



HP Smart/Zero Client 4.1.2

Administrator's Guide

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About This Book

 **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.

If you have comments, feedback, or questions about this guide, please e-mail us at tc_software_docs@hp.com.

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1 Quick Start

If you just want to install HP Smart Client Services and get started, this section will guide you through the following:


- [Installing HP Smart Client Services on page 2](#)
- [Booting client on page 3](#)
- [Quick troubleshooting on page 3](#)



NOTE: Microsoft® Internet Information Services (IIS) in Windows® Server and Microsoft .NET Framework 3.5 must be installed before you install HP Smart Client Services. For information on installing IIS, visit <http://www.microsoft.com>. If you have internet access, the HP Smart Client Services installation wizard offers to install the .NET Framework 3.5 for you. If you do not have internet access, you must manually install the Microsoft .NET Framework 3.5. Download Microsoft .NET Framework 3.5 from the Microsoft website at <http://www.microsoft.com/downloads/en/details.aspx?FamilyId=333325fd-ae52-4e35-b531-508d977d32a6&displaylang=en>.

Installing HP Smart Client Services

Standard installation

 **NOTE:** Microsoft IIS and Microsoft .NET Framework 3.5 must be installed before you install HP Smart Client Services.

1. Download HP Smart Client Services from HP.com.
2. Double-click `HPSmartClientService_ version number.exe` to launch the HP Smart Client Services installation wizard.

The **InstallShield Wizard** dialog box appears.

3. Select the language and click **OK**.

The **Welcome to the InstallShield Wizard for HP Smart Client Service** dialog box appears.

4. Click **Next** to continue.

The **Setup Type** page opens.

5. Select **Complete** setup type, and click **Next**.
6. Select a connection type, and then click **Next** to continue.
7. Type the server URL in the field and click **Next**.

The **Select Features** page opens.

8. Check the appropriate box or boxes if you want Japanese and Chinese language support. Click **Next** to continue.


The **Ready to Install the Program** dialog box appears.

9. Click **Install** to install HP Smart Client Services.

If you do not want to install HP Smart Client Services at this time, click **Back** to make changes or **Cancel** to cancel installation.

If you click **Install**, HP Smart Client Services is installed and the **InstallShield Wizard Complete** page opens.

10. If you want to launch the Profile Editor, select the check box and click **Finish**. If not, leave the check box clear and click **Finish** to exit the wizard.

 **NOTE:** The Profile Editor allows you to create and edit configuration files. For more information, see [Using Profile Editor on page 13](#).

Booting client

If HP Smart Client Services is enabled and configured to connect clients to a valid remote connection server, the client will auto-configure and boot to a login screen. Users can then enter their credentials to log in to the preconfigured remote connection server. If HP Smart Client Services is not enabled, users will boot to the Demo Mode.

For more information, see [Client Usage on page 42](#).

Quick troubleshooting

Occasionally, everything does not go as planned. If you have gone through the previous sections but HP Smart Client Services is not working, a number of additional actions can be taken to resolve the problem. In this section, we will step through each point in the update process, verify that it is working, and provide resolution guidance if the process is not working.

1. Test network connectivity:
 - a. Go to the **Net Tools** tab under **System Information**.
 - b. Select the **Ping** tool, type the server address under **Target Host**, and then click **Start Process**.

If the ping is successful, you should receive output similar to this:

```
PING 10.30.8.52 (10.30.8.52) 56(84) bytes of data.  
64 bytes from 10.30.8.52: icmp_seq=1 ttl=64 time=0.815 ms  
64 bytes from 10.30.8.52: icmp_seq=2 ttl=64 time=0.735 ms
```

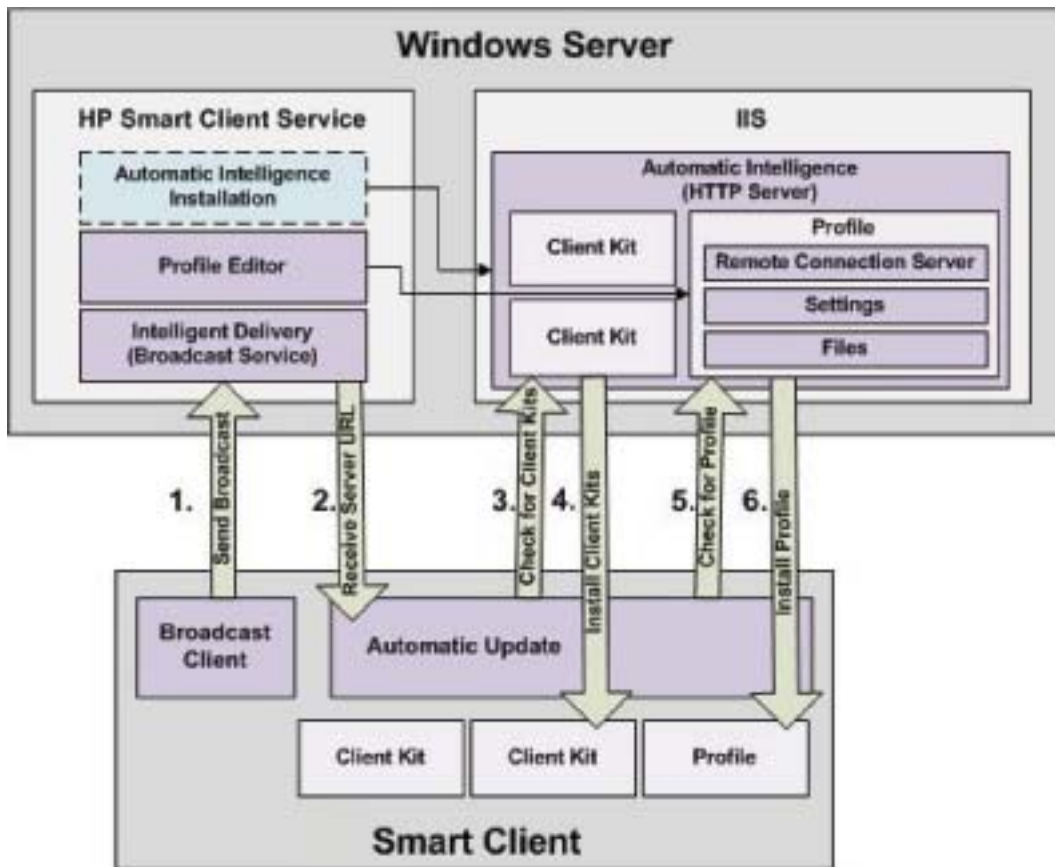
If you have a long delay with no output, your network may be disconnected.
 - c. Check the network cable and network settings in the Control Panel and system tools.
 - d. Try pinging other servers or clients.
 - e. If you can reach other clients on the network but not the server, ensure that you have the correct server address.
 - f. Try pinging by IP address instead of Domain name or vice-versa.
 - g. In some rare cases, ping may be blocked on your network. If that is the case, skip to the next step.
2. Check logs: The Smart Client Services log should give a clear indication if there are any problems with the way the Smart Client server is set up.
 - a. Verify that there are no errors in the Smart Client Services logs.
 - b. If an **Error: Server is not setup** notification appears, verify that the Smart Client Server is set up properly and Smart Client Services is running.

2 Server setup

- [How it works on page 4](#)
- [HP Smart Client Services on page 5](#)
- [Using Profile Editor on page 13](#)
- [Automatic intelligence on page 31](#)
- [HP Intelligent Delivery Service on page 39](#)

How it works

The HP Smart Client is designed to detect its update server automatically and to configure itself automatically on first boot. This greatly simplifies device installation and maintenance. Refer to the following diagram to see how the device communicates with the server to receive its profile and client kits.




HP Smart Client Services

- [Supported operating systems on page 5](#)
- [Prerequisites on page 6](#)
- [Using HP Smart Client Services on page 10](#)

Supported operating systems

- Windows 7
- Windows Server 2003
- Windows Server 2008
- Windows Server 2008 R2

 **NOTE:** The installer is 32-bit only, but it is supported on 32-bit and 64-bit versions of the Windows operating system.

Prerequisites

- [Installing Internet Information Services \(IIS\) on page 6](#)
- [.NET Framework 3.5 on page 8](#)

Installing Internet Information Services (IIS)

IIS must be installed before HP Smart Client Services can be installed.

Installing IIS on Windows 7:

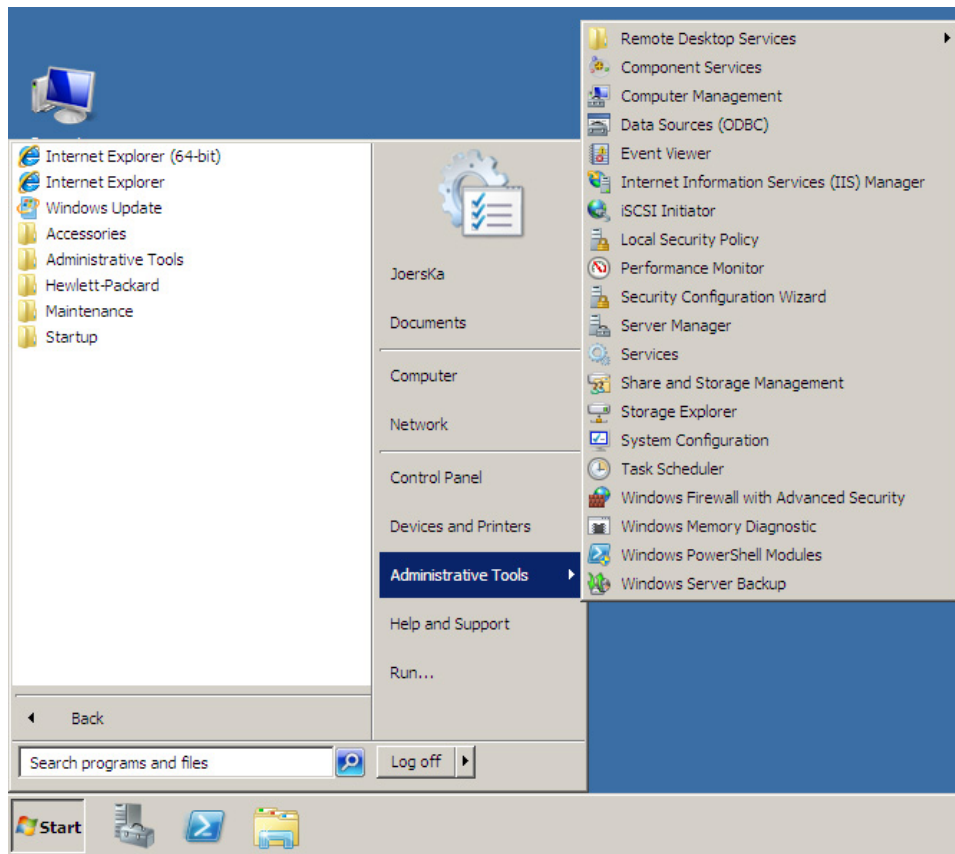
1. Click **Start** and select **Control Panel**.
2. Click **Programs**, and then click **Turn Windows features on or off**.
3. In the **Windows Features** dialog box, click **Internet Information Services**, and then click **OK**.

Installing IIS on Windows Server 2003:

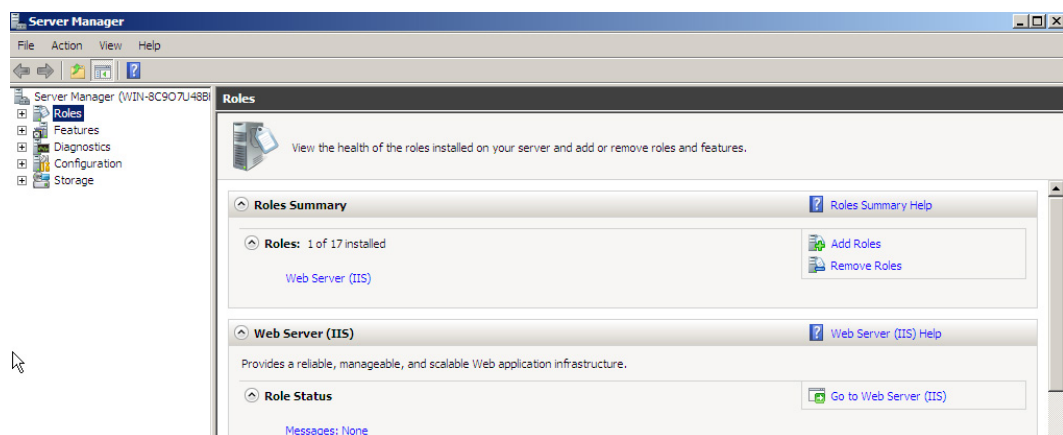
1. Click **Start** and select **Control Panel**.
2. Double-click **Add or Remove Programs**.
3. Click **Add/Remove Windows Components**.
4. In the **Windows Component Wizard** under **Components**, select **Application Server**, and then click **Next**.
5. When the wizard has completed the installation, click **Finish**.

Installing IIS on Windows Server 2008 or Windows Server 2008 R2

1. Click **Start**, select **Administrative Tools**, and then click **Server manager**.



2. Click **Roles** in the left pane.



3. In **Roles Summary**, click **Add Roles** in the right pane.
4. In the **Select Server Roles** dialog box, check the **Web Server (IIS)** check box.
5. Accept the default entries and click **Next**.

6. In the **Confirm Installation Selections** dialog box, click **Install**.
7. When the **Installation Succeeded** screen appears, click **Close** to end the installation.

.NET Framework 3.5

If you plan to use Windows Server 2008 R2, IIS must be installed before .NET Framework 3.5 is enabled.

You do not have to manually install the .NET Framework 3.5 if you have internet access during the installation of HP Smart Client Services. The installation wizard asks you if you would like to install the .NET Framework 3.5. If you select to install, the process downloads and installs the .NET Framework 3.5 without any user intervention. Users installing HP Smart Client Services without internet access must manually install the Microsoft .NET Framework 3.5. The procedures to install the .NET Framework 3.5 are below.

- [How to install via Add Windows features on page 8](#)
- [Web download \(Windows XP, Windows Vista®, Windows Server 2003\) on page 9](#)

How to install via Add Windows features

Windows 7 Operating System—The Microsoft .NET Framework 3.5 is already installed in Windows 7.

To verify installation:

1. Click **Start > Control Panel**.
2. Click **Programs**, and then click **Turn Windows features on or off**.
3. If the **Microsoft .NET Framework 3.5** option box is checked, then it is already installed.

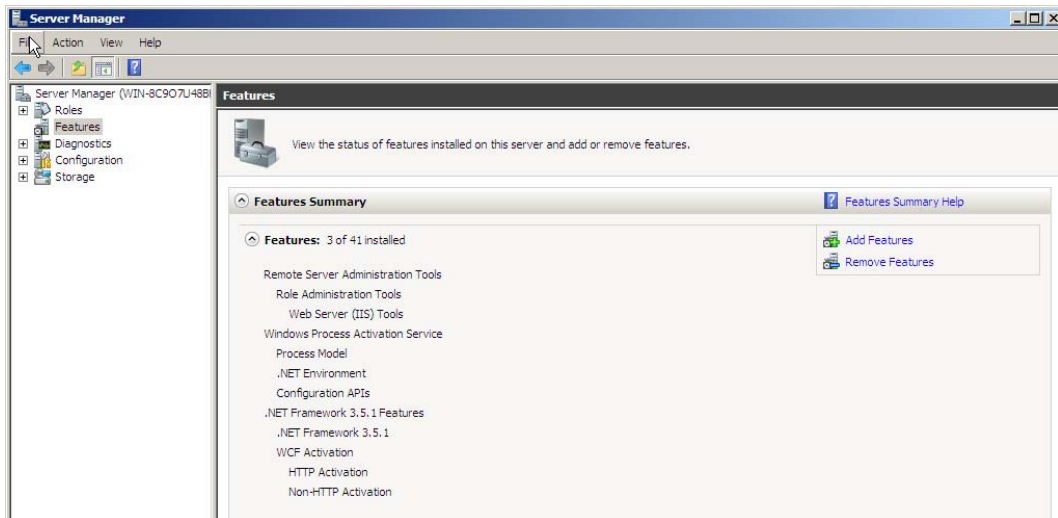
If it is not checked, check the option box and click **OK** to turn the feature on.

Windows Server 2008 R2 Operating System—The Microsoft .NET Framework 3.5 is already installed in Windows Server 2008 R2.

To verify installation:

1. Click **Start > All Programs > Administrative Tools**, and then select **Server Manager**.

2. Click **Features** to display all the installed Features in the right hand pane.



If .NET Framework 3.5 is listed, it is installed.

3. If it is not installed, install it using one of the following methods:

Through the Server Manager interface:

- a. In the **Server Manager** interface, select **Add Features** to display a list of possible features.
- b. In the **Select Features** interface, expand **.NET Framework 3.5 Features**.
- c. Select **.NET Framework 3.5** and click **Next**.
- d. In the **Confirm installation Selections** dialog box, click **Install**.
- e. Allow the installation to complete, and then click **Close**.

Using the command prompt:

- a. Click **Start > Programs > Accessories**.
- b. Right-click **Command Prompt** and select **Run as Administrator**.
- c. In the command prompt, type `Import-Module ServerManager`, and then press **Enter**.
- d. Type `Add-WindowsFeature as-net-framework`, and then press **Enter**.
An exit code as Success for .NET Framework 3.5. appears if installation was successful.
- e. Type `exit`, and then press **Enter** to exit the Command Prompt.

Web download (Windows XP, Windows Vista®, Windows Server 2003)


If you do not have internet access, you must manually install the Microsoft .NET Framework 3.5. Download Microsoft .NET Framework 3.5 from the Microsoft website at <http://www.microsoft.com/downloads/en/details.aspx?FamilyId=333325fd-ae52-4e35-b531-508d977d32a6&displaylang=en>.

Using HP Smart Client Services

To launch HP Smart Client Services, double-click `HPSmartClientService_<version number>.exe` (HP Smart Client Services installation executable).

- [Installing custom setup on page 10](#)
- [Modifying, adding, repairing, or deleting HP Smart Client Services features on page 11](#)

Installing custom setup

 **NOTE:** Microsoft IIS and Microsoft .NET Framework 3.5 must be installed before you install HP Smart Client Services.

This is a custom installation of HP Smart Client Services.

1. Download HP Smart Client Services from HP.com.
2. Double-click `HPSmartClientService_<version number>.exe` to launch the HP Smart Client Services installation wizard.

The **InstallShield Wizard** dialog box appears.

3. Select the language and click **OK**.

The **Welcome to the InstallShield Wizard for HP Smart Client Service** dialog box appears.

4. Click **Next** to continue.

The **Setup Type** page opens.

5. Select **Custom** setup type, and then click **Next** to continue.
6. Click **Next** to accept the default folder where setup will install files.

The **Select Features** page opens.

7. Select the features you want to install, and then click **Next** to continue.
8. Select a connection type, and then click **Next** to continue.
9. Type the server URL in the field and click **Next**.

The **Select Features** page opens.

10. Check the appropriate box or boxes if you want Japanese and Chinese language support. Click **Next** to continue.


The **Ready to Install the Program** dialog box appears.

11. Click **Install** to install HP Smart Client Services.

If you do not want to install HP Smart Client Services at this time, click **Back** to make changes or **Cancel** to cancel installation.


If you click **Install**, HP Smart Client Services is installed and the **InstallShield Wizard Complete** page opens.

12. If you want to launch the Profile Editor, select the check box and click **Finish**. If not, leave the check box clear and click **Finish** to exit the wizard.

 **NOTE:** The Profile Editor allows you to create and edit configuration files. For more information, see [Using Profile Editor on page 13](#).

Modifying, adding, repairing, or deleting HP Smart Client Services features

You can modify, add, delete, or repair HP Smart Client Services features as needed.

1. Open the **HP Smart Client Service – InstallShield Wizard** using one of the following methods:
 - Double-click the HP Smart Client Services setup icon.

 - Use the Control Panel.
 - a. Click **Start** and open the **Control Panel**.
 - b. Double-click **Uninstall a program** to open a list of programs. Right-click **HP Smart Client Service** and select **Change** to open the **HP Smart Client Service InstallShield Wizard**.
2. Modify the installation, if you want to add a feature.
 - a. Select **Modify**, and then click **Next**.
 - b. Select features to install. Click a check box to select a feature and clear a check box to deselect a feature. Click **Next**.

If you selected the Automatic Intelligence feature, a **Files in Use** dialog box appears.
 - c. If a **Files in Use** dialog box appears, select one of the options and click **OK**.

The **Maintenance Complete** dialog box appears.
 - d. Click **Finish**.

3. Repair the installation if you have corrupted or deleted install files. Choose this option to perform a complete reinstallation of HP Smart Client Services.

a. Select **Repair**, and then click **Next**.

The **Maintenance Complete** dialog box appears.

b. Click **Finish**.

4. Remove HP Smart Client Services if you wish to remove all installed features.



NOTE: Profiles and packages are not deleted by default.

a. Select **Remove** and click **Next**.

HP Smart Client Services is uninstalled and the **Uninstall Complete** page opens.

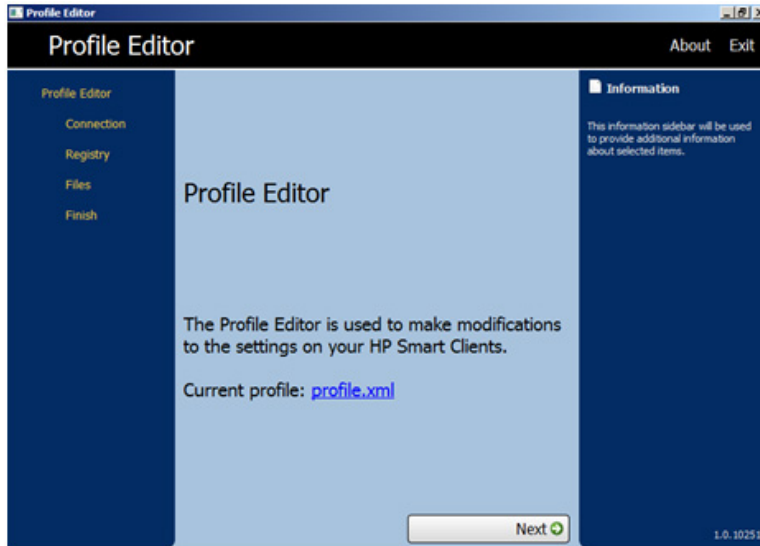
b. If you want to **Uninstall all the HP Smart Client Service profiles and packages**, select the check box and click **Finish**. If not, leave the check box clear and click **Finish** to exit the wizard.

Using Profile Editor

The Profile Editor is used to modify the client profile stored on the Automatic Intelligence server. This profile contains connection information, settings, and files that smart clients will download and use to self-configure.

To access the Smart Client Profile Editor:

1. Click **Start > Programs > Hewlett-Packard > HP Smart Client Service**.
2. Select **HP Profile Editor**.

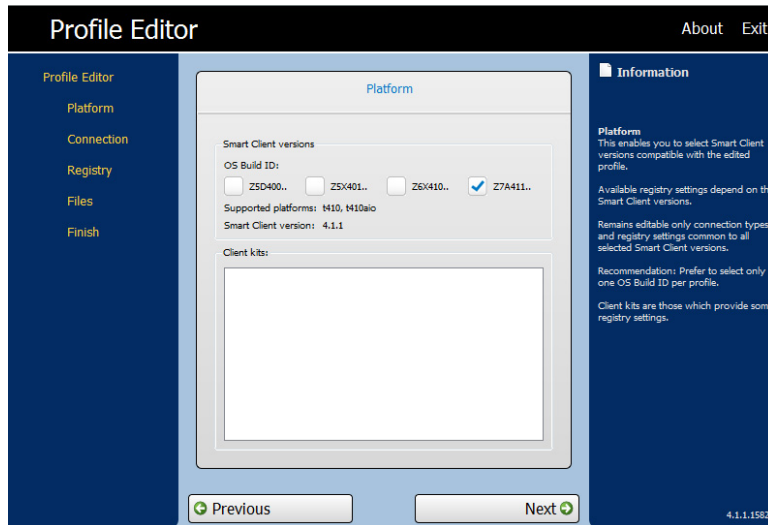


To load an existing profile.xml file:


- ▲ Click the **profile.xml** link and point it to the location of the profile.xml file.
- [Changing your server/URL on page 14](#)
- [Configuring platform settings on page 14](#)
- [Modifying client settings on page 15](#)
- [Attaching client files to a profile on page 21](#)
- [Saving profiles on page 30](#)


Changing your server/URL

This page allows you to configure the connection launched from the clients.



- ▲ Select a connection type and type the server name or address of the remote connection server in the field.

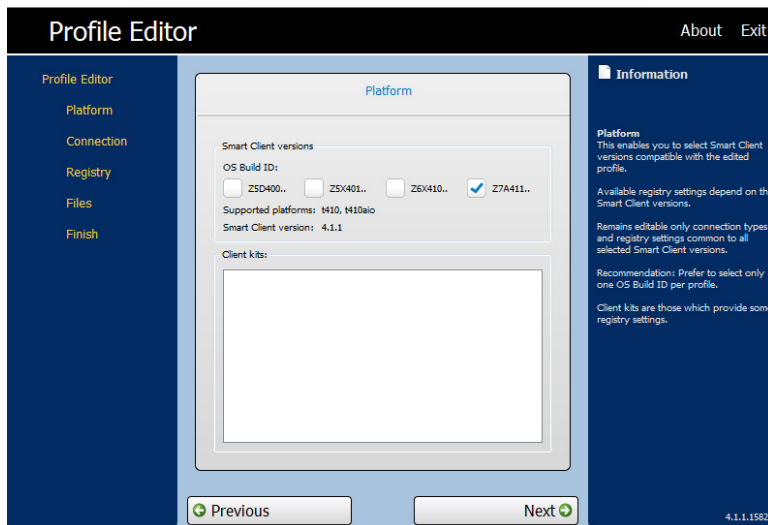
 **NOTE:** If you choose more than one connection type, the registry tab uses the smallest group of settings available in all platforms. Be sure to create one profile for each hardware type. Select the operating system version used for that profile.

 **NOTE:** If you install a Client Kit, the additional registry settings display in the clients kit's box and are automatically displayed in the registry tab.

Configuring platform settings

Use the Platform page to select and configure the following:

- Smart Client software versions incorporated in the edited system profile
- Smart Client software versions compatible with the hardware used on your site
- Optional client kits that provide additional registry settings



To use the Platform page:

1. In the Profile Editor, under **Platform > Smart Client versions > OS Build**, select one or more OS Build IDs for your site.

After selecting a Build ID, the appropriate information for your OS build selections is displayed in the supported platform and Smart Client version boxes.

If you choose more than one connection type, the registry tab uses the smallest group of settings available in all platforms. Be sure to create one profile for each hardware type and select the operating system version used for that profile.

2. If desired and if available under **Client Kits**, select a client kit to install.

If you install a client kit, the additional registry settings are displayed in the client kit box and are automatically displayed in the registry tab.

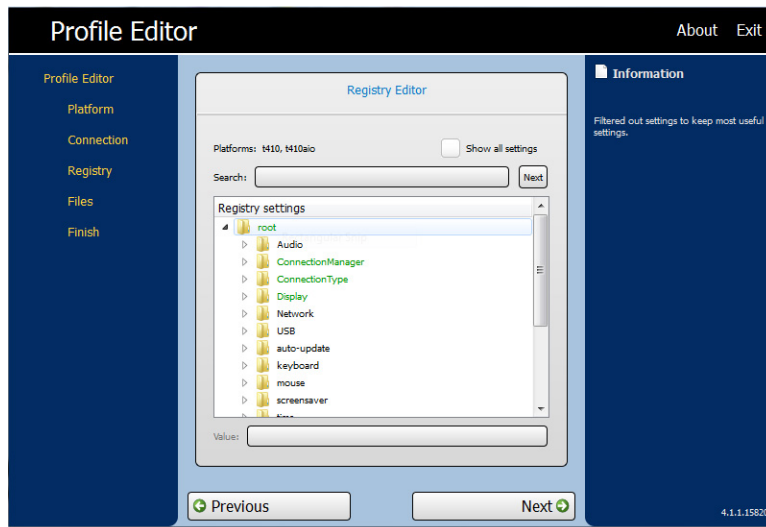
3. Click **Next**.

Modifying client settings

You can change the default values for numerous client settings such as Audio, Connection Manager, Connection Type, Display, Network, USB, auto-update, entries, keyboard, mouse, printer redirection, time, translation, users, and zero-login.

- [How to use the tree view on page 16](#)
- [How to read the side information bar on page 18](#)
- [Common settings to change on page 18](#)
- [Disabling and enabling items on page 18](#)

How to use the tree view



To display the tree view:

- ▲ Expand the **root** and expand the options whose value you want to change.


Changing settings

To change a setting:

Record volume is changed for this example

1. Expand the **root** and **Audio**.
2. Click **RecordVolume** to select it.
3. In the **Values** area for **RecordVolume**, change the value as desired.
4. Click **Next**.

Changing the keyboard language

 **NOTE:** If you are use Profile Editor to modify or set up keyboards languages, you must also change three registry entries:

/root/keyboard/model

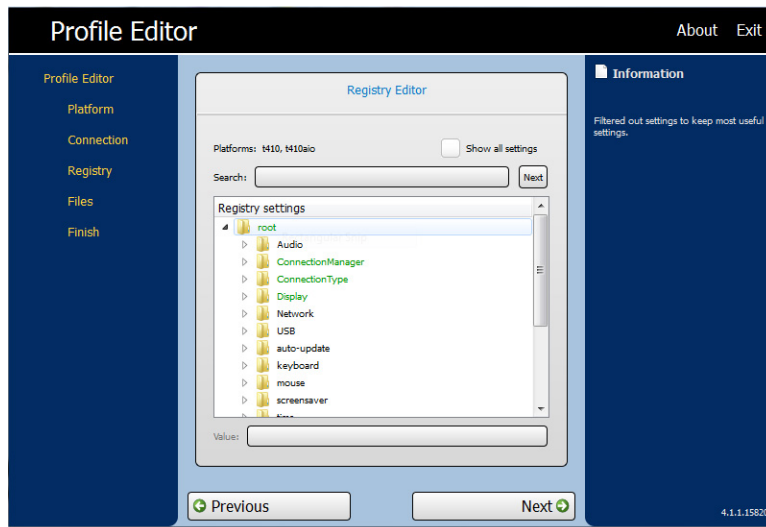
/root/keyboard/layout

/root/keyboard/variant

Keyboard	Model	Layout	Variant
Belgium [Français (Belgique)]	pc105	be	wincompat
Brazil [Português do Brasil]	abnt2	br	wincompat
Bulgaria [Български]	pc105	bg	wincompat

Keyboard	Model	Layout	Variant
Canada [Français Canadien]	pc105	ca	wincompat
Croatia [Hrvatski]	pc105	hr	wincompat
Czech Republic [Český]	pc105	cz	wincompat
Denmark [Dansk]	pc105	dk	wincompat
Finland [Suomi]	pc105	fi	wincompat
France [Français]	pc105	fr	wincompat
Germany [Deutsch]	pc105	de	wincompat
Hungary [Magyar]	pc105	hu	wincompat
Italy [Italiano]	pc105	it	wincompat
Japan, with "¥" (RDP) [日本語]	jp106	jp	jp106-hp-yen
Japan, with "\" (RGS) [日本語]	jp106	jp	jp106-hp
Korea [한국어]	kr106	kr	wincompat
Latin America [América Latina]	pc105	latam	wincompat
Netherlands [Nederlands]	pc105	nl	wincompat
Norway [Norsk]	pc105	no	wincompat
Poland [Polski]	pc104	pl	wincompat
Portugal [Português]	pc105	pt	wincompat
Romania [Română]	pc105	ro	wincompat
Russia [Русский]	pc104	ru	wincompat
Slovakia [Slovenčina]	pc105	sk	wincompat
Slovenia [Slovenščina]	pc105	si	wincompat
Spain [Español]	pc105	sp	wincompat
Sweden [Svenska]	pc105	se	wincompat
Switzerland [Français (Suisse)]	pc105	ch	wincompat-fr_ch
Switzerland [Deutsch (Schweiz)]	pc105	ch	wincompat-de_ch
Turkey [Türkçe]	pc105	tr	wincompat
Ukraine [Українська]	pc105	ua	wincompat
United Kingdom [English]	pc105	gb	wincompat
United States [English]	pc104	us	wincompat
United States [English], Dvorak	pc105	us	wincompat-dvorak
United States [English], International	pc105	us	wincompat-intl

How to read the side information bar



The **Information** bar is located in the right pane of the Profile Editor screen. When you select an option, information on the setting appears in the **Information** bar.

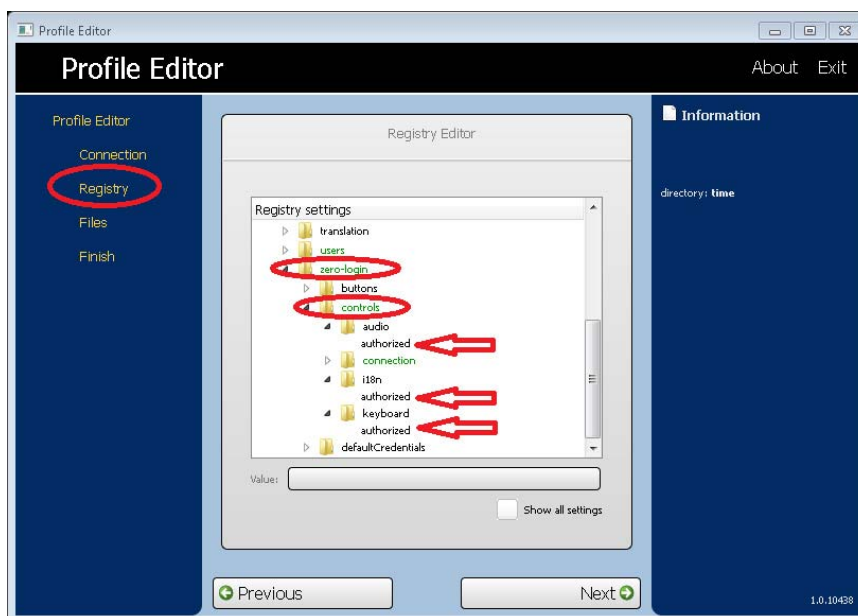
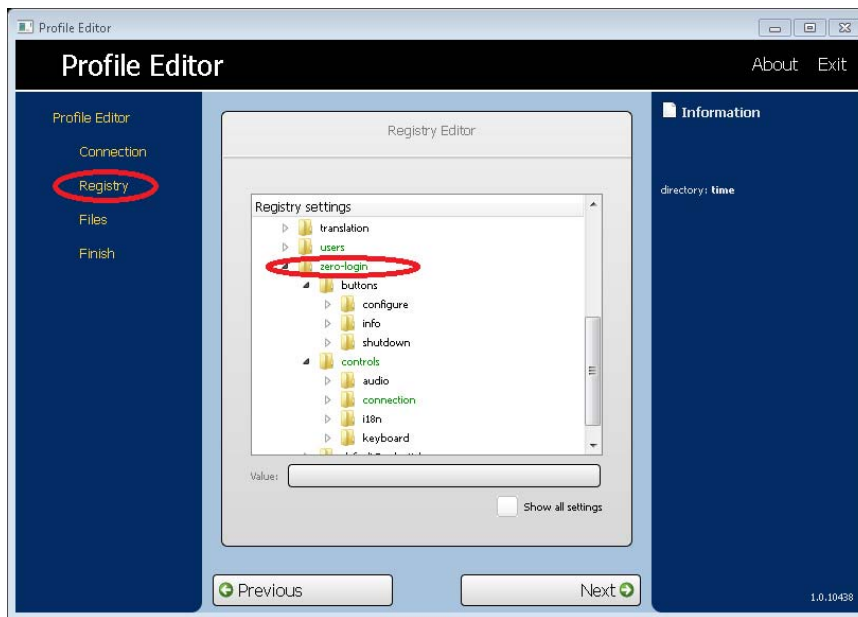
Common settings to change

- Audio
- Connection Manager
- Connection Type
- Display
- Network
- Auto-update
- Mouse
- Screensaver
- Time
- Translation

Disabling and enabling items

- Disabling icons
- Disabling Configure menu items
- Disabling Additional Configurations
- Finishing and saving your settings

Disabling Configure menu items



To disable Configure menu items:

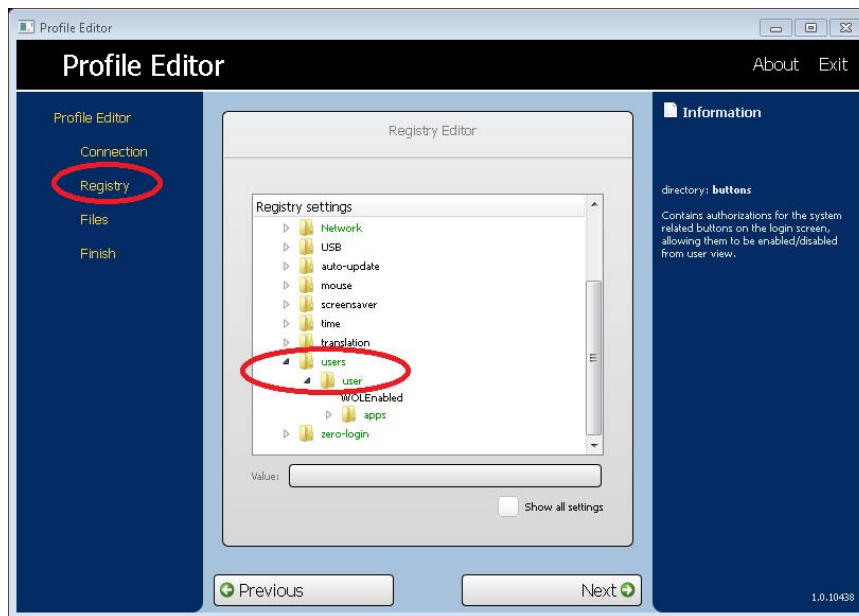
1. In the Profile Editor under **Registry > Registry Settings**, expand the following folders:
 - Zero-Login folder
 - Controls folder
2. In **Registry Settings** under **Zero-Login > Controls**, select the Configure menu option that you wish to disable.

3. Select **Authorized**.
4. To disable a menu option, type 0 in the **Value** field.

Repeat steps 1–4 for each menu item you want to disable.

Disabling Additional Configurations menu items

All menu items under Additional Configuration must be disabled before Additional Configuration can be disabled.



To disable Additional Configuration menu items:

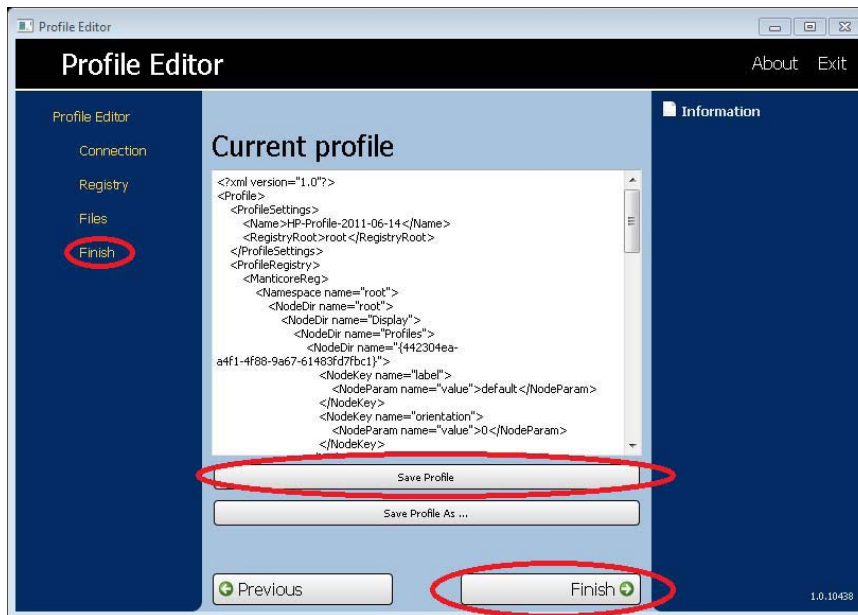
1. In the **Profile Editor** under **Registry settings > Users > User > apps**, open a folder for the menu item that you want to disable. The table below identifies the menu items associated with each folder.

Menu Option	Folder
Automatic Updates	hptc-auto-update
Date and Time	hptc-date-mgr
Display Preferences	hptc-display-prefs
Sound	hptc-mixer
Mouse	hptc-mouse
Network	hptc-network-mgr

Menu Option	Folder
Printer Mapping	hptc-printer-mapping-mgr
Factory Reset	hptc-profile-mgr

2. Select **Authorized**.
 3. To disable a menu option, type 0 in the **Value** field.
- Repeat steps 1–3 for each menu item you want to disable.

Finishing and saving your settings



1. Click the **Finish** tab.
2. Click **Save Profile**. (If it is grayed out, then you have changed nothing.)
3. Click **Finish**.

Attaching client files to a profile

About installing certificates

As of Smart Zero Core 4.1.1, client certificates can be attached to the profile and will be automatically imported to the standard client certificate store for VMware View, Automatic Update, Smart Client Services, etc., as well as the Citrix, RDP, and Browser (if installed) stores. To import files to the store via the profile editor, attach the CA certificate, formatted as a .pem file, to /usr/local/share/ca-certificates. After the profile is installed, the Certificate Manager can be used to confirm that the certificate has been properly imported.

Installing Citrix Certificates on Smart Zero Core 4.1.0 and earlier versions

In Smart Zero Core 4.1.0 and earlier, without the Certificate Manager add-on, the only certificate store supported by the profile editor is the Citrix Certificate store. Other stores require client scripts to be run after certificate import, and so require a Custom update. In this example, we will install a cacert CA certificate that will be used by the Citrix session.

1. Add a file.
2. Import the file.
3. Select the desired root certificate (.pem or .crt formats only).
4. Edit the path: `/usr/lib/ICAclient/keystore/cacerts/<cert>`.
5. Click **Save**.

Customized login screen

Screen background customization

There is one directory per connection type – plus a default style – that specifies the style elements of the connection's background image and login window style. Registry entries specify the directories in which these files are stored and can be modified to point to custom directories. For instance, the registry key `root/zero-login/styledir/view` points to the directory containing style elements for the login desktop for VMware View connections, defaulting to `/etc/hptc-zero-login/styles/view`.

Within a style's directory, the file `bgConfig.rtf` specifies the elements in the desktop's background window. Syntax of a `bgConfig.rtf` file is in a stylesheet-like format with some or all of the elements described below. Each element begins with the element type and then a set of attributes surrounded by braces, e.g.

```
global {  
  
color: 666666; # Dark gray  
  
padding: 20; # 20 pixels  
  
}
```

Any number of image or text elements can be specified. If any gradients are specified, only the last of them is used to color the desktop's background; otherwise the color specified in the global section is used. Any line that begins with a number-sign ('#') is considered a comment and is ignored, as are blank lines. Text following a semicolon that begins with '#' is also treated as a comment, such as the examples above.

Each element is assigned a set of attributes such as size, color, and position. Each attribute is specified by the attribute name followed by a colon followed by its value[s] followed by a semicolon, all on a single line. Some of these attributes are common to many element types, and those described first.

Common attributes

name

Parameters: a string

Example: `name: itemName;`

Default: none

Use: Specifies a string to associate with the element. It is used only in debugging output, such as when a syntax or value error is found in attribute parsing.

padding

Parameters: An absolute (pixel) or percentage value

Example: `padding: 20;`

Default: none

Use: An object will be positioned on the screen as if the screen were smaller on all sides by the padding value. For instance, if an element would normally be placed at 0,0, with a padding of 20 it would be placed at 20,20 instead. If specified in the global element, it will apply to all subsequent elements, leaving an empty gutter around the screen edged, unless those elements override the padding with their own padding value.

color

Parameters: RRGGBB 6-digit hex value or rrr,ggg,bbb 0-255,0-255,0-255 form

Example: `color: ff8800;`

Default: 255,255,255 (white)

Use: Specifies the color of the element.

alpha

Parameter: 0-255 integer

Example: `alpha: 127;`

Default: 255 (fully opaque)

Use: Specifies the opacity of the element. 255 is fully opaque; 0 would be fully transparent, rendering the element invisible. Elements are layered over the background in the order they are defined.

size

Parameters: WWxHH, where WW is width in absolute pixels or in a percentage of screen width; and HH is height in absolute pixels or in a percentage of screen height.

Example: `size: 256x128;`

Default: the natural size of the element, e.g., the pixel size of an image.

Use: Specifies the size of the element. Elements will be scaled to match the specified size.

position

Parameters: XX,YY where XX and YY are positions in absolute pixels or in percentages of screen width and height.

Example: `position: 50%,90%;`

Default: 0,0 (the upper left)

Use: Specifies the position of the element. See alignment below as well.

alignment

Parameters: [`left` | `hcenter` | `right`] [`top` | `vcenter` | `bottom`]

Example: `alignment: left bottom;`

Default: `hcenter vcenter`—the element is centered at the given position.

Use: The combination of position and alignment specify both an anchor point for the element and how the element is aligned relative to that anchor point. For instance, with a position of 90%,70% and alignment of right bottom, the element is positioned so that its right edge is at 90% of the width of the screen and its bottom edge is at 70% of the height of the screen.

context

Parameters: [`login` | `desktop` | `all`]

Example: `context: login;`

Default: `all`

Use: Specifies that the element should only be shown on the login screen for the protocol, on the desktop screen for the protocol (if any), or on both. Only some protocols (e.g., Citrix XenDesktop) have a desktop screen.

Elements

The element type is given followed by a left-brace. Attributes follow, one on each line. Finally the element is closed by a right-brace on a single line, e.g.

```
global {  
  
color: 333344;  
  
padding: 16;  
  
}
```

global

Use: Specifies global background or padding values.

Common attributes recognized: **name, color, padding**

- **color**—specifies the solid background color of the screen, if no gradients are specified
- **padding**—specifies the default padding for all subsequent elements

Custom attributes: none

gradient

Use: Specifies a full-screen gradient for use in the background.

Common attributes recognized: **name, context**

Custom attributes:

- **type**

Parameter: [linear | radial]

Example: `type: linear;`

Default: linear

Use: Linear gradients can be either horizontally-oriented or vertically-oriented; coordinates given in colors are a fraction of width or height. Radial gradients are centered on the screen center; coordinates are a fraction of the distance to the screen edge (top and bottom or left and right).

- **axis**

Parameter: [height | width]

Example: `axis: width;`

Default: height

Use: For linear gradients, axis specifies the direction of the gradient (top-to-bottom or left-to-right). For radial gradients, specifies whether the radius of the gradient is half screen height or half screen width.

- **metric**

Parameter: [linear | squared]

Example: `metric: linear;`

Default: squared

Use: For radial gradients, metric specifies whether the color interpolation between points is done with a dx^2+dy^2 distance calculation (squared) or the square root of number (linear). Squared interpolation is somewhat quicker to draw.

- **colors**

Parameter: space-separated list of [value,color] pairs, where value is a [0.0-1.0] floating point fraction of the axis of measurement (e.g., the width of the screen in a linear width-axis gradient) and color is the color of the gradient at that point. The value runs top-to-bottom for vertical linear

gradients; left-to-right for horizontal linear gradients; and center-to-edge for radial gradients. Colors are specified as either six-digit hex or three 0-255 comma-separated values.

Example: `colors: 0.0,000000 0.5,996600 0.9,255,255,255;`

Use: colors will be interpolated along the linear or radial axis between the points and colors specified. If no values are given, the colors are assumed to be evenly spaced on the axis between 0.0 and 1.0. If the first fractional value is greater than 0.0, the first color will be used in the space between the screen edge and the first value. Likewise, if the last value is less than 1.0, the last color will be used between the last value and the screen edge. Values must be in increasing sorted values, though a value can be repeated for a sharp transition. For instance, “0.0,CCCCCC 0.5,EEEEEE 0.5,660000 1.0,330000” in a vertical linear gradient would specify a gradient between light grays on the upper half and dark reds on the lower half.

- **dithered**

Parameter: [true | false]

Example: `dithered: true;`

Default: false

Use: If your gradient is showing signs of color-banding, dithering will eliminate this visual artifact. Dithering is not supported for radial gradients with the ‘squared’ metric.

image

Use: Specifies an image to overlay over a portion of the background.

Common attributes recognized: **name, size, alpha, position, alignment, context**

Custom attributes:

- **source**

Parameter: file-path

Example: `source: /writable/misc/Company_logo.png;`

Use: Specifies the absolute pathname to the image file. Many formats are supported, e.g., png, jpg, gif. The image may have transparent regions.

- **proportional**

Parameter: [true | false]

Example: `proportional: false;`

Default: true

Use: When true, if the image needs to be scaled to achieve the specified size, its aspect ratio will be maintained to fit within the rectangle specified. When false, non-proportional scaling is done to make the image exactly fit the specified size.

text

Use: Specifies a string of text to lay over the background.

Common attributes recognized: **name**, **size**, **color**, **alpha**, **position**, **alignment**, **context**

Custom attributes:

- **text-locale**

Parameter: localized text

Example: `text-de_DE: Dieser Text is in Deutsch.;`

Use: When in the matching locale, this text will be used for the string. Supported are `de_DE` (German), `en_US` (English), `es_ES` (Spanish), `fr_FR` (French), `ja_JP` (Japanese), and `zh_CN` (Simplified Chinese). File encoding is UTF-8.

- **text**

Parameter: default text

Example: `text: This will be shown on the screen.;`

Use: If no matching localized text is specified, this text string will be used instead. Note: the text rendering engine does not support HTML-style markup.

- **font-locale**

Parameter: locale-specific fontName

Example: `font-ja_JP: kochi-gothic;`

Use: When in the matching locale, this font will be used when the string is rendered. See the description for `text-locale` above. The name must match one of the fonts under `/usr/share/fonts/truetype`. For Japanese text, it may be necessary to select `kochi-gothic`; for Simplified Chinese text, `uming`.

- **font**

Parameter: fontName

Example: `font: DejaVuSerif-Bold;`

Default: `DejaVuSerif`

Use: If no matching localized font is specified, this font will be used instead. The name must match one of the fonts under `/usr/share/fonts/truetype`.

- **font-size**

Parameter: pixels (e.g., 20) or percentage of screen height (e.g., 5%) or points (e.g., 12pt)

Example: `font-size: 12pt;`

Use: Specifies the default size of the font. The text may be further scaled if `size`, `max-width`, and/or `max-height` are specified.

- **max-width**

Parameter: size in pixels or in a percentage of screen width

Example: `max-width: 90%;`

Use: If the string would otherwise turn out to be wider than the size given, it is scaled down to fit within the width specified.

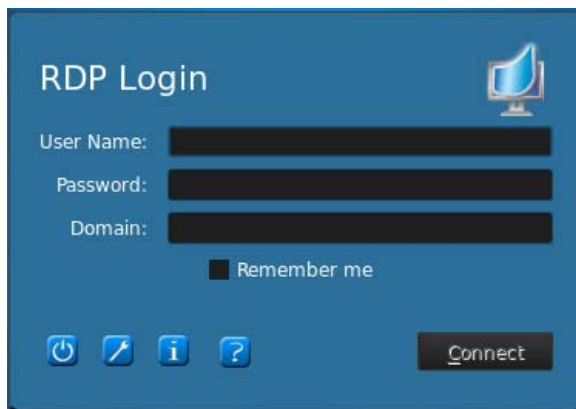
- **max-height**

Parameter: size in pixels or in a percentage of screen height

Example: `max-height: 64;`

Use: If the text would otherwise turn out to be taller than the size given, it is scaled down to fit the height specified.

Login dialog customization

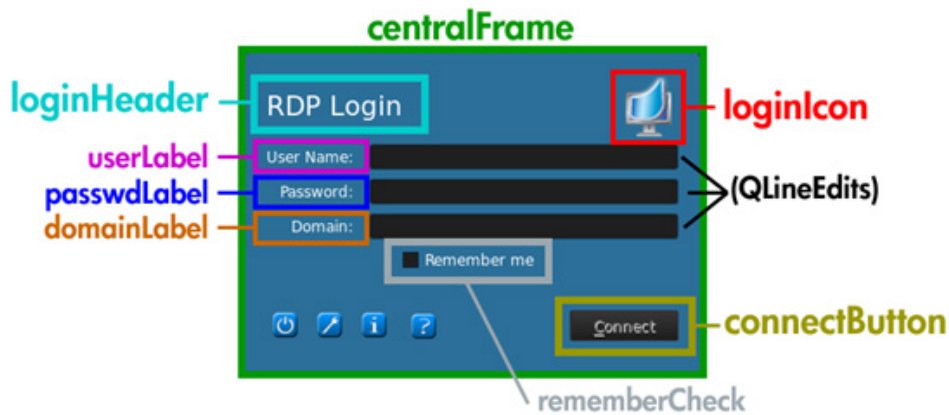


There is one directory per connection type, plus a default style, that specifies the style elements of the connection's background image and login window style. Registry entries specify the directories in which these files are stored and can be modified to point to custom directories. Within a style's directory, files with the ".qss" suffix customize the style elements of the login area.

qss files are Qt stylesheets and their syntax is described in Qt's documentation:

- <http://doc.trolltech.com/4.6/stylesheet-syntax.html>
- <http://doc.trolltech.com/4.6/stylesheet-reference.html>

Most of the elements in the login area can be customized using qss-style elements. Each has been assigned an ID so they are easily addressable using the "#elementID" selector.




As examples of changes, the central frame area might be customized as follows:

```
QFrame#centralFrame {
    /* Sea green dialog background color */
    background-color: rgb(46,139,87);
    /* Rounded, thicker borders */
    border-width: 6px;
    border-radius: 16px;
    /* Make sure it is at least 400 pixels wide */
    min-width: 400px;
}
```

Text for the login header might be customized as follows:

```
LoginArea QLabel#loginHeader {
    /* Change the login text at the top */
    qproperty-text: "Login Here";
    color: white;
    font-size: 16pt;
    font-weight: bold;
}
```

 **NOTE:** Text that is overridden in the .qss file will not be localized when the locale changes.

The login icon in the upper right can be customized:

```
LoginArea QLabel#loginIcon {
```

```

/* Substitute my company logo for the normal one. */
image: url(/writable/misc/MyCompanyLogo.png);
min-width: 48px;
min-height: 48px;
}

```

It can have a different style when it is not enabled:

```

QPushButton#connectButton:disabled {
    /* Flat gray */
    background: rgb(204,204,204);
    border-radius: 3;
    color: rgb(102,102,102);
    font-size: 12pt;
}

```

Of course, many more customizations are possible. See the Qt documentation for possibilities.


Saving profiles

This screen shows the contents of the profile and allows it to be saved.

The profile can also be saved by clicking **Finish** in the **Current Profile** page of the Profile Editor.


Parallel and serial printer port setup

Parallel and serial printing can be set up in the Profile Editor. Further setup can then be done via the Printers and Faxes wizard. This only applies to those two printer types; a USB printer is automatically configured to map when it is plugged in. The Profile Editor requires the first three steps for either serial or parallel printer. Steps 4 to 6 are required only for a serial printer.

 **NOTE:** You will need your serial printer's baud rate in order to set up the printer. If you do not know this, on most printers, you can press and hold the **FEED** button and turn the printer on. After a few seconds, release the **FEED** button and the printer will enter a Testing mode and print out the required information. You may need to turn the printer off to cancel the Test mode or press **FEED** again to make it print the diagnostic page.

1. From the Profile Editor, configure an RDP or VMware View connection.
2. In the **Registry Editor**, select the **Show all settings** check box.
3. In the **Registry Editor**, go to `root\ConnectionType\rdesktop\connections\{UUID}\mapSerial` or `root\ConnectionType\view\connections\{UUID}\mapSerial` and change its value to 1.

4. In the **Registry Editor**, create a new directory under **Root** called **Serial**.
5. Under **Serial**, create a new setting called **Baud**.
6. Set the **Baud** value to the baud rate of your serial printer.

 **NOTE:** If you connect using VMware View, as it originally starts to connect, make sure you cancel the connection. You need to change it—click the down arrow next to the connection, select **Connection**, and then select **Microsoft RDP**.

When you connect to your server via RDP or VMware View, use these steps to install the printer:

1. Click **Start > Printers and Faxes**.
2. Click **Add Printer** in the new window and click **Next**.
3. Make sure that **Local Printer attached to this Computer** is selected and that the **Automatically detect and install my Plug and Play printer** check box is cleared, click **Next**.
4. In the next window, select a port from the menu.


The port you need is in the section of ports labeled TS###, where ### is a number between 000-009, 033-044. The appropriate port depends on your host name and the printer you want to install. Example: with a host name of ZTAHENAKOS and a serial printer, select the port with (ZTAHENAKOS: COM1). For a parallel printer, you would select ZTAHENAKOS: LPT1. The TS### is assigned by the Server, so it will not be the same every time.

5. Select the manufacturer and driver for your printer. If you have the driver disc or want to use Windows Update to install the driver, you may select either of those options instead.

 **NOTE:** For basic/test printing, the **Generic Manufacturer** and **Generic/Text Only** printer should be valid in most cases.

If you are asked to keep the existing driver and if it is known to work, then keep it and click **Next**.

6. Assign a name to the printer. If you would like to use it as your default printer, select **Yes** and click **Next**.
7. If you would like to share the printer, select **Share name** and assign it a share name. Otherwise, click **Next**.
8. On the next page, you may request a test print. This is recommended, as it will verify that the printer setup is correct. If it is not set up properly, review the settings and try again.

 **NOTE:** If the client disconnects from the Server, the printer will have to be set up again the next time the client connects.

Automatic intelligence

- [Viewing your HP Smart Client Services website on page 32](#)
- [Automatic Intelligence directory structure on page 32](#)

- [MAC address-based profile on page 32](#)
- [Updating thin clients on page 33](#)

Viewing your HP Smart Client Services website


To view the HP Smart Client Services website:

1. Click **Start > Administrative Tools**.
2. Click **Internet Information Services Manager**.
3. In the left pane, expand the **Computer** name.
4. Expand the **Sites** folder.
5. Expand the **HP Smart Client Service** site.
6. Expand the auto-update folder and its sub folders.

Automatic Intelligence directory structure

```

C:\Program Files\Hewlett-Packard\HP Smart Client Service
  auto-update
    Image
    Packages
    Custom
    PersistentProfile
      Profile.xml
    web.xml
    t410
      Packages
    t510
      Packages
  hpace.exe
  hpace-profile-edit.exe
  hPBroadcastServer.exe
  QtCore4.dll
  QtGui4.dll
  QtXml4.dll
  
```

 **NOTE:** The index.txt file is no longer supported as of version 4.1.1.

MAC address-based profile

This section covers how to create an Automatic Intelligence update profile for a single MAC address and how to place that profile on HP Smart Client Services so that it will be downloaded by the client.

Certain devices require different settings based on locations. In this profile type, MAC profile and general profile are merged, with the MAC profile taking precedence.

1. Open the existing general profile using **Profile Editor**.
2. Modify or add new registry keys as needed for specific device.
3. (Optional) Delete all unnecessary registry keys.

4. Use system info from the client to obtain the MAC address.
5. Click **Save Profile As** and save the profile to HP Smart Client Services (C:\Program Files (x86)\Hewlett-Packard\HP Smart Client Service\auto-update\PersistentProfile\MAC\- 6. Reboot the client with that MAC address.
- 7. Ensure that the settings have been applied.

Updating thin clients


You have four possible methods of updating:

- [Broadcast update on page 33](#)
- [DHCP Tag setup on Windows Server 2003/2008 for Automatic Intelligence update on page 34](#)
- [DNS alias on page 37](#)
- [Manual update on page 37](#)

Broadcast update

Broadcast update, the simplest of the three methods, only requires you to plug the thin client into the same network as the update server. Broadcast update relies on HP Smart Client Services, an application that works with Microsoft Windows IIS to push updates to the thin client. HP Smart Client Services also includes a Profile Editor to allow profiles to be customized for the thin client.


For Broadcast update to work correctly, HP Smart Client Services must be installed and enabled on the Windows server. HP Smart Client Services can be downloaded from HP.com. Once Smart Client Services is set up, any thin client with a network connection can communicate with Smart Client Services and be updated.

 **NOTE:** Broadcast updates only work if the thin client is on the same subnet as the Windows server with HP Smart Client Services installed.

To make sure Broadcast Update is working, run the Profile Editor and make some changes. Connect the thin client and verify that it has downloaded the new profile. If it has not, please review [Quick troubleshooting on page 3](#) for assistance.

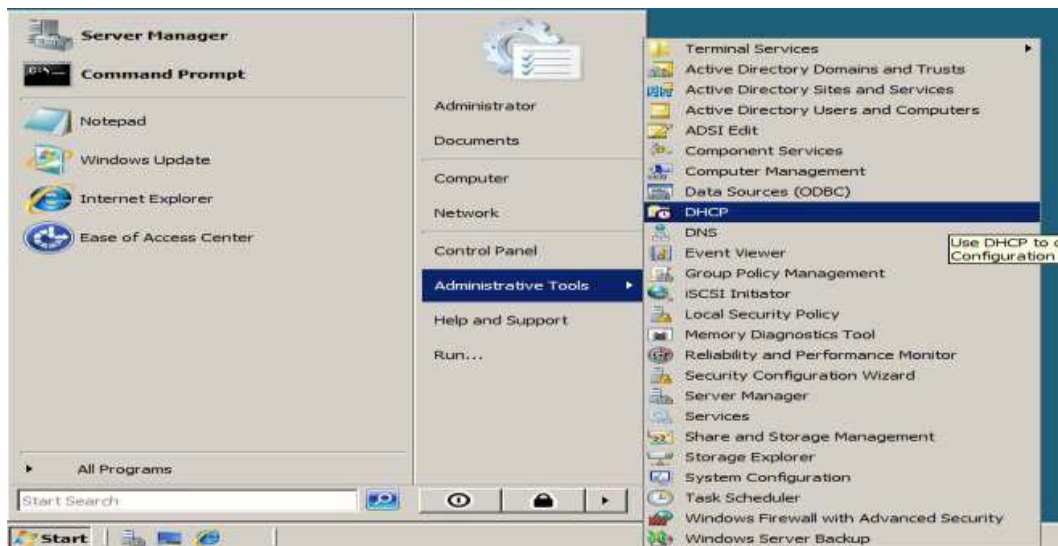
DHCP Tag setup on Windows Server 2003/2008 for Automatic Intelligence update

DHCP tagging enables you to specify the thin clients to be updated. This is useful if you want only certain thin clients to run with a particular update; however, if you only have one or two thin clients to update, you may want to consider using Manual update instead. Otherwise, Broadcast update is recommended.

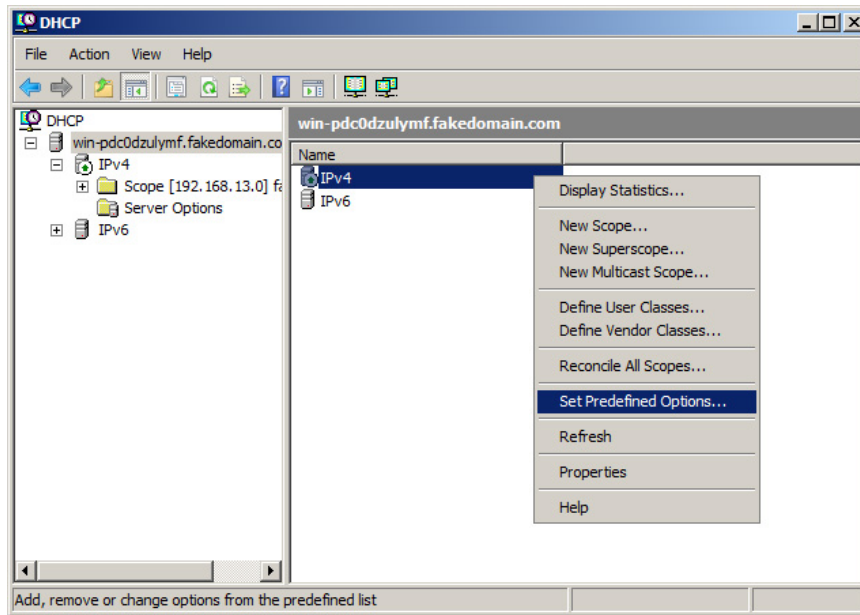
 **NOTE:** Your server MUST have the DHCP Role installed in order to use DHCP Tagging. If necessary, install the DHCP Role using Server Manager.

The following procedure explains how to do DHCP Tagging from a Windows 2008 R2 Server. This specific server is not required; however, it is recommended that you use one of the operating systems listed in [Supported operating systems on page 5](#). Other servers may accomplish DHCP Tagging somewhat differently.

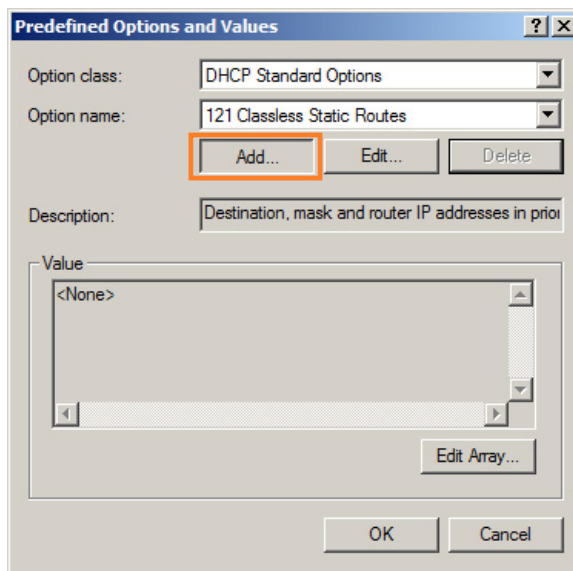
1. Click **Start > Administrative Tools > DHCP**.



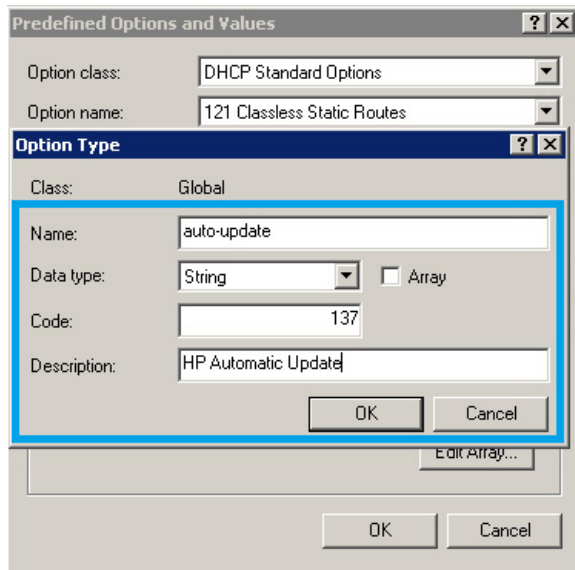
2. In the left pane, select the Domain to which the thin clients are connected.



3. Right-click **IPv4**, and then select **Set Predefined Options**.

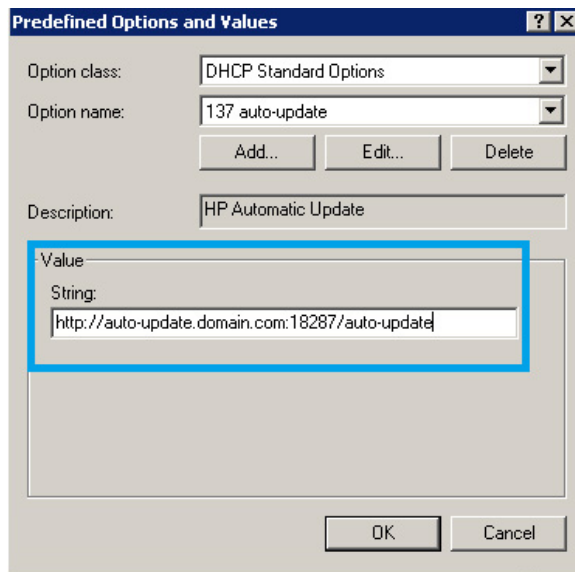


4. In the **Predefined Options and Values** dialog box, click **Add**.
5. In the **Option Type** dialog box:



- In the **Name** field, type auto-update.
- Select **String** from the **Data type** menu.
- Type 137 in the **Code** field.
- Type **HP Automatic Update** in the **Description** field.

6. Verify that the information is correct and click **OK**.



7. In the **Value** section, type the update server address in the **String** field.

Example: `http://auto-update.domain.com:18287/auto-update`

8. Click **OK** to finish the setup.

DHCP Tagging is now ready to update specific thin clients.

DNS alias

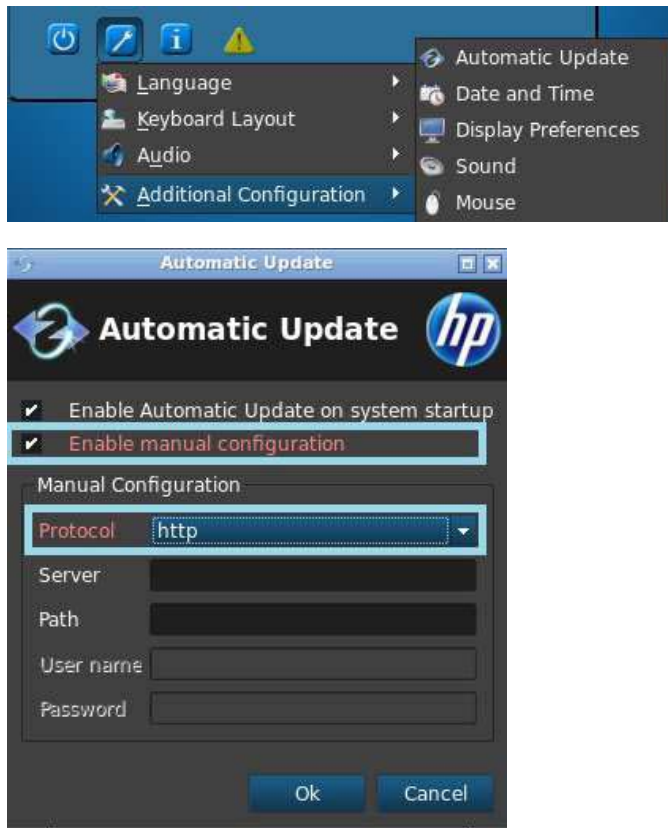
During boot, Automatic Update attempts to resolve the DNS alias 'auto-update'. If that hostname resolves, it attempts to check for updates at the URL `http://auto-update:18287`. This update method enables clients to access a single update server across the entire domain, simplifying management for deployments with many subnets and DHCP servers. To configure this method, change the hostname of the server hosting Smart Client Services to 'auto-update' or create a DNS alias of 'auto-update' for that server.

Manual update

The final method, Manual update, can be used to have a thin client connect to a specific server for updates. This can be useful if you want to test an update on a single thin client before pushing the update to many thin clients or if you have specific updates to be installed on only one or two thin clients.

Manual update is a nice substitute for DHCP Tagging, if you only have a couple of thin clients requiring a specific update. However, if multiple units require specific updates, DHCP Tagging is the better option. If no update segregation is required, Broadcast update is the recommended method.

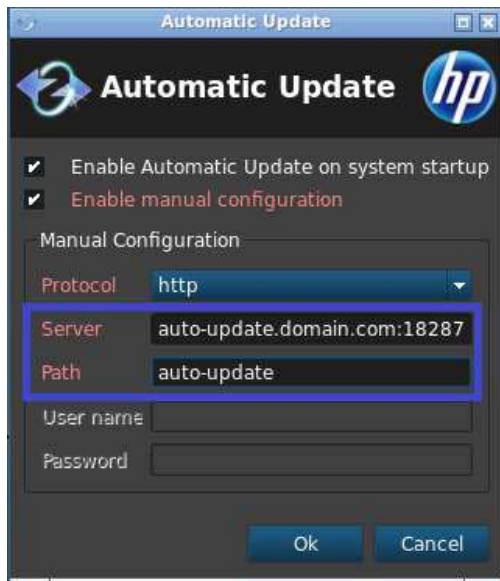
1. Click the wrench icon , and then select **Additional Configuration > Automatic Update**.



2. In the dialog box that opens, select **Enable manual configuration**, and then select **http** from the **Protocol** menu.

3. In the **Server** field, type the host name of the update server with the port.

The format is: autoupdate.domain.com:18287, where auto-update.com is the host name.



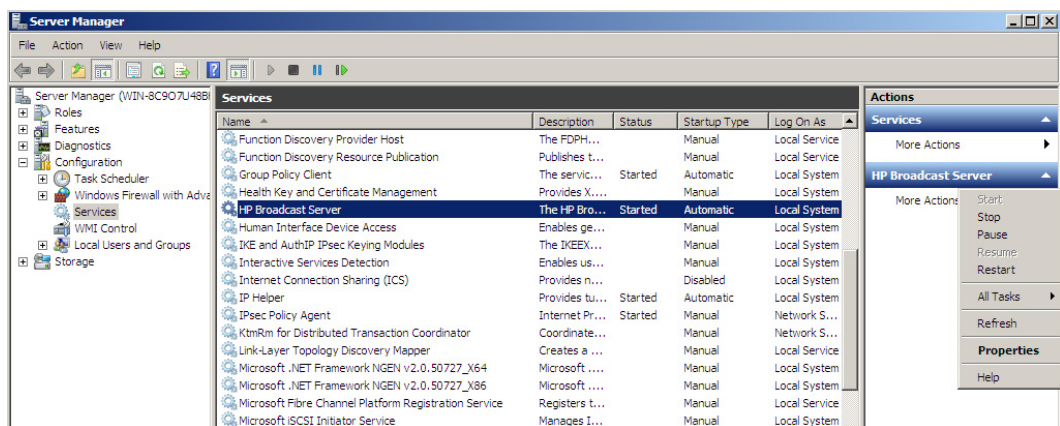
4. In the **Path** field, type auto-update, and click **OK**. The thin client is now be able pull updates from the specified server.

HP Intelligent Delivery Service

This Windows service listens for broadcasts from client devices on a high level port. When a broadcast is received, HP Intelligent Delivery Service responds with the URL of the Automatic Intelligence server, which the smart client uses to check for client updates.

To start and stop HP Intelligent Delivery Service:

1. Click **Start > Program > Administrative Tools > Server Manager**.
2. Expand the **Configuration** tab in the left pane and select **Services**.
3. In the center **Services** pane, select **HP Broadcast Server Service**.
4. In the right **Actions** pane, locate **HP Broadcast Server Service**.



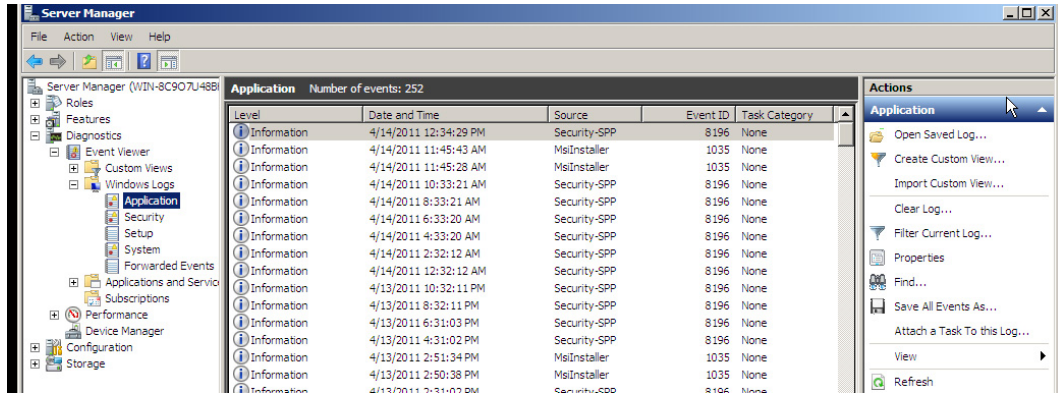
The default settings should have **HP Broadcast Server Service** started and the startup type set to **Automatic**.

5. In the center **Services** pane, double-click or right-click **HP Broadcast Server Service** and select **Properties**.
6. In the **HP Broadcast Server Properties** dialog box under **Service Status**, click to start, stop, pause, or resume the service.

To view the service application log for HP Intelligent Delivery Service:

1. Click **Start > Program > Administrative Tools > Server Manager**.

- In the left pane, expand **Diagnostics > Event Viewer > Windows Logs**, and then select **Application**.



In the center **Application** pane are logs of all of the application events.

Logs related to HP Intelligent Delivery Service can be viewed under **HP Broadcast Server Win Service**.


Regkeys

Intelligent Delivery uses two registry keys:

- HKLM\SYSTEM\CurrentControlSet\Services\HP Broadcast Server**Port**
- HKLM\SYSTEM\CurrentControlSet\Services\HP Broadcast Server**ServerURL**

Port is the port that Intelligent Delivery listens for client broadcasts on, during installation that port is automatically opened in the firewall.

ServerURL is the URL of the Automatic Intelligence server and will be set to `http://<local machine IP>:18287/auto-update` during installation. It is recommended that a machine with a static IP be used as the host machine for HP Smart Client Services, as if it changes, the ServerURL registry key will need to be modified to match the new host.

 **NOTE:** You may also need to open ports in the Antivirus software.

HP Device Manager

The HP Device Manager Agent is software that runs in the background of the thin client. This allows the administrator to select thin clients remotely and to manipulate those thin clients to meet the required business need. For more information on HP Device Manager, refer to the *HP Device Manager User Guide* at C:\Program Files\HP\HP Device Manager\Doc\User_Guide. If you do not have HP Device Manager downloaded or installed yet, you can download it from <http://h20000.www2.hp.com/bizsupport/TechSupport/Document.jsp?lang=en&cc=us&objectID=c01490790&prodTypeId=12454&prodSeriesId=4306187>.

3 Client Usage

This hardware and software combination gives the user the power to remotely connect into many servers with different operating systems. This provides the user with a variety of powerful computers from the user's desk.

Very little hardware setup is required: connect an active network cable, a mouse, a keyboard, and a monitor, and then connect a power cord and plug it into a power outlet. If HP Smart Client Services is enabled and configured to connect clients to a valid remote connection server, the client automatically configures itself and boots to a login screen. Users can then enter their credentials to log in to the preconfigured, remote connection server.

- [Demo mode \(no server configured\) on page 42](#)
- [Connections on page 43](#)
- [Using the System Control pane on page 45](#)
- [USB boot on page 54](#)

Demo mode (no server configured)

When the client first boots and cannot contact HP Smart Client Services, it will boot into demo mode. This mode allows the user to manually choose the remote connection server and URL. This allows users to quickly test the unit for a demo or for a very small environment in which a remote configuration service is not required.



To configure Demo Mode:

1. Click on a connection type.
2. Type the server name or IP address in the appropriate fields.
3. Type in the Server Login and click **Log on**.

Connections

- [RDP on page 43](#)
- [ICA on page 44](#)
- [VMware View on page 44](#)

RDP

The RDP Client is based on freeRDP 1.0 and includes many enhancements to meet requirements for RDP 7.1:

- Hardware-accelerated RemoteFX
- MMR supported when connecting to Windows hosts with the Desktop Experience feature enabled (Windows 7 or Windows Server 2008 R2)
- USBR supported when connecting to Windows 7 Remote Desktop Virtual Hosts
- Bidirectional audio
- True multimonitor


ICA

Published application mode

Direct desktop mode

Supported/unsupported features

- Support XenApp 5/6 and XenDesktop four connections
- Standard ThinPro Citrix 12.2.3.211107-1 Linux Client with HDX
- Full 1080p MMR support HDX/Rave


 **NOTE:** The initial 4.1.1 release does not support HDX. To obtain HDX support, install version 4.1.2.

- USBR support via HDX
- Published application support


VMware View

Supported/unsupported features

- Standard VMware View 1.4 client on the non-DSP-accelerated PCoIP API client configuration.

 **NOTE:** The VMware View 1.5.1 client is available as a web add-on.

- An alternate configuration is available that contains the DSP-accelerated VMware View PCoIP client from Teradici. This configuration will have greatly improved PCoIP performance over the standard VMware View 1.5.1 client.

 **NOTE:** This configuration can be identified by the PCoIP logo in the lower left corner of a VMware View connection user login page.


- No broker smartcard login support.

Connecting to VMware View

To connect with VMware View:

1. Select **VMware View** from the connection **Type** list.
2. Type the VMware View connection server name or address in the field and press [Enter](#).
3. Type your user name in the field.
4. Type your password in the field.
5. Type your domain in the field.
6. Click **Connect** to connect to your View connection server.

7. The Desktop window is displayed with desktop pool/s and/or workstations to which you can connect. Choose the appropriate desktop and click **Connect** to continue.
8. Use the [Ctrl-Alt-F12](#) hotkey sequence to disconnect from your PColP session and return to the login screen.

 **NOTE:** The [Ctrl-Alt-F12](#) command works on the PColP-optimized client only.

Using the System Control pane



This section describes the functions in the System Control pane. The topics are as follows:

- [Shutdown/restart on page 45](#)
- [Control panel on page 46](#)
- [System information on page 49](#)
- [Status icon on page 54](#)

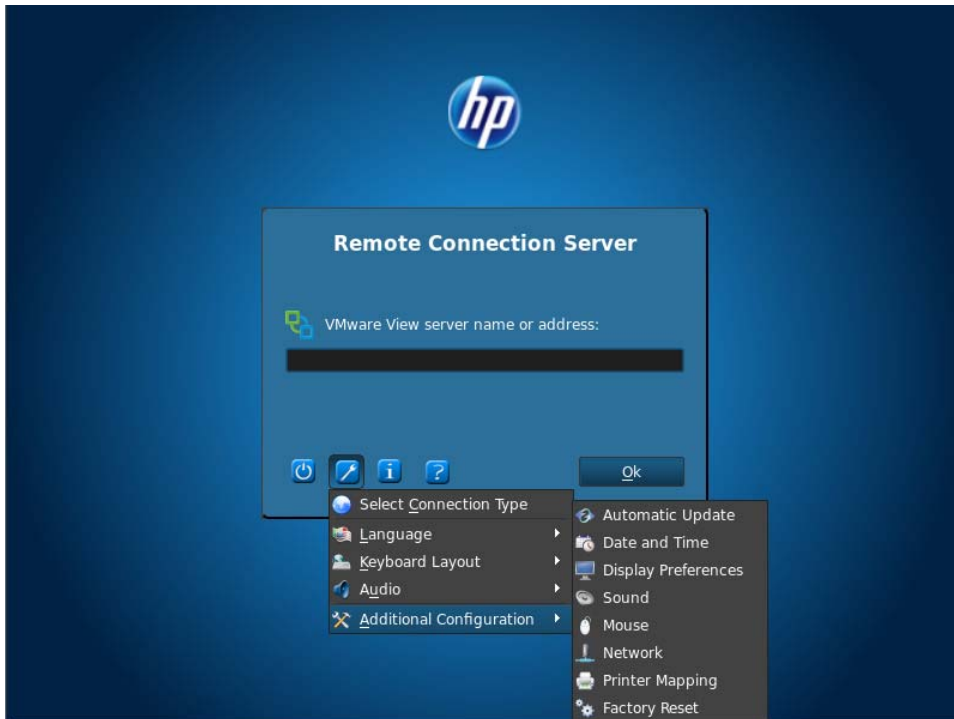
Shutdown/restart

The **Power** button is located in the bottom left of the **Select Connection Type** and **Log on** screens.

- **Reboot** button—This reboots the system.
- **Power Off** button—This powers off the system.


Control panel

Control panel menu



The Control Panel button is the button with the wrench icon. The Control Panel menus allow access to many GUI configuration settings.

- **Connection**—launches the **Select Connection Type** screen to access Citrix, RDP, and VMware View.

 **NOTE:** The **Connection** button is disabled by default when using HP Smart Client Services. This button is enabled only during demo mode.

- **Language**—allows you to select a new language.
- **Keyboard Layout**—allows you to change the keyboard layout.

- **Audio**—lets you control the volume.

- **Additional Configuration**

- **Automatic Update**—allows you to configure the automatic update server manually



NOTE: Automatic Update is disabled by default when using the HP Smart Client Service. This button is enabled only during demo mode.

- **Certificate Manager**—allows you to view locally trusted CA and personal certificates, as well as allows you to import a certificate to the client via USB key or by entering a URL.

To import a CA certificate, first convert the certificate to .pem format, then place the certificate on the root of a USB key, insert the key into the client, and click **Import from File**.


To import from a server, click **Import from URL** and enter the server URL. Note that this installs only the server certificate, not the root CA that signed the server's certificate. If you are using a non-standard root CA, it will have to be imported via USB key or the profile editor.

- **Color Temperature** (t410 All-in-one only)—lets you modify the hue of the display. Move the slider left or right to make the color warmer or cooler. You may also specify a hue manually. This is typically required only if the unit is placed in an area with non-standard lighting.
- **Date and Time Settings**—lets you change the time zone, time, and date. You can also configure it to use NTP time servers as specified by DHCP, to use the time server of your choice, or to use no time server at all.
- **Display Preferences**—lets you change your resolution, depth, orientation, primary display video connector (DVI-I or DVI-D), secondary monitor mode, and test your changes.




NOTE: If you rotate the screen either way, try to lower your resolution. The higher the resolution during rotation, the poorer the video performance will be.

- **Factory Reset**—allows you to restore the client to its default settings and factory configuration.
- **Mouse**—allows you to change the speed of the mouse, change the button settings to left- and right-handed.
- **Network Settings/Wired**—allows you to change your network speed and duplex settings. You can also change the connection method from automatic IP discovery to static IP address configuration.
- **Network Settings/Wireless**—allows you to change duplex settings. You can also change the connection method from automatic IP discovery to static IP address configuration. Many wireless networks have security that requires a different authentication and a password/key. This can be set or edited on the **Advance Security Settings** tab.
- **Printer Mapping**—The printer mapping settings allow you to setup a printer and share it across the network.

 **NOTE:** After any software updates on the client, you must unplug the printer and plug it back in again to allow the printer to be detected in printer mapping.

- **Sound**—allows you to adjust playback and input volumes and mute.
- **X Terminal**—allows users to enter the Linux command line terminal.

 **NOTE:** X Terminal will be disabled by default. Enable it by setting the registry key `root/users/user/apps/hptc-root-xterm/authorized` to 1.

Some or all of these controls may not be available to the end user, depending on the HP Smart Client Profile.

Parallel and serial printer mapping


1. In the main window, click the **wrench** icon.

2. Go to **Additional Configuration > Printer Mapping**.

3. To add a printer, click **Add**.


A dialog box opens to allow you to configure the printer.

4. If the printer is a parallel printer, select **Parallel** in the printer menu. If it is a serial printer, select the appropriate **Serial** option.

 **NOTE:** If you have only one serial port, then it will be **Serial #1**.

5. Typing the printer model in the field is optional, but it is recommended that you do so in order to have a printer name in the Mapping Window.

6. Installing the Windows Driver is also optional, however it is recommended you install at least **Generic/Text Only** in order to use the printer on the Server. Without a driver, Windows may not use the printer properly.

 **NOTE:** You can change this later using **Edit**.


7. To make the printer active, select the **Active** check box.

8. Click the **Create** button, now visible within the Window.

The default baud rate for the serial printer may not be appropriate for it to work. If it does not print properly or at all, then try these steps to get it to work:

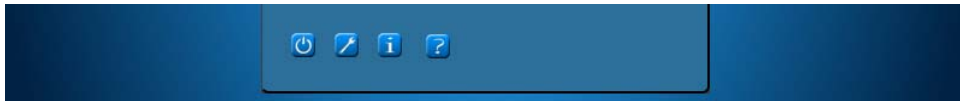
1. To obtain your serial printer's baud rate, press and hold the **FEED** button prior to turning the printer on, then turn the printer on and release the **FEED** button.

2. Using **Profile Editor** or **Registry Editor**, go to `root/printer-mapping-mgr/{UUID}/BaudRate` and type in the baud rate for your printer.

 **NOTE:** The UUID will match the UUID of the printer in `root/printers`. Look there and match the printer with the UUID in `root/printer-mapping-mgr`.

3. Click **Save**, right-click the UUID (which is a long string of letters and numbers), and then click **Apply Changes**.

System information

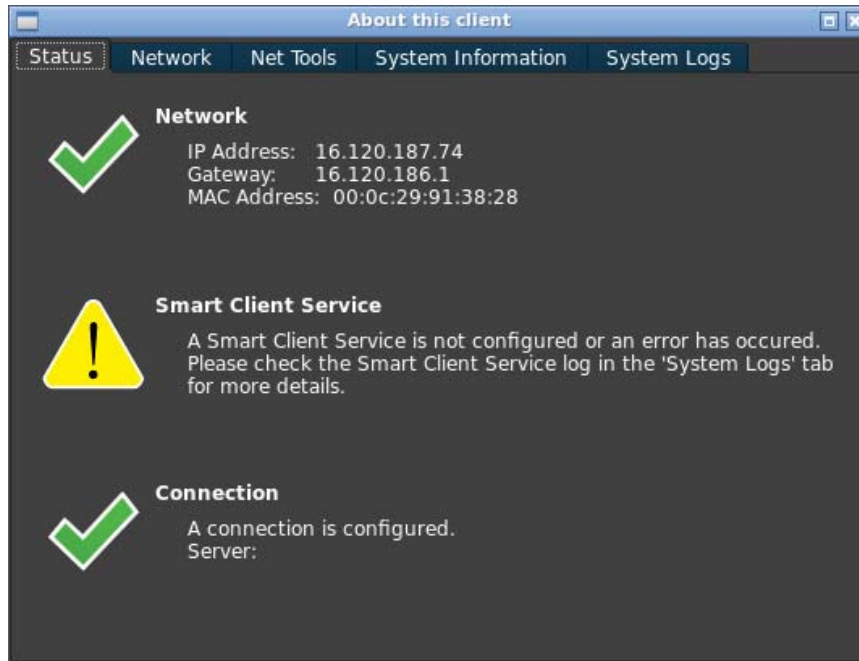


The system information button is the **i** button. When you click the **i** button, the **About This Thin Client** page appears. Five tabs are available on this page:

- [Status tab on page 50](#)
- [Network tab on page 51](#)
- [Net Tools tab on page 51](#)
- [System Information tab on page 53](#)
- [System Logs tab on page 53](#)

Status tab

If the network is connected to a valid network, the status tab shows the network settings: IP Address, Gateway, and MAC Address. This Network field displays an **X** and a message of **No network available** if no valid network is available. (To set up the network, select **Control Panel** tool bar/**Additional Configuration/Network Settings**.)

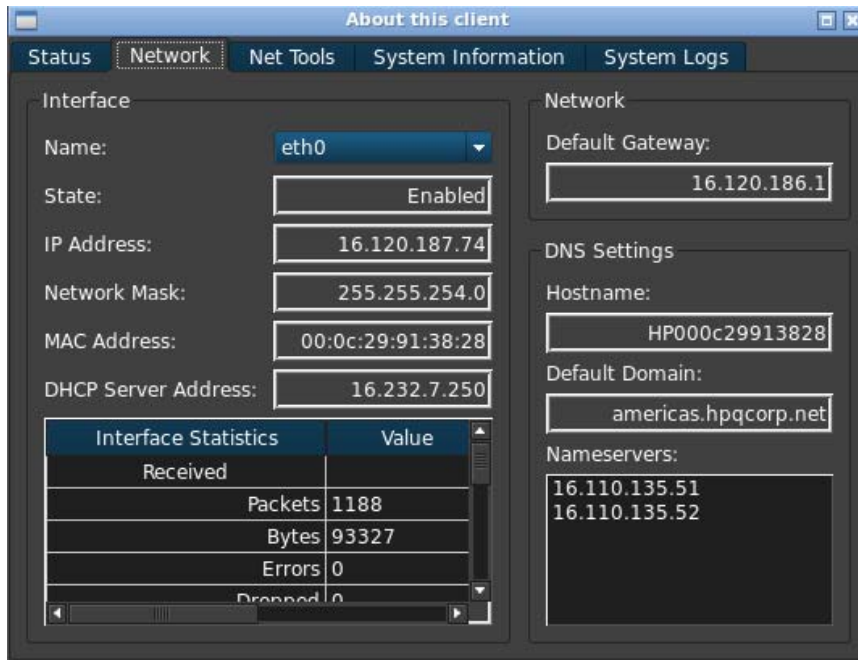


The **Smart Client Service** field displays the name of the server, provided Smart Client Service is set up to a valid, configured Smart Client Service server. If Smart Client Service is not set up or if it is pointed to an invalid Smart Client Service server, an **X** is displayed next to the **Smart Client Service** field. A message stating that an error has occurred while attempting to retrieve client settings from the Smart Client Service server is also displayed. (To set up **Smart Client Service**, select **Control Panel** tool bar/**Additional Configuration/Smart Client Service**.)

The **Connection** field displays an **X** next to it if you have not made any server type connection. If you have made a server type connection, the connection field displays a check next to it and states that a default connection is configured.

Network tab

The left pane of the **Network** tab shows the detailed information about your network interface and DNS Settings. This tab displays the Interface Name, State, IP Address, Network Mask, MAC Address, DHCP Server Address, and Interface Statistics. The right pane of the **Network** tab displays the network default gateway and DNS Settings. You can select multiple network adaptors to view from the **Interface name** menu.

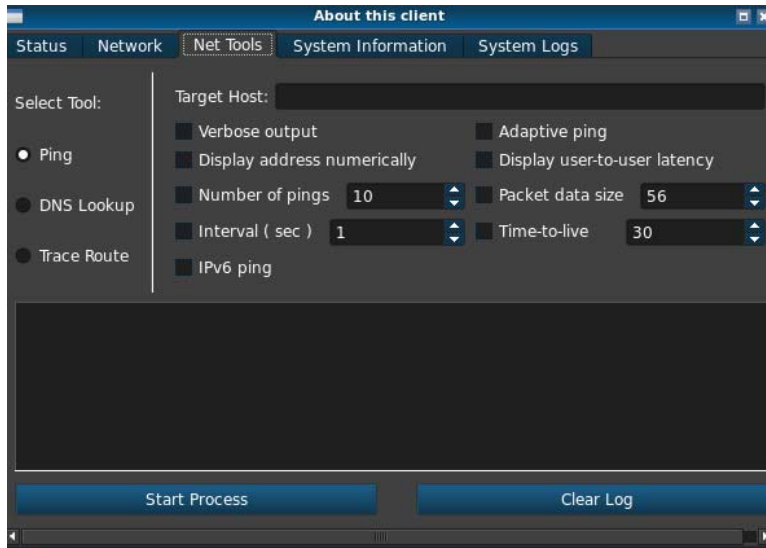


Net Tools tab

Use the Net-Tools tab to configure options for monitoring system performance and troubleshooting network issues.

To use the Net-Tools tab:

1. In the client workstation under  **System Information**, select **Net Tools**.



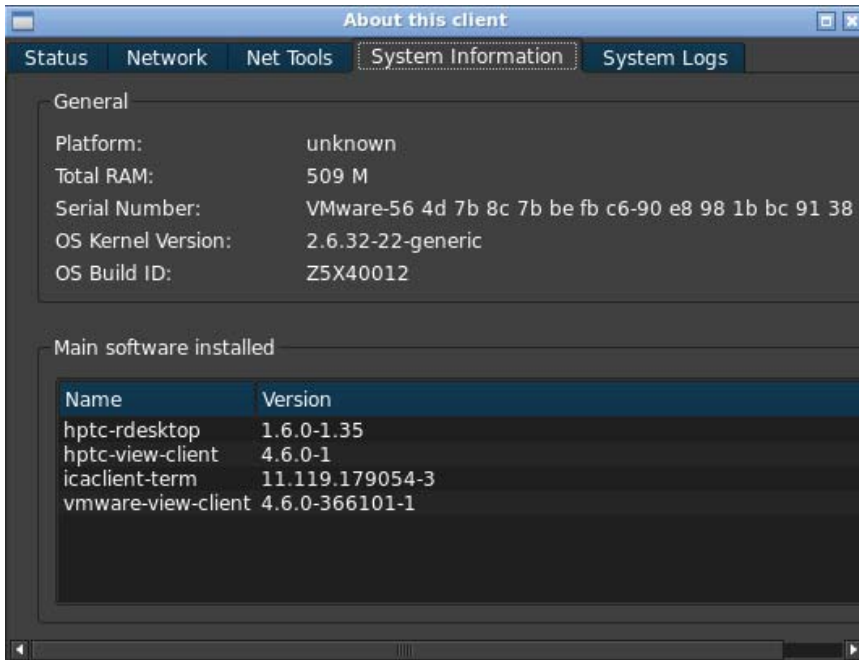
2. On the **Net Tools** page under **Select Tool**, choose one of the options in the following table.

Option	Description
Ping	<p>Use the Ping tool to attempt an established contact with another device on the network from an IP address that you specify.</p> <p>If successful, the Ping Tool reports the total amount of time in milliseconds it took to receive a response from the device.</p> <p>If the Ping Tool cannot contact the device, it does not return any data.</p>
DNS Lookup	<p>Use the DNS Lookup Tool to resolve a domain name into an IP address using the DNS Nameservers registered under the Network tab.</p> <p>The DNS Lookup returns the IP of the server, if it can be resolved. Otherwise it returns an error code and message.</p>
Trace Route	<p>Use the Trace Route tool to track the path that a network packet takes from one device to another.</p> <p>If successful, the Trace Route Tool reports the path it took through each router or other network device to the destination.</p> <p>If unsuccessful, the Trace Route Tool returns an error message.</p>

3. Type or select the options that you want to monitor.
4. Click **Start Process**.

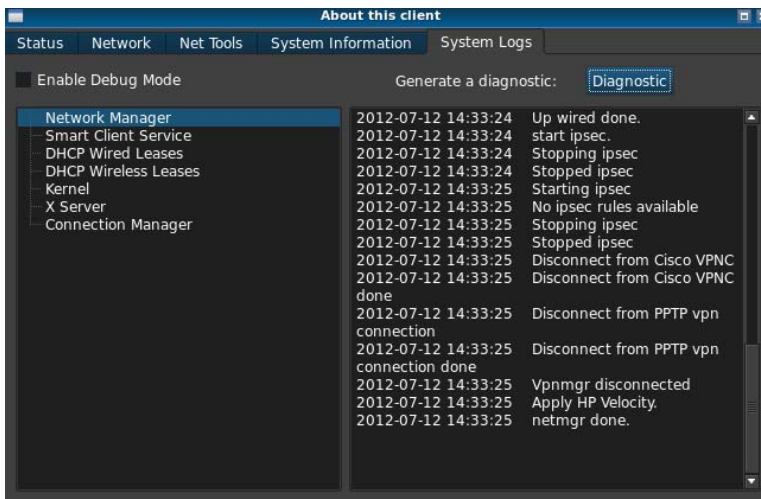
System Information tab


The **System Information** tab displays information about your thin client. This tab shows the Platform Model name, Total RAM on the Thin Client, Serial Number, OS Kernel version, OS build ID, and Main software with the version numbers of all installed software.



System Logs tab

The **System Logs** tab displays all logs placed on the System, Kernel, X Server, and HP Smart Client Services.



 **NOTE:** Check **Enable Debug Mode** to generate more information in the diagnostic report. This information may be requested by HP for troubleshooting.

Status icon

The fourth button displays an icon corresponding to the state of your smart client. Clicking on the icon will give you a summary of the system state, and you can click the **i** button for further details.

- **Error**—a red X—There is a critical error such as lack of a network connection.
- **Warning**—a yellow triangle—There is a non-critical error such as inability to contact a Smart Client Service. Clicking on the icon clears the warning status.
- **Busy**—a spinning circle—The client is busy and no errors are present. This state is shown when networking is initializing, a connection is starting, etc.
- **Idle**—a question mark—The client is idle and no errors are present. Click on the icon to learn the status of the system.
- **Updating**—spinning arrows—The client is currently receiving or installing an update from HP Smart Client Services.

USB boot

- [Download image off web on page 54](#)
- [Reimage device on page 54](#)

Download image off web

If the device beeps two times after it is powered on or does not appear to boot, then the device firmware may be corrupt. It is possible to recover from this by downloading the Smart Client reimagining tool from HP.com, installing the tools on a removable USB flash drive, and then booting the device from the USB flash drive.

Reimage device

1. Download the image from the web.
2. Unpack the image to C:\USBBoot.
3. Format a USB flash drive.
4. Copy all files from C:\USBBoot into the root of the USB flash drive device.
5. Power off the thin client.
6. Insert the USB flash drive into the thin client.
7. Turn on the thin client.
8. The thin client will boot to the USB flash drive at this point.
9. Follow the menu to re-image the thin client.
10. Select the image you unloaded from the web in step 1.


11. Type **Yes** and press **Enter** to proceed.
12. When the reimage process is finished, remove the USB flash drive and press **Enter**.

Retrieving System Diagnostics

- [What is System Diagnostics? on page 55](#)
- [Saving System Diagnostics on page 55](#)
- [Opening System Diagnostics on page 56](#)
- [What to look for in System Diagnostics on page 57](#)


What is System Diagnostics?

System Diagnostics takes a 'snapshot' of the thin client that can be used to help solve issues without having to be in front of the thin client itself. This snapshot contains log files from BIOS information to the processes active at the time the System Diagnostics were run.

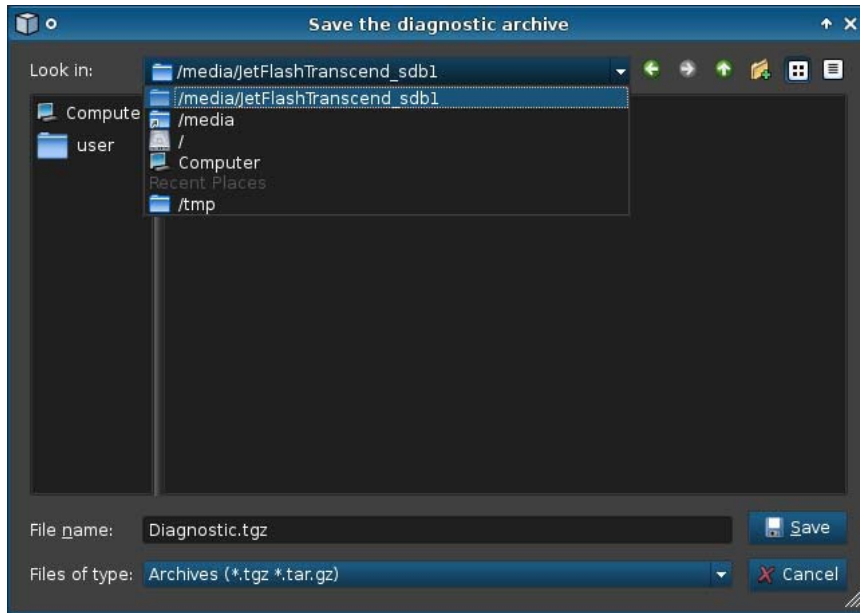
 **NOTE:** Check **Enable Debug Mode** to generate more information in the diagnostic report. This information may be requested by HP for troubleshooting.

Because the system resets logs files when it reboots, it is important to capture logs before a reboot.

Saving System Diagnostics

1. Insert a USB flash memory device into the thin client
2. Next:
 - On ThinPro
 - a. On the **Control Panel**, click **System Information**.
 - b. Click the **Net Tools** tab.
 - On the Zero Client login dialog
 - a. Under the  icon on the Zero Client login dialog, click **System Information**.
 - b. Click the **System Logs** tab.

3. Click **Diagnostic**.



The diagnostics file, `Diagnostic.tgz`, is created.

4. Select the USB flash memory device under **/media** and click **Save** to save `Diagnostic.tgz` to the device.
5. Remove the USB flash memory device from the thin client.
6. Supply `Diagnostic.tgz` to the person or group that is going to fix your thin client.

Opening System Diagnostics

Windows

1. Download and install 7-Zip. (You may obtain a free copy of 7-Zip for Windows at <http://www.7-zip.org/download.html>.)
2. Insert a USB flash memory device and copy the saved system diagnostics, `Diagnostic.tgz`, to the desktop.
3. Right-click `Diagnostic.tgz` and select **7-Zip > Extract files...**
4. Open the newly created folder named `Diagnostic` and do step 3 to `Diagnostic.tar`.

You have now successfully opened your System Diagnostic!

Linux/Unix

1. Insert a USB flash memory device and copy the saved system diagnostics, `Diagnostic.tgz`, to the home directory.
2. Open a terminal and browse to the home directory.
3. Type `tar xvfz Diagnostic.tgz` in the command line.

You have now successfully opened your System Diagnostic!

What to look for in System Diagnostics

- The `commands` folder contains files such as:
 - `dmidecode.txt` with information on the BIOS and graphics
 - `dpkg--list.txt` with a list of the current packages installed at the time System Diagnostics was run
 - `ps-ef.txt` with a list of the current processes at the time at the time System Diagnostics was run
- The `files/var/log` folder contains useful log files such as:
 - `Xorg.0.log`, which contains information on graphics, mouse, and keyboard
 - `kern.log`, which contains information on the kernel
- The `files/etc` folder contains the current file system at time System Diagnostics was run.