



# Windows Embedded 8 Standard on HP Thin Clients

## Administrator Guide

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Fifth Edition: December 2015

First Edition: May 2013

Document Part Number: 720806-005

## About this guide

Command-line syntax in this guide might use one or more of the elements described in the following table.

Element	Description
<i>Variable</i>	<p>Italicized text denotes placeholders for user-defined variables.</p> <pre>location=<i>IpAddress</i>: <i>Port</i></pre> <p>For the above parameter, you would input something similar to the example shown below:</p> <pre>location=192.168.0.10:12345</pre>
[ ]	<p>Parameters enclosed in square brackets are optional.</p> <pre>location=<i>IpAddress</i>[ : <i>Port</i>]</pre> <p>For the above parameter, you could input something similar to one of the examples shown below:</p> <pre>location=192.168.0.10</pre> <pre>location=192.168.0.10:12345</pre> <p><b>NOTE:</b> A parameter is mandatory if it is not enclosed in square brackets.</p>
{     }	<p>Braces and vertical bars denote where you must choose only one of the options.</p> <pre>speed={high medium low}</pre> <p>For the above parameter, you would input one of the following:</p> <pre>speed=high</pre> <pre>speed=medium</pre> <pre>speed=low</pre>
" "	<p>Double quotes and single quotes must not be omitted.</p>
' '	<pre>location="'192.168.0.10' '12345'"</pre> <p>The above parameter demonstrates nested strings, for which you would input the double quotes and single quotes along with the other text.</p>
...	<p>An ellipsis denotes where a parameter could be repeated multiple times and can be used in conjunction with square brackets to show that the repetition is optional.</p> <pre>devicenames=Computer1 [Computer2...]</pre> <p>For the above parameter, you would input a minimum of one computer name, and you could optionally specify an infinite number of additional computer names.</p>



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# 1 Activating the operating system

- **Internet:** Connect the thin client to the Internet so the operating system will activate automatically.  
– or –
- **Telephone:** Display the charms, select **Settings**, select **Change PC settings**, select **Activate Windows**, select **Activate by phone**, and then follow the on-screen instructions.  
– or –
- **Proxy server:** Configure a proxy server to activate multiple thin clients. For more information, see the *Proxy activation* section of *Managing Activation Using the Volume Activation Management Tool (VAMT)* at [http://technet.microsoft.com/en-us/library/ff686876.aspx#\\_Toc254001283](http://technet.microsoft.com/en-us/library/ff686876.aspx#_Toc254001283).



**NOTE:** The operating system must be activated for full functionality. You do not need to disable Unified Write Filter (UWF) to activate the operating system.

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## 2 Getting started

This guide is for administrators of HP thin clients based on the Windows® Embedded 8 Standard operating system. It is assumed you are using the latest image provided by HP for your thin client models and that you will log on to Windows as an administrator when making system configurations or using administration tools as discussed in this guide.

### Finding more resources

The information in this guide provides a basic overview of features specific to HP thin clients. See the following table to locate additional information, as well as image updates, software updates, and add-ons.

Resource	Contents
HP support website <a href="http://www.hp.com/support">http://www.hp.com/support</a>	Image updates, software updates, and add-ons  ▲ Search for the thin client model, and then see the <b>Download options</b> section of the support page for that model.  Documentation for HP software and hardware  ▲ Search for the thin client model, and then see the <b>Manuals</b> section of the support page for that model.  <b>NOTE:</b> HP Device Manager and HP Remote Graphics Software each have a dedicated support page, so search for the application name instead, and then see the <b>Manuals</b> section.
HP thin client software and operating system website <a href="http://www8.hp.com/us/en/thin-clients/software-and-os.html">http://www8.hp.com/us/en/thin-clients/software-and-os.html</a>	General information about various HP thin client software and operating system products  <b>NOTE:</b> This information might be available in English only.
Microsoft support website <a href="http://support.microsoft.com">http://support.microsoft.com</a>	Documentation for Microsoft software
Citrix support website <a href="http://www.citrix.com/support">http://www.citrix.com/support</a>	Documentation for Citrix software
VMware support website <a href="http://www.vmware.com/support">http://www.vmware.com/support</a>	Documentation for VMware software



# Logging on to Windows

There are two user accounts by default:

- **Administrator**—Allows you to make permanent system configurations, such as user account management or software program installations
- **User**—Cannot make permanent changes to the system and is for end-user operation

The User account logs on automatically when Windows starts, so you must switch to the Administrator account manually using the default password `Administrator`.

To switch back to the User account, use the default password `User`.



**NOTE:** User account passwords are case sensitive. HP recommends changing the passwords from their default values. For more information about user accounts, including how to change a password, see [Managing user accounts on page 9](#).

## Finding administration tools in Control Panel

Most of the administration tools referenced in this guide can be found in Control Panel. Use any of the following methods to open Control Panel:

- ▲ Traditional desktop: Display the charms, select **Settings**, and then select **Control Panel**.

Start screen: Type `Control Panel`, and then select **Control Panel** when it appears in the search results.

Both: Right-click in the bottom-left corner of the desktop and select **Control Panel** from the menu.

You must view Control Panel as icons (not as categories) to find most tools mentioned in this guide.

## Local drives

There are two local drives by default:

- **C:** (flash drive)—This is the physical drive where the operating system and software are installed. This drive is protected by Unified Write Filter (see [Unified Write Filter on page 4](#)).



**CAUTION:** The system might become unstable if the free space on the flash drive drops below 10%.

- **Z:** (RAM drive)—This is a virtual drive created using RAM. This drive behaves like a physical drive, but it is created at system startup and destroyed at system shutdown.



**IMPORTANT:** For software programs that cache temporary files, you should configure those programs to cache on the Z: drive to reduce the amount of write operations to the C: drive. The following items are stored on the Z: drive by default:

- Temporary user, system, and print spooling files
- Temporary Internet files (copies of websites and media saved for faster viewing)
- Website cookies, caches, and databases (stored by websites to save preferences or improve website performance)
- Browsing history

For information about configuring the size of the Z: drive, see [HP RAMDisk Manager on page 14](#).

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## 3 Unified Write Filter

Unified Write Filter (UWF) is a software tool that protects the contents of and decreases wear on the flash drive of a thin client by redirecting and caching writes in an overlay, which is a virtual storage space in RAM that tracks changes to a protected volume (the flash drive). The user experience in Windows is unaffected because the operating system maintains the appearance of writing to the flash drive. When a system restart occurs, the overlay cache is cleared, and any changes made since the last system startup are lost permanently. If it is necessary to make permanent system configurations, an administrator can commit (persist by writing through to the protected volume) changes stored in the overlay cache prior to a system restart.



**NOTE:** The overlay cache is cleared only by a system restart, so users can log out or switch between user accounts without losing the cached information.

UWF allows you to manage on a per-file basis, so you can immediately (without a system restart) commit files individually or restore files to their previous state from the underlying volume by discarding the changes. You can also exclude files from protection so that changes to them are always written directly to the flash drive. However, you cannot commit the entire UWF overlay cache in a single command.



**CAUTION:** HP highly recommends proper write filter usage for standard thin client use cases. Proper usage includes making sure the write filter is enabled during end-user (non-administrator) operation and is disabled only temporarily by an administrator needing to make changes to the system. The write filter should be re-enabled as soon as the changes are completed.

HP further recommends never enabling the Windows Page File feature unless the system is configured with a flash drive that has a capacity sufficient for the high volume of writes this feature produces. The use of the Windows Page File feature with low-capacity flash drives will result in premature wearing of the flash drive, decreased performance, and a decrease in the lifespan of the thin client.

If your use case requires non-standard write filter usage, please contact HP to ensure that your thin clients are configured properly.

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# UWF management overview










There are three tools you can use to manage UWF: a notification icon, a GUI-based tool in Control Panel, and a command-line tool. Some commands can be performed using any of the tools, but other commands might be exclusive to one or two of the tools.

## Notification icon

The UWF notification icon is located in the Windows notification area. The following commands can be executed by right-clicking the notification icon and selecting the desired option:

- **Enable**—Enables UWF (requires a system restart)
- **Disable**—Disables UWF (requires a system restart)
- **Clear Command**—Clears the previously-set boot command (such as Enable or Disable)

The following table describes the possible states of the UWF notification icon.

Icon	Description
	UWF is enabled, and no boot command is set.
	UWF will be disabled (requires a system restart)
	UWF is disabled, and no boot command is set.
	UWF will be enabled (requires a system restart)
	The memory usage of the UWF overlay cache has reached a warning level.
	The memory usage of the UWF overlay cache has reached a warning level, and UWF will be disabled (requires a system restart)
	The memory usage of the UWF overlay cache has reached a critical level.
	The memory usage of the UWF overlay cache has reached a critical level, and UWF will be disabled (requires a system restart)
	UWF is corrupted.

## HP Unified Write Filter Configuration

HP Unified Write Filter Configuration is a GUI-based tool for managing UWF. To open this tool:

- ▲ Double-click the notification icon.

– or –

In the Control Panel, select **HP Unified Write Filter Configuration**.

The tasks you can perform in this tool include the following:

- Disable or enable UWF (requires a system restart)
- View information about UWF and the overlay cache
- Enable or disable UWF Servicing Mode



**NOTE:** For more information about UWF Servicing Mode, go to [http://msdn.microsoft.com/en-us/library/jj963342\(v=winembedded.81\).aspx](http://msdn.microsoft.com/en-us/library/jj963342(v=winembedded.81).aspx).

- Edit the exclusion list to add or remove files and folders (requires a system restart)
- Set the overlay cache threshold (requires a system restart)
- Set the percentage of cache usage at which warning and critical messages each display
- Set the delay for an automatic system restart that occurs when a critical state is reached

## Command-line tool


The following table describes common-line options for UWF.


UWF command	Description
<code>uwfmgr filter disable</code>	Disables UWF (requires a system restart)
<code>uwfmgr filter enable</code>	Enables UWF (requires a system restart)
<code>uwfmgr.exe file commit <i>FilePath</i></code>	Commits the specified file immediately
<code>uwfmgr.exe file add-exclusion <i>FilePath</i></code>	Adds the specified file to the exclusion list (requires a system restart)
<code>uwfmgr overlay set-size <i>SizeInMB</i></code>	Sets the overlay cache threshold in MB (requires a system restart)

For more information and a full list of commands, go to [http://msdn.microsoft.com/en-us/library/jj979579\(v=winembedded.81\).aspx](http://msdn.microsoft.com/en-us/library/jj979579(v=winembedded.81).aspx).

# Making permanent system configurations

The following table describes the possible methods for making permanent system configurations.

 **CAUTION:** HP strongly recommends using method 1 in most situations.

Method 1	Method 2	Method 3
<ol style="list-style-type: none"><li>1. Disable UWF.</li><li>2. Restart the thin client.</li><li>3. Make the necessary configurations.</li><li>4. Enable UWF.</li><li>5. Restart the thin client.</li></ol>	<ol style="list-style-type: none"><li>1. Make the necessary configurations.</li><li>2. Commit individual cached files. The action takes effect immediately.</li></ol>	 Use the HP Unified Write Filter Configuration tool or the command line to add files or folders to the exclusion list, and then restart the thin client.

See the following sections for more information about performing these various tasks:

- [Disabling or enabling UWF on page 7](#)
- [Committing changes to the flash drive on page 7](#)
- [Adding files and folders to the exclusion list on page 8](#)

## Disabling or enabling UWF


The following table describes the possible methods for disabling or enabling UWF.

Method 1	Method 2	Method 3
<ol style="list-style-type: none"><li>1. Right-click the notification icon and select the desired state.</li><li>2. Restart the thin client.</li></ol>	<ol style="list-style-type: none"><li>1. Open the HP Unified Write Filter Configuration tool.</li><li>2. On the <b>General</b> panel, select an option to set the desired state.</li><li>3. Restart the thin client.</li></ol>	<ol style="list-style-type: none"><li>1. Use the command line to set the desired state.</li><li>2. Restart the thin client.</li></ol>

**TIP:** Method 1 is the quickest way to disable or enable UWF.

## Committing changes to the flash drive

To commit changes to the flash drive:




-  Use the command line to commit individual files. The action takes effect immediately.

## Adding files and folders to the exclusion list

The following table describes the possible methods for adding files and folders to the exclusion list.

Method 1	Method 2
<ol style="list-style-type: none"><li>1. Open the HP Unified Write Filter Configuration tool and select the <b>File Exclusion List</b> tab.</li><li>2. Select the <b>Add</b> button to add an item to the exclusion list (repeat as necessary).</li><li>3. Restart the thin client.</li></ol>	<ol style="list-style-type: none"><li>1. Use the command line to add an item to the exclusion list (repeat as necessary).</li><li>2. Restart the thin client.</li></ol>
<b>CAUTION:</b> Changes to items in the exclusion list are always written directly to the flash drive, so keep the exclusion list to a minimum.	
<b>NOTE:</b> Items can be removed from the exclusion list using either the HP Unified Write Filter Configuration tool or the command-line option (requires a system restart).	

The following table describes the icons used for the exclusion list in the HP Unified Write Filter Configuration tool.


Icon	Description
	The item is excluded.
	The item will be added to the exclusion list (requires a system restart).
	The item will be removed from the exclusion list (requires a system restart).

## Clearing the boot command

To clear the boot command:

- ▲ Right-click the notification icon and select **Clear Command**.

## Registry filtering


-  **CAUTION:** The UWF tool by Microsoft provides registry-filtering functionality, which includes the ability to add registry keys to a registry exclusion list and to commit individual registry keys. However, documentation about the registry filter is limited, and due to the complexity of Windows, dependencies are not always clear. Although the HP Unified Write Filter Configuration utility provides a GUI for easy access to the registry exclusion list, HP does **NOT** support or recommend using the registry filtering capabilities of UWF. Usage of this functionality is **at your own risk**.

---

## 4 Configuration

### Managing user accounts

The User Accounts tool allows you to manage most aspects of the default User and Administrator accounts, as well as create additional user accounts.

 **IMPORTANT:** Due to space constraints on the flash drive, keep the number of user accounts to a minimum.


To open the User Accounts tool:

- ▲ In Control Panel, select **User Accounts**.

### Changing a password


To change the password for a user account:

- ▲ Display the charms, select **Settings**, select **Change PC settings**, select **Users**, and then select **Change your password**.


 **NOTE:** Passwords cannot be changed without administrator privileges.

### Creating additional user accounts

Use the User Accounts utility to create new user accounts. A newly-created account is a member of the local Users group automatically, but to match the default User account, you must add the new account to the Power Users group. Otherwise, the new user will not be able to add a local printer.

 **NOTE:** For information about configuring a specific user account to log on automatically at system startup, see [HP Logon Manager on page 14](#).

A new user account has a user profile based on a default template. A user profile contains configuration information for a user account, such as desktop settings, network connections, and program settings. A user profile can either be **local** (specific to a thin client) or **roaming** (server-based and accessible from multiple different thin clients).

 **NOTE:** Local copies of roaming profiles should be written to the C: drive, which must have sufficient free space for them to work. Roaming profiles are not retained when the system restarts.

### Disabling wireless functionality

If you need to disable wireless functionality on the system, follow these steps:

1. In the Control Panel, select **Network and Sharing Center**.
2. In the Network and Sharing Center, select **Change adapter settings**.
3. In the list of network connections, right-click (or tap and hold) the item associated with the wireless adapter, and then select **Disable**.

## Configuring the system date and time settings

The **Windows Time** service is set to **Manual (Trigger Start)**. By default, this service attempts to synchronize with the Microsoft time server (time.windows.com) every seven days. If the thin client is joined to a domain, this service tries to sync its time with an available DC or an NTP server, if one is available.

The Date and Time tool in Control Panel allows you to set the system date and time manually. To open this tool:

- ▲ In the Control Panel, select **Date and Time**.



**TIP:** You can access this tool also using the clock in the Windows notification area.

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## Installing large applications

When installing large applications, it might be necessary to temporarily change some environmental variables to point to the C: drive instead of the Z: drive. The Z: drive might be too small to install some large applications.

To change the environmental variables:

1. At the Start screen, type **Computer**.
2. Right-click **Computer** and select **Properties**.
3. Select **Advanced system settings**, and then select **Environmental Variables**.
4. Change the value of the TEMP and TMP variables to `C:\Temp`.



**NOTE:** Create this folder ahead of time if necessary.

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**IMPORTANT:** Be sure to change the environmental variables back to their original values after installing the applications.

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## 5 Remote desktop software

### Citrix Receiver

Citrix Receiver is used when Citrix Presentation Server, XenApp, or XenDesktop is deployed with Web Interface. Citrix Receiver enables icons to be placed on the Windows desktop for the seamless integration of published applications.

To open Citrix Receiver:

- ▲ At the Start screen, type `Citrix`, and then select **Citrix Receiver** from the search results.

### Enabling single sign-on for Citrix Receiver

1. Uninstall the preinstalled Citrix Receiver.
2. Download the Citrix Receiver SoftPaq from the HP support website (see [Finding more resources on page 2](#)).
3. Run the SoftPaq to extract the installer for Citrix Receiver to `C:\swsetup`.
4. Enter the following command on the command line to install Citrix Receiver:  
`CitrixReceiver.exe /includeSSON ENABLE_SSON=Yes /silent`
5. Configure the Group Policy settings as necessary.

### Microsoft Remote Desktop Protocol

Use the Remote Desktop Connection tool to establish a Remote Desktop Protocol (RDP) connection.

To open Remote Desktop Connection:

- ▲ At the Start screen, type `Remote`, and then select **Remote Desktop Connection** from the search results.



**NOTE:** If a Windows server is used, a Terminal Services Client Access Licenses (TSCAL) server must also reside somewhere on the network. A Client Access License (CAL) permits a client to use the services provided by the Windows server. The server grants temporary licenses (on an individual device basis) that are good for 90 days. Beyond that, TSCALs must be purchased and installed on the TSCAL server. A client cannot make a connection without a temporary or permanent license.

### VMware Horizon View

VMware® Horizon™ View is an enterprise-class desktop management solution that streamlines the management, provisioning, and deployment of virtual desktops.

To open VMware Horizon View Client:

- ▲ At the Start screen, type `VMware`, and then select **VMware Horizon View Client** from the search results.



**NOTE:** VMware Horizon View Client might not be preinstalled on some HP thin clients. To install VMware Horizon View Client, at the Start screen, type `VMware`, select **Run VMware Horizon View Client Setup**, and then follow the on-screen instructions. Make sure you disable UWF before performing the installation and enable UWF after the installation is complete.

## HP Remote Graphics Software (select thin clients only)

HP Remote Graphics Software (RGS) brings added security, performance, mobility, and collaboration to your workstation deployment. With RGS, you can use a lower-powered desktop, notebook, or thin client to remotely connect to a powerful workstation and use your graphics-intensive workstation programs wherever you go.

Your programs run natively on the remote workstation and take full advantage of its graphics resources. The desktop of the remote workstation is transmitted over a standard network to your local computer using advanced image compression technology specifically designed for digital imagery, text, and high frame rate video applications.

Use RGS Receiver to access the remote desktop being transmitted by RGS Sender. To open RGS Receiver:

- ▲ At the Start screen, type `RGS`, and then select **HP RGS Receiver** from the search results.

For more information, go to <http://www.hp.com/go/rgs> and see the user guide for RGS.

## HP TeemTalk (add-on, select thin clients only)

HP TeemTalk is terminal emulation software that uses the Telnet protocol to support computing on legacy platforms.

To open HP TeemTalk:

- ▲ At the Start screen, type `TeemTalk`, and then select **TeemTalk** from the search results.

For more information, see the user guide for HP TeemTalk.

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## 6 Administration tools



**NOTE:** Some tools might not be preinstalled on certain HP thin clients. See [Finding more resources on page 2](#) for information about downloading add-ons from HP.

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### HP Cloud Connection Manager (select thin clients only)



**IMPORTANT:** HP Cloud Connection Manager has been replaced by HP Easy Shell (see [HP Easy Shell on page 13](#)).

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HP Cloud Connection Manager (HPCCM) is a tool that allows administrators of HP thin clients to configure the automatic launch of virtual desktop clients and connections that initiate when standard users (non-administrators) log on to Windows.

To open HP Cloud Connection Manager:

- ▲ In the Control Panel, select **HP Cloud Connection Manager**.

For more information, see the administrator guide for HP Cloud Connection Manager.

### HP Device Manager

HP Device Manager (HPDM) is a server-based application that provides centralized administration capabilities for HP thin clients. It accesses each thin client through HPDM Agent embedded in the thin client image. Use HPDM to deploy software updates and add-ons.

To open HPDM Agent:

- ▲ In the Control Panel, select **HPDM Agent**.

For more information, see the administrator guide for HP Device Manager.

### HP Easy Shell

HP Easy Shell allows you to configure connections, websites, and applications for kiosk-style deployments of HP thin clients based on Windows® operating systems. You can also customize the kiosk interface that is presented to standard users and enable or disable user access to specific Control Panel settings. The configured environment can be deployed to multiple thin clients using HP Device Manager (HPDM).

Many thin client deployments need to provide either a single- or limited-purpose environment to users, such as an environment for web browsing or remote desktop access. HP Easy Shell simplifies this type of thin client deployment by hiding the standard Windows interface, restricting users to certain applications and functions, and locking down the system against user modification.

For more information, see the administrator guide for HP Easy Shell.

## HP Hotkey Filter (add-on only)

HP Hotkey Filter is a security tool that allows a user to lock and unlock their remote desktop session without affecting the local Windows instance. In many thin client deployments, access to the local Windows desktop and the local Windows file system is not necessary and might be undesirable.


For more information, see the administrator guide for HP Hotkey Filter.

## HP Logon Manager

To configure the thin client to log on to a specific user account automatically:

1. In the Control Panel, select **HP Logon Manager**.
2. In the Windows Logon Configuration dialog box, check the **Enable Autologon** box, type the account credentials and domain name, and then select **OK**.

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 **TIP:** To log on as a different user or as an administrator when automatic logon is enabled, simply log off the current account to return to the Windows logon screen.

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## HP RAMDisk Manager

HP RAMDisk Manager allows you to configure the size of the RAM drive (Z:).


To open HP RAMDisk Manager:

- ▲ In the Control Panel, select **HP RAMDisk Manager**.

By default, the size of the RAM drive is set to the optimal setting of 256 MB. The maximum size that can be set is 512 MB. The minimum is 16 MB. Temporarily increase the size to install software that requires more than 256 MB.

## HP ThinShell (select thin clients only)

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 **IMPORTANT:** HP ThinShell has been replaced by HP Easy Shell (see [HP Easy Shell on page 13](#)).

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HP ThinShell is a client automation tool that enables Kiosk Mode (shell replacement) functionality for standard users (non-administrators).

To open HP ThinShell:


- ▲ In the Control Panel, select **HP ThinShell Configuration**.

For more information, see the administrator guide for HP ThinShell.

# HP ThinState


 **IMPORTANT:** HP ThinUpdate has imaging functionality intended to replace HP ThinState (see [HP ThinUpdate on page 15](#)).

HP ThinState can be used to capture an HP thin client image that can then be deployed to another HP thin client of identical model and hardware.


 **CAUTION:** HP supports performing only up to three HP ThinState capture and deployment cycles based on the same image. Performing more than three cycles might corrupt the image.

To perform an HP ThinState capture:

1. On the thin client you are capturing the image from, make sure the first boot device in the BIOS is set to USB.
2. Disable UWF.
3. Insert a USB flash drive that is greater in size than the onboard flash drive.
4. In the Control Panel, select **HP ThinState Capture**.
5. Follow the on-screen instructions.

 **NOTE:** Windows detects the formatted USB flash drive as a 1 GB drive that uses the FAT32 file system. This is because the USB flash drive is formatted with two partitions. The FAT32 partition contains the boot instructions. A second partition, which uses the NTFS file system, contains the image but is not detected by Windows when you are viewing the drive contents.

Use the USB flash drive to deploy the captured image to another HP thin client of the exact same model and hardware.

 **NOTE:** With HP ThinState Capture, you might be able to capture the image from a larger flash and deploy it to a smaller flash, depending on the size of the captured image.

To perform an HP ThinState deployment:

1. On the thin client you are deploying the image to, make sure the first boot device in the BIOS is set to USB.
2. Insert the USB flash drive that contains the captured image, and then restart the computer.
3. Follow the on-screen instructions.

After you remove the USB flash drive and cycle power to the system, the image will unbundle. Do not interrupt or cycle power to the unit during this process.

# HP ThinUpdate

HP ThinUpdate is an imaging tool that allows you to capture an HP thin client image or download one from HP. The image can be saved to local storage or to a USB flash drive, which can be used to deploy the image.

To open HP ThinUpdate:

- ▲ In the Control Panel, select **HP ThinUpdate**.

For more information, see the administrator guide for HP ThinUpdate.

## HP Unified Write Filter Configuration

See [Unified Write Filter on page 4](#).

## HP USB Port Manager

HP USB Port Manager allows you to manage USB device access on the thin client. Features include the ability to block all USB devices, allow only certain USB devices, and set access to USB mass storage devices as read-only.

To open HP USB Port Manager:

- ▲ In the Control Panel, select **HP USB Port Manager**.

For more information, see the administrator guide for HP USB Port Manager.

## HP USB Storage Local Security Options (select thin clients only)



**IMPORTANT:** HP USB Storage Local Security Options has been replaced by HP USB Port Manager (see [HP USB Port Manager on page 16](#)).

HP provides a tool for enabling or disabling access to USB storage devices. To use this tool:

1. In the Control Panel, select **HP USB Storage Local Security Options**.
2. If you want to enable access to USB storage devices, select **Enable USB Storage Devices**. Optionally select **Read-Only Access to Devices** if you want to disallow writes to USB storage devices.
3. Select **OK**.

## HP Velocity

HP Velocity is a quality of service (QoS) system that dramatically improves the user experience for real-time, networked applications by reducing packet loss on IP-based networks used to carry the application traffic. The HP Velocity client-side component is preinstalled on HP thin clients and works in conjunction with a server-side component.

For more information, see the administrator guide for HP Velocity.

## Microsoft System Center 2012 Configuration Manager

Microsoft System Center 2012 Configuration Manager provides key management capabilities for application delivery, desktop virtualization, device management, and security.



**TIP:** For more information, see the white paper *Administering Windows-based HP Thin Clients with System Center 2012 R2 Configuration Manager SP1*.

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