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About This Guide

This user guide is designed as a reference for implementing and using the ProLiant Support Pack (PSP) deployment utilities for Microsoft® Windows NT® 4.0, Windows® 2000, Windows Server 2003, Novell NetWare, and Linux® server environments.

Audience Assumptions

Because of the potential risk of data loss, the PSP deployment utilities should be used only by individuals who are experienced and knowledgeable in the use of such utilities.

Where to Go for Additional Help

In addition to this guide, the following information sources are available.

Reference Documentation

The ActiveUpdate User Guide is available at
http://www.hp.com/servers/management/activeupdate

The Online ROM Flash User Guide is available at

The Insight Manager 7 User Guide is available at
http://www.hp.com/servers/im7

The following documentation for the SmartStart Scripting Toolkit is available at
http://www.hp.com/servers/sstoolkit

- SmartStart Scripting Toolkit User Guide
- SmartStart Scripting Toolkit Best Practices
- Next Generation Server Deployment Tools: SmartStart Scripting Toolkit white paper

For more information on management products in general, refer to
http://www.hp.com/servers/manage
Operating System Information

For Novell NetWare operating systems, visit the following website:
http://www.novell.com/

For Microsoft Windows operating systems, visit the following website:
http://www.microsoft.com/

Telephone Numbers

For the name of your nearest HP authorized reseller:
- In the United States, call 1-800-345-1518.
- In Canada, call 1-800-263-5868.

For HP technical support:
- In the United States and Canada, call 1-800-652-6672.
- Outside the United States and Canada, refer to
  http://www.hp.com/
Introduction

PSP deployment utilities are server setup and software maintenance tools designed to provide an efficient way to manage routine software maintenance tasks. These utilities include PSP deployment utilities for Microsoft Windows NT 4.0, Windows 2000, Windows Server 2003, Novell NetWare, and Linux server environments.

PSPs and the PSP deployment utilities integrate with other software maintenance, deployment, and operating system tools, providing the information and flexibility needed to efficiently install, upgrade, and manage system software and reduce server maintenance costs.

Compaq Support Paqs Are Now ProLiant Support Packs

Beginning with the release of SmartStart 6.00 in September 2002, Compaq Support Paqs (CSPs) were officially renamed ProLiant Support Packs. The newly named ProLiant Support Packs deliver the same functionality as, and are compatible with, Compaq Support Paqs. Some legacy applications or documents might refer to Compaq Support Paqs, but in all cases, the terms “Compaq Support Paq,” “CSP,” “ProLiant Support Pack,” and “PSP” should be regarded as equivalent.
PSP Deployment Scenarios

The PSP deployment scenarios discussed in this guide are summarized in Table 1-1.

<table>
<thead>
<tr>
<th>Operating System Environment</th>
<th>Scenario</th>
</tr>
</thead>
</table>
| **Microsoft Windows**        | • Deployment to a local or remote single-target system using the graphical-based Remote Deployment Utility  
• Microsoft Windows NT 4.0  
• Microsoft Windows 2000  
• Microsoft Windows Server 2003  
• Deployment to a local or remote single-target system using the command line-based Remote Deployment Console Utility  
• Deployment to remote multiple-target systems using the Remote Deployment Console Utility  
• Deployment to remote multiple-target systems using the Remote Deployment Console Utility with Insight Manager 7 |
| **Novell NetWare**           | • Deployment to a target system using the user interface mode of the ProLiant Deployment Utility for Novell NetWare  
• Deployment to a target system using the command line mode of the ProLiant Deployment Utility for Novell NetWare |
| **Linux**                    | • Deployment to a target system using the user interface mode of the ProLiant Deployment Utility for Linux  
• Deployment to a target system using the command line mode of the ProLiant Deployment Utility for Linux  
• Red Hat Linux Professional 7.3  
• Red Hat Linux Professional 8.0  
• Red Hat Enterprise Linux 2.1  
• SuSE Linux Enterprise Server 7  
• Conectiva S.A., The SCO Group,  
SuSE Linux AG, and Turbolinux, Inc. powered by UnitedLinux 1.0 |

This guide also describes additional functionality of the PSP deployment utilities and individual support software components, including several deployment script file examples that can be modified to fit specific Windows NT 4.0, Windows 2000, Windows Server 2003, Novell NetWare, and Linux server environments.
Benefits of the PSP Deployment Utilities

The improved software features of the PSP deployment utilities make software maintenance easier by:

- Increasing server manageability
- Enabling administrators to update systems remotely

**NOTE:** Native remote functionality is provided by the Windows PSP deployment utilities only.

- Reducing server maintenance costs
- Saving time

The PSP deployment utilities provide the following software maintenance benefits to system administrators on Windows-, NetWare-, and Linux-based operating system platforms:

- Self-installable components with easy-to-understand software update descriptions
- Components that can be installed individually or as part of a Support Pack
- Installation logic and version control that automatically checks for hardware, software, firmware, 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 deployment utilities with Insight Manager 7 (Windows only) and the SmartStart Scripting Toolkit
- Common log files that provide easy access to a consolidated view of software installation history on target servers
- Content in ready-to-run native operating system file formats that save time by installing directly from a CD or from a shared network drive

By following the procedures described in this guide, the scalability of the PSP deployment utilities is enhanced to support high-volume maintenance and deployments of software upgrades on Windows-, NetWare-, and Linux-based platforms.

---

**CAUTION:** The PSP deployment utilities, PSPs, and individual components should be used only by individuals who are experienced and knowledgeable in the use of such software components. Before using these utilities, PSPs, and components to deploy a server or to maintain software components, be sure to make a backup of the data on the target server and take all other necessary precautions so that mission-critical systems are not disrupted if a failure occurs.
Obtaining the PSP Deployment Utilities

The PSP deployment utilities can be obtained from several locations, including:

- The HP website
- HP ActiveUpdate
- HP CD media

HP Website

The latest PSP deployment utilities, PSPs, and individual components for supported Microsoft Windows, Novell NetWare, and Linux operating systems are available at

http://www.hp.com/support/files

HP ActiveUpdate

The latest HP deployment utilities, PSPs, and individual components for Windows NT 4.0, Windows 2000, Windows Server 2003, Novell NetWare, and Linux are also available from ActiveUpdate.

ActiveUpdate is a Web-based client application for Windows systems only. The ActiveUpdate client reduces the time that administrators spend searching the Web for the latest server updates by proactively delivering updates to a centralized software repository. You can obtain the ActiveUpdate client at

http://www.hp.com/servers/management/activeupdate

NOTE: Although you can use ActiveUpdate to maintain a centralized, network-based software repository for all of the operating systems discussed in this guide, the ActiveUpdate client is a Windows-based application.

HP CD Media

When Web access is not available or download speeds are too slow, PSP deployment utilities, PSPs, and individual components can also be obtained from:

- The ProLiant Software Maintenance CD or later for Windows, NetWare, and Linux. This CD is provided with the ProLiant Essentials Foundation Pack subscription.
- The SmartStart CD 6.xx for Windows and NetWare
- The SmartStart CD 6.30 and 6.40 for Linux

For more information about the ProLiant Essentials Foundation Pack subscription, refer to http://www.hp.com/servers/proliantessentials
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 must be on a Windows shared network drive. The repository can be updated in any of the ways shown in Figure 1-1.

![Figure 1-1: Sources for updating the network-based software repository](image)

The ActiveUpdate Web-based client application provides an ideal solution for the automated maintenance of the centralized, network-based software repository. ActiveUpdate keeps you connected to HP for proactive notification of the latest PSPs and individual components, as well as delivery of those PSPs and components directly to your software repository.
Using the network-based software repository feature of ActiveUpdate ensures that all updates are always readily available from a standardized location for use with the PSP deployment utilities.

For more information about using ActiveUpdate, refer to the ActiveUpdate user guide included in the ActiveUpdate download or available at

http://www.hp.com/servers/management/activeupdate
Deploying ProLiant Support Packs in Microsoft Windows

This chapter discusses how to use PSPs for Microsoft Windows. HP provides the following tools for configuring components and deploying PSPs for Windows:

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

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

Overview

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, and utilities). This PSP design improves and simplifies operating system integration, flexibility, and system configuration.

HP recommends the following guidelines when working with PSPs:

1. Obtain the PSP and place it on a software repository or other medium.

   **IMPORTANT:** The PSP files must be 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. Be sure the components do not have the read-only attributes set.

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

3. Configure the components using the configuration functionality in the Remote Deployment Utility for Windows.

   **NOTE:** Components only need to be configured 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 you have deployed it, you must redeploy the component.
4. Deploy the PSP, using a deployment tool such as the Remote Deployment Utility for Windows or the Remote Deployment Console Utility for Windows.

**NOTE:** Smart Components can also be installed individually. For more information, refer to the "Installing Single Components" section in this chapter.

**Minimum Requirements for Windows 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.

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

- A local administrative system with Windows NT 4.0 with Service Pack 6 or later, Windows 2000, or Windows Server 2003 must be available.
- One or more remote target servers running Windows NT 4.0, Windows 2000, or Windows Server 2003 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 login 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 Remote Deployment Utility, 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 or from the HP website, the appropriate version of the Microsoft XML Parser is stored in the msxml3.cab file. The Remote Deployment Utility 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 Microsoft Internet Explorer 6.0.
Remote Deployment Utility for Microsoft Windows

HP has developed the Remote Deployment Utility (RDU) for Microsoft 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.

NOTE: 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.
3. Click Install on the Target Machine toolbar and follow the instructions that are displayed.

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

For more information on deploying components and Support Packs, refer to the following sections.
Main Window

When the RDU is launched, a main control window similar to Figure 2-1 is displayed.

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

The following sections describe each element of the main window in more detail.

**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.

**Table 2-1: Repository Toolbar Buttons**

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Folder" /></td>
<td>Enables you to browse the network for the repository</td>
</tr>
<tr>
<td><img src="image" alt="Search" /></td>
<td>Rescans the repository for any changes that might have occurred since the previous scan and then repopulates the repository view tree</td>
</tr>
<tr>
<td><img src="image" alt="Config" /></td>
<td>Configures the selected repository item</td>
</tr>
<tr>
<td><img src="image" alt="History" /></td>
<td>Displays the revision history for the selected repository item</td>
</tr>
<tr>
<td><img src="image" alt="Properties" /></td>
<td>Displays the properties of the selected repository item</td>
</tr>
</tbody>
</table>
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.

**Table 2-2: Target Machine Toolbar Buttons**

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="folder.png" alt="Folder" /></td>
<td>Enables you to browse the network for the target machine</td>
</tr>
<tr>
<td><img src="reboot.png" alt="Reboot" /></td>
<td>Reboots the target machine</td>
</tr>
<tr>
<td><img src="log.png" alt="Folder" /></td>
<td>Displays the target installation log file</td>
</tr>
<tr>
<td><img src="deploy.png" alt="Deploy" /></td>
<td>Deploys the selected components or PSPs on the target machine</td>
</tr>
<tr>
<td><img src="delete.png" alt="Delete" /></td>
<td>Deletes selected components from the target computer list</td>
</tr>
</tbody>
</table>

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 is the pane on the left side of the main RDU window, as shown in Figure 2-1.

The repository view tree 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.

  **Table 2-3: Component Configuration Icons**

<table>
<thead>
<tr>
<th>Icon</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>The component requires configuration but has not yet been configured.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>The component is configurable but has not yet been configured.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>The component is configurable and has been configured.</td>
</tr>
<tr>
<td><img src="image" alt="Icon" /></td>
<td>The component does not require configuration.</td>
</tr>
</tbody>
</table>

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

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

The target computer list is the pane on the right side of the main RDU window, as shown in Figure 2-1.

The target computer list contains all components that have been selected for installation on the target computer.

This panel has three columns:

- The **Description of Software to be Installed** column lists the names of components selected for installation.
- The **Installed Version** column indicates the version number of any components that are currently installed on the target machine.
- The **New Version** 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 by 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 item or 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 or items are 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.

**NOTE:** 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. A sample revision history is shown in Figure 2-2. The revision history provides details about software enhancements and fixes.

![Sample revision history](image)

Figure 2-2: Sample revision history
To view the properties of a component, right-click the component and select Properties, or click the properties icon (/gif) on the Repository toolbar. The Properties window displays the properties of the component or PSP, including file name, version number, and operating system information. A sample Properties window is shown in Figure 2-3.

![Properties window](image)

**Figure 2-3: Sample properties**

### 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 is displayed in **bold** text.

**IMPORTANT:** Components only need to be configured 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 you have deployed it, you must redeploy the component.
Icons next to each component in the repository view tree indicate whether the component must be configured. Refer to Table 2-3 for descriptions of each of the icons. Configurable components include, but are not limited to, the following:

- Insight Management Agents
- Version Control Agent

**IMPORTANT:** The Web-based Management portion of the Insight Management Agents 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. For more information, refer to the *HP Insight Manager 7 Technical Reference Guide* on the HP website at [http://www.hp.com/servers/im7](http://www.hp.com/servers/im7).

![Figure 2-4: Configurable components in the Remote Deployment Utility](image)
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 is displayed. An example is shown in Figure 2-5.

![Figure 2-5: Sample component configuration settings](image)

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 is displayed again. If the configuration operation is not successful, an error message is displayed.
Deploying Components or PSPs

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 is displayed.

![Software Installation Screen](image)

Figure 2-6: Software installation confirmation

3. Modify the installation options, if desired, and click Next. A confirmation screen is displayed.
4. Click **Next** to begin the installation. A window similar to Figure 2-7 is displayed.

![Software Installation](image)

**Figure 2-7: Installation progress**
Installation Results

After deploying the PSP on the target server, the RDU displays an installation confirmation screen.

![Installation confirmation screen](image)

Figure 2-8: Installation confirmation
If one or more components are not installed successfully, a screen similar to the following is displayed.

![Software Installation]

The installation process encountered one or more errors that are listed below.

More specific details may be found in the log file located in the CPQSYSTEM\Log directory on "megatron".

![View Log...]

<table>
<thead>
<tr>
<th>Description</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Installation failed</td>
<td>hp ProLiant Ethernet/Fast Ethernet or Gigabit NIC</td>
</tr>
<tr>
<td>Silent installation is not supported</td>
<td>hp ProLiant NetFlex/Netelligent Adapter Driver for</td>
</tr>
</tbody>
</table>

Figure 2-9: Installation failure

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, select Target from the menu bar and select View Installation Log, or click View target installation log on the Target toolbar. Figure 2-10 shows a sample installation log file.
Information regarding installation activity is appended to the same log file, providing a chronological history of all component installation activity on the target server.

**NOTE:** The CPQSETUP.LOG installation log file is always located in the \CPQSYSTEM\LOG subdirectory on the boot partition of the target system.

![Figure 2-10: PSP installation log example](image)

---

**Figure 2-10:** PSP installation log example
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.

NOTE: 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 Remote Deployment Utility for Microsoft Windows to preconfigure components. For more information, refer to the “Component Preconfiguration” section in this chapter.

For more information about deployment using the Remote Deployment Console Utility, refer to Scenarios 2 and 3 in the “Deployment Utilities Usage Scenarios for Windows-Based Systems” section of this chapter.

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

Command Line Syntax

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

```
```

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

NOTE: All arguments and information enclosed in brackets are optional. Refer to the “Command Line Arguments” section for a full description of the arguments the Remote Deployment Console Utility accepts.
**Command Line Arguments**

The following table lists the arguments recognized by the Remote Deployment Console Utility.

**Table 2-4: Command Line Arguments**

<table>
<thead>
<tr>
<th>Command Line Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/help</td>
<td>Displays command line Help information.</td>
</tr>
<tr>
<td>/?</td>
<td>Is identical to the /help argument.</td>
</tr>
<tr>
<td>/use-latest</td>
<td>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 will be 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.</td>
</tr>
<tr>
<td>/target:computer</td>
<td>Specifies the name of the computer to use as the target for the deployment operation.</td>
</tr>
<tr>
<td>/force</td>
<td>Changes the behavior of a component installation in one of the following ways:</td>
</tr>
<tr>
<td></td>
<td>• If the component is already installed and current, it will reinstall itself, and the installed version number will remain the same.</td>
</tr>
<tr>
<td></td>
<td>• If a newer version of the component is already installed, the component will install itself and downgrade the component to the older version number.</td>
</tr>
<tr>
<td>/reboot[:timeout]</td>
<td>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. The timeout value must be between 15 and 3600 (1 hour). The reboot will only take place if no installation errors occur.</td>
</tr>
<tr>
<td>/reboot-always[:timeout]</td>
<td>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. The timeout value must be between 15 and 3600 (1 hour).</td>
</tr>
</tbody>
</table>

*continued*
<table>
<thead>
<tr>
<th>Command Line Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/use-location:fileshare</td>
<td>Instructs SETUPC to look in the specified directory or file share for the Support Pack and components.</td>
</tr>
<tr>
<td></td>
<td>If this parameter is not specified, the directory containing SETUPC.EXE is used by default.</td>
</tr>
<tr>
<td></td>
<td>The current logged-in account must already have access to this location.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>Refer to the “Command Line Examples” section for a usage example.</td>
</tr>
<tr>
<td>/user:username</td>
<td>Sets the user name to use to connect to the target computer.</td>
</tr>
<tr>
<td>/passwd:password</td>
<td>Sets the password to use to connect to the target computer.</td>
</tr>
<tr>
<td>/override_existing_connection</td>
<td>Instructs SETUPC.EXE to connect to the target computer and override any existing connection that might be present.</td>
</tr>
<tr>
<td></td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>This parameter should only be used 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.</td>
</tr>
</tbody>
</table>
# Command Line Examples

The following table lists examples of command line input for the Remote Deployment Console Utility.

**NOTE:** 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`.

## Table 2-5: Command Line Examples

<table>
<thead>
<tr>
<th>Command Line Input</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>setupc /target:COMPUTER1 /use-latest</code></td>
<td>Installs the latest available version of the Support Pack that is located in the current directory and is applicable to the computer named COMPUTER1.</td>
</tr>
<tr>
<td><code>setupc /target:COMPUTER1 BP000001.XML</code></td>
<td>Installs the Support Pack defined by BP000001.XML from the current directory on the computer named COMPUTER1.</td>
</tr>
<tr>
<td><code>setupc /target:COMPUTER2 BP000001.XML CP000150.EXE</code></td>
<td>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.</td>
</tr>
<tr>
<td><code>setupc /target:HPSYS1 /use-latest /use-location:\\SWREPOS\SupportSoftware</code></td>
<td>Installs the latest available Support Pack from \SWREPOS\SupportSoftware on the computer named HPSYS1.</td>
</tr>
<tr>
<td><code>@echo off for %%I in &lt;HPSYS1 HPSYS2 HPSYS3&gt; do setupc /t:%%I BP000002.XML</code></td>
<td>A Windows .CMD script that installs the Support Pack defined by BP000002.XML on the following computers: HPSYS1, HPSYS2, and HPSYS3.*</td>
</tr>
</tbody>
</table>

*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 is displayed.

![Component installation](image)

Figure 2-11: Component installation

2. Click the **Install** button. A screen similar to the following is displayed.

![Component installation confirmation](image)

Figure 2-12: Component installation confirmation

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

The general command line syntax for single-component installation is:

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

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. Refer to the “Command Line Arguments” section for a full description of the arguments the Smart Components accept.

If no command line arguments are passed on the command line, the component graphical user interface (GUI) is displayed.

Command Line Arguments

The following table lists the arguments recognized by Smart Components.

<table>
<thead>
<tr>
<th>Command Line Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/h[elp]</td>
<td>Displays command line Help information.</td>
</tr>
<tr>
<td>/?</td>
<td>Is identical to the /help argument.</td>
</tr>
<tr>
<td>/s[ilent]</td>
<td>Specifies whether the GUI is suppressed or displayed. Use this argument when scripting the Smart Components to suppress the GUI. If this argument is omitted from the command line, the GUI is displayed.</td>
</tr>
<tr>
<td>/f[orce]</td>
<td>When used with the /silent command, installs the component in one of the following ways:</td>
</tr>
<tr>
<td></td>
<td>• If the component is already installed and current, it will reinstall itself, and the installed version number will remain the same.</td>
</tr>
<tr>
<td></td>
<td>• If a newer version of the component is already installed, the component will install itself and downgrade the component to the older version number.</td>
</tr>
<tr>
<td></td>
<td>If this argument is omitted from the command line, the installation is not forced.</td>
</tr>
<tr>
<td>/r[eboot]</td>
<td>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.</td>
</tr>
<tr>
<td></td>
<td>The reboot will only take place if no installation errors occur.</td>
</tr>
</tbody>
</table>
Command Line Examples

The following table lists examples of command line input for single-component installation.

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

### Table 2-7: Examples of Single-Component Installations

<table>
<thead>
<tr>
<th>Command Line Input</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>cp002575</td>
<td>This command line starts installation of the CP002575.EXE component.</td>
</tr>
<tr>
<td>cp002575 /s</td>
<td>This command line installs the CP002575.EXE component on the target server, using the defaults of the component. The GUI is not displayed.</td>
</tr>
<tr>
<td>cp002575 /s /f /r</td>
<td>This command line 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 is not displayed.</td>
</tr>
</tbody>
</table>

Return Codes

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 to determine any branching that is required. Table 2-8 summarizes the Smart Component return codes.

### Table 2-8: Return Codes

<table>
<thead>
<tr>
<th>Error Level</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>The Smart Component failed to install. Refer to the log file for more details.</td>
</tr>
<tr>
<td>1</td>
<td>The Smart Component installed successfully.</td>
</tr>
<tr>
<td>2</td>
<td>The Smart Component installed successfully, but the system must be restarted.</td>
</tr>
<tr>
<td>3</td>
<td>The installation was not attempted because the required hardware was not present or the software was current.</td>
</tr>
</tbody>
</table>
Deployment Utilities Usage Scenarios for Windows-Based Systems

This section discusses deployment scenarios for PSPs and components obtained through ActiveUpdate and 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, proactively updated by HP ActiveUpdate. The same deployment principles are applicable to PSP software that is stored locally on the administrative system, the target system, or the SmartStart CD.

**TIP:** To facilitate the use of the PSP deployment utilities, copy the executable and Help files of the utilities to the hard drive of the administrative system. Place the executable and Help files in their own subdirectory.

The overall PSP and component deployment strategy for Windows-based systems is illustrated in Figure 2-13.

![Figure 2-13: Deployment strategy on Windows-based systems](image-url)
Table 2-9 summarizes the deployment scenarios on Windows-based systems and the utilities to use in each scenario.

Table 2-9: Deployment Scenarios on Windows-Based Systems

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Type of Deployment</th>
<th>Deployment Utility Used</th>
</tr>
</thead>
</table>
| 1        | • User is not familiar with operating system command line tools or does not need to deploy from a command line.  
          | • User needs to deploy on a single local or remote target system.                 | Remote Deployment Utility (SETUP.EXE)              |
|          | • User does not need scripting capabilities.                                       |                                                   |
| 2        | • User is familiar with operating system command line tools.                       | Remote Deployment Console Utility (SETUPC.EXE)     |
|          | • User needs to deploy on a single local or remote target system.                 |                                                   |
|          | • User needs scripting capabilities.                                               |                                                   |
| 3        | • User is familiar with operating system command line tools.                       | Remote Deployment Console Utility (SETUPC.EXE)     |
|          | • User needs to deploy on a few remote target systems.                             |                                                   |
|          | • User needs scripting capabilities.                                               |                                                   |
| 4        | • User is an expert with operating system tools, including command line scripting.  | Remote Deployment Console Utility with Insight Manager 7* |
|          | • User is knowledgeable about Insight Manager 7.                                   |                                                   |
|          | • User must deploy on a multitude of remote target systems, all managed by Insight Manager 7. |                                                   |

**IMPORTANT:** When using Insight Manager 7 in conjunction with the PSP deployment utilities, HP recommends deploying to no more than 100 remote target systems with any given Application Launch task.

Scenario 1: Deploying Software on a Single-Target System with the Remote Deployment Utility

**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.

Figure 2-14 illustrates the basic single-target system deployment process with the RDU.

![Diagram of single-target deployment process](Image)

**Figure 2-14: Single-target deployment process**

**When to Use This Scenario**

Use the PSP deployment scenario described in this section when:

- You are not familiar with operating system command line tools or you do not need to deploy from a command line.
- You are deploying PSPs or individual components on a single-target system that is either local or remote.
- You do not have a need for scripting.
Deploying a PSP

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

1. Be sure that all requirements are fulfilled as listed in the section “Minimum Requirements for Windows Servers.”

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 Figure 2-15 is displayed 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 Table 2-3 for descriptions of the icons.
6. **Select components to be installed:**

   — 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 will be displayed in the target computer list, as shown in Figure 2-16.

   **IMPORTANT:** To install a PSP, all files that comprise the PSP must be present in the same directory.

   — 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.

   — 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 (X) on the **Target Machine** toolbar.

![Figure 2-16: Selecting a PSP to be deployed from the dropdown menu](image)
Deploying ProLiant Support Packs in Microsoft Windows

If error text is displayed under a Support Pack in the repository view tree (refer to Figure 2-17 for an example), 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, ActiveUpdate, or the SmartStart CD and copy it to the software repository.

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 deployed. 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 will be 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 cancelled while the RDU finishes the last initiated task.

**IMPORTANT:** Clicking **Cancel** does not cancel the entire installation procedure and restore the target system to its previous driver versions. Instead, clicking **Cancel** stops the installation of the PSP at the point when **Cancel** is clicked, and 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 is displayed.

![Software Installation](image)

**Figure 2-18: Installation failure**

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.

**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. The deployment is complete. Close the **Installation Results** window to deploy components or PSPs on another target server.

### Scenario 2: Deploying Software on a Single-Target System with 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 User Guide*, available at


Figure 2-19 illustrates the basic, single-target system deployment process with the Remote Deployment Console Utility.

![Figure 2-19: Single-target deployment process](image)

**When to Use This Scenario**

Use the PSP deployment scenario described in this section when:

- You are familiar with operating system command line tools.
- You require deployment of PSPs or individual components on a single-target system that is either local or remote.
- You have a need for scripting.
Deploying a PSP

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 requirements are fulfilled as listed in the section “Minimum Requirements for Windows Servers.”
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 the “Component Preconfiguration” section in this chapter.
5. Launch a command line prompt on the administrative system, and change to the subdirectory containing the Remote Deployment Console Utility.

**NOTE:** Command line help for the utility is accessible by running the file SETUPC.EXE 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 be displayed:

- 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: Deploying Software on Multiple-Target Systems with the Remote Deployment Console Utility

IMPORTANT: Be sure that all components requiring 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 User Guide, available at [http://www.hp.com/servers/sstoolkit](http://www.hp.com/servers/sstoolkit)

Figure 2-20 illustrates the basic, multiple-target system deployment process with the Remote Deployment Console Utility.

![Figure 2-20: Multiple-target deployment process](image)

**When to Use This Scenario**

Use the PSP deployment scenario described in this section when:

- You are familiar with operating system command line tools.
- You require deployment of PSPs or individual components on a few remote target systems.
- You have a need for scripting.
Deploying a PSP

Deploying software on multiple-target systems with the Remote Deployment Console Utility follows the same basic procedures outlined in the section “Scenario 2: Deploying Software on a Single-Target System with the Remote Deployment Console Utility.”

IMPORTANT: If multiple-target server deployment requirements are for very high volumes, refer to the section “Scenario 4: Deploying Software on Multiple-Target Systems Managed by Insight Manager 7.” 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 the section “Scenario 2: Deploying Software on a Single-Target System with the Remote Deployment Console Utility.”

2. Launch the Remote Deployment Console Utility, using command-line parameters to specify each of the target systems. For more information, refer to “Command Line Examples” in the “Remote Deployment Console Utility for Microsoft Windows” section in this chapter.

   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 utility is accessible by running the file SETUPC.EXE from the command line. A screen displays all possible parameters that the utility will accept.

3. Complete the deployment. Refer to step 7 in the section, “Scenario 2: Deploying Software on a Single-Target System with the Remote Deployment Console Utility,” for the remainder of the deployment process and any error messages that might be generated.

   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: Deploying Software on Multiple-Target Systems Managed by Insight Manager 7

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

For initial PSP deployment on multiple-target systems managed by Insight Manager 7, 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 that is maintained proactively by ActiveUpdate.

After initial PSP deployment, HP recommends that you use the software deployment support in Insight Manager 7.

Figure 2-21 illustrates the basic, multiple-target system deployment process with Insight Manager 7 and the Remote Deployment Console Utility.

![Multiple-target deployment process with Insight Manager 7](image)

**Figure 2-21: Multiple-target deployment process with Insight Manager 7**

**When to Use This Scenario**

Use the PSP deployment scenario described in this section when:

- You are knowledgeable about operating system tools, including command line scripting.
- You are knowledgeable about Insight Manager 7.
- You are deploying PSPs or individual components on a large number of remote target systems that are all managed by Insight Manager 7.
Deploying a PSP

For information on deployments using Insight Manager 7, refer to the following white paper:


IMPORTANT: When using Insight Manager 7 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 detailed information about using Insight Manager 7, refer to the Insight Manager 7 User Guide available on the Management CD, in every Insight Manager 7 download from the Web, or at http://www.hp.com/servers/im7

Alternatively, click Help from within Insight Manager 7.
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.

Overview

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

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

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

- NetWare 4.2—Not supported. NetWare 4.2 is no longer supported as of SmartStart 6.00. The last version of the CSP for NetWare 4.2 is available on the NetWare 4.2 software download page at [http://www.hp.com/support/files](http://www.hp.com/support/files).
- NetWare 5.1—Base installation. However, Support Pack 6 or later is recommended.
- NetWare 6.0—Base installation. However, Support Pack 3 or later is recommended.
- NetWare 6.5—Base installation.

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, LAN, and Storage).
IMPORTANT: Although the PSP cannot be used during initial NetWare red-box installation, HP provides the necessary drivers for red-box installation on the SmartStart CD in the \COMPAQ\DRIVERS\OS VERSION directory in flat file format, where OS VERSION is NW5, NW6, or NW6.5. Functionality to create driver diskettes needed for red-box installations is available from the Windows and Linux "autoruns" on the SmartStart CD. Support for red-box installations can also be accomplished by copying the contents of the directory from the SmartStart CD in to the C:\NWUPDATE directory on the server after the hard drive has had a DOS partition defined and formatted but before NetWare driver detection.

After the installation is complete, use the PSP as described in the following procedures 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.

**NOTE:** The Deployment Utility for Novell NetWare is available with PSPs for Novell NetWare at [http://www.hp.com/support/files](http://www.hp.com/support/files)

The utility has two modes of operation:

- **User interface mode**—Provides a Novell User Technologies (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 is displayed, as illustrated in Figure 3-1. The window provides details about the content of the PSP, including old and new version numbers and descriptions for each component in the PSP.
Component or PSP Deployment

The Deployment Utility for Novell NetWare supports local deployments only.

For more information about local deployment using the Deployment Utility for Novell NetWare, refer to the scenarios in the “Deployment Utility Usage Scenarios for NetWare Servers” section of this chapter.

Installation Results

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 on the server called CPQLOG.LOG. Figure 3-2 shows a sample installation log file. 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.

NOTE: The CPQLOG.LOG installation log file is always located in the SYS:\ETC\ subdirectory.

![Deployment Utility for Novell NetWare installation log](image)

Figure 3-2: Deployment Utility for Novell NetWare installation log
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 Figure 3-3. 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 .NLM files and associated files of the utilities to the hard drive of the NetWare server. Place the .NLM files and associated files in their own subdirectory.

![Figure 3-3: Single-target deployment process for NetWare](image)
Table 3-1 summarizes the PSP and component deployment scenarios on NetWare-based systems.

### Table 3-1: Deployment Scenarios on NetWare-Based Systems

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Type of Deployment</th>
<th>Deployment Method Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>• User can install one or more components by means of a command line or .NCF file.</td>
<td>Command line by CPQDPLOY.NLM</td>
</tr>
<tr>
<td></td>
<td>• User can install a bundle by means of a command line or .NCF file.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• User is familiar with script files or wants to automate an installation of the NetWare PSP.</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>• User can select which components to install from a list.</td>
<td>Graphical (NUT-based) by CPQDPLOY.NLM</td>
</tr>
<tr>
<td></td>
<td>• User can install all components with a few simple keystrokes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• User wants a graphical display of results of the installation by component.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• User needs the ability to look at details of each component before installation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• User wants to choose which packages are installed graphically or does not want to work with script files.</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>• User can install a single component by means of a command line or .NCF file.</td>
<td>Command line by individual component</td>
</tr>
<tr>
<td></td>
<td>• User needs the ability to look at details of each component before installation using the -i switch.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• User wants to install only selected components or wants to automate the installation of selected components.</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>• User can install the component with a few simple keystrokes.</td>
<td>Graphical (NUT-based) by individual component</td>
</tr>
<tr>
<td></td>
<td>• User wants a graphical display of results of the installation by component.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• User needs the ability to look at details of the component before installation.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• User only wants to install a selected component and does not want to work with script files.</td>
<td></td>
</tr>
</tbody>
</table>
Command Line Parameters

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.

NOTE: The order of parameters is not important.

Command Line Syntax for the ProLiant Deployment Utility

```
<VOLUME: \PATH\>CPQDPLY [ /H | /?] [ /NUI] [ /S] [ /R] [ /F] [ /NOMODS]
[BP000xxxx.XML | CP00xxxx.NLM]
```

Table 3-2: Command Line Arguments for the ProLiant Deployment Utility

<table>
<thead>
<tr>
<th>Command Line Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/H</td>
<td>This argument displays a list of command line parameters.</td>
</tr>
<tr>
<td>/NUI</td>
<td>This argument suppresses the user interface. However, during installation, output is shown at the system console unless the silent (/S) option is also used.</td>
</tr>
<tr>
<td>/S</td>
<td>This argument enables a silent installation. All messages are logged to the SYS:\ETC\CPQLOG.LOG file. No console output or GUI is shown.</td>
</tr>
<tr>
<td>/R</td>
<td>This argument reboots the system if any packages being installed require it and if no failures occurred during the installation.</td>
</tr>
<tr>
<td>/F</td>
<td>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.</td>
</tr>
<tr>
<td>/NOMODS</td>
<td>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.</td>
</tr>
</tbody>
</table>
Command Line Syntax for Individual Component Installation

```<VOLUME:\PATH\>CP00.XXXX [/H | /?] [/NUI] [/S | /F] [/I] [/G] [/R] [/xVOL:\PATH\] [/NOMODS] [/bVOL:\PATH\]```  

Table 3-3: Command Line Arguments for Individual Components

<table>
<thead>
<tr>
<th>Command Line Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/H</td>
<td>This argument shows a list of command line parameters.</td>
</tr>
<tr>
<td>/NUI</td>
<td>This argument suppresses the user interface. However, during installation, output is shown at the system console unless the silent (/S) option is also used.</td>
</tr>
<tr>
<td>/S</td>
<td>This argument enables a silent installation. All messages are logged to the SYS\ETC\CPQLOG.LOG file. No console output or GUI is shown.</td>
</tr>
<tr>
<td>/F</td>
<td>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.</td>
</tr>
<tr>
<td>/I</td>
<td>This argument displays the Package Payload information (no installation occurs).</td>
</tr>
<tr>
<td>/G</td>
<td>This argument displays Package Source and Destination information (no installation occurs).</td>
</tr>
<tr>
<td>/R</td>
<td>This argument reboots the system if the package being installed requires it and if no failures occurred during the installation.</td>
</tr>
<tr>
<td>/xVOL:\Path\</td>
<td>This argument extracts the contents of the package to the directory pointed to by Vol:\Path.</td>
</tr>
<tr>
<td>/NOMODS*</td>
<td>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.</td>
</tr>
<tr>
<td>/bVOL:\Path*</td>
<td>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.</td>
</tr>
</tbody>
</table>

*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

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

#### Table 3-4: Command Line Examples

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

**NOTE:** 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

Table 3-5 lists the valid ProLiant Deployment Utility for Novell NetWare return codes.

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

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 BP00XXXX.XML. If the XML file is not in the start directory, CPQDPLOY.NLM will prompt you for a path to a valid Support Pack XML file, attempt to use a Support Pack file if only one exists in the start directory, or provide 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 either 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 CP0XXXXX.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, including 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 keystrokes that are available on the graphical screen are listed in Table 3-6.
Table 3-6: NetWare Keystrokes for the User Interface Mode of the ProLiant Deployment Utility for Novell NetWare

<table>
<thead>
<tr>
<th>Key</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>F1</td>
<td>Displays user help screens</td>
</tr>
<tr>
<td>F2</td>
<td>Toggles the force option</td>
</tr>
<tr>
<td>F3</td>
<td>Toggles the reboot option</td>
</tr>
<tr>
<td>F4</td>
<td>Marks/unmarks all components for installation</td>
</tr>
<tr>
<td>F5</td>
<td>Marks/unmarks an individual component or category in the list</td>
</tr>
<tr>
<td>F7</td>
<td>Toggles the Modify NCF Files option</td>
</tr>
<tr>
<td>F8</td>
<td>Displays more options</td>
</tr>
<tr>
<td>F10</td>
<td>Installs the marked packages</td>
</tr>
<tr>
<td>Enter</td>
<td>Shows the component package details and payload information</td>
</tr>
<tr>
<td>Esc</td>
<td>Returns to the previous screen or exits the deployment utility</td>
</tr>
</tbody>
</table>

After the installation is complete, an installation status screen is displayed 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 Package

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 CP0XXXXX.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 Package

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 Table 3-6 for the keystrokes that are available on the graphical screen.

After the installation is complete, a component installation status screen is displayed, showing the results of the installation. Pressing the **Esc** key terminates the component installer.
Troubleshooting Installation of the NetWare ProLiant Support Pack

The following issues might be encountered with the NetWare PSP. 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.

  **NOTE:** 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 [http://www.hp.com/support/files](http://www.hp.com/support/files).
• 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 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.

NOTE: All components that make up a PSP must be present in the same directory as the Support Pack file.
This chapter discusses how to use the PSPs for Linux. HP provides the HP ProLiant Linux Deployment Utility (LDU) for deploying the PSPs for Linux.

Overview

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.

Minimum Requirements for Linux Servers

TIP: 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.

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. PSP installation has the following minimum requirements:

- glibc 2.2.4-26 or later
- gtk+ -1.2.10-11 or later, gtk- engines -0.11-3 or later

NOTE: The gtk+ and gtk- engines RPMs are required for all installations. These will be installed in most server installations except minimal server Linux installs.

- gawk 3.1.0-3 or later
- sed 3.02-10 or later
- pciutils-2.1.8-25.i386.rpm 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 what kernel is used)

Linux PSPs currently support the following distributions and versions of Linux and their associated errata kernels:

- Red Hat Linux Professional 7.3 (RH73)
- Red Hat Linux Professional 8.0 (RH80)
- Red Hat Enterprise Linux 2.1 (RHEL21)
- Red Hat Enterprise Linux 3 (RHEL3)
- SuSE Linux Enterprise Server 7 (SLES7)
- Conectiva S.A., The SCO Group, SuSE Linux AG, and Turbolinux, Inc. powered by UnitedLinux 1.0 (UL10)

The PSPs are designed for use after the operating system installation to update drivers and install HP utilities (such as health, Remote Insight Lights-Out Edition, and Integrated Lights-Out drivers) and agents (Foundation, Server, LAN, and Storage).

**ProLiant Linux Deployment Utility**

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 (secure shell) utility.

**NOTE:** The LDU is available with PSPs for Linux at [http://www.hp.com/support/files](http://www.hp.com/support/files).

**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 non-graphical terminal window installation of a PSP or individual components. The terminal window mode is divided into three modes:
  - Silent
  - No user interface
  - Single step

- **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 is displayed, as illustrated in Figure 4-1. The window provides details about the contents of the PSP for the installed version of Linux.

![Image: HP ProLiant Linux Deployment Utility](Image)

**Figure 4-1: LDU main window**
PSP Deployment

The LDU supports deployment on the local server only. While the deployment can be executed from a secure shell to a remote server, it can only be deployed on the server that contains the PSP and the LDU.

For more information about how to deploy PSPs using the LDU, refer to the scenarios in the “Deployment Utility Usage Scenarios for Linux Servers” section of this chapter.

Installation Results

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. Figure 4-2 shows a sample installation log file. 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.

**NOTE:** The hppldu.log installation log file is located by default in the /var/log subdirectory.

![Figure 4-2: LDU installation log (/var/log/hppldu.log)](image-url)
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 Figure 4-3. 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 required Gtk libraries and the local DISPLAY environment variable are configured appropriately.

![Network Share](image_url)

**Figure 4-3: Single target deployment process for Linux**

Table 4-1 summarizes the PSP and component deployment scenarios on Linux-based systems.

**Table 4-1: Deployment Scenarios on Linux-Based Systems**

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Type of Deployment</th>
<th>Deployment Method Used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>User can install a PSP by means of a terminal window or shell script.</td>
<td>Terminal window installation using ./install????.sh --nui</td>
</tr>
<tr>
<td></td>
<td>User can silently install a PSP by means of a terminal window or shell script.</td>
<td>Terminal window installation using ./install????.sh --silent</td>
</tr>
<tr>
<td></td>
<td>User can select which components to install from a terminal window.</td>
<td>Terminal window installation using ./install????.sh -y --nui</td>
</tr>
<tr>
<td></td>
<td>User is familiar with script files or wants to automate an installation of the Linux PSP.</td>
<td>Terminal window installation using ./install????.sh --inputfile filename</td>
</tr>
<tr>
<td></td>
<td>User wants to view details of a component Red Hat Package Manager (RPM) file at the terminal window</td>
<td>Terminal window installation using ./install????.sh --view rpmname</td>
</tr>
</tbody>
</table>

continued
Table 4-1: Deployment Scenarios on Linux-Based Systems continued

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Type of Deployment</th>
<th>Deployment Method Used</th>
</tr>
</thead>
</table>
| 2        | • User can select which components to install from a list.  
          | • User can install all components with a few simple keystrokes.  
          | • User wants a graphical display of results of the installation by component.  
          | • User needs the ability to look at details of each component before installation.  
          | • 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 |

Command Line Parameters

This section explains the command line parameters used in the usage scenarios. Parameters are case sensitive and must be preceded with a dash (-) or double-dash (--) as shown in Table 4-2. For example, -h, -?, and --help are equivalent.

NOTE: The order of parameters is not important.

Command Line Syntax for Linux ProLiant Support Packs

./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 ]

Table 4-2: Command Line Arguments for Linux ProLiant Support Packs

<table>
<thead>
<tr>
<th>Command Line Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>-h, -?, --help</td>
<td>This argument displays a list of command line parameters.</td>
</tr>
<tr>
<td>--nui</td>
<td>This argument suppresses the user interface. However, during installation, output is shown at the terminal window unless the silent (--silent) option is also used.</td>
</tr>
<tr>
<td>-s, --silent</td>
<td>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.</td>
</tr>
<tr>
<td>-r, --reboot</td>
<td>This argument reboots the system if any components being installed require it and no failures occurred during the installation.</td>
</tr>
</tbody>
</table>
Table 4-2: Command Line Arguments for Linux ProLiant Support Packs

<table>
<thead>
<tr>
<th>Command Line Argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><code>-f, --force</code></td>
<td>This argument attempts to force the installation of all components. This option will bypass the following install checks:</td>
</tr>
<tr>
<td></td>
<td>• Minimum kernel version check</td>
</tr>
<tr>
<td></td>
<td>• Maximum kernel version check</td>
</tr>
<tr>
<td></td>
<td>• PCI device presence check</td>
</tr>
<tr>
<td></td>
<td>• Installed library file requirements</td>
</tr>
<tr>
<td></td>
<td>• Installed software version check</td>
</tr>
<tr>
<td></td>
<td>The force option will not force a component to install if prerequisites such as required modules, files, source code, and build environment are not available.</td>
</tr>
<tr>
<td><code>--inputfile filename</code></td>
<td>This argument enables you to pass input parameters in to the LDU to enable scripted deployments of the PSPs. The name used for the filename can be any valid Linux text file name. Refer to the section on scripted installation in the &quot;Advanced Installation Topics&quot; section of this document to find the format of <code>filename</code>.</td>
</tr>
<tr>
<td><code>-t reboot_timeout_in_minutes</code></td>
<td>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 <code>--reboot</code> parameter is not included, this parameter is ignored.</td>
</tr>
<tr>
<td><code>-m &quot;reboot_message&quot;</code></td>
<td>This argument enables you to send a message to all currently logged on users before rebooting the server. The message must be in double quotes to be sent properly. If the <code>--reboot</code> parameter is not included, this parameter is ignored.</td>
</tr>
<tr>
<td><code>-v, --verbose</code></td>
<td>This argument enables you to see more information during an installation than is normally displayed.</td>
</tr>
<tr>
<td><code>--view rpmname</code></td>
<td>This argument enables you to view the details associated with a given component RPM at the terminal window. The rpmname provided must be unique enough to enable the LDU to recognize the full RPM name.</td>
</tr>
<tr>
<td><code>-y</code></td>
<td>This argument enables you to step through a terminal window installation of a PSP. For each component, you will be prompted to decide whether it should be installed, or to exit out of the LDU. The <code>-y</code> switch will force the <code>--nui</code> switch option.</td>
</tr>
</tbody>
</table>
Return Codes

Table 4-3 lists the valid LDU return codes.

<table>
<thead>
<tr>
<th>Value</th>
<th>Meaning</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Installation was successful. Reboot is not required.</td>
</tr>
<tr>
<td>1</td>
<td>Component XML files are missing or corrupt.</td>
</tr>
<tr>
<td>2</td>
<td>No components to be installed were found in the bundle XML file.</td>
</tr>
<tr>
<td>3</td>
<td>Bundle XML file is missing, or no bundle XML was found that supports the installed version of Linux.</td>
</tr>
<tr>
<td>4</td>
<td>Component RPM files are missing or corrupt.</td>
</tr>
<tr>
<td>5</td>
<td>A condition was not met for one or more components.</td>
</tr>
<tr>
<td>6</td>
<td>Reserved</td>
</tr>
<tr>
<td>7</td>
<td>Reserved</td>
</tr>
<tr>
<td>8</td>
<td>More than one bundle XML file was found that supports the currently installed distribution of Linux</td>
</tr>
<tr>
<td>9</td>
<td>User did not install any components prior to exiting the LDU.</td>
</tr>
<tr>
<td>10</td>
<td>Installation of one or more components failed.</td>
</tr>
<tr>
<td>11</td>
<td>User did not configure a component requiring configuration.</td>
</tr>
<tr>
<td>12</td>
<td>Preconfiguration of one or more components failed.</td>
</tr>
<tr>
<td>14</td>
<td>Postconfiguration of one or more components failed.</td>
</tr>
<tr>
<td>15</td>
<td>Reserved</td>
</tr>
<tr>
<td>16</td>
<td>Component installation was successful. Reboot is required to complete the installation of one or more components.</td>
</tr>
<tr>
<td>17</td>
<td>Installation of the selected components was not attempted because the software version is the same as the previously installed version.</td>
</tr>
<tr>
<td>18</td>
<td>Installation of the selected components was not attempted because a newer version of the software is already installed.</td>
</tr>
<tr>
<td>19</td>
<td>Installation of the selected components was not attempted because the hardware supported by the component was not found in the server.</td>
</tr>
<tr>
<td>20</td>
<td>One or more command line parameters on the ./install???.sh command was incorrect and must be fixed for installation to occur.</td>
</tr>
<tr>
<td>21</td>
<td>The user canceled installation of the Linux PSP before completion using CTRL+C.</td>
</tr>
<tr>
<td>22</td>
<td>Another instance of the LDU was found running on this server. Only one instance of the LDU can run at a time.</td>
</tr>
<tr>
<td>23</td>
<td>User aborted the installation during installation of components by clicking the Abort button.</td>
</tr>
</tbody>
</table>
Scenario 1: Terminal Window Installation

Terminal window installation using ./install????.sh 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 will fail unless the necessary information has been provided in the input file using the --inputfile filename option on the ./install????.sh command. Installation of the PSP can require up to 30 minutes, especially if remote source code is required to compile drivers and 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 User Interface Installation

During a “no user interface” installation, the installation proceeds at the terminal window. When the LDU is in this mode, user input and program output are provided at the terminal window. Program output is also saved to the default log file, /var/log/hppldu.log.

To install with no 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 those components. If a password is required, you are prompted to verify the original password. After the configuration data has been confirmed as valid, the --nui installation continues installation of the components in the PSP.

During installation, information about each component to be installed is displayed. The name, version, and description of the component being installed are shown on the console. Any data generated by the installation, including output from RPM scripts, is shown on the terminal window. This continues until installation of all components has been attempted.
While the installation is in progress, the LDU might determine that a component requires files that are not located on the current server. If this occurs, you are given the option to provide remote source location information about how to obtain the source. The LDU can obtain source from other remote servers using Network File System (NFS) or Samba. If you choose to provide this information, follow the prompts to provide the required information. Refer to the “Remote Source Location” section for more information about how to use the Remote Source Location option in the LDU.

**NOTE:** Components that require files located on a remote server can take up to 20 minutes to install. Installation time varies depending on the speed and the number of processors of the servers involved, as well as network loading.

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

**Figure 4-4: LDU ‘no user interface’ installation**

**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.
Single Step Installation

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

To install using single step mode, you must use the --nui and -y options on the ./install??? .sh command. If you omit the --nui parameter, the -y parameter still forces a terminal window installation.

./install??? .sh --nui -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 to be 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 those components. If a password is required, you are prompted to verify the original password.

After parsing the component XML files, the single step installation prompts you to determine whether installation of a particular component should be attempted by displaying the following:

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 are shown on the console. If you choose to install a component, any data generated by the installation, including output from RPM scripts, is shown in the terminal window. This continues until you have been prompted for each component in the bundle or until you have canceled out of the LDU.
While the installation is in progress, the LDU might determine that a component requires files that are not located on the current server. If this occurs, you are given the option to provide remote source location information about how to obtain the source. The LDU can obtain source from other remote servers using NFS or Samba. If you choose to provide this information, follow the prompts to provide the required information. After the connection information has been entered to locate remote source, this information is used on all subsequent components that require remote source code.

**NOTE:** Refer to the “Remote Source Location” section for more information about how to use the Remote Source Location option in the LDU.

After the installation is complete, the final status is returned by the LDU. If the reboot option has been selected and the installation was successful, the server reboots. If the reboot option has not been 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
```
The output from the view command is shown in the following figure.

![Output from --view command line parameter](image)

**Figure 4-6: Output from --view command line parameter**

**Scenario 2: Graphical (Gtk-based) Installation**

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

**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 graphical mode of the LDU is launched, the main window is displayed, as illustrated in Figure 4-7.
Information provided on the main installation screen includes:

- The name of the server on which the installation will occur
- The name of the PSP to be deployed on the server
- The Select Components to Install section
The **Select Components to Install** section has five columns:

- **The Status column** lists the current installation status for each component:
  - ✓ The currently installed version of the component is the same as or newer than the component in the PSP. This component will not be installed if the **Install** button is clicked.
  - ✗ The component is not installed, or the installed version is older than the component in the PSP. Installation of this component will be attempted if the **Install** button is clicked.
  - ✗ The component can be optionally configured. The default values for the configuration parameters will be used if you do not change the parameters of the component. Installation of this component will be attempted if the **Install** button is clicked.
  - ✗ The component requires configuration. The component may install, but will not be fully functional until configuration has been successfully completed. Installation of this component will be attempted if the **Install** button is clicked.
  - [No icon] The component has been deselected. The component will not be installed.

- **The Config? column** lists the configuration needs for each component:
  - Required—Configuration is required for this component to be installed successfully.
  - Optional—Configuration is optional for this component. The configuration default values will be used unless they are altered.
  - Completed—Configuration of this component has been completed and installation can proceed.
  - No—No configuration is required for this component.

- **The Installed Version column** lists the currently installed version of each component.
- **The New Version column** lists the new version that can be installed for each component.
- **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, configure components, and select components for installation.

To see the details for a given 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. A sample **Component Details** screen is shown in Figure 4-8.
To configure a component that has optional configuration needs:

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 is displayed. For more information, refer to the “Component Configuration” section later in this chapter.

Components can be selected or deselected 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 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 are:

- **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 will bypass checks for the following:
  - Minimum kernel version
  - Maximum kernel version
  - Library file dependencies
  - PCI device presence check
  - Installed software version check

  **NOTE:** Some dependencies are required even with the force option, such as file and directory dependencies, 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 the “Command Line Syntax for Linux ProLiant Support Packs” section. 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 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 three buttons labeled **Install**, **Remote Source Location Configuration**, and **Exit**.

  **NOTE:** On some 800 x 600 display resolutions, the **Install**, **Remote Source Location Configuration**, and **Exit** buttons might be hidden beneath the user panel. To view the **Install**, **Remote Source Location Configuration**, 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, remote source location set up if desired, and other options selected.
The Remote Source Location Configuration button enables you to set up the remote source location feature. This feature enables the LDU to use source code located on another server to compile modules, including NIC drivers, which require kernel source code when that kernel source is not located on the local server. Refer to the “Remote Source Location” section of this chapter for more information on how to configure and use this feature.

The Exit button enables you to exit the installation.

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

After Install is selected, the Installation in Progress screen is displayed (refer to Figure 4-9 for an example). 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.

![Figure 4-9: Installation in progress](image)
The **Installation in Progress** screen has four columns:

- The **Description** column lists the description of each component.
- The **Installed Version** column lists the currently installed version of each component.
- The **New Version** column lists the new version of the component included in the PSP.
- The **Status** column 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 is displayed that indicates the installation is complete. Click **OK** to display the Installation Status Screen, as shown in Figure 4-10.

**Figure 4-10: LDU Installation Status Screen**
The **Status** column shows the final installation status of the components selected for installation. The icons are defined as follows:

- ![Checkmark] Installation of the component was successful.
- ![Error] Installation of the component failed.
- ![Circle] 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.

A component is shown as “not required” if certain prerequisites are not met. For example, a driver only installs if the PCI device that the driver supports is present in the server. A component is also shown as “not required” 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.

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 Installation Topics

This section addresses advanced installation topics.

#### Remote Source Location

With Linux, many drivers, including all NIC drivers supported by HP, are compiled from source code. This source requires that certain files and libraries, including the kernel source, be made available for the component to install successfully. Because many users do not want to install the kernel source on every Linux server in their networks, the LDU enables the required source files to be located on another server in the network. The LDU dynamically connects to these resources using NFS or Samba, as required by the installation. However, if the components selected do not require a kernel source to compile or the kernel source for the currently installed kernel is located on the local server, the remote source option is not used.

To use the Remote Source Location feature, you must install the kernel source on a server, then create an NFS or Samba mountpoint for the installed kernel source. After the mountpoint has been defined on the remote server, the information is provided to the LDU for use during component installation.

**NOTE:** The kernel source must match the version of the kernel installed on the server where the LDU is executing, or the connection will fail.
Graphical Installation Mode

To configure the Remote Source Location feature in graphical installation mode:

1. Click the **Remote Source Location Configuration** option on the main screen of the LDU.
2. Enter the required information for the NFS or Samba remote source location.
3. Click **OK** to save any data that has been provided for use during component installation. If **Cancel** is clicked, any data entered is lost.

Examples of the NFS and Samba remote source location configuration screens are shown in Figure 4-11 and Figure 4-12.

![Figure 4-11: NFS Remote Source Location Configuration Screen](image)
Terminal Window Installation Mode

In terminal window installation mode, you are prompted only if remote source code is required to complete the installation of the current component. If the kernel source is located locally or the components selected for installation do not require source code to complete their installation, the installation continues without prompting. If the kernel source is needed to complete the installation of a component and it is not located on the local server, you are prompted to provide the NFS or Samba remote source location configuration or to cancel the installation of the given component.

For terminal window installation using the silent installation mode, you can predefine the NFS and Samba input values required for configuration of the remote source location functionality in an input file provided to the `./install???.sh` command. For more information on the input file functionality, refer to the “Scripted Installation” section in this chapter.
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

**NOTE:** The configuration data used during each installation of the Linux PSP can be saved to the /var/hp/hppldu.cfg file. This allows you to install one server and then use the hppldu.cfg 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
```

### 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 Figure 4-13 is displayed.
4. Configure the component. The default value, if any, is displayed at the end of the prompt in brackets.
5. Click **OK** to save the configuration data for use during the installation. Clicking **Cancel** will cause any entered data to be lost.

**NOTE:** If a component’s optional configuration data 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:** Starting with ProLiant Support Pack 7.00, 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.
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 Figure 4-14.

**NOTE:** If a component’s optional configuration data 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:** On a silent installation, configuration parameters must be provided through an input file, as described in the following section. 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

Scripted installation using the LDU can be performed 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 supported parameters are listed in Table 4-4.

**Table 4-4: Supported Parameters for the Input File for Scripted Installation**

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>NFSREMTESERVERNAME</td>
<td>This parameter is the exported directory path name [either Domain Name System (DNS) name or IP address] that contains the kernel source for use with the Remote Source Location feature of the LDU.</td>
</tr>
<tr>
<td>NFSREMOTEMOUNTPOINT</td>
<td>This parameter is the share name on the remote server that contains the kernel source code. The NFS mount on the local server is performed during the installation if it is required and dismounted at the completion of the installation.</td>
</tr>
<tr>
<td>SAMBAREMOTESERVERNAME</td>
<td>This parameter is the name of the remote Samba server (either DNS name or IP address) that contains the kernel source for use with the Remote Source Location feature of the LDU.</td>
</tr>
<tr>
<td>SAMBAREMOTEMOUNTPOINT</td>
<td>This parameter is the share name on the remote server that contains the kernel source code. The Samba mount on the local server is performed during the installation, if it is required, and dismounted at the completion of the installation.</td>
</tr>
<tr>
<td>SAMBAREMOTEUSERNAME</td>
<td>This parameter is the user name or user identification (UID) that has access to the share name on the remote server.</td>
</tr>
<tr>
<td>SAMBAREMOTEPASSWORD</td>
<td>This parameter is the password associated with the remote user name provided.</td>
</tr>
<tr>
<td>SAMBAREMOTEWORKGROUP</td>
<td>This parameter is the workgroup in which the user name provided resides.</td>
</tr>
<tr>
<td>LSPOPTIONS</td>
<td>This parameter is provided to enable you to pass normal command line options such as --silent, --nui, --reboot, and so on as input to the LDU.</td>
</tr>
<tr>
<td>LOGFILENAME</td>
<td>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 exist or the log file will remain the default file name.</td>
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<th>Parameter</th>
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| **HPHTTPSERVEROVERWRITE** | This parameter sets the HTTP server passwords. Accepted values are:  
| | • Yes-Replaces existing HTTP server passwords with the newly supplied ones  
| | • No-Retains the existing passwords |
| **HPHTTPSERVERADMINPASSWD** | 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 has not already been configured, the Web agent will not allow access through a Web browser. |
| **HPHTTPSERVEROPERATORPASSWD** | This parameter enables you to specify a password for the System Management Operator. There is no default value for this parameter. If the password has not already been configured, the Web agent will not allow access through a Web browser. |
| **HPHTTPSERVERUSERPASSWD** | This parameter enables you to specify a password for the System Management User. There is no default value for this parameter. If the password has not already been configured, the Web agent will 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. Multiple locations may be specified, 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. Multiple strings may be specified, separated by a space. |
| **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. Multiple locations may be specified, 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. Multiple strings may be specified, 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. 

*continued*
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<th>Description</th>
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<td>CMATRAPDESTINATIONIPORDNS</td>
<td>This parameter enables you to specify the IP address or DNS hostname of a server to send SNMP traps, such as Insight Manager 7.</td>
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<tr>
<td>CMASYSCONTACT</td>
<td>This parameter enables you to specify a person or phone number for administration of this system.</td>
</tr>
<tr>
<td>CMASYSTEMLOCATION</td>
<td>This parameter enables you to designate the location of this system.</td>
</tr>
<tr>
<td>CMASTARTWEBAGENT</td>
<td>This parameter determines whether the HP Insight Manager Web agent is started when the health driver loads. Accepted values are:</td>
</tr>
<tr>
<td></td>
<td>• Yes—Start the Web agent</td>
</tr>
<tr>
<td></td>
<td>• No—Do not start the Web agent</td>
</tr>
</tbody>
</table>

**Note:** The values entered for the preceding parameters must be enclosed in double quotation marks if they include spaces. For example:

- CMASYSCONTACT="John Doe" (requires double quotes)
- CMASTARTWEBAGENT=no (does not require double quotes)

The following input file is an example. If both NFS and Samba values are provided, only the NFS values will be used.

```bash
#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 using NFS, the file would have these parameters defined.
NFSREMOTESERVERNAME=10.1.1.1
NFSREMOTEMOUNTPOINT=/usr/src

#If using SAMBA, the file would have these parameters defined.
SAMBAREMOTESERVERNAME=sambasrv
SAMBAREMOTEMOUNTPOINT=sharename
SAMBAREMOTEUSERNAME=MyUserName
SAMBAREMOTEPASSWORD=MyPassword
SAMBAREMOTEWORKGROUP=workgroup

#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"
CMASYSYSLOCATION="Bldg 5-Room 104C"
CMASTARTWEBAGENT=yes
```
Troubleshooting Installation of the ProLiant Support Pack for Linux

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

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

  If any of the components chosen for installation fails 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.**

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

  If the BP00xxxx.xml file is missing, download the complete Linux PSP again from [http://www.hp.com/support/files](http://www.hp.com/support/files).

  **NOTE:** All components that comprise a PSP must be present in the same directory as the Support Pack XML file.

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

  Yes, this is normal. Each of the storage drivers will relink its driver to the base kernel and add a new entry in the LILO or GRUB tables that are displayed at boot. To be sure that you get the kernel with the latest drivers, select the last entry in the table.

- **When I try to install the PSP for Linux remotely through ssh, I receive a message similar to the following:**

  **The libraries necessary to use the GUI are not available. Would you like to install the ProLiant Support Pack for Linux without user interaction? [Y/N]**

  This is displayed for one of two reasons.

  — The required Gtk libraries are not installed on the local computer. You must install the required graphics libraries from the appropriate operating system installation CD or continue with the installation as a terminal window installation.

  — The appropriate DISPLAY environment variable has not been set on the remote server. To set the variable, use one of the following methods:

  **NOTE:** You must know either the DNS name or IP address of the target server.
Method A:

a. Be sure the ForwardX11 parameter is set to “yes” in the /etc/ssh/ssh_config file on the local server.

b. Be sure the X11Forwarding parameter is set to “yes” in the /etc/ssh/sshd_config file on the remote system.

c. Restart the sshd daemon on the remote system.

Method B:

a. On the local system, issue the command

```
xhost + [IPAddress | DNS name of Remote Server]
```

b. On the remote system, issue the command

```
export DISPLAY=<[IP Address | DNS name] of Local system>:0
```

NOTE: Method B is not recommended because it can open your server to unauthorized access.

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

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

- I attempt to connect to my NFS/Samba server, but I receive a message similar to the following:

```
A directory, /usr/src/linux-2.4... necessary to complete installation of the LSP package is not present.
```

Here are a few pointers to help make NFS/Samba connectivity easier to debug.

— Attempt to mount the remote source outside of the LDU to ensure access rights are correct.

— Verify that the firewall settings are correct. Issuing `ipchains` commands to enable port access for NFS or Samba might be necessary to correctly configure firewall access. Although not recommended, the firewall can be temporarily suspended during LDU installation by using the following command:

```
/etc/init.d/ipchains stop [use start to restart the firewall]
```

— Be sure that the actual source directories are located at the remote source and not just the RPMs or source RPM for the kernel. To properly use remote source location, you must install the source on a server and then copy the entire /usr/src tree to the remote source server for use during future LDU installations.

— Verify that the exported directory at the server is not exported at a higher directory layer. It is invalid to export a directory at multiple points in its directory tree.
— Verify that no_root_squash has been set on any exported NFS directory.

— Verify that write permissions have been given to the directories where the remote kernel source is located. During compilation of driver source, the `make dep` command will write a .depend file in each directory in the kernel source tree. Without write access, this command will fail.

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

  The cause of this problem is that 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 that the LDU is deploying software to:
  
  — gcc-2.96-108.1 or later
  — cpp-2.96-108.1 or later
  — binutil-2.11.90.0.8 or later
  — glibc-devel-2.2.4-26 or later

- **When I run the LDU and attempt to install NIC drivers using remote source code from an NFS server, I receive a return code 512, 1, or 2 from the `make -C` command or the `$KERNELSRC` command.**

  The most common causes of this issue are:
  
  — Root_squash has been set on the NFS export on the NFS server.
  
  — Write permissions have not been granted to the directory tree from which the files are exported.
  
  — The NFS server exports multiple directories in the same directory tree (for example, /tmp/share and /tmp/share/files are in the same directory tree) that have different permissions.

  The solutions to these causes are:
  
  — Use the no_root_squash option when exporting a directory on the NFS server. Be sure to reset the exports as well, using `exportfs -a` after the change has been made.
  
  — Enable write permissions on the share at the NFS server (use “rw” instead of “ro” when exporting the file system).
  
  — Export only one directory in any given directory tree.

- **When I install the bcm5700 and e100 drivers, the modules.conf file does not get 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 kernel 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 errata 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 possible after they are made available. If support for an errata kernel is not available, then you must choose either to use an errata kernel that allows the RPM component to install or to use alternate hardware that does provide support for the errata kernel 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 currently installed distribution of Linux. The Linux PSP requires that a unique bundle XML file is found in order to install its contents. When more than one bundle XML file is found, 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 problem will be resolved in a future version of the Linux PSP.
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