

Quick Reference Guide

HP Digital Signage Player MP6 and MP4 Microsoft[®] Windows Embedded Standard 7 © Copyright 2013 Hewlett-Packard Development Company, L.P.

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About this book

This guide supplements the standard Windows Embedded Standard (WES) documents supplied by Microsoft Corporation. This document highlights the differences, enhancements, and additional features provided by the latest image of your digital signage player.

WARNING! Text set off in this manner indicates that failure to follow directions could result in bodily harm or loss of life.

CAUTION: Text set off in this manner indicates that failure to follow directions could result in damage to equipment or loss of information.

NOTE: Text set off in this manner provides important supplemental information.

Table of contents

| 1 | For more information and updates | . 1 |
|---|---|-----|
| | HP updates | . 1 |
| | For more information | . 1 |
| 2 | Introduction | . 2 |
| | The desktop | 2 |
| | User desktop | 2 |
| | Administrator desktop | 3 |
| 3 | Configuration | 4 |
| | Logging on | 4 |
| | Automatic logon | 4 |
| | Manual logon | 5 |
| | Administrator logon access | 5 |
| | Logging off, restarting, and shutting down the digital signage player | 6 |
| | Write filters | 6 |
| | System date and time | 6 |
| | Local drives | 8 |
| | Drive C and flash | 8 |
| | User accounts | 8 |
| | Creating a new user account | . 8 |
| | User Accounts utility | 9 |
| | User profiles | 9 |
| | Regional and language options | 10 |
| | Administrative tools | 11 |
| | Wireless network configuration | 11 |
| 4 | Applications | 12 |
| | Windows Firewall | 12 |
| | Remote Desktop Connection (RDC) | 12 |
| | PDF Complete | 13 |

| I | Microsoft Internet Explorer | 13 |
|---|---|----|
| ١ | Nindows Media Player | 14 |
| ١ | Windows Embedded Standard 7 P specific features | 14 |
| | | |

| 5 Control panel extended selections | 15 |
|---|----|
| Write filters | |
| Choosing the write filter | |
| Enhanced Write Filter Manager | |
| Benefits of the Enhanced Write Filter | 16 |
| Enhanced Write Filter status service | 17 |
| Enhanced Write Filter GUI | |
| EWF GUI Buttons | |
| DOS command-line tool boot commands | 19 |
| Using boot commands | 19 |
| File-Based Write Filter Manager | 19 |
| Benefits of the File-Based Write Filter | 19 |
| File-Based Write Filter Status Service | 20 |
| File-Based Write Filter GUI | 21 |
| 6 Administration and image upgrades | 23 |
| HP Digital Signage Player Imaging Tool | |
| Index | |

1 For more information and updates

HP updates

HP provides periodic updates and add-ons for digital signage player images. Check the HP support site at <u>http://www.hp.com/support</u> for updates and add-ons that apply to your image version. Select the country/region from the map, then select **Drivers & Software**. Type the digital signage player model in the field and click **Search**.

For more information

For important documentation that provides specific information for your image version, check the HP support site at <u>http://www.hp.com/support</u>. Select the country/region from the map, and then select **Product Support & Troubleshooting**. Type the digital signage player model in the field and click **Search**.

2 Introduction

This guide provides information pertaining to HP digital signage player models that use the Windows[®] Embedded Standard (WES) 7 P operating system.

- Flexible
 - Win32-based application support
- User interface similar to familiar Windows 7 desktop
- Improved security
 - Microsoft[®] Firewall
 - Locked down protected flash drive (on MP4) or hard drive (on MP6)
- Multimedia
 - Windows Media Player
- Internet browsing
 - Windows Internet Explorer
- Extensive Multilingual User Interface (MUI) support

HP provides this client "ready to go" out of the box to meet most common customer requirements. You may want to add/remove features using the Programs and Features control panel applet or the add-ons provided on the HP support site to customize it to specific needs.

This guide will introduce you to the features of this client that are not found in the standard Windows operating system.

The desktop

This section provides a general overview of WES 7 user and administrator desktop features and functions.

User desktop

The desktop that opens when you are logged on as a user is a standard WES 7 desktop. To access applications, go to the **Start** menu.

For information about the functionality of the standard WES desktop and Start menu items, refer to the applicable Microsoft documentation: <u>http://msdn.microsoft.com/en-us/embedded/bb981920.aspx</u>

NOTE: The control panel, available by clicking **Start > Control Panel**, provides access to a limited set of resources for changing user preferences. You must log on as Administrator to access the extended set of control panel options and utilities.

Right-clicking the mouse when the pointer is on a user's desktop background does not open a pop-up menu in the default windows policies configuration.

Administrator desktop

The desktop that opens when you are logged on as an administrator is a standard Windows desktop.



NOTE: Right-clicking the mouse when the pointer is on the administrator's desktop background opens a pop-up menu.

3 Configuration

Logging on

You can log on to the digital signage player either automatically or manually.

Automatic logon

The default for the WES-based digital signage player is automatic logon of the Administrator account. The administrator can use the HP Logon Manager in the control panel to enable/disable auto logon and change the auto logon user name, password, and domain. Only the administrator account can change auto logon properties.

| Default User <u>N</u> ame: | . A desiration has |
|--------------------------------|--------------------|
| Schult Osch Hume. | Administrator |
| Default User <u>P</u> assword: | ****** |
| Default Domain Name: | |
| berdart <u>b</u> ontair Manier | 1 |
| | |
| | |
| | |

The default password for auto logon is Administrator.

Enabling automatic logon bypasses the Log On to Windows dialog box.

To log on as a different user while auto logon is enabled:

▲ Press and click Start > Shut Down > Log Off.

This opens the Log On to Windows dialog box and allows you to select a different account.

Manual logon

When automatic logon is disabled, digital signage player startup displays the Log On to Windows dialog box. Type the logon information in the **User Name** and **Password** text boxes. Note the following:

- For a user account, the factory-default user name and password are both User.
- For an administrator account, the factory-default user name and password are both **Administrator**.
- For security purposes, HP recommends that you change the passwords from their default values. An administrator can change passwords by pressing Ctrl+Alt+Delete to open the **Windows Security** dialog box, and then selecting **Change Password**. You cannot change the password when logged on as a user.
- Passwords are case-sensitive.
- The administrator may create additional user accounts: right-click Computer, select Manage > Local Users and Groups. However, due to local memory constraints, you should keep the number of additional users to a minimum. For more information, see <u>User accounts</u> on page 8.

Administrator logon access

To access Administrator logon regardless of the state of the digital signage player user mode:

- 1. Click Start.
- 2. Click Log Off.

The screen for Administrator logon is displayed.

NOTE: The default password for the Administrator account is **Administrator**. The default user name and password for the User account is **User**.

You can use the HP Logon Manager to permanently modify the default login user. Located in the control panel, only the Administrator can access this application.

Logging off, restarting, and shutting down the digital signage player

To restart, shut down, or log off from the digital signage player:

- 1. Click Start > Shut Down.
- 2. From the **Shut Down** dialog box, select the desired action, and then click **OK**.

| | hp | |
|---------------------------|------------------|------------------|
| | Documents | • |
| | Computer | |
| | Control Panel | ► Switch user |
| | Devices and Prin | Log off |
| All Programs | Run | Lock Restart |
| Search programs and files | Shut down ▶ | Sleep |

NOTE: You may also log off or shut down using the Windows Security dialog box. Press Ctrl+Alt +Delete to open the dialog box.

If automatic logon is enabled, when you log off (without shutting down), the digital signage player immediately logs on the predefined User account set up in HP Logon Manager. For instructions for logging on as a different user, see <u>Logging on on page 4</u>.

The following utilities are affected by restarting or shutting down the digital signage player:

- Write filters on page 6
- System date and time on page 6

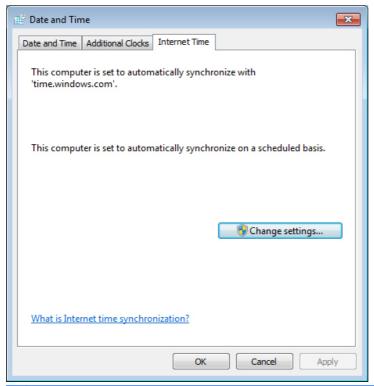
Write filters

HP Windows Embedded Standard digital signage players include both the Enhanced Write Filter (EWF) and the File-based Write Filter (FBWF) to protect the operating system. Write filters are disabled by default.

For detailed information, see Enhanced Write Filter Manager on page 16 and File-Based Write Filter Manager on page 19.

System date and time

You can manually set the local time, or you can automatically set the local time utility to synchronize the system clock to a time server at a designated time.



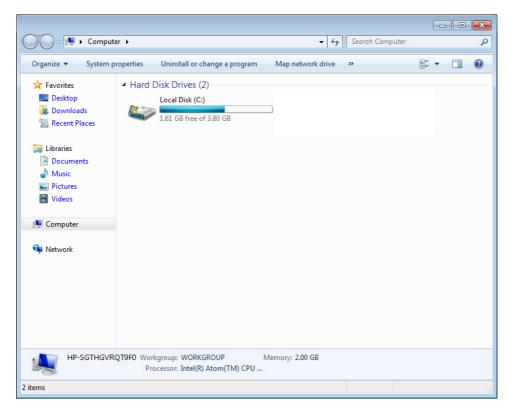
NOTE: The Windows Time service is stopped by default. You can start the service via the administrative tools control panel applet. You may want to start the service and maintain correct time because some applications may require access to the local digital signage player time. To open the Date and Time Properties dialog, double-click the time in the task bar or double-click the **Date and Time** icon in the control panel.

Click Change Settings.

| 💼 Internet Time | Settings | | — | |
|-----------------------------------|----------------------------|--------------|--------------------|--|
| Configure Internet time settings: | | | | |
| V Synchronize | with an Internet time se | rver | | |
| Server: | time.windows.com | • | Update now | |
| This computer | is set to automatically sy | nchronize on | a scheduled basis. | |
| | | ОК | Cancel | |

Local drives

The following sections describe the local drives located on the digital signage player.



Drive C and flash

Drive C is in the onboard flash drive (MP4) or hard disk drive (MP6). HP recommends that you do not allow the free space on Drive C to drop below 10% of the storage device's size.

CAUTION: If the available free space on the C drive is reduced to below 15 MB, the digital signage player becomes unstable.

User accounts

This section describes how to create a new user account and user profile.

Creating a new user account

You must log on as Administrator to create user accounts locally or remotely. With the MP4 model, due to local flash/disk space constraints, you should keep the number of additional users to a minimum.

Use the User Accounts utility to create new user accounts.

To access the User Accounts utility:

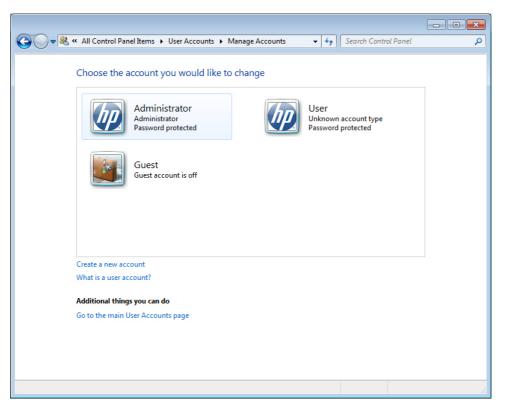
Click Control Panel > User Accounts > Manage Another Account > Create a New Account.

User Accounts utility

The User Accounts utility allows the administrator to create, delete, and maintain user accounts.

To access the User Accounts utility:

Click Control Panel > User Accounts > Manage Another Account.



User profiles

A new user's profile is based on the Default User profile template, which includes policies similar to the factory-defined Administrator account. This new account will default to membership within the local Users group. If the Default User profile settings are changed from those set at the factory, the changed settings are automatically applied to any newly created user profile—local or domain. Any local accounts created or cached domain accounts logged into this device prior to changes made to the Default User profile are unaffected by these changes—only accounts logged in or cached after the changes are affected.

For a new user to match the characteristics of the predefined User account, the Administrator must add the new user to the Power Users group. The user's actions are still limited while the user is in the Power Users group. The Administrator may also want to apply specific Windows policies to the new account to restrict certain actions or behaviors.

To create a user profile:

- 1. Log on as Administrator.
- 2. Click Start > Control Panel > User Accounts.
- 3. Select Manage Another Account to open the Manage Accounts window.

- 4. Select Create a New Account.
- 5. Type in the user name, and then select Standard User or Administrator.
- 6. Click **Create Account** and follow the on-screen instructions.

The newly created user is now a member of both the Power Users and Users groups and will have Windows policies applied similar to that of the Administrator account. It may be desirable to apply specific Windows policies to limit the capabilities of this new account.

To edit a user account, select **User** in the **Manage Accounts** window.

Regional and language options

The keyboard language options are preset at the factory. Should you need to make a change, the keyboard language selection is made through the **Region and Language** selection in the control panel. From this program, you can select the type of keyboard you are using as well as the layout/ Input Method Editor (IME) settings.

| 🐓 Region and Language | • |
|-------------------------------|-------------------------------------|
| Formats Location Key | boards and Languages Administrative |
| Format: | |
| English (United State | s) 🗸 |
| Date and time form | ats |
| Short date: | M/d/yyyy 👻 |
| Long date: | dddd, MMMM dd, yyyy |
| Short time: | h:mm tt |
| Long time: | h:mm:ss tt |
| First day of week: | Sunday |
| What does the nota | tion mean? |
| Examples | |
| Short date: | 10/15/2010 |
| Long date: | Friday, October 15, 2010 |
| Short time: | 6:14 PM |
| Long time: | 6:14:29 PM |
| <u>Go online to learn abo</u> | Additional settings |
| | OK Cancel Apply |

Administrative tools

To gain access to the available administrative tools:

Click the Administrative Tools icon in the Control Panel.

| 🔆 Favorites | Name | Date modified | Туре | Size | |
|-----------------|---|-------------------|----------|------|------|
| 🥅 Desktop | Component Services | 9/30/2010 2:54 PM | Shortcut | | 2 KB |
| 🐌 Downloads | 🛃 Computer Management | 9/30/2010 2:53 PM | Shortcut | | 2 KB |
| 🕮 Recent Places | 🎒 Connection Manager Administration Kit | 9/30/2010 2:53 PM | Shortcut | | 2 KB |
| | Data Sources (ODBC) | 9/30/2010 2:54 PM | Shortcut | | 2 KB |
| 🥽 Libraries | 🛃 Event Viewer | 9/30/2010 2:54 PM | Shortcut | | 2 KB |
| Documents | 🛃 Local Security Policy | 9/30/2010 2:54 PM | Shortcut | | 2 KB |
| 🎝 Music | Performance Monitor | 9/30/2010 2:53 PM | Shortcut | | 2 KB |
| Pictures | 🕞 Print Management | 9/30/2010 2:53 PM | Shortcut | | 2 KB |
| 😸 Videos | 🔊 Scan Management | 9/30/2010 2:53 PM | Shortcut | | 2 KB |
| | 📅 Services for Network File System (NFS) | 9/30/2010 2:54 PM | Shortcut | | 2 KB |
| 🖳 Computer | Services | 9/30/2010 2:53 PM | Shortcut | | 2 KB |
| | 🔂 System Configuration | 9/30/2010 2:54 PM | Shortcut | | 2 KB |
| 📬 Network | 🛞 Task Scheduler | 9/30/2010 2:54 PM | Shortcut | | 2 KB |
| | 🔗 Windows Firewall with Advanced Security | 9/30/2010 2:53 PM | Shortcut | | 2 KB |
| | Windows Memory Diagnostic | 9/30/2010 2:54 PM | Shortcut | | 2 KB |
| | 🚮 Windows PowerShell Modules | 9/30/2010 3:37 PM | Shortcut | | 3 KB |

Wireless network configuration

To add a wireless network:

- 1. Click Control Panel > Network and Sharing Center.
- 2. Select Manage Wireless Network.
- 3. Click Add.
- 4. Select either:
 - Manually Create a Network

or

• Create an AdHoc Network

4 Applications

The latest WES image has the following preinstalled applications:

- Windows Firewall on page 12
- Remote Desktop Connection (RDC) on page 12
- Microsoft Internet Explorer on page 13
- Windows Media Player on page 14
- Windows Embedded Standard 7 P specific features on page 14
- PDF Complete on page 13

Additional applications in the form of add-ons are provided and can be downloaded from the HP website.

Check the HP support site for these applications or for other important updates or documentation: <u>http://www.hp.com/support</u>. Select the country/region from the map, then select **Product Support & Troubleshooting** or **Drivers & Software**. Type the digital signage player model in the field and click **Search**.

Windows Firewall

The HP WES 7 image includes the Windows Firewall.

To configure firewall settings:

▲ Select Control Panel > Windows Firewall.

For more detailed information about the firewall, visit http://www.microsoft.com/.

Remote Desktop Connection (RDC)

Use the Remote Desktop Connection dialog box to establish connections to a Windows Terminal Server or to access remote applications using Microsoft RDP.

Refer to the Microsoft website for documentation that offers a detailed explanation and instructions on how to use the Microsoft RDC dialog box.

Click Start > All Programs > Accessories > Remote Desktop Connection.

| 😼 Remote D | esktop Connection | | |
|-------------------|------------------------------|-----------------------|--------------|
| | Remote Deski Connectio | top n | |
| <u>C</u> omputer: | Example: computer fabri | kam.com | • |
| User name: | None specified | | |
| The compute name. | r name field is blank. Enter | a full remote compute | r |
| Show Q | ptions | Connect | <u>H</u> elp |

PDF Complete

PDF Complete Special Edition enables you to view, search, and print existing PDF documents and to copy to the clipboard.

For more information on this application, go to http://www.pdfcomplete.com.

Microsoft Internet Explorer

The Microsoft Internet Explorer browser is installed locally on the digital signage player.

Internet Explorer has more control over the execution of all content, including a built-in facility to manage pop-up windows. Furthermore, Internet Explorer now prevents scripts from moving or resizing windows and status bars to hide them from view or obscure other windows and includes a block unsafe file transfers feature. For more information, see http://support.microsoft.com/kb/291369.

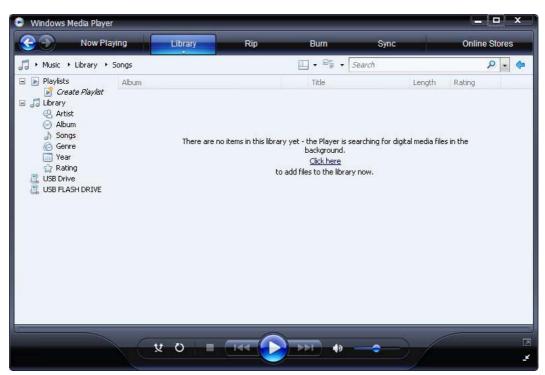
NOTE: To downgrade from Internet Explorer 9 to Internet Explorer 8, simply uninstall Internet Explorer 9. Internet Explorer 8 does not need to be installed.

- 1. Log on as Administrator.
- 2. Open Control Panel > Programs and Features.
- 3. Click View installed updates in the left pane.
- 4. Scroll down to the Microsoft Windows section.
- 5. Right-click Windows Internet Explorer 9, and click Uninstall.
- 6. When prompted, click Yes.
- 7. Reboot.

For more information, see the Microsoft website: <u>http://windows.microsoft.com/en-US/windows7/how-do-i-install-or-uninstall-internet-explorer-9</u>.

Windows Media Player

The Windows Media Player contains security, performance, and functionality improvements. For more information about improvements to Windows Media Player, refer to the Windows Media Player home page at http://windows.microsoft.com/en-US/windows/products/windows-media-player.



Windows Embedded Standard 7 P specific features

- Anti-malware/defender
- Tablet/touch
- Photo viewer
- Direct access
- Branchcache
- Enterprise search scopes
- Applocker
- Remote media streaming
- Snipping tool
- Sticky notes

For detailed information, see the Microsoft website: <u>http://www.microsoft.com/windowsembedded/en-us/develop/windows-embedded-standard-7-os-components.aspx</u>.

5 Control panel extended selections

The control panel is accessed by selecting **Start > Control Panel**.

| Control Panel + All Cont | trol Panel Items 🔸 | ◄ 4→ Search Control Panel |
|-------------------------------------|-----------------------------------|---|
| Adjust your computer's settings | | View by: Small icons 💌 |
| 🏲 Action Center | administrative Tools | AutoPlay |
| 💶 Color Management | Configuration Manager | Credential Manager |
| Pate and Time | 🝘 Default Programs | 📑 Desktop Gadgets |
| Device Manager | Devices and Printers | 🜉 Display |
| Ease of Access Center | Folder Options | 🔣 Fonts |
| HomeGroup | HP Local USB Storage Security | ₩ ⁹ HP Logon Manager |
| See HP RAMDisk Manager | HP ThinState Capture | HP Write Filter Configuration |
| 🔒 Indexing Options | Maintel(R) Graphics and Media | 💮 Internet Options |
| Keyboard | I Mouse | 💱 Network and Sharing Center |
| Real Notification Area Icons | Performance Information and Tools | Personalization |
| Phone and Modem | Power Options | Program Download Monitor |
| Programs and Features | 🔗 Region and Language | 19 Remote Control |
| S RemoteApp and Desktop Connections | Run Advertised Programs | 🛋 Sound |
| SRS Audio Control Panel | 1 System | Taskbar and Start Menu |
| Troubleshooting | & User Accounts | 3 Windows CardSpace |
| Windows Defender | Windows Firewall | Windows Update |

Write filters

Choosing the write filter

HP Windows Embedded Standard digital signage players include both the Enhanced Write Filter (EWF) and the File-based Write Filter (FBWF) to protect the operating system.

The writer filter is disabled by default.

TIP: Choose the Enhanced Write Filter to protect an entire partition from writes, or choose the Filebased Write Filter to allow specific local applications and files to be updated dynamically.

To select the EWF or FBWF, perform the following steps:

- 1. Log on as an Administrator.
- 2. Select Start > Control Panel > HP Write Filter Configuration.
- 3. Select and configure the desired write filter.
- 4. Reboot the system for the chosen write filter selection and configuration to take effect.

Enhanced Write Filter Manager

WES includes the Enhanced Write Filter (EWF) console application command-line tool, ewfmgr.exe. In addition to the DOS command-line tool, the WES image includes an Enhanced Write Filter GUI. The EWF allows the operating system (OS) to boot from a disk volume residing on any read-only media or write-protected hard drive while appearing to have read/write access to the OS. The EWF saves all writes to another storage location called an overlay. Changes made to the overlay will not be committed to the flash memory or hard drive unless the EWF has been disabled or the user performs an intentional commit.

The EWF manager console application can be used to issue a set of commands to the EWF driver, report the status of each protected volume overlay, and report the format of the overall EWF configurations.

By including the EWF manager console application component in the configuration and building it into the run-time image, you enable the use of ewfmgr.exe and the corresponding commands.

Benefits of the Enhanced Write Filter

The EWF provides a secure environment for digital signage player computing. It does this by protecting the digital signage player from undesired writes. For the MP4 unit, the write filter also extends the life of the digital signage player by preventing excessive flash write activity. It gives the appearance of read-write access to the flash by employing a cache to intercept all flash writes and returning success to the process that requested the I/O.

The intercepted flash writes stored in cache are available as long as the digital signage player remains active, but they will be lost when the digital signage player is rebooted or shut down. To preserve the results of writes to the registry, the contents of the cache can be transferred to the flash on demand or manually using the Enhanced Write Filter Manager.

After the write filter has been disabled, all future writes during the current boot session are written to the storage device, with no further caching until a reboot occurs. The write filter may also be enabled/ disabled through the command line. Always enable the writer filter after all of the permanent changes have been successfully made.

The EWF is a powerful tool for any digital signage player environment by preventing unauthorized users from altering or damaging the image.

Enhanced Write Filter status service

This service creates an icon in the system tray that shows the status of EWF. The EWF Status icon will appear as a red 'lock' when disabled, a green 'lock' when enabled, and a yellow 'lock' when the state is set to change on the next boot.

| | Enable EWF(E) Disable EWF(D) Commit EWF(C) Clear Command(L) | 0:20 AM | |
|---------------------|--|----------|--|
| Status | Description | Example | |
| Red | Disabled | 1 | |
| Green | Enabled | } | |
| Yellow | Commit Mode | 3 | |
| Yellow with Red 'X' | Write Filter Corrupted | × | |

NOTE: In the event of a corrupted EWF state, you may be able to correct this by issuing the command 'rundll32 c:\windows\system32\ewfdll.dll,ConfigureEwf' from an Administrator's command prompt (type the command exactly as shown without the quotes) and reboot. If this is unsuccessful, you will need to re-flash the digital signage player unit with the standard factory image provided on the web.

If you are logged-on as Administrator, you can change the status of EWF by right-clicking on the icon and selecting the desired EWF state.

NOTE: Since EWF Manager console utility (ewfmgr.exe) and the EWF status service execute separate code, any status changes by ewfmgr.exe will not be automatically reflected by the EWF status icon.

To refresh the status icon after modifying EWF through ewfmgr.exe, you must right-click on the icon (you can then click anywhere on the screen to close the context menu). However, any operations made through the EWF status icon menu will be visible through the EWF Manager console application. Status and changes to the Enhanced Write Filter will be synchronized between the EWF status icon and the EWF Manager control panel applet.

Enhanced Write Filter GUI

The EWF GUI (part of the HP Write Filter Configuration) can be accessed through the control panel or the Administrative Tools option only by the administrator.

| Protected Volume Name: | | \Device\HarddiskVolume1 | | |
|------------------------|------------|--|--|--|
| Protected Volume ID: | FC | 7D FC 7D 00 7E 00 00 00 00 00 00 00 00 00 00 0 | | |
| State: | Enabled | Overlay Configuration | | |
| Overlay Type: | RAM | _ | | |
| Boot Command: | No Command | Commit Data to Volume | | |
| Data Size: | 2559308 | Clear Boot Command | | |
| Mapping Data Size: | | | | |
| Clump Size: | 512 By | tes | | |

To access the EWF GUI, perform the following steps:

- 1. Log on as an administrator.
- 2. Select Start > Control Panel > HP Write Filter Configuration >.
- 3. Click the EWF Manager icon.
- 4. Use the EWF GUI to select the Write Filter options.

EWF GUI Buttons

The current version of the EWF GUI includes the following buttons:

| Button | Description |
|--------------------------|--|
| Overlay Configuration | This button simply brings to view the Overlay information and is a combination of the information supplied when executing ewfmgr.exe c: -Description and ewfmgr.exe c: -Gauge from the DOS prompt. |
| Clear Boot Command | This button is the same as executing ewfmgr.exe c: -NoCmd from the DOS prompt. |
| Commit Data to Volume | This button is the same as executing ewfmgr.exe c: -Commit from the DOS prompt. |

NOTE: When using the Commit boot command, all the temporary contents will be permanently written to the flash memory or hard disk. In addition, all content accessed (and changes made) after running Commit, but before rebooting the system, will be written as well. This includes changes made during any number of login/logout sessions before the next reboot.

DOS command-line tool boot commands

| Boot Command | Description |
|------------------|--|
| All | Displays information about all protected volumes and performs a command, such as Disable , Enable , and Commit , on each volume if specified. |
| Commit | Commits all current level data in the overlay to the protected volume and resets the current overlay level to 1 upon shutdown. |
| Disable | Allows user to write to the image after the next reboot. |
| Enable | Prevents the user from writing to the image after the next reboot. |
| Commitanddisable | Combination of the Commit and Disable commands. This command will commit data in the overlay upon shutdown. Additionally, EWF will be disabled after the system reboots. |

The following table lists the EWF boot commands that are supported.

NOTE: When using the Commit boot command, all the temporary contents will be permanently written to the flash memory or hard disk. In addition, all content accessed (and changes made) after running Commit, but before rebooting the system, will be written as well. This includes changes made during any number of login/logout sessions before the next reboot.

Using boot commands

To use the EWF manager boot commands, type the following syntax in a command prompt:

EWFMGR <drive-letter> -[boot command].

NOTE: Because the EWF manager commands are executed on the next boot, you must reboot the system for the command to take effect.

File-Based Write Filter Manager

WES includes the File-Based Write Filter (FBWF) console application command-line tool, fbwfmgr.exe. In addition to the DOS command-line tool, the WES image includes a write filter GUI.

Benefits of the File-Based Write Filter

The FBWF provides a secure environment for digital signage player computing. It does this by protecting the digital signage player from undesired writes. For the MP4 model, the write filter also extends the life of the digital signage player by preventing excessive flash write activity. It maintains the appearance of read and write access to write-sensitive or read-only storage to the operating system, making read and write access transparent to applications. File and/or folder exclusions can be configured to allow certain changes to persist, while preventing others from writing to disk.

File-Based Write Filter Status Service

This service creates an icon in the system tray that shows the status of FBWF. The FBWF status icon will appear as a red 'lock' when disabled and a green 'lock' when enabled.

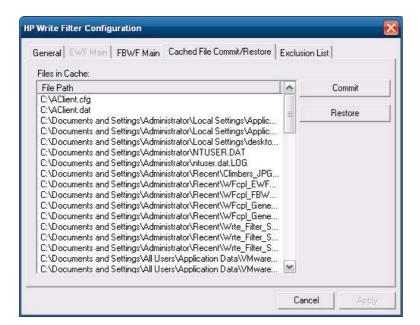
| | Enable FBWF(F) Disable FBWF(D) Clear Command(L) | 0:41 AM | |
|---------------------|---|---------|--|
| Status | Description | Example | |
| Red | Disabled | 1 | |
| Green | Enabled | 0 | |
| Yellow | Commit Mode | 3 | |
| Yellow with Red 'X' | Write Filter Corrupted | X | |

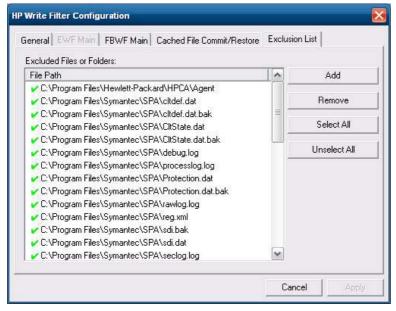
If you are logged on as Administrator, you can change the status of FBWF by right-clicking on the icon and selecting the desired FBWF status.

File-Based Write Filter GUI

The FBWF GUI (part of the HP Write Filter Configuration) can be accessed through the control panel or the Administrative Tools option only by the administrator.

| Enhanced Write Filte | er (EWF) | | | |
|--|---|--|--|--|
| EWF protects the run | n-time image from wr | ites | | |
| C Enable EWF | Tunio mega | | | |
| | | | | |
| File Based Write Filte | | vrites, while allowing spe | cific applicati | on |
| and system files to be | | | one oppress. | |
| Enable FBWF | | | | |
| Vrite Filter Configurati | on | | Cancel | Apply |
| | ana se | ile Commit/Restore Ex | | Apply |
| eneral EWF Main FBV | /F Main Cached F | | clusion List (Currer | nt / Next) |
| eneral EWF Main FBV Protected Volume: | /F Main Cached F C: | — State: | clusion List (Currer Enabled | nt / Next) / Enabled |
| eneral EWF Main FBV Protected Volume: Current Cache Usage: | /F Main Cached F C: 3MB used | State: Threshold Size: | clusion List (Currer Enabled 64MB | nt / Next) / Enabled / 64MB |
| Write Filter Configuration eneral EWF Main Protected Volume: [] Current Cache Usage: [] Compression Status: [] Pre-allocation Status: [] | /F Main Cached F C: 3MB used Disabled | State: Threshold Size: RAM for FBWF Ca Usage (MB): | clusion List (Currer Enabled 64MB che | nt / Next) / Enabled / 64MB 64 : |
| eneral EWF Main FBV Protected Volume: | /F Main Cached F C: 3MB used | State: Threshold Size: RAM for FBWF Ca Usage (MB): | clusion List (Currer Enabled 64MB | nt / Next) / Enabled / 64MB 64 : |
| eneral EWF Main FBV Protected Volume: [Current Cache Usage: [Compression Status: [Pre-allocation Status: [.ow Memory Message 1: F | /F Main Cached F C: 3MB used Disabled Enabled | State: Threshold Size: RAM for FBWF Ca Usage (MB): Set Cao | clusion List (Currer Enabled 64MB che che Threshol | nt / Next) / Enabled / 64MB 64 : |
| eneral EWF Main FBV Protected Volume: Current Cache Usage: Compression Status: Pre-allocation Status: Cow Memory Message 1: F Message is displayed: Cow Memory Message 2: F | /F Main Cached F C: 3MB used Disabled Enabled Percentage of Cache Percentage of Cache | State: Threshold Size: RAM for FBWF Ca Usage (MB): Set Cac e used before Low Memo | clusion List (Currer Enabled 64MB che che the Threshol | nt / Next) / Enabled / 64MB 64 ÷ |
| eneral EWF Main FBV Protected Volume: Current Cache Usage: Compression Status: Pre-allocation Status: | /F Main Cached F C: 3MB used Disabled Enabled Percentage of Cache system into reboot: | State: Threshold Size: RAM for FBWF Ca Usage (MB): Set Cac e used before Low Memo | clusion List (Currer Enabled 64MB che che the Threshol | nt / Next) / Enabled / 64MB 64 ÷ d |





6 Administration and image upgrades

This section highlights and discusses the Remote Administration capabilities and firmware upgrade methods applicable to the digital signage player.

HP Digital Signage Player Imaging Tool

The HP Digital Signage Player Imaging Tool is part of the SoftPaq deliverable that contains the original factory image for the HP digital signage player. You can use this utility to restore the original factory image to the digital signage player.

This utility allows you to perform the following options:

- Create a bootable image on a USB flash device (such as on a disk on key)
- Unbundle the image to a directory for use in a custom deployment scenario or PXE image

For additional information about this utility and its uses, visit the HP website at <u>http://www.hp.com/</u> <u>support</u>. Select the country/region from the map, then select **Product Support & Troubleshooting**. Type the digital signage player model in the field and click **Search**.

Index

A

accounts creating user 8 user 8 administration 23 Administrative Tools 11 administrator desktop 3 logon 5 applications 12 automatic logon 4

С

changing the password 5 control panel 15 creating user account 8

D

default passwords 5 desktop 2 desktop administrator 3 desktop, user 2 Digital Signage Player Imaging Tool 23 drive C 8 drives 8 drive C and flash 8

E

Enhanced Write Filter Manager 16 extended selections, control panel 15

F

features, digital signage player 2 File-Based Write Filter Manager 19

filter write 16, 19 write filters 6 flash drive 8

Н

HP Digital Signage Player Imaging Tool 23HP support website, 12HP updates 1

L

image upgrades 23 imaging tool 23 information, websites 1 internet 2 Internet Explorer 13 Internet Explorer unsafe file list 13

L

language options 10 local drives 8 log on as Administrator 5 logging off 6 logon automatic 4 manual 5 Logon Configuration Manager 4

Μ

manual logon 5 Media Player 14 Microsoft Internet Explorer 13 Microsoft Internet Explorer unsafe file list 13 multimedia 2

N

network, wireless 11

Ρ

password 5 password, changing 5 PDF Complete 13 preinstalled applications 12 profiles 9

R

regional language options 10 Remote Desktop Connection 12 restarting 6

S

security 2 shutting down 6 system time 6

Т

time utility 6

U

unsafe file list for Internet Explorer 13 Updates 1 upgrades 23 user accounts 8 profiles 9 User Accounts 9 user desktop 2 utilities 9 Digital Signage Player Imaging Tool 23 system time 6 utilities, User Accounts 9

W

web site more information 1 website HP support 12 WES 2 Windows Media Player 14 WES 7 P features 14 WES website 2 Windows Media Player 14 Windows Media Player website 14 wireless network configuration 11 write filter 16, 19 write filters 6, 16