

HP Client Automation

Core and Satellite

Starter Edition

for the Windows® operating system

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User Guide

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1 Introduction

HP Client Automation Starter is a PC software configuration management solution that provides software and HP hardware management features, including OS image deployment, patch management, remote control, HP hardware driver and BIOS updates, and software distribution and usage metering all from an integrated web-based console.

About This Guide

This guide provides detailed information and instructions for using the HP Client Automation Console, Publisher, Application Self-service Manager, and the Image Preparation Wizard.

For requirements and directions on installing and initially configuring HPCA Core and Satellites Servers, refer to the Installing HPCA chapter.

HPCA Documentation

The HP Client Automation documentation that is available on the media is also installed during the Core installation. These documents are available as PDFs and can be accessed on the Core server using the Windows Start menu, the shortcut link on the desktop, or by using a browser from any device with access to the Core server machine at: http://HPCA_Host:3466/docs, where *HPCA_Host* is the name of the server where HPCA is installed.

Abbreviations and Variables

Table 1 Abbreviations Used in this Guide

Abbreviation	Definition
HPCA	HP Client Automation
Core and Satellite	HPCA environment consisting of one Core server and zero or more Satellite servers. All features are installed as part of the Core or Satellite server installation.
Portal	HPCA Portal

Table 2 Variables Used in this Guide

Variable	Description	Default Value
<i>InstallDir</i>	Location where the HPCA server is installed	Core and Satellite installation: For a 32-bit OS: C:\Program Files\Hewlett-Packard\HPCA For a 64-bit OS: C:\Program Files(x86)\Hewlett-Packard\HPCA
<i>SystemDrive</i>	Drive label for the drive where the HPCA server is installed	C:\

2 Installing HPCA

This chapter explains how to install and configure the HP Client Automation servers (Core and Satellite) and their components. The following sections contain pre-installation information and requirements, and installation instructions for the HPCA servers. It also details the optional, manual installation of the HPCA Administrator which, by default, is automatically installed with the HPCA Core server.

- [HPCA Server Pre-installation Information](#) on page 26
- [Create the HPCA Database](#) on page 32
- [Installing the HPCA Server](#) on page 35
- [Configuring Core Server on Windows 2003](#) on page 43
- [Manually Installing the HPCA Administrator](#) on page 44
- [Using HPCA to Manage Windows Operating Systems](#) on page 46
- [Out of Band Management](#) on page 46
- [Windows Services](#) on page 47

HPCA Server Pre-installation Information

The pre-installation information that is presented in this section should be reviewed before installing any HPCA product for which you have a license.

Core Servers

The **HPCA Core** server is the primary repository of data for an HP Client Automation environment. At least one Core server is necessary in order to establish a viable HPCA environment.

The Core server cannot be installed on a machine that already hosts an HPCA Satellite server. If this is attempted, an error message will result and the installation program will abort.

After the installation, you will have to use the HPCA Administrator to prepare software applications for deployment throughout your enterprise.

The HPCA Administrator

The HPCA Administrator is automatically installed as part of the Core server installation. It points to the Core server's database and includes a set of administrative tools that can be used to configure and maintain an HPCA environment.

For information on manually installing the HPCA Administrator, see [Manually Installing the HPCA Administrator](#) on page 44.



The Standard and Starter editions automatically install a streamlined version of the HPCA Administrator—containing only the *HPCA Publisher* and *HPCA Agent Explorer*.

Satellite Servers

The **HPCA Satellite** server is an access point to the HP Client Automation infrastructure for all HPCA agents. It is dependent on and subservient to the HPCA Core server, and functions as an intermediary between the Core and the HPCA agents.

The Satellite server cannot be installed on a machine that already hosts an HPCA Core server. If this is attempted, an error message will result and the installation program will abort.

A Satellite Server can be installed manually on a device or can be deployed from the Console. For information about manually installing a Satellite, see [HPCA Core Server Installation](#) on page 37.

Platform Support

For the operating system requirements for this release, refer to the HPCA Support Matrix available at the HP Software Product Manuals web site. See the Documentation Updates section in the front matter of this guide for the URL and information about how to access this web site. The matrix is also located on the distribution media for this product in the \Documentation directory.

System Requirements

This section details the system requirements for Core and Satellite server installations.



It is important to keep in mind that some of these requirements are for initial HPCA-environment setups (program data only), and that as your HPCA environment grows, these space requirements will inherently grow as well, in order to accommodate database expansion and caching.

The recommended starting minimum is 20 GB.

Core Servers

The following are the system requirements for Core servers.

- 2 GB RAM (minimum); 4 GB RAM (preferred)
- Dedicated server with dual-core processor
- 2 GHz CPU speed
- 3 GB free disk space

Satellite Servers

The following are the system requirements for Satellite servers.

- 512 MB RAM (minimum); 1 GB RAM (preferred)
- Dual-core processor
- 1.6 GHz CPU speed
- 2 GB free disk space

Web Browsers

The HPCA servers have Consoles through which various administrative and configuration tasks can be performed. For these Consoles, only the following web browsers and versions are supported.

- Microsoft Internet Explorer, versions 7.0, 8.0, and 9.0.
 - ▶ The browser's Security should be set no higher than **Medium**.
- Mozilla Firefox, version 3.6, 4.0, 5.0, and 6.0.

Monitor Settings

HP recommends the following minimum settings in order to ensure proper display of the HPCA Consoles.

- Screen Resolution: 1024x768
- Color Quality: Medium (16 bit)

HPCA Database

Prior to installing the Core server, you must create an ODBC-compliant database to be used by HPCA for management-reporting objects. This database must be a Microsoft SQL Server Database. See [Create the HPCA Database](#) on page 32 for information about creating these databases specifically for the Core server.

Communications Ports

HPCA servers communicate with one another and their managed devices on the ports that are detailed in this section; these ports must be available. The system query that automatically runs at the start of the installation will verify the availability of these ports. If they are not available, the installation will fail.

If a firewall is in place on the HPCA server's host machine, these ports must be added to the firewall "exceptions" list.

Mandatory Ports

When SSL is not enabled, ports **3464** and **3466** are the primary ports used for Core and Satellite communications, so they must be enabled in order to ensure the necessary remote communications between HPCA devices. An HPCA environment will not function if these two ports are not enabled.

These ports can be automatically enabled with an option (**Modify Windows Firewall to allow communications through these ports**) in the HPCA server installation. If you select this option in the installation, no additional port configuration is required.

Some environments have specialized firewalls in place and prefer to not select this option. If this is the case, you must ensure that these two primary ports are excluded from any firewall filtering, otherwise HPCA will not function correctly—remote devices will not be able to communicate with HPCA servers.



When SSL is enabled on a satellite, SSL is used for all inbound communications.

HPCA Ports

- **TCP 3464:** This is the default port of the HPCA Configuration Server; it must be available for Core servers.
- **TCP 3465:** This port is used by HPCA agents to receive incoming notify requests from Core servers.
- **TCP 3466:** This is the main HTTP port that this server will use for communications with other HPCA (Core and Satellite) servers, as well as HPCA agents. All unicast data downloads are handled on this port.
- **UDP 9100:** This is the default port of the HPCA Multicast Server.
- **TCP 443 (SSL):** This port is used for “secure HTTP” (**HTTPS**) communications.
- **TCP 444 (SSL):** This port is used for “secure TCP” (**TCPS**) communications when the HPCA Configuration Server is enabled.



This port must be available on all Core server host machines.

Out of Band Management Ports

If you will be using Out of Band Management, the following additional ports must be available to allow for inbound and outbound traffic.

For OOB Management Console-to-vPro Device Communications

- **162:** For alert management. Note that port 162 is a standard SNMP port this will conflict if you are already running an SNMP receiver on the HPCA Core server.
- **9999:** The default starting port for communication between the SOL display applet and the server’s web application. This can be configured by editing the `<HPCA_Install_Dir>\OOBM\conf\config.properties` file.
- **16692:** For web service traffic over TCP.
- **16693:** For web service traffic over TLS (with client authentication).
- **16694:** For SOL/IDE-R over TCP.
- **16695:** For SOL/IDE-R over TLS (with client authentication).

For Browser-to-Server Communications

- **9999**: For applet-to-server socket communications for SOL. This port must also be available on the client browser system as well.

For OOB Management Console-to-Local Agent Communications

- **9998**: For communications between the OOB Management Console and the local agent during Remote Configuration of vPro devices.

For OOB Management Console with DASH Devices

- **623**: For communications with DASH devices.

VMware Requirements

If you are installing HPCA to a VMware environment with a Windows XP Professional host operating system, the installation might hang. Disabling **Acceleration** in the VMware **Advanced Options** should allow the installation to continue. **Acceleration** can then be re-enabled after the installation completes.



HPCA installed to a VMware environment should be used for testing or evaluation purposes, only.

If you are installing HPCA to a VMware environment, the following requirements must be met.

- VMware, minimum version 6.02
- 2 GB Memory allocated
- 8 GB HDD space allocated (additional space might be required for migration)
- Host OS: Windows 2003 Server or Windows 2008 Server
- Guest OS: Windows 2003 Server or Windows 2008 Server
- Host system: dual processors (minimum 2 GHz CPU) so that VMware can set affinity to 1, if needed.
- See the [System Requirements](#) on page 27 for additional HPCA server requirements.

The HPCA Agent

The HPCA agent is the client machine-based HPCA component that gets installed on end-user machines. This component has several sub-features that enhance its capabilities. The HPCA agent can be deployed to end-user machines from the Core Console, or it can be manually installed on these machines.

Windows AIK Installation

If you plan to use HPCA to manage Windows operating systems, you will need to install the Windows AIK on the machine that will host the HPCA Core and ensure that copies of these utilities are placed in the proper location.

You can download the Windows AIK from the Microsoft Download Center (<http://www.microsoft.com/downloads>).



Be sure to install the Windows 7 version of the Windows AIK in the default location:

```
C:\Program Files\Windows AIK
```

It is best to install the Windows AIK before you install the HPCA Core.

Create the HPCA Database

Prior to installing the Core, you must create an ODBC-compliant database to be used by HPCA.



If you do not know how to create an ODBC-compliant database, contact your database administrator.

The following provides information on the pre-requisites and procedures for creating a Microsoft SQL Server database.

[Create a SQL Server Database for the HPCA Core](#) on page 33



You must also define an ODBC DSN for each database you create.

If you do not know how to create an ODBC DSN, contact your database administrator.

Create a SQL Server Database for the HPCA Core

Follow the instructions in this section to create a Microsoft SQL Server database for the reporting objects for the Core server. If you do not have security rights to create the database, contact your SQL database administrator.

SQL Server Database Prerequisites and Notes

- Microsoft SQL Server 2005 or Microsoft SQL Server 2008 must be locally installed or remotely accessible from the HPCA server.

Microsoft SQL Server Express Edition is supported with HP Client Automation for small environments. Microsoft limits this edition in both performance (CPU and memory usage) and database size. Very small environments using HPCA can use SQL Server Express Edition but will need to monitor the performance and size of the database. If performance is unacceptable or if the database nears the maximum size, you should upgrade to one of the other SQL Server editions. Refer to the Microsoft SQL Server web site for details of each SQL Server edition.

- SQL Server must be configured to use **mixed-mode authentication** and must have TCP/IP support enabled.
- **Windows 64-bit ODBC DSNs Require 32-bit Drivers:** HP Client Automation components that are running on Windows 64-bit operating systems run in **32-bit emulation mode**. So, when using ODBC drivers on a Windows 64-bit operating system, create the ODBC System DSN for the database using 32-bit drivers.

On a 64-bit operating system, access the 32-bit ODBC Data Source Administrator by running `C:\Windows\SysWOW64\odbcad32.exe` to create or modify the System DSNs that are required by HPCA products.

- The “storage” sizes that are documented in this section are recommendations only. Customize these values based on the number of managed devices in your environment and the type of information that will be collected.

SQL Server Communications with HPCA

- If SQL Server is installed on a server other than that which houses the HPCA server, firewall rules might need to be added in order to enable communications between them. Refer to the Microsoft KnowledgeBase article **841251** at <http://support.microsoft.com/kb> for information on opening required ports for SQL Server.
- SQL Server must be configured to use static ports. For information on how to use static ports, refer to your SQL Server documentation.

To create a SQL Server database for the HPCA Core



If you do not know how to create a SQL Server database, contact your database administrator.

If you do not know how to create an ODBC DSN, contact your database administrator.

- 1 On the Microsoft SQL Server, create a database with the following recommended settings.

General tab	Name: a name of your choice, no blanks or underscores (for example, HPCACORE)
Data Files tab	Initial Size: 500 MB Select Autogrow by 20%
Transaction Log tab	Change initial size: 100 MB

- 2 Use SQL Server Authentication.
- 3 Change the default database to the database name that you used in [step 1](#)



The SQL Server name, admin user ID, and password are required during HPCA installation.

- 4 Provide the user with the minimum role membership of db_datareader, db_datawriter, and db_ddladmin for the SQL Server database.

- 5 On the computer that will host the Core server, create an ODBC System DSN with a name of your choice (for example, **HPCAODBC**) and point it to the new Core database on the SQL Server.

The database is now attached and you can proceed with the installation of the HPCA server. It is documented in [HPCA Core Server Installation](#) on page 37.

Installing the HPCA Server

This section details the installation of the HPCA Core server and the Satellite server using the HPCA Installer.

Installation Checklist Information

This section details some additional information that you should review before conducting the installation.

Installation Restrictions

The Core server cannot be installed on a machine that already hosts an HPCA Satellite server; the Satellite server cannot be installed on a machine that already hosts an HPCA Core server.

If either of these installations are attempted, an error message will result and the installation program will abort.

Core Domain Name

HP recommends always specifying the fully qualified domain name when prompted for HPCA server names. This practice will ensure the proper mapping to the servers when “downstream” Satellites and HPCA agents are installed.

Database Setup

Before installing an HPCA server, you must set up your Microsoft SQL Server database for the HPCA Core server. See the section, [Create a SQL Server Database for the HPCA Core](#) on page 33 for database setup instructions.

Default Installation Directories

The HPCA Core and Satellite servers' installations create the following directories by default; alternative directories for the server and data files can be selected during the installation.



The directories that are listed in this section are specific to English language-based operating systems. On non-English language-based operating systems, the HPCA server installation will create these directories in the appropriate default locations.

- The Core and Satellite server files are installed to Hewlett-Packard\HPCA in the default 32-bit \Program Files directory.
- The Core and Satellite server data files are installed to Hewlett-Packard\HPCA\Data in the default 32-bit \Program Files directory.
- The Core and Satellite server installations each spawn two log files, both of which are placed in the Local Settings\Temp directory of the user who ran the installation.
 - The file, `hpca-install.log`, is always created for both installations.
 - A server-specific log file (either `HPCACore_setup.log` or `HPCASatellite_setup.log`) will also be created—regardless of whether the installation was run with the `.msi` or `.exe` file.

Log File Considerations

- If `setup.exe` is used to run the installation, the location can be altered in `setup.ini` (with the `log.filename` entry in the options section) prior to the installation.

Windows Services

After the Core and Satellite servers are installed, they will be running as Windows services. For additional information, see [Windows Services](#) on page 47.

Modifying Installation Files

Files used during the installation can be modified. For example, if newer versions of the files are available from an update, they can be included during the installation using the following procedure.

- 1 Copy the HPCA installation files to a new location.
- 2 Create new sub-directories.
 - a To modify installation files, create a new directory called `Updates` in the same directory as the `.msi` file.
 - b To apply additional export decks to the HPCA database after all other standard decks are applied, create a new directory called `Decks`.
- 3 Add any files you would like to be used during the installation. For example, if you want to run the Core installation with a different `em.war` file, create the following directory path:

```
<source dir>\Updates\tomcat\webapps\em.war
```

- 4 Run the installation. The new files will be used.

HPCA Core Server Installation

Install the HPCA server to a dedicated server in your environment. Before you proceed with the installation, make sure to read the [Installation Checklist Information](#) on page 35.

If you are upgrading the HPCA server, use the migration scripts for the backup and restore of files. For more information on migration and restore, see the *HP Client Automation Starter and Standard Editions Migration Guide*.



HP recommends specifying the fully qualified domain name when prompted for HPCA server names. This practice will ensure proper mapping to the servers when “downstream” Satellites and HPCA agents are installed.

Installing the HPCA server

- 1 Log on as a user with Administrative privileges on the system where you plan to install the HPCA Core server.

- 2 Insert the installation media into the DVD drive. Navigate to the `Setup-Core` directory to access the Core server installation files.
- 3 Double-click the **setup.exe** file. The HP Client Automation Core Installer window opens.
- 4 Click **Next**. The HP Client Automation Software License Agreement page opens.
- 5 Review the HP Client Automation Core license terms, select **I accept the license agreement**, and then click **Next**. The HP Client Automation Installation Folder page opens.
- 6 The Installation Folder page displays the default installation directory for the HPCA Core server (listed in [Default Installation Directories](#) on page 36).

Accept the default location, or click **Browse** to select a different location, and then click **Next**. The HP Client Automation Data Folder page opens.
- 7 The Data Folder page displays the default directory for the HPCA Core server data files (listed in [Default Installation Directories](#) on page 36).

Accept the default location, or click **Browse** to select a different location, and then click **Next**. The HP Client Automation Host Name page opens.
- 8 Select a name for this HPCA server and click **Next**. The HP Client Automation Server Ports window opens.
- 9 Accept the default ports, or specify web server and Configuration Server ports, and then click **Next**. The HP Client Automation Installation Confirmation page opens.




The default ports cannot be changed in the Standard and Starter editions of HPCA.

Optionally, select **Modify Windows Firewall to allow communications through these ports** if you want to automatically enable ports 3464 and 3466. For more information, see [Mandatory Ports](#) on page 29.

- 10 Click **Next** to start the installation. The installation process initiates the different configuration scripts that can run for several minutes.


- 11 Click **Finish** to complete the HP Client Automation Core server installation.

 After installation, it is normal to see some errors reported in the log files. These errors can be safely ignored. They will self-correct once the First Time Setup Wizard has run completing the setup of the product.

The HPCA Console will automatically open, and the login window will be displayed in your default browser.

- 12 On the login window, specify the default user name, password, and directory source.

— The default user name is **admin** and the password is **secret**.

 HP recommends changing the default user name and password. This can be done on the Configuration panel of the HP Client Automation Console by selecting **Access Control** -> **Users**, and clicking the **Create New User** icon in the Users area.

- 13 Click **Sign In**. The First Time Setup Wizard opens and prompts you for initial configuration settings for your HPCA environment. You can modify these settings in the various panels of the HPCA Console also.

- 14 Click **Next** on the Introduction page to begin the wizard.

- 15 On the License page, copy and paste the contents of your HP-issued, product-specific license file into the License Data box and click **Next**.

If you do not have a license at this point, a temporary Client Automation Standard edition evaluation license is generated that is valid for 90 days after you install HP Client Automation. This license provides limited functionality within the Console.

- 16 On the Database Source page, click **Use an existing ODBC connection already on the server** and click **Next**.

- 17 On the Database Settings page, specify the appropriate values in the various mandatory fields and click **Next**.

- 18 On the Services page, select the HPCA services that this HPCA server will provide and click **Next**. The configuration selections are saved.



The services that are presented in this window are recommended for HPCA environments but they do not have to be enabled here. They can subsequently be enabled on the Configuration panel of the HPCA Console.

- 19 On the Complete page, click **Finish** to complete the configuration tasks.

For more information on configuring these services in the HPCA Console, refer to the *Configuration* chapter.


HPCA Satellite Server Installation

Installing the HPCA server

- 1 Log on as a user with Administrative privileges on the system where you plan to install the HPCA Satellite server.
- 2 Insert the installation media and navigate to the `Setup-Satellite` directory to access the Satellite server installation files.
- 3 Double-click **setup.exe**. The HP Client Automation Satellite Installer window opens.
- 4 Click **Next**. The HP Client Automation Software License Agreement page opens.
- 5 Review the HP Client Automation Satellite license terms, select **I accept the license agreement**, and then click **Next**. The HP Client Automation Installation Folder page opens.
- 6 The Installation Folder page displays the default installation directory for the HPCA Satellite server (listed in [Default Installation Directories](#) on page 36).
Accept the default location, or click **Browse** to select a different location, and then click **Next**. The HP Client Automation Data Folder window opens.
- 7 The Data Folder page displays the default directory for the HPCA Satellite server data files (listed in [Default Installation Directories](#) on page 36).


Accept the default location, or click **Browse** to select a different location, and then click **Next**. The HP Client Automation Host Name page opens.

- 8 Select a name for this HPCA server and click **Next**. The HP Client Automation Server Ports page opens.
- 9 Accept the default ports, or specify web server and Configuration Server ports.

 The default ports cannot be changed in the Standard and Starter editions of HPCA.


Optionally, select **Modify Windows Firewall to allow communications through these ports** if you want to automatically enable ports 3464 and 3466. For more information, see [Mandatory Ports](#) on page 29.

- 10 Click **Next** to start the installation. The installation process initiates the different configuration scripts that can run for several minutes.
- 11 Click **Finish** to complete the HP Client Automation Satellite server installation.


 After installation, it is normal to see some errors reported in the log files. These errors can be safely ignored. They will self-correct once the First Time Setup Wizard has run completing the setup of the product.

The Windows Security login window opens in your default browser.

- 12 On the login window, specify the default user name and password. The default user name is **admin** and the password is **secret**.

 HP recommends changing the default user name and password. This can be done on the Configuration panel of the HP Client Automation Console by selecting **Access Control** -> **Users**, and clicking the **Create New User** icon in the Users area.

- 13 Click **OK**. The First Time Setup Wizard opens that prompts you for initial configuration settings for your HPCA environment. You can modify these settings in the various panels of the HPCA Satellite Console also.
- 14 Click **Next** on the Introduction page to begin the wizard. The Upstream Server page opens.

- 15 Specify a valid upstream host, and click **Next**. The Upstream Host field accepts textual hostnames and IP addresses (in the standard IP-address format). The License page opens, which is pre-populated with license information from the Satellite's upstream server.
- 16 Click **Next** to continue to the Services page.
- 17 Select the HPCA services that this HPCA server will provide and click **Next**. The configuration selections are saved.
 -  The services that are presented in this window are recommended for HPCA environments but they do not have to be enabled here. They can subsequently be enabled on the Configuration panel of the HPCA Satellite Console.
- 18 Click **Next**. The configuration selections are saved.
- 19 On the Complete page, click **Finish** to complete the configuration tasks.

HPCA Documentation

The HPCA documentation that is available on the media is also installed during the Core installation. These documents are available as PDFs and can be accessed on the Core server using the Windows **Start** menu, the shortcut link on the desktop, and by using a browser from any device with access to the Core server machine at `http://HPCA_Host:3466/docs`, where *HPCA_Host* is the name of the server on which HPCA is installed.

Removing HPCA


Use the HPCA installation program to remove HPCA from your server.

If you use the Windows Control Panel applet **Add/Remove Programs** to remove HPCA, some files and folders (for example, the directory `C:\Program Files\Hewlett-Packard\HPCA` and any files that were added or changed since the initial installation) will be left on the server and will have to be manually removed.

To remove HPCA

- 1 On the HPCA media, double-click **HPCACore.msi**.

- 2 Select **Remove the HP Client Automation Core from this computer** and click **Next**.

 If you are removing a Satellite server, the references to “Core” in steps 1 and 2 will be replaced with “Satellite.”

- 3 At the Removal Confirmation message click **Next**.


HPCA is removed from your server.

Repairing HPCA

Use the HPCA installation program to repair HPCA on your server.

To repair HPCA

- 1 On the HPCA media, double-click **HPCACore.msi**.
- 2 Select **Repair the HP Client Automation Core files, registry values, and shortcuts on this computer** and click **Next**.

 If you are repairing a Satellite server, the references to “Core” in steps 1 and 2 will be replaced with “Satellite.”

- 3 At the Repair Confirmation message click **Next**.

HPCA is repaired on your server.

Configuring Core Server on Windows 2003

If you have installed the Core on a Windows Server 2003, you must set some switches in the `boot.ini` file to improve the performance of the Core Server.

The switches that need to be added to the `boot.ini` file are the following:

- `/3GB` - It allocates 1 GB to the kernel and 3 GB to the user mode space.
- `/userva=2900` - It is used with the `/3GB` switch for more precise tuning of user and kernel virtual memory space in the Windows Server 2003 family.

- /PAE - It is used on systems with more than 4 GB of RAM. It permits a computer that supports the physical address extension (PAE) mode to start normally.

For more information about setting switches in the `boot.ini` file, go to <http://support.microsoft.com/kb/316739> and <http://support.microsoft.com/kb/833721> at the Microsoft web site.

Manually Installing the HPCA Administrator

To install the HPCA Administrator on a machine other than that which hosts the Core server, you will need to manually install it. The manual installation can be done by using either of the methods that are described in the sections:

- [Installing the HPCA Administrator using the installation program](#) on page 44
- [To install the HPCA Administrator using the Software Publisher service \(Starter and Standard users\)](#) on page 45

Installing the HPCA Administrator using the installation program

- 1 On the device on which you want to install the HPCA Administrator, open the HPCA media to the `Media\admin\default\win32` directory and double-click **setup.exe** (or the `.msi` file).
The Welcome window opens.
- 2 Click **Next** to begin the installation. The End-User License Agreement window opens.
- 3 Read and accept the License Agreement, and click **Next**.
- 4 Select the installation directory and click **Next**.
- 5 Enter the IP address or hostname of your HPCA Core server. The default port 3464 should not be changed.
- 6 Click **Next**. The License Dialog window opens.
- 7 Click **Browse** to select the license file for your edition of HPCA.
- 8 Click **Next**. The Select Features window opens.
- 9 Select the features to install, and then click **Next**.

- 10 Click **Install** to begin the installation.
- 11 When the installation is complete, click **Finish**.

To install the HPCA Administrator using the Software Publisher service (Starter and Standard users)

- 1 Manage the target device by deploying the Management Agent.
- 2 Entitle the Software Publisher service to the device. First add the device to a group and assign entitlement.
- 3 Deploy the Software Publisher service that is available in the HPCA Software Library.

After it is deployed, you can use the Software Publisher service to publish software, HP Softpaqs, BIOS settings, and OS image services.

Using HPCA to Manage Windows Operating Systems

HPCA uses two utilities from the Microsoft Windows Automated Installation Kit (AIK) for operating system (OS) management:

- The `bootsec.exe` utility repairs the boot sector of the Windows partition.
- The `imagex.exe` utility is used to capture, modify, and apply file-based disk images for deployment.

If you plan to use HPCA to manage Windows operating systems, you will need to install the Windows AIK on the machine that will host the HPCA Core. Refer to [Windows AIK Installation](#) on page 32.

Out of Band Management

If HPCA OOBM is going to be enabled and used, review the following notes.

- If you are uninstalling or upgrading an HPCA server and want to retain the OOBM configuration and data files for later use, you must use the migration scripts for the backup and restore of files.

For more information on migration and restore, refer to the *HP Client Automation Starter and Standard Editions Migration Guide*.

- In order for vPro devices to work correctly with HPCA OOBM, you must install and configure the Intel™ AMT **Setup and Configuration Service (SCS)**.
 - The **SCS** is supported on Windows 2003 Server (32-bit) operating systems only, and can be installed on a machine other than that which houses the HPCA components.
 - If the HPCA components are installed on any Windows 2008 Server platform, the **SCS** must be installed on a separate server.
 - If you choose to integrate HPCA OOBM features with Active Directory, the Active Directory domain controller must be installed on Windows 2003 Server (32-bit) operating systems.

For additional information, refer to the *HP Client Automation Out of Band Management User Guide* and the most recent Intel™ SCS documentation.

Windows Services

After the installation, the HPCA Core service will be listed in the Windows services as `HPCA Core`; its start mode will be set to “Automatic.” As this service is an internal part of the HPCA Core, it should not be stopped while the Core is running.

If the HPCA Satellite server is installed, its service, `HPCA Satellite`, will be listed in the Windows services also; its start mode will be set to “Automatic.” As this service is an internal part of the HPCA Satellite, it should not be stopped while the Satellite is running.

In addition to the HPCA services, several sub-services are automatically installed with the HPCA server. These are easily identified in Windows services because they are labeled “HPCA.” The start mode for these sub-services is “Manual.”

HP recommends using only the Console to stop and start these sub-services because of cross-service dependencies. If the HPCA Core or Satellite service is stopped, the sub-services will automatically stop as well.

3 Getting Started

After you have installed and configured HPCA, you are ready to use the web-based HPCA Console (the Console) to manage the client machines in your environment.

This chapter introduces you to the essential tasks that you need to complete to begin to use HPCA to manage your enterprise.

- [Accessing the Web-based HPCA Console](#) on page 49
- [Quick Start Tasks](#) on page 50

Accessing the Web-based HPCA Console

The HPCA server has a Console through which various administrative and configuration tasks can be performed. For more information on these tasks, see [Operations](#) on page 165 and [Configuration](#) on page 187.

You can use one of three methods to launch and access the HPCA Console:

- Double-click the **HP Client Automation Console** desktop icon on the machine where the server was installed.
- Navigate the Windows **Start** menu path of the machine on which the HPCA server was installed:

HP Client Automation > Client Automation Console

- Open a Web browser on any device in your environment and go to:

`http://HPCA_host:3466/`

where *HPCA_host* is the name of the server on which HPCA is installed.

Each method launches the HPCA Console, which prompts you for log-in credentials.

When prompted, specify your user name and password and click **Sign In**. The default user name is **admin** and the default password is **secret**.

See [Configuration](#) on page 187 to learn how to change the default user name and password and how to add users to the Console-access authority list. See [SSL](#) on page 198 to learn how to enable SSL in the Console to secure communication.

Important Notes

- The HPCA console may open additional browser instances when you run wizards or display alerts. To access these wizards and alerts, be sure to include HPCA as an Allowed Site in your browser's pop-up blocker settings.
- For security, HPCA automatically logs out the current user after 20 minutes of inactivity; you need to log in again to continue using the Console.
- To view the graphical reports in the **Reporting** section of the Console, you need either Java Runtime or Java Virtual Machine. Java can be installed from <http://java.com/en/index.jsp>.
- **Windows 2003 Server:** To allow local access to HPCA on a device with the Windows 2003 Server operating system, you must enable **Bypass proxy server for local address** in the Local Area Network (LAN) settings.

Quick Start Tasks

This chapter presents a series of tasks that enable you to quickly set up your environment and immediately use HPCA to manage your client devices. Additional administrative, reporting, patch-management, deployment, and operational functions are available, but these initial quick-start tasks are designed to introduce you to the capabilities of HPCA and have you start using it as soon as possible after installation.

The quick-start tasks are listed below. These must be completed in the order in which they are presented.

Task 1: Import Devices on page 52

Import your client devices into the HPCA environment so that they are “known” to the HPCA server.

Task 2: Deploy the HPCA Agent on page 52

Deploy and install the HPCA agent to the client devices in order to bring them under the control of HPCA.

Task 3: Configure Schedules on page 53

Configure schedules for inventory checking and patch management.

Task 4: Publish Software and Acquire Patches on page 54

Prepare software packages for deployment to your HPCA-managed devices, and automatically download patches according to the patch-acquisition schedule. Software packages and patches are then stored in their respective libraries.

Task 5: Create Groups on page 55

Create groups of target devices to more efficiently deploy software and patches.

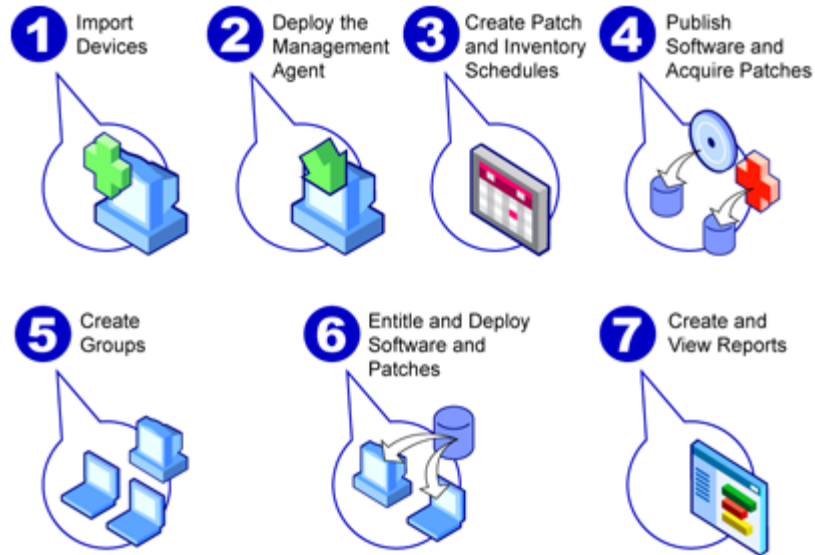
Task 6: Entitle and Deploy Software or Patches on page 55

By entitling users and devices to software packages, you allow users to choose which software to download, and when. Patches are usually downloaded without user intervention or knowledge.

Task 7: Generate and View Reports on page 57

Generate and view reports that can be printed and distributed. The reports can be customized and based on a variety of information about your HPCA-managed devices.

Figure 1 Quick Start tasks at a glance



Task 1: Import Devices

You must import (into HPCA) the devices in your environment that you want to have managed by HPCA. Doing so will make HPCA aware of them, and will enable you to collect inventory information and deploy software and patches.

- 1 On the Management tab, select Device Management then the General tab and click **Import** to launch the [Import Device Wizard](#).
- 2 Follow the steps in the wizard to import devices.

When devices have been imported, go to [Task 2: Deploy the HPCA Agent](#) to manage software, patches, and inventory.

Task 2: Deploy the HPCA Agent

When devices are imported, deploy the HPCA agent.

- 1 On the Management tab, select Device Management then the General tab and click **Deploy** to launch the [Agent Deployment Wizard](#).

- 2 Follow the steps in the wizard to deploy the HPCA agent to your imported devices.



Windows Vista Note

Access to the Administrative share (C\$) on Windows Vista devices is disabled for locally defined administrators. Therefore, Windows Vista devices should be part of a domain, and the domain administrator's credentials should be specified during HPCA agent deployment through the HPCA console.

If the devices are not part of a domain, additional steps (detailed in the Microsoft Knowledge Base article, [Error message when you try to access an administrative share on a Windows Vista-based computer](#)) are required in order to allow access for local administrators.


After making these changes, reboot the device.

Now that you have begun to manage devices, go to [Task 3: Configure Schedules](#) for inventory collection, patch compliance scanning, and patch acquisition.

Task 3: Configure Schedules

To initiate inventory and patch acquisition schedules, use the [Software/Hardware Inventory Wizard](#) and Configuration tab.

To configure the inventory schedule

- 1 On the [Devices](#) tab in the Device Management area, select one or more devices by clicking the check box to the left of a device.
- 2 Click **Inventory Collections**  and then select **Discover Software/Hardware Inventory** to launch the [Software/Hardware Inventory Wizard](#).
- 3 Follow the steps in [Software/Hardware Inventory Wizard](#) on page 245 to define software and hardware inventory collection for your devices and groups.


To configure patch acquisition schedule and settings

Use the Operations tab, [Patch Management](#) section to configure patch acquisition settings and schedule.

- 1 Expand the Patch Management section and click **Acquisition**.

- 2 Use the Schedule tab to specify a schedule for patch acquisitions.
- 3 In the Settings tab, specify the required Microsoft Bulletin and HP Softpaq acquisition settings.

To configure a patch compliance discovery schedule

- 1 On the [Devices](#) tab in the Device Management area, select one or more devices by clicking the checkbox to the left of the device.
- 2 Click **Inventory Collections**  and then select **Discover Patch Compliance** to launch the [Patch Compliance Discovery Wizard](#).
- 3 Follow the steps in the wizard to create a patch compliance schedule for your devices and groups.


When schedules are configured, go to [Task 4: Publish Software and Acquire Patches](#).

Task 4: Publish Software and Acquire Patches

Before you can deploy software and patches to managed devices, you must populate the Software Library and Patch Library.

- 1 Use the Publisher to publish software into the HPCA database.
 - Launch the Publisher on the machine from which you plan to configure and publish software services. Refer to the Publisher online help or [Publishing](#) on page 287 for more information.
 - ▶ The Starter license contains options for publishing HP Softpaqs, BIOS settings, and, for thin clients only, options for publishing software and OS images.
The Standard license contains these options as well as options for publishing software and operating system images.
- 2 Populate the Patch Library by acquiring patches from HP and Microsoft sources.

- On the Management tab, Patch Management section, General tab, click **Acquire**. Patches are downloaded and added to the Patch Library. Patches are automatically downloaded according to the acquisition schedule configured in the previous step, [Task 3: Configure Schedules](#) on page 53.

 Patches should be acquired initially to an HPCA server in a non-production lab environment for evaluation to prevent possible performance issues.

When software and patches are available in each library, go to [Task 5: Create Groups](#) to entitle software and patches for deployment.

Task 5: Create Groups

To deploy software or patches, you must create a group that includes the target devices, and then entitle software or patches to that group.


- On the General tab of the Group Management area, click **Create a New Static Group**. This will launch the [Group Creation Wizard](#). Follow the steps in the wizard to create a static group.

HPCA also supports dynamic device groups that are based, optionally, on discovered devices (discovery group) or selected inventory criteria (reporting groups). These groups are also created using the Group Creation Wizard. See [Group Management](#) on page 107 for more information.

When the group has been created, go to [Task 6: Entitle and Deploy Software or Patches](#) to the devices in the group.



Task 6: Entitle and Deploy Software or Patches

In the Group Management area, Groups tab, click the Group display name to open the Group Details window. Here, you can entitle and deploy software and patches.

-  HP Client Automation Standard is required to deploy software and patches. HP Client Automation Starter allows for the deployment of BIOS settings and HP Softpaqs.



To entitle and deploy software

Use the [Group Details](#), Software tab to entitle and deploy software.

- 1 Click **Add Software Entitlement**  to select software services and make them available to that group. Entitled software is displayed in the Software Entitlement table on the Software tab and is available to end users in the Application Self-service Manager, but is not automatically deployed. This enables you to create a managed software catalog that allows users to determine which optional software services to deploy and when.
- 2 To deploy software, select the software to deploy and click the **Deploy Software**  button. This opens the [Software Deployment Wizard](#). Follow the steps in the wizard to deploy software to devices in that group. Deployed software is automatically installed on end-user devices.

To entitle and deploy patches

Use the [Group Details](#), Patches tab to entitle and deploy patches.

- 1 Click **Add Patch Entitlement**  to select patches and make them available to that group. Entitled patches are then displayed in the Patch Entitlement table.
- 2 To deploy patches, select the patches to deploy and click **Deploy Patches** . This opens the [Patch Deployment Wizard](#). Follow the steps in the wizard to deploy patches to devices in that group.
 - Patch compliance and enforcement can be configured using the [Patch Deployment Wizard](#).
 - Entitled patches are not shown in the Application Self-service Manager catalog.

You have successfully used HPCA to deploy software and patches. Learn about creating reports by following the instructions in the section, [Task 7: Generate and View Reports](#).

Task 7: Generate and View Reports

Use the Reporting tab to generate and view reports based on managed device information.

- To generate a quick sample report, click **View Managed Devices** in the **Inventory Information** area to display a list of all devices that have the HPCA agent installed.

When a list of devices is created, you can use the options on the left or click any of the device column details to apply more filters.

- When a report is generated, click **Create a new Dynamic Reporting Group**



to create a dynamic group of devices in the report. This will open the [Group Creation Wizard](#). Follow the steps in the wizard to create the Reporting Group.

4 Using the Dashboards

The Dashboards enable you to quickly assess the status of your environment in various ways. The Dashboards offer a visual representation of certain types of information provided in the Reporting area. The specific dashboards available to you depend on the type of HPCA license that you have. This chapter includes the following topics:

- [Dashboard Overview](#) on page 60
- [HPCA Operations Dashboard](#) on page 64
- [Patch Management Dashboard](#) on page 71

Dashboard Overview

The HPCA Console includes dashboards that enable you to view and assess the status of your enterprise at a glance:

- The [HPCA Operations Dashboard](#) on page 64 shows you how much work is being done by the HPCA infrastructure.
- The [Patch Management Dashboard](#) on page 71 shows you information about any patch vulnerabilities that are detected on the devices in your network


Each dashboard includes two views:

Table 3 Types of Dashboard Views

Type	Description
Executive View	High-level summaries designed for managers. This include historical information about the enterprise.
Operational View	Detailed information designed for people who use HPCA in their day to day activities. This includes information about specific devices, subnets, vulnerabilities, and specific compliance or security tool issues.

Each view includes a number of information panes. You can configure HPCA to show you all or a subset of these panes. See [Dashboards](#) on page 237 for more information.

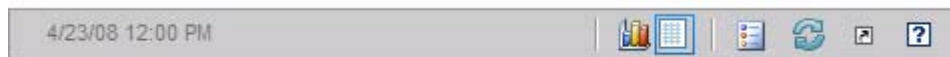
Each dashboard also includes a home page with summary statistics and links to related reports. When you click one of these links, a separate browser window opens, and HPCA displays the report.

In most dashboard panes, you can display the information in either a chart or grid format. In the grid view, the current sort parameter is indicated by the  icon in the column heading. To change the sort parameter, click a different column heading. To reverse the sort order, click the column heading again. To move a column, click the background in the column heading cell, and drag the column to a new location.

In most dashboard panes, you can rest the cursor on a colored area on a bar or pie chart—or a data point on a line chart—to see additional information. Most panes also enable you to drill down into reports that provide more detailed information.

The time stamp in the lower left corner of each pane indicates when the data in the pane was most recently refreshed from its source.

Figure 2 Time Stamp



▶ The dashboard panes use your local time zone to display the date and time. The reports available on the Reporting tab use Greenwich Mean Time (GMT) by default. Individual report packs, however, can be configured to use either GMT or local time.

You can perform the following actions in the dashboard panes:

Table 4 Dashboard Pane Actions












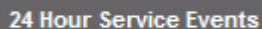
Icon	Description
	Display the information in chart format.
	Display the information in grid format.
	Display the legend for this chart.
	Refreshes the data from its source. Click the refresh icon in an individual pane to refresh the data for that pane. Click the refresh icon in the upper right corner of the dashboard to refresh all panes. The dashboard panes are not automatically refreshed if your HPCA Console session times out. You must manually refresh the panes after you sign in again if you want to get the latest information from the database.
	Resets the appearance of all panes within the dashboard to their factory default settings.

Table 4 Dashboard Pane Actions

Icon	Description
	For panes containing HPCA data, show the corresponding report. For panes containing information from external web sites or RSS feeds, go to the source web site.
	Opens a “quick help” box or tool tip. Click this button once to see a brief description of the dashboard pane. Click it again to hide the quick help text.
	Opens a context sensitive online help topic for this pane. This control is only available when the quick help text is visible.
	Minimize a dashboard pane.
	Maximize a dashboard pane.
	After maximizing, restore the pane to its original size.

If you minimize a dashboard pane, the other panes will expand in size to fill the dashboard window. Likewise, if you maximize a dashboard pane, the other panes will be covered. To restore a pane that has been minimized, click the gray button containing its name at the bottom of the dashboard. In this example, the 24 Hour Service Events pane has been minimized:

Figure 3 Button that Restores a Dashboard Pane

You can drag and drop the panes to rearrange them within the dashboard window. You cannot, however, drag a pane outside of the dashboard.

When you customize the appearance of a dashboard by resizing or rearranging its panes—or switching between the chart and grid view in one or more panes—this customization is applied the next time you sign in to the HPCA Console. The dashboard layout settings are stored as a local Flash shared

object (like a browser cookie) on your computer. The settings are saved unless you explicitly delete them. See [Delete Dashboard Layout Settings](#) on page 366 for instructions.



If you press the **F5** function key while viewing one of the dashboards, you will return to that dashboard page after your browser reloads the HPCA Console.

Dashboard Perspectives

Perspectives enable you to limit the information displayed in the dashboard panes to certain types of devices. The following three perspectives are available by default:

- Global – All devices (no filter is applied).
- Mobile – Laptops and other mobile computing devices. This includes all devices with the following chassis types:
 - Portable
 - Laptop
 - Notebook
 - Hand Held
 - Sub Notebook
- Virtual – Virtual devices. This includes all devices whose Vendor and Model properties indicate VMware or Xen (including Citrix).

To apply a perspective, select it in the Perspectives box in the upper left corner of the console:



Due to the nature of the data that they display, certain dashboard panes are not affected by the perspectives. When you select either the Mobile or Virtual perspective, a highlighted message appears at the top of any pane that is *not* affected:

Filter or Perspective Not Applicable

Panes that are not affected are also outlined in orange.

When you select a perspective, it is applied to all the dashboard panes in the HPCA Console except those that indicate, **Filter or Perspective Not Applicable**, as shown above. You cannot apply a perspective to an individual dashboard pane.

HPCA Operations Dashboard

This dashboard shows you the work that the HPCA infrastructure is doing in your enterprise. It shows you three things:

- The number of HPCA client connections
- The number of service events (installs, uninstalls, updates, repairs, and verifies) that have occurred
- The types of operations (OS, security, patch or application) that HPCA has performed

The client connection and service event metrics are reported in two time frames. The Executive View shows the last 12 months. The Operational View shows the last 24 hours. Both views contain the following information panes:

[Client Connections](#) on page 65

[Service Events](#) on page 67

The Executive View also includes the following pane:

[12 Month Service Events by Domain](#) on page 69

All of these panes are visible by default. You can configure the dashboard to show or hide any of these panes. For more information, see [Dashboards](#) on page 237.

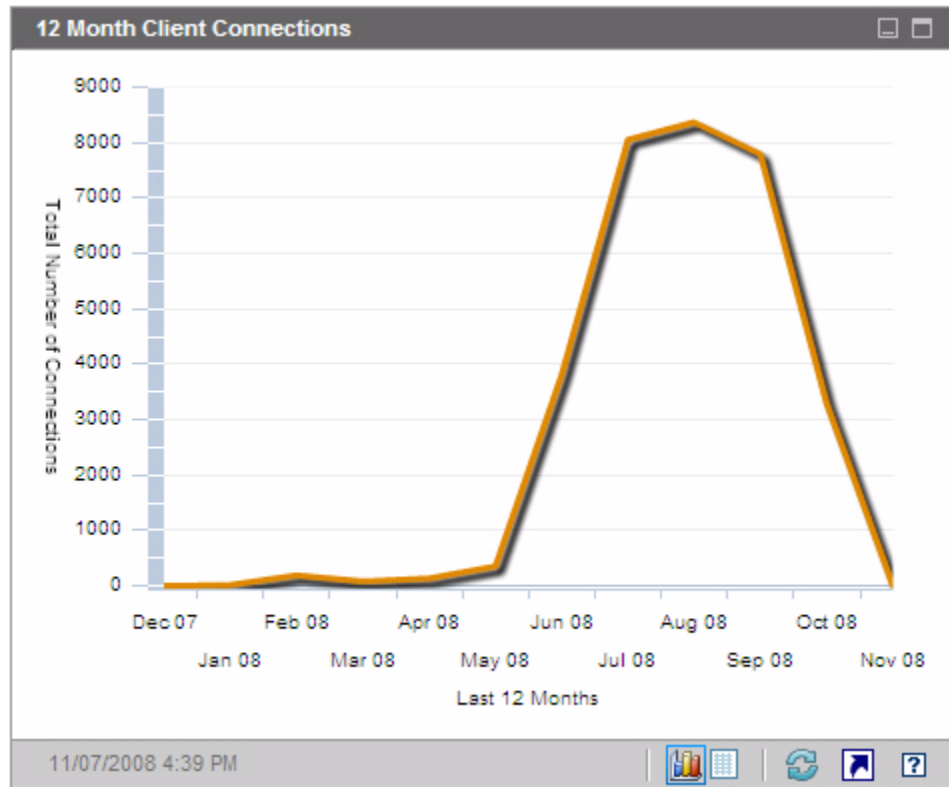


When you click HPCA Operations in the left navigation pane, the HPCA Operations home page is displayed. This page contains statistics and links to pertinent reports.

Client Connections

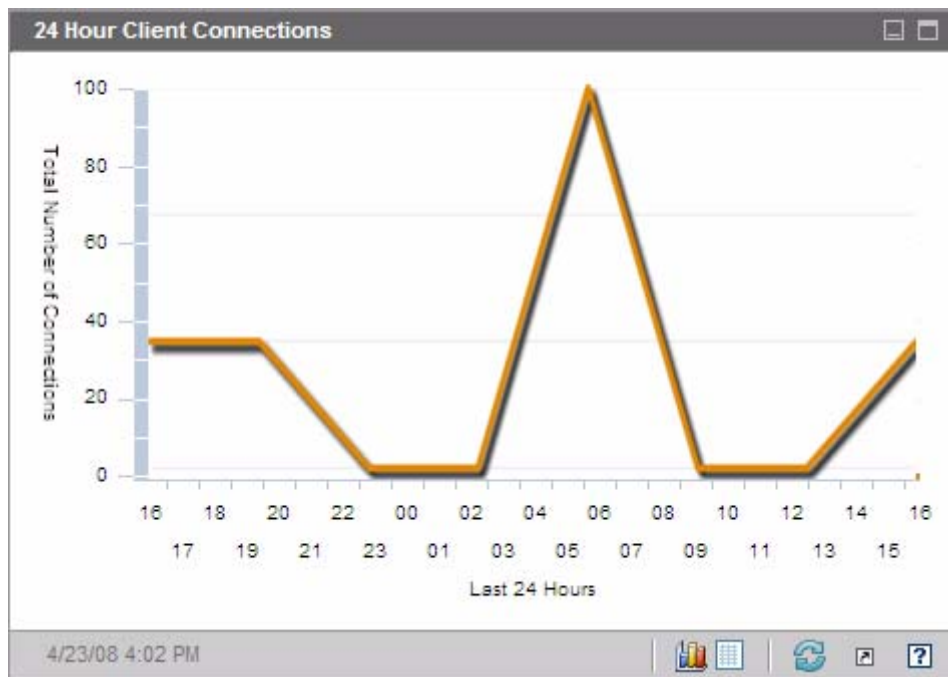
The chart view of this pane shows you the number of HPCA agent client connections that have occurred over the last twelve months (Executive View) or 24 hours (Operational View). When you rest the cursor on a data point, you can see the total number of connections for that month (Executive View) or hour (Operational View).

Figure 4 12 Month Client Connections



The grid view for this pane lists the total number of client connections completed during each of the last twelve months.

Figure 5 24 Hour Client Connections



▶ The dashboard panes use your local time zone to display the date and time. The reports available on the Reporting tab use Greenwich Mean Time (GMT) by default. Individual report packs, however, can be configured to use either GMT or local time.

The grid view for this pane lists the number of client connections completed during each of the last 24 hours.

Service Events

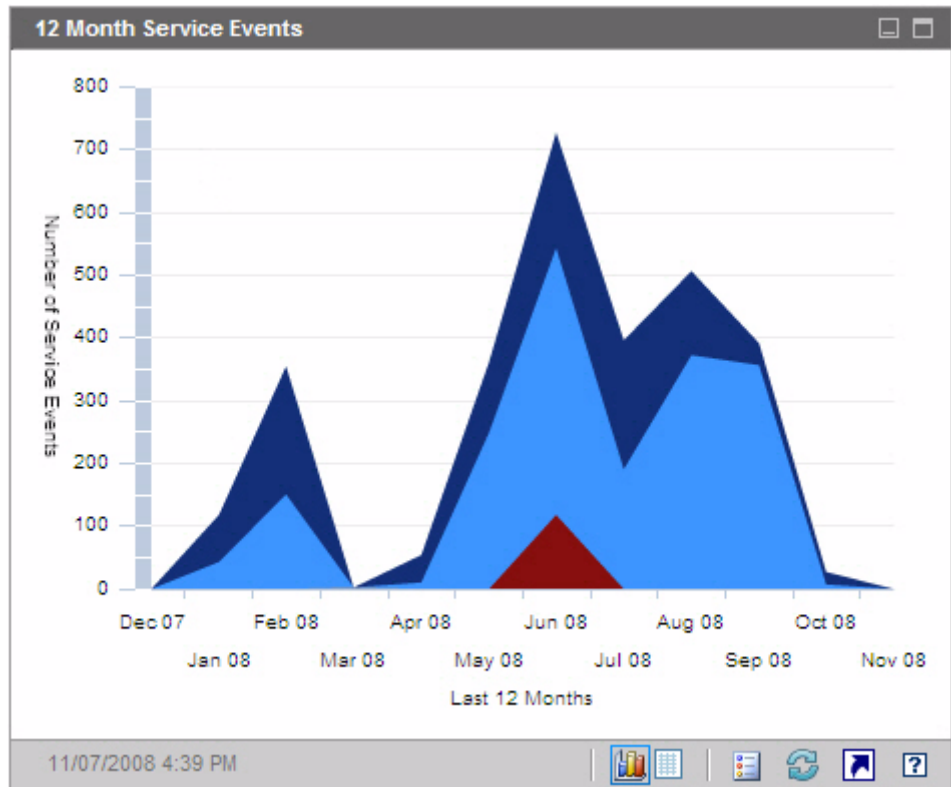
The chart view of this pane shows the number of service events that HPCA has completed over the last twelve months (Executive View) or 24 hours (Operational View) on the client devices in your enterprise. These include the number of applications that HPCA has:

- Installed
- Uninstalled

- Updated
- Repaired
- Verified

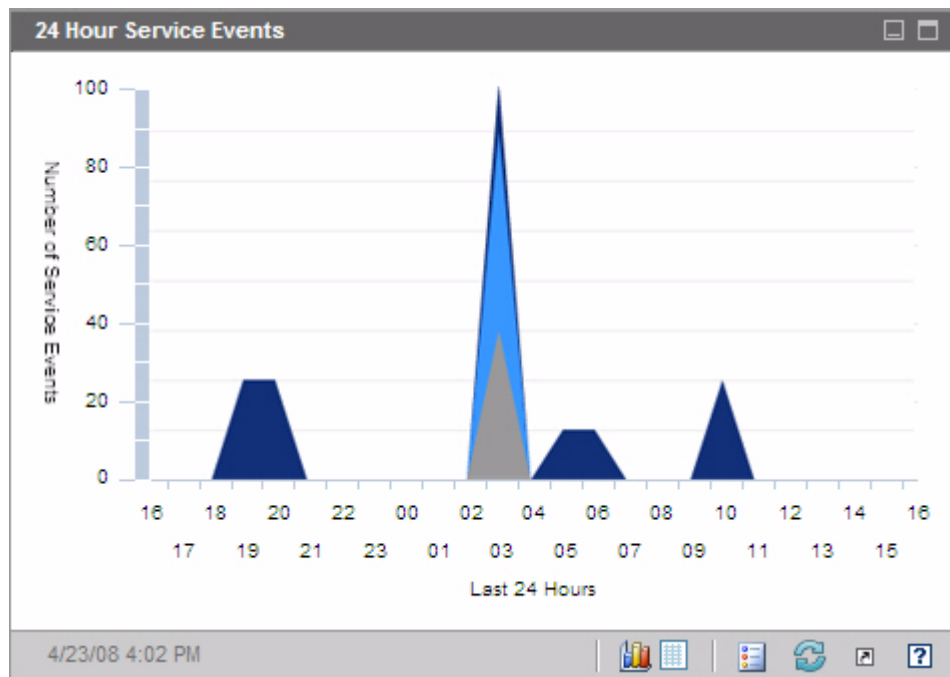
When you rest the cursor on a data point, you can see the number of service events that were completed during a particular month or hour.

Figure 6 12 Month Service Events



The grid view for this pane lists the number of each type of service event that was completed by HPCA during each of the last twelve months.

Figure 7 24 Hour Service Events



▶ The dashboard panes use your local time zone to display the date and time. The reports available on the Reporting tab use Greenwich Mean Time (GMT) by default. Individual report packs, however, can be configured to use either GMT or local time.

The grid view for this pane lists the number of each type of service event that was initiated by HPCA during each of the last 24 hours.

12 Month Service Events by Domain

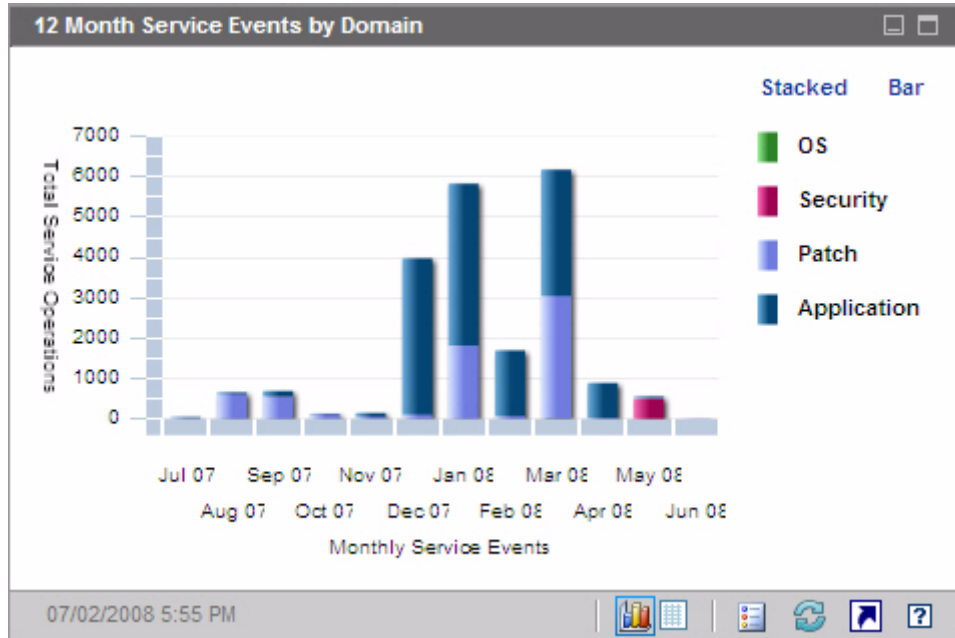
The chart view of this pane shows you how many of each of the following services that HPCA performed during each of the last 12 months:

- Operating system (OS) operations
- Security operations
- Patch operations

- Application operations

If fewer than 12 months of data are available, the chart will contain fewer bars.

Figure 8 12 Month Service Events by Domain



You can view the data presented in this chart in two ways.

- Stacked – the different types of service events are stacked vertically in a single bar for each month, as shown here.
- Bar – a separate bar for each type of service event is shown for each month.

The grid view lists the number of each type of service that HPCA performed during each of the last twelve months.

Patch Management Dashboard

The Patch Management dashboard provides information about any patch vulnerabilities that are detected on managed devices in your network.

The Executive View of the Patch Management dashboard includes three information panes:

- [Device Compliance by Status \(Executive View\)](#) on page 71
- [Device Compliance by Bulletin](#) on page 73
- [Top Ten Vulnerabilities](#) on page 74

The Operational View includes the following information panes:

- [Device Compliance by Status \(Operational View\)](#) on page 76
- [Microsoft Security Bulletins](#) on page 77
- [Most Vulnerable Products](#) on page 78

You can configure the dashboard to show or hide any of these panes. See [Dashboards](#) on page 237.



When you click Patch Management in the left navigation pane on the Home tab, the Patch Management home page is displayed. This page contains statistics and links to pertinent reports.

Device Compliance by Status (Executive View)

The chart view of this pane shows you the percentage of devices in your network that are currently in compliance with your patch policy. The colored wedges in the pie chart represent the following possible states:

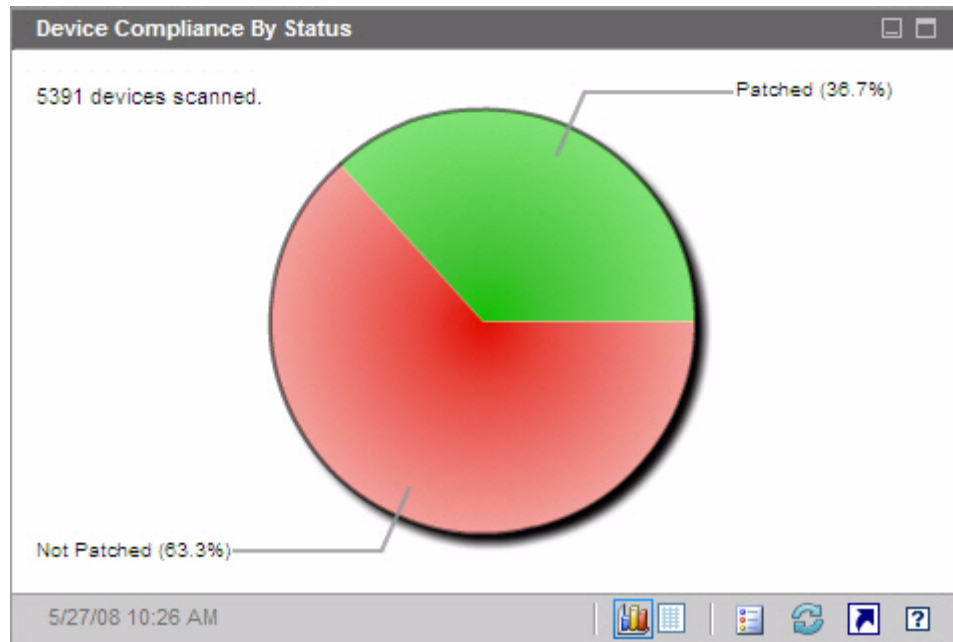
- Patched (green)
- Not patched (red)

The [Device Compliance by Status \(Operational View\)](#) on page 76 is similar but has finer-grained detail:

Table 5 Device Compliance By Status Views

Executive View	Operational View
Patched	Patched Warning
Not patched	Not patched Reboot Pending Other

Figure 9 Device Compliance by Status (Executive View)



To see the number of devices in a particular category, rest the cursor over a colored sector in the pie chart.

If you click one of the colored wedges in the pie chart, a new browser window opens, and a filtered report is displayed. The report lists all devices in the patch compliance status corresponding to the wedge that you clicked.

The grid view for this pane shows the number of network devices in each of the compliance states shown in the pie chart.

Device Compliance by Bulletin

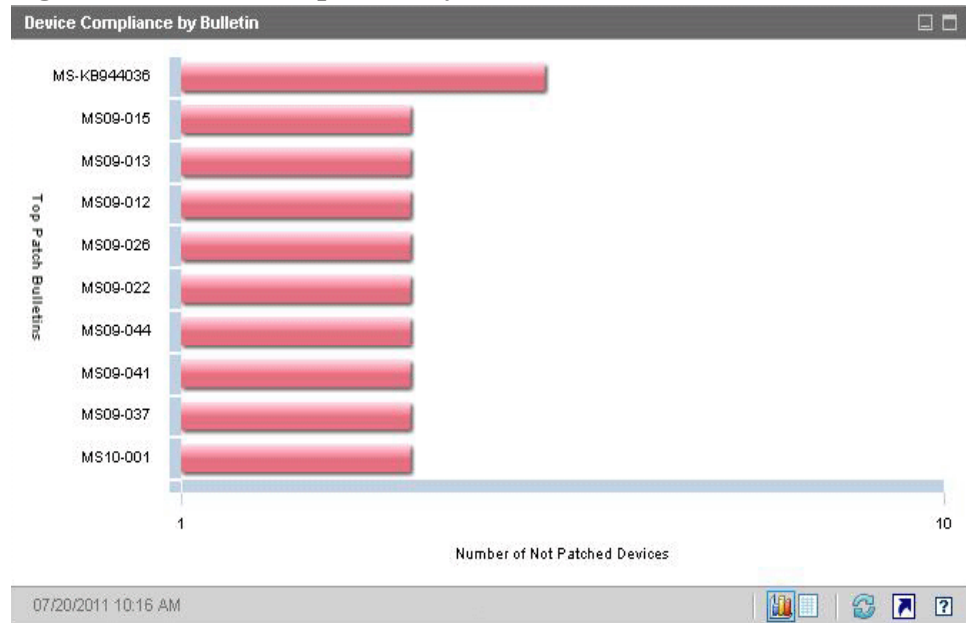
The chart view of this pane shows you the ten patch vulnerabilities that affect the greatest number of devices in your network. The vertical axis lists the patch bulletin numbers for these vulnerabilities. The horizontal axis represents the number of devices not patched and uses a logarithmic scale.



If a particular bulletin affects only one device, no data is shown for that bulletin in the chart view. This is a known limitation of logarithmic scales. The data is visible in the grid view, however.

To see the name of the bulletin and the number of devices affected, rest the cursor on one of the colored bars.

Figure 10 Device Compliance by Bulletin



If you click one of the colored bars in the chart, a new browser window opens, and a filtered report is displayed. This report shows which managed devices have this patch vulnerability.

The grid view provides the following information for the top ten patch vulnerabilities detected:

- Bulletin – The Microsoft Security Bulletin identifier for this vulnerability
- Description – Title of the bulletin
- Not Patched – Number of devices with this patch vulnerability

The table is initially sorted by Not Patched. To change the sort parameter, click the pertinent column heading.

To find more information about a particular bulletin, click the bulletin number.

Top Ten Vulnerabilities

The chart view of this pane shows the compliance state of the top ten vulnerabilities that affect the maximum number of devices in the network. The chart displays the number of devices that have been patched or not for each of the vulnerability. These devices are represented as follows:

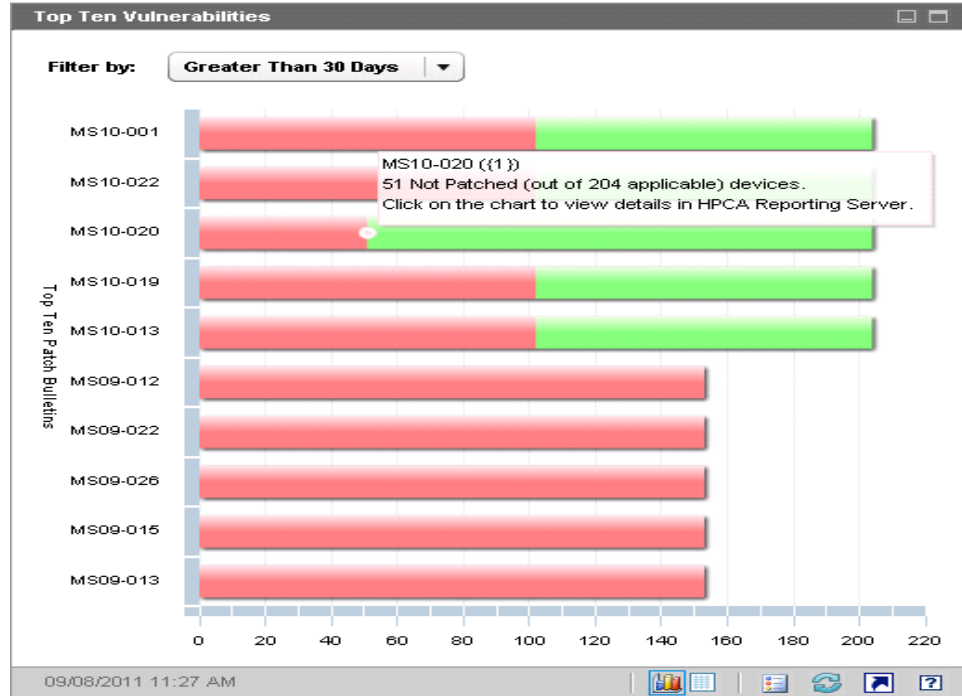
- Patched devices (green)
- Non-patched devices (red)

You can view the statistics of these devices for last 7 days, 14 days, 21 days, 30 days, and greater than 30 days. You can also filter the vulnerabilities by **Recently Released** to view statistics for top ten bulletins released by Microsoft and acquired by Patch Manager that affect the maximum number of devices in the network.

The vertical axis of the chart lists the top ten patch bulletins. The horizontal axis represents the number of devices affected by these bulletins.

To see the number of devices affected and the compliance state of a particular bulletin, position the cursor on one of the colored bars.

Figure 11 Top Ten Vulnerabilities



The grid view provides the following information for the top ten vulnerabilities:

- Bulletin – The Microsoft Security Bulletin identifier
- Not Patched – Number of devices not compliant with a particular bulletin
- Patched – Number of devices compliant with a particular bulletin
- Devices – Total number of devices affected due to a particular bulletin

The table is initially sorted by **Devices**. To change the sort parameter, click the pertinent column heading.

To find more information about a particular bulletin, click the bulletin name.

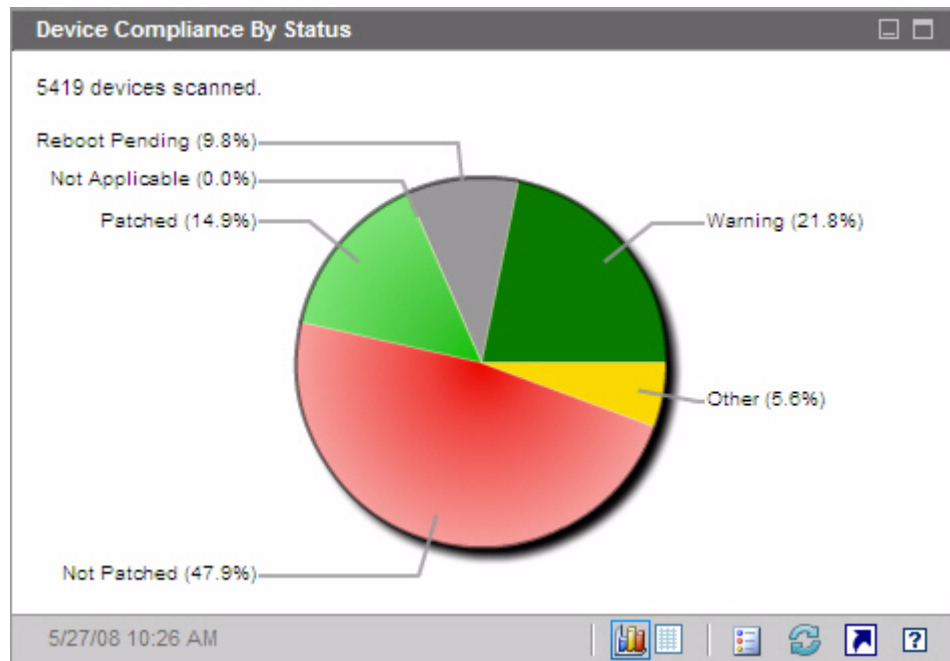
Device Compliance by Status (Operational View)

The chart view of this pane shows you the percentage of devices in your network that are currently in compliance with your patch policy. To see the number of devices in a particular category, rest the cursor over a colored sector in the pie chart.

This pane is similar to the [Device Compliance by Status \(Executive View\)](#) pane but shows a finer level of detail and uses the same colors used by the Patch Manager:

- Patched (light green)
- Not Patched (red)
- Reboot Pending (light gray)
- Warning (dark green)
- Other (yellow)
- Not Applicable (dark gray)

Figure 12 Device Compliance by Status (Operational View)



If you click one of the colored wedges in the pie chart, a new browser window opens, and a filtered report is displayed. The report lists all devices in the patch compliance status corresponding to the wedge that you clicked.


The grid view shows the number of network devices in each of the compliance states shown in the pie chart.

Microsoft Security Bulletins

This pane shows you the most recent Microsoft Security Bulletins. By default, this information is provided by an RSS feed from Microsoft Corporation. You can change the URL for the feed by using the Configuration tab (see [Dashboards](#) on page 237).

Figure 13 Microsoft Security Bulletins



To view detailed information about a particular bulletin, click the  icon just below the bulletin name.

This pane does not have a chart view.

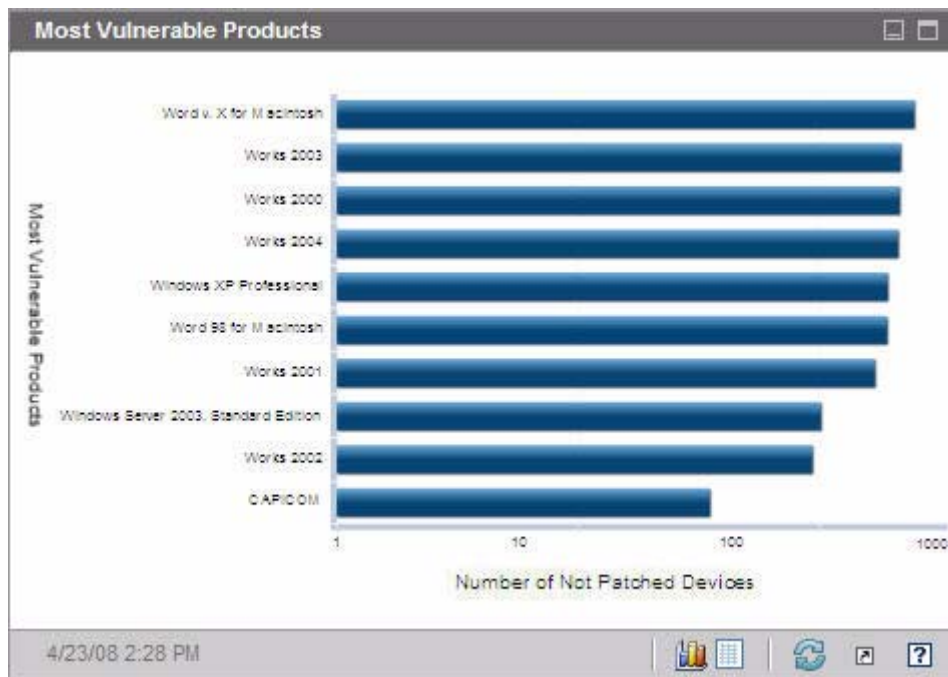
Most Vulnerable Products

This pane is disabled by default. To enable it, see [Dashboards](#) on page 237.

The chart view of this pane shows you the software products in your network for which there are the greatest number of not patched devices. The vertical axis lists the software products. The horizontal axis reflects the total number of not patched devices for the software product.

Because this chart uses a logarithmic scale, if the number of not patched devices for a particular product equals one, no data is shown for that product in the chart view. This is a known limitation of logarithmic scales. However, the data is visible in the grid view. To see the number of devices on which a particular software product is not patched, rest the cursor over one of the colored bars.

Figure 14 Most Vulnerable Products



The grid view provides the following information for each product:

- Product – Name of the software product
- Not Patched – Number of not patched devices for a particular product
- Applicable Devices – Number of devices on which this product is installed

The table is initially sorted by Not Patched. To change the sort parameter, click the pertinent column heading.

5 Management

The Management tab contains the tools you use to manage your environment. The next sections describe the management areas that you can control:

- [Device Management](#) on page 82
- [Group Management](#) on page 107
- [Software Management](#) on page 120
- [Patch Management](#) on page 128
- [OS Management](#) on page 136
- [Job Management](#) on page 147

Device Management

Use the Device Management section to import devices, deploy the HPCA Agent, discover inventory, manage patches, manage device power options, control devices remotely, collect application usage information, and view reports based on all managed devices.

The Device Management tabs are described in the following sections:

- [General](#) on page 85
- [Devices](#) on page 86
- [Current Jobs](#) on page 99
- [Past Jobs](#) on page 99

Information about target device requirements and manual installation steps are included in these sections:

- [Target Device Prerequisites](#) on page 82
- [Manually Installing the HPCA Agent](#) on page 99

Target Device Prerequisites

Before you deploy the HPCA Agent to target devices, review the information in this section. For information about supported platforms of target devices, refer to the *Release Notes* document that accompanies this release.

- **File and Print Sharing** should be enabled.
- Devices that are running Windows XP Professional and which are not part of an Active Directory must have **Simple File Sharing** disabled.
- TPM-enabled systems require Infineon Driver, version 2.00 (minimum).
- If the target client device has a personal firewall installed then the following ports must be excluded for inbound traffic:
TCP 3463 and TCP 3465
- The following ports must be excluded to enable remote deployment of the Management Agent:
TCP 139 and 445
UDP 137 and 138

Windows Firewall users can select File and Printer sharing to exclude these ports.

- In addition, the following program files must be excluded from the firewall. In `<InstallDir>\Agent:`

`RadUIShell.exe`

`Radexecd.exe`

`nvdkit.exe`

`nvdtk.exe`

- And in `<InstallDir>\ManagementAgent:`

`nvdkit.exe`



Managing these devices requires that the BIOS contains a valid serial number and machine UUID (setting asset tag is also recommended). Without these settings, OS deployment may not work properly.

Windows XPE Requirements for HPCA

When Windows XPe thin client devices are shipped on non-HP hardware, two rules must be created to allow HPCA to operate—one for the HPCA executables and one for the ports.

To create the HPCA executables rule

If you are running File-Based Write Filter, you must disable the write filter and reboot prior to this procedure. To do this, run the following command:

```
fbwfmgr.exe /disable
```

- 1 Log on to Windows XPe as **Administrator**.
- 2 Right-click the Symantec icon in the system tray and select **Advanced Rules**.
- 3 Click **Add**.
- 4 On the General tab:
 - Add description **Allow HPCA Agent**.
 - Select **Allow this traffic**.

- 5 On the Applications tab, click **Browse** to add the following applications from `<InstallDir>\Agent`.

- Nvdkit
- Radconct
- Radpinit
- Radexecd
- Radstgrq
- Radsched
- Radgetproxy
- Radntfyc
- Radidgrp
- Ralf
- prepwiz.exe



The prepwiz executable is available only from the HPCA Image Capture CD, which is created from the Image Capture ISO on the HPCA media. This .iso must be available in order to add the executable.

- 6 Click **OK** to save the new rule.
- 7 Click **OK** to exit.

To create the HPCA ports rule

- 1 Right-click the Symantec icon in the system tray and select **Advanced Rules**.
- 2 Click **Add**.
- 3 On the General tab:
 - Add description **Allow HPCA Ports**.
 - Select **Allow this traffic**.
- 4 On the Ports and Protocols tab, select **Protocol: TCP** and add Local: 3463 and 3465.
- 5 Click **OK** to save the new rule.

6 Click **OK** to exit.

When you have created both rules, right-click the **Enhanced Write Filter (EWF)** icon in the system tray and select **Commit**. You are prompted to reboot. This will write your changes to the flash memory.

If you are using the File-Based Write Filter, you must enable the write filter and reboot. To do this, run the following command:

```
fbwfmgr.exe /enable
```

After reboot, confirm that both rules are available in the Symantec Endpoint Protection utility and that they are enabled (**Allow this traffic** is selected for both).

General

Use the General tab to add devices, deploy HPCA agents, view current and past Device Management jobs.



An alternative to deploying the HPCA agent from the Console is to manually install it on the end-user machine that you want to manage. For more information, see [Manually Installing the HPCA Agent](#) on page 99.

The Summary section of the workspace shows the number of devices in your database, the number of managed devices (devices that have an HPCA agent installed), and the total number of current jobs.

To import a device

- In the Common Tasks area, click **Import**. This will launch the [Import Device Wizard](#).

Follow the steps in the wizard on [page 242](#) to add new devices to HPCA.

To deploy the HPCA agent

- In the Common Tasks area, click **Deploy**. This will launch the [Agent Deployment Wizard](#).

Follow the steps in the wizard on [page 243](#) to deploy the HPCA agent to devices in your database.

HPCA Agent Notes

- The HPCA agent is deployed to Windows Vista and Windows Server 2008 devices in *silent mode* only.
- To deploy the HPCA agent to remote devices you need access to administrative shares. Windows XP includes a security feature, **Simple File Sharing (SFS)**, which blocks access to these shares. SFS is enabled by default for Windows XP devices that are part of a workgroup, and disabled automatically for devices that are joined to an Active Directory domain.

If your target devices are running Windows XP and they are not part of an Active Directory domain, you must turn off SFS to allow installation of the HPCA agent. For details on how to configure SFS, see the Microsoft Knowledge Base article [How to configure file sharing in Windows XP](#).

Devices

The Devices tab contains a table of all devices that have been imported into HPCA.



When HPCA is installed, the host server is automatically added to the Devices list. This device definition is required by HPCA and cannot be removed.

Newly imported devices (imported within the last seven days) can be recognized by the word 'new' in parentheses to the right of the device name.



Not all device information is available in the Devices list until an HPCA agent is deployed.

Use the Devices toolbar to import devices, deploy or remove the HPCA agent, manage device power options, control devices remotely, and discover inventory, application usage or patch compliance.



An alternative to deploying the HPCA agent from the Console is to manually install it on the end-user machine that you want to manage. For more information, see [Manually Installing the HPCA Agent](#) on page 99.

Click any column heading in the device list to change the sort order or use the navigation buttons at the top of the table to jump to a specific section.



If computer names in your environment contain more than 15 characters, you may experience unexpected results when using HPCA to deploy the HPCA agent or create groups. HP recommends that computer names contain no more than 15 characters. For more information, refer to the Microsoft Knowledge Base article, **Microsoft NetBIOS Computer Naming Conventions**.

Use the **Search** function to narrow the list of devices. The first search box will always contain the available column headings depending on which section of the Console you are currently in. The second box contains search parameters you can use to customize your query.


Filtered Results  is displayed at the bottom of the table when you are viewing your query results.

Table 6 Devices toolbar tasks











Button	Description
	Refresh Data – Refreshes the Device list.
	Export to CSV – Creates a comma-separated list that you can open or save.
	Import Devices to Manage – Launches the Import Device Wizard .
	Deploy the Management Agent – Launches the Agent Deployment Wizard .
	Remove the Management Agent – Launches the Agent Removal Wizard .
	Inventory Collections: Discover Software/Hardware Inventory – Launches the Software/Hardware Inventory Wizard . Discover Patch Compliance – Launches the Patch Compliance Discovery Wizard .

Table 6 Devices toolbar tasks

Button	Description
	Power Management – Launches the Power Management Wizard .
	Remote Control – Launches the Remote Control interface window.
	View Out of Band Device Details – Launches the Out of Band Device details window for the selected device. This option is available only when Out of Band Management is enabled. See Out of Band Management on page 227 for enablement information. For more detailed information, refer to the <i>HP Client Automation Out of Band Management User Guide</i> .
	Delete Devices – Removes a device from the Device List. Note that removing a device from the Device List does not remove device reporting data. Reporting data must be removed using the Configuration tab. See Database Maintenance on page 167 for details.

The following tasks are available from the Devices tab.

- [Importing Devices](#) on page 89
- [Deploying the HPCA Agent from the Devices Tab](#) on page 89
- [Removing the HPCA Agent](#) on page 90
- [Discovering Software/Hardware Inventory](#) on page 90
- [Discovering Patch Compliance](#) on page 90
- [Remote Control](#) on page 91
- [Power Management](#) on page 96
- [Out of Band Management](#) on page 96
- [Removing Devices](#) on page 97
- [Device Details](#) on page 97

Importing Devices

The [Import Device Wizard](#) allows you to manually import devices by name or IP address or to discover devices contained within either Active Directory or another LDAP-compliant directory, or within a network domain.

- To import devices into HPCA, click **Import Devices to Manage**  button. This will launch the [Import Device Wizard](#).

Follow the steps on [page 242](#) to add new devices to HPCA.

Deploying the HPCA Agent from the Devices Tab


Use the [Agent Deployment Wizard](#) to deploy the HPCA agent to devices in your environment.



Deploying the HPCA agent to Windows Vista devices.

Access to the Administrative share (C\$) on Windows Vista devices is disabled for locally defined administrators. Therefore, Windows Vista devices should be part of a domain, and the domain administrator's credentials should be specified during HPCA agent deployment through the HPCA Console. If the devices are not part of a domain, you must perform additional steps to allow access for local administrators. See the Microsoft Knowledge Base article, [Error message when you try to access an administrative share on a Windows Vista-based computer](#).


To deploy the HPCA agent

- 1 Use the check boxes in the first column to select the devices to which you want to deploy the HPCA agent.
 - Click the **Deploy the Management Agent**  button to launch the [Agent Deployment Wizard](#).
- 2 Follow the steps in the wizard on [page 243](#) to deploy the HPCA agent to the selected devices.

Removing the HPCA Agent

Use the [Agent Removal Wizard](#) to remove the HPCA agent from devices in your HPCA database.


To remove the HPCA agent

- 1 Use the check boxes in the first column to select the devices from which you want to remove the HPCA agent.
- 2 Click the **Remove the Management Agent**  button to launch the [Agent Removal Wizard](#).
- 3 Follow the steps on [page 244](#) to remove the HPCA agent from the selected devices.

Discovering Software/Hardware Inventory

Use the [Software/Hardware Inventory Wizard](#) to discover inventory for devices in your HPCA database.

To discover software and hardware inventory

- 1 Use the check boxes in the first column to select the devices for which you want to discover inventory.
- 2 Click the **Inventory Collections**  button and select **Discover Software/Hardware Inventory** to launch the [Software/Hardware Inventory Wizard](#).
- 3 Follow the steps in the wizard to discover inventory for the selected devices.
- 4 Use the Reporting tab to view inventory reports.

Discovering Patch Compliance

Use the [Patch Compliance Discovery Wizard](#) to determine the compliance status of devices in your HPCA environment.

To discover patch compliance

- 1 Use the check boxes in the first column to select the devices that you want to query for patch compliance.

- 2 Click the **Inventory Collections**  button and select **Discover Patch Compliance** to launch the [Patch Compliance Discovery Wizard](#).
- 3 Follow the steps in the wizard to check the patch compliance for the selected devices.
- 4 Use the Reporting tab to view patch-compliance reports.

Remote Control

Use the Remote Control interface to launch a remote session with any device. This interface allows you to connect to devices that have one of the following programs installed and enabled:

- Virtual Network Computing (VNC)
- Windows Remote Desktop Protocol (RDP)
- Windows Remote Assistance


HPCA will detect whether VNC, RDP, or Remote Assistance is installed on the remote system by connecting to the following ports: 5800 for VNC, and 3389 for RDP and Remote Assistance (see [Firewall Considerations](#) on page 95). If a connection is made on a particular port, HPCA will assume that the pertinent program is installed and running and will present that option as an available remote connection method.

Windows Remote Desktop Protocol is a multichannel capable protocol available on Windows client devices. You can use RDP to connect remotely to a device with RDP enabled (for example, Windows XP). HPCA detects this program by connecting to port 3389 on the remote device. See [Requirements for Windows Remote Desktop](#) on page 92.

VNC is a desktop sharing system used to remotely control another computer. Use VNC to remotely connect to client devices that have VNC installed and enabled. See [Requirements for VNC](#) on page 93.

Windows Remote Assistance creates a special type of connection that enables you to offer help to users of managed client systems. In the connection, you serve as the “Expert,” and the client system user serves as the “Novice.” You can view the desktop of the client system and, with the permission of the Novice, you can control the client to resolve issues remotely. See [Requirements for Windows Remote Assistance](#) on page 94.

To launch a remote session

- 1 Select the device from the list, and then click the **Remote Control**  button. This launches the Remote Control interface window.
- 2 Select the **Remote Control Method** from the available options. Only the programs detected by HPCA are available.
- 3 If you select a Windows Remote Desktop, you must also select the **Resolution** for the remote session window.
- 4 Click **Connect**. The remote session opens in a new window.
- 5 Click **Close** to exit the wizard.
- 6 When you are finished with the remote session, close the window to disconnect from the device.

Requirements for Remote Connections

The following requirements apply to any target devices that will be accessed remotely using the HPCA Console:

- The remote device must be powered on.
- If the firewall is enabled, the remote access port on the remote device must be open.
- The remote device must be accessible both to the HPCA server and to the client system initiating the request.

In addition, there are specific requirements for each type of remote access.

Requirements for Windows Remote Desktop

Windows Remote Desktop must be enabled on any target device that will be accessed remotely using this connection type. By default, this feature is not enabled.

To use Windows Remote Desktop, you must access the HPCA Console using Internet Explorer (version 7.0 or later). This is because the Console launches a wrapper that uses an ActiveX component when this type of connection is requested.



When using Windows Remote Desktop, you may be prompted to install an ActiveX control. This is required for Windows Remote Desktop to function properly. You are also prompted to connect local drives. This is not required.

For more information about Windows Remote Desktop, refer to the following Microsoft support document:

<http://www.microsoft.com/windowsxp/using/mobility/getstarted/remotefirst.mspx>

Requirements for VNC

For VNC connections, target devices must have a VNC server process running, it must be listening on the specified port, and support for URL (HTTP) based remote control sessions must be enabled.

To establish a VNC connection, the HPCA Console launches the remote URL as a Java applet in your browser. For this reason, the Java Runtime Environment (JRE) version 1.5 (or later) must be installed on the system from which you are accessing the HPCA Console (the system where the browser is running). You can download the JRE at **www.java.com**.

The port number for the remote URL must match the port on which the VNC server on the remote system is listening. By default, this port is 5800. For example:

```
http://<RemoteSystem>:5800
```

In this case, a connection is made to the <RemoteSystem> using port 5800, the VNC remote control applet opens in your browser, and then you can control the <RemoteSystem> remotely.

HP does not provide a VNC server program. The HPCA Console, however, supports any VNC server that includes the web-based integration feature. This feature is available in UltraVNC, RealVNC, and TightVNC. VNC servers typically run on port 5800 and can be accessed through any web browser.

Requirements for Windows Remote Assistance

You can only create a Windows Remote Assistance connection when accessing the HPCA Console from a Windows Vista, Windows Server 2008, or Windows 7 system. You can connect to target devices running the following operating systems:

- Windows XP
- Windows Server 2003
- Windows Vista
- Windows Server 2008
- Windows 7
- Windows Server 2008 Release 2 (R2) x64

When you initiate a Windows Remote Assistance connection to a target device, the user of the target device must accept the connection. You cannot create a Windows Remote Assistance connection to an unattended device.

Windows Remote Assistance must be enabled on any target device that will be accessed remotely using this connection type. For instructions, consult your network administrator, or refer to the following Microsoft support document:

<http://support.microsoft.com/kb/305608/en-us>

There are three additional requirements that must be met before Windows Remote Assistance connections can be used:

- Both the system where you are accessing the HPCA Console and the target devices must be joined to the same domain.
- The system where you are accessing the HPCA Console (the “Expert” system in the Windows Remote Assistance interaction) must have the following software installed:
 - Java Runtime Environment (JRE) version 5 (or later)
 - If the operating system is Windows 2008 Server, the Remote Instance feature must be installed. For more information, refer to the following article:

<http://technet.microsoft.com/en-us/library/cc753881.aspx>

- The Offer Remote Assistance group policy must be enabled on all target devices. You must also specify a list of “helpers” who are allowed to access the target devices. Helpers can be either users or groups and must be specified as follows:

domain_name\user_name

domain_name\groupname

In order to create a Windows Remote Assistance connection to a target device, you—or a group to which you belong—must be included in this list of helpers.

- The Remote Assistance exception in Windows Firewall must be enabled on all target devices.

For additional information about Windows Remote Assistance, refer to the following Microsoft support document:

<http://technet.microsoft.com/en-us/library/cc753881.aspx>

Firewall Considerations

If there is a firewall between the server hosting the HPCA Console and your remote devices, you must ensure that the appropriate ports are open.

Windows Remote Desktop Connection requires TCP port 3389.

By default, Windows Remote Assistance requires TCP port 3389 when connecting to Windows XP or Windows Server 2003 target devices. It requires port 135 (the DCOM port) when connecting to Windows Vista, Windows Server 2008, or Windows 7 devices.

VNC requires TCP port 5800 for the initial connection. In addition, it requires TCP ports 5900 + [as many ports as necessary, depending on the type of systems involved]. For example:

- On Windows systems, only TCP port 5900 is required.
- On a Linux system, say that the VNC Server is running at host:1. In this case, a firewall between the server and remote devices would need to allow access to TCP port 5901.


Similarly, the Java VNC viewer requires TCP ports 5800 + [as many ports as necessary, depending on the type of systems involved].

For additional information about using VNC with a firewall, refer to:

<http://www.realvnc.com/support/faq.html#firewall>

Power Management

Use the Power Management wizard to turn on, turn off, and restart a device.

- Select the device you want to manage, and click the **Power Management**  button to launch the [Power Management Wizard](#).

Follow the steps in the wizard to create a Power Management job for the selected devices.

Out of Band Management

The Out of Band Management (OOBM) features available in the HPCA Console enable you to perform out of band management operations regardless of system power or operating system state.

In band management refers to operations performed when a computer is powered on with a running operating system.

Out of band management refers to operations performed when a computer is in one of the following states:

- The computer is plugged in but not actively running (off, standby, hibernating)
- The operating system is not loaded (software or boot failure)
- The software-based management agent is not available

The HPCA Console supports Out of Band Management of Intel vPro devices and DASH-enabled devices.

To view [Out of Band details for a device](#):

- 1 On the Management tab, go to the Device Management and click the Devices tab.
- 2 Select the device you want to work with, and click the **View Out of Band**

Device Details  toolbar icon.


The Out of Band Device Details window opens for the selected device.

This option is only available when Out of Band Management is enabled. See [Out of Band Management](#) on page 227 for instructions. For more detailed information, refer to the *HP Client Automation Out of Band Management User Guide*.

Removing Devices

Use the Devices toolbar to remove devices from your HPCA database.

To remove devices from HPCA

- 1 Use the check boxes in the first column to choose the devices that you want to remove.
- 2 Click the **Delete Device(s)**  button to remove the devices from HPCA.



Removing a device from the Device List does not remove device reporting data. Reporting data must be removed using the Configuration tab. See [Database Maintenance](#) on page 167 for details.

Device Details

On the Devices tab, click any device name to open the Device Details window. The Device Details window presents the configuration model from the perspective of the selected device.

Use the Device Details window to:

- view device properties
- view and modify device group membership
- view entitlements
- view a reporting summary
- deploy the HPCA agent
- create device management jobs

The following areas are available at the Device Details window.

General

The General tab displays common tasks available for the device. To access more configuration tasks click any of the other management area tabs.

Properties

The Properties tab displays information including the device name, operating system, serial number, IP address, agent status, last logged on user, and created and modified dates. Some of this information will not be available until the HPCA agent has been deployed.

- ▶ Last Logged on User reports the most recent user account to have logged on to the device using a Console login. If multiple users are logged on, only the last log on is recorded. Last Logged on User will not be updated by Remote Desktop Connection logins or by switching between current users.

Additional device information that may be useful during troubleshooting is available in the **Advanced Properties** section. To expand the section and view this information, click the icon on the right side of the Advanced Properties title bar.

Groups

The Groups tab displays all groups to which the current device belongs.

OS

The OS tab displays all operating systems to which the device is entitled, based on the device's group membership. Use the toolbar provided to deploy OS images.

Software

The Software tab lists all entitled software, based on group membership. Use the toolbar buttons to deploy or remove software on the current device.

Patches

The Patches tab displays all entitled patches, based on group membership. Use the toolbar to deploy a patch to the current device.

- ▶ After a patch is deployed it cannot be removed.

Reporting

The Reporting tab contains summary reports that are specific to the device you are viewing. For detailed reports, use the Reporting tab in the main HPCA console.

Current Jobs

Current Jobs displays all active and scheduled Device Management jobs. Device Management jobs target individual devices and can be used to deploy and remove an HPCA agent and administer software to devices in the HPCA database.

Click any column heading to change the sort order or use the navigation buttons at the top of the table to jump to a specific section.

For information about [Job Controls](#) and [Job Status](#), see Job Management, [Current Jobs](#) on page 148.

Past Jobs

Past Jobs displays all completed Device Management jobs.

Click any column heading to change the sort order or use the navigation buttons at the top of the table to jump to a specific section.



Completed jobs are moved to the Past Jobs list one minute after completion.

Manually Installing the HPCA Agent

Typically, the HPCA Console is used to deploy the HPCA agent to target client devices that can then be managed by HPCA.

To manage client devices that are not always connected to the network, you can manually install the HPCA agent. For this, a separate installation file is included with the HPCA media. After the HPCA agent is installed on a client device it is automatically added to the HPCA database.

To manually install the HPCA agent

- 1 On the target device, insert the HPCA media.
- 2 Use a command line and go to the `Media\client\default\win32` directory of the HPCA media.
 - ▶ On a system with User Access Control or User Account Control enabled, the command prompt must be run in Administrator mode. You can start a command prompt in Administrator mode by right clicking the Command Prompt entry in the Start Menu and selecting Run as administrator.
- 3 Type `setup-standard.cmd host`, where *host* is the hostname or IP address of your HPCA server.
- 4 Press **Enter**. The HPCA agent is installed and the device is ready to be managed by HPCA.

Installing the HPCA Agent on HP Thin Clients

With the HP **Registration and Loading Facility (RALF)** (see [HP Registration and Loading Facility](#) on page 103) installed and registered with the HPCA infrastructure, you can deploy the HPCA agent to thin client devices as you normally would. See [Deploying the HPCA Agent from the Devices Tab](#) on page 89 or [Deploying the HPCA Agent to a Group](#) on page 111.

However, if you are manually installing the HPCA agent, you will also need to install RALF (if it is not present) after the HPCA agent installation using the files provided on the HPCA media.

The HPCA agent installation for Windows XPE will automatically install RALF. For other thin client devices, first install the agent, then install RALF. The following sections contain detailed instructions.

▶ For RALF installations, “hpcaserver” or the host name defined using the RALF installation parameters must be included in DNS. The host name of the HPCA server must also be included in DNS when the agent is installed from the HPCA Console.

- [Manually Installing the Agent on HP Thin Client Devices](#) on page 101
- [HP Registration and Loading Facility](#) on page 103

Manually Installing the Agent on HP Thin Client Devices

To manually install the HPCA agent on a ThinPro client

The HPCA agent requires minimum free space of 5 MB on the `/opt` file system.

- 1 Login to the target HP thin client device as root. You may have to create a custom connection for xterm (as described in [To create a custom connection for xterm](#) on page 101).
- 2 Create a new directory called `/opt/hpca`.
- 3 Copy the installation media from the appropriate ThinPro client subdirectory on the HPCA media to a temporary directory on the `/tmp` file system.
- 4 Change the working directory to the new temporary directory and run the installation by typing:

```
./install -i HPCA_Server
```

Where **HPCA_Server** is the hostname or IP address of the HPCA server.

The HPCA agent is installed.

- 5 If RALF is already present on the device, reboot the device when the agent installation is complete.

If RALF is not present, install RALF on the device. See [To manually install RALF on Linux \(Debian or ThinPro\)](#) on page 104.

To remove the HPCA agent from a ThinPro client

- 1 Login to the target HP thin client device as root.
- 2 Change the current directory to `/opt/hpca/agent`.
- 3 Type `./uninstall` and press **Enter**.

The agent is removed.

To create a custom connection for xterm

You may need to create a custom connection to create an xterm connection.

- 1 From the HP menu in the lower left corner, select **Shutdown**.

- 2 From the **Thin Client Action** drop down, select **Switch to admin mode** and specify the administrator password (default password is root). Note: Control Center background will change from blue to red.
- 3 From the **Control Center**, click the **Add** drop-down list and select the **custom** option.
- 4 Set Name to **xterm**.
- 5 Set Command to run to:

```
sudo xterm -e bash &
```
- 6 Click **Finish**.

You now have a connection you can use to open an xterm session.

To manually install the HPCA agent to a Windows XPE thin client

The agent installation for Windows XPE automatically installs RALF. You do not need to install RALF separately after the agent installation is complete.

If RALF is already present on the device, stop the RALF service before running the agent installation.

- 1 Access the HPCA media from the Windows XPE thin client device.
- 2 On the HPCA media, go to `Media\client\default\win32xpe`.
- 3 Double-click **setup.exe**.
- 4 Follow the steps in the installation.
- 5 When prompted, specify the IP address and port number of your HPCA server.

The HPCA agent is installed.

To install the agent to Windows XPE in silent mode, use the following command:

```
Setup.exe NVD OBJZMASTER_ZIPADDR=<server_ip>  
NVD OBJZMASTER_ZDSTSOCK=<server_port> /qn
```

The following optional logging parameter can be added:

```
/l*v <log file>
```

To remove the HPCA agent from a Windows XPE thin client

Use the installation program `setup.exe` to remove the HPCA agent from Windows XPE.

- 1 Double-click **setup.exe**.
- 2 Select **Remove**.
- 3 Click **OK**.

The HPCA agent is removed.

To manually install the HPCA agent to a Windows CE thin client

- 1 Access the HPCA media from the Windows CE thin client device.
- 2 On the HPCA media, go to `Media\client\default\win32ce`.
- 3 Double-click **Standard.X86.CAB**.
- 4 Type the hostname or IP address of the HPCA server and click **OK**.
The HPCA agent is installed.
- 5 If RALF is already present on the device, reboot the device when the agent installation is complete.

If RALF is not present, install RALF on the Windows CE device. See [To install RALF for Windows CE 6.0](#) on page 105.

To remove the HPCA agent from a Windows CE thin client

- Use the Windows Control Panel applet **Add/Remove Programs** to remove the HPCA agent from Windows CE.

HP Registration and Loading Facility

The HPCA Registration and Loading Facility (RALF) is an agent component available for thin client devices managed by an HPCA Core infrastructure. RALF auto-registers the device with the HPCA infrastructure, and manages the HPCA agent install which is initiated from the main Console. While RALF is part of the HPCA agent, RALF may be available pre-installed on the HP thin client factory images, so registration can occur upon startup. If it is not on the factory image being used, RALF can be installed and configured on the gold image used for subsequent OS deployments. If installing RALF, the HPCA agent should also be installed prior to OS deployment.

RALF Configuration and Operation

Depending on the HP thin client image being used, RALF may be pre-installed. If so, it is configured using a default HPCA server hostname defined as “hpcaserver.” While the HPCA server can be installed to match this name, it is more common to use this name as a DNS alias in defining the actual HPCA server host name. RALF can also be re-configured to define a different hostname using the command line options described below.

Once installed, RALF runs as a Windows service or Linux daemon that will periodically probe for the HPCA server. This probing will continue for 24 hours, and then RALF will shutdown. It will start this 24-hour probe again upon reboot. Once the server is contacted, RALF will register the device with the HPCA infrastructure and wait to accept the request to install the HPCA agent. Once the agent is installed, RALF will periodically contact the server and verify device registration attributes.

To manually install RALF on Linux (Debian or ThinPro)

You must have root authority to install RALF to Linux devices.

- 1 On the HPCA media, go to the `Media\client\default\linux\hpcaralf` directory.
- 2 Copy the install media to `/tmp` on the Linux device.
- 3 Change the current directory to the `/tmp` directory.
- 4 Run the installation command.
 - a On **Debian** devices:
 - run `dpkg -i hpcaralf.deb`.
 - b On **ThinPro** devices (with read only root file system):
 - Run `fsunlock` (to mount the file system as writable).
 - Run `/usr/share/hpkg/.hpkg_util -i hpcaralf.deb`.
 - Run `fslock` (to remount the file system as read only).
- 5 After the installation is complete, either reboot the device or run `/etc/init.d/hpcaralf` to start and initialize RALF.

You can use this script (`/etc/init.d/hpcaralf`) to start and stop the RALF daemon on the device.

To manually install RALF to XPE and WES (Windows Embedded Standard)

The HPCA agent installation for Windows XPE will also install RALF; you do not need to install RALF separately.

- 1 On the HPCA media, go to the
media\client\default\win32xpe\HPCARALF directory.
- 2 Use the HPCARalf.msi file to install RALF to Windows XPE devices.

To perform a silent installation, use the following command line:

```
msiexec /i HPCARalf.msi RALF_HOST=<HOSTNAME>  
RALF_PORT=<portnumber> /qn
```

To install RALF for Windows CE 6.0

- 1 On the HPCA media, go to the
media\client\default\win32ce\HPCARALF directory.
- 2 Use the ralf.x86.cab file to install RALF to Windows CE devices.
- 3 When prompted, enter the HPCA server IP address and port
(**hpcaserver** and **3466**, by default).

RALF Command Line Parameters

RALF supports the following command line options. These are here for documentation purposes, as most are used internally:

```
ralf.exe [-probe] [-host <host>] [-port <port>] [-debug]  
[-trace] [-version]  
[-confinit] (Linux)  
[-reginit] (Windows)
```

[-help]

Table 7 RALF command line options

Option	Description
probe	Triggers the HPCA probe.
host	Specifies the optional HPCA server host for probing and registration.
port	Specifies the optional HPCA server port for probing and registration.
reginit	(Windows) Defines the RALF Application Registry entries for test environments.
confinit	(Linux) Defines the RALF Application configuration file entries for test environments.
debug	Specify a debugging logging level.
trace	Specify a tracing logging level.
version	Displays the version of RALF.
help	Displays the RALF information.

Group Management

Use the Group Management section to create and manage device groups. Creating device groups eases management and is required in order to deploy software and patches to managed devices.

The Group Management tabs are described in the following sections:

- [General](#) on page 107
- [Groups](#) on page 109
- [Current Jobs](#) on page 119
- [Past Jobs](#) on page 119

General

Use the General area to create new groups, manage existing groups, and view current and completed group management jobs.

Groups can consist of managed and unmanaged devices.

[To create a new Static Group](#)

- In the Common Tasks area, click **Create a New Static Group** to launch the [Group Creation Wizard](#).

Follow the steps in the wizard to create a new device group.

[To create a new Dynamic Discovery Group](#)

- In the Common Tasks area, click **Create a New Dynamic Discovery Group** to launch the [Group Creation Wizard](#).

Follow the steps in the wizard to create a new device discovery group.

[To create a new Dynamic Reporting Group](#)

- Use the Reporting tab of the HPCA Console to define a query, then click the **Create a new Dynamic Reporting Group** button to begin the [Group Creation Wizard](#).

The next section, [Group Types](#), describes the different types of groups available in HPCA.

Group Types

HPCA uses the following group types to manage devices.

Internal

Internal groups are provided by HPCA. For example, the All Devices group contains all imported devices, by default.

Static

Create static groups by selecting individual devices. To add or remove devices from a static group, manually modify the group membership using the [Group Details](#) window. Static group's memberships cannot be changed by using a schedule or other group parameters.

Discovery

A discovery group contains a dynamic list of devices, managed and unmanaged, from an external source (LDAP, network discovery) according to the parameters that are set during the Group Creation Wizard. Discovered devices are automatically added to the HPCA device list.

Reporting

Create a reporting group from a list of devices returned in a report query. Reporting groups are automatically updated using a group management job.


The following Reporting groups are included with HPCA by default.

- All Windows Vista devices
- All Windows XP Professional devices
- All Windows 2000 Professional devices
- All TPM Capable devices

These groups refresh daily and will automatically add new managed devices that they find and that meet the dynamic group requirements.

Groups

The Groups tab lists all created groups. Groups that were created within the past seven days display the word 'new' in parentheses to the right of the group name.

- Click the display name link for any group to view specific group information.
- Click a column heading to sort the group list.
- Use the toolbar buttons to create inventory, patch, and power management jobs for devices in any group.
- Use the **Search** function to narrow the list of devices. The first search box always contains the available column headings depending on which section of the Console you are in. The second box contains search parameters to customize your query. **Filtered Results**  is displayed at the bottom of the table when you are viewing query results.

The groups you create can determine which devices receive which software and patches based on device inventory, location, or any other criteria you define. Make sure to plan group creation before adding devices.

Table 8 Groups toolbar tasks









Button	Description
	Refresh Data – Refreshes the Groups list.
	Export to CSV – Creates a comma-separated list that you can open, view, and save.
	Create a New Group – Launches the Group Creation Wizard .
	Deploy the Management Agent – Launches the Agent Deployment Wizard .
	Remove the Management Agent – Launches the Agent Removal Wizard .

Table 8 Groups toolbar tasks

Button	Description
	Inventory Collections: Discover Software/Hardware Inventory – Launches the Software/Hardware Inventory Wizard . Discover Patch Compliance – Launches the Patch Compliance Discovery Wizard .
	Power Management – Launches the Power Management Wizard .
	Delete Devices – Removes a device from the Device List. Note that removing a device from the Device List does not remove device reporting data. Reporting data must be removed using the Configuration tab. See Database Maintenance on page 167 for details.

The following tasks are available on the Groups tab.

- [Creating a Group](#) on page 111
- [Deploying the HPCA Agent to a Group](#) on page 111
- [Removing the HPCA Agent from a Group](#) on page 112
- [Discovering Software/Hardware Inventory for a Group](#) on page 112
- [Discovering Patch Compliance for a Group](#) on page 113
- [Power Management](#) on page 113
- [Removing Groups](#) on page 113
- [Group Details](#) on page 114
- [Group Details Window Tasks](#) on page 116
- [Adding and Removing Devices from Static Groups](#) on page 116
- [Adding and Removing Software Entitlement from Groups](#) on page 117
- [Deploying, Removing, and Synchronizing Software from Groups](#) on page 117
- [Adding and Removing Patch Entitlement from Groups](#) on page 118

- [Deploying Patches to Groups](#) on page 119

Creating a Group

To create a Static group

- Click the **Create a New Group**  button, then select **Create a New Static Group**. This will launch the [Group Creation Wizard](#). You can create groups for managed and unmanaged devices.

Follow the steps in the wizard to create a new Static group for software and patch deployment.

To create a Dynamic Discovery group

- Click the **Create a New Group**  button, then select **Create a New Dynamic Discovery Group**. This will launch the [Group Creation Wizard](#).

Follow the steps in the wizard to create a new Dynamic Discovery group for software and patch deployment.

Deploying the HPCA Agent to a Group


Use the Agent Deployment Wizard to deploy the HPCA agent to a group.

[HPCA Agent Notes](#)

- Deploying the HPCA agent requires device authentication information (user name and password with administrator access). To deploy the HPCA agent to a group, all devices in the group must have the same authentication information.
- The HPCA agent cannot be remotely deployed to most thin client devices; it must be manually installed using the appropriate installation programs that are included in the `\Media\client\default` directory on the HPCA media.

To deploy the HPCA agent to a group of devices


- 1 Select the check box in the first column to select the group to which you want to either manage or re-deploy the HPCA agent.

- 2 Click the **Deploy the Management Agent**  button to launch the [Agent Deployment Wizard](#).
- 3 Follow the steps in the wizard to deploy the HPCA agent.

Removing the HPCA Agent from a Group

Use the Agent Removal Wizard to remove the HPCA agent from a group of devices.


To remove the HPCA agent from a group of devices

- 1 Use the check boxes in the first column to choose the groups from which you want to remove the Agent.
- 2 Click the **Remove the Management Agent**  button to launch the [Agent Removal Wizard](#).
- 3 Follow the steps in the wizard to remove the HPCA agent from all devices within the selected Groups.

Discovering Software/Hardware Inventory for a Group

Use the Software/Hardware Inventory Wizard to discover inventory for a group of devices.


To discover software and hardware inventory for a group of devices

- 1 Use the check boxes in the first column to select the groups for which you want to discover inventory.
- 2 Click the **Inventory Collections**  button, then select **Discover Software/Hardware Inventory** to launch the [Software/Hardware Inventory Wizard](#).
- 3 Follow the steps in the wizard to determine the inventory status for the devices in each group.
- 4 Use the Reporting tab of the HPCA Console to view inventory reports for the selected groups.

Discovering Patch Compliance for a Group


Use the Patch Compliance Discovery Wizard to discover patch compliance for a group of devices.

To discover patch compliance for a group of devices

- 1 Use the check boxes in the first column to select the groups that you want to target for patch compliance discovery.
- 2 Click the **Inventory Collections**  button, then select **Discover Patch Compliance** to launch the [Agent Deployment Wizard](#).
- 3 Follow the steps in the wizard to discover patch compliance for the devices within the selected groups.
- 4 Use the Reporting tab of the HPCA Console to view patch compliance reports for the selected groups.

Power Management


Use the Power Management wizard to turn on, turn off, and restart a device.

- 1 Select the group that you want to manage and click the **Power Management**  button to launch the [Power Management Wizard](#).
- 2 Follow the steps in the wizard to create a Power Management job for the selected group.

Removing Groups

Use the Groups toolbar to remove groups from HPCA. Removing a group will not remove the devices that belong to that group.

To remove Groups from HPCA

- 1 Use the check boxes in the first column to select the groups to be removed.
- 2 Click the **Delete Group(s)**  button to remove the group from HPCA.

Group Details

Click any Group name to open the Group Details window.

Use the Group Details window to view group properties, view and modify device membership, view and modify entitlements, view a reporting summary, and create group management jobs. The following areas are available:

General

The General tab displays common tasks that are available for the group. Click any of the other management area tabs to access additional configuration tasks.

Properties

The Properties tab displays the group type, name, and description, as well as additional properties for dynamic groups. Valid group types are:

- **Static:** manually update device membership using the Group Details, Devices section.
- **Reporting and Discovery:** to update group membership, use the job controls under the Current Jobs tab to run the discovery job.
- **Internal:** group membership cannot be altered.

Click **Save** to commit any changes to the Group Properties section.

If you are viewing a dynamic reporting group, you will be able to view the criteria that were used to originally create the group in the **Reporting Filter Criteria** section. This information is read only. If you want to change the criteria, you will need to create a new dynamic reporting group. Note that the filter criteria are only viewable for groups with recurring schedules or a Run After schedule that has not yet run. For groups with Run Once schedules that have already run, “No filter information is available” is displayed.

If you are viewing a dynamic discovery group, you can view the dynamic group properties in the **Discovery Properties** section.

Devices

Devices listed in the Devices tab are current members of the group.

- You must manually edit device membership of a Static group.

- Use the job controls under the Current Jobs tab to modify the membership refresh schedule for Dynamic Reporting or Discovery groups.

OS

Operating system images that are listed in the OS tab are entitled to the group. Use the toolbar buttons to complete group-specific OS entitlement and deployment tasks.

Software

Software that is listed in the Software tab is entitled to the group. Adding and removing software entitlements affects all existing device members as well as any devices added to the group.

Use the toolbar buttons to add and remove entitlements, synchronize software, and deploy and remove software from devices in the group.

- Removing a software entitlement does not automatically remove the software from devices in the group. To remove software, select the target devices and use the Remove Software button. After removing the software, you can remove the entitlement to ensure that the software is no longer available.

Patches

The Patches tab displays all patches that are entitled to the group.

Use the toolbar buttons to add and remove patch entitlement for the group, and to deploy a patch to devices in the group.

- After a patch is deployed it cannot be removed from a device.

Settings Profiles

The Settings Profile tab displays all settings profiles that are entitled to the group.

Use the toolbar buttons to add and remove settings profile entitlement for the group, and to deploy a settings profile to devices in the group.

Reporting

The Reporting tab contains summary reports that are specific to the group. For detailed reports, use the Reporting tab in the main HPCA console.

Current Jobs

The Current Jobs tab displays all currently active and scheduled jobs for the group. Use the toolbar buttons to administer any of the available jobs.

Group Details Window Tasks


Use the Group Details window to complete the following tasks.

- [Adding and Removing Devices from Static Groups](#) on page 116
- [Adding and Removing Software Entitlement from Groups](#) on page 117
- [Deploying, Removing, and Synchronizing Software from Groups](#) on page 117
- [Adding and Removing Patch Entitlement from Groups](#) on page 118
- [Deploying Patches to Groups](#) on page 119

Adding and Removing Devices from Static Groups

Use the [Group Details](#) window to update memberships in a Static group.


To add devices to a Static group

- 1 In the Group Details window, click the **Devices** tab.
- 2 Click **Add Device(s)** .
- 3 In the window that opens, select the devices to be added, and click **Add Devices**.

To remove devices from a Static group

Removing devices from a group only removes the group membership; the device is not removed from the device list.


- 1 In the Group Details window, click the **Devices** tab.

- 2 Select the devices to be removed, and click **Delete Device(s)** .


Adding and Removing Software Entitlement from Groups

Use the Group Details window to add and remove software entitlement for devices in a group.

To entitle software to a group

- 1 In the Group Details window, click the **Software** tab.
- 2 Click **Add Software Entitlement** . The Software Entitlement window opens.
- 3 Select the software to be entitled to the group and click **Add Software Entitlement**.


To remove software entitlement from a group

- 1 In the Group Details window, click the **Software** tab.
- 2 Select the software for which you want to remove entitlement, and click **Remove Software Entitlement** .

Deploying, Removing, and Synchronizing Software from Groups


Use the Group Details window to deploy, remove, and synchronize software for devices in a group.

To deploy software to a group


- 1 In the Group Details window, click the **Software** tab.
- 2 Select the software to be deployed and click **Deploy Software** .
- 3 To deploy the software to the managed devices in the group, follow the steps in the [Software Deployment Wizard](#) on page 251.

To remove software from a group

- 1 In the Group Details window, click the **Software** tab.

- 2 Select the software to be removed from the managed devices in the group and click **Remove Software** .
- 3 To remove the software from the managed devices in the group, follow the steps in the [Software Removal Wizard](#) on page 257.

To synchronize software


- 1 In the Group Details window, click the **Software** tab.
- 2 Click **Synchronize Software**  to launch the [Software Synchronization Wizard](#).
- 3 Follow the steps in the wizard to set a software synchronization schedule for the group.

This will ensure that all entitled software is installed to current members of the group, as well as any members subsequently added to the group.

Adding and Removing Patch Entitlement from Groups


Use the Group Details window to add and remove patch entitlement for devices in a group.

To entitle patches to a group

- 1 In the Group Details window, click the **Patches** tab.
- 2 Click the **Add Patch Entitlement**  to launch the Patch Entitlement window.
 - ▶ Only patches that have not yet been entitled are shown in the Patch Entitlement window. Patches that have already been entitled to the group are not shown.
- 3 Select the patches that you want to entitle to the group and click **Add Patch Entitlement**.

To remove patch entitlement from a group

- 1 In the Group Details window, click the **Patches** tab.

- 2 Select the patches for which you want to remove entitlement, then click **Remove Patch Entitlement** .

Deploying Patches to Groups

Use the Group Details window to deploy patches to devices in a group.

To deploy patches to a group

- 1 In the Group Details window, click the **Patches** tab.
- 2 Select the patches that you want to deploy and click **Deploy Patches**  to launch the [Patch Deployment Wizard](#).
- 3 Follow the steps in the wizard on [page 255](#) to deploy the patches to the managed devices in the group.

➤ After a patch is deployed, it cannot be removed from a device.

Current Jobs

Current Jobs displays all active and scheduled Group Management jobs. Group Management jobs target specific groups and are used to administer software to devices in those groups, and to refresh the devices in the Dynamic Reporting and Discovery groups that you have created.

Click any column heading to change the sort order or use the navigation buttons at the top of the table to jump to a specific section. For information about [Job Controls](#) and [Job Status](#), see Job Management, [Current Jobs](#) on page 148.

Past Jobs

Past Jobs displays all completed Group Management jobs. Click the description of any job to display more details about that job's status.

➤ Completed jobs are moved to the Past Jobs list one minute after they are finished.

Software Management

Use the Software Management area to manage software services and software management jobs. Software is entitled to managed devices (or groups of managed devices) and then either deployed by the administrator using the HPCA console, or installed by the end-user using the Application Self-Service Manager.

▶ HPCA Starter is limited to deploying only BIOS settings and HP Softpaqs. HPCA Standard is required in order to deploy software.

The Software Management tabs are:

- [General Tab](#) on page 120
- [Software Tab](#) on page 121
- [Current Jobs Tab](#) on page 127
- [Past Jobs Tab](#) on page 127

▶ To view or modify settings for a particular software service, see the [Software Details Window \(Management Tab\)](#) on page 123.

General Tab

Use the General tab on the Software Management page to do the following:

- Find information about how to publish software
- Entitle and deploy software to managed devices
- View current and past Software Management jobs

The Summary section shows you how many software services are currently available in the HPCA Software Library as well as the number of current Software Management jobs.

[To publish software](#)

Use the Publisher to publish software into HPCA. Published software is displayed in the Software Library.

Install the Publisher on the machine where you will be selecting and configuring software services. See [Publishing](#) on page 287 for information about how to publish software into HPCA.

To entitle and deploy software

- 1 In the Common Tasks area, click **Deploy**. This will launch the [Software Deployment Wizard](#).
- 2 Follow the steps in the wizard to entitle and deploy software to managed devices.

Software Tab

The Software tab lists all software applications that have been published into HPCA. Use the tools available on this tab to entitle groups of managed devices to one or more software services or deploy software to managed devices.

See the following topics for details:

- [Deploy Software](#) on page 121
- [Add or Modify Group Entitlement](#) on page 122




To view or modify settings for a particular software service, see the [Software Details Window \(Management Tab\)](#) on page 123.

Deploy Software

Use the Software Deployment Wizard to deploy software to individual managed client devices or groups of devices.

To entitle and deploy software

- 1 Select the software that you want to deploy, and click **Deploy Software**  to launch the [Software Deployment Wizard](#).
- 2 Follow the steps in the wizard to entitle and deploy software to managed devices.


To run applications in the active session on Windows Vista devices

Use the **runasuser** method modifier to allow deployment of applications that require user interaction on Vista devices.

- 1 Click the Service ID to open the Software Details window for a service.
- 2 Open the Properties tab.
- 3 Add the modifier **runasuser** to the beginning of the Install Command Line. For example:

```
runasuser setup.exe
```


Alternatively, this modifier can be included during publishing by adding it to the Method property, Method to Install Resource.

 The method modifier **runasuser** cannot be used with the modifier **hide**; these are mutually exclusive.

Add or Modify Group Entitlement


You can entitle groups of managed devices to any services listed in the Software Library.

To add group entitlement

- 1 Select the check box in the first column to select one or more software services for group entitlement.
- 2 Click **Add Group Entitlement**  to launch the [Service Entitlement Wizard](#).
- 3 Follow the steps in the wizard to entitle one or more groups of devices to this software service.

Default Software

HPCA contains the following default software services.

-  These default services cannot be deleted from the Software Library.
- **PUBLISHER** – HP Client Automation Administrator Publisher.

An alternative installation method for the Publisher, use this service to deploy the Publisher to a device from which you will capture and publish software, publish OS images, publish BIOS settings, or publish HP Softpaqs.

- **TPM_ENABLEMENT** – TPM Enablement.

This service initializes the use and ownership of the **TPM (Trusted Platform Module)** chip on compatible HP devices. It does so using the settings from the Configuration tab, Device Management section. See [Trusted Platform Module](#) on page 225 for configuration options. Installing this service performs the following tasks.

- Enables the TPM chip in the BIOS
- Sets the specified BIOS Administrator password
- Sets up ownership of TPM and the owner password
- Initializes the emergency recovery token and path
- Sets the password reset token and path and the backup archive path

After the TPM Enablement service is deployed, the device is ready for user-level initialization (performed by the end user through the HP ProtectTools Security Manager interface).



In order to enable and initialize the TPM security chip, the HP ProtectTools software must be installed on the device. Some device models have this software pre-installed, while for others you will need to either download or purchase the software. For more information, review the HP documentation for your device.

Software Details Window (Management Tab)

To open the Software Details window for a particular software service, go to the Software tab, and click the Service ID. From the Software Details window, you can view software properties, view and modify entitlements, deploy or remove software, perform power management operations, initiate a remote control session, or view a reporting summary.

General Tab

The General tab displays the common tasks that are available for the software. The following links take you to the other tabs in the Software Details window:

- [Properties Tab](#) on page 124
- [Groups Tab](#) on page 124
- [Devices Tab](#) on page 126
- [Reporting Tab](#) on page 127

The **Deploy Software** link launches the Software Deployment Wizard, which enables you to do the following:

- 1 Entitle one or more groups of managed devices to this software.
- 2 Deploy the software to these groups.

See the [Software Deployment Wizard](#) on page 251 for more information.

▶ You can also deploy the software by using the Groups or Devices tabs. In this case, the groups (or devices) must have been previously entitled to this software.

Properties Tab

Use the Properties tab to view information about the software, including the software category and install/un-install commands.

▶ This information is read-only in this context. You can modify these settings by using the Software Management area on the Operations tab. See [Software Management](#) on page 167 for more information.

Groups Tab

The Groups tab lists all groups of managed client devices that are entitled to this software. Use the toolbar buttons to manage group entitlements, deploy or remove the software, launch a data collection operation, or perform power management operations.

Table 9 Actions Available on the Groups Tab









Button	Functions	Action
	Refresh Data	Refreshes the list of groups.
	Export to CSV	Creates a comma-separated list of the groups in the table, which you can then open or save.

Table 9 Actions Available on the Groups Tab

Button	Functions	Action
	Add Group Entitlement	Entitle one more groups of managed client devices to this software.
	Remove Group Entitlement	Remove a group's entitlement to this software.
	Deploy Software	Deploy this software to the selected group (or groups) of devices. See the Software Deployment Wizard on page 251.
	Remove Software	Remove this software from the selected group (or groups) of devices. See the Software Removal Wizard on page 257.
	Inventory Collections	Launch a wizard that schedules one of the following data collection jobs for the selected group (or groups) of devices and creates a report: <ul style="list-style-type: none">• Discover Software/Hardware Inventory See the Software/Hardware Inventory Wizard on page 245.• Discover Patch Compliance See the Patch Compliance Discovery Wizard on page 246.
	Power Management	Turn on, turn off, or reboot a group of devices. See the Power Management Wizard on page 247.

Devices Tab

The Devices tab displays all devices that are currently entitled to the selected software. Use the toolbar buttons to deploy and remove software from a device, launch a data collection operation, perform power management operations, or control a device remotely.

Table 10 Actions Available on the Devices Tab








Button	Function	Action
	Refresh Data	Refreshes the list of devices.
	Export to CSV	Creates a comma-separated list of the devices in the table, which you can then open or save.
	Deploy Software	Deploy this software to the selected devices. See the Software Deployment Wizard on page 251.
	Remove Software	Remove this software from the selected devices. See the Software Removal Wizard on page 257.
	Inventory Collections	<p>Launch a wizard that schedules one of the following data collection jobs for the selected devices and creates a report:</p> <ul style="list-style-type: none">• Discover Software/Hardware Inventory See the Software/Hardware Inventory Wizard on page 245.• Discover Patch Compliance See the Patch Compliance Discovery Wizard on page 246. <p>You can access the reports on the Reporting Tab tab.</p>

Table 10 Actions Available on the Devices Tab

Button	Function	Action
	Power Management	Turn on, turn off, or reboot the selected devices. See the Power Management Wizard on page 247.
	Remote Control	Launch a Remote Control session to the selected device. See Remote Control on page 91.

Reporting Tab

The Reporting tab in the Software Details window contains summary reports that are specific to the software that you are viewing. For detailed reports, use the Reporting tab in the main HPCA console.

Current Jobs Tab

Current Jobs displays all currently active and scheduled Software Management jobs. Software Management jobs are used to entitle, deploy, and remove software from managed devices in your HPCA database. Inventory

Click a column heading to change the sort order, or use the navigation buttons at the top of the table to jump to a specific section.

For information about [Job Controls](#) and [Job Status](#), see Job Management, [Current Jobs](#) on page 148.

Past Jobs Tab

Past Jobs displays all completed software management jobs.

Click a column heading to change the sort order, or use the navigation buttons at the top of the table to jump to a specific section.



Completed jobs (from the Current Jobs tab) are moved to the Past Jobs list one minute after they are finished.

Patch Management

Use the Patch Management area to manage Microsoft patches, HP Softpaqs, and patch management jobs.

Microsoft patches and HP Softpaqs are entitled and deployed to groups of managed devices by an HPCA administrator. The deployment can be done automatically, based on an administrator-defined compliance schedule. See [Patch Management](#) on page 226.

HP Softpaqs that are *published* using the Publisher are contained in the Software Library; *acquired* HP Softpaqs are contained in the Patch Library.

The Patch Management tabs are:

- [General Tab](#) on page 130
- [Patches Tab](#) on page 132
- [Current Jobs Tab](#) on page 135
- [Past Jobs Tab](#) on page 135

- HP Client Automation Standard is required for Microsoft Patch Management. With HP Client Automation Starter, you can manage HP Softpaqs.
- To view or modify settings for a particular patch, see the [Patch Details Window \(Management Tab\)](#) on page 133.

Microsoft Update Catalog: Minimum OS and Service Pack Requirements

- All hyperlinks that are documented in this section are current and viable at time of publication.

Refer to Microsoft's web site for specific information on the minimum operating system and service pack requirements for the **Microsoft Update Catalog** and **Windows Update** technologies that are leveraged by HPCA

Patch Management. As of this writing, the supported Microsoft operating system versions and languages can be viewed at the Microsoft Update home page, <http://update.microsoft.com/microsoftupdate/v6/default.aspx>.



Windows Installer, version 3.1 is required on HPCA agent machines because newer Microsoft security patches require this to install more recent security patches. Additional information on Windows Installer 3.1 is available at the Microsoft Knowledge Base article, **Windows Installer 3.1 v2 is available**.

Important Information about Microsoft Automatic Updates

Automatic Updates is a feature of Microsoft Windows operating systems that enables users to scan their system in order to determine whether it is missing any updates or patches. It also allows for the download and installation of the updates and patches. This feature currently supports the following configuration options.

- Download updates for me, but let me choose when to install them.
- Notify me but don't automatically download or install them.
- Turn off Automatic Updates.



HP recommends using the **Turn off Automatic Updates** option.



It is important that you understand the implications and consequences of each of these options. Review the following section before choosing one of these options on a system.

Automatic Updates Considerations

Automatic Updates and HPCA Patch Manager use an underlying Windows component, **Windows Update Agent (WUA)**, to scan a device and install updates. As of this writing, there is a known issue that arises when WUA is being used by multiple patch-management products. Therefore, if you are using Patch Manager to distribute and install updates, use the information in this section to configure Automatic Updates; otherwise a problem situation could arise.

If you set Automatic Updates to **Notify me but don't automatically download or install them**, it is imperative that users do not initiate the Automatic Updates download process while the HPCA agent is scanning or installing updates. If the Automatic Updates process is manually initiated, it could result in *either* process failing to download and install the updates on the managed device.

This behavior is not specific to Patch Manager; it is also exhibited when other patch-management products attempt to use WUA when WUA is already in use. Microsoft is expected to correct this problem. As of this writing, relevant Microsoft Knowledge Base articles include:

- Microsoft Knowledge Base article 910748, **SMS 2003 Inventory Tool for Microsoft Updates....**
- Microsoft Knowledge Base article 931127, **You receive an error message in the WindowsUpdate.log file....**
- If virus scanners are installed and enabled in your enterprise, refer to Microsoft Knowledge Base article 922358 (**Microsoft Systems Management Server 2003 Inventory Tool for Microsoft Updates cannot run when a McAfee antivirus program is installed on the same computer**) which documents the need to exclude the folder %Windir%\SoftwareDistribution from virus scans. While this Microsoft document references specific Microsoft patch-management technologies, the same Windows Update Agent limitation can occur in an enterprise that is using HPCA Patch Manager, which leverages Windows Update Agent technologies.
- If you select **Turn off Automatic Updates**, it is possible that you will not be informed of all available updates because Automatic Updates supports some products that are not supported by HPCA

WUA uses the Automatic Updates Windows service, which must be set to either **Automatic** or **Manual** on target devices. The Automatic Updates Windows service can be in a stopped state because WUA will start it as needed. Refer to the Microsoft Knowledge Base article, **How to configure and use Automatic Updates in Windows XP**, for more information about Automatic Updates.

General Tab

Use the General tab to acquire and deploy patches, and view current and completed Patch Management Jobs.

The Summary section displays the patches that are currently available in the HPCA database and the number of current Patch Management jobs.

The acquisition of Microsoft patches and HP Softpaqs from their sources is based on information that is specified in the Patch Management section of the Configuration tab. See [Patch Management](#) on page 226 for more information.

To acquire patches

- In the Common Tasks area, click **Acquire**.

Patches are downloaded and added to the Patch Library. HPCA will automatically download additional patches according to the acquisition schedule that was configured by an administrator.

Patches are deployed to managed devices from the HPCA Console only; they are not available in the Application Self-service Manager software catalog.


To deploy patches

- 1 In the Common Tasks area, click **Deploy** to launch the [Patch Deployment Wizard](#).
- 2 Follow the steps in the wizard to deploy patches to devices in selected groups.

Patches Tab

The Patch Library contains the patches and HP Softpaqs that were acquired based on the settings in the Patch Management section of the Configuration tab. These patches and HP Softpaqs are available for entitlement and deployment to managed devices. See [Patch Management](#) on page 226 for more information.

Table 11 Patch Library toolbar tasks

Button	Description
	Refresh Data – Refreshes the Patch Library.
	Export to CSV – Creates a comma-separated list that you can open, view, and save.
	Deploy Patches – Launches the Patch Deployment Wizard .
	Add Group Entitlement – Launches the Service Entitlement Wizard .


The following tasks are available on the Patches tab.

- [Deploying Patches](#) on page 132
- [Adding Group Entitlement](#) on page 133
- [Patch Details Window \(Management Tab\)](#) on page 133

Deploying Patches

Patches that are available in the Patch Library can be deployed to managed devices.


To deploy patches

- 1 Use the check boxes in the first column to select a patch for deployment.
- 2 Click the **Deploy Patches**  button to launch the [Patch Deployment Wizard](#).
- 3 Follow the steps in the wizard to deploy the patch.

Adding Group Entitlement

Patches that are available in the Patch Library can be entitled to groups of devices. Entitlement allows patch compliance to be enforced using the schedule that is configured in the [Patch Deployment Wizard](#).

To add group entitlement

- 1 Use the check boxes in the first column to select a patch for group entitlement.
- 2 Click the **Add Group Entitlement**  button to launch the [Service Entitlement Wizard](#).
- 3 Follow the steps in the wizard to entitle the patch to groups of devices that you will select.

Patch Details Window (Management Tab)

Click any patch description to open the Patch Details window. Use the Patch Details window to view patch service properties, view and modify entitlements, and view a reporting summary. The following areas are available.

General

The General tab displays the common tasks that are available for the patch service. To access more configuration tasks, click any of the other Management area tabs.

Properties




The Properties tab displays the bulletin number, description and type of bulletin, posted and revised dates, and a vendor information link.




This information on this tab is read-only. You cannot modify these settings.

Groups


The Groups tab displays all groups that have been entitled to the selected patch. Use the toolbar buttons to change entitlement and the installed state of the patch on managed devices within each group.

- To entitle a group, click **Add Group Entitlement** .
- To remove entitlement from a group, select the group and click the **Remove Group Entitlement**  button.
- To deploy the patch to a group, select the group and click **Deploy Patches** .



Follow the steps in the [Patch Deployment Wizard](#) to deploy the selected patch.

- To discover software and hardware inventory for a group of devices, select the group and click the **Inventory Collections**  button, then select **Discover Software/Hardware Inventory**.

Follow the steps in the [Software/Hardware Inventory Wizard](#) to discover software and hardware inventory.

- To discover patch compliance for a group of devices, select the group and click the **Inventory Collections**  button, then select **Discover Patch Compliance**.


Follow the steps in the [Patch Compliance Discovery Wizard](#) to discover patch compliance.

-  To turn on, turn off, and reboot a group of devices, select the group and click the **Power Management**  button.

Follow the steps in the [Power Management Wizard](#) to manage the devices.

Devices


Devices that are listed in the Devices tab have been entitled to the selected patch. Use the toolbar buttons to deploy the patch to a device.

- To deploy a patch to a device, select the device and click the **Deploy Patches**  button.


Follow the steps in the [Patch Deployment Wizard](#) to deploy the patch.





After a patch is deployed it cannot be removed.

- To discover software and hardware inventory for devices, select the devices and click **Inventory Collections** , then select **Discover Software/Hardware Inventory**.

Follow the steps in the [Software/Hardware Inventory Wizard](#) to discover software and hardware inventory.

- To discover patch compliance for devices, select the devices and click the **Inventory Collections**  button, then select **Discover Patch Compliance**.

Follow the steps in the [Patch Compliance Discovery Wizard](#) to discover patch compliance.

-  To turn on, turn off, and reboot devices, select the devices and click the **Power Management**  button.

Follow the steps in the [Power Management Wizard](#) to manage the devices.

Reporting

The Reporting tab contains summary reports that are specific to the patch you are viewing. For detailed reports, use the Reporting tab in the main HPCA console.

Current Jobs Tab

Patch Management jobs are used to deploy security patches to devices. Current Jobs shows a list of active and scheduled jobs. Click the description of a job to display more details about its status.

Use the toolbars to administer currently scheduled and active jobs.

For information about [Job Controls](#) and [Job Status](#), see Job Management, [Current Jobs](#) on page 148.

Past Jobs Tab

Past Jobs displays all completed Patch Management jobs. Click the description of a job to display more details about its status.



Completed jobs are moved to the Past Jobs list one minute after they are finished.

OS Management

Use the OS Management area on the Management tab to manage the operating systems used by your managed devices. The areas in this section enable you to deploy operating systems and manage entitlements.

The following sections describe each OS Management tab:

- [General Tab](#) on page 136
- [Operating Systems Tab](#) on page 137
- [Current Jobs Tab](#) on page 147
- [Past Jobs Tab](#) on page 147

➤ HP Client Automation Starter allows Thin Client operating system management only. For expanded OS management, HP Client Automation Standard is required.

➤ To view or modify settings for a particular operating system, see the [OS Details Window \(Management Tab\)](#) on page 144.

General Tab

Use the General tab on the OS Management page to do the following:

- Find information about how to publish operating systems
- Manage entitlements
- Deploy operating systems to managed devices
- View current and past OS Management jobs

The Summary section shows you how many operating systems are currently available in the HPCA OS Library as well as the number of current OS Management jobs.

[To capture and publish OS images](#)

HPCA provides tools that you can use to prepare and capture OS images. See [Preparing and Capturing OS Images](#) on page 271 for more information.

For OS images to be available in the OS Library, they must first be published. See [Publishing](#) on page 287 for more information.

To deploy OS images

- 1 In the Common Tasks area, click **Deploy Operating System**. This launches the [OS Deployment Wizard](#).
- 2 Follow the steps in the wizard to entitle and deploy an operating system to managed devices.

For additional information about deploying operating systems, including requirements for target devices and deployment scenarios, see [Deploy an Operating System](#) on page 138.





Operating Systems Tab

The Operating Systems tab lists all available operating systems that have been published into HPCA.

Use the tools provided to deploy operating systems to managed devices or entitle groups of devices to them.

Newly published services (published within the last seven days) can be recognized by the word ‘new’ in parentheses (*new*) to the right of the description.

Table 12 OS Library Toolbar Actions

Button	Description
	Refresh Data – Refreshes the list of operating systems in the OS Library.
	Export to CSV – Creates a comma-separated list of the operating systems in the table, which you can then open, view, and save.
	Deploy Operating System – Launches the OS Deployment Wizard .
	Add Group Entitlement – Launches the Service Entitlement Wizard .


The following tasks are available from the Operating System tab:

- [Deploy an Operating System](#) on page 138

- [Deploy an OS Image Using LSB](#) on page 140
- [Deploy an OS Image Using PXE](#) on page 141
- [Deploy an OS Image Using the Service CD](#) on page 142
- [Add Group Entitlement](#) on page 143
- [Restore an Operating System](#) on page 144
- [OS Details Window \(Management Tab\)](#) on page 144

Deploy an Operating System

To entitle and deploy an operating system

- 1 Select the operating system service to deploy, then click the **Deploy Operating System**  button. This will launch the [OS Deployment Wizard](#).
- 2 Follow the steps in the wizard to entitle and deploy an operating system to managed devices.

Operating systems are deployed in either attended or unattended mode. See the Configuration tab, [OS Management](#) on page 232 to select the deployment mode.

See the information below for deployment scenarios and target device requirements for OS deployment.

Deployment Scenarios

How you deploy an operating system to devices in your environment depends on a number of variables. The following table describes multiple OS image deployment scenarios and instructions for deploying an operating system to those devices.

Table 13 Deployment Scenarios

Device State	Instructions for deployment
Managed (agent installed)	<p>If the device is already managed:</p> <ul style="list-style-type: none">• Add the device to a group.• Entitle the group to an operating system (if not already entitled).• Use the OS Deployment Wizard to deploy the OS. <p>Note: If you use LSB during the OS deployment process, you will not need to make preparations for PXE or the Service CD.</p>
Un-managed (agent not installed)	<p>If the unmanaged device has an OS installed:</p> <ul style="list-style-type: none">• Deploy the HPCA agent to the device.• See instructions for Managed device above. <p>If the unmanaged device does <i>not</i> have an OS installed:</p> <ul style="list-style-type: none">• See the instructions below for how to deploy an OS to a bare-metal device.

Table 13 Deployment Scenarios

Device State	Instructions for deployment
Bare-metal (no OS installed)	<p>If the device was previously managed (for hard drive recovery, for example):</p> <ul style="list-style-type: none">• Group membership and any OS entitlements should still be valid. Deploy the OS using PXE or the Service CD. <p>If the device was not previously managed:</p> <ul style="list-style-type: none">• Boot the device with PXE or the Service CD. The device is added to HPCA using a variation on the MAC address as its device name.• Add the new device to a group with OS entitlement. The device is rebooted, and the Service CD or PXE will continue with the OS deployment. <p>Note: If an OS is attached to the All Devices group, the OS is installed automatically. If multiple OSs are attached to All Devices, then a choice of OS to install is presented.</p> <p>Note: LSB cannot be used for deploying an OS to a bare-metal device.</p>

Deploying Thin Client Factory Images

Before you can deploy a factory image of a supported thin client operating system, (Windows XP Embedded (XPE), Windows CE, or ThinPro) to a device, you must first capture and publish that client image before you can deploy it. See the [Preparing and Capturing OS Images](#) chapter for more information.


Deploy an OS Image Using LSB

Local Service Boot (LSB) allows HPCA to assume management of the OS on devices that are not booted from the network.

When LSB is used, existing machines do not need to be PXE-enabled, and the boot order does not need to be configured locally in the BIOS for each target device.

See [Deployment Scenarios](#) on page 139 for prerequisite instructions for OS deployment.

To deploy an OS image using Local Service Boot

- 1 Select the image for deployment, and click the **Deploy Operating System**  button to launch the [OS Deployment Wizard](#).
- 2 Follow the steps in the wizard, and when prompted for deployment method, select **Local Service Boot (LSB)**.
- 3 This will install the LSB software to the target device which, in turn, will install the OS that you selected. If the device is entitled to multiple OS images, you will be prompted to select which OS to install.

Deploy an OS Image Using PXE

The PXE-based environment allows HPCA to assume management of the OS on target devices that are booted from the network. See [Deployment Scenarios](#) on page 139 for prerequisite instructions for OS deployment.

Using PXE consists of configuring your DHCP server to provide clients booting from the network with two things:

- A boot image
- A TFTP server that will supply these files




A DHCP server and TFTP server must be configured prior to using PXE for OS deployment. Refer to the product documentation for configuration instructions.

When PXE is configured, make sure that your target devices boot from the network or have PXE-enabled as the primary boot device. Make the necessary configuration adjustments to ensure that this will happen—for example, with some BIOS versions, you can press **ESC** during the reboot process and change the boot order in the configuration settings.

Now you are ready to deploy an OS image.

To deploy an OS image using PXE

- 1 Make sure PXE is configured.

- 2 Select the image for deployment, and click the Deploy Operating System button  to launch the [OS Deployment Wizard](#).
- 3 Follow the steps in the wizard, and when prompted for deployment method, select **Local CD or PXE Server**.

When the wizard finishes, the target device is rebooted using the settings that you defined on your DHCP server.

The OS image is then deployed and installed on the target device. If the device is entitled to multiple OS images, you will be prompted to select the OS to install.

Deploy an OS Image Using the Service CD

The Service CD is used to locally boot a target device that does not already have an operating system installed (a bare-metal machine).

Use `ImageDeploy.iso` to create the Service CD. This file is located on the HPCA media in the `\Media\iso\roms\` directory.

Since LSB cannot be used for devices that do not already have an OS installed, you must use either the Service CD or a PXE server to boot a bare-metal machine to allow for OS deployment.

The Service CD must be created and available locally at the target device.

See [Deployment Scenarios](#) on page 139 for prerequisite instructions for OS deployment.

To deploy an OS image using the Service CD


- 1 Insert the Service CD in the target device, and boot from the CD.
- 2 When prompted, enter your HPCA server IP address (or host name) and port number, and then press **Enter** to continue. For example:

```
HPCA.acmecorp.com:3466
```

The HPCA server port reserved for OS imaging and deployment in an HPCA Core and Satellite installation is 3466. In an HPCA Classic installation, port 3469 is reserved for this purpose.

The device connects to the HPCA server and is added to the Devices list using a variation on the MAC address as the device name. After the Service CD connects to the HPCA server, a message is displayed: “This


machine has no local OS or the OS is invalid” and “The machine cannot be used and will be shut down until an administrator specifies Policy and performs a Wake on LAN.”

- 3 At the HPCA console, use the OS Management section to add the new device to a group.
- 4 In the OS Management section, select the image for deployment and click the **Deploy Operating System**  button to launch the [OS Deployment Wizard](#).
- 5 Follow the steps in the wizard, and when prompted for deployment method, select **Local CD or PXE Server**.
- 6 After the wizard completes, reboot the target device again using the Service CD. During this reboot, the OS image is detected and deployed. This can take 10 to 15 minutes depending on the size of the image and network bandwidth (if multiple OS images are entitled to the device, you will be prompted to select the OS to install).
- 7 When the image is finished deploying, the target device reboots and starts Windows. The Sysprep process will start and initialize the new image.

Add Group Entitlement

Before you can deploy an operating system to a group of target devices, that group must be entitled to use that operating system.

To add group entitlement

- 1 Use the check boxes in the first column to select the OS image for group entitlement.
- 2 Click the **Add Group Entitlement**  button to launch the [Service Entitlement Wizard](#).
- 3 Follow the steps in the wizard to entitle the selected images to groups of devices that you will select using the wizard.

Restore an Operating System

The OS Manager allows you to restore your operating system in last-resort situations. Restoring the operating system provides you with a working operating system, but you will lose all data, and you may need to perform some customizations such as changing the computer name or installing the agent.

OS Details Window (Management Tab)

Click any operating system Service ID to open the OS Details window. Use the OS Details window to view OS properties, view or modify entitlements, deploy an operating system, or view a reporting summary. The following areas are available within the details window.

General

The General tab displays common tasks available for the OS service. To access more configuration tasks click any of the other management area tabs.

The Summary area shows you how many groups and devices are entitled to this OS.

Properties

Use the Properties tab to view information about the operating system.



This information is read-only in this context. You can modify these settings by using the OS Management area on the Operations tab. See [OS Details Window \(Operations Tab\)](#) on page 184 for more information.

Groups

The Groups tab lists all groups of managed client devices that are entitled to this OS. Use the toolbar buttons to manage entitlements, deploy the OS, launch a data collection operation or perform power management operations.

Table 14 Actions Available on the Groups Tab








Button	Function	Action
	Refresh Data	Refreshes the list of groups.







Table 14 Actions Available on the Groups Tab

Button	Function	Action
	Export to CSV	Creates a comma-separated list of the groups in the table, which you can then open or save.
	Add Group Entitlement	Entitle one or more additional groups of managed client devices to this OS.
	Remove Group Entitlement	Remove a group's entitlement to this OS.
	Deploy Software	Deploy this OS to the selected group (or groups) of devices. See the OS Deployment Wizard on page 259.
	Inventory Collections	<p>Launch a wizard that schedules one of the following data collection jobs for the selected group (or groups) of devices and creates a report:</p> <ul style="list-style-type: none">• Discover Software/Hardware Inventory See the Software/Hardware Inventory Wizard on page 245.• Discover Patch Compliance See the Patch Compliance Discovery Wizard on page 246. <p>You can access the reports on the Reporting Tab tab.</p>
	Power Management	Turn on, turn off, or reboot a group of devices. See the Power Management Wizard on page 247.

Devices Tab

The Devices tab displays all devices that are currently entitled to the selected OS. You can deploy the OS to a device, launch a data collection operation, perform power management operations, or control a device remotely by using the toolbar buttons.

Table 15 Actions Available on the Devices Tab

Button	Function	Action
	Refresh Data	Refreshes the list of devices.
	Export to CSV	Creates a comma-separated list of the devices in the table, which you can then open or save.
	Deploy Operating System	Deploy this software to the selected devices. See the OS Deployment Wizard on page 259.
	Inventory Collections	Launch a wizard that schedules one of the following data collection jobs for the selected devices and creates a report: <ul style="list-style-type: none">• Discover Software/Hardware Inventory See the Software/Hardware Inventory Wizard on page 245.• Discover Patch Compliance See the Patch Compliance Discovery Wizard on page 246. You can access the reports on the Reporting Tab tab.
	Power Management	Turn on, turn off, or reboot the selected devices. See the Power Management Wizard on page 247.
	Remote Control	Launch a Remote Control session to the selected device. See Remote Control on page 91.

Reporting

The Reporting tab contains summary reports specific to the operating system service. For detailed reports, use the Reporting tab in the main HPCA console.

Current Jobs Tab

Current Jobs shows all currently active or scheduled OS Management jobs. OS Management jobs are used to entitle and deploy operating systems services from managed devices in your HPCA database.

Click any column heading to change the sort order or use the navigation buttons at the top of the table to jump to a specific section.

For information about [Job Controls](#) and [Job Status](#), see Job Management, [Current Jobs](#) on page 148.

Past Jobs Tab

Past Jobs shows all completed OS Management jobs.

Click any column heading to change the sort order or use the navigation buttons at the top of the table to jump to a specific section.



Completed jobs (from the Current Jobs tab) are moved to the Past Jobs list one minute after they are finished.

Job Management

Use the Job Management section to view or manage all current and past jobs. The summary information shows the total number of all currently active and scheduled management jobs.

The Job Management tabs are described in the following sections:

- [General](#) on page 148
- [Current Jobs](#) on page 148
- [Past Jobs](#) on page 152

General

Use the General tab to view all current and past jobs and the total number of all active and scheduled jobs.

Current Jobs

Current Jobs shows a list of all active or scheduled jobs. Click the ID link of any job to show more details about the job's status.

Use the toolbar buttons to administer currently scheduled or active jobs. The following sections describe the available job controls and detail window.

- [Job Controls](#) on page 148
- [Job Status](#) on page 149
- [Job Details](#) on page 152

Job Controls

Use the job controls located at the top of the job list table to manage any existing jobs. See the table below for information about each control.

Table 16 Actions Available on the Jobs Toolbar









Icon	Description
	Refresh Data – Refreshes the jobs list.
	Export to CSV – Creates a comma-separated list that you can open or save.
	Start Job(s) .
	Resume Job(s) that were Disabled or Paused.
	Pause Job(s) that are Currently Active, Waiting to Start, and Waiting to Stop. Job status is set to Paused.

Table 16 Actions Available on the Jobs Toolbar

Icon	Description
	Stop Job(s) that are currently Active or Paused. Job status is set to Waiting to Stop.
	Reschedule Job(s).
	Delete Job(s).

Job Status

View the Status column for information about each job. The following table describes the individual job status messages.

Table 17 Job status descriptions










Icon	Status	Description
	Ended with Errors	Job completed but with errors. Click the job ID link for more information.
	Successful	Job completed successfully without errors.
	Active	Job is currently running.
	Paused	Job is currently paused.
	Waiting to Start	Job is scheduled and waiting to run.
	Waiting to Stop	Job is currently stopping.

Table 17 Job status descriptions

Icon	Status	Description
	Failed	Job did not complete successfully.
	Disabled	Job has been stopped or paused.
	Hibernation	Target device is offline. Job will resume when device is back online.

When using the job controls to manage each job, consult the following table to review expected results.

Table 18 Job Status and expected Job Control action





















	 Start	 Resume	 Pause	 Stop	 Reschedule	 Delete
 Ended with Errors	Status changed to Currently Active	N/A	Status changed to Disabled	N/A	Updates applied	Job is deleted
 Successful	Status changed to Currently Active	N/A	Status changed to Disabled	N/A	Updates applied	Job is deleted
 Active	N/A	N/A	Status changed to paused	Status changed to Waiting to Stop	Updates applied	N/A

Table 18 Job Status and expected Job Control action

	 Start	 Resume	 Pause	 Stop	 Reschedule	 Delete
 Paused	N/A	Status changed to pre-paused state	N/A	Status changed to Waiting to Stop	Updates applied	N/A
 Waiting to Start	Status changed to Currently Active	N/A	Status changed to Disabled	N/A	Updates applied	Job is deleted
 Waiting to Stop	N/A	N/A	Status changed to paused	N/A	Updates applied	N/A
 Failed	Status changed to Currently Active	N/A	Status changed to Disabled	N/A	Updates applied	Job is deleted
 Disabled	N/A	Status changed to pre-disabled state	N/A	N/A	Updates applied	Job is deleted

Job controls are available only for jobs in the Current Jobs tabs, this includes currently active jobs and jobs with recurring schedules. Completed jobs in the Past Jobs tab cannot be controlled and should be re-created if you need to run them again.

For more detailed information about a job, click the job ID link. This will open a new window displaying the specific [Job Details](#).

- ▶ When a job is paused, the job action (deployment, collection, etc.) will continue for any currently targeted devices. When the action is complete, the job will not continue executing on additional devices until it is resumed.

Job Details

Click any job ID link to open a new window displaying the specific information for that job. Depending on the Job type, the Job Details window may contain some of the tabs described below.

Details

The details tab displays all job information.

Targets

The Targets tab lists all devices for which the job was created.

Services

The Services tab displays all software, patches, or operating systems intended for target devices for that job.

See [Chapter 16, Troubleshooting](#) for some additional information about Job messages.

Past Jobs

Past Jobs shows all completed Management jobs. Click the job ID link of any job to open the [Job Details](#) window to learn more about the job's status.

- ▶ Completed jobs are moved to the Past Jobs list one minute after they are finished.

6 Using Reports

The Reporting area contains summary and detailed reports of many kinds. The specific reports available to you depends on the type of HPCA license that you have. The following topics are discussed in this chapter:

- [Reports Overview](#) on page 154
- [Navigating the Reports](#) on page 155
- [Types of Reports](#) on page 157
- [Filtering Reports](#) on page 159
- [Creating Dynamic Reporting Groups](#) on page 163

Reports Overview

On the Reporting tab in the HPCA Console, there are links to several collections of reports as described in [Types of Reports](#) on page 157.

Each collection contains groups of reports that focus on a particular type of data or a specific audience. These reports also provide the data used to populate the dashboards.

The following reports are available in all editions of HPCA:

Report Pack	Report Type	Description
rpm.kit	Patch Management	Devices in and out of compliance with patch policy
rim.kit	Inventory	Devices currently managed by HPCA



In order to view the Reporting section's graphical reports, a Java Runtime Environment (JRE) or Java Virtual Machine (JVM) is required. For more information, go to:

<http://java.com/en/index.jsp>

Navigating the Reports

When you click the Reporting tab, the Reporting home page is displayed. The home page provides a snapshot of the enterprise with respect to inventory management, patch management (if installed and enabled)

There are three ways to find more detailed information on the Reporting home page:

- Use Report Quicklinks to open frequently requested reports.
- Use Quick Search to find inventory information about a specific device or service. This feature *only* applies to inventory reports – for example, Managed Devices.
- Use the links in the Reporting Views section of the left navigation tree to open a specific report.

A Reporting View defines the set of reporting windows to display for the current data set and initial settings related to each window (such as minimized or maximized, and the number of items per window). When you first access the reports, the Default View is applied. The current view is listed on the right of the Global Toolbar. You can change or customize your Reporting View.

The following actions are available on the Reports page when a report is displayed:

Table 19 Report Actions














Icon	Description
	Go back one page in the reports view.
	Return to the Reports home page.
	Refresh the data. A refresh also occurs when you apply or remove a filter.
	Add this report to your list of favorites.
	Email a link to this report.

Table 19 Report Actions

Icon	Description
	Open a “quick help” box or tool tip. This applies only to filters.
	Print this report.
	Collapses the data portion of the report view.
	Expands the data portion of the report view.
	Show the graphical view of this report
	Show the grid (detailed) view of this report.
	Export report contents to a comma-separated value (CSV) file. The data in this file is actually delimited by tabs, not commas. The file extension is CSV, however.
	Export report contents to a Web query (IQY) file.

Items that appear in **blue text** in a report have various functions:

- Show Details – drill down to greater detail pertaining to this item
- Launch this Reporting View – open a new report based on this item
- Add to Search Criteria – apply an additional filter to the current report based on this item
- Go to Vendor Site – go to the web site of the vendor who posted this bulletin

When you rest your mouse over a **blue text** item, the tool tip tells you what will happen when you click the item.



By default, the reports use Greenwich Mean Time (GMT). Individual report packs can be configured to use either GMT or local time.

Types of Reports

The following types of reports are available in the HPCA Console:

- [Inventory Management Reports](#) on page 157
- [Patch Management Reports](#) on page 158

Each is briefly described here.

Inventory Management Reports

Inventory Management reports display hardware and software information for all devices in HPCA. This includes reports for HP specific hardware, device components, blade servers, TPM Chipset information and SMBIOS information, and Self-Monitoring, Analysis, and Reporting Technology (S.M.A.R.T.) Alerts.

Expand the Inventory Management Reports reporting view to see the report options. To be included in these reports, devices must be entitled to `AUDIT.ZSERVICE.DISCOVER.INVENTORY`. Certain data is only available after HPCA is fully configured. Refer to [Device Management](#) on page 221 for configuration details.

A typical Managed Devices report includes the following table headings:

- **Details** – opens a Device Summary page for this device.
- **Last Connect** – when the device last connected.
- **HPCA Agent ID** – device name.
- **HPCA Agent Version** – the currently installed Management Agent version.
- **Device** – device name.
- **Last Logged on User** – the last user account used to log on to the device. If multiple users are logged on, only the last to log on is recorded—switching between currently logged on users does not affect this.
- **IP Address** – device IP address.
- **MAC Address** – device MAC address.
- **Operating System** – operating system installed on the device.

- **OS Level** – current operating system level (for example, Service Pack 2).

Inventory Management Reports consist of the following report options:

- Executive Summaries
- Operational Reports
- Hardware Reports
- Software Reports
- Readiness Reports
- Power Utilization

For more information on these reports refer *HP Client Automation Inventory Manager Reference Guide*.

Patch Management Reports

Patch Management Reports display patch compliance information for managed devices and acquisition information for patches and Softpaqs.


- **Executive Summaries** – Executive Summary reports offer pie or bar charts to provide a visual snapshot of patch-compliance for the devices and bulletins being managed in your environment. The reports summarize compliance for all devices, for devices by patched-state, for bulletins, and bulletins by vendors. From the summary reports you can drill down to the detailed compliance reports which offer additional filtering.
- **Patch Compliance Details** – The HPCA Agent sends product and patch information to HPCA. This information is compared to the available patches to see if managed devices require certain patches to remove vulnerabilities. Compliance reports show only the information applicable to detected devices in your environment.
- **Acquisition Reports** – Acquisition-based reports show the success and failures of the patch acquisition process from the vendor's web site. They include the following reports:
 - The **Acquisition Summary** report shows the number of bulletins, patches, and errors for each acquisition session. In addition, it provides links to the acquisition reports for all bulletins and patches. The date and time of the publishing session is also listed.

- The **Acquisition by Bulletin** report shows a summary of the bulletin's acquisition. From this report, you can click on the number for Applicable Patches to see the files associated with the bulletin. Note that one bulletin may have multiple patches based on platform.
- The **Acquisition by Patch** report shows a summary of each patch's acquisition. You can click on an item in the Product/Release column for a specific bulletin to drill down for full details on the patch. The icon in the Severity column indicates the severity for Windows patches.
- **Research Reports** – Research-based reports display information about the patches acquired from the software vendor's web site. Research-based reports offer a Filter bar.

For details on using the Patch Management reports, refer to [Patch Management](#) on page 128.

Drilling Down to Detailed Information

Many reports enable you to drill down to very detailed information about a particular device, vulnerability, compliance benchmark, or security product.

Whenever you see the Details () icon in the data grid, you can click it to display more detailed information.

You can also drill down to more detailed information by clicking the device counts in certain columns in some reports.

Filtering Reports

Many reports contain large amounts of data. You can apply one or more filters to a report to reduce the amount of data displayed. If you apply a filter, that filter will remain in effect until you explicitly remove it.

There are three basic types of filters:

- Directory/Group Filters enable you to display data for a specific device or group of devices.



- Inventory Management Filters enable you to display data for a group of devices with common characteristics, such as hardware, software, operating system, or HPCA operational status.
- Report specific filters apply only to data available within a specific Reporting View. For example, Patch Management filters apply only to Patch Management reports.

A filter only works if the type of data that it filters appears in the report.

If you attempt to apply a filter that does not pertain to the data in the current report, the filter will have no effect. Conversely, if the data in a report does not look correct, check to ensure that an incorrect filter has not been applied.

Because they contain small amounts of data to begin with, most Executive Summary reports cannot be filtered.

To apply a filter to a report

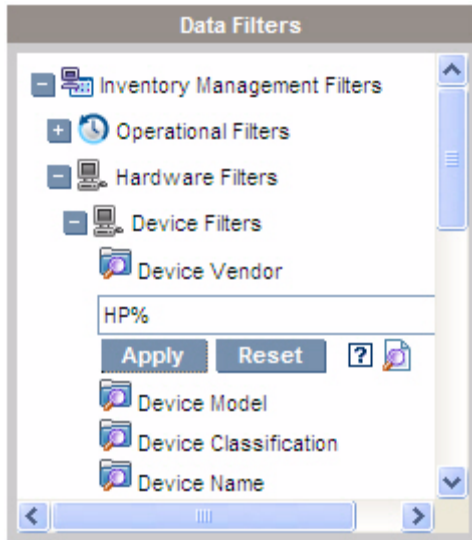
- 1 In the Data Filters section of the left navigation tree, expand the filter group that you want to use.
- 2 *Optional:* For the specific filter that you want to apply, click the  (show/hide) button to show the filter controls:
- 3 Specify the filter criteria in the text box, or click the  (criteria) button to select the criteria from a list (if available—not all filters have lists).

You can use wildcard characters when creating filters. The following table describes the characters you can use to build search strings.

Table 20 Special Characters and Wildcards

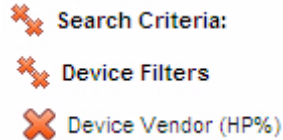
Character	Function	Device Vendor Filter Example	Records Matched
* or %	Matches all records containing a specific text string	HP*	All records that begin with “HP”
		%HP%	All records that contain “HP”
? or _	Matches any single character	Not?book	All records that begin with “Not” and end with “book”
		Note_ook	All records that begin with “Note” and end with “ook”
!	Negates a filter	!HP*	All records that do not start with “HP”


For example, if you specify HP% in the text box for a device related filter, the filter will match all devices whose Vendor names contain HP.




- 4 Click the **Apply** button. The report will refresh. To remove the filter, click the **Reset** button.

When you apply a filter to a report, the filter is listed in the report header:




If you apply a filter, that filter will remain in effect until you explicitly remove it. You can click the  (Remove button) to the left of the filter name to remove a filter from the current report.

 You can also create an “in-line” filter by clicking a data field in the report currently displayed.

Creating Dynamic Reporting Groups

Dynamic Reporting groups contain devices returned as the result of a reporting query. You can create a Dynamic Reporting Group by first generating a list of devices in a report query, then using the [Group Creation Wizard](#).

To create a Dynamic Reporting group:

- 1 Generate a list of devices using a report query.
For example, under **Inventory Management Reports**, expand **Operational Reports**, and click **View Managed Devices**.
- 2 Filter the device list to include only devices you want to include in your group. See [Filtering Reports](#) on page 159 for detailed instructions.
- 3 When you have the list of devices you want to add to your group, click the **Create new Dynamic Reporting Group**  button to start the [Group Creation Wizard](#).
- 4 Follow the steps in the wizard to create your dynamic group of devices.

About Dynamic Reporting Groups

- Dynamic Reporting group membership depends upon the devices meeting the criteria defined in the query used to create the original list. Membership is updated based on the schedule that you define during the Group Creation Wizard or can be altered using the Group Details window.
- Existing Reporting group criteria cannot be modified. If you want to create a group with the same name as an existing Reporting group but with different criteria you will need to first delete the existing group, create a new device query, then use the Group Creation Wizard to create a new group with the new criteria.

7 Operations

The Operations tab allows you to manage infrastructure tasks, view the status of component services, and perform some patch management tasks. Additional details are described in the following sections.

- [Infrastructure Management](#) on page 166
- [Software Management](#) on page 167
- [Out of Band Management](#) on page 171
- [Patch Management](#) on page 175
- [OS Management](#) on page 181

Infrastructure Management

Infrastructure Management operations are described in the following sections:

- [Support](#) on page 166
- [Database Maintenance](#) on page 167

Support

The Support area displays the currently installed license information and also allows you to generate and download a compressed (zipped) file that contains configuration files, log files, and operating system information.

See [Downloading Log Files](#) on page 166 for details.

These files can then be available for HP Support should they be needed for troubleshooting.

Downloading Log Files

When working with support, you may be asked to supply log files. Use the link provided to download and save a compressed file of current server log files.

To download log files

- 1 In the Troubleshooting area, click the link **Download Current Server Log Files**. A new window opens.
- 2 When the log files are prepared, click **Download logfiles.zip**.
- 3 When prompted, click **Save** to store the compressed file on your computer.
- 4 Specify a location to store the file and click **OK**.
- 5 The log files are downloaded to your computer and saved in a single ZIP formatted file.




Internet Explorer security settings may prevent these files from being downloaded. HP recommends adding the HPCA console URL to your trusted sites or modifying your Internet Explorer settings to not prompt for file downloads.

Database Maintenance

The Database Maintenance area shows all of the devices that have reporting data stored in HPCA. Use the Maintenance toolbar to clean up reporting data for devices that may no longer be in your database.

To remove device reporting data

- 1 In the Maintenance area, select the devices for which you would like to remove reporting data.
- 2 Click the Delete Reporting Data  button.
- 3 The reporting data is removed from your database.

After reporting data is removed for a device, the data is not available when generating any reports.

- ▶ If you are deleting reporting data for an actively managed device, to avoid reporting data discrepancies, you should remove then re-deploy the Management Agent on that device.






Software Management

Use the Software Management tools on the Operations tab to manage the catalog of software services (applications) that are available to be deployed to managed client devices. After a software service is added to the HPCA software library, end-users of the client devices can install, update, or remove software to which they are entitled by [Using the Application Self-Service Manager](#).

The Software Library page lists the software services that have been published into HPCA. You can use the tools on this page to import, export, or delete software services. The import and export tools are useful for moving a software service from one HPCA server to another—for example, if you want to move a service from a test environment to a production environment

- ▶ To view or modify settings for a particular software service, see the [Software Details Window \(Operations Tab\)](#) on page 170.

Table 21 Software Library Tools

Button	Description
	Refresh Data – Refreshes the data in the Software Library table.
	Export to CSV – Creates a comma-separated list of software services that you can open, view, and save.
	Import Service – Imports a software service into HPCA. See Import a Software Service on page 168. After you import a software service, you can entitle groups or specific managed client devices to that service. You can then deploy the service to those devices.
	Export Service – Exports a published software service in a binary file format called a service deck . See Export a Software Service on page 169. After you export a software service, you can copy the service deck to another HPCA server, and then import the service there.
	Delete Software – Remove the selected service (or services) from the HPCA Software Library. See Delete a Software Service on page 169.


Import a Software Service

HPCA can import software services into the Software Library. To import a service, the service import deck must be located in the `ServiceDecks` directory on your HPCA server. By default, this directory is:

```
<InstallDir>\Data\ServiceDecks
```

This is useful if you have created a testing environment. When you have approved a particular service in your test environment, export that service to the `ServiceDecks` directory on your production HPCA server (see [Export a Software Service](#)). Then use the Import Service wizard to import that service to your production Software Library, and deploy it to managed devices.

To import a service

- 1 Click **Import Service**  to launch the [Service Import Wizard](#).
- 2 Follow the steps in the wizard to import the service into the Software Library.



Only those services in the `ServiceDecks` folder that contain the word **SOFTWARE** in their names are available for import. For example:

PRIMARY.SOFTWARE.ZSERVICE.ORCA


Export a Software Service

Published software services can be exported to the `ServiceDecks` directory on your HPCA server. By default, this directory is:

```
<InstallDir>\Data\ServiceDecks
```

Exported services can be copied to any other HPCA server and then imported into that server's Software Library (see [Import a Software Service](#)).


To export a service

- 1 Select the check box in the first column to select the software to export as a service.
- 2 Click **Export Service**  to launch the [Service Export Wizard](#).
- 3 Follow the steps in the wizard to export the service to the `ServiceDecks` directory on your HPCA server machine.

Delete a Software Service

Use the Software toolbar to remove software from the HPCA Software Library. This deletes the software service and removes any entitlements to that service.

To remove software from the Software Library

- 1 Select the software service (or services) that you want to remove.
- 2 Click the **Delete Software**  button.

Software Details Window (Operations Tab)

Click the Service ID of any software service in the Software Library to open the Software Details window. Use the Software Details window to view or modify settings for a particular software service.

The following settings are available in the Software Details window:

- **Display Name**
Name of this software service. This is the “friendly” name that is used in the HPCA console. This is a required field.
- **Software Category**
Specify a category that will help define the type of software. The Software Category is displayed in the Software Library and is available as a sort option.
- **Catalog Visibility**
Specify whether to display the software in the catalog on the managed client device. Displaying software in the catalog allows the end user to install, update, or remove the software.
- **Reboot Settings**
Specify whether a reboot is required for the managed client device after the software is installed, and whether to prompt the end-user for the reboot.
- **Author**
The software author (for example, Hewlett-Packard).
- **Vendor**
The software vendor (for example, Hewlett-Packard).
- **Web Site**
An informational URL for the software.
- **Pre-uninstall Command Line**
Command to run before software is removed from a device. For example, some registry keys may need to be removed prior to running the software removal command.
- **Install Command Line**
Command to run to install the software.

- **Un-install Command Line**
Command to run after the software is removed from a device.



Be sure to click **Save** after making any changes to the software settings.

When you open the Software Details window from the Management tab, these settings are displayed in read-only format. To modify the settings for a service, be sure to open the Software Details window from the Operations tab.

Additional functions are available, however, when you open the Software Details window from the Management tab. See [Software Details Window \(Management Tab\)](#) on page 123.

Out of Band Management

Out of Band (OOB) Management is enabled using the Configuration tab. See [Configuration](#) on page 187 for OOB Management settings and Preferences.

For additional information on using OOB Management refer to the *HP Client Automation Out of Band Management User Guide*.

The following sections describe the OOB Management tasks available in the console:

- [Provisioning and Configuration Information](#) on page 171
- [Device Management](#) on page 173
- [Groups Management](#) on page 173
- [Alert Notifications](#) on page 174

Provisioning and Configuration Information

Your vPro and DASH devices must be provisioned before you can discover and manage them. It is possible to provision vPro devices through the HPCA console if the devices did not automatically become provisioned when originally connected to the network.

The provisioning of vPro devices through the HPCA console is described in Setting Up vPro and DASH Devices chapter of the *HP Client Automation Out of Band Management User Guide*. This option does not appear on the Operations tab under Out of Band Management if you have selected to manage DASH devices only since it is not relevant for this type of device.

Refer to the Setting Up vPro and DASH Devices chapter of the *HP Client Automation Out of Band Management User Guide* for complete details.

DASH Configuration Documentation

Provision DASH-enabled devices according to the documentation accompanying the device. For DASH-enabled devices from Hewlett-Packard, DASH configuration information is documented in the "Broadcom NetXtreme Gigabit Ethernet Plus NIC" whitepaper.

To access this documentation

- 1 Go to **www.hp.com**.
- 2 Select **Support and Drivers > Product Support and Troubleshooting**.
- 3 Enter a product that supports this NIC, for example, the dc7900.
- 4 Select one of the dc7900 models.
- 5 Select **Manuals (guides, supplements, addendums, etc)**.
- 6 Scroll to the White papers section and select **Broadcom NetXtreme Gigabit Ethernet Plus NIC** whitepaper.

DASH Configuration Utilities

The DASH Configuration Utility (BMCC application) is part of the Broadcom NetXtreme Gigabit Ethernet Plus NIC driver softpaq, which is found in the drivers section for each product that supports this NIC.

To access this utility

- 1 Go to **www.hp.com**.
- 2 Select **Support and Drivers > Drivers and Software**.
- 3 Enter a product that supports this NIC, for example, the dc7900.
- 4 Select one of the dc7900 models.

- 5 Select an operating system.
- 6 Scroll to the Driver-Network section and select to download the **Broadcom NetXtreme Gigabit Ethernet Plus NIC Drivers**.

Device Management

The Device Management area allows you to manage multiple OOB devices.

On the Operations tab, under Out of Band Management, click **Device Management**. The Device Management window opens. Using the icons on the toolbar of the device table, you can perform the following tasks on multiple devices:

- Refresh data
- Reload device information
- Discover Devices
- Power on and off and reboot devices
- Subscribe to vPro alerts
- Manage common utilities on vPro devices
- Deploy System Defense policies to selected vPro devices
- Deploy heuristics worm containment information to selected vPro devices
- Deploy agent watchdogs to selected vPro devices
- Deploy agent software list and system message to selected vPro devices

Click the hostname link in the device table to manage an individual OOB device. A management window opens that has several options in its left navigation pane. The options available are dependent on the type of device you selected to manage.

Refer to the Device Management chapter of the *HP Client Automation Out of Band Management User Guide* for complete details.

Groups Management

The Groups Management option allows you to manage groups of vPro devices as defined in the Client Automation software. You can perform OOB operations on Client Automation groups that contain vPro devices. You can

manage groups of vPro devices to perform various discover, heal, and protect tasks. These include power management, alert subscription, and deployment of System Defense policies, agent watchdogs, local agent software lists, and heuristics.

On the **Operations** tab, under Out of Band Management, click **Group Management**. The Group Management window opens. From the icons on the toolbar of the group table, you can perform the following tasks on multiple groups:

- Refresh data
- Reload group information
- Power on and off and reboot groups
- Subscribe to vPro alerts
- Deploy agent software list and system message to selected vPro groups
- Provision vPro device groups
- Deploy and undeploy System Defense policies to selected vPro devices
- Deploy and undeploy agent watchdogs to selected vPro groups
- Deploy and undeploy heuristics worm containment information to selected vPro groups

To drill down to manage individual devices within a group, click the group name link under the Description column of the table. The Device Management window opens displaying a list of devices belonging to the selected group. You can manage multiple or individual devices within the group. See *Managing Devices*.

Refer to the Group Management chapter of the *HP Client Automation Out of Band Management User Guide* for complete details.

Alert Notifications

For vPro devices, you can view the alerts generated by provisioned vPro devices if you have an alert subscription to the device. Monitoring alert notifications gives you a good idea of the health of the devices on your network.

Refer to the Alert Notifications chapter of the *HP Client Automation Out of Band Management User Guide* for complete details.

Patch Management

Use the Patch Management tools on the Operations tab to manage the catalog of patch bulletins that are available to be deployed to managed devices.






Patch Library Operations

The Patch Library page lists the bulletins that have been published into HPCA. You can use the tools on this page to import, export, or delete bulletins. The import and export tools are useful for moving a patch from one HPCA server to another—for example, if you want to move a patch from a test environment to a production environment.



To view or modify settings for a particular patch, see the [Patch Details Window \(Operations Tab\)](#) on page 178.

Table 22 Patch Library Tools

Button	Description
	Refresh Data – Refreshes the data in the Patch Library table.
	Export to CSV – Creates a comma-separated list of patches that you can open, view, and save.
	Import Service – Imports a patch into HPCA. See Import a Patch Service on page 176. After you import a patch, you can entitle groups or specific managed client devices to that service. You can then deploy the patch to those devices.
	Export Service – Exports a published patch in a binary file format called a service deck . See Export a Patch Service on page 176. After you export a patch, you can copy the service deck to another HPCA server, and then import the patch there.
	Delete Patch – Remove the selected patch (or patches) from the HPCA Patch Library. See Delete a Patch Service on page 177.

Import a Patch Service


HPCA can import patches into the Patch Library. To import a patch, the decks (namely, the `xpi`, `xpc`, and `xpr` files) and the zip file must be placed in the `ServiceDecks` directory on your HPCA server. Also, copy the `PRIMARY.PATCHMGR.ZSERVICE.DISCOVER_PATCH.*` files. These contain the catalog and the Agent information. If these files are not copied, or if they are old files, the import of bulletins will fail with the message - "Import Failed - Ensure the bulletin is exported recently and latest `PRIMARY.PATCHMGR.ZSERVICE.DISCOVER_PATCH.*` files are copied."

By default, this directory is:

```
<InstallDir>\Data\ServiceDecks
```

This is useful if you have created a testing environment. When you have approved a particular patch in your test environment, export that bulletin to the `ServiceDecks` directory on your production HPCA server (see [Export a Patch Service](#)). Then use the Import Service wizard to import that patch to your production Patch Library, and deploy it to managed devices.

To import a patch service

- 1 Click **Import Service**  to launch the **Service Import Wizard**. This displays a list of the `xpi` files present in the `ServiceDecks` directory.
- 2 Follow the steps in the wizard to import the service into the Patch Library.




`PRIMARY.PATCHMGR.ZSERVICE.DISCOVER_PATCH.xpi` need not be explicitly selected. They are implicitly selected when a bulletin is selected for import. If only the agent or catalog files need to be moved to the target server, then `PRIMARY.PATCHMGR.ZSERVICE.DISCOVER_PATCH.xpi` can be selected.

Export a Patch Service

Published bulletins can be exported to the `ServiceDecks` directory on your HPCA server. By default, this directory is:

```
<InstallDir>\Data\ServiceDecks
```


To export a patch service

- 1 Select the check box in the first column to select the bulletin(s) to export as a service. Use the grid options to search for bulletins based on type, name, and so on.
- 2 Click **Export Service**  to launch the [Service Export Wizard](#).
- 3 Follow the steps in the wizard to export the bulletin(s) to the `ServiceDecks` directory on your HPCA server machine.

This creates the following files for each exported bulletin in the `ServiceDecks` directory of your server:

- PRIMARY.PATCHMGR.ZSERVICE.[BULLETIN NAME].xpi
- PRIMARY.PATCHMGR.ZSERVICE.[BULLETIN NAME].xpr
- PRIMARY.PATCHMGR.ZSERVICE.[BULLETIN NAME].xpc
- PRIMARY.PATCHMGR.ZSERVICE.DISCOVER_PATCH.xpi
- PRIMARY.PATCHMGR.ZSERVICE.DISCOVER_PATCH.xpr
- PRIMARY.PATCHMGR.ZSERVICE.DISCOVER_PATCH.xpc

Exporting a service automatically exports the latest agent, catalogs, and other related files that are needed for the discover process.

For import, all of the files with the PRIMARY.PATCHMGR.ZSERVICE.[BULLETIN NAME] stem along with PRIMARY.PATCHMGR.ZSERVICE.DISCOVER_PATCH.* should be copied to any other HPCA server and then imported into that server's Patch Library. See [Import a Patch Service](#) on page 176.

Delete a Patch Service

Use the Patch Library toolbar to remove patches from the HPCA Patch Library. This deletes the patch and removes any entitlements to that patch. This also cleans up any related binaries in the gateway cache.

To remove a patch from the Patch Library

- 1 Select the patch (or patches) that you want to remove.
- 2 Click the **Delete Patch**  button.

Patch Details Window (Operations Tab)

Click the Bulletin name for any patch in the Patch Library to open the Patch Details window. Use the Patch Details window to view the following properties of a particular patch:

- **Bulletin Type**
Type of patch (for example, Security Updates).
- **Vendor**
The software vendor (for example, Microsoft).
- **Bulletin**
Bulletin name assigned by the vendor. Typically a sequential code.
- **Description**
Any descriptive text that the vendor has included with the bulletin.
- **Vendor Posted**
Date this bulletin was originally posted by the vendor.
- **Vendor Revised**
Most recent date that this bulletin was revised by the vendor.
- **Bulletin Information**
URL for information about this bulletin on the vendor's web site.
- **Other Information**
URL for any related information on the vendor's web site.



The information displayed in this window is read-only and cannot be modified.



Additional functions are available when you open the Patch Details window from the Management tab. See [Patch Details Window \(Management Tab\)](#) on page 133.

Acquisition

Use the **Schedule** tab to acquire patches or to configure a patch acquisition schedule.



To ensure efficient acquisition of the latest available patches, we recommend configuring your Patch Acquisition Schedule to run during off-peak hours and no more than once daily.

Current Schedule shows the currently configured patch acquisition schedule.

To acquire patches

- Click **Acquire Patches Now** to acquire patches based on the current Patch Acquisition settings. Patches are downloaded and stored in the Patch Library.
- View acquired patches in the Patch Management, **Patches Tab** tab.

To configure the patch acquisition schedule


- 1 Use the tools provided to set the acquisition schedule.
 - **Run**: Select whether to discover patches based on an interval hours, days, or weeks.
 - **Interval**: Select the specific interval (hours, days, or weeks).
 - **Starting on**: Use the drop-down lists to select the date patch compliance should be discovered.
 - **Current Server Time** displays the current time of the HPCA server.
- 2 When finished, click **Save** to commit your changes.

The new schedule is displayed after **Current Schedule**.

Use the **Settings** tab to configure the acquisition settings for the Windows patches and HP Softpaqs you want to acquire. Patches are acquired from HP and Microsoft sources and Softpaqs are acquired by leveraging HP Instant Support technologies.

Required fields are marked with an asterisk (*).

To configure patch acquisition settings

- 1 Complete the **HP Softpaqs** area.
 - In the **Enabled** drop-down list, select **Yes** to acquire HP Softpaqs.
 - In the **HP System IDs** text box, determine which device-related HP Softpaqs are acquired by either typing a list of HP System IDs in the text box or by clicking the **Retrieve Data** button  to the right of the text box to automatically create the list of System IDs based on devices in HPCA.
- 2 Complete the **Connection Settings** area if needed.

- Type a **Proxy Server Address** from which to obtain bulletins (for example, `http://proxyserver:8080/`).
 - Type a **Proxy User ID** and **Proxy Password** to use when acquiring patches.
- ▶ Patch acquisition is limited to proxy servers configured with basic authentication only.
- 3 Click **Save** to apply your changes.
- ▶ Initial patch acquisition may take an extended period of time.

To see the status of current and past Acquisition Jobs, go to the **Operations** tab, **Patch Management** area, **View Acquisition Jobs** page.

Perform Synchronization

This operation synchronizes the patch information stored in the Patch Library with the patch information in the SQL database.

This synchronization occurs automatically after a patch acquisition and in normal HPCA operations.

However, there may be times when you are directed by customer support to run the synchronization manually.

You can synchronize the databases manually using the HPCA Core Console.

To synchronize the databases

- 1 From Operations tab, expand the **Patch Management** tasks, and click **Perform Synchronization**.
- 2 Click **Submit**.

Acquisition History

Select a patch acquisition status page to view details from previous acquisitions.

OS Management

Use the OS Management tools on the Operations tab to manage the catalog of operating systems that are available to be deployed to managed devices.

The OS Library page lists the operating systems that have been published into HPCA. You can use the tools on this page to import, export, or delete operating systems. You can also create a deployable CD (or DVD) for any operating system in the library.

The import and export tools are useful for moving an operating system from one HPCA server to another—for example, if you want to transfer an OS from a test environment to a production environment



To view or modify settings for a particular operating system, see the [OS Details Window \(Operations Tab\)](#) on page 184.

Table 23 OS Library Tools







Button	Description
	Refresh Data – Refreshes the data in the OS Library table.
	Export to CSV – Creates a comma-separated list of operating systems that you can open, view, and save.
	Import Service – Imports an operating system into HPCA. See Import an OS Service on page 182. After you import an operating system, you can entitle groups or specific managed client devices to that OS. You can then deploy the OS to those devices.
	Export Service – Exports a published operating system in a binary file format called a service deck . See Export an OS Service on page 182. After you export an operating system, you can copy the service deck to another HPCA server, and then import the OS there.
	Create CD Deployment Media – Downloads OS images that you can then burn to a DVD for operating system deployment. See Create Deployment Media on page 183.

Table 23 OS Library Tools

Button	Description
	Delete OS – Remove the selected operating systems from the HPCA OS Library. See Delete an OS Service on page 183.


Import an OS Service

HPCA can import operating systems into the OS Library. To import a service, the service import deck must be located in the `ServiceDecks` directory on your HPCA server. By default, this directory is:

```
<InstallDir>\Data\ServiceDecks
```

This is useful if you have created a testing environment. When you have approved a particular service in your test environment, export that service to the `ServiceDecks` directory on your production HPCA server (see [Export an OS Service](#)). Then use the Import Service wizard to import that service to your production OS Library, and deploy it to managed devices.

To import a service

- 1 Click **Import Service**  to launch the [Service Import Wizard](#).
- 2 Follow the steps in the wizard to import the service into the OS Library.



Only those services in the `ServiceDecks` folder that contain the word OS in their names are available for import. For example:

```
PRIMARY.OS.ZSERVICE.WIN732
```


Export an OS Service

Published operating systems can be exported to the `ServiceDecks` directory on your HPCA server. By default, this directory is:

```
<InstallDir>\Data\ServiceDecks
```

Exported services can be copied to any other HPCA server and then imported into that server's OS Library (see [Export an OS Service](#)).


To export a service

- 1 Select the check box in the first column to select the OS to export as a service.
- 2 Click **Export Service**  to launch the [Service Export Wizard](#).
- 3 Follow the steps in the wizard to export the service to the ServiceDecks directory on your HPCA server machine.

Delete an OS Service

Use the OS toolbar to remove OS from the HPCA OS Library. This deletes the operating system and removes any entitlements to that service.

To remove OS from the OS Library


- 1 Select the operating system (or services) that you want to remove.
- 2 Click the **Delete OS**  button.

Create Deployment Media

You can use the Create CD Deployment Media tool to download images that can then be burned to a DVD for operating system deployment.

The OS Library lists all operating systems that have been published to HPCA.

To download an operating system image for DVD deployment

- 1 On the Operations tab, go to **OS Management > OS Library**.
- 2 Select an operating system from the OS Library.
- 3 Click the **Create CD Deployment Media**  button to launch the CD Deployment Wizard.
- 4 Review the summary information, and click **Download**. The OS image begins to download in the background.
- 5 Click **Close**.

View the download progress in the OS Library. Click the **Refresh**  button to see the current status in the CD Creation Status column.

When the download is complete, the OS image is stored, by default, in:

`<InstallDir>\Data\ServiceDecks\CDDeployment`

If this directory is empty, the CD Creation Status column is blank for all operating systems listed.



This feature is intended for use with DVDs, typically to store multiple images. Do not span your resources over multiple CD-ROMs or DVD-ROMs.



Your DVD-ROM must be in Joliet format.

OS Details Window (Operations Tab)

Click the Service ID of any operating system in the OS Library to open the OS Details window. Use the OS Details window to view or modify settings for a particular operating system.

The following settings are available in the OS Details window:

- **Display Name**
The name of the OS that appears on the OS Library page. This is a required field.
- **Author**
The OS author.
- **Vendor**
The OS vendor.
- **Web Site**
An informational URL for the OS.



Be sure to click **Save** after making any changes to the OS settings.



When you open the OS Details window from the Management tab, these settings are displayed in read-only format. To modify the settings for a service, be sure to open the OS Details window from the Operations tab.

Additional functions are available, however, when you open the OS Details window from the Management tab. See [OS Details Window \(Management Tab\)](#) on page 144.

8 Configuration

The Configuration area allows you to manage user access to the Console, define and configure infrastructure servers, manage patch acquisition schedules and settings, manage hardware, and configure ODBC settings.

- ▶ The Configuration tab is available only to users that belong to the Administrator roles group.

Use the links in the navigation area on the left side of the Configuration tab to access the various configuration options. These options are described in the following sections:

Core Configuration Options

- [Licensing](#) on page 188
- [Core Console Access Control](#) on page 189
- [Infrastructure Management](#) on page 197
- [Device Management](#) on page 221
- [Patch Management](#) on page 226
- [Out of Band Management](#) on page 227
- [OS Management](#) on page 232
- [Dashboards](#) on page 237

Satellite Configuration Options

- [Licensing](#) on page 188
- [Upstream Server](#) on page 188
- [SSL](#) on page 198
- [Satellite Console Access Control](#) on page 193
- [Configuration](#) on page 195

- [Data Cache](#) on page 196
- [OS Management](#) on page 232

Licensing

A functional HPCA environment requires a valid HP-issued license. This area of the Console stores your license file and displays the license edition (Starter, Standard, or Enterprise) that is installed. You can use this section to review and update your HPCA license.

To apply a new license

- 1 Copy and paste the license information from your new `license.nvd` file into the **License Data** text box.
 - ▶ When copying the license information from your license file, do not include the text that precedes the line `[MGR_LICENSE]` because this will result in the license information not being “readable” to the Console.
- 2 Click **Save**. Updated license information is displayed after **Current License**.

Upstream Server

On a Satellite console, use the Configuration tab **Upstream Server** area to edit the upstream host server information. The upstream server is the server this Satellite will synchronize with, as well as fetch information for requests if a service is disabled or a resource is unavailable. You may use SSL for this inter-server communication; the upstream server must be capable of receiving SSL requests.

Access Control

This panel offers different administrative controls depending on whether you are in the Core or Satellite Console.

- Access Control on the Core Console allows HPCA administrators to configure and manage user access to the Console. For more information, see [Core Console Access Control](#) on page 189.
- Access Control on the Satellite Console allows HPCA administrators to select and configure an authentication method. For more information, see [Satellite Console Access Control](#) on page 193.

Core Console Access Control

Use the Access Control section to create instances of internal **users** with unique custom IDs and passwords. Then, assign **roles** (see [Roles Panel](#) on page 191) to the users in order to manage the areas of Console that the users can access, as well as the administrative tasks for which they are authorized.

Users Panel

In the Users panel, create user instances and assign a role to each. The role determines which areas of the Console each user can access.

Management jobs contain a **Creator** field that displays the user ID under which a job is created. It is the user IDs that are created in this area that will be displayed.

- During installation, a default user, **admin**, exists with the default password of **secret**. This “failsafe” user account has full access to the Console and cannot be deleted.
- HPCA users in Console can be either **internal** or **external**, as described below.
 - **Internal**
All users that you create in the Users panel are “internal”. You can delete and update these users from the Core Console.
 - **External**
In the Enterprise edition, HPCA administrators have the option of leveraging external directories (such as LDAP and Active Directory) to

add users and configure their access permissions and credentials. You cannot create, delete, or update these “external” users from the Core Console; an administrator must use the LDAP/AD tools in order to do so. An HPCA administrator can, however, configure a directory source for authentication. This source appears in the **Users** panel and the **Source** column references the directory from which the user originated.

The Users panel enables you to perform the following administrative tasks. All administrative tasks can be performed on internal users at the core console. For external users, only roles can be assigned at the Core Console.


- [Managing a User](#) on page 190
- [Assigning Roles](#) on page 192

Managing a User

You can perform the following tasks to manage a user:

- Create an internal user (as described in [To Create an Internal User](#) on page 190).
- View and change an internal user’s properties (as described in [To View and Modify User Properties](#) on page 191).
- Delete an internal user (as described in [To Delete an Internal User](#) on page 191).
- Assign a role to a user (as described in the section, [Roles Panel](#) on page 191). You can assign more than one role to a user.
- Remove a role from a user (as described in the section, [Roles Panel](#) on page 191).

To Create an Internal User

- 1 Click **Create a New User**  to launch the User Creation Wizard.
- 2 Specify values for the following fields:
 - ID: Specify the unique identifier for the internal user. Use alphanumeric characters (A-Z, a-z, and 0-9). You can also use underscore (_).
 - Display Name: Specify display name for the user.

- Description: Specify a description for the user. This is an optional field.
- Password: Specify a password for the user. Use only ASCII characters when creating passwords.
- ▶ If you change the password for the *current user*, you will be logged out automatically. Log in as the user with the new password.
- Confirm Password: Type the password again.

3 Click **Create**.

To View and Modify User Properties

- 1 Click an internal user's ID to view its properties.
- 2 In the User Properties window, modify the user's properties, such as the display name and description, and access the Change Password window.
- 3 Click **Save** to confirm and preserve any changes.

To Delete an Internal User

Select the internal user's ID from the list and click **Delete the Selected**

User(s) .

- ▶ The *current user* cannot be deleted.
In order to delete this ID, you must log out and then log in as a different Administrator to execute the deletion.

Roles Panel

There are various levels of administrative authority (**roles**) that can be assigned to users. Assign a role to a user based on the access and management-permissions that you want available to the user. The user roles in Console are:

- **Administrators:** These users have unlimited access to the Core Console, as well as the ability to perform all administrative functions. This is a “superset” role; it encompasses all of the functionality and authority of the Operator and Reporter roles.

- **Operators:** These users can perform management, operational, and reporting-related tasks in the Core Console. They cannot access the Configurations tab. This role encompasses the functionality and authority of the Reporter role.
- **Reporters:** These users' can view, compile, and print reporting data in the Core Console. Their access is limited to the Reporting and Dashboards tabs.



You can assign more than one role to a user.



The Roles panel enables you to perform the following tasks:

- [Assigning Roles](#) on page 192

Assigning Roles

To Assign a Role to a User



You can assign a role to a user in either of two ways in the Console:

- Using the Roles panel:
 - Click a role in the table to invoke the Role Properties window.
 - Click **Users** tab; this tab displays a list of the users that have been assigned this role.
 - To assign user to the role, click **Add User(s) to this Role** . The User Selection window opens.
 - Select user and click **Assign**. The refreshed ID column displays the remaining users that can be assigned this role.
 - Click **Close** to return to the Role Properties window. The **Users** tab displays refreshed list of the users that have been assigned this role.
- Using the Users panel:
 - Click an ID in the table to invoke the User Properties window.
 - Select the **Roles** tab; this tab displays the roles currently assigned to the user.
 - Click **Add Role(s) to this User**  to launch the Role Selection window.

- d Select a role to assign to the user and click **Assign**. The refreshed Role column displays the remaining roles available to be assigned to a user.
- e Click **Close** to return to the User Properties window. The Roles tab displays all the roles currently assigned to the user.

To Remove a Role from a User

You can remove roles from a user in either of two ways in the Console:

- Using the Roles panel:
 - a Click a role in the table to invoke the Role Properties window.
 - b Select **Users** tab; this tab displays a list of the users that have been assigned this role.
 - c To delete user from the role, select user and click **Remove the Selected User(s) from this Role** . The refreshed ID column displays the remaining users that have been assigned this role.
- Using the Users panel:
 - a Click an ID in the table to invoke the User Properties window.
 - b Select the **Roles** tab; this tab displays the roles currently assigned to the user.
 - c To delete role from the user, select role and click **Remove Selected Role(s) from this User** . The refreshed Role column displays the roles currently assigned to the user.

Satellite Console Access Control

The Access Control section of the Satellite Console allows an HPCA administrator to select a Console-access authentication method (**Local Accounts** or **Directory Service Accounts**) and to configure its settings.

The Summary area of the Access Control section displays the Authentication Method that is currently enabled. The default (Local Accounts) is displayed.

To select and configure an authentication method

- 1 Click **Configure Authentication**. The Authentication Wizard opens.

- 2 In the Set Server Authentication Type area, use the Authentication Method drop-down to select either:
 - **Local Accounts** – This method allows an administrator to set *administrator* and *operator* log-on credentials for the Satellite Console; these credentials restrict access to various parts of the Console. This is the default. See the section [To use Local Accounts](#) on page 194 for configuration information.
 - **Directory Service Accounts** – This method allows administrator authentication using Directory Service Accounts (such as Active Directory) that are in place in the environment. For configuration information, see [To use Directory Service Accounts](#) on page 194.
- 3 Click **Next** to proceed to the Configuration area and specify the settings for the access method you have chosen.

To use Local Accounts

If you are using Local Accounts to secure access to the Satellite Console, change the password immediately after installing the Satellite server.

- 1 Configure Console access for administrators and operators in the appropriate areas.
 - **Administrator** permissions allow the user to access all areas of the Console.
 - **Operator** permissions restrict the user's access to only the Operations area of the Console.
- 2 Click **Next**.
- 3 When the configuration is complete, click **Close**.

The next time you log in to the Satellite Console using a Local Account, use the new password.

To use Directory Service Accounts

An external Directory Service Account can be used to authenticate a user's access to the Satellite Console.

- 1 In the Directory Service Settings area, specify the configuration parameters as described below.
 - **Directory Host:** The hostname or IP address of the external directory server that will be used for authentication.

- **Directory Port:** The port that will be used to access the external directory server. The default is 389.
 - **Base DN:** The base object in your directory at which to start searching when querying for the users.
For example, **dc=europe, dc=acme, dc=com**.
 - **Access Group DN:** The Group DN that contains all members who are entitled to access the Core Console with administrative rights.
 - **Directory User ID:** A valid user ID that can access the directory server in order to verify that a person logging on to the Core is a member of the above-named Group DN. The default is administrator.
 - **Directory Password:** The password that is associated with the above-listed user ID.
- 2 In the Test LDAP Group User area, supply the credentials of a “test user.”
 - **Username:** The user name of an existing Access Group DN user.
 - **Password:** The password that is associated with the above-listed user name.
 - 3 Click **Next**.
 - 4 When the configuration is complete, click **Close**.

Administrators can now sign in to the Satellite Console using their Directory Service Account credentials.

Configuration

The Configuration option in the left navigation pane on the Configuration tab is available on Satellite Consoles, only.

Configuration services supply “model” and service information to the HPCA agents, based on their entitlements. The agents connect to the server in order to obtain this information and to satisfy changes. When this service is disabled on the Satellite server, HPCA agents will have to use a different server in order to obtain the requested information. This “fallback server” designation should be built in to your infrastructure model (as configured in the CLIENT.SAP Instances of the Configuration Server Database).

To enable the configuration services, select the **Enable** check box and click **Save**.

Data Cache

The Data Cache area is available on Satellite Console only.

Data Cache services control the underlying HPCA cache-management service that is used to download data (such as software, patch, operating system, security, and audit) from an upstream host with which the Satellite is synchronized. This page enables you to:

- Enable and disable data cache services on this Satellite.
- Set a resource data cache limit, in megabytes.

To configure Data Cache

- 1 Select Configuration tab, click **Data Cache**.
- 2 Set the following options.
 - Select the **Enable Data Cache** check box to enable data services for this Satellite. This is the default setting and enables HPCA agents that are connecting to this Satellite to receive their software and patches from the Satellite data cache.
 - Clear the **Enable Data Cache** check box to disable data services for this Satellite.
 - A synchronization with the upstream host does not download the software and patch data cache to this Satellite.
 - Any data requests from the HPCA agents that connect to this Satellite are passed to the upstream host.
 - Set **Data cache limit (MB)** to set a maximum size (in megabytes) of the resource cache. The default is 40000 MB.
- 3 Click **Save** to implement your changes.

When the Operations tab is refreshed, the status of this service is shown under Summary.



The `HTCACHECLEAN` Windows Service runs automatically once a day to clean the Satellite Server cache of files that are no longer necessary. This time interval provides good performance for the vast majority of systems.

Infrastructure Management

The Infrastructure Management section allows you to configure various settings of your HPCA infrastructure. See the following sections for details.

- [Proxy Settings](#) on page 197
- [SSL](#) on page 198
- [Database Settings](#) on page 199
- [Satellite Management](#) on page 200

Proxy Settings

The Proxy Settings configuration page is used to specify the settings for proxy servers that will be used for internet based communication between the HPCA Core Server and external data sources or recipients.

You can establish separate proxy settings for HTTP and FTP communication. The HTTP proxy server is used for Patch Manager Acquisitions, HP Live Network content updates, and Real Simple Syndication (RSS) feeds used by certain dashboard panes. Without these HTTP proxy settings, for example, Patch Manager acquisitions will fail and you will not be able to download bulletins, patches, and related items, such as Windows Update Agent (WUA) files.

The FTP proxy server is used by the Patch Manager to perform HP Softpaq acquisitions.

To configure your proxy settings:

- 1 On the **Configuration** tab, expand the **Infrastructure Management** area, and click **Proxy Settings**.

- 2 Select the tab for the proxy server that you want to configure: **HTTP** or **FTP**
- 3 Select the **Enable** box.
- 4 Provide the following information for the proxy server.
 - **Host:** network addressable name of the proxy server
 - **Port:** port on which the proxy server listens
 - **User ID:** user ID if the proxy server requires authentication
 - **Password:** password for the proxy user if the proxy server requires authentication
- 5 Click **Save** to implement your changes.

SSL

Enabling SSL protects access to the Core console. With SSL enabled, transactions made while connected to the console are encrypted.

Use the SSL section to enable SSL, and define server and client certificates.

- [SSL Server](#) on page 198
- [SSL Client](#) on page 199

SSL Server

The SSL Server certificate is based on the host name of the HPCA server. It allows your server to accept SSL connections. It should be signed by a well known certificate authority, such as VeriSign.

[To enable and configure SSL for the HPCA Server](#)

- 1 In the HPCA Console, click **Configuration** tab.
- 2 In the left pane, click **Infrastructure Management > SSL**.
- 3 In the SSL Server area, select the **Enable SSL** check box.
- 4 Select whether to **Use existing certificates** or **Upload new certificates**.
If Upload new certificates is selected, click **Browse** to navigate to and select Private Key File and Server Certificate File.
- 5 Click **Save**.

SSL Client

The Certificate Authority file contains the signing certificates from trusted Certificate Authorities. They allow the HPCA server to act as an SSL client when connecting to other SSL-enabled servers. Your server installation comes with a default set of trusted authorities that should be sufficient for most organizations.

To define a CA Certificates File

- 1 In the HPCA Console, click **Configuration** tab.
- 2 In the left pane, click **Infrastructure Management > SSL**.
- 3 In the SSL Client area, click **Browse** to navigate to and select the CA Certificates File.
- 4 Select whether to append this certificates file to existing certificates, or to replace the existing certificate with this new file.
- 5 Click **Save**.

Database Settings

Use Database Settings to configure the ODBC connections to your SQL database for the Core server objects.

Prerequisites

The Core database must be created and an ODBC connection defined for it. Refer to the installation instructions in the product manual for details.

To configure Messaging

- 1 On the Configuration tab, click **Infrastructure Management** then **Database Settings**.
- 2 Set the following options.
 - **DSN**: Select the DSN for the Core database.
 - **User ID**: Specify the user ID for the DSN.
 - **Password**: Specify the password that is associated with the ODBC user ID.

- **Server Host:** Specify the name of the server hosting the database.
 - **Server Port:** Specify the server port (default is 1433)
- 3 Click **Save**.

Satellite Management

The Infrastructure Management, Satellite Management area on the Configuration tab enables you to deploy and manage Satellite servers from the HPCA Console. Satellite servers are used to optimize bandwidth and increase network performance by providing remote services, including data caching, for managed devices.

For HPCA Standard and Starter Editions, only Streamlined (Standard) deployment mode is available, which offers only data caching services to the Client Automation agents that the Satellite serves.

To define and configure Satellite servers, complete the following tasks:

- 1 Import the device into the HPCA device repository. See [Importing Devices](#) on page 89 for more information.
- 2 Add devices to the Servers group.
See [Add a Satellite Server](#) on page 203.
- 3 Deploy the Satellite Server component to these devices. This enables remote services, including data caching, on these devices.
See [Install the Satellite Server Component](#) on page 204.
- 4 Optionally, create Server Pools and assign Servers to these pools.
See [Server Pools](#) on page 210
- 5 Create Locations and assign Servers or Server Pools to these Locations.
See [Locations](#) on page 213.
- 6 Create Subnets and assign them to Locations.
See [Subnets](#) on page 217.

Managed devices connect to Satellite servers based on the subnet that is assigned to Server or Server Pool Locations. For example, if a device is on subnet 208.77.1.0 and you have assigned that subnet to a specific Location, your device contacts the assigned Servers or Server Pools for this Location in priority order as defined within the Location.

If the Proxy Server dynamic caching is enabled on the Satellite server, the data requested by agents is automatically cached on the Satellite server. The Satellite servers can also be pre-populated with all data on the HPCA Core server using the synchronize feature. See [Synchronize Satellite Servers Service Cache](#) on page 208 for details.



You can define and configure Satellite servers from the HPCA Core server only. You cannot do this from another Satellite server.

The Satellite Management area contains the following tabs:

- [Servers](#) on page 201
- [Server Pools](#) on page 210
- [Locations](#) on page 213
- [Subnets](#) on page 217

Servers









The Satellite Management **Servers** tab displays all Core and Satellite servers that currently belong to the Servers group. You can select one of three possible views on this tab, namely:

- **Core Server:** Displays the Core server only
- **Satellite Servers:** Displays Satellite servers only
- **All Servers:** Displays both the Core and Satellite servers, as well as devices manually added to the Servers group and Legacy Proxy Servers from a previous version of the product.

You can open the Server property page for each server to view or edit server properties, to view assigned [Locations](#), and to view or edit [Server Pools](#) assignments.

You can use the toolbar buttons on the Servers tab to define additional Satellite servers by adding devices to the Servers group and then installing the Satellite server component to those devices. Satellite servers are devices added to the Servers group, with the Satellite server component installed.

Table 24 Servers Toolbar Buttons

Button	Description
	Refresh Data – Refresh the list of servers.
	Show/Hide Filter Input – Show or Hide the Filter input area to restrict the display of Servers to only those matching user specified criteria.
	Add device(s) to Servers group – Add devices to the HPCA Satellite Servers group.
	Remove device(s) from Servers group – Remove devices from the HPCA Satellite Servers group.
	Install the Satellite Server – Launch the Satellite Server Deployment Wizard to install the Satellite server on the selected devices.
	Uninstall the Satellite Server – Launch the Satellite Server Removal Wizard to uninstall the Satellite server from the selected devices.
	Synchronize the selected Satellite Servers service cache – Synchronize the selected Satellite server’s service cache with the HPCA Core server.
	Delete the Selected Device(s) – Remove the device from the HPCA device repository.

After you add servers, you can optionally assign them to [Server Pools](#). You must assign Servers or Server Pools to [Locations](#) to enable client devices to contact these Servers.

The following sections detail what you can do using the Server property sheet and the toolbar buttons on the Servers tab:

- [Add a Satellite Server](#) on page 203
- [Remove a Satellite Server](#) on page 204

- [Install the Satellite Server Component](#) on page 204
- [Uninstall the Satellite Server Component](#) on page 205
- [Server Details Window](#) on page 206
- [Synchronize Satellite Servers Service Cache](#) on page 208
- [Delete a Server](#) on page 210

Add a Satellite Server

Before you install the Satellite server component, add the device to the Servers group. When selecting devices to add as Satellite servers, consider the following:

- The devices should have adequate space to store published services.
- The devices should have a capable, high-speed network card (100 MB or 1 GB data transfer rates).
- The devices should be located on a subnet where you want to localize download traffic to that network.



The following ports must be excluded if a firewall is enabled on any of the Satellite Servers that you will be using:

- TCP 139, 445, 3463, 3464, 3465, and 3466

Note that 3466 is the default HPCA port. If you customized this port when you installed HPCA, be sure that the port you are using is also open.

- UDP 137 and 138

Windows Firewall users can select File and Printer sharing to exclude TCP ports 139 and 445 and UDP ports 137 and 138.

To add an infrastructure server to the Servers group

- 1 On the Servers toolbar in the **All Servers View**, click the **Add device(s) to Servers group**  toolbar button.

The Device Selection window opens and shows a list of all devices imported into HPCA that do not belong to the Servers group.

- 2 Select one or more devices from the list, and click **Add Devices**.
- 3 Click **Close** to close the device selection window.

The added devices now appear in the **Servers** list in the **All Servers** view on the **Servers** tab.


Remove a Satellite Server

If you do not want a device to be managed as a Satellite server, you can remove that server from the Servers group.



You must explicitly uninstall the Satellite server component from the device *before* removing the device from the Servers group. If you remove the device without uninstalling the HPCA Satellite server component, the device will automatically re-appear after a period of time since it is still an active Satellite server, and will also remain a member of the Servers group. See [Uninstall the Satellite Server Component](#) on page 205.

To remove a server from the Servers group

- 1 On the Servers tab, select the devices that you want to remove from the Servers group.
- 2 Click the **Remove device(s) from Servers group**  toolbar button. A confirmation pop-up window opens.
- 3 Click **Yes** to confirm.

The devices that you selected are removed from the group.

Install the Satellite Server Component


After you add a device to the HPCA Satellite Servers group, you can deploy the Satellite server component to that device. This is required to enable remote services, including data caching, on that server.

When you deploy the Satellite server component to a device from the HPCA Console, the Core completes the following background processing:

- Using the credentials that you provide, the HPCA Core server establishes a connection with the device. These credentials must provide Administrator access to the `IPC$` share on the remote system. If this access level is not available in your environment, perform a manual installation of the Satellite Server component instead of deploying through the HPCA Console.

- If the HPCA Management Agent is not installed on the device, the Core installs the Management Agent on the device.
- The Management Agent downloads the Satellite server component from the Core server and installs it on the device. The Satellite server deployment process also handles the upgrade and migration scenarios. If a previous version of the Satellite server component is already installed on the device, it is automatically detected and the component is upgraded to the current release and the cache is migrated. Additionally, if the device has an Integration Server-based Proxy Server components installed, the proxy service is stopped, the Integration Server-based Proxy Server is removed, the Satellite server component is installed, and then the cache is migrated.
- The Management Agent automatically runs the First Time Setup Wizard on the device and populates the Host Device field with the name of the Core server.
- The Satellite Server registers with the Core Server.

To install the Satellite server component

- 1 Select one or more devices from the Satellite Servers list using the check boxes in the left column.
- 2 Click **Install the Satellite Server**  toolbar button to launch the [Satellite Server Deployment Wizard](#).
- 3 Follow the steps in the wizard to deploy the Satellite Server component to the selected devices. The Satellite Server is installed to :

`SystemDrive:\Program Files\Hewlett-Packard\HPCA`


Services can be preloaded to Satellite Servers using the Synchronize feature. See [Synchronize Satellite Servers Service Cache](#) on page 208 for details.

After you have created Satellite Servers, you must define Locations and then assign the Satellite Servers to these Locations. See [Locations](#) on page 213 for details.

Uninstall the Satellite Server Component

If you do not want a device to function as an HPCA Satellite Server, you must remove the Satellite server component from that device.

To uninstall the Satellite server component

- 1 Select devices from the Satellite Servers list using the check boxes in the left column.
- 2 Click **Uninstall the Satellite Server**  toolbar button to launch the [Satellite Server Removal Wizard](#).
- 3 Follow the steps in the wizard to remove the Satellite server component from the selected devices.

You can follow the progress of your Satellite Server Removal job under the Job Management area on the Management tab. After this job completes, the Satellite Servers list will show that the Satellite server component is not installed on this device.

Server Details Window

To access the Server Details window, click any server name link in the Servers list on the Servers tab.

From the Server Details window, you can view detailed information about a Satellite server and perform various server management tasks. The following tabs are available on the Server Details window:


- **Summary:** The Summary tab displays the server details, such as Vendor, IP Address, Operating System, HPCA Build ID, and Service Pack.
- **Properties:** The Properties tab displays the server properties, including the server status. By default, the server is enabled, and the client devices can contact this server for resolution. You can disable the Satellite server during the maintenance phase to avoid device connects to this server.
- **Cache:** The Settings area in the Cache tab display the cache preloading options for a Satellite server. You can preload a Satellite server for Software, Patch, and Operating System service cache. The **Preload Enabled** option ensures that the files available on the upstream server cache are preloaded to the Satellite server. If Proxy Server dynamic caching is enabled, the files are cached on the Satellite server as they are requested by the agents.

The Synchronization area displays the last time the server's service cache was synchronized with the upstream server. Click **Synchronize** to synchronize the Satellite server content with the upstream host. For more information, see the [Synchronize Satellite Servers Service Cache](#) on page 208.

- **Server Pools:** The Server Pools tab displays the Server Pool assignments for this Server. You can use the toolbar buttons on this tab to add a server to or remove it from the available Server Pools. For more information, see [Server Pools](#) on page 210.
- **Locations:** The Locations tab displays the Location assignments for this Server. For details on adding and assigning Locations, see [Locations](#) on page 213.
- **Reporting:** The Reporting tab displays the preload summary for the services that are preloaded or removed from a Satellite server. Only preloaded services are displayed.
- **Operations:** The Operations tab shows the status and state of the configurable Satellite services ([Satellite Configuration Options](#) on page 187). It also lists the basic properties of the server, including the upstream host. From this tab, you can synchronize a Satellite or flush a cache. You must provide valid HPCA Console login credentials to the Satellite server in order to access this tab.
- **Configuration:** The Configuration tab enables you to configure a subset of the [Satellite Configuration Options](#) listed on [page 187](#). You must provide valid HPCA Console login credentials to the Satellite server to access this tab.


[Add a Server to Server Pools](#)

You can assign the selected server to an existing Server Pool. To add a server to Server Pools, complete the following steps:

- 1 Click the **Add Server to existing Server Pool**  button on the toolbar. The Server Pool Selection window opens displaying the available Server Pools.
- 2 Select one or more Server Pools to which you want to add a Server.
- 3 Click **Add Server to Server Pools**.
- 4 Click **Close**.

Delete a Server from Server Pools

You can remove the selected server from Server Pool(s). To remove a Server from Server Pools, complete the following steps:

- 1 Select the Server Pool(s) from which you want to remove the Server.
- 2 Click the **Remove Server from the selected Server Pool(s)**  button on the toolbar. A confirmation pop-up window opens.
- 3 Click **Yes** to remove the Server.

Synchronize Satellite Servers Service Cache

Each time devices request resources that are not available on the Satellite Server's local cache, the data is retrieved from the HPCA Core server. If the Proxy Server dynamic caching is enabled on the Satellite server, the requested data is stored in the cache of the Satellite server, and provided to the client devices.

A Satellite server's service cache can be preloaded with the data required by managed devices. A Satellite server automatically caches data when it is requested by a client device. Using the Synchronize feature, you can preload a Satellite server's cache with all available data on the upstream server.

You can select which data to preload using the Cache tab in the Server Details window (after the Satellite server has been deployed).

- ▶ Preloading consists of downloading large binary files and therefore may impact overall network performance. When possible, perform synchronizations during off-hours when optimal network performance is not a priority.


To view the current synchronization status of each server, see the **Last Synchronized** column on the Satellite Servers list, or refer to the Synchronization section on the Cache tab in the Server Details window. **Last Synchronized** area records the last time the synchronize feature was *initiated* on a server.

- ▶ After a Satellite Server is first synchronized, a new entry is added to the Managed Devices report with an HPCA Agent ID of RPS_<DEVICENAME>. This entry exists specifically to display the preload status of the Satellite Server services and does not contain detailed hardware information for the associated device.

To select which data to preload

- 1 After the Satellite Server is deployed, click the **Server** link in the Satellite Servers list to open the **Server Details** window.
- 2 Click the **Cache** tab.
- 3 Use the drop-down lists to enable or disable the services that you want to make available for preloading from the upstream server. By default, preloading is disabled for all services.
- 4 Click **Save** to commit your changes.
- 5 Click **Synchronize** to preload the Satellite Server with available data.

To synchronize Satellite Servers

- 1 On the Configuration tab, go to the Satellite Management area under Infrastructure Management.
- 2 On the Servers tab, select the servers that you want to synchronize.
- 3 Click the **Synchronize the selected Satellite Servers service cache**  toolbar button to update all selected server's with the latest data from the HPCA Server. The specific services preloaded to each server depend on the settings configured on the **Cache** tab in each server's Server Details window.



You can also synchronize a Satellite server from the [Server Details Window](#).

To view a summary of preloaded services in a Satellite server's cache

Open the Server Details window, and click the **Reporting** tab.

The Reporting tab displays the pre-loaded services available in the cache and the status of each.

The **Event** column describes the current status:

- **Update (Preload)** – the service was updated during the last cache synchronization.
- **Install (Preload)** – the service was preloaded successfully (initial preload).
- **Uninstall (Preload)** – the service was removed from the preload cache.

- **Repair (Preload)** – the cache for the service was either missing files or contained invalid files and was repaired during the last synchronization.

Only preloaded services are displayed in the report. Services stored on a Satellite Server through the default method (cached automatically when requested by a managed device) are not displayed.

Delete a Server


If you no longer want a device to be in the HPCA device repository, you can delete the device. You may want to perform this operation when a device is no longer part of your environment. When a Server is deleted, it is automatically removed from any Locations or Server Pools to which it may be assigned.

Deleting a device is the reverse of importing devices. See [Importing Devices](#) on page 89 for more information.



You must explicitly uninstall the Satellite server component from the device *before* removing the device from the HPCA device repository. If you delete the device without uninstalling the HPCA Satellite Server component, the device will automatically re-appear after a period of time since it is still an active Satellite Server, and will remain a member of the Servers group. See [Uninstall the Satellite Server Component](#) on page 205.

To delete a Server

- 1 On the Servers tab, select the devices that you want to remove from the HPCA repository.
- 2 Click the **Delete the Selected Device(s)**  toolbar button. A confirmation pop-up window opens.
- 3 Click **Yes** to confirm.

The devices that you selected are removed from the HPCA repository.

Server Pools

The Satellite Management Server Pools tab displays all HPCA Server Pools that have been created in your environment. Server Pools are groupings of Servers (Core or Satellites) that will be contacted by devices to resolve policy

and retrieve data. Servers can be assigned to Server Pools (a maximum of 30 Servers), and Servers and Server Pools are assigned to [Locations](#) to enable client devices to contact them.





A Server Pool is used to perform software load balancing of client connections. If a grouping of Servers have equal priority to handle client connections, these Servers can be grouped into a Server Pool, which can then be assigned to a Location. Clients randomly contact Servers in the Server Pool, thus distributing the load across the Servers in the pool. For example, if your environment contains three Satellite servers in the US that should be contacted with equal priority by client devices in a particular Location, these Servers can be grouped into a US Server Pool and then assigned to the Location.

By default, the HPCA Core Server Server Pool containing the HPCA Core server is installed on your system. You cannot delete this Server Pool.

You can use the Server Pools property sheet to view or edit Server Pool properties.

You can use the toolbar buttons on the Server Pools tab to add and remove Server Pools.

Table 25 Server Pools Toolbar Buttons

Button	Description
	Refresh Data – To refresh the list of Server Pools.
	Show/Hide Filter Input – To show or hide the Filter input area to restrict the display of Server Pools to only those matching user specified criteria.
	Create a New Server Pool – To launch the Server Pool Creation Wizard.
	Delete the selected Server Pool(s) – To delete selected Server Pools.

The following sections detail what you can do using the Server Pool property sheet and the toolbar buttons on the Server Pools tab:


- [Create a New Server Pool](#) on page 212
- [Delete a Server Pool](#) on page 212

- [Server Pool Details Window](#) on page 212

Create a New Server Pool

You can create Server Pools and add Core and Satellite Servers to them to create a grouping of Servers that an agent can contact for data and policy resolution.


To create a new Server Pool

- 1 Click **Create a New Server Pool**  toolbar button to launch the [Server Pool Creation Wizard](#).
- 2 Follow the steps in the wizard to create the new Server Pool.
The Server Pool is added to the Server Pool list on the Server Pools tab.

Delete a Server Pool

You can delete Server Pools when they are no longer needed.

To delete a Server Pool

- 1 Select the Server Pools that you want to delete from the Server Pool list using the checkbox in the left column.
- 2 Click **Delete the selected Server Pool(s)**  toolbar button. A confirmation pop-up window opens.
- 3 Click **Yes** to confirm.
The selected Server Pools are removed from the Server Pool list on the Server Pools tab.

Server Pool Details Window

To access the Server Pool Details window, click any Server Pool name link in the Server Pools list on the Server Pools tab.

From the tabs on the Server Pool Details window, you can view detailed information about a Server Pool and perform various server management tasks. The following tabs are available on the Server Pool Details window:

- **Properties:** The Properties tab displays the properties information that you specified in the [Server Pool Creation Wizard](#) when you created this Server Pool. You can edit the properties on this tab.
- **Servers:** The Servers tab displays the Servers that are currently assigned to this Server Pool. You can use the toolbar buttons on this tab to add or remove Servers in this Server Pool.

Add Servers to a Server Pool


To add servers to a Server Pool, complete the following steps:

- 1 Click the **Add Servers to Server Pool**  button on the toolbar. The Server Selection window opens displaying the available Servers.
- 2 Select one or more Servers to add to this Server Pool. You can add a maximum of 30 servers to a Server Pool.
- 3 Click **Add Servers**.
- 4 Click **Close**.

The selected Servers are assigned to the Server Pool as displayed on the Servers tab.

Remove Servers from a Server Pool

To remove servers from a Server Pool, complete the following steps:

- 1 Select the Server(s) that you want to remove from this Server Pool.
- 2 Click the **Remove the Selected Server(s) from this Server Pool**  button on the toolbar. A confirmation pop-up window opens.
- 3 Click **Yes** to remove the Servers.

The selected Server(s) are removed from the Server Pool as displayed on the Servers tab.





Locations

Use the Locations tab to view existing Locations or to add new Locations in your HPCA infrastructure. When you add a new Location, you define the Subnets that form this Location and then assign this Location to an ordered

set of Servers or Server Pools. To resolve policies and to retrieve data resources, managed devices connect to Satellite servers based on Subnet assignment to Locations and the priority order of the Servers or Server Pools.

You can use the toolbar buttons on the Locations tab to add or remove Locations.

Table 26 Locations Toolbar Buttons

Button	Description
	Refresh Data – Refresh the list of Locations.
	Show/Hide Filter Input – Show or Hide the Filter input area to restrict the display of Locations to only those matching user specified criteria.
	Create a New Location – Launch the Location Creation Wizard.
	Delete the selected Location(s) – Delete selected Locations.

The Locations list includes information about each Location in your HPCA infrastructure, including the description and the geographic information.


The following sections detail the tasks you can complete using the Locations property sheet and the toolbar buttons on the Locations tab:

- [Create a New Location](#) on page 214
- [Delete a Location](#) on page 215
- [Location Details Window](#) on page 215

Create a New Location

To create Locations, define Subnets and an ordered set of Servers and Server Pools for each Location.

To create a new location


- 1 Click **Create a New Location**  toolbar button to launch the [Location Creation Wizard](#).
- 2 Follow the steps in the wizard to create the new Location.

The Location is added to the Location list on the Location tab.

Delete a Location

You can delete Locations from your HPCA infrastructure if they are not required.

To delete a location

- 1 Select the Locations that you want to delete from the Location list using the checkbox in the left column. You cannot delete the Default Location. Additionally, when you delete a Location, any Subnets assigned to that Location will be reassigned to the Default Location.
- 2 Click the **Delete the selected Location(s)**  toolbar button. A confirmation pop-up window opens.
- 3 Click **Yes** to confirm.

The selected Locations are removed from the Location list on the Locations tab.

Location Details Window

To access the Location Details window, click any Location name link in the Locations list on the Locations tab.

From the tabs on the Location Details window, you can view detailed information about a Location and perform various server management tasks.

- **Properties:** The Properties tab displays the properties information that you specified in the [Location Creation Wizard](#) when you created this Location. You can edit the properties on this tab.
- **Connections:** The Connections tab displays the current Server or Server Pool connections for this Location. It enables you to add, import, and remove connections. The devices that are part of Subnets assigned to this Location contact the Servers or Server Pools listed in the priority specified to resolve policy and retrieve resources. The Order column indicates the priority in which the Server or Server Pool will be contacted. The Reorder column arrows enable you to reorder the connections.

- **Subnets:** The Subnets tab displays the Subnets that are currently assigned to this Location. You can use the toolbar buttons on this tab to assign additional Subnets to this Location or remove Subnets from it by reassigning them to a different Location.
- **Devices:** The Devices tab displays the devices that are in this Location. This tab is view only.

Add connections to a Location

You can add new connections to a Location. The agent connections use the resources from the Server or Server Pool you define a connection to. To add connections to a Location, complete the following steps:

- 1 Click **Add Connection** link. The Location Connection Selection window opens.
- 2 Select a resource from the available types to assign to this location.
- 3 Click **Add Connection**.
- 4 Click **Save**.

The new connections are added to the Location as displayed on the Connections tab.

Import connections to a Location


You can import connections from an existing Location. The existing connections that are defined for this Location are removed when you import connections. To import connections to a Location, complete the following steps:

- 1 Click Connections tab.
- 2 Click **Import Connections**. The Location Selection window opens.
- 3 Select the Location with the connections you want to import.
- 4 Click **Import Connections**.
- 5 Click **Save**.

The imported connections are added to the Location as displayed on the Connections tab.

Assign additional Subnets to a Location


To assign additional Subnets to a Location, complete the following steps:

- 1 Click the Subnets tab.
- 2 Click the **Assign additional Subnets to this Location**  button on the toolbar. The Subnet Selection window opens displaying the Subnets that are not already assigned to this Location.
- 3 Select one or more Subnets to assign to this Location.
- 4 Click **Assign Subnets to Location**.
- 5 Click **Close**.

The selected Subnets are assigned to the current Location as displayed on the Subnets tab.

Reassign Subnets to a different Location

You can reassign the Subnets for the selected Location to a different Location. To reassign Subnets to a different Location, complete the following steps:

- 1 Click the Subnets tab.
- 2 Select the Subnet(s) that you want to assign to a different Location.
- 3 Click the **Assign the selected Subnet(s) to a different Location**  button on the toolbar. The Location Selection window opens displaying the other Locations that exist in your environment.
- 4 Select a Location to which you want to reassign the selected Subnets.
- 5 Click **Assign Subnets to Location**.

The selected Subnets are now reassigned to the Location you selected.

Subnets





The Subnets that are known to HPCA are displayed on the Subnets tab. HPCA Agents communicate their subnet configuration during client connections, enabling the Subnets in your environment to be automatically detected and displayed on the Subnets tab. Subnets can also be manually created, as described in [Create a New Subnet](#) on page 219.

Subnets are subdivisions of the IP network space and contain a network address (for example, 192.168.1.0) and subnet mask (for example, 255.255.255.0). In HPCA, Subnets are often represented in Classless Inter-Domain Routing (CIDR) notation. In CIDR notation, the previous example would be displayed as 192.168.1.0/24. Every HPCA Subnet is assigned to a single Location; typically a Location will serve multiple Subnets. For example, you might group together many Colorado Subnets into a Colorado Location. Devices that belong to a particular Subnet will contact the Servers and Server Pools associated with the Subnet's assigned Location to resolve policy and retrieve data.

The Subnets tab allows you to view and edit Subnet properties, create and delete Subnets, and assign Subnets to Locations.

You can use the toolbar buttons on the Subnets tab to add and remove Subnets.

Table 27 Subnets Toolbar Buttons

Button	Description
	Refresh Data – Refresh the list of Subnets.
	Show/Hide Filter Input – Show or Hide the Filter input area to restrict the display of Subnets to only those matching user specified criteria.
	Create a New Subnet – Launch the Subnet Creation Wizard.
	Delete the selected Subnet(s) – Delete selected Subnets.

The following sections detail the tasks that you can complete using the Subnet property sheet and the toolbar buttons on the Subnets tab:

- [Create a New Subnet](#) on page 219
- [Delete a Subnet](#) on page 219
- [Subnet Details Window](#) on page 220


Create a New Subnet

Subnets are automatically detected based on device connections, but they can also be manually created. You may want to manually create Subnets to prepare that Subnet for management with HPCA. Creating a Subnet manually enables you to assign that Subnet to the appropriate Location prior to Agents being installed on that Subnet. When Agents are later installed on that Subnet, they will already be associated with the appropriate Location.

As part of Subnet creation, you assign a Subnet to a regional Location. Devices that belong to a particular Location because of Subnet assignment will contact the Servers and Server Pools associated with that Location to resolve policy and retrieve data.

The following procedure explains how to manually create a Subnet.

To create a new Subnet

- 1 Click **Create a New Subnet**  toolbar button to launch the **Subnet Creation Wizard**.
- 2 Follow the steps in the wizard to create the new Subnet.

The Subnet is added to the Subnet list on the Subnets tab.


Delete a Subnet

You can remove Subnets when they are no longer needed based on changing network configurations within your environment.



You cannot delete a Subnet that contains active devices, as the Subnet will be immediately detected again based on device connections. If you attempt to delete such a Subnet, the Subnet will still appear in the list but will be reassigned to the Default Location.

To delete a Subnet

- 1 Select the Subnets that you want to delete from the Subnet list using the checkbox in the left column.
- 2 Click **Delete the selected Subnet(s)**  toolbar button. A confirmation pop-up window opens.
- 3 Click **Yes** to confirm.

The selected Subnets are removed from the Subnet list on the Subnets tab.

Subnet Details Window

To access the Subnet Details window, click the link for the Subnet in the Subnet column of the Subnet list.

From the tabs on the Subnet Details window, you can view detailed information about a Subnet.

- **Properties:** The Properties tab displays the properties information that you specified in the [Subnet Creation Wizard](#) when you created this Subnet or that was automatically determined based on Agent connections. You can edit the properties on this tab.
- **Devices:** The Devices tab displays all devices that are located on the selected Subnet. This tab is view only.

Device Management

Use the Device Management section to configure alert options and Trusted Platform Module (TPM) settings.

The following sections describe the available device management options:

- [Alerting](#) on page 221
- [Trusted Platform Module](#) on page 225

Alerting

Use the Alerting section to configure CMI and S.M.A.R.T. alerts and reporting options.

- [CMI](#) on page 221
- [S.M.A.R.T.](#) on page 224

CMI

The CMI Softpaq is installed to each HP targeted device as part of the HPCA Agent Deployment. The HP Client Management Interface (CMI) provides enterprise managers and information technology professionals with an increased level of management instrumentation for HP business-class desktops, notebooks, and workstations.

CMI hardware-specific information is captured and available for reporting. Use the **HP Specific Reports** Reporting View in the Display Options section of the Reporting tab to create CMI hardware-related reports. (Select **Inventory Management Reports, Hardware Reports**, then **HP Specific Reports** to view CMI-related reporting options).

The following hardware related alerts are reported using the HP CMI and S.M.A.R.T. Drive Alert Monitoring:

Table 28 HP CMI and S.M.A.R.T. Runtime alerts

Runtime alerts	Desktop	Workstation	Notebook
BIOS configuration change	x	x	x
BIOS configuration security	x	x	x
Chassis intrusion	x	x	
Fan stall	x	x	
Fan normal*	x	x	
Thermal caution	x	x	
Thermal critical	x	x	
Thermal normal*	x	x	

* Can be indirectly detected by a management console through the absence of a Fan Stall or Thermal Caution/Critical alert.

Table 29 HP CMI and S.M.A.R.T. Post error alerts

POST error alerts	Desktop	Workstation	Notebook
101-Option ROM Checksum Error	x	x	
163-Time & Date Not Set	x	x	
164-Memory Size Error	x	x	
214-DIMM Configuration Warning	x	x	
511-CPU fan not detected	x	x	

Table 29 HP CMI and S.M.A.R.T. Post error alerts

POST error alerts	Desktop	Workstation	Notebook
512-Rear Chassis fan not detected	x	x	
513-Front Chassis fan not detected	x	x	
515-Power Supply fan not detected	x	x	
912-The computer cover has been removed	x	x	
917-Front Audio not connected	x	x	
918-Front USB not connected	x	x	
1720-S.M.A.R.T. Hard Drive detects imminent failure	x	x	
1801-Microcode Update Error	x	x	

For additional CMI information see:

<http://h20331.www2.hp.com/Hpsub/cache/284014-0-0-225-121.html>

Use the CMI tab to modify HP CMI settings. Modified settings take effect the next time a managed client connects to the HPCA infrastructure.



CMI is compatible with only specific HP device models. Refer to your device description for compatibility information.

To configure CMI

- 1 In the HPCA console click the **Configuration** tab, then select **Device Management**.
- 2 Click the **CMI** tab.

- 3 To report on captured client alerts from managed HP devices, select **Enabled** from the **Report Client Alerts** drop-down list. Alert reporting is disabled by default. The Minimum Severity to Report drop-down list will become available after you select Enabled.
- 4 Select the minimum alert severity to report.
- 5 To turn on client alerts for managed HP devices, select **Enabled** from the **Show Client Alerts** drop-down list. Alerts are disabled by default. The Minimum Severity to Display and Alert Window Timeout dialogs will become available after you select Enabled.
- 6 Select the minimum alert severity to display on the client device.
- 7 Type the number of seconds an alert should appear on the client device. By default, an alert is displayed for five seconds.
- 8 Click **Save**.

S.M.A.R.T.

Self-Monitoring, Analysis, and Reporting Technology (S.M.A.R.T.), is a monitoring system for computer hard disks that detects and reports on various indicators of reliability, acting as an early warning system for drive problems. As part of the Client Automation Management Agent, detection of these events can be enabled for both display and reporting purposes. Use the Configuration tab's Hardware Management area to configure the S.M.A.R.T. monitoring settings. S.M.A.R.T. monitoring is disabled by default.

To enable and configure S.M.A.R.T. monitoring

- 1 In the HPCA console click the **Configuration** tab, then select **Hardware Management**.
- 2 Click the **S.M.A.R.T.** tab.
- 3 Use the **Enable S.M.A.R.T Monitoring** drop-down list and select **Enabled**. S.M.A.R.T. monitoring is disabled by default.
- 4 Use the **Display Client Alerts** drop-down list to either enable or disable S.M.A.R.T. client alerts. Alerts are disabled by default. Enabling client alerts will cause an alert window to appear on managed devices when a possible drive problem is detected on that device.

- 5 Use the **Report Client Alerts** drop-down list to enable or disable S.M.A.R.T. client alert reporting. When enabled, client alerts are captured and available for reporting purposes. Reporting is disabled by default.
- 6 Click **Save**.

After **Enable S.M.A.R.T. Monitoring** and **Report Client Alerts** are enabled, use the Reporting area of the HPCA console to create S.M.A.R.T. reports. Alert reports are included in the Inventory Management Reports reporting view. Select **Inventory Management Reports**, then **Hardware Reports**, then **Detail Reports** to view the **S.M.A.R.T. Alerts** report.

Trusted Platform Module

Use the TPM tab to configure the Trusted Platform Module chip on compatible HP devices. Deploy the CCM_TPM_ENABLEMENT service to initialize TPM ownership and apply these settings. See [Deploy Software](#) on page 121 for software deployment information.



In order to enable and initialize the TPM security chip, the HP ProtectTools software must first be installed on the device. Some device models have this software pre-installed while for others you will need to either download or purchase the software separately. For more information, review the HP documentation for your particular device model.

TPM is a hardware security chip that is installed on the motherboard of an HP business PC. It is included as part of HP ProtectTools Embedded Security.

For additional information see:

<http://h20331.www2.hp.com/hpsub/cache/292199-0-0-225-121.html>

To configure TPM

- 1 In the HPCA console click the **Configuration** tab, then select **Device Management**.
- 2 Select the **Trusted Platform Module** option. The Trusted Platform Module window is displayed.
- 3 Type the BIOS Admin and TPM Owner passwords.
- 4 Type the Emergency Recovery and Password Reset Tokens.

- 5 Select the Reboot Settings. After the TPM chip is enabled, the device is rebooted. This setting determines the level of interaction the end user will have.
 - **Accept Only** – After reboot, user must accept enablement
 - **Accept or Reject** – After reboot, user can accept or reject enablement
 - **Silent** – User is not prompted to confirm enablement after reboot
- 6 Type the file paths for Backup Archive, Emergency Recovery Archive, and TPM Password Reset Archives.
- 7 Click **Save**.

Patch Management

Use the Patch Management link to enable patch management and define ODBC parameters for your patch database.

Starter and Standard users can also use this section to acquire Microsoft patches and HP Softpaqs, configure schedules for patch acquisition, and to define patch acquisition settings.

Refer to [Patch Deployment Wizard](#) on page 255 for details on how to deploy and entitle patches in your environment.

Patch Management options are explained in the following:

- [Database Settings](#) on page 226

Database Settings

Patch must be enabled in order for the Patch Management areas of the Console and patch-acquisition facilities to be available.

Use the Database Settings area to enable this feature which will start the Patch Manager service (HPCA Patch Manager) and synchronize the information stored in the Patch Library with the patch information in the SQL database

Prerequisite

The Patch database must be created and an ODBC connection defined for it. For details, refer to the *Installing HPCA* chapter.

To configure Patch

- 1 In the Patch ODBC Settings area, set the following options.
 - **ODBC DSN:** Select the DSN for the Patch SQL database.
 - **ODBC User ID:** Specify the user ID for the DSN.
 - **ODBC Password:** Specify the password that is associated with the ODBC user ID.
- 2 Click **Save**.
- 3 If you modified Patch ODBC Settings, follow the prompts to restart the Patch Manager Service.

Out of Band Management

Use the Configuration tab's Out of Band (OOB) Management area to configure OOB Management settings and preferences. For additional information on using Out of Band Management, refer to the *HP Client Automation Out of Band Management User Guide*. The following sections describe the available configuration options:

- [Enablement](#) on page 227
- [Device Type Selection](#) on page 228
- [vPro System Defense Settings](#) on page 230

Enablement

Use the Out of Band Management Enablement area to enable or disable the out of band management features supported by vPro or DASH devices.

Select the **Enable** checkbox to enable out of band management features.

Enabling Out of Band Management allows vPro or DASH devices to be contacted through the OOB Management remote operations capability in addition to the normal Wake on LAN capabilities of the HPCA console.

For additional information on using Out of Band Management, refer to the *HP Client Automation Out of Band Management User Guide*.

Device Type Selection

After enabling OOB Management, use the Device Type Selection area to select the type of OOB device you want to manage.

It is possible to make one of three choices for device type. These are explained in the following sections:

- [DASH Devices](#) on page 228
- [vPro Devices](#) on page 228
- [Both](#) on page 229

Depending on the device type that you chose, the HPCA Console displays an interface relevant to that selection as explained in [Configuration and Operations Options Determined by Device Type Selection](#) on page 229.

You can now go to the Operations tab and see the [Out of Band Management](#) section to view the OOB Management options.

For additional information on using Out of Band Management, refer to the *HP Client Automation Out of Band Management User Guide*.

DASH Devices

If you select DASH, you can enter the common credentials for the DASH devices if the DASH administrator has configured all of the devices to have the same username and password.

You can change the credentials the next time you visit this window if you have made a mistake entering them or if they have changed.

vPro Devices

If you select vPro devices, you must enter the SCS login credentials and the URLs for the SCS Service and Remote Configuration to access vPro devices.

You can change the credentials the next time you visit this window if you have made a mistake entering them or if they have changed.

Both

If you select both types of devices, you can enter the common credentials for the DASH devices and you must enter the SCS login credentials and the URLs for the SCS Service and Remote Configuration needed to access vPro devices.

Refer to Device Type Selection in the Administrative Tasks chapter of the *HP Client Automation Out of Band Management User Guide* for complete details.

Configuration and Operations Options Determined by Device Type Selection

After you make your device type selection, you will see options on the Configuration and Operations tab that reflect this selection. They are summarized in the following table.

Table 30 Configuration and Operations options

	DASH	vPro
Configuration	No additional options	vPro System Defense Settings
Operations	Device Management	Provisioning vPro Devices Group Management Alert Notification

- ▶ You must log out and log in again to the HPCA Console when you make or change your device type selection in order to see the device-type related options in the navigation panel on the Configuration and Operations tab.

vPro System Defense Settings

Before managing System Defense features on vPro devices and device groups you must define vPro System Defense Settings.

▶ This configuration option appears only if you have selected the vPro device type. System Defense settings do not apply to DASH devices.

- **Managing System Defense Filters**
For vPro devices, you can create, modify, and delete System Defense filters. System Defense filters monitor the packet flow on the network and can drop or limit the rate of the packets depending if the filter condition is matched. Filters are assigned to System Defense Policies that can be enabled to protect the network.
- **Managing System Defense Policies**
For vPro devices, you can create, modify, and delete System Defense policies and then deploy them to multiple vPro devices on the network. System Defense policies can selectively isolate the network to protect vPro devices from malware attacks.
- **Managing System Defense Heuristics Information**
For vPro devices, you can create, modify, and delete heuristics specifications and then deploy them to multiple vPro devices on the network. These heuristics serve to protect the devices on the network by detecting conditions that indicate a worm infestation and then containing that device so that other devices are not contaminated.
- **Managing System Defense Watchdogs**
For vPro devices, you can create, modify, and delete agent watchdogs and then deploy them to multiple vPro devices on the network. Agent watchdogs monitor the presence of local agents on the vPro device. You can specify the actions the agent watchdog must take if there is a change in state of the local agent.

For additional details, refer to vPro System Defense Settings in the Administrative Tasks chapter of the *HP Client Automation Out of Band Management User Guide* for complete details.

This is the last administrative task you have to perform on the Configuration tab to get the HPCA Console ready for you to manage System Defense features on vPro devices. Now, in the role of Operator or Administrator, you can go to the Operations tab and start to manage the OOB devices in your network as explained in the [Operations](#) chapter.

OS Management

Use the Operating System area to configure options pertaining to operating system deployment.

- [Settings](#) on page 232
- [Deployment](#) on page 232

Settings

The Operating Systems service allows Agents to connect to the HPCA server and retrieve their OS entitlements and provisioning information. The Operating System service setting is always enabled in the Starter and Standard editions of HPCA. During OS deployment, if you are planning to boot devices across the network, you must first enable the Boot Server (PXE/TFTP) installed with the Core. This will start two Windows services on the Core server: Boot Server (PXE) and Boot Server (TFTP).

- To enable the Boot Server (PXE/TFTP), select the **Enable Boot Server** box, and click **Save**.

You can host both the HPCA Boot Server (PXE) and a DHCP server on the same machine.

Deployment

Use the Deployment page to configure the global default settings for all operating system deployment operations. You can override these settings when you schedule a specific deployment using the [OS Deployment Wizard](#).



Changes made on this page affect all new and scheduled OS deployment jobs.

To configure the default settings for OS Deployment

- 1 On the Configuration tab, expand the OS Management section, and select the **Deployment** page.
- 2 On the Deployment Behavior tab:
 - a Specify the [Basic Deployment Behavior Properties](#).

- b Specify the [Advanced Deployment Behavior Properties](#).
- 3 On the Partitioning Strategy tab:
 - a Specify the [Basic Partitioning Strategy Properties](#).
 - b Specify the [Advanced Partitioning Strategy Properties](#).

See [OS Management](#) on page 136 for more information about deploying operating systems.

Basic Deployment Behavior Properties

The Basic Properties area on the Deployment Behavior tab enables you to specify the default OS deployment mode and language settings. Note that these language settings apply only during the deployment process; they do not apply after the operating system is installed on the target device.

To specify the Basic OS Deployment Behavior Properties

- 1 Using the **When re-installing an OS** drop-down menu, specify the deployment mode:
 - **Prompt User (Attended)** — A user must be present at the target device during operating system deployment to continue the deployment process.
 - **Do not prompt user (Unattended)** — No dialogue windows are displayed on target devices during operating system deployment. No user interaction is required.



Deploying an operating system image will, in some cases, overwrite existing data depending on the number of hard drives and partitions on the target device. If you select **Do not prompt user (Unattended)**, be sure to back up existing data on target devices before deploying a new operating system.

- 2 Using the **Display Service OS messages in** menu, select the language that will be used to display messages on the target device while the Service OS is being installed.
- 3 Using the **Service OS keyboard layout** menu, select the keyboard layout that will be used if input is required on the target device during the installation of the OS.
- 4 Click **Save** to commit your changes.

Next Step: Specify the [Advanced Deployment Behavior Properties](#).

Advanced Deployment Behavior Properties

The Advanced Properties area on the Deployment Behavior tab enables you to control the maximum OS image download speed and determine how various special cases should be handled during a deployment.

To specify the Advanced OS Deployment Behavior Properties

- 1 Specify the **Maximum OS Image download speed**. This is useful for managing network traffic—it enables you to set aside enough network bandwidth for business-critical applications while you are downloading the OS image to the target device. If you do not specify a value, HPCA will download the image as quickly as the network allows.

If you specify a maximum download speed, be sure to also specify the **Units**.

- 2 Using the **Allow user to select which OS to install** menu, specify whether the user of the target device can choose which OS to install in the event that multiple OS are assigned to this device.

When re-installing the exact same OS service on a device that is already managed by the HPCA OS Manager, selecting a value of **No** will disable an additional prompt during the maintenance OS installation phase

- 3 Using the **For a managed device, if the hard disk fails** menu, specify how HPCA should respond if the hard disk for a fully managed device fails:
 - The administrator needs to take action (do nothing unless the administrator of the target device authorizes the OS re-installation)
 - Automatically re-install the OS
- 4 Click **Save** to commit your changes.

Next Step: Specify the [Basic Partitioning Strategy Properties](#).

Basic Partitioning Strategy Properties

The Basic Properties on the Partitioning Strategy tab of the Deployment page enable you to specify how HPCA should partition the hard disk when it installs the OS image on a target device. Different operating systems support different partitioning strategies.



Deploying an operating system will, in some cases, overwrite existing data depending on the number of hard drives and partitions on the target device. If you are using Unattended deployment mode, be sure to back up existing data on the target devices before deploying a new operating system.

To specify the Basic Partitioning Strategy Properties for OS Deployment

- 1 In the Partitioning Strategy box, select the strategy that you want to use:

Strategy	Description
Remove existing partitions and install a single OS partition	<p>Use this option when data on the target device does not need to be preserved.</p> <p>HPCA removes any existing partitions on the target device and creates a System Reserved partition (when supported) and an OS partition.</p> <p>IMPORTANT: All existing data on the target device will be lost.</p>
Preserve existing data partitions and recreate a single OS partition	<p>Use this option to replace (or update) the OS on a machine where existing data needs to be preserved.</p> <p>HPCA removes the existing OS partition (and the “System Reserved” partition, if it exists) and creates a System Reserved partition (when supported) and an OS partition. Any existing data partitions are not touched.</p> <ul style="list-style-type: none">• If the partitions to be installed are larger than the space already defined for these partitions, the installation will fail.• If the target drive does not contain existing partitions (bare metal, for example), then the result is the same as the Single OS partition option. <p>NOTE: Use this option for migration purposes.</p>

Strategy	Description
Remove existing partitions, install a single OS partition, and cache OS locally	<p>Use this option to create a hidden back-up partition at the end of the target drive.</p> <p>The size of the partition will be dynamically determined by the size of the OS installation image. All files necessary to reinstall the OS will be saved (in compressed form) in this partition.</p> <p>IMPORTANT: All existing data on the target device will be lost.</p>
Preserve existing data partitions and data restoration directory in the OS partition, and install OS	<p>Use this option to preserve a set of files and folders on a target device during the installation of a new operating system and restore them after the OS installation. If you use this option, HPCA does not re-partition the disk.</p> <p>NOTE: This requires the ImageX method of OS deployment. Any attempt to use any other deployment method will result in an error.</p> <p>NOTE: You cannot use this option if your target device has a “System Reserved” partition in addition to the OS partition.</p>

- 2 Click **Save** to commit your changes.
- 3 Specify the [Advanced Partitioning Strategy Properties](#).

Advanced Partitioning Strategy Properties

The Advanced Properties on the Partitioning Strategy tab of the Deployment page enable you to specify the size of the System partition and any unpartitioned space on the hard disk of the target device prior to installing the operating system.



These settings pertain only to Windows 7 and Windows Server 2008 R2 deployments.

To specify the Advanced Partitioning Strategy Properties for OS Deployment

- 1 In the **System partition size for Windows 7 / 2008 R2** box, specify the size (in MByte) of the System Reserve partition.

You can specify any non-negative five-digit value. If you specify a value that is too big, a warning appears in red. If you specify a value of 0 (zero), a System Reserve partition will not be created.

- 2 In the **Size of unpartitioned space at start of disk** box, specify the amount (in MByte) of unpartitioned space to leave at the beginning of the disk. This space can later be used, for example, to create a recovery partition.

If you specify a value of 0 (zero), a System Reserve partition will not be created.

- 3 Click **Save** to commit your changes.

To perform OS deployment operations, see [OS Management](#) on page 136.

Dashboards

Use the Dashboards area on the Configuration tab to configure the dashboards:

The [HPCA Operations](#) dashboard provides information about the number of client connections and service events that have occurred over a given period of time.

The [Patch Management](#) dashboard provides data pertaining to patch policy compliance on the client devices in your enterprise.

By default, a subset of the dashboard panes are enabled. Provided that you have administrator privileges, you can enable or disable any of the panes.

HPCA Operations

The HPCA Operations dashboard shows you the work that HPCA is doing in your enterprise. The client connection and service event metrics are reported in two time frames. The Executive View shows the last 12 months. The Operational View shows the last 24 hours. Both views contain the following information panes:

[Client Connections](#) on page 65


[Service Events](#) on page 67

The Executive View also includes the following pane:

[12 Month Service Events by Domain](#) on page 69

All of these panes are visible by default. You can use the configuration settings to specify which panes appear in the dashboard. For detailed information about these panes, see the [HPCA Operations Dashboard](#) on page 64.

To configure the HPCA Operations dashboard:

- 1 From the Configuration tab, click **Dashboards**.
- 2 Under Dashboards, click **HPCA Operations**.
This dashboard is enabled by default. To disable it, clear the **Enable HPCA Operations Dashboard** box, and click **Save**.
- 3 Under HPCA Operations, click either **Executive View** or **Operational View**.
- 4 Select the box for each pane that you want to show in the dashboard. Use the  icon to display information about any related HPCA configuration that is required for each pane.
- 5 Click **Save** to implement your changes.

Patch Management

The Patch Management dashboard provides information about any patch vulnerabilities that are detected on managed devices in your network. By default, the Patch Management dashboard is disabled.

The Executive View of the Patch Management dashboard includes two information panes:


- [Device Compliance by Status \(Executive View\)](#) on page 71
- [Device Compliance by Bulletin](#) on page 73

The Operational View includes the following information panes:

- [Device Compliance by Status \(Operational View\)](#) on page 76
- [Microsoft Security Bulletins](#) on page 77
- [Most Vulnerable Products](#) on page 78

You can use the configuration settings to specify which panes appear in the dashboard. For detailed information about these panes, see the [Patch Management Dashboard](#) on page 71.

To configure the Patch Management dashboard:

- 1 From the Configuration tab, click **Dashboards**.
- 2 Under Dashboards, click **Patch Management**.
By default, this dashboard is disabled. To enable it, select the **Enable Patch Dashboard** box, and click **Save**.
- 3 Under Patch Management, click either **Executive View** or **Operational View**.
- 4 Select the box for each pane that you want to show in the dashboard. Use the  icon to display information about any related HPCA configuration that is required for each pane.

The following requires additional information:

- **The Microsoft Security Bulletins (Operational View)**
 - α Specify the URL for the Microsoft Security Bulletins RSS feed
Currently a valid default URL is provided. You may also need to enable a proxy server on the **Console Settings** page.
- 5 Click **Save** to implement your changes.

9 Wizards

While using the HPCA console, you will use many different wizards to perform various management functions. This section contains an explanation of the individual steps you will encounter within each wizard.



Some wizards can be launched from multiple areas of the control panel.

- [Import Device Wizard](#) on page 242
- [Agent Deployment Wizard](#) on page 243
- [Agent Removal Wizard](#) on page 244
- [Software/Hardware Inventory Wizard](#) on page 245
- [Patch Compliance Discovery Wizard](#) on page 246
- [Power Management Wizard](#) on page 247
- [Group Creation Wizard](#) on page 248
- [Software Deployment Wizard](#) on page 251
- [Service Import Wizard](#) on page 253
- [Service Export Wizard](#) on page 254
- [Software Synchronization Wizard](#) on page 255
- [Patch Deployment Wizard](#) on page 255
- [Service Entitlement Wizard](#) on page 257
- [Software Removal Wizard](#) on page 257
- [OS Deployment Wizard](#) on page 259
- [Satellite Server Deployment Wizard](#) on page 265
- [Satellite Server Removal Wizard](#) on page 267
- [Server Pool Creation Wizard](#) on page 267

- [Location Creation Wizard](#) on page 268
- [Subnet Creation Wizard](#) on page 270





The HPCA console may open additional browser instances when running wizards or displaying alerts. To access these wizards and alerts, you must include the console as an Allowed Site in your browser's pop-up blocker settings.

Import Device Wizard

Use the Import Device Wizard to discover and add devices to your HPCAS database. When devices are imported, they can be targeted for management using the [Agent Deployment Wizard](#) on page 243.

To import devices using the Import Device wizard

- 1 To launch the wizard, click **Import** on the [General](#) tab in the [Device Management](#) section or click the **Import Devices to Manage**  toolbar button on the [Devices](#) tab.
 - 2 Select the Device Source from the drop-down list.
 - **Manual Input** – Type or paste a list of device host names or IP addresses into the text box provided. You can also type a range of IP addresses separated by hyphen. For example, to import the devices in the range `xx.yy.zz.12` to `xx.yy.zz.19`, type `xx.yy.zz.12-xx.yy.zz.19`.
-  If you use this option to manually import a device and later perform a domain scan (using the **Domain** option below), a duplicate device entry may be created. This is possible because the device that has been manually added may not have enough identifying attributes (such as MAC address, dnshostname, and so on) to uniquely identify it when a subsequent domain scan is triggered. As a result, a newly discovered device may not match the manually added one although it is the same device, creating a duplicate entry. To avoid this behavior, trigger device discovery using the **Domain** option instead of the **Manual Input** option.

- **LDAP/Active Directory** – To import devices automatically from Active Directory or another LDAP-compliant Directory Service, type the LDAP Host, Port, User ID, password (if required) and the DN to Query.
Also select the scope, an advanced filter, or a device limit to apply to the query.
 - **Domain** – To scan a network domain for devices to import, type the domain name (for example, type ABC for a full domain scan of the ABC domain) or part of the domain name and a wildcard character (ABC* returns all devices from domains beginning with ABC). To include specific devices from a domain, use the following syntax, domain\device. For example, Sales\WS* returns only devices beginning with WS from the Sales domain.
Use an exclamation mark ! to exclude specific devices from a domain. For example, Sales,!Sales\WS* will return all devices from the Sales domain with the exception of devices beginning with WS.
- 3 Click **Import**.
 - 4 Click **Close** to exit the wizard.

Imported devices are displayed in the [Devices](#) tab.

Agent Deployment Wizard

Use the Agent Deployment wizard to deploy the Management Agent to devices in your HPCAS database.



Prior to deploying the Management Agent to a device, review the Firewall Settings rules for on page and ensure the necessary firewall rules are in place

To use the Agent Deployment Wizard to deploy a Management Agent

- 1 To launch the wizard:
 - Click **Deploy** on the [Device Management, General](#) tab.
 - Click the **Deploy the Management Agent** toolbar button on the [Device Management, Devices](#) tab.
 - Click the **Deploy the Management Agent** toolbar button from the Group Management, Groups tab.

- 2 Click **Next** to begin the wizard.
- 3 All available devices are displayed. Select each device to which you want to deploy a Management Agent, and then click **Next**. Use the Search function to narrow the list of devices, if necessary.
- 4 Enter the required information for your selected devices, and click **Next**.
- 5 Select **Run: Now** to deploy the agent immediately after the wizard is complete, or select **Run: Later** and enter a date and time for agent deployment.
- 6 In the **Additional Parameters** section, select **Yes** (default) to install the Agent silently or select **No** to allow an installation UI to display on the target devices during the installation process.
 - ▶ The Management Agent is deployed to Windows Vista and Windows Server 2008 devices in silent mode only, regardless of the Additional Parameter selected.
- 7 Click **Next**.
- 8 Review the summary information and click **Submit**. An Agent Deployment Job is created.
- 9 Click **Close** to close the wizard.


Agent Removal Wizard

Use the Agent Removal Wizard to remove the Management Agent from devices in your HPCAS database.

- ▶ Removing the Management Agent will disable the ability to deploy software and patches and to collect updated inventory information for that device. Unmanaged devices will remain within their respective groups until removed from the groups or deleted from HPCAS and will retain all deployed software.

To remove a Management Agent using the Agent Removal wizard

- 1 Launch the wizard from the [Device Management, Devices](#) tab or from the [Group Management, Groups](#) tab.


- 2 Select the devices or groups from which you want to remove the Management Agent and click the **Remove the Management Agent**  toolbar button.
- 3 Click **Next** to begin the wizard.
- 4 Select **Run: Now** to remove the agent immediately after the wizard is complete, or select **Run: Later** and enter a date and time for Agent removal.
- 5 Click **Next**.
- 6 Review the summary information and click **Submit**. An Agent Deployment Job is created.
- 7 Click **Close** to exit the wizard.

► Using the agent removal wizard to remove a manually installed agent (an agent installed though the `setup.standard.cmd` command) causes the job to end in error. However, the agent is successfully removed despite the generated error condition.

Software/Hardware Inventory Wizard

Use the Software/Hardware Inventory Wizard to create inventory audit jobs that will discover software and hardware inventory for the selected devices.

To discover inventory using the Software/Hardware Inventory wizard

- 1 Launch the wizard from the Device Management, **Devices** tab or from the Group Management, **Groups** tab.
 - Click the **Inventory Collections**  toolbar button, then select **Discover Software/Hardware Inventory**.
- 2 Select **Run: Now** to discover inventory immediately after the wizard is complete, or select **Run: Later** and enter a date and time for inventory discovery. To configure a recurring schedule, select **Every 'x' Hours, Days, or Weeks** then select the **Interval** from the drop-down list.
 - Recurring job schedule options (Every 'x' Days, for example) are available when creating group-related jobs only.

- 3 Select if you want to Power On the device. Selecting **Yes** from the drop-down list allows HPCAS to turn on the device to discover inventory, if necessary.
- 4 Review the summary information and click **Submit**.
- 5 The job is successfully created. Click **Close** to exit the wizard.

Use the [Current Jobs](#) tab to view all pending Management Jobs.

Patch Compliance Discovery Wizard

Use the Patch Compliance Discovery wizard to configure patch compliance schedules for selected devices and groups.

To discover patch compliance

- 1 Launch the wizard from the Device Management, [Devices](#) tab or from the Group Management, [Groups](#) tab.

— Click the **Inventory Collections**  toolbar button then select **Discover Patch Compliance**.

- 2 Select **Run: Now** to schedule the job to run immediately after the wizard is complete, or select **Run: Later** and enter a date and time for the job to begin. To configure a recurring schedule, select **Every 'x' Hours, Days, or Weeks**, then select the **Interval** from the drop-down list.

▶ Recurring job schedule options (Every 'x' Days, for example) are available when creating group-related jobs only.

- 3 Select whether to Power On the device. Selecting **Yes** from the drop-down list allows HPCAS to turn on the device if necessary.
- 4 Review the summary information and click **Submit**.
- 5 The job is successfully created. Click **Close** to exit the wizard.


When finished, use the Reporting tab to view compliance reports for the selected devices or groups.

Power Management Wizard

Use the Power Management wizard to turn on, turn off, or restart selected devices.

- Remotely powering on a device requires the Wake-On-LAN capability built into modern computers. Wake-On-LAN is a management tool that enables the HPCA server to remotely power on managed devices by sending a packet over the network. Devices may need to have their BIOS configured to enable remote wake up feature. Refer to your hardware documentation for details. BIOS settings for HP devices can be modified and deployed using HPCA.
- When Out of Band Management is enabled, vPro or DASH devices can be contacted through the OOB Management remote operations capability in addition to the normal Wake on LAN capabilities of the HPCA console.
- Selecting the Power Off feature for Windows XPe devices results in the device rebooting once before powering off. This is necessary to clear the internal cache on the XPe device and is normal operation.

To remotely turn on, turn off, or restart a device

- 1 Launch the wizard from the Device Management, [Devices](#) tab or from the Group Management, [Groups](#) tab by clicking the **Power Management**  toolbar button.
- 2 Select the Power Management function from the drop-down list. You can choose to turn on, turn off, or restart the selected device.
 - **Power On** – turn on the selected device
 - **Power Off** – turn off the selected device
 - **Reboot** – restart the selected device
- 3 Configure the run schedule for the job. Select **Run: Now** to schedule the job to run immediately, or select **Run: Later** to schedule a date and time for the job to begin. To configure a recurring schedule, select **Every 'x' Hours, Days, or Weeks** then select the **Interval** from the drop-down list.
 - Recurring job schedule options (Every 'x' Days, for example) are available when creating group-related jobs only.
- 4 Review the summary information and click **Submit**.


- 5 The job is successfully created. Click **Close** to exit the wizard.
Use the [Current Jobs](#) tab to view all pending Management Jobs.

Group Creation Wizard

Software or patches must be deployed to groups of managed devices in your database. Use the Group Creation Wizard to define device groups based on devices you specify, discovered devices, or on the devices returned as part of a reporting query.


The Group Creation Wizard steps vary depending on the type of group you are creating.

To create a static group

- 1 Do one of the following to launch the wizard
 - From [Group Management](#), [General](#) tab click **Create a new Static Group**.
 - From the [Groups](#) tab click the **Create a New Static Group** toolbar button .
- 2 Click **Next** to begin creating the group.
- 3 Enter a name and description for the group.
- 4 Click **Next**.
- 5 Select the devices you want to include in the group by checking the box in the first column for each device to include. You can use the Search function to narrow the list of devices, if necessary.
- 6 Click **Next**.
- 7 Review the summary information. Make sure the number of devices you selected matches the **# Devices** summary. Click **Previous** if you need to modify the group.
- 8 Click **Create**. The group is successfully created.
- 9 Click **Close** to exit the wizard.

To create a Dynamic Discovery Group

Discovery group membership is based on the devices found during an LDAP query or domain scan.

- 1 To launch the wizard:
 - From **Group Management**, **General** tab, click **Create a new Discovery Group**
 - From the **Groups** tab, click the **Create a New Group**  toolbar button, and then select **Create a new Dynamic Discovery Group**.
- 2 Click **Next** to begin creating the group.
- 3 Enter a name and description for the group.
- 4 Click **Next**.
- 5 Select the discovery source.
 - **LDAP/Active Directory** – Type the LDAP Host and Port number, User ID, password (if required) and the DN to query.

Also, select the scope, advanced filter or a device limit to apply to the query.
 - **Domain** – to scan a network domain for devices to import, type the domain name (for example, type ABC for a full domain scan of the ABC domain) or part of the domain name and a wildcard character (ABC* returns all devices from domains beginning with ABC). To include specific devices from a domain, use the following syntax, domain\device. For example, Sales\WS* returns only devices beginning with WS from the Sales domain.
Use an exclamation mark ! to exclude specific devices from a domain. For example, Sales,!Sales\WS* will return all devices from the Sales domain with the exception of devices beginning with WS.
- 6 Click **Next**.
- 7 Configure the refresh schedule for the dynamic group.
 - **Run:** Select whether to update dynamic group membership based on an interval of hours, days, or weeks.
 - **Interval:** Select the specific interval (hours, days, or weeks).
 - **Starting on:** Use the drop-down lists to select the date the group should be refreshed.


- **Current Server Time** displays the current time of the HPCAS server.

- 8 Click **Next**.
- 9 Review the summary information and click **Create**.
- 10 Click **Close** to exit the wizard.

A Discovery Group is created containing the devices found during the LDAP query or domain scan. If discovered devices were not already a part of HPCAS, they are automatically added to the device list. The device membership of this group will update based on the refresh schedule you configured.

To create a Dynamic Reporting Group


Reporting groups are created using the devices returned in a report query.

- 1 To launch the wizard from the Reporting area, Action Bar click **Create a new Dynamic Reporting Group** .
- 2 Click **Next** to begin the wizard.
- 3 Enter a name and description for the group.
- 4 Click **Next**.
- 5 Configure the refresh schedule for the dynamic group.
 - **Run:** Select whether to update dynamic group membership based on an interval hours, days, or weeks.
 - **Interval:** Select the specific interval (hours, days, or weeks).
 - **Starting on:** Use the drop-down lists to select the date the group should be refreshed.
 - **Current Server Time** displays the current time of the HPCAS server.
- 6 Click **Next**.
- 7 Review the summary information and click **Create**.
- 8 A Reporting Group is created containing the current devices in the report query. The device membership of this group will be updated based on the refresh schedule you configured.
- 9 Click **Close** to exit the wizard.


Software Deployment Wizard


Use the Software Deployment Wizard to entitle and deploy software to managed devices in your environment.

To entitle and deploy software using the Software Deployment wizard

- 1 There are three ways to launch the wizard:
 - From the [Software Management](#), **General** tab, click **Deploy**.
 - From the [Software Management](#), **Software Tab** tab, select the software that you want to deploy, and click the **Deploy Software**  button.
 - From the Software Details window (or the Group Details window), click the **Deploy Software** link on the General tab.

You can open the Software Details window from the Software tab on the [Software Management](#) page on the Management tab or the Software Library page on the Operations tab. Click the Service ID for any software service listed to open the Software Details window.
- 2 Click **Next** to launch the wizard.
- 3 If you launched the wizard from the [Software Management](#), **General** tab:
 - a To select the software to entitle and deploy, check one or more boxes in the first column.
 - b Click **Next**.
- 4 To select the groups that will be entitled and targeted for deployment, check one or more boxes in the first column.
- 5 Click **Next**.
- 6 Configure the run schedule for the software deployment job:
 - Select **Run: Now** to deploy the software right away.
 - Select **Run: Later** to schedule a date and time for software deployment.
 - To configure a recurring schedule, select **Every 'x' Hours, Days, or Weeks**, and then select the **Interval** from the drop-down list.

 Recurring job schedule options (Every 'x' Days, for example) are available only when you are creating group-related jobs.

- 7 Specify any Additional Parameters listed. Hover your mouse over the tooltip  icon to learn more about a specific parameter.
- 8 Click **Next**.
- 9 Review the summary information and click **Submit**. The job is successfully created and added to Current Jobs.
- 10 To view the current software deployment jobs click the Current Jobs tab.
- 11 Click **Close** to exit the wizard.

Service Import Wizard

Use the Service Import Wizard to import services from the `ServiceDecks` directory on the HPCA server into the Software, Patch, or OS library. By default, this directory is located here:

```
<InstallDir>\Data\ServiceDecks
```

To import a service using the Service Import wizard

- 1 On the **Operations** tab, click the **Import Service**  toolbar button from any of the following pages:

- **Software Management > Software Library**
- **Patch Management > Patch Library**
- **OS Management > OS Library**

This launches the wizard.

- 2 Select the service to import. All service decks in the HPCA server's `ServiceDecks` directory whose names contain the following words appear in the list of available services:

Library	Service Deck Name Must Contain	HPCA Domain
Software	SOFTWARE	SOFTWARE
Patch	PATCH	PATCHMGR
OS	OS	OS

By default, the `ServiceDecks` directory is located here:

```
<InstallDir>\Data\ServiceDecks
```

The fourth section of each service's file name contains a descriptive name for that software service, patch, or OS. For example, the service deck for the Orca software application is:

```
PRIMARY.SOFTWARE.ZSERVICE.ORCA
```

- 3 Review the summary information, and click **Import**. The service is imported and will now be available in the pertinent (Software, Patch, or OS) HPCA library.
- 4 Click **Close** to exit the wizard.

Service Export Wizard

Use the Service Export Wizard to export services from the HPCA Software, Patch, or OS libraries to the `ServiceDecks` directory on the HPCA server machine.

To export a service using the Service Export wizard

- 1 On the **Operations** tab, click the **Export Service**  toolbar button from any of the following pages:
 - **Software Management > Software Library**
 - **Patch Management > Patch Library**
 - **OS Management > OS Library**

This launches the wizard.

- 2 Select the service to export.
- 3 Review the summary information and click **Export**. The service is exported to the HPCA server's `ServiceDecks` directory. By default, this directory is:

```
<InstallDir>\Data\ServiceDecks
```

A service deck consists of several files, all of which have the same file name prefix. For example, the service deck name for the Orca software application is:

```
PRIMARY.SOFTWARE.ZSERVICE.ORCA
```

The fourth section of each file name in the service deck contains the descriptive name for the software, patch, or OS that was exported.

- 4 Click **Close** to exit the wizard.

Software Synchronization Wizard

Use the Software Synchronization Wizard to create a Software Synchronization Job that will automatically deploy all entitled software to group members that do not have the software installed. Also, Software Synchronization Jobs ensure all new group members automatically receive all entitled software.

To create a Software Synchronization Job


- 1 On the Group Details window, Software tab, click the Synchronize Software toolbar button to launch the wizard.
- 2 Configure the run schedule for the software synchronization job. Select **Run: Now** to schedule the job to run right away, or select **Run: Later** to schedule a date and time for the job. To configure a recurring schedule, select **Every 'x' Hours, Days, or Weeks** then select the **Interval** from the drop-down list.
 - ▶ Recurring job schedule options (Every 'x' Days, for example) are available when creating group-related jobs only.
- 3 Use the Power On drop-down list to enable Wake-on-LAN for devices in the group. This allows HPCA to power on the devices to perform the required job actions.
- 4 Review the summary information and click **Submit**.
- 5 Click **Close** to exit the wizard.

Patch Deployment Wizard

Use the Patch Deployment wizard to entitle and deploy patches to managed devices in your environment.

To entitle and deploy patches using the Patch Deployment wizard

- 1 To launch the wizard do one of the following:
 - From the Patch Management, General tab click **Deploy**

- From the Patch Library area, Patch Details, or Group Details windows, click the **Deploy Patch**  toolbar button
- 2 Click **Next** to begin the wizard.
- 3 Select a deployment method.


Compliance Enforcement – Select this method to determine which patches are applicable to the target devices. Only applicable patches will be installed. As new patches are entitled to the devices, they will be installed the next time this job runs. You must create a recurring schedule in order to enforce patch compliance on an ongoing basis.

Manual Selection – Select this method to deploy the patches to the target devices. If the patches are not applicable to the devices, the job may end in error. Use this method to deploy the patches to target devices one time without creating a recurring compliance schedule.
- 4 To select the patches to entitle and deploy check the box in the first column.
- 5 Click **Next**.
- 6 To select the groups that will be entitled and targeted for deployment check the box in the first column.
- 7 Click **Next**.
- 8 Configure the run schedule for the job. Select **Run: Now** to schedule the job to run right away, or select **Run: Later** to schedule a date and time for the job. To configure a recurring schedule, select **Every 'x' Hours, Days, or Weeks** then select the **Interval** from the drop-down list.
 - ▶ A recurring schedule is only available when you select the **Compliance Enforcement** deployment method.
- 9 Click **Next**.
- 10 Review the summary information and click **Submit**. The job is successfully created and added to Current Jobs.
- 11 To view the current patch deployment jobs click the Current Jobs tab.
- 12 Click **Close** to exit the wizard.
 - ▶ After a patch is deployed it cannot be removed from a device.

Service Entitlement Wizard

The Service Entitlement Wizard entitles groups of devices to software, operating system images, and patch services.

To add group entitlement using the Service Entitlement wizard

- 1 On the Management tab, click the **Add Group Entitlement**  toolbar button from any of the following pages:

- [Software Management > Software Tab](#)
- [Patch Management > Patches Tab](#)
- [OS Management > Operating Systems Tab](#)

This launches the wizard.

- 2 To select the groups that will receive entitlement to the service (or services), select the check box in the left column.
- 3 Click **Next**.
- 4 Review the summary information, and click **Submit**.


The job is successfully created and added to the current jobs. To view its status and progress, click the Current Jobs tab.

- 5 Click **Close** to exit the wizard.

Software Removal Wizard

The Software Removal wizard uninstalls software from selected devices or groups.

To remove software using the Software Removal wizard

- 1 From the Software Details window or the Group Details window, select the software to remove.
- 2 Click the **Remove Software**  toolbar button to launch the wizard.
- 3 Click **Next** to begin the wizard.

- 4 Configure the run schedule for the software removal job. Select **Run: Now** to remove the software right away, or select **Run: Later** to schedule a date and time for software removal.
- 5 Click **Next**.
- 6 Review the summary information and click **Submit**. The job is successfully created and added to the current jobs.
- 7 To view the current software removal jobs click the Current Jobs tab.
- 8 Click **Close** to exit the wizard.

OS Deployment Wizard

The OS Deployment wizard enables you to deploy operating systems to managed devices. Operating systems are deployed in either attended or unattended mode. For more information about deployment modes, see [OS Management](#) on page 232.

For an example, see [How to Re-Install the Same OS Silently](#) on page 265.

To deploy an operating system using the OS Deployment wizard

- 1 From the Management tab, OS Management section, click the **General** tab.
- 2 Under Common Tasks, click **Deploy Operating Systems**. The OS Deployment Wizard opens.
- 3 Follow the steps in the wizard to set up your OS deployment job.

Step 1 – Introduction

If you are deploying Windows XPe, Windows CE, or Embedded Linux, select **Thin Client deployment**. Otherwise, make sure this box is not selected.

Click **Next** to proceed.

Step 2 – Operating Systems

From the OS Selection list, select the operating system that you want to deploy, and click **Next**.

All operating systems that have been published to the HPCA database are available in this list.

Step 3 – Groups

Select one or more groups of target device from the list, and click **Next**.

You can create static groups using the Groups page on the Configuration tab (see [Group Management](#) on page 107), or you can create dynamic groups on the Reporting tab (see [Creating Dynamic Reporting Groups](#) on page 163).

Groups created for OS deployment should have similar, compatible hardware.

Step 4 – Deployment Behavior

On this page, you will specify settings that determine how the OS deployment is performed. These settings override the global default settings specified in the OS Management area on the Configuration tab.

OS Deployment Method Settings:

— Deployment Method

Select **Local Service Boot (LSB)** if you want to install LSB in order to deploy the OS. An advantage of LSB is that existing devices do not need to be PXE-enabled, and the boot order does not need to be configured locally in the BIOS for each target device.

Select **Local CD or PXE Server** if you will be using a PXE Server or Service CD to install the operating system on your devices.

— Migrate User Data & Settings



If you selected **Thin Client deployment** in Step 1, this option is not available.

Select **Yes** to backup user data and settings prior to the OS deployment and to restore them afterwards. During the operating system deployment, the HPCA Personality Backup service runs silently to back up user data.

After the new operating system is installed, there are two ways to restore the user data:

- You can run the `pbr.exe` command on the managed device.
- You can deploy the HPCA Personality Restore service from the Software Library to the managed device. The service will run once to restore the user data.



Personality Backup is supported only on source computers that are running Windows XP, Vista, or Windows 7.

Personality Restore is supported only on destination computers that are running Windows XP, Vista, or Windows 7.

In addition, the current operating system and the operating system image being deployed must include an installation of USMT 3.0.1 or USMT 4.0 (see [Personality Backup and Restore](#) on page 317).

— When re-installing an OS

If you select **Prompt User (Attended)**, a user must be present at the managed device during operating system deployment to continue the deployment process.

If you select **Do not prompt user (Unattended)**, no dialogue windows are displayed on managed devices during operating system deployment. No user interaction is required.



Deploying an operating system image will, in some cases, overwrite existing data depending on the number of hard drives and partitions on the target device. If you select **Do not prompt user (Unattended)**, be sure to back up existing data on target devices before deploying a new operating system.

Additional OS Settings:

— **Maximum OS Image download speed.**

This is useful for managing network traffic—it enables you to set aside enough network bandwidth for business-critical applications while you are downloading the OS image to the target device. If you do not specify a value, HPCA will download the image as quickly as the network allows.

— **Units**

If you specify a maximum download speed, be sure to also specify the correct units.

— **Display Service OS messages in**

Select the language that will be used to display messages during OS deployment.

— **Service OS keyboard layout**

Select the keyboard layout that will be used if input is required during OS deployment.

Step 5 – Partitioning

On this page, you will specify how the hard disk on the target devices should be partitioned prior to the OS deployment.



If you selected **Thin Client deployment** in Step 1, you cannot change the Partitioning settings. Proceed to Step 6.

Basic Properties:

— Partitioning Strategy

Strategy	Description
Remove existing partitions and install a single OS partition	<p>Use this option when data on the target device does not need to be preserved.</p> <p>HPCA removes any existing partitions on the target device and creates a System Reserved (when supported) and an OS partition.</p> <p>IMPORTANT: All existing data on the target device will be lost.</p>
Preserve existing data partitions, and recreate a single OS partition	<p>Use this option to replace (or update) the OS on a machine where existing data needs to be preserved.</p> <p>HPCA removes the existing OS partition (and the “System Reserved” partition, if it exists) and creates a System Reserved (when supported) and an OS partition. Any existing data partitions are not touched.</p> <ul style="list-style-type: none"> • If the partitions to be installed are larger than the space already defined for these partitions, the installation will fail. • If the target drive does not contain existing partitions (bare metal, for example), then the result is the same as the Single OS partition option. <p>NOTE: Use this option for migration purposes.</p>
Remove existing partitions, install a single OS partition, and cache the OS locally	<p>Use this option to create a hidden back-up partition at the end of the target drive.</p> <p>The size of the partition will be dynamically determined by the size of the OS installation image. All files necessary to reinstall the OS will be saved (in compressed form) in this partition.</p> <p>IMPORTANT: All existing data on the target device will be lost.</p>

Strategy	Description
<p>Preserve existing data partitions and the data restoration directory in the OS partition, and install the OS</p>	<p>Use this option to preserve a set of files and folders on a target device during the installation of a new operating system and restore them after the OS installation. If you use this option, HPCA does not re-partition the disk.</p> <p>NOTE: This requires the ImageX method of OS deployment. Any attempt to use any other deployment method will result in an error.</p> <p>NOTE: You cannot use this option if your target device has a “System Reserved” partition in addition to the OS partition.</p> <p>NOTE: If you select this option, the two settings under Advanced Properties cannot be changed. Proceed to Step 6.</p>

Advanced Properties:

— **System partition size for Windows 7 / 2008 R2**

Specify the size (in MByte) of the System Reserve partition.

You can specify any non-negative five-digit value. If you specify a value that is too big, a warning appears in red. If you specify a value of 0 (zero), a System Reserved partition will not be created.

— **Size of unpartitioned space at start of disk**

Specify the amount (in MByte) of unpartitioned space to leave at the beginning of the disk. This space can later be used, for example, to create a recovery partition.

If you specify a value of 0 (zero), no unpartitioned space will be reserved.

Step 6 – Schedule

On this page, you will specify when the HPCA job that performs this OS deployment will start. You can perform the deployment once or on a periodic basis.

— Job Schedule

Select **Run: Now** to deploy the OS right away, or select **Run: Later** to schedule a date and time for OS deployment.

To configure a recurring schedule, select **Every ‘x’ Hours, Days, or Weeks** then select the **Interval** from the drop-down list.



Recurring job schedule options are available only when you are creating group-related jobs.

— Additional Parameters


In the Power On menu, select **Yes** if you want HPCA to use the Out of Band Management feature (if it is enabled) to power on target devices. If you select **No**, Wake-On-LAN is used.

Step 7 – Summary

Review the settings for this OS deployment. To change a setting, click the **Previous** button until the appropriate wizard page appears. When you are ready to proceed, click **Submit**.

Step 8 – Complete

This page indicates whether the OS deployment job was successfully submitted to HPCA.

You can view the status of the job on the Current Jobs tab. Click the Refresh  button if the job is not immediately visible.

How to Re-Install the Same OS Silently

You can silently re-install an existing operating system provided that the following conditions are true:

- The target device is already managed by HPCA.
- The existing OS was installed by HPCA.
- You are installing exactly the same OS service that was previously installed.

If these conditions are true, and you set the deployment options as specified in the following procedure, you can control the re-installation of the OS from the HPCA console, and no user interaction on the target device will be required.

To silently re-install the same OS image

- 1 On the Configuration tab, go to the **OS Management > Deployment** page.
- 2 On the Deployment Behavior tab, specify the following:
 - For “When re-installing an OS” select **Do not prompt user (Unattended)**.
 - For “Allow user to select which OS to install” select **No**.
- 3 Click **Save**.
- 4 Launch the OS Deployment Wizard (see [OS Deployment Wizard](#) on page 259).
- 5 In the Deployment Behavior step, verify that “When re-installing an OS” is set to **Do not prompt user (Unattended)**.
- 6 Complete the remaining steps in the OS Deployment Wizard.


Satellite Server Deployment Wizard

Use the Satellite Server Deployment Wizard to install the Satellite Server and enable remote services, such as data caching.

To deploy the Satellite Server

- 1 On the **Configuration** tab, goto the **Infrastructure Management > Satellite Management** area.

- 2 Click the **Servers** tab.
- 3 Select one or more devices in the Satellite Servers list.

Any existing HPCA Satellite Servers or Legacy Proxy Servers selected will be automatically upgraded to the latest HPCA Satellite Server version.
- 4 Click the **Install the Satellite Server**  toolbar button to launch the wizard.
- 5 Enter the **User ID** and **Password** with administrator level access on the target device.
- 6 Click **Next**. The Properties window opens.
- 7 Select the **Installation Drive** and **Data Drive**.
 - ▶ If you want to install the Satellite to a location other than the default location, you must follow these steps prior to the installation:
 - a Copy all of the HPCA installation files for Satellite from the HPCA media to the target machine.
 - b Edit the parameters `INSTALLDIR` and `DATADIR` in the `setup.ini` file.
 - c Run the `setup.exe`.
- 8 For HPCA Standard and Starter Editions, only Streamlined (Standard) deployment mode is available. Click **Next**. The Schedule window opens.
- 9 Specify the run schedule for the deployment job. Select **Run: Now** to deploy the Satellite Server right away, or select **Run: Later** to schedule a date and time for deployment.
- 10 Click **Next**. The Summary window opens.
- 11 Review the summary information.
- 12 Click **Submit**.


A Satellite Server Deployment job is created.

The Satellite Server download file is large. The deployment may take a long time if network traffic is heavy. You can check the status of the job in the Job Management area on the Management tab.
- 13 Click **Close** to exit the wizard.

Satellite Server Removal Wizard

Use the Satellite Server Removal Wizard to uninstall the Satellite Server from one or more devices in the HPCA Satellite Servers group.


To uninstall the Satellite Server

- 1 On the Configuration tab, go to the Infrastructure Management, Satellite Management area.
- 2 Click the **Servers** tab.
- 3 Select one or more devices in the Satellite Servers list.
- 4 Click the **Uninstall the Satellite Server**  toolbar button. The Credentials window opens.
- 5 Enter the User ID and password with administrator level access on the Satellite server.
- 6 Click **Next**. The Schedule window opens.
- 7 Select **Run: Now** to uninstall the Satellite Server immediately after the wizard is complete, or select **Run: Later** and enter a date and time for the uninstall.
- 8 Click **Next**. The Summary window opens.
- 9 Review the summary information and click **Submit**.
A Satellite Server Removal job is created. You can check the status of the job in the Job Management area of the Management tab.
- 10 Click **Close** to exit the wizard.

Server Pool Creation Wizard

Use the Server Pool Creation Wizard to create new Server Pools for Core and Satellite Servers. Server Pools enable software load balancing of client connections.

To add a new Server Pool

- 1 On the Configuration tab, go to the Infrastructure Management, Satellite Management area.
- 2 Click the **Server Pools** tab.
- 3 Click **Create a New Server Pool**  toolbar button to launch the Server Pool Creation Wizard. The properties page of the Server Pool Creation Wizard opens.
- 4 In the Properties area, specify the following:
 - **Name:** Enter a name for the new Server Pool.
 - **Description:** Enter a user-friendly description. This is optional.
 - **Enabled:** Indicates if this Server Pool should be enabled or not. A Server Pool must be enabled in order for client devices to contact the Server Pool and its Servers. A Server Pool can be disabled to prevent connections to the Server Pool during maintenance periods.
- 5 Click **Next**. The Server Selection window opens.
- 6 Select the Servers that will be members of this Server Pool. Members of this Server Pool will be randomly selected by each agent when resources are needed. A Server Pool can contain a maximum of 30 Servers.
- 7 Click **Create** to exit the wizard.


The new Server Pool is displayed on the Server Pools tab showing the number of Servers that are members in this pool.

Location Creation Wizard

Use the Location Creation Wizard to add new Locations. You can assign subnets and resources to these Locations and also set a priority order. Setting priority ensures that devices located in the subnets connect to resources in the indicated order.

To create a new location

- 1 On the Configuration tab, go to the Infrastructure Management, Satellite Management area.


- 2 Click the **Locations** tab.
- 3 Click the **Create a New Location**  toolbar button. The Location Creation Wizard opens.
- 4 In the Properties area, specify the properties for this Location. Name is the only required field, and it must be unique.
- 5 Click **Next**. The Subnet Selection window opens.
- 6 Select the Subnets to assign to this Location.
- 7 Click **Next**. The Connections window opens. You can either add a new connection or import an existing one.

To add a connection:

- a Click an **Add Connection** link to define a connection assignment for this Location. The Location Connection Selection window opens.
- b Select a resource from the available types to assign to this Location. Agent connections will attempt to use resources from the selected Server or Server Pool.
- c Click **Add Connection**.

To import a connection:

- a Click **Import Connections**. The Location Selection window opens.
- b Select a Location to import its connections.

 An existing connection is be lost if you import the connections of another Location.


- c Click **Import Connections**.
- 8 Change the order of the Connections as required. Use the up and down arrows in the Reorder column to establish the required order. The devices attempt to contact the Servers or Server Pools in this new order.
- 9 Click **Create**.

The new Location appears on the Location tab.

Subnet Creation Wizard

Use the Subnet Creation Wizard to add new Subnet addresses to which managed devices can be assigned. Managed devices will connect to Satellite Servers based on Subnet assignment to Locations.

To add a new subnet location

- 1 On the Configuration tab, go to the Infrastructure Management, Satellite Management area.
- 2 Click the **Subnets** tab.
- 3 Click the **Create a New Subnet**  toolbar button. The Subnet Creation Wizard opens.
- 4 In the Properties area, specify the following:
 - **IP Address:** Enter a valid IP address.
 - **Subnet Mask:** Enter a valid subnet mask.
 - **Subnet:** This field automatically generates the Classless Inter-Domain Routing (CIDR) address if you have entered a valid IP address and subnet mask.
 - **Name:** Enter a name for the new Subnet.
 - **Description:** Optionally enter a user-friendly description.
 - **Assigned Location:** Select a Location from the pull-down menu. The Locations available are the Default Location and Locations that you have added through the Location Creation Wizard.
- 5 Click **Create**.

The new Subnet IP address is displayed on the Subnets tab.

10 Preparing and Capturing OS Images

Introduction

In this chapter, you will learn how to prepare and capture operating system images for deployment to managed Thin Client devices in your environment.



If you are prompted for the OS Manager Server's IP address and port number, you must specify the HPCA server port number (by default 3466).



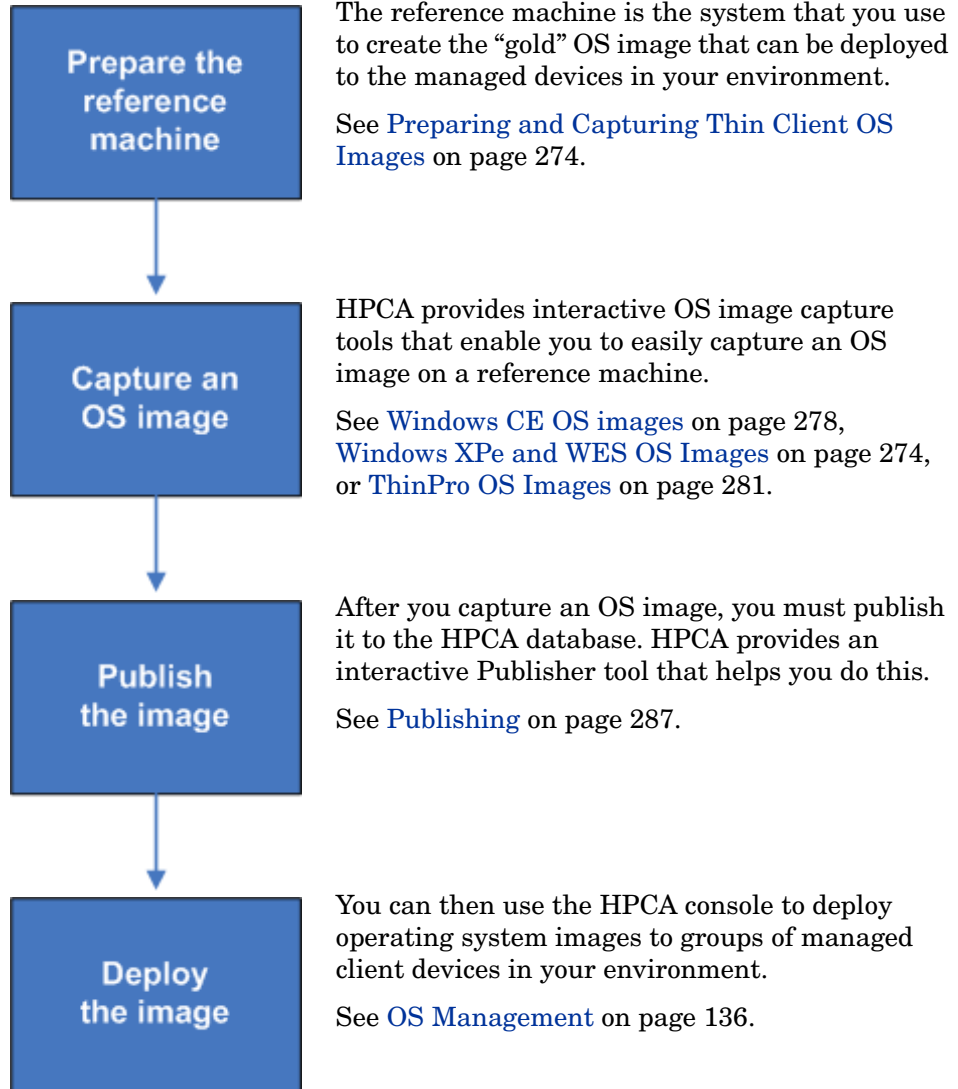
If you are using an existing OS WIM image (this includes the OS .WIM files on the Microsoft Windows OS installation media) or have created an OS WIM image using the Microsoft Windows Automated Installation Kit (AIK), you do not need to prepare or capture the image, and you can skip to the next chapter.



HPCA Starter supports Thin Client operating system deployment, only.

Process Overview

In HPCA, the process of managing operating systems has four steps:



The focus of this chapter is preparing and capturing OS images. Publishing and deployment are discussed in the chapters noted above.

- Make sure that the Microsoft .NET Framework version 2.0 (or later) is installed on the reference machine. The .NET Framework is available at the Microsoft download center:

<http://www.microsoft.com/downloads>

To determine which version of the .NET Framework is present on the reference machine, list the folders in the following directory:

```
%SYSTEMROOT%/Microsoft.NET/Framework
```

- HPCA does not verify that enough free disk space exists on the Core server to successfully upload the OS image after it is captured. If sufficient free space is not available, the upload will fail.

Make sure that enough free disk space exists on the Core server so that the OS image upload can be successfully completed.

- To capture Microsoft Windows Vista and above OS with a separate boot partition successfully, the size of the boot partition must be 300 MB at minimum. If it is less than 300 MB, increase the size to a minimum of 300 MB. The recommended boot partition size is one GB.

If you have customized the `winpe.wim` image file, set the size of the boot partition to double of the size of your `winpe.wim` file. For example, if the size of the `winpe.wim` file is 200 MB, set the size of the boot partition to a minimum of 400 MB.

For more information about OS Management in HPCA, see [Additional Resources](#) on page 273.

Additional Resources

For more information about OS Management in HPCA, refer to the following:

- HPCA Console online help topics:
 - Preparing and Capturing OS Images
 - OS Management

- *HP Client Automation OS Management Reference Guide*

Preparing and Capturing Thin Client OS Images

The following sections explain how to prepare and capture supported thin client operating system images:

- [Windows XPe and WES OS Images](#) on page 274
- [Windows CE OS images](#) on page 278
- [ThinPro OS Images](#) on page 281



Do not publish factory OS images for thin client devices. All thin client images must be captured before they are deployed to target devices.

During the OSM capture process additional information about the OS is retrieved and later used for image deployment. As a result, the administrator should not publish a factory image directly, as required information would be unavailable and the deployment would not succeed.

Windows XPe and WES OS Images

The following sections explain how to prepare and capture a Windows XPe or Windows Embedded Standard (WES) thin client operating system image:

- [Prepare the Windows XPe or WES Reference Machine](#) on page 274
- [Run the Image Preparation Wizard](#) on page 275



You can capture an image on an XPe or WES thin client device and subsequently deploy the captured image to an XPe or WES thin client device with a larger flash drive. This is subject to certain restrictions as specified in the release notes document.

Task 1: [Prepare the Windows XPe or WES Reference Machine](#)

To prepare a Windows XPe or WES thin client for image capture, you will need the following:

- HPCA media

- Image Preparation CD-ROM

Before you can capture a Windows XPe or WES image, you must do the following:

- 1 Log on to the Windows XPe or WES device as Administrator.
- 2 Install the HPCA agent on the Windows XPe or WES device.
See [Installing the HPCA Agent on HP Thin Clients](#) on page 100 for details.

Task 2: Run the Image Preparation Wizard

The Image Preparation Wizard performs the following tasks:

- 1 Checks if there is enough free disk space on the machine and verifies that the HPCA agent is installed. If there is not enough free disk space, the Image Preparation Wizard displays a message and terminates.
- 2 Creates an object that contains information (including hardware and BIOS capabilities) about the reference machine.
- 3 Restarts the reference machine into the service operating system (booted from the Image Preparation CD you created). The Linux-based portion of the Image Preparation Wizard runs to collect the image and its associated files.
- 4 Creates and copies the following files to this directory on the HPCA server: `<InstallDir>\Data\OSManagerServer\upload`.
 - `ImageName.IBR`
This file contains the image. Thin Client image files are the same size as the reference machine's flash drive. Windows XPe or WES images can be deployed to target machines with flash drives of equal or greater size. The file contains an embedded file system that will be accessible when the image is installed.
 - `ImageName.EDM`
This file contains the object containing inventory information.



While these files are transferred, network speed will be less than optimal.

A comprehensive log (`machineID.log`) is available in `<InstallDir>\Data\OSManagerServer\upload` after the image is deployed.

To use the Image Preparation Wizard

- 1 Insert the Image Preparation Wizard CD-ROM that you created into the CD-ROM drive of the reference machine. (Thin client devices require a USB CD-ROM drive). This CD is created using the `ImageCapture.iso` found within the `Media\iso\roms` directory on your HPCA media.
- 2 If autorun is enabled, the HPCA OS Preparation and Capture CD window opens.
- 3 Browse to the `\image_preparation_wizard\win32` directory.
- 4 Double-click **prep wiz.exe**. The Welcome window opens.
- 5 Click **Next**.
The End User Licensing Agreement window opens.
- 6 Click **Accept**.
- 7 Type the IP address or host name and port for the HPCA server. This must be specified in the following format:

```
xxx.xxx.xxx.xxx:port
```

The HPCA server port used for OS imaging and deployment in an HPCA Core and Satellite installation is 3466. In an HPCA Classic installation, port 3469 is reserved for this purpose.

If the Image Preparation Wizard cannot connect to the HPCA server server, a message opens and you must:

 - Click **Yes** to continue anyway.
 - Click **No** to modify the host name or IP address.
 - Click **Cancel** to exit the Image Preparation Wizard.
- 8 Click **Next**.
The Image Name window opens.
- 9 Type a name for the image file. This is the image name that will be stored in the `\upload` directory on the HPCA server.
- 10 Click **Next**.
A window opens so you can enter a description for the image.
- 11 Type a description for the image file.
- 12 Click **Next**.

The Options window opens.

- 13 Select the appropriate options.

Perform client connect after OS install

Select this check box to connect to the HPCA server after the OS is installed to verify that the OS was installed properly. If this is not selected, the OS Connect will not occur automatically after the OS is installed.

- 14 Accept the defaults and click **Next**.

The Summary window opens.

- 15 Click **Start**.

- 16 Click **Finish**.

The wizard prepares the image.

- 17 Click **OK**.

The device boots to the Image Preparation Wizard CD in the CD-ROM drive. Make the necessary configuration adjustments to ensure this will happen (for example, with some BIOS versions, you can hit F10 during the reboot process and change the boot order in the configuration settings).



If the device does not boot to the CD (boots to Windows XPe instead), you will need to restart the process from [Prepare the Windows XPe or WES Reference Machine](#) on page 274.



The upload of the image may seem to take a long time. Transfer speeds will vary depending upon processor speeds and your network environment.



You may want to create copies of the files stored in the `\upload` directory so that you can retrieve them if necessary.

During the capture, status information is displayed on the Service OS screen.

- 18 OS Image Preparation Wizard connects to the network, and stores the image on the HPCA server in the following directory:

```
<InstallDir>\Data\OSManagerServer\upload
```

When the upload process is complete, you will see the following messages

```
OS image was successfully sent to the OS Manager Server
```

**** If you had inserted a CD remove it now and reboot

- 19 Reboot the reference machine and readjust your boot settings, if necessary, to return to the original operating system.

Next, you will want to publish your image to the HPCA database. See [Publishing](#) on page 287.

Windows CE OS images

The following sections explain how to prepare and capture a Windows CE thin client operating system image:

- [Prepare the CE Reference Machine](#) on page 278
- [Run the Image Preparation Wizard](#) on page 279



Deploying an OS through LSB is not supported on Windows CE based HP thin client models t5550 and above.

Task 1: [Prepare the CE Reference Machine](#)

- Product media
- Image Preparation CD-ROM

Before you capture the image, you must install the HPCA agent on the Windows CE device.

See [Installing the HPCA Agent on HP Thin Clients](#) on page 100 for details.

When you deploy an OS to a Windows CE device using Local Service Boot (LSB), there must be sufficient space available on the device to install and extract the LSB service. If the device reboots but fails to boot the Linux Service OS (SOS), the amount of “storage memory” allocated on the device may be insufficient—at least 10 MByte is required.

Follow these steps on the Windows CE device:

- 1 Click **Start**.
- 2 Select **Settings > Control Panel**.
- 3 Click the **System** icon.
- 4 Select the **Memory** tab.

- 5 Use the slider on the left to increase the **Storage Memory** to 10 MByte or more.

Task 2: Run the Image Preparation Wizard

The Image Preparation Wizard performs the following tasks:


- 1 Creates an object that contains information (including hardware and BIOS capabilities) about the reference machine.
- 2 Restarts the reference machine into the service operating system (booted from the ImageCapture media). The Linux-based portion of the Image Preparation Wizard runs to collect the image and its associated files.
- 3 Creates and copies the following files to
<InstallDir>\Data\OSManagerServer\upload on the HPCA server.

ImageName.IBR

This file contains the image. Thin Client image files are the same size as the reference machine's flash drive. Windows CE images can be deployed to target machines with flash drives of equal size. The file contains an embedded file system that will be accessible when the image is installed.

ImageName.EDM

This file contains the object containing inventory information.

 While these files are being transferred, network speed will be less than optimal.

A comprehensive log (*machineID.log*) is available in
<InstallDir>\Data\OSManagerServer\upload after the image is deployed.

To use the Image Preparation Wizard

- 1 Insert the Image Preparation Wizard CD-ROM that you created into the CD-ROM drive of the reference machine (thin client devices require a USB CD-ROM drive). This CD is created using the ImageCapture.iso found within the Media\iso\roms directory on your HPCA media.
- 2 If autorun is enabled, the HPCA OS Preparation and Capture CD window opens.
- 3 On the CD, browse to the \image_preparation_wizard\WinCE directory.
- 4 Double-click **prepwiz.exe**. The Image Preparation Wizard opens.

- 5 Type the IP address or host name and port for the HPCA server. This must be specified in the following format:

`xxx.xxx.xxx.xxx;port`

The HPCA server port used for OS imaging and deployment in an HPCA Core and Satellite installation is 3466. In an HPCA Classic installation, port 3469 is reserved for this purpose.

If the Image Preparation Wizard cannot connect to the HPCA server, a message opens and you must:

- Click **Yes** to continue anyway.
- Click **No** to modify the host name or IP address.
- Click **Cancel** to exit the Image Preparation Wizard.

- 6 Click **OK**.

The wizard prepares the image.

The device boots to the Image Preparation Wizard CD in the CD-ROM drive. Make the necessary configuration adjustments to ensure this will happen (for example, with some BIOS versions, you can hit F10 during the reboot process and change the boot order in the configuration settings).



If the device does not boot to the CD (boots to Windows CE instead) you will need to restart the process from [Prepare the CE Reference Machine](#) on page 278.



The upload of the image may seem to take a long time. Transfer speeds will vary depending upon processor speeds and your network environment.



You may want to create copies of the files stored in the `\upload` directory so that you can retrieve them if necessary

During the capture, status information is displayed on the Service OS screen.

- 7 The Image Preparation Wizard connects to the network, and stores the image in the following directory on the HPCA server:

```
<InstallDir>\Data\OSManagerServer\upload
```

When the upload process is complete, you will see the following messages

```
OS image was successfully sent to the OS Manager Server
```


**** If you had inserted a CD remove it now and reboot

- 8 Reboot the reference machine and readjust your boot settings if necessary to return to the original operating system.

Next, you will want to publish your image to the Configuration Server DB. See [Publishing](#) on page 287.

ThinPro OS Images

The following sections explain how to prepare and capture a ThinPro operating system image:

- [Prepare the ThinPro Reference Machine](#) on page 281
- [Run the Image Preparation Wizard](#) on page 282

Task 1: [Prepare the ThinPro Reference Machine](#)

To prepare ThinPro client for image capture, you will need the following:

- HPCA media
- Image Preparation CD-ROM

Before you capture the image, you must install the HPCA agent on the ThinPro device.

See [Installing the HPCA Agent on HP Thin Clients](#) on page 100 for details.



If the HPCA Registration and Loading Facility (RALF) is not pre-installed on the reference machine, it should be installed after the HPCA agent is installed.

[To create a custom connection for xterm](#)

If you are using the ThinPro operating system, you may need to create a custom connection to create an xterm connection.

- 1 From the HP menu in the lower left corner, select **Shutdown**.
- 2 From the Thin Client Action drop down, select **switch to admin mode** and specify the Administrator password (default password is root).


Note: Control Center background will change from blue to red.

- 3 From the Control Center, click the **Add** drop down list and select the **custom** option.
- 4 Set Name to **xterm**.
- 5 Set Command to run to:
sudo xterm -e bash &
- 6 Click **Finish**.

You now have a connection you can use to open an xterm session.

Task 2: Run the Image Preparation Wizard

The Image Preparation Wizard performs the following tasks:

- 1 Checks if there is enough free disk space on the machine and verifies that the HPCA agent is installed. If there is not enough free disk space, the Image Preparation Wizard displays a message and terminates.
 - 1 Creates an object that contains information (including hardware and BIOS capabilities) about the reference machine.
 - 2 Restarts the reference machine into the service operating system (booted from the Image Prep CD you created). The Linux-based portion of the Image Preparation Wizard runs to collect the image and its associated files.
 - 3 Creates and copies the following files to `<InstallDir>\Data\OSManagerServer\upload` on the HPCA server.
 - `ImageName.DD`
This file contains the image. Thin Client image files are the same size as the reference machine's flash drive. Linux-based images can be deployed only to target machines with flash drives of equal size. The file contains an embedded file system that will be accessible when the image is installed.
 - `ImageName.EDM`
This file contains the object containing inventory information.
-  While these files are transferred, network speed will be less than optimal.
- A comprehensive log (`machineID.log`) is available in `<InstallDir>\Data\OSManagerServer\upload` after the image is deployed.

To use the Image Preparation Wizard

- 1 Insert the Image Preparation Wizard CD-ROM you created into the CD-ROM drive of the reference machine (thin client devices require a USB CD-ROM drive). This CD is created using the `ImageCapture.iso` found within the `Media\iso\roms` directory on your HPCA media.



On certain Linux thin client models, the CD-ROM may be mounted by default with the `noexec` option, which prevents execution from the CD-ROM. This will result in a permissions error or otherwise failed execution when trying to run the Image Preparation Wizard. Re-mounting the CD-ROM without the `noexec` option will resolve this issue.

- 2 On the Image Preparation CD, go to `/image_preparation_wizard/linux` and run `./prep wiz`.

The Welcome window opens.

- 3 Click **Next**.

The End User Licensing Agreement window opens.

- 4 Click **Accept**.

- 5 Type the IP address or host name and port for the HPCA server. This must be specified in the following format:

```
xxx.xxx.xxx.xxx:port
```

The HPCA server port used for OS imaging and deployment in an HPCA Core and Satellite installation is 3466. In an HPCA Classic installation, port 3469 is reserved for this purpose.

If the Image Preparation Wizard cannot connect to the HPCA server, a message opens and you must:

- Click **Yes** to continue anyway.
- Click **No** to modify the host name or IP address.
- Click **Cancel** to exit the Image Preparation Wizard.

- 6 Click **Next**.

The Image Name window opens.

- 7 Type a name for the image file. This is the image name that will be stored in the `\upload` directory on the HPCA server.

- 8 Click **Next**.

A window opens so you can enter a description for the image.

- 9 Type a description for the image file.

- 10 Click **Next**.

The Options window opens.

- 11 Select the appropriate options:

Perform client connect after OS install

Select this check box to connect to the HPCA server after the OS is installed to verify the OS was installed properly. If this is not selected, the OS Connect will not occur automatically after the OS is installed.

- 12 Accept the defaults and click **Next**.

The Summary window opens.

- 13 Click **Start**.

- 14 Click **Finish**.

The wizard prepares the image.

- 15 Click **OK**.

The device boots to the Image Preparation Wizard CD in the CD-ROM drive. Make the necessary configuration adjustments to ensure this will happen (for example, with some BIOS versions, you can hit F10 during the reboot process and change the boot order in the configuration settings).



If the device does not boot to the CD (boots to Linux instead) you will need to restart the process from [Prepare the ThinPro Reference Machine](#) on page 281.



The upload of the image may seem to take a long time. Transfer speeds will vary depending upon processor speeds and your network environment.



You may want to create copies of the files stored in the `\upload` directory so that you can retrieve them if necessary.

- 16 The Image Preparation Wizard connects to the network, and stores the image in the following directory on the HPCA server:

```
<InstallDir>\Data\OSManagerServer\upload
```

When the upload process is complete, you will see the following messages:

```
OS image was successfully sent to the OS Manager Server
```

```
**** If you had inserted a CD remove it now and reboot.
```

- 17 Reboot the reference machine and readjust your boot settings if necessary to return to the original operating system.

Next, you will want to publish your image to the HPCA database for distribution to managed devices. See [Publishing](#) on page 287.

Publishing and Deploying OS Images

After you have captured an image, use the Publisher to publish it to the HPCA database. For instructions, see [Publishing](#) on page 287.

After you publish an OS image to HPCA, refresh the OS Library page on the Operations tab to view the new image. Use the HPCA Console toolbar to deploy the image to selected devices.

11 Publishing

Use the HPCA Publisher to publish the following items to HP Client Automation (HPCA) database:

- Software
- BIOS configuration settings
- HP Softpaqs
- Operating system images

Published software is available in the Software Library on the Operations tab of the main HPCA console. Published operating systems are available in the OS Library on the Operating Systems tab.



The Publisher is installed automatically during the installation of the HPCA Core. If the HPCA agent is already installed on the machine, the Publisher will be installed in the agent's folder. If you want to install it in a different location, you can use the HP Client Automation Administrator installation file on the product media or use the HPCA Administrator Publisher service in the Software Library. See *Manually Installing the HPCA Administrator* in the *Installing HPCA* chapter for more information.



Publishing is an administrative task that should be done in a non-production lab environment.

After you publish one of the items listed above, it can be entitled and deployed to managed devices in your environment.

To start the Publisher

- 1 Go to **Start** → **All Programs** → **HP Client Automation Administrator** → **HP Client Automation Administrator Publisher**
- 2 To log in to the Publisher use your HPCA Administrator user name and password. By default, the user name is **admin** and the password is **secret**.



Publishing options vary based on the intended target devices and the HPCA license you have installed.

[Table 31](#) on page 288 shows which publishing options are available for each of the three license levels.

Table 31 Publishing Options Available with Each HPCA license

Publishing Option	Starter	Standard	Enterprise
Component Select	No	Yes	Yes
Hardware Configuration	No	No	Yes
HP BIOS Configuration	Yes	Yes	No
HP Softpaqs	Yes	Yes	No
OS Add-ons/extra POS drivers	No	Yes	Yes
OS Image	No	Yes	Yes
Windows Installer	No	Yes	Yes
Thin Client Component Select	Yes	Yes	Yes
Thin Client OS Image	Yes	Yes	Yes

The following sections explain how to use the Publisher for the publishing options for your license.

- [Publishing HP Softpaqs](#) on page 288
- [Publishing BIOS Settings](#) on page 290
- [Thin Client Publishing](#) on page 291

Publishing HP Softpaqs

HP Softpaqs are bundles of support software, which may include device drivers, configuration programs, flashable ROM images, and other utilities available to keep devices up to date and performing at their best.


Softpaqs are available as executable (.EXE) files.

Use the Publisher to publish HP Softpaqs to HPCA for distribution to managed devices.



Publisher does not generate methods to uninstall HP Softpaqs. Therefore, HP Softpaqs cannot be uninstalled, once deployed.

To publish a Softpaq

- 1 Start the Publisher (see [To start the Publisher](#) on page 287).
- 2 At the Logon window, type your administrator User ID and Password and click **OK**.
 -  Log in to the Publisher using the HPCA user name and password. By default, the user name is **admin** and the password is **secret**.
- 3 In the Publishing Options area, select **HP Softpaq** and click **OK**. The Select window opens.
- 4 Select the Softpaq file to publish.
 - The Summary section shows the selected Softpaq information, including whether or not the Softpaq is SSM compliant. If the selected Softpaq is not SSM compliant and no silent install is included as part of the Softpaq, you must extract the Softpaq contents and read the accompanying documentation. Publish the required files and set up the installation method as instructed.
 - The System information dialog box shows all of the hardware the selected Softpaq supports.
- 5 Click **Next**. The Application Information window opens.
- 6 View, and if necessary, modify the Softpaq information. The application information is pre-determined based on what is available from the Softpaq file.
- 7 Click **Next**. The Summary window opens.
- 8 Review the summary information and when satisfied, click **Publish**.
- 9 When the publishing process is complete, click **Finish** to close the Publisher.

The Softpaq is published to HPCA and is available for distribution to managed devices. View the published Softpaq in the HPCA console Software Management, Software Library. Deployed Softpaqs are included within the HP Softpaq category group in the Application Self-Service Manager on managed devices.

Publishing BIOS Settings

Use the Publisher to publish a BIOS settings file as a service for distribution to client devices. You can use the settings file to update or modify BIOS settings (for example, boot order) or to change the BIOS password on the client device.

A sample BIOS settings file (`Common HP BIOS Settings.xml`) is included with the Publisher installation and located by default at: `<InstallDir>\Agent\BIOS`. Use this file to modify BIOS settings on target devices.

If the sample BIOS settings file does not include the options you require, or you would like to create a settings file for a specific device, see on page 291.

To publish BIOS settings

- 1 Start the Publisher (see [To start the Publisher](#) on page 287).
- 2 At the Logon window, type your administrator User ID and Password and click **OK**.
 - ▶ Log in to the Publisher using the HPCA user name and password. By default, the user name is **admin** and the password is **secret**.
- 3 In the Publishing Options area, select **HP BIOS Configuration** and click **OK**. The Select window opens.
- 4 Select the BIOS settings file to publish. The sample BIOS settings file (`Common HP BIOS Settings.xml`) is located by default in: `<InstallDir>\Agent\BIOS`.
- 5 In the **Current BIOS Admin Password** area, type and then confirm a BIOS password if required. This is required to change any settings if the target devices have a BIOS password.

- 6 If you want to change the current BIOS password, select **Change BIOS Password**, then type and confirm the new password. This is required only if you want to change the BIOS password on a client device.
- 7 Click **Next**. The BIOS Options window opens.
- 8 To select the BIOS settings to be publishes select the check box to the left of the BIOS setting names.
- 9 If you need to change the value of a BIOS setting, click the setting name and adjust the available options as necessary.
- 10 Click **Next**. The Application Information window opens.
- 11 View, and if necessary, modify the application information. Application information is pre-determined based on what is available from the settings file.
- 12 Click **Next**. The Summary window opens.
- 13 Review the summary information. If it looks fine, click **Publish**.
- 14 When the publishing process is complete, click **Finish** to close the Publisher.

The BIOS settings service is available in the Software library of the HPCA console.

Thin Client Publishing

The following options are available when publishing for Thin Clients:

- [Thin Client Component Select Publishing](#) on page 291
- [Thin Client OS Image Publishing](#) on page 293

Thin Client Component Select Publishing

To publish software other than Windows Installer files, use the Component Select option and select the software you want to publish.

To publish using Component Select

- 1 Start the Publisher (see [To start the Publisher](#) on page 287).
- 2 At the Logon window, type your administrator User ID and Password and click **OK**.
 - ▶ Log in to the Publisher using the HPCA user name and password. By default, the user name is **admin** and the password is **secret**.
- 3 In the Publishing Options area:
 - Select **Thin Client Publishing**.
 - From the drop-down list, select **Component Select**.
- 4 Click **OK**. The Select files to publish window opens.
- 5 Select the files to publish and click **Next**.
 - ▶ The directory path where the software is located (and published from) will be the directory path to where the software is deployed on target devices.
 - ▶ Although network shares are displayed, they should not be used to publish software (since they may not be available during deployment).


The Target Path window opens.

- 6 Select the install point, as shown in the following figure.



- 7 Enter the commands to run on application install and uninstall. For example, a command to run on install might be: `C:\temp\installs\install.exe /quietmode /automatic c:\mydestination`

A command to run on uninstall could be: `C:\temp\installs
\uninstall.exe /quietmode /automatic`

 You can right-click any file to set it as the install or uninstall command.

- 8 Click **Next**. The Application Information window opens.
- 9 Use the Application Information section to enter the software service information.
- 10 Use the **Limit package to systems with** section to limit the service to any specific operating system or hardware. Click any link to display the configurable options.
- 11 Click **Next**.
- 12 Review the Summary section to verify the service information you provided during the previous steps. When you are finished, click **Publish**.
- 13 Click **Finish** when the publishing process is finished to exit the Publisher.

The software service is now ready for distribution to your enterprise.


Thin Client OS Image Publishing

Operating system images created using the Image Preparation wizard are stored on the HPCA server in `<InstallDir>\Data\OSManagerServer\upload`. Use the Publisher to publish operating system image files (.IMG) for distribution to managed devices.

The following section describes how to use the Administrator Publisher to publish Thin Client operating system images.

To publish operating system images

- 1 Start the Publisher (see [To start the Publisher](#) on page 287).
- 2 At the Logon window, type your administrator User ID and Password and click **OK**.

 Log in to the Publisher using the HPCA user name and password. By default, the user name is **admin** and the password is **secret**.
- 3 In the Publishing Options area:

- Select **Thin Client Publishing**.
 - From the drop-down list, select **OS Image**.
- 4 Click **OK**. The Select OS image file window opens.
 - 5 Use the Select window to find and select the file you want to publish. (Images created using the Image Preparation Wizard are stored on the HPCA server in under `<InstallDir>\Data\OSManagerServer\upload`).
 - 6 Use the **Description** area to verify the file before you continue. You can also add information to the description if you choose.
 - 7 Click **Next**.

If you chose to publish a .WIM file, the WIM Deployment Configuration window opens. If you want to publish an .IMG file, you can skip to the next step.

- a From the **Deployment method** drop-down list box, select ImageX.
- b Leave the **Sources Directory** blank. This is not required.
- c In the **Client media location**, browse to the correct path for the HPCA Agent media (this is the `Media\client\default` folder on the HPCA media).

If you have already published this, you can select **Use an existing package published previously** and then select the appropriate package.

- 8 Click **Next**. The Application Information window opens.
- 9 Use the **Application Information** section to enter the service information.
- 10 Click **Next**. The Summary window opens.
- 11 Review the **Summary** information to verify the package and service information you provided during the previous steps. When you are satisfied, click **Publish**.
- 12 Click **Finish** to exit the Publisher when the publishing process is complete.

The service is now ready for distribution to managed devices in your enterprise.

You can view the published operating system image service in the OS Management section, Operating Systems OS Library list.

Viewing Published Services

View published software in the Management tab, Software Management area. Published operating systems are stored in the Operating System area.

HP Client Automation Administrator Agent Explorer

Installed with the Publisher as part of the HP Client Automation Administrator, the Agent Explorer is available to aid with troubleshooting and problem resolution and should not be used without direct instructions from HP Support.

12 Using the Application Self-Service Manager

The HP Client Automation Application Self-Service Manager (Self-Service Manager) is the client-resident product with which users can install, remove, and update optional applications that have been made available to them. The applications have to be entitled to the users by an HPCA administrator. The Self-Service Manager presents users with a catalog of the applications to which they are entitled, and they can self-manage the installation, removal, and updating of the applications. The Self-service Manager gets installed on client devices when the Management Agent is deployed to those devices.

The following sections describe how to use the Self-service Manager user interface.

- [Accessing the Application Self-Service Manager](#) on page 298
- [Application Self-Service Manager Overview](#) on page 298
- [Using the Application Self-Service Manager User Interface](#) on page 302
- [Customizing the User Interface](#) on page 308
- [HPCA System Tray Icon](#) on page 314

Accessing the Application Self-Service Manager

The Self-service Manager user interface can be accessed through either of the following methods.

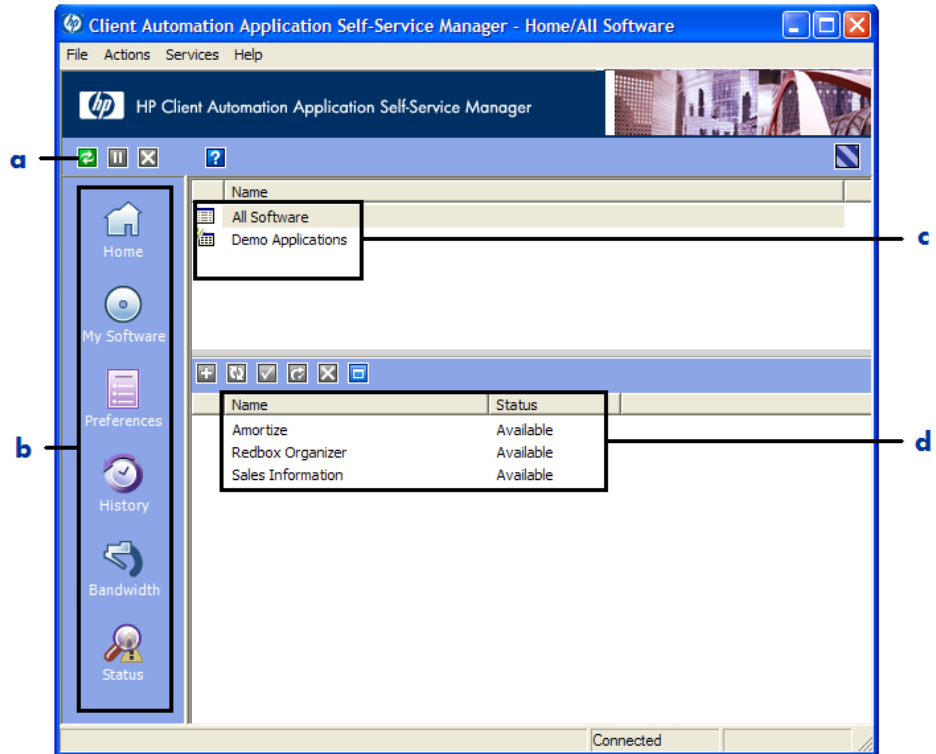
To access the user interface

- Go to **Start > Programs > HP Client Automation Agent > Client Automation Application Self-Service Manager**.
- or
- Double-click the **Client Automation Application Self-Service Manager** desktop shortcut.

Application Self-Service Manager Overview

The Self-service Manager interface (see [Figure 15](#) on page 299) has four main sections that allow users to manage available applications, view information and status for software in their catalog, and customize the user interface display.

Figure 15 Application Self-Service Manager user interface



Legend

- a **Global Toolbar** – Allows you to refresh the catalog, and pause or cancel the current action
- b **Menu Bar** – Displays various menu choices available while using the Application Self-Service Manager
- c **Catalog List** – Lists the different software catalogs available
- d **Service List** – Lists the applications to which the user are entitled

The following sections describe the user interface sections in more detail.


- [Global Toolbar](#) on page 300
- [Menu Bar](#) on page 300
- [Catalog List](#) on page 301
- [Service List](#) on page 301

Global Toolbar


The Global Toolbar allows you to refresh the catalog, pause the current action, or cancel the current action. When an action has been paused, no other action can take place until you either resume the action by clicking the **Pause** button again, or cancel the paused action by clicking the **Cancel** button.


Any time one of the buttons in the Global Toolbar is not available for the current action, it will appear grayed-out.

To refresh the catalog


To refresh the selected catalog using the Global Toolbar, click **Refresh** .

To pause or resume the current action

To pause the current action using the Global Toolbar, click **Pause** .

To resume a paused action, click **Resume** . (The **Pause** button is replaced with this button after you pause an action).

To cancel the current action

To cancel the current action using the Global Toolbar, click **Cancel** .

Menu Bar

Use the Menu Bar to configure and customize the Application Self-Service Manager. The following sections describe each icon on the Menu Bar.

Home: Click this button to access your home catalog.

My Software: Click this button to display only those applications that you have installed.

Preferences: Click this button to access various display options, application list options, and connection options for the Self-service Manager.

At any point you can click **OK**, **Apply**, or **Cancel** in the top right corner of this section to keep or disregard any changes you make.

Catalog List

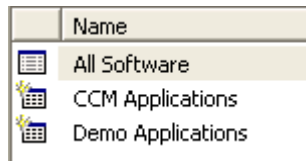
The Catalog List section lists the available software catalogs and any virtual catalogs.




To select a catalog

- In the Catalog List, click the catalog you want to view in the Service List section. To refresh the catalog, right-click the name of the catalog and select **Refresh** from the shortcut menu.

Virtual Catalogs

Virtual catalogs are subsets of the default catalog defined by the administrator in HPCA in the Software Details. Any services with the same catalog group value will be grouped together in a virtual catalog. The following image displays a few sample catalogs:



	Name
	All Software
	CCM Applications
	Demo Applications

Service List

The Service List section lists the applications that are available to you. A check mark appears next to an application that is already installed. The column headings can be changed to suit your needs. For more information, see *Preferences* in the section, [Menu Bar](#) on page 300.

Table 32 Buttons in the Service List Section






Button	Action	Description
	Install	Installs the selected service on your machine.
	Verify	Verifies the files for the selected service.

Table 32 Buttons in the Service List Section

Button	Action	Description
	Repair	Repairs the selected service.
	Remove	Removes the selected service from your machine.
	Expand/Collapse	Expands or collapses the selected service.



The buttons in the Service List section are gray when they are not available for the selected application.

Using the Application Self-Service Manager User Interface


Use the user interface to install and remove software, refresh the catalog of available applications, and view information about the applications. The Menu Bar contains buttons for viewing session history, adjusting bandwidth, and viewing the current status of an application. See the following sections for additional information.

- [Installing Software](#) on page 303
- [Refreshing the Catalog](#) on page 303
- [Viewing Information](#) on page 304
- [Removing Software](#) on page 305
- [Verifying Software](#) on page 305
- [Repairing Software](#) on page 305
- [Viewing History](#) on page 306
- [Adjusting Bandwidth](#) on page 306
- [Viewing Status](#) on page 307

Installing Software

The applications that are available to you are listed in the Service List. You can install one or more of these applications at any time.



To install software

- 1 In the Service List, click the name of the application that you want to install.
- 2 Click the **Install** button .


Some installations may display a set of dialog boxes. If so, follow the instructions. Otherwise, the installation begins immediately.

- ▶ You can also right-click the name of the application that you want to install, then select **Install** from the shortcut menu that opens.

A progress bar indicates the installation progress.

- Click **Cancel**  in the Global Toolbar to cancel the installation.
- Click **Pause**  in the Global Toolbar to pause the installation. If you pause an action, you will not be able to perform any other actions until you either cancel or resume the currently paused action.


Refreshing the Catalog

The catalog is refreshed whenever you log on to the Self-Service Manager user interface. While you are logged on, if you believe that the list of applications that you are authorized to use has changed, or that updates to your installed applications have become available, click **Refresh Catalog**  in the Global Toolbar to update the list of applications.

- ▶ You can also right-click any item in the Service List, then select **Refresh Catalog** from the shortcut menu that opens.

Viewing Information

The Service List presents basic information, although additional information about an application (such as vendor, version, size, and installation date) can be retrieved by:

- Adding these columns to the Service List.
- Clicking **Show Extended Information**  in the expanded service box.

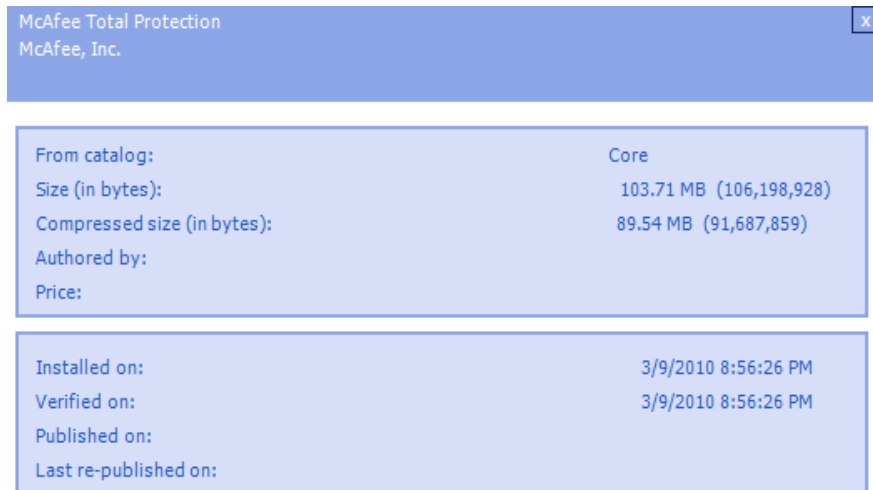
If you want more information from the manufacturer, click that vendor's link.

To view more information

- 1 In the Service List, select an application, and click **Show Extended Information** .



You can also right-click the application, select **Properties**, then select **Information** from the shortcut menu that opens.




McAfee Total Protection
McAfee, Inc.

From catalog:	Core
Size (in bytes):	103.71 MB (106,198,928)
Compressed size (in bytes):	89.54 MB (91,687,859)
Authored by:	
Price:	


Installed on:	3/9/2010 8:56:26 PM
Verified on:	3/9/2010 8:56:26 PM
Published on:	
Last re-published on:	


- 2 Click the corresponding **Cancel** button to return to the Service List.

Removing Software

Use the **Remove** button  to remove an application from your computer.

To remove software


- 1 Select the application that you want to remove.
- 2 Click **Remove** .
- 3 Click **Yes** if you are asked to confirm that you want to remove the application.

 You can also right-click the name of the application that you want to remove, then select **Remove** from the shortcut menu that opens.

Verifying Software

To check the installation of an application

- 1 In the Service List, select the installed service that you would like to verify.
- 2 Click **Verify**.

 You can also right-click the name of the software, then select **Verify** from the shortcut menu that opens.

- If the application passes verification, the date and time of verification will appear in the Verified Date column for the application.
 - If the application fails verification, Broken will appear in the Status column.
- 3 To repair the software, click **Repair**.

Repairing Software

If there is something wrong with an application, click **Repair** to fix it.

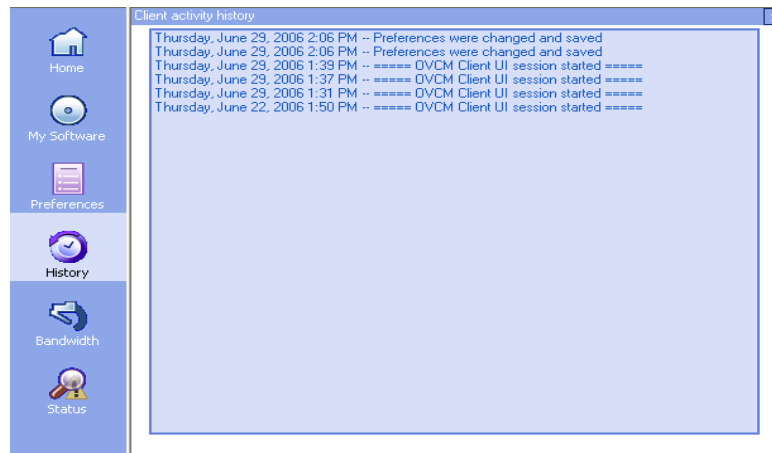
To repair software

- 1 Select an application that needs to be repaired. This is designated by an X in the first column, and Broken, in the Status column.
- 2 Click **Repair**. HPCA retrieves the files needed to fix the application.

Viewing History

- 1 In the Menu Bar, click **History** to display a history of the current session.

Figure 16 History window



- 2 Close the history window to return to the service list.

Adjusting Bandwidth

In the Menu Bar, click **Bandwidth** to display the bandwidth slider. Changing this value dynamically changes the throttling value.

To adjust the bandwidth settings using the bandwidth slider

- Click and drag the slider to increase or decrease the amount of bandwidth throttling desired.
- You can also adjust bandwidth throttling from within the Preferences, Connection options section.

Viewing Status

In the Menu bar, click **Status** to display the status of the current action including the size, estimated time, progress, and available bandwidth.

Figure 17 Status display for selected application



The Status window can be docked or un-docked from the Application Self-Service Manager. This enables you to position it anywhere on your screen. The Status window is docked by default.

To un-dock the Status window

- 1 Click **Status** in the Menu Bar.
- 2 Right-click in the Status window that opens.
- 3 Select **Docked** from the shortcut menu. When the Status window is docked, a check mark will appear next to the word **Docked** in the shortcut menu.



The Status window will be released from the Application Self-Service Manager interface, allowing you to position it anywhere on your screen.

To dock the Status window

- 1 Click **Status** in the Menu Bar.
- 2 Right-click in the Status window that opens.
- 3 Select **Docked** from the shortcut menu (only if there is no check mark present).



The Status window will be docked into the Application Self-Service Manager interface.

Customizing the User Interface

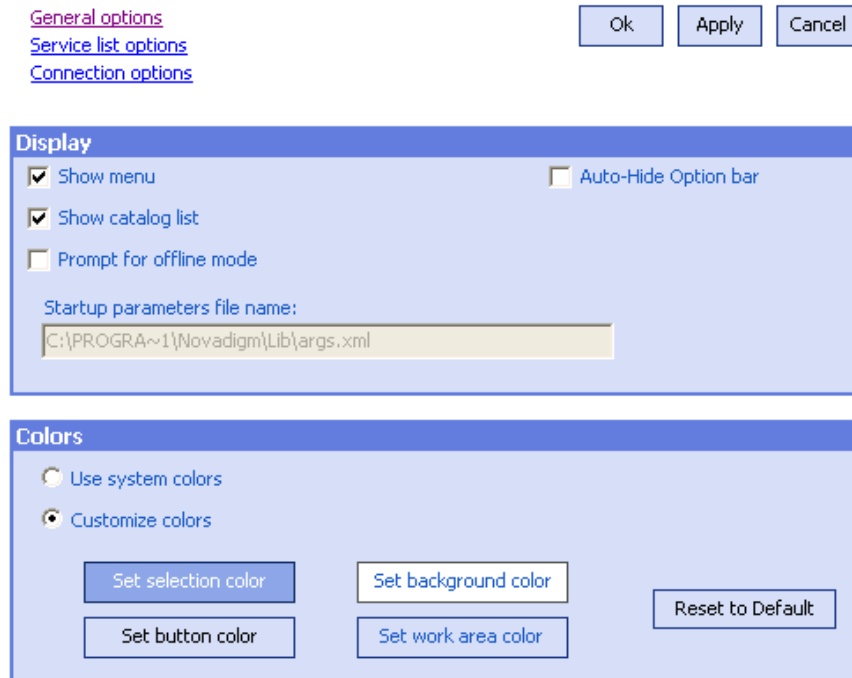
Click the **Preferences** button in the Menu Bar to view the available customization options. The following sections describe each customization area.

- [General Options](#) on page 308
- [Service List Options](#) on page 310
- [Connection Options](#) on page 313

General Options

Use the General options window to modify the appearance of the Application Self-Service Manager interface.

Figure 18 General options window



To modify the display

- If you want to display the menu, select **Show menu**.
- If you want to display the catalog list, select **Show catalog list**.
- If you want to be prompted to use the Application Self-Service Manager in offline mode at the beginning of each session, select **Prompt for offline mode**.
- If you want to have the Option bar automatically hidden, select **Auto-Hide Option bar**.

To modify the colors

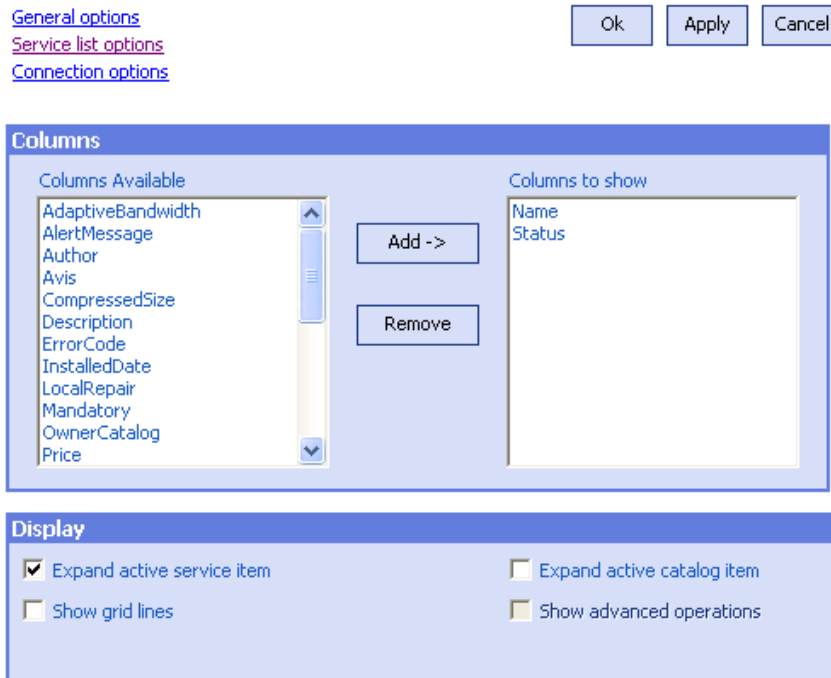
- If you want to use the system colors, select **Use system colors**.
- If you want to customize the color scheme, select **Customize colors**.
 - After selecting Customize colors, click the box labeled:

- **Set selection color** to modify the color of selections.
- **Set button color** to modify the button colors.
- **Set background color** to modify the background color.
- **Set work area color** to modify the background color.

Service List Options

Use the **Service list options** to modify the appearance of the Service List.

Figure 19 Service List options



To customize the column names in the Service List

Use the Columns area to customize the columns that appear in your Service List. The right column lists the names of the column that are currently displayed in your Service List. For a description of each available column heading, see [Customizing the Display](#) on page 311.

To add columns to the Service List

In the Columns Available list box, select one or more names and click **Add**. The selected columns are listed in the Columns to show list box.

To remove columns from the Service List

- 1 In the Columns to show list box, select one or more names. Hold the **Shift** or **Ctrl** keys on your keyboard to select multiple consecutive or non-consecutive column names, respectively.
- 2 Click **Remove**. The selected columns are removed from the Columns to show list box and returned to Columns available.

Customizing the Display

- Select **Expand active service item** to expand the current service item in the Service List.
- Select **Show grid lines** to display the Service List with grid lines separating each service.
- Select **Expand active catalog item** to expand the current catalog selected.
- **Show advanced operations** is not available at this time.

Table 33 Column headings available for the Service List

Column Heading	Description
AdaptiveBandwidth	Adaptive minimum percentage of bandwidth used when using bandwidth throttling.
AlertMessage	Allows longer application description or instruction message to the end user. (Optional service text field as part of Alert/Defer configuration).
Author	The author of the service.
Avis	Service status flags for internal use only.
CompressedSize	The size of the compressed service (bytes).
Description	A short description of the application.
ErrorCode	Current Service status. Example: Initial = 999. Method Failure = 709.

Table 33 Column headings available for the Service List

Column Heading	Description
InstalledDate	The date on which the application was installed on your computer.
LocalRepair	If data is repairable locally (cached on your computer).
Mandatory	Mandatory/Optional files defined on application (for internal use).
Name	The name of the application.
OwnerCatalog	The originating application domain name.
Price	Price of the service.
PublishedDate	The date on which the application was published to the catalog.
Reboot	Service reboot settings (for internal use).
RePublishedDate	The date on which the application was republished to the catalog.
ReservedBandwidth	Reserved maximum percentage of bandwidth used when using bandwidth throttling.
ScheduleAllowed	Specifies whether end users are allowed to change the update schedule for the application, locally.
Size	The size of the application (bytes). Note: You will need this amount of free space on your computer to successfully install the application.
Status	Current status of the application <ul style="list-style-type: none">• Available• Installed• Update Available• Broken
SystemInstall	Displays if application will be installed using System account.
ThrottlingType	Type of Bandwidth throttling to use. Possible values: ADAPTIVE, RESERVED or NONE.
Option	Determines whether the status window is displayed.
UpgradedDate	The date on which the application was upgraded.

Table 33 Column headings available for the Service List

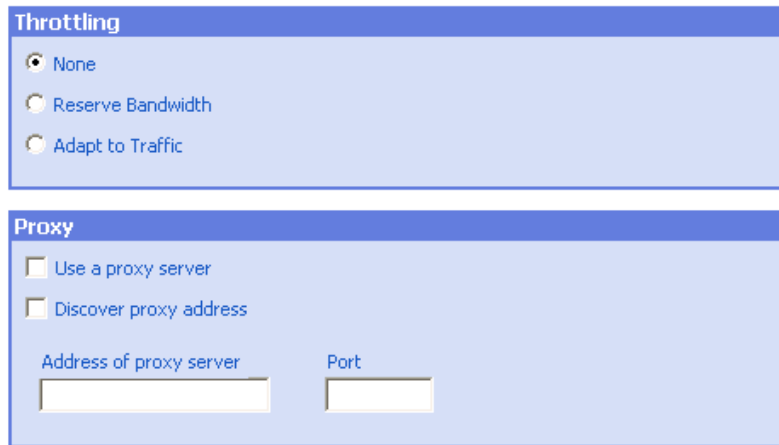
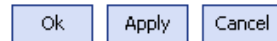
Column Heading	Description
Url	The software vendor's web address.
Vendor	The software vendor who supplied the application.
VerifiedDate	The date on which the application was last verified.
Version	The version of the application.

Connection Options

Use **Connection options**, see [Figure 20](#) on page 313, to select the type of bandwidth throttling to use and to specify proxy server settings.

Figure 20 Connection Options

[General options](#)
[Service list options](#)
[Connection options](#)

The screenshot shows a dialog box with two sections: 'Throttling' and 'Proxy'. The 'Throttling' section has three radio buttons: 'None' (selected), 'Reserve Bandwidth', and 'Adapt to Traffic'. The 'Proxy' section has two checkboxes: 'Use a proxy server' and 'Discover proxy address', both of which are unchecked. Below these are two text input fields labeled 'Address of proxy server' and 'Port'.

- **Throttling**
 - Select **None** for no throttling.

- Select **Reserve Bandwidth** to slide along the scale to indicate the maximum percentage of the network bandwidth to use. The reserve bandwidth can be changed in the interface by the user as the download is happening.
- Select **Adapt to traffic** to slide along the scale to indicate the minimum percentage of the network bandwidth to use. The adaptive bandwidth cannot be changed during a data download process. It can be set only before a job is dispatched.
- **Proxy**
 - The Application Self-Service Manager can detect an internet proxy when one is used. The internet proxy's address is then stored in PROXYINF.EDM located in the client computer's IDMLIB directory. The default location of IDMLIB is <InstallDir>\Agent\Lib. The next time the HPCA agent computer connects to the HPCA server, the specified internet proxy will be used. To use this feature, you must enable your HPCA agent to use and discover an internet proxies.

HPCA System Tray Icon

The HP Client Automation System Tray icon provides status and statistics information, as well as pause and cancel mechanisms to the user.

Figure 21 HPCA System Tray Icon



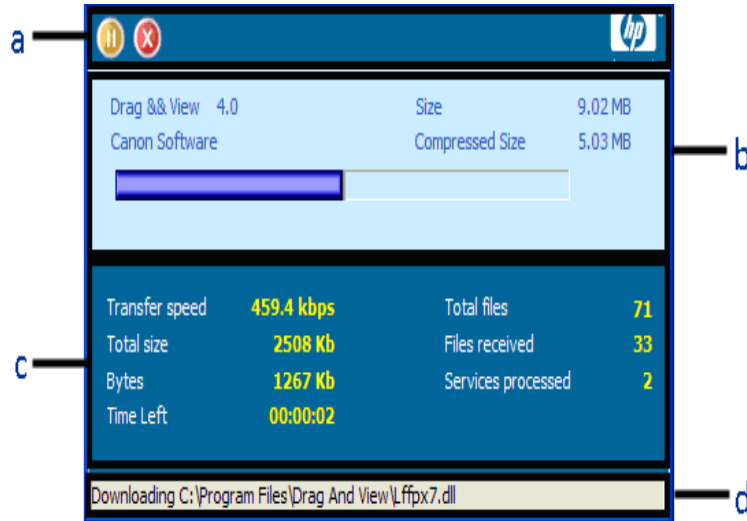
Move your cursor over the icon to see HPCA states:

- **Idle:** When no actions are in progress and no user intervention is required, the icon is static. When the System Tray icon is idle, it may be hidden.
- **Active:** The icon becomes activated when the Application Self-Service Manager is working or when user intervention is required. Pause your cursor on the icon to view a bubble that provides activity information. If a critical notify occurs, the bubble will automatically pop up.

HPCA Status Window

Left-click the HPCA System Tray icon to view the Status window. The Status window opens as shown in the following figure.

Figure 22 HPCA Status




Legend

- a Button bar
- b Information panel
- c Status area
- d Status message

The Status window contains the following areas:

- **Button Bar:** Contains buttons for Pause and Cancel, and a logo that becomes animated when the HPCA agent is actively working.
- **Information Panel:** This area contains information about the active application, and a progress bar that shows the percentage of the task finished.
- **Status Area:** Contains statistics about the active processes, including transfer speed, total size of transmission, bytes received, estimated time left of transmission, total files to be transmitted, number of files received, and number of services processed.

- **Status Message Area:** This area shows a message about the current process.
 - **Bandwidth Control:** If you set bandwidth throttling for the application on the HPCA server, and you click the bandwidth toggle button  in the System Tray Console, a slider for bandwidth control appears. Adjust the slider to change the bandwidth throttle value.

13 Personality Backup and Restore

The HPCA Personality Backup and Restore solution enables you to back up and restore user files and settings for applications and operating systems on individual managed devices. Files and settings are stored on the HPCA Core server and are available for restoration to the original device or a new device. Alternatively, you can back up and restore files and settings locally on a managed device.

You can use the HPCA Personality Backup and Restore solution to migrate files and settings as part of an operating system deployment.

The HPCA Personality Backup and Restore solution is based on the Microsoft User State Migration Tool (USMT). It enhances USMT by providing both remote and local management of the migration store created by USMT. It also downloads the required USMT control files to eliminate the need to deploy those separately. HPCA supports USMT versions 3.0.1 and 4.0.

► Backups created with versions of HPCA prior to HPCA 7.5 cannot be restored, because they were based on a different backup technology.

The following sections explain how to implement the HPCA Personality Backup and Restore solution in your environment.

- [Requirements](#) on page 317
- [About USMT](#) on page 319
- [Using Personality Backup and Restore](#) on page 324
- [Troubleshooting](#) on page 333

Requirements

Before you implement the Personality Backup and Restore solution, make sure that your environment meets the following requirements.

- [Operating System](#) on page 318
- [Disk Space](#) on page 318
- [Software](#) on page 319

Operating System

You can create backups from source computers with the following operating systems:

- Windows XP
- Windows Vista
- Windows 7

You can restore files and settings to destination computers with the following operating systems:

- Windows XP
- Windows Vista
- Windows 7



The `/hardlink` option can only be used for restore operations on Windows Vista and Windows 7 operating systems. It can be used for backup on Windows XP SP2 and later operating systems.

See [Using the Command Line Interface](#) on page 329 for more information.

Disk Space

Before you begin, you must make sure that your source computer, destination computer, and the HPCA Core server have adequate disk space to store the files and settings that will be backed up. To estimate the disk space that will be needed for the backup, refer to “Determine Where to Store Data” on the Microsoft TechNet website at the following URL:

<http://technet.microsoft.com/en-us/library/cc722431.aspx>.

Note that the storage location is automatically set by HPCA, and each of the source computer, destination computer, and HPCA Core server must have adequate disk space available for the files and settings being migrated.

Also note that the destination computer needs to have twice the disk space required by the files and settings being migrated.

If you use the HPCA Personality Backup and Restore Utility, the HPCA Core server stores the archived user files and settings that were created during the backup. During a restore, the archived files and settings are downloaded to a temporary location on the destination computer and then restored to their original location. After a successful restore, the archived files and settings are deleted from the destination computer.

If you use the `pbr.exe` command with the `/localstore` option, backups are stored locally on the disk under `C:/OSMGR.PRESERVE/PBR.work`. The backups are not deleted, because they are the only copy of those files.

Software

You need the following applications:

- **Microsoft USMT version 3.0.1 or 4.0**

This application must be installed in the default location on the source and destination devices. See the [About USMT](#).



This solution requires that you use Microsoft USMT version 3.0.1 or version 4.0. No other versions of USMT are supported.

- **HP Client Automation Personality Backup and Restore**

This application must be installed on both the source and destination devices. It is installed automatically when the HPCA agent is installed on a managed device.

About USMT

Because the HPCA Personality Backup and Restore solution is based on the Microsoft User State Migration Tool (USMT), you should become familiar with this tool and its capabilities by reviewing its documentation on the Microsoft Technet web site at the following URL:

<http://technet.microsoft.com/en-us/library/cc722032.aspx>

This section describes Microsoft USMT; how to obtain it, install it, and how to use its migration files. For a description of the Hewlett-Packard user interface provided with the Personality Backup and Restore solution, which invokes USMT automatically during a backup and restore, see [Using the HPCA Personality Backup and Restore Utility](#) on page 325.

Supported Files, Applications, and Settings

USMT migrates a wide variety of data including user files and folders (e.g., the My Documents folder on XP or the Documents folder on Vista), operating system settings (e.g., folder options and wallpaper settings), and application settings (e.g., Microsoft Word settings). For a comprehensive list see “What does USMT 3.0 Migrate?” on the Microsoft TechNet web site at the following URL:

<http://technet.microsoft.com/en-us/library/cc722387.aspx>

Also see “What’s New in USMT 4.0?” at the following URL:

<http://technet.microsoft.com/en-us/library/dd560752.aspx>

- For application settings to migrate successfully, the version of an application should be identical on the source and destination computers. There is one exception. You can migrate Microsoft Office settings from an older version on a source computer to a newer version on a destination computer.
- USMT only migrates application settings that have been accessed or modified by the user. Application settings that have not been accessed by the user on the source computer may not migrate.
- Some operating system settings, such as fonts, wallpaper, and screen saver settings, are not applied until after a reboot on the destination computer.

Obtaining and Installing Microsoft USMT 3.0.1 or 4.0

You might want to install USMT for one or both of the following reasons:

- As an administrator, you want to become familiar with the capabilities of USMT and to learn how to customize the migration rules for your personalized solution.
- As an end user, you want to be able to back up and restore files and settings on managed devices.

If you want to implement Personality Backup and Restore, you must install Microsoft USMT 3.0.1 or 4.0 on the source computer for backup, and on the destination computer for restore. This section explains where you can obtain this application, and how to install it.



You must use Microsoft User State Migration Tool, version 3.0.1 or 4.0. No other versions of USMT are supported.

Obtaining Microsoft USMT 3.0.1

USMT 3.0.1 is available at the Microsoft Download Center:

<http://www.microsoft.com/downloads>

There are two versions: 32-bit and 64-bit. Select the appropriate version for your environment.

Obtaining Microsoft USMT 4.0

USMT 4.0 is part of the Windows Automated Installer Kit (AIK) for Windows 7, which is available at the Microsoft Download Center:

<http://www.microsoft.com/downloads>

There are two versions: 32-bit and 64-bit. Select the appropriate version for your environment.



See [Using the Command Line Interface](#) on page 329 for information about how the `/hardlink` option can be used on the various supported operating systems.

Installing Microsoft USMT on Managed Devices

You can install USMT on managed devices in two ways. You can install it manually, or you can package it into a service using the HPCA Administrator Publisher (see [Publishing](#) on page 287) and then entitle or deploy it to managed devices. USMT must be installed in the default location on both the source and destination client devices:

Table 34 Default USMT Installation Locations

USMT Version	Default Location
3.0.1	C:\Program Files\USMT301
4.0	C:\Program Files\Windows AIK\Tools\USMT

Be certain to install the appropriate version (32-bit or 64-bit) based on the operating system of the managed device.

Migration Files

The Personality Backup and Restore solution uses the following USMT migration files to specify the components to include in the migration.

- MigSys.xml – migrates operating system settings
- MigApp.xml – migrates application settings
- MigUser.xml – migrates user folders and files



In USMT 4.0, the MigSys.xml is renamed as MigDocs.xml.

Before you implement this solution in your environment you must obtain these files and store them on the HPCA Core Server (see [Storing the Migration Rules on the Core Server](#) on page 323).

To obtain these files you must install USMT on one of its supported platforms (see [Obtaining and Installing Microsoft USMT 3.0.1 or 4.0](#) on page 320). The installation places these files in the directories shown in [Installing Microsoft USMT on Managed Devices](#) on page 322.

You can then edit these files (see [Editing the Rules](#) on page 323) or use them as is.

Editing the Rules

In some instances you may want to edit the default migration rules. For example, you may not wish to migrate settings for a particular application or may want to exclude a particular file type. To modify the default migration behavior, you need to edit the migration XML files. Refer to the following document to learn how to customize these files:

<http://technet.microsoft.com/en-us/library/cc766203.aspx>

Storing the Migration Rules on the Core Server

When you are finished editing the migration files—or even if you choose not to edit them—save the files in the following folder on the HPCA Core server:

```
DataDir\PersonalityBackupAndRestore\conf
```

Here, *DataDir* is the user-configurable data directory specified during the HPCA Core installation.



The migration files must have the same file names as the original files obtained from the Microsoft USMT 3.0.1 or 4.0 installation: `MigSys.xml`, `MigApp.xml`, and `MigUser.xml`.

ScanState and LoadState Command Lines

The migration rules are downloaded from the Core Server by the Personality Backup and Restore Utility and are used by the USMT executables `ScanState` and `LoadState` that collect and restore the personality data. `ScanState.exe` is the executable that collects personality data on the source computer. Here is the `ScanState` command line that is used by the Personality Backup and Restore Utility:

```
ScanState.exe /i:MigApp.xml /i:MigUser.xml /i:MigSys.xml /o  
/l:ScanState.log /localonly "Agent\Lib\PBR\work\store"
```

where *Agent* is the agent's installation directory.

`LoadState` is the executable that restores the personality data to the destination computer. Here is the `LoadState` command line that is used by the Personality Backup and Restore Utility:

```
LoadState.exe /i:MigApp.xml /i:MigUser.xml /i:MigSys.xml  
/l:LoadState.log /lac:password /lae  
"Agent\Lib\PBR\work\store"
```

Here, *Agent* is the agent's installation directory.

These command lines are not customizable, but are provided here to facilitate your understanding of what is being backed up and restored. Note that these `ScanState` and `LoadState` command line arguments automatically migrate all user accounts on a system, including local user accounts. If, when the restore is performed, a local user account does not exist on the destination computer, `LoadState` will create it with a password of `password` (see command line above). Therefore, after the restore, you should change the password of any restored local user accounts.

Using Personality Backup and Restore

There are three ways that you can access the HPCA Personality Backup and Restore feature:

- [Using the HPCA Personality Backup and Restore Utility](#) on page 325
- [Using the Personality Backup and Restore Services](#) on page 331
- [Using the Command Line Interface](#) on page 329

All three methods invoke the same HPCA application, which is called `pbr.exe`. Each time that `pbr.exe` runs, it downloads the three migration XML files (see [Migration Files](#) on page 322) from the HPCA Core server to the managed device and uses these files to perform the backup or restore.

By default, `pbr.exe` stores the backup files on—and restore them from—the following location on the HPCA Core server:

```
DataDir\PersonalityBackupAndRestore\backups
```

Here, *DataDir* is the data directory specified during the installation of the HPCA Core. A subdirectory is created under the `backups` folder for each managed device that is backed up, and it contains all of the information that is required for a restore.



If you want to store the backup files on the local hard disk of the managed device instead of on the HPCA Core server, you can use the `pbr.exe` command with the `/localstore` option. In this case, the files are stored on the local disk in the following location:

```
C:/OSMGR.PRESERVE/PBR.work
```

All of the information that is required for a restore is stored in this location.

If you are using USMT version 4.0 (included in the Windows AIK for Windows 7), you can specify the `/hardlink` option to create a hard-link migration store instead of physically copying the files. This speeds up the backup and restore operations.

See [Using the Command Line Interface](#) on page 329 for details.



Whether the backup files are stored on the HPCA Core server or the local hard disk of a managed device, they are never automatically deleted. If backup data for a particular device is no longer needed, that backup data can be deleted manually by the HPCA administrator

Using the HPCA Personality Backup and Restore Utility

The HPCA Personality Backup and Restore Utility is a user interface that simplifies the usage of USMT. The Utility is deployed to managed devices when the HPCA agent is installed.



Before you begin, make sure you have enough disk space available on the HPCA Core server and on both the source and destination computers (see [Disk Space](#) on page 318.)

To start the Personality Backup and Restore Utility

On the managed client device, use the Start menu, and go to:

All Programs > HP Client Automation Personality Backup and Restore > Client Automation Personality Backup and Restore Utility

The following sections explain how to use the Utility:

- [Personality Backup](#) on page 326
- [Personality Restore](#) on page 327

Personality Backup

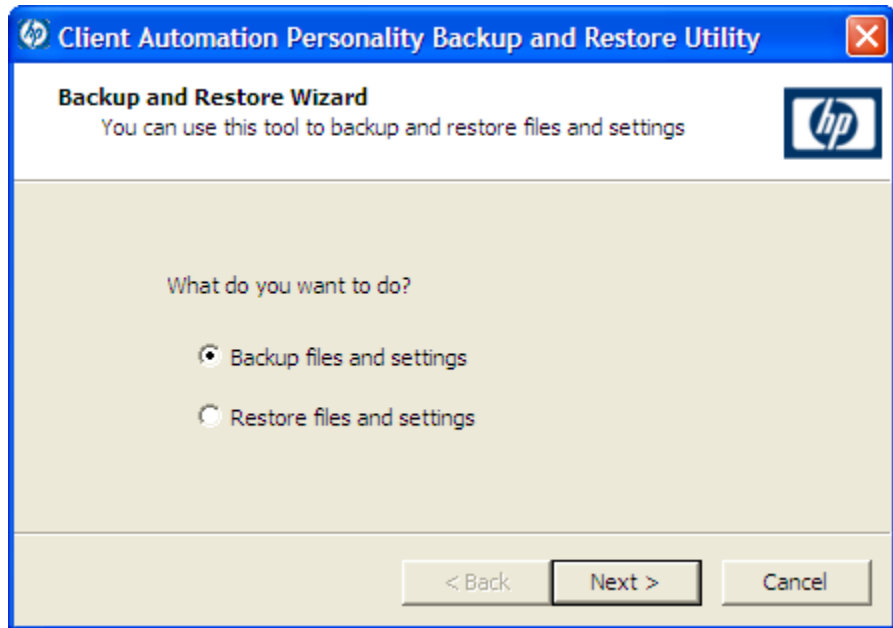
You must run the Personality Backup and Restore Utility from a user account with administrator privileges.



To help ensure a successful backup, close as many open files and running applications as possible before you run the backup. Do not launch new applications or open files while the backup is running, as this can cause the backup to fail.

To back up files and settings:

- 1 On the managed device, start the Personality Backup and Restore Utility (see [To start the Personality Backup and Restore Utility](#) on page 325).



- 2 Select **Backup files and settings**, and click **Next**. The Backup dialog box opens.
- 3 Enter the computer name of the device that you want to back up.
- 4 Enter a password that is at least 7 but no more than 15 characters long, and click **Next**. The summary dialog box opens.

- 5 Review the summary information. Make a note of the computer name and password that you use, as you will need this information to restore your files and settings.
- 6 Click **Finish** to begin the backup process. Depending on the amount of data to be backed up, this process can take from a few minutes to several hours to complete. Wait for the Personality Backup and Restore Utility to indicate that the backup has completed before you close the application.

Personality Restore

You must run the Personality Backup and Restore Utility from a user account with administrator privileges.



To help ensure a successful restore, close as many open files and running applications as is possible before you run the restore. Do not launch new applications or open files while the restore is running, as this can cause the restore to fail.

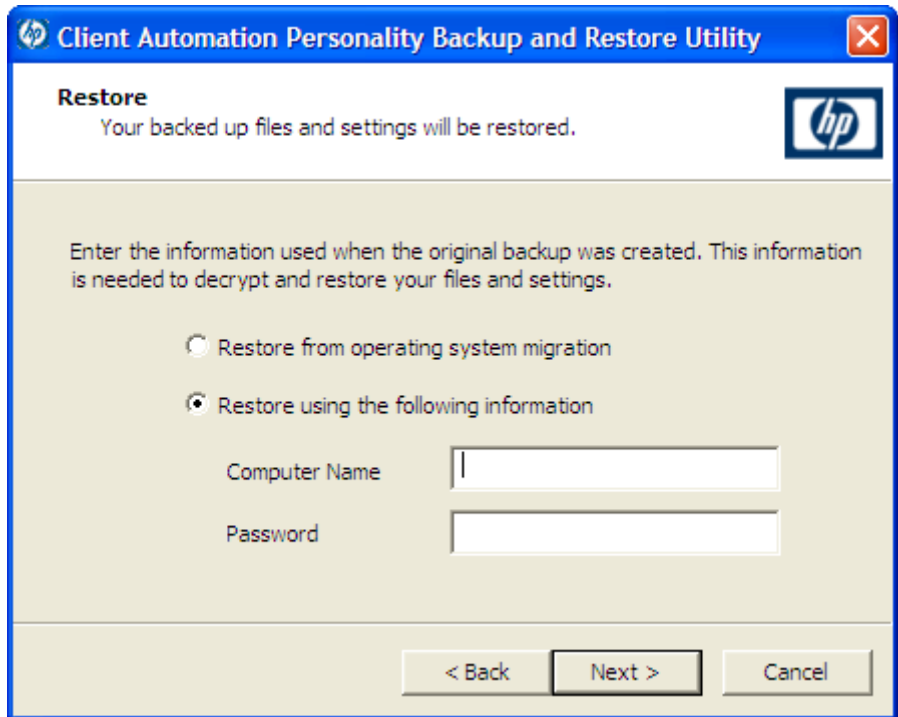
Before you begin the restore procedure, you must install (on the destination computer) all applications that have settings to be migrated. Note that for all applications other than Microsoft Office (where a newer version is allowed), the same application version must be installed on the destination computer as was installed on the source computer.



You should do a restore to a computer on the same Windows domain that was used for the backup. You should also do a restore to the same locale (for example, US English) that was used for the backup.

To restore files and settings

- 1 On the destination computer, start the Personality Backup and Restore Utility (see [page 325](#) for instructions).
- 2 Select **Restore files and settings** and click **Next**. The Restore dialog box opens.



- 3 Perform one of the following actions:
 - To restore files and settings that were backed up using the Personality Backup and Restore Utility, follow these steps:
 - a Select **Restore using the following information**.
 - b Type the **Computer Name** and **Password** that were used during the backup.
 - To restore files and settings that were stored during the last operating system deployment for which migration was enabled, select **Restore from operating system migration**.



For HPCA Starter, this option only works if you perform a backup using `pbr.exe /B` prior to deploying the OS.

- 4 Click **Next**. The Summary dialog box opens.

- 5 Click **Finish** to begin the restore process. Depending on the amount of data to be restored, this process can take from a few minutes to several hours to complete. Wait for the Personality Backup and Restore Utility to indicate that the restore has completed before you close the application.
- 6 Since some operating system settings, such as fonts, wallpaper, and screen saver settings, are not applied until after a reboot on the destination computer, you should now perform a reboot to ensure that all these settings are successfully applied.

Using the Command Line Interface

You can use the HPCA Personality Backup and Restore command line interface to backup and restore files and settings for a managed device.

The syntax is as follows:

```
<InstallDir>\Agent\pbr.exe /B|/R [/localstore] [/hardlink]
```

Table 35 Command Line Options for pbr.exe

Option	Description
/B	Perform a backup.
/R	Perform a restore.
/localstore	Store the backup files on (or restore them from) the local hard drive of the managed device instead of the HPCA Core server.
/hardlink	<p>For USMT 4.0 (included in the Windows 7 AIK), do not physically copy the backup files to the OSMGR.PRESERVE directory. Instead, create hard links to the files. This significantly saves backup space, because the backed up files are not duplicated. It also speeds up the backup and restore operations.</p> <p>If /hardlink is specified, /localstore is implied.</p> <p>When the /hardlink option is used, the target (restore) OS must be Windows Vista or Windows 7. The source (backup) OS, however, can be Windows XP SP2 or later.</p> <p>For USMT 3.0.1, this option is ignored. In this case, /hardlink is treated like /localstore.</p>

Table 35 Command Line Options for pbr.exe

Option	Description
/xml	Select xml files from HPCA Core Server using wildcards. This option can be used when you perform a backup.
/--	Use this option to pass additional parameters for USMT utilities. The additional parameters are appended to the command line as set up by Personality Backup and Restore.

Example 1: Backup your files and settings on the HPCA Core server

```
<InstallDir>\Agent\pbr.exe /B
```

Example 2: Restore from the HPCA Core server

```
<InstallDir>\Agent\pbr.exe /R
```

Example 3: Backup your files and settings locally

```
<InstallDir>\Agent\pbr.exe /B /localstore
```

Example 4: Restore after a local backup

```
<InstallDir>\Agent\pbr.exe /R /localstore
```

Example 5: Perform a local backup using hard links

```
<InstallDir>\Agent\pbr.exe /B /hardlink
```

This example is valid for the following operating systems: Windows XP SP2, Windows XP SP3, Windows Vista, and Windows 7.

Example 6: Perform a local restore using hard links

```
<InstallDir>\Agent\pbr.exe /R /hardlink
```

This example is valid for the following operating systems: Windows Vista and Windows 7.

Example 7: Select xml files from HPCA Core Server using wildcards

```
<InstallDir>\Agent\pbr.exe /B /xml myconfig*.xml
```

Example 8: Set log level for the USMT utilities ScanState and LoadState

```
<InstallDir>\Agent\pbr.exe /R /-- /v:4
```

Using the Personality Backup and Restore Services

There are two built-in services that HPCA provides to help you automate the process of backing up and restoring user files and settings:

- HPCA Personality Backup (HPCA_PBR)
- HPCA Personality Restore (HPCA_RESTORE)

Both services invoke the `pbr.exe` application. These services are particularly helpful in the context of operating system deployment. The process works slightly differently depending on your HPCA license type.



You can only use the HPCA Personality Restore service to restore user data if the HPCA Personality Backup service (or `pbr.exe /B`) was used to perform the backup. If the Utility was used to perform the backup, the Utility must also be used to perform the restore.

To migrate user data as part of an OS deployment in HPCA Starter

- 1 On the Deployment Behavior page in the [OS Deployment Wizard](#), specify **Yes** for the **Migrate User Data & Settings** option.

When this option is selected, HPCA will use the HPCA Personality Backup service to back up the user data and settings for each managed device in the group prior to deploying the operating system. By default, the backup files are stored on the HPCA Core server.

- 2 Deploy the OS to the specified group of managed devices.
- 3 After the OS deployment is completed, make sure that USMT is installed in the default location on each managed device in the group (see [Installing Microsoft USMT on Managed Devices](#) on page 322).
- 4 Deploy the HPCA Personality Restore service (HPCA_RESTORE) in the Software Library to each managed device in the group.

The service will run once on each device to restore the user data. The service first checks the `C:\OSMGR.PRESERVE` folder to see if a local backup was performed. If it does not find local backup files, it restores the user data from the HPCA Core server.

An Alternate Method for Capturing and Restoring Data during OS Deployment

HP also provides a ROM Client method (`romclimth.tkd`) that you can use to capture and restore data during operating system deployment. This method is stored in `<InstallDir>\Agent`, and it has two exit points.

The exit points call two optional scripts:

- `Novapdc.cmd` (data capture)
- `Novapdr.cmd` (data restore)

These scripts must also be stored in `<InstallDir>\Agent`.

You can use these scripts to customize data capture, recovery, and restoration for any product that you would like to use.

How `romclimth.tkd` Works

Capturing, recovering and migrating data using `romclimth.tkd` relies on the OS Manager User Agent. This is because data can only be captured when the operating system is running. The process works like this:

- 1 The Application Manager senses the change to a target device's desired state and triggers the data capture if `Novapdc.cmd` is available in `<InstallDir>\Agent`.
- 2 The target device reboots, and the new operating system is installed.
- 3 If `Novapdr.cmd` is available, the ROM Client method begins the restore process after the operating system has been installed on the target device.

Return Codes for HP Exit Points

The following return codes are returned from the HP exit points `Novapdc.cmd` and `Novapdr.cmd`. The values may vary depending on the software that you are using with these exit points. If the return value of the

method is not equivalent to the following, use the standard batch error level conditional processing and the exit command to make them correspond to the following:

Table 36 HP Exit Point Return Codes

Code	Description
0	Successful
1	An error occurred and will be logged, but processing will continue. The log is located in: <InstallDir>\Agent\Logs\romclimth.log.
2	<ul style="list-style-type: none">For Novapdc.cmd (capture): A fatal error has occurred and will be logged here: <InstallDir>\Agent\Log\romclimth.log. Processing of the service has ended.For Novapdr.cmd (restore): An error has occurred and will be logged here: <InstallDir>\Agent\Log\romclimth.log. The service is flagged, but at the next HPCA OS connect, the Application Manager will attempt to install the service again.

Troubleshooting

This section describes troubleshooting actions you can perform in the event that a backup or restore does not complete successfully.

Backup or Restore Did Not Complete Successfully

If the backup or restore did not complete successfully, check the pbr.log under the agent's Log directory for any errors that may have occurred during the backup or restore. The default Log directory is:

<InstallDir>\Agent\Log

If you are using the `/localstore` option with `pbr.exe`, the log files are saved here:

```
C:\OSMGR.PRESERVE\PBR.work\log
```

You might also check the `ScanState.log` and the `LoadState.log` files that were created during the backup and restore, respectively. These files can be found under the agent's `Lib` directory in the `PBR\work\log` directory. The default `Lib` directory is:

```
<InstallDir>\Agent\Lib
```

User Forgot Password and Cannot Restore Data

To perform a restore using the Personality Backup and Restore Utility, you need both the computer name and password that the user supplied for the backup. Although there is no method for recovering a lost password, an administrator can create a new password to enable a user to perform a restore. The process is as follows:

- 1 The administrator locates the backup directory on the HPCA Core server that contains the user files and settings. This directory resides under `DataDir\PersonalityBackupAndRestore\backups`, where `DataDir` is the user-configurable data directory specified during the installation of the HPCA Core. The subdirectories are named as follows:

```
ComputerName_EncodedComputerNameAndPassword
```

- 2 The administrator runs the Personality Backup and Restore Utility to perform a backup. This backup should *not* be performed on the computer where the user forgot his password but can be performed on any other machine—preferably one with little or no user data to ensure a fast backup.

To do this backup, the administrator must enter the same computer name that was used for the original backup (and which is part of the backup folder name discussed above) and create a password that will be given to the end-user to perform the restore.

- 3 The administrator locates the new directory created under `Data\PersonalityBackupAndRestore\backups`, deletes the *contents* of that directory, and copies the contents from the original backup directory discussed in step 1.

- 4 The end user runs the Personality Backup and Restore Utility, entering the original computer name and the password created by the administrator, to restore his files and settings.



If the end user forgets his password but does not need to restore any data from past backups, he can simply enter a new password the next time he runs a backup and use that password to perform a restore.

14 Monitoring HP Client Automation

HP Client Automation (HPCA) is deployed in a distributed and tiered environment. Monitoring this infrastructure ensures the availability of the associated services and components. Though the monitoring mechanism is optional, HP recommends implementing this mechanism in your environment. The HP Client Automation performance and availability depends on several factors, wherein the following three critical aspects must be monitored:

- HPCA server availability
- HPCA service availability
- HPCA services responsiveness

HPCA is capable of monitoring software deployments, but does not function as a monitoring tool. A monitoring solution is required to ensure that the infrastructure meets the service level requirements. The HPCA log files and relational database tables provide information that monitoring tools can use to verify the infrastructure operations. You must ensure that the monitoring solution that you use in your environment is capable of performing the following tasks:

- Query HP Client Automation components for availability status and response time
- Report the status of the server components, key application processes, log files, and display the component status as per the thresholds that are defined for that component
- Raise alerts when the set thresholds are not met

A solution with proactive and periodic test should be deployed that ensures these critical aspects are functioning.

HPCA Infrastructure Components

Monitoring tools essentially monitor Windows system information, such as disk space usage, CPU utilization, and Windows service status. These tools can also monitor and extract log file contents to determine the success or failure of the task that the software performs. The HPCA infrastructure monitoring relies on such inherent capabilities of the monitoring tools.

The HPCA infrastructure monitoring solution is designed to ensure that the critical monitoring information is available to third-party external monitoring tools. In the Core-Satellite model, the individual infrastructure components are integrated into two major entities, a Core server and a Satellite server. For both these servers, most of the infrastructure components run as Windows Services. The key operational processes including DCS synchronization and Proxy server Preload are monitored by analyzing the corresponding log file content.

The following table lists the HPCA components and the parameters that you should monitor if you plan to integrate a monitoring solution in your HPCA environment.

Table 37 HPCA Infrastructure Components and Parameters to be Monitored

HPCA Component		Severity	Monitoring Parameter	Availability	
Monitoring Type	Component Name			Core	Satellite
Server Monitoring	HPCA Core/Satellite	Critical	Ping the Core/Satellite server at <IP address/fully qualified device name>	✓	✓

Table 37 HPCA Infrastructure Components and Parameters to be Monitored

HPCA Component		Severity	Monitoring Parameter	Availability	
Monitoring Type	Component Name			Core	Satellite
Windows Service Monitoring	HPCA Configuration Server	Critical	Service Name: ZTOPTASK EXE: ZTOPTASK.exe	✓	✓
	HPCA Apache Server	Critical	Service Name: HPCA-Apache EXE: httpd.exe	✓	✓
	HPCA Tomcat Server	Major	EXE: tomcat.exe	✓	✗
	HPCA Boot Server (PXE)	Major	Service Name: HPCA-PXE EXE: cygrunsrv.exe	✓ Disabled by default	✓ Disabled by default
	HPCA Boot Server (TFTP)	Major	Service Name: HPCA-TFTP EXE: inetd.exe	✓ Disabled by default	✓ Disabled by default
	HPCA DB Server	Major	Service Name: HPCA-DB EXE: mysqld-nt.exe	✓	✗
	HPCA Directory Server	Major	Service Name: HPCA-DS EXE: slapd.exe	✓	✗
	HPCA Distributed Configuration Server	Major	Service Name: HPCA-DCS EXE: nvdkit-hpca-dcs.exe	✓ Disabled by default	✓

Table 37 HPCA Infrastructure Components and Parameters to be Monitored

HPCA Component		Severity	Monitoring Parameter	Availability	
Monitoring Type	Component Name			Core	Satellite
Windows Service Monitoring	HPCA Knowledge Base Server	Major	Service Name: HPCA-KBM EXE: hpkbmanager.exe	✓ Disabled by default	✗
	HPCA Management Portal Server	Major	Service Name: HPCA-RMP EXE: nvdkit-hpca-rmp.exe	✓	✗
	HPCA Messaging Server	Major	Service Name: HPCA-MS EXE: nvdkit-hpca-ms.exe	✓	✓
	HPCA Multicast Server	Major	Service Name: HPCA-MCAST EXE: nvdkit-hpca-mcast.exe	✓ Disabled by default	✓ Disabled by default
	HPCA OS Manager	Major	Service Name: HPCA-OSM EXE: nvdkit-hpca-osm.exe	✓ Disabled by default	✓ Disabled by default
	HPCA Patch Acquisition Server	Major	Service Name: HPCA-PATCH EXE: nvdkit-hpca-patch.exe	✓ Disabled by default	✓
	HPCA Policy Server	Major	Service Name: HPCA-PM EXE: nvdkit-hpca-pm.exe	✓	✓ Disabled by default

Table 37 HPCA Infrastructure Components and Parameters to be Monitored

HPCA Component		Severity	Monitoring Parameter	Availability	
Monitoring Type	Component Name			Core	Satellite
Service Response Monitoring	HPCA Apache Server Response	Major	URL: http://<server>:<server_port>/server-status	✓	✓
	HPCA Apache Tomcat Server Response	Major	URL: http://<core>:<core port>/console/flex/console.jsp	✓	✗
	HPCA Configuration Server Response	Critical	Run a batch script to internally execute the <code>nvdkit.exe tpping</code> . For example, <code>nvdkit.exe tpping -host</code>	✓	✓ Disabled by default
	HPCA Management Portal Server Response	Major	URL: http://<core host>:<core port>/proc/Radia/?WebService.Name=AuthenticateUser&Response.Format=Text&getauthds=true	✓	✗
	HPCA Messaging Server Response	Major	URL: http://<host>:<port>/proc/msg	✓	✓
	HPCA Policy Server Response	Major	URL: http://<server host>:<server port>/policy/ldap?dn=ldap%3a%2f%2f%2fcn%3ddevice%2ccn%3dhp%2ccn%3dradia	✓	✓ Disabled by default

15 FAQs

This chapter includes frequently asked questions regarding common management tasks available when using HPCA and its components.

- [How do I access the HPCA Console? on page 344](#)
- [How do I determine what version I am using? on page 344](#)
- [How do I change my Console password? on page 344](#)
- [How do I begin to manage a device in my environment? on page 345](#)
- [How do I schedule inventory collection? on page 345](#)
- [How do I view inventory information for managed devices? on page 346](#)
- [How do I automate patch acquisition? on page 346](#)
- [How do I configure the patch compliance discovery schedule? on page 347](#)
- [How do I deploy software to all of my managed devices? on page 347](#)
- [How do I update my license key? on page 348](#)
- [How do I create a group of devices to target for an OS Service Pack? on page 348](#)
- [How do I deploy software to a single device? on page 349](#)
- [How do I install the HPCA Agent without using the Console? on page 349](#)
- [How do I publish setup.exe? on page 350](#)
- [How do I know that all my devices received the software? on page 350](#)
- [How do I make software available for a user to install? on page 351](#)
- [How do I generate a device compliance report? on page 351](#)
- [How do I capture an OS image? on page 351](#)
- [How do I add additional drivers to an OS image? on page 352](#)
- [How do I add additional drivers to an OS image? on page 352](#)

- [How do I publish an OS image?](#) on page 352
- [How do I deploy an OS image?](#) on page 352

How do I access the HPCA Console?

Use a browser from any device in your environment to access the HPCA Console.

- Go to **http://HPCAhost:3466/** where *HPCAhost* is the name of the server where HPCA is installed.

How do I determine what version I am using?

- Use the Operations area, Infrastructure Management, Support page to view the HPCA version information.

How do I change my Console password?

Each Console user has its own password defined by the administrator when the Console user is created. Change a Console user's login password in [Access Control](#) on page 189.

- 1 Click the User ID of the Console user to open the User Details window.
- 2 Click **Change Password**.
- 3 In the Password Change area, enter and confirm a new password by typing it into the text boxes provided.
- 4 Click **Commit** then click **Save**.

The new password has been saved.

How do I begin to manage a device in my environment?

Devices are managed when the Management Agent is deployed. To deploy the Agent, the device must be added to HPCA.

First, import the device:

- From Device Management, General tab, click **Import Devices to Manage**. The [Import Device Wizard](#) opens.
- Follow the steps in the wizard on [page 242](#) to import your devices.


When the device is imported, deploy the Management Agent:

- From Device Management, General tab, click **Deploy the Management Agent**. The [Agent Deployment Wizard](#) on [page 243](#).
- Follow the steps in the wizard on [page 243](#) to deploy the Management Agent.

When the Agent is deployed, the device is successfully managed and ready for software, patch, and inventory management.

How do I schedule inventory collection?

Hardware and software inventory collection is based on the schedule you define using the [Software/Hardware Inventory Wizard](#).


- First select whether to schedule inventory collection for individual devices or a group by selecting them within either the [Device Management, Groups](#) section or the [Group Management, Groups](#).
- On the toolbar, click the **Inventory Collections**  toolbar button, then select **Discover Software/Hardware Inventory** to launch the wizard.
- Follow the steps in the wizard [page 245](#) to define software and hardware inventory collection for your devices and groups.



Additional inventory collection is taken after a software deployment job is completed.

How do I view inventory information for managed devices?

Use the Reporting tab to view inventory information for managed devices.

- From the home page of the Reporting tab, click **View Managed Devices** under Inventory Information. A list of all managed devices is displayed.
- Use the tools on the left side of the page, or click any criteria within each list item, to filter the list further.
- Click **Show Details**  to display information for a single device.


How do I automate patch acquisition?

Use the Configuration tab, Patch Management section to define your patch acquisition schedule and settings.

- 1 In the **Acquisition, Schedule** tab, use the tools provided to set the acquisition schedule.
 - **Run:** Select whether to discover patches based on an interval hours, days, or weeks.
 - **Interval:** Select the specific interval (hours, days, or weeks).
 - **Starting on:** Use the drop-down list to select the date patch compliance should be discovered.
 - **Current Server Time** displays the current time of the HPCA server.
- 2 When finished, click **Save** to commit your changes. The new schedule is displayed after Current Schedule.
- 3 In the **Acquisition, Settings** tab, enter the Bulletins to Acquire each discovery period. You can use wildcards (for example, MS05*) to designate a range of bulletins. Separate multiple bulletin searches with a comma (for example, MS05*, MS06*).
- 4 Go to the **Configuration** tab, **Infrastructure Management, Proxy Settings**.


- 5 Type a Proxy Server Address and Port from which to obtain bulletins. If required, type a Proxy User ID and Proxy Password to acquire patches.
- 6 Click **Save** to commit your changes.

How do I configure the patch compliance discovery schedule?

- To define a schedule for patch compliance discovery, select the managed devices from the [Devices](#) tab (or select a Group from the [Groups](#) tab).
- Click the **Inventory Collections**  button, then select **Discover Patch Compliance** to launch the [Patch Compliance Discovery Wizard](#).
- Follow the steps in the wizard on [page 246](#) to define a schedule for patch compliance for your devices and groups.
- Use the Reporting tab to view patch compliance reports for the selected devices.

How do I deploy software to all of my managed devices?

First, create a dynamic Reporting group containing all managed devices.

- Within the Reporting tab, under Inventory, click **View Managed Devices**.
- A list of all managed devices is displayed.
- Click **Create new Dynamic Reporting Group** . Follow the steps in the Group Creation wizard to create the group.

Now you can deploy software to devices in the newly created group.

- In the Management tab, click **Software Management**.
- Click **Deploy Software**.


- The Software Deployment Wizard opens. Follow the steps in the wizard to select the newly created group and software for deployment.

How do I update my license key?

- 1 Use a text editor and open the new license file (for example `license.nvd`).
- 2 Copy the contents of the file into the License Data text box on the Configuration tab, Licensing page.
- 3 Click **Save** to update your license information.


How do I create a group of devices to target for an OS Service Pack?

Use the Reporting tab to create a query that contains all devices that do not have the particular service pack. In this example, a group of all Windows XP devices without Service Pack 2 installed will be created.

- 1 In the Data Filters area, click **Inventory Management Related**.
- 2 Click **OS Related**.
- 3 Click **Operating System** and enter ***Windows XP***.
- 4 Click **Apply**. All devices with Windows XP are displayed.
- 5 Click **Operating System Level** and type **!Service Pack 2**.
- 6 Click **Apply**. All Windows XP devices that do not have Service Pack 2 installed are displayed.
- 7 Click **Create new Dynamic Reporting Group**  and follow the steps in the Group Creation wizard to create the group of devices.

How do I deploy software to a single device?

Use the Software Details window to deploy software to a single device.

- 1 In the Management tab, click **Software Management**.
- 2 Click **Software Library** to display all published software.
- 3 Click the description link for the software you want to deploy to a single device. The Software Details window opens.
- 4 Click the **Devices** tab and select the device to which you want to deploy the software.
- 5 Click **Deploy Software**  to open the Software Deployment Wizard.
- 6 Follow the steps in the wizard to deploy software to that device.

How do I install the HPCA Agent without using the Console?

Use the HPCA Agent installation program included on the HPCA media to install the Agent to devices that may not be consistently connected to the network.

- 1 Use the `standard-setup.cmd` file located on the HPCA installation media in the `Media\client\default\win32` directory.
- 2 From a command line, type **`standard-setup.cmd HPCA_IP_Addr`**, where `HPCA_IP_Addr` is the IP address of your HPCA server.
- 3 Press **Enter**.

How do I publish a Windows Installer package?

- Use the Publisher and select **Windows Installer** as the Type of Data to Publish. Follow the steps in the Publisher to make the Windows Installer file available for distribution to your managed devices.

Refer to the Publisher online help or [Chapter 11, Publishing](#) for more information.

How do I publish setup.exe?

- Use the Publisher and select **Component Select** as the Type of Data to Publish. Select the files to publish and follow the steps in the Publisher to make the file available for distribution to your managed devices.

Refer to the Publisher online help or [Chapter 11, Publishing](#) for more information.

How do I know that all my devices received the software?


- 1 In the Management area, click Software Management.
- 2 On the Reporting tab, click **Software Summary**. The Reporting area is displayed with a summary of all devices, managed services, and failed services.

You can also use the Software Details window, Devices tab to view the status of software organized by device.

- 1 Click the description link for any software to open the Software Details window.
- 2 Click **Devices** tab.
- 3 View the Software Status column to see which managed devices have the software installed. Only entitled devices are displayed.

How do I make software available for a user to install?

By adding software entitlement to a group of devices, that software is then available for the user to install from the Application Self-service Manager.

- From the Group Management section of the Management tab, click the **Groups** tab.
- Click any Group description link to open the Group Details window.
- Click the **Software** tab to display all entitled software for that group.
- To entitle additional software, click **Add Software Entitlement** .
- Select the software to entitle and click **Add Entitlement**.

When entitled, software is available for deployment from the Console or from the Application Self-service Manager on the individual devices.

How do I generate a device compliance report?

- Use the Reporting tab to define which patch bulletin you want to see compliance for.
- In Data Filters, click **Patch Management Related**.
- Click **Patch Compliance Status**.
- Enter a bulletin name or partial name, and click **Apply**.
- Use the tools at the top of the report list to export or print the report.

How do I capture an OS image?

Use the Image Preparation Wizard to prepare and capture operating system images.

- 1 Create the Image Preparation CD from the ImageCapture.iso file. The file is located on the HPCA media in the \Media\iso\roms directory.

- 2 Follow the preparation steps in the Image Preparation Wizard online help or see [Chapter 10, Preparing and Capturing OS Images](#) for detailed instructions.


How do I add additional drivers to an OS image?

Before you capture an operating system image for deployment, it is a good idea to make sure that any OEM drivers for all possible device hardware configurations are installed.

- The following Microsoft Knowledge Base article contains information for including OEM drivers for Windows OS installations, [How to Add OEM Plug and Play Drivers to Windows XP](#).

How do I publish an OS image?

- Use the Publisher and select **OS Image** as the Type of Data to Publish. Select the operating system image to publish and follow the steps within the Publisher to make the file available for distribution to your devices..

 Images captured by the Image Preparation Wizard are stored, by default, in the `<InstallDir>\OSManagerServer\upload` directory on the HPCA server.

Refer to the Publisher online help or [Chapter 11, Publishing](#) for more information.

How do I deploy an OS image?

First, create a Static Group containing all devices to receive the OS image.

- 1 Within the Group Management, General tab, click **Create a new Static Group**.

- 2 The Group Management Wizard opens. Follow the steps in the Group Creation wizard to create the group.

Now you can deploy software to devices in the newly created group.

- 1 In the Management tab, click **OS Management**.
- 2 Click **Deploy Operating System**. The OS Deployment Wizard opens.
- 3 Follow the steps in the wizard to select the newly created group and the software for deployment. An OS Management Job is created.

16 Troubleshooting

Use the following sections to troubleshoot common problems you may encounter while using HPCA.

- [Log Files](#) on page 355
- [Agent Deployment Issues](#) on page 357
- [OS Deployment Issues](#) on page 359
- [Application Self-Service Manager Issues](#) on page 360
- [Power Management Issues](#) on page 360
- [Patch Management Issues](#) on page 361
- [Troubleshooting the HPCA Server](#) on page 361
- [Dashboard Issues](#) on page 366
- [Other Issues](#) on page 368

Log Files

HPCA log files are located in the following directories under `C:\Program Files\Hewlett-Packard\HPCA` on the server:

- `\Agent\Log`
- `\ApacheServer\logs`
- `\ApacheServer\apps\cas\logs`
- `\ApacheServer\apps\console\logs`
- `\BootServer\logs`
- `\ClientConfigurationManager\logs`

- \ConfigurationServer\log
- \dcs\log
- \DistributedCS\logs
- \Knowledge Base Server\logs
- \ManagementPortal\logs
- \MessagingServer\logs
- \MiniManagementServer\logs
- \MulticastServer\logs
- \OOBM\logs
- \OSManagerServer\logs
- \PatchManager\logs
- \PolicyServer\logs
- \ProxyServer\logs
- \ReportingServer\log
- \tomcat\logs
- \VulnerabilityServer\logs

Log file sizes will grow over time. Some logs will be in use while the HPCA services are running. These active log files should not be deleted. Historical log files can be archived or removed as necessary.

Log files can be downloaded using the Operations tab, Infrastructure Management area, Support page on the HPCA Core console.

Agent Deployment Issues

The following table shows common Agent Deployment Job error messages and the steps to take to resolve possible issues.

Table 38 Agent Deployment Job Messages and Troubleshooting

Message	Troubleshooting Steps
Failed to Install HPCA Management Agent - Reason: Failed to connect to <i>device</i> as user <i>user</i> . Code: No network provider accepted the given network path	<p>The HPCA server creates an administrative share in order to copy the agent install media. Personal firewalls such as Windows Firewall can block the share. Verify that port 3463 and File and Printer Sharing services are added to the firewall exclusion list on the managed device.</p> <p>Access to the Administrative share (C\$) on Windows Vista devices is disabled for locally defined administrators. Therefore, Windows Vista devices should be part of a domain, and the domain administrator's credentials should be specified during Management Agent deployment through the HPCA console. If the devices are not part of a domain, additional steps are required to allow access for local administrators. Refer to the following Microsoft KnowledgeBase article for detailed steps.</p> <p>http://support.microsoft.com/kb/947232/en-us</p> <p>After making these changes, reboot the device.</p>
Failed to Install HPCA Management Agent - Reason: Duplicate computer name.	<p>Ensure that you do not have devices in your environment with duplicate computer names. It is possible to have duplicate computer names even if the IP addresses are all unique. Unique IP addresses produce unique DNS names – not unique computer names. Duplicate computer names will cause agent deployment to fail.</p>
Failed to Install HPCA Management Agent - Reason: Failed to connect to <i>device</i> as user <i>user</i> . Code: Logon failure: unknown user name or bad password.	<p>Verify that the login credentials used during the agent deployment wizard are correct and the userID has administrative privileges on the device. Blank passwords are not permitted. For Windows XP devices, verify that Simple File Sharing is not enabled.</p>

Table 38 Agent Deployment Job Messages and Troubleshooting

Message	Troubleshooting Steps
Failed to Install HPCA Management Agent - Reason: Failed to connect to <i>device</i> as user <i>user</i> . Code: Logon failure: unknown user name or bad password.	Verify that the login credentials used during the agent deployment wizard are correct and the userID has administrative privileges on the device. Blank passwords are not permitted. For Windows XP devices, verify that Simple File Sharing is not enabled.
Connection timed out	After the HPCA server deploys the agent to the device it establishes a TCP connection to the device using port 3463. If this port is blocked by a personal firewall, the device can not be managed by HPCA. Verify that port 3463 and File and Printer Sharing services are added to the firewall exclusion list on the managed device.
Timeout waiting for rma to register	After the agent is installed to the device it registers back to the HPCA server using port 3466. If this port is blocked by a firewall on the HPCA server, the device cannot be managed by HPCA. Verify that port 3466 is added to the firewall exclusion list on the HPCA server.

OS Capturing Issues

This section includes common issues that are encountered during capturing an operating system image.

The capturing process fails due to the following error:

Capture Failed

Image preparation and capture failed:

1. Check the execution logs under:`%Temp%/setup`.
2. Consult the online help for further details.

Press OK to return to the OS capture wizard.

The `setup.log` and `prep wiz.log` under `%Temp%/setup` show an error similar to the following sample error:

There is not enough space on the boot volume so Prep wiz can inject the Local Service Boot files.

Required space: S:MB, available space: 185MB.

- Increase the boot partition size to a minimum of 300 MB or double the size of your `winpe.wim` file. The recommended boot partition size is one GB.

OS Deployment Issues

This section includes common issues that are encountered during operating system image deployment.

TFTP server shuts down after starting

- Check to make sure you do not have another TFTP server running on the same computer.

PXE cannot traverse subnet

- In order to allow PXE to navigate subnets, the DHCP helper must be enabled. The DHCP helper allows traversal of broadcast traffic on the DHCP ports, broadcast is typically turned off on routers.

OS Publishing Issues

This section includes common issues that are encountered during publishing an operating system image.

The publishing process fails due to the following error:

```
pub_file: File path
<InstallDir>\Data\OSManagerServer\capture-conf\x86\substitutes
specified does not exist.
```

- The error occurs when publishing an OS image that contains a corrupt or invalid install.wim file. Use an OS image that does not contain any corrupt files.

Application Self-Service Manager Issues

This section describes common HP Client Automation Application Self-Service Manager (ASSM) issues and the steps to follow to resolve possible problems.

[Application installation failed, Catalog displays as installed](#)

Issue

The application may display as installed in the Catalog if the installation program returned a zero upon failure.

Possible Resolutions

The ASD relies on a return code to detect whether or not the installation was a success. The installation must return a code of non-zero in order for the ASM to detect the failure.

This can be accomplished by wrapping the installation in a command file and using logic to validate whether the process was a success or not by returning the proper code.

Power Management Issues

This section describes issues and possible resolutions for tasks related to the HPCA power management feature.

[Device does not respond to power commands from the HPCA server](#)

If a managed device is not responding to a power on command from the HPCA server the problem may exist in the configuration of network devices such as routers and switches.

- Test the network path from the HPCA server to the managed device for Wake-on-LAN support. A number of third party tools exist for sending a remote power on command to a network device. Searching the internet for "Wake-on-LAN tools" will return many free tools for testing this capability.

Patch Management Issues

This section describes issues and resolutions related to patch management.

Error deploying patches

If you encounter an error when deploying patches to target devices (for example, you see the error message WUA Install Result Code 3 HRESULT \$hresult), check to make sure the correct Windows Installer version is installed on the target devices that are receiving patch updates.

See [Patch Management](#) on page 128 for details regarding the supported minimum versions.

Troubleshooting the HPCA Server

The following section describes how to troubleshoot issues related to your HPCA server.

- [Troubleshooting HPCA Core Components](#) on page 361

Troubleshooting HPCA Core Components

The following sections describe how to troubleshoot issues related to the Core server components.

- [HPCA Core Configuration Files](#) on page 362
- [HPCA Core Log Files](#) on page 364

HPCA Core Configuration Files

The Core server installation sets default values for the various Core server components. These values should be left as-is, although some can be modified in the Core Console. The following table lists the locations and names of the configuration files in case they are needed for troubleshooting, or are requested by HP Technical Support.

The default path for the Core server's product configuration files is `<InstallDir>\xxxxxxx`. If a different path was specified during the Core installation, be sure to follow that path. The value of `xxxxxxx` will be replaced by the value in the Location column of the following table.

Table 39 HPCA Core Configuration Files

HPCA Product	Configuration File Type	Location and File Name (C:\Program Files\Hewlett-Packard\HPCA\...)
HPCA Console	Apache Server	ApacheServer\apps\console\etc\service.cfg
	Apache Server	ApacheServer\apps\console\etc\proxy.cfg
	Sessionmanager	tomcat\webapps\sessionmanager\WEB-INF\sessionmanager.properties
	Sessionmanager	tomcat\webapps\sessionmanager\WEB-INF\classes\log4j.properties
Configuration Server		ConfigurationServer\bin\edmprof.dat
Distributed Configuration Server	Integration Server	DistributedCS\etc\HPCA-DCS.rc
	product	DistributedCS\etc\dcs.cfg
Messaging Server		MessagingServer\etc\core.dda.cfg
		MessagingServer\etc\patch.dda.cfg
		MessagingServer\etc\rms.cfg

Table 39 HPCA Core Configuration Files

HPCA Product	Configuration File Type	Location and File Name (C:\Program Files\Hewlett-Packard\HPCA\...)
		MessagingServer\etc\usage.dd.acfg
OS Manager Server		OSManagerServer\etc\HPCA-OSM.rc
		OSManagerServer\etc\roms.cfg
		OSManagerServer\etc\roms_upd.cfg
Patch Manager		PatchManager\etc\HPCA-PATCH.rc
		PatchManager\etc\patch.cfg
Policy Server		PolicyServer\etc\HPCA-PM.rc
		PolicyServer\etc\pm.cfg
Portal	Integration Server	ManagementPortal\etc\HPCA-RMP.rc
	product	ManagementPortal\etc\rmp.cfg
		ManagementPortal\etc\romad.cfg
	OpenLDAP	DirectoryService\openldap
Reporting Server		ReportingServer\etc\cba.cfg
		ReportingServer\etc\ccm.cfg
		ReportingServer \etc\ed.cfg
		ReportingServer\etc\rim.cfg
		ReportingServer\etc\rm.cfg
		ReportingServer\etc\rpm.cfg
		ReportingServer\etc\rrs.cfg

Table 39 HPCA Core Configuration Files

HPCA Product	Configuration File Type	Location and File Name (C:\Program Files\Hewlett-Packard\HPCA\...)
		ReportingServer\etc\rum.cfg
		ReportingServer\etc\scm.cfg
		ReportingServer\etc\vm.cfg
Thin Client		TC\etc\HPCA-TC.rc TC\etc\rmms.cfg
Tomcat	HPCA Console	tomcat\webapps\em\WEB-INF\Console.properties
	HPCA Console	tomcat\webapps\em\WEB-INF\classes\log4j.properties
	OPE	tomcat\webapps\ope\WEB-INF\classes\log4j.properties (log levels)
	VMS	tomcat\webapps\vms\WEB-INF\classes\log4j.properties (log levels)

HPCA Core Log Files

If you are having issues with the Core server and need to access its log files for troubleshooting, the Core Console provides immediate access to the entire set of log files.

To generate the Core server log files

- 1 On the Core Console, go to the Operations tab and click **Support**.
- 2 In the Troubleshooting area, click **Download Current Server Log Files**.
- 3 When the WinZip file opens, extract and save the files.

You are not expected to understand the full contents of the files, but you should know how to access and view them in order to:

- Provide them to HP Support.

- Review them for entries that are labeled **severe**.

Browser Issues


The following troubleshooting tips pertain to issues that may arise with your browser:

- [Cannot Refresh Page Using F5](#) on page 365
- [Cannot Enable HTTP 1.1 with Internet Explorer 6 and SSL](#) on page 365

Cannot Refresh Page Using F5

If you press the **F5** function key while using the HPCA Console, the splash screen will briefly appear, and then you will return to the last dashboard page that you viewed. You will not get a refreshed version of the page you are currently viewing.

Solution:

To refresh the page that you are currently viewing, use the built-in  (Refresh) button on that page.

Cannot Enable HTTP 1.1 with Internet Explorer 6 and SSL

You cannot run the HPCA Console using Internet Explorer 6 with SSL if HTTP 1.1 is enabled. This is a limitation of Internet Explorer 6.

Solution:

Internet Explorer 6 is no longer supported. You must upgrade to Internet Explorer 7 or later.

Browser Error Occurs when Using Remote Control

The following message may appear when you attempt to launch either the VNC or the Remote Assistance remote control features from the HPCA Console:

```
Several Java Virtual Machines running in the same process caused an error
```

This problem is likely due to a known defect in the Java browser plug-in. Refer to http://bugs.sun.com/view_bug.do?bug_id=6516270 for more information.

Solution:

If this message appears, upgrade the Java Runtime Environment (JRE) used by your browser to JRE version 6 update 10 (or later).

Dashboard Issues

The following troubleshooting tips pertain to issues that may arise with the HPCA dashboards:

- [Delete Dashboard Layout Settings](#) on page 366
- [Dashboard Panes in Perpetual Loading State](#) on page 367
- [RSS Query Failed](#) on page 367

Delete Dashboard Layout Settings

The dashboard layout sessions are stored as a local shared object (like a browser cookie) on your computer. To delete the current settings, you must use the Adobe Website Storage Settings Panel to manage the local storage settings for Flash applications. Refer to the following web site for detailed instructions:

http://www.macromedia.com/support/documentation/en/flashplayer/help/settings_manager07.html

Dashboard Panes in Perpetual Loading State

If the HPCA Console is hosted on a system where both of the following products are installed, some dashboard panes will remain in the Loading state forever while returning no results.

- Microsoft SQL Server with Service Pack 2
- Oracle ODBC Client Software

The following versions of the Microsoft SQL Server and Oracle client are known to cause a conflict with Reporting when installed on the same system:

Oracle ODBC Driver Version 10.2.0.1.0

Microsoft SQL Server 2005 Service Pack 2 (2005.90.3042)

To verify that this is the problem:

- 1 From the Control Panel, open the Event Viewer under Administrative Tools.
- 2 In the left navigation pane, select **System**.
- 3 Look for events with Application Popup in the Source column.
- 4 If you see an event with the following description, you are probably experiencing this error.

Application popup: nvdkit.exe - Application Error: ...

Solution:

Do not install both of these programs on the system hosting the HPCA Console.

RSS Query Failed

If an HPCA dashboard pane cannot connect to the RSS feed that provides its content, the following error message is displayed in the pane:

Connection to RSS feed {*URL for RSS feed*} has failed. Make sure that the proxy server settings for HPCA Enterprise Manager have been properly configured, you have subscribed to the RSS feed, and that the RSS feed is accessible.

To determine the specific type of connection failure that has occurred, hover your mouse over the **RSS query failed** message in the lower left corner of the dashboard pane. One of the following messages will be displayed in a tool tip:

Table 40 Possible RSS Feed Failure Types

Failure Reason	Text Displayed
Proxy is not set	Error processing refresh: connection timed out: connect
Live Network password is invalid	Error processing refresh: Invalid Response: Login failed
You have not registered for the feed	Error processing refresh: Error on line -1: premature end of file

Solution:

Check the following things:

- 1 Make sure that the URL for the RSS feed is correct.
- 2 Paste the URL for the RSS feed site into a browser, and make sure that the site is accessible.
- 3 Make sure that your proxy settings for the HPCA Console are specified correctly.
- 4 Make sure that you have registered for the RSS feed, if necessary. To register for the feed, click the URL displayed in the error message.

Other Issues

The following troubleshooting tips pertain to issues not addressed in the previous topics:

- [Problems Configuring the SQL Server Database](#) on page 369
- [Reporting Charts Display Problem in Non-English Environments](#) on page 369
- [Cannot Open a Report](#) on page 370

- [Additional Parameters Disregarded by the HPCA Job Wizard](#) on page 371
- [Virtual Machines Will Not Start](#) on page 371
- [Query Limit Reached](#) on page 372

Problems Configuring the SQL Server Database

When configuring a SQL Server database either in the first time setup wizard or from the configuration UI, you may experience problems with successfully completing the configuration. The configuration requires the specification of the reporting database DSN, user id, password, server, and port. There can be numerous reasons why the configuration is not able to be set.

The most likely causes are listed below.

- In SQL Server, the default static port is 1433. However, it is possible that the SQL Server installation is set up with a different static port or with a dynamic (non-specified port). For HPCA, you must use a static port. Verify your SQL Server port settings and update appropriately.
- The Server Host should be the hostname where the database resides. For example:

```
mydbserver.mycompany.com
```

- If the SQL server setup is using something other than the default database instance, the instance needs to be appended to the server name. For example, if the named instance is HPCA, you would specify it as follows:

```
mydbserver.mycompany.com\HPCA
```

- Check your authentication settings in SQL Server. If you are using Windows authentication, you need to use SQL Server authentication, and then update the Reporting Database Configuration appropriately.

Reporting Charts Display Problem in Non-English Environments


In non-English environments, the reporting charts display question mark (??) characters for certain strings. This erroneous display is caused by the fact that the JAVA JRE client installed on the client device is missing the non-English fonts file.

Solution:

This is a common Java issue regarding the `fonts.properties` file. The `font.properties` file in the JDK home directory has to be replaced with the one for the specific non-English environment to resolve this issue. For example in a Japanese environment, the `font.properties.ja` file should be used to replace the original `fonts` file.

Cannot Open a Report


This topic addresses the following problem:

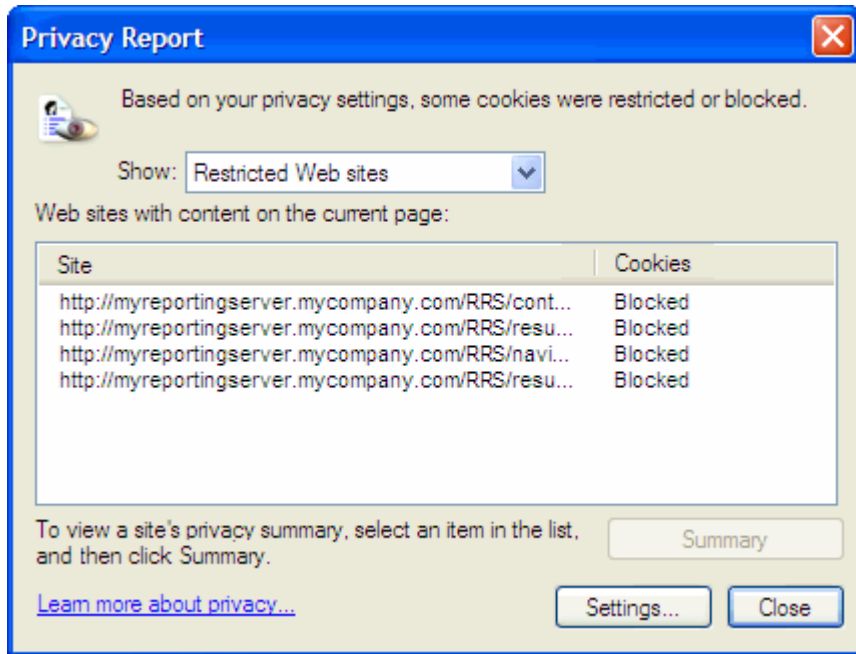
- 1 You click the  icon in a dashboard pane to open the pertinent report.
- 2 The report you requested does not open.
- 3 The Reporting home page opens instead.

This happens when a particular URL is blocked by the browser. If your browser security level is set to High, the URLs for the reports may be blocked. When the URL for a particular report is blocked, the default Reporting behavior is to display the home page.

This behavior is most prevalent with Internet Explorer 7 on the Windows 2003 Server platform. It can, however, happen on any supported platform.

Solution:

- 1 Open the list of blocked URLs.
- 2 In Internet Explorer 7, for example, click the eye-shaped icon with the red circle in the lower browser bar . The Privacy Report opens.



- 3 Using your browser privacy settings, add the URL for the report that you want to view to the **Allowed** cookies list.

Additional Parameters Disregarded by the HPCA Job Wizard

If you want to specify “additional parameters” when using the HPCA Job Creation Wizard, you must specify them in the following format:

`option=value`

If you do not use this format, the additional parameters are ignored. On the confirmation page (the last page of the wizard), be sure to verify that your additional parameters are included in the command line.

Virtual Machines Will Not Start

A licensing defect in ESX version 3.5 Update 2 (build number 103908) prevents Virtual Machines from being started after a certain date.

If you are running this ESX build, and you attempt to start a Virtual Machine from the HPCA Console, an error message similar to the following will appear in the console:

```
-----  
Result: "Start of Machine '<machine name>' failed"  
Details: "Received Method Fault executing task  
haTask-##-vim.VirtualMachine.powerOn-#####: A general system  
error occurred: Internal error."  
-----
```

Solution:

Install ESX version 3.5 Update 2 build 110268 (or later).

For more information, refer to VMware *Release Notes* for this update:

http://www.vmware.com/support/vi3/doc/vi3_esx35u2_vc25u2_rel_notes.html

Query Limit Reached

By default, only the first 1000 members of an Active Directory object are displayed in the HPCA Console. If you attempt to browse an Active Directory object that has more than 1000 members, a “Query Limit Reached” error message is displayed.

Recommended Solution:

Use the Search feature to fine tune the list of members displayed.

Alternate Solution:

Your HPCA administrator can specify the `directory_object_query_limit` in the `Console.properties` file for the HPCA Console. This file is located in the following directory:

```
<tomcatDir>\webapps\em\web-inf\Console.properties
```

By default, `<tomcatDir>` is as follows.

```
<InstallDir>\tomcat
```

After modifying the `Console.properties` file, be sure to restart the HPCA Tomcat service.



Modifying the `directory_object_query_limit` property may negatively impact performance of the HPCA Console.

A SSL Settings on the HPCA Core and Satellite Servers

In order to fully understand how to use the SSL settings that are available on the HPCA Console, it is important to understand the various “parts” of SSL and their functions. This appendix offers a brief overview of SSL, including how it relates to an HPCA environment. See the following sections:

- [SSL Parts](#) on page 375
- [SSL in an HPCA Environment](#) on page 376
- [The SSL Certificate Fields on the Consoles](#) on page 377

SSL Parts

SSL includes the following parts:

- Certificates
- Certificate Authorities (CA)
- Generating Certificates
- Private Key Files
- Public Key Files

In order to enable SSL, you will need the following:

- Public certificate and private key for each server that will have SSL enabled
- CA Certificates file if the servers' public certificates are signed by a CA not already included in the provided `ca-bundle.crt` file

SSL in an HPCA Environment

SSL uses **digital certificates** to establish proof of identity, and to establish shared **encryption ciphers** in order to provide secure communications. How you use SSL is dependent on how your infrastructure components are going to communicate. This section provides information on the two primary scenarios in which SSL should be enabled, and the role it plays in each.

Supporting SSL Communications to Remote Services

Assume that it is not necessary to secure the communications between the Core and Satellite servers; an SSL connection between them is not necessary. However, secure communications (LDAPS) are still required for the Core or Satellite server's communications with external servers (such as those hosting vendors' web sites), other HPCA servers, and Active Directory.

In order to trust that these other servers are “who” they claim to be, the Core or Satellite must obtain each server's **public certificate**, or the signature of the issuing **Certificate Authority (CA)**. The Core or Satellite must also have a **CA Certificates file**, which it has obtained from a Certificate Authority, and which must be available to other servers so that they can decrypt messages from the Core or Satellite. (The Core and Satellite installations include a set of default trusted authorities, `ca-bundle.crt`, which is suitable for most environments.)

Providing Secure Communications Services to Consumers

Assume an environment in which the communications between the Core and Satellite servers needs to be secure. In this case, the Core will assume the role of server and, as such, will need a public certificate that it can share with the Satellites. The Core server's public certificate contains its public key, server name, and a signature from a Certificate Authority (attesting to the identity of the server).

- A public certificate (also known as a **server certificate**) can be given to anyone whom you want to trust you.

Further, each Satellite server, in the role of “client,” will need its own set of certificates so that it can encrypt and decrypt messages between it and the Core. A certificate represents the Satellite, identifying it to the Core.

Each Core and Satellite also needs its own private key in order to decrypt messages.

- A **private certificate** (also known as a **private key**) should be kept private; it should never be shared.

The SSL Certificate Fields on the Consoles

The Infrastructure Management area of the Configuration tab of the HPCA Console contains two SSL Certificate areas: [SSL Server](#) and [SSL Client](#). The differences between these areas and the necessity of each are explained in this section. To complete the SSL set up for the HPCA, review the information in this appendix, then see [Infrastructure Management](#) on page 197.

SSL Server

This area of the panel is used to enable SSL, and upload and save the private key file (`server.key`) and server certificate file (`server.crt`) for the HPCA servers. These files were either self-generated (within your organization) or obtained from a Certificate Authority. Check with your system administrator for access to these files.

- The private key file is needed in order to decrypt messages that were secured with the corresponding public key.
- The server certificate file is needed so that this host can identify itself to SSL-enabled servers.

After the files have been uploaded (located and **Save** clicked) these files are saved to:

```
<InstallDir>\ApacheServer\conf\ssl.
```

By default, these files will be saved with the names shown above, but the file names can be customized.

SSL Client

This area of the panel is used to upload and save the CA Certificates file (`ca-bundle.crt`) for the HPCA servers. This file contains a default set of trusted authorities that should be sufficient for most environments, and is needed only when an HPCA server communicates with another server over either LDAPS or HTTPS.



It is possible to use an existing CA Certificates file that was obtained for your organization from a Certificate Authority. Check with your system administrator because you will need access to this file.

The CA Certificates file contains the signing certificates from trusted Certificate Authorities and is needed so that it can verify any incoming clients as “trusted.”

After the file has been uploaded (located and **Save** clicked) it is saved to:

```
<InstallDir>\ApacheServer\conf\ssl.crt.
```

By default, the file will be saved with the name shown above, but the file name can be customized.

B About Double-Byte Character Support

This section covers the configuration changes that will set the locale for the service operating system (SOS). See the following sections:

▶ When creating an image with the Image Preparation Wizard, the **locale** for your reference and target machines must match. For example, if you want to create a Simplified Chinese OS image, you must run the Image Preparation Wizard on a Simplified Chinese reference machine.

- [Supported Languages](#) on page 379
- [Changing the Locale](#) on page 380

⚠ If there are no double-byte requirements, do not make any of the following changes.

Supported Languages

The following table presents the list of supported languages and their valid language codes.

Table 41 Supported Languages and Codes

Language	Language Code
Korean	ko_KR
English	en_US
Japanese	ja_JP
Simplified Chinese	zh_CN

Changing the Locale

To add support for a supported language in a PXE environment

- 1 Use a text editor to open `\X86PC\UNDI\linux-boot\linux.cfg` `\default`. The file looks similar to the following:

```
DEFAULT bzImage  
  
APPEND initrd=rootfs.gz root=/dev/ram0 rw ISVR=10.10.10.1  
ISVRPORT=3466
```

- 2 Add the **LANG** parameter to the end of the `APPEND` line and specify a valid language code (see [Table 41](#) on page 379).

The result will be the file resembling the following example in which the language was set to Japanese.

```
DEFAULT bzImage  
  
APPEND initrd=rootfs.gz root=/dev/ram0 rw ISVR=10.10.10.1  
ISVRPORT=3466 LANG=ja_JA
```

- 3 Save and close the default file.

To add support for a supported language when restoring from the Service CD-ROM

- Specify **LANG=xx_XX** in the `ServiceCD` section of the `romsinfo.ini` file. See [Table 41](#) on page 379 for a list of supported languages and their valid codes.
- The file `romsinfo.ini` is part of the Service CD iso.

Double-byte Support for Sysprep Files

If using double-byte character support in Sysprep, the file must be encoded in UTF-8 coding.

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