# HP ProLiant Support Pack User Guide

## Intended audience

This guide is intended for individuals who are familiar with the configuration and operation of Microsoft® Windows®, Windows Server® 2003, Windows Server® 2008, Linux, smart components, and deployment of firmware and software to systems and options. Because of the risk of data loss, only individuals experienced with using firmware and software should implement the procedures in this guide.

# Contents

# Introduction

## PSP overview

HP ProLiant Support Packs (PSPs) are operating system-specific bundles of drivers, utilities, and management agents optimized for ProLiant systems. Each PSP is a predefined and tested bundle that includes setup and software maintenance tools designed to help efficiently install, upgrade, and manage system software. These PSPs include tools for Microsoft® Windows®, Novell NetWare, and Linux server environments that enable you to deploy software updates from a central software repository to local or remote server systems.

> **NOTE:** This guide covers deployment of PSPs on Microsoft® Windows® 2003 version 7.90 or later. Information about deploying PSPs with Microsoft® Windows® 2003 version 7.80 or earlier is located in the Appendix—Deploying PSPs in Microsoft Windows 7.80 or earlier (on page 103).

For more information about PSPs and to download the latest PSPs, see the PSP website (http://www.hp.com/servers/psp).

## PSP deployment scenarios

You can deploy a PSP using graphical or command line utilities specific to each operating system.

| Operating system environment | Scenario |
|---|---|
| Microsoft® Windows® | • Graphical deployment on a single-host system using the HPSUM.EXE<br><br>• Graphical deployment remotely on a multiple-host system  using the HP Smart Update Manager GUI<br><br>• Command line deployment on a single-host system using the HP Smart Update Manager command line interface<br><br>• Command line deployment on a multiple-host system using the HP Smart Update Manager command line interface<br><br>• Command line deployment on a multiple-host system managed by HP Systems Insight Manager |

| Operating system environment | Scenario |
| --- | --- |
| Novell NetWare | <ul><li>Command line deployment using CPQDPLOY.NLM</li><li>Graphical deployment using CPQDPLOY.NLM</li><li>Command line deployment of an individual package</li><li>Graphical deployment of an individual package</li></ul> |
| Linux | <ul><li>Command line deployment using the terminal window</li><li>Graphical deployment using a gtk-based GUI</li></ul> |

> **NOTE:** For a current list of supported operating systems, refer to the PSP website (http://www.hp.com/servers/psp).

This guide describes additional functionality of PSP and individual support software components, including deployment examples that you can modify to fit specific Microsoft® Windows Server™ 2003, Microsoft® Windows Server™ 2003 x64, Microsoft® Windows Server™ 2008, Microsoft® Windows Server™ 2008 x64, Novell NetWare, and Linux server environments.

> **NOTE:** If you install a PSP and then install an operating system Service Pack, a Support Pack, or other operating system updates, HP recommends reinstalling the PSP.

# Benefits of PSP

PSP makes software maintenance easier by:

- Increasing server manageability
- Enabling administrators to update systems remotely

> **NOTE:** Remote functionality is provided by the Windows® PSP deployment utilities only.

- Reducing server maintenance costs
- Saving time

PSP provides the following software maintenance benefits to system administrators using Windows®, NetWare, and Linux operating system platforms:

- Self-installable components with easy-to-understand software update descriptions
- Components that you can install individually or as part of a support pack
- Installation logic and version control that automatically check for hardware, software, and operating system dependencies, installing only the correct software updates and latest drivers for optimal system configuration
- Silent command line options and return codes that enable scripting and enhanced integration of the PSP with HP Systems Insight Manager (Windows® and Linux only) and the HP SmartStart Scripting Toolkit

- Integration with preconfigured server script files as part of the Rapid Deployment Pack
- Common log files that provide easy access to a consolidated view of the software installation history on host servers
- Content in a ready-to-run, native operating system file format that saves time by installing directly from a CD or shared network drive

By following the procedures in this guide, you enhance the scalability of the PSP to support high-volume maintenance and deployment of software upgrades on Windows®, NetWare, and Linux platforms.

⚠ **CAUTION:** PSPs and individual components should only be used by individuals who are experienced and knowledgeable in the use of these software components. Before using PSP utilities and components to deploy a server or maintain software components, back up the data on the host server and take all other necessary precautions to ensure that mission-critical systems are not disrupted if a failure occurs.

# Obtaining the PSP deployment utilities

You can obtain the PSP deployment utilities from the HP website or HP CD media.

## HP website

The latest PSPs and individual components for supported Microsoft® Windows®, Novell NetWare, and Linux operating systems are available at the PSP website (http://www.hp.com/servers/psp).

## HP SmartStart CD

When Web access is not available or download speeds are too slow, you can obtain PSP deployment utilities, PSPs, and individual components from the appropriate HP SmartStart CD for Windows® and Linux.

**NOTE:** Starting with SmartStart 8.0, PSPs and individual components for Novell Netware are only available through the PSP download page (http://www.hp.com/servers/psp).

For more information about the HP SmartStart CD and other CDs that you can download at no cost, see the SmartStart download page (http://www.hp.com/servers/smartstart).

# Updating a PSP

HP Subscriber's Choice and HP version control tools help to ensure that you have the most up-to-date PSPs and individual components.

## Subscriber's Choice

Keep actively informed of new releases of SmartStart and other Foundation Pack software with e-mail alerts from Subscriber's Choice. Subscriber's Choice uses a secure website to proactively communicate product changes and Customer Advisories through e-mail to registered customers based on a customer-provided profile. Register for this free service at the HP Subscriber's Choice website (http://www.hp.com/go/subscriberschoice).

# Version control

The VCRM and VCA are Web-enabled Insight Management Agents. HP Systems Insight Manager uses these Insight Management Agents to facilitate software update tasks.

- The **VCRM** provides a graphical view of the Windows® and Linux PSPs that are stored in a repository and can be configured to automatically update the repository with the latest software from HP.

- The **VCA** can be configured to point to a repository being managed by the VCRM, enabling easy version comparison and software updates.

For more information about version control tools, refer to the *HP Systems Insight Manager Help Guide* and the *Version Control User Guide* on the HP Systems Insight Manager website (http://www.hp.com/go/hpsim).

# Creating a centralized, network-based software repository

The practice of deploying PSPs and individual components from a centralized, network-based software repository saves time and standardizes software maintenance and deployment procedures on Windows®, NetWare, and Linux-based systems.

For maximum flexibility across operating system platforms, the software repository should be on a Windows® shared network drive. The repository can be updated from any of the following sources.

HP Website      SmartStart CD

Network Share

Software Repository

Microsoft Internet Explorer

Administrative System
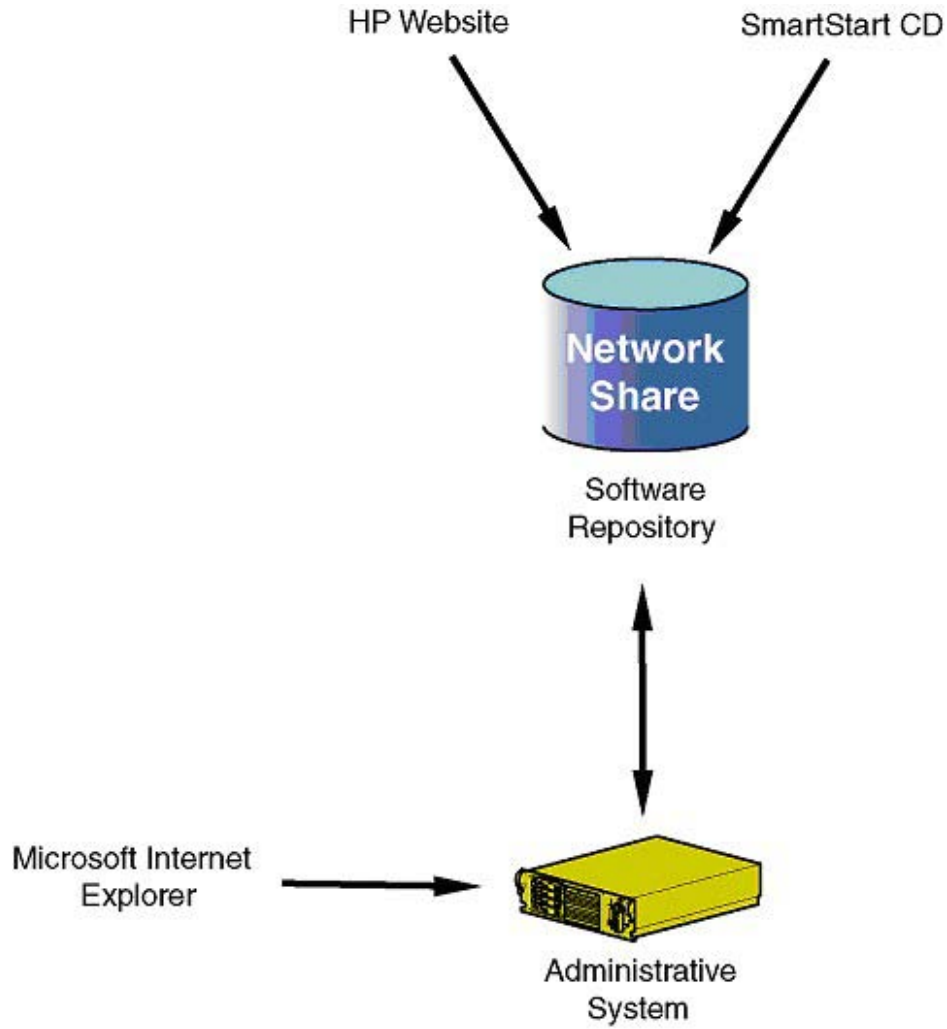
# Deploying PSPs in Microsoft Windows

## Overview of PSPs for Microsoft Windows

This chapter discusses deploying PSPs in Microsoft® Windows® 2003 (version 7.90 or later) and Microsoft® Windows® 2003 x64 Editions (version 7.90 or later), and Microsoft® Windows® 2008 (version 8.00 or later) and Microsoft® Windows Server™ 2008 x64 Editions (version 8.00 or later). For more information about deploying PSPs on Microsoft® Windows® 2000 (version 7.60 or earlier), Microsoft® Windows® 2003 (version 7.80 or earlier), and Microsoft® Windows® 2003 x64 Editions (version 7.80 or earlier), see the Appendix—Deploying PSPs in Microsoft Windows 7.80 or earlier (on page 103).

HP provides the HP Smart Update Manager for configuring components and deploying PSPs on Microsoft® Windows®. You can obtain these PSPs from the PSP website (http://www.hp.com/servers/psp) or the SmartStart CD 7.90 or later.

> **NOTE:** Smart Components can also be installed individually. For more information, refer to "Installing single components (on page 117)."

> **NOTE:** The PSP contains numerous files. All files must be present in the same directory as the HPSUM.EXE program for the PSP to be properly installed.

Beginning with the ProLiant Support Pack for Microsoft® Windows® version 7.90 or later, users can now deploy firmware and software components simultaneously. For more information about this new feature, see "Deploying firmware and software simultaneously (on page 83)."

## Minimum requirements for Microsoft Windows PSP version 7.90 or later

> **IMPORTANT:** Before deploying software updates on a host server, be sure that a recent backup of the host server is available in case the deployment procedure fails.

For successful component deployments on Microsoft® Windows® hosts, the following minimum requirements must be met:

- A local administrative system with 512 MB of memory and running a supported Windows® operating system must be used.

- One or more remote host servers that run a supported Windows® operating system and need a software upgrade must be available. If the local administrative system (local host) is the only server that requires an upgrade, remote host servers are not necessary.

- Sufficient hard-drive space, which is generally at least twice the file size of the components you want to deploy, must be available.

- WMI must be enabled.

> **NOTE:** When attempting to use the remote deployment functionality of HP Smart Update Manager on any edition of Windows Server® 2008, you must ensure that the File and Print Services feature is enabled and that the File and Print Services exception has been enabled in the Windows® firewall. Failure to do so prevents HP Smart Update Manager from deploying remote Windows® target servers.

- All remote host servers must be connected to the same network and use TCP/IP to enable the systems to be accessed by the administrative system.

- Each host server must have an account with administrator privileges. HP recommends that the user name and password for the administrator account on each host server be the same as those on the local administrative system. If administrator privileges are not set up in this manner, you must have the user name and password for each remote server available. Alternatively, you can use a domain account on the local administrative system that has administrator privileges on the host servers.

- The beginning and ending IP addresses for the range of hosts must both be on the same subnet.

> **△ CAUTION:** Microsoft® recommends that all software be removed from the system before upgrading from Windows Server™ 2003 to Windows Server™ 2008. If software applications are left on the system during the upgrade process, Microsoft® cannot guarantee the stability of the operating system or the software after the upgrade is complete.

# PSP powered by HP Smart Update Manager

Beginning with the ProLiant Support Pack for Microsoft® Windows® version 7.90 or later, the HP Smart Update Manager utility enables you to deploy PSP software and firmware components from a single, easy-to-use interface that is supported in Windows® environments. This utility enables legacy support of existing software and firmware components while simplifying the overall deployment process. It is no longer necessary to run the SETUP executable files (SETUPC.EXE, SETUPEX.EXE, and SETUP.EXE). HP Smart Update Manager utility provides this functionality. The utility also provides installation logic and version control that automatically check for dependencies, installing only the correct updates for optimal configuration.

With HP Smart Update Manager version 3.2.0 and later, the storage location for the persistent data (Hosts and Groups) has changed. Persistent data entered with earlier versions of HP Smart Update Manager is automatically moved to a new location the first time you run HP Smart Update Manager version 3.2.0 and later. Then, the data no longer exists for use with earlier versions of HP Smart Update Manager. This process occurs only once. If an earlier version of HP Smart Update Manager is run after the persistent data is moved, and new persistent data is entered, the persistent data is not moved to the new storage location when you run HP Smart Update Manager version 3.2.0 and later.

## Keyboard support

The HP Smart Update Manager graphical user interface has accelerator keys that enable you to manage and control common tasks quickly. To ensure proper navigation, the following are a few reminders.

- Depending on the operating system, you must press **ALT** to see the task corresponding to the underlined letter.

- The accelerator keys work by pressing **ALT + the underlined letter**.

- Press **Space** to select items such as hosts or groups.
- Press **Tab** to select from a list, and then press the **arrow keys** to toggle radio buttons.

# Trusted Platform Module

The TPM, when used with BitLocker, measures a system state and, upon detection of a changed ROM image, restricts access to the Windows® file system if the user cannot provide the recovery key. HP Smart Update Manager detects if a TPM is enabled in your system. If a TPM is detected in your system or with any remote server selected as a target, for some newer models of ProLiant, HP Smart Update Manager utilities for iLO, Smart Array, NIC, and BIOS warn users prior to a flash. If the user does not temporarily disable BitLocker and does not cancel the flash, the BitLocker recovery key is needed to access the user data upon reboot.

A recovery event is triggered if:

- The user does not temporarily disable BitLocker before flashing the System BIOS when using the Microsoft BitLocker Drive Encryption.
- The user has optionally selected to measure iLO, Smart Array, and NIC firmware.

If HP Smart Update Manager detects a TPM, a pop-up warning message appears.



CAUTION: A Trusted Platform Module (TPM) has been detected in this system. Failure to perform proper OS encryption procedures will result in loss of access to your data if recovery key is not available. Recommended procedure for Microsoft Windows(R) BitLocker(TM) is to "suspend" BitLocker prior to System ROM or Option ROM firmware flash. If you do not have your recovery key or have not suspended BitLocker, exit this flash. Failure to follow these instructions will result in loss of access to your data.

OK

## TPM scenarios

The following table discusses the TPM detection scenarios that you might encounter.

| Scenario | Result |
| --- | --- |
| If the TPM is detected and enabled, the installation is not silent, and a system ROM must be updated. | A pop-up warning message appears. After **OK** is selected, you can continue. The installation is not canceled. |
| If the TPM is detected and enabled, the installation is silent, the /tpmbypass switch is not given, and any firmware updated must be applied to the server. | No pop-up warning appears. A new log file is generated (%systemdrive%\cpqsystem\log\cpqstub.log). Because the installation is silent, the installation is terminated and cannot continue. |
| If the TPM is detected and enabled with Option ROM Measuring, the installation is not silent, and a system ROM must be updated. | A pop-up warning message appears. After **OK** is selected, you can continue. The installation is not canceled. |
| If the TPM is detected and enabled with Option ROM Measuring, the installation is silent; the /tpmbypass switch is not given, and any firmware updated must be applied to the server. | No pop-up warning appears. A new log file is generated (%systemdrive%\cpqsystem\log\cpqstub.log). Because the installation is silent, the installation is terminated and cannot continue. |

| | |
|---|---|
| If the TPM is detected and enabled, the installation is silent, and the /tpmbypass switch is supplied. | The installation occurs. |

Other scenarios do not affect the normal installation procedure.

# First time execution

HP Smart Update Manager provides an easy-to-use graphical interface that enables you to deploy and maintain software and firmware components. The HP Smart Update Manager is delivered with the PSP. To start the deployment, run **HPSUM.EXE.**

> **NOTE:** The PSP contains numerous files. All files must be present in the same directory as the HPSUM.EXE program for the PSP to be properly installed.

The Inventory Progress screen appears while the HP Smart Update Manager builds an inventory of available updates. After checking the system for installed items, HP Smart Update Manager installs the updates.
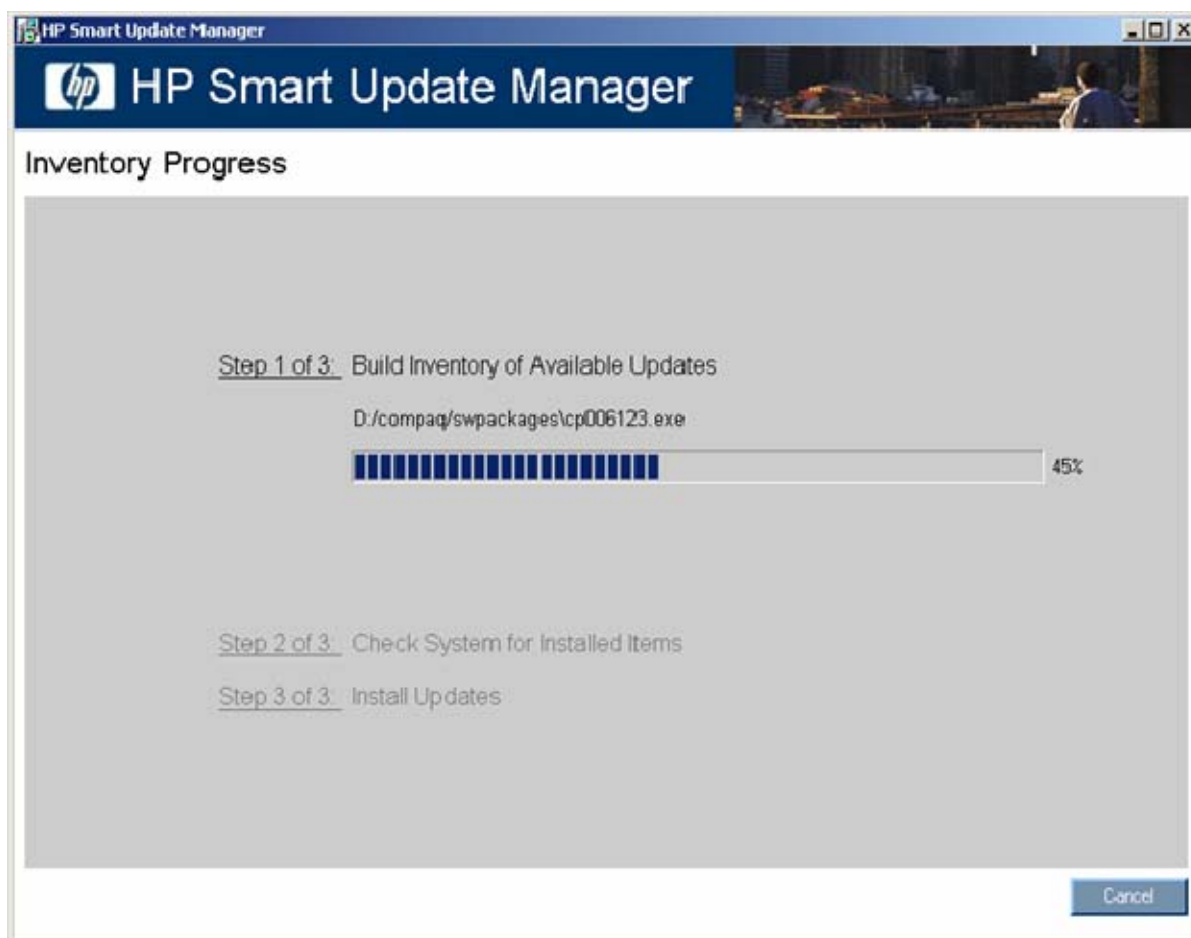
# Selecting an installation host for the first time

The Select Installation Host(s) screen appears when the inventory process is complete.
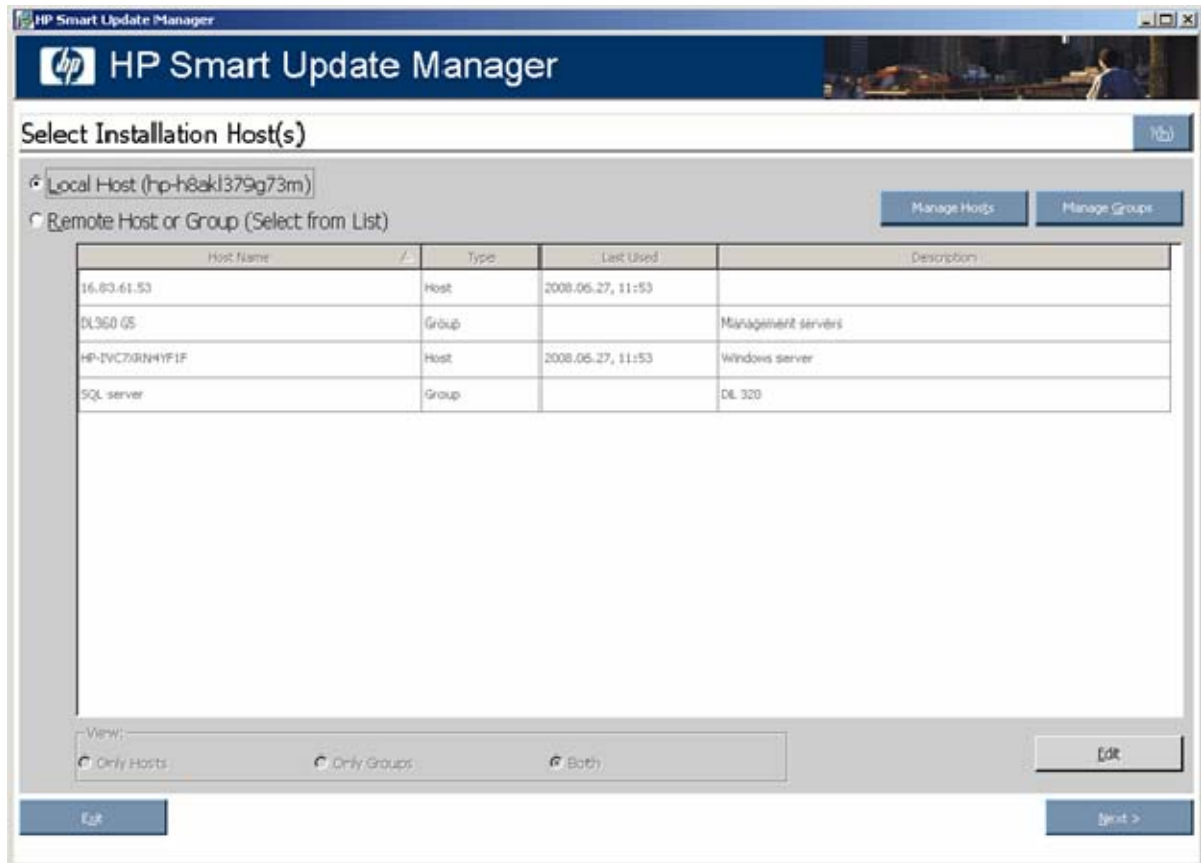


The Select Installation Host(s) screen enables you to choose a host for component installation. By default, the first time you run HP Smart Update Manager on a particular system, the only host available is the local host. However, you can select remote hosts as your target by using the GUI. For more information about multiple remote deployments, see "Multiple-host installations using the GUI (on page 29)."

The following information is included on the Select Installation Host(s) screen:

- Host Name—Displays the host IP address or DNS name.

- Type—Categorizes the system as a host or group.

- Last Used—Enables you to sort the list by the most recently used hosts.

- Description—Displays the user-defined description given to a host.

When you select the Remote Host or Group option in the Select Installation Host(s) screen, you can sort your view of the host list by selecting **Only Hosts, Only Groups,** or **Both.**
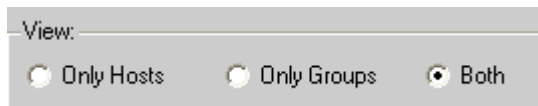


The Select Installation Host(s) screen also includes the following buttons:

- Manage Hosts—Adds, edits, and deletes hosts.

- Manage Groups—Adds, edits, and deletes groups.

- Edit—Edits the selected host.
- Next—Proceeds to the next step in the installation process.
- Exit—Exits HP Smart Update Manager.

To continue with the deployment process, click **Next.** If the system discovery finds one or more predefined bundles, the Select Bundle Filter screen appears.

## Selecting bundles to filter for the first time

The Select Bundle Filter screen displays information about the predefined bundles available on your system and enables you to select which bundles to install. This screen also enables you to set options for nonbundle product versions.
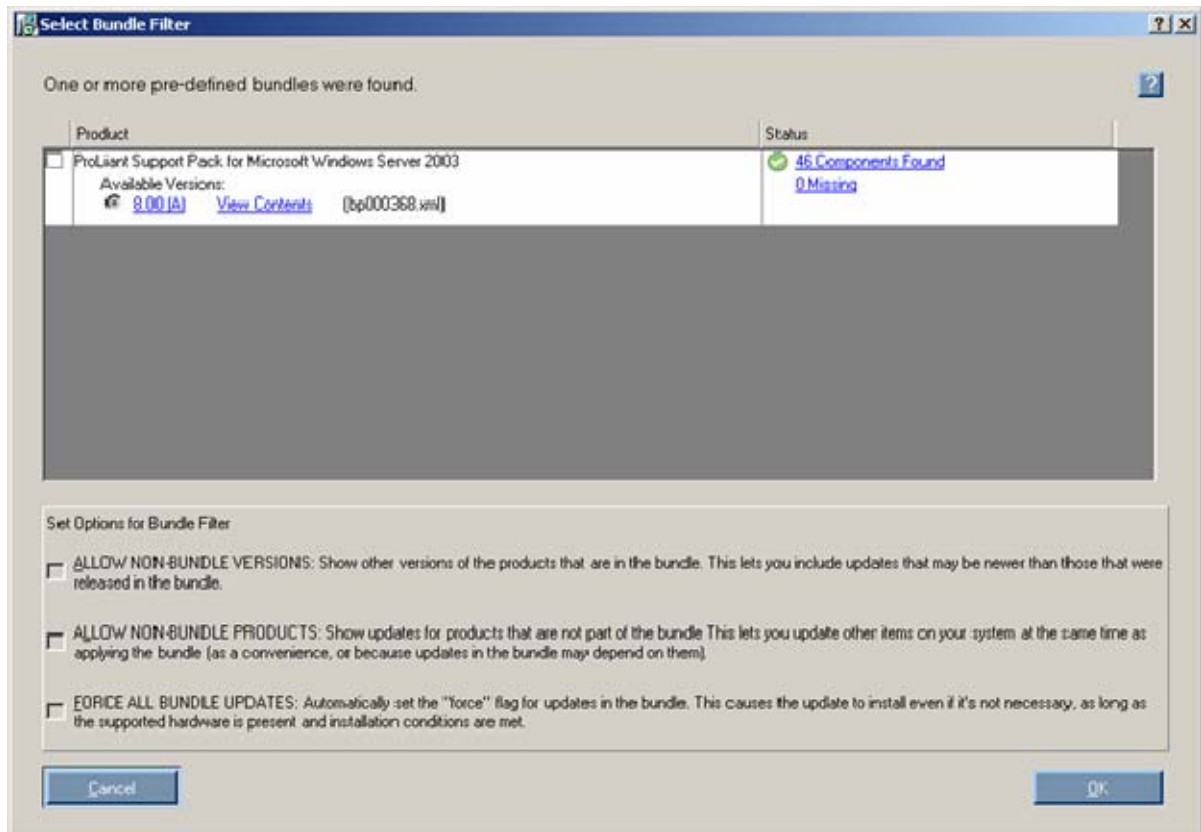


For more information about the Select Bundle Filter screen, see "Selecting bundles to filter (on page 19)." To continue to system discovery, click **OK.** For multiple remote deployments, enter the credentials for the host. The Select Items to be Installed screen appears.

## Selecting components to install for the first time

The Select Items to be Installed screen displays information about which components are available for installation on your system and enables you to select or clear components to install.

**HP Smart Update Manager**

Select Items to be Installed

Host: localhost
Status: Ready (1 Update, approx. 40 Seconds)

☐ Reboot System After Installation    Reboot Options
  ◉ If Needed    ○ Always

| Product | Status | Optional Actions | Additional |
|---|---|---|---|
| Bundle filters are available but none are currently active. | | Select Bundle Filter | |
| **Optional Updates** | | | |
| HP Insight Management WBEM Providers for Windows Server 2003/2008 x64 Editions<br>Installed Version: None<br>Available Version: 2.2.0.0 | | ⓘ Configurable<br>Configure Now | |
| **Updates to be Installed** | | | |
| ☑ HP StorageWorks Tape Drivers for Windows<br>Installed Version: None<br>Available Version: 1.4.0.0 | ✓ Ready for installation | | |
| **Installation Not Needed** | | | |
| ☐ HP NULL IPMI Controller Driver for Windows Server 2003 x64 Editions<br>Installed Version: 1.0.0.0<br>Available Version: 1.0.0.0 (E) | ☑ Already up-to-date | Installation Options | |
| ☐ HP ProLiant Integrated Lights-Out Management Interface Driver for Windows x64 Editions<br>Installed Version: 1.13.0.0<br>Available Version: 1.13.0.0 (B) | ☑ Already up-to-date | Installation Options | |
| ☐ HP ProLiant Integrated Management Log Viewer<br>Installed Version: 5.21.0.0<br>Available Version: 5.21.0.0 | ☑ Already up-to-date | Installation Options | |
| ☐ HP ProLiant iLO 2 Management Controller Driver<br>Installed Version: 1.0.0.0 | ☑ Already up-to-date | Installation Options | |

Select All    Deselect All    Default

Exit    Install

For more information about the Select Items to be Installed screen, see "Selecting components to install (on page 20)."

# Local host installations using the GUI

HP Smart Update Manager can deploy smart components on a local host or on one or more remote hosts. You can easily deploy components on a local host by using the Smart Update Manager GUI.

# Selecting an installation host

To continue with the deployment process using a local host, select a host from the Select Installation Host(s) screen, and click **Next**.
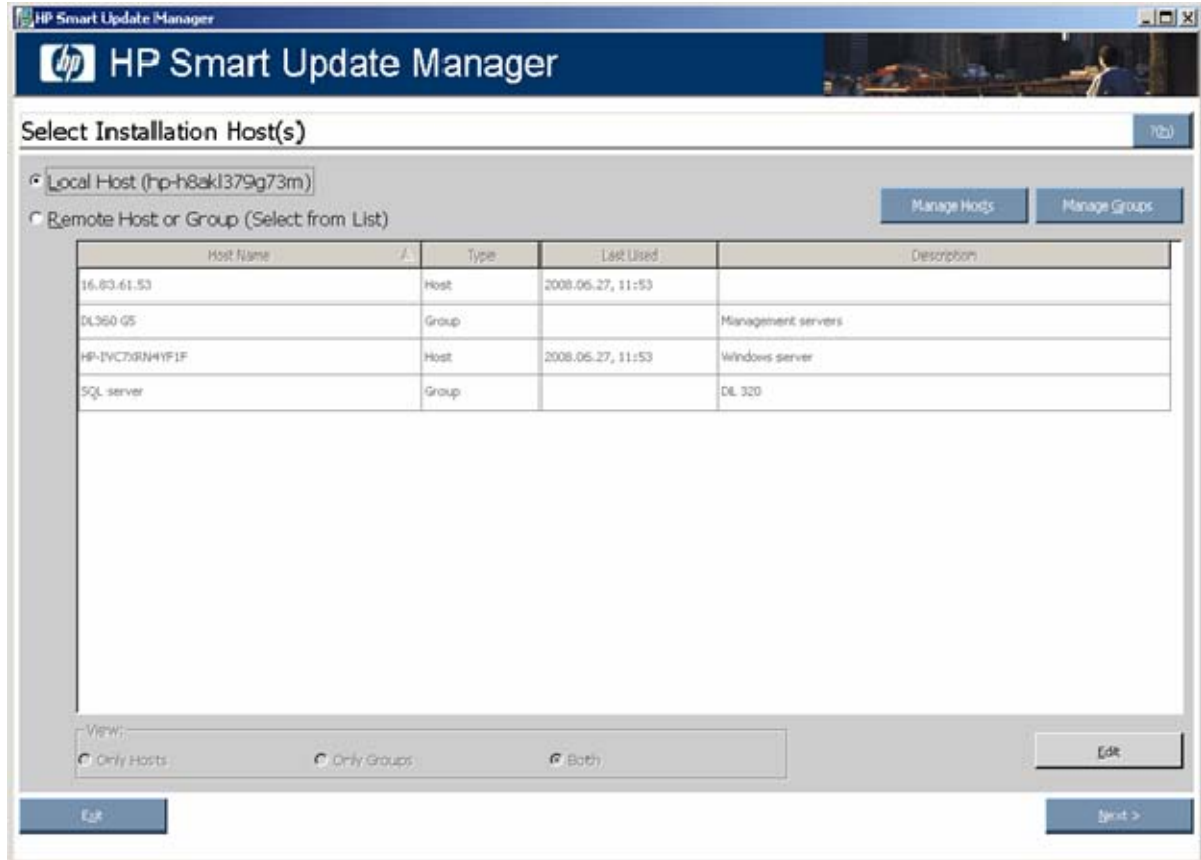


The Discovery Progress screen appears while the HP Smart Update Manager checks the local system to see which items are already installed.

# Selecting bundles to filter

When the discovery process is complete, the Select Bundle Filter screen appears.



The Select Bundle Filter screen is divided into two sections.

The upper part of the screen includes the product and status information:

- Product—Displays the product name of the predefined bundles found on the system. It also provides information about available versions.

- Status—Indicates whether the installation is ready to proceed. It also provides additional information about the contents of the identified bundles.
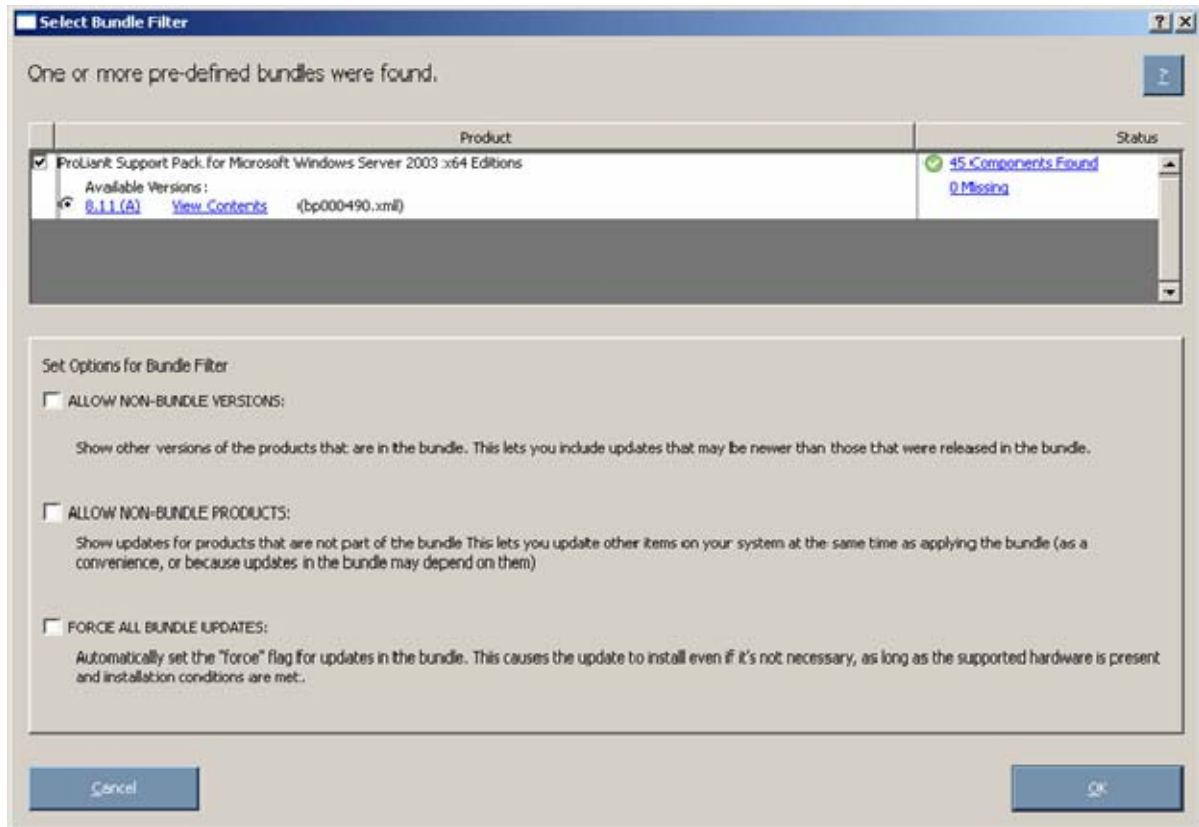
The lower part of the screen includes options for installation. The Installation Options section enables you to set options for non-bundle product versions.

- To view all versions of the products included in the bundle, select **ALLOW NON-BUNDLE VERSIONS.** This option enables you to include updates that might be newer than those released in the bundle.

- To view updates of products not included in the bundle, select **ALLOW NON-BUNDLE PRODUCTS.** This option enables you to update other components on your system as you apply the bundle.

- To force the installation process on the bundle products, select **FORCE ALL BUNDLE PRODUCTS.** This option enables you to install bundle products when the installed version is the same as or newer than the components in the bundle. This allows the installed software to be downgraded.

To view the PSP version history, click the version number in the product field.

To view a list of the bundle contents, click **View Contents.** This list also appears when you click the number of components in the status field.

To view the list of missing components, click the **Missing Components** link. You can obtain the missing components from the source media or from the HP website (http://www.hp.com).

To proceed with the deployment process, click **OK**.

## Selecting components to install

After you select the bundles to filter, the Select Items to be Installed screen appears.
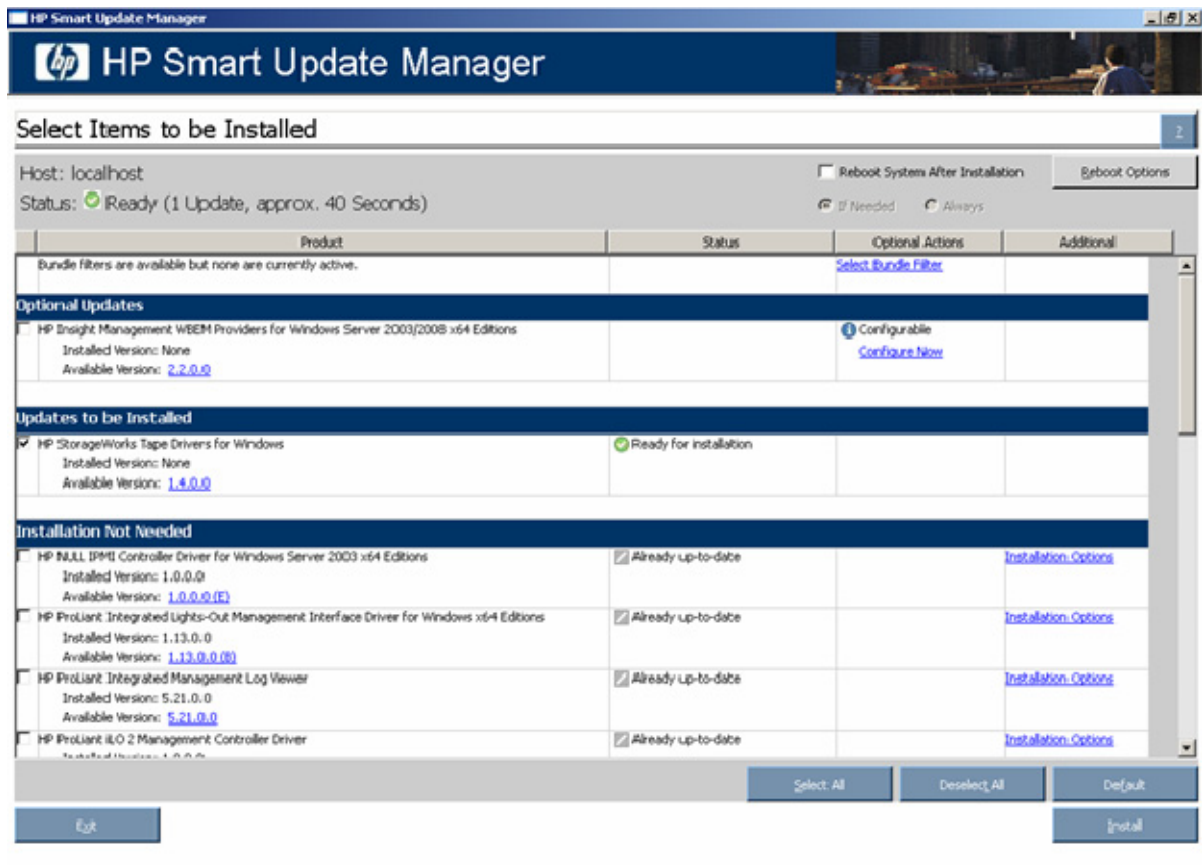


The Select Items to be Installed screen includes the following sections:

- Product—Lists the system where the selected items are installed.
- Status—Indicates whether the installation is ready.
- Reboot section—Enables you to specify reboot settings and determine when reboots occur.
- Component selection pane—Enables you to specify which components to install.

When updating installation for some but not all NIC components, select the devices to be updated in the window that appears. If the NIC firmware listed for the device does not have a version, you cannot add that firmware to the device using HP Smart Update Manager.

The Select Items to be Installed screen also includes the following buttons:

- Select All—Selects all applicable components for installation.
- Deselect All—Deselects all components selected for installation.
- Default—Restores the selections in the product installation pane to the default view, which is based on the existing configuration of the local system.

- Install—Installs all selected components.
- Exit—Exits HP Smart Update Manager.

> **NOTE:** HP Smart Update Manager does not support supplemental update for self-discovered components. You can use the self-discovered components only when running HP Smart Update Manager online.

The component selection pane in the Select Items to be Installed screen is divided into sections, which might vary depending on your system. These sections include the following headings:

- Deselected By User—You have deselected the components in this section, and the components are not installed.

| Deselected By User | | | |
|---|---|---|---|
| HP Insight Management Agents for Windows Server 2003<br>Installed Version: None<br>Available Version: 7.80.0.0 | Deselected by User | | |
| HP Virus Throttle for Windows Server 2003<br>Installed Version: None<br>Available Version: 8.60.0.0 | Deselected by User | | |
| HP Version Control Agent for Windows<br>Installed Version: None<br>Available Version: 2.1.8.780 | Deselected by User | | |

- Installation Not Needed—The components in this section do not need to be updated, but can be. To update the components, select the components, and then click **Installation Options.**

| Installation Not Needed | | | |
|---|---|---|---|
| Smart Array P600<br>Installed Version: 1.52<br>Available Version: 1.52 (A) | Already up-to-date | | Installation Options |
| HP ProLiant DL380 G4 (P51)<br>Installed Version: 2006.04.26<br>Available Version: 2006.04.26 (B) | Already up-to-date | | Installation Options |
| HP Network Configuration Utility for Windows Server 2003<br>Installed Version: 8.70.0.0<br>Available Versions:<br>○ 8.70.0.0<br>○ 8.60.0.0 | Already up-to-date | | Installation Options |

- Excluded by Filtering—The components in this section were excluded through your filtering options. You can use the Select Bundle Filter option to change the exclusion on a single target. For multiple targets, this must be repeated on each additional target.

| Excluded by Filtering | | | |
|---|---|---|---|
| Smart Array P600<br>Installed Version: 1.52<br>Available Version: 1.52 (A) | Deselected by User | | |
| Smart Array 641/642<br>Installed Version: 2.76<br>Available Version: 2.80 (A) | Deselected by User | | |
| HP ProLiant DL380 G4 (P51)<br>Installed Version: 2006.04.26<br>Available Version: 2006.04.26 (B) | Deselected by User | | |

- Updates to be Installed—The components in this section can be installed on your system.

| Updates to be Installed | | | |
|---|---|---|---|
| ☑ Smart Array 641/642<br>Installed Version: 2.76<br>Available Version: 2.80 (A) | ✔ Ready for installation | | |
| ☑ HP Virus Throttle for Windows Server 2003<br>Installed Version: None<br>Available Version: 8.60.0.0 | ✔ Ready for installation | | |
| ☑ HP Insight Management Agents for Windows Server 2003<br>Installed Version: None<br>Available Versions:<br>⦿ 7.90.0.0<br>○ 7.80.0.0 | ⚠ Failed Dependencies<br>View Failed Dependencies | ⓘ Configurable<br>Configure Now | |

- Optional Updates—The components in this section are not selected for installation by default, even if the product is not already installed or is installed but not up-to-date. To include the component in the installation set, you must select the component.

| Optional Updates | | | |
|---|---|---|---|
| ☐ HP Insight Management WBEM Providers<br>Installed Version: None<br>Available Version: 2.1.0.0 | | | |

- No Device Driver Installed—The devices supported by the components in this section are detected on the system, but HP Smart Update Manager requires a device driver before the component can be made available for installation. Install the device driver.

| No Device Driver Installed | | | |
|---|---|---|---|
| ☐ HP Integrated Lights-Out 2<br>Installed Version: None<br>Available Version: 1.42 | ◿ No supported devices | | |

## Status field

Status: ◿ None Selected

The Status field of the Select Items to be Installed screen displays information about whether the installation is ready to proceed or not.

| Icon | Text | Description |
|---|---|---|
| ✔ | Ready | All selected components are ready to be installed. |
| ◿ | Already up-to-date | No component installation is required. |
| ◿ | None Selected | No components are selected for installation. |
| ⚠ | x Critical Action | X components are not ready for installation due to failed dependencies, where x is the number of components. The installation cannot proceed until the dependencies are met or the component is deselected for installation. |

## Reboot section

The Reboot section of the Select Items to be Installed screen enables you to specify preferred reboot behavior.

| | |
|---|---|
| ☐ Reboot System After Installation<br>⦿ If Needed   ○ Always | Reboot Options |

To instruct the system to reboot after updates are installed:

1. Click **Reboot System After Installation.**
2. Click **Always** or **If Needed.**

If **Always** is selected, then the system always reboots unless there is a component installation failure. If you select **If Needed**, then the system reboots if needed by at least one component unless there is a component installation failure.

To change the delay before reboot or the reboot message, click **Reboot Options.** The Set Reboot Options screen appears.
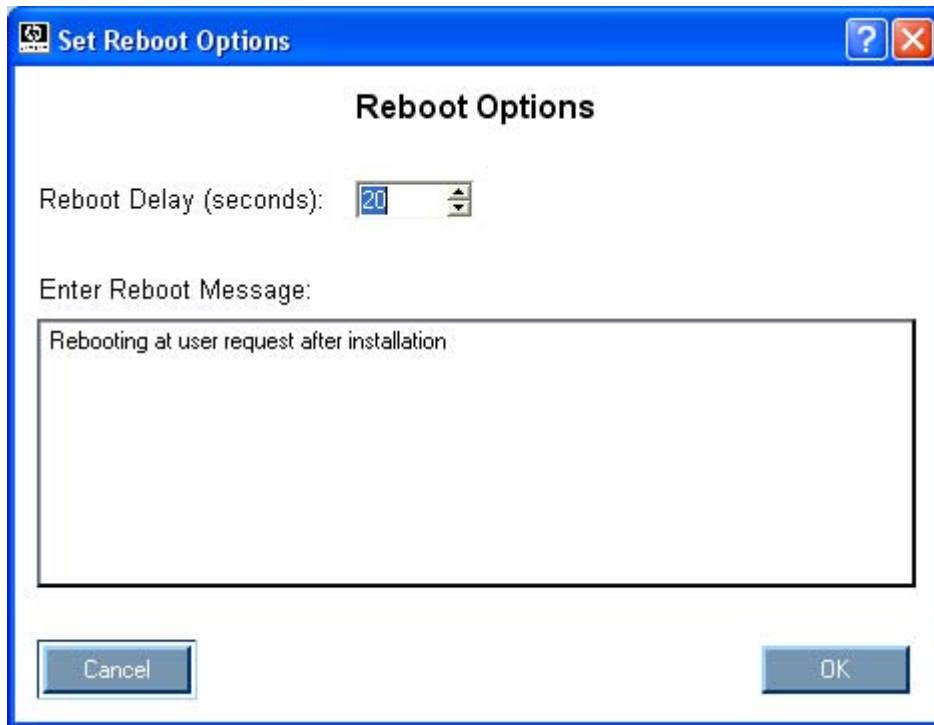


Make changes, and click **OK.**

## Component selection pane

The component selection pane of the Select Items to be Installed screen displays (by type) all components available for installation based on server and hardware options. If the component is already installed on the system or if it requires a reboot after installation, the HP Smart Update Manager checks each component for dependencies. Items available for installation are selected by default. You can clear any components that you do not want to install.

The component selection pane provides the following information:

- Product—Specifies the name of the component, version number, and new component version number. To view the component version history, click the new version number.

- Status—Displays the status of the component.

| Icon | Text | Description |
|------|------|-------------|
| ✓ | Ready for installation | The component is ready for installation. |
| ◹ | Not selected for installation | The component is not selected for installation. |

| Icon | Text | Description |
|------|------|-------------|
|  | Already up-to-date | The component is already up-to-date. To downgrade or rewrite a component, click **Installation Options.** |
|  | No device driver installed | The devices supported by the components in this section are detected on the system but require a device driver. Install the device driver. |
|  | Deselected by user | The component has not been selected for installation. |
|  | Failed dependencies | The component has a dependency that has not been met. To determine the nature of the failed dependency, click **View Failed Dependencies.** |

- Optional Actions—Enables you to select the bundles to filter by clicking **Select Bundle Filter** or configure components by clicking **Configure Now.** If you failed to select a bundle, want to change the bundle you are using, or want to change the bundle options, click **Select Bundle Filter**. If a component is configurable, it is indicated in the Optional Actions column, and you can click **Configure Now** to configure the selected component.

  The Configure Now link does not appear on all editions of the Microsoft® Windows Server™ 2008 with the Server Core option. To configure components to be deployed on this operating system configuration, you must access the system as a remote host using HP Smart Update Manager running on a system with a supported Windows® operating system and then configure the components before deployment.

- Additional—Contains the component installation options.

If a failed dependency occurs, the Failed Dependencies screen appears.
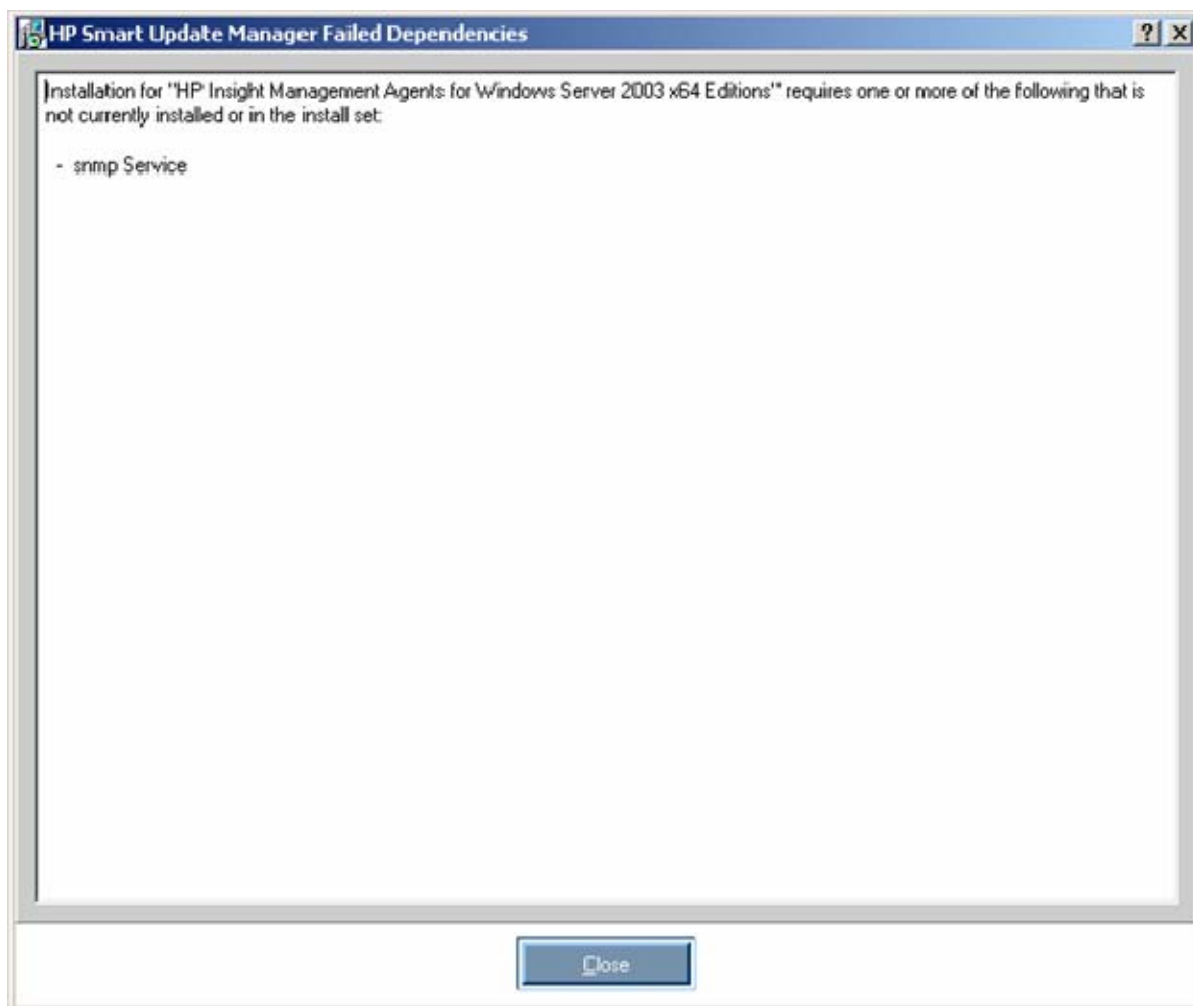


You must resolve the dependency before proceeding with the installation. Depending on the issue, you must locate software or firmware components in the Firmware Maintenance CD or HP website (http://www.hp.com).

## Installation options

The following screen appears when you click **Installation Options** in the Additional Options column. Selecting **Force Install** enables you to select components that do not need installation.
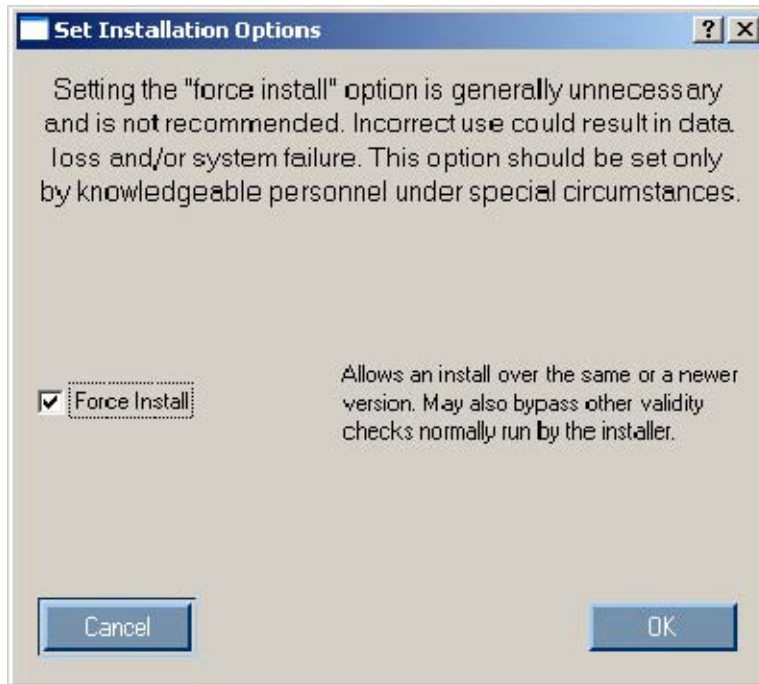


After selecting all the components that you want to install, click **Install** to proceed with the installation. For more information about the individual components, see "Component configuration (on page 67)." The Installation Progress screen appears.

# Viewing the installation results

When the installation is complete, the Installation Results screen appears.
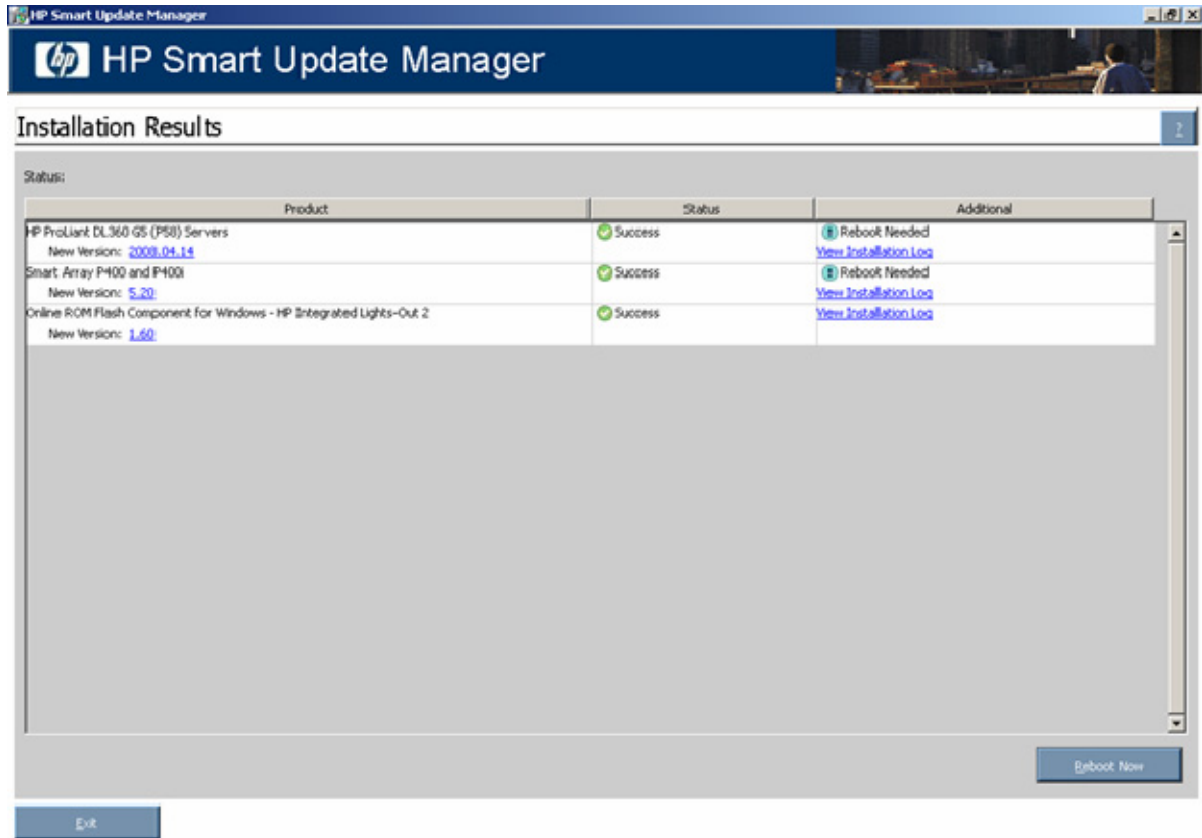


The Installation Results screen includes the following information:

- Product—Specifies the name of the installed component. To see the component version history, click the version number.

- Status—Displays the installation status of the component.

| Icon | Text | Description |
|---|---|---|
| ✅ | Success | The component is installed successfully. |
| ✅ | Not updated - already current | The component is not updated because the installed version is already up-to-date. |
| ✅ | Same/older version successfully installed | The existing component is successfully downgraded or reflashed to the same or an older version. |
| ❌ | Update returned an error | An update error has occurred. To see additional details, click **View Installation Log.** If limited information is available in the log file, see the HP Smart Update Manager log file. |
| ❌ | Installation failed | The component is not installed. To see additional details, click **View Installation Log.** |

- Additional—Enables you to view the installation log for each component and indicates if a reboot is needed.

| Icon | Text | Description |
|---|---|---|
| | Reboot Needed | The server must be rebooted for the installation to be complete. |

The Installation Results screen includes the following buttons:

- Reboot Now—Reboots the server (This button is available for local installations only).
- Exit—Exits the HP Smart Update Manager.

To see additional details, click **View Installation Log**.
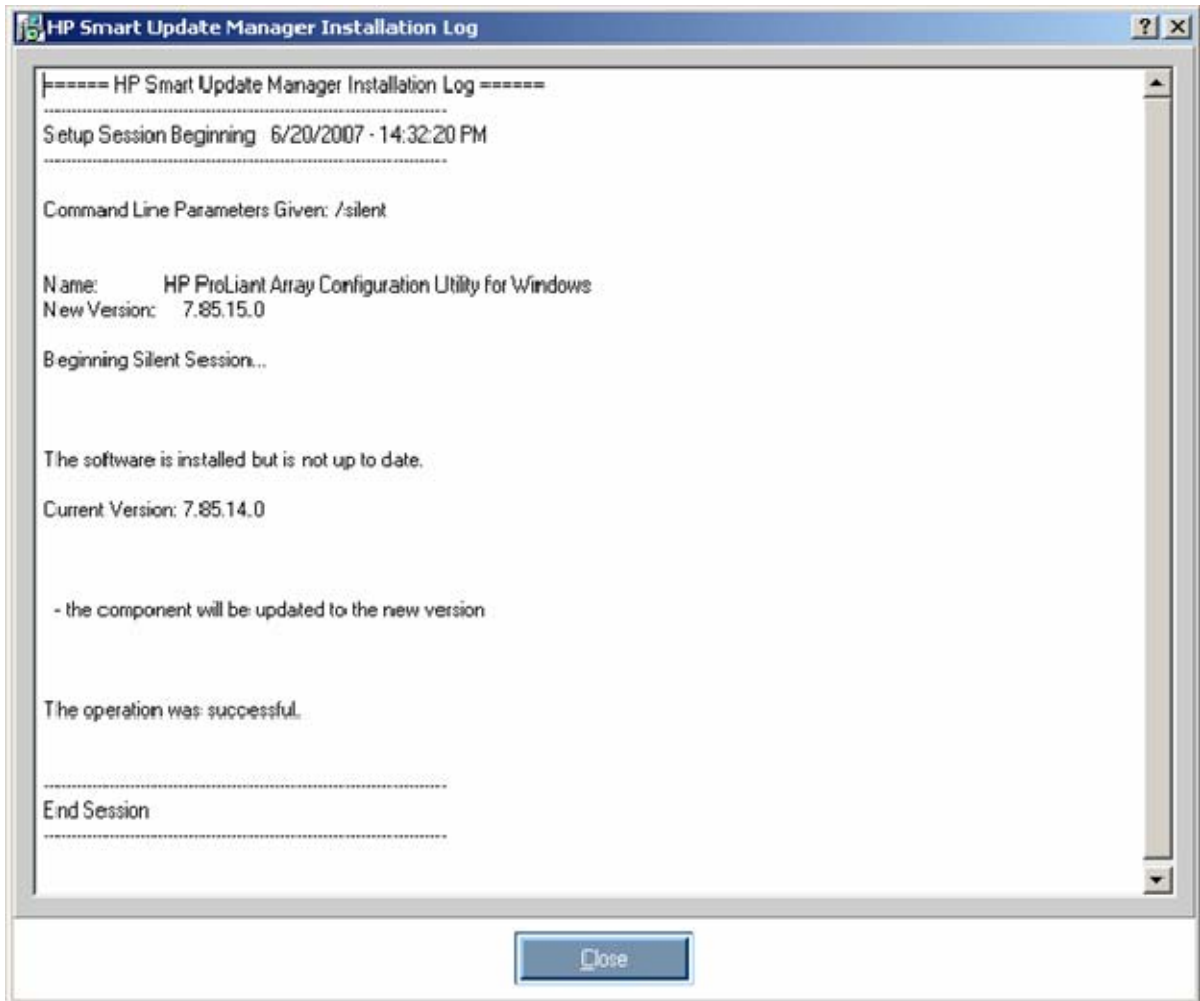


> **NOTE:** After updating hard drives in external enclosures such as MSA20, you must power cycle the external enclosures. The Reboot button in HP Smart Update Manager only reboots the server but never power cycles an external enclosure.

The installation logs, hpsum_log.txt and hpsum_detail_log.txt, contain information about installation activity for each host updated. The hpsum_log.txt log contains a brief summary of installation activity. The hpsum_detail_log.txt log contains all the installation details (including errors) for each component installed. The installation log files are located in subdirectories named according to the IP address of each host in the \CPQSYSTEM\hp\log subdirectory on the boot partition of the local host. The directory containing the local host information is stored in \CPQSYSTEM\hp\log\localhost, instead of in the IP address.

# Multiple-host installations using the GUI

HP Smart Update Manager provides an easy-to-use graphical user interface that enables you to deploy and maintain firmware and software components. To access the HP Smart Update Manager, see "Obtaining PSPs ("Obtaining the PSP deployment utilities" on page 8)."

The Inventory Progress screen appears while HP Smart Update Manager builds an inventory of available updates. When the inventory process is complete, the Select Installation Host(s) screen appears.

## Selecting remote hosts or groups

The Select Installation Host(s) screen enables you to choose multiple hosts and groups for component installation. Hosts include servers, Onboard Administrators, iLO, and iLO 2.

> **NOTE:** Local hosts cannot be included in a list with remote hosts or in a group. When selecting an iLO or iLO2 as a host, only the iLO firmware can be updated. The server host must also be selected to update all other firmware and software components on the same physical server. The iLO firmware can be updated by either selecting the iLO or the server host.
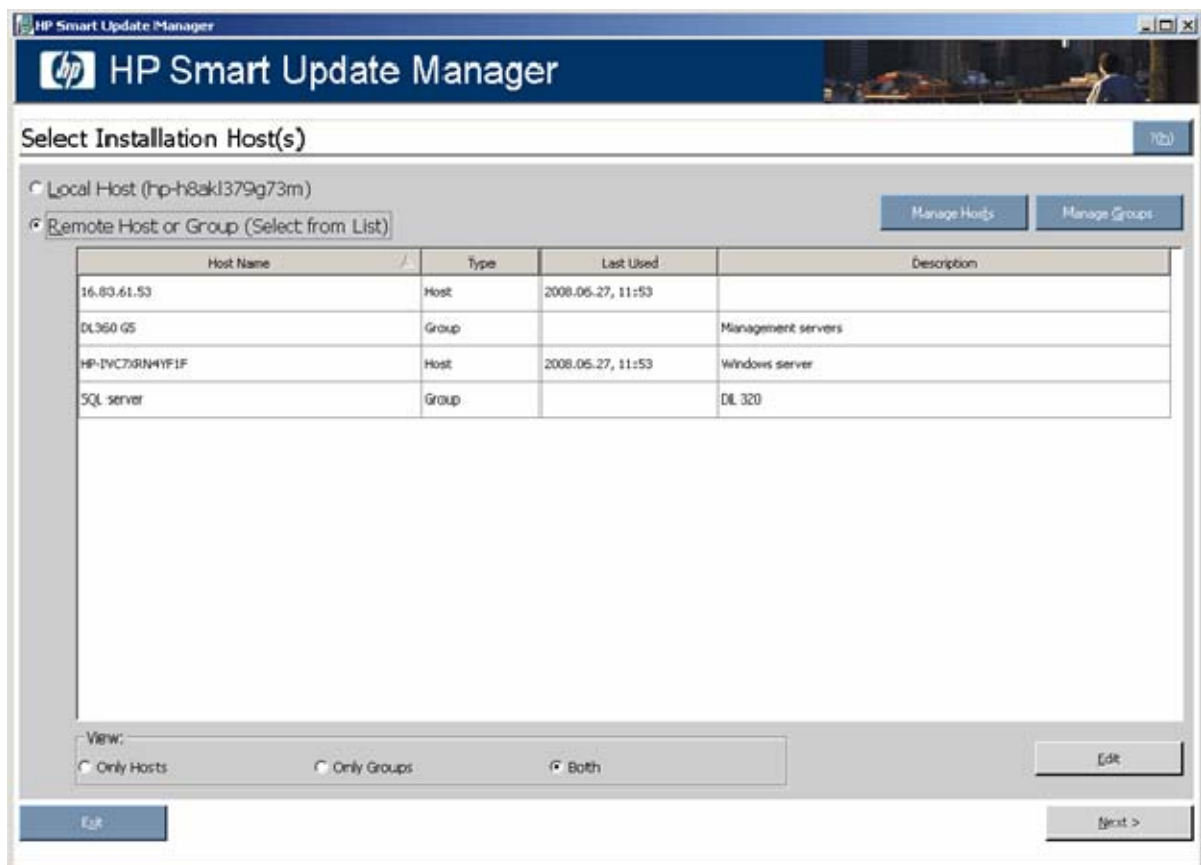


To add hosts, see "Managing hosts (on page 30)." To add groups, see "Managing groups (on page 33)."

To continue with the deployment process:

1. Select one or more hosts or groups.
2. To continue, click **Next.**
3. Enter the credentials for the host ("Entering credentials for hosts" on page 36).

4. Click **OK** to proceed, as described in Selecting components to install on multiple hosts (on page ).

5. When the installation is complete, the Installations results for multiple hosts screen ("Viewing the installation results for multiple hosts" on page ) appears.

## Managing hosts

To add, edit, or delete hosts, click the **Manage Hosts** button. The Manage Hosts screen appears. Hosts include servers, Onboard Administrators, iLO, and iLO 2.

> **NOTE:** Local hosts cannot be included in a list with remote hosts or in a group. When selecting an iLO or iLO2 as a host, only the iLO firmware can be updated. The server host must be selected to update all other firmware and software components. The iLO firmware can be updated by either selecting the iLO or the server host.
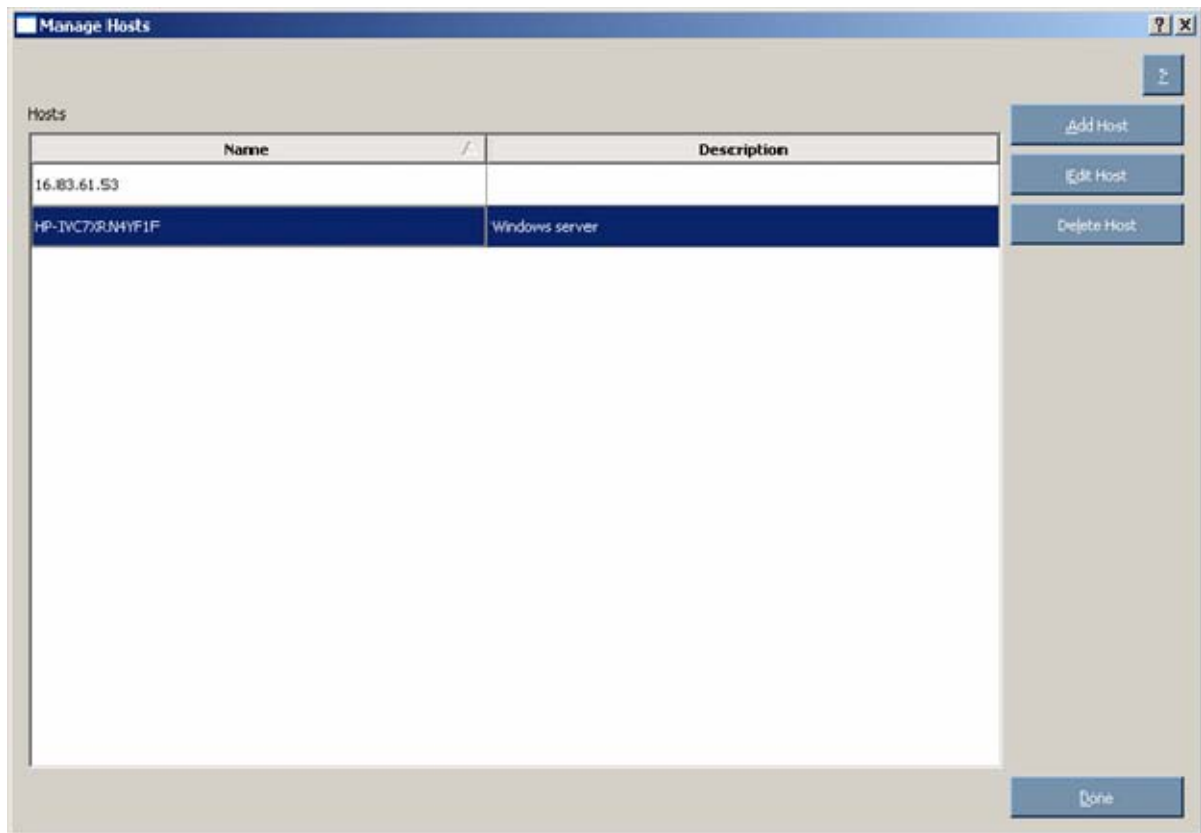


To add a host:

1.  Click **Add Host.** The New Host dialog box appears.



2.  Select the method to add a host from the following:
    o   Enter the DNS name of the host you want to add.
    o   Enter the IP address of the host you want to add.
    o   Enter the IP address range of the hosts you want to add. The starting and ending IP addresses must both be on the same subnet. When using the IPv6 format, the last field in the ending address is limited to 32 targets.

    > **NOTE:** When adding hosts using either IP address option, you can select from the IP format options: IPv4 or IPv6. The IPv4 format is the default option since it is the current Internet protocol. The IPv6 format is the next generation Internet protocol.

3.  Enter an optional user-defined description given to the host you want to add.
4.  Click **OK.**

The new host is added to the list on the Select Installation Host(s) screen.

To edit an existing host:

1. On the Manage Hosts screen, click the **Edit Host** button. The Edit Host dialog box appears.
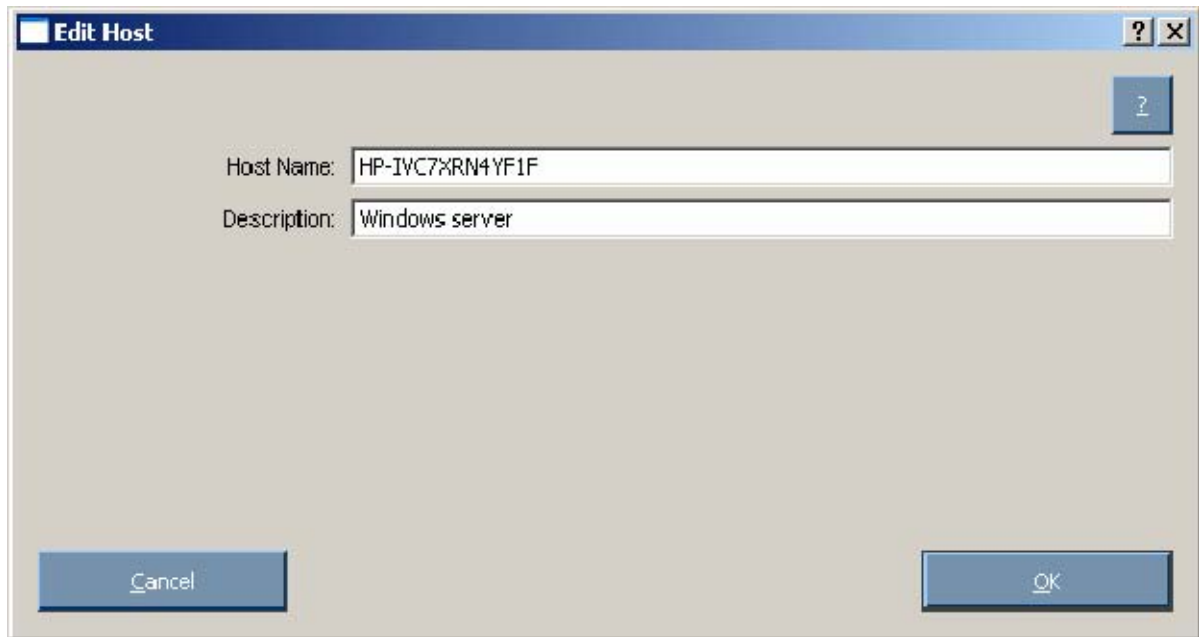


2. Edit the Host Name and Description.
3. Click **OK.**

To delete a host:

1. On the Manage Hosts screen, click the **Delete Host** button.
2. When the confirmation screen appears, click **Yes.**

## Managing groups

To add, edit, or delete groups, click the **Manage Groups** button. The Manage Groups screen appears.
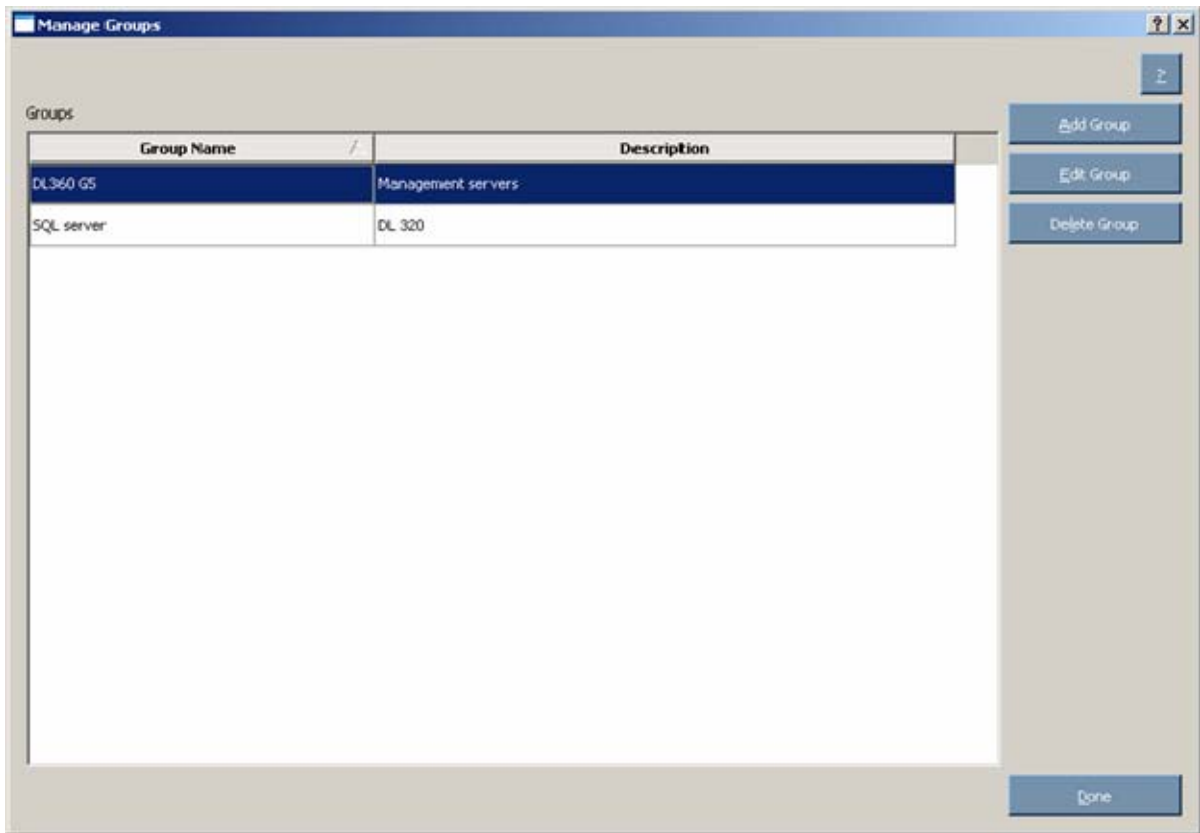


To add a group:

1. Click **Add Group.** The Edit Group dialog box appears.
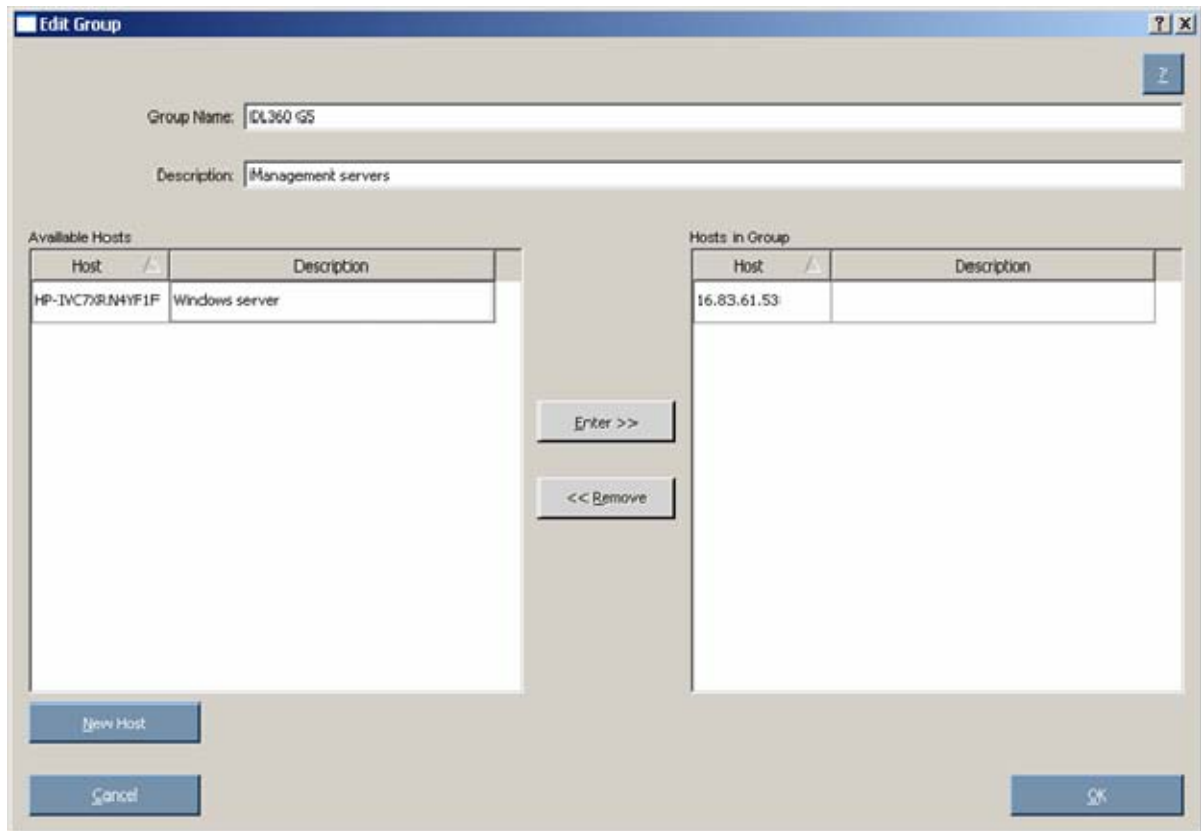


2. Enter a group name.
3. Enter an optional user-defined description given to the group to be added.
4. Select the hosts to be added to the group from the Available Hosts pane. You can add new hosts from this screen by clicking the **New Host** button. For more information on adding hosts, see "Managing hosts (on page 30)."
5. Click the **Enter** button to move the selected hosts to the new group.
6. Click **OK.**

The new group is added to the list on the Select Installation Host(s) screen.

To edit an existing group:

1. Select the group, and then on the Manage Groups screen, click the **Edit Group** button. The Edit Group dialog box appears.
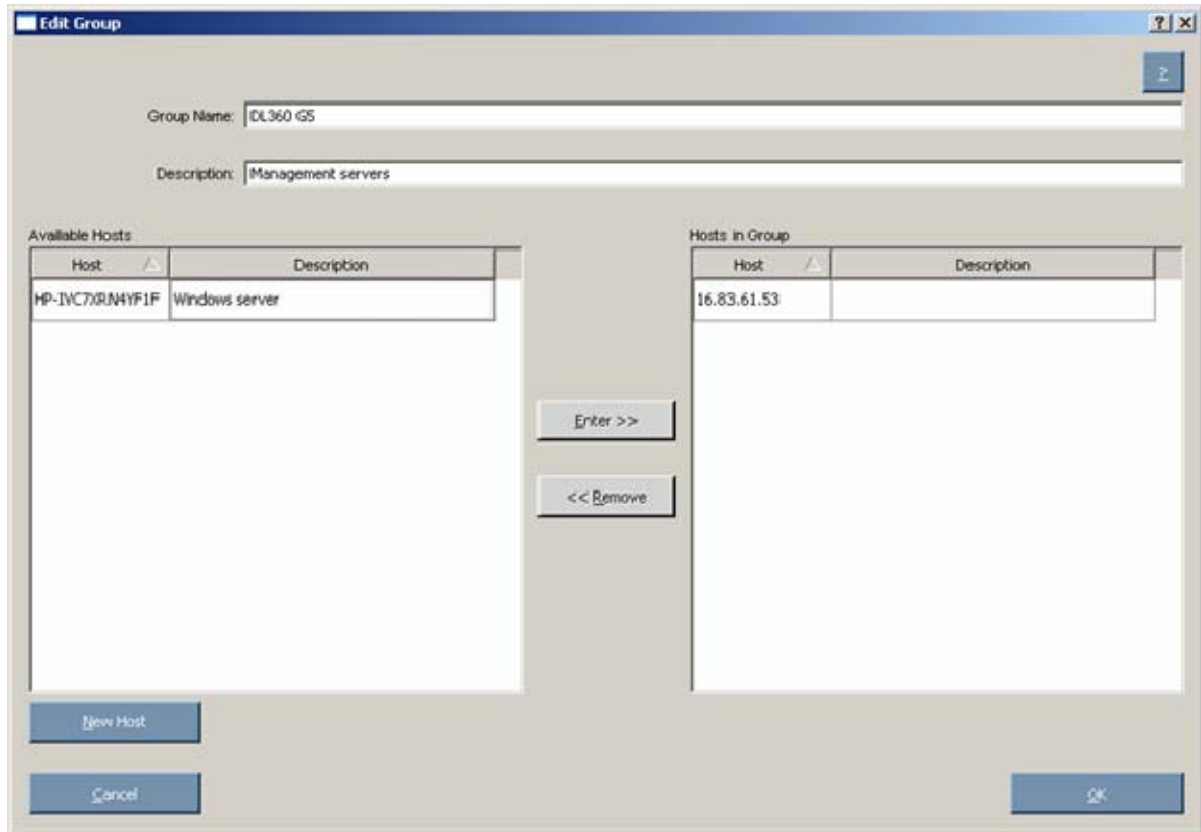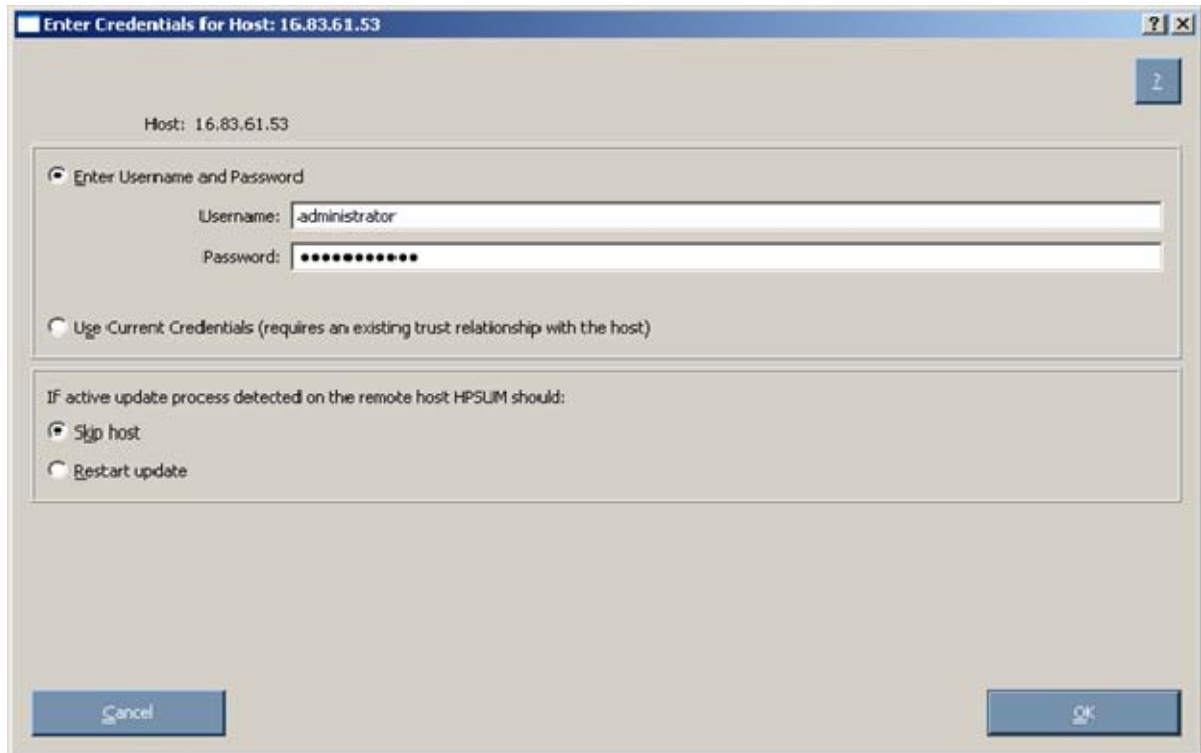


2. Edit the group name as needed.
3. Edit the optional user-defined description given to the host as needed.
4. Click the **Enter** and **Remove** buttons to add or remove hosts as needed.
5. Click **OK.**

To delete a group:
1. Select the group on the Manage Groups screen, and then click the **Delete Group** button.
2. When the confirmation screen appears, click **Yes.**

## Entering credentials for hosts

When you select a single remote host, the Enter Credentials for Host screen appears. You must enter your username and password as the credentials for the host.



To enter the credentials for the host, choose one of the following:

- Select **Enter Username and Password**, and then enter the username and password.
- Select **Use Current Credentials** to use the currently logged-in user's credentials.

If an active update process is detected on the remote host, you can select **Skip host** or **Restart update.** Skip host causes the host to be ignored for the rest of the update process, and Restart update causes any existing or in-progress installation to be terminated.

To continue, click **OK.**

When you select a group or multiple hosts, the Enter Credentials for Group screen appears.
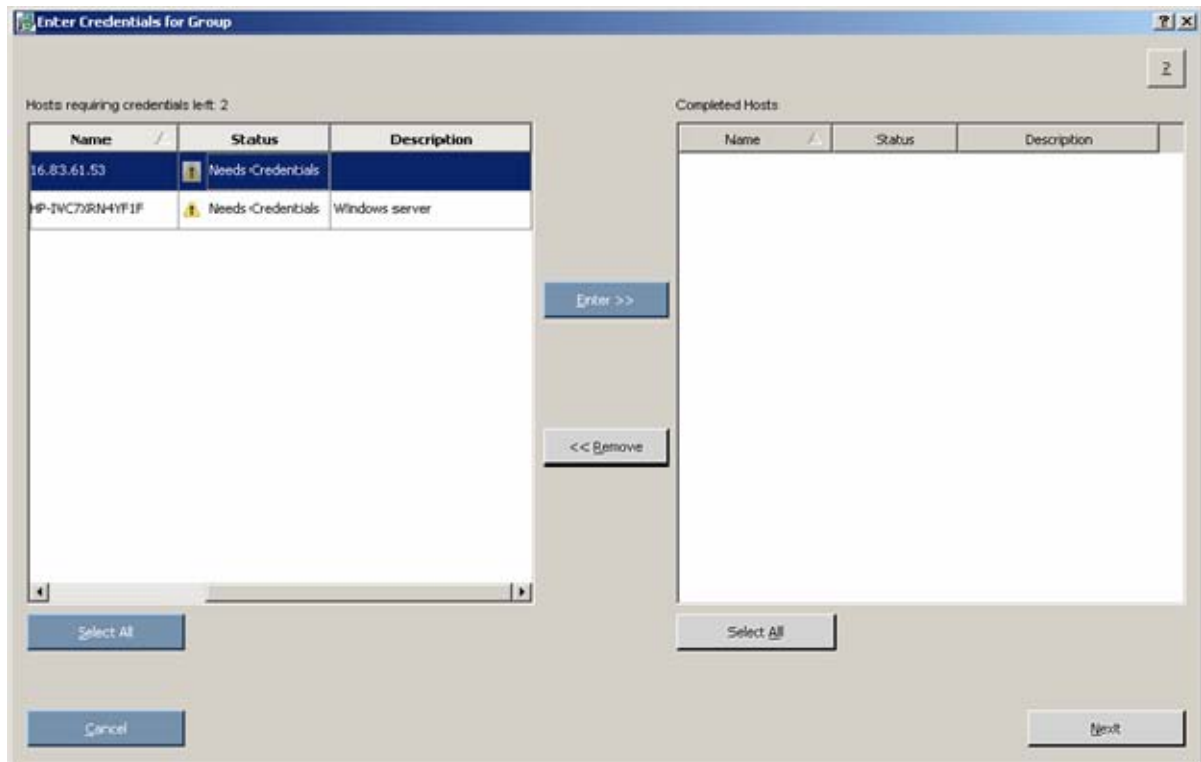


The screen separates the remaining hosts that still require credentials from the completed hosts.

Each pane is divided into the following columns:

- Name—Specifies the name of the host.
- Status—Specifies the credentials status of the host.

| Icon | Text | Description |
|------|------|-------------|
| ✓ | Entered | The credentials for the host have been entered. |
| ⚠ | Needs Credentials | The credentials for the host have not been entered. |
| ⚠ | Credentials Failed | The credentials entered for the host have failed. |
| ❗ | Unable to access host | The host cannot be accessed using the credentials entered, or the host cannot be found on the network. |
| ▨ | Host Skipped Due to Existing HPSUM Session | The host is skipped due to an existing HP Smart Update Manager session. The skipped hosts can be accessed if the appropriate CLI switch is used or if **Restart Update** is selected on the Enter credentials for host screen. |

- Description—Displays the user-defined description given to the host.

To enter the credentials for the host:

1. In the left pane, select the host from the list of hosts requiring credentials. If all credentials are the same, to select all the hosts on the list, click **Select All.**
2. To enter the required credentials and move the selected host to the Completed Hosts pane, click the **Enter** button.
3. To continue, click **Next.**

**NOTE:** If a TPM is detected and enabled, an HP Smart Update Manager pop-up warning message appears after the Discovery Progress screen. You must read the message and determine how to proceed. For more information, see Trusted Platform Module (on page 13).

# Selecting bundles to filter on multiple hosts

If the system discovery finds one or more predefined bundles, the Select Bundle Filter screen appears.
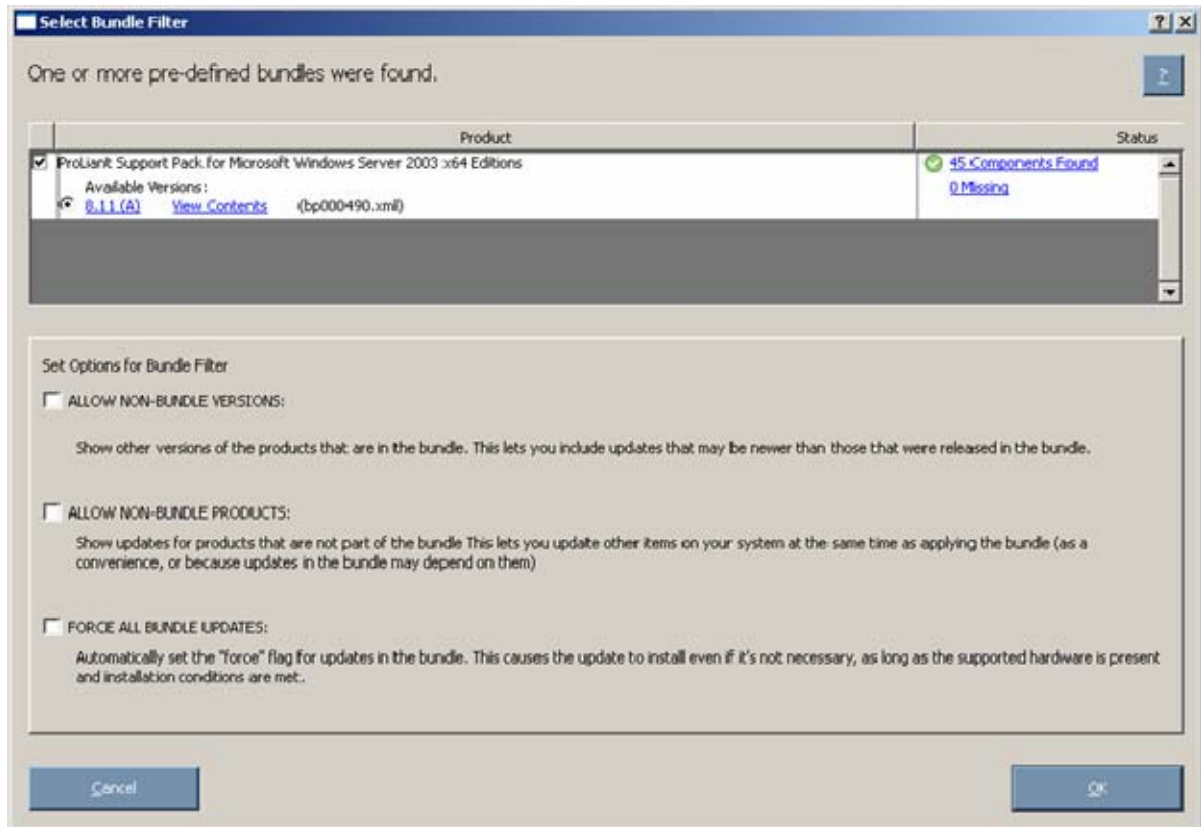


For more information about the screen, see "Selecting bundles to filter (on page 19)." To proceed with the installation process, click **OK**.

**NOTE:** Bundle filters only apply to software components. Bundle filtering has no effect on firmware components.

# Selecting components to install on multiple hosts

The Select Items to be Installed screen displays the server hosts and their status information.
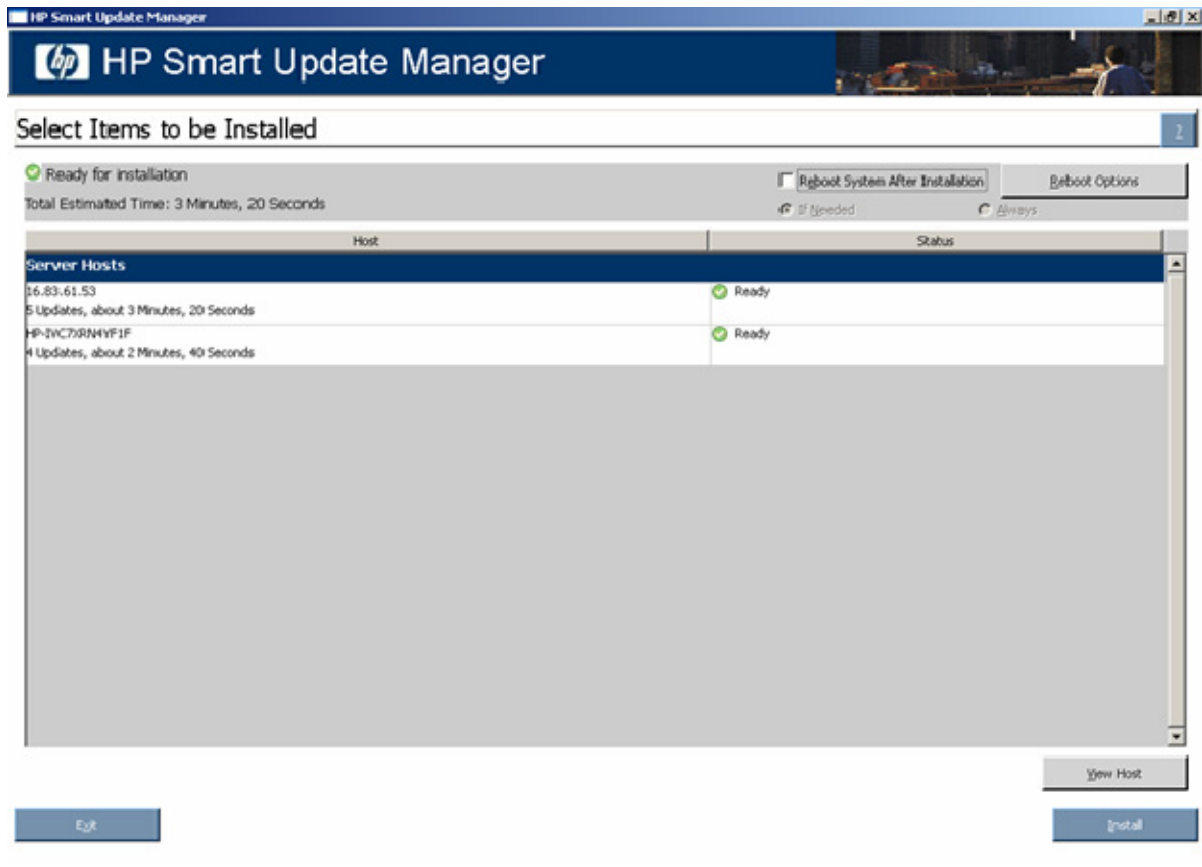


The Select Items to be Installed screen includes the following buttons:

- View Host—Enables you to view additional information about a host after you select it.
- Install—Installs all selected components on all remote hosts. The Install button is grayed out when a dependency failure occurs.
- Exit—Exits HP Smart Update Manager.

The server host pane of the Select Items to be Installed screen displays summary information for the server hosts available for installation and features a drilldown of individual hosts.

The server host pane is divided into the following columns:

- Host—Specifies the name of the system, number of updates available, and the estimated time for the installation.
- Status—Specifies the status of the host.

| Icon | Text | Description |
|---|---|---|
| ✅ | Ready | The host is ready for installation. |
| ▨ | Nothing to Install | The host is already up-to-date. |
| ▨ | Host Skipped Due to Existing HPSUM Session | The host is skipped due to an existing HP Smart Update Manager session. |

| Icon | Text | Description |
|---|---|---|
| ⚠ | Action Required | The host is not ready for installation. Click **View Host** for additional information. |
| ✖ | Discovery Failed | The host is not ready for installation. The detection of installed hardware, software, and firmware has failed. |

> **NOTE:** The default reboot behavior after updates are installed might also appear in the Status column.

To zoom in to single host selections, click **View Host** on the Select Items to be Installed screen. The Selections for Single Host screen appears.
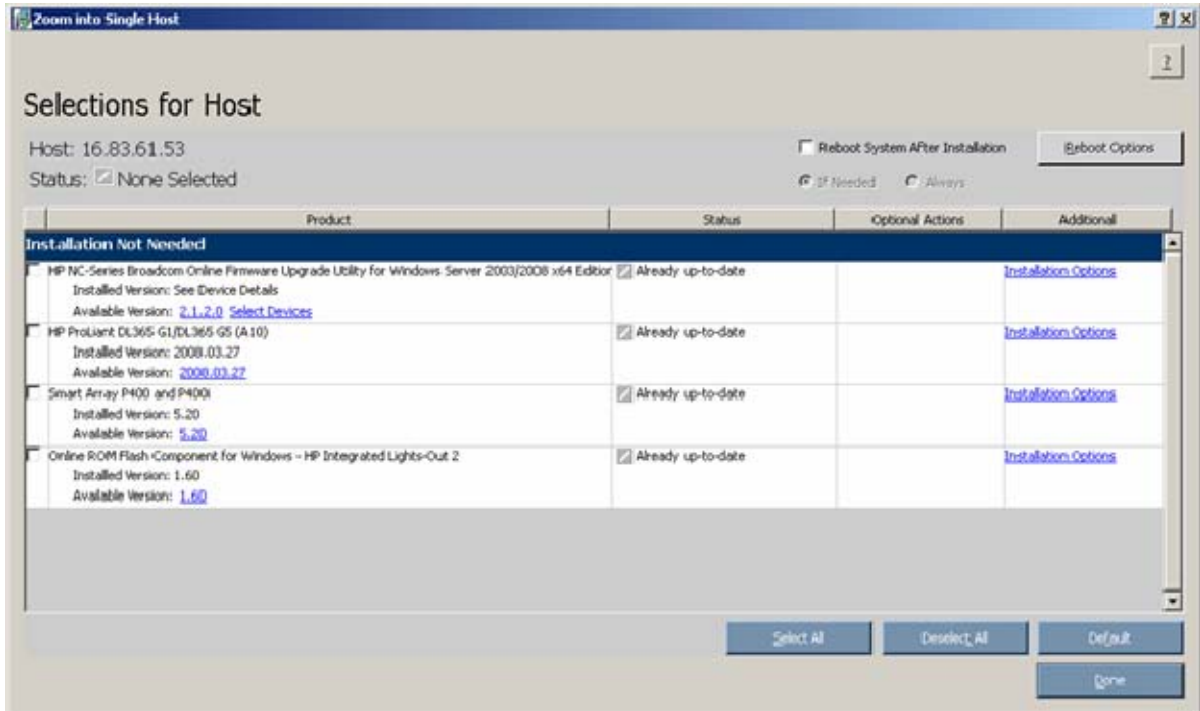


To set single-host selections, proceed as described in "Selecting Components to Install (on page )."

After setting the single-host selections for all hosts to be updated, on the Select Items to be Installed screen, to proceed with the installation, click **Install** .

# Viewing the installation results for multiple hosts

When the installation is complete, the Installation Results screen appears.
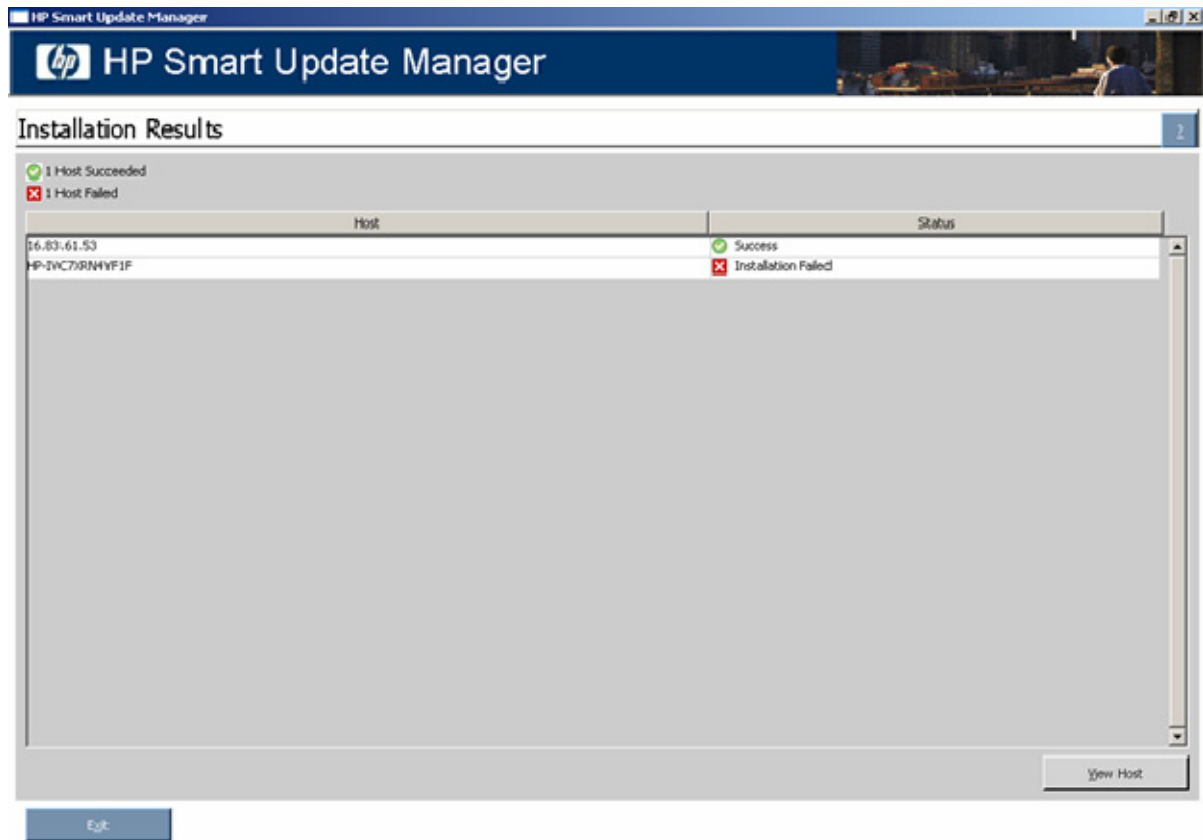


The Installation Results screen is divided into the following columns:

- Host—Specifies the IP address or DNS name of the host.
- Status—Specifies the overall installation status of the components on the remote host.

| Icon | Text | Description |
|------|------|-------------|
| ✓ | Success | The host was updated successfully. |
| ▨ | Nothing to install | The host is already up-to-date. |
| ▨ | Installation canceled by user | The installation was canceled and cannot continue the process. |
| ✗ | Installation failed | One or more of the component installations have failed. |

The Installation Results screen also includes the following buttons:

- View Host—Enables you to view the installation results for the selected host.
- Exit—Exits HP Smart Update Manager.

To view single-host installation results, double-click the host or select the host, and click **View Host.**



Proceed as described in "Viewing the installation results (on page )."

# Deploying PSPs in Novell NetWare

## Overview of PSPs for Novell NetWare

This chapter discusses how to use PSPs for Novell NetWare. HP provides the ProLiant Deployment Utility for Novell NetWare for deploying the PSPs for NetWare.

Several usage scenarios are provided as examples at the end of this chapter.

PSPs are operating system-specific bundles of HP server support software. Each PSP includes multiple self-installable components known as Smart Components (optimized drivers, management agents, utilities, and ROMs). This PSP design improves and simplifies operating system integration, flexibility, and system configuration.

## Minimum requirements for NetWare servers

> **IMPORTANT:** Before deploying software updates on a target system, be sure that a recent backup of the target system is available in the event the deployment procedure fails.

The PSP is ships in a single bundle that supports NetWare 5.1, 6.0, and 6.5. The bundle installs the appropriate software for the installed version of NetWare. The PSPs have the following minimum requirements:

- NetWare 5.1—Base installation. However, HP recommends Support Pack 8 or later.
- NetWare 6.0—Base installation. However, HP recommends Support Pack 5 or later.
- NetWare 6.5—Base installation. However, HP recommends Support Pack 3 or later.

The PSP is designed for use after the operating system installation to update drivers and install HP utilities (such as Power Management and Health) and agents (Foundation, Server, NIC, and Storage).

> **IMPORTANT:** Although you cannot use PSP during initial NetWare red-box installation, HP provides the necessary drivers for red-box installation on the SmartStart CD 7.90 and earlier in the \compaq\drivers\os_version directory in flat file format, where os_version is nw5, nw6, or nw65. Functionality to create driver diskettes needed for red-box installations is available from the Windows® and Linux "autoruns" on the SmartStart CD. If you want support for red-box installations, copy the contents of the directory from the SmartStart CD into the C:\NWUPDATE directory on the server. To copy the contents of the directory from the SmartStart CD, the hard drive must have had a DOS partition defined and formatted but before NetWare driver detection.

> **NOTE:** Starting with SmartStart 8.0, PSPs and individual components for Novell Netware are only available through the PSP download page (http://www.hp.com/servers/psp).

After the installation is complete, use the PSP to complete the server configuration.

# ProLiant Deployment Utility for Novell NetWare

HP has developed the ProLiant Deployment Utility for Novell NetWare to provide enhanced PSP deployment capabilities. Using a console interface, the utility enables you to deploy and maintain PSP software on a local server.

The Deployment Utility for Novell NetWare is available with PSPs for Novell NetWare at the software and drivers website (http://www.hp.com/servers/swdrivers).

The utility has two modes of operation:

- **User interface mode**—Provides a NUT-based graphical interface to guide the installation of a PSP or a subset of components in the PSP
- **Command line mode**—Enables non-graphical command line installation of a PSP or individual components

When the user interface mode of the Deployment Utility for Novell NetWare is launched, a main control window appears. The window provides details about the content of the PSP, including old and new version numbers and descriptions for each component in the PSP.



After deploying the PSP on the target server, the Deployment Utility for Novell NetWare displays comprehensive installation results, listing the components that were successfully installed, components that were not needed for the target system, and any installation failures.

Each component writes installation activity (including errors) to a common installation log file called CPQLOG.LOG, which is located in the SYS:\ETC\ subdirectory. Information regarding subsequent installation activity is appended to the same log file, providing a chronological history of all component installation activity on the target server. The following figure shows a sample installation log file.
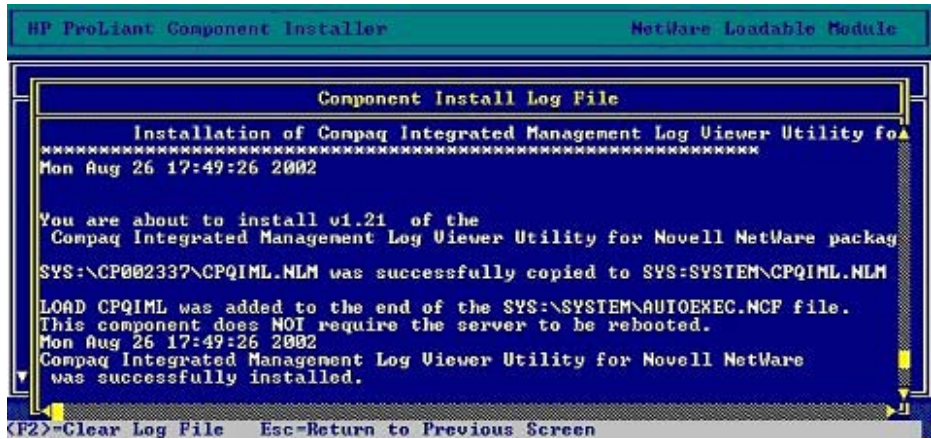


# Deployment utility usage scenarios for NetWare servers

The ProLiant Deployment Utility for Novell NetWare is a software maintenance tool used to deploy PSPs and individual components on NetWare servers.

The overall PSP and component deployment strategy is consistent throughout all deployment scenarios on NetWare servers, as shown in the following figure. The software must be copied to the NetWare target server from either an administrative workstation or another server before it is deployed.

> ☼ **TIP:** To facilitate the use of the PSP deployment utilities, copy the utility files to their own subdirectory on the hard drive of the administrative system.



| Scenario | Type of deployment | Deployment method used |
|---|---|---|
| 1 | • User can install one or more components by means of a command line or .NCF file. <br>• User can install a bundle by means of a command line or .NCF file. <br>• User is familiar with script files or wants to automate an installation of the NetWare PSP. | Command line by CPQDPLOY.NLM |

| Scenario | Type of deployment | Deployment method used |
|---|---|---|
| 2 | • User can select which components to install from a list.<br><br>• User can install all components with a few simple keystrokes.<br><br>• User wants a graphical display of results of the installation by component.<br><br>• User needs the ability to look at details of each component before installation.<br><br>• User wants to choose which packages are installed graphically or does not want to work with script files. | Graphical (NUT-based) by CPQDPLOY.NLM |
| 3 | • User can install a single component by means of a command line or .NCF file.<br><br>• User needs the ability to look at details of each component before installation using the -i switch.<br><br>• User wants to install only selected components or wants to automate the installation of selected components. | Command line by individual component |
| 4 | • User can install the component with a few simple keystrokes.<br><br>• User wants a graphical display of results of the installation by component.<br><br>• User needs the ability to look at details of the component before installation.<br><br>• User only wants to install a selected component and does not want to work with script files. | Graphical (NUT-based) by individual component |

# Command line parameters for the ProLiant Deployment Utility for Novell NetWare

This section explains the command line parameters used in the usage scenarios. Parameters can be entered in uppercase or lowercase, with either a slash (/) or dash (-) preceding them. For example, -h, -help, /h, or /help can be used. The order of parameters is not important.

## Command line syntax for the ProLiant Deployment Utility for Novell NetWare

```
<VOLUME:\PATH\>CPQDPLOY [/H | /?] [/NUI] [/S] [/R] [/F] [/NOMODS]
[BP000xxx.XML | CP00xxxx.NLM]
```

| Command line argument | Description |
|---|---|
| /H | This argument displays a list of command line parameters. |
| /NUI | This argument suppresses the user interface. However, during installation, output is shown at the system console unless the silent (/S) option is also used. |

| Command line argument | Description |
|---|---|
| /S | This argument enables a silent installation. All messages are logged to the SYS:\ETC\CPQLOG.LOG file. No console output or GUI is shown. |
| /R | This argument reboots the system if any packages being installed require it and if no failures occurred during the installation. |
| /F | This argument forces the installation of all packages, regardless of the software version installed on the server, as long as the component is supported on the currently installed version of NetWare. |
| /NOMODS | This argument prevents modifications to the STARTUP.NCF or AUTOEXEC.NCF files. The default option is to make all modifications as needed during the installation of each component bundle. |

# Command line syntax for individual NetWare component installation

```
<VOLUME:\PATH\>CP00XXXX [/H | /?] [/NUI] [/S | /F] [/I] [/G] [/R]
[/xVOL:\PATH] [/NOMODS] [/bVOL:\PATH]
```

| Command line argument | Description |
|---|---|
| /H | This argument shows a list of command line parameters. |
| /NUI | This argument suppresses the user interface. However, during installation, output is shown at the system console unless the silent (/S) option is also used. |
| /S | This argument enables a silent installation. All messages are logged to the SYS:\ETC\CPQLOG.LOG file. No console output or GUI is shown. |
| /F | This argument forces the installation of a package, regardless of the software version installed on the server, as long as the component is supported on the currently installed version of NetWare. |
| /I | This argument displays the Package Payload information (no installation occurs). |
| /G | This argument displays Package Source and Destination information (no installation occurs). |
| /R | This argument reboots the system if the package being installed requires it and if no failures occurred during the installation. |
| /xVOL:\PATH | This argument extracts the contents of the package to the directory pointed to by VOL:\PATH. |
| /NOMODS* | This argument prevents modifications to the STARTUP.NCF or AUTOEXEC.NCF files. The default option is to make all modifications as needed during the installation of each component bundle. |
| /bVOL:\PATH* | This argument backs up all files that will be replaced by the installation of the package to the directory pointed to by VOL:\PATH. Versioning of backups is not supported. Subsequent installs will overwrite existing files in the given directory. |

*Not supported by HP Agents and the Survey Utility components

> **NOTE:** For /xVOL:\PATH and /bVOL:\PATH, there is no space between the x or b and the path. If Vol:\Path does not exist, an attempt is made to create the path. An invalid volume or path will be ignored, and the extraction will be terminated.

# Command line examples for the ProLiant Deployment Utility for Novell NetWare

In the following examples, the PSP has been copied to the SYS:\DEPLOY directory.

| Action | Command line |
|---|---|
| Use normal program execution to launch the Deployment Utility. | SYS:\DEPLOY\CPQDPLOY |
| Use CPQDPLOY to deploy a specific Support Pack. | SYS:\DEPLOY\CPQDPLOY [BP000111.XML] |
| Use the force option. | SYS:\DEPLOY\CPQDPLOY -f |
| Use the "no user interface" option (no GUI). | SYS:\DEPLOY\CPQDPLOY -nui |
| Use the silent option (no command line or GUI output). | SYS:\DEPLOY\CPQDPLOY -s |
| Use the silent option and the force option. | SYS:\DEPLOY\CPQDPLOY -s -f |
| Install a single component with the GUI. | SYS:\DEPLOY\CP002345 |
| Install a single component with force and "no user interface" options. | SYS:\DEPLOY\CP002351 -f -nui |
| Extract component contents to another directory. | SYS:\DEPLOY\CP002326 -xSYS:\TEMP |
| Determine the contents of a component without extracting or installing the component. | SYS:\DEPLOY\CP002341 -i |
| Determine the source directory, destination directory, primary NLM, and other component information to be installed by the component package without installing the component. | SYS:\DEPLOY\CP002346 -g |
| Deploy a single component from the Deployment Utility with the force option. | SYS:\DEPLOY\CPQDPLOY CP002349.NLM -f |
| Deploy a single component with the Deployment Utility without modifying the .NCF files. | SYS:\DEPLOY\CPQDPLOY CP002334.NLM -nomods |
| Deploy multiple components at one time, with no graphical user interface. | SYS:\DEPLOY\CPQDPLOY CP002341.NLM -nui CP002342.NLM |
| Deploy a single component from the command line, using the force option. | SYS:\DEPLOY\CP00XXXX.NLM -f |
| Deploy a single component from the command line, using the nomods option. | SYS:\DEPLOY\CP00XXXX.NLM -nomods |

A Support Pack and an individual component cannot be passed as parameters to CPQDPLOY at the same time. Separate calls to CPQDPLOY must be made in this instance.

Invalid example:
```
SYS:\DEPLOY\CPQDPLOY CP002345.NLM BP000111.XML
```

Valid example:
```
SYS:\DEPLOY\CPQDPLOY BP000111.XML
SYS:\DEPLOY\CPQDPLOY CP002345.NLM
```

# Return codes for the ProLiant Deployment Utility for Novell NetWare

| Value | Meaning |
|-------|---------|
| 255 | Invalid input parameter—Invalid parameter is displayed at the console or login screen. |
| 0 | Installation failed—Refer to the SYS:\ETC\CPQLOG.LOG for details of failure. |
| 1 | Installation successful—-Reboot is not required to activate the new components. |
| 2 | Installation successful—Reboot is required to activate one or more new components. |
| 3 | Installation not attempted—Software installed is current. |
| 4 | Installation not attempted—Hardware supported by the component is not present. |
| 5 | Installation canceled—Installation was canceled by the user during a GUI installation. |
| 6 | Installation not attempted—Prerequisite software requirements were not met. Typically, this means that the CPQHLTH driver was not installed before component installation. |

# Scenario 1: Command line deployment using CPQDPLOY.NLM

Command line installation using CPQDPLOY.NLM is achieved by passing as arguments either a Support Pack file name or component file name to install along with either the -s or -nui switches. A Support Pack file name has the format BP00*XXXX*.XML. If the XML file is not in the start directory, CPQDPLOY.NLM prompts you for a path to a valid Support Pack XML file, attempts to use a Support Pack file if only one exists in the start directory, or provides a list of supported Support Packs if more than one is found in the start directory.

> **IMPORTANT:** If the -s or -nui switches are used and a valid Support Pack XML file is not found or more than one valid Support Pack XML file is found, the installation will fail.

A component file name has the format CP0*XXXXX*.NLM. CPQDPLOY.NLM can install one Support Pack or multiple components at a time. A Support Pack is an HP tested collection of component packages that includes device drivers, utilities, and agents. Regardless of the command line option passed, information about the success or failure of the installation is logged in the SYS:\ETC\CPQLOG.LOG file.

# Scenario 2: Graphical deployment using CPQDPLOY.NLM

Graphical (NUT-based) installation using CPQDPLOY.NLM is done by omitting the -s and -nui parameters in CPQDPLOY.NLM. You can pass the name of the Support Pack XML file or component that you want installed. The deployment selection screen shows you the currently installed version of the software (if found), the version of the software selected for installation, and a description of the software. The following table lists the keystrokes that are available on the graphical screen.

| Key | Description |
|-----|-------------|
| F1 | Displays user help screens |
| F2 | Toggles the force option |
| F3 | Toggles the reboot option |
| F4 | Marks/unmarks all components for installation |
| F5 | Marks/unmarks an individual component or category in the list |

| Key | Description |
| --- | --- |
| F7 | Toggles the Modify NCF Files option |
| F8 | Displays more options |
| F10 | Installs the marked package |
| Enter | Shows the component package details and payload information |
| Esc | Returns to the previous screen or exits the deployment utility |

After the installation is complete, an installation status screen appears showing the results of the installation. From this screen, you can press the **F3** key to view the SYS:\ETC\CPQLOG.LOG file or highlight a component and press the **Enter** key to view additional details of the installation. Pressing the **Esc** key exits the component installer.

# Scenario 3: Command line deployment of an individual component

Command line installation of an individual component can be done by entering the LOAD command (optional), the full path name, the name of the component package (such as CP002345) to install, and either the -nui or -s switches. An individual component package file name is of the format CP0*XXXXX*.NLM. Regardless of the command line option passed, information about the success or failure of the installation is logged in the SYS:\ETC\CPQLOG.LOG file.

# Scenario 4: Graphical deployment of an individual component

Graphical (NUT-based) installation of an individual component is done by omitting the -s or -nui parameters from the command line used to install an individual component package. The deployment selection screen shows you the currently installed version of the component package (if found), the version of the component package selected for installation, and a description of the component package. Refer to "Scenario 2: Graphical deployment using CPQDPLOY.NLM (on page 49)" for the keystrokes that are available on the graphical screen.

After the installation is complete, a component installation status screen appears, showing the results of the installation. Pressing the **Esc** key terminates the component installer.

# Deploying PSPs in Linux

## Overview of PSPs for Linux

This chapter discusses how to use the PSPs for Linux, also known as LSPs. HP provides the HP LDU for ProLiant for deploying the PSPs for Linux.

PSPs are operating system-specific bundles of HP server support software. Each PSP includes multiple installable components known as Smart Components (optimized drivers, management agents, and utilities). This PSP design improves and simplifies operating system integration, flexibility, and system configuration.

Separate PSPs are currently shipped for each supported distribution and version of Linux. Each PSP includes the software appropriate for its supported distribution and version of Linux. The LSPs support 32-bit and x86-64-based installations on both AMD®- and Intel®-based servers. The LDU installer deploys only software that supports the detected hardware architecture.

Beginning with PSP 7.40, Linux Smart Components are included in the PSP. A Linux Smart Component consists of an rpm, an xml file, and an optional txt file.

## Minimum requirements for Linux servers

> **IMPORTANT:** Before deploying software updates on a target system, be sure that a recent backup of the target system is available in the event the deployment procedure fails.

PSP installation for Linux servers has the following minimum requirements:

- glibc 2.2.4-26 or later
- gawk 3.1.0-3 or later
- sed 3.02-10 or later
- pciutils-2.1.8-25.i386.rpm or later

The following RPMs are also required:

- On Red Hat servers:
  - rpm 4.0.4 or later
  - rpm-build 4.0.4 or later
  - rpm-devel 4.0.4 or later
- On SUSE Linux servers:
  - rpm 3.0.6 or later

In addition, components that are compiled from source code (such as NIC drivers) require the presence of the following build tools:

- gcc-2.96-108.1 or later

- cpp-2.96-108.1 or later
- binutils-2.11.90.0.8 or later
- glibc-devel-2.2.4-26 or later
- kernel-headers-<*version*> (the version number depends on which kernel is used)

To install using the GUI option, you also need the following RPMs:

- gtk+ -1.2.10-11 or later
- gtk- engines -0.11-3 or later

To support many HP value-add software deliverables included in the Linux PSP, you must install the following platform-specific compatibility libraries:

- For Red Hat Enterprise Linux 4 x86 servers:
  - glib-1.2.10-15.i386 or later
  - compat-libstdc++-296-2.96-132.7.2.i386 or later
  - lm_sensors-2.8.7-2.i386 or later
  - net-snmp-5.1.2-11.i386 or later
- For Red Hat Enterprise Linux 4 AMD64/EM64T servers:
  - glib-1.2.10-15.i386 or later
  - compat-libstdc++-296-2.96-132.7.2.i386 or later
  - lm_sensors-2.8.7-2.x86_64 or later
  - net-snmp-5.1.2-11.x86_64 or later
- For Red Hat Enterprise Linux 5 x86 servers:
  - glib-1.2.10-15.i386 or later
  - compat-libstdc++-296-2.96-132.7.2.i386 or later
  - lm_sensors-2.8.7-2.i386 or later
  - net-snmp-5.3.1-14.el5.i386 or later
- For Red Hat Enterprise Linux 5 AMD64/EM64T servers:
  - glib-1.2.10-15.i386 or later
  - compat-libstdc++-296-2.96-132.7.2.i386 or later
  - lm_sensors-2.8.7-2.x86_64 or later
  - net-snmp-5.3.1-14.el5.x86_64 or later
- For SLES 10 x86 servers:
  - compat-2006.1.25-11.2.i586 or later
  - compat-libstdc++-5.0.7-22.2.i586 or later
- For SLES 10 AMD64/EM64T servers:
  - compat-2006.1.25-11.2.x86_64 or later
  - compat-32bit-2006.1.25-11.2.x86_64 or later
  - compat-libstdc++-5.0.7-22.2. x86_64 or later

These RPMs are included in the hppldu-librpms-<*version*> tarball and are installed by default unless you specify otherwise during installation.

> **NOTE:** Be sure to include the version of the compatibility libraries that is appropriate for your architecture. In some cases, there are separate 32-bit and 64-bit compatibility libraries for a given distribution.

For a current list of supported Linux distributions and versions (and their associated errata kernels), see the operating system support matrixes (http://www.hp.com/go/supportos).

If you are installing Red Hat Enterprise Linux 3, HP recommends also installing Update 1 or greater (2.4.21-9.EL kernel). For more information, see the Red Hat website (http://rhn.redhat.com/errata/RHSA-2004-017.html).

The PSPs are designed for use after the operating system is installed to update drivers and install HP utilities (such as Health, RILOE, RILOE II, and iLO drivers) and agents (Foundation, Server, NIC, and Storage).

# LDU for ProLiant

HP has developed the LDU to provide an easy and efficient method to upgrade and manage system software. The utility enables you to deploy and maintain PSP software on local servers through use of the terminal window and on remote servers through use of the ssh utility.

The LDU is available with PSPs for Linux at the software and drivers website (http://www.hp.com/servers/swdrivers).

> **IMPORTANT:** Root access is required for the LDU. If you do not have root access, the installation will not proceed.

The utility has two modes of operation:

- **Terminal window mode**—Enables nongraphical terminal window installation of a PSP or individual components. Using command line parameters, terminal window mode can be executed in three different ways:
  - o Silent
  - o No graphical user interface
  - o Single step—Presents each component individually and prompts the user to decide whether to install it.
- **Graphical mode**—Provides a gtk-based graphical interface to guide the installation of a PSP or a subset of components in the PSP.

When the graphical mode of the LDU is launched, the main window appears. The window provides details about the contents of the PSP for the installed version of Linux.
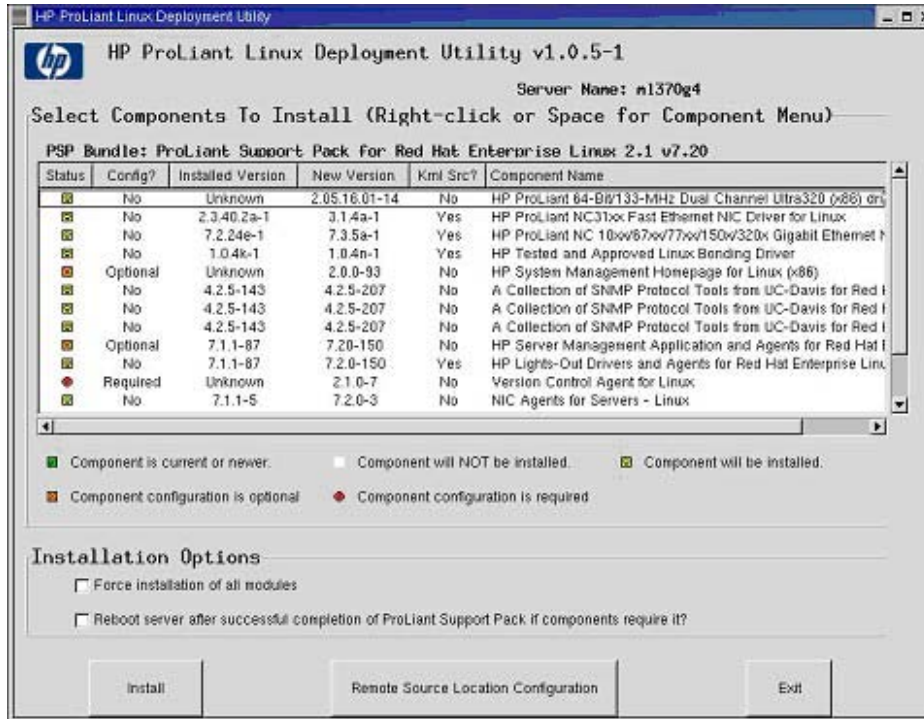
After deploying the PSP on the target server, the LDU displays comprehensive installation results listing the components that were successfully installed, components that were not needed for the target system, and any installation failures.

The LDU retrieves all installation activity (including errors) and writes this information to a common installation log file on the server called hppldu.log, which is located by default in the /var/log subdirectory. Information regarding subsequent installation activity is appended to the same log file, providing a history of all component installation activity on the target server. The following figure shows a sample installation log file.
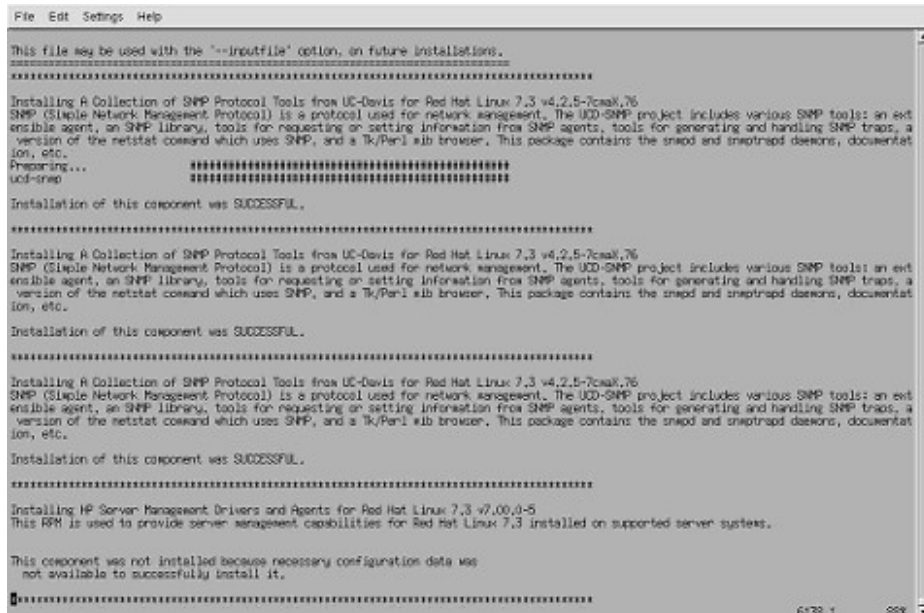
# Deployment utility usage scenarios for Linux servers

The LDU is a software maintenance tool used to deploy PSPs on Linux servers.

The overall PSP and component deployment strategy is consistent throughout all deployment scenarios on Linux servers, as shown in the following figure. The software must be copied to the Linux target server before it is deployed. After the software is on the target server, the installation can be driven from either a terminal window on the target server or an ssh connection to the target server. The gtk interface is network aware, so the interface will display on remote X terminals if the local DISPLAY environment variable is configured appropriately.



| Scenario | Type of deployment | Deployment method used |
|---|---|---|
| 1: Command line deployment using the terminal window | • User can install a PSP by means of a terminal window or shell script.<br>• User can silently install a PSP by means of a terminal window or shell script.<br>• User can select which components to install from a terminal window.<br>• User is familiar with script files or wants to automate an installation of the Linux PSP.<br>• User wants to view details of a component RPM file at the terminal window | Terminal window installation using ./install???.sh --nui<br>Terminal window installation using ./install???.sh --silent<br>Terminal window installation using ./install???.sh -y --nui<br>Terminal window installation using ./install???.sh --nui --inputfile filename<br>Terminal window installation using ./install???.sh --view rpmname |
| 2: Graphical deployment using a gtk-based GUI | • User can select which components to install from a list.<br>• User can install all components with a few simple keystrokes.<br>• User wants a graphical display of results of the installation by component.<br>• User needs the ability to look at details of each component before installation.<br>• User wants to choose which components are installed graphically or does not want to work with script files. | Graphical (gtk-based) installation using ./install???.sh<br>Graphical (gtk-based) installation using ./install???.sh --inputfile filename |

# Command line syntax for Linux PSPs

This section explains the command line parameters in the usage scenarios. Parameters are case sensitive and must be preceded with a dash (-) or double-dash (--). If several parameters are listed for a description, then any of them can be used. For example, -h, -?, and --help are equivalent. The parameters can be listed in any order.

```
./install???.sh [-h | -? | --help] [--nui] [-s | --silent] [-r | --
reboot] [-f | --force] [--inputfile filename] [-t
```

```
reboot_timeout_in_minutes] [-m "reboot_message"] [-v | --verbose] [--
view rpmname] [-y] [-q | --querystatuscode returncode]
```

| Command line argument | Description |
|---|---|
| -h, -?, --help | This argument displays a list of command line parameters. |
| --nui | This argument suppresses the user interface. However, during installation, output is shown in the terminal window unless the silent option is also used. |
| -s, --silent | This argument enables a silent installation. All messages are logged to the /var/log/hppldu.log file, unless overridden. No console output or GUI is shown except for the final return code. |
| -r, --reboot | This argument reboots the system if any components installed require it and no failures occurred during the installation. |
| -f, --force | This argument attempts to force the installation of all components. This option bypasses the following installation checks:<br><br>• Minimum kernel version check<br><br>• Maximum kernel version check<br><br>• Installed library file requirements<br><br>• Installed software version check<br><br>The force option does not force a component to install if prerequisites such as required modules, files, source code, PCI device support, and build environment are not available. |
| --inputfile *filename* | This argument enables you to pass input parameters to the LDU to enable scripted deployments of the PSPs. The file name can be any valid Linux text file name. To find the format of *filename*, see the section on scripted installation in the "Advanced installation of PSPs in Linux (on page 75)" section of this document. |
| -t *reboot_timeout_in_minutes* | This argument enables you to delay a reboot by the specified number of minutes to enable users to save their data and log out from the server. If the --reboot parameter is not included, this parameter is ignored. |
| -m *"reboot_message"* | This argument enables you to send a message to all users currently logged in before rebooting the server. The message must be in double quotes to be sent properly. If the --reboot parameter is not included, this parameter is ignored. |
| -v, --verbose | This argument enables you to see more information than is normally displayed during an installation. |
| --view *name.rpm.tar.gz, name.rpm* | This argument enables you to view the details associated with a given component RPM in the terminal window. The name provided must be in the format of componentname.rpm or componentname.rpm.tar.gz. |
| -y | This argument enables you to step through the terminal window installation of a PSP. For each component, you are prompted to choose if the component is installed, or to exit out of the LDU. The -y switch forces the --nui switch option. |
| -q *returncode,* --querystatuscode *returncode* | This argument displays the text associated with any LDU return code. When this argument is used, no installation is performed. |

# Return codes for the LDU

| Value | Meaning |
|---|---|
| 0 | Installation was successful. Reboot is not required. |
| 1 | Component XML files are missing or corrupt. |
| 2 | No components to be installed were found in the bundle XML file. |
| 3 | Bundle XML file is missing, or no bundle XML was found that supports the installed version of Linux. |
| 4 | Component RPM files are missing or corrupt. |
| 5 | A condition was not met for one or more components. |
| 6 | The file listed as the configuration input file on the command line was not found. |
| 7 | The selected components are not required on this system. |
| 8 | More than one bundle XML file was found that supports the currently installed distribution of Linux. |
| 9 | User did not install any components before exiting the LDU. |
| 10 | Installation of one or more components failed. |
| 11 | User did not configure a component requiring configuration. |
| 12 | Preconfiguration of one or more components failed. |
| 14 | Postconfiguration of one or more components failed. |
| 15 | Reserved |
| 16 | Component installation was successful. Reboot is required to complete the installation of one or more components. |
| 17 | Installation of the selected components was not attempted because the software version is the same as the previously installed version. |
| 18 | Installation of the selected components was not attempted because a newer version of the software is already installed. |
| 19 | Installation of the selected components was not attempted because the hardware supported by the component was not found in the server. |
| 20 | One or more command line parameters on the ./install???.sh command were incorrect and must be fixed for installation to occur. |
| 21 | The user canceled installation of the Linux PSP before completion using Ctrl+C. |
| 22 | Another instance of the LDU was found running on this server. Only one instance of the LDU can run at a time. |
| 23 | User aborted the installation during installation of components by clicking the **Abort** button. |
| 24 | The component does not support the server architecture or processor type. This could be returned by a component that does not support the processor vendor (such as AMD or Intel®) or the bit-width (32-bit or 64-bit) in use on the server. |

# Scenario 1: Command line deployment using the terminal window

Terminal window installation using the ./install???.sh command is achieved by passing the -s, --nui, or -y switches as arguments. Root access is required for the LDU to operate. The install shell sets up the LDU for command line operation. The LDU determines the appropriate PSP bundle by comparing the available bundles with the installed version of Linux on that server. The LDU then proceeds with the installation of that PSP.

## Silent installation

During a silent installation, the LDU does not prompt for user input. Any components that would normally require user input fail unless the necessary information has been provided in the input file using the --inputfile *filename* option on the ./install???.sh command. Installation of PSP can require up to 30 minutes, especially if multiple drivers must be built. With silent installation, the installation of all components is attempted.

To install silently, you must use the -s or --silent options on the ./install???.sh command:

```
./install???.sh --silent
```

All output that would normally be written to the terminal window during installation is saved in the default log file, /var/log/hppldu.log.

## No graphical user interface installation

During an installation that uses no graphical user interface, the installation proceeds in the terminal window. When the LDU is in this mode, user input and program output appear in the terminal window. Program output is saved to the default log file, /var/log/hppldu.log.

To perform an installation with no graphical user interface, you must use the --nui option on the ./install???.sh command:
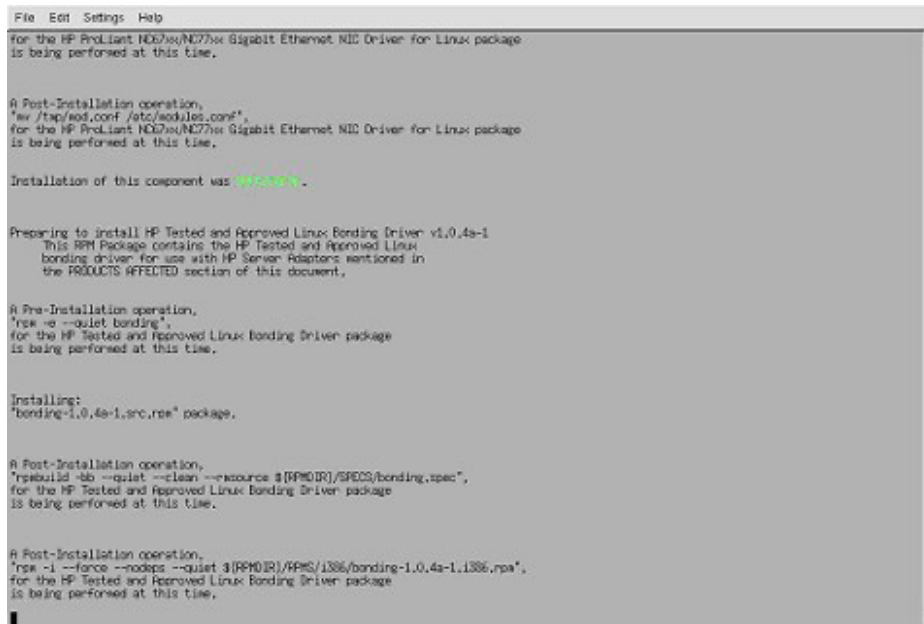
```
./install???.sh --nui
```

At the start of the --nui installation, the appropriate PSP for the installed version of Linux is determined. The PSP contains the components that support that version of Linux. These component contents are parsed to determine their installation requirements.

If any components require configuration, you are prompted for the configuration information during the installation of these components. If a password is required, you are prompted to verify the original password. After the configuration data is confirmed as valid, the --nui installation continues installing the components in the PSP.

During installation, information about each component installed appears. The name, version, and description of the installed component are shown on the console. Any data generated by the installation (including output from RPM scripts) appears in the terminal window, which continues until installation of the component is attempted.

After the installation is complete, the final status is returned by the LDU. If the reboot option was selected and the installation was successful, the server reboots. If the reboot option was not selected, you are returned to the terminal window prompt.



**IMPORTANT:** If the -s switch is used and a valid Support Pack XML file is not found or more than one valid Support Pack XML file is found, the installation will fail.

## Single-step installation

During a single-step installation, the installation proceeds in the terminal window. When the LDU is in this mode, user input and program output are provided in the terminal window. Program output is saved to the default log file, /var/log/hppldu.log.

To perform the installation using single-step mode, you must use the -y option with the ./install???.sh command. The -y parameter forces a terminal window installation.

```
./install???.sh -y
```

At the start of the single-step installation, the appropriate PSP for the installed version of Linux is determined. The PSP contains the components that are deployed for that version of Linux. These components are parsed to determine their installation requirements.

If any components require configuration, you are prompted for the configuration information during the installation of these components. If a password is required, you are prompted to verify the original password.

After parsing the component XML files, the following prompt appears asking you to choose if the single-step installation process will attempt the installation of a particular component:
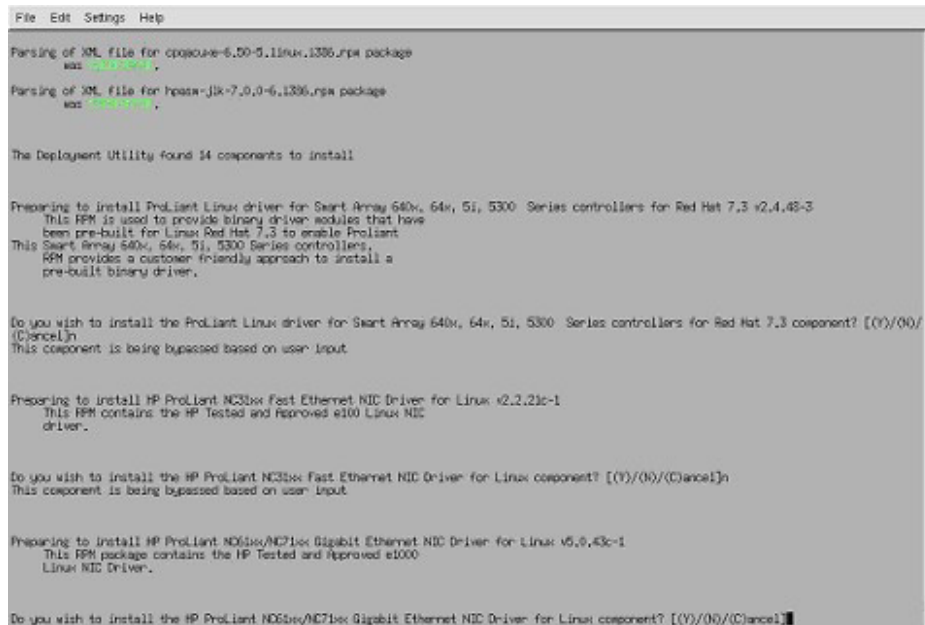
```
Do you wish to install the <component name> component?
[(Y)/(N)/(C)ancel]
```

If you select "y" or "Y," the component is installed. If you select "n" or "N," the LDU does not install that component and proceeds to the next component in the list of components to be installed. If you select "c" or "C," the LDU terminates and does not attempt to install any remaining components.

Regardless of whether you choose to install a particular component, the name, version, and description for the component appear on the console. If you choose to install a component, then data generated by

the installation (including output from RPM scripts) is shown in the terminal window. This continues until you are prompted for every component in the bundle or until you have canceled out of the LDU.

After the installation is complete, the LDU returns the final status. If the reboot option was selected and the installation was successful, the server reboots. If the reboot option was not selected, you are returned to the terminal window prompt.



## Viewing component data from a terminal window

From the terminal window, information can be obtained about what prerequisites and post-installation requirements are handled by the LDU without installing the component. This can be done by using the --view command line option. Information returned by the --view command line option includes:

- Component name
- RPM file name
- Currently installed version
- New version
- Whether a reboot is required to activate the component
- Configuration requirements and status
- Component description
- Pre- and post-installation commands, including minimum and maximum kernel versions supported, commands to be executed, PCI device IDs supported, required directories and files, and any environment variables necessary to build the component

The following is an example usage of the --view command:

```
./install???.sh --view hpasm-jlk
```

The output from the view command is shown in the following figure.
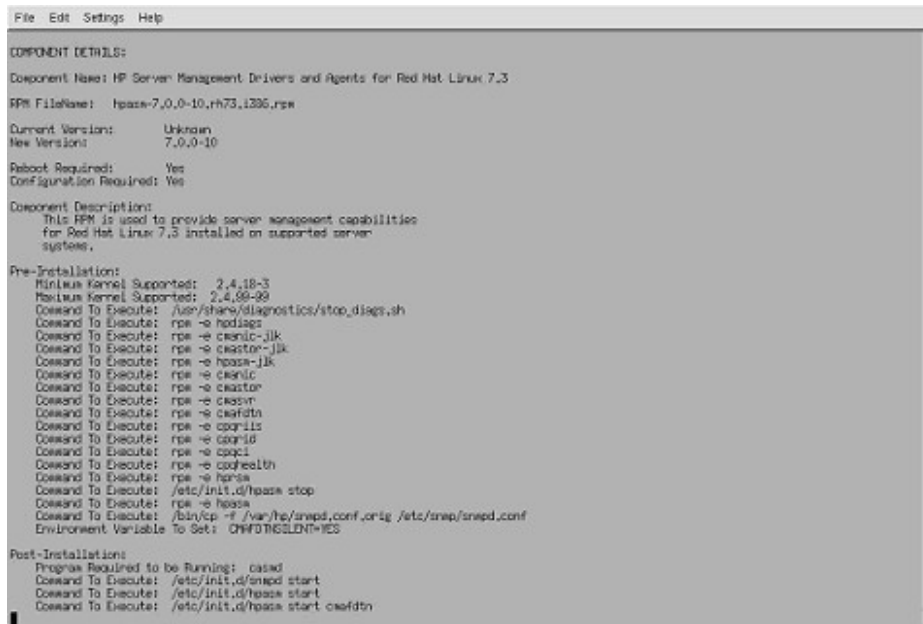


# Scenario 2: Graphical deployment using a gtk-based GUI

Graphical installation uses the `./install???.sh` command without the `--nui`, `--silent`, or `-y` parameters. A gtk-based GUI enables you to install the PSP components.

**NOTE:** The LDU is designed to run on 1024 x 768 or higher screen resolutions. Running the LDU at 800 x 600 screen resolution might require hiding the user panel normally located at the bottom of the screen.

When the LDU graphical mode is launched, the main window appears.
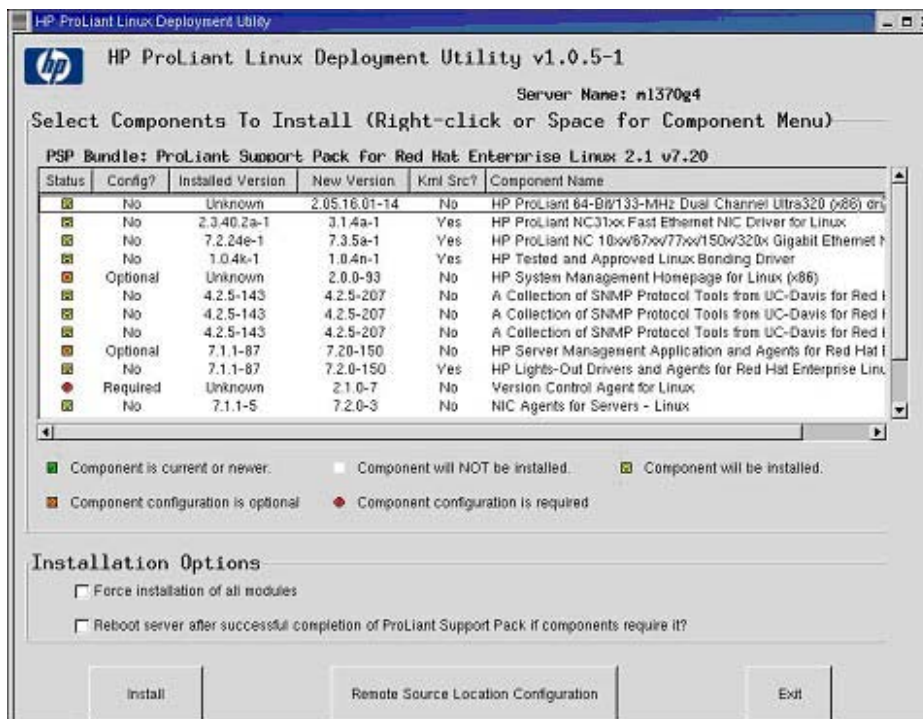
Information provided on the main installation screen includes:

- Name of the server targeted for installation
- Name of the PSP to be deployed on the server
- Select Components to Install section

The Select Components to Install section includes five columns:

- The Status column lists the installation status for each component:
  - ✅ The installed version of the component is the same as, or newer than, the component in the PSP. If you click the Install button, the PSP component is not installed.
  - ▼ The component is not installed, or the installed version is older than the component in the PSP. If you click the Install button, installation of the PSP component is attempted.
  - ❌ The component can be optionally configured. If you do not change the parameters of the component, the default values for the configuration parameters are used. If you click the Install button, installation of the PSP component is attempted.
  - ⊗ The component requires configuration. While the component might installed, it is not fully functional until configuration is successfully completed. If you click the Install button, installation of the PSP component is attempted.
  - [No icon] The component has been deselected. The component is not installed.
- The Config? column lists the configuration requirements for each component:
  - Required—Configuration is required to install this component successfully.
  - Optional—Configuration is optional for this component. Configuration default values are used unless they are altered.
  - Completed—Configuration of this component is complete and installation can proceed.
  - No—No configuration is required for this component.
- The Installed Version column lists the installed version of each component.
- The New Version column lists the new version that can be installed for each component.
- The Krnl Src? column lists the components that require kernel source or kernel header files before they can be installed. Most of these components are built from source RPMs during installation.
- The Description column lists the description of each component.

The Select Components to Install section of the main window enables you to view details about components, as well as configure components, and select components for installation.

To view the details for a component:

1. Select the component from the menu.
2. Right-click the component to view the component information menu.

3. Select the **Component Details** option to see the details for the selected component, as shown in the following figure.
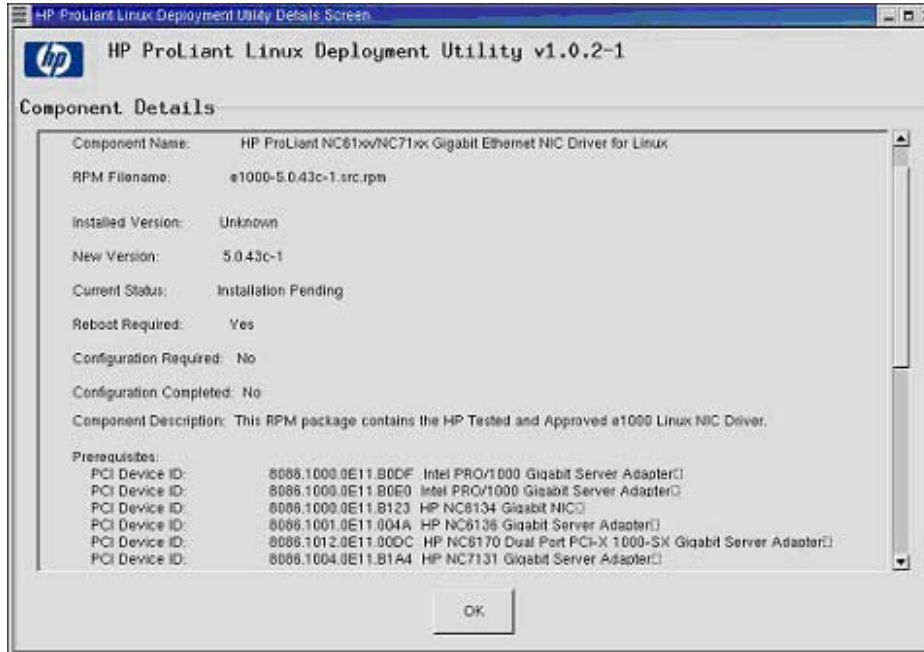


To configure a component that has optional configuration requirements:

1. Select the component.

2. Right-click the component to view the component information menu.

3. Select the Configure Component option. The configuration screen for the selected component appears. For more information, see "Component configuration (on page 75)."

You can select or clear components for installation from the Selected Components to Install section by:

- Double-clicking a component

- Selecting a single component

- Selecting multiple components while pressing the **Ctrl** or **Shift** key

After the components to be added or removed have been selected, right-click the selected component to view the component information menu, and select **Install Component** or **Do Not Install Component.**

The Installation Options section of the main window enables you to set force or reboot options for component installation. The options include:

- Force installation of all components, regardless of installed version. This option causes the LDU to bypass several dependency checks and attempt to install all components in the PSP.

    The force option bypasses checks for the following:

    o Minimum kernel version

    o Maximum kernel version

    o Library file dependencies

    o Installed software version check

    > **NOTE:** Some dependencies are required even with the force option, such as file and directory dependencies, PCI device presence check, successful execution of programs and scripts required to complete the installation, and others.

This option also causes any components that are RPM-based to use the –force option during the RPM installation phase of the given component. For more information on the force option, refer to "Command line syntax for Linux PSPs (on page 55)." If the –force option is used with the ./install???.sh command, the force option will be set in the GUI.

- Reboot the server after successful completion of ProLiant Support Pack installation if components require it. This option causes the server to be shut down and rebooted after successful completion of the installation. If any component fails to install, the reboot does not occur. The reboot option in the GUI uses the parameters passed on the ./install???.sh command, such as -t and -m, to reboot the server using the /sbin/shutdown program. A shutdown can be canceled by using the /sbin/shutdown -c command at a terminal window as long as the timeout set by the -t command has not passed.

At the bottom of the LDU main screen are two buttons labeled Install and Exit.

NOTE: On some 800 x 600 display resolutions, the Install and Exit buttons might be hidden beneath the user panel. To view the Install and Exit buttons, hide the user panel or collapse it to one side of the screen.

- The Install button enables you to begin the actual installation after the components have been selected and configured if necessary, and other options selected.

- The Exit button enables you to exit the installation.

NOTE: Nothing is installed until the Install button is selected.

After you select **Install,** the Installation in Progress appears. This screen contains an Abort button to terminate the installation, if necessary.

NOTE: The Abort button leaves the installation at its current point. No cleanup or removal of components is attempted. If the installation of a component is in progress, it completes its current command and then terminates. If the command does not complete in approximately 45 seconds, the current command is canceled and the LDU terminates.
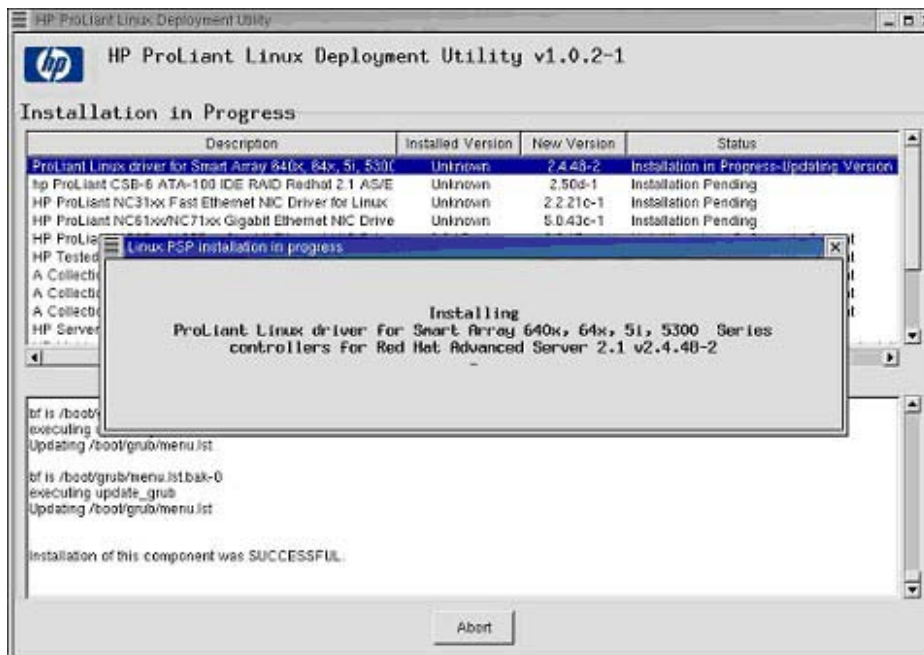
The Installation in Progress screen has four columns:

- Description—Lists the description of each component.
- Installed Version—Lists the currently installed version of each component.
- New Version—Lists the new version of the component included in the PSP.
- Status—Lists the installation status of each component. The component currently being installed is highlighted.

The pane at the bottom of the screen displays a log of the current progress of the installation.

> **NOTE:** Full installation of the Linux PSP can take up to 30 minutes, depending on the operations being performed. Operations such as compiling drivers, removing previous RPMs, and so on are processor- and I/O-intensive operations that take time to complete.

After the installation is finished, a window appears that indicates the installation is complete. To display the Installation Status Screen, click **OK**.
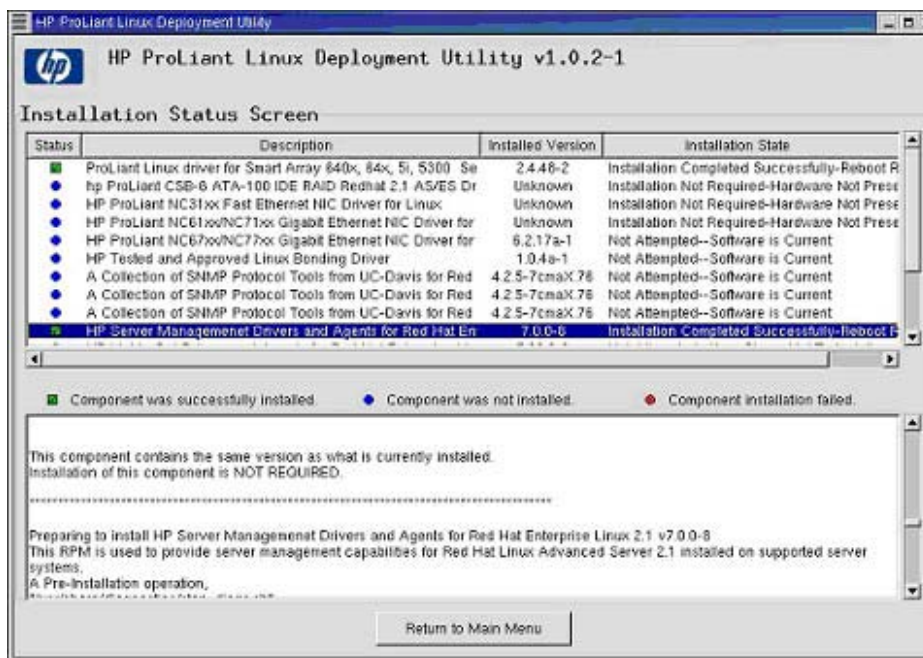


The Status column shows the final installation status of the components selected for installation. The icons are defined as follows:

- ✅ Installation of the component was successful.
- ❌ Installation of the component failed.
- 🔵 Installation of the component was not required.

If a component installation fails, use the installation log in the lower portion of the Installation Status Screen to determine why. To view the portion of the log file that corresponds to a particular failed component, select the component in the upper window. The log file in the lower window displays the appropriate portion of the log.

If certain prerequisites are not met, a component is shown as "not required." For example, a driver only installs if the PCI device that the driver supports is present in the server. If the version of a component is the same as or older than what has been previously installed or if you chose not to install a particular component, a component is also shown as "not required."

After viewing the Installation Status Screen, click the **Return to Main Menu** button to return to the LDU main menu. It might take several seconds to update the main menu screen with the results of the previous installation. After this occurs, you can choose to install another component or exit the LDU.

# Advanced topics

# Advanced installation of PSPs in Windows

This section addresses advanced installation of PSPs in Windows®.

## Component configuration

Component configuration requires that Smart Components are in a write-accessible location. A CD or read-only network share is not supported. If you have obtained your support pack from the SmartStart CD, copy the entire contents of the support pack directory to the local hard drive or a network share, and then make sure the read-only attributes are cleared from all files.

Some components might have required or optional configuration settings. Configuration parameters can include information necessary to set up the component correctly or passwords required for software installed by the component. If the optional configuration data of a component is not provided and the component has not been installed previously, it will use default values for that configuration data. If the component has been previously installed and configured, then the existing configuration information will be preserved if no changes are made to the configuration data.

Configurable components are indicated in the Optional Actions column of the Select Items to be Installed screen screens. To configure a component, click **Configure Now.**
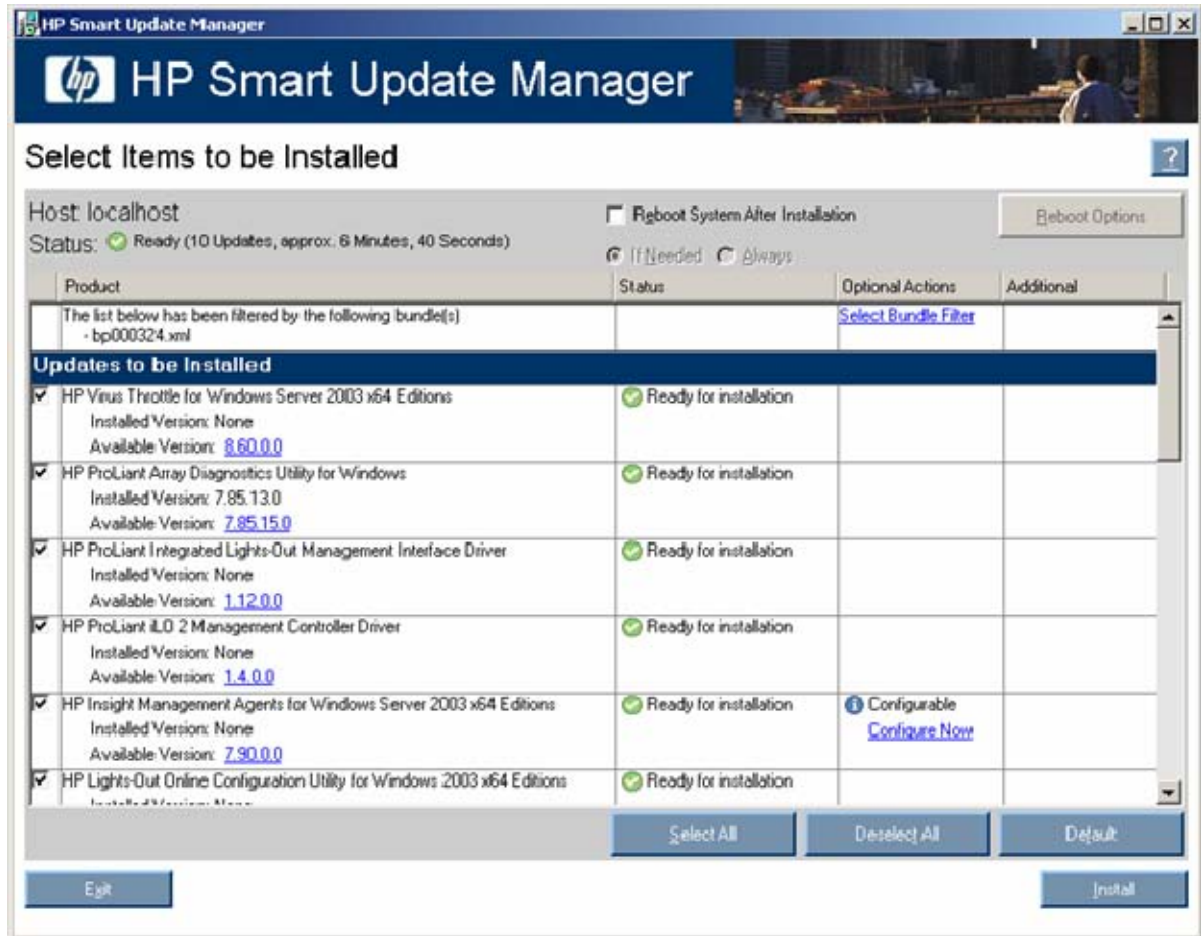


Follow the instructions when the Item Configuration screen appears. When the configuration is complete, the Select Items to be Installed screen reappears.

# Command line installation

The HP Smart Update Manager command line interface enables you to script custom installations.

## Command line syntax

The general command line syntax for HP Smart Update Manager is:

```
hpsum [/h[elp]] [/?] [/f[orce]] [/f[orce]:bundle] [/f[orce]:rom]
[/f[orce]:software] [/f[orce]:all ] [/g (/downgrade)] [/e (/rewrite)]
[/m[utual])] [/r[eboot]] [/reboot_message "reboot message"]
[/reboot_delay timeout_in_seconds] [/reboot_always] [/s[ilent]]
[/c[omponent] <component_to_install>] [/group "group_name"]
[/b[undle] <bundle_to_install>] [/allow_update_to_bundle]
[/allow_non_bundle_components] [/use_latest] [/use_location
"file_share"] [/use_snmp] [/use_wmi] [/romonly] [/softwareonly]
[/dryrun] [/continue_on_error <error>] [/override_existing_connection]
[/express_install] [/user <username> or /username <username>] [/passwd
<password>] [/current_credential] [/target "netAddress"] [/logdir
"path"] [<component1_to_install> <component2_to_install> ...]
[<bundle1_to_install> <bundle2_to_install> ...]
```

The HP Smart Update Manager with Onboard Administrator requires a user ID and password to log in. The user ID must be an Administrator equivalent ID and not an operator or user equivalent level ID.

> **NOTE:** All arguments and information enclosed in brackets are optional.

On Windows® operating systems, use a slash (/) before each argument. On Linux operating systems, use a hyphen (-) before each argument.

If no command line arguments are executed on the command line, the component GUI appears.

## Command line arguments

HP Smart Update Manager recognizes the following command line arguments. These arguments prepopulate the GUI in the Select Items to be Installed screen. If you specify the host or group, the Select Items to be Installed screen does not appear.

You cannot use some arguments such as `/romonly` and `/softwareonly` together.

| Command line argument | Description |
|---|---|
| `/h[elp] or /?` | This argument displays command line Help information. |
| `/f[orce]` | This argument enables you to override or downgrade an existing component installation. This argument produces the same results as `/f:software`. |
| `/f[orce]:bundle` | This argument enables you to override or downgrade the existing installation of components in the selected bundle. |
| `/f[orce]:rom` | This argument enables you to override or downgrade the existing installation of the selected firmware components. (Applies to firmware only.) |
| `/f[orce]:software` | This argument enables you to override or downgrade the existing installation of the selected software components. |
| `/f[orce]:all` | This argument enables you to override or downgrade the existing installation of the selected software components, firmware components, and bundles. |
| `/g or /downgrade` | This argument enables you to downgrade to an earlier version of firmware for multi-target devices such as hard drives and array controllers. (Applies to firmware only.) |
| `/e or /rewrite` | This argument enables you to rewrite the same version of firmware only for multi-target devices such as hard drives and array controllers. (Applies to firmware only.) |
| `/m[utual]` | If the device you want to flash is in a shared storage environment, then this argument informs the firmware flash engine to flash the firmware. If the device to be flashed is in a shared storage environment, and the `/m` option is not passed, then the component installation fails. (Applies to firmware only.) |
| `/r[eboot]` | If the following conditions are met, then this argument causes the server (or host server in a remote installation) to reboot:<br>● The `/reboot` option is selected or given as a command line argument.<br>● All components selected for installation are successfully installed.<br>● At least one of the installed components requires a reboot to complete its installation. |

| Command line argument | Description |
|---|---|
| `/reboot_message` *"reboot message"* | This argument displays the specified reboot message on remote consoles connected to the server you want to reboot. You must use this argument with the `/reboot` option, or the argument is ignored. |
| `/reboot_delay` *timeout_in_seconds* | This argument delays the reboot of the server for the length of time specified by the *timeout_in_seconds* variable. You must use this argument with the `/reboot` option, or the argument is ignored. Acceptable values are between 15 and 3600. The default timeout value is 15 seconds for Microsoft® Windows® and 60 seconds for Linux. In Linux, the Reboot Delay time is converted from seconds to minutes. For Linux, any value under a full minute, 59 seconds or less, rounds to the next minute. |
| `/reboot_always` | If the following conditions are met, then this argument forces the server to reboot:<br><br>• The `/reboot_always` option is selected or given as a command line argument.<br><br>• All components selected for installation are successfully installed. |
| `/s[ilent]` | This argument causes the installation to run silently with no GUI or console output. All data writes to the log file. Any generated prompts use the default option and continue the installation without user input. If a component requires input before installation (such as configuration information), then the component installation fails, and an error message writes to the log file. Failed dependencies are not reported to the user when using the `/s[ilent]` argument. To check for failed dependencies, remove the `/s[ilent]` argument, reissue the command line, and then the HP Smart Update Manager GUI appears. |
| `/c[omponent]` *<component to install>* or *<component1_to_install>* *<component2_to_install>* | This argument specifies the components to install. Components to install can be specified with or without the `/c[omponent]` argument. If using the `/c[omponent]` argument, only one component can be specified with the argument. However, multiple `/c` arguments and components can be specified on the same line. If the `/c[omponent]` argument is not used, multiple components can be specified at the same time, but the components must be separated by a blank and listed after all the arguments on the command line. The components are installed in the order provided unless dependencies between components require installation in a different order. If so, the utility changes the installation order based on the component dependencies to ensure the successful installation of as many components as possible. Multiple components and bundles can be specified on the same command line. When mixing components and bundles on the command line, the filter switches control what components and bundles are installed. |
| `/group` *"group_name"* | This argument specifies an already defined group name in the HP Smart Update Manager GUI. |
| `/b[undle]` *<bundlename>* or *<bundle1_to_install>* *<bundle2_to_install>* | This argument specifies the bundles to install. Bundles to install can be specified with or without the `/b[undle]` argument. If using the `/b[undle]` argument, only one bundle can be specified with the argument. However, multiple `/b` arguments and bundles can be specified on the same line. If the `/b[undle]` argument is not used, multiple bundles can be specified at the same time, but the bundles need to be separated by a blank and listed after all the arguments on the command line. Multiple components and bundles can be specified on the same command line. When mixing components and bundles on the command line, the filter switches control what components and bundles are installed. |

| Command line argument | Description |
|---|---|
| `/allow_update_to_bundle` | This argument is a filter switch and enables the user to install newer versions of components defined in a PSP or firmware bundle. This argument enables these components to replace the older versions of the same component that might have shipped with the bundles. |
| `/allow_non_bundle_components` | This argument is a filter switch and enables the user to install components that are not included in the bundle but reside in the directory with the components in the bundle. |
| `/use_latest` | This argument is a filter switch for use with bundles. The argument enables you to use the latest version of the bundle when multiple versions of bundles are listed on the command line. If there are no bundles specified on the command line, and multiple bundles are in the directory, the `/use_latest` argument allows HP Smart Update Manager to use the bundle with the latest version for installation. |
| `/use_location` *"file_share"* | This argument specifies a directory or file share that contains the PSP and components for use with HP Smart Update Manager. If you do not specify this argument, the directory containing hpsum.exe or HP Smart Update Manager is used by default. The logged-in account must have access to this location. The `/user` and `/passwd` arguments do not have any effect when attempting to access the file share. You can use those arguments only when connecting to a target system. |
| `/use_snmp` | This argument specifies that components, which use SNMP protocol, are available to be selected for installation. These components are available for selection by default. When the `/use_snmp` argument is used, and the `/use_wmi` argument is not, the WMI components are optional. |
| `/use_wmi` | This argument specifies that components, which use WMI protocol, are available to be selected for installation. These components are optional by default and will not be installed unless this argument is used. When the `/use_wmi` argument is used, and the `/use_snmp` argument is not, the SNMP components are optional. |
| `/romonly` | This argument is a filter switch and allows the user to see only the firmware components needed for installation. When using this filter switch, you must exit, and then restart HP Smart Update Manager to return to an unfiltered state. Do not use the `/romonly` argument with the `/softwareonly` argument. |
| `/softwareonly` | This argument is a filter switch and allows the user to see only the software components needed for installation. When using this filter switch, you must exit, and then restart HP Smart Update Manager to return to an unfiltered state. Do not use the `/softwareonly` argument with the `/romonly` argument. |
| `/dryrun` | This argument simulates the installation for a test run. Nothing is installed. |
| `/continue_on_error` *<error>* | This argument causes the installation to continue and ignore errors. Valid values are *<error>*=ServerNotFound and *<error>*=BadPassword. The ServerNotFound option can be used to bypass inactive or unavailable remote hosts when deploying firmware or software to multiple remote hosts at the same time. |
| `/override_existing_connection` | This argument defines the behavior when a remote target has an existing HP Smart Update Manager session in progress. This argument overrides the session in progress and reinitializes the installation framework on the remote host. |

| Command line argument | Description |
| --- | --- |
| /express_install | This argument starts express install (for local host only). The HP Smart Update Manager performs discovery, install, or exit without user interaction. The user can cancel or terminate HP Smart Update Manager. |
| /user <*username*> or /username <*username*> | This argument enables you to log in to HP BladeSystem c-Class Onboard Administrator with your user ID. |
| /passwd <*password*> | This argument enables you to use the password for the user ID specified in the /user parameter. The password is used to log in to remote hosts and HP BladeSystem c-Class Onboard Administrators. |
| /current_credential | This argument enables the credentials of the local host to be used as the credentials to access the targets instead of providing the username and password explicitly for each target. The assumption is that the current credentials are valid for the targets being accessed. (Applies to Windows® operating systems only.) |
| /target "*netAddress*" | This argument is the IP address or the DNS name of a HP BladeSystem c-Class Onboard Administrator or remote host. When two Onboard Administrators are in an enclosure, this argument should be the active Onboard Administrator. When specifying the IP address, you can use either the IPv4 or IPv6 format. |
| /logdir "*path*" | This argument enables you to redirect the output from HP Smart Update Manager or the HP BladeSystem c-Class Onboard Administrator flash utility to a different directory than the default location. For Windows® components, the default location is *%SYSTEMDRIVE%\CPQSYSTEM\hp\log<netAddress>* and the redirected location is *<path>\hp\log\<netAddress>*. For Linux components, the default location is */var/hp/log/<netAddress>* and the redirected location is *<path>/hp/log/<netAddress>*. |

## Component configuration for Windows components only

To configure components without using the HP Smart Update Manager GUI, issue the command, hpsum_config *<component_to_configure>.* This command presents the same configuration screens seen in the HP Smart Update Manager GUI. You must run this command from read-write media. Running from a CD or other read-only media prevents the component from being configured. Configuration for a given component needs to be executed only once. The configuration is stored within the component and is propagated to all target servers when deployed through HP Smart Update Manager GUI or command line. To change the configuration, rerun hpsum_config against the component and a new configuration writes out. If a component does not need configuration, the hpsum_config command returns to the console.

To configure components to be deployed on all editions of the Windows Server® 2008 with the Server Core option, you must access the system as a remote host using HP Smart Update Manager running on a system with a supported Windows® operating system, and then configure the components before deployment.

> **NOTE:** The PSP .CMD file is a script that attempts installation of all components in the PSP regardless of whether a component is needed or not. It is not recommended that you use the .CMD file because it has no intelligence other than checking the return codes and ensuring the components are installed in the right order. When using this method to install components, both the SNMP agent and WBEM provider are installed on the server and the WBEM provider takes precedence.

# Command line examples

The following command line parameter examples can be executed within these environments:

- Windows® PSPs:
    - ProLiant Support Pack for Microsoft® Windows Server™ 2003 v7.90 (`BP000323.xml`)
    - ProLiant Support Pack for Microsoft® Windows Server™ 2003 v7.80 (`BP000315.xml`)
- Firmware:
    - System ROM
    - Smart Array controller
    - Hard drives
    - iLO
- Software—later version of:
    - HP Insight Diagnostics Online Edition for Windows Server™ 2003 (`cp008097.exe`)
    - HP System Management Homepage for Windows® (`cp008257.exe`)
- HP Smart Update Manager
    - Defined groups: Management Servers—Three servers (Management Server1, Management Server2, Management Server3)

**Example 1:**

This command line input deploys the latest PSP and firmware components:

```
hpsum /use_latest /allow_non_bundle_components /silent
```

Results: All the software components from the 7.90 PSP and firmware components, which HP Smart Update Manager determined needed to be installed, were installed.

**Example 2:**

Either of the following command line inputs can deploy the previous version of the PSP only and force all the components to be installed:

- `hpsum /f:bundle /softwareonly BP000315.xml`
- `hpsum /b BP000315.xml /f:bundle /softwareonly`

Results: All the software components from the 7.80 PSP, which HP Smart Update Manager determined needed to be installed, were installed. No firmware was installed.

**Example 3:**

This command line input deploys firmware:

```
hpsum /romonly
```

Results: All the firmware components, which HP Smart Update Manager determined needed to be installed, were installed. No software was installed.

**Example 4:**

Either of the following command line inputs can deploy two software components:

- `hpsum /f:software cp008097.exe cp008257.exe`
- `hpsum /c cp008097.exe /c cp008257.exe /f:software`

Results: The two components were installed. No firmware or other software was installed.

**Example 5:**

Either of the following command line inputs can deploy the latest PSP, later versions of components in the bundle, and firmware to three remote hosts and force all components to be installed:

- ```
  hpsum /group "Management Servers" /current_credential /use_latest
  /allow_update_to_bundle /allow_non_bundle_components /force:all
  /override_existing_connection /continue_on_error ServerNotFound /silent
  /logdir "Management_Server_Files"
  ```

- ```
  hpsum /target "Management Server1" /target "Management Server2" /target
  "Management Server3" /user administrator /passwd letmein /use_latest
  /allow_update_to_bundle /allow_non_bundle_components /force:all
  /override_existing_connection /continue_on_error ServerNotFound /silent
  /logdir "Management_Server_Files"
  ```

Results: All the firmware components, software components from the 7.90 PSP, `cp008097.exe`, and `cp008257.exe` were installed on Management Server1, Management Server2, and Management Server3.

# HP Smart Update Manager return codes

HP Smart Update Manager has consolidated return codes from Linux and Windows® components into a new, enhanced return code mapping. These return codes determine the status of the component installation. You can also use return codes in a script to control the execution of the script and determine any required branching.

In Linux, the negative return codes are reported. These return codes are determined by subtracting the negative value from 256.

To view the installation log file locations, see "Viewing the installation results (on page 27)."

| Return code | Value | Linux | Windows | Text |
|---|---|---|---|---|
| SUCCESS_NO_REBOOT | 0 | 0 | 0 | The installation was successful. |
| SUCCESS_REBOOT | 1 | 1 | 1 | The installation was successful, but a reboot is required. |
| SUCCESS_NOT_REQUIRED | 3 | 3 | 3 | The component was current or not required. |
| FAILURE_GENERAL | -1 | 255 | 255 | A general failure occurred. See the error log for details. |
| FAILURE_BAD_PARM | -2 | 254 | 254 | A bad input parameter was encountered. |
| FAILURE_COMPONENT_FAILED | -3 | 253 | 253 | The installation of the component failed. |

## Windows smart component return codes

| Error level | Meaning |
|---|---|
| 0 | The smart component failed to install. For more details, see the log file. |
| 1 | The smart component installed successfully. |
| 2 | The smart component installed successfully, but the system must be restarted. |

| Error level | Meaning |
|---|---|
| 3 | The installation was not attempted because the required hardware is not present, the software is current, or there is nothing to install. |

## Linux smart component return codes

**Single target servers:**

| Error level | Meaning |
|---|---|
| 0 | The smart component installed successfully. |
| 1 | The smart component installed successfully, but the system must be restarted. |
| 2 | The installation was not attempted because the required hardware is not present, the software is current, or there is nothing to install. |
| 3 | The smart component failed to install. For more details, see the log file. |

**Multi-target servers:**

| Error level | Meaning |
|---|---|
| 0 | The installation of the deliverable is successful. No reboot is required. |
| 1 | The installation of the deliverable is successful. Reboot is required for the deliverable to be enabled. |
| 2 | The installation was not attempted because the version to be installed matches the version already installed. |
| 3 | The installation was not attempted because of one of the following:<br><br>• The version to be installed is older than the version already installed.<br><br>• The supported hardware is not present, not enabled, or in a state that an installation could not be attempted.<br><br>• The smart component does not support the environment.<br><br>• There is nothing for the component to accomplish. |
| 4 | If the component is installing to a remote target, such as Onboard Administrator or other network-based deployment, this return code indicates that the target cannot be found. |
| 5 | The installation was canceled by a user before anything could be installed. |
| 6 | The installer cannot execute because of an unmet dependency or installation tool failure. |
| 7 | The actual installation operation (not the installation tool) failed. |

# Advanced installation of PSPs in Linux

This section addresses advanced installation of PSPs in Linux.

# Component configuration

Some components might have required or optional configuration settings. Configuration parameters can include information necessary to set up the component correctly or passwords required for software installed by the component.

There are three methods for configuring a component:

- Using graphical installation mode
- Using terminal window installation mode
- Using a scripted installation

The configuration data used during each installation of the Linux PSP can be saved to the default /var/hp/hppldu.cfg file or to any valid Linux file name. This enables you to install one server and then use the resulting configuration file to script the installation of other servers in your network. To use the saved configuration data, use the hppldu.cfg file as an input file to the install shell:

```
./install???.sh --inputfile hppldu.cfg
```

If any parameters are not recognized, the LDU returns an error and terminates to enable the user to resolve the configuration error before continuing.

Starting with the Linux PSP 7.20, the configuration files are saved in an encrypted format. The LDU recognizes and uses both encrypted and unencrypted files for configuration data.

## Configuring components in graphical installation mode

To configure components from graphical installation mode:

1. Select the component that has configuration options.
2. Right-click the component to bring up the component menu.
3. Select the **Configure Component** option. A window similar to the following appears.
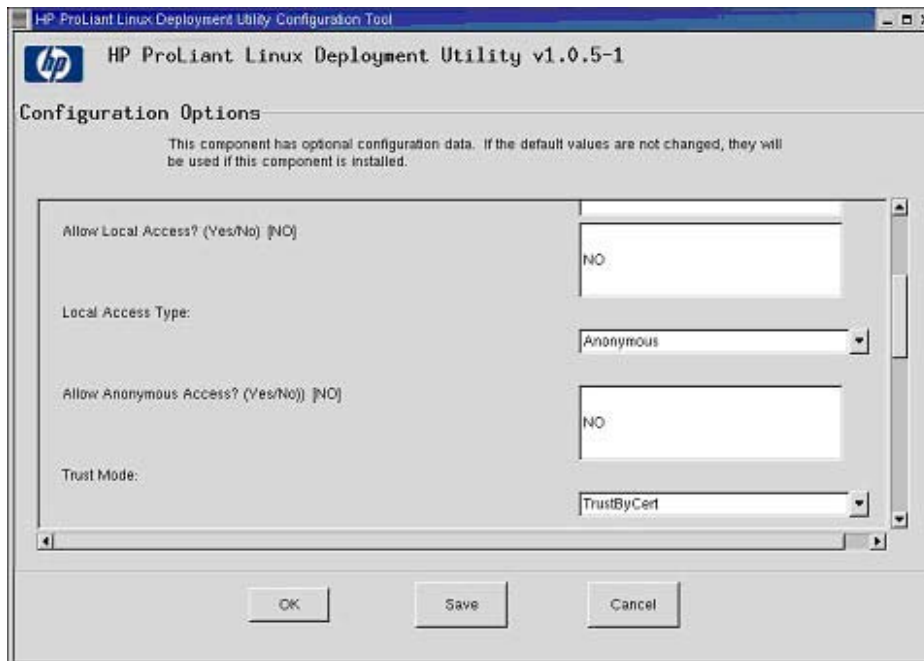


4. Configure the component. The default value, if any, appears at the end of the prompt in brackets.
5. Click **Save** on any component configuration screen to save all the parameters to a file. This enables you to use the LDU to configure all the components and save the resulting configuration data to an encrypted data file. The data file can then be used with the --inputfile <*filename*> parameter to script future installations.
6. Click **OK** to save the configuration data for use during the installation. Clicking Cancel will cause any entered data to be lost.

If the optional configuration data of a component is not provided and the component has not been installed previously, it will use default values for that configuration data. If the component has been previously installed and configured, then the existing configuration information will be preserved if no changes are made to the configuration data.
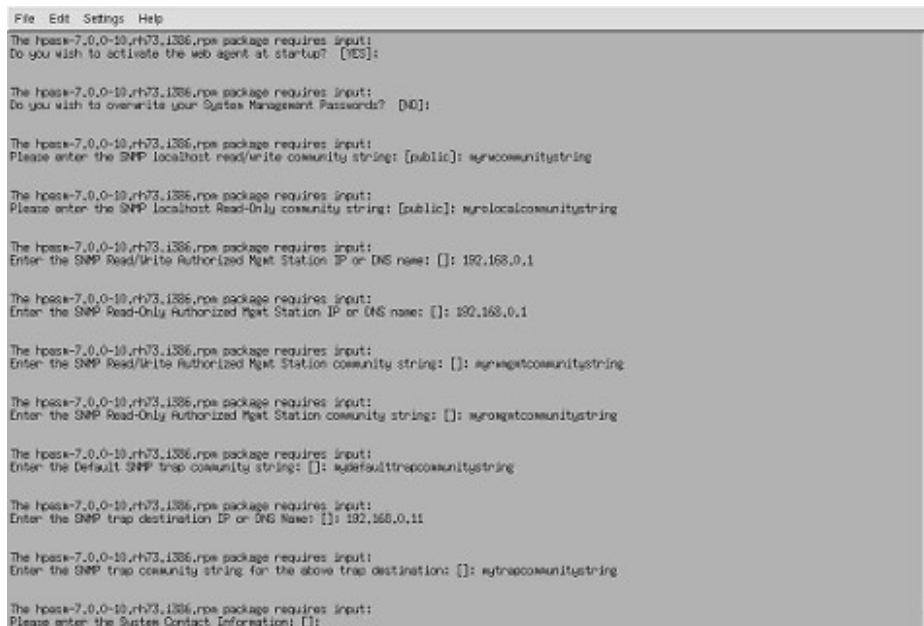
> **NOTE:** In PSP 7.00 and 7.10, the HTTP server passwords no longer default to "compaq" if you do not specify them. If you do not set the HTTP server passwords, connectivity to the HTTP server will fail. In PSP 7.20, the HTTP server passwords are no longer required. The HP Systems Management Homepage RPM, using native OS authentication instead of the three server passwords previously required, now provides the HTTP server functionality.

## Configuring components in Terminal Window Installation mode

To configure components from the terminal window installation (except for silent installations), respond to the prompts provided by the deployment utility. If a configuration value has a default, it is shown in brackets at the prompt. If you press the Enter key to continue without entering any values, the component will use the default values, if available, or preexisting values if the component has already been configured. An example of a component requiring configuration data from a command line installation is shown in the following figure.

If the optional configuration data of a component is not provided and the component has not been installed previously, it will use default values for that configuration data. If the component has been previously installed and configured, then the existing configuration information will be preserved if no changes are made to the configuration data.

On a silent installation, configuration parameters must be provided through an input file, as described in "Scripted installation (on page )." If an input file is not provided and the component has not been installed previously, a silent installation uses default values for the configuration data.

# Scripted installation

You can perform a scripted installation with the LDU using the --inputfile parameter. The syntax for this command is:

```
./install???.sh --inputfile test.in
```

In this example, the test.in file is the input file used to drive the scripted installation.

The format of the input file is:

```
parm=value
```

The following table lists the parameters supported by the input file.

| Parameter | Description |
|---|---|
| LSPOPTIONS | This parameter enables you to pass normal command line options (such as --silent, --nui,--reboot, and so on) as input to the LDU. |
| LOGFILENAME | This parameter enables you to set the name of the log file generated by the LDU to something other than the default of /var/log/hppldu.log. The path must already exist or the log file will remain the default file name. |
| HPHTTPSERVEROVERWRITE<br>(Obsolete—Not used in Linux PSP 7.20 or later) | This parameter sets the HTTP server passwords. Accepted values are:<br>● Yes—Replaces existing HTTP server passwords with the newly supplied passwords<br>● No—Retains the existing passwords |
| HPHTTPSERVERADMINPASSWD<br>(Obsolete—Not used in Linux PSP 7.20 or later) | This parameter enables you to specify a password for the default System Management Administrator. There is no default value for this parameter. If the password is not already configured, the web agent does not allow access through a web browser. |
| HPHTTPSERVEROPERATORPASSWD<br>(Obsolete—Not used in Linux PSP 7.20 or later) | This parameter enables you to specify a password for the System Management Operator. There is no default value for this parameter. If the password is not already configured, the web agent does not allow access through a web browser. |
| HPHTTPSERVERUSERPASSWD<br>(Obsolete—Not used in Linux PSP 7.20 or later) | This parameter enables you to specify a password for the System Management User. There is no default value for this parameter. If the password is not already configured, the web agent does not allow access through a web browser. |
| CMALOCALHOSTRWCOMMSTR | This parameter enables you to specify an SNMP read/write community string for local host access. |
| CMALOCALHOSTROCOMMSTR | This parameter enables you to specify an SNMP read-only community string for local host access. |
| CMAMGMTSTATIONRWIPORDNS | This parameter enables you to specify the IP address or DNS host name of a system with read/write access to serve as a management station. You can specify multiple locations separated by a space. |
| CMAMGMTSTATIONRWCOMMSTR | This parameter enables you to specify an SNMP read/write community string for a system with read/write access that serves as a management station. You can specify multiple strings separated by a space. |

| Parameter | Description |
|---|---|
| CMAMGMTSTATIONROIPORDNS | This parameter enables you to specify the IP address or DNS host name of a system with read-only access to serve as a management station. You can specify multiple locations separated by a space. |
| CMAMGMTSTATIONROCOMMSTR | This parameter enables you to specify an SNMP read/write community string for a system with read-only access that serves as a management station. You can specify multiple strings separated by a space. |
| CMADEFTRAPCOMMSTR | This parameter enables you to set a default SNMP community string for traps. |
| CMATRAPDESTINATIONCOMMSTR | This parameter enables you to specify the SNMP destination trap community string. |
| CMATRAPDESTINATIONIPORDNS | This parameter enables you to specify the IP address or DNS host name of a server as a destination for SNMP traps, such as Systems Insight Manager. |
| CMASYSCONTACT | This parameter enables you to specify a person or phone number for administration of this system. |
| CMASYSLOCATION | This parameter enables you to designate the location of this system. |
| CMASTARTWEBAGENT | This parameter determines whether the HP Insight Systems Manager web agent is started when the health application loads. Accepted values are: <br><br> • Yes—Start the web agent <br><br> • No—Do not start the web agent |
| CMASTARTSTORAGEAGENT | This parameter determines whether the HP Insight Systems Manager storage agent is started when the health application loads. Accepted values are: <br><br> • Yes—Start the storage agent <br><br> • No—Do not start the storage agent |
| CMANOTAINTEDKERNEL | This parameter determines whether the HP Lights-Out management driver is started when the health application loads. Accepted values are: <br><br> • Yes—Start the HP Lights-Out management driver <br><br> • No—Do not start the HP Lights-Out management driver |
| HPVCAVCRMSERVER | This parameter informs the VCA of the name of the VCRM to use as a software distribution repository. |
| HPVCAVCRMLOGINID | This parameter is the login ID that the VCA uses to communicate with the VCRM. |
| HPVCAVCRMLOGINPASSWD | This parameter is the password for the login ID specified in the HPVCAVCRMLOGINID parameter. |
| ADMIN-GROUP | This parameter is used by the HP Systems Management Homepage (hpsmh) to set up security for the web server. The parameter is a list of up to five Linux groups, separated by spaces or semicolons, to enable administrative access to the web server. |

| Parameter | Description |
|---|---|
| USER-GROUP | This parameter is used by the HP Systems Management Homepage to set up security for the web server. The parameter is a list of up to five Linux groups, separated by spaces or semicolons, to enable user-level access to the web services. |
| OPERATOR-GROUP | This parameter is used by the HP Systems Management Homepage to set up security for the web server. The parameter is a list of up to five Linux groups, separated by spaces or semicolons, to enable operator-level access to the web services. |
| ANONYMOUS-ACCESS | This parameter determines whether an anonymous user can access the HP Systems Management Homepage. Accepted values are "yes" and "no." The default value is "no." |
| IP-BINDING | This parameter is used by the HP Systems Management Homepage to determine whether hpsmh can use all available NICs and detected subnets for its web services. Accepted values are "yes" and "no." The default value is "no." |
| IP-BINDING-LIST | This parameter is used by the HP Systems Management Homepage to restrict the NICs and subnets to use for its web services. The IP-BINDING parameter must be set to "yes" for this parameter to be used during installation. The list format is a list of IP address/NetMask pairs separated by semicolons (for example, 10.1.1.1/255.255.255.0; 10.2.2.2/255.255.255.0). |
| IP-RESTRICTED-LOGINS | This parameter is used by the HP Systems Management Homepage to restrict login access. The accepted values are "yes" and "no." The default value is "no." To enable restrictions on who can log in to the web server, this parameter must be set to "yes," and values must be provided to the IP-RESTRICTED-EXCLUDE or IP-RESTRICTED-INCLUDE parameters. |
| IP-RESTRICTED-EXCLUDE | This parameter is used by the HP Systems Management Homepage to exclude specific IP address/NetMask pairs from logging into the web services. The format of this parameter is a list of IP address ranges separated by semicolons (for example, 10.1.1.1-10.1.1.10; 10.2.2.2-10.2.2.10). This parameter is ignored unless the IP-RESTRICTED-LOGINS parameter is set to "yes." |
| IP-RESTRICTED-INCLUDE | This parameter is used by the HP Systems Management Homepage to enable login only from the IP address/NetMask pairs specified. The format of this parameter is a list of IP address ranges separated by semicolons (for example, 10.1.1.1-10.1.1.10; 10.2.2.2-10.2.2.10). This parameter is ignored unless the IP-RESTRICTED-LOGINS parameter is set to "yes." |
| LOCALACCESS-ENABLED | This parameter is used by the HP Systems Management Homepage to determine whether to enable local anonymous access to the web services. Accepted values are "yes" and "no." The default value is "yes" to enable anonymous access. |

| Parameter | Description |
|---|---|
| LOCALACCESS-TYPE | This parameter is used by the HP Systems Management Homepage to determine the type of access granted to local users. Accepted values are "Anonymous" and "Administrator." The default value is "Anonymous."<br><br>⚠ **CAUTION:** Selecting local access with administrator privileges as the login provides full access to any user with access to the local console, without prompting for a user name or password. |
| TRUSTMODE | This parameter is used by the HP Systems Management Homepage to set up the trust relationship mode. Accepted values are<br><br>• TrustByCert—If this value is used, the CERTLIST parameter must be defined to enable access to the server.<br><br>• TrustByName—If this value is used, the XENAMELIST parameter must be defined.<br><br>• TrustByAll—HP does not recommend using this value because of possible negative security consequences.<br><br>The accepted values are case-sensitive and must be capitalized as shown. Failure to do so prevents the trust relationship from being set up properly during installation and might affect access to the web server. |
| CERTLIST | This parameter enables a user to provide a list of certificate files or servers where certificates can be obtained for trust relationships for the HP Systems Management Homepage. This parameter is only valid if the TRUSTMODE parameter is set to TrustByCert. |
| XENAMELIST | This parameter enables a user to provide a list of servers, separated by semicolons, for trust relationships for the HP Systems Management Homepage. This parameter is only valid if the TRUSTMODE parameter is set to TrustByName. |
| HPQLA2X00FO | This parameter is used by the hp_qla2x00 Qlogic Fibre Channel Driver to determine the failover mode to use. Accepted values are "SinglePath," "SecurePath," and "QLogicFailover." There is no default value. |
| HPQLA2X00FORCE | This parameter is used by the hp_qla2x00 QLogic Fibre Channel Driver to determine whether to skip detection of third-party storage. Accepted values are "Y" or "N." The default value is "N." |

The following is an example of an input file.

```
#ProLiant Linux Deployment Utility options
LOGFILENAME=/var/log/temp.log
LSPOPTIONS=-v -f -r -t 5 -m "This system will reboot in 5 minutes"
#If configuring the SNMP component for the HPASM driver,
#the following parameters depict a sample entry.
HPHTTPSERVEROVERWRITE=no
CMALOCALHOSTRWCOMMSTR=private
```

```
CMALOCALHOSTROCOMMSTR=public
CMAMGMTSTATIONRWIPORDNS="192.133.17.4 dopey.domain.net"
CMAMGMTSTATIONRWCOMMSTR="first second"
CMASYSCONTACT="John Doe - Ext 1234"
CMASYSLOCATION="Bldg 5-Room 104C"
CMANOTAINTEDKERNEL=YES
CMASTARTSTORAGEAGENT=yes
CMASTARTWEBAGENT=yes

#These parameters are used by the HP Version Control
#Agent so that a connection can be made to the HP
#Version Control Repository Manager (VCRM).
HPVCAVCRMSERVER=test.hp.com
HPVCAVCRMLOGINID=myuserid
HPVCAVCRMLOGINPASSWD=myuseridpassword

#These parameters are used by the HP Systems Management
#Homepage to setup security and configuration for the
#web server used by most HP agents and value-add
#software

#Allow the hpsmh Linux group access to administrator
#services
ADMIN-GROUP="hpsmh"

#Allow the hpsmh Linux group access to operator
#services
OPERATOR-GROUP="hpsmh"

#Allow the hpsmh and the TapeBackupGroup Linux groups
#access to user services
USER-GROUP="hpsmh";"TapeBackupGroup"

ANONYMOUS-ACCESS="NO"

#Allow all adapters to be used by the web server
IP-BINDING="YES"
IP-BINDING-LIST=""

#Allow restrictions on who can login to the web server
#by setting IP-RESTRICTED-LOGINS to NO
IP-RESTRICTED-LOGINS="NO"

#We don't want 10.1.1.1 to have access to this server
IP-RESTRICTED-EXCLUDE="10.1.1.1"
#We want 10.1.1.2 through 10.1.1.10 to have access to
#this server
IP-RESTRICTED-INCLUDE=10.1.1.2-10.1.1.10

#We don't want anonymous local access to the web server
LOCALACCESS-ENABLED=NO

#We want people to login locally to get access to the
#web services
LOCALACCESS-TYPE="Anonymous"

#TRUSTMODE set to TrustByName, so we provide a list of
#servers.  If we had set TrustByCert, we would have
#filled in the CERTLIST parameter.  If we selected
```

```
#TrustByAll, we do not have to place values in either
#the XENAMELIST or CERTLIST parameters.
TRUSTMODE="TrustByName"
CERTLIST=""
XENAMELIST="SERVER1";"SERVER2";"SERVER101"

#The following parameters are used to configure the
#hp_qla2x00 HP QLogic Fibre Channel QL2xxx Adapter.
HPQLA2X00FO=SinglePath
HPQLA2X00FORCE=N
```

# Deploying firmware and software simultaneously

The PSP for Microsoft® Windows® (version 7.90 or later) powered by the HP Smart Update Manager utility enables you to deploy firmware and PSP software components simultaneously. Only Windows® online deployments support deploying firmware and software components from Windows® PSPs and server blade bundles simultaneously. The latest Microsoft® Windows® PSP, bundles, and firmware components must be in the same directory and the cp*.exe and/or cp*.scexe files added to the repository to deploy simultaneously.

To deploy firmware and PSP software components from Windows® PSPs and server blade bundles simultaneously, run the HP Smart Update Manager. On the Select Bundle Filter screen, select the bundle, and then select the **ALLOW NON-BUNDLE PRODUCTS** option.
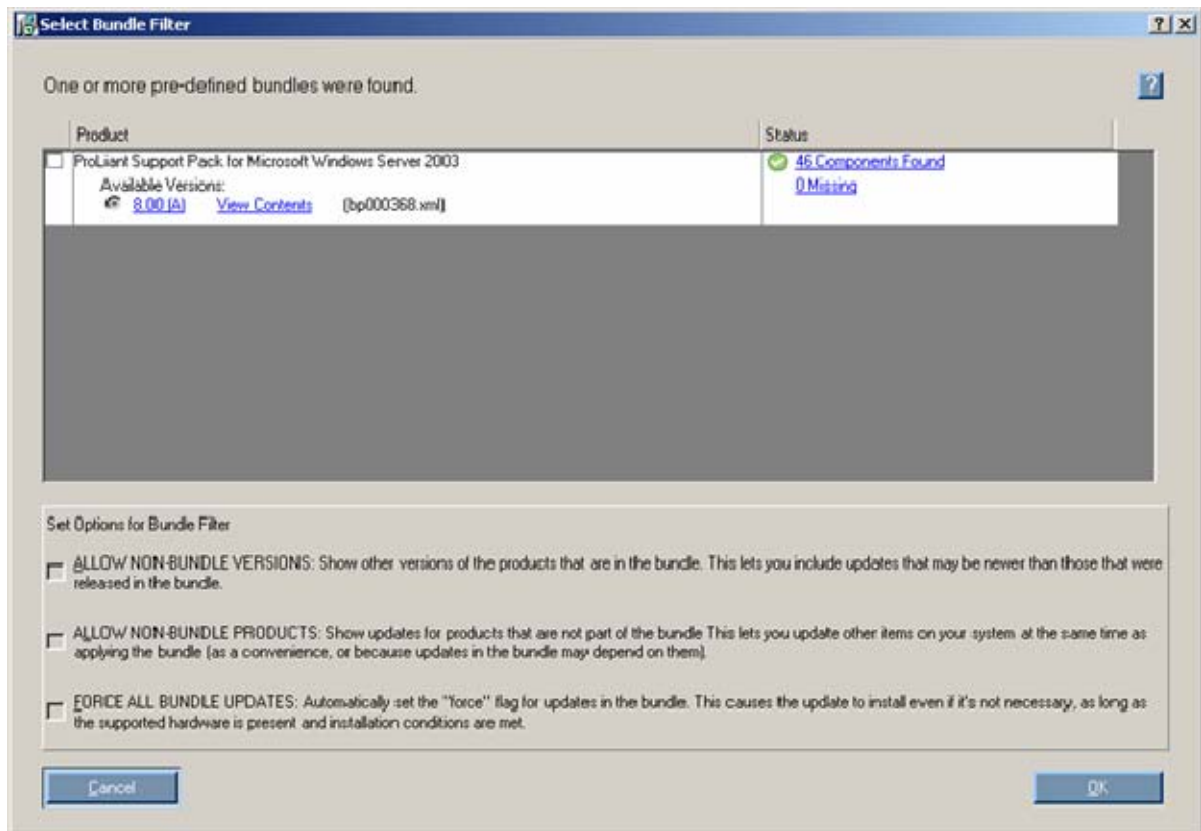


To proceed with the deployment process, click **OK.** The Select Items to be Installed ("Selecting components to install" on page 20) screen appears with the appropriate firmware and software components.

# Server virtualization detection and support

Windows® PSP supports server virtualization that runs on a Windows® host. However, Windows® PSP does not run on a VMware host or on a guest operating system environment regardless of what host hypervisor you use. Windows® PSP does not boot to a guest operating system environment.

# Configuring IPv6 networks with HP Smart Update Manager

Starting with HP Smart Update Manager version 3.2.0, you can deploy to remote targets in IPv6-based networks for Windows® and Linux target servers. Using HP Smart Update Manager with IPv6 networks presents challenges for IT administrators.

For Windows®-based servers, to communicate with remote target servers, HP Smart Update Manager uses either existing credentials or user-provided user name and password to connect to the admin$ share. This share is an automatic share provided by Windows Server®. After HP Smart Update Manager connects to the admin$ share, it copies a small service to the target server for the duration of the installation. After this service starts, HP Smart Update Manager uses this service to communicate between the local and remote target server. During this process, HP Smart Update Manager opens ports in the Windows® firewall to enable HP Smart Update Manager to use SOAP calls over SSL to pass data among local and remote systems. These ports are defined in Allowing ports in HP Smart Update Manager. After the installation is completed or canceled, HP Smart Update Manager stops the remote service, removes it from the target server, closes the port on the Windows® firewall, and then releases the share to the target server admin$ share.

For Linux-based servers, to communicate to remote target servers, HP Smart Update Manager starts by using the user-provided user name and password to create a SSH connection to the target server. After the HP Smart Update Manager connects, copies a small service to the target server for the duration of the installation. After this service starts, HP Smart Update Manager uses this service to communicate between the local and remote target server. During this process, HP Smart Update Manager opens ports in the iptables firewall to enable HP Smart Update Manager to use SOAP calls over SSL to pass data between the local and remote systems. These ports are defined in Allowing ports in HP Smart Update Manager. When the installation is completed or canceled, HP Smart Update Manager stops the remote service, removes it from the target server, closes the port in the iptables firewall, and then closes the SSH connection to the target server.

## Configuring IPv6 for Windows Server 2003

For information on setting up a Windows Server® 2003 operating system within an IPv6 network, see the online Microsoft® Technet article Step-by-Step Guide for Setting Up IPv6 in a Test Lab (http://www.microsoft.com/downloads/details.aspx?FamilyID=fd7e1354-3a3b-43fd-955f-11edd39551d7&displaylang=en).

Before using HP Smart Update Manager to deploy software and firmware updates to remote Windows Server® 2003 servers, you must add a registry entry to enable file sharing connections over IPv6 networks. To make the registry entry:

1.  Start the Registry Editor (`Regedt32.exe`).
2.  Locate and click the following key in the registry:

```
HKEY_LOCAL_MACHINE\System\CurrentControlSet\Services\LanmanServer\Para
meters
```

3. On the Edit menu, click **Add Value.**

4. Add the following registry value:

   Value name: `DisableStrictNameChecking`

   Data type: `REG_DWORD`

   Radix: `Decimal`

   Value: 1

5. Quit the Registry Editor.

For more information about these steps, see the Microsoft® Knowledge Base Item 281308 on the Microsoft® website (http://www.microsoft.com).

IPv6 addresses can be passed to HP Smart Update Manager in command line arguments or using the HP Smart Update Manager user interface. In the HP Smart Update Manager user interface, you can add a remote host on an IPv6 network by either entering the DNS name of the IPv6 target server or by selecting the IPv6 address button and entering the IPv6 address. HP Smart Update Manager supports both the short-name and full IPv6 notation. You do not need to add the optional interface number when you enter the address.



If you cannot connect to the target server or receive a `Discovery failed` message when executing HP Smart Update Manager in an IPv6 environment, see the troubleshooting section ("Troubleshooting HP Smart Update Manager in IPv6 networks" on page 98).

After you connect to the target server, all other HP Smart Update Manager functions work identically. Log files for IPv6 hosts are stored with all other HP Smart Update Manager files in the \CPQSYSTEM\hp\log\<ip_address> directory.

# Configuring IPv6 for Windows Server 2008

HP Smart Update Manager provides the most robust support for remote deployment when using Windows Vista® as a client to Windows Server® 2008-based servers. Using HP Smart Update Manager in this environment enables you to use all the capabilities of IPv6 including link-local, site-local, and global IP addresses for both local and remote target servers. Windows Vista®, when used as a client to run HP Smart Update Manager to remote Windows Server® 2008 operating systems or as a target operating system on HP Workstation server blades, provides the infrastructure that supports full IPv6 deployment of software and firmware updates from HP Smart Update Manager.

> **NOTE:** Windows® XP clients are not supported in IPv6 networks for HP Smart Update Manager deployment.

IPv6 addresses can be passed to HP Smart Update Manager in command line arguments or using the HP Smart Update Manager user interface. In the HP Smart Update Manager user interface, you can add a remote host on an IPv6 network by either entering the DNS name of the IPv6 target server or by selecting the IPv6 address button and entering the IPv6 address. HP Smart Update Manager supports both the short-name and full IPv6 notation. You do not need to add the optional interface number when you enter the address.



If you cannot connect to the target server or receive a Discovery failed message when executing HP Smart Update Manager in an IPv6 environment, see the troubleshooting section ("Troubleshooting HP Smart Update Manager in IPv6 networks" on page 98).

After you connect to the target server, all other HP Smart Update Manager functions work identically. Log files for IPv6 hosts are stored with all other HP Smart Update Manager files in the \CPQSYSTEM\hp\log\<ip_address> directory.

## Limitations of IPv6 for Windows Server 2003 and Windows Server 2008

Windows Server® 2003 requires site-local addresses to provide the necessary file-sharing capabilities needed by HP Smart Update Manager. This means that link-local and global IPv6 addresses are not supported as remote targets with HP Smart Update Manager.

Windows Server® 2008 or Windows® environments do not have any known limitations to using HP Smart Update Manager.

> **NOTE:** Windows® XP clients are not supported in IPv6 networks for HP Smart Update Manager deployment.

# Configuring IPv6 for Linux

HP Smart Update Manager leverages the IPv6 capabilities of Linux as provided by the Red Hat Enterprise Linux and Novell SUSE Linux Enterprise Server products. Using HP Smart Update Manager in this environment enables you to use all the capabilities of IPv6 including link-local, site-local, and global IP addresses for both local and remote target servers. Remote target servers must have the iptables-ipv6 RPM installed before targeting them from HP Smart Update Manager. Failure to install the iptables-ipv6 RPM prevents HP Smart Update Manager from opening the communications port needed to send data to the initiating Linux workstation. You can disable the Linux firewall to allow HP Smart Update Manager to work, but the Linux server becomes vulnerable to attack.

For information on how to setup IPv6 in a Linux environment, please see the Linux IPv6 How-To (http://www.linux.org/docs/ldp/howto/Linux+IPv6-HOWTO/index.html).

IPv6 addresses can be passed to HP Smart Update Manager in command line arguments or using the HP Smart Update Manager user interface. In the HP Smart Update Manager user interface, you can add a remote host on an IPv6 network by either entering the DNS name of the IPv6 target server or by selecting the IPv6 address button and entering the IPv6 address. HP Smart Update Manager supports both the short-name and full IPv6 notation. You do not need to add the optional interface number when you enter the address.



If you cannot connect to the target server or receive a Discovery failed message when executing HP Smart Update Manager in an IPv6 environment, see the troubleshooting section ("Troubleshooting HP Smart Update Manager in IPv6 networks" on page 98).

After you connect to the target server, all other HP Smart Update Manager functions work identically. Log files for IPv6 hosts are stored with all other HP Smart Update Manager files in the /var/hp/log/<ip_address> directories.

# Limitations of IPv6 for Linux

The only current limitation of HP Smart Update Manager in a Linux IPv6 environment is that all remote target Linux-based servers must have the iptables-ipv6 rpm file installed. You can find the file on the distribution media for both Red Hat Enterprise Linux and Novell SUSE Linux Enterprise Server operating systems. HP Smart Update Manager uses this file to open a port in the IPv6 firewall to communicate with the Linux system that runs HP Smart Update Manager. Failure to install iptables-ipv6 results in HP Smart Update Manager reporting a discovery failure unless you disable the firewall.

# Troubleshooting

## Troubleshooting installation of the PSP for Microsoft Windows

You might encounter the following issues with the Microsoft® Windows® PSPs. The issues are in bold, and the resolutions follow.

- **How do I set the rules for Windows® Firewall and Security Policy?**



When the Windows® Security Alert dialog box appears, click **Unblock,** and then select your firewall settings as follows:

a. Click **Start>Control Panel>Administrative Tools>Windows Firewall with Advanced Security>Inbound Rules>Remote Administration (NP-IN).**

b. Select **Enabled,** and then select **Allow the connections**.

- **The Insight Management Agents failed to install while upgrading from Windows Server® 2003 to Windows Server® 2008.**

Microsoft® recommends that you remove all software from the system before upgrading from Windows Server® 2003 to Windows Server® 2008. If you leave software applications on the system during the upgrade process, Microsoft® does not guarantee the stability of the operating system or the software after the upgrade is complete.

- **The HP Smart Update Manager encountered a fatal error while initializing when running in a directory path containing double-byte characters.**



  The HP Smart Update Manager cannot run in directories that contain double byte characters in the path name. Paths can be created with double-byte characters when using certain versions of the operating system, such as Japanese or Chinese.

- **How do I use HP Smart Update Manager over a firewall? Which ports will I need to open? Are they configurable?**

  The ports that HP Smart Update Manager uses cannot be configured. When HP Smart Update Manager port initiates communications to remote targets, it uses several well-known ports depending on the operating system. For Windows®, it uses ports 138 and 445 to connect to remote targets (equivalent to remote and file print share functionality). For Linux, HP Smart Update Manager uses port 22 (SSH) to start the communications with the remote target.

  HP Smart Update Manager uses defined ports to communicate between the remote target and the workstation where HP Smart Update Manager is executing. When you run HP Smart Update Manager, it uses the administrator/root privileges to dynamically register the port with the default Windows® and Linux firewalls for the length of the application execution, then closes and deregisters the port. All communications are over a SOAP server using SSL with additional functionality to prevent man-in-the-middle, packet spoofing, packet replay, and other attacks. The randomness of the port helps prevent port scanning software from denying service to the application. The SOAP server is deployed on the remote target using the initial ports described above (ports 138, 445, and 22) and then allocates another independent port as documented below for its communications back to the workstation where HP Smart Update Manager is running. During shutdown of HP Smart Update Manager, the SOAP server is shutdown and removed from the target server, leaving the log files.

  To deploy software to remote targets on their secure networks using HP Smart Update Manager, the following ports are used.

| Ports | Description |
|---|---|
| Ports 445 and 137/138/139 <br><br> (Port 137 is used only if you are using NetBIOS naming service.) | These ports are needed to connect to the remote ADMIN$ share on target servers. These are the standard ports Windows® servers use to connect to remote file shares. If you can connect remotely to a remote Windows® file share on the target server, then you have the right ports open. |
| Ports 60000-60007 | Random ports are used in this range to pass messages back and forth between the local and remote systems using SSL. These ports are used on the system running HP Smart Update Manager to send data to the target server. <br><br> Several internal processes within HP Smart Update Manager automatically use the port from 60000 when no other application uses it. If there is a port conflict, the manager uses the next available one. There is no guarantee that the upper limit is 60007 as it is dependent on how many target devices are selected for installation. |

| Ports 61000-61007 | These ports are used from the target server back to the system running HP Smart Update Manager. The same mechanism is used by the remote access code as the 60000 ports, with the first trial port as 61000. There is no guarantee that the upper limit is 61007 when a conflict occurs. For the case of IPv4-only and one NIC, the lowest available one is used by HP Smart Update Manager to pass information between processes on the local workstation where HP Smart Update Manager is executed, and the next available one is used to receive messages from remote servers. |
| --- | --- |
| Port 62286 | This port is the default for some internal communications. It is the listening on the remote side if there is no conflict. If a conflict occurs, the next available one is used. |
| Ports 80 or 63000-63005 | The logs are passed to the target and the logs are retrieved using an internal secure web server that uses port 80 if it is available or a random port between 63000 and 63005, if it is not. This support allows updates of the iLO firmware without the need to access the host server and allows servers running VMware or other virtualization platforms to update their iLO without the need to reboot their server or migrate their virtual machines to other servers. |

For Linux:

| Port | Description |
| --- | --- |
| Port 22 | This port is establishes a connection to the remote Linux server using SSH. |
| Ports 60000-60007 | Random ports are used in this range to pass messages back and forth between the local and remote systems using SSL. These ports are used on the system running HP Smart Update Manager to send data to the target server.<br><br>Several internal processes within HP Smart Update Manager automatically use the port from 60000 when no other application uses it. If there is a port conflict, the manager uses the next available one. There is no guarantee that the upper limit is 60007 as it is dependent on how many target devices are selected for installation. |
| Ports 61000-61007 | These ports are used from the target server back to the system running HP Smart Update Manager. The same mechanism is used by the remote access code as the 60000 ports, with the first trial port as 61000. There is no guarantee that the upper limit is 61007 when a conflict occurs. For the case of IPv4-only and one NIC, the lowest available one is used by HP Smart Update Manager to pass information between processes on the local workstation where HP Smart Update Manager is executed, and the next available one is used to receive messages from remote servers. |
| Port 62286 | This port is the default for some internal communications. It is used for listening on the remote side if there is no conflict. If a conflict occurs, the next available one is used. |
| Ports 80 or 63000-63005 | The logs are passed to the target and the logs are retrieved using an internal secure web server that uses port 80 if it is available or a random port between 63000 and 63005, if it is not. This support allows updates of the iLO firmware without the need to access the host server and allows servers running VMware or other virtualization platforms to update their iLO without the need to reboot their server or migrate their virtual machines to other servers. |

- **The HP Smart Update Manager is disconnected.**

  When either iLO or NIC firmware is updated, the HP Smart Update Manager connection is lost and it cannot install components. If there is an access error, HP Smart Update Manager cancels the installation.

- **How do I recover from an installation failure?**

  HP Smart Update Manager generates a set of debug trace logs located in the %TEMP%\hp_sum directory. These files contain internal process and debug information. To resolve this issue, collect these trace directories.

- **How do I reboot using a Japanese character set?**

  You might specify a message to appear prior to shutting down the system during a reboot operation. When using a Japanese character set and running on a Japanese version of a Windows® operating system, the message causes the reboot not to occur automatically. For a successful reboot, you must select the **Exit** button.

# Troubleshooting installation of the PSP for NetWare

The following issues might be encountered with the NetWare PSPs. The issues are in bold and their resolutions follow.

- **I used the /r flag to reboot the server, and one of the packages installed required a reboot, but the server did not reboot. What is happening?**

  If any of the packages chosen for installation fails the installation, a reboot will not occur. This enables the administrator to examine a server to determine and resolve a software installation failure before activating any changes.

- **When I examine the package contents, the version of the driver in the package is newer than what I have on my server. However, one of the support files is older than the version that is contained in the package. What happens during installation?**

  The key file version within each package is checked before the file is installed on the server. If the key file is newer than the file on the server, then the version in the package will be installed. Otherwise, the version currently installed on the server is retained, and the package is not installed.

  If the /force flag is used, then no version checking is done. All files in the package will be installed, even if one of the files on the server is newer than the one in the package.

- **When I install a driver and then run the installation utility a second time before rebooting the server, the version shown in the installation utility does not match the version loaded from the MODULES console command.**

  After an installation has occurred, the installation utility will check against the installed version on the fixed disk. Even if the version loaded is different, the version compared against it for installations is the version on the physical media.

- **When I perform a command line install and pass the /r parameter, the server does not reboot.**

  This usually occurs because the version of the software to be installed is the same or older than the version installed on the server, or a failure occurred during the installation (a prerequisite was not met). Check the SYS:\ETC\CPQLOG.LOG file to determine the cause of the failure.

- **During installation, I get the following error message:**

  **Unable to read xxx from an XML file.**

This condition is usually caused by a corrupted package, which can occur during download. If a package XML file cannot be parsed correctly, the installation of that package will terminate with an error. To resolve this issue, try downloading the package again at the HP software and drivers website (http://www.hp.com/servers/swdrivers).

- **When I try to install the PSP, I get the following error message:**

  **The software in this package is not intended for this version of NetWare.**

  The package you have chosen to install might not be intended for the version of NetWare that is currently installed on the server.

- **When I start CPQDPLOY.NLM, I get a prompt asking me to enter a path to a supported Support Pack XML file.**

  This prompt is caused by having CPQDPLOY.NLM in a directory without a valid Support Pack XML file. A valid Support Pack XML file is of the format BP000XXX.XML and must support the installed version of NetWare on the target system. CPQDPLOY.NLM might be in a directory with a Support Pack file, but if the Support Pack file does not provide support for the currently installed version of NetWare, you will be prompted to enter a path to a valid Support Pack XML file. Press the **F1** key to view an example of a valid path.

  If you are prompted for a path to an XML file, the new path will be used as the default for locating components.

  **IMPORTANT:** All components that make up a PSP must be present in the same directory as the Support Pack File.

# Troubleshooting installation of the PSP for Linux

The following issues might be encountered when attempting to install Linux PSPs. The issues are in **bold** and their resolutions follow.

If your issue is not listed in this section, you can find additional advisories related to the PSP for Linux by performing a search on the HP website (http://www.hp.com) using the following keywords:

```
+ProLiant +advisory +note +linux|psp -"software and drivers" -download
```

- **I used the -r flag to reboot the server and one of the components that was installed required a reboot, but the server did not reboot. What is happening?**

  If any of the components chosen for installation fail the installation, a reboot does not occur. This enables the administrator to examine a server to determine and resolve a software installation failure before activating any changes.

- **When I try to install the PSP, I get the following error message:**

  **No supported Bundle XML files were found.**

  Either the BP00xxxx.xml file is missing for the operating system that you have installed, or the version of Linux installed is not supported by any current Linux PSP.

  If the BP00xxxx.xml file is missing, download the complete Linux PSP again from the software and drivers website (http://www.hp.com/servers/swdrivers).

  **IMPORTANT:** All components that make up a PSP must be present in the same directory as the Support Pack File.

- **When I install storage components and restart the server, there are one or more new entries in the LILO or GRUB tables for kernels to boot from. Is this normal?**

Yes, this is normal. Each storage driver reconnects the driver to the base kernel and adds a new entry in the LILO or GRUB tables that appear at boot. To ensure that you get the kernel with the latest drivers, select the last entry in the table.

- **When I start the LDU, I cannot see the Install and Exit buttons at the bottom of the screen in 800 x 600 screen resolution.**

On some 800 x 600 display resolutions, the Install and Exit buttons might be hidden beneath the user panel. To view the **Install** and **Exit** buttons, hide the user panel or minimize it to one side of the screen. HP recommends running the LDU in 1024 x 768 or higher resolution.

- **I attempted to install a component that compiles from source code, but the installation fails on the make command.**

The build tools necessary to complete the build from kernel source are not located on the server where the LDU is deploying. To build from source RPMs, the following RPMs must be installed on the server where the LDU is deploying software:

  o gcc-2.96-108.1 or later
  o cpp-2.96-108.1 or later
  o binutil-2.11.90.0.8 or later
  o glibc-devel-2.2.4-26 or later

- **When I install the bcm5700 and e100 drivers, the modules.conf file is not updated. Why not?**

The LDU installs these drivers but does not configure them because the LDU cannot determine all the information needed to properly configure the NIC drivers during installation. To configure these drivers, use the operating system-specific tools provided in the supported Linux distributions.

- **Why do some drivers report that they do not support the errata kernels that I have installed?**

Some RPM components provided by the LDU contain prebuilt binaries for the specific errata kernels that they support. If a new prebuilt binary is not available for an erratum kernel, the LDU prevents the installation of the component. Upgraded RPM components that support newer errata kernels are included in the Linux PSPs as soon as they are made available. If support for an erratum kernel is not available, then you must choose to use an erratum kernel that enables the RPM component to install, or to use alternative hardware that provides support for the erratum kernel that you want to use.

- **When I place multiple versions of the Linux PSP in a single directory, I get an Error 8 message and the Linux PSP exits. What does this error message mean?**

Error 8 means that the Linux PSP found more than one bundle XML file that provides support for the installed distribution of Linux. The Linux PSP requires that a unique bundle XML file is located to install its contents. When more than one bundle XML file is located, the Linux PSP does not know which file to use, so it exits with the Error 8 message. To resolve this error, copy each version of the Linux PSP to a different directory. This issue will be resolved in a future version of the Linux PSP.

  **NOTE:** This error message is no longer valid as of PSP 7.10. PSP 7.10 and later prompt you for the version to be installed if more than one supported bundle XML file is found, as long as you install in GUI or "no graphical user interface" mode. Silent mode will still fail in PSP 7.10 and later if multiple supported bundle XML files are found in one directory.

- **Why do I receive the following error message on Red Hat Enterprise Linux 3?**

  **A required library RPM, compat-libstdc++, necessary to complete installation of the Compaq Storage Agents for Linux component is not present.**

Some RPM components, including cpqacuxe and cmastor, require the C++ compatibility libraries to function properly. Red Hat Enterprise Linux 3 does not install this library by default. Starting with the release of HP SmartStart 7.10, this library is included in the Linux PSP for Red Hat Enterprise Linux 3 to ensure that HP value-add software can be installed on all Red Hat Enterprise Linux 3 servers.

If you want to install the compatibility library manually, use Red Hat Enterprise Linux 3 CD 3 and install compat-libstdc++-7.3-2.96.122.i386.rpm.

# Troubleshooting HP Smart Update Manager in IPv6 networks

If HP Smart Update Manager cannot connect to the remote server, you might receive a Discovery Failed error. Discovery failures can be caused by third-party storage, failure to access the remote target server, and an inability to access system resources. For IPv6 networks, host discovery failures can be caused by the incorrect configuration of the IPv6 network.

## Troubleshooting HP Smart Update Manager in IPv6 Windows Server 2003 environment

To validate that the IPv6 network is configured correctly for HP Smart Update Manager support, you must verify the following based on your operating system version.

- Validate that the addresses are site-local. Site-local addresses normally start with "FEC0:". Global and link-local IPv6 addresses are not supported when the remote target is Windows Server® 2003.

- Validate that you can ping the remote target server. With Windows® operating systems, you can still use the ping command to ping IPv6 addresses: ping <ipv6 address>.

- Ensure you can ping the IPv6 loopback address: ping ::1.

- Use the DNS hostname instead of IPv6 address to ensure the address is correct.

- Ensure you have installed the IPv6 protocol. It is not installed by default in Windows Server® 2003. Be sure to reboot the server after installing the protocol to ensure addresses are properly obtained.

- Verify that you can connect to the admin$ share using the credentials within HP Smart Update Manager by issuing the following command at a console prompt:

    ```
    net use * \\<ipv6-address>.ipv6-literal.net\admin$ /user:<username>
    net use * \\fec0::2.ipv6-literal.net\admin$ /user:administrator
    ```

    You might need to provide the password if you are using a user name that is not the same as you used to log in to the local system. All network shares require the use of the .ipv6-literal.net name string to be properly configured by Windows®. For more information about accessing IPv6, see the Microsoft® Knowledge Base article (http://support.microsoft.com/kb/944007).

    **NOTE:** You do not need to use the .ipv6-literal.net suffix when entering IPv6 address into the HP Smart Update Manager user interface or when passing IPv6 address using command line parameters to HP Smart Update Manager.

After you validate that you can access the admin$ share on the remote target server, HP Smart Update Manager works unless other network or hardware issues exist.

- Ensure you have made the registry change on remote target servers as mentioned in the HP Smart Update Manager Usage in a Windows Server® 2003 IPv6 environment ("Configuring IPv6 for Windows Server 2003" on page 84).

- Move back to an IPv4 network address to ensure HP Smart Update Manager properly finds the remote target server without any issues.

You can always copy HP Smart Update Manager to the target servers and execute using the local installation method.

# Troubleshooting HP Smart Update Manager in IPv6 Windows Server 2008 environment

To validate that the IPv6 network is configured correctly for HP Smart Update Manager support, you must verify the following based on your operating system version.

- Validate that you can ping the remote target server. With Windows® operating systems, you can use the ping command to ping IPv6 addresses: ping <ipv6 address>.

- Ensure you can ping the IPv6 loopback address: ping ::1.

- Use the DNS hostname instead of IPv6 address to ensure the address is correct.

- Verify that you can connect to the admin$ share using the credentials within HP Smart Update Manager by issuing the following command at a console prompt:

```
net use * \\<ipv6-address>.ipv6-literal.net\admin$ /user:<username>
net use * \\fec0::2.ipv6-literal.net\admin$ /user:administrator
```

You might need to provide the password if you use a user name that is different from the one you used to log in to the local system. All network shares require the use of the .ipv6-literal.net name string to be properly configured by Windows®. For more information about accessing IPv6, see the Microsoft® Knowledge Base article (http://support.microsoft.com/kb/944007).

After you validate you can access the admin$ share on the remote target server, HP Smart Update Manager works unless there are other network or hardware issues.

# Troubleshooting HP Smart Update Manager in IPv6 Red Hat and Novell SUSE-based Linux environments

- Verify that you can establish an ssh connection to the remote target server using the credentials within HP Smart Update Manager by issuing the following command at a console prompt:

```
ssh <ipv6 address>
ssh 2101:db8:0:1::9
```

You must enter the root password for the target Linux server at the console to complete the IPv6 connection.

- Validate that you can ping the remote target server. In Linux, you need to use the ping6 command to ping IPv6 addresses: ping6 <ipv6 address>.

- Ensure you can ping the IPv6 loopback address: ping6 ::1.

- Use the DNS hostname instead of IPv6 address to ensure the address is correct.

- Use `ipconfig` to validate you have IPv6 addresses assigned to your NICs. For more information about troubleshooting your configuration, see the Linux IPv6 How-To (http://www.linux.org/docs/ldp/howto/Linux+IPv6-HOWTO/index.html).

- For more information about setting up and troubleshooting IPv6 networks, see Getting Around IPv6 by Carla Schroder (http://www.enterprisenetworkingplanet.com/netsp/article.php/3634596).

- Move back to an IPv4 network address to ensure HP Smart Update Manager properly finds the remote target server without any issues.

- HP Smart Update Manager can always be copied to the target servers and executed using the local installation method.

# Technical support

## Reference documentation

For more information about PSPs, refer to the PSP website (http://www.hp.com/servers/psp).

To download the latest PSPs, refer to the software and drivers download page (http://www.hp.com/servers/swdrivers).

For information about HP Subscriber's Choice, refer to the Subscriber's Choice website (http://www.hp.com/go/subscriberschoice).

For information about Online ROM Flash Components, refer to the *Online ROM Flash User Guide* (ftp://ftp.compaq.com/pub/products/servers/management/smartstart/OnlineROMFlashUsersGuide.pdf).

For information on the HP Systems Insight Manager, refer to the following documents on the HP Systems Insight Manager website (http://www.hp.com/go/hpsim):

- *HP Systems Insight Manager Installation and User Guide*
- *HP Systems Insight Manager Help Guide*

For information about the SmartStart Scripting Toolkit, refer to the Toolkit website (http://www.hp.com/servers/sstoolkit).

To download the SmartStart and other CDs, refer to the SmartStart download website (http://www.hp.com/go/ssdownloads).

For information about the ProLiant Essentials Rapid Deployment Pack, refer to the Rapid Deployment Pack website (http://www.hp.com/servers/rdp).

For general information on management products, refer to the ProLiant Essentials website (http://www.hp.com/servers/proliantessentials).

For information about operating systems supported by ProLiant servers, refer to the operating system support matrices (http://www.hp.com/go/supportos).

For information about SmartStart support, refer to the SmartStart support matrices (http://www.hp.com/servers/smartstart/supportmatrices).

## Operating system information

For information about Microsoft® Windows® operating systems, refer to the Microsoft® website (http://www.microsoft.com).

For information about Novell NetWare operating systems, refer to the Novell website (http://www.novell.com).

For information about Linux operating systems, refer to one of the following websites:

- Red Hat Linux (http://www.redhat.com)

- SUSE Linux (http://www.suse.com)

# HP contact information

For the name of the nearest HP authorized reseller:

- See the Contact HP worldwide (in English) webpage
  (http://welcome.hp.com/country/us/en/wwcontact.html).

For HP technical support:

- In the United States, for contact options see the Contact HP United States webpage
  (http://welcome.hp.com/country/us/en/contact_us.html). To contact HP by phone:
  - o Call 1-800-HP-INVENT (1-800-474-6836). This service is available 24 hours a day, 7 days a
    week. For continuous quality improvement, calls may be recorded or monitored.
  - o If you have purchased a Care Pack (service upgrade), call 1-800-633-3600. For more
    information about Care Packs, refer to the HP website (http://www.hp.com/hps).
- In other locations, see the Contact HP worldwide (in English) webpage
  (http://welcome.hp.com/country/us/en/wwcontact.html).

# Appendix—Deploying PSPs in Microsoft Windows 7.80 or earlier

## Overview of PSPs for Microsoft Windows 7.80 or earlier

This chapter provides information about using PSPs for Microsoft® Windows® 2000 (version 7.60 or earlier), Windows® 2003 (version 7.80 or earlier), and Windows® 2003 x64 (version 7.80 or earlier). HP provides the following tools for configuring components and deploying PSPs on Windows®:

- RDU for Microsoft® Windows®
- Remote Deployment Console Utility for Microsoft® Windows®

Several usage scenarios are provided as examples at the end of this chapter.

HP recommends the following procedure when working with PSPs:

1. Obtain the PSP, and store it in a software repository or other medium.

    **IMPORTANT:** HP recommends that the PSP files are present on a non-read-only medium so that the various Smart Components in the PSP can be configured before deployment. For example, the Support Packs and components cannot be configured when they are on a CD-ROM.

2. Ensure that the Smart Components do not have the read-only attributes set.

    **IMPORTANT:** When a Smart Component is copied from the SmartStart or Software Maintenance CD, the read-only attribute is set by default. Use Microsoft® Windows® Explorer or the attrib command to remove the read-only attributes of Smart Components copied from a SmartStart or Software Maintenance CD.

3. Configure the components using the configuration functionality in the RDU for Windows®.

    **NOTE:** Components must be configured only once. The configuration information is stored inside each Smart Component so that it is available when the component is installed. You do not need to configure components each time they are deployed. However, configuration is independent of the target computer you select. If you change the configuration of a component after deployment, you must redeploy the component.

4. Deploy the PSP using a deployment tool such as the RDU for Windows® or the Remote Deployment Console Utility for Windows®.

    **NOTE:** Smart Components can also be installed individually. For more information, refer to "Installing single components (on page <span>117</span>)."

# Minimum requirements for Microsoft Windows version 7.80 or earlier

**IMPORTANT:** Before deploying software updates on a target system, be sure that a recent backup of the target system is available in the event the deployment procedure fails.

**NOTE:** For a current list of supported operating systems, refer to the PSP website (http://www.hp.com/servers/psp).

For successful component deployments on Microsoft® Windows®-based target systems, the following minimum requirements must be met:

- A local administrative system running Windows® 2000, Windows Server™ 2003, or Windows Server™ 2003 x64 must be available.

- One or more remote target servers running Windows® 2000, Windows Server™ 2003, or Windows Server™ 2003 x64 in need of a software upgrade must be available. If the local administrative system is the only server that must be upgraded, remote target servers are not necessary.

- Sufficient hard drive space must be available on the target system. As a standard practice, sufficient hard drive space equals at least twice the file size of the PSP or individual components to be deployed.

- All remote target servers must be connected to the same network and use TCP/IP to enable the systems to be seen from the administrative system.

- There must be an account with administrator privileges on each target server. It is recommended that the user name and password for the administrator account on each target server are the same as on the local administrative system. If administrator privileges are not set up in this way, you must have the user name and password for each remote server. Alternatively, you can use a domain account on the local administrative system that has administrator privileges on the target servers.

To run the RDU, the local administrative system must be running:

- Microsoft® Internet Explorer 5.5 or later
- Microsoft® XML Parser 3.0 or later

**NOTE:** If you obtain the Support Pack from a SmartStart CD, a Software Maintenance CD, or the HP website, the appropriate version of the Microsoft® XML Parser is stored in the msxm13.cab file. The RDU automatically installs the parser if it is not currently present on your system. A supported version of the Microsoft® XML Parser is also available as part of Internet Explorer 6.0.

# RDU for Microsoft Windows

HP has developed the RDU for Windows® as a graphical application that provides enhanced PSP deployment capabilities. Using a point-and-click interface, the utility enables you to deploy and maintain PSPs and Smart Components on a local server or remote server accessible over a network connection.

The RDU is located with the rest of the Support Pack contents on the ProLiant Software Maintenance CD and in the \COMPAQ\CSP\NT subdirectory on the SmartStart CD. The executable file that launches the utility is SETUP.EXE.

In most instances, installing a Support Pack with the RDU is a simple three-step process:

1. Select a target machine in the Target Machine toolbar.
2. Select a Support Pack from the dropdown menu on the Support Pack Selected for Installation toolbar.
3. Click **Install** on the Target Machine toolbar, and follow the instructions that appear.

> **IMPORTANT:** Be sure that all components that require configuration are configured before deploying them.

# Main window

When the RDU is launched, a main control window appears.
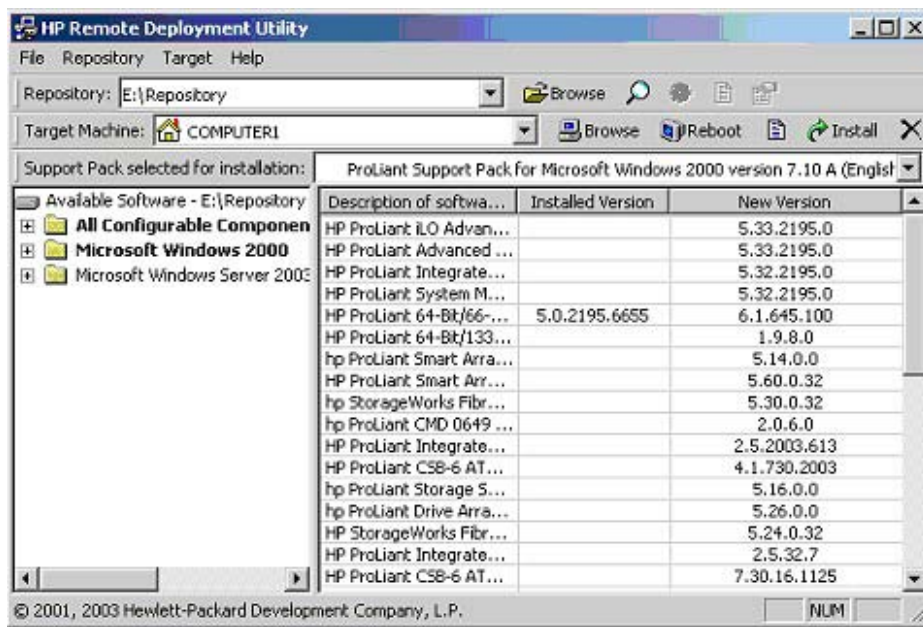


After startup, the RDU automatically selects the latest applicable Support Pack for the operating system of the target computer if one exists in the repository.

> **NOTE:** When selecting a new target computer, the RDU does not automatically select the latest applicable Support Pack for the new target computer. The previous contents of the target computer list are preserved.

The main window consists of the following elements:

- Menu bar
- Repository toolbar
- Target Machine toolbar
- Support Pack Selected for Installation toolbar
- Repository view tree
- Target computer list

# Menu bar

The menu bar consists of the following menu items:

- The **File** menu item enables you to exit the RDU.
- The **Repository** menu item provides options for browsing to the software repository and configuring and viewing details about PSPs and components.
- The **Target** menu item provides options for setting or rebooting the target machine and installing components.
- The **Help** menu item provides access to help files about the RDU.

# Repository toolbar

The Repository toolbar contains the Repository field, which enables you to enter the path to the software repository where the PSPs and other Smart Components are located.

> **NOTE:** The Repository field defaults to the directory containing the RDU.

The toolbar also contains the following buttons.

| Icon | Description |
|------|-------------|
| | Enables you to browse the network for the repository |
| | Rescans the repository for any changes that might have occurred since the previous scan and then repopulates the repository view tree |
| | Configures the selected repository item |
| | Displays the revision history for the selected repository item |
| | Displays the properties of the selected repository item |

# Target Machine toolbar

The Target Machine toolbar contains the Target Machine field, which enables you to enter the path to the target server on which the PSP and other Smart Components will be deployed. The Target Machine field defaults to the name of the server that launches the RDU. If you are deploying to a remote server, change the Target Machine field to the remote server name.

The toolbar also contains the following buttons.

| Icon | Description |
|------|-------------|
| | Enables you to browse the network for the target machine |
| | Reboots the target machine |
| | Displays the target installation log file |
| | Deploys the selected components or PSPs on the target machine |
| | Deletes selected components from the target computer list |

# Support Pack Selected for Installation toolbar

The Support Pack Selected for Installation toolbar consists of a dropdown list that contains all available PSPs in the current repository that are applicable to the target machine.

Selecting a Support Pack from the dropdown list clears the current contents of the target computer list and populates the list with all components contained in that Support Pack.

# Repository view tree

The repository view tree, located on the left side of the main RDU window, displays a categorized view of all Support Packs and Smart Components contained in the selected software repository. The Support Packs and components are sorted, with the most recent version listed first. The tree has three levels:

- **Operating system level**—If the repository contains Support Packs or components for multiple operating systems, the repository view tree shows a folder for each one. The All Configurable Components folder, which contains all the components that require or support configuration, is also at this level.

  💡 **TIP:** The folder for the operating system that is applicable to the target machine is in bold text. The All Configurable Components folder is in bold text when it contains a component that requires configuration.

- **Category level**—This level contains folders of Smart Components grouped by categories (such as Network, Management Agents, or Storage). A Support Pack folder that contains all Support Packs is also available at this level.

- **Component level**—The individual Smart Components reside at this level. Refer to the following table for descriptions of the icons for each component.

| Icon | Description |
|------|-------------|
| 🖼 | The component requires configuration but has not yet been configured. |
| 🖼 | The component is configurable but has not yet been configured. |
| 🖼 | The component is configurable and has been configured. |
| 🖼 | The component does not require configuration. |

Folders or files at any level in the repository view tree can be added to the target computer list using one of the following methods:

- Drag selected items or folders from the repository view tree, and drop them in the target computer list. The items are added to the end of the list.

- Select an item or folder in the repository view tree, then press the **Insert** key. The item is added to the end of the list.

# Target computer list

The target computer list, located on the right side of the main RDU window, contains all components that have been selected for installation on the target computer. This panel has three columns:

- **Description of Software to be Installed**—This column lists the names of components selected for installation.

- **Installed Version**—This column indicates the version number of any components that are currently installed on the target machine.

- **New Version**—This column lists the version number of the components from the software repository that have been selected for installation.

Items can be added to the target computer list using any of the following methods:

- Select a Support Pack from the Support Pack Selected for Installation toolbar to add all components in the Support Pack to the target computer list.

- Drag selected items or folders from the repository view tree and drop them in the target computer list. The items are added to the end of the list.

- Select an item or folder in the repository view tree, then press the **Insert** key. The item is added to the end of the list.

Items can be removed from the target computer list in either of the following ways:

- Click the **Remove selected items chosen for installation** button (✖) on the Target Machine toolbar to remove selected items from the target computer list.

- Select the items to be removed, then press the **Delete** key.

The target computer list supports multiple selections using the mouse. Multiple items can be selected using the standard Windows® combinations of Ctrl+click or Shift+click.

# Revision history and properties

The Revision History and Properties options enable you to view additional information about a component or PSP in the repository view tree.

To view the revision history for a component, right-click the component and select **View Revision History**, or click the revision history icon (📄) on the Repository toolbar. The revision history provides details about software enhancements and fixes.



To view the properties of a component, right-click the component and select **Properties,** or click the properties icon ( 📄 ) on the Repository toolbar. The Properties window displays the properties of the component or PSP, including file name, version number, and operating system information.
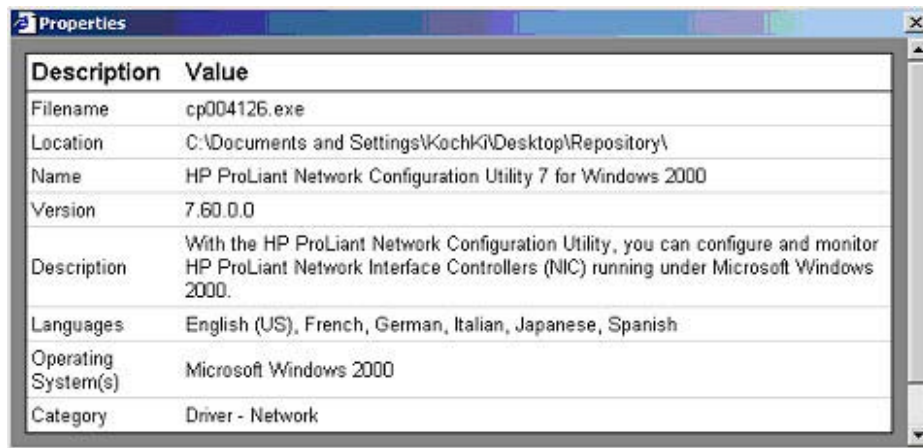


# Component preconfiguration

Some of the Smart Components included as part of a PSP must be configured before being deployed. If any components require configuration, the All Configurable Components folder in the repository view tree appears in bold text.

> **IMPORTANT:** The configuration information is stored inside each Smart Component so it is available when the component is installed. You do not need to configure components each time they are deployed. However, configuration is independent of the target computer you select. If you change the configuration of a component after deployment, you must redeploy the component.

Icons next to each component in the repository view tree indicate whether the component must be configured. Refer to "Repository view tree (on page 107)" for descriptions of each of the icons. Configurable components include, but are not limited to:

* System Management Homepage (PSP 7.20 or later)
* HP Insight Management Agents
* VCA

In PSP 7.10 and earlier, the Web-based management portion of the Insight Management Agents and other utilities requires that a user ID, password, and trust level be configured in the Smart Component before installation if this is the first time the agents are being installed. If the agents are being updated and are already configured on the target system, the new agent component does not need to be configured before being deployed.

In PSP 7.20 and later, component preconfiguration is optional, but you should check configurable components to determine whether preconfiguration is necessary for installed software to operate as desired, especially when deploying to a system that has not had HP software installed on it before. The System Management Homepage uses operating system-based authentication and accepts logins from local administrative accounts by default. You can add operating system user groups to the access list of the System Management Homepage through preconfiguration or by browsing to each individual system. However, the default installation does not establish a trust mode for Systems Insight Manager, so if you require this feature, it must be preconfigured.

For more information, refer to the *HP Systems Insight Manager Installation and User Guide* on the HP Systems Insight Manager website (http://www.hp.com/go/hpsim).

To configure a Smart Component:

1. Select a component in the repository view tree.
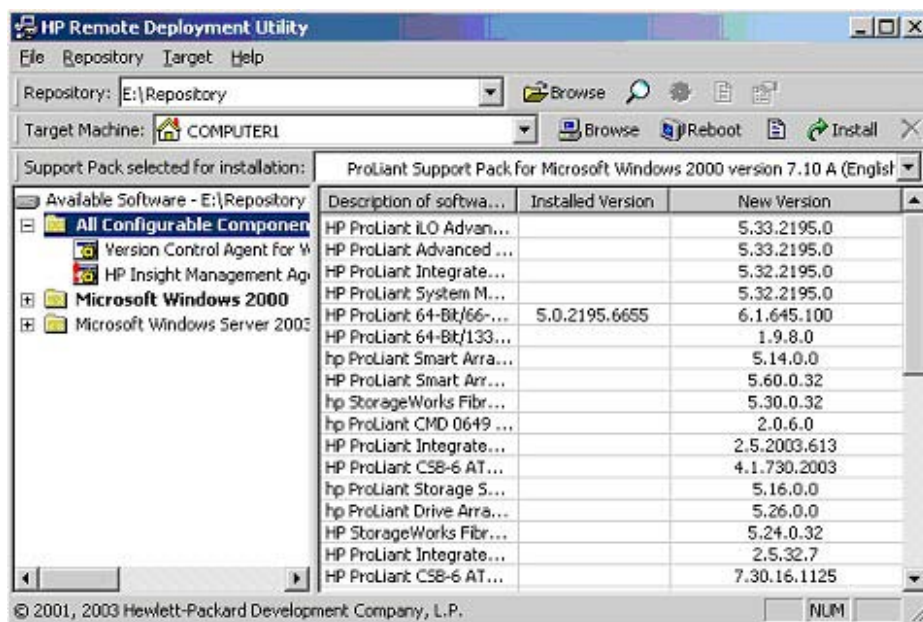
2.  Select **Repository>Configure** from the menu bar, or right-click the component and select **Configure.**
    The configuration information screen for the selected component appears.
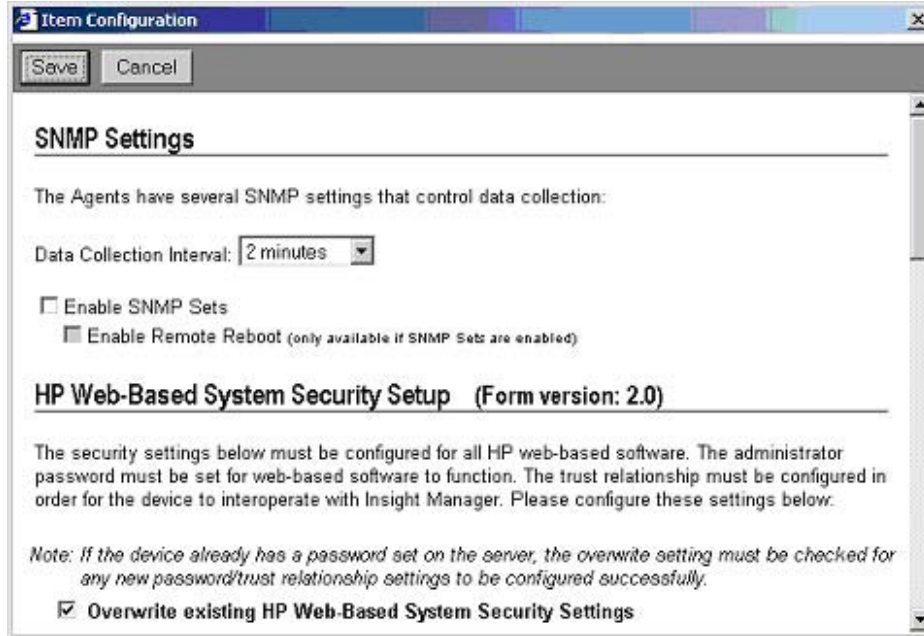


3.  From the component configuration screen, set the configuration features that you want and click
    **Save.** To return to the component list without saving, click **Cancel.**

4.  After the configuration is saved, the main window appears again. If the configuration operation is
    not successful, an error message appears.

# Deploying components or PSPs in Windows

The RDU allows local and remote non-scripted deployments only. To deploy Smart Components or PSPs:

1.  Select the components to be installed by dragging them from the repository view tree into the target
    computer list or by selecting a PSP from the Support Pack Selected for Installation dropdown list.

2. Click **Install** on the Target Machine toolbar. The following screen appears.
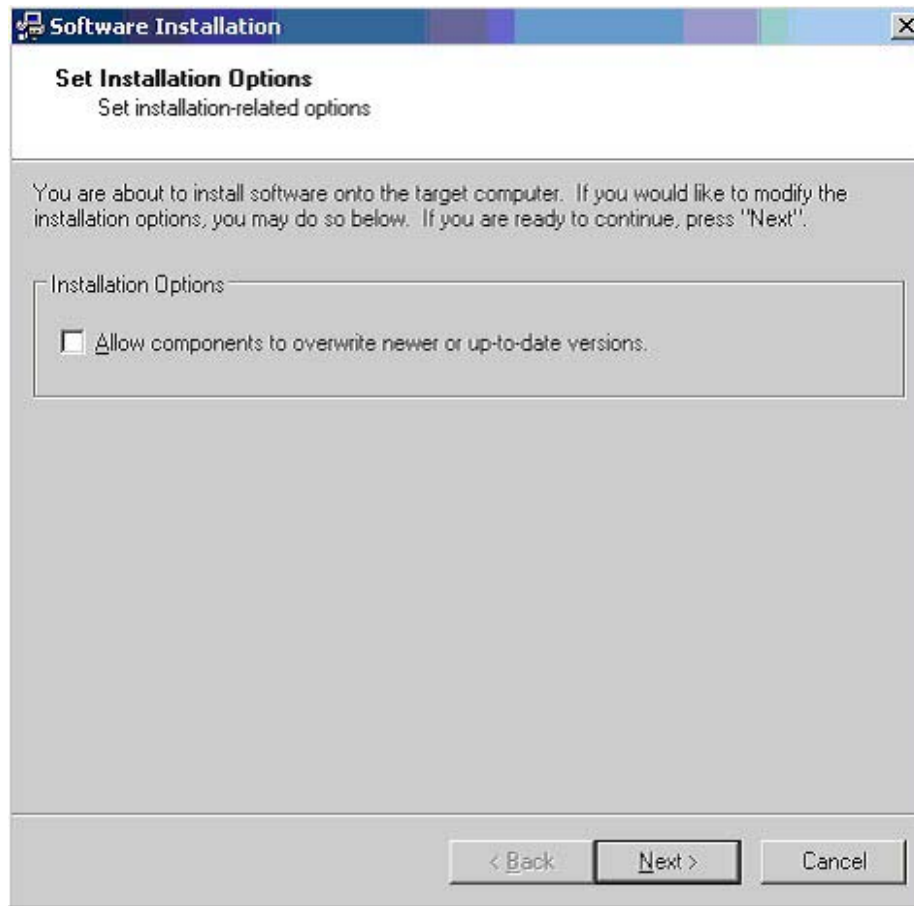


3. Modify the installation options, if desired, and click **Next.** A confirmation screen appears.
4. Click **Next** to begin the installation. An installation progress window appears.

# Installation results in Windows

After deploying the PSP on the target server, the RDU displays an installation confirmation screen. Click **Finish** to exit.
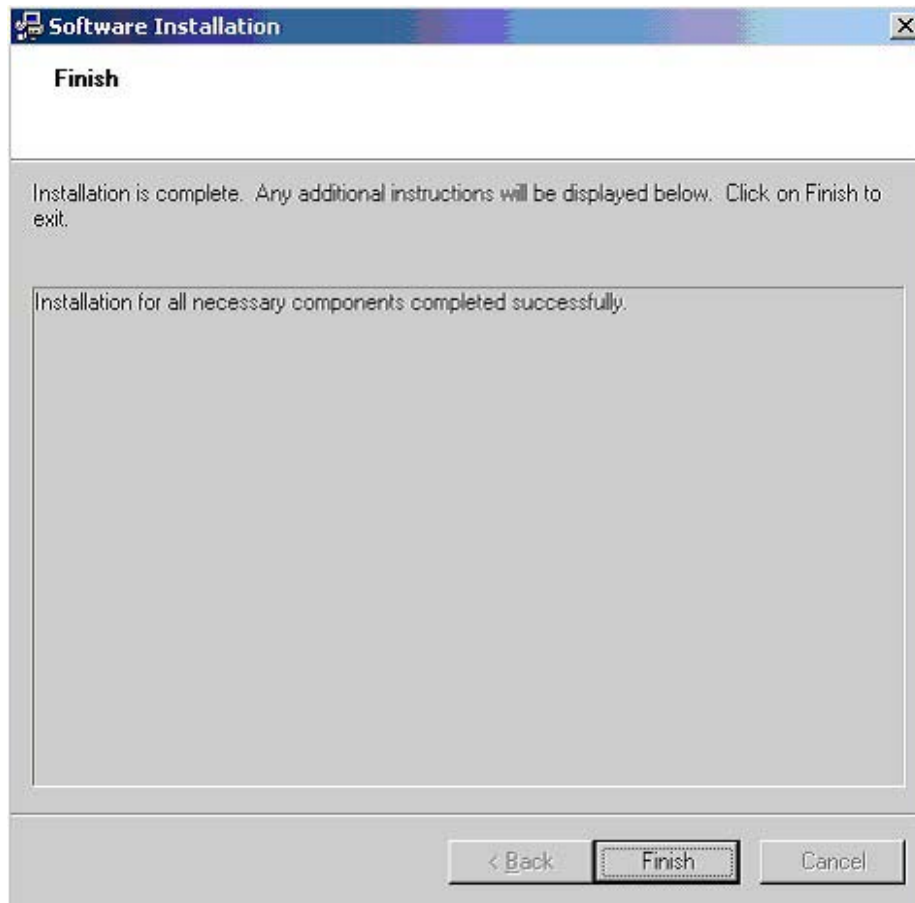
If one or more components are not installed successfully, a screen similar to the following appears.
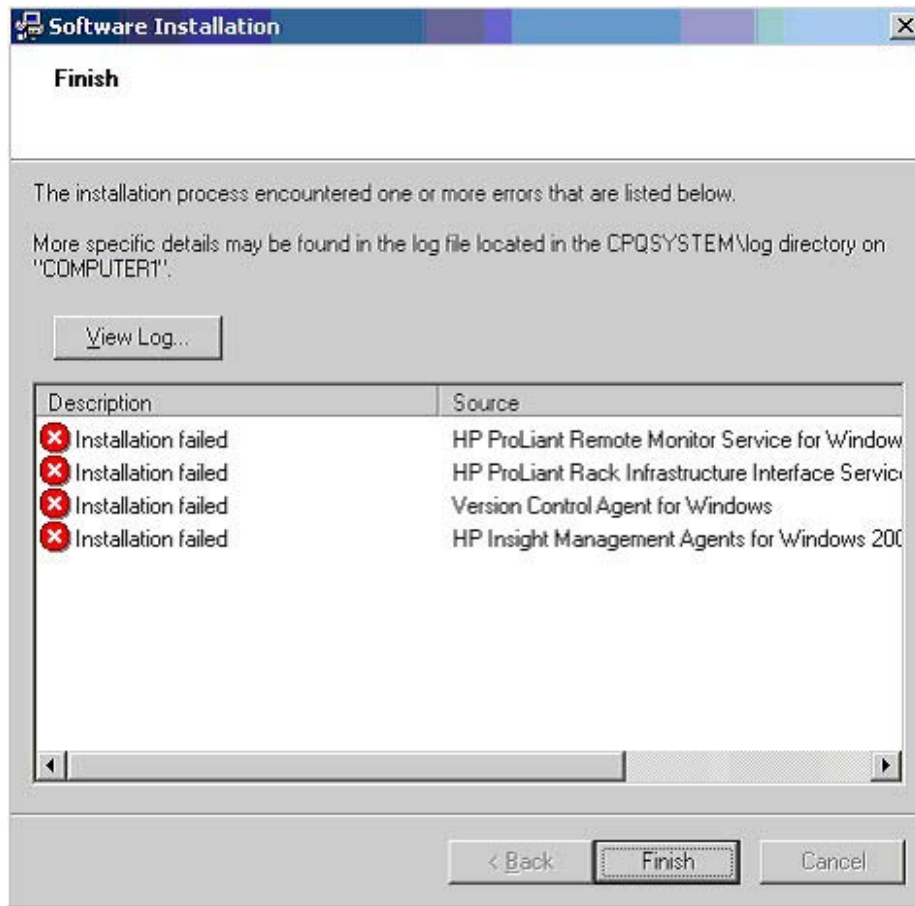


Each component writes an installation activity report (including errors) to a common installation log file called CPQSETUP.LOG on every target server. To view the installation log file, which is always located in the \CPQSYSTEM\LOG subdirectory on the boot partition of the target system, select **Target** from the menu bar and select **View Installation Log,** or click the **View target installation log** icon (📄) on the Target Machine toolbar. Information regarding installation activity is appended to the same log file, providing a chronological history of all component installation activity on the target server.
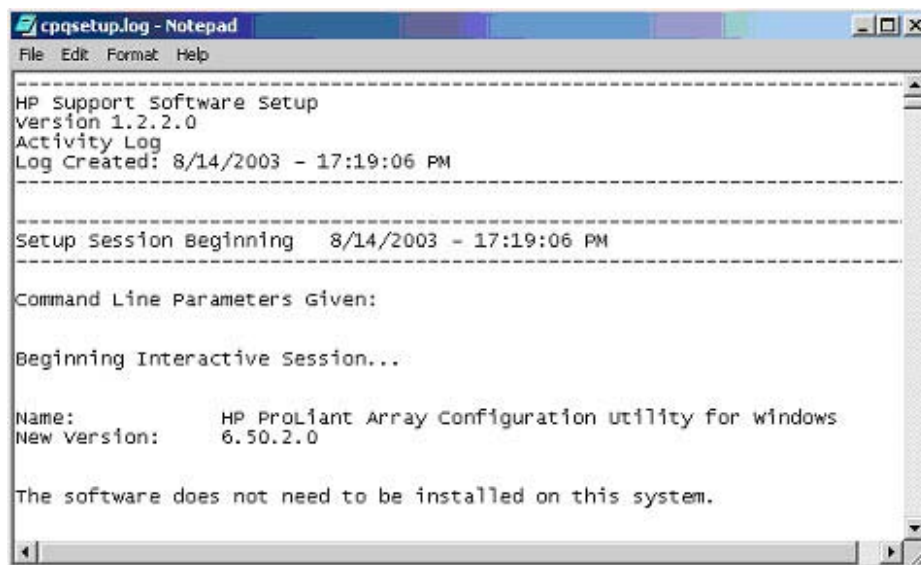
# Remote Deployment Console Utility for Microsoft Windows

The Remote Deployment Console Utility for Microsoft® Windows® is a command line version of the RDU. The functionality of the command line-based Remote Deployment Console Utility is identical to the graphical RDU but enables unattended scripted deployment. The Remote Deployment Console Utility allows both local and single or multiple remote scripted deployments.

The Remote Deployment Console Utility is located along with the rest of the Support Pack contents on the ProLiant Software Maintenance CD and in the \COMPAQ\CSP\NT subdirectory on the SmartStart CD. The executable file that launches the utility is SETUPC.EXE.

Some components must be configured before being deployed. Use the RDU for Microsoft® Windows® to preconfigure components. For more information, refer to "Component preconfiguration (on page 109)."

For more information about deployment using the Remote Deployment Console Utility, refer to Scenarios 2 and 3 in "Deployment utilities usage scenarios for Windows-based systems (on page 120)."

All installation activity is logged by each component to the CPQSETUP.LOG file on the target system.

# Command line syntax for the Remote Deployment Console Utility

The general command line syntax for the Remote Deployment Console Utility is:

```
setupc [/?] [/help] [/use-latest] [/t[arget]:computer] [/f[orce]]
[/r[eboot][:timeout]] [/reboot-always[:timeout]] [/use-
location:fileshare] [/user:username] [/passwd:password] [/override-
existing-connection] [component] [support pack]...
```

If no command line arguments are passed on the command line, the Help information appears.

> **NOTE:**  All arguments and information enclosed in brackets are optional.

# Command line arguments for the Remote Deployment Console Utility

| Command line argument | Description |
|---|---|
| /help | Displays command line Help information. |
| /? | Is identical to the /help argument. |
| /use-latest | Instructs SETUPC to automatically install the latest available Support Pack for the target operating system. Any additional components or Support Packs passed on the command line are ignored. |
|  | "Latest available" means the latest available version for the target operating system that can be found in either the file share specified by the /use-location parameter or in the directory containing SETUPC.EXE. |
| /t[arget]:*computer* | Specifies the name of the computer to use as the target for the deployment operation. |

| Command line argument | Description |
|---|---|
| /f[orce] | Changes the behavior of a component installation in one of the following ways:<br><br>• If the component is already installed and current, it will reinstall itself, and the installed version number will remain the same.<br><br>• If a newer version of the component is already installed, the component will install itself and downgrade the component to the older version number. |
| /r[eboot][:*timeout*] | Causes the target system to reboot if the installation requires a reboot to complete installation. A timeout in seconds can be specified. The default timeout is 15 seconds.<br><br>The timeout value must be between 15 and 3600 (1 hour).<br><br>The reboot will only take place if no installation errors occur. |
| /reboot-always[:*timeout*] | Causes the target system to reboot after installation, even if a reboot is not required to complete installation. A timeout in seconds can be specified. The default timeout is 15 seconds.<br><br>The timeout value must be between 15 and 3600 (1 hour). |
| /use-location:*fileshare* | Instructs SETUPC to look in the specified directory or file share for the Support Pack and components. If this parameter is not specified, the directory containing SETUPC.EXE is used by default.<br><br>The current logged-in account must already have access to this location.<br><br>The /user: and /passwd: arguments do not have any effect when attempting to access the file share. They are only used when connecting to a target computer. |
| /user:*username* | Sets the user name to use to connect to the target computer. |
| /passwd:*password* | Sets the password to use to connect to the target computer. |
| /override-existing-connection | Instructs SETUPC.EXE to connect to the target computer and override any existing connection that might be present.<br><br>It is not recommended that this flag be used as a default. It overrides important safety checks that ensure that only one client at a time is connected to a target computer.<br><br>Use this parameter only for recovery in a situation where the Remote Deployment Console Utility is reporting that a connection to a target computer is present, even if no connection exists. This situation can occur if one of the remote deployment utilities does not shut down properly. |
| *component* | Specifies the component to install. |
| *support pack* | Specifies the Support Pack to install. |

# Command line examples for the Remote Deployment Console Utility

Although lowercase letters are used in these examples, the Remote Deployment Console Utility is not case sensitive, and either uppercase or lowercase letters can be used. However, the operating system environment variable is case sensitive. For example, %I is not the same as %i.

| Command line input | Result |
|---|---|
| setupc /target:COMPUTER1 /use-latest | Installs the latest available version of the Support Pack that is located in the current directory and is applicable to the computer named COMPUTER1. |
| setupc /target:COMPUTER1 BP000001.XML | Installs the Support Pack defined by BP000001.XML from the current directory on the computer named COMPUTER1. |
| setupc /target:COMPUTER2 BP000001.XML CP000150.EXE | Installs the Support Pack defined by BP000001.XML and an additional component named CP000150.EXE located in the current directory on the computer named COMPUTER2. |
| setupc /target:HPSYS1 /use-latest /use-location:\\SWREPOS\SupportSoftware | Installs the latest available Support Pack from \\SWREPOS\SupportSoftware on the computer named HPSYS1. |
| @echo off<br>for %%I in (HPSYS1 HPSYS2 HPSYS3) do setupc /t:%%I BP000002.XML | A Windows® .CMD script that installs the Support Pack defined by BP000002.XML on the following computers: HPSYS1, HPSYS2, and HPSYS3. |

For additional information about the syntax of the FOR … IN … DO operating system command, refer to the operating system documentation.

# Installing single components

In some instances, you might want to install a single component manually, rather than install an entire Support Pack. To install a single component on your local system:

1.  Double-click the component to be installed (cpxxxxxx.EXE). A screen similar to the following appears.
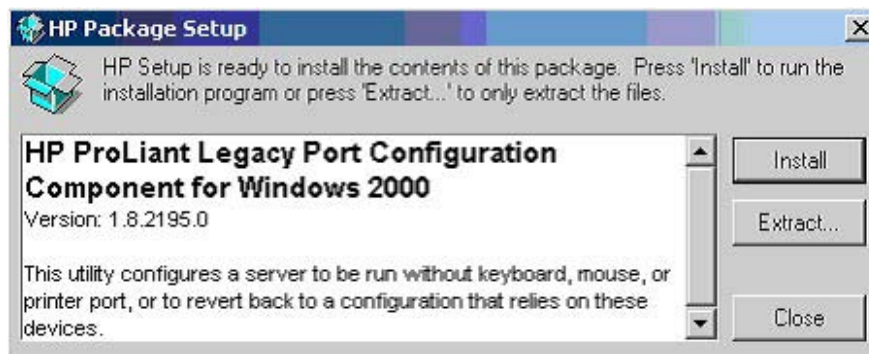
2.    Click the **Install** button. A screen similar to the following appears.



3.    Click the **Install** button, then follow the instructions on the screen to complete the installation.

# Command line syntax for single components

The general command line syntax for single-component installation is

```
cpxxxxxx [/h[elp]] [/?] [/s[ilent]] [/f[orce]] [/r[eboot]]
```

where cpxxxxxx is the file name of the Smart Component; the Xs represent the component number.

> **NOTE:** All arguments and information enclosed in brackets are optional.

If no command line arguments are passed on the command line, the component GUI appears.

# Command line arguments for single components

| Command line argument | Description |
| --- | --- |
| /h[elp] | Displays command line Help information. |
| /? | Is identical to the /help argument. |
| /s[ilent] | Specifies whether the GUI appears. Use this argument when scripting the Smart Components to suppress the GUI. If this argument is omitted from the command line, the GUI appears. |

| Command line argument | Description |
|---|---|
| /f[orce] | When used with the /silent command, installs the component in one of the following ways:<br><br>• If the component is already installed and current, it will be reinstalled, and the installed version number will remain the same.<br><br>• If a newer version of the component is already installed, the component will install itself and downgrade the originally installed component to the older version number. However, some components do not support downgrading and might require that the current version be uninstalled before installing a previous version.<br><br>If this argument is omitted from the command line, the installation is not forced. |
| /r[eboot] | When used with the /silent command, causes the target system to reboot if the installation requires a reboot to complete the installation. If this argument is omitted from the command line, the server must be rebooted manually for the installation to take effect.<br><br>The reboot will only take place if no installation errors occur. |

# Command line examples for single components

Although lowercase letters are used in these examples, either uppercase or lowercase letters can be used.

| Command line input | Result |
|---|---|
| cp002575 | Starts installation of the CP002575.EXE component. |
| cp002575 /s | Installs the CP002575.EXE component on the target server, using the defaults of the component. The GUI does not appear. |
| cp002575 /s /f /r | Installs the CP002575.EXE component, forcing the component to install over an existing version and allowing the server to reboot automatically if needed. The GUI does not appear. |

# Return codes for single components

When each Smart Component has finished running, the component reports a return code to the operating system or the calling application.

These return codes are used to determine the status of the component installation. You can also use return codes in a script to control the execution of the script and determine any branching that is required.

| Error level | Meaning |
|---|---|
| 0 | The Smart Component failed to install. Refer to the log file for more details. |
| 1 | The Smart Component installed successfully. |
| 2 | The Smart Component installed successfully, but the system must be restarted. |
| 3 | The installation was not attempted because the required hardware was not present or the software was current. |

# Deployment utilities usage scenarios for Windows-based systems

This section discusses deployment scenarios for PSPs and components stored in a centralized, network-based software repository.

All of the PSP deployment examples described in this guide assume a centralized, network-based software repository. The same deployment principles are applicable to PSP software that is stored locally on the administrative system, target system, SmartStart CD, or Software Maintenance CD.

> ☼ **TIP:** To facilitate the use of the PSP deployment utilities, copy the utility files to their own subdirectory on the hard drive of the administrative system.

The following figure illustrates overall PSP and component deployment strategy for Windows®-based systems.



| Scenario | Type of deployment | Deployment utility used |
|---|---|---|
| 1 | • User is not familiar with operating system command line tools or does not need to deploy from a command line.<br>• User must deploy on a single local or remote target system.<br>• User does not need scripting capabilities. | RDU (SETUP.EXE) |
| 2 | • User is familiar with operating system command line tools.<br>• User must deploy on a single local or remote target system.<br>• User needs scripting capabilities. | Remote Deployment Console Utility (SETUPC.EXE) |
| 3 | • User is familiar with operating system command line tools.<br>• User must deploy on a few remote target systems.<br>• User needs scripting capabilities. | Remote Deployment Console Utility (SETUPC.EXE) |
| 4 | • User is an expert with operating system tools, including command line scripting.<br>• User is knowledgeable about HP Systems Insight Manager.<br>• User must deploy on a multitude of remote target systems, all managed by HP Systems Insight Manager. | Remote Deployment Console Utility with HP Systems Insight Manager |

**IMPORTANT:** When using HP Systems Insight Manager in conjunction with the PSP deployment utilities, HP recommends deploying to no more than 100 remote target systems with any given Application Launch task.

For information on using HP Systems Insight Manager with the VCRM and the VCA, refer to the *HP Systems Insight Manager Help Guide* on the HP Systems Insight Manager website (http://www.hp.com/go/hpsim).

# Scenario 1: Graphical deployment on a single-target system using the RDU

**IMPORTANT:** Be sure that all components that require configuration are configured before deploying them.

Both the RDU and the Remote Deployment Console Utility can be used to maintain and deploy PSPs and individual components on a local or remote target system. However, the graphical RDU is the easiest utility to use when deploying on a single-target system.

The following figure illustrates the basic, single-target system deployment process using the RDU.



## When to use Windows PSP deployment scenario 1

Use the PSP deployment scenario described in this section when you:

- Are not familiar with operating system command line tools or do not need to deploy from a command line
- Are deploying PSPs or individual components on a single-target system that is either local or remote
- Do not have a need for scripting

## Deploying a PSP using Windows PSP deployment scenario 1

To deploy a PSP stored in a centralized, network-based software repository using the graphical RDU:

1. Be sure that all minimum requirements are fulfilled as listed in "Minimum requirements for Microsoft Windows version 7.80 or earlier (on page 104)."
2. Be sure that the centralized, network-based software repository can be accessed by the administrative system.
3. Launch the RDU on the administrative system. It does not matter where the utility resides on the host system. However, HP recommends placing the utility in its own subdirectory.

If no PSPs or components are in the same directory as the RDU or if no applicable Support Packs are found, a blank screen similar to the following appears when the utility opens.
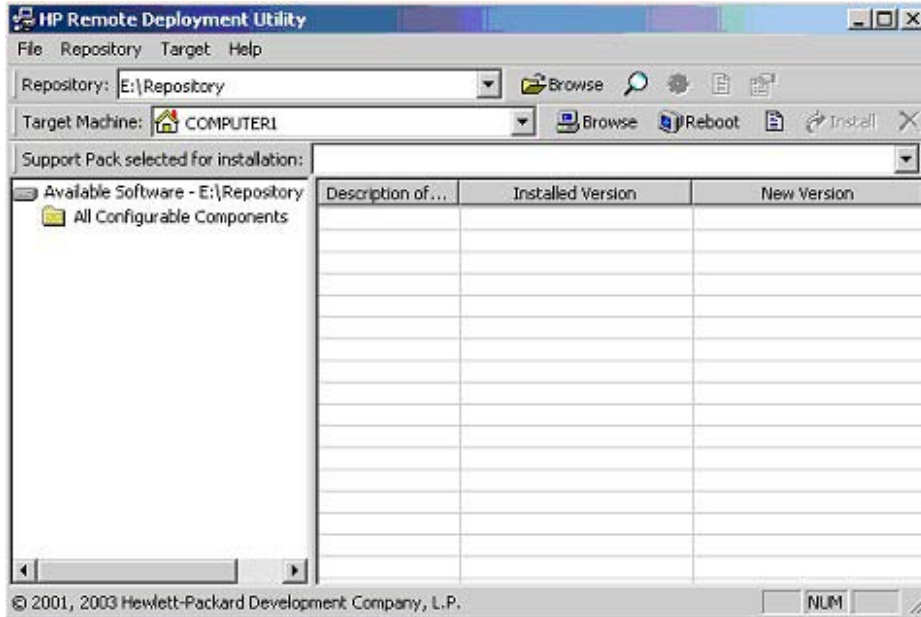


4. Click **Browse** on the Repository toolbar to navigate to the location of the centralized, network-based software repository.

5. Configure components by right-clicking a component in the repository view tree and selecting **Configure.** Icons next to each component indicate whether the icon must be configured. Refer to "Repository view tree (on page )" for descriptions of the icons.

6. Select components to be installed:

   o To install all components in the applicable Support Pack, select a Support Pack from the Support Pack Selected for Installation toolbar. All the components in the Support Pack appear in the target computer list, as shown in the following figure.

   📝 **IMPORTANT:** All components that make up a PSP must be present in the same directory as the Support Pack File.

   o To select individual components or categories, drag selected files or folders from the repository view tree and drop them in the target computer list. You can also select a file or folder in the repository view tree, and then press the Insert key to move the file or folder to the target computer list.

o   To remove any components that you do not want to install, select them in the target computer list and press the **Delete** key, or click the **Remove selected items chosen for installation** button (✕) on the Target Machine toolbar.
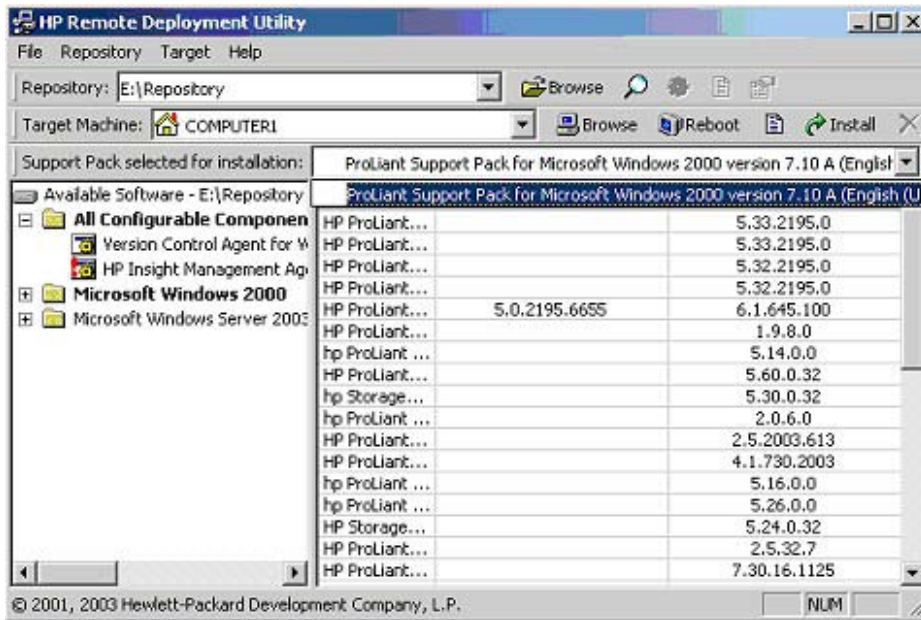


If error text appears under a Support Pack in the repository view tree, as in the following figure, a component referenced in the Support Pack is not available in the software repository.

To correct the situation, obtain the missing component from the HP website, SmartStart CD, or Software Maintenance CD and copy it to the software repository.
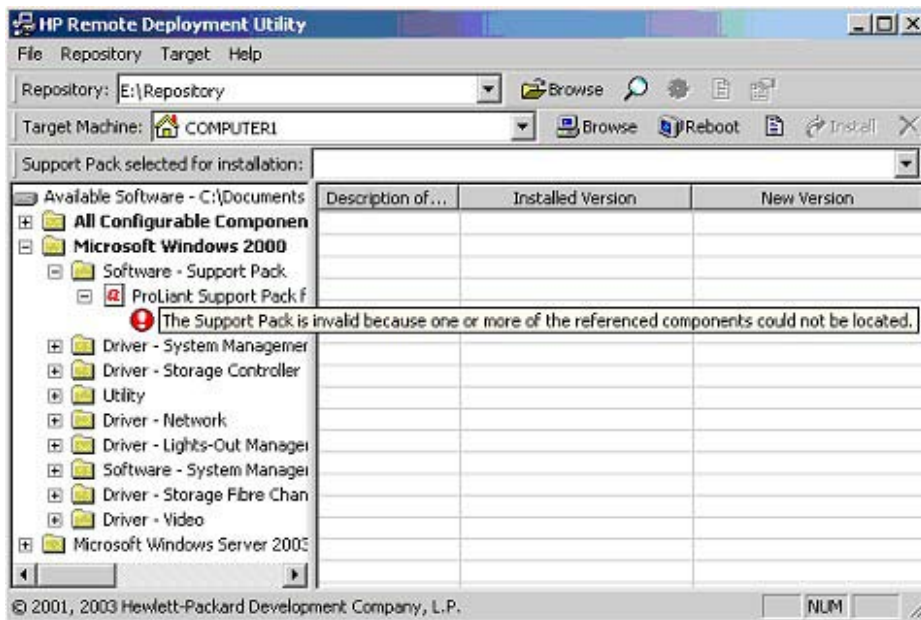


7.   Select the target machine. By default, the RDU selects the system that launches the utility as the target system.

If the target system is the local administrative system, there is no need to modify the Target Machine field. However, if the target system is a remote system accessible over the network, enter or browse to the name of the network target system in the Target Machine field and press the **Enter** key to connect to the target. You can also click **Target,** and use the Browse for Computer window to

navigate to the system accessible over the network connection. Click **OK** to select the target and return to the RDU main window.

> **NOTE:** To assist with entry of the target system name, the RDU maintains a history of servers on which software has been developed. Access this history from the Target Machine list.

If the user name and password for the target machine do not match those for the machine running the RDU, you are prompted to enter the user name and password for the target machine.

8. Deploy all components displayed in the target computer list by clicking **Install** after the RDU identifies the target system. A progress window tracks the progress of the deployment.

9. Click **Cancel** at any time to stop deployment. There might be a slight delay before the installation is canceled while the RDU finishes the last initiated task.

> **IMPORTANT:** Clicking **Cancel** stops the installation of the PSP at the point when **Cancel** is clicked, so the target server might end up with a partially installed PSP.

10. View the installation results. When the deployment process is complete, after deploying the PSP on the target server, the RDU displays an installation confirmation screen.

If one or more components are not installed successfully, a screen similar to the following appears.
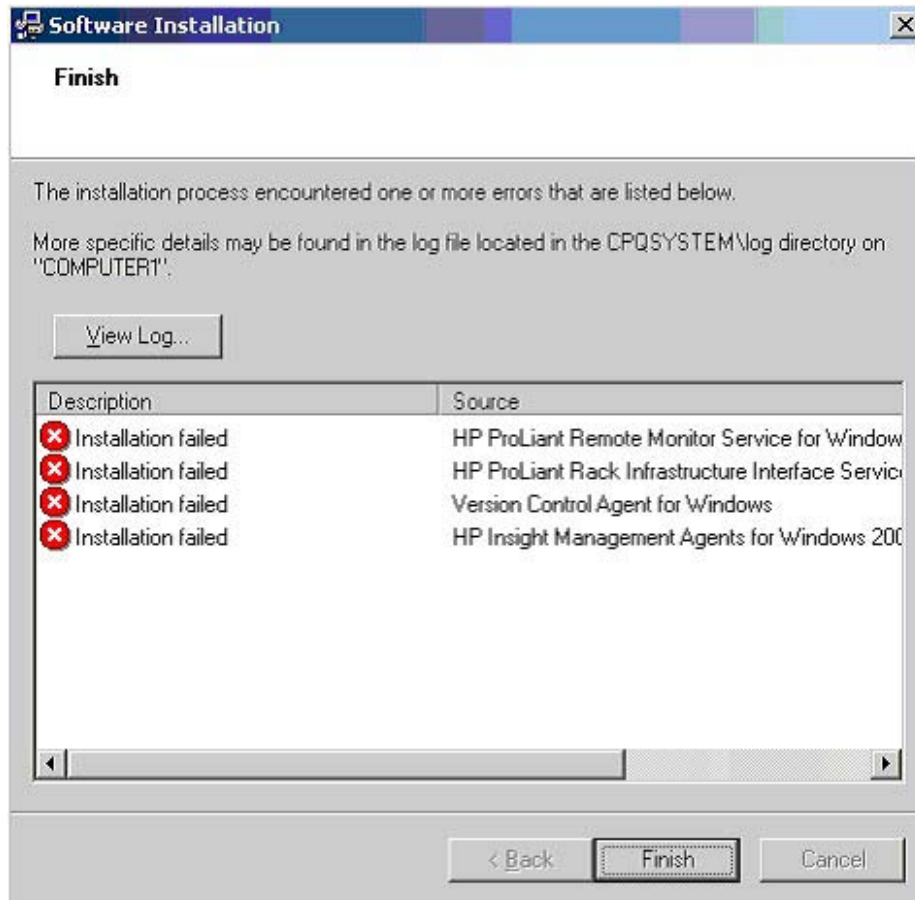


Each component writes installation activity (including errors) to a common installation log file called CPQSETUP.LOG on every target server. To view the installation log file, select **Target** from the menu bar and select **View Installation Log,** or click **View target installation log** on the Target toolbar.

11. If necessary, reboot the target server to complete the installation by clicking **Reboot** and confirming when prompted by the system. The deployment is complete.

> **NOTE:** If the target system is the local administrative system, clicking Reboot causes the system to reboot, and the RDU must be restarted to deploy components or PSPs on another target system.

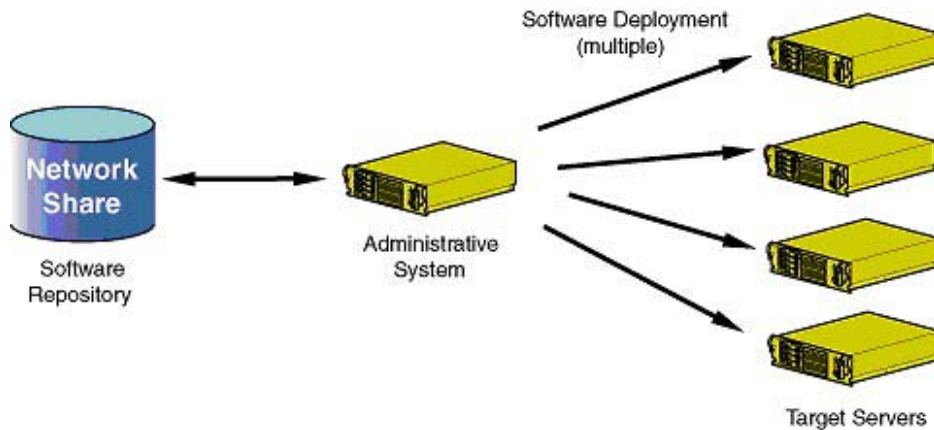12. Close the Installation Results window to deploy components or PSPs on another target server.

# Scenario 2: Command line deployment on a single-target system using the Remote Deployment Console Utility

> **IMPORTANT:** Be sure that all components that require configuration are configured before deploying them.

> **NOTE:** The Remote Deployment Console Utility is designed as a tool that can be scripted with the SmartStart Scripting Toolkit. For information about scripting server deployment, refer to the SmartStart Scripting Toolkit website (http://www.hp.com/servers/sstoolkit).

The following figure illustrates the basic, single-target system deployment process using the Remote Deployment Console Utility.



## When to use Windows PSP deployment scenario 2

Use the PSP deployment scenario described in this section when you:

- Are familiar with operating system command line tools
- Require deployment of PSPs or individual components on a single-target system that is either local or remote
- Have a need for scripting

## Deploying a PSP using Windows PSP deployment scenario 2

To deploy a PSP stored in a centralized, network-based software repository from a command line prompt on a single-target system:

1. Be sure that all minimum requirements are fulfilled as listed in "Minimum requirements for Microsoft Windows version 7.80 or earlier (on page 104)."
2. Be sure that the software repository can be accessed by the administrative system.
3. Map a drive letter to the network-based software repository that contains the PSP files.
4. Preconfigure components using the RDU (SETUP.EXE). For more information, refer to "Component preconfiguration (on page 109)."
5. Launch a command line prompt on the administrative system, and change to the subdirectory containing the Remote Deployment Console Utility.

6. Launch the Remote Deployment Console Utility. For more information, refer to "Remote Deployment Console Utility for Microsoft Windows (on page 115)."

> **NOTE:** Command line help for the Remote Deployment Console Utility is accessible by running the SETUPC.EXE file from the command line. A screen displays all possible parameters that the utility accepts.

7. Deploy the specified PSP file on the target system by pressing the Enter key.

When the utility deploys a PSP or individual components to the target system, each component writes installation information to the file CPQSETUP.LOG on the target system.

Be sure that the target system is accessible over the network connection and that all files that make up a PSP are present in the same directory. If the target system is not accessible over the network connection, one of the following error messages might appear:

- `Unable to connect to the target computer. All available connection methods were attempted with no success. A possible reason is that the operating system of the target computer is not supported.`

- `Access to the target computer was denied, possibly due to incorrect authentication information or permissions.`

- `The target computer could not be found. Please check the spelling of the computer name or the network connection and try again.`

If installation errors occur, the command line window might display an error message followed by a list of components and the errors that occurred.

> **IMPORTANT:** You can stop a command line deployment on a local server at any time by pressing the **Ctrl+C** keys.

When the deployment process ends, control is returned to the command line prompt to run the Remote Deployment Console Utility on the next target server that must be deployed.

> **TIP:** You can view the centralized installation log file on the remote target system by connecting to the remote target system over the network with Windows® Explorer and opening the CPQSETUP.LOG file. You can also view the file in a command prompt window on the administrative system by using the TYPE or MORE commands, followed by the network path and name of the remote installation log file.

# Scenario 3: Command line deployment on multiple-target systems using the Remote Deployment Console Utility

> **IMPORTANT:** Be sure that all components that require configuration are configured before deploying them.

> **NOTE:** The Remote Deployment Console Utility is designed as a tool that can be scripted with the SmartStart Scripting Toolkit. For information about scripting server deployment, refer to the SmartStart Scripting Toolkit website (http://www.hp.com/servers/sstoolkit).

The following figure illustrates the basic, multiple-target system deployment process using the Remote Deployment Console Utility.



## When to use Windows PSP deployment scenario 3

Use the PSP deployment scenario described in this section when you:

- Are familiar with operating system command line tools
- Require deployment of PSPs or individual components on a few remote target systems
- Have a need for scripting

## Deploying a PSP using Windows PSP deployment scenario 3

Deploying software on multiple-target systems with the Remote Deployment Console Utility follows the same basic procedures outlined in "Scenario 2: Command line deployment on a single-target system using the Remote Deployment Console Utility (on page 125)."

> **IMPORTANT:** If multiple-target server deployment requirements are for very high volumes, refer to "Scenario 4: Command line deployment on multiple-target systems managed by HP Systems Insight Manager (on page 128)." Using the Remote Deployment Console Utility from the command line to deploy to multiple-target servers is recommended only for a few target servers.

To deploy a PSP stored in a centralized, network-based software repository from a command line prompt on multiple-target servers:

1. Follow steps 1 through 5 in "Scenario 2: Command line deployment on a single-target system using the Remote Deployment Console Utility (on page 125)."
2. Launch the Remote Deployment Console Utility, using command line parameters to specify each of the target systems. For more information, refer to "Remote Deployment Console Utility for Microsoft Windows (on page 115)."

> **IMPORTANT:** The target systems must be accessible over the network connection, and the account that is running the Remote Deployment Console Utility must have administrative access to the target system.

> **NOTE:** Command line help for the Remote Deployment Console Utility is accessible by running the SETUPC.EXE file from the command line. A screen displays all possible parameters that the utility accepts.

3.  Complete the deployment. Refer to step 7 in "Scenario 2: Command line deployment on a single-target system using the Remote Deployment Console Utility (on page 125)," for the remainder of the deployment process and any error messages that might appear.

☼  **TIP:**  Although each component that is run will write installation information to the installation log file CPQSETUP.LOG on the target system, you can redirect screen output to text files that are local to the administrative system. This capability provides convenient local access to multiple-target server deployment information from one location. Refer to the operating system documentation for more information about output redirection.

# Scenario 4: Command line deployment on multiple-target systems managed by HP Systems Insight Manager

📝  **IMPORTANT:**  Be sure that all components that require configuration are configured before deploying them.

For initial PSP deployment on multiple-target systems managed by HP Systems Insight Manager, use the Remote Deployment Console Utility. As in the previous scenarios, HP recommends that all deployments be performed from a centralized, network-based software repository.

📝  **IMPORTANT:**  When using HP Systems Insight Manager in conjunction with the PSP deployment utilities, HP recommends deploying to no more than 100 remote target systems with any given Application Launch task.

After initial PSP deployment, HP recommends that you use the software deployment support in HP Systems Insight Manager.

The following figure illustrates the basic, multiple-target system deployment process using HP Systems Insight Manager and the Remote Deployment Console Utility.
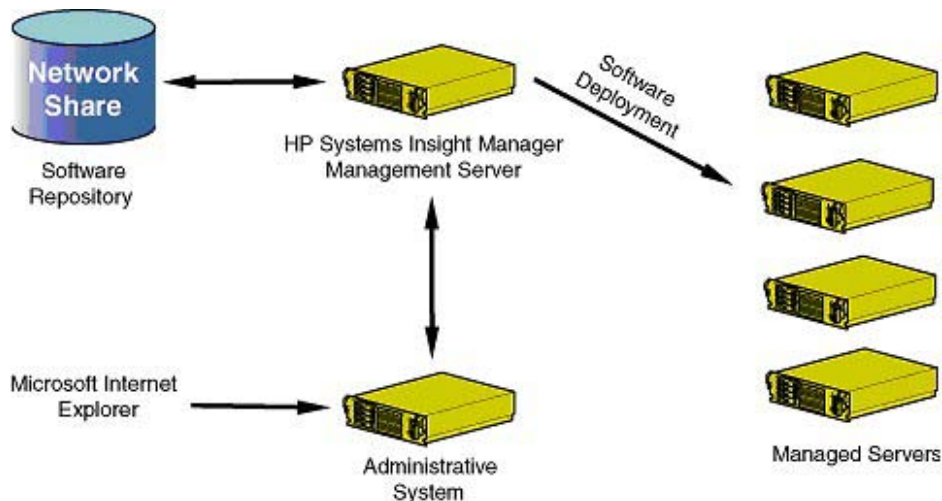


## When to use Windows PSP deployment scenario 4

Use the PSP deployment scenario described in this section when you are:

*   Knowledgeable about operating system tools, including command line scripting
*   Knowledgeable about HP Systems Insight Manager

- Deploying PSPs or individual components on many remote target systems that are all managed by HP Systems Insight Manager

## Deploying a PSP using Windows PSP deployment scenario 4

For information on using HP Systems Insight Manager with the VCRM and the VCA, refer to:

- The *HP Systems Insight Manager Help Guide* on the HP Systems Insight Manager website (http://www.hp.com/go/hpsim)

- The Version Control User Guide on the HP System Management website (http://h18013.www1.hp.com/products/servers/management/agents/documentation.html)

For detailed information about using HP Systems Insight Manager, refer to the *HP Systems Insight Manager Installation and User Guide* available on the Management CD, in every HP Systems Insight Manager download from the Web, or on the HP Systems Insight Manager website (http://www.hp.com/go/hpsim).

Alternatively, click **Help** in HP Systems Insight Manager.

# Acronyms and abbreviations

AMD

Advanced Micro Devices

DNS

domain name system

GRUB

Grand Unified Bootloader

GTK+

GIMP Toolkit

GUI

graphical user interface

HPSUM

HP Smart Update Manager

HTTP

hypertext transfer protocol

iLO

Integrated Lights-Out

IP

Internet Protocol

LDU

Linux Deployment Utility

LILO

Linux Loader

LSP

Linux Support Pack

## NIC

network interface controller

## NLM

NetWare Loadable Module

## NUT

Novell User Technologies

## OS

operating system

## PCI

peripheral component interface

## PSP

ProLiant Support Pack

## RDU

Remote Deployment Utility

## RILOE

Remote Insight Lights-Out Edition

## RILOE II

Remote Insight Lights-Out Edition II

## RPM

Red Hat Package Manager

## SLES

SUSE Linux Enterprise Server

## SNMP

Simple Network Management Protocol

## SOAP

Simple Object Access Protocol

## SSH

Secure Shell

## SSL

Secure Sockets Layer

## TCP/IP

Transmission Control Protocol/Internet Protocol

## VCA

Version Control Agent

## VCRM

Version Control Repository Manager

## WMI

Windows Management Instrumentation

## XML

extensible markup language

# Index