

Administrator's Guide

Linux-based HP Compaq t5725 Thin Clients



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Administrator's Guide

Business PCs

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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.

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1 Introduction



CAUTION: Thin clients are designed for remote data storage and excessive writes to flash may damage the flash memory.

This guide provides the network administrator with instructions for configuration of the Linux-based thin client and explains the various configuration utilities.



NOTE: Not all features described in this guide are available in all Linux-based terminal models.

Typically, to configure multiple terminals, you can configure a terminal locally and then use it as a template for other terminals, which you can then configure using remote administration tools.



NOTE: A default administrator account is pre-installed with the following settings: **User name and Password = root**. This default account is also the Administrator “rights” account for Linux. Therefore, HP recommends that you change the password as soon as possible. Additionally, the HP t5725 ships with a basic user account with the user name and password = user.

Thin client image

HP's t5725 Linux thin client offers an extensible Linux image built upon Debian. HP has extensive Debian experience and selected Debian as the foundation for its thin client based on its stability, security, and market acceptance. Debian comes standard with the Aptitude package management system that ties into the Debian and HP repositories. Aptitude is a command-line and/or text-based GUI program for connecting to and managing Debian packages locally and in a repository. Debian package is the generic term for all software, drivers, features, etc., that are “wrapped” in code that allows the software to be easier and more logical to automatically install into proper directories and check for any other dependences that are required to ensure they work properly once installed. Once created, packages reside in various repositories that are maintained by the Open Source Community for open source packages. HP hosts a unique repository for updates and features specifically for the HP t5725.

Additionally, the t5725 image comes with Synaptic, a graphical user interface-based package management tool, allows you to easily add and remove Debian package software and driver packages. Synaptic and Aptitude must be run as root and can not be run at the same time. HP hosts a repository specifically for HP t5725 options, add-on, and package updates, such as new ICA and rdesktop updates.

This image also comes with FTP update for installing new packages and settings files using an FTP server and ThinState capture. For more information about ThinState, see [Thin State on page 34](#)

You can use the Altiris client to provide remote management of the thin client and to upgrade the Linux image with feature enhancements, device drivers, and maintenance updates.

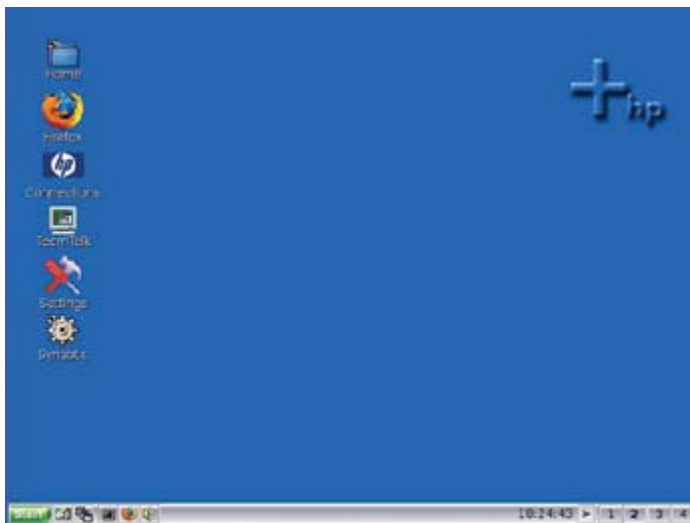
Desktop options

The following sections describe the Linux thin client desktops.

The Linux desktop has a Windows-like look and feel. The desktop includes icons and a Start menu.

By default, the following icons appear on the Desktop for the root (administrator) user:

- Home — Allows you to see a graphical representation of the files and folder on the system and allow for browsing of the various folders.
- Firefox — Allows you to launch an Internet Web browser.
- Connections — Allows you to launch HP Connection Administrator for using and managing various types of connections. You can also launch Connection Administrator by clicking **Start > Programs > Apps > Net**. For more information about configuring connections, see [HP Connection Administrator on page 37](#).
- TeemTalk — Allows you to launch a terminal emulator session. For more information, see [TeemTalk on page 8](#).
- Settings — Allows you to configure settings for the unit. Non-root users can access a reduced number of settings. You can also launch Settings Manager by clicking **Start > Programs > Apps > System > Admin**.
- Synaptic — Only displayed for the root user, this icon launches the package management system. For more information, see [Synaptic on page 5](#).



Middle-click (or press the scroll wheel) on the desktop to show all running programs and the workspaces in which the programs are running.

You can select an image to use as the desktop's backdrop.

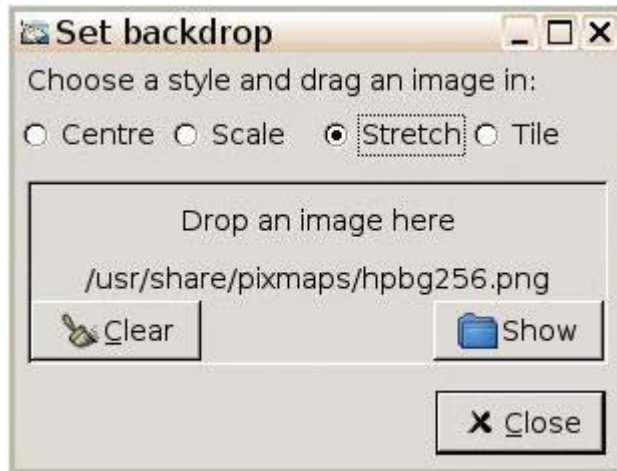


NOTE: You can change the background image to any .jpg or .png image.

To change the background image:

1. Right-click on the desktop.

2. Select **Backdrop**. The Set backdrop window displays.






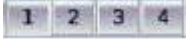




3. Click **Show**. The /usr/share/pixmaps/window displays.
4. Navigate to and select a .jpg or .png file
5. Click and drag the graphic file to the **Set Backdrop** window.

Taskbar



The default taskbar contains the following icons that provide quick function access:

| | |
|---|--|
|  | Show Desktop — Displays the desktop. |
|  | Window List Menu — Displays a list of available workspaces. |
|  | XTerm — Accesses the terminal command window. The xterm program is a terminal emulator for the X Window System for programs that cannot use the window system directly. For more configuration options, type <code>man xterm</code> on the xterm command line. |
|  | Mozilla Firefox — Opens the Firefox browser. |
|  | Mixer — Opens the sound mixer configuration window. |
|  | Workspace icons — Provides instant display access to the four available workspaces (sessions). Each workspace can have different programs running. Click an icon to open a workspace. |
|  | Minimize the toolbar — Allows you to minimize the toolbar, during which an icon remains that allows you to maximize the toolbar. |
|  | Maximize the toolbar — Allows you to maximize the toolbar. |

Right-click the taskbar to open a pop-up window with options that allow you to choose how to display the different workspaces.

Desktop themes

The image includes a variety of themes that can change the look and feel of the desktop and taskbar. Additionally, the open source community has many more themes available.

To change the theme of your desktop, click **Start > Themes**, and select a theme.

Synaptic

Thin client software is organized into “packages”. The **Synaptic** desktop icon provides access to Synaptic Package Manager that allows you to easily add, upgrade, and remove packages to and from your thin client.

Most applications reuse the functionality of other applications or libraries. Therefore, most packages depend on other packages. The Synaptic Package Manager resolves the dependencies automatically.

Synaptic provides the following features:

- Install, remove, configure, upgrade, and downgrade single and multiple packages.
- Upgrade entire system.
- Manage package repositories.
- Search packages by name, description, and several other attributes.
- Select packages by status, section, name, or a custom filter.
- Sort packages by name, status, size, or version.
- Browse all available online documentation related to a package.
- Lock packages to the current version.
- Force the installation of a specific package version.

HP hosts a repository for HP t5725 options, add-on, and package updates at <ftp://ftp.hp.com/pub/tcdebian>.



NOTE: You must log in as root or a user in the Administrator group to use Synaptic.

NOTE: Reload package information regularly so you do not miss important security upgrades.

NOTE: Synaptic requires an active network connection to work properly.

NOTE: Synaptic requires that the thin client have Internet access.

NOTE: If the HP Repository appears to be down or does not connect when trying to update the package list, wait and retry again.

From time to time HP may release new or updated packages to the HP repository. HP packages have `hptc-` at the beginning of their name (i.e. `hptc-control-panel`); however, for the benefit of our customers, other vendors may also post packages in the HP repository (i.e., ICA updates, ThinPrint packages, etc.) that follow the vendor's naming convention and therefore do not begin with `hptc-`.

The first time you launch Synaptic, it uncompresses itself and loads the list of all available packages from default ftp sites.

To launch Synaptic for the first time:

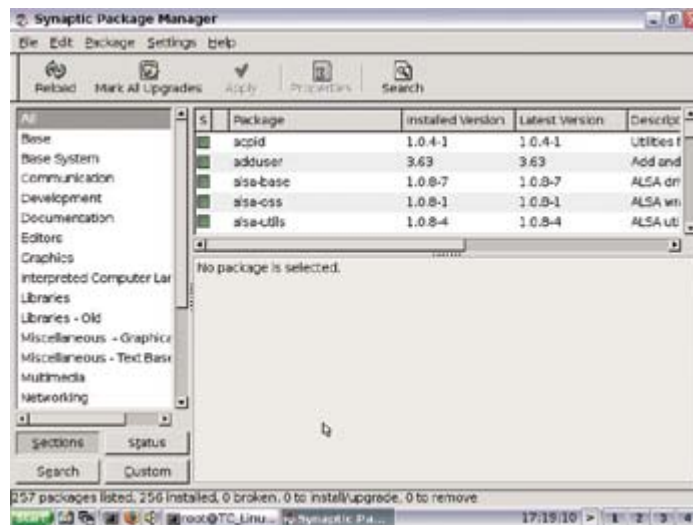
1. Log in as root
2. Select the Synaptic icon on the desktop. An xterm window opens.

3. Type `Y`, and then press `Enter`. The install results display on-screen.
4. Read the installation results to confirm the packages successfully installed, and then close the window.



NOTE: After running Synaptic for the first time, its icon changes.

The Synaptic Package Manager window includes a pane (left) that allows you to list packages by category, a pane (upper right) that lists all packages within a selected category, and a pane (lower right) that provides information about a specific selected package.



For detailed information about a package, including size, version number, dependencies, files, and more, right-click the package and select the **Properties** button.



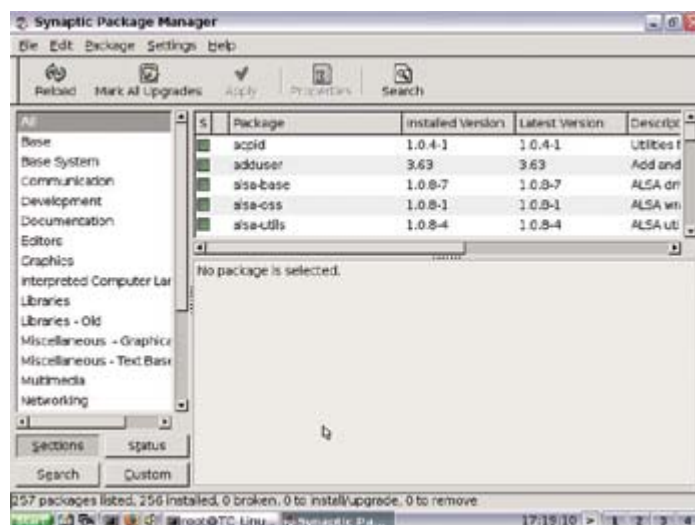
To install packages on the thin client:



NOTE: Be sure to read the installation messages as they can require user input.

installing or removing packages requires administrator root permissions.

1. Open Synaptic Package Manager by double-clicking **Synaptic** on the desktop.



2. Click **Search** to open the Find dialog box.
3. Type a parameter of what you are searching for in the **Search** box, then select the category to search within in the **Look in** list, and then click **Search**. The upper right pane displays all packages located based on your search criteria.
4. In the upper right pane, select the specific package to install. If desired, read about the selected package in the lower right pane.
5. A pop-up box provides installation options. Select the option based on the type of installation you are performing.



6. If necessary, repeat steps 2 - 5 to location and mark more packages for installation.
7. Click **Apply**.
8. Confirm the action and click **Apply**.
9. Click **Close** after all packages are successfully installed.



NOTE: When uninstalling packages, **Mark for Removal** uninstalls the package from the thin client without removing the configuration files. **Mark for Complete Removal** removes all traces of the package from the thin client.

For more information about Synaptic functions and features, go to the local synaptic help file by launching a Firefox browser and typing the following location: `File:///usr/share/synaptic/html/index.html`

TeemTalk

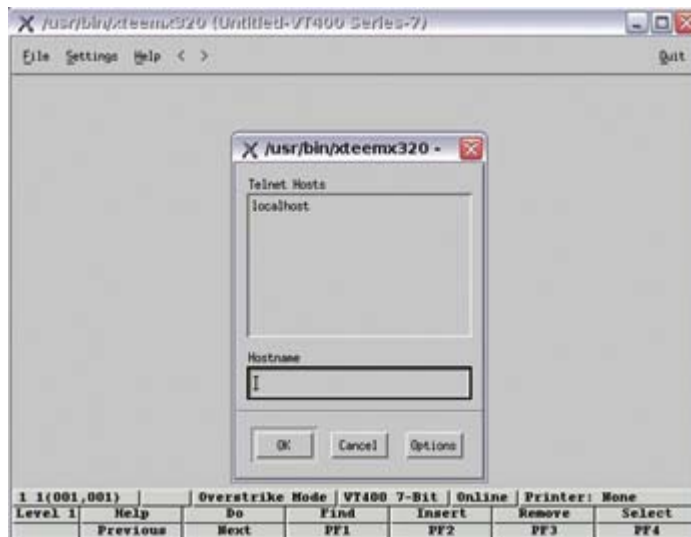
TeemTalk is the essential connectivity tool for enabling non-X based applications to be run in the X environment. TeemTalk provides precise emulation of a wide range of industry standard terminals with impressive additional features formulated to increase productivity and reduce network loading. These include dynamic window sizing, hotspots, soft buttons, keyboard mapping, mouse button definition and customizing capabilities. TeemTalk integrates seamlessly into the X Window system with the same look and feel as other applications.



NOTE: The X Window System is a network-based windowing system that provides a common graphical interface for application programs. It defines how applications create windows and the graphics displayed in them.

The basic function of TeemTalk is to accept command sequences from a host application (client) and convert them into equivalent X functions, which can then be passed on to the X display server. This means that current investment in host application software can be retained in the X Windows environment.

Each window displayed by TeemTalk is, in effect, a separate 'terminal'. Several terminal emulation windows may be displayed simultaneously on the same display server, all running different programs.



For more information about TeemTalk, see the *TeemTalk 5.0 for Unix User Guide* at <http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00782549/c00782549.pdf>.

Connection types

By default the t5725 comes ready to run use the following connection types:

- ICA
- rdesktop

- Firefox
- XDM
- Other

Other connections may be available in the Debian repositories and in the Open Source Community and configured through Connection Administrator's "Other" connection type.

For more information about connections, see [HP Connection Administrator on page 37](#).

System information

To locate information about the system and operating system:

1. Select the **Settings** icon.
2. Click the **System Info** tab.

The screen displays information about the CPU, flash, memory, BIOS, and operating system.

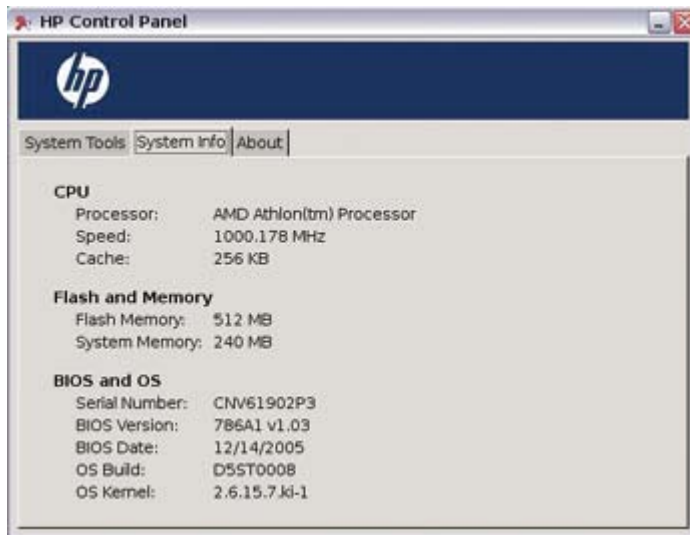


Image location

The image is stored in various formats. The bootup process decompresses and loads certain portions of the image in RAM. Some features and aspects of the image are not loaded until they are needed. The image is stored in two partitions as follows:

- /dev/hda1 – ext2 – Core operating system
- /dev/hda5 – ext2 – Persistent configuration information, user home directories, and data.

2 Control Panel Settings

This chapter provides an overview of the utilities in the Control Panel. You can use the Control Panel utilities for local and remote administration.

There are nine controls under the **System Tools** tab for the root user. By default, non-root users see only the keyboard and mouse applets. The nine controls are:

- Date/Time
- Display
- Printers
- User Manager
- Network Manager
- Keyboard
- Mouse
- ThinState
- FTP Update

The Taskbar provides access to many other controls, such as sound.

You can open the Control Panel in any of the following ways:

- Select **Settings** on the desktop.
- Click the **Settings** button on the HP Connection Administrator window.
- Click **Start > Programs > Apps > System** to access the utilities located in the Control Panel as well as several other system programs and applications.



NOTE: The utilities available in Control Panel vary depending on whether the current user is logged in a root account. Some utilities require root user access. You can control this by assigning individual users additional rights in the “Users” applet or editing `/usr/share/hp/panel/hpcpl.conf`.

Date/Time

The Date/Time Properties utility allows you to set the date and current time, select the appropriate time zone, and enable NTP (Network Time Protocol).



Use the values in the **Date**, **Time**, and **Time Zone** areas to select the appropriate date and time information.

Enabling Network Time Protocol

Network Time Protocol (NTP) is designed to synchronize the clocks of computers over a network. There are numerous servers available on the Internet that are synchronized to Coordinated Universal Time (UTC).

To enable NTP:

1. Select the appropriate time zone.
2. Select **Enable Network Time Protocol**.

3. In the **NTP Server** box, type the IP address of the NTP server you want to use to set the time on the thin client. For NTP to function properly, the date on the thin client must match the date on the server.
4. Click **Apply**.

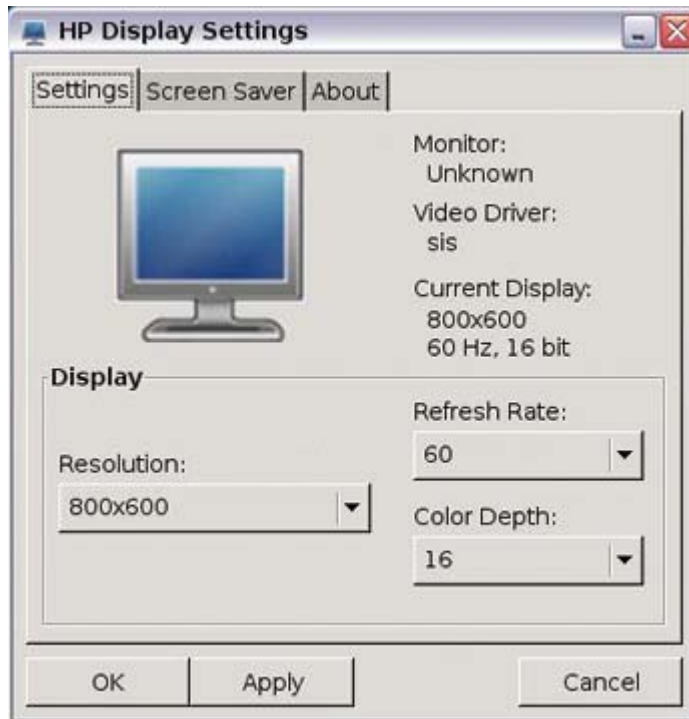
Configuring the system hardware clock from BIOS

You can set the system hardware clock to your local date and time using the BIOS setup utility as follows:

1. Reboot the system and press **F10**.
2. After the Setup utility displays, press **Esc**.
3. Select the standard CMOS features option, and then press **Enter**.
4. Set the date and time using the **Page Up** and **Page Down** keys.
5. To save the changes, press **F10**, and then press **Enter**.

Display

The Display Settings utility allows you to configure the monitor's screen resolution, color depth, and refresh frequency.



After you change display settings, the thin client allows you to test the settings. If the settings do not provide the desired results, you can cancel them to revert to the previous settings.

The default resolution is 800x600x16@60Hz.

Screen resolutions and refresh rates differ depending on monitor.

You must reboot the terminal or restart the session for the changes to take effect.



NOTE: Some displays report incorrect information. If you configure the display setting out of range, you can reset to factory defaults by pressing **Alt+F2** and then logging in as root administrator and editing the XF86config.

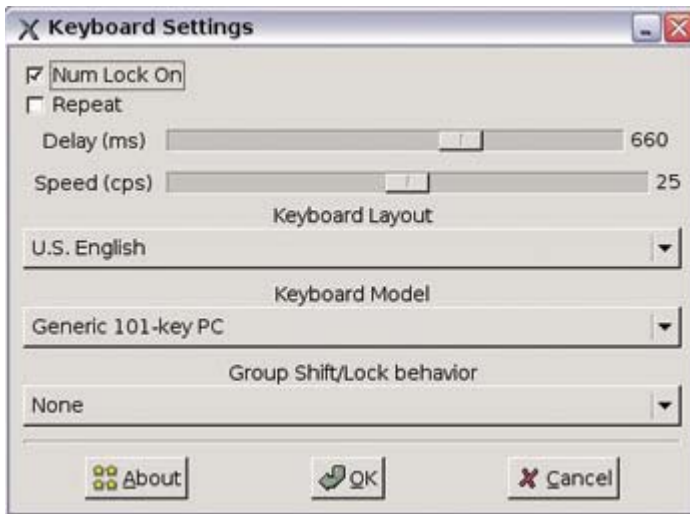
Screen saver

Select the **Screen Saver tab** to enable and configure the screen saver. If you select **Password Protected**, the thin client uses your logon password as the screen saver password.

To enable DPMS, select **Monitor Power Saver Option (DPMS)**. You can query settings using `xset -q` in the console.

Keyboard

The Keyboard Settings utility allows you to select a keyboard language and model, key behavior, keyboard character repeat parameters, and the Numlock setting.



Changes to the keyboard language apply locally. Remote settings are determined by the applications (rdesktop, Citrix, etc) and server, but may be affected by local settings.

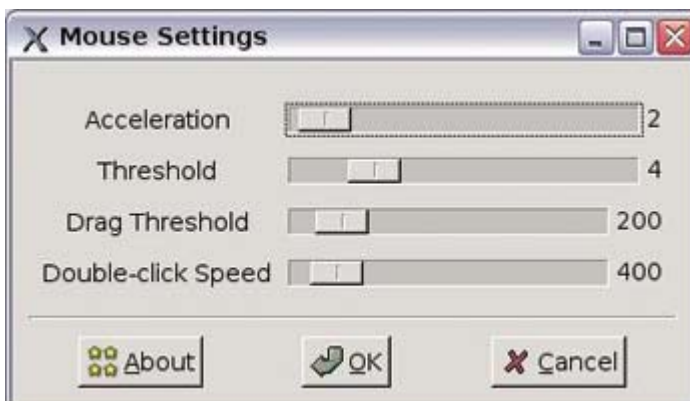


NOTE: Drivers for the various languages do not transfer to the remote computer; therefore, you must also install the drivers for the selected language on the remote computer.

Group Shift/Lock behavior—Use this list to select the hot keys used to switch between keyboard layout groups for keyboards that support more than layout group. For more information about configuring keyboards, see <http://xfree86.org/current/XKB-Config.html>.

Mouse

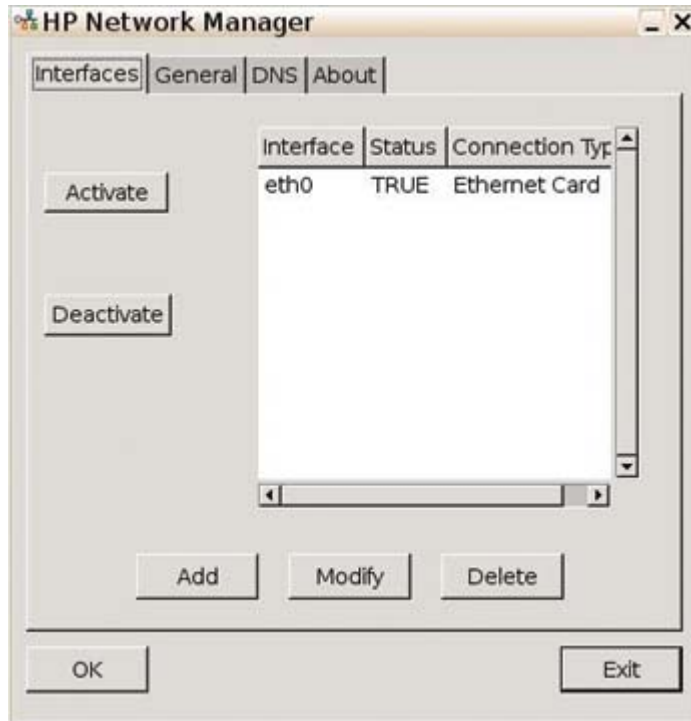
The Mouse Settings utility allows you to set the mouse double-click sensitivity, screen speed, and drag and drop settings.



Network Manager

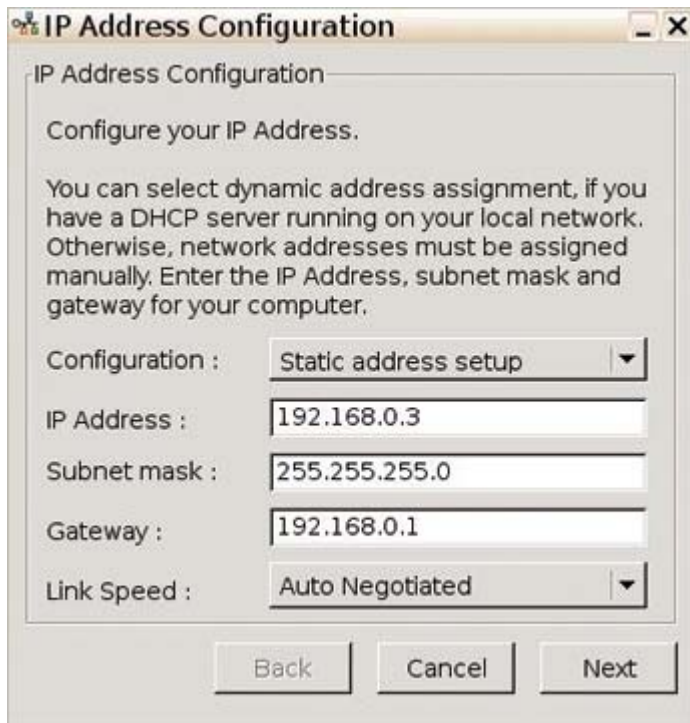
The Network Manager utility allows you to configure connectivity between the terminal and the Internet, a network, or a computer.

Interfaces



Allows adding, removing or modifying network interfaces in `/etc/network/interfaces`. Select the interface, and then use the following buttons as necessary:

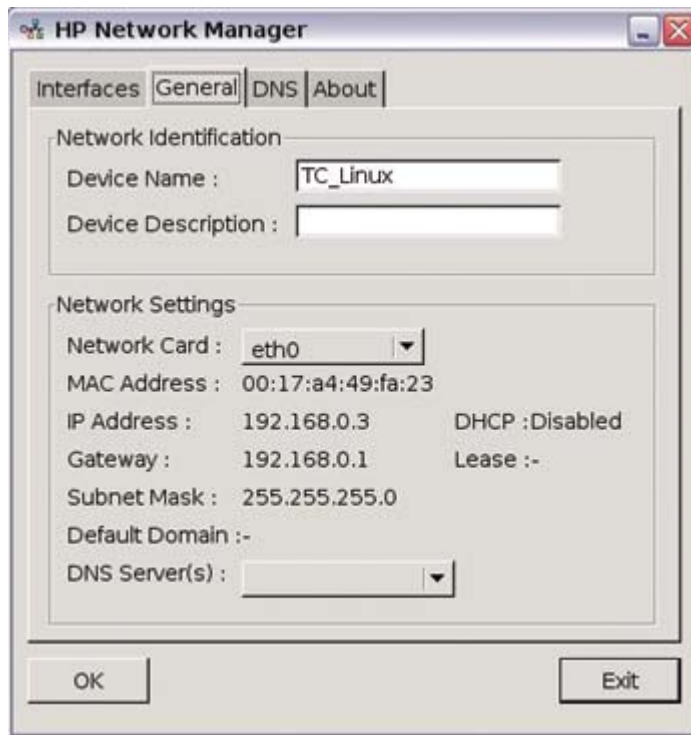
- **Activate:** Click to activate an inactive NIC if the unit has multiple Ethernet cards installed (for example, the down network card and an additional PCI NIC card).
- **Deactivate:** Click to deactivate a specific card if the unit has multiple Ethernet cards installed.
- **Add:** Click to walk through the options to set up a new NIC interface.
- **Modify:** Click to modify an existing interface. The following window is displayed:



- **Configuration:** Select from the following options:
 - **Automatic address setup (via DHCP):** Enables DHCP and displays settings provided by IT or allows configuration.
 - **Static address setup:** Allows you to enter a specific IP address, Subnet Mask, and Gateway.
- **Link Speed:** Allows you to specify a specific link speed. Set to Auto Negotiated by default.

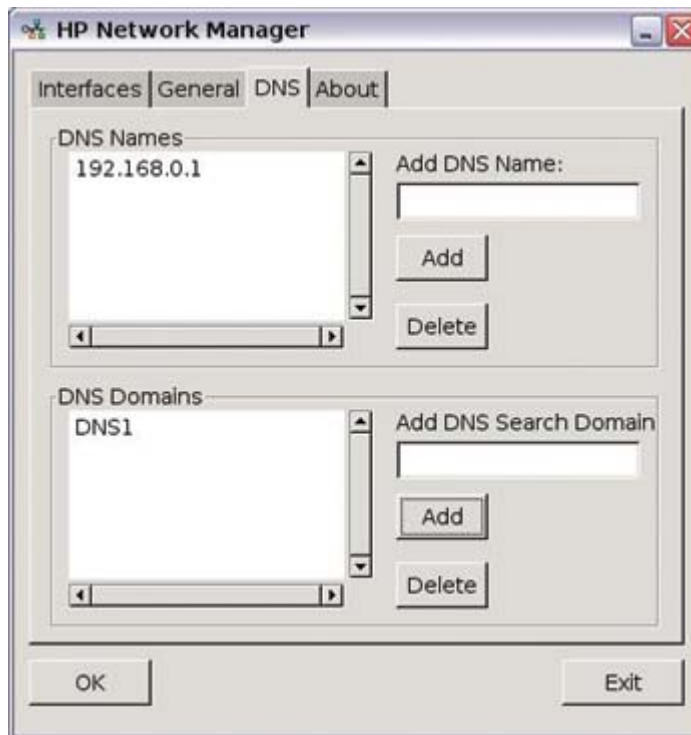
General

The **General** tab allows you to locate network identification information and current IP settings. Additionally, this tab allows you to name the interface and provide a description, as well as provides the ability to select between provided DNS servers.



DNS

Displays and allows configuration of DNS names and domains.

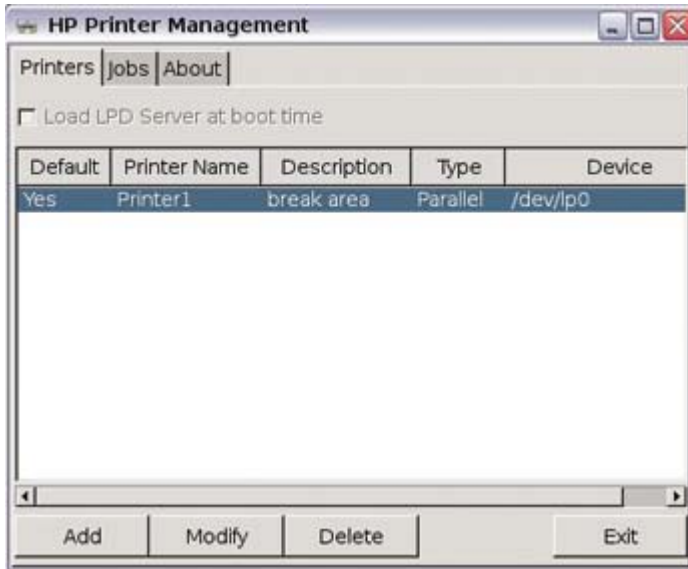


Printers



NOTE: To enable printing, you must install “lprng” using Synaptic.

The Printer Management utility allows you to add a new printer and modify printer settings.



NOTE: Text and postscript print formats are currently supported locally.

Parallel printer

1. Select the **Printers** tab.
2. Select **Load LPD Server at boot time**. If this check box is not available, “lprng” is not installed. You must install “lprng” to enable printing.



NOTE: To install lprng, use the package management system (Synaptic or aptitude) and search for and install lprng. For more information about Synaptic, see [Synaptic on page 5](#)

3. Click **Add**.

4. Select **Parallel Printer**.



The screenshot shows a window titled "Add New Printer". It contains two main sections: "Printer Type" and "Printer Information". In the "Printer Type" section, there are four radio buttons: "Parallel Printer" (which is selected), "USB Printer", "Network Printer", and "Samba Printer". The "Printer Information" section contains several fields: "Printer Name:" followed by an empty text box, "Description:" followed by an empty text box, "Device Port:" followed by a dropdown menu showing "/dev/lp0", "Windows driver:" followed by an empty text box, "Use Filter:" followed by a dropdown menu showing "NONE", and a checkbox labeled "Make Default" which is currently unchecked. At the bottom of the window are three buttons: "Ok", "Test", and "Cancel".

5. Type a **Printer Name** and **Description** (optional).
6. Use the value that defaults in the **Device Port** box. If the box is empty, there is no printer connected to the client.
7. If necessary, type a driver name in the **Windows driver** box. Citrix iCA and RDP use this field to set the printer driver for the session.



NOTE: You must type the windows driver name exactly as it is on the server.

8. From the **Use Filter** list, select **/usr/lib/lprng/filter/lpf**. If NONE displays, "lprng" is not installed
9. If you want to make this the default printer, select **Make Default**.
10. If desired, click **Test** to send a sample job to the printer.
11. Click **Ok** to save changes.

USB printer

1. Select the **Printers** tab.
2. If **Load LPD Server at boot time** is not available, “lprng” is not installed. You must install “lprng” to enable printing.



NOTE: To install lprng, use the package management system (Synaptic or aptitude) and search for and install lprng. For more information about Synaptic, see [Synaptic on page 5](#)

3. Click **Add**.
4. Select **USB Printer**.

The screenshot shows the 'Add New Printer' window. Under 'Printer Type', 'USB Printer' is selected. The 'Printer Information' section contains text boxes for 'Printer Name' and 'Description', and a dropdown for 'Device Port'. Below these are a 'Windows driver' text box, a 'Use Filter' dropdown (set to 'NONE'), and a 'Make Default' checkbox. At the bottom are 'Ok', 'Test', and 'Cancel' buttons.

5. Type a **Printer Name** and **Description** (optional).
6. Select the appropriate **Device Port**. If the list is empty, there is no printer connected to the client.
7. If necessary, type a driver name in the **Windows driver** box. Citrix iCA and RDP use this field to set the printer driver for the session.

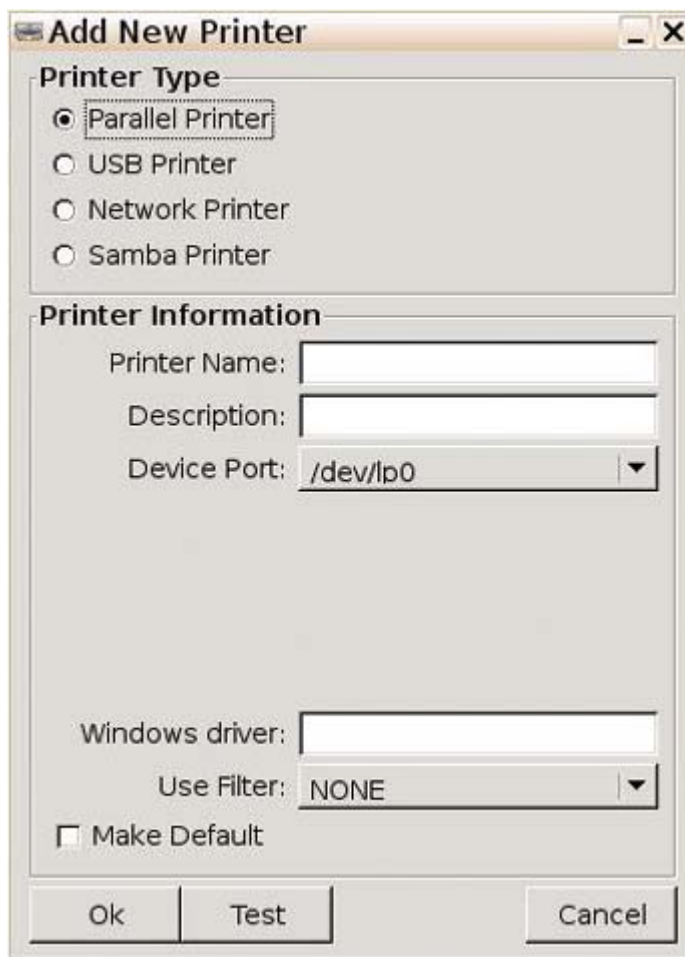


NOTE: You must type the windows driver name exactly as it is on the server.

8. From the **Use Filter** list, select **/usr/lib/lprng/filter/lpf**. If **NONE** displays, “lprng” is not installed
9. If you want to make this the default printer, select **Make Default**.
10. If desired, click **Test** to send a sample job to the printer.
11. Click **Ok** to save changes.

Network printer

1. Select the **Printers** tab.
2. If **Load LPD Server at boot time** is not available, “lprng” is not installed. You must install “lprng” to enable printing.
3. Click **Add**.



Add New Printer

Printer Type

- ☒ Parallel Printer
- ☐ USB Printer
- ☐ Network Printer
- ☐ Samba Printer

Printer Information

Printer Name:

Description:

Device Port:

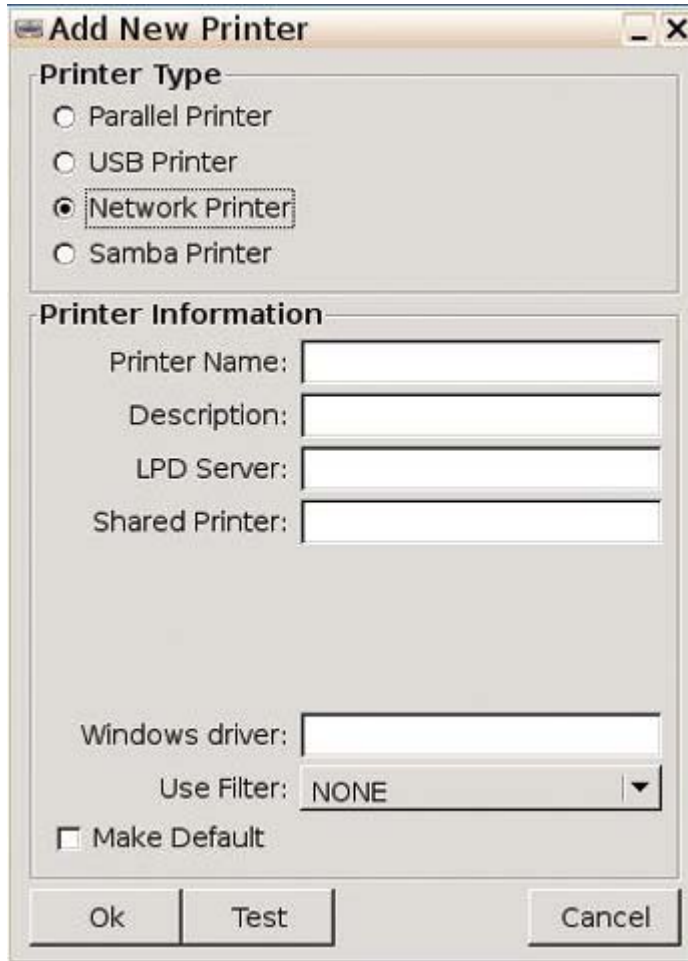
Windows driver:

Use Filter:

☐ Make Default

Ok Test Cancel

4. Select **Network Printer**.



Add New Printer

Printer Type

- ☐ Parallel Printer
- ☐ USB Printer
- ☒ Network Printer
- ☐ Samba Printer

Printer Information

Printer Name:

Description:

LPD Server:

Shared Printer:

Windows driver:

Use Filter:

☐ Make Default

Ok Test Cancel

5. Type a **Printer Name** and **Description** (optional).
6. Select the appropriate **Device Port**. If the list is empty, there is no printer connected to the client.
7. Fill in the **LPD Server** box. This value is the Printer Server IP address.
8. Fill in the **Shared Printer** box. This value is the shared printer name on the server.
9. If necessary, type a driver name in the **Windows driver** box. Citrix iCA and RDP use this field to set the printer driver for the session.



NOTE: You must type the windows driver name exactly as it is on the server.

10. From the **Use Filter** list, select **/usr/lib/lprng/filter/lpf**. If NONE displays, "lprng" is not installed
11. If you want to make this the default printer, select **Make Default**.
12. If desired, click **Test** to send a sample job to the printer.
13. Click **Ok** to save changes.

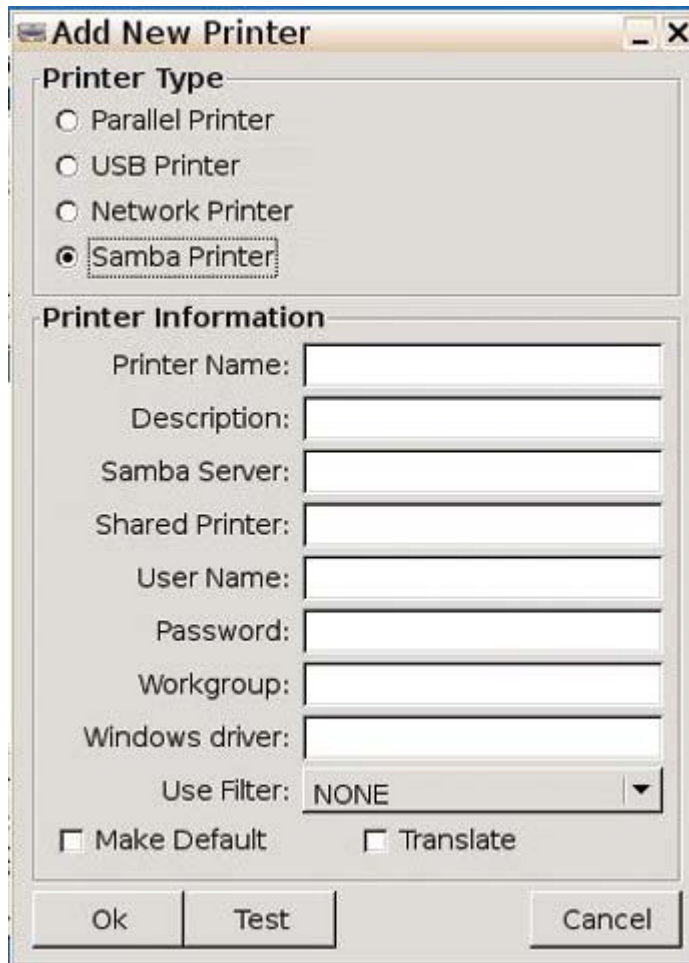
Samba printer

1. Select the **Printers** tab.
2. If **Load LPD Server at boot time** is not available, “lprng” is not installed. You must install “lprng” to enable printing.
3. Click **Add**.



The image shows a window titled "Add New Printer" with a standard Linux-style title bar (minimize, maximize, close buttons). The window is divided into two main sections. The top section, "Printer Type", contains four radio buttons: "Parallel Printer" (which is selected), "USB Printer", "Network Printer", and "Samba Printer". The bottom section, "Printer Information", contains several fields: "Printer Name:" followed by an empty text box; "Description:" followed by an empty text box; "Device Port:" followed by a dropdown menu showing "/dev/lp0"; "Windows driver:" followed by an empty text box; "Use Filter:" followed by a dropdown menu showing "NONE"; and a checkbox labeled "Make Default" which is currently unchecked. At the bottom of the window are three buttons: "Ok", "Test", and "Cancel".

4. Select **Samba Printer**.



Add New Printer

Printer Type

- ☐ Parallel Printer
- ☐ USB Printer
- ☐ Network Printer
- ☒ Samba Printer

Printer Information

Printer Name:

Description:

Samba Server:

Shared Printer:

User Name:

Password:

Workgroup:

Windows driver:

Use Filter: **NONE** ▼

☐ Make Default ☐ Translate

Ok **Test** **Cancel**

5. Type a **Printer Name** and **Description** (optional).
6. Select the appropriate **Device Port**. If the list is empty, there is no printer connected to the client.
7. Fill in the **Samba Server** box.
8. Fill in the **Shared Printer** box.
9. Fill in the **User Name**, **Password** and **Workgroup** boxes. These values are determined by your Windows Server configuration.
10. If necessary, type a driver name in the **Windows driver** box. Citrix iCA and RDP use this field to set the printer driver for the session.



NOTE: You must type the windows driver name exactly as it is on the server.

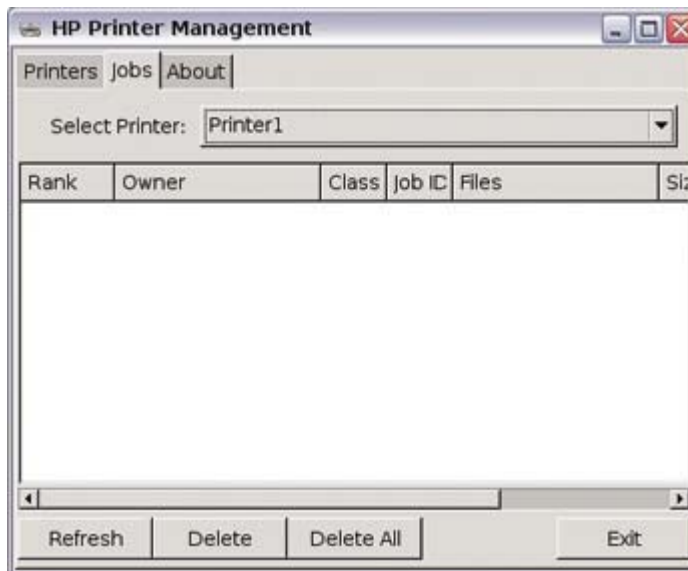
11. From the **Use Filter** list, select **/usr/lib/lprng/filter/lpf**. If **NONE** displays, “lprng” is not installed
12. If you want to make this the default printer, select **Make Default**.
13. If you want the system to automatically translate carriage returns when printing from Linux to Windows and Windows to Linux, select **Translate**.

14. If desired, click **Test** to send a sample job to the printer.
15. Click **Ok** to save changes.

Print jobs

To view print jobs:

1. Select the **Jobs** tab.



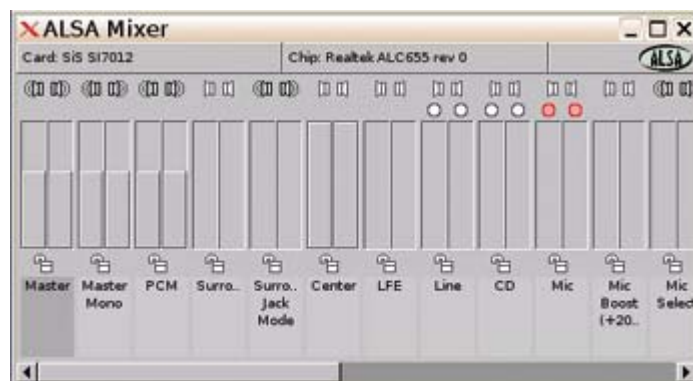
2. Select the printer to view from the **Select Printer** list.
3. Click the **Delete** or **Delete All** buttons to delete jobs from the print queue.

Sound — ALSA Mixer

The ALSA Mixer dialog box allows you to set a wide variety of sound controls for the thin client.

There are two ways to access the ALSA Mixer:

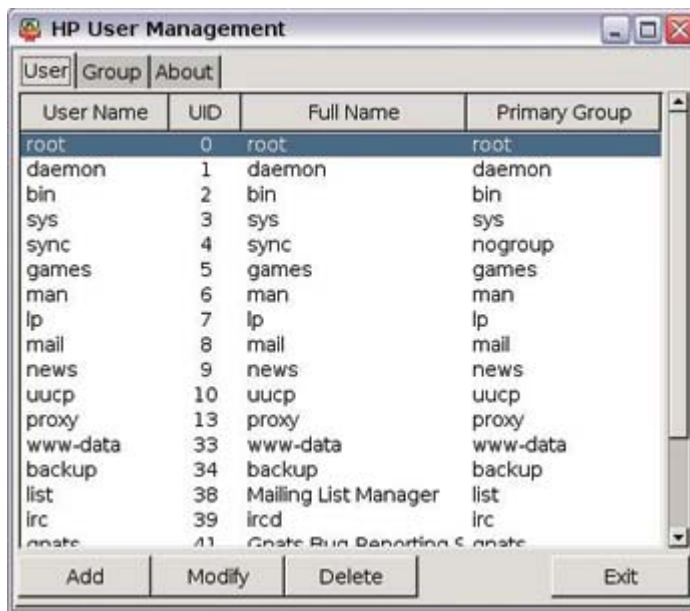
- Click the speaker icon on the taskbar.
- Click **Start > Programs > Apps > Sound > alsamixer**



For more information on ALSA Mixer go to <http://www.alsa-project.org/>

User Manager

The User Management utility allows you to create and modify user accounts and groups or configure the system to auto login as a specific user.



Managing a user account

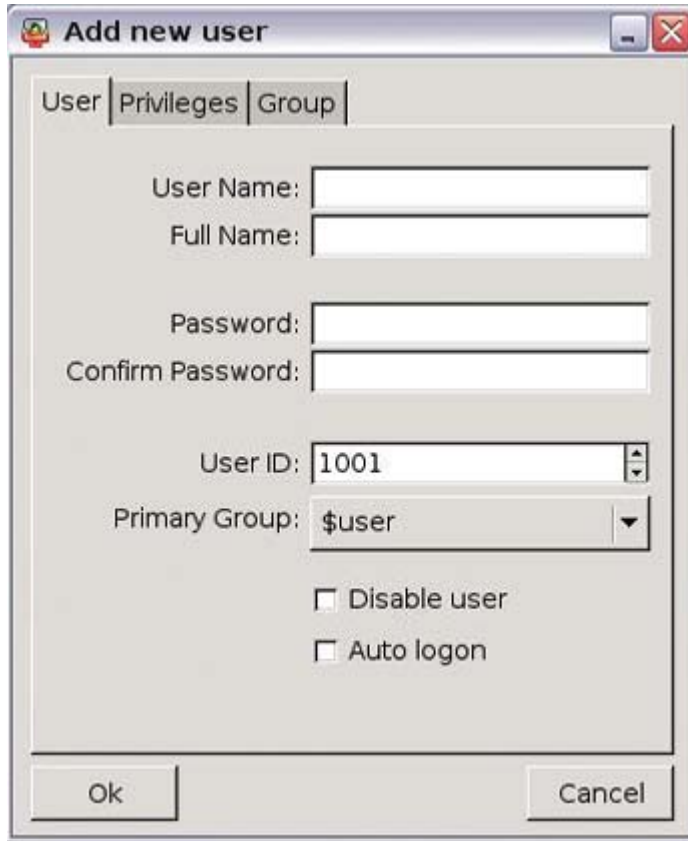
The following sections include instructions for adding, modifying, and deleting a user account.

Add a user

To add a new user:

1. In the User Management window, click the **User** tab.

2. Click **Add**, and then click the **User** tab.



The screenshot shows a window titled "Add new user" with three tabs: "User", "Privileges", and "Group". The "User" tab is selected. Inside the tab, there are several input fields: "User Name:", "Full Name:", "Password:", "Confirm Password:", "User ID:" (with a dropdown arrow showing "1001"), and "Primary Group:" (with a dropdown arrow showing "\$user"). Below these fields are two checkboxes: "Disable user" and "Auto logon". At the bottom of the window are "Ok" and "Cancel" buttons.

3. Type a user name and the associated user's full name.
4. Type a password for the account in the **Password** and **Confirm Password** boxes.
5. Type or select a user ID in the **User ID** box.
6. To add the user to an existing group, select a group name from the **Primary Group** list.
7. If you want to disable the user account, select **Disable user**
8. If you want to enable automatic logon for the account, select **Auto logon**.



NOTE: The root user is not permitted to auto logon.

9. Click **Ok** to save changes.

Modify a user account

To change user access:

1. In the User Management screen, select a user.

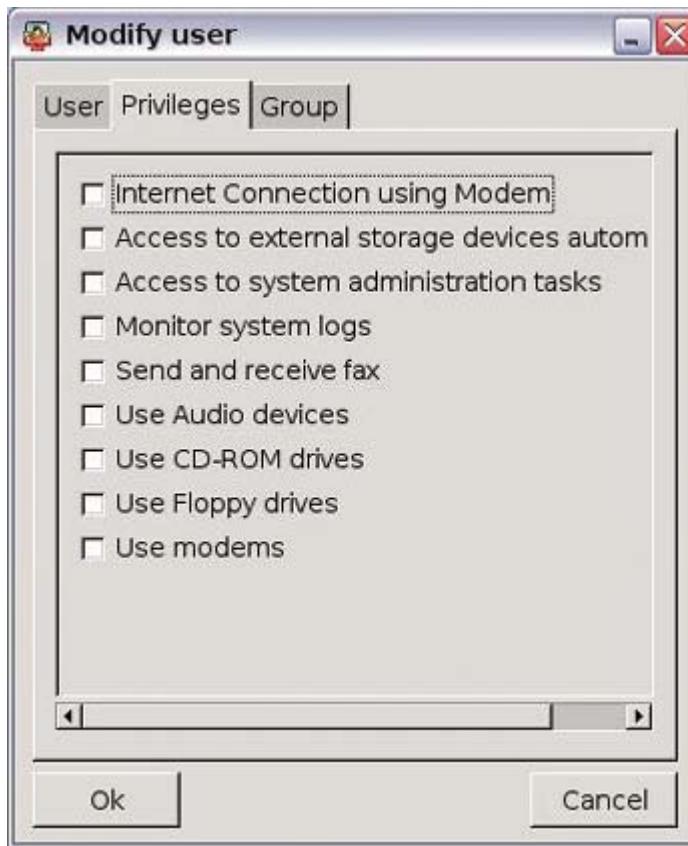
2. Click **Modify**. The Modify user dialog box opens. You can change the user name, disable the user account, reset the password, change the user ID, and change the primary group for the user account.

The screenshot shows a 'Modify user' dialog box with the following fields and options:

- User Name:** User1
- Full Name:** user1
- Password:** masked with asterisks
- Confirm Password:** masked with asterisks
- User ID:** 1001
- Primary Group:** USER1
- ☐ Disable user
- ☐ Auto logon

Buttons: Ok, Cancel

3. If you want to change user privileges, click the **Privileges** tab and make the desired changes. Each privilege is associated with one or more groups on the **Group** tab.



NOTE: The **Access to system administration tasks** option assigns the account to the Administrator group, which allows users to perform administrative tasks after logging on with their own password instead of a root user password.

4. If you want to change group associations for the account, click the **Group** tab and make the desired changes.
5. Click **Ok** to save changes.

Delete a user

To delete a user:

1. In the User Management screen, select a user.
2. Click **Delete**, and then click **Ok** to confirm the deletion.

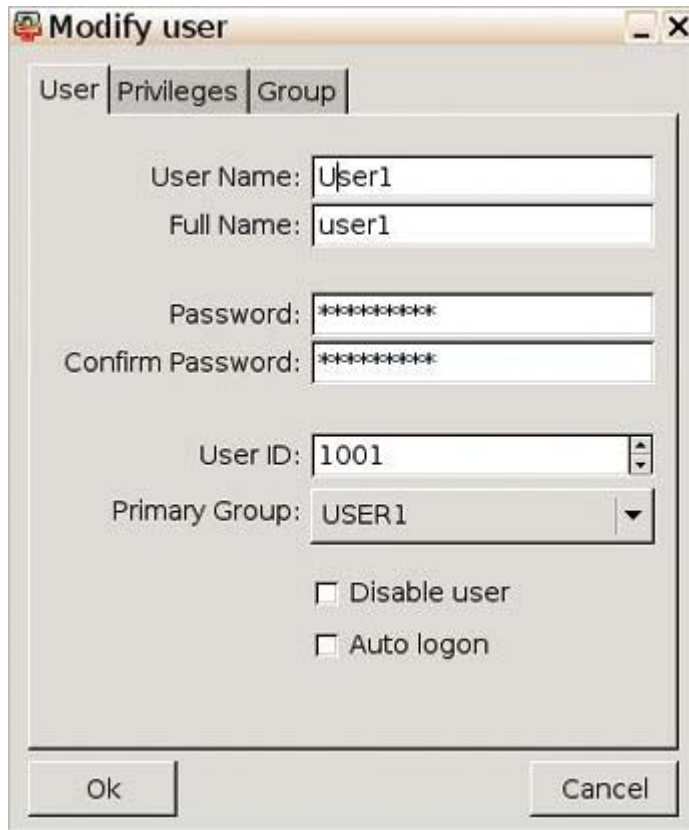
Automatic logon

You can set a user (except for the root user) to automatically log on at reboot.

For more information about adding and defining users, see [User Manager on page 27](#).

To enable automatic login for a user:

1. From the desktop, select **Settings**.



2. Click the **System Tools** tab.
3. Select **Users Manager**.
4. Select the user for which to set up automatic login.
5. Click **Modify**.
6. Select **Auto Login**.
7. Click **Ok**.
8. Click **Exit**.



NOTE: To stop the auto login process from outside the root account, open an xterm session or press **Ctrl+Alt+F2**, log in as root (su root), and then run `/usr/share/hp/panel/hpusers_app`. Select the auto-login user and clear the box.

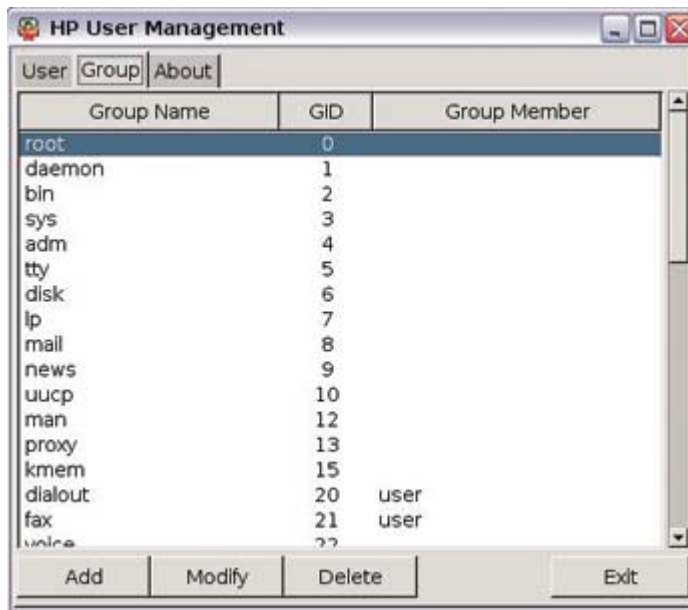
Managing a group

The following sections include instructions for adding, modifying, and deleting a group.

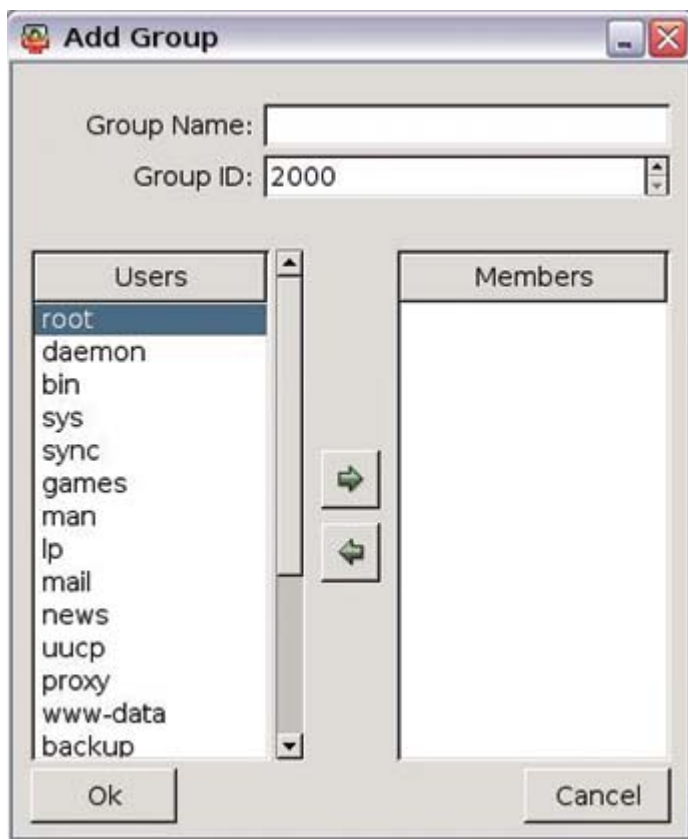
Adding a group

To add a new group:

1. In the User Management screen, click the **Group** tab.



2. Click **Add**.



3. In the **Group Name** box, type a group name.
4. Type or select an ID for the group in the **Group ID** box.
5. To add users to this group, select a user from the **Users** list, and then click the **Right arrow**.
6. To remove users from the group, select the user from the **Members** list, and then click the **Left arrow**.
7. Click **Ok** to save changes.

Modifying a group

To change user access:

1. In the User Management screen, click the **Group** tab.
2. Type or select a group, and then click **Modify**.
3. To add users to this group, select a user from the **Users** list, and then click the **Right arrow**.
4. To remove users from the group, select the user from the **Members** list, and then click the **Left arrow**.
5. Click **Ok** to save changes

Deleting a group



NOTE: You must delete all users from a group before you can delete the group.

To delete a group:

1. From the User Management screen, click the **Group** tab.
2. Select the group to delete, and then click **Delete**.
3. Click **Ok** to confirm.

Thin State

Thin State capture and deploy allows you to capture a thin client image and deploy it to other thin clients of the same model.

Thin State Capture

The HP ThinState Capture tool is a simple wizard-based tool that 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.

What do you need to have?

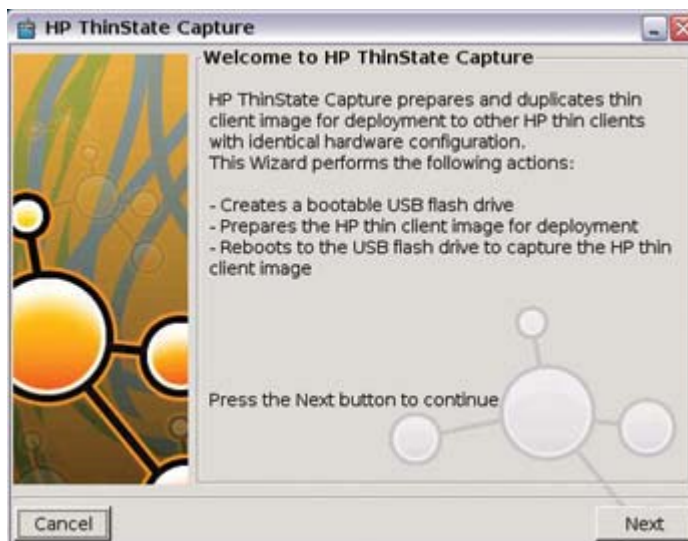
- An HP thin client Linux unit that contains the latest HP provided image.
- An HP-approved USB drive key.



NOTE: The HP ThinState Capture tool is not a standalone tool and can only be accessed by the administrator from within the thin client image.

NOTE: Save all data on the USB flash drive on some other device prior to performing this procedure. The USB flash drive will be formatted and all data will be lost.

1. Once you launch the ThinState Capture tool from within the Control Panel, you are presented with the following screen.



2. Click **Next**.



3. At this point, attach to the unit a USB drive key. The drive key drive letter and size are displayed. The drive key must be greater in size than the on-board flash disk. As a result, if your thin client has 512-MB Flash, then the USB drive key must be 1 GB. Once the right drive key size is attached, the following screen displays.
4. Click **Capture**.
5. Click **Yes** on the warning screen. The ThinState Capture tool formats and makes the USB flash drive bootable. ThinState Capture will now reboot the system.

After you perform these actions, the ThinState Capture tool displays the following screen. Please follow the on-screen instructions.

You can now use the USB flash drive to deploy the captured image to another HP thin client of the exact same model and hardware.

Thin State Deploy

To perform a ThinState deployment:

1. Set the boot order in the F10 System Bios to USB boot (if necessary).
2. Attach the USB flash drive to the thin client unit you wish to deploy the captured image to, and then power on the unit.
3. Follow the on-screen instructions.

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

You may use the captured image (flash.dd) found in the USB flash drive in combination with Altiris Deployment Solution to remotely image multiple thin client units.



NOTE: You must use flash.dd in conjunction with HP's ThinState Deploy utility (e.g. ibr.exe). Flash.dd is not compatible with Altiris' rdeploy.exe or rdeplyt.exe utilities. Please consult the HP Compaq Thin Client Imaging Tool at: <http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00485307/c00485307.pdf>

For more information about Altiris, see <http://www.altiris.com/>.

FTP Update

Use this window to enable automatic FTP updates as an alternative to Altiris Deployment Solution. Enabling this feature allows you to configure the thin client to check a specific ftp location for a newer image or package upon reboot.



NOTE: FTP Update does not support full image updates on the t5725.



The Network Administrator can set up the DHCP Scope Options for FTP server. You can find these options at /etc/ftpclient.conf, and include:

- 180 – force ftp imaging
- 181 – ftp server ip
- 182 – ftp server path
- 183 – user name
- 184 – password
- 190 – altiris server ip

For more information, see the FTP white paper at <http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00555197/c00555197.pdf>.

3 HP Connection Administrator

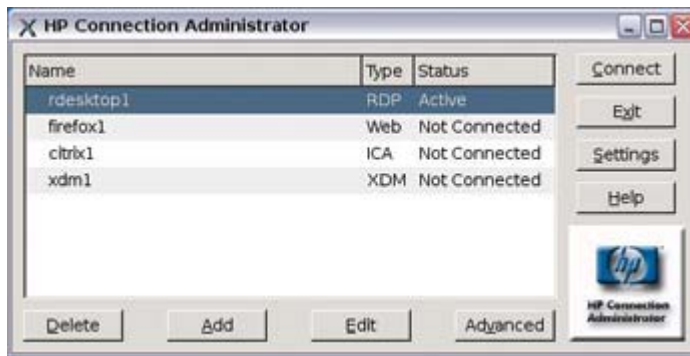
HP Connection Administrator allows you to manage server and application connections by setting up Web, RDP, XDM, ICA, and other types of connections and assigning them to users.

To access all HP Connection Administrator functionality, you must log in with root permissions as a member of the root group; however, non-root users can run and be assigned to connections.

HP Connection Administrator window

HP Connection Administrator allows you to start, add, edit, and delete connections.

Click the **Connections** icon on the desktop to access HP Connection Administrator.



NOTE: You must log in with root permissions to access all components of the HP Connection Administrator window.

The HP Connection Administrator features the following:

- **Connections Display:** Lists all server and/or application connections assigned to the user currently logged on to the terminal. For each connection, the display shows the name, type, and status of the connection.



NOTE: Double-click any displayed connection to activate that connection.

- **Connect:** Click to activate a selected connection.
- **Exit:** Click to exit HP Connection Administrator if the terminal is not in Kiosk mode. If the terminal is in Kiosk mode, click this button to end the session. If you are a member of the admin or shutdown groups, the thin client displays options to turn off or reboot the terminal.

- **Settings:** Click to access the Settings applications. For more information, see [Control Panel Settings on page 11](#).
- **Delete:** Click to delete a selected connection. The connection is deleted from the list of connections available to all users, not just the user currently logged on to the terminal.
- **Add:** Click to create a new connection and add it to the list of connections assigned to the user currently logged on to the terminal. You can assign the new connection to other users in the Advanced Configuration utility. For more information, see [Adding, editing, and deleting connections on page 38](#).
- **Edit:** Click to edit the selected connection. For more information, see [Adding, editing, and deleting connections on page 38](#).
- **Advanced:** Click to access the Advanced Configuration utility, where you can configure and assign connections and configure the terminal user interface. For more information, see [Advanced Configuration utility on page 51](#).

Adding, editing, and deleting connections

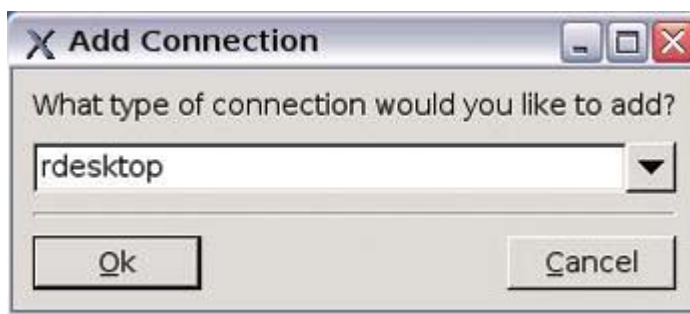
You can add, edit, or delete connections in the HP Connection Administrator or in the Advanced Configuration utility. However, you need to note the following important difference based on *where* you add connections:

- Adding a connection in the HP Connection Administrator *only* adds it to the list of connections assigned to the user currently logged on to the terminal.
- Adding a connection in the Advanced Configuration utility automatically adds the connection to the currently selected user. The new connection will also be available in the Advanced Configuration utility for assignment to other users.

For more information about the different types of connections, see the related sections later in this chapter.

To add, edit, or delete a connection:

1. Click **Add**. The system displays the Add Connection dialog box, which lists the connection types registered with the system.



2. Select the type of connection you want to create and click **OK**. For more information, see
3. Follow the on-screen instructions to add the connection to the user's connections list and to the list of available connections that you can assign to other users in the Advanced Configuration utility.
4. To edit the connection, select the connection and click **Edit**.
5. To delete the connection, select the connection and click **Delete**. The connection is deleted from all user connection lists.

Connection types

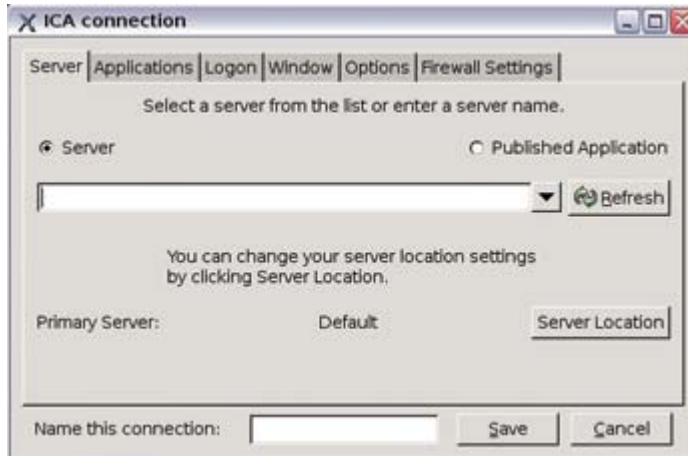
You can use the HP Connection Administrator to create the following types of connections:

- Citrix ICA
- Firefox
- rdesktop
- XDM
- Other

Citrix ICA

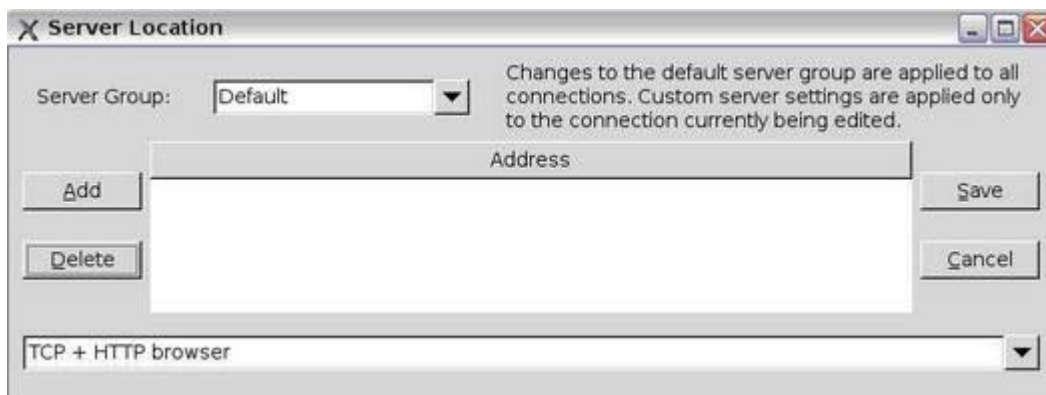
Use the following tabs to configure a Citrix ICA connection:

- **Server:** Allows you to choose published applications or add a server and to configure server location settings.



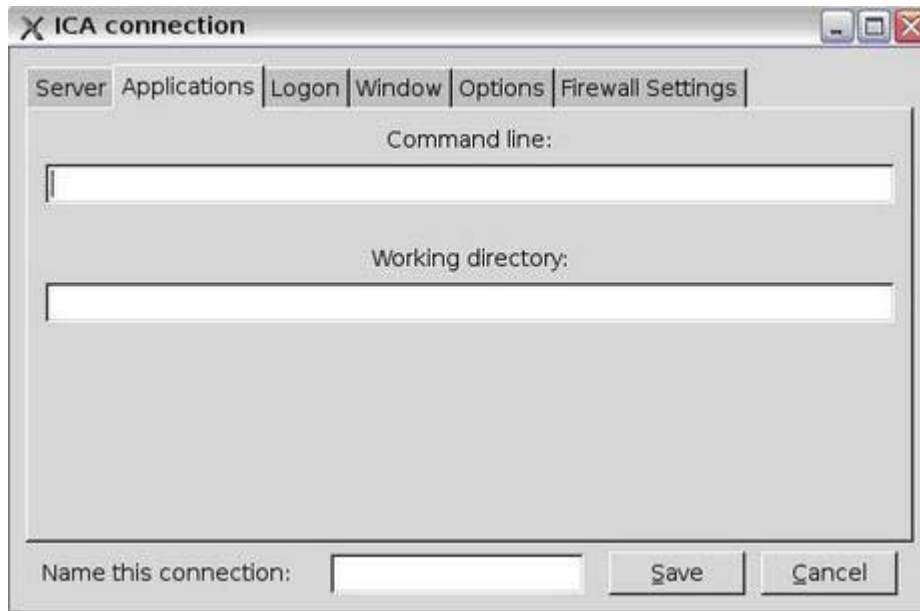
Select the appropriate button depending on whether the connection being created is to a server or to a published application. Click the **Refresh** button to update the list of available connections of that type or a specific server name you can type.

Server Location button: Click to launch the Server Location screen where you can add or delete specific server connections for all connections or for this specific connection. To add or delete connections for all ICA server connections, select **Default** from the **Server Group** list. To add or delete ICA server connections for this specific connection, select **Custom** from the **Server Group** list. You can modify settings for a newly added ICA server connection using the **Global ICA Setting** button on the HP Connection Administrator screen. For more information about Connection Administrator, see [HP Connection Administrator on page 37](#)



NOTE: Adding or deleting ICA servers from the **Default** group on this screen adds or removes them for all ICA connections.

- **Applications:** Allows you to select applications by entering a command line.



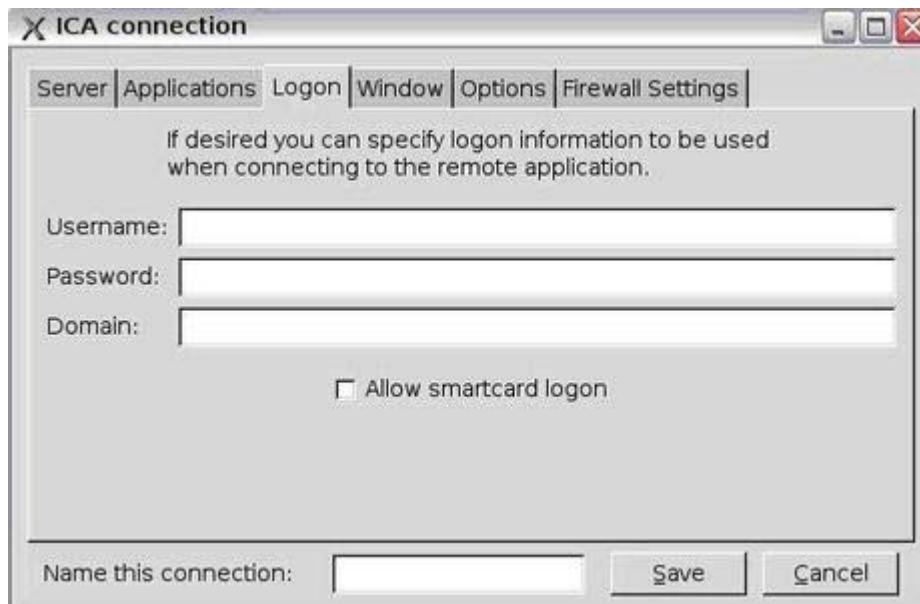
The screenshot shows the 'ICA connection' dialog box with the 'Applications' tab selected. The dialog has a title bar with a close button and standard window controls. Below the title bar are tabs for 'Server', 'Applications', 'Logon', 'Window', 'Options', and 'Firewall Settings'. The 'Applications' tab contains two text input fields: 'Command line:' and 'Working directory:'. At the bottom, there is a 'Name this connection:' label followed by a text input field, and 'Save' and 'Cancel' buttons.

Command line: If required, type the specific command line to launch an application. The user's Citrix environment determines whether the a command line is required.

Working directory: If required, type the working directory information for the user's specific environment.

- **Logon:** Allows you to specify logon information for connecting to a remote application.

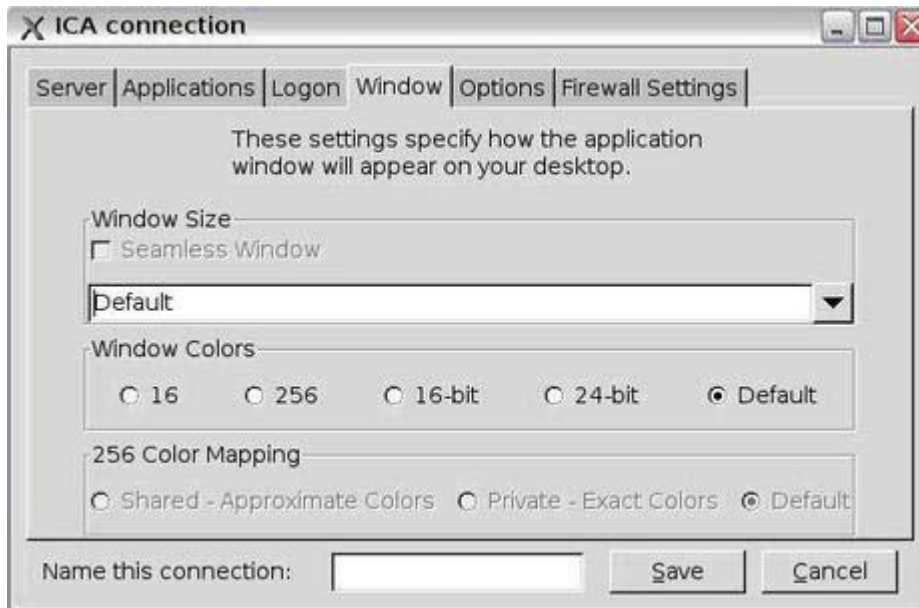
If desired, you can specify logon information to be used when connecting the remote application.



The screenshot shows the 'ICA connection' dialog box with the 'Logon' tab selected. The dialog has a title bar with a close button and standard window controls. Below the title bar are tabs for 'Server', 'Applications', 'Logon', 'Window', 'Options', and 'Firewall Settings'. The 'Logon' tab contains a text area with the instruction: 'If desired you can specify logon information to be used when connecting to the remote application.' Below this are three text input fields: 'Username:', 'Password:', and 'Domain:'. There is also a checkbox labeled 'Allow smartcard logon'. At the bottom, there is a 'Name this connection:' label followed by a text input field, and 'Save' and 'Cancel' buttons.

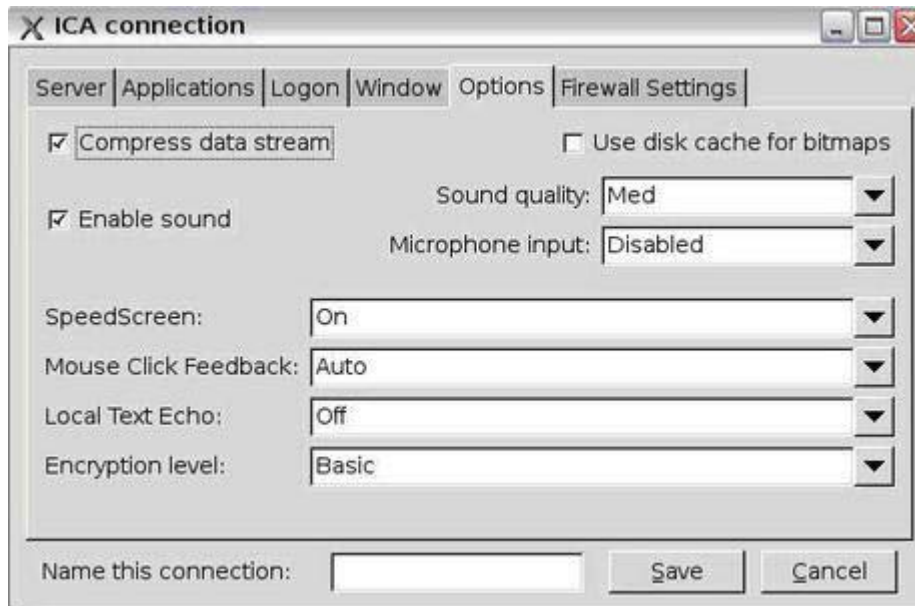
Select **Allow smartcard logon** to enable smart card authentication with ICA connections.

- **Window:** Allows you to specify how the application window size and color.



Select **Seamless Window** to enable the connection to start in seamless windows mode.

- **Options:** Allows you to configure the following options:



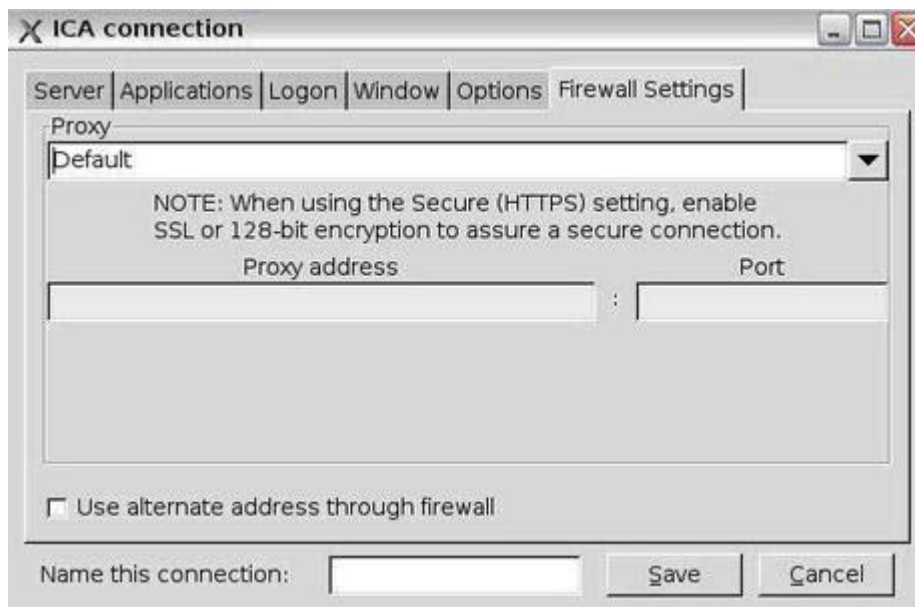
Microphone input links into the audio input in ICA global settings. If the ICA global setting is disabled, the setting within the connection is not applied. In general, refer to Citrix documentation for a description of settings at: http://support.citrix.com/servlet/KbServlet/download/180-102-12980/Unix_Client_Admin_Guide.pdf



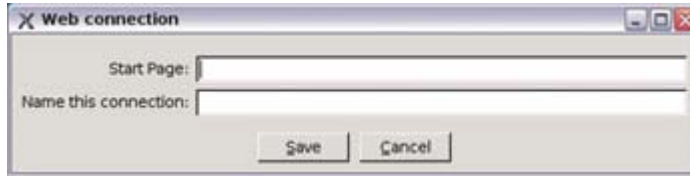
NOTE: There is no one best configuration for these options. Each option may or may not be beneficial to the connection depending on the installed Citrix ICA environment.

NOTE: **Use disk cache for bitmaps** option may be slower and cause excessive wearing of the flash drive.

- **Firewall Settings:** Allows you to configure the proxy address and port.



Firefox connection



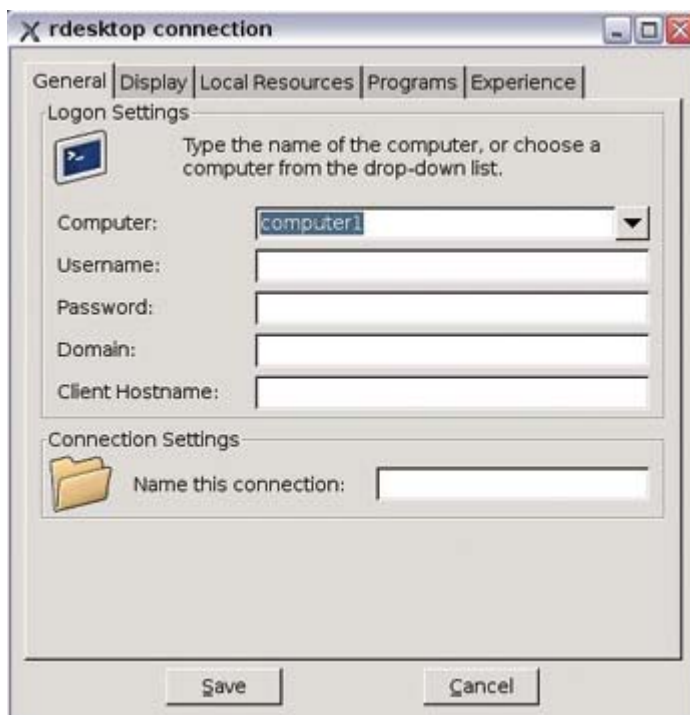
The Firefox connection allows you to create a browser connection.

You must complete the following settings to configure this connection:

- **Start Page:** Enter the Web address to launch with this connection.
- **Name this connection:** Type a name to associate with this connection.

rdesktop connection

This connection allows you to set up a remote desktop connection. rdesktop is an open source client capable of speaking Remote Desktop Protocol (RDP). Unlike Citrix ICA, rdesktop requires no server extensions.



You can configure the rdesktop connection using the following tabs:

- **General**
Allows you to select a remote computer and provide the logon credentials for accessing this computer.
To select a computer:
 1. Type the computer name or select a computer from the drop-down menu.
 2. Enter the user name and password.

3. Enter the domain (optional).
4. (Optional) In the **Client Hostname** box, type the host name for the terminal services session. This entry allows you to dictate what is displayed when viewed shared resources.
5. In **Connection Settings** section, type a name for the connection.

- **Display**

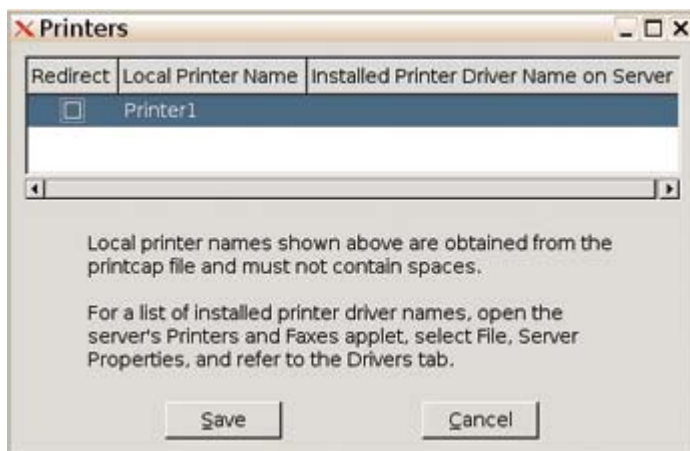
Allows you to configure the size and color of the remote desktop.



NOTE: Settings on the remote computer might override this setting. The remote computer may be unable to pass to the thin client the requested settings.

- **Local Resources**

Allows you to configure local devices.



This window allows you to configure the following:

- Remote computer sound, which allows you to play the remote computer's sound on your thin client, play no sound at all, or leave the sound at the remote computer.
- The desired keyboard language.
- Connection to the following local devices:
 - disk drives - Type the path. Using a symbolic link may result in undesirable behavior.
 - printers - Type the path to the printer.
 - parallel ports - Type the location of the physical device. The default is **/dev/lp0**.
 - serial ports - Type the location of the physical device. The default is **/dev/ttyS0**.

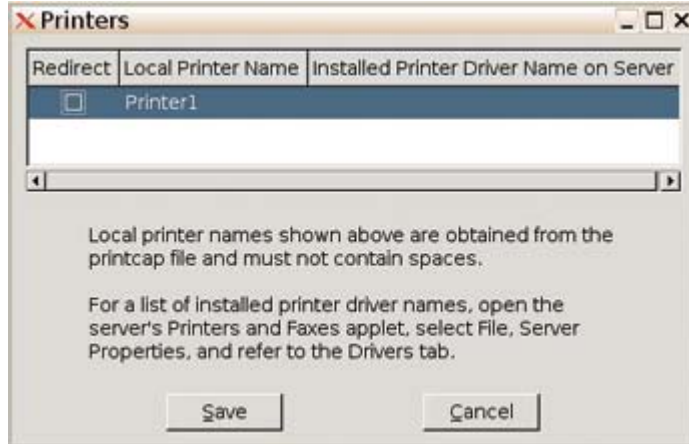
For more information, type the `rdesktop` command in the console.



NOTE: To forward `rdesktop` connections, HP recommends redirecting from `/media/usb0` (where 0 = 1st device, 1 = 2nd device, 2 = 3rd device, 3 = 4th device) for hard drive and USB drive key. As devices are added and removed, links are automatically created in this location. For USB CD-ROM drives, redirect from `/media/cd`.

You can change device ownership and attributes by editing `/etc/fstab`. See “man `fstab`” and “man `mount`” for details. You can type `man fstab` or `man mount` at a `xterm` session command line to display the options and settings available for editing and configuring “`fstab`”.

If you select the **Printers** box, the following window is displayed.



This window displays installed printers for you to select.

- ☐ Select the printer to redirect.



NOTE: When creating an `rdesktop` connection, if you receive a printer error, for example, “Couldn’t open printcaps,” make sure you properly installed the printer using the printing applet in the system setting control panel.

- **Programs**

Allows you to launch programs through the remote desktop connection.

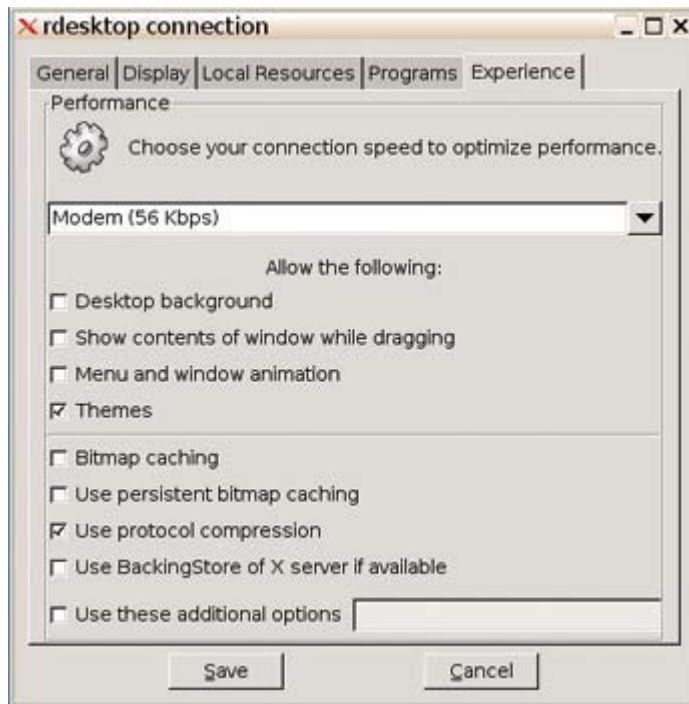


To launch a program:

1. Select **Start the following program on connection**.
2. Type the program path and file name.
3. Type the folder from which you want the program to launch.
4. Click **Save**.

- **Experience**

Allows you to configure the thin client desktop and performance factors.



You can configure the following:

- **Connection speed:** Select the speed at which the thin client connects.
- **Desktop background:** Select to allow a desktop background to display.
- **Show contents of window while dragging:** Select to allow the contents of windows to display when you drag the window.
- **Menu and window animation:** Select to allow menu and window animation.
- **Themes:** Select to allow themes.
- **Bitmap caching:** Select to allow bitmap caching, which places commonly used bitmaps in a file on the thin client. This process improves performance by minimizing the amount of display information that must be passed over a connection.



NOTE: Depending upon connection configuration, selecting **Bitmap caching** may or may not improve performance.

- **Use persistent bitmap caching:** Select to allow persistent bitmap caching, which stores bitmaps that are sent from the server on permanent media, such as a hard disk. Upon connection, the thin client informs the server of the bitmaps it has so that the server does not have to resend them.



NOTE: Depending upon connection configuration, selecting **Use persistent bitmap caching** may or may not improve performance.

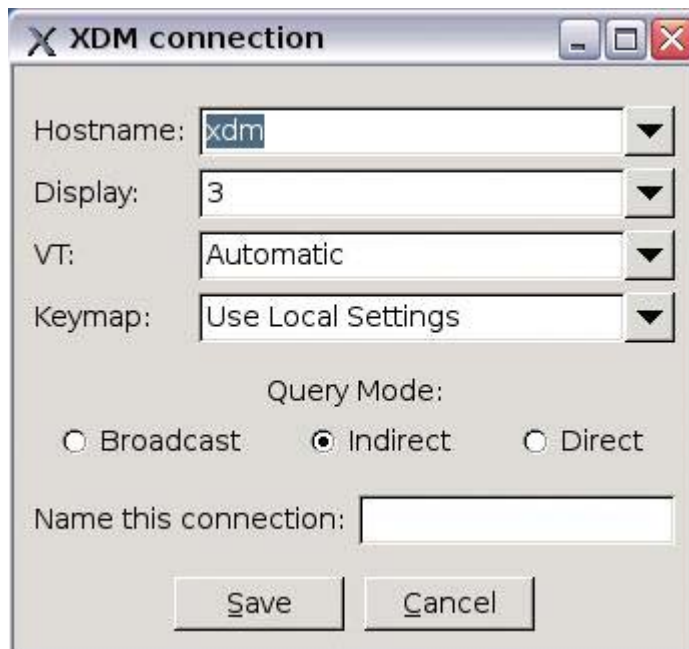
- **Use protocol compression:** Select to enable protocol compression, which makes communication between computers faster.

- **Use BackingStore of X server if available:** Select to enable BackingStore. A BackingStore contains the set of operations that can be performed on a JNDI Attributes. Java Naming and Directory Interface (JNDI) is a programming interface (API) that allows you to connect Java programs to naming and directory services such as DNS, LDAP, and NDS.
- **Use these additional options:** Select and populate to use additional rdesktop options.

For additional information, please visit the rdesktop Web site at: <http://www.rdesktop.org>.

XDM connection

The X Display Manager (XDM) connection window allows you to create and configure an XDM connection.



The following is a list of configuration options:

- **Hostname:** Type the XDM server name or server IP address.
- **Display:** Select the Linux display setting for this XDM connection to utilize. The display number determines which display to use.
- **VT (Virtual Terminal):** Select **Automatic**. Consoles 9 thru 12 are available, and you can enable other consoles by editing `/etc/inittab`. For example, to select **Automatic**, press **Ctrl+Alt+F9** to access the first XDM display. To select VT 12, press **Ctrl+Alt+F12** to access the fourth XDM display.
- **Keymap:** Select whether to use the language based on the local thin client settings, the server settings, or select a specific language.

- **Query Mode:** Select the type of XDM connection:
 - **Broadcast:** Uses the first host that replies.
 - **Indirect:** Provides a list of available hosts.
 - **Direct:** Uses a single host.
- **Name this connection:** Type a name to associate with this XDM connection.

Other

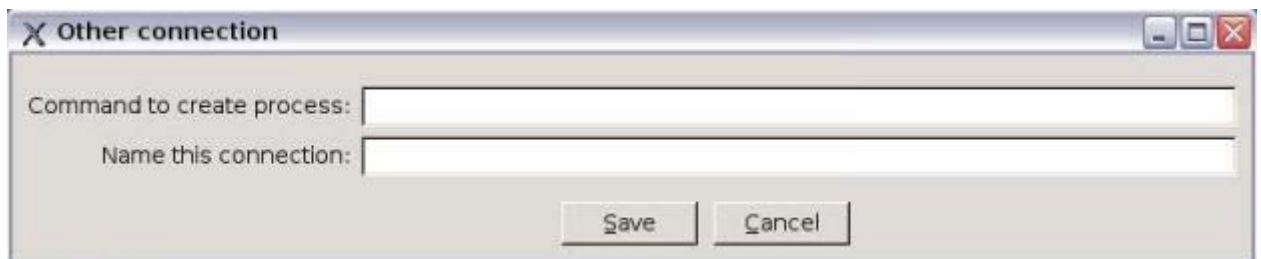


NOTE: If a command is not properly interpreted by the shell, place commands in a script and run the script as an “other” connection.

The Other connection dialog box allows The HP Connection Administrator to launch any other applications or command lines that are available on the system. For example, to launch an Xterm and then execute the command `ls`, enter `xterm -hold -e ls` in the **Command to create process** box.



NOTE: If you are using HP Connection Administrator, you need to use a command such as `xterm -hold -e ls`, so the commands output is available in the xterm.

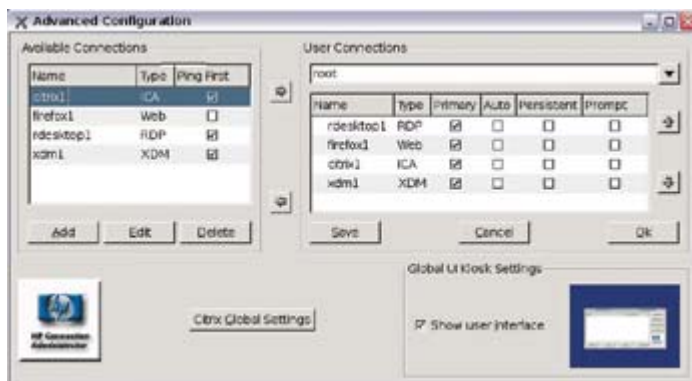


Advanced Configuration utility

You can configure and assign connections and configure the user interface for the terminal in the Advanced Configuration utility. To access the utility, click the **Advanced** button on the HP Connection Administrator window.

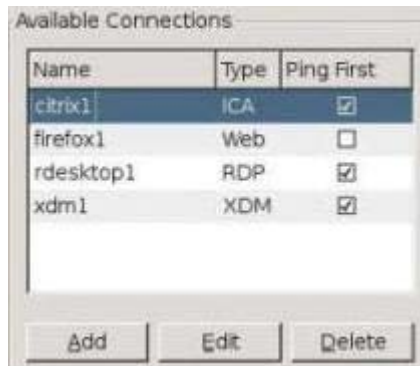


NOTE: You must log in with root permissions to access the Advanced Configuration utility.



Configuring available connections

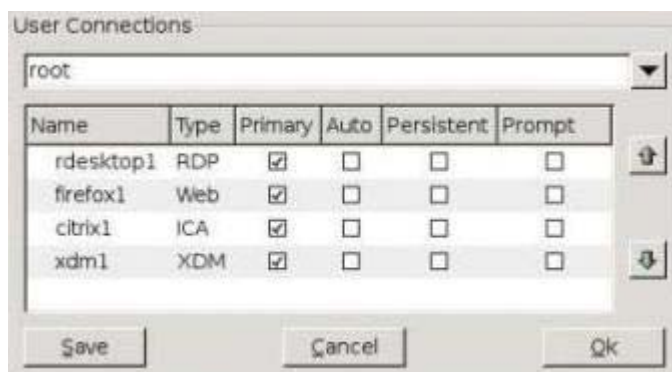
The **Available Connections** area on the left side of the screen lists all connections that you can assign to users. Use the following features to modify, add, or delete connections:



- **Ping First** column: Allows you to enable Connection Administrator to ping the server before attempting a connection. If the server name fails to resolve or the server fails to respond to the ping, the thin client aborts the connection attempt. If you are having trouble establishing a connection, disable **Ping First**.
- **Add**: Click to create a new connection and add it to the list of available connections in the current user's connection list. For more information, see [Adding, editing, and deleting connections on page 38](#).
- **Edit**: Click to edit a selected connection. For more information, see [Adding, editing, and deleting connections on page 38](#).
- **Delete**: Click to delete a selected connection. The connection is deleted from the lists of connections assigned to all users. For more information, see [Adding, editing, and deleting connections on page 38](#).

Configuring user connections

The **User Connections** area on the right side of the screen displays all connections currently assigned to the user selected from the drop-down list at the top of the window. Select a user from the list and use the following features to configure connections for the user:



- **Name**: Displays the name of the connection. You cannot change the connection name.
- **Type**: Displays the type of connection (Web, RDP, XDM, ICA, or other). You cannot change the connection type from this column.

- **Primary:** Select to designate a connection as primary. The thin client attempts secondary connections if the primary connection fails. If more than one secondary connection is associated with a primary connection, the thin client prioritizes the secondary connections starting with the first connection in the group.
- **Auto:** Select to designate whether a user is automatically logged on when HP Connection Administrator starts up. You must log in using the root account to enable or disable automatic connections.
- **Persistent:** Select to designate whether the system will attempt to reconnect when a connection fails. You can only make primary connections persistent.
- **Prompt:** Select to configure the system to determine whether a user is still using the thin client after a group of connections fails. Clear this check box to allow the system to continue to cycle through the connections in the group.



NOTE: The user must quit the current session to disable automatic connection.

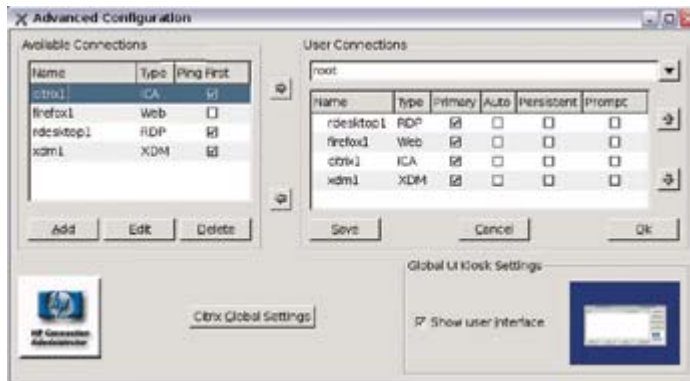
- **Right arrow:** Click to add a selected Available Connection (left list box) to the selected user's connection list (right list box).
- **Left arrow:** Click to add a selected Available Connection (left list box) to the selected user's connection list (right list box).
- **Up arrow:** Click to move a selected user connection up in the list.
- **Down arrow:** Click to move a selected user connection down in the list.
- **Save:** Click to save changes made to user connections and user interface settings.
- **Cancel:** Click to cancel unsaved changes made to user connections and user interface settings and exit the Advanced Configuration utility.
- **OK:** Click to save changes made to user connections and user interface settings and exit the Advanced Configuration utility.

Assigning connections to users

After creating a connection using the root account, you can assign it to users.

To assign a connection to users:

1. In the HP Connection Administrator, click the **Advanced** button to access the Advanced Configuration utility.



2. Under **User Connections**, select the appropriate user.
3. Under **Available Connections**, select the connection in the list of available connections, and then click the **Right arrow** button to copy the connection to the list of connections for the user.
4. Click **Save** to save the updated list of connections for the user.

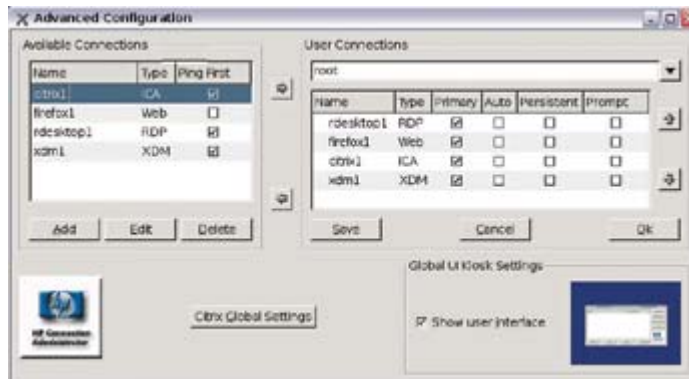
Configuring connections as primary, secondary, or to auto connect

Use the following procedure to configure connections in the Advanced Configuration utility.

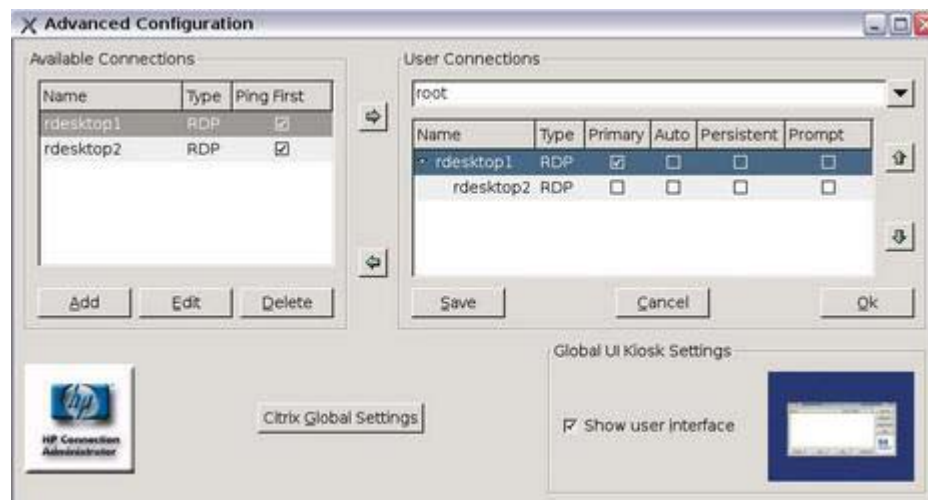
- You can designate connections as primary or secondary. A primary connection is the first attempted in a group of connections. Secondary connections are attempted if the primary connection fails, and attempt to connect in their listed order. You can assign several primary connections, each with several associated secondary connections.
- You can set primary connections to automatically connect when HP Connection Administrator starts up.
- You can set primary connections to automatically reconnect if the connection is lost.

To configure connections:

1. In the HP Connection Administrator, click the **Advanced** button to access the Advanced Configuration utility.



2. Under **User Connections**, select the appropriate user.
3. Select the connection in the user's connection list that you want to modify.
4. If you want to make a connection a primary connection:
 - a. In the **Primary** column, select the check box.
 - b. To assign a secondary connection to the primary connection, clear the check box in the **Primary** column that you want to be the secondary connection. The connection becomes a secondary connection to the first primary connection directly above the secondary connection in the list.



- c. To arrange the connections in the order that you want them to connect, select a connection and click the **Up arrow** and **Down arrow** to move the connection. Secondary connections are always associated with the first primary connection above them in the list.
- d. Click **Save** to save your changes.



NOTE: Since each secondary connection must have an associated primary connection listed above it, the connection at the top of the list must be a primary connection.

5. If you want to set automatic connections:
 - a. In the **Auto** column, select the check box.
 - b. Click **Save** to save your changes.



NOTE: You can set only primary connections to automatically connect when HP Connection Administrator is launched.

6. If you want to set automatic reconnections:
 - a. In the **Persistent** column, select the check box.



NOTE: You cannot disable automatic connection unless the user quits the current session.

- b. Click **Save** to save your changes.



NOTE: You can set only primary connections to automatically reconnect.

GLOBAL UI (User Interface) in KIOSK Mode

Global UI Kiosk Settings allows you to change the way the user interface displays. The preview pane to the right of the check box indicates how the user interface will display.



Show User Interface: Select to display the HP Connection Administrator. Clear this box to further lock down the terminal by hiding the HP Connection Administrator window for users who are not in the root group. You can use this feature for connections set to automatically start at boot up where the HP Connection Administrator window is not needed.



NOTE: The user interface is always shown for users in the root group.

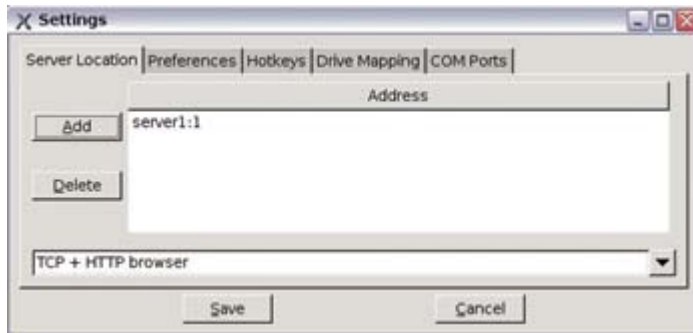
NOTE: You must reboot the terminal for changes to take effect.

Setting Citrix global settings

Click the **Citrix Global Settings** button to configure global Citrix settings.

Server Location

Use this tab to add or modify Citrix servers.

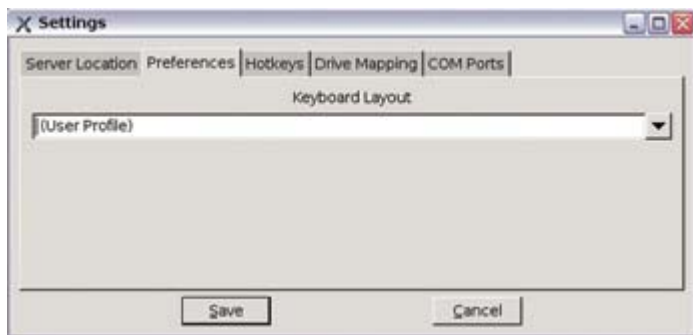


To add a server:

1. Select the browser type from the list in the box at the bottom of the dialog box.
2. Click **Add**.
3. Type the server address and port number.
4. Click **OK**.
5. Select the appropriate browser from the pull-down menu at the bottom of the window.
6. Click **Save**.

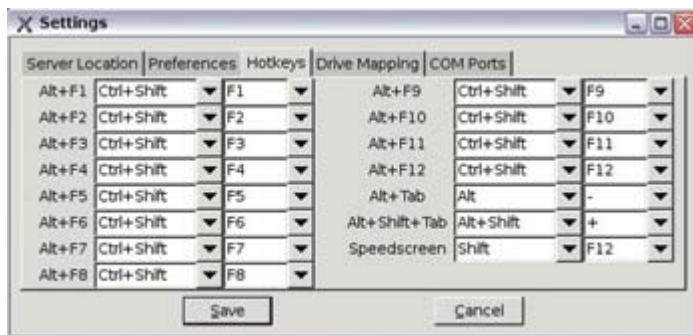
Preferences

Use this tab to select the keyboard language.



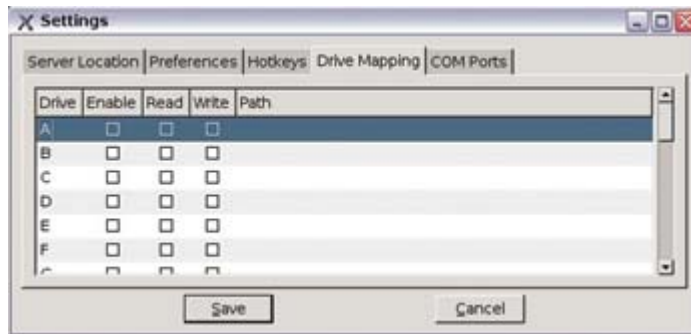
Hotkeys

Use this tab to configure thin client hot keys.



Drive Mapping

Use this tab to assign drive numbers to drives and configure whether the drive is enabled, readable, and writeable.



To configure a drive:

1. Click the drive letter to configure.
2. Select the **Enable**, **Read**, or **Write** check boxes to assign those characteristics to the drive.
3. With the drive letter selected, click in the **Path** column.
4. Type the drive path.

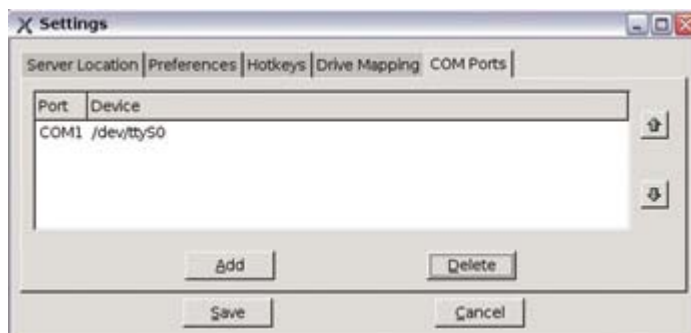


NOTE: The preferred method of forwarding in Citrix connections with the HP Linux image is to redirect from `/media/usb0` (where `0` = 1st device, `1` = 2nd device, `2` = 3rd device, `3` = 4th device) for hard drive and USB drive key. As devices are added and removed, links are automatically created in this location. For USB CD-ROM drives, redirect from `/media/cd`. This setting will be in place for all Citrix connections from this unit.

You can change device ownership and attributes by editing `/etc/fstab`. See “man fstab” and “man mount” for details. You can type `man fstab` or `man mount` at a xterm session command line to display the options and settings available for editing and configuring “fstab”.

COM ports

Use this tab to map devices to communication ports.



To map devices:

1. Click **Add**.
2. Under **Folders**, select the location of the device.
3. Under **Files**, select the device.
4. Fill in the **Selection: /dev** box.
5. Click **OK**.

4 Citrix

This chapter provides an overview of the Citrix (ICA) program. For more detailed help in configuring the Citrix client, see the Clients for UNIX Administrator's Guide at: <http://support.citrix.com/docs/>

Introduction

The Linux thin client offers two different options you can use to establish an ICA connection:

- Citrix ICA Connection Manager — software application developed by Citrix Corporation.
- HP Connection Administrator — user interface developed by HP.



NOTE: Certain Citrix functions, such as Citrix ICA PNAgent capability, are not accessible under HP Connection Administrator.

You can access Citrix ICA by clicking **Start > Programs > Apps > Net > Citrix ICA Connection Manager**.



Citrix (ICA)

The Citrix (ICA) program allows you to set up and configure Citrix ICA client connections.

ICA Client Settings

To view or set the preferences for ICA, select **Tools > Settings**. From the Settings window, you can select keyboard layouts and types, enable or disable sounds, configure audio input, and allow automatic client updates.

Preferences

From the Settings window, you can configure Window color and size, determine server location, configure hot keys, configure or clear disk cache, map drives, add COM ports, configure firewall, enable auto reconnect, and configure PNA.

Connection View

In Connection View, you can create, modify, or launch connections, and begin a session on a Citrix server. To access Connection View, click **View > Connection View**.

Program Neighborhood Agent (PNAgent)

In PNAgent View, you can view and activate the applications that have been published in the “neighborhood” on a Citrix server or server farm. To access PNAgent View, click **View > PNAgent View**.

5 Support

If you require support for your Linux-based thin client, contact your region's HP Technical Support Center. While HP provides support for Linux-based thin clients, HP does not provide technical support for the Linux operating system or application components that are obtained from the open source community.

Support contact information is available at the Contact HP link on the HP home page or at:
http://welcome.hp.com/country/us/en/contact_us.html

Hardware warranty

The hardware warranty is three years limited coverage and is upgradeable through the purchase of an optional HP Care Pack.

Software warranty

The software warranty covers several features, including:

- Altiris Remote Management Client
- Citrix Client
- Network Management Applet

Note that Altiris is supported directly by Altiris, Inc. All other services and features are from open source community packages and are not supported by HP.

Image updates and add-ons

HP provides periodic updates to the image, as well as add-ons. Check the HP support site for important documentation that provides specific information for your image version and for installing add-ons. You can find support documentation at: www.hp.com/support/

To search for support documentation, enter your country and product name, and then click **Manuals**.

Custom image requests

To obtain a custom image from HP, contact your HP Account Team, which will work through the HP Specials Process to understand the opportunity, image requirements, schedule, and costs involved.

Availability of Linux open source code

You can get the source code for Open Source components contained in the HP t5725 in three ways:

- Go to <http://www.debian.org> or the Debian stable repositories, locate the specific file you are interested in, and then download the source files.
- Download the source file package from the HP Debian repository located at <ftp://ftp.hp.com/pub/tcdebian>.
- On media by mail: Source code is available only on recordable media. To obtain the media, contact your local HP Customer Support Center. HP may charge a nominal fee for the media.

6 Frequently Asked Questions

Linux operating system

| Question | Answer |
|--|---|
| How do I tell what the image version/build number is? | To obtain the image version, from the desktop click Settings > System info tab > OS Kernal . The dialog box provides system information, including the image version. |
| How and where is the Linux image stored in flash memory? | <p>The image is stored in various formats. The boot up process decompresses and loads certain portions of the image in RAM. Some features and aspects of the image are not loaded until they are needed. The image is stored in the following three partitions (both are formatted as ext2):</p> <p>/dev/hda1 - /</p> <p>/dev/hda5 - /mnt, /root, /home, /opt</p> |

System Administration

| Question | Answer |
|------------------------|--|
| How are users managed? | <p>A system administrator creates new user accounts and assigns users to groups. The image provides the system administrator with two different methods to manage users:</p> <ul style="list-style-type: none">• The User Management utility, accessible from the desktop by clicking Settings > User Manager.• Standard command-line tools to manage users. Letter case matters when using command line names and option switches. |

System Management

| Question | Answer |
|---|--|
| How do you configure the system hardware clock? | <p>Set the system hardware clock using the BIOS setup utility:</p> <ol style="list-style-type: none">1. Reboot the system and press F10.2. After the Setup utility displays, press Esc. |


| Question | Answer |
|--|---|
| | <ol style="list-style-type: none"> 3. Select the standard CMOS features option and press Enter. 4. Set the date and time using Page Up and Page Down. 5. To save the changes, press F10 and Enter. |
| How do you configure the date and time? | The Date and Time management GUI applet provides an easy method for managing the date and time. You can configure the date, time, time zone, and network time protocol (NTP). The Applet is launched from the desktop by clicking Settings > Date/Time . |
| How do you change the boot order? | <p>Run the BootOrder utility to alter the order of the boot up device. The utility is installed with the standard image.</p> <p>To run the BootOrder utility, perform the following steps:</p> <ol style="list-style-type: none"> 1. Click the XTerm icon from the toolbar. 2. To use the BootOrder utility, execute <code>cd /usr/share/hp</code>, then type <code>./hpbootorder</code> and follow the listed options. <p>To use the RepSet utility, execute <code>./ hprepset</code> (without parameters) and follow the listed options.</p> |
| How do you synchronize the BIOS and system time? | <p>To synchronize the BIOS and system time, use the <code>hwclock</code> command. This command allows you to either synchronize the BIOS time to the system time, or synchronize from system time to BIOS time. This command without any parameters displays the current date and time.</p> <pre>hwclock [-r --show] [-s --hctosys] [-w --systohc] [-l --localtime] [-u --utc]</pre> <p>Query and set the hardware clock (RTC).</p> <p>Options</p> <ul style="list-style-type: none"> • <code>-r</code>: Read hardware clock and print result • <code>-s</code>: Set the system time from the hardware clock • <code>-w</code>: Set the hardware clock to the current system time • <code>-u</code>: The hardware clock is kept in coordinated universal time • <code>-l</code>: The hardware clock is kept in local time |

General




| Question | Answer |
|-------------------------|--|
| Are there any hot keys? | <p>Yes, see the following:</p> <ul style="list-style-type: none"> • Ctrl+Alt+F2 to Ctrl+Alt+F6: Starts the different gettys. • Ctrl+Alt+F7: Default X server. |

| Question | Answer |
|---|---|
| | <ul style="list-style-type: none"> • Ctrl+Alt+F8: Syslog (configure with <code>/etc/syslog.conf</code>). • Ctrl+Alt+F9: Default first XDM session. • Ctrl+Alt+Backspace: Logs off the current session and displays the login dialog. If the client is set to auto logon, the auto logon completes. • Ctrl+Alt+Delete: Locks the screen. Entering any character displays the locked screen dialog and requests the password for the user that locked the screen. Other options that you can set include: <ul style="list-style-type: none"> • Lock workstation • Logout • Restart • Reboot • Shutdown • Alt+Tab: Switches the active application focus. • Alt+F9: Minimize a window. • Alt+F10: Maximize a window. <p>For more information about hot keys, see <code>/etc/X11/icewm/keys</code>.</p> |
| The wrong characters display when I use the keyboard? | From the desktop, click Settings > Keyboard . Make sure the correct keyboard is selected in the Keyboard Layout list. |

Auto-logon/Auto-launch

| Question | Answer |
|---|--|
| <p data-bbox="240 283 837 346">How do I disable auto-logon for a non-root user account?</p> <div data-bbox="240 346 837 451"> NOTE: There are many ways to accomplish this. The suggested methods that follow are only a few possibilities.</div> | <p data-bbox="837 283 1450 346">Example A</p> <ol data-bbox="837 346 1450 848" style="list-style-type: none"><li data-bbox="837 346 1450 388">1. Run a console, for example Ctrl+Alt+F2.<li data-bbox="837 388 1450 430">2. Log on as root.<li data-bbox="837 430 1450 682">3. Edit <code>/etc/inittab</code> by changing the following line: <pre data-bbox="893 493 1450 556">1:12345:respawn:/sbin/getty -n -l /usr/bin/autologin 38400 tty1</pre> To: <pre data-bbox="893 619 1450 661">1:12345:respawn:/sbin/getty 38400 tty1</pre><li data-bbox="837 682 1450 724">4. reboot and log on as root.<li data-bbox="837 724 1450 766">5. From a console, run <code>startx</code> to start the XServer.<li data-bbox="837 766 1450 848">6. Make changes as necessary and reconfigure the user's account to auto-logon. |



| Question | Answer |
|--|--|
| How do I disable auto-login for a non-root user account? | <p>Example B</p> <ol style="list-style-type: none"> 1. Log on as root and enable auto-login for the user's account. 2. Copy one of the following auto-login shell script to /usr/bin/autologin to provide a 2 second pause before X starts: <pre>#!/bin/sh read -n 1 -t 2 -p "Stop autologin (y/n)? " RESULT if ["\$RESULT" = "y"]; then /usr/X11R6/bin/wdm else /bin/login -f user fi If you want it to be completely silent, do not use the -p parameter. If you want to use the left Shift, the following should work: #!/bin/sh echo "Press left Shift key now to stop autologin." showkey -s -t 2 > /tmp/autologin; sync if [`grep 0x2a /tmp/autologin`]; then /usr/X11R6/bin/wdm else /bin/login -f user fi</pre> 3. Modify the auto-login script for the user's name. <p>In a Kiosk environment where users have a local password even though auto login is enabled on the client, you can also use gksudo or sudo to run the hpusers_app from an xterm if users have the "Access to system administration tasks" permission. Users could then use their own password when they need to use an administrative task. An example of what this allows could be the ability to create an "Other" connection in Connection Administrator with the following command:</p> <pre>`/usr/bin/gksudo /usr/share/hp/panel/hpusers_app`</pre> <p>To discontinue auto-login:</p> |

| Question | Answer |
|---|---|
| How do I disable auto-login for a non-root user account? | <p>To discontinue auto-login:</p> <ol style="list-style-type: none"> 1. When booting and the Linux kernel is loading, press Esc to see the glass window and kernel messages. 2. Watch carefully, and when nearly completed, the system prompts you to stop the auto-login by pressing Y. You have 2 seconds to press this key. If you press y, the system bypasses auto-login and enables the root to log on. <div>  <p>NOTE: You can modify the script to change the prompt message, the two-second time delay, and the key response to something other than y.</p> </div> <p>Example C</p> <ol style="list-style-type: none"> 1. Press Ctrl+Alt+F2. 2. Log on as root. 3. Type <code>xinit /usr/share/hp/panel/hpusers_app -- /usr/X11R6/bin/X :1</code> |
| How do I launch Connection Administrator? | <ol style="list-style-type: none"> 1. Modify the following file: <code>/home/user's_name/.xsession</code> with the vi editor. 2. Add the following line between <code>#!/bin/sh</code> and <code>exec x-window-manager:</code> <pre> /usr/bin/cman & </pre> |
| How do I lock the desktop for users to resemble Kiosk mode? | <p>To configure the user's desktop settings:</p> <ol style="list-style-type: none"> 1. Log on as the user and delete any unwanted icons. <div>  <p>NOTE: If you do not want desktop icons and wallpaper, comment out or remove the line that starts <code>rox</code> in <code>~/xsession</code>.</p> </div> 2. To configure the user's desktop, log on as root and copy several files from <code>/etc/x11/icwm</code> to the user's profile to control the display of the Windows Manager. <p>For example, copy three files (preferences, toolbar, programs) from <code>/etc/x11/icwm</code> to <code>/home/user's_name/.icwm</code>.</p> <div>  <p>NOTE: The examples listed here use <code>user</code> as the autologin account; therefore the path to the user's home directory is <code>/home/user</code></p> </div> 3. Edit the files as necessary. <p>The preferences file controls aspects of the Windows Manager such as taskbar and hotkeys, <code>ShowTaskBar=0</code> to hide the taskbar. Set <code>MinimizeToDesktop=1</code> to show the desktop.</p> <p>The toolbar file controls programs available on the toolbar.</p> |

| Question | Answer |
|----------|--|
| | <p>The programs file controls viewable programs on the menus.</p> <p>To disable the right-click menu, change ~/.icewm/preferences and set the value DesktopMenuButton=0.</p> |

Manageability

| Question | Answer |
|--|--|
| Are there any updates necessary for Altiris Deployment Server to work on an HP Compaq Linux thin client? | <p>Yes. There is a hot fix available from Altiris which includes updates to the imaging process and the DOS agent Bootwork.exe. This hot fix includes a sample script that allows capture and deployment of images using Rdeployt.exe, as well as a new Bootwork.exe file that recognizes the bootloader in the image. This hot fix is available from the Altiris Web site support page.</p> |
| What are the steps to capture and deploy an image on an HP Compaq Linux thin client? | <p>The thin client supports the Linux version of the Altiris Remote Management Client. Altiris management software allows you to remotely capture and deploy Linux images. You can use the Altiris Rdeployt tool, a text-base utility, to perform this function.</p> <p>Capturing an Image:</p> <p><i>HP Compaq Thin Client Actions (Required)</i></p> <ol style="list-style-type: none"> 1. Reboot the client and launch the F10 System Configuration Setup Screen. 2. Select the Advanced BIOS Features option and press Enter. 3. Select the First Boot Device option and press Enter. 4. Select the Network option and press Enter. 5. Press F10 to save the configuration. 6. Press Enter to save and exit. <p><i>Altiris Deployment Server Console Actions</i></p> <ol style="list-style-type: none"> 1. Double-click the Deployment Server Console icon from the desktop to open the Deployment Server Console. 2. Right-click on the lower left window and select New Job. 3. In the empty box, type Image Capture and press Enter. 4. From the upper right window, click Add. 5. From the drop-down menu, select Run Script. 6. In the Run this Script window, type the following command: <code>rdeployt -mu -raw -f.\images\test.img</code> |

| Question | Answer |
|---|--|
| | <div>  NOTE: <code>test.img</code> is used for this example. You may select any name for the .img file. </div> <ol style="list-style-type: none"> Select the DOS radio button from In which OS would you like to run this script? Click Finish. <p>You can drag and drop this job to any Linux unit to capture its image.</p> |
| How is an image deployed using Altiris? | <p>An image can be deployed by performing the following steps:</p> <p><i>HP Compaq Thin Client Actions (Required)</i></p> <ol style="list-style-type: none"> Reboot the client and launch the F10 System Configuration Setup Screen. Select the Advanced BIOS Features option and press Enter. Select the First Boot Device option and press Enter. Press F10 to save your configuration Press Enter to save and exit. <p><i>Altiris Deployment Server Console Actions</i></p> <ol style="list-style-type: none"> Double-click the Deployment Server Console icon from the desktop to open the Deployment Server Console. Right-click the lower left window and select New Job. From the empty box, type <code>Image Deployment</code> and press Enter. From the upper right window, click Add. From the drop-down menu, select Run Script. From the Run this Script window, type the following command: <code>rdeployt -md -raw -f.\images\test.img</code> <div>  NOTE: <code>test.img</code> is used for this example. You may select any name for the .img file. </div> <ol style="list-style-type: none"> Select the DOS radio button from In which OS would you like to run this script? Click Finish. To deploy an image, you can drag and drop this job to any HP Compaq Linux thin client. |
| How can a factory image be restored locally? | <p>A factory image can be restored locally using USB drive key or USB CD-ROM. Instructions for this procedure are available on the HP Compaq Thin Client Linux Image SoftPak.</p> |
| Can you capture and deploy settings separately from an image? | <p>Yes. HP has developed custom scripts for Altiris that capture system settings and defined HP Connection Administrator connections from a source HP Compaq Linux thin client system</p> |

| Question | Answer |
|---|---|
| Are there other management methods available from HP to manage HP Linux thin clients? | <p>through the Altiris deployment console. You can then deploy these captured system settings and connections out to a target HP Compaq Linux thin client system through the Altiris deployment console. For more information, see the white paper entitled, "Altiris Manageability Scripts for HP Compaq Linux Thin Clients" at http://h20000.www2.hp.com/bc/docs/support/SupportManual/c00448511/c00448511.pdf</p> <p>Yes, you may update images using new HP FTP image update and DHCP image update for HP Linux thin clients. For more information, see the white paper entitled, "FTP/DHCP Image Update for HP Linux Thin Clients" available on the www.hp.com product support site.</p> |

7 Troubleshooting

Altiris

ISSUE

Altiris fails to restore my Debian image from a USB storage device.

SOLUTION

This issue occurs with Altiris versions prior to 6.8.177. The issue does not occur with Altiris 6.8.177 or higher. Update to a more recent version of Altiris.

HP Connection Administrator

ISSUE

Launching a connection changes the connection state to “active” then immediately back to “not connected” without establishing a connection.

SOLUTION

There can be a variety of reasons for this behavior. If the connection is set to ping first and the host name cannot be resolved, the target is behind a firewall or unable to successfully ping the target. As a workaround, disable **Ping first** under Advanced settings for the connection. As a diagnostic step, try pinging the host from a console.

Citrix ICA

ISSUE

After connecting to Adobe Acrobat as a Published Application and then shutting down the connection, the Adobe process does not properly terminate and will not allow you to relaunch an Adobe session.

SOLUTION

HP Connection Administrator is designed to prevent multiple instances of the same connection to run. To resolve this issue, update to a newer version of Adobe or contact Citrix for an alternative solution.

ISSUE

The Audio input feature is grayed out in Citrix ICA client and the microphone input does not work even with this feature enabled in HP Connection Administrator.

SOLUTION

When there is no existing `/etc/.hpconman/wfclient.ini`, `cman` will use the one created by `wfcmgr`, but there is an entry missing from the default `wfclient.ini` that only gets created after you enable it through `wfcmgr`. If you have already run `cman`, you need to remove the version without `AllowAudioInput=True` and enable audio in `wfcmgr` so `cman` will create a new version with the correct value.

ISSUE

USB storage devices that are automatically mounted and then mapped through an ICA connection with enabled read and write options fail to save, edit or delete files on the USB device.

SOLUTION

One workaround for this Citrix ICA issue is to change `/etc/fstab` and `/etc/hal/devices.d/50-pmount.hal` to `umask=000`. However, you should evaluate the security implications of this workaround in your specific environment.

rdesktop

ISSUE

You add a `rdesktop` connection with the default settings, and then change the video size to 200 percent or to full screen on Media Player, and no video displays.

SOLUTION

1. In HP Connection Administrator, select the connection, and then click **Edit**.
2. Click the Experience tab.
3. Clear **Bitmap caching** and **Use persistent bitmap caching**.

Firefox

ISSUE

Firefox inside HP Connection Administrator is not recognizing the proxy settings from the desktop version of Firefox.

SOLUTION

If behind a firewall, disable “ping first”, because most firewalls block ping.

ISSUE

When **Auto** is enabled in HP Connection Administrator for a Firefox connection with two Firefox secondary connections, the error “Firefox is already running , but it is not responding” message displays.

SOLUTION

To open new Firefox windows, you must first close the existing Firefox process or restart the system. This is a known Firefox issue for the shipping version. Please see http://kb.mozillazine.org/Profile_in_use for more information.

ISSUE

System intermittently hangs while running Firefox 2.x.

SOLUTION

This occurs because the flash file system has no available space, which may be caused by the Firefox 2.x list of suspected forgery sites that are downloaded to the client by default. Try disabling this feature by clearing the **Tell me if the site I'm visiting is a suspected forgery** check box under **Firefox 2.x > Tools > Security**. If you install a version of Firefox that you did not obtain from HP, you may also want to run the `/usr/share/hp/firefoxtweaks` script as root from an xterm or console to reduce unnecessary writes to the flash disk.

XDM

ISSUE

You cannot run an X application to a local machine when you Telnet to a remote XDM.

SOLUTION

The default configuration disables this functionality because of security concerns. You can enable by removing **-nolisten TCP** from `/etc/X11/wdm/Xservers` and restarting the X server.

ISSUE

Keyboard is dead/locks up when VT is set between 1 and 6 in an XDM connection.

SOLUTION

VT's 1 through 6 are reserved as additional getty's by default. Press the power button to shutdown, then either select a different VT or modify `/etc/inittab` and comment out the line that creates the getty you would like to use. Reboot for the changes to take effect.

Kiosk

ISSUE

When you shut down or reboot while in Kiosk mode, you get a blank, blue screen and no connection.

SOLUTION

This occurs at logout when a non-root user is in Kiosk mode with no auto-connection and the user was not granted rights from the administrator to reboot or shut down the system.

Printing

ISSUE

You cannot print a large job to local printers in rdesktop sessions.

SOLUTION

This issue may occur if a large volume of documents or an individually large document is sent to the local printer. Try to send large documents to a printer that is not connected locally to the thin client. If you want to print multiple documents, allow the print queue to clear before submitting the documents.

ISSUE

You cannot print large jobs to local printers from an ICA session.

SOLUTION

The thin client has limited space available for the print spooler. This issue may occur if a large volume of documents or an individually large document is sent to the local printer. Try to send large documents to a printer that is not connected locally to the thin client. If you want to print multiple documents, allow the print queue to clear before submitting the documents.

ISSUE

You set up a new printer using Printer Manager. When I test the printer I receive an error message “Printer Test Failed!!!”

SOLUTION

The entry in the **Printer Name** box cannot contain spaces. Remove any spaces from the entry in this field. You can use spaces for the description.

ELO Touch Monitor

ISSUE

While using an ELO Touch screen monitor, you log out by clicking **Start > Window Manager > Log Out**, and the ELO Touch monitor stops accepting touch commands. After a power cycle the monitor functions correctly.

SOLUTION

Log out by pressing the [Ctrl+Alt+Backspace](#) keys.

USB

ISSUE

Automount only supports the first partition of an external drive.

SOLUTION

Mount the other partitions manually or add entries for them to `/etc/fstab`.

Network

ISSUE

Attempts to ping a host result in message “unknown host” error in a mixed Windows and Linux environment.

SOLUTION

One possible solution is to install the “winbind” package from the Debian repositories using Synaptic or Aptitude and configure for the specific environment. After installed, edit from a command line `/etc/nsswitch.conf` and add the word `wins` to the end of the `hosts:` line.

ISSUE

Attempts to ping the client result in message “unknown host” error.

SOLUTION

Ensure the host name is correct and includes a fully qualified domain name (FQDN) for the applicable domain where the thin client is located. You may also need to add the FQDN in `/etc/hosts`. Modify `/etc/dhclient.conf` and enter the option `send host-name [FQDN]`.

Keyboard

ISSUE

The local keyboard settings do not match the actual characters on my keyboard.

SOLUTION

The characters used in the keyboard mappings are defined by the xserver provided by the Debian repository and can be modified either by changing the source files in `/etc/X11/xkb` or by running the `xmodmap` command from the users `~/.xsession` script. This latter method is used by the `hptc-keyboards` package available in the HP repository to customize the international keyboard provided by HP.

Multimedia

ISSUE

Attempting to play video with the default install of the `mplayer` package from www.debian-multimedia.org will cause this message to appear: "Error opening/initializing the selected video_out (-vo) device."

SOLUTION

Open the **Preferences** dialog, select the **Video** tab, and select a different driver. The `xv` or `x11` drivers seem to provide the best performance.

Miscellaneous

ISSUE

System intermittently hangs.

SOLUTION

Check available flash space with the command `df -h` from an xterm or console. You may need to delete unnecessary files. One possible alternative is to install `localepurge` from the Debian repository or delete documentation files by running the `/usr/share/hp/cleandocs` script from an xterm console.

8 Useful information

See the following Web sites for information relevant to the Linux thin client.

| Site | URL |
|---|---|
| Linux Online | www.linux.org |
| Linux.com | www.linux.com |
| Linux on Laptops | www.linux-laptop.net |
| Linux Security | www.linuxsecurity.com |
| Linux Journal | www.linuxjournal.com |
| Linux Gazette | www.linuxgazette.com |
| HP white papers. To search for white papers, type your country, product name, and then click Manuals . | www.hp.com/support/ |
| Debian | http://debian.org |
| Debian — Wikipedia definition | http://en.wikipedia.org/wiki/Debian |
| Debian backports | http://backports.org |
| Debian GNU/Linux System Administration Resources | http://debian-administration.org |
| Debian Linux Kernel Handbook | http://kernel-handbook.alioth.debian.org |
| Debian Security Information | http://www.us.debian.org/security |
| Debian Help | http://www.debianhelp.co.uk |
| Getting Help with XFree86 | http://www.xfree86.org/sos |
| Synaptic Package Manager — Wikipedia definition | http://en.wikipedia.org/wiki/synaptic |
| The Linux Documentation Project | http://tldp.org |

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