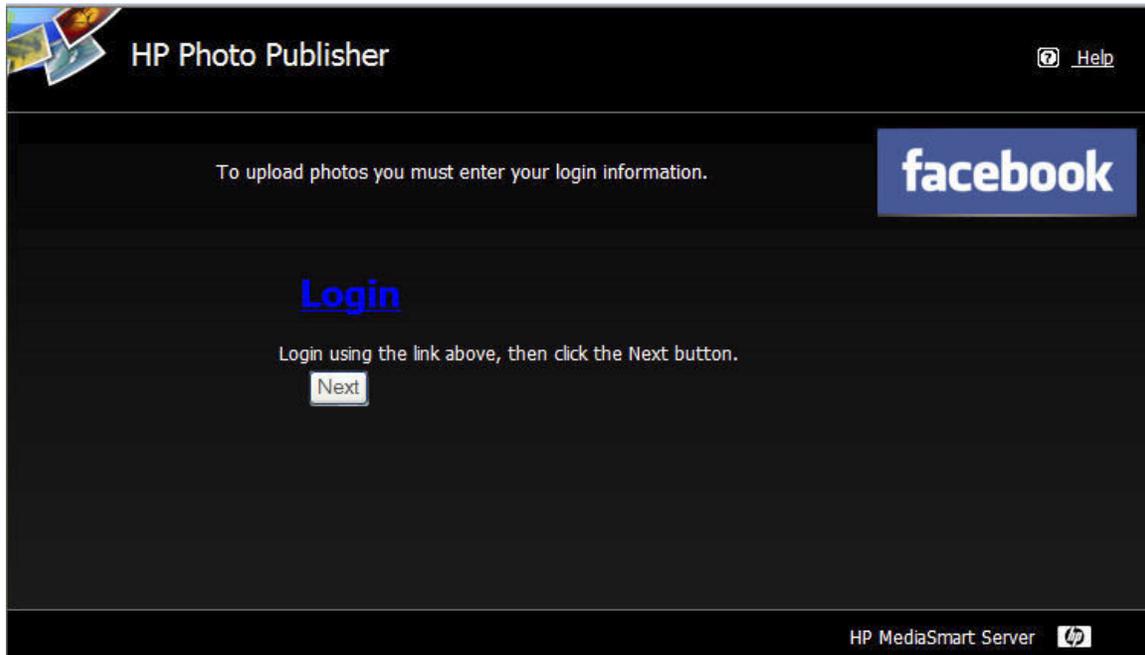


Click **Next**.

This takes you to the HP Photo Publisher Albums page.
You can now create or add to albums.

Facebook

Facebook Logon



To log into your facebook account click the **Log on** link.
You will be taken to a page to enter your credentials for that site.

facebook

HP Photo Publisher
 Login to Facebook to enjoy the full functionality of HP Photo Publisher. If you don't want this to happen, go to the normal Facebook login page.

Email:

Password:

Optional: Save my login info to avoid logging in to Facebook again to use this application.

or [Sign up for Facebook](#)

[Forgot your password?](#)

Security Note: After login, you should never provide your password to an outside application. Facebook does not provide your contact information to HP Photo Publisher.

Facebook © 2008 | English ▼ [About](#) [Find Friends](#) [Advertising](#) [Developers](#) [Terms](#) [Privacy](#) [Help](#)

This takes you to the facebook confirmation page. Close this page.

facebook

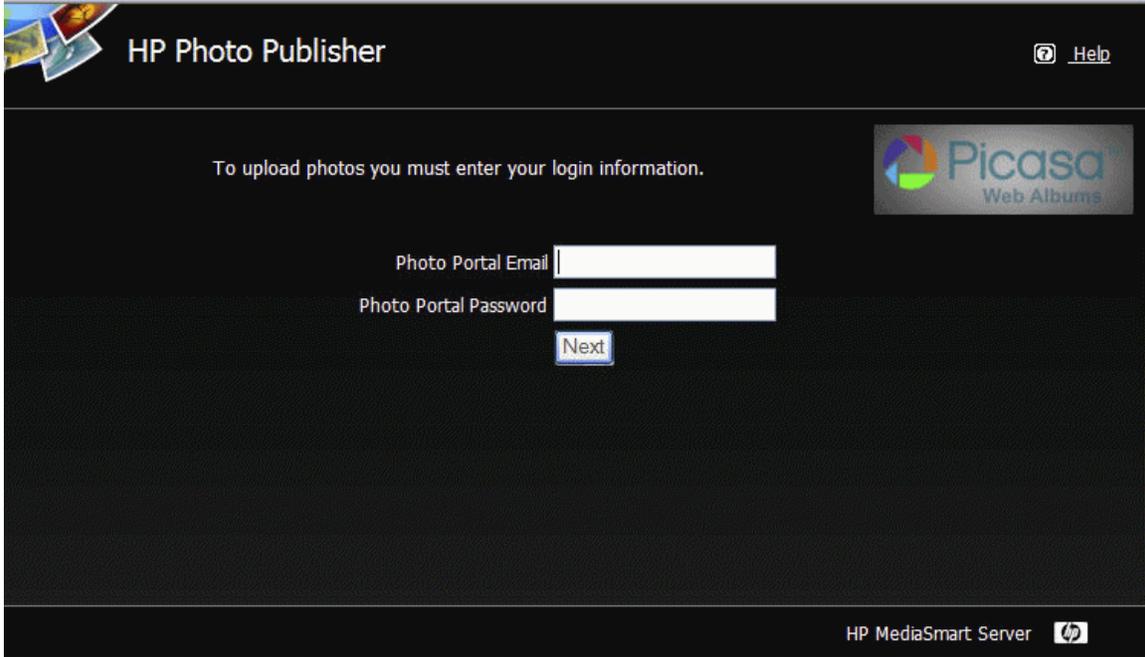
You may now close this window and return to the application.

At the Photo Publisher login screen click **Next**. You are then taken to a page where you can create or add to an existing album.

Picasa

Picasa Logon

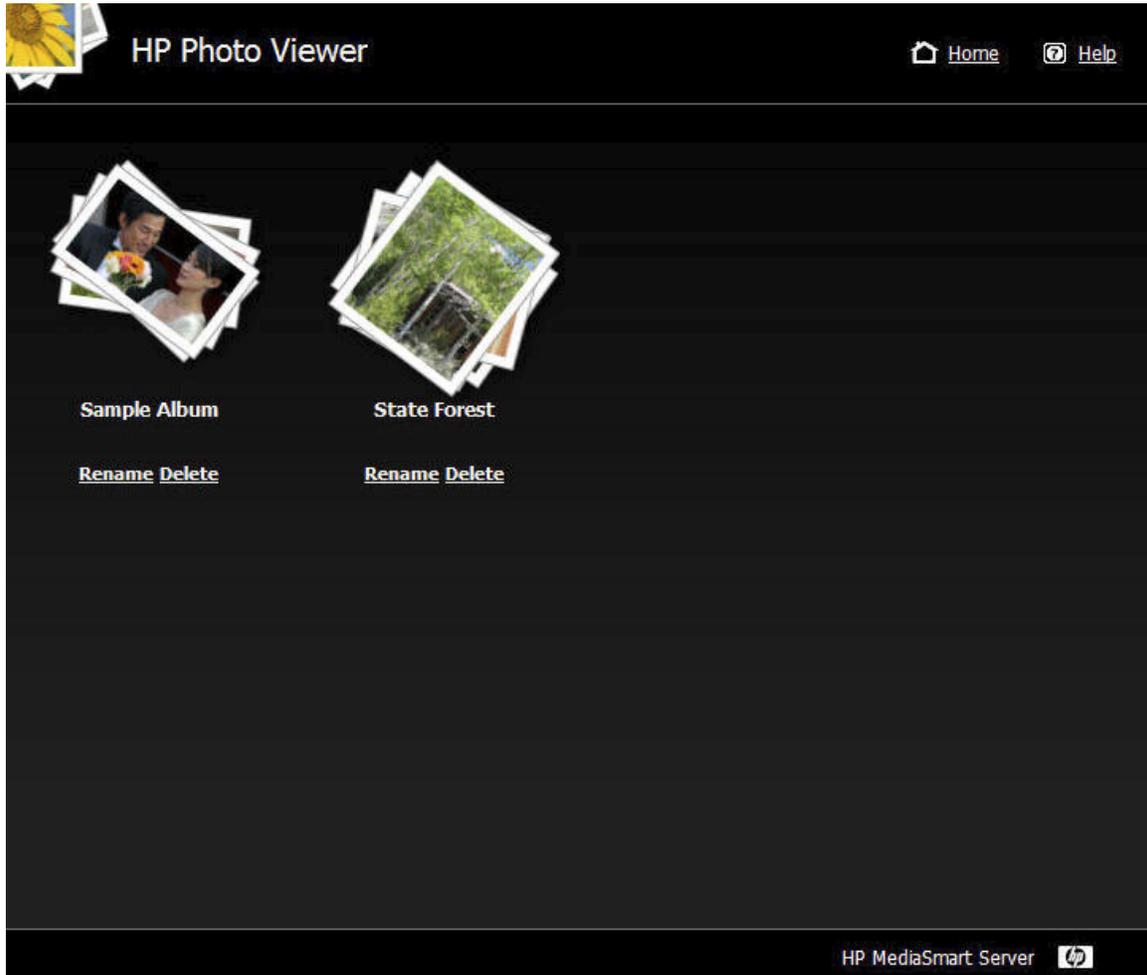
To logon to Picasa, enter your credentials as shown in the figure below. Click **Next**. After your credentials are accepted, this takes you to a page where you can upload photos and create albums.



HP Photo Viewer

HP MediaSmart Photo Viewer Home Page

The Photo Viewer Home Page gives you the opportunity to Open, Rename or Delete an album.



HP Photo Viewer Slideshow

You have two choices:

- Filmstrip View
- Slideshow View

Filmstrip View

Viewing the album in "r;Filmstrip", you will see a screen similar to the below. As long as you are logged into the server you will have see three buttons on the left: Download, Photo Caption, and Remove.

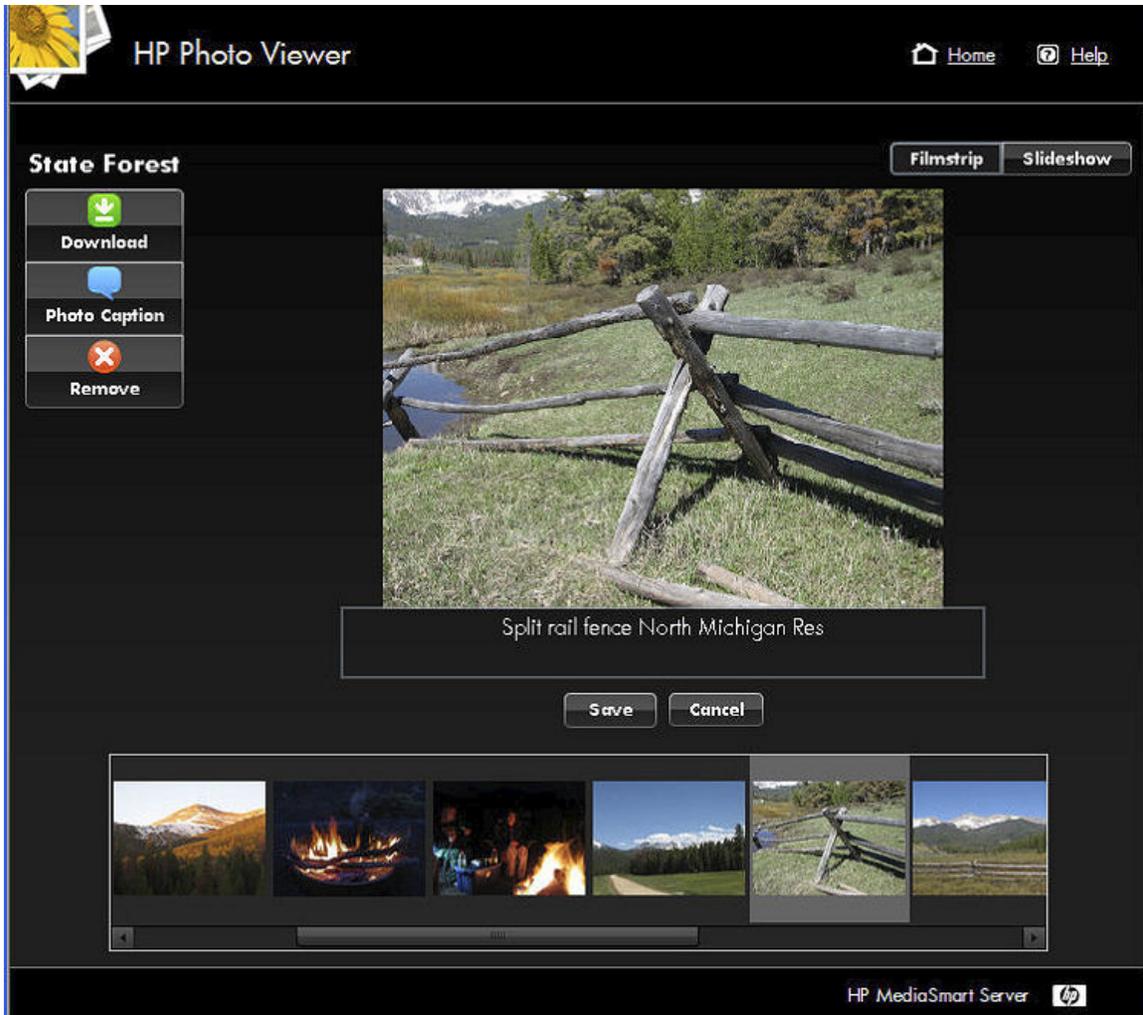
If you have been logged off the server due to inactivity you will only see the Download button. Click the **Login** link in the upper right part of the screen and provide credentials to log back on.



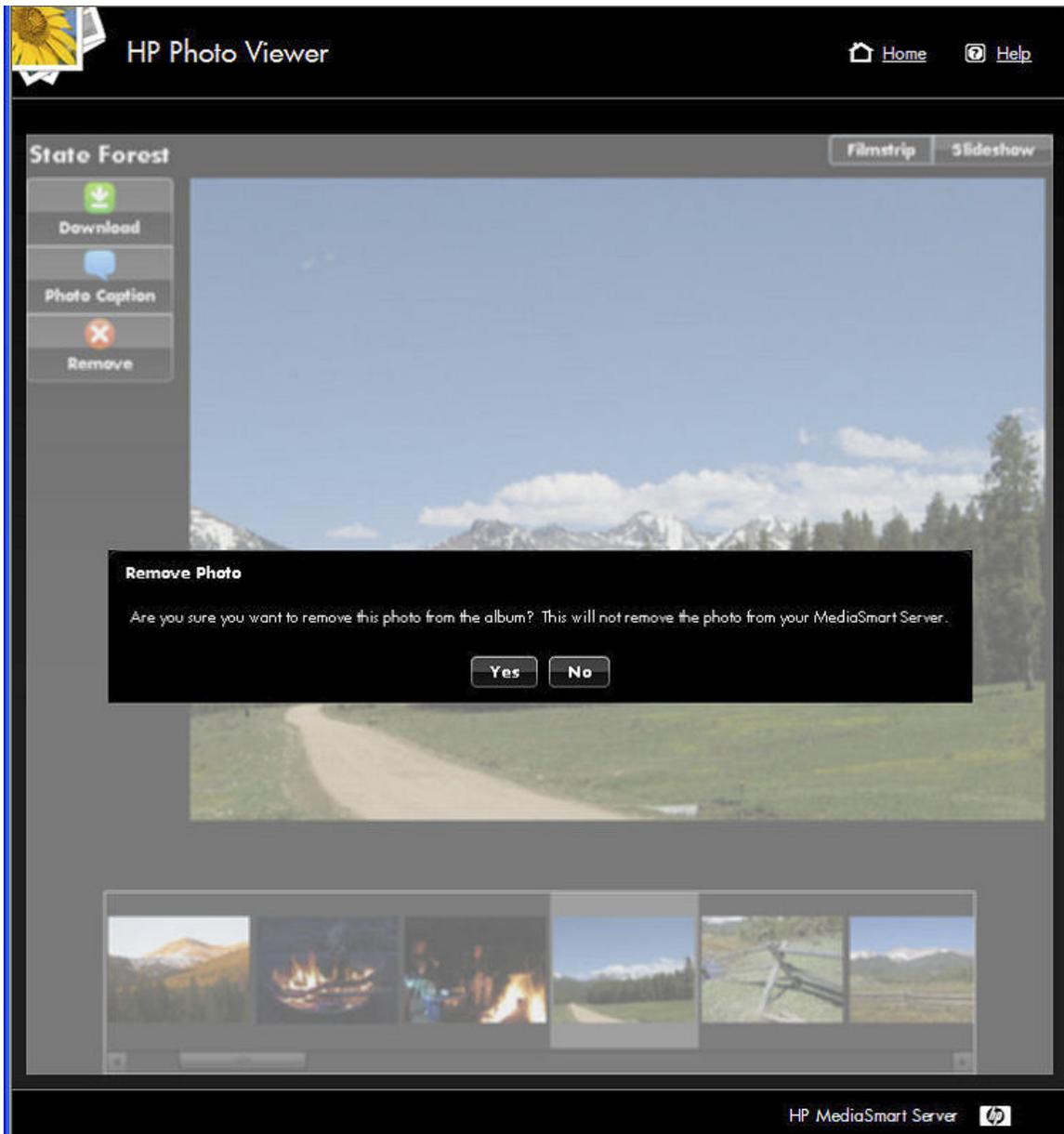
The Download Button allows visitors to download the photo to there Computer.



Photo Caption allows you add a caption for the photo. Enter text in the field that appears below the photo as shown in the example below. Click the **Save** button to keep the Caption

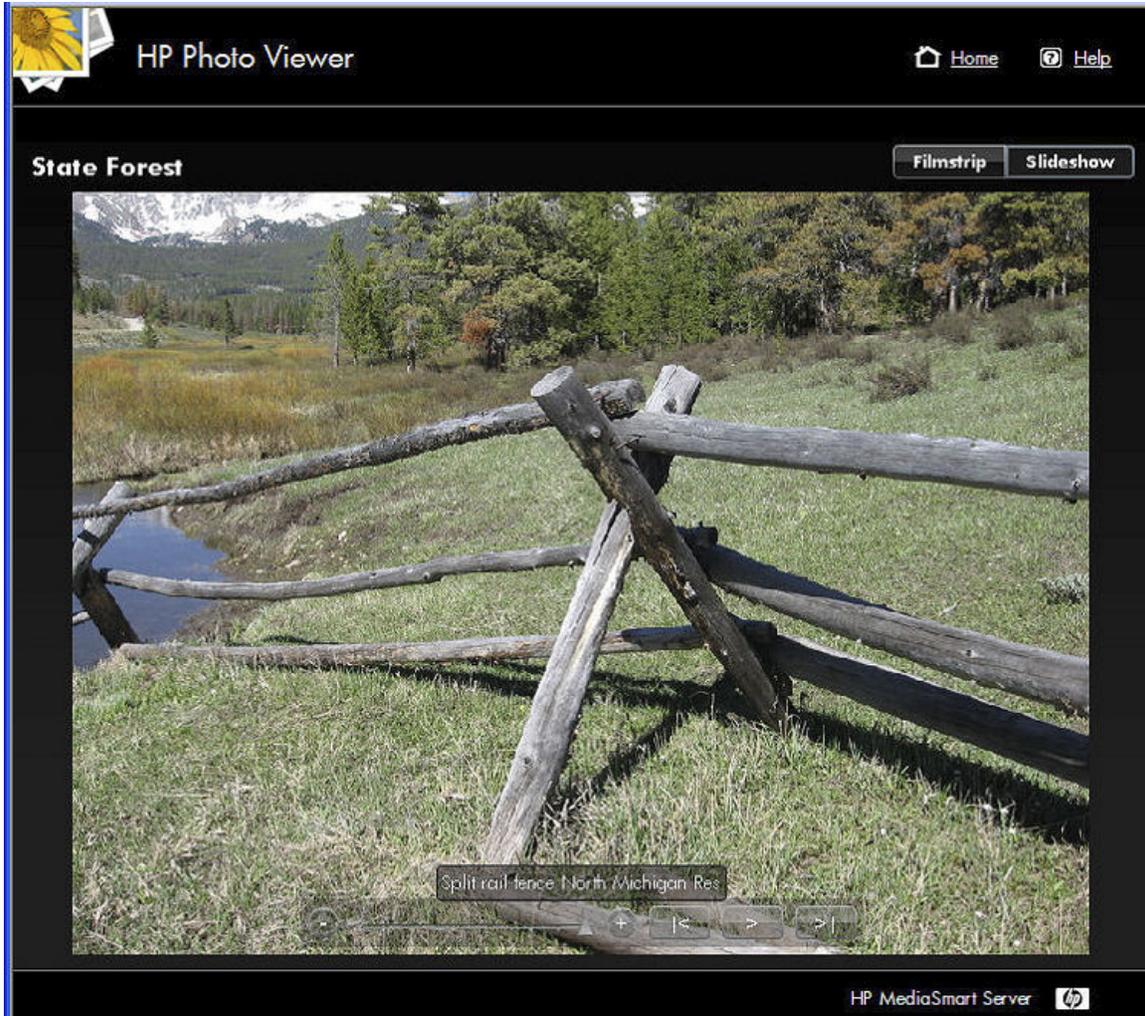


Remove lets you remove the photo from the album, please note that the photo still remains on the Server. Click **Yes** or **No** to confirm the removal.

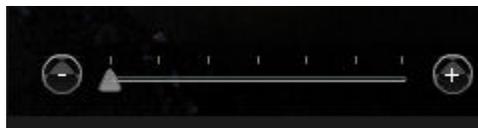


Slideshow View

Viewing the album in Slideshow will give you larger views of the photos. If the photo has a caption, it will show as in the example below.



The Control Bar for the slideshow will appear towards the bottom of the screen.



The slider half of the bar controls how fast the next photo will show. The  button will bring up the previous photo in the slideshow, the  button will bring up the next photo in the slideshow, and the  button is a toggle switch; playing or pausing the slideshow.

Upload Photos or Create an Album

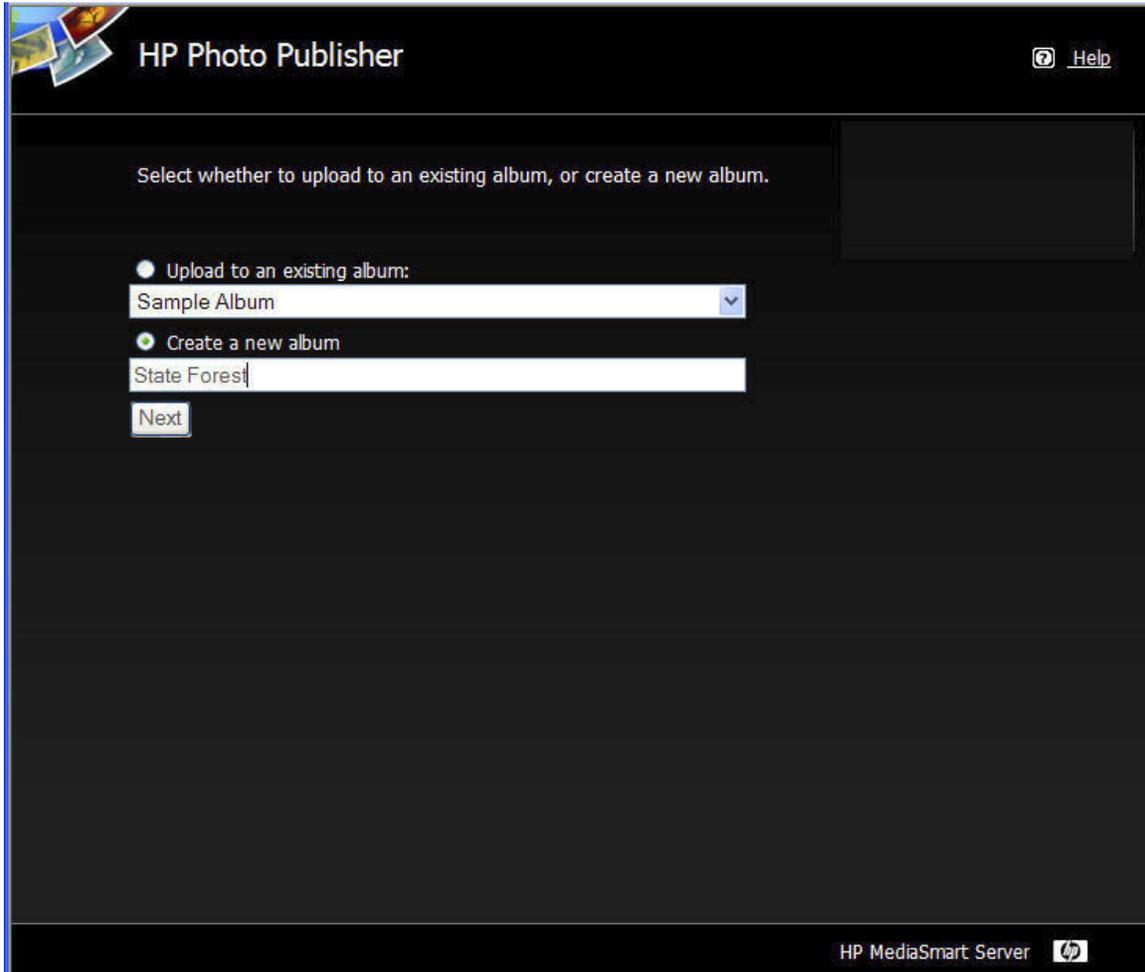
Here you can select to upload to an existing album or you can create a new album or set.

Use the drop down arrow beside the upload to an existing album field, to select an existing album on the photo sharing site.

To create a new album on the photo sharing site you can enter a name and the album is created for you.

Note

Flickr uses the term **set** instead of **album**. Another term that Flickr uses is **photo stream**. The **photo stream** is the default presentation mode for Flickr and uses no sets.



HP Photo Publisher Help

Select whether to upload to an existing album, or create a new album.

Upload to an existing album:
Sample Album

Create a new album
State Forest

Next

HP MediaSmart Server

Select Photos

Photo Publisher will query the server and present a list of folders and photos available to the current user.

Click the **Arrow** to see an expanded view of folders



You can select an entire folder by putting a check in the checkbox by the folder, or you can select individual files using the checkboxes beside individual files. Once you have finished your selections click **Finish**. The photos selected will now upload to the photo sharing site you are logged onto.

Only file types that are supported by the photo sharing site are available to upload. The table below tells what file types are accepted at the various photo sharing and social networking sites:

	*.jpg, *.jpeg	*.gif	*.png	*.bmp
Picasa	X	X	X	X
Snapfish	X			
facebook	X	X	X	X
flickr	X	X		
MediaSmart Photo Viewer	X	X	X	

Online Backup

Server Online Backup Features

Online Backup uses an Amazon S3™ account to save your important files to a remote location on the Internet. You can also browse and restore your online files back to your Server. This feature is an Add-in that you can uninstall at any time.

Before Using Server Online Backup

Before using this feature, you must first get an Amazon S3™ account. When you have an Amazon S3™ account, you can use your Amazon credentials to configure the Online Backup feature. To get an Amazon S3™ account, go to the [Account Setup](#) tab in the **Server Online Backup** section of the **Windows Home Server Settings** window.

Server Online Backup Dashboard

When you select **Server Online Backup** in the HP MediaSmart Server tab on the Windows Home Server Console, the right pane offers you a portal to your Amazon S3™ account. This screen includes a [Backup Summary](#), [Backup Status](#), and a [Configure](#) link that takes you to the [Account Setup](#). The figure below shows the **Online Backup Dashboard** before you have configured Online Backup or scheduled any backups:



Backup summary

Online backup summary shows the names and sizes of the folders currently stored in your Amazon S3™ account. The figure below shows the **Backup summary**.

Backup Summary

Folder	Size
Music	22.29 MB
Photos	3.93 MB
Public	31.45 MB
S3Test	22.82 MB
Software	4.15 GB
sachin	463 KB
bckup-test	6.32 MB
newshare	220 KB
testschedbckp	0 KB
Total :	4.23 GB
Last updated: Wednesday, August 20, 2008 4:42 PM	
Refresh	

Backup Status

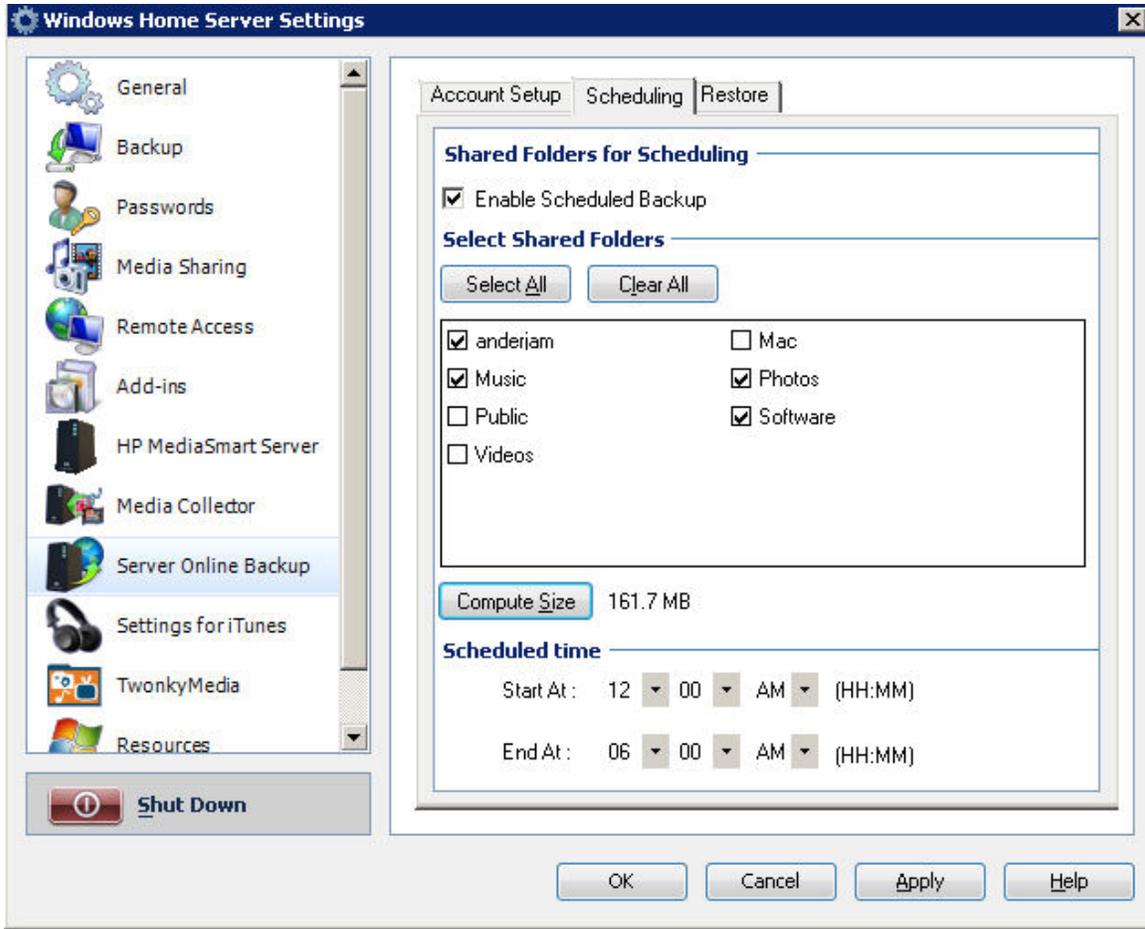
Backup Status shows information on the most recent backup only.

Button Bar

In the button bar of the **Online Backup Dashboard**, you can click these buttons: [Schedule Backup](#), [Backup Now](#), and [Brows/Restore](#).

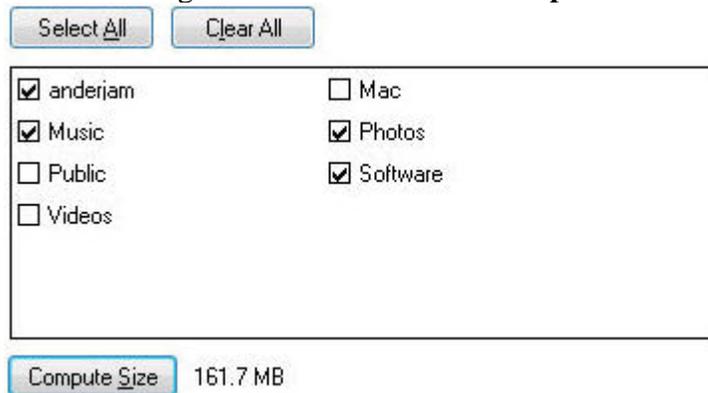
Schedule Backup

Clicking the **Schedule Backup** button opens the **Windows Home Server Settings** window at the Scheduling tab. You can select *shared folders* and online backup schedule details here. The figure below shows this window.



Backup Now

Click the **Backup Now** button to do an immediate online backup. The **Backup** window opens to show a list of shared folders on your HP MediaSmart Server. You can select any or all of these folders for backup. Check the box next to each folder you want to back up. The **Select All** and **Clear All** buttons help you select or clear quickly. The **Compute Size** button opens to show you the size of your selected backup. Click the **Backup** button to start the transfer. You can see the File Transfer Status in the Server Online Backup screen. The figure below shows the **Backup** window.



The figure below shows the Online Backup Dashboard after you have configured Online Backup and scheduled backup activity:



Browse/Restore

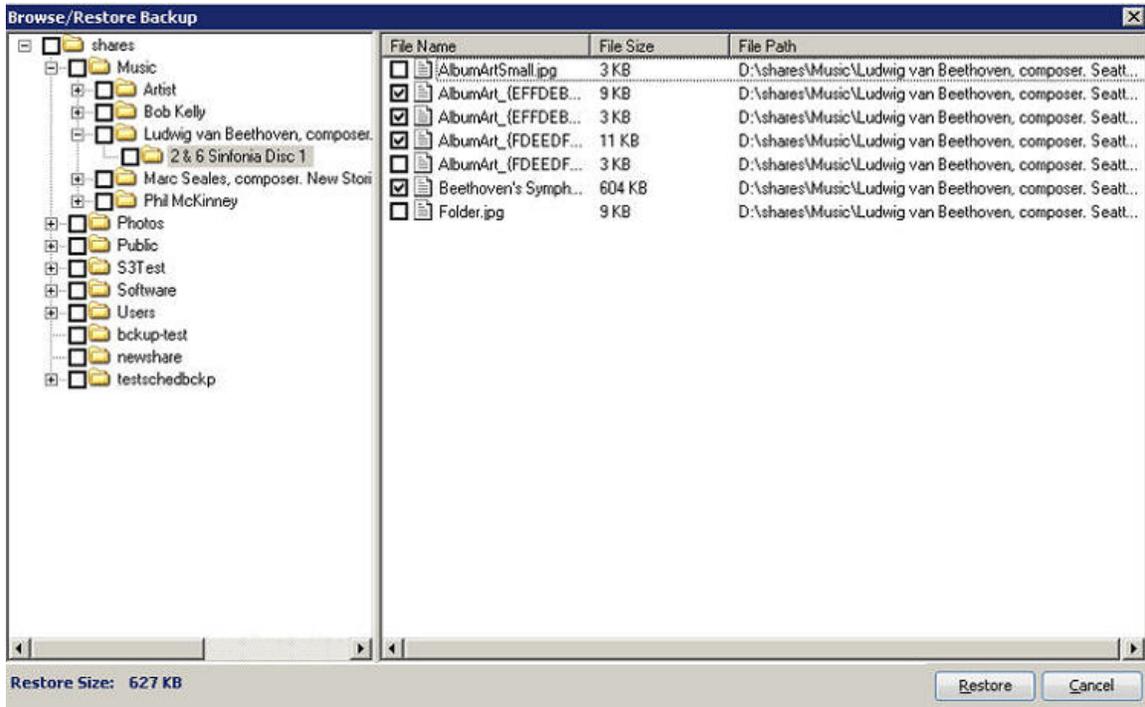
Click the **Browse/Restore** button to view your Amazon S3™ account and see the list of HP MediaSmart Server shared folders that are already backed up. The **Browse/Restore Backup** window opens. In the left pane, select a folder to restore by checking the box. The right pane shows the files in your selected folder and information on File Name, File Size and File Path.

 **Note:**

Be sure that files and folders in the selected folders are not open during restore.

The restore cannot proceed if files are open.

The figure below shows the **Browse/Restore Backup** window.

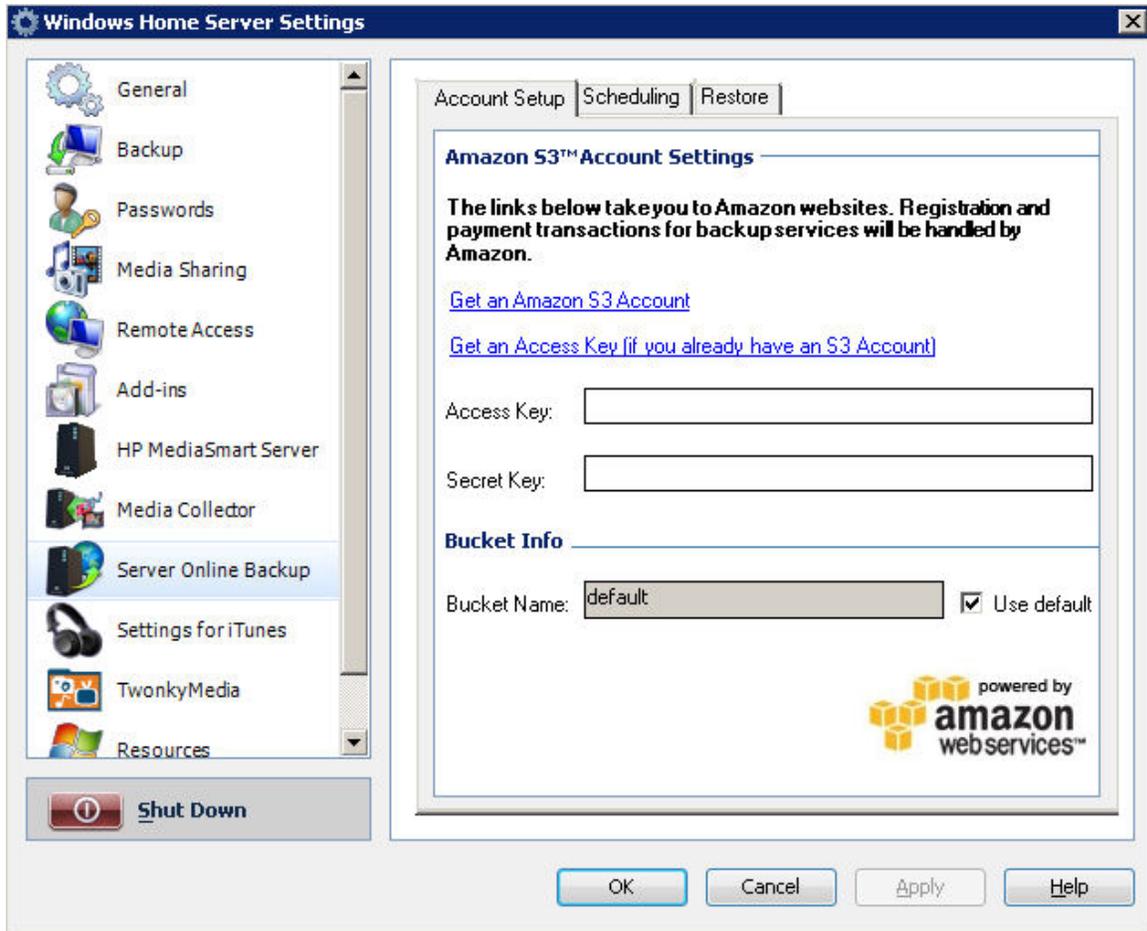


Windows Home Server Settings

Account Setup

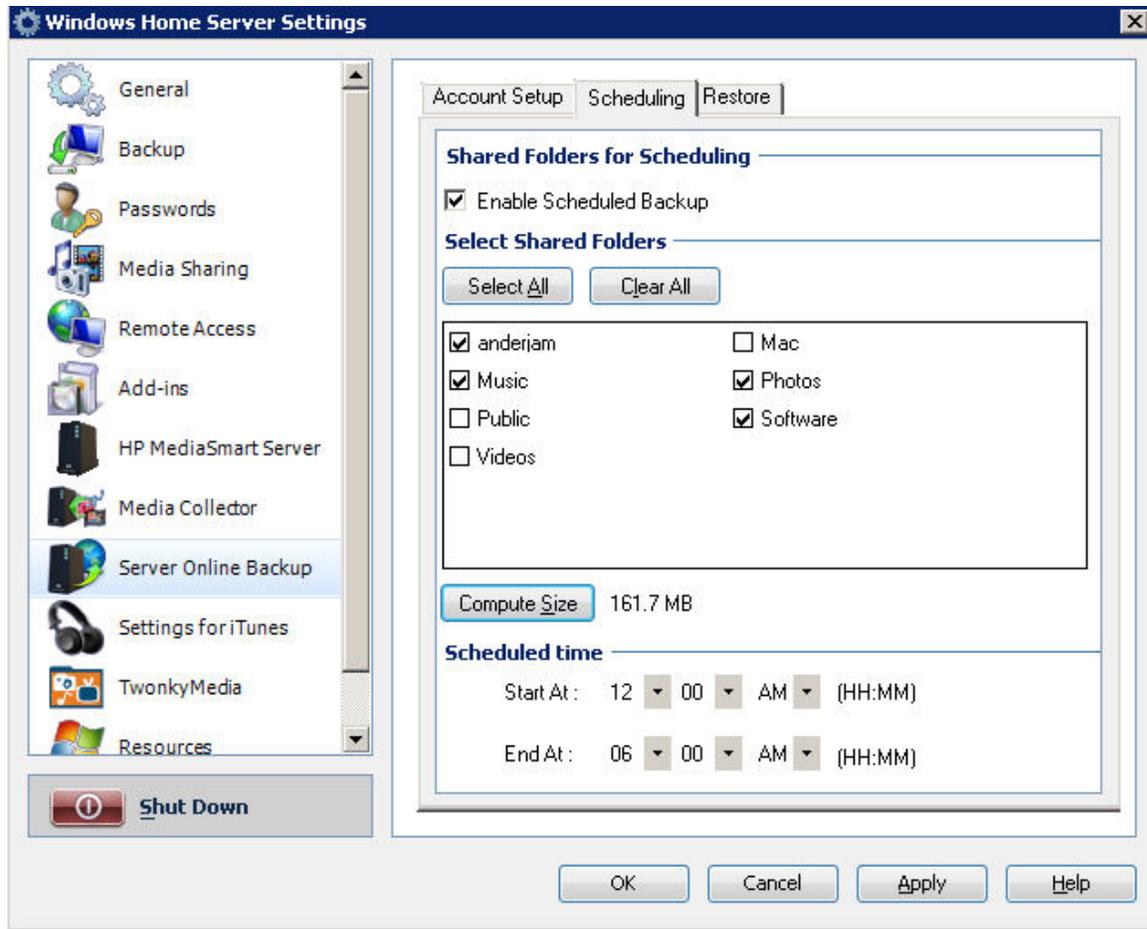
Before you can set up your account, you must get an Amazon S3™ Account. The Account Setup tab lets you log into your existing Amazon S3™ account.

Your **Bucket** is how Amazon designates the location of your online backup. You can use a default name for your bucket or choose another name. The figure below shows the Account Setup tab.



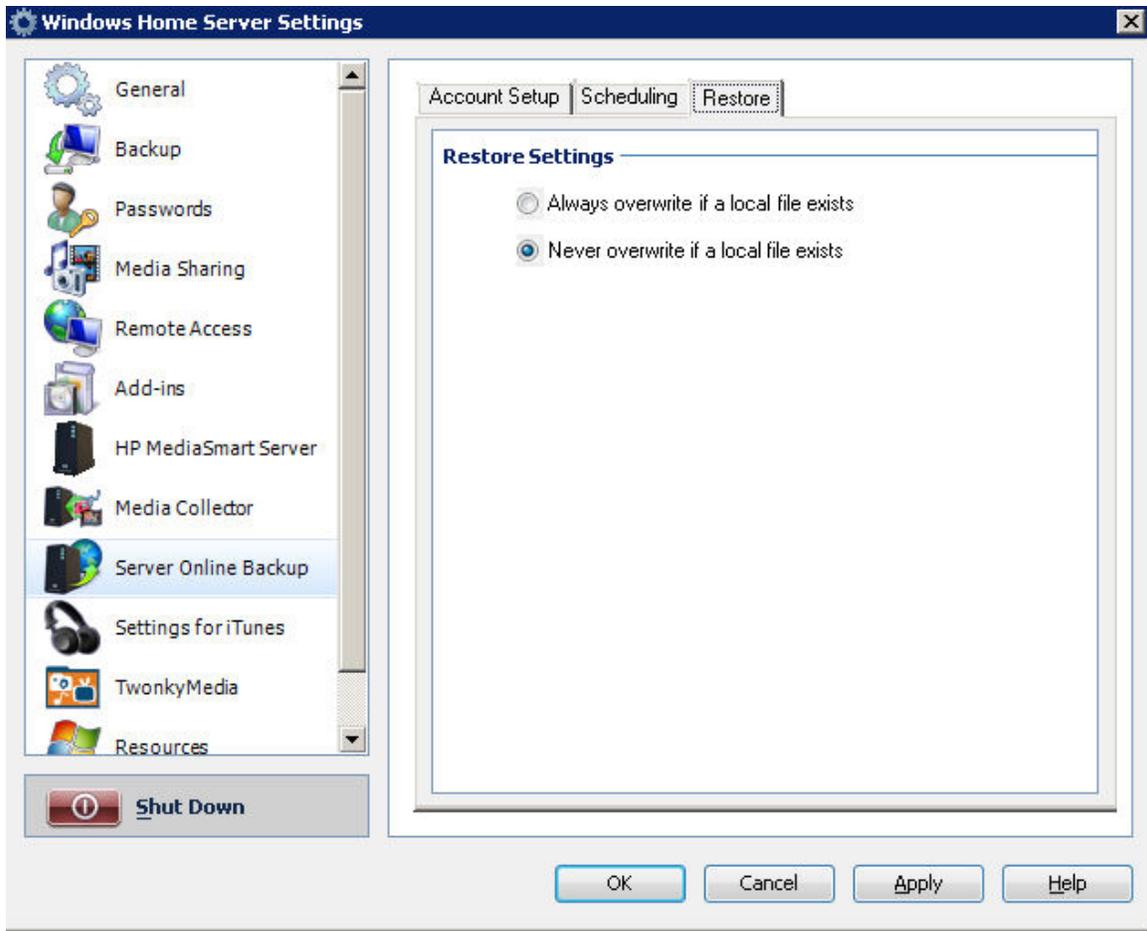
Scheduling

To schedule a backup, click the Scheduling tab. Here you can enable a backup, select *shared folders*, and schedule the start and end time of the backup window. The figure below shows the Scheduling tab.



Restore

The restore tab allows you to keep the original restored file in the server or you can replace it with the file from Amazon. The figure below shows the Restore tab.



Mac Features

Installing and Uninstalling the Mac Software

- [To Install the Mac Software](#)
- [To Uninstall the Mac Software](#)

To Install the Mac Software

The Server has to be configured first using a Windows Client. Once the Windows Home Server Connector has been installed you can install the Features for the Mac.

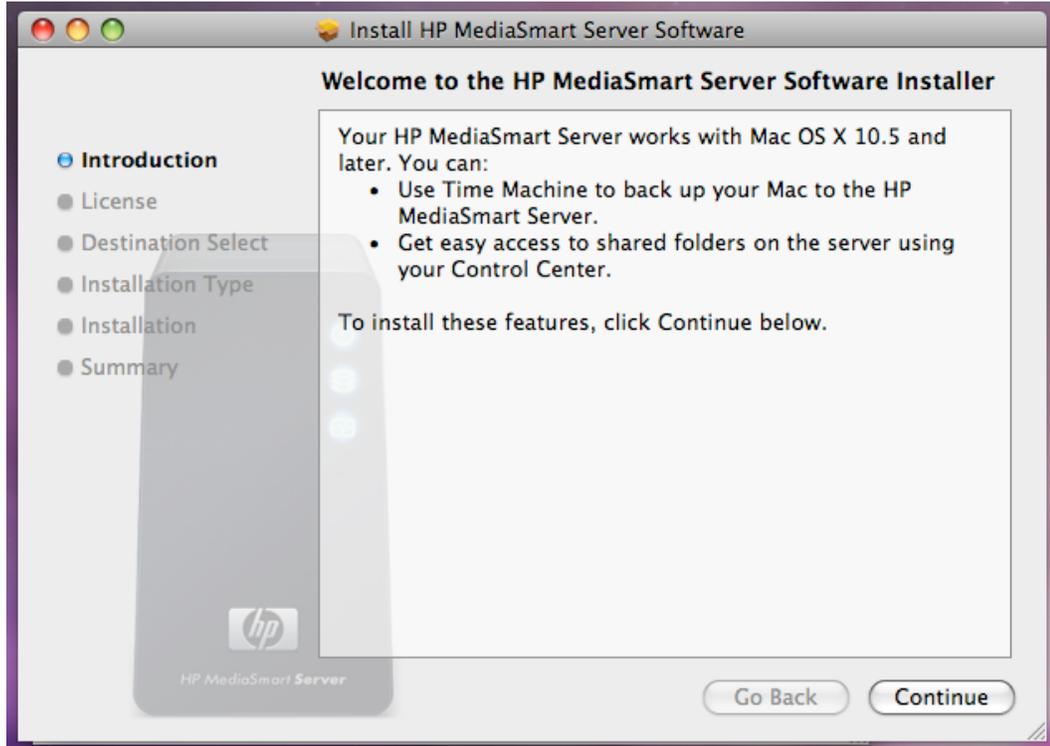
Note

You must have administrative privileges on your computer to install the software. Click **System Preferences, Accounts**, and check **Allow user to administer this computer**.

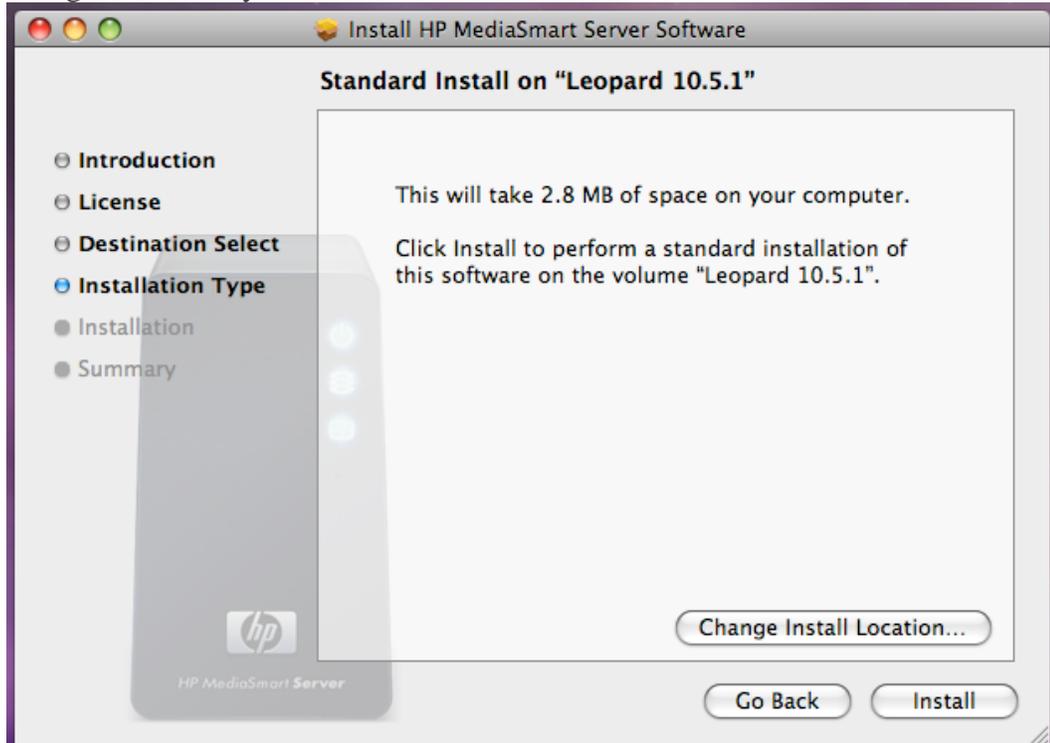
1. Once Windows Home Server has been installed on a Windows home computer, insert the installation CD and a screen will appear with 2 icons, one for install and one for uninstall.
2. Double click the **Install HP MediaSmart Server Software.pkg** to begin the install process.



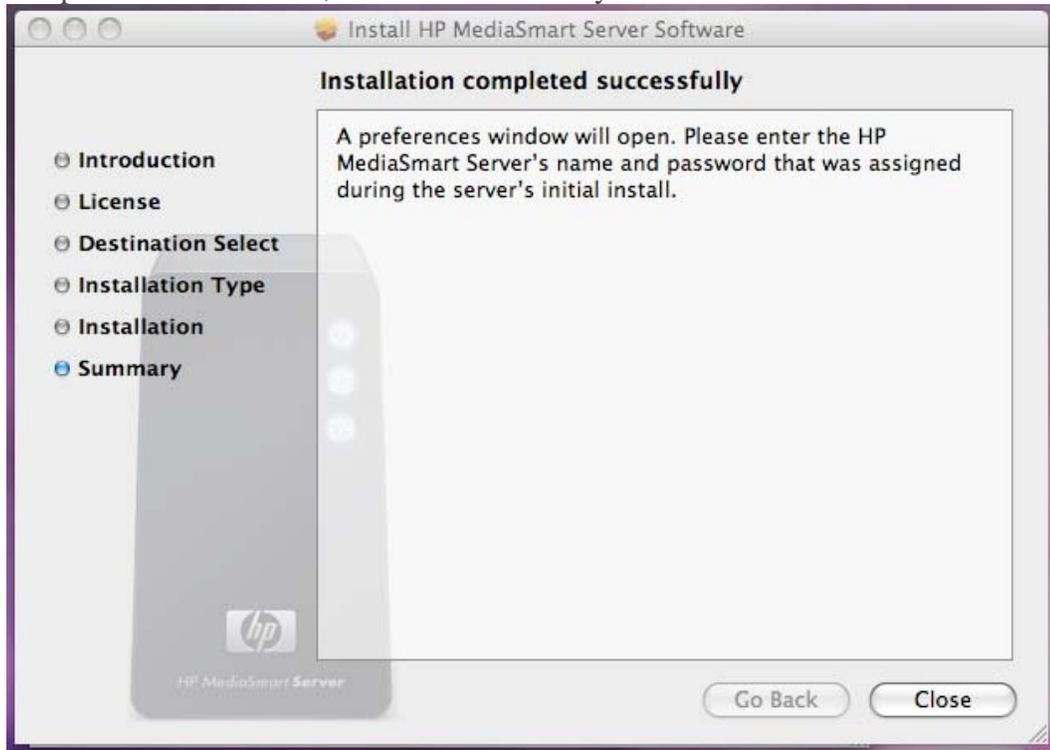
3. On the Welcome to the HP MediaSmart Server Software click **Continue** to install.



4. The End User license Agreement will pop up, click **Continue** to agree.
5. A standard install screen will appear, this screen will report how much room is available for the install on the default location. You do have a button to press to change location if you desire. Otherwise click **Install**.



6. Once the install is completed a confirmation screen will appear followed by a settings or a preferences screen.
7. The confirmation screen can be closed or left open. It will not effect the rest of this process. Click **Close**, to close the summary screen.

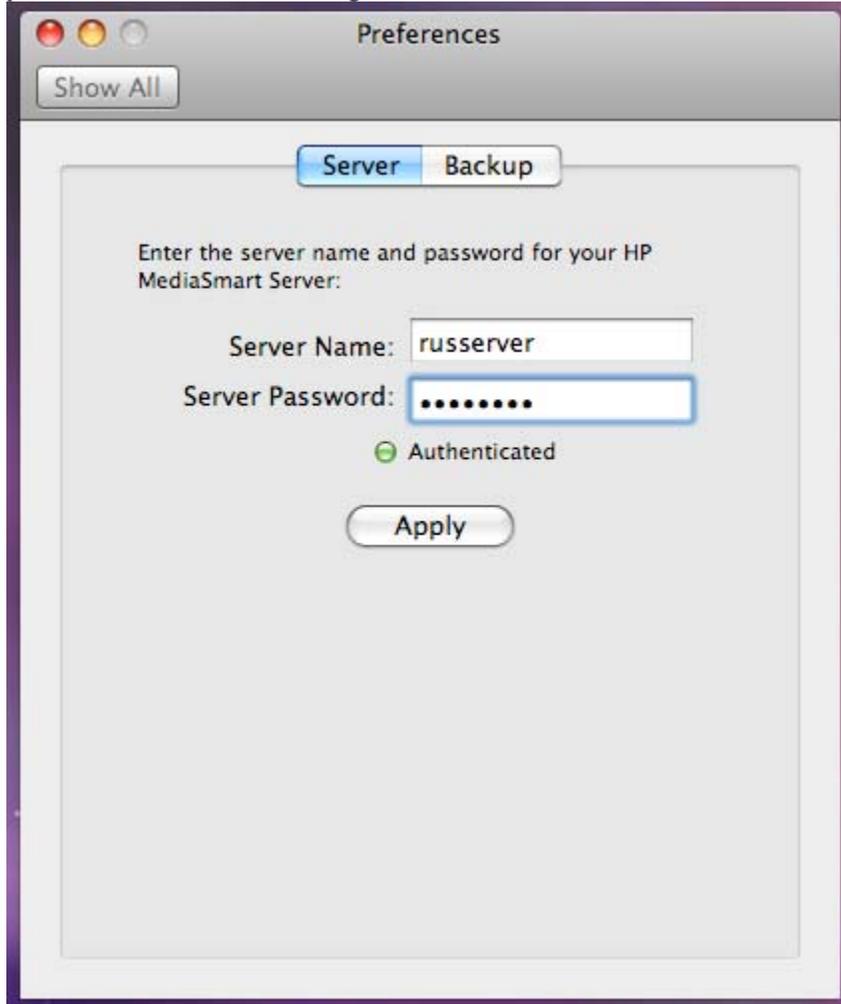


8. On the settings screen you will need to enter the **server name** and the server's administrator **password** so that the Mac software can access your Server. The authentication process begins when you stop typing the password.
9. Once your credentials have been authenticated, click **Apply** to save the server name and password.

 **Note**

Server Name and Password have to be authenticated prior to using the control center, or entering preferences for BackUp.

10. After clicking **Apply**, you can click **BackUp** to set your BackUp Preferences. Or you can click **Show All** to go to the Control Center.



To Uninstall the Mac Software

After the Mac software has been installed, should you decide to un-install the Mac software, insert the installation CD and a screen will appear with 2 icons, one for install and one for uninstall.



1. Double click the **Uninstall HP MediaSmart Server Software** to begin the process.
2. Follow the on screen instructions to complete the uninstall process, click **Continue**, then click **Close** on the Summary screen.

The Control Center

Opening the Control Center

The Control Center is the starting point for accessing the features of the HP MediaSmart Server. The Control Center has three sections:

- **[Browse](#)**—Access your *shared folders* .
- **[Tools](#)**—Tools and settings for configuring your server.
- **[Help & Support](#)**—Learn to use the HP MediaSmart Server and connect to online support.

The Control Center can be accessed from the following:



Using the Finder—at the computer, click Finder, Applications, and then select HP MediaSmart Server Control Center.

On the Dock—at the computer, double-click the HP MediaSmart Server icon on the Dock.

Desktop icon—at the computer, double-click the HP MediaSmart Server Control Center icon on the desktop.

The Control Center desktop icon and system tray icon are available only if you selected to create them during installation.

The Browse Section

Shared Folders

Shared folders are places to help you get started saving and organizing your files so that you can share them with other people on your network.



Server—opens a folder that displays a list of all your shared folders.



Photos—opens a folder that displays a list of photos and photo subfolders.



Music—opens a folder that displays a list of music and music subfolders.



Video—opens a folder that displays a list of videos and video subfolders.

If the logon name for the user account on your server does not match the logon name for your computer, you must enter a user name and password. For information about creating matching user accounts, see *Why should logons names match?* in the Windows Home Server Console Help.

The Tools Section

Use the tools and settings on this tab to configure your HP MediaSmart Server.



HP Photo Publisher—Publish photos from your Server to your favorite photo-sharing site. Friends and family can see your photos on the Internet.



Preferences—Click to enter your Server name and password, also to set backup preferences.



Wake Server—Click Wakeup Server if you want to use the HP MediaSmart Server during sleep hours. All of the lights on the Server will be off when it is in sleep mode. For more information, see [Power](#).

The Help & Support Section

Get information about using, configuring, and getting accessories for your HP MediaSmart Server.



User's Guide—contains installation information, setup instructions, how to use the server, tutorials, and other important information.



Online support—go to the HP Support web site, where you can get more information about the HP MediaSmart Server.



Registration—Click to go to <https://register.hp.com> and register your HP MediaSmart Server. Registering your Server ensures that your information is on file with HP if you should need technical support services.



Need accessories?—get accessories for your server and shop HP Home & Home Office.

Mac Backup

Configuring Time Machine



Configuring Time Machine Prior to Performing a Backup

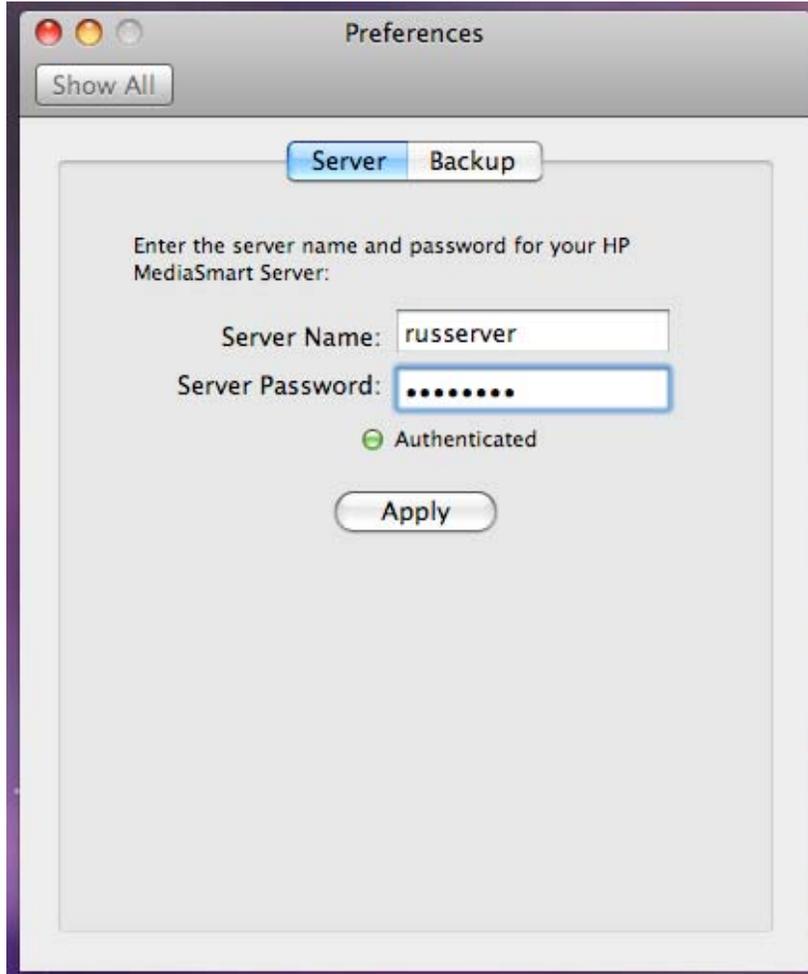
Before Time Machine can use the HP server as a backup destination, the HP MediaSmart Server Software has to be installed and configured.

You must be logged on to the Mac with an account that has administrator privileges before configuring the backup preferences.

To configure the HP server as a valid Time Machine backup device, start the Control Center application.

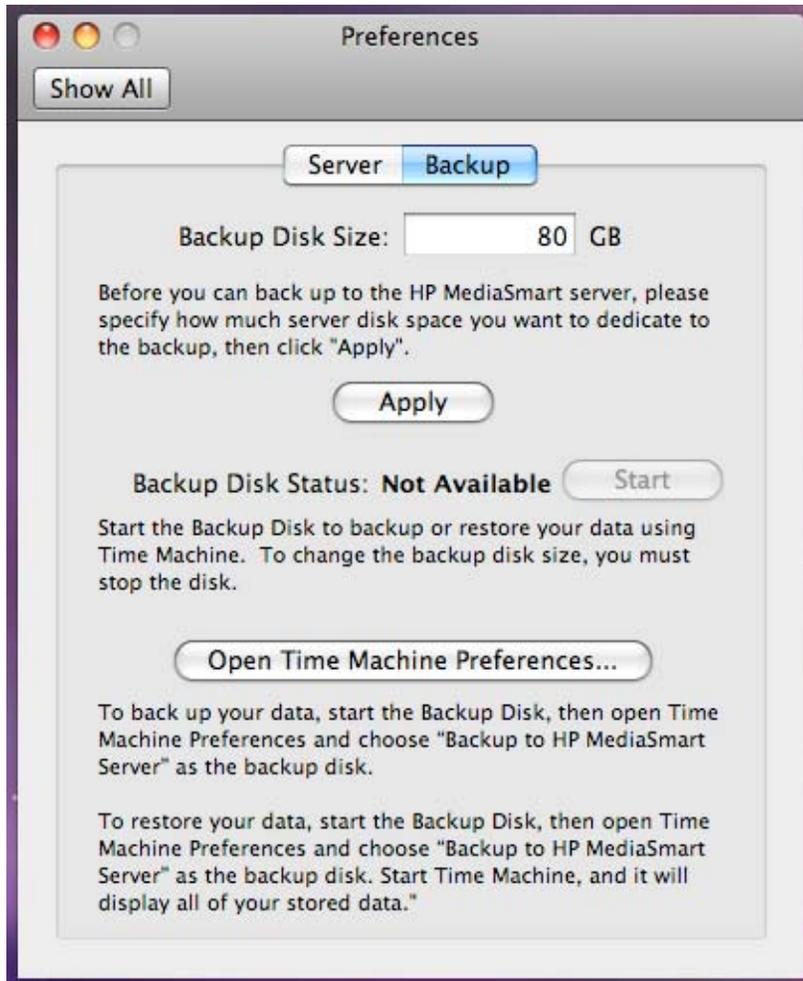
1. Open **Finder**, click **Applications**, click **HP MediaSmart Server Control Center**.

2. Click **Preferences** icon. Clicking the **Show All** button will take you to the control center.



3. In the **Server** section, enter the server name, and the server's administration password. This information is used by Time Machine to setup the backup destination, as well as the links to the shares on the server. This information may

have been entered at the end of the Mac software install.



4. In the **BackUp** section, select Backup Disk Size.
NOTE: The default location for the backup is in the Mac shared folder in a sub folder called **backup**. If the Mac shared folder has been deleted then using a Windows PC you must create the Mac Folder. The path for the folder should be \\HPSERVERLX\Mac.
5. You will also enter the amount of disk space to be created. This is the amount of space dedicated to the Time Machine backups of this particular Mac.

Click Apply. This process can take quite some time based on the size of the backup and Server activity.

Once the formatting process is complete, the Backup Disk Status will change to **Started**. The backup file will be located at \\<server name>\Mac\Backup. The filename is based on the serial number of the Mac system, and cannot be changed. Do not manually delete or rename this file.

Click **Open Time Machine Preferences**, click **Choose Backup Disk** and select **"Backup to HP MediaSmart Server"** as the backup disk.

Can I change the size of my backup

Yes the size can be changed; however, all previous backup data will be lost.

1. Open **Finder**, click **Applications**, click **HP MediaSmart Server Control Center**.
2. Click **Preferences** icon.
3. In the Backup Disk Status, click Stop
4. Enter a new **value** in the Backup Disk Size.
5. Click Apply
6. A pop up warning will appear informing you the file already exists, and that continuing will erase their existing backup data and start over. To continue with the new size click **Delete and Continue**.

How our Mac Restore Works

We have implemented a restore process where you can restore your data that has been backed up. We have not implemented a program where you can recover your Mac Operating System.

Restoring your Mac from a failed hard drive scenario will involve the following steps:

1. Install the new hard drive
2. Install Mac OS X 10.5 from the "Mac OS X Install Disc"
3. Install Mac OS X operating system updates, to ensure everything is up-to-date
4. Install HP MediaSmart Server Mac Client software
5. Configure HP MediaSmart Server Mac Client settings including: server name, administrator password, backup location (using the same share that was used for the backup) and enable backup disk
6. Choose the disk called "Backup to the HP MediaSmart Server" disk in the Time Machine System Preferences
7. Launch Time Machine and ask to restore to the latest backup

Troubleshooting & FAQs

Errors & Lights

What to do if the Server is Unresponsive

If the server appears to be unresponsive, do either of the following:

- [Reset the server console](#)
- [Shutdown and restart the server manually](#)

Reset the server console

How to reset the server from the Windows Home Server Console.

To reset the server

1. If the Windows Home Server Console is open, click the Close button in the upper-left corner of the console.
2. Double-click the **Windows Home Server** icon  in the task tray.
3. On the Windows Home Server Console startup page, click **Options**.
4. From the drop-down menu, select **Reset the Windows Home Server Console**.
5. Click **OK** to verify that you want to reset the console.

Shutdown and restart the server manually

How to force the server to turn off and restart.

To perform a soft shut down and restart

1. On the back of the server, press the **Power** button.
2. The health light should begin blinking.
The shutdown process may take up to two minutes to complete.
3. After the server is completely off, press the **Power** button to restart.

To force a shutdown and restart

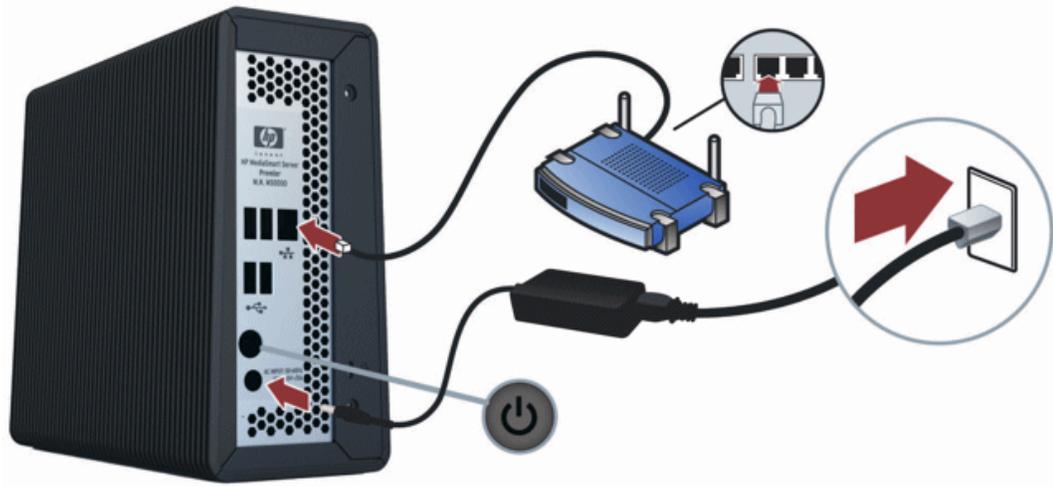
1. On the back of the server, hold in the **Power** button for at least 4 seconds to force the server to shutdown.
2. After the server is completely off, press the **Power** button to restart.

Power-On Indicator is Off

The server is not powered on.

To power on the server

1. Make sure the power cord is fully plugged into the server and a powered electrical outlet.



2. If plugged into a surge protector or power strip, make sure the device is switched on.

Why is the Server's Health Indicator Light Red?

A red Health indicator light  has the following states:

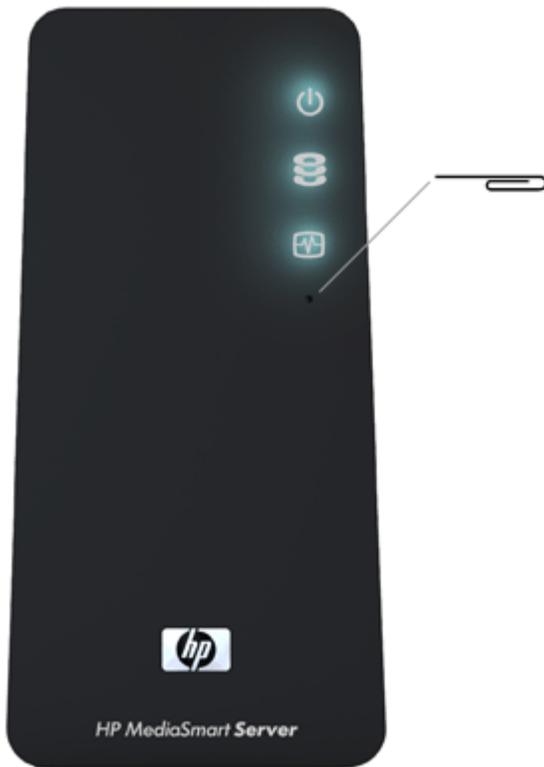
- **Solid red** - operating system failure.
- **Blinking red** - power on test has failed or *BIOS* failed.

Additionally, on your computers the Windows Home Server icon is grey  on the task tray, which indicates the computer cannot contact Windows Home Server.

To get more information about the failure, the HP MediaSmart Server provides additional error codes.

To get the specific error code causing the failure

Use a paper clip to press and release the recessed Status/Recovery button on the front of the server.



What to do About Hardware Warning Messages?

Warning messages indicate Critical issues or At Risk issues.

- **Critical issues** - address immediately; otherwise, the server may be damaged.
- **At Risk issues** - address as soon as possible.

The HP MediaSmart Server monitors the temperature of the microprocessor (CPU), fan speed, and voltages. It displays the following messages:

- [Temperature warnings](#)
- [Fan speed warnings](#)
- [Voltages warnings](#)

Temperature warnings

Temperature warning messages indicate that some server components are too hot.

To lower the temperature of the server

1. Check the ventilation surrounding the server:
 - If the server is located in a small unventilated space, move the server to a more ventilated location.
 - Check that the server's front and back panels are not blocked.
 - Check that the location of the server is not too hot. Maximum environmental temperature for operating the server is 35° C (95° F).

HP MediaSmart Server User's Guide

2. Remove any accumulated dust on the back and front of the server.
3. If none of the previous steps return the temperature to normal:
 - Write down the temperatures of the CPU.
 - Turn off the server.
 - Contact HP Support at <http://www.hp.com/support>.

Fan speed warnings

The fans cool the disk drives and other electronics. If they are not cooling the server sufficiently, the hard drives and server may be damaged.

For fan speed out of specification

1. Write down the speeds of the upper and lower fans.
2. Turn off the server.
3. Contact HP Support at <http://www.hp.com/support>.

Voltages warnings

The voltages indicate the health of the server's power supply.

For voltages out of specification

1. Write down the voltages.
2. Turn off the server.
3. Contact HP Support at <http://www.hp.com/support>.

File Transfer Failure

What to do about a failure when transferring files to the HP MediaSmart Server from your computer.

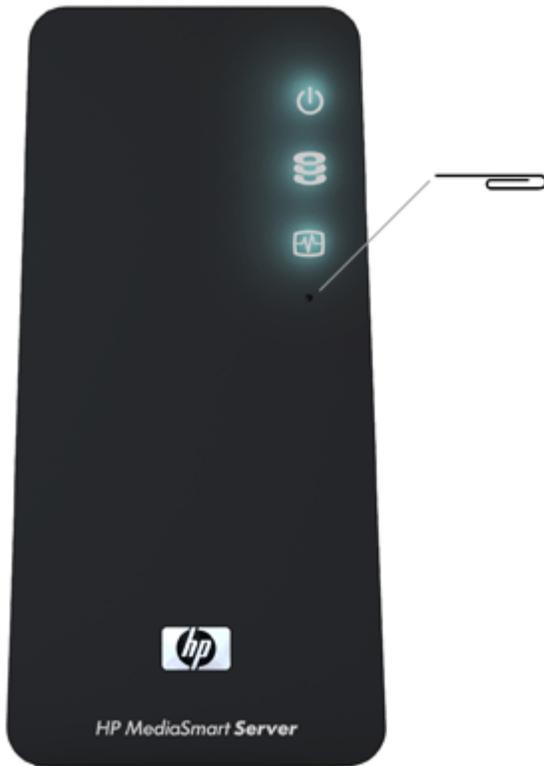
To correct a file transfer failure

1. Compare files that you were transferring with the files on the shared folder and try transferring the missing files again.
2. If the transfer fails again, check that you can access the Windows Home Server.
3. If you cannot access the Windows Home Server, check the network connections:
 - Make sure that all the cable connections are correctly plugged in.
 - Make sure the HP MediaSmart Server has power and the Network indicator light on the back of the server is green.
 - Make sure the *router* (or switch) has power.
 - Restart the router or switch (or unplug and plug it back in).
 - Restart all the devices on the network, including the computers and the server.

- Make sure your server and computers are on the same *logical* network (subnet). See What is an advanced network configuration? in the Windows Home Server Console Help.
4. If the computer that you transferring files from is connected wirelessly to the network, try connecting it with an ethernet cable.
 5. Check the Event Viewer to see if the System logs show a disconnect:
 - In **Windows XP**, click **Start, Control Panel, Performance and Maintenance, Administrative Tools**, and then select **Event Viewer**.
 - In **Windows Vista**, click **Start, Control Panel, System and Maintenance, Administrative Tools**, and then select **Event Viewer**.

Health Indicator Codes

The Tables below are a breakdown of the Health indicator displays. To see this code, using a paper clip, press and release the recessed Status/Recovery button on the front of the server.



Health indicator codes when the indicator starts as solid red		
Code	Description	Action
Solid red—no code	Operating system or application error.	See Windows Home Server Console for error condition.
1 aqua white, 2 red	<i>System drive</i> failed to boot.	If the light-bar for the system drive (the lowest light-bar) is also red, you need to replace the system drive.

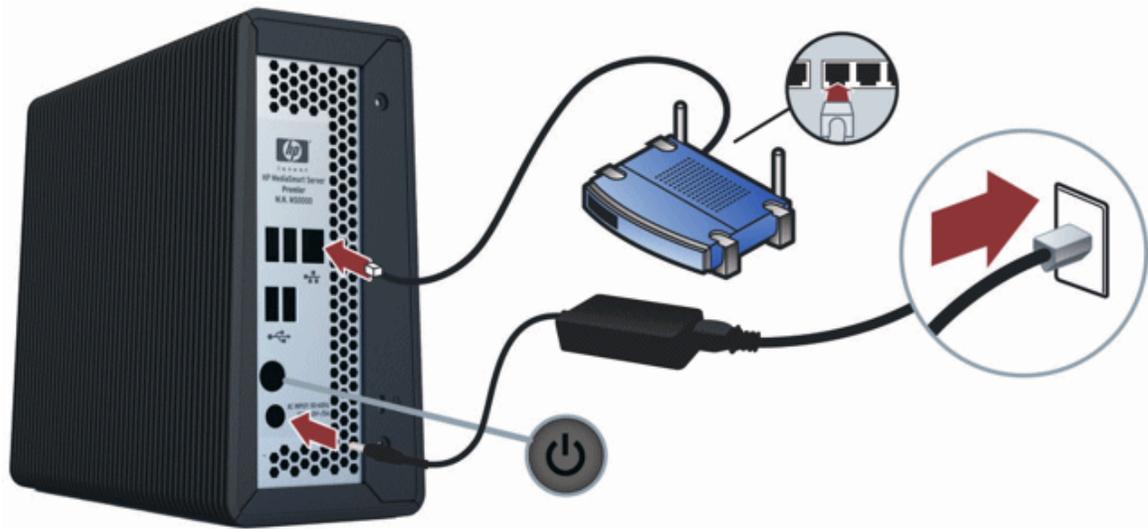
1 aqua white, 3 red	Operating system USB boot failed.	Check that lowest USB port on back of server has boot source.
1 aqua white, 4 red	Recovery mode failed.	Contact HP Support at http://www.hp.com/support .
1 aqua white, 5 red	Multiple boot failure.	Contact HP Support at http://www.hp.com/support .
1 aqua white, 6 red	Service code.	Do not hold state button longer than 3 seconds. Shut down and repeat.

Codes when the indicator starts as blinking red		
Code	Description	Action
2 aqua white, 1 red	<i>BIOS</i> corrupted.	Repeat power-on to validate. If repeats Contact HP Support at http://www.hp.com/support .
2 aqua white, 2 red	Memory failure.	Contact HP Support at http://www.hp.com/support .
2 aqua white, 3 red	BIOS recovery source not present.	Contact HP Support at http://www.hp.com/support .

Why is the Network Connection Light Off?

To determine why the network connection light is off:

- Make sure that all the cable connections are correctly plugged in.
- Make sure the *router* or switch has power.
- Restart the router or switch (or unplug and plug it back in).
- If you are using your own Ethernet cable, try using the Ethernet cable that came with the HP MediaSmart Server.



Server Not Showing Up on Your DMR

Issue:

The HP MediaSmart Server is not listed on your [DMR](#) or DMA.

Solution:

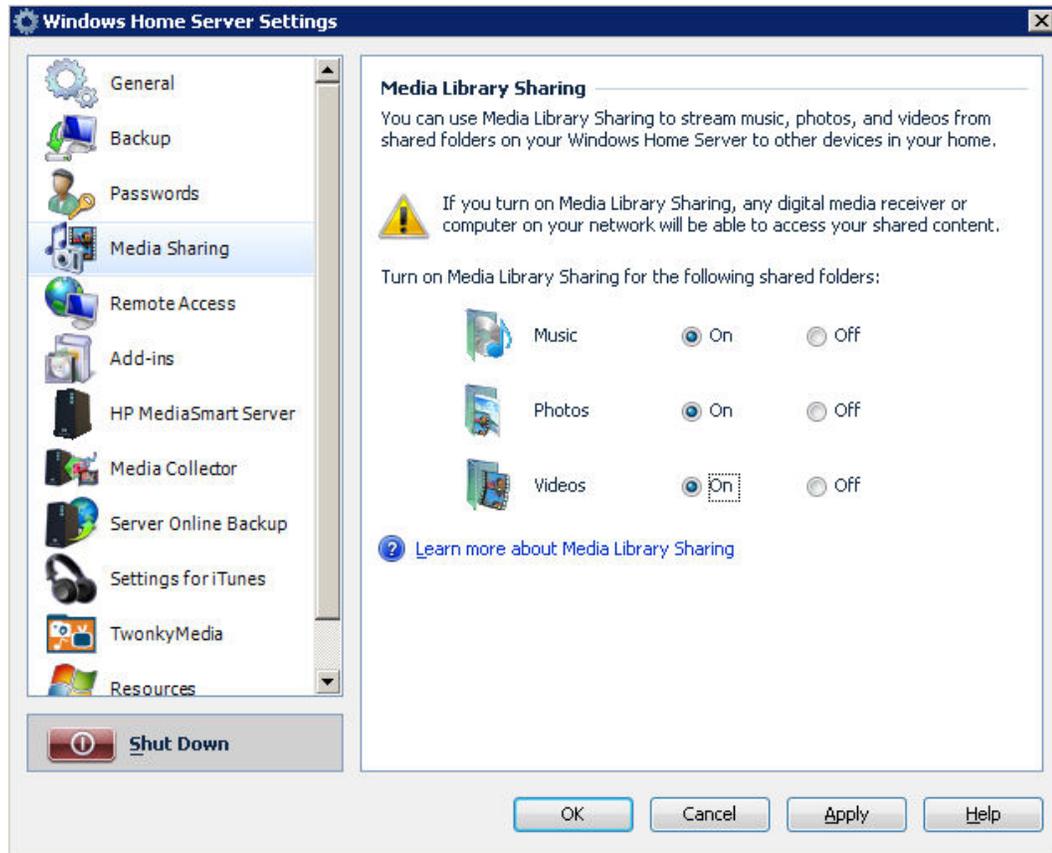
You can either:

- [Turn on Windows Home Server Media Sharing](#)
- [Turn on TwonkyMedia](#)

Turn on Windows Home Server Media Sharing

1. At the computer, double-click the **Windows Home Server** icon  in the system tray.
2. Log on to the Windows Home Server Console.
3. Click **Settings** in the upper right corner.
4. Click the **Media Sharing** link in the left navigation bar.

5. Click the **On** radio button for at least one of the folders.



Turn on TwonkyMedia

1. At the computer, double-click the **Windows Home Server** icon  in the system tray.
2. Log on to the Windows Home Server Console.
3. Click **TwonkyMedia** in the left navigation.
If you do not see TwonkyMedia in the left navigation, the add-in is not installed. Click **Settings** in the upper right corner. Click **Add-ins** in the left navigation of the Windows Home Server Settings dialog. On the **Available** tab, install the **TwonkyMedia Server for HP MediaSmart**.
4. In the right pane, click **Start Sharing** and then click **Media Server Settings**.

Checking the Server Lights Out of the Box

Question:

How should my server lights look when I turn it on for the first time?

Answer:

The lights on the front of the HP MediaSmart Server indicate the status of the server. After the HP MediaSmart Server startup completes and prior to the first software installation, the indicator lights show:

- Power—breathing aqua white
- Hard drive—breathing aqua white
- Health—breathing aqua white

After you complete the software installation, all lights should be solid aqua white.

If the lights are not solid aqua white, see the following:

- Why is the hard drive light-bar breathing or blinking aqua white?
- Why is the hard drive light-bar red?
- [Power-on indicator is off](#)
- [Why is the server's health indicator light red?](#)

Windows Home Server Frequently Asked Questions

Server Low on Space.

Clean out unused files.

Earmark backups for deletion and 'clean up now', delete unused docs from *Shared Folders*.

Cannot Connect to Server Shares.

- A duplicate device exists on the network.
Verify that there is no device on the network named **HPSERVERLX**.
- User names and passwords do not match.
Create a user on the server whose name and password match the user on the PC or enable the Guest account.

Network & Firewall

Network Connection Issues

In this document we will cover:

- [No Available Port on Network Router](#)
- [Why did URL not Work?](#)
- [Why is the Network Connection Light Off?](#)
- [The Firewall is Blocking the Connection](#)
- [Windows Vista: Check that Network Discovery is turned on](#)
- [Windows XP: To ensure your network is set up properly for TCP/IP](#)
- [Windows Vista: To ensure your network is set up properly for TCP/IP](#)
- [Windows XP: To ensure your network has the correct NetBIOS set up](#)
- [Windows Vista: To ensure your network has the correct NetBIOS set up](#)

No Available Port on Network Router

Take the following steps:

To add more Ethernet ports, connect an Ethernet switch to the router. Refer to the switch documentation for instructions on how it connects to the router.

Connect one end of the Ethernet cable that came with the server to the switch and the other end to the HP MediaSmart Server.

Why did URL not Work?

DNS has not updated, wait about 10 minutes for DNS to update.

What do Firewall Blocking Messages Mean?

Firewalls block certain types of communications between network devices. This helps protect your data from hackers, viruses, spyware, and Trojan horse software. The computer might have one or more firewall programs installed. For example, if the latest version of the Microsoft Windows XP operating system is installed, the computer may be using the Windows XP Firewall.

The HP MediaSmart Server comes with software applications that must communicate over the network. Sometimes these programs are blocked by a firewall. When this happens, security alerts pop up on the computer screen.

Security alerts usually have a list of possible options. The particular messages or alerts displayed depend on the vendor.

For example, the alert might offer the following options:

- Keep Blocking
- Unblock
- Defer the choice and be reminded later

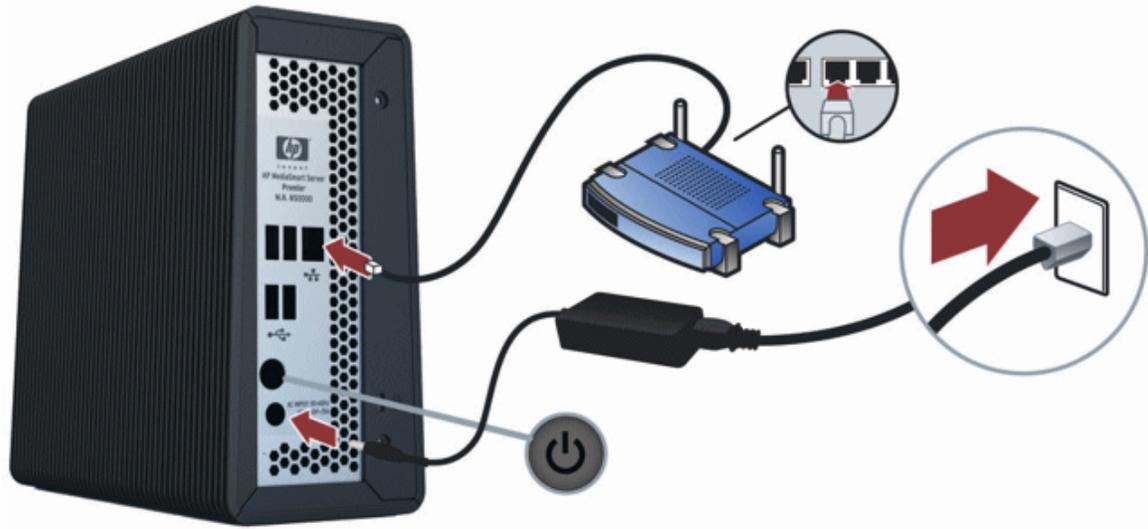
If a security alert dialog box for an HP MediaSmart Server application or the Windows Home Server is displayed by the firewall, click Unblock or Allow to permit the application to execute. It is safe to unblock the communications because no connection or communication with the Internet is enabled, only those between the server and its software applications. After unblocking an application, if any software is reinstalled, moved to a new disk location, or if the application is deleted from the exception list using the Windows XP Security Center control panel, communications between that software and the server may once again be blocked by the firewall.

Configure your firewall to allow any HP MediaSmart or Windows Home Server applications.

Why is the Network Connection Light Off?

To determine why the network connection light is off:

- Make sure that all the cable connections are correctly plugged in.
- Make sure the router or switch has power.
- Restart the router or switch (or unplug and plug it back in).
- If you are using your own Ethernet cable, try using the Ethernet cable that came with the HP MediaSmart Server.



The Firewall is Blocking the Connection

If using a firewall program, configure it to allow any HP MediaSmart or Windows Home Server applications.

For instructions to unblock, see the software vendor's documentation.

For information about firewall blocking alerts, see [What do firewall blocking messages mean?](#)

Windows Vista: Check that Network Discovery is turned on

To ensure that Network Discovery is turned on

1. Click the **Start** menu, and then select **Control Panel**.
2. In the Control Panel, click **View network status and tasks**.
3. In the Network and Sharing Center, make sure that **Network discovery is on**.
4. If Network discovery is off, click the **down arrow** , then select **Turn on network discovery** and **Apply**.

Windows XP: To ensure your network is set up properly for TCP/IP

1. Click **Start**, and then select **Control Panel**.
2. Double-click **Network and Internet Connections**.
3. Double-click **Network Connections**.
4. If the computer is connected via Ethernet cable to the network, right-click **Local Area Connection (LAN)**.
5. If the computer is using a wireless connection, right-click **Wireless Network Connection**.
6. Click **Properties**. In the dialog box that opens, check to ensure that **TCP/IP** is listed and selected.
 - If TCP/IP is not listed, click **Install**, **Protocol**, and then **Add**. In the dialog box that appears, select **Internet Protocol (TCP/IP)**.

- If TCP/IP is listed and checked, highlight it and click **Properties**, then select **Obtain IP address automatically** and **Obtain DNS server address automatically**.
7. All computers should be set identically.

Windows Vista: To ensure your network is set up properly for TCP/IP

1. Click **Start**, and then select **Control Panel**.
2. Click **View network status and tasks** under **Network and Internet**.
3. In the left pane, click **Manage Network Connections**.
4. If the computer is connected via Ethernet cable to the network, right-click **Local Area Connection (LAN)**.
5. If the computer is using a wireless connection, right-click **Wireless Network Connection**.
6. Click **Properties**. In the dialog box that opens, check to ensure that Internet Protocol Version 4 TCP/IPv4 is listed and selected.
 - If TCP/IP is not listed, click **Install, Protocol**, and then **Add**. In the dialog box that appears, select **Internet Protocol (TCP/IPv4)**.
 - If TCP/IP is listed and checked, highlight it and click **Properties**, then select **Obtain IP address automatically** and **Obtain DNS server address automatically**.
7. All computers should be set identically.

Windows XP: To ensure your network has the correct NetBIOS set up

1. Click **Start**, and then select **Control Panel**.
2. Double-click **Network and Internet connections**.
3. Double-click **Network Connections**.
4. Double-click your default network connection.
 - **Local Area Connection** for wired networks.
 - **Wireless** for wireless connections.
5. Click **Properties**.
6. Highlight **Internet Protocol (TCP/IP)**.
7. Click **Properties**.
8. Click **Advanced**.
9. Click the **WINS** tab.

WINS refers to Windows Internet Naming Service, which converts NetBIOS network names to IP addresses.
10. NetBIOS settings are found at the bottom of the dialog box. Make sure that the NetBIOS setting is **not** set to **Disable NetBIOS over TCP/IP**.

Windows Vista: To ensure your network has the correct NetBIOS set up

1. Click **Start**, and then select **Control Panel**.
2. Click **View network status and tasks** under **Network and Internet**.
3. In the left pane, click **Manage Network Connections**.

4. Right-click your default network connection.
 - **Local Area Connection** for wired networks.
 - **Wireless** for wireless connections.
5. Highlight **Internet Protocol Version 4(TCP/IP)**.
6. Click **Properties**.
7. Click **Advanced**.
8. Click the **WINS** tab.
WINS refers to Windows Internet Naming Service, which converts NetBIOS network names to IP addresses.
9. NetBIOS settings are found at the bottom of the dialog box. Make sure that the NetBIOS setting is **not** set to **Disable NetBIOS over TCP/IP**.

Network Health

The Windows Home Server console contains a Network Health button to view the health of your network.

The Home Network Health dialog box shows health notifications from the server and the computers that are running Windows Vista.

To access the Network Health button

1. At the computer, double-click the **Windows Home Server icon**  in the system tray.
2. Log on to the Windows Home Server Console.
3. Click the **Network Health** button.

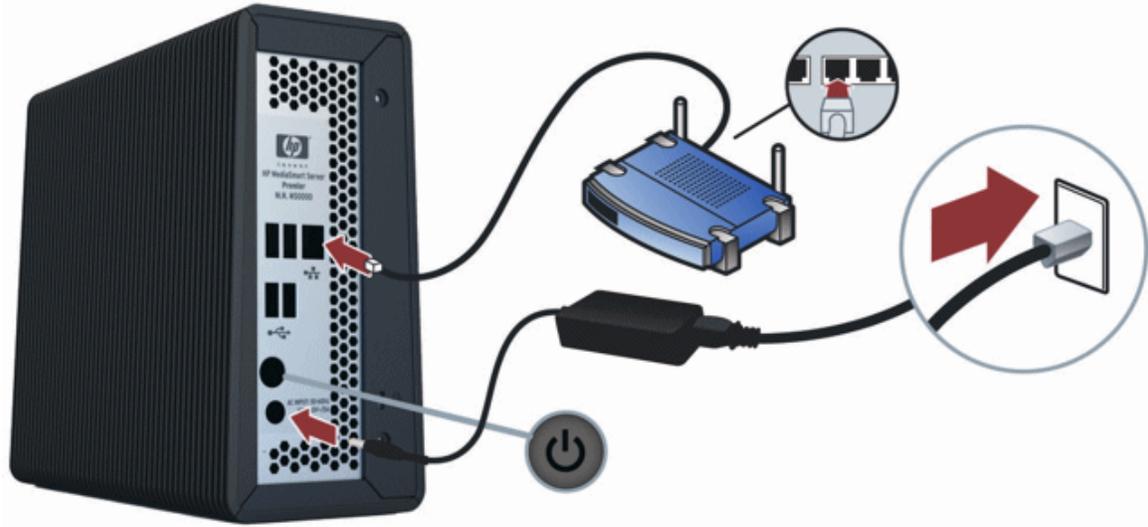
For assistance with Network Health notifications, see the following in the Windows Home Server Console Help:

- Network Health
- Home Server Health Notifications
- Home Computer Health Notifications

Why is the Network Connection Light Off?

To determine why the network connection light is off:

- Make sure that all the cable connections are correctly plugged in.
- Make sure the *router* or switch has power.
- Restart the router or switch (or unplug and plug it back in).
- If you are using your own Ethernet cable, try using the Ethernet cable that came with the HP MediaSmart Server.



The Firewall is Blocking the Connection

If using a firewall program, configure it to allow any HP MediaSmart or Windows Home Server applications.

For instructions to unblock, see the software vendor's documentation.

What do Firewall Blocking Messages Mean?

Firewalls block certain types of communications between network devices. This helps protect your data from hackers, viruses, spyware, and Trojan horse software. The computer might have one or more firewall programs installed. For example, if the latest version of the Microsoft Windows XP operating system is installed, the computer may be using the Windows XP Firewall.

The HP MediaSmart Server comes with software applications that must communicate over the network. Sometimes these programs are blocked by a firewall. When this happens, security alerts pop up on the computer screen.

Security alerts usually have a list of possible options. The particular messages or alerts displayed depend on the vendor.

For example, the alert might offer the following options:

- Keep Blocking
- Unblock
- Defer the choice and be reminded later

If a security alert dialog box for an HP MediaSmart Server application or the Windows Home Server is displayed by the firewall, click Unblock or Allow to permit the application to execute. It is safe to unblock the communications because no connection or communication with the Internet is enabled, only those between the server and its software applications. After unblocking an application, if any software is reinstalled, moved to a new disk location, or if the application is deleted from the exception list using the Windows XP Security Center control panel, communications between that software and the server may once again be blocked by the firewall.

Configure your firewall to allow any HP MediaSmart or Windows Home Server applications.

Check that the Router is Correctly Configured for DHCP

The HP MediaSmart Server comes automatically set to use a *DHCP* server to dynamically assign IP addresses. Most *router* come with a built-in DHCP server. Check that the router has the DHCP server correctly enabled. Refer to the documentation that came with the router for instructions on proper DHCP server configuration. For information about configuring a router for remote access, see *Configuring your broadband router* in the Windows Home Server Console Help.

Windows Vista: Check that Network Discovery is turned on

To ensure that Network Discovery is turned on

1. Click the **Start** menu, and then select **Control Panel**.
2. In the Control Panel, click **View network status and tasks**.
3. In the Network and Sharing Center, make sure that **Network discovery** is on.
4. If Network discovery is off, click the **down arrow** , then select **Turn on network discovery** and **Apply**.

Check the Network is Set Up Properly for TCP/IP

Check the network is set up properly for *TCP/IP* Check that each computer on the network has TCP/IP listed and selected for the network properties with these options selected:

- Obtain *IP address* automatically
- Obtain *DNS* server address automatically

Windows XP: To ensure your network is set up properly for TCP/IP

1. Click **Start**, and then select **Control Panel**.
2. Double-click **Network and Internet Connections**.
3. Double-click **Network Connections**.
4. If the computer is connected via Ethernet cable to the network, right-click **Local Area Connection (LAN)**.
5. If the computer is using a wireless connection, right-click **Wireless Network Connection**.
6. Click **Properties**. In the dialog box that opens, check to ensure that TCP/IP is listed and selected.
 - If TCP/IP is not listed, click **Install, Protocol**, and then **Add**. In the dialog box that appears, select **Internet Protocol (TCP/IP)**.
 - If TCP/IP is listed and checked, highlight it and click **Properties**, then select **Obtain IP address automatically** and **Obtain DNS server address automatically**.
7. All computers should be set identically.

Windows Vista: To ensure your network is set up properly for TCP/IP

1. Click **Start**, and then select **Control Panel**.
2. Click **View network status and tasks** under **Network and Internet**.
3. In the left pane, click **Manage Network Connections**.
4. If the computer is connected via Ethernet cable to the network, right-click **Local Area Connection (LAN)**.
5. If the computer is using a wireless connection, right-click **Wireless Network Connection**.
6. Click **Properties**. In the dialog box that opens, check to ensure that Internet Protocol Version 4 TCP/IPv4 is listed and selected.
 - If TCP/IP is not listed, click **Install, Protocol**, and then **Add**. In the dialog box that appears, select **Internet Protocol (TCP/IPv4)**.
 - If TCP/IP is listed and checked, highlight it and click **Properties**, then select **Obtain IP address automatically** and **Obtain DNS server address automatically**.
7. All computers should be set identically.

Check the Network NetBIOS Properties

Check that each computer on the network has *TCP/IP* advanced network properties set to Enable NetBIOS over TCP/IP. All computers should be set identically.

Windows XP: To ensure your network has the correct NetBIOS set up

1. Click **Start**, and then select **Control Panel**.
2. Double-click **Network and Internet connections**.
3. Double-click **Network Connections**.
4. Double-click your default network connection.
 - **Local Area Connection** for wired networks.
 - **Wireless** for wireless connections.
5. Click **Properties**.
6. Highlight **Internet *Protocol* (TCP/IP)**.
7. Click **Properties**.
8. Click **Advanced**.
9. Click the **WINS** tab.

WINS refers to Windows Internet Naming Service, which converts NetBIOS network names to IP addresses.
10. NetBIOS settings are found at the bottom of the dialog box. Make sure that the **NetBIOS** setting is **not** set to **Disable NetBIOS over TCP/IP**.

Windows Vista: To ensure your network has the correct NetBIOS set up

1. Click **Start**, and then select **Control Panel**.
2. Click **View network status and tasks** under **Network and Internet**.
3. In the left pane, click **Manage Network Connections**.

4. Right-click your default network connection.
 - **Local Area Connection** for wired networks.
 - **Wireless** for wireless connections.
5. Highlight **Internet Protocol Version 4(TCP/IP)**.
6. Click **Properties**.
7. Click **Advanced**.
8. Click the **WINS** tab.
WINS refers to Windows Internet Naming Service, which converts NetBIOS network names to IP addresses.
9. NetBIOS settings are found at the bottom of the dialog box. Make sure that the **NetBIOS** setting is **not** set to **Disable NetBIOS over TCP/IP**.

Network Frequently Asked Questions

The following questions are answered in this document. Click the question to find the solution:

- No Available Port on Network [Router](#)
- Why did URL not Work?

No Available Port on Network Router

Take the following steps:

1. To add more Ethernet ports, connect an Ethernet switch to the router. Refer to the switch documentation for instructions on how it connects to the router.
2. Connect one end of the Ethernet cable that came with the server to the switch and the other end to the HP MediaSmart Server.

Why did URL not Work?

[DNS](#) has not updated, wait about 10 minutes for DNS to update.

What do Firewall Blocking Messages Mean?

Firewalls block certain types of communications between network devices. This helps protect your data from hackers, viruses, spyware, and Trojan horse software. The computer might have one or more firewall programs installed. For example, if the latest version of the Microsoft Windows XP operating system is installed, the computer may be using the Windows XP Firewall.

The HP MediaSmart Server comes with software applications that must communicate over the network. Sometimes these programs are blocked by a firewall. When this happens, security alerts pop up on the computer screen.

Security alerts usually have a list of possible options. The particular messages or alerts displayed depend on the vendor.

For example, the alert might offer the following options:

- Keep Blocking
- Unblock

- Defer the choice and be reminded later

If a security alert dialog box for an HP MediaSmart Server application or the Windows Home Server is displayed by the firewall, click Unblock or Allow to permit the application to execute. It is safe to unblock the communications because no connection or communication with the Internet is enabled, only those between the server and its software applications. After unblocking an application, if any software is reinstalled, moved to a new disk location, or if the application is deleted from the exception list using the Windows XP Security Center control panel, communications between that software and the server may once again be blocked by the firewall.

Configure your firewall to allow any HP MediaSmart or Windows Home Server applications.

What are Optimum Data Throughput Speeds for Different Network Interfaces?

Depending on the network interface your computer uses, you will experience different rates of data transfer to your server. Network Interfaces are described in terms of their ideal maximum speed, but many factors can affect the actual data transfer speeds you will experience. For example, your optimal wireless transfer speed will be reduced depending on the type of security and encryption you have enabled on your wireless network and by the amount of other work your computer and server are performing at the same time.

What are optimum data throughput speeds for different network interfaces?

- Gigabit Ethernet - 1000mbps/125MBs.
- Fast Ethernet - 100mbps/12.5MBs.
- Wireless N - 600mbps/75MBs.
- Wireless G - 54mbps/6.75MBs.
- Wireless A - 54mbps/6.75MBs.
- Wireless B - 11mbps/1.375MBs.

What is the ideal minimum time to transfer a 1GB file for different network interfaces?

- Gigabit Ethernet - 8s.
- Fast Ethernet - 1min 20s.
- Wireless N - 13.3s.
- Wireless G - 2min 28s.
- Wireless A - 2min 28s.
- Wireless B - 12min 7s.

Updating Your Firewall's Trusted Program List

The HP MediaSmart Server Software Installation Disc installs several programs that enable your computer to communicate with the HP MediaSmart Server over your network. Software firewalls installed on your computer can block this communication

and prevent the computer from locating the HP MediaSmart Server on your network. The following steps are recommended before installing the HP MediaSmart Server programs:

- Launch your firewall and *anti-virus software* and update the trusted programs list.
- Verify that your firewall and anti-virus software is set to "Learn" new programs. After the HP MediaSmart Server software is installed, the firewall should prompt you to allow the installed programs to communicate with the server.
- If you are using a firewall or anti-virus program that cannot automatically update its trusted software list, please contact the firewall or anti-virus software vendor to find out how to manually add software to the trusted software list. Then, visit [click here to go to http://www.hp.com/support](http://www.hp.com/support) for a list of software to add.

What Value does TZO Domain Names Provide Beyond the Microsoft Live Option?

- Some broadband ISPs block *Port 80* which is required for easy remote access. The TZO service allows you to obtain easy remote access even if Port 80 is blocked.
- With the Microsoft domain name, if you don't already have a Microsoft Live account, you'll have to set that up.
- With TZO custom domain name option, you can get your own domain name (e.g., smithfamily.com).
- TZO customer support and troubleshooting

The First Backup is Taking a Long Time.

Your initial PC backup could take several hours, depending on how much data you have on your computer. Subsequent backups will go much faster since only the data that has changed is copied to the server.

Power Management

Uninterruptible Power Supply is not Supported

The Media Smart Server does not support active Uninterruptible Power Supply (UPS). Using the USB cable to allow the UPS to communicate with the MediaSmart Server, can cause a wide range of false errors. Using the UPS in a passive mode (USB cable not attached) does not appear to cause any false error reporting.

Server Recovery and Factory Reset

Using Server Recovery and Factory Reset

Choosing Server Recovery or Factory Reset

Caution

Server Recovery attempts to recover all data and restore the folders on the server.

However, because of the state of the system prior to the recovery, not all data may be able to be recovered or integrated into the folder structure. All system settings, such as User Accounts and settings, are also lost during server recovery. You will need to recreate them.

Factory Reset clears all system settings, such as User Accounts and settings. You will need to recreate them. Additionally, all data on the drives is lost. Factory Reset does not remove data from the drives; instead it allows the existing data to be overwritten. To ensure that your data can never be accessed, use a “shredder” program that overwrites the hard drives with random numbers or meaningless data.

Choosing Server Recovery or Factory Reset	
Choose Server Recovery if	Choose Factory Reset if
The server operating system has been corrupted	The <i>partition</i> data on the other storage drives is corrupted
A disk is replaced - partition data on other storage drives are okay	You are giving away or selling the server.
If you have lost your password	
The server's system drive has been replaced	

Performing a Server Recovery or Factory Reset

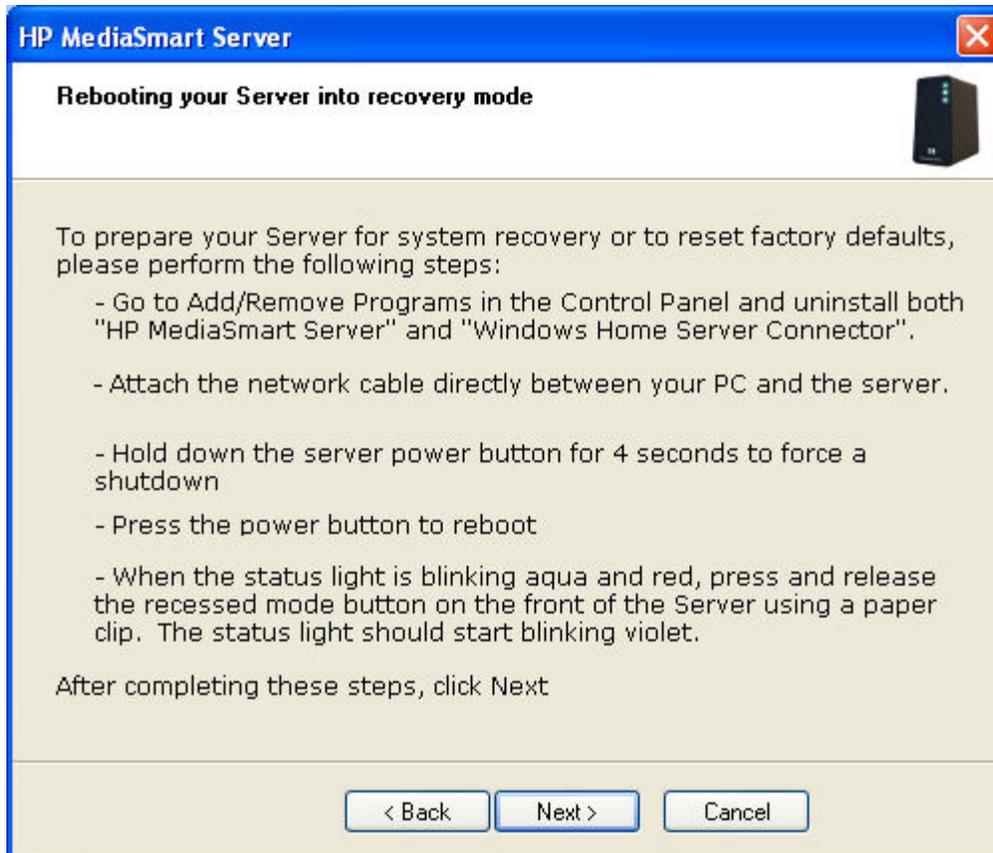
 **Important**

Turn off firewall and anti-virus software on your computer prior to starting server recovery. See the documentation that came with the firewall or anti-virus software for more information. Additionally, if the server is some distance from the computer you are using for Server Recovery or Factory Reset, it may be more convenient to move the server near the computer.

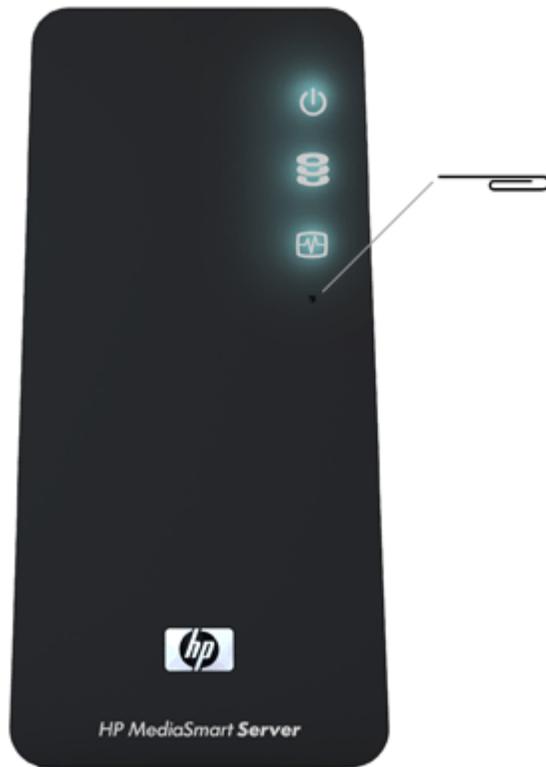
1. If the HP MediaSmart Server Control Center is open on your computer, close it before proceeding.
2. Insert the Server Recovery Disc into a DVD drive in a computer connected to the network by an Ethernet cable.
The Server Recovery program automatically starts.



3. Click **Next** on the Server Recovery dialog.
4. Accept the End User License Agreement and click **Next**.
The Rebooting your Server into recovery mode dialog displays.



5. Uninstall HP MediaSmart Server and Windows Home Server Connector:
 - Click **Start, Control Panel** and select **Add or Remove Programs**.
 - Select **HP MediaSmart Server** and click **Remove**.
 - Select **Windows Home Server Connector** and click **Remove**.
6. Attach a network cable directly between your PC and the server.
 - Unplug one end of the the HP MediaSmart Server Ethernet cable from your router or switch.
 - Plug the free end of the Ethernet cable into your computer so there is a direct connection between the server and the computer.
7. Prepare the server for recovery or reset:
 - On the back of the server, hold down the **Power** button for at least 4 seconds to force the server to shut down.
 - On the back of the server, press the **Power** button to restart.
 - When the Health indicator is blinking violet and red, press and release the recessed mode button on the front of the server using a paper clip. The Health light should start blinking violet. Recovery mode is initiated.



8. Click **Next** on the **Rebooting your server into recovery mode** dialog box and follow the instructions on each dialog box.

During Server Recovery, the following may happen:

- If the recovery program cannot find the server, see [No Server Found](#).
 - If the Server Recovery cannot recover the partition data, the progress bar will go to 100% and then back to zero and start over.
 - If the recovery fails, see [Server Recovery Fails](#).
9. The server restarts after the Server Recovery or Factory Reset completes. Wait until the Health indicator is solid aqua white  before proceeding to the next step.
 10. Click **Finish** on the **Server recovery complete** dialog box.
The HP MediaSmart Server software is automatically installed on the computer where you performed the Server Recovery or Factory Reset.
 11. Run the Software Installation Disc on each additional network computer. For additional information, see [Installing the Software on Additional Home Computers](#).

 **Caution**

If you did not close the HP MediaSmart Server Control Center, as indicated in step 1, you may see a message asking you to reboot your computer. If you see this message, choose to reboot later. Otherwise, rebooting may leave the server in a state where it cannot be configured, and you will have to repeat the recovery or reset process.



Note

It takes a few minutes for the server to go through the finishing process. Please be patient.

Troubleshooting Server Recovery

No Server Found

If the recovery program cannot find the server, the most likely causes are:

- The Recovery Mode was not successfully initiated—repeat [step 7](#) if you did not push the recessed mode button while the Health indicator light was blinking aqua white  and red .
- A firewall is blocking the connection - configure the firewall to allow the Windows Home Server Recovery application or to allow connections over TCP port 8192 and UDP port 8192. If opening these ports, be sure to close them after the recovery has completed. For more information, see the vendor's documentation.
- The network connection is not working. For troubleshooting network connections, see [Server Recovery Fails](#) below.

Server Recovery Fails

If the server recovery fails, one of the following messages displays:

- The server disks could not be reformatted
- The partition data on the server could not be written
- The primary volume on the server could not be written
- The recovery image could not be loaded

The most likely causes of these messages is a network connection failure.

1. Make sure the Ethernet cable is connected directly to the server and the computer you are using to do the recovery. The Ethernet cable should not be connected to a router or switch.
2. Make sure the Ethernet cable is plugged in and securely connected to the server and the computer you are using to do the recovery.
3. Repeat the recovery or reset.

Backing Up and Restoring a Computer

Backing up and restoring a computer is available through the Backups & Computers tab on the Windows Home Server console.

To access the Backups & Computers tab

1. At the computer, double-click the **Windows Home Server icon**  in the system tray.
2. Log on to the Windows Home Server Console.
3. Click the **Backups & Computers** tab.

For assistance backing up or restoring a computer, see the following in the Windows Home Server Console Help:

- Computers & Backup
- How does backup work?
- Managing and Configuring Backups
- Restoring Computer Backups
- Removing a Computer
- Troubleshooting Computers & Backup

Computer Recovery

To help you recover your computer and data in the event of a hard drive failure, the HP MediaSmart Server includes a PC Restore Disc. Use this disc to restore your computer from the HP MediaSmart Server in the event of the following:

- To restore the *system drive*.
- When the operating system will not start (boot).
- If you cannot use System Restore to restore the system files.

Caution

To ensure that you have the latest version of the PC Restore Disc, contact HP support at <http://www.hp.com/support>.

The Microsoft® Windows® Preinstallation Environment software included with this computer or software may be used for boot, diagnostic, setup, restoration, installation, configuration, test or disaster recovery purposes only.

Note

THIS SOFTWARE CONTAINS A SECURITY FEATURE THAT WILL CAUSE END USER CUSTOMER'S SYSTEM TO REBOOT WITHOUT PRIOR NOTIFICATION TO THE END USER CUSTOMER AFTER 24 HOURS OF CONTINUOUS USE.

To recover your computer

1. Insert the PC Restore Disc into a CD/DVD drive in the computer you want to restore.
2. Restart the computer, and boot from the CD.
3. Follow the instructions in the Restore Wizard.

For additional information about restoring computer backups, see Restoring Computer Backups in the Windows Home Server Console Help.

Server Storage

Adding and Removing an External USB Drive

You can add external USB disk drives to any of the HP MediaSmart Server's four USB ports.

Important

There are two parts to adding external drives: connect the drive to a USB port and then initialize the drive so it becomes part of the total server storage.

To connect an external USB disk drive

If you use a USB disk drive, it is recommended that you use a drive that conforms to USB 2.0 or later.

1. Plug in the USB cable into one of the USB ports on the server.
2. To plug in and power up your external USB drive, see the documentation that came with your USB disk drive.

Caution

The addition of multiple USB disk drives through an external USB hub is neither recommended nor supported.



Streaming Media

iTunes Frequently Asked Questions

Song Selection from the Server is not Updating with New Additions.

Server has not refreshed yet.

- Wait for the Server to synchronize.
- Click on eject button on the Server bar.

Podcasts not Showing in Playlist.

Podcasts copied over will not show in playlist for server.

HP Media Collector does not Appear to be Working

HP Media Collector is used by the HP MediaSmart Server to copy music, photos, and videos of users that have accounts on the HP MediaSmart Server.

There are some common causes for the HP Media Collector to appear not to work:

- [No music/media in library](#)

- [The Server may not have refreshed yet](#)
- [Accounts may not match or guest account disabled](#)
- [Guest account disabled](#)
- [Media Type is not Enabled for Collection](#)
- [Home Computer is not Included as a Scanned Computer](#)

No music/media in library

Add music to library.

Also look at the following sections for more troubleshooting ideas:

- [The aggregation application that runs on the client is not running or is failing](#)
- [The aggregation application may not be accessing the desired material on the client side](#)
- [The server may be down or unreachable](#)

The aggregation application that runs on the client is not running or is failing

At a lower level, this could also have several causes. The most likely one is that there is a problem running the automatically scheduled aggregation task. The user can browse to the list of scheduled tasks, turn on view hidden tasks, and look for a task called MediaAggregator.txt. Located at "C:\Documents and Settings\\Local Settings\Application Data\Hewlett-Packard\HP MediaSmart Server"

If this task does not exist, then there has been a problem setting up the task and they should probably log out and log in again. This should cause a startup task to run (normal installation sets this up for all users). If the task exists, the user can see when it last ran, which indicates whether it ran recently enough to pick up the changes. You can check how often the aggregation is configured to run. You can also select the task and manually run it.

The scheduling, as mentioned above, can be a problem if the user has just changed to a more frequent setting, but the next scheduled run (according to the old setting) is well in the future. The changed setting won't be picked up until it runs next in the schedule, or the user logs out and in again, or until the user manually runs the task.

Other likely failures are covered below, like being unable to reach the server and unable to read the configuration file.

Also, if no user is logged in to the networked computer, the aggregation client won't run. In these cases, look at the music share to see if the content appears there.

The aggregation application may not be accessing the desired music on the client side

The iTunes aggregator runs with the permissions of the logged on user, if the material to be aggregated is in a folder that the user doesn't have permission to access, then that folder's contents can't be aggregated when this user is logged in.

The server may be down or unreachable

If the network computer cannot access the shares or the console on the server, the server may be down, so aggregation cannot occur.

The Server may not have refreshed yet

1. Click the **Eject** button on the Server Bar in iTunes.
2. Click the **HP MediaSmart Server** button on the Windows Home Server Console and your music files should now be seen.

Accounts may not match

If family members want to access information on your home network from an Internet café, coffee shop, or other location outside of your home, they need individual user accounts with strong passwords.

When you create user accounts on the server, use logon names and passwords that match the logon names and passwords of existing user accounts on your home computers.

Creating matching user accounts enables family members to automatically log on to the server when they log on to their home computer.

If the user accounts and passwords do not match, you will be prompted to type a user name and password when you open the server's *shared folders*.

Create a User account that matches your computer's account.

1. At the computer, double-click the Windows Home Server icon  in the system tray.
2. Log on to the Windows Home Server Console.
3. Click the **User Accounts** tab.
If you have already dismissed the **Windows Home Server** user help dialog, then skip to step 6.
4. The **User Accounts Setup** dialog displays. Click **Set Policy** to force a password strength for all user accounts and click **OK**. (optional)

User accounts that are enabled for remote access in the **Add User Account Wizard** in step 6 below, require a *strong password* regardless of what is selected on the Set Policy page.

5. Click **OK** on the User Accounts Setup dialog to begin creating user accounts.
6. Click **Add**, and then complete the Add User Account Wizard.
7. Check to enable remote access if the family member wants to access the home network from outside of the home.
8. Repeat for each user account that you want to add.

Guest account disabled

If you want everyone to use the same logon account to access the HP MediaSmart Server, enable the guest account. If the guest account is enabled with no password, family members are not required to logon when they use home computers. Additionally, all family members can have Full access to all shared folders through the guest account.

Note

If you enable the guest account, everyone that connects to your home network has the same privileges. That may mean that they all have full access to shared folders

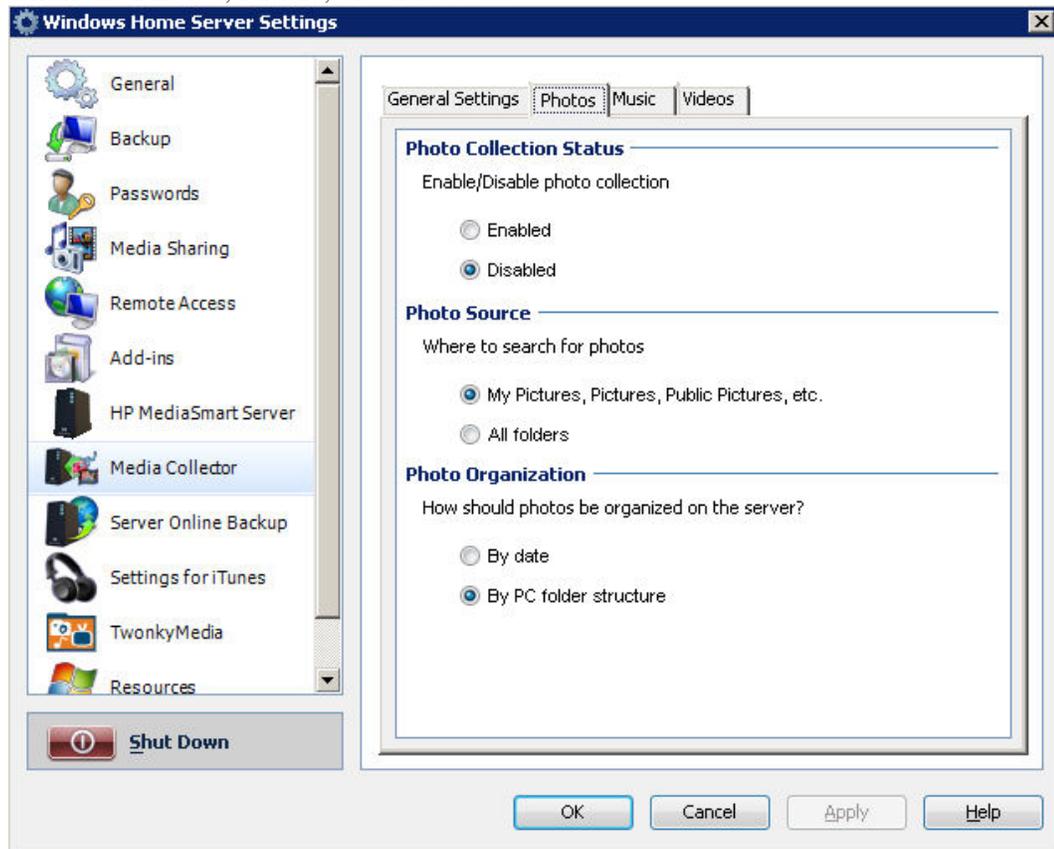
and other resources on your server. The guest account cannot be used to access the server from outside of the home using remote access.

1. At the computer, double-click the Windows Home Server icon  in the system tray.
2. Log on to the Windows Home Server Console.
3. Click the **User Accounts** tab.
4. The **User Accounts Setup** dialog displays. Click **Enable Guest**. See picture in step 5 above.

Media Type is not Enabled for Collection

The HP MediaSmart Server may not be set up to scan for photos, music, or videos. Check your HP Media Collector settings to make sure the media type is configured for collection.

1. At the computer, double-click the Windows Home Server icon  in the system tray.
2. Log on to the Windows Home Server Console.
3. Click **Settings**.
4. Click **Media Collector** in the left menu of the Windows Home Server Settings dialog.
5. Click the **Photos, Music, or Videos** tab.

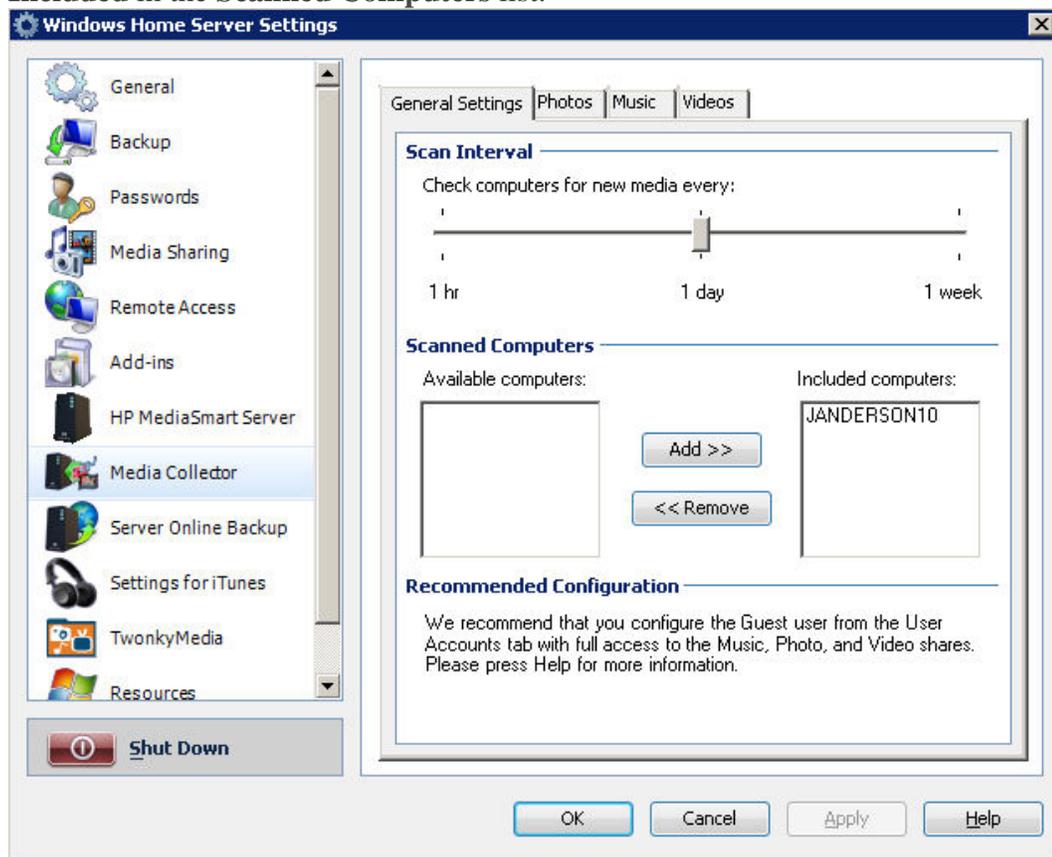


6. Check that the media collection status is set to **Enabled**.
7. Click **OK**.

Home Computer is not Included as a Scanned Computer

The HP MediaSmart Server may not be set up to scan one of your network computers. Check your HP Media Collector settings to make sure all of your home computers are included.

1. At the computer, double-click the Windows Home Server icon  in the system tray.
2. Log on to the Windows Home Server Console.
3. Click **Settings**.
4. Click **Media Collector** in the left menu of the Windows Home Server Settings dialog.
5. On the **General Settings** tab, check that all of the necessary computers are **Included** in the **Scanned Computers** list.



6. Click **OK**.

Why my Files Do Not Show Up on DMA?

- [Once WMC has been enabled to share a shared folder, it continually monitors the folder for new files.](#)
- [If your DMA does not display WMC from the HP MediaSmart Server, or none of your files are found by the DMA.](#)
- [If some of your files \(e.g., files newly copied to the server\) are not found by the DMA.](#)

Digital Media Adapters (DMA, or Digital Media Receivers - *DMR*) use the Universal Plug 'n Play (*UPnP*) *protocol* to automatically discover Digital Media Servers (DMS). The HP MediaSmart Server uses Windows Media Connect 2.0 (WMC) as its DMS. In order for a DMA to discover the HP MediaSmart Server and access its content, WMC must be enabled. WMC defaults to being disabled; it is automatically enabled for all DMAs when the server administrator selects one or more of the three media *shared folders* (Music, Photos and Videos) for media sharing. On your DMA, you should then see the HP MediaSmart Server listed as:

<YourServerName>: 1 : Windows Media Connect

 **Note**

Some DMAs aggregate the content from all DMSs into a single view; in such a case you may not be able to identify each DMS individually. Further troubleshooting steps form DMA follow:

Once WMC has been enabled to share a shared folder, it continually monitors the folder for new files.

1. Open the **Control Center** on one of your home PCs.
2. Select the **Tools** tab at the bottom.
3. On the Tools tab, click on the **Home Server Console (HSC)** icon.
4. On the HSC password screen, type in the **Administrator's password**.
5. When the HSC comes up, click on the **Settings** button near the top right.
6. In the left pane of the Settings panel, select Media Sharing .
7. In the right pane of the Settings panel, you must now select at least one of the shared folders for sharing by selecting the On radio button.
8. Click **Apply**.
This will automatically start WMC, which will then share all of the files in the selected shared folders.

If your DMA does not display WMC from the HP MediaSmart Server, or none of your files are found by the DMA.

1. Check that WMC is enabled (use the above steps to get to the Media Sharing settings, and verify that at least one of the shared folders is On).
2. Check that the HP MediaSmart Server and DMA are both connected to the same home network (a *router* or firewall between them could interfere with the discovery and content sharing protocols).
3. Restart the DMA.
4. Restart the HP Media Smart server.

If some of your files (e.g., files newly copied to the server) are not found by the DMA.

1. Check that the files were copied to the correct location. Only the Music, Photos and Videos shared folders may be enabled for media sharing. Note that if one of these folders is enabled for media sharing; then all folders below that are also enabled for media sharing.

2. Re-enable the shared folder for media sharing.
 - Go to the Media Sharing Settings panel (see the instructions above for how to get here).
 - Turn sharing Off for the shared folder with the missing files and select **Apply**.
 - Turn sharing back On for the shared folder and select **Apply**.
3. Restart the DMA.
4. Restart the HP Media Smart server.

Media Files (Audio/Video) of Supported Format Aren't Seen by Device.

Possible naming convention issues.

Double check names on server, make sure they start with a letter, and not a number or symbol.

Windows Media Connect 2.0 and TwonkyMedia Comparison

The following tables provide a detailed comparison of Windows Media Connect 2.0 and TwonkyMedia features.

At a high level, TwonkyMedia

- Allows your digital media adaptor or digital media receiver to see photo thumbnails for pictures and album artwork for music
- Supports a lot more media formats

General Features

Comparison of General Windows Media Connect and TwonkyMedia Features		
Feature	Windows Media Connect 2.0	TwonkyMedia
DLNA Support	Some Capability	1.0 compliant 1.5 reference
Number of <i>Shared Folders</i>	Music Photos Videos	User Controlled
Shared Folders/Media Types	Music/all media types Photos/all media types Videos/all media types	Music/music media types Photos/all media types Videos/video media types User selectable folders/media types
Album Art/Thumbnail Support		Music album art Photo thumbnails
Picture Scaling	Limited	JPG_MED support
Video Trick Modes	No	Yes
Server Side Shuffle	No	Yes
Status/Summary User	No	Yes

Interface		
Folder Monitoring	Yes	Yes
<i>DMR</i> Exclusion	No	Yes

Views

Comparison of Windows Media Connect and TwonkyMedia Views		
Views	Windows Media Connect 2.0	TwonkyMedia
Music Views		
Album	X	X
All Tracks	X	X
Artist	X	X
Artist Index		X
Artist/Folder		X
Folder	X	X
Genre	X	X
Genre Index		X
Genre/Artist		X
Playlist	X	X
Year/Artist		X
Picture Views		
Album	X	
All Photos	X	X
Date	X (flat)	X (hierarchal)
Folder	X	X
Playlist	X	
Video Views		
Actor	X	
Album	X	
All Videos	X	
Folder	X	
Genre	X	
Playlist	X	

File Formats

Comparison of Windows Media Connect and TwonkyMedia File Formats		
File Formats	Windows Media Connect 2.0	TwonkyMedia
Music Formats		
3gp		X

ac3		X
aiff		X
asf	X	X
FLAC		X
LPCM		X
m4a		X
mp1		X
mp2		X
mp3	X	X
mp4		X
mpa		X
ogg		X
wav	X	X
wma	X	X
Picture Formats		
bmp	X	X
gif	X	X
jpg/jpeg	X	X
png	X	X
tif/tiff	X	X
Video Formats		
3gp		X
asf		X
avi	X	X
DivX		X
dvr-ms	X	X
m1v		X
m4v		X
mpe		X
mpg/mpeg	X	X
MPEG-1	X	X
MPEG-2	X	X
MPEG2-TS		X
MPEG-4		X
vdr		X
vob		X
wmv	X	X
Xvid		X
Playlist Formats		
m3u	X	X
pls		X
wpl	X	X

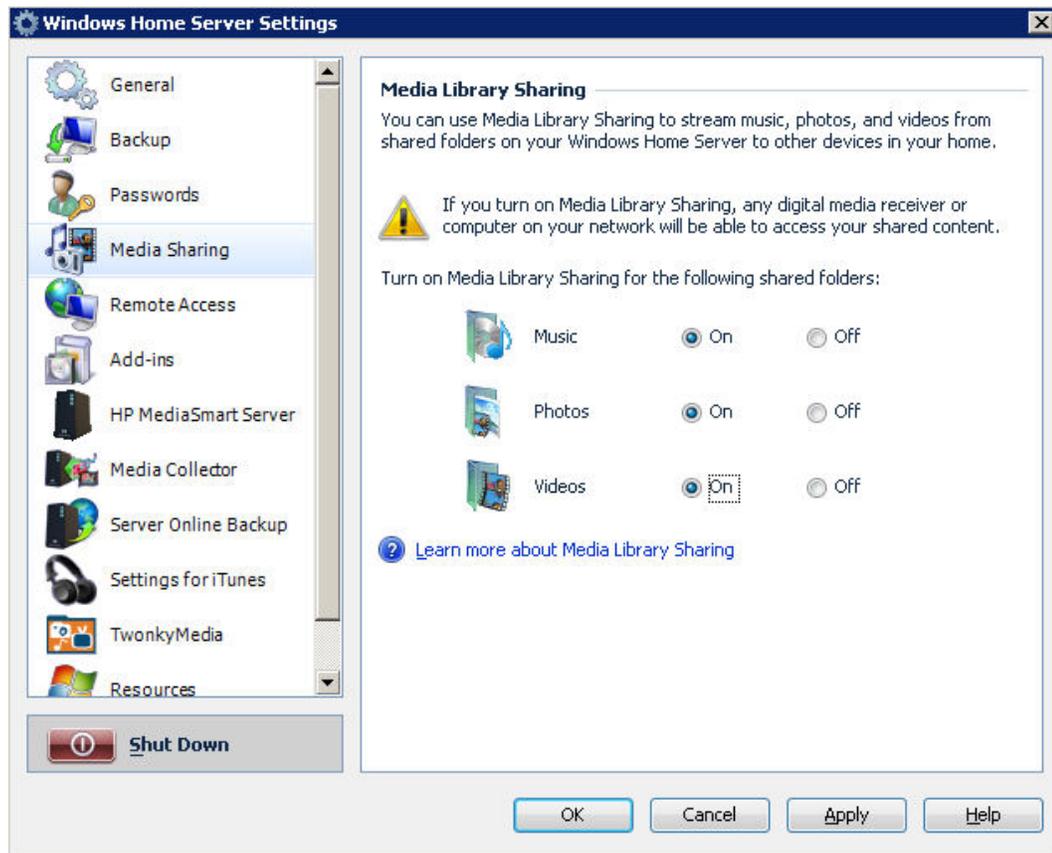
Why do I see duplicate songs, pictures, or videos on my DMA list?

If you are streaming content from *shared folders* using both Windows Media Connect and TwonkyMedia, you may see duplicate entries of your songs, pictures, or videos on your digital media adaptor. To eliminate this problem, disable media sharing for one of the shared folders.

For additional information on these programs, see [Windows Media Connect 2.0 and TwonkyMedia Comparison](#).

To disable a shared folder in Windows Media Connect 2.0

1. At the computer, click **Start, All Programs**, and then select **HP MediaSmart Server**.
2. In the **Control Center**, click the **MediaSmart** tab.
3. Click **Settings** in the upper right corner.
4. Click **Media Sharing** in the left menu.

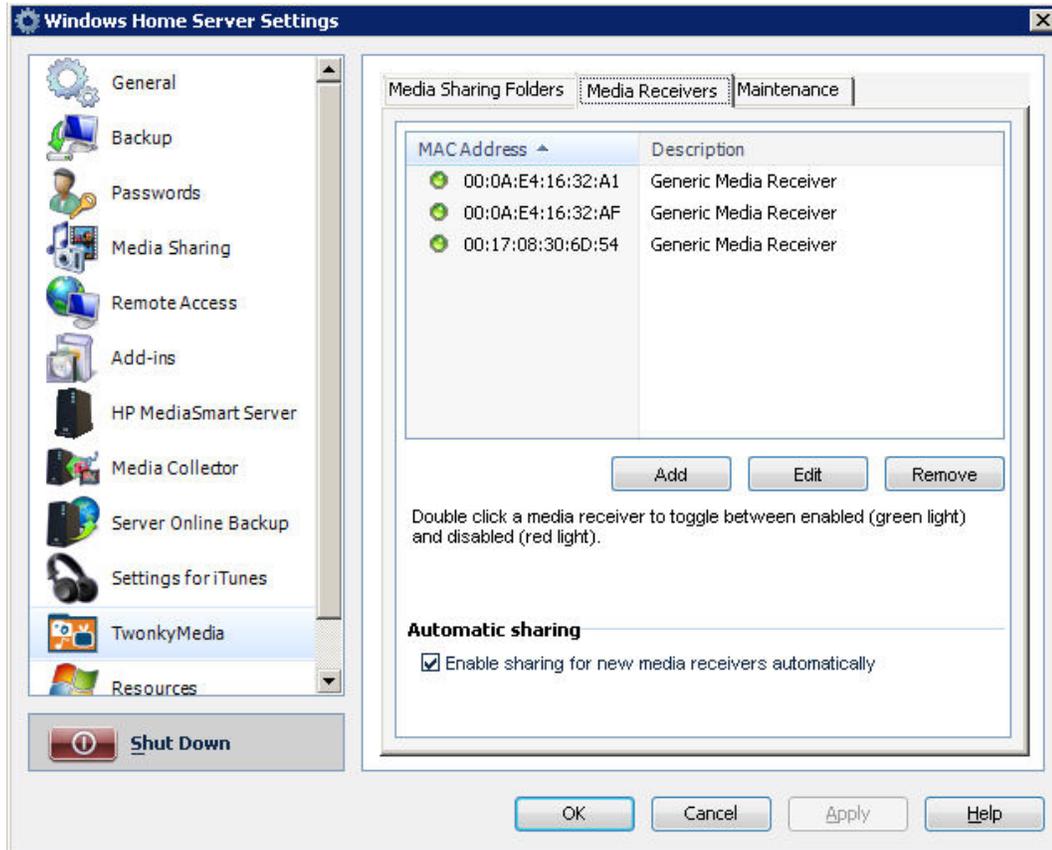


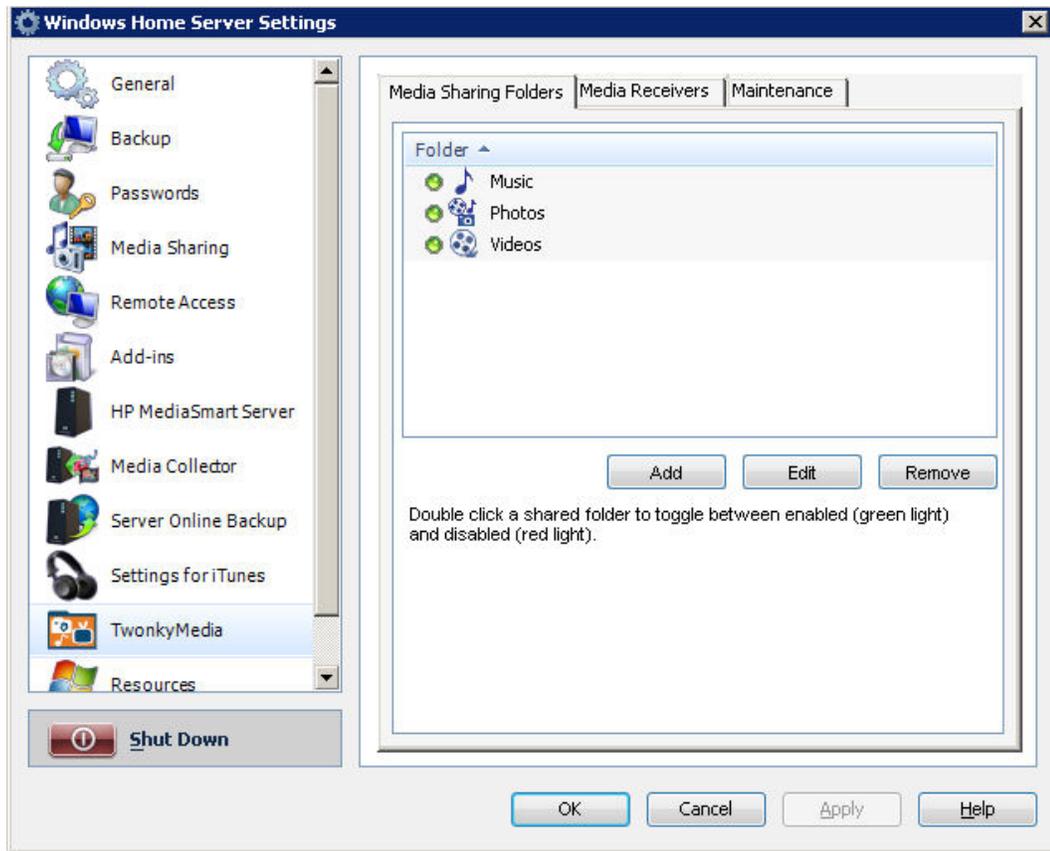
5. On the right side under **Media Sharing Library**, click **Off** for the shared folders that you do not want to use for streaming content using Windows Media Connect.
6. Click **OK**.

For additional information on using Windows Media Connect, see Media Sharing in the Windows Home Server help.

To disable a shared folder in TwonkyMedia

1. At the computer, click Start , All Programs , and then select HP MediaSmart Server .
2. Click the TwonkyMedia tab.
3. Click Media Server Settings on the menu bar.





4. On the **Media Sharing Photos** tab on the right side, select a shared folder and click **Remove** for each folder that you do not want to use for streaming content using TwonkyMedia.
5. Click **OK**.

For additional information on using TwonkyMedia, click Help while on the TwonkyMedia tab of the Windows Home Server Console or click Help on any of the TwonkyMedia dialog boxes.

Why does HP MediaSmart Server show up twice on my DMA list?

If you are running both Windows Media Connect and TwonkyMedia, they will both show up when you view menus on your digital media adaptor.

Once you turn on media sharing using Windows Media Connect, this program will always display the HP MediaSmart Server in your digital media adaptor list. However, you can disable media sharing for the folders under the HP MediaSmart Server. See [Why do I see duplicate songs, pictures, or videos on my DMA list?](#) for information on disabling media sharing for shared folders.

Alternately, you can turn off TwonkyMedia media sharing and remove the duplicate HP MediaSmart Server from your digital media adaptor list. See the steps below.

For additional information on these programs, see [Windows Media Connect 2.0 and TwonkyMedia Comparison](#).

To turn off TwonkyMedia media sharing

1. At the computer, click **Start, All Programs**, and then select **HP MediaSmart Server**.
2. In the **Control Center**, click the **MediaSmart Server** tab.
3. Click **TwonkyMedia** in the left navigation.
4. Click **Stop Sharing**.

Product Information

Product Specifications

The product specifications contain information about the HP MediaSmart Server, its requirements, and standards.

- [Minimum Client-computer Requirements](#)
- [HP MediaSmart Server Specifications](#)
- [Network Information](#)
- [Environmental](#)
- [Electrical and Power](#)

Minimum Client-computer Requirements

One or more computers that meet or exceed these requirements:

Computer Requirements

Any computer capable of running the supported operating systems listed in the following table.

Operating Systems

Supported Operating Systems		
Windows Vista ^a	Windows XP ^a	Mac OS X
Windows Vista Home Basic with Service Pack 1 (SP1)	Windows XP Home with Service Pack 2 (SP2)	Mac OS X 10.5 or later
Windows Vista Home Basic 64-bit with SP1	Windows XP Professional with SP2	
Windows Vista Home Premium with SP1	Windows XP Home with SP3	
Windows Vista Home Premium 64-bit with SP1	Windows XP Professional with SP3	
Windows Vista Ultimate with SP1	Windows XP Media Center Edition 2005 with SP2 and Rollup 2	
Windows Vista Ultimate 64-bit with SP1	Windows XP Media Center Edition 2004 with SP2	

a. Remote access is not supported by Windows Vista Home (all versions); the Business, Enterprise, and Ultimate versions of Windows Vista support remote access. For more information, see **Why can't I connect to some computers?** in the Windows Home Server Console Help.

b. Windows XP Professional and Windows XP Media Center Editions support remote access. Windows XP Home does not support remote access.

Client-computer Hard Drive

25 MB free for software installation on *client computers*

Other Client-computer Requirements

CD-ROM drive for client-computer installation
DVD-ROM drive for Server Recovery

[Top](#)

HP MediaSmart Server Specifications

Internal drive storage

640 GB

Drive expandability

4 USB 2.0 ports
Maximum storage space: unlimited

Dimensions

Width: 10 cm (3.9")
Height: 20.8 cm (8.2")
Depth: 20.6 cm (8.1")

Weight

2.33 kg (5.14 lb.)

[Top](#)

Network Information

Default Network Name

HPSERVERLX

Network Requirements

Network Requirements	
Requirement	Recommended
Server connection	100 <i>Mbps</i> to 1000 Mbps (Gigabit Ethernet)

	wired connection.
Home computers	One or more computers running a supported operating system with a wired or wireless network connection.
Internet Connection	Broadband connection, such as DSL or cable, required for remote access functionality.
<i>Router</i>	An external Internet broadband router with 100 Mbps (or faster) Ethernet connection to the server for remote access functionality and wired or wireless connections to the computers on the network. Additionally, your router must have <i>DHCP</i> enabled to provide automatic <i>IP address</i> to the server.

Connector types

Ethernet: RJ45

Maximum transmission distances

Ethernet: 100 meters

USB: 5 meters

Browser

Internet Explorer 6.0 or greater

Netscape 8.0 or greater

Firefox 2.0 or greater

Safari 3.0 and greater (Mac only)

[Top](#)

Environmental

Temperature

Operating: 5 to 35 °C (4 to 95 °F)

Nonoperating: -30 to 65 °C (-22 to 149 °F)

Humidity (no condensation allowed)

Operating: 15% to 90% RH

Nonoperating: 5% to 95% RH

Shock

Nonoperating: 85 G

Vibration

Operating: 0.2 Grms

Nonoperating: 2.1 Grms

[Top](#)

Electrical and Power

Electrical Ratings

AC input 100–127V ~5A max or 200–240V ~3A max, 50/60Hz

Power Consumption

Sleep Mode (Watts): 3.5

Active Data (Watts): 28

Safety

IEC 950-compliant

USA – UL, CDRH Radiation Control Standards 21

CFR 1010 and 1020-1 0.50

Canada – CSA or CUL

Europe – LVD 73/23/EEC 93/68/EC

IEC 60950-1 plus amendments

EN60825 plus amendments

Regulatory Statements

The HP MediaSmart Server complies to the following:

- [Federal Communications Commission Notice](#)
- [Modifications](#)
- [Cables](#)
- [Declaration of Conformity for Products Marked with the FCC Logo \(United States only\)](#)
- [California Perchlorate Material Notice](#)
- [Canadian Notice](#)
- [Avis Canadien](#)
- [WEEE Declaration](#)
- [REACH Statement](#)
- [European Union Regulatory Notice](#)
- [Japanese Notice](#)

Federal Communications Commission Notice

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio or television technician for help.

[Top](#)

Modifications

The FCC requires the user to be notified that any changes or modifications made to this device that are not expressly approved by Hewlett-Packard Company may void the user's authority to operate the equipment.

[Top](#)

Cables

Connections to this device must be made with shielded cables with metallic RFI/EMI connector hoods in order to maintain compliance with FCC Rules and Regulations.

[Top](#)

Declaration of Conformity for Products Marked with the FCC Logo (United States only)

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

1. This device may not cause harmful interference, and
2. This device must accept any interference received, including interference that may cause undesired operation.

For questions regarding the product, contact:

Hewlett-Packard Company

P. O. Box 692000, Mail Stop 530113

Houston, Texas 77269-2000

Or, call 1-800-HP-INVENT (1-800-474-6836).

For questions regarding this FCC declaration, contact:

Hewlett-Packard Company
P. O. Box 692000, Mail Stop 510101
Houston, Texas 77269-2000
Or, call (281) 514-3333.

To identify this product, refer to the part, series, or model number found on the product.

[Top](#)

California Perchlorate Material Notice

Perchlorate material - special handling may apply See

<http://www.dtsc.ca.gov/hazardouswaste/perchlorate/>

This product's real-time clock battery or coin cell battery may contain perchlorate and may require special handling when recycled or disposed of in California.

[Top](#)

Canadian Notice

This Class B digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

[Top](#)

Avis Canadien

Cet appareil numérique de la classe B respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

[Top](#)

WEEE Declaration

Disposal of Waste Equipment by Users in Private Household in the European Union

 This symbol on the product or on its packaging indicates that this product must not be disposed of with your other household waste. Instead, it is your responsibility to dispose of your waste equipment by handing it over to a  designated collection point for the recycling of waste electrical and electronic equipment. The separate collection and recycling of your waste equipment at the time of disposal will help to conserve natural resources and ensure that it is recycled in a manner that protects human health and the environment. For more information about where you can drop off your waste equipment for recycling, please contact your local city office, your household waste disposal service or the shop where you purchased the product.

[Top](#)

REACH Statement

Chemical Substances

HP is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at: <http://www.hp.com/go/reach>

[Top](#)

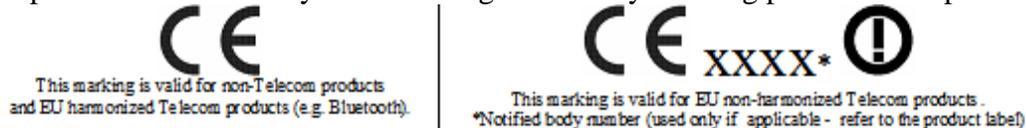
European Union Regulatory Notice

This product complies with the following EU Directives:

- Low Voltage Directive 2006/95/EC
- EMC Directive 2004/108/EC

Compliance with these directives implies conformity to applicable harmonized European standards (European Norms) which are listed on the EU Declaration of Conformity issued by Hewlett-Packard for this product or product family.

This compliance is indicated by the following conformity marking placed on the product:



Hewlett-Packard GmbH, HQ-TRE, Herrenberger Strasse 140, 71034 Boeblingen, Germany

[Top](#)

Japanese Notice

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラス B 情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。

取扱説明書に従って正しい取り扱いをして下さい。

[Top](#)

WM-DRM 10 Licensed Technology

Content providers are using the *digital rights management* technology for Windows Media contained in this device (“WM-DRM”) to protect the integrity of their content (“Secure Content”) so that their intellectual property, including copyright, in such content is not misappropriated. This device uses WM-DRM Software to play Secure Content (“WM-DRM Software”). If the security of the WM-DRM Software in this device has been compromised, owners of Secure Content (“Secure Content Owners”) may request that Microsoft revoke the WM-DRM Software’s right to acquire new licenses to copy, display and/or play Secure Content. Revocation does not alter the WM-DRM Software’s ability to play unprotected content. A list of revoked WM-DRM Software is sent to your

device whenever you download a license for Secure Content from the Internet or from a PC. Microsoft may, in conjunction with such license, also download revocations lists onto your device on behalf of Secure Content Owners.

Limited Warranty and Technical Support Statement

HP MediaSmart Server Limited Warranty

Duration

Hardware: 1 year Limited Warranty

Software: 1 year Technical Support

General Terms

This HP Hardware Limited Warranty gives you, the customer, express limited warranty rights from HP, the manufacturer. Please refer to HP's Web site for an extensive description of your limited warranty entitlements. In addition, you may also have other legal rights under applicable local law or special written agreement with HP.

HP MAKES NO OTHER EXPRESS WARRANTY OR CONDITION, WHETHER WRITTEN OR ORAL, AND HP EXPRESSLY DISCLAIMS ALL WARRANTIES AND CONDITIONS NOT STATED IN THIS LIMITED WARRANTY. TO THE EXTENT ALLOWED BY THE LOCAL LAW OF JURISDICTIONS OUTSIDE THE UNITED STATES, HP DISCLAIMS ALL IMPLIED WARRANTIES OR CONDITIONS, INCLUDING ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. FOR ALL TRANSACTIONS OCCURRING IN THE UNITED STATES, ANY IMPLIED WARRANTY OR CONDITION OF MERCHANTABILITY, SATISFACTORY QUALITY, OR FITNESS FOR A PARTICULAR PURPOSE IS LIMITED TO THE DURATION OF THE EXPRESS WARRANTY SET FORTH ABOVE. SOME STATES OR COUNTRIES/REGIONS DO NOT ALLOW A LIMITATION ON HOW LONG AN IMPLIED WARRANTY LASTS OR THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES FOR CONSUMER PRODUCTS. IN SUCH STATES OR COUNTRIES/REGIONS, SOME EXCLUSIONS OR LIMITATIONS OF THIS LIMITED WARRANTY MAY NOT APPLY TO YOU. THE LIMITED WARRANTY TERMS CONTAINED IN THIS STATEMENT, EXCEPT TO THE EXTENT LAWFULLY PERMITTED, DO NOT EXCLUDE, RESTRICT, OR MODIFY BUT ARE IN ADDITION TO THE MANDATORY STATUTORY RIGHTS APPLICABLE TO THE SALE OF THIS PRODUCT TO YOU. This Limited Warranty is applicable in all countries/regions and may be enforced in any country/region where HP or its authorized service providers offer warranty service for the same product model number subject to the terms and conditions set forth in this Limited Warranty.

Under the HP Global Limited Warranty program, products purchased in one country/region may be transferred to another country/region, where HP or its authorized service providers offer warranty service for the same product model number, without

voiding the warranty. Warranty terms, service availability, and service response times may vary from country/region to country/region. Standard warranty service response time is subject to change due to local parts availability. If so, your HP authorized service provider can provide you with details.

HP is not responsible for any tariffs or duties that may be incurred in transferring the products. Transfer of the products may be covered by export controls issued by the United States or other governments.

This Limited Warranty applies only to HP-branded and Compaq-branded hardware products (collectively referred to in this Limited Warranty as “HP Hardware Products”) sold by or leased from Hewlett-Packard Company, its worldwide subsidiaries, affiliates, authorized resellers, or country/region distributors (collectively referred to in this Limited Warranty as “HP”) with this Limited Warranty. The term “HP Hardware Product” is limited to the hardware components and required firmware. The term “HP Hardware Product” DOES NOT include any software applications or programs; non-HP products or non-HP branded peripherals. All non-HP products or non-HP branded peripherals external to the HP Hardware Product — such as external storage subsystems, displays, printers, and other peripherals — are provided “AS IS” without HP warranty. However, non-HP manufacturers and suppliers, or publishers may provide their own warranties directly to you.

HP warrants that the HP Hardware Products that you have purchased or leased from HP are free from defects in materials or workmanship under normal use during the Limited Warranty Period. The Limited Warranty Period starts on the date of purchase or lease from HP or from the date HP completes installation. Your dated sales or delivery receipt, showing the date of purchase or lease of the product, is your proof of the purchase or lease date. You may be required to provide proof of purchase or lease as a condition of receiving warranty service. You are entitled to hardware warranty service according to the terms and conditions of this document if a repair to your HP Hardware Product is required within the Limited Warranty Period.

Unless otherwise stated, and to the extent permitted by local law, new HP Hardware Products may be manufactured using new materials or new and used materials equivalent to new in performance and reliability. HP may repair or replace HP Hardware Products (a) with new or previously used products or parts equivalent to new in performance and reliability or (b) with equivalent products to an original product that has been discontinued. Replacement parts are warranted to be free from defects in material or workmanship for ninety (90) days or, for the remainder of the Limited Warranty Period of the HP Hardware Product they are replacing or in which they are installed, whichever is longer.

During the Limited Warranty Period, HP will, at its discretion, repair or replace any defective component. All component parts or hardware products removed under this Limited Warranty become the property of HP. In the unlikely event that your HP Hardware Product has recurring failures, HP, at its sole discretion, may elect to provide you with (a) a replacement unit of HP’s choosing that is the same or equivalent to your HP Hardware Product in performance or (b) to give you a refund of your purchase price or lease payments (less interest) instead of a replacement. This is your exclusive remedy for defective products.

Exclusions

HP does not warrant that the operation of this product will be uninterrupted or error-free. HP is not responsible for damage that occurs as a result of your failure to follow the instructions intended for the HP Hardware Product.

This Limited Warranty does not apply to expendable or consumable parts and does not extend to any product from which the serial number has been removed or that has been damaged or rendered defective (a) as a result of accident, misuse, abuse, contamination, improper or inadequate maintenance or calibration, or other external causes; (b) by operation outside the usage parameters stated in the user documentation that shipped with the product (c) by software, interfacing, parts, or supplies not supplied by HP; (d) by improper site preparation or maintenance; (e) by virus infection; (f) from loss or damage in transit; (g) by modification or service by anyone other than (i) HP, (ii) an HP authorized service provider, or (iii) your own installation of end-user-replaceable HP or HP-approved parts if available for your product in the servicing country/region.

YOU SHOULD MAKE PERIODIC BACKUP COPIES OF THE DATA STORED ON YOUR HARD DRIVE OR OTHER STORAGE DEVICES AS A PRECAUTION AGAINST POSSIBLE FAILURES, ALTERATION, OR LOSS OF THE DATA. BEFORE RETURNING ANY UNIT FOR SERVICE, BE SURE TO BACK UP DATA AND REMOVE ANY CONFIDENTIAL, PROPRIETARY, OR PERSONAL INFORMATION. HP IS NOT RESPONSIBLE FOR DAMAGE TO OR LOSS OF ANY PROGRAMS, DATA, OR REMOVABLE STORAGE MEDIA. HP IS NOT RESPONSIBLE FOR THE RESTORATION OR REINSTALLATION OF ANY PROGRAMS OR DATA OTHER THAN SOFTWARE INSTALLED BY HP WHEN THE PRODUCT IS MANUFACTURED. UNITS SENT IN FOR SERVICE MAY HAVE THE DATA ERASED FROM THE HARD DRIVE AND THE PROGRAMS RESTORED TO THEIR ORIGINAL STATE.

Exclusive Remedy

TO THE EXTENT ALLOWED BY APPLICABLE LOCAL LAW, THESE TERMS AND CONDITIONS CONSTITUTE THE COMPLETE AND EXCLUSIVE WARRANTY AGREEMENT BETWEEN YOU AND HP REGARDING THE HP HARDWARE PRODUCT YOU HAVE PURCHASED OR LEASED. THESE TERMS AND CONDITIONS SUPERSEDE ANY PRIOR AGREEMENTS OR REPRESENTATIONS — INCLUDING REPRESENTATIONS MADE IN HP SALES LITERATURE OR ADVICE GIVEN TO YOU BY HP OR AN AGENT OR EMPLOYEE OF HP — THAT MAY HAVE BEEN MADE IN CONNECTION WITH YOUR PURCHASE OR LEASE OF THE HP HARDWARE PRODUCT. No change to the conditions of this Limited Warranty is valid unless it is made in writing and signed by an authorized representative of HP.

Limitation of Liability

IF YOUR HP HARDWARE PRODUCT FAILS TO WORK AS WARRANTED ABOVE, HP'S MAXIMUM LIABILITY UNDER THIS LIMITED WARRANTY IS EXPRESSLY LIMITED TO THE LESSER OF THE PRICE YOU HAVE PAID FOR

THE PRODUCT OR THE COST OF REPAIR OR REPLACEMENT OF ANY HARDWARE COMPONENTS THAT MALFUNCTION IN CONDITIONS OF NORMAL USE.

EXCEPT AS INDICATED ABOVE, IN NO EVENT WILL HP BE LIABLE FOR ANY DAMAGES CAUSED BY THE PRODUCT OR THE FAILURE OF THE PRODUCT TO PERFORM, INCLUDING ANY LOST PROFITS OR SAVINGS OR SPECIAL, INCIDENTAL, OR CONSEQUENTIAL DAMAGES. HP IS NOT LIABLE FOR ANY CLAIM MADE BY A THIRD PARTY OR MADE BY YOU FOR A THIRD PARTY. THIS LIMITATION OF LIABILITY APPLIES WHETHER DAMAGES ARE SOUGHT, OR A CLAIM MADE, UNDER THIS LIMITED WARRANTY OR AS A TORT CLAIM (INCLUDING NEGLIGENCE AND STRICT PRODUCT LIABILITY), A CONTRACT CLAIM, OR ANY OTHER CLAIM. THIS LIMITATION OF LIABILITY CANNOT BE WAIVED OR AMENDED BY ANY PERSON. THIS LIMITATION OF LIABILITY WILL BE EFFECTIVE EVEN IF YOU HAVE ADVISED HP OR AN AUTHORIZED REPRESENTATIVE OF HP OF THE POSSIBILITY OF ANY SUCH DAMAGES. THIS LIMITATION OF LIABILITY, HOWEVER, WILL NOT APPLY TO CLAIMS FOR PERSONAL INJURY. THIS LIMITED WARRANTY GIVES YOU SPECIFIC LEGAL RIGHTS. YOU MAY ALSO HAVE OTHER RIGHTS THAT MAY VARY FROM STATE TO STATE OR FROM COUNTRY/REGION TO COUNTRY/REGION. YOU ARE ADVISED TO CONSULT APPLICABLE STATE OR COUNTRY/REGION LAWS FOR A FULL DETERMINATION OF YOUR RIGHTS.

Limited Warranty Period

The Limited Warranty Period for an HP Hardware Product is a specified, fixed period commencing on the date of purchase. The date on your sales receipt is the date of purchase unless HP or your reseller informs you otherwise in writing.

Types of Warranty Service

To enable HP to provide the best possible support and service during the Limited Warranty Period, you may be directed by HP to verify configurations, load most recent firmware, patches, run HP diagnostics tests, or use HP remote support solutions where applicable.

HP strongly encourages you to accept the use of or to employ available support technologies provided by HP. If you choose not to deploy available remote support capabilities, you may incur additional costs due to increased support resource requirements. Listed below are the types of warranty support service that may be applicable to the HP Hardware Product you have purchased.

Customer Self Repair Warranty Service

In countries/regions where it is available, your HP Limited Warranty may include a customer self repair warranty service. If applicable, HP will determine in its sole discretion that customer self repair is the appropriate method of warranty service. If so,

HP will ship approved replacement parts directly to you to fulfill your HP Hardware Product warranty service. This will save considerable repair time. After you contact the HP Technical Support Center and the fault diagnosis identifies that the problem can be fixed using one of these parts, a replaceable part can be sent directly to you. Once the part arrives, replace the defective part pursuant to the provided instructions and documentation. If further assistance is required, call the HP Technical Support Center, and a technician will assist you over the phone. In cases where the replacement part must be returned to HP, you must ship the defective part back to HP within a defined period of time, normally thirty (30) days. The defective part must be returned with the associated documentation in the provided shipping material. Failure to return the defective product may result in HP billing you for the replacement.

With a customer self repair, HP will pay all shipping and part return costs and determine the courier/carrier to be used. If customer self repair applies to you, please refer to your specific HP Hardware Product announcement. You can also obtain information on this warranty service on the HP Web site at:

<http://www.hp.com/support>

Pickup and Return Warranty Service

Your HP Limited Warranty may include a pickup and return warranty service. Under the terms of pickup and return service, HP will pick up the defective unit from your location, repair it, and return it back to your location. HP will incur all repair, logistics, and insurance costs in this process.

Carry-in Warranty Service

Under the terms of carry-in service, you will be required to deliver your HP Hardware Product to an authorized service location for warranty repair. You must prepay any shipping charges, taxes, or duties associated with transportation of the product to and from the service location. In addition, you are responsible for insuring any product shipped or returned to an authorized service location and assume risk of loss during shipping.

Service Upgrades

HP has a range of additional support and service coverage for your product that can be purchased locally. However, some support and related products may not be available in all countries/regions. For information on availability of service upgrades and the cost for these service upgrades, refer to the HP Web site at:

<http://www.hp.com/support>

Options Limited Warranty, Software and Digital Content

Your Options Limited Warranty is a one (1) year (HP Options Limited Warranty Period) parts replacement warranty on any HP branded or Compaq-branded options (HP Options). If your HP Options are installed in an HP Hardware Product, HP may provide

warranty service either for the HP Options Limited Warranty Period or the remaining Limited Warranty Period of the HP Hardware Product in which the HP Options are being installed, whichever period is the longer but not to exceed three (3) years from the date you purchased the HP Options. The HP Options Limited Warranty Period starts on your date of purchase. Your dated sales or delivery receipt, showing the date of purchase, is your start date. Non-HP options are provided “AS IS”. Non-HP manufacturers and suppliers may provide warranties directly to you. EXCEPT AS PROVIDED IN ANY SOFTWARE END-USER LICENSE OR PROGRAM LICENSE AGREEMENT, OR IF OTHERWISE REQUIRED BY LOCAL LAW, SOFTWARE AND THIRD PARTY DIGITAL CONTENT, INCLUDING THE OPERATING SYSTEM OR ANY SOFTWARE OR THIRD PARTY DIGITAL CONTENT PREINSTALLED BY HP ARE PROVIDED “AS IS”. EXCEPT AS SPECIFICALLY PROVIDED IN THIS LIMITED WARRANTY, IN NO EVENT WILL HP BE LIABLE FOR ANY DAMAGES CAUSED BY OR ARISING FROM ANY THIRD PARTY DIGITAL CONTENT PREINSTALLED ON YOUR HP HARDWARE PRODUCT.

Welcome to the HP MediaSmart Server

This HP MediaSmart Server combines the functionality of Windows Home Server, software written specifically for the Server and existing software.

Windows Home Server

The Windows Home Server enables you to share, store, access, and automatically protect your pictures, videos, music, and files. It contains the following tabs:

Computers & Backups - view and customize backups. Also, view the status of your home computers running Windows Vista. For more information, see *Computers & Backup* in the Windows Home Server Console Help.

User Accounts - add, remove, and modify user accounts. For more information, see *User Accounts* in the Windows Home Server Console Help.

Shared Folders - add, open, remove, and view the properties of the shared folders on your server. For more information, see *Shared Folders* in the Windows Home Server Console Help.

Server Storage - view, add, repair, and remove hard drives from server storage. For more information, see *Server Storage* in the Windows Home Server Console Help.

Network - displays health notifications from your server and your home computers running Windows Vista. For more information, see *Network Health* in the Windows Home Server Console Help.

Settings - configure general settings, such as date and time, backups, passwords, media sharing, remote access, add-ins, resources, and more. For more information, see *Server Settings* in the Windows Home Server Console Help.

Help - access the Windows Home Server Console Help.

The MediaSmart Server Tab

The MediaSmart tab contains the tools and settings for managing the HP features.

Welcome

This is the Home Server Console. This is where you can set up and manage all of the HP MediaSmart Server features. These items are already set up for you:

- Automatic PC backups
- Streaming Media (TwonkyMedia, Server for iTunes, and Web Streamer)
- McAfee Antivirus

For the next steps, we recommend that you set up these features:

- User Accounts for each person in your home
- Remote Access so that you can access your server when you're away from home
- HP Media Collector to copy your photos, music and videos to the Server
- Server Online Backup to protect your critical data from fire, flood, etc.
- If you're a Mac user, check out the Features For Mac

Remote Access settings

Enjoy your digital experiences when and where you want. Remote Access gives you and your family access to:

- Files and supported computers from any location
- Remote Management of your server
- HP Web Media Streaming
- HP Photo Publisher
- HP Photo Viewer

HP Photo Publisher

Publish photos from your Server to your favorite photo-sharing site. Friends and family can see your photos on the Internet. Uploading your photos is a simple 4-step process:

1. Log on to the HP Photo Publisher
2. Log on to the photo-sharing site
3. Select the photos you want to share
4. Upload your photos

Media Collector

Media Collector copies media files from the computers in you network and organizes them on the server. Media Collector continuously copies files. You can enable collection for any or all the PCs in your home.

You choose the organization structure:

- Photos - by date or existing structure
- Music - by artist/album or existing structure
- Videos - move or copy to the server

Mac Support

Your HP MediaSmart Server works with Mac OSX 10.5 and later. You can:

- Use Time Machine to back up your Mac to the HP MediaSmart Server.

- Get easy access to shared folders on the Server using your Control Center.

Settings for iTunes

Your HP MediaSmart Server includes a Server for iTunes. This server allows you to stream your music and playlists to computers that are running iTunes, or compatible devices.

Server Summary

Displays a quick snapshot of your HP MediaSmart Server's health and status.

- Notifications
- Storage
- Hardware
- Add-Ins
- Software Updates
- Power Management

Licenses, Copyrights and Notices for Open Source Components

FlickrJ:

Software License Agreement (BSD License)

Copyright (c) 2006, Yahoo! Inc.

All rights reserved.

Redistribution and use of this software in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- Neither the name of Yahoo! Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission of Yahoo! Inc.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Facebook Java API: The MIT License

Copyright (c) 2009 <copyright holders>

Permission is hereby granted, free of charge, to any person obtaining a copy of this software and associated documentation files (the "Software"), to deal in the Software without restriction, including without limitation the rights to use, copy, modify, merge, publish, distribute, sublicense, and/or sell copies of the Software, and to permit persons to whom the Software is furnished to do so, subject to the following conditions:

The above copyright notice and this permission notice shall be included in all copies or substantial portions of the Software.

THE SOFTWARE IS PROVIDED "AS IS", WITHOUT WARRANTY OF ANY KIND, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO THE WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND NONINFRINGEMENT. IN NO EVENT SHALL THE AUTHORS OR COPYRIGHT HOLDERS BE LIABLE FOR ANY CLAIM, DAMAGES OR OTHER LIABILITY, WHETHER IN AN ACTION OF CONTRACT, TORT OR OTHERWISE, ARISING FROM, OUT OF OR IN CONNECTION WITH THE SOFTWARE OR THE USE OR OTHER DEALINGS IN THE SOFTWARE.

Gdata Java Client: Apache License

Apache Organization Components: Axis2; Apache Commons: Beanutils, Codec, Discovery, FileUpload, HTTPClient, IO, Logging; Tomcat
Maverick
Spring Framework
StAX

Apache License

Version 2.0, January 2004
<http://www.apache.org/licenses/>

TERMS AND CONDITIONS FOR USE, REPRODUCTION, AND DISTRIBUTION

1. Definitions.

"License" shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

"Licensor" shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

"Legal Entity" shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the purposes of this definition, "control" means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

"You" (or "Your") shall mean an individual or Legal Entity exercising permissions granted by this License.

"Source" form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration

files.

"Object" form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

"Work" shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

"Derivative Works" shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

"Contribution" shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, "submitted" means any form of electronic, verbal, or written communication sent to the Licensor or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as "Not a Contribution."

"Contributor" shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. Grant of Copyright License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable copyright license to reproduce, prepare Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.
3. Grant of Patent License. Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s)

- was submitted. If You institute patent litigation against any entity (including a cross-claim or counterclaim in a lawsuit) alleging that the Work or a Contribution incorporated within the Work constitutes direct or contributory patent infringement, then any patent licenses granted to You under this License for that Work shall terminate as of the date such litigation is filed.
4. Redistribution. You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:
 - a. You must give any other recipients of the Work or Derivative Works a copy of this License; and
 - b. You must cause any modified files to carry prominent notices stating that You changed the files; and
 - c. You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and
 - d. If the Work includes a "NOTICE" text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. Submission of Contributions. Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.
6. Trademarks. This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.

7. Disclaimer of Warranty. Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an "AS IS" BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.
8. Limitation of Liability. In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.
9. Accepting Warranty or Additional Liability. While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License. However, in accepting such obligations, You may act only on Your own behalf and on Your sole responsibility, not on behalf of any other Contributor, and only if You agree to indemnify, defend, and hold each Contributor harmless for any liability incurred by, or claims asserted against, such Contributor by reason of your accepting any such warranty or additional liability.

END OF TERMS AND CONDITIONS

JCIFS : GNU LESSER GENERAL PUBLIC LICENSE

Version 2.1, February 1999

Copyright (C) 1991, 1999 Free Software Foundation, Inc.

51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

[This is the first released version of the Lesser GPL. It also counts as the successor of the GNU Library Public License, version 2, hence the version number 2.1.]

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public Licenses are intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users.

This license, the Lesser General Public License, applies to some specially designated software packages--typically libraries--of the Free Software Foundation and other authors who decide to use it. You can use it too, but we suggest you first think carefully about whether this license or the ordinary General Public License is the better strategy to use in any particular case, based on the explanations below. When we speak of free software, we are referring to freedom of use, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish); that you receive source code or can get it if you want it; that you can change the software and use pieces of it in new free programs; and that you are informed that you can do these things.

To protect your rights, we need to make restrictions that forbid distributors to deny you these rights or to ask you to surrender these rights. These restrictions translate to certain responsibilities for you if you distribute copies of the library or if you modify it.

For example, if you distribute copies of the library, whether gratis or for a fee, you must give the recipients all the rights that we gave you. You must make sure that they, too, receive or can get the source code. If you link other code with the library, you must provide complete object files to the recipients, so that they can relink them with the library after making changes to the library and recompiling it. And you must show them these terms so they know their rights.

We protect your rights with a two-step method: (1) we copyright the library, and (2) we offer you this license, which gives you legal permission to copy, distribute and/or modify the library.

To protect each distributor, we want to make it very clear that there is no warranty for the free library. Also, if the library is modified by someone else and passed on, the recipients should know that what they have is not the original version, so that the original author's reputation will not be affected by problems that might be introduced by others.

Finally, software patents pose a constant threat to the existence of any free program. We wish to make sure that a company cannot effectively restrict the users of a free program by obtaining a restrictive license from a patent holder. Therefore, we insist that any patent license obtained for a version of the library must be consistent with the full freedom of use specified in this license.

Most GNU software, including some libraries, is covered by the ordinary GNU General Public License. This license, the GNU Lesser General Public License, applies to certain designated libraries, and is quite different from the ordinary General Public License. We use this license for certain libraries in order to permit linking those libraries into non-free programs.

When a program is linked with a library, whether statically or using a shared library, the combination of the two is legally speaking a combined work, a derivative of the original library. The ordinary General Public License therefore permits such linking only if the

entire combination fits its criteria of freedom. The Lesser General Public License permits more lax criteria for linking other code with the library.

We call this license the "Lesser" General Public License because it does Less to protect the user's freedom than the ordinary General Public License. It also provides other free software developers Less of an advantage over competing non-free programs. These disadvantages are the reason we use the ordinary General Public License for many libraries. However, the Lesser license provides advantages in certain special circumstances.

For example, on rare occasions, there may be a special need to encourage the widest possible use of a certain library, so that it becomes a de-facto standard. To achieve this, non-free programs must be allowed to use the library. A more frequent case is that a free library does the same job as widely used non-free libraries. In this case, there is little to gain by limiting the free library to free software only, so we use the Lesser General Public License.

In other cases, permission to use a particular library in non-free programs enables a greater number of people to use a large body of free software. For example, permission to use the GNU C Library in non-free programs enables many more people to use the whole GNU operating system, as well as its variant, the GNU/Linux operating system.

Although the Lesser General Public License is Less protective of the users' freedom, it does ensure that the user of a program that is linked with the Library has the freedom and the wherewithal to run that program using a modified version of the Library.

The precise terms and conditions for copying, distribution and modification follow. Pay close attention to the difference between a "work based on the library" and a "work that uses the library". The former contains code derived from the library, whereas the latter must be combined with the library in order to run.

**GNU LESSER GENERAL PUBLIC LICENSE
TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND
MODIFICATION**

1. This License Agreement applies to any software library or other program which contains a notice placed by the copyright holder or other authorized party saying it may be distributed under the terms of this Lesser General Public License (also called "this License"). Each licensee is addressed as "you".

A "library" means a collection of software functions and/or data prepared so as to be conveniently linked with application programs (which use some of those functions and data) to form executables.

The "Library", below, refers to any such software library or work which has been distributed under these terms. A "work based on the Library" means either the Library or any derivative work under copyright law: that is to say, a work

containing the Library or a portion of it, either verbatim or with modifications and/or translated straightforwardly into another language. (Hereinafter, translation is included without limitation in the term "modification".)

"Source code" for a work means the preferred form of the work for making modifications to it. For a library, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the library.

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running a program using the Library is not restricted, and output from such a program is covered only if its contents constitute a work based on the Library (independent of the use of the Library in a tool for writing it). Whether that is true depends on what the Library does and what the program that uses the Library does.

2. You may copy and distribute verbatim copies of the Library's complete source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and distribute a copy of this License along with the Library.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

3. You may modify your copy or copies of the Library or any portion of it, thus forming a work based on the Library, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:
 - a. The modified work must itself be a software library.
 - b. You must cause the files modified to carry prominent notices stating that you changed the files and the date of any change.
 - c. You must cause the whole of the work to be licensed at no charge to all third parties under the terms of this License.
 - d. If a facility in the modified Library refers to a function or a table of data to be supplied by an application program that uses the facility, other than as an argument passed when the facility is invoked, then you must make a good faith effort to ensure that, in the event an application does not supply such function or table, the facility still operates, and performs whatever part of its purpose remains meaningful.

(For example, a function in a library to compute square roots has a purpose that is entirely well-defined independent of the application.

Therefore, Subsection 2d requires that any application-supplied function or table used by this function must be optional: if the application does not supply it, the square root function must still compute square roots.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Library, and can be reasonably

considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate works. But when you distribute the same sections as part of a whole which is a work based on the Library, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Library.

In addition, mere aggregation of another work not based on the Library with the Library (or with a work based on the Library) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may opt to apply the terms of the ordinary GNU General Public License instead of this License to a given copy of the Library. To do this, you must alter all the notices that refer to this License, so that they refer to the ordinary GNU General Public License, version 2, instead of to this License. (If a newer version than version 2 of the ordinary GNU General Public License has appeared, then you can specify that version instead if you wish.) Do not make any other change in these notices.

Once this change is made in a given copy, it is irreversible for that copy, so the ordinary GNU General Public License applies to all subsequent copies and derivative works made from that copy.

This option is useful when you wish to copy part of the code of the Library into a program that is not a library.

4. You may copy and distribute the Library (or a portion or derivative of it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange.

If distribution of object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place satisfies the requirement to distribute the source code, even though third parties are not compelled to copy the source along with the object code.

5. A program that contains no derivative of any portion of the Library, but is designed to work with the Library by being compiled or linked with it, is called a "work that uses the Library". Such a work, in isolation, is not a derivative work of the Library, and therefore falls outside the scope of this License.

However, linking a "work that uses the Library" with the Library creates an executable that is a derivative of the Library (because it contains portions of the

Library), rather than a "work that uses the library". The executable is therefore covered by this License. Section 6 states terms for distribution of such executables.

When a "work that uses the Library" uses material from a header file that is part of the Library, the object code for the work may be a derivative work of the Library even though the source code is not. Whether this is true is especially significant if the work can be linked without the Library, or if the work is itself a library. The threshold for this to be true is not precisely defined by law.

If such an object file uses only numerical parameters, data structure layouts and accessors, and small macros and small inline functions (ten lines or less in length), then the use of the object file is unrestricted, regardless of whether it is legally a derivative work. (Executables containing this object code plus portions of the Library will still fall under Section 6.)

Otherwise, if the work is a derivative of the Library, you may distribute the object code for the work under the terms of Section 6. Any executables containing that work also fall under Section 6, whether or not they are linked directly with the Library itself.

6. As an exception to the Sections above, you may also combine or link a "work that uses the Library" with the Library to produce a work containing portions of the Library, and distribute that work under terms of your choice, provided that the terms permit modification of the work for the customer's own use and reverse engineering for debugging such modifications.

You must give prominent notice with each copy of the work that the Library is used in it and that the Library and its use are covered by this License. You must supply a copy of this License. If the work during execution displays copyright notices, you must include the copyright notice for the Library among them, as well as a reference directing the user to the copy of this License. Also, you must do one of these things:

- a. Accompany the work with the complete corresponding machine-readable source code for the Library including whatever changes were used in the work (which must be distributed under Sections 1 and 2 above); and, if the work is an executable linked with the Library, with the complete machine-readable "work that uses the Library", as object code and/or source code, so that the user can modify the Library and then relink to produce a modified executable containing the modified Library. (It is understood that the user who changes the contents of definitions files in the Library will not necessarily be able to recompile the application to use the modified definitions.
- b. Use a suitable shared library mechanism for linking with the Library. A suitable mechanism is one that (1) uses at run time a copy of the library already present on the user's computer system, rather than copying library functions into the executable, and (2) will operate properly with a

modified version of the library, if the user installs one, as long as the modified version is interface-compatible with the version that the work was made with.

- c. Accompany the work with a written offer, valid for at least three years, to give the same user the materials specified in Subsection 6a, above, for a charge no more than the cost of performing this distribution.
- d. If distribution of the work is made by offering access to copy from a designated place, offer equivalent access to copy the above specified materials from the same place.
- e. Verify that the user has already received a copy of these materials or that you have already sent this user a copy.

For an executable, the required form of the "work that uses the Library" must include any data and utility programs needed for reproducing the executable from it. However, as a special exception, the materials to be distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

It may happen that this requirement contradicts the license restrictions of other proprietary libraries that do not normally accompany the operating system. Such a contradiction means you cannot use both them and the Library together in an executable that you distribute.

7. You may place library facilities that are a work based on the Library side-by-side in a single library together with other library facilities not covered by this License, and distribute such a combined library, provided that the separate distribution of the work based on the Library and of the other library facilities is otherwise permitted, and provided that you do these two things:
 - a. Accompany the combined library with a copy of the same work based on the Library, uncombined with any other library facilities. This must be distributed under the terms of the Sections above.
 - b. Give prominent notice with the combined library of the fact that part of it is a work based on the Library, and explaining where to find the accompanying uncombined form of the same work.
8. You may not copy, modify, sublicense, link with, or distribute the Library except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense, link with, or distribute the Library is void, and will automatically terminate your rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
9. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Library or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Library (or any work based on the Library), you indicate your acceptance of this License to do so, and

all its terms and conditions for copying, distributing or modifying the Library or works based on it.

10. Each time you redistribute the Library (or any work based on the Library), the recipient automatically receives a license from the original licensor to copy, distribute, link with or modify the Library subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties with this License.
11. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Library at all. For example, if a patent license would not permit royalty-free redistribution of the Library by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Library.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply, and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

12. If the distribution and/or use of the Library is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Library under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.
13. The Free Software Foundation may publish revised and/or new versions of the Lesser General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Library specifies a

version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Library does not specify a license version number, you may choose any version ever published by the Free Software Foundation.

14. If you wish to incorporate parts of the Library into other free programs whose distribution conditions are incompatible with these, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

15. BECAUSE THE LIBRARY IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE LIBRARY, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE LIBRARY "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE LIBRARY IS WITH YOU. SHOULD THE LIBRARY PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
16. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE LIBRARY AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE LIBRARY (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE LIBRARY TO OPERATE WITH ANY OTHER SOFTWARE), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

Firefly: GPL License

GNU GENERAL PUBLIC LICENSE Version 2, June 1991

Copyright (C) 1989, 1991 Free Software Foundation, Inc.,
51 Franklin Street, Fifth Floor, Boston, MA 02110-1301 USA

Everyone is permitted to copy and distribute verbatim copies of this license document, but changing it is not allowed.

Preamble

The licenses for most software are designed to take away your freedom to share and change it. By contrast, the GNU General Public License is intended to guarantee your freedom to share and change free software--to make sure the software is free for all its users. This General Public License applies to most of the Free Software Foundation's software and to any other program whose authors commit to using it. (Some other Free Software Foundation software is covered by the GNU Lesser General Public License instead.) You can apply it to your programs, too.

When we speak of free software, we are referring to freedom, not price. Our General Public Licenses are designed to make sure that you have the freedom to distribute copies of free software (and charge for this service if you wish), that you receive source code or can get it if you want it, that you can change the software or use pieces of it in new free programs; and that you know you can do these things.

To protect your rights, we need to make restrictions that forbid anyone to deny you these rights or to ask you to surrender the rights. These restrictions translate to certain responsibilities for you if you distribute copies of the software, or if you modify it.

For example, if you distribute copies of such a program, whether gratis or for a fee, you must give the recipients all the rights that you have. You must make sure that they, too, receive or can get the source code. And you must show them these terms so they know their rights.

We protect your rights with two steps: (1) copyright the software, and (2) offer you this license which gives you legal permission to copy, distribute and/or modify the software.

Also, for each author's protection and ours, we want to make certain that everyone understands that there is no warranty for this free software. If the software is modified by someone else and passed on, we want its recipients to know that what they have is not the original, so that any problems introduced by others will not reflect on the original authors' reputations.

Finally, any free program is threatened constantly by software patents. We wish to avoid the danger that redistributors of a free program will individually obtain patent licenses, in effect making the program proprietary. To prevent this, we have made it clear that any patent must be licensed for everyone's free use or not licensed at all.

The precise terms and conditions for copying, distribution and modification follow.

GNU GENERAL PUBLIC LICENSE TERMS AND CONDITIONS FOR COPYING, DISTRIBUTION AND MODIFICATION

Licenses, Copyrights and Notices for Open Source Components

1. This License applies to any program or other work which contains a notice placed by the copyright holder saying it may be distributed under the terms of this General Public License. The "Program", below, refers to any such program or work, and a "work based on the Program" means either the Program or any derivative work under copyright law: that is to say, a work containing the Program or a portion of it, either verbatim or with modifications and/or translated into another language. (Hereinafter, translation is included without limitation in the term "modification".) Each licensee is addressed as "you".

Activities other than copying, distribution and modification are not covered by this License; they are outside its scope. The act of running the Program is not restricted, and the output from the Program is covered only if its contents constitute a work based on the Program (independent of having been made by running the Program). Whether that is true depends on what the Program does.

2. You may copy and distribute verbatim copies of the Program's source code as you receive it, in any medium, provided that you conspicuously and appropriately publish on each copy an appropriate copyright notice and disclaimer of warranty; keep intact all the notices that refer to this License and to the absence of any warranty; and give any other recipients of the Program a copy of this License along with the Program.

You may charge a fee for the physical act of transferring a copy, and you may at your option offer warranty protection in exchange for a fee.

3. You may modify your copy or copies of the Program or any portion of it, thus forming a work based on the Program, and copy and distribute such modifications or work under the terms of Section 1 above, provided that you also meet all of these conditions:
 - a. You must cause the modified files to carry prominent notices stating that you changed the files and the date of any change.
 - b. You must cause any work that you distribute or publish, that in whole or in part contains or is derived from the Program or any part thereof, to be licensed as a whole at no charge to all third parties under the terms of this License.
 - c. If the modified program normally reads commands interactively when run, you must cause it, when started running for such interactive use in the most ordinary way, to print or display an announcement including an appropriate copyright notice and a notice that there is no warranty (or else, saying that you provide a warranty) and that users may redistribute the program under these conditions, and telling the user how to view a copy of this License. (Exception: if the Program itself is interactive but does not normally print such an announcement, your work based on the Program is not required to print an announcement.)

These requirements apply to the modified work as a whole. If identifiable sections of that work are not derived from the Program, and can be reasonably considered independent and separate works in themselves, then this License, and its terms, do not apply to those sections when you distribute them as separate

works. But when you distribute the same sections as part of a whole which is a work based on the Program, the distribution of the whole must be on the terms of this License, whose permissions for other licensees extend to the entire whole, and thus to each and every part regardless of who wrote it.

Thus, it is not the intent of this section to claim rights or contest your rights to work written entirely by you; rather, the intent is to exercise the right to control the distribution of derivative or collective works based on the Program.

In addition, mere aggregation of another work not based on the Program with the Program (or with a work based on the Program) on a volume of a storage or distribution medium does not bring the other work under the scope of this License.

3. You may copy and distribute the Program (or a work based on it, under Section 2) in object code or executable form under the terms of Sections 1 and 2 above provided that you also do one of the following:
 - a. Accompany it with the complete corresponding machine-readable source code, which must be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
 - b. Accompany it with a written offer, valid for at least three years, to give any third party, for a charge no more than your cost of physically performing source distribution, a complete machine-readable copy of the corresponding source code, to be distributed under the terms of Sections 1 and 2 above on a medium customarily used for software interchange; or,
 - c. Accompany it with the information you received as to the offer to distribute corresponding source code. (This alternative is allowed only for noncommercial distribution and only if you received the program in object code or executable form with such an offer, in accord with Subsection b above.)

The source code for a work means the preferred form of the work for making modifications to it. For an executable work, complete source code means all the source code for all modules it contains, plus any associated interface definition files, plus the scripts used to control compilation and installation of the executable. However, as a special exception, the source code distributed need not include anything that is normally distributed (in either source or binary form) with the major components (compiler, kernel, and so on) of the operating system on which the executable runs, unless that component itself accompanies the executable.

If distribution of executable or object code is made by offering access to copy from a designated place, then offering equivalent access to copy the source code from the same place counts as distribution of the source code, even though third parties are not compelled to copy the source along with the object code.

4. You may not copy, modify, sublicense, or distribute the Program except as expressly provided under this License. Any attempt otherwise to copy, modify, sublicense or distribute the Program is void, and will automatically terminate your

- rights under this License. However, parties who have received copies, or rights, from you under this License will not have their licenses terminated so long as such parties remain in full compliance.
5. You are not required to accept this License, since you have not signed it. However, nothing else grants you permission to modify or distribute the Program or its derivative works. These actions are prohibited by law if you do not accept this License. Therefore, by modifying or distributing the Program (or any work based on the Program), you indicate your acceptance of this License to do so, and all its terms and conditions for copying, distributing or modifying the Program or works based on it.
 6. Each time you redistribute the Program (or any work based on the Program), the recipient automatically receives a license from the original licensor to copy, distribute or modify the Program subject to these terms and conditions. You may not impose any further restrictions on the recipients' exercise of the rights granted herein. You are not responsible for enforcing compliance by third parties to this License.
 7. If, as a consequence of a court judgment or allegation of patent infringement or for any other reason (not limited to patent issues), conditions are imposed on you (whether by court order, agreement or otherwise) that contradict the conditions of this License, they do not excuse you from the conditions of this License. If you cannot distribute so as to satisfy simultaneously your obligations under this License and any other pertinent obligations, then as a consequence you may not distribute the Program at all. For example, if a patent license would not permit royalty-free redistribution of the Program by all those who receive copies directly or indirectly through you, then the only way you could satisfy both it and this License would be to refrain entirely from distribution of the Program.

If any portion of this section is held invalid or unenforceable under any particular circumstance, the balance of the section is intended to apply and the section as a whole is intended to apply in other circumstances.

It is not the purpose of this section to induce you to infringe any patents or other property right claims or to contest validity of any such claims; this section has the sole purpose of protecting the integrity of the free software distribution system, which is implemented by public license practices. Many people have made generous contributions to the wide range of software distributed through that system in reliance on consistent application of that system; it is up to the author/donor to decide if he or she is willing to distribute software through any other system and a licensee cannot impose that choice.

This section is intended to make thoroughly clear what is believed to be a consequence of the rest of this License.

8. If the distribution and/or use of the Program is restricted in certain countries either by patents or by copyrighted interfaces, the original copyright holder who places the Program under this License may add an explicit geographical distribution limitation excluding those countries, so that distribution is permitted only in or

among countries not thus excluded. In such case, this License incorporates the limitation as if written in the body of this License.

9. The Free Software Foundation may publish revised and/or new versions of the General Public License from time to time. Such new versions will be similar in spirit to the present version, but may differ in detail to address new problems or concerns.

Each version is given a distinguishing version number. If the Program specifies a version number of this License which applies to it and "any later version", you have the option of following the terms and conditions either of that version or of any later version published by the Free Software Foundation. If the Program does not specify a version number of this License, you may choose any version ever published by the Free Software Foundation.

10. If you wish to incorporate parts of the Program into other free programs whose distribution conditions are different, write to the author to ask for permission. For software which is copyrighted by the Free Software Foundation, write to the Free Software Foundation; we sometimes make exceptions for this. Our decision will be guided by the two goals of preserving the free status of all derivatives of our free software and of promoting the sharing and reuse of software generally.

NO WARRANTY

11. BECAUSE THE PROGRAM IS LICENSED FREE OF CHARGE, THERE IS NO WARRANTY FOR THE PROGRAM, TO THE EXTENT PERMITTED BY APPLICABLE LAW. EXCEPT WHEN OTHERWISE STATED IN WRITING THE COPYRIGHT HOLDERS AND/OR OTHER PARTIES PROVIDE THE PROGRAM "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. THE ENTIRE RISK AS TO THE QUALITY AND PERFORMANCE OF THE PROGRAM IS WITH YOU. SHOULD THE PROGRAM PROVE DEFECTIVE, YOU ASSUME THE COST OF ALL NECESSARY SERVICING, REPAIR OR CORRECTION.
12. IN NO EVENT UNLESS REQUIRED BY APPLICABLE LAW OR AGREED TO IN WRITING WILL ANY COPYRIGHT HOLDER, OR ANY OTHER PARTY WHO MAY MODIFY AND/OR REDISTRIBUTE THE PROGRAM AS PERMITTED ABOVE, BE LIABLE TO YOU FOR DAMAGES, INCLUDING ANY GENERAL, SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OR INABILITY TO USE THE PROGRAM (INCLUDING BUT NOT LIMITED TO LOSS OF DATA OR DATA BEING RENDERED INACCURATE OR LOSSES SUSTAINED BY YOU OR THIRD PARTIES OR A FAILURE OF THE PROGRAM TO OPERATE WITH ANY OTHER PROGRAMS), EVEN IF SUCH HOLDER OR OTHER PARTY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

END OF TERMS AND CONDITIONS

ImageMagick: Compatible with GPL

Before we get to the text of the license lets just review what the license says in simple terms:

It allows you to:

- freely download and use ImageMagick software, in whole or in part, for personal, company internal, or commercial purposes;
- use ImageMagick software in packages or distributions that you create.

It forbids you to:

- redistribute any piece of ImageMagick-originated software without proper attribution;
- use any marks owned by ImageMagick Studio LLC in any way that might state or imply that ImageMagick Studio LLC endorses your distribution;
- use any marks owned by ImageMagick Studio LLC in any way that might state or imply that you created the ImageMagick software in question.

It requires you to:

- include a copy of the license in any redistribution you may make that includes ImageMagick software;
- provide clear attribution to ImageMagick Studio LLC for any distributions that include ImageMagick software.

It does not require you to:

- include the source of the ImageMagick software itself, or of any modifications you may have made to it, in any redistribution you may assemble that includes it;
- submit changes that you make to the software back to the ImageMagick Studio LLC (though such feedback is encouraged).

A few other clarifications include:

- ImageMagick is freely available without charge; you may include ImageMagick on a DVD as long as you comply with the terms of the license;
- you can give modified code away for free or sell it under the terms of the ImageMagick license or distribute the result under a different license, but you need to acknowledge the use of the ImageMagick software;
- the license is compatible with the GPL.

The legally binding and authoritative terms and conditions for use, reproduction, and distribution of ImageMagick follow:

Copyright 1999-2007 ImageMagick Studio LLC, a non-profit organization dedicated to making software imaging solutions freely available.

1. Definitions.

License shall mean the terms and conditions for use, reproduction, and distribution as defined by Sections 1 through 9 of this document.

Licensors shall mean the copyright owner or entity authorized by the copyright owner that is granting the License.

Legal Entity shall mean the union of the acting entity and all other entities that control, are controlled by, or are under common control with that entity. For the

purposes of this definition, *control* means (i) the power, direct or indirect, to cause the direction or management of such entity, whether by contract or otherwise, or (ii) ownership of fifty percent (50%) or more of the outstanding shares, or (iii) beneficial ownership of such entity.

You (or *Your*) shall mean an individual or Legal Entity exercising permissions granted by this License.

Source form shall mean the preferred form for making modifications, including but not limited to software source code, documentation source, and configuration files.

Object form shall mean any form resulting from mechanical transformation or translation of a Source form, including but not limited to compiled object code, generated documentation, and conversions to other media types.

Work shall mean the work of authorship, whether in Source or Object form, made available under the License, as indicated by a copyright notice that is included in or attached to the work (an example is provided in the Appendix below).

Derivative Works shall mean any work, whether in Source or Object form, that is based on (or derived from) the Work and for which the editorial revisions, annotations, elaborations, or other modifications represent, as a whole, an original work of authorship. For the purposes of this License, Derivative Works shall not include works that remain separable from, or merely link (or bind by name) to the interfaces of, the Work and Derivative Works thereof.

Contribution shall mean any work of authorship, including the original version of the Work and any modifications or additions to that Work or Derivative Works thereof, that is intentionally submitted to Licensor for inclusion in the Work by the copyright owner or by an individual or Legal Entity authorized to submit on behalf of the copyright owner. For the purposes of this definition, *submitted* means any form of electronic, verbal, or written communication intentionally sent to the Licensor by its copyright holder or its representatives, including but not limited to communication on electronic mailing lists, source code control systems, and issue tracking systems that are managed by, or on behalf of, the Licensor for the purpose of discussing and improving the Work, but excluding communication that is conspicuously marked or otherwise designated in writing by the copyright owner as *Not a Contribution*.

Contributor shall mean Licensor and any individual or Legal Entity on behalf of whom a Contribution has been received by Licensor and subsequently incorporated within the Work.

2. **Grant of Copyright License.** Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, non-charge, royalty-free, irrevocable copyright license to reproduce, prepare

Derivative Works of, publicly display, publicly perform, sublicense, and distribute the Work and such Derivative Works in Source or Object form.

3. **Grant of Patent License.** Subject to the terms and conditions of this License, each Contributor hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable patent license to make, have made, use, offer to sell, sell, import, and otherwise transfer the Work, where such license applies only to those patent claims licensable by such Contributor that are necessarily infringed by their Contribution(s) alone or by combination of their Contribution(s) with the Work to which such Contribution(s) was submitted.
4. **Redistribution.** You may reproduce and distribute copies of the Work or Derivative Works thereof in any medium, with or without modifications, and in Source or Object form, provided that You meet the following conditions:
 - a. You must give any other recipients of the Work or Derivative Works a copy of this License; and
 - b. You must cause any modified files to carry prominent notices stating that You changed the files; and
 - c. You must retain, in the Source form of any Derivative Works that You distribute, all copyright, patent, trademark, and attribution notices from the Source form of the Work, excluding those notices that do not pertain to any part of the Derivative Works; and
 - d. If the Work includes a NOTICE text file as part of its distribution, then any Derivative Works that You distribute must include a readable copy of the attribution notices contained within such NOTICE file, excluding those notices that do not pertain to any part of the Derivative Works, in at least one of the following places: within a NOTICE text file distributed as part of the Derivative Works; within the Source form or documentation, if provided along with the Derivative Works; or, within a display generated by the Derivative Works, if and wherever such third-party notices normally appear. The contents of the NOTICE file are for informational purposes only and do not modify the License. You may add Your own attribution notices within Derivative Works that You distribute, alongside or as an addendum to the NOTICE text from the Work, provided that such additional attribution notices cannot be construed as modifying the License.

You may add Your own copyright statement to Your modifications and may provide additional or different license terms and conditions for use, reproduction, or distribution of Your modifications, or for any such Derivative Works as a whole, provided Your use, reproduction, and distribution of the Work otherwise complies with the conditions stated in this License.

5. **Submission of Contributions.** Unless You explicitly state otherwise, any Contribution intentionally submitted for inclusion in the Work by You to the Licensor shall be under the terms and conditions of this License, without any additional terms or conditions. Notwithstanding the above, nothing herein shall supersede or modify the terms of any separate license agreement you may have executed with Licensor regarding such Contributions.

6. **Trademarks.** This License does not grant permission to use the trade names, trademarks, service marks, or product names of the Licensor, except as required for reasonable and customary use in describing the origin of the Work and reproducing the content of the NOTICE file.
7. **Disclaimer of Warranty.** Unless required by applicable law or agreed to in writing, Licensor provides the Work (and each Contributor provides its Contributions) on an AS IS BASIS, WITHOUT WARRANTIES OR CONDITIONS OF ANY KIND, either express or implied, including, without limitation, any warranties or conditions of TITLE, NON-INFRINGEMENT, MERCHANTABILITY, or FITNESS FOR A PARTICULAR PURPOSE. You are solely responsible for determining the appropriateness of using or redistributing the Work and assume any risks associated with Your exercise of permissions under this License.
8. **Limitation of Liability.** In no event and under no legal theory, whether in tort (including negligence), contract, or otherwise, unless required by applicable law (such as deliberate and grossly negligent acts) or agreed to in writing, shall any Contributor be liable to You for damages, including any direct, indirect, special, incidental, or consequential damages of any character arising as a result of this License or out of the use or inability to use the Work (including but not limited to damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses), even if such Contributor has been advised of the possibility of such damages.
9. **Accepting Warranty or Additional Liability.** While redistributing the Work or Derivative Works thereof, You may choose to offer, and charge a fee for, acceptance of support, warranty, indemnity, or other liability obligations and/or rights consistent with this License.

TaskScheduler: The Code Project Open License (CPOL) 1.02

Preamble

This License governs Your use of the Work. This License is intended to allow developers to use the Source Code and Executable Files provided as part of the Work in any application in any form.

The main points subject to the terms of the License are:

- Source Code and Executable Files can be used in commercial applications;
- Source Code and Executable Files can be redistributed; and
- Source Code can be modified to create derivative works.
- No claim of suitability, guarantee, or any warranty whatsoever is provided. The software is provided "as-is".
- The Article accompanying the Work may not be distributed or republished without the Author's consent

This License is entered between You, the individual or other entity reading or otherwise making use of the Work licensed pursuant to this License and the individual or other entity which offers the Work under the terms of this License ("Author").

License

THE WORK (AS DEFINED BELOW) IS PROVIDED UNDER THE TERMS OF THIS CODE PROJECT OPEN LICENSE ("LICENSE"). THE WORK IS PROTECTED BY COPYRIGHT AND/OR OTHER APPLICABLE LAW. ANY USE OF THE WORK OTHER THAN AS AUTHORIZED UNDER THIS LICENSE OR COPYRIGHT LAW IS PROHIBITED.

BY EXERCISING ANY RIGHTS TO THE WORK PROVIDED HEREIN, YOU ACCEPT AND AGREE TO BE BOUND BY THE TERMS OF THIS LICENSE. THE AUTHOR GRANTS YOU THE RIGHTS CONTAINED HEREIN IN CONSIDERATION OF YOUR ACCEPTANCE OF SUCH TERMS AND CONDITIONS. IF YOU DO NOT AGREE TO ACCEPT AND BE BOUND BY THE TERMS OF THIS LICENSE, YOU CANNOT MAKE ANY USE OF THE WORK.

1. **Definitions.**

- a. "**Articles**" means, collectively, all articles written by Author which describes how the Source Code and Executable Files for the Work may be used by a user.
- b. "**Author**" means the individual or entity that offers the Work under the terms of this License.
- c. "**Derivative Work**" means a work based upon the Work or upon the Work and other pre-existing works.
- d. "**Executable Files**" refer to the executables, binary files, configuration and any required data files included in the Work.
- e. "**Publisher**" means the provider of the website, magazine, CD-ROM, DVD or other medium from or by which the Work is obtained by You.
- f. "**Source Code**" refers to the collection of source code and configuration files used to create the Executable Files.
- g. "**Standard Version**" refers to such a Work if it has not been modified, or has been modified in accordance with the consent of the Author, such consent being in the full discretion of the Author.
- h. "**Work**" refers to the collection of files distributed by the Publisher, including the Source Code, Executable Files, binaries, data files, documentation, whitepapers and the Articles.
- i. "**You**" is you, an individual or entity wishing to use the Work and exercise your rights under this License.

2. **Fair Use/Fair Use Rights.** Nothing in this License is intended to reduce, limit, or restrict any rights arising from fair use, fair dealing, first sale or other limitations on the exclusive rights of the copyright owner under copyright law or other applicable laws.

3. **License Grant.** Subject to the terms and conditions of this License, the Author hereby grants You a worldwide, royalty-free, non-exclusive, perpetual (for the duration of the applicable copyright) license to exercise the rights in the Work as stated below:

- a. You may use the standard version of the Source Code or Executable Files in Your own applications.
- b. You may apply bug fixes, portability fixes and other modifications obtained from the Public Domain or from the Author. A Work modified in

such a way shall still be considered the standard version and will be subject to this License.

- c. You may otherwise modify Your copy of this Work (excluding the Articles) in any way to create a Derivative Work, provided that You insert a prominent notice in each changed file stating how, when and where You changed that file.
- d. You may distribute the standard version of the Executable Files and Source Code or Derivative Work in aggregate with other (possibly commercial) programs as part of a larger (possibly commercial) software distribution.
- e. The Articles discussing the Work published in any form by the author may not be distributed or republished without the Author's consent. The author retains copyright to any such Articles. You may use the Executable Files and Source Code pursuant to this License but you may not repost or republish or otherwise distribute or make available the Articles, without the prior written consent of the Author.

Any subroutines or modules supplied by You and linked into the Source Code or Executable Files this Work shall not be considered part of this Work and will not be subject to the terms of this License.

4. **Patent License.** Subject to the terms and conditions of this License, each Author hereby grants to You a perpetual, worldwide, non-exclusive, no-charge, royalty-free, irrevocable (except as stated in this section) patent license to make, have made, use, import, and otherwise transfer the Work.
5. **Restrictions.** The license granted in Section 3 above is expressly made subject to and limited by the following restrictions:
 - a. You agree not to remove any of the original copyright, patent, trademark, and attribution notices and associated disclaimers that may appear in the Source Code or Executable Files.
 - b. You agree not to advertise or in any way imply that this Work is a product of Your own.
 - c. The name of the Author may not be used to endorse or promote products derived from the Work without the prior written consent of the Author.
 - d. You agree not to sell, lease, or rent any part of the Work. This does not restrict you from including the Work or any part of the Work inside a larger software distribution that itself is being sold. The Work by itself, though, cannot be sold, leased or rented.
 - e. You may distribute the Executable Files and Source Code only under the terms of this License, and You must include a copy of, or the Uniform Resource Identifier for, this License with every copy of the Executable Files or Source Code You distribute and ensure that anyone receiving such Executable Files and Source Code agrees that the terms of this License apply to such Executable Files and/or Source Code. You may not offer or impose any terms on the Work that alter or restrict the terms of this License or the recipients' exercise of the rights granted hereunder. You may not sublicense the Work. You must keep intact all notices that refer to this License and to the disclaimer of warranties. You may not distribute

the Executable Files or Source Code with any technological measures that control access or use of the Work in a manner inconsistent with the terms of this License.

- f. You agree not to use the Work for illegal, immoral or improper purposes, or on pages containing illegal, immoral or improper material. The Work is subject to applicable export laws. You agree to comply with all such laws and regulations that may apply to the Work after Your receipt of the Work.
6. **Representations, Warranties and Disclaimer.** THIS WORK IS PROVIDED "AS IS", "WHERE IS" AND "AS AVAILABLE", WITHOUT ANY EXPRESS OR IMPLIED WARRANTIES OR CONDITIONS OR GUARANTEES. YOU, THE USER, ASSUME ALL RISK IN ITS USE, INCLUDING COPYRIGHT INFRINGEMENT, PATENT INFRINGEMENT, SUITABILITY, ETC. AUTHOR EXPRESSLY DISCLAIMS ALL EXPRESS, IMPLIED OR STATUTORY WARRANTIES OR CONDITIONS, INCLUDING WITHOUT LIMITATION, WARRANTIES OR CONDITIONS OF MERCHANTABILITY, MERCHANTABLE QUALITY OR FITNESS FOR A PARTICULAR PURPOSE, OR ANY WARRANTY OF TITLE OR NON-INFRINGEMENT, OR THAT THE WORK (OR ANY PORTION THEREOF) IS CORRECT, USEFUL, BUG-FREE OR FREE OF VIRUSES. YOU MUST PASS THIS DISCLAIMER ON WHENEVER YOU DISTRIBUTE THE WORK OR DERIVATIVE WORKS.
7. **Indemnity.** You agree to defend, indemnify and hold harmless the Author and the Publisher from and against any claims, suits, losses, damages, liabilities, costs, and expenses (including reasonable legal or attorneys' fees) resulting from or relating to any use of the Work by You.
8. **Limitation on Liability.** EXCEPT TO THE EXTENT REQUIRED BY APPLICABLE LAW, IN NO EVENT WILL THE AUTHOR OR THE PUBLISHER BE LIABLE TO YOU ON ANY LEGAL THEORY FOR ANY SPECIAL, INCIDENTAL, CONSEQUENTIAL, PUNITIVE OR EXEMPLARY DAMAGES ARISING OUT OF THIS LICENSE OR THE USE OF THE WORK OR OTHERWISE, EVEN IF THE AUTHOR OR THE PUBLISHER HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.
9. **Termination.**
 - a. This License and the rights granted hereunder will terminate automatically upon any breach by You of any term of this License. Individuals or entities who have received Derivative Works from You under this License, however, will not have their licenses terminated provided such individuals or entities remain in full compliance with those licenses. Sections 1, 2, 6, 7, 8, 9, 10 and 11 will survive any termination of this License.
 - b. If You bring a copyright, trademark, patent or any other infringement claim against any contributor over infringements You claim are made by the Work, your License from such contributor to the Work ends automatically.

- c. Subject to the above terms and conditions, this License is perpetual (for the duration of the applicable copyright in the Work). Notwithstanding the above, the Author reserves the right to release the Work under different license terms or to stop distributing the Work at any time; provided, however that any such election will not serve to withdraw this License (or any other license that has been, or is required to be, granted under the terms of this License), and this License will continue in full force and effect unless terminated as stated above.
10. **Publisher.** The parties hereby confirm that the Publisher shall not, under any circumstances, be responsible for and shall not have any liability in respect of the subject matter of this License. The Publisher makes no warranty whatsoever in connection with the Work and shall not be liable to You or any party on any legal theory for any damages whatsoever, including without limitation any general, special, incidental or consequential damages arising in connection to this license. The Publisher reserves the right to cease making the Work available to You at any time without notice
11. **Miscellaneous**
- a. This License shall be governed by the laws of the location of the head office of the Author or if the Author is an individual, the laws of location of the principal place of residence of the Author.
 - b. If any provision of this License is invalid or unenforceable under applicable law, it shall not affect the validity or enforceability of the remainder of the terms of this License, and without further action by the parties to this License, such provision shall be reformed to the minimum extent necessary to make such provision valid and enforceable.
 - c. No term or provision of this License shall be deemed waived and no breach consented to unless such waiver or consent shall be in writing and signed by the party to be charged with such waiver or consent.
 - d. This License constitutes the entire agreement between the parties with respect to the Work licensed herein. There are no understandings, agreements or representations with respect to the Work not specified herein. The Author shall not be bound by any additional provisions that may appear in any communication from You. This License may not be modified without the mutual written agreement of the Author and You.

MiscUtil.dll: MiscUtil

"Miscellaneous Utility Library" Software Licence

Version 1.0

Copyright (c) 2004-2006 Jon Skeet. All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The end-user documentation included with the redistribution, if any, must include the following acknowledgment:

"This product includes software developed by Jon Skeet (skeet@pobox.com, <http://www.pobox.com/~skeet/>)."

Alternately, this acknowledgment may appear in the software itself, if and wherever such third-party acknowledgments normally appear.

4. The name "Miscellaneous Utility Library" must not be used to endorse or promote products derived from this software without prior written permission. For written permission, please contact skeet@pobox.com.
5. Products derived from this software may not be called "Miscellaneous Utility Library", nor may "Miscellaneous Utility Library" appear in their name, without prior written permission of Jon Skeet.

THIS SOFTWARE IS PROVIDED "AS IS" AND ANY EXPRESSED OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL JON SKEET BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Facebook Development Platform Java Client

Copyright (c) 2007 Facebook, Inc.
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE

AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

For help with this library, contact developers-help@facebook.com.

Facebook API License

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

THIS SOFTWARE IS PROVIDED ``AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Software License Agreement (BSD License)

Copyright (c) 2008, Meraka Institute

All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.

- Neither the name of the Meraka Institute nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

PacketVideo

FFmpeg License and Legal Considerations

FFmpeg License

FFmpeg is licensed under the [GNU Lesser General Public License \(LGPL\)](#). However, FFmpeg incorporates several optional modules that are covered by the [GNU General Public License \(GPL\)](#), notably libpostproc and libswscale. If those parts get used the GPL applies to all of FFmpeg. Read the license texts to learn how this affects programs built on top of FFmpeg or reusing FFmpeg. You may also wish to have a look at the [GPL FAQ](#).

Trademark

FFmpeg is a trademark of Fabrice Bellard, originator of the FFmpeg project.

Legal Mini-FAQ

A lot of legal questions arise when discussing multimedia technology. This mini-FAQ attempts to address these issues. Note that much of this discussion is based on precedent, or what has happened in the past under similar circumstances. Very little consideration is given to what could happen. If you use your imagination, you can visualize any dire scenario and cease doing any productive work.

Q: Does FFmpeg use patented algorithms?

A: We do not know, we are not lawyers so we are not qualified to answer this. Also we have never read patents to implement any part of FFmpeg, so even if we were qualified we could not answer it as we do not know what is patented. Furthermore the sheer number of software patents makes it impossible to read them all so no one (lawyer or not)

could answer such a question with a definite no, those who do lie. What we do know is that various standards FFmpeg supports contain vague hints that any conforming implementation might be subject to some patent rights in some jurisdictions, examples for such statements are:

For H.264:

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

And for MPEG-4:

The user's attention is called to the possibility that, for some of the processes specified in this part of ISO/IEC 14496, conformance with this specification may require use of an invention covered by patent rights. By publication of this part of ISO/IEC 14496, no position is taken with respect to the validity of this claim or of any patent rights in connection therewith.

Q: Is it legal to use such patented algorithms?

A: Patent laws change wildly between jurisdictions. Besides, even in places where software patents are recognized, there is serious doubt about the legitimacy of such legislation. Note that patents on algorithms are illegal in many countries. Plus the use of patents to prevent the usage of a format or codec on a specific operating system or together with specific other software might violate antitrust laws.

Q: Bottom line: Should I be worried about legal issues if I use FFmpeg?

A: Are you a private user working with FFmpeg for your own personal purposes? If so, there is remarkably little reason to be concerned. Are you using FFmpeg in a commercial software product? Read on to the next question...

Q: Since FFmpeg is licensed under the LGPL, is it perfectly alright to incorporate the whole FFmpeg core into my own commercial product?

A: You might have a problem here. Sure, the LGPL allows you to incorporate the code. However, there have been cases where companies have used FFmpeg in their projects, usually for such capabilities as superior MPEG-4 decoding. These companies found out that once you start trying to make money from certain technologies, the alleged owners of the technologies will come after their protection money. Most notably, MPEG-LA (licensing authority) is vigilant and diligent about collecting for MPEG-related technologies.

Q: You called the patent license fee protection money, is this a joke?

A: No. The legal validity of these patents is highly questionable. Still in many current legal systems it is very easy to ruin a company with patents even if the patents are invalid. Paying the (small) license fee is much cheaper than a patent lawsuit during which you would not be able to sell your product as the patent would be valid until you win the lawsuit 5+ years in the future. That is assuming you did not go bankrupt in the meantime...

Q: Can I be safe if I have paid my protection money.

A: You can never be safe as long as your country recognizes software patents as valid. There are companies that own many patents, pay and cross-license for other companies patents, but even such companies are being found guilty of infringing some obscure little-

known patent and end up paying millions for it. That's why lobbying against software patents is in your own interest. Of course none of this is related to you using FFmpeg or another codec implementation. If you want to be safe the only option is not to touch any software at all.

Yahoo ASTRA Components for Flash: BSD License

Software License Agreement

The copyrights to the software code or designs (i.e., excluding any logos or trademarks or service marks of Yahoo! Inc.) written by Yahoo! are licensed under the following terms: Copyright (c) 2008, Yahoo! Inc. All rights reserved.

Redistribution and use of this software in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- Neither the name of Yahoo! Inc. nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission of Yahoo! Inc.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

This also code contains software from the following sources, and licensed under the following terms:

In Charts:

DynamicRegistration. Copyright (c) 2003 Darron Schall (according to author, based on Robert Penner's (www.robertpenner.com) ActionScript 1 implementation); modified by Yahoo! Inc. for ActionScript 3 implementation)

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

1. Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.

2. Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
3. The name of the author may not be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE AUTHOR "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE AUTHOR BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

In Charts:

Modified version of mc.drawWedge prototype by Ric Ewing
(ric@formequalsfunction.com) - version 1.3 - 6.12.2002

- Thanks to: Robert Penner, Eric Mueller and Michael Hurwicz for their contributions.
 - Source: http://www.adobe.com/devnet/flash/articles/adv_draw_methods.html
(code is "free to use as you see fit. They are free of charge or obligation. I have endeavored to make these methods robust and useful, however I can make no guarantees about their suitability to your specific needs. I similarly make no guarantees that they are bug or problem free: caveat emptor.")
-

In Layout Utility and Layout Containers:

PercentageSizeUtil

The Initial Developer of the Original Code is Adobe Systems Incorporated (see original files for appropriate copyright notices)

Contributor(s): Yahoo! Inc.

Mozilla Public License Version 1.1

1. Definitions.

1.0.1. "Commercial Use"

means distribution or otherwise making the Covered Code available to a third party.

1.1. "Contributor"

means each entity that creates or contributes to the creation of Modifications.

1.2. "Contributor Version"

means the combination of the Original Code, prior Modifications used by a Contributor, and the Modifications made by that particular Contributor.

1.3. "Covered Code"

means the Original Code or Modifications or the combination of the Original Code and Modifications, in each case including portions thereof.

1.4. "Electronic Distribution Mechanism"

means a mechanism generally accepted in the software development community for the electronic transfer of data.

1.5. "Executable"

means Covered Code in any form other than Source Code.

1.6. "Initial Developer"

means the individual or entity identified as the Initial Developer in the Source Code notice required by [Exhibit A](#).

1.7. "Larger Work"

means a work which combines Covered Code or portions thereof with code not governed by the terms of this License.

1.8. "License"

means this document.

1.8.1. "Licensable"

means having the right to grant, to the maximum extent possible, whether at the time of the initial grant or subsequently acquired, any and all of the rights conveyed herein.

1.9. "Modifications"

means any addition to or deletion from the substance or structure of either the Original Code or any previous Modifications. When Covered Code is released as a series of files, a Modification is:

Any addition to or deletion from the contents of a file containing Original Code or previous Modifications.

Any new file that contains any part of the Original Code or previous Modifications.

1.10. "Original Code"

means Source Code of computer software code which is described in the Source Code notice required by [Exhibit A](#) as Original Code, and which, at the time of its release under this License is not already Covered Code governed by this License.

1.10.1. "Patent Claims"

means any patent claim(s), now owned or hereafter acquired, including without limitation, method, process, and apparatus claims, in any patent Licensable by grantor.

1.11. "Source Code"

means the preferred form of the Covered Code for making modifications to it, including all modules it contains, plus any associated interface definition files, scripts used to control compilation and installation of an Executable, or source code differential comparisons against either the Original Code or another well known, available Covered Code of the Contributor's choice. The Source Code can be in a compressed or archival form, provided the appropriate decompression or de-archiving software is widely available for no charge.

1.12. "You" (or "Your")

means an individual or a legal entity exercising rights under, and complying with all of the terms of, this License or a future version of this License issued under [Section 6.1](#). For legal entities, "You" includes any entity which controls, is controlled by, or is under common control with You. For purposes of this definition, "control" means (a) the power, direct or indirect, to cause the direction or management of such entity, whether by

contract or otherwise, or (b) ownership of more than fifty percent (50%) of the outstanding shares or beneficial ownership of such entity.

2. Source Code License.

2.1. The Initial Developer Grant.

The Initial Developer hereby grants You a world-wide, royalty-free, non-exclusive license, subject to third party intellectual property claims:

- a. under intellectual property rights (other than patent or trademark) Licensable by Initial Developer to use, reproduce, modify, display, perform, sublicense and distribute the Original Code (or portions thereof) with or without Modifications, and/or as part of a Larger Work; and
- b. under Patents Claims infringed by the making, using or selling of Original Code, to make, have made, use, practice, sell, and offer for sale, and/or otherwise dispose of the Original Code (or portions thereof).
- c. the licenses granted in this Section 2.1 (a) and (b) are effective on the date Initial Developer first distributes Original Code under the terms of this License.
- d. Notwithstanding Section 2.1 (b) above, no patent license is granted: 1) for code that You delete from the Original Code; 2) separate from the Original Code; or 3) for infringements caused by: i) the modification of the Original Code or ii) the combination of the Original Code with other software or devices.

2.2. Contributor Grant.

Subject to third party intellectual property claims, each Contributor hereby grants You a world-wide, royalty-free, non-exclusive license

- a. under intellectual property rights (other than patent or trademark) Licensable by Contributor, to use, reproduce, modify, display, perform, sublicense and distribute the Modifications created by such Contributor (or portions thereof) either on an unmodified basis, with other Modifications, as Covered Code and/or as part of a Larger Work; and
- b. under Patent Claims infringed by the making, using, or selling of Modifications made by that Contributor either alone and/or in combination with its Contributor Version (or portions of such combination), to make, use, sell, offer for sale, have made, and/or otherwise dispose of: 1) Modifications made by that Contributor (or portions thereof); and 2) the combination of Modifications made by that Contributor with its Contributor Version (or portions of such combination).
- c. the licenses granted in Sections 2.2 (a) and 2.2 (b) are effective on the date Contributor first makes Commercial Use of the Covered Code.
- d. Notwithstanding Section 2.2 (b) above, no patent license is granted: 1) for any code that Contributor has deleted from the Contributor Version; 2) separate from the Contributor Version; 3) for infringements caused by: i) third party modifications of Contributor Version or ii) the combination of Modifications made by that Contributor with other software (except as part of the Contributor Version) or other devices; or 4) under Patent Claims infringed by Covered Code in the absence of Modifications made by that Contributor.

3. Distribution Obligations.

3.1. Application of License.

The Modifications which You create or to which You contribute are governed by the terms of this License, including without limitation Section [2.2](#). The Source Code version of Covered Code may be distributed only under the terms of this License or a future version of this License released under Section [6.1](#), and You must include a copy of this License with every copy of the Source Code You distribute. You may not offer or impose any terms on any Source Code version that alters or restricts the applicable version of this License or the recipients' rights hereunder. However, You may include an additional document offering the additional rights described in Section [3.5](#).

3.2. Availability of Source Code.

Any Modification which You create or to which You contribute must be made available in Source Code form under the terms of this License either on the same media as an Executable version or via an accepted Electronic Distribution Mechanism to anyone to whom you made an Executable version available; and if made available via Electronic Distribution Mechanism, must remain available for at least twelve (12) months after the date it initially became available, or at least six (6) months after a subsequent version of that particular Modification has been made available to such recipients. You are responsible for ensuring that the Source Code version remains available even if the Electronic Distribution Mechanism is maintained by a third party.

3.3. Description of Modifications.

You must cause all Covered Code to which You contribute to contain a file documenting the changes You made to create that Covered Code and the date of any change. You must include a prominent statement that the Modification is derived, directly or indirectly, from Original Code provided by the Initial Developer and including the name of the Initial Developer in (a) the Source Code, and (b) in any notice in an Executable version or related documentation in which You describe the origin or ownership of the Covered Code.

3.4. Intellectual Property Matters

(a) Third Party Claims

If Contributor has knowledge that a license under a third party's intellectual property rights is required to exercise the rights granted by such Contributor under Sections [2.1](#) or [2.2](#), Contributor must include a text file with the Source Code distribution titled "LEGAL" which describes the claim and the party making the claim in sufficient detail that a recipient will know whom to contact. If Contributor obtains such knowledge after the Modification is made available as described in Section [3.2](#), Contributor shall promptly modify the LEGAL file in all copies Contributor makes available thereafter and shall take other steps (such as notifying appropriate mailing lists or newsgroups) reasonably calculated to inform those who received the Covered Code that new knowledge has been obtained.

(b) Contributor APIs

If Contributor's Modifications include an application programming interface and Contributor has knowledge of patent licenses which are reasonably necessary to implement that API, Contributor must also include this information in the legal file.

(c) Representations.

Contributor represents that, except as disclosed pursuant to Section 3.4 (a) above, Contributor believes that Contributor's Modifications are Contributor's original creation(s) and/or Contributor has sufficient rights to grant the rights conveyed by this License.

3.5. Required Notices.

You must duplicate the notice in [Exhibit A](#) in each file of the Source Code. If it is not possible to put such notice in a particular Source Code file due to its structure, then You must include such notice in a location (such as a relevant directory) where a user would be likely to look for such a notice. If You created one or more Modification(s) You may add your name as a Contributor to the notice described in [Exhibit A](#). You must also duplicate this License in any documentation for the Source Code where You describe recipients' rights or ownership rights relating to Covered Code. You may choose to offer, and to charge a fee for, warranty, support, indemnity or liability obligations to one or more recipients of Covered Code. However, You may do so only on Your own behalf, and not on behalf of the Initial Developer or any Contributor. You must make it absolutely clear that any such warranty, support, indemnity or liability obligation is offered by You alone, and You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of warranty, support, indemnity or liability terms You offer.

3.6. Distribution of Executable Versions.

You may distribute Covered Code in Executable form only if the requirements of Sections [3.1](#), [3.2](#), [3.3](#), [3.4](#) and [3.5](#) have been met for that Covered Code, and if You include a notice stating that the Source Code version of the Covered Code is available under the terms of this License, including a description of how and where You have fulfilled the obligations of Section [3.2](#). The notice must be conspicuously included in any notice in an Executable version, related documentation or collateral in which You describe recipients' rights relating to the Covered Code. You may distribute the Executable version of Covered Code or ownership rights under a license of Your choice, which may contain terms different from this License, provided that You are in compliance with the terms of this License and that the license for the Executable version does not attempt to limit or alter the recipient's rights in the Source Code version from the rights set forth in this License. If You distribute the Executable version under a different license You must make it absolutely clear that any terms which differ from this License are offered by You alone, not by the Initial Developer or any Contributor. You hereby agree to indemnify the Initial Developer and every Contributor for any liability incurred by the Initial Developer or such Contributor as a result of any such terms You offer.

3.7. Larger Works.

You may create a Larger Work by combining Covered Code with other code not governed by the terms of this License and distribute the Larger Work as a single product. In such a case, You must make sure the requirements of this License are fulfilled for the Covered Code.

4. Inability to Comply Due to Statute or Regulation.

If it is impossible for You to comply with any of the terms of this License with respect to some or all of the Covered Code due to statute, judicial order, or regulation then You must: (a) comply with the terms of this License to the maximum extent possible; and (b) describe the limitations and the code they affect. Such description must be included in the **legal** file described in Section [3.4](#) and must be included with all distributions of the Source Code. Except to the extent prohibited by statute or regulation, such description must be sufficiently detailed for a recipient of ordinary skill to be able to understand it.

5. Application of this License.

This License applies to code to which the Initial Developer has attached the notice in [Exhibit A](#) and to related Covered Code.

6. Versions of the License.

6.1. New Versions

Netscape Communications Corporation ("Netscape") may publish revised and/or new versions of the License from time to time. Each version will be given a distinguishing version number.

6.2. Effect of New Versions

Once Covered Code has been published under a particular version of the License, You may always continue to use it under the terms of that version. You may also choose to use such Covered Code under the terms of any subsequent version of the License published by Netscape. No one other than Netscape has the right to modify the terms applicable to Covered Code created under this License.

6.3. Derivative Works

If You create or use a modified version of this License (which you may only do in order to apply it to code which is not already Covered Code governed by this License), You must (a) rename Your license so that the phrases "Mozilla", "MOZILLAPL", "MOZPL", "Netscape", "MPL", "NPL" or any confusingly similar phrase do not appear in your license (except to note that your license differs from this License) and (b) otherwise make it clear that Your version of the license contains terms which differ from the Mozilla Public License and Netscape Public License. (Filling in the name of the Initial Developer, Original Code or Contributor in the notice described in [Exhibit A](#) shall not of themselves be deemed to be modifications of this License.)

7. Disclaimer of warranty

Covered code is provided under this license on an "as is" basis, without warranty of any kind, either expressed or implied, including, without limitation, warranties that

the covered code is free of defects, merchantable, fit for a particular purpose or non-infringing. The entire risk as to the quality and performance of the covered code is with you. Should any covered code prove defective in any respect, you (not the initial developer or any other contributor) assume the cost of any necessary servicing, repair or correction. This disclaimer of warranty constitutes an essential part of this license. No use of any covered code is authorized hereunder except under this disclaimer.

8. Termination

8.1. This License and the rights granted hereunder will terminate automatically if You fail to comply with terms herein and fail to cure such breach within 30 days of becoming aware of the breach. All sublicenses to the Covered Code which are properly granted shall survive any termination of this License. Provisions which, by their nature, must remain in effect beyond the termination of this License shall survive.

8.2. If You initiate litigation by asserting a patent infringement claim (excluding declaratory judgment actions) against Initial Developer or a Contributor (the Initial Developer or Contributor against whom You file such action is referred to as "Participant") alleging that:

- a. such Participant's Contributor Version directly or indirectly infringes any patent, then any and all rights granted by such Participant to You under Sections [2.1](#) and/or [2.2](#) of this License shall, upon 60 days notice from Participant terminate prospectively, unless if within 60 days after receipt of notice You either: (i) agree in writing to pay Participant a mutually agreeable reasonable royalty for Your past and future use of Modifications made by such Participant, or (ii) withdraw Your litigation claim with respect to the Contributor Version against such Participant. If within 60 days of notice, a reasonable royalty and payment arrangement are not mutually agreed upon in writing by the parties or the litigation claim is not withdrawn, the rights granted by Participant to You under Sections [2.1](#) and/or [2.2](#) automatically terminate at the expiration of the 60 day notice period specified above.
- b. any software, hardware, or device, other than such Participant's Contributor Version, directly or indirectly infringes any patent, then any rights granted to You by such Participant under Sections [2.1\(b\)](#) and [2.2\(b\)](#) are revoked effective as of the date You first made, used, sold, distributed, or had made, Modifications made by that Participant.

8.3. If You assert a patent infringement claim against Participant alleging that such Participant's Contributor Version directly or indirectly infringes any patent where such claim is resolved (such as by license or settlement) prior to the initiation of patent infringement litigation, then the reasonable value of the licenses granted by such Participant under Sections [2.1](#) or [2.2](#) shall be taken into account in determining the amount or value of any payment or license.

8.4. In the event of termination under Sections [8.1](#) or [8.2](#) above, all end user license agreements (excluding distributors and resellers) which have been validly granted by You or any distributor hereunder prior to termination shall survive termination.

9. Limitation of liability

Under no circumstances and under no legal theory, whether tort (including negligence), contract, or otherwise, shall you, the initial developer, any other contributor, or any distributor of covered code, or any supplier of any of such parties, be liable to any person for any indirect, special, incidental, or consequential damages of any character including, without limitation, damages for loss of goodwill, work stoppage, computer failure or malfunction, or any and all other commercial damages or losses, even if such party shall have been informed of the possibility of such damages. This limitation of liability shall not apply to liability for death or personal injury resulting from such party's negligence to the extent applicable law prohibits such limitation. Some jurisdictions do not allow the exclusion or limitation of incidental or consequential damages, so this exclusion and limitation may not apply to you.

10. U.S. government end users

The Covered Code is a "commercial item," as that term is defined in 48 C.F.R. 2.101 (Oct. 1995), consisting of "commercial computer software" and "commercial computer software documentation," as such terms are used in 48 C.F.R. 12.212 (Sept. 1995). Consistent with 48 C.F.R. 12.212 and 48 C.F.R. 227.7202-1 through 227.7202-4 (June 1995), all U.S. Government End Users acquire Covered Code with only those rights set forth herein.

11. Miscellaneous

This License represents the complete agreement concerning subject matter hereof. If any provision of this License is held to be unenforceable, such provision shall be reformed only to the extent necessary to make it enforceable. This License shall be governed by California law provisions (except to the extent applicable law, if any, provides otherwise), excluding its conflict-of-law provisions. With respect to disputes in which at least one party is a citizen of, or an entity chartered or registered to do business in the United States of America, any litigation relating to this License shall be subject to the jurisdiction of the Federal Courts of the Northern District of California, with venue lying in Santa Clara County, California, with the losing party responsible for costs, including without limitation, court costs and reasonable attorneys' fees and expenses. The application of the United Nations Convention on Contracts for the International Sale of Goods is expressly excluded. Any law or regulation which provides that the language of a contract shall be construed against the drafter shall not apply to this License.

12. Responsibility for claims

As between Initial Developer and the Contributors, each party is responsible for claims and damages arising, directly or indirectly, out of its utilization of rights under this License and You agree to work with Initial Developer and Contributors to distribute such responsibility on an equitable basis. Nothing herein is intended or shall be deemed to constitute any admission of liability.

13. Multiple-licensed code

Initial Developer may designate portions of the Covered Code as "Multiple-Licensed". "Multiple-Licensed" means that the Initial Developer permits you to utilize portions of

the Covered Code under Your choice of the MPL or the alternative licenses, if any, specified by the Initial Developer in the file described in [Exhibit A](#).

Exhibit A - Mozilla Public License.

"The contents of this file are subject to the Mozilla Public License Version 1.1 (the "License"); you may not use this file except in compliance with the License. You may obtain a copy of the License at <http://www.mozilla.org/MPL/> Software distributed under the License is distributed on an "AS IS" basis, WITHOUT WARRANTY OF ANY KIND, either express or implied. See the License for the specific language governing rights and limitations under the License. The Original Code is _____ . The Initial Developer of the Original Code is _____. Portions created by _____ are Copyright (C) _____. All Rights Reserved. Contributor(s): _____. Alternatively, the contents of this file may be used under the terms of the _____ license (the "[____] License"), in which case the provisions of [____] License are applicable instead of those above. If you wish to allow use of your version of this file only under the terms of the [____] License and not to allow others to use your version of this file under the MPL, indicate your decision by deleting the provisions above and replace them with the notice and other provisions required by the [____] License. If you do not delete the provisions above, a recipient may use your version of this file under either the MPL or the [____] License."NOTE: The text of this Exhibit A may differ slightly from the text of the notices in the Source Code files of the Original Code. You should use the text of this Exhibit A rather than the text found in the Original Code Source Code for Your Modifications.

PureMVC Framework: Creative Commons Attribution License 3.0

To view the Creative Commons Attribution License terms please see <http://creativecommons.org/licenses/by/3.0/us/>.

ScaleFilter: Software License Agreement (BSD License)

Copyright (c) 2008, Meraka Institute
All rights reserved.

Redistribution and use in source and binary forms, with or without modification, are permitted provided that the following conditions are met:

- Redistributions of source code must retain the above copyright notice, this list of conditions and the following disclaimer.
- Redistributions in binary form must reproduce the above copyright notice, this list of conditions and the following disclaimer in the documentation and/or other materials provided with the distribution.
- Neither the name of the Meraka Institute nor the names of its contributors may be used to endorse or promote products derived from this software without specific prior written permission.

THIS SOFTWARE IS PROVIDED BY THE COPYRIGHT HOLDERS AND CONTRIBUTORS "AS IS" AND ANY EXPRESS OR IMPLIED WARRANTIES,

INCLUDING, BUT NOT LIMITED TO, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE ARE DISCLAIMED. IN NO EVENT SHALL THE COPYRIGHT OWNER OR CONTRIBUTORS BE LIABLE FOR ANY DIRECT, INDIRECT, INCIDENTAL, SPECIAL, EXEMPLARY, OR CONSEQUENTIAL DAMAGES (INCLUDING, BUT NOT LIMITED TO, PROCUREMENT OF SUBSTITUTE GOODS OR SERVICES; LOSS OF USE, DATA, OR PROFITS; OR BUSINESS INTERRUPTION) HOWEVER CAUSED AND ON ANY THEORY OF LIABILITY, WHETHER IN CONTRACT, STRICT LIABILITY, OR TORT (INCLUDING NEGLIGENCE OR OTHERWISE) ARISING IN ANY WAY OUT OF THE USE OF THIS SOFTWARE, EVEN IF ADVISED OF THE POSSIBILITY OF SUCH DAMAGE.

Real-Time Video Coding

Contents

[1 Background](#)

[2 Contact Details](#)

[3 Seminars](#)

[4 Papers](#)

[5 Downloads](#)

[5.1 DirectShow Filter Downloads](#)

[5.2 Source Downloads](#)

[6 Links](#)

[7 Media](#)

Background

The objective of the Real-Time Video Coding group is to research and develop intelligent multimedia software components and delivery systems that adapt to congested and low infrastructure network environments. The emphasis is on jointly-optimised or co-operative behaviour between the delivery context, as in real-time network conditions, and the video/audio encoder rate control mechanisms. Innovative solutions are sought to enhance the Internet video experience in a developing world context where bandwidth is a scarce resource.

Current research within the group is concentrating on optimal and weighted context-based bit allocation techniques and implementations within international standard video codecs. A scalable and bandwidth adaptive multimedia broadcasting platform is under development to encompass the novelty of the bit allocation research.

Contact Details

Contact Person: Dr Keith Ferguson

Tel: +27(0)12 841 4433

Fax: +27(0)12 841 4720

Email: kferguson[at]csir.co.za

Seminars

30 September 2007 - IEEE students seminar at UCT

13 March 2008 - Seminar at UKZN

14 May 2008 - Guest lecture on Video Coding at University of Pretoria

Papers

Papers will be available here once complete.

Downloads

A part of the objective of the Real-Time Video Coding group is to utilise open source frameworks and to contribute to the open source community as well as to provide source code that is available for general usage. Please send comments, feedback, suggestions to [rtvc\[at\]meraka.org.za](mailto:rtvc[at]meraka.org.za).

DirectShow Filter Downloads

The following DirectShow filters are available for download as DLLs. These need to be registered using the `regsvr32` command. Download the documentation below for more information about the filters.

Filter	Version	Description
 ScaleFilter	v1.1	The ScaleFilter is a DirectShow filter that can scale RGB24 media to specified target dimensions.
 CropFilter	v1.3	The CropFilter is a DirectShow filter that can crop RGB24 and RGB32 media.
 RGBtoYUV420Filter	v1.0	This filter converts RGB24 or RGB32 media to a YUV4:2:0 Planar format whilst retaining the original VideoInfoHeader of the media.
 YUV420toRGBFilter	v1.0	This filter converts the custom packed YUV420 planar format back to RGB24.

Source Downloads

- **Base classes and interfaces** - DirectShow base classes and interfaces have been written which simplify the creation of a transform filter. The `CCustomBaseFilter` class provides a base class for filters with a single input and output pin. The `MultiIOBaseFilter` project provides support for writing DirectShow transform filters with multiple input and output pins such as multiplexers and demultiplexers. All Meraka RTVC filters inherit these base classes, which are

available in the download. The base class have been compiled into a static library which the user can reference in the project.

- **Filter Source Code** - The download also contains the source code for the above-mentioned scaling, cropping and color conversion filters.
- **Image Utilities** - The ImageUtils folder contains source code for various image processing such as cropping, scaling, etc. These files have been compiled into a static library which is also referenced by filters that require such functionality.
- **DirectShow LiveMedia RTSP Live Audio Streaming Server** - This project provides an example as to how the DirectShow framework can be integrated with a RTP/RTCP/RTSP streaming library in order to stream live audio.

 [Source Code v1.3](#)

 [Documentation](#)

Links

- **DirectShow related**
 - [Blog containing free DirectShow filters and GraphStudio](#), which offers some improved functionality over GraphEdit
 - [DirectShow training](#)
- **RTP/RTCP/RTSP related**
 - [Open source RTP/RTCP/RTSP](#) library that covers framing, sending of many media formats with a high level of importance based on standards. Main support via mailing list.

Media

- [CSIR researcher profile series](#): Streamlining delivery of internet video broadcasting
- [DST-Innovation Fund investment boosts collaborative research on real-time video broadcasting project](#)
- [Innovation Fund investment boosts collaborative research on real-time video broadcasting project](#)

Glossary

A

all-in-one-gateway: A device that provides multiple network features such as a router, modem, local area network (LAN) switch, firewall, and/or a wireless access point. Also see LAN.

anti-virus software: Software that checks a hard drive for viruses (harmful computer code) that may infect a computer.

B

BIOS: Basic Input/Output Services—the firmware code run by the HP MediaSmart Server when first powered on. The BIOS prepares the server for operation and allows the server software to load, execute, and assume control of the server. This process is also known as booting up.

Browser window: A browser window is used to display web pages either on a web site or stored locally such as the HP MediaSmart Server's User's Guide.

C

client computers: A client computer is a computer that accesses the HP MediaSmart Server by the home network. This term also applies to computers using remote access to the server.

D

DHCP: Dynamic Host Configuration Protocol—the protocol used to assign IP addresses to network devices, such as computers. DHCP automatically assigns IP addresses to network devices; the assigned address can change over time. Also see IP address, Protocol, and Static IP Address.

Digital Living Network Alliance: A set of standards (that includes UPnP A/V) for sharing media between devices. PVConnect is DLNA compliant. Windows Media Connect is not. This compliance allows PVConnect to work with more DMRs.

digital rights management: Technology built into digital media, such as music and movies, that allows companies in charge of their copyrights to decide how and where media can be used.

DMR: Digital Media Receiver (DMR), Digital Media Adapter (DMA), Digital Media Player (DMP)—a consumer electronic device that communicates with the HP MediaSmart Server and brings digital media streams—such as photos, music, or video—to your entertainment center.

DNS: Domain Name System—a server that associates network names with IP addresses. Also see IP address.

F

folder duplication: Folder duplication duplicates folders and files across multiple hard drives. If you enable folder duplication and one hard drive fails, you will not lose any files stored in a shared folder. Any folder that has folder duplication enabled uses twice the amount of server storage.

H

HTTPS: A secure HTTP connection. HTTP (HyperText Transfer Protocol) is the format used to transfer and send web page information across networks, on the Internet, and in help systems. HTTPS is an HTTP connection over encrypted Secure Sockets Layer (SSL) transport mechanism. Also see Protocol.

I

IP address: An IP (Internet Protocol) address is a number that uniquely identifies devices, such as computers, on a network.

L

LAN: Local area network—a small number of computers that are connected together in a small area, usually in the same building.

logical: A device, such as a partition named by the logic of a software system, regardless of its physical relationship to the system. For example, a computer with a single physical hard disk that contains two logical drives, C: and D:. Another example is an HP Media Vault with two hard drives that contains a single logical volume spanning both drives.

M

Map: Assigning a drive letter to the connection on a computer to access a shared folder on the server.

Mbps: Megabits per second.

Media streaming: Media streaming sends media—music, photos and video files—from the HP MediaSmart Server to other devices that can play the media. The HP MediaSmart Server includes functionality that allows media to stream to a Digital Media Adapter (DMA). Also see DMR.

N

NAT: Network Address Translation—Broadband routers use NAT technology to allow network components to share Internet access over a single IP address. Additionally, NAT acts like a firewall because the computers and other devices—including the HP MediaSmart Server—on the network are given IP address that are non-routable (non-internet addresses). This masks the real IP addresses of

your network components and keeps them from being seen outside the home. Also see IP address.

P

partition: A logical division of a physical hard disk. Partition data refers to the information contained within the divisions on the drive. For example, some computers are formatted with a C: and D: drive, both of which use the same physical hard drive.

password hint: A password hint helps you remember your password. The password hint can be seen by anybody who clicks the link to display it.

physical hard disk: The actual hard disk (hard drive) located in a device that stores files and data.

port 80: Usually, an HTTP client, such as a Web browser, initiates contact to a server, such as the HP MediaSmart Server, through port 80. After contacting the server, the server sends back a response, such as a Photo Webshare page.

Privilege level: A level assigned by the user that decides what access levels are available to other users.

Protocol: The standard(s) of how computers communicate data with each other.

R

router: A device connected to your computer that joins two or more networks. For example, a router connects your local network to the internet.

S

SATA: Serial Advanced Technology Attachment (or Serial ATA) is an interface standard that moves information to and from a storage device, such as a hard drive.

shared folders: A “share folder” means the same as a “share,” and you can use these terms interchangeably: A shared folder is a top-level folder that is shared on the network and stores other folders within it. For example, the Music shared folder can store other folders (called sub-folders). A subfolder might be named for a musician, such as Mark Knopfler.

SMTP: Simple Mail Transfer Protocol—The main protocol used to send email on the Internet, consisting of rules for how programs sending mail should interact with programs receiving mail.

Static IP Address: A number assigned to a device, such as a computer, on a network to be its permanent IP address. Also see IP address and DHCP.

strong password: A strong password must be at least 7 characters long and must fulfill three of the following four character criteria: uppercase characters, lowercase characters, numbers, and symbols (such as !, @, #, and so on.) Also see password hint.

Sub-folders: A folder within a folder or a shared folder.

Subnet Mask: Identifies the portion of the network IP address that can be used for subnetworks. Also see IP address.

System drive: The hard drive (or drive partition) containing the operating system.

T

TB: Terabyte—refers to a data storage capacity equal to approximately 1000 gigabytes.

TCP/IP: Transmission Control Protocol/Internet Protocol. A set of communications protocols used to transmit data over networks. TCP provides for the establishment of connections and exchanges streams of data. IP specifies the format of the data. Also see IP address.

TCP/IPv4: TCP/IPv4 is the standard TCP/IP protocol in use today.

TCP/IPv6: TCP/IPv6 is the standard TCP/IP protocol used by Windows Vista. IPv6 main advantage is the increase in number of available addresses.

U

UNC: Uniform Naming Convention—identifies shared network devices, such as the HP MediaSmart Server. It is a format for specifying the location of resources on a local-area network (LAN). It identifies each shared resource with a unique address in the following format: \\server-name\sharedfolder-name. For example, \\SERVER\software. Also see LAN.

UPnP: Universal Plug and Play—a networking protocol that allows for many different types of devices to interact with one another. UPnP is the protocol used by media streaming.

V

Visitor: HP Photo Webshare albums can be shared with people outside your local network, called visitors. If you use the HP MediaSmart Server for personal use, visitors may be family or friends such as Grandma or Aunt Karen. If you use the Server for business, visitors may be your customers or business partners.

W

WAP: Wireless Access Point—a device, such as a wireless router, that connects wireless communication devices together to form a wireless network. A WAP often connects to a wired network, and can relay data between wireless devices and wired devices.

Web browser: An application used to access information on networks, on the internet, and in help systems. Common web browsers include Internet Explorer, Netscape, and Firefox.

Webshare Manager: A type of user account that is enabled with Webshare Manager permissions. Webshare Managers have access to all HP Photo Webshare features, including viewing and managing content in all albums, sharing albums with people outside the home network, and approving album content added by people that share the album.

WEP: Wired Equivalent Privacy—a protocol that encrypts data on a wireless system for security.

WPA: Wi-Fi Protected Access—a technology that allows for increased security with wireless networks.

Index

3

3gp..... 75

A

A/V..... 77

Aac 65, 81

About Hardware Warning Messages 141

About HP Add-ins..... 35

Ac3 75

Accesses..... 48

 HP MediaSmart Server 48

Account Setup..... 122

Additional Computers..... 26, 31

 Installing 26

Additional Software 5

Administrative Privileges..... 7

Aiff..... 75

Album 65, 95, 114

 Create 95, 114

Allow..... 157

 UPS 157

Amazon S3..... 33, 122

 existing account 122

 get account 122

Asf..... 75

Audio..... 81

Audio Formats 81

Automatic Windows Updates 7

AV..... 77

AVI 65, 75, 81

B

Backup 134, 162

 HP MediaSmart Server 134

 Performing 134

Backup Disk Size..... 134

Backup Disk Status..... 134

Before Media Collector..... 65

BIOS 58

Bmp..... 75, 81, 96, 115

Browse button 48

 select 48

Browse Section 59, 133

Bucket 122

C

Check 3, 48

 hard drive 3

 Updates 48

Checkboxes..... 96, 115

 using..... 96, 115

Choose Backup Disk..... 134

Client computer..... 48

Computer Recovery 163

Computers & Backup..... 41

 Restoring 41

Configure 48, 134

 Time Machine 134

Configure HP Media Collector General

 Settings..... 67

Configure HP MediaSmart Software

 Update..... 48

Configure Mac Client 134

Configure Media Collector 69, 70, 71, 73

 Music..... 70

 Photos..... 69

 Videos 71

Configure PVConnect..... 78, 81

 Streaming Media..... 78

Configure Remote Access..... 81

Connect 6

 HP MediaSmart Server 6

Contact 7

 firewall 7

Control Center..... 59, 132

 Opening..... 59, 132

Control Center application..... 134

Copied..... 48

 Server 48

Create 134

 Mac Folder 134

Create Account..... 39

D

Defaults 65

Digital Living Network Alliance 77

Digital Media Adapter 75, 81, 145

 stream..... 75, 81

Digital Media Player 75, 145

Digital Media Receiver	73, 75, 145, 171
Digital Media Server	73, 75, 77
DIVX	65, 75
DLNA	75, 77
DMA	5, 75, 81, 145
DMP	75, 145
DMR	5, 35, 75, 77, 81, 145
DV	81
DVR	65, 81
Dvr-ms	75
Dynamic Host Configuration Protocol	5
E	
Ethernet	5
External USB Drive	163
F	
Facebook	96, 115
Facebook Logon	103
Firewall	3, 7, 157
contact	7
using	7, 157
Firewall Blocking Messages Mean...	152
First Backup	157
FLAC	75
Flickr Login Page	99
FLV	65
Folders View	87
Format Compatibility	81
G	
German	35
Gif	65, 75, 81, 96, 115
H	
Hardware Status	141
Hardware Tab	57
Health Indicator Codes	143
Health LED Behavior	56
Help	60, 133
Help systems	81
Home network	48
Home PC	73
Home Server Connector Software	26
Home Server Console	33, 60
HP	48
HP Media Collector	33, 65
HP Media Collector Default Settings	65
HP Media Collector Features	65
HP MediaSmart Server	3, 5, 7, 26, 33, 48, 58, 60, 65, 73, 75, 81, 145, 157
accesses	48
Connect	3, 5
Install	3, 26
installing	7, 157
locating	7, 157
HP MediaSmart Server Control Center	134
HP MediaSmart Server Requirements	81
HP MediaSmart Server Settings	57, 58
HP MediaSmart Server Software	
Installation Disc	7, 157
HP MediaSmart Server Software Update	48
HP Photo Publisher	33, 60, 94
HP Photo Publisher Home	93
HP Photo Publisher Log on Page	94
HP Photo Viewer	33
HP Photo Viewer Slideshow	107
HP Software	48
Rollback	48
HP Software Update Install Wizard	48
HP Software Version	58
HP Web Streamer application	73
I	
Ignored Directories	65
Install Flash	81
Install HP MediaSmart Server Mac	
Client	134
Install Mac OS	134
Install Wizard	7
Installing	7, 26, 48, 127, 157
Additional Computers	26
Features	127
First Computer	7
HP MediaSmart Server	7, 26, 157
Mac Features	7
Mac Software	127
Windows Home Server Connector	7
Internet Protocol	5
IP5	
iTunes	5, 7, 33, 63, 65, 70, 74, 78, 164
running	33
Settings	63, 78
Streaming	74

- ITunes Frequently Asked Questions. 164
- J**
- Jpeg 96, 115
- Jpg 65, 75, 81, 96, 115
- L**
- Launch Time Machine 134
- LC 81
- Learn 7
- Link 48
 - uninstall 48
- Locating 7
 - HP MediaSmart Server 7
- Log 81
- LPCM 75
- M**
- M1v 75
- M2TS 65
- M3u 65, 75
- M4a 65, 75, 81
- M4v 65, 75, 81
- Mac 39, 134
- Mac Backup 134
- Mac Features 7, 33
 - install 7
- Mac Folder 134
 - create 134
- Manage Network Connections 154
- Manually Check 48
 - Updates 48
- Manually Install 48
 - Update Copied 48
- McAfee SecurityCenter 35
- Media 35, 145
- Media Collection 65
- Media Collection Order 65
- Media Collector 33, 65, 70, 73
- Media Collector General 67
- Media Sharing 145
- Media Smart Server 157
- Media Types 73
 - Streaming 73
- MediaSmart Photo Viewer 96, 115
- MediaSmart Server 157
- Microsoft Windows Home Server 48
 - update 48
- MJPEG 81
- Mov 65, 81
- Mp1 75
- MP2 65, 75
- Mp3 65, 75, 81
- Mp4 75, 81
- Mpa 75
- Mpe 75
- MPEG 65, 81
- MPEG-1 75
- MPEG-2 75
- MPEG-2-T-S 75
- MPEG-4 75
- Mpg 81
- Mpg/mpeg 75
- MS 65, 81
- Music 70
 - Configure Media Collector 70
- Music Collection Status 70
- Music Duplication 65
- Music Formats 75
- Music Organization 70
- Music Source 70
- N**
- Naming 7
 - HP MediaSmart Server 7
- NET 2.0 7
- Netscape 73, 81
- Network Connection Issues 147
- Network Connection Light Off. 144, 151
- Network Health 151
- Network Health Light 7
- Network NetBIOS Properties 154
 - Check 154
- Network Places 46
 - Add Shared Folders 46
- Network Requirements 3
- Networks 81
- New Additions 164
- Next 48
- Notifications 55
- O**
- Obtain DNS server address 153
- Ogg 75
- Online Backup 33
- Online Support 58
 - Links 58

Optimum Data Throughput Speeds ..	156
Organization Options	65
Output Services	58
P	
Password hint	7, 39
PC Restore Disc	163
PCM	81
Pct	65
Photo Caption.....	107
Photo Publisher	96, 99, 115
Photo Viewer Home Page.....	107
Photos.....	35, 87
Photos Uploading.....	97
Picasa	96, 115
Picture Formats	75
Pictures.....	65
Pla	75
Playlist.....	164
Playlist Formats	75
Playlists	65
Png	75, 81, 96, 115
Podcasts.....	164
Power	47
Power Management	47
Power-On Indicator.....	139
PVConnect	33, 35, 73, 74, 75, 77, 78
PVConnect Default Settings	77
PVConnect Features.....	75, 171
PVConnect File Formats.....	171
R	
Remote Access.....	33
Remote Management	33
Remote Streaming.....	78
Removing	163
External USB Drive	163
Restoring	162
Computer.....	162
Rollback	48
HP Software Click	48
Router.....	153
Running.....	33
iTunes.....	33
S	
Search button	48
select	48
SecurityCenter.....	35
See duplicate songs	173
Select.....	48
Browse button	48
Search button	48
Select file	48
Select Photos.....	96, 115
Serial Number	58
Server	58
Server	5, 48, 65
Connecting	5
copied.....	48
Server bar	164
Server Lights	6
Checking	6
Server Lights Out.....	146
Server Location.....	3
Server Not Showing Up on Your DMR	145
Server Online Backup.....	117
Server Online Backup Dashboard.....	117
Server Password.....	7
Setting	7
Server Recovery	157
performing.....	157
Server Recovery Disc	157
Server Solution.....	57
Server's Health Indicator Light Red..	140
Settings.....	48, 63, 78, 145
iTunes.....	63, 78
Share folder	45
Shared Folders on Server	45
Sharing	145
Skipped Files.....	65
Sleep Now button.....	47
Sleep Time	47
Slideshow	107
Slideshow View	107
Smithfamily.HPhome.com.....	81
Snapfish.....	96, 115
Snapfish Logon	98
Software	3
Software firewalls	7, 157
Software Installation Disc.....	7
Use	7
Song Selection	164
Spyware.....	155

- Static IP Address..... 5
- Stereo 73
- Streaming 5, 73, 74, 75, 81
 - Digital Media Adapter 5, 75, 81
 - DMRs 74
 - Internet 73
 - iTunes..... 74
 - Media Requirements 73
 - Media Servers 74
- Support Section..... 60, 133
- Support Tab..... 58
- Supported File Formats..... 65
- System Preferences 39
- T**
- TCP/IP..... 153
- TCP/IPv4..... 153
- Television..... 73
- Tif..... 65, 75, 81
- Time Machine 134
 - Configuring..... 134
 - dedicated 134
- Time Machine System Preferences... 134
- Tools Section 60
- Total Protection Service..... 35
- TV 5
- Types..... 75
- TZO..... 157
- U**
- Uninstall..... 48
 - link 48
 - Update 48
- Uninstall HP MediaSmart Server..... 157
- Uninterruptible Power Supply 157
- Universal Plug..... 77
- Unresponsive..... 139
- Update Client Computers..... 48
- Update Copied 48
 - Manually Install 48
- Updating..... 7, 48, 157, 164
 - Check 48
 - Manually Check 48
 - Microsoft Windows Home Server .. 48
 - Uninstall..... 48
 - Windows Home Server 48
 - Your Firewall's Trusted Program List 7, 157
- UPnP 75
- UPS 157
 - allow..... 157
 - Using..... 157
- URL..... 81
- USB..... 157
 - Using..... 157
- Use 48
 - HP MediaSmart..... 48
- Use Time Machine..... 33
- Used 81
 - access information 81
- User account..... 37, 39
 - Add..... 39
- V**
- Vdr 75
- Version..... 48
- Video Collection Status 71
- Video File Types..... 81
- Video files..... 35
- Video Formats..... 75, 81
- Videos 81
- Vob..... 75
- W**
- Wakup Server..... 60
- Wav 65, 75, 81
- Web 65
- Web Media Streamer 33, 81, 87
- Why does HP MediaSmart Server show 176
- Wi-Fi Protected Access..... 5, 41
- Windows Client 7
- Windows Firewall..... 41
- Windows Home Server 48, 65
 - updating..... 48
- Windows Home Server Connector . 7, 41
 - install..... 7
- Windows Home Server Connector Setup
 - window..... 7
 - loaded..... 7
- Windows Home Server Console.... 1, 33, 48, 60, 145
 - Opening..... 33
- Windows Home Server Console Help 48, 60

HP MediaSmart Server User's Guide

Windows Home Server Settings window	70, 71	Wma.....	65, 75, 81
Windows Home Server Tabs	35	WMV	65, 75, 81
Windows Homer Server.....	81	Wpl.....	65, 75
Windows Media Connect 35, 75, 77, 171		X	
Windows Media Connect File		Xbox 360.....	5
Compatibility	75	Xvid.....	75
Windows Media Player.....	70	Y	
Windows Server Console.....	65	Yes	48
Wired Equivalent Privacy	5	Your Firewall's Trusted Program List ..	7
Wireless Network Connection	153	Updating.....	7
Wireless Support.....	5	Your Server.....	3