Abstract
This guide is intended for individuals who are familiar with the configuration and operation of Microsoft® Windows®, Windows Server® 2003, Windows Server® 2008, Linux, smart components, and deployment of firmware and software to systems and options.
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Introduction

PSP overview

HP PSPs are operating system-specific bundles of drivers, utilities, and management agents optimized for HP ProLiant systems. Each PSP is a predefined and tested bundle that includes setup and software maintenance tools designed to help efficiently install, upgrade, and manage system software.

The PSPs include tools for Microsoft® Windows® and Linux server environments that enable deployment of software updates from a central software repository to local or remote server systems. HP SUM enables users to deploy either Windows® or Linux components locally on a server and remotely to multiple servers simultaneously.

HP SUM can only deploy to target servers running the same operating system (Windows® or Linux), however, you do not have to match the operating system version or kernel on the local and remote target servers. This means that Red Hat Enterprise Linux 6.0 can deploy to Red Hat Enterprise Linux 5.6 or Windows Vista® clients can deploy updates to Windows® 2003 or 2008 servers running those operating systems.

**NOTE:** When deploying source RPMs, the Linux operating system, including the kernel on the system running HP SUM, must be the same as the system that the resulting RPM will be deployed to.

A separate PSP is provided for each major operating system release and for each architecture (such as x86 and x86_64 versions).

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

**NOTE:** Information about deployment of previous PSPs can be found in HP ProLiant Support Pack User Guides located on the PSP website (http://www.hp.com/servers/psp).

Benefits of PSP

- Increasing server manageability
- Enabling administrators to update systems remotely
- Reducing server maintenance costs
- Saving time
- Self-installable components with easy-to-understand software update descriptions
- Components that you can install individually or as part of a support pack
- Installation logic and version control that automatically verifies hardware, software, and operating system dependencies, installing only the correct software updates and latest drivers for optimal system configuration (excluding RPMs)
• Silent command-line options and return codes that enable scripting and enhanced integration of the PSP with HP Systems Insight Manager and the HP SmartStart Scripting Toolkit

• Integration with preconfigured server script files as part of HP Insight Control Management Software

• Common log files that provide easy access to a consolidated view of the software installation history on host servers

• Content in a ready-to-run, native operating system file format that saves time by installing directly from a CD or shared network drive

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

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

## Components in the PSP

<table>
<thead>
<tr>
<th>Component</th>
<th>Description/Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>NICs—Windows®</td>
<td>Includes the latest support and bug fixes.</td>
</tr>
<tr>
<td>NICs—Linux</td>
<td>Includes the latest support and bug fixes.</td>
</tr>
<tr>
<td>Storage—Windows®</td>
<td>Includes the latest support for Smart Array controllers and bug fixes.</td>
</tr>
<tr>
<td>Storage: Linux</td>
<td>• hpahcsr—A closed-source driver for the Smart Array B110i controller, which does not ship in Red Hat or SUSE.</td>
</tr>
<tr>
<td></td>
<td>• hpsa and cciss—Includes the latest support for Smart Array controllers and bug fixes. For this release includes improved support for kdump.</td>
</tr>
<tr>
<td></td>
<td>• mptlinux—Includes csmi code to support HP Storage Agents.</td>
</tr>
<tr>
<td>Fibre Channel and FCoE—Windows®</td>
<td>Includes the latest support and bug fixes for Fibre Channel and FCoE options.</td>
</tr>
<tr>
<td>Fibre Channel and FCoE—Linux</td>
<td>Includes the latest support and bug fixes for Fibre Channel and FCoE options.</td>
</tr>
<tr>
<td>Windows®: ACU</td>
<td>The HP Array Configuration Utility is a web-based application that helps you configure HP ProLiant SMART-2 Array Controllers, HP ProLiant Smart Array Controllers, HP ProLiant Integrated Smart Array Controllers, and HP ProLiant StorageWorks RAID Array Controllers. You can use the Array Configuration Utility for several tasks such as initially configuring the array controller, adding disk drives to</td>
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<tr>
<td>-----------</td>
<td>---------------------</td>
</tr>
<tr>
<td><strong>Windows®: VCA</strong></td>
<td>Version Control Agent enables management of the HP ProLiant software and firmware on the system, in conjunction with the HP Version Control Repository Manager.</td>
</tr>
<tr>
<td><strong>Windows®: Health/Agents/Platform SW</strong></td>
<td>HP Insight Management Agents help IT administrators rapidly respond to potential and actual system failures, increase system stability, reduce troubleshooting complexity, and minimize downtime by providing predictive fault management. Health provides system management support, including monitoring of server components, event logging, and support for the HP Insight Management Agents.</td>
</tr>
<tr>
<td><strong>Windows®: Diagnostics</strong></td>
<td>The HP Insight Diagnostics utility allows you to view critical computer hardware and software configuration information from various sources, saving it as a history of multiple sessions. Running the utility enables you to resolve server issues without taking the server offline, maximizing server availability. Insight Diagnostics includes a web browser interface in addition to the command-line interface in an online mode. This feature enables remote control of the utility and facilitates easy transfer of configuration information from remote machines to a service provider.</td>
</tr>
<tr>
<td><strong>Windows®: WBEM</strong></td>
<td>HP Insight Providers include server, storage, and network providers as well as WMI-based SMH. These providers are all packaged in a single Smart Component, which is included with the Windows® PSP. This feature enables you to install, uninstall, and update the Insight Providers as a single entity. The HP Insight Management WBEM Providers supply system management data through the WMI framework for HP ProLiant server platforms and options.</td>
</tr>
<tr>
<td><strong>Linux: ACU</strong></td>
<td>The HP Array Configuration Utility is a web-based application that helps you configure HP ProLiant SMART-2 Array Controllers, HP ProLiant Smart Array Controllers, HP ProLiant Integrated Smart Array Controllers, and HP ProLiant StorageWorks RAID Array Controllers. You can use the Array Configuration Utility for several tasks such as initially configuring the array controller, adding disk drives to an existing configuration, or reconfiguring your array controller.</td>
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Diagnostics includes a web browser interface in addition to the command-line interface in an online mode. This feature enables remote control of the utility and facilitates easy transfer of configuration information from remote machines to a service provider.

SMH

SMH is a web-based interface that consolidates and simplifies single system management for HP servers running the HP-UX, Linux, and Windows® operating systems. HP SMH aggregates and displays data from Web Agents and other HP Web-enabled System Management Software that includes:

- HP Insight Diagnostics
- Array Configuration Utility
- HP Software Version Control Agents

New features

- Support for the following operating systems:
  - Red Hat Enterprise Linux 5.6
  - Red Hat Enterprise Linux 6.0
  - Windows® Small Business Server 2011
  - Windows® Small Business Server 2011 Essentials

- Support for the following components:
  - HP NC-Series QLogic P3P Multifunction Driver for Windows Server® 2008 x32, x64, and R2 Editions
  - HP StorageWorks Fibre Channel Over Ethernet Adapter Kit for the x32 and x64 QLogic Storport Driver

- The following component is no longer supported:
  - HP NC-Series QLogic nx3 Multifunction Driver for Windows Server® 2008 x32, x64, and R2

*NOTE:* The AMD® and Intel® Chipset components are now contained in the Combined Chipset component.

Obtaining the PSP

The PSP can be obtained from the HP website or HP SmartStart CD media.

Obtaining PSP from HP SmartStart CD

PSPs and individual components can be obtained from the HP SmartStart CD.

For information about the HP SmartStart CD, see the SmartStart download page (http://www.hp.com/servers/smartstart).
HP website

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

Updating a PSP

You can obtain the latest released drivers and utilities from the HP FTP site (ftp://ftp.hp.com). For more information, see the HP Smart Update Manager User Guide (http://www.hp.com/support/HP_Smart_Update_Manager_UG_en).

Subscriber's Choice

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

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

Version control

The HP Version Control Repository Manager (VCRM) and the HP Version Control Agent (VCA) are web-enabled Insight Management Agents. HP Systems Insight Manager uses these Insight Management Agents to facilitate software update tasks.

- The VCRM provides a graphical view of the Windows® and Linux PSPs that are stored in a repository and can be configured to automatically update the repository with the latest software from HP.
- The VCA can be configured to point to a repository being managed by the VCRM, enabling easy version comparison and software updates.


Creating a centralized, network-based software repository

Deploying PSPs and individual components from a centralized, network-based software repository saves time and standardizes software maintenance and deployment procedures on Windows®- and Linux-based systems.
For maximum flexibility across operating system platforms, locate the software repository on a Windows® shared network drive. The repository can be updated from any of the following sources.

- HP Website
- SmartStart CD
- Network Share
- Software Repository
- Microsoft Internet Explorer
- Administrative System
Deploying PSPs

Beginning with version 8.40, both Windows® and Linux PSPs are deployed using HP SUM. In the PSP for Linux, HP SUM enables support for native RPM files. Users can now deploy firmware and software components simultaneously. PSPs can be deployed using graphical or command-line utilities specific to each operating system as listed below.

For more information about PSP deployment with HP SUM, see the HP Smart Update Manager User Guide (http://www.hp.com/support/HP_Smart_Update_Manager_UG_en).

PSP deployment scenarios

<table>
<thead>
<tr>
<th>Operating system environment</th>
<th>Scenario</th>
</tr>
</thead>
</table>
| **Microsoft® Windows®**      | • Graphical deployment on a single-host system using HP SUM  
|                              | • Graphical deployment remotely on a multiple-host system using the HP SUM GUI  
|                              | • Command-line deployment on a single-host system using the HP SUM command-line interface  
|                              | • Command-line deployment on a multiple-host system using the HP SUM command-line interface  
|                              | • Command-line deployment on a multiple-host system managed by HP Systems Insight Manager  |
| **Linux**                    | • Graphical deployment on a single-host system using HP SUM  
|                              | • Graphical deployment remotely on a multiple-host system using the HP SUM GUI  
|                              | • Command-line deployment on a single-host system using the HP SUM command-line interface  
|                              | • Command-line deployment on a multiple-host system using the HP SUM command-line interface  |

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

Deployment for Microsoft Windows

This section discusses deploying PSPs on Windows® operating systems. The PSPs support 32-bit and x86-64-based installations on both AMD®- and Intel®-based servers.

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

Minimum requirements for Microsoft Windows PSP
重要提示：在部署软件更新之前，请确保主机服务器最近有备份以防部署过程失败。

对于Microsoft® Windows®主机的组件部署，必须满足以下最低要求：
- 一个具有512 MB内存的本地管理系统，并运行支持的Windows®操作系统。
- 一个或多个远程主机服务器，这些服务器运行支持的Windows®操作系统，并需要软件升级。如果本地管理系统（本地主机）是唯一需要升级的服务器，远程主机服务器则不是必需的。
- 足够的硬盘空间，一般至少是您要部署的组件文件大小的两倍。
- WMI必须启用。

注释：当尝试使用任何版本的Windows Server® 2008的远程部署功能时，您必须确保文件和打印服务功能已启用，并且文件和打印服务在Windows®防火墙中的例外已启用。否则，HP智能更新管理器将无法部署远程Windows®目标服务器。在使用HP智能更新管理器时，请确保所有远程服务器都连接到同一网络，并使用TCP/IP以便主机系统可以被访问。
- 每个主机服务器必须拥有一个具有管理员权限的帐户。HP建议在远程服务器上的管理员帐户的用户名和密码与本地管理系统的相同。如果没有设置这种方式，则必须具有每个远程服务器的用户名和密码。另一种方式是在本地管理系统的域帐户上设置管理员权限。
- 主机服务器的起始和结束IP地址必须在同一子网。

警告：Microsoft®建议在从Windows Server™ 2003升级到Windows Server™ 2008之前卸载所有软件。如果不卸载软件，则无法保证升级后操作系统的稳定。

安装Windows的PSP

HP SUM实用程序使您能够使用一个简单易用的界面在Windows®环境中部署PSP软件组件。此实用程序允许您为现有软件组件提供后向兼容性支持，同时简化整体部署过程。您不再需要运行SETUP可执行文件（SETUPC.EXE, SETUPEX.EXE 和 SETUP.EXE）。HP SUM实用程序提供了此功能。该实用程序还提供安装逻辑和版本控制，可以自动检查依赖项，并仅安装所需的更新以实现最佳配置。

从HP SUM 3.2.0版和以后版本开始，持久数据（Hosts and Groups）的存储位置已更改。使用早期HP SUM版本输入的持久数据将在首次运行HP SUM 3.2.0版和以后版本时自动移动到新位置。这些数据在早期版本的HP SUM中不可用。此过程仅发生一次。如果在持久数据移动之后运行早期版本的HP SUM，则将不再具有持久数据的使用权限。
moved and new persistent data is entered, then the persistent data is not moved to the new storage location when you run HP SUM version 3.2.0 and later.

For more information about HP SUM utility see the HP Smart Update Manager User Guide. ([http://www.hp.com/support/HP_Smart_Update_Manager_UG_en](http://www.hp.com/support/HP_Smart_Update_Manager_UG_en))

After downloading the PSP self-extracting executable, perform the following steps:

1. Go to the directory where the PSP executable is saved.

2. Double-click the executable file and extract the PSP.

3. Go to the directory where the extracted PSP is located and double-click `hpsum.exe` to start the PSP deployment. The Source Selection screen appears.

4. Verify that the directory path in the `Directory` field has the location of the smart components in the PSP and then select `Start Inventory`. HP SUM performs an inventory of the available updates and verifies the local system for the hardware and software that are installed. After the inventory and discovery processes finish, the Select Installation Hosts screen appears.

5. Select either the local host or one (or more) remote hosts for PSP deployment. The Select bundle filter screen displays the PSP bundle information.

6. Select the bundle and the appropriate filter options. For remote deployments, additional screens enable you to update information on a per-host basis.

7. After selecting the bundle for all hosts being updated, go to the Select Items to be Installed screen and perform the following tasks:
   a. Select the components to be installed.
   b. If necessary, configure the components.
   c. Review failed dependencies before installation.
   d. Review the revision history of the components.

   **NOTE:** When running Windows Server® 2008 with the Server Core option, the Configure Now link is not available. To configure components to be deployed:
   
   - Access the system as a remote host using HP SUM running on a system with a supported Windows® operating system.
   - Configure the components before deployment.

1. Click **Install** to proceed with the installation. After the installation completes, the Installation Results screen appears.

2. If any components did not install successfully, then complete the following steps:
   a. Review the installation logs for information about any failures.
   b. Exit HP SUM.
   c. Make the required update to the environment.
   d. Restart installation of the PSP.

For more information, see the HP Smart Update Manager User Guide ([http://www.hp.com/support/HP_Smart_Update_Manager_UG_en](http://www.hp.com/support/HP_Smart_Update_Manager_UG_en)).
Server virtualization detection and support

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

Deploying PSPs for Linux

Separate PSPs are currently shipped for each supported distribution and version of Linux. Each PSP includes the software appropriate for the supported distribution and version of Linux. The PSPs support 32-bit and x86-64-based installations on both AMD®- and Intel®-based servers.

Starting with the 8.40 version of the PSP for Linux, the deployment utility contained on the PSP transitioned from the LDU to HP SUM. HP SUM enables the customer to choose the components to install. As with the LDU, the default setting within HP SUM installs all available components. Additionally, the HP SUM utility enables software deployment for multiple HP ProLiant servers from a single GUI.

Differences from previous Linux PSP versions:

- HP SUM no longer determines the necessity of a reboot based on component selection and installation. Instead, HP SUM provides an interface.
- HP SUM attempts to install all of the RPMs in the Linux PSP. HP recommends that you select only those components necessary for each environment.
- The necessary libraries must be changed to ensure execution of HP SUM. Additionally, several new RPMs might have to be installed before all RPMs included in the Linux PSP can be deployed successfully. (Prerequisite RPMs and platform-specific compatibility libraries are listed in the "Minimum requirements for Linux servers ("Minimum requirements for Linux PSP" on page 13)" section).

NOTE: When building source RPMs into binary RPMs and deploying them to remote targets, HP SUM validates the target operating system and kernel matches the local kernel on which the source RPM is being built. To bypass this verification process, you can build source RPMs into binary RPMs and add them to the location where HP SUM is started. These pre-built RPMs can be deployed to any target regardless of the installed kernel version. Before deploying the RPM in a production environment, HP recommends testing the RPMs on a non-production server running the targeted kernel.

Minimum requirements for Linux PSP

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 PSP installation for Linux servers:

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

The following RPMs are also required:
On Red Hat servers:
  - rpm 4.0.4 or later
  - rpm-build 4.0.4 or later
  - rpm-devel 4.0.4 or later

On SUSE Linux servers: rpm 3.0.6 or later

To successfully deploy HP SUM on remote target systems based on a Linux operating system, the following must be available:

- tcl-8.x package
- expect-5.x package

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

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

To install using the GUI option, you must have the following RPMs:

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

Starting with Linux HP ProLiant Support Pack 8.40 and later, and to support many HP value-add software deliverables included in the Linux PSP, you must install the following platform-specific compatibility libraries:

- For Red Hat Enterprise Linux 5 x86 servers:
  - compat-libstdc++-296-2.96-132.7.2.i386 or later
  - lm_sensors-2.8.7-2.i386 or later
  - net-snmp-5.3.1-14.el5.i386 or later
  - perl (required to provide the libperl.so)
  - libnl (required for QLogic and Emulex drivers)

- For Red Hat Enterprise Linux 5 AMD64/EM64T servers:
  - compat-libstdc++-296-2.96-132.7.2.i386 or later
  - lm_sensors-2.8.7-2.x86_64 or later
  - net-snmp-5.3.1-14.el5.x86_64 or later
  - perl (required to provide the libperl.so)
  - libnl (required for QLogic and Emulex drivers)

- For Red Hat Enterprise Linux 6 servers:

**NOTE:** The following versions listed are needed as a minimum. Later versions of these can also be used.
**NOTE:** Ensure that each NIC has an IP address assigned. To get the IP address assigned to a NIC, issue the `dhclient` command in the console, which enables the NIC interfaces and retrieves an IP address. If a NIC does not have an IP address, HP SUM appears to hang on start up.

- **RHEL6 Console Mode:**

  **NOTE:** You cannot use an X console in either the x86 or x86_64 version. You must install the base server with defaults and the following RPMs listed to run HP SUM in silent mode.

  - `lm_sensors-libs-3.1.1-10.el6.<arch>.rpm`
  - `net-snmp-libs-5.5-27.el6.<arch>.rpm`
  - `net-snmp-5.5.27.el6.<arch>.rpm`
  - `kernel-headers-2.6.32-71.el6.<arch>.rpm`
  - `redhat-rpm-config-9.0.3-25.el6.noarch.rpm`
  - `kernel-devel-2.6.32-71.el6.<arch>.rpm`
  - `rpm-build-4.8.0-12.el6.<arch>.rpm`
  - `gcc-4.4.4-13.el6.<arch>.rpm`

- **RHEL6 Graphical Mode:**

  **NOTE:** If you elect to install the XWindows support, then RHEL6 Graphical Mode applies to both x86 and x86_64.

  **NOTE:** The following items must be the 32-bit version even under x86_64 architecture as HP SUM and several of the RPMs require 32-bit libraries installed.

  - `libuuid-2.17.2-6.el6.i686.rpm`
  - `freetype-2.3.11-5.el6.i686.rpm`
  - `libSM-1.1.0-7.1.el6.i686.rpm`
  - `libICE-1.0.6-1.el6.i686.rpm`
  - `libXi-1.3-3.el6.i686.rpm`
  - `libX11-1.3-2.el6.i686.rpm`
  - `libXext-1.1-3.el6.i686.rpm`
  - `libxcb-1.5-1.el6.i686.rpm`
  - `libXau-1.0.5-1.el6.i686.rpm`
  - `libXrender-0.9.5-1.el6.i686.rpm`
  - `libXrandr-1.3.0-4.el6.i686.rpm`
  - `libXfixes-4.0.4-1.el6.i686.rpm`
  - `libXcursor-1.1.10-2.el6.i686.rpm`
  - `fontconfig-2.8.0-3.el6.i686.rpm`
  - `expat-2.0.1-9.1.el6.i686.rpm`
  - `expect-5.44.1.15-2.el6.<arch>.rpm`
  - `zlib-1.2.3-25.el6.i686.rpm`
In addition, the build directory for RPMs built from source has changed depending on the name of the user building them. Up through RHEL5, the directory had been 
/usr/src/redhat/RPMS/<architecture>. Under RHEL6, the directory is 
/root/rpmbuild/RPMS/<architecture> if the user is logged in as root and 
/$USER/home/rpmbuild/RPMS/<architecture> for users other than root.

• For SLES 10 x86 servers:
  o compat-2006.1.25-11.2.i586 or later
  o compat-libstdc++-5.0.7-22.2.i586 or later
  o perl (required to provide the libperl.so)
  o libnl (required for QLogic and Emulex drivers)

• For SLES 10 AMD64/EM64T servers:
  o compat-2006.1.25-11.2.x86_64 or later
  o compat-32bit-2006.1.25-11.2.x86_64 or later
  o compat-libstdc++-5.0.7-22.2.x86_64 or later
  o perl (required to provide the libperl.so)
  o libnl (required for QLogic and Emulex drivers)
  o e2fsprogs-32bit

• For SLES 11 x86 servers:
  o perl (required to provide the libperl.so)
  o compat-libstdc++-296-2.96-132.7.2.i386 or later
  o libstdc++-33-3.3.3-11.9.i586 or later
  o perl-SNMP-5.4-2.1-6.3.i586 or later
  o net-snmp-5.4.2.1-6.3.i586 or later
  o libnl (required for QLogic and Emulex drivers)

• For SLES 11 AMD64/EM64T servers:
  o glib-1.2.10-15.i386 or later
  o compat-libstdc++-296-2.96-132.7.2.i386 or later
  o libstdc++-33-32bit-3.3.3-11.9 or later
  o perl-SNMP-5.4.2.1-6.3.x86_64 or later
  o net-snmp-5.4.2.1-6.3.x86_64 or later
  o libnl (required for QLogic and Emulex drivers)

To perform builds of NIC source RPMs, the following RPMs are required on the local Linux system running HP SUM.

• gcc-2.96-108.1 or later

• kernel-devel
  o Required to build RPMs from source.
  o Required for Red Hat Enterprise Server 5.3, 5.4, and 5.5.
Be sure to install the kernel-devel in addition to any kernel specific devel package such as kernel-xen-devel or kernel-PAE-devel.

- kernel-syms
- RPM build tools

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

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

The PSPs are designed for use after you install the operating system so that you can update drivers, install HP utilities (such as Health and iLO drivers), and install agents (Foundation, Server, NIC, and Storage).

## Installing the PSP for Linux

### Installing Linux HP PSP using autorun:

PSPs can be installed through the autorun if autorun is configured on the target Linux server.

Red Hat distributions include autorun. If autorun is not installed, then it must be installed and properly configured before beginning. Autorun typically mounts the CD-ROM on /media/cdrom for Red Hat Enterprise Linux 4 and SUSE-based distributions.

**NOTE:** Red Hat Enterprise Linux 5 and SUSE LINUX Enterprise Server 10 SP2 automount the CD with the noexec property set. To run autorun, the CD must be first be unmounted and then manually remounted.

For other distributions, several autorun utilities are available for download from various Internet sites. These distributions typically mount the CD-ROM on /media/cdrom.

For the following instructions, the CD-ROM is mounted on /mnt/mnt. When performing these steps, replace /mnt/mnt with the actual mount point.

### Installing the Linux HP PSP using SmartStart CD:

1. Log in to the console as root.
2. Insert the CD. If autorun is activated, omit step 3.
3. Manually mount the CD and execute the autorun script (for example, /mnt/mnt/autorun).
4. On the End User License Agreement screen of autorun, select **Agree** or **Disagree**.
5. Select the **Software** tab.
6. Select the **Install the HP ProLiant Support Pack** option to install the desired Linux PSP.

### Manually Installing Linux HP PSP:

In the following instructions, the CD mount directory is /mnt/mnt. When performing the steps, replace /mnt/mnt with the actual mount point. Red Hat Enterprise Linux 4 and SUSE-based distributions mount CD on /media/cdrom. If the CD-ROM mount point is not defined in /etc/fstab, then a complete mount command is required.

1. Log on to the console as root.
2. Insert the SmartStart CD.
3. Mount the CD (for example, mount /mnt/mnt or mount -t iso9660 /dev/cdrom /mnt/mnt).
4. Change to the /compaq/csp/linux directory.

5. Execute the `./hpsum` command to install the Linux HP PSP.

**Deploying PSP with HP SUM:**

1. In the Source Selection screen, verify that the directory path in the Directory field has the location of the smart components in the PSP and then select **Start Inventory**. HP SUM performs an inventory of the available updates and checks the local system to see what hardware and software is installed. After the inventory and discovery processes finish, the Select Installation Hosts screen appears.

2. Select either the local host or one (or more) remote hosts for PSP deployment. The Select bundle filter screen displays the PSP bundle information.

3. Select the bundle and the appropriate filter options. For remote deployments, additional screens enable you to update information on a per-host basis.

4. After selecting the bundle for all hosts being updated, access the Select Items to be Installed screen to complete the following tasks:
   a. Select the components to be installed.
   b. Review failed dependencies before installation.
   c. Review the revision history of the components.

5. Click **Install** to proceed with the installation. After installation completes, the Installation Results screen appears.

6. If any components did not install successfully, complete the following steps:
   a. Review the installation logs for information about any failures.
   b. Exit HP SUM.
   c. Make the required update to the environment.
   d. Restart installation of the PSP.

For more information, see the **HP Smart Update Manager User Guide** ([http://www.hp.com/support/HP_Smart_Update_Manager_UG_en](http://www.hp.com/support/HP_Smart_Update_Manager_UG_en)).
Advanced topics

Command-line installation

The HP SUM command-line interface enables you to script custom installations. For more information about command-line syntax and command-line arguments, see the HP Smart Update Manager User Guide (http://www.hp.com/support/HP_Smart_Update_Manager_UG_en).

Command-line syntax

The general command-line syntax for HP SUM is:

```plaintext
hpsum [/h[elp]] [/?] [/f[orce]] [/f[orce]:bundle] [/f[orce]:rom]
[/f[orce]:software] [/f[orce]:all] [/g (/downgrade)] [/e (/rewrite)]
[/m[utual]] [/c[omponent] <component_to_install>]
[<component1_to_install> <component2_to_install> ...]
[<bundle1_to_install> <bundle2_to_install> ...] [/s[ilent]]
[/allow_update_to_bundle] [/allow_non_bundle_components] [/b[undle]
<bundle_to_install>] [/express_install] [/use_snmp] [/use_location
"file_share"] [/use_web] [/use_proxy] [/proxy_server] [/use_\[ownloaded]]
[/softwareonly] [/continue_on_error <error>]
[/override_existing_connection] [/On_failed_dependency:<Parameter>]
[/r[eboot]] [/reboot_message "reboot message"] [/reboot_delay
timeout_in_seconds] [/reboot_always] [/dryrun] user <username> or /username
<username> [/password <password>] [/current_credential] [/target
"netAddress"] [/group "group_name"] [/logdir "path"] [/v[erbose]]
[/inputfile "filename"] [/deleteinputfile "filename"]
```

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

**NOTE:** All arguments and information enclosed in brackets are optional. The arguments may be prefixed with either a ‘-’ or ‘/’ character. These examples show only the ‘/’.

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

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

**NOTE:** Command line syntax does not support double-byte character sets. Any messages entered through the command line using a double-byte character set will not be displayed correctly.
## Command-line arguments

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

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

<table>
<thead>
<tr>
<th>Command-line argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Help</strong></td>
<td></td>
</tr>
<tr>
<td><code>/help</code> or <code>/?</code></td>
<td>This argument displays command line Help information.</td>
</tr>
<tr>
<td><strong>Installation options</strong></td>
<td></td>
</tr>
<tr>
<td><code>/force</code></td>
<td>This argument enables you to override or downgrade an existing component installation. This argument produces the same results as <code>/f:software</code>.</td>
</tr>
<tr>
<td><code>/force</code>:bundle</td>
<td>This argument enables you to override or downgrade the existing installation of components in the selected bundle.</td>
</tr>
<tr>
<td><code>/force</code>:rom</td>
<td>This argument enables you to override or downgrade the existing installation of the selected firmware components. (Applies to firmware only.)</td>
</tr>
<tr>
<td><code>/force</code>:software</td>
<td>This argument enables you to override or downgrade the existing installation of the selected software components.</td>
</tr>
<tr>
<td><code>/force</code>:all</td>
<td>This argument enables you to override or downgrade the existing installation of the selected software components, firmware components, and bundles.</td>
</tr>
<tr>
<td><code>/g</code> or <code>/downgrade</code></td>
<td>This argument enables you to downgrade to an earlier version of firmware for multi-target devices such as hard drives and array controllers. (Applies to firmware only.)</td>
</tr>
<tr>
<td><code>/e</code> or <code>/rewrite</code></td>
<td>This argument enables you to rewrite the same version of firmware only for multi-target devices such as hard drives and array controllers. (Applies to firmware only.)</td>
</tr>
<tr>
<td><code>/mutual</code></td>
<td>If the device you want to flash is in a shared storage environment, then this argument informs the firmware flash engine to flash the firmware. If the device to be flashed is in a shared storage environment, and the <code>/m</code> option is not passed, then the component installation fails. (Applies to firmware only.)</td>
</tr>
<tr>
<td><code>/component</code></td>
<td>This argument specifies the components to install. Components to install can be specified with or without the <code>/component</code> argument.</td>
</tr>
<tr>
<td><code>&lt;component to install&gt;</code> or <code>&lt;component1_to_install&gt;</code> or <code>&lt;component2_to_install&gt;</code></td>
<td>If using the <code>/component</code> argument, then only one component can be specified with the argument. However, multiple <code>/c</code> arguments and components can be specified on the same line. If the <code>/component</code> argument is not used, then multiple components can be specified at the same time, but the components must be separated by a blank and listed after all the arguments on the command line. The components are installed in the order provided unless dependencies between components require installation in a different order. If so, the utility changes the installation order based on the component dependencies to ensure the successful installation of as many components as possible. Multiple components and bundles can be specified on the same command line. When mixing components and bundles on the command line, the filter switches control what components and bundles are installed.</td>
</tr>
<tr>
<td><code>/silent</code></td>
<td>This argument causes the installation to run silently with no GUI or console output. All data writes to the log file. Any generated prompts use the default option and continue the installation without user input. If a component requires input before installation (such as configuration information), then the component installation fails, and an error message writes to the log file.</td>
</tr>
<tr>
<td>Command-line argument</td>
<td>Description</td>
</tr>
<tr>
<td>-----------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Failed dependencies are not reported to the user when using the <code>/s[ilent]</code> argument. To verify failed dependencies, remove the <code>/s[ilent]</code> argument, reissue the command line, and then the HP SUM GUI appears.</td>
<td></td>
</tr>
<tr>
<td>This argument is a filter switch and enables the user to install newer versions of components defined in a PSP or firmware bundle. This argument enables these components to replace the older versions of the same component that might have shipped with the bundles.</td>
<td></td>
</tr>
<tr>
<td>This argument is a filter switch and enables the user to install components that are not included in the bundle but reside in the directory with the components in the bundle.</td>
<td></td>
</tr>
</tbody>
</table>
| This argument specifies the bundles to install. Bundles to install can be specified with or without the `/b[undle]` argument. **If using the `/b[undle]` argument, then only one bundle can be specified with the argument. However, multiple `/b` arguments and bundles can be specified on the same line.**  
**If the `/b[undle]` argument is not used, then multiple bundles can be specified at the same time, but the bundles need to be separated by a blank and listed after all the arguments on the command line.**  
Multiple components and bundles can be specified on the same command line. When mixing components and bundles on the command line, the filter switches control what components and bundles are installed. |
| This argument starts express install (for local host only). HP SUM performs discovery, install, or exit without user interaction. The user can cancel or terminate HP SUM. |
| This argument specifies that components, which use SNMP protocol, are available to be selected for installation. These components are available for selection by default. When the `/use_snmp` argument is used, and the `/use_wmi` argument is not, the WMI components are optional. |
| This argument specifies a directory or file share that contains the PSP and components for use with HP SUM. The `file_share` format must be a mapped file share and not in UNC format.  
If you do not specify this argument, the directory containing `hpsum.exe` or HP SUM is used by default. The logged-in account must have access to this location.  
The `/user` and `/passwd` arguments do not have any effect when attempting to access the file share. You can use those arguments only when connecting to a target system. |
<p>| This argument specifies that the check-box for Check ftp.hp.com on the Source Selection screen is to be selected. This enables components to be retrieved from hp.com and to be used in the list of possible updates. |
| This argument enables the inclusion of a proxy server (and port number) to access the HP FTP site (ftp://ftp.hp.com). This argument must be used with <code>/use_web</code>. For example, <code>/use_web /use_proxy &lt;1.22.33.44:80&gt;</code> |
| This argument enables the inclusion of a proxy script to access the HP FTP site (ftp://ftp.hp.com). This argument must be used with <code>/use_web</code>. For example, <code>/use_web /proxy_script &lt;autoproxy.com&gt;</code> |
| This argument specifies that the check box for Include components previously downloaded from HP.com on the Source Selection screen is to be selected. This enables those previously downloaded components to be included in the list of possible updates. |
| This argument specifies that if a Trusted Platform Module (TPM) is enabled, then the warning message can be ignored and component installation continues. |</p>
<table>
<thead>
<tr>
<th>Command-line argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>/use_wmi</td>
<td>This argument specifies that components, which use WMI protocol, are available to be selected for installation. These components are optional by default and will not be installed unless this argument is used. When the /use_wmi argument is used, and the /use_snmp argument is not, the SNMP components are optional.</td>
</tr>
<tr>
<td>/use_latest</td>
<td>This argument is a filter switch for use with bundles. The argument enables you to use the latest version of the bundle when multiple versions of bundles are listed on the command line. If there are no bundles specified on the command line, and multiple bundles are in the directory, the /use_latest argument enables HP SUM to use the bundle with the latest version for installation.</td>
</tr>
<tr>
<td>/romonly</td>
<td>This argument is a filter switch and enables the user to view only the firmware components needed for installation. When using this filter switch, you must exit, and then restart HP SUM to return to an unfiltered state. Do not use the /romonly argument with the /softwareonly argument.</td>
</tr>
</tbody>
</table>

**Overriding errors**

| /softwareonly         | This argument is a filter switch and enables the user to view only the software components needed for installation. When using this filter switch, you must exit, and then restart HP SUM to return to an unfiltered state. Do not use the /softwareonly argument with the /romonly argument. |
| /continue_on_error    | This argument causes the installation to continue and ignore errors. Valid values are <error>=ServerNotFound, <error>=BadPassword and <error>=FailedDependencies. The ServerNotFound option can be used to bypass inactive or unavailable remote hosts when deploying firmware or software to multiple remote hosts at the same time. |

| /override_existing_connection | This argument defines the behavior when a remote target has an existing HP SUM session in progress. This argument overrides the session in progress and reinitializes the installation framework on the remote host. |
| /On_failed_dependency    | This argument informs HP SUM how to proceed when a component has a failed dependency. The default OmitHost causes the host to be put in a failure state and no install is attempted on it. OmitComponent clears the affected components and proceeds with any updates that do not have dependency failures. Force attempts all updates, even if they have dependency failures. |

**Reboot options**

| /r[reboot]              | If the following conditions are met, then this argument causes the server (or host server in a remote installation) to reboot:  
|                         | - The /reboot option is selected or given as a command-line argument.  
|                         | - All components selected for installation are successfully installed.  
<p>|                         | - At least one of the installed components requires a reboot to complete its installation. |
| /reboot_message         | This argument displays the specified reboot message on remote consoles connected to the server you want to reboot. You must use this argument with the /reboot option or the argument is ignored. |
| &quot;reboot message&quot;        | This argument delays the reboot of the server for the length of time specified by the timeout_in_seconds variable. You must use this argument with the /reboot option, or the argument is ignored. Acceptable values are between 15 and 3600. The default timeout value is 15 seconds for Microsoft® Windows® operating systems. |</p>
<table>
<thead>
<tr>
<th>Command-line argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>systems and 60 seconds for Linux. For Linux, the Reboot Delay time is converted from seconds to minutes, and any value under a full minute, 59 seconds or less, rounds to the next minute.</td>
</tr>
<tr>
<td>/reboot_always</td>
<td>• If the following conditions are met, then this argument forces the server to reboot: The /reboot_always option is selected or given as a command-line argument. • All components selected for installation are successfully installed.</td>
</tr>
<tr>
<td>Creating Host Groups</td>
<td>/group &quot;group_name&quot; This argument specifies an already defined group name in the HP SUM GUI.</td>
</tr>
<tr>
<td>Simulating HP SUM</td>
<td>/dryrun This argument simulates the installation for a test run. Nothing is installed.</td>
</tr>
<tr>
<td>Targets</td>
<td>/user &lt;username&gt; or /username &lt;username&gt; This argument enables you to log in to the remote targets with the username.</td>
</tr>
<tr>
<td></td>
<td>/pswrd &lt;password&gt; This argument enables you to use the password for the username specified in the /user argument to log in to remote targets.</td>
</tr>
<tr>
<td></td>
<td>/current_credential This argument enables the credentials of the local host to be used as the credentials to access the targets instead of providing the username and password explicitly for each target. The assumption is that the current credentials are valid for the targets being accessed. (Applies to Windows® operating systems only.)</td>
</tr>
<tr>
<td></td>
<td>/target &quot;netAddress&quot; This argument is the IP address or the DNS name of a remote server, remote iLO NIC port, Virtual Connect Ethernet or Fibre Channel Module for HP BladeSystem c-Class Onboard Administrator or BladeSystem Onboard Administrator. When two Onboard Administrators are in an enclosure, this argument should be the active Onboard Administrator. When specifying the IP address, you can use either the IPv4 or IPv6 format.</td>
</tr>
<tr>
<td>Capturing log files</td>
<td>/logdir &quot;path&quot; This argument enables you to redirect the output from HP SUM or the HP BladeSystem c-Class Onboard Administrator flash utility to a different directory than the default location. • For Windows® components, the default location is %SYSTEMDRIVE%cPQSYSTEM\hp\log&lt;netAddress&gt; and the redirected location is &lt;path&gt;\hp\log&lt;netAddress&gt;. • For Linux components, the default location is /var/hp/log&lt;netAddress&gt; and the redirected location is &lt;path&gt;/hp/log&lt;netAddress&gt;.</td>
</tr>
<tr>
<td></td>
<td>/v[erbose] or /veryv[erbose] These arguments enable you to set the verbosity level for the HP SUM execution log file, hpsum_execution_log_&lt;date&gt;_&lt;time&gt;.log. Using one of these arguments increases the level of detail that is retained in the log file. The default value is normal verbosity.</td>
</tr>
<tr>
<td>Generating reports</td>
<td>/report This argument generates a report listing, a target summary, and how the components in the repository affect the target (For example, whether each component applies to the target or not). The report name is of the format, HPSUM_Report_&lt;date&gt;_&lt;time&gt;.html. By default, it is located in the present working directory from where HP SUM is initiated. If that location is write-protected, the report can be found in the same directory as the HP SUM log files.</td>
</tr>
</tbody>
</table>
|                        | /inventory_report This argument generates a report listing of the components in the specified
<table>
<thead>
<tr>
<th>Command-line argument</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>repository. The report name is of the format, HPSUM_Inventory_Report_&lt;date&gt;_&lt;time&gt;.html. By default, it is located in the present working directory from where HP SUM is initiated. If that location is write-protected, the report can be found in the same directory as the HP SUM log files.</td>
<td></td>
</tr>
<tr>
<td>/firmware_report</td>
<td>This argument generates a report listing of the firmware in the specified repository. The report name is of the format, HPSUM_Firmware_Report_&lt;date&gt;_&lt;time&gt;.html. By default, it is located in the present working directory from where HP SUM is initiated. If that location is write-protected, the report can be found in the same directory as the HP SUM log files.</td>
</tr>
</tbody>
</table>

### Using input files

<table>
<thead>
<tr>
<th>/inputfile “filename”</th>
<th>This argument enables you to script the deployment of firmware and software to multiple remote systems at one time. For details of the file format and commands, see Input files (on page 24).</th>
</tr>
</thead>
<tbody>
<tr>
<td>/Delete input file</td>
<td>This argument enables you to instruct HP SUM to delete the input file after it has been read in.</td>
</tr>
</tbody>
</table>

## Input files

HP SUM provides the ability to script the update of multiple, individual targets or groups of targets (HP ProLiant and Integrity server and options) within a single operation through the input file functionality. To protect your credentials, use a secure server or a management console.

To create an input file, use a text editor. All section headers and trailers [END] must match. Failure to use the SILENT=YES option causes the GUI mode to be used, but the information provided enables you to skip screens where information has already been provided. The DRYRUN=YES option can be used to perform dry runs of installations to ensure the scripts are working without deploying the firmware updates that might be required on each target. Remove the DRYRUN=YES option to perform the updates.

For parameters that can take list values, list separator can be commas, semicolons, or spaces.

**NOTE:** The credentials can be left out of the file for greater security and passed on the command line to HP Smart Update Manager. The only limitation of this is that the userID and credentials must be the same on all.

When the file has been created, to use it with HP SUM, add it as the inputfile <filename> parameter to a normal HP SUM command line. For example, if the name of the input file is hpsum.in, the command-line syntax is hpsum -inputfile hpsum.in. Full paths can be added to the input file location if it is not stored in the same location as the HP SUM executables. The <filename> field can be enclosed in double quotes to enable paths with spaces. Also, the input file itself might contain the same flags on the command line. The usual command-line flags can still be used with the -inputfile flag and takes precedence over any given input file.

## Command-line usage of input file

The form for the HP SUM command line using an input file is hpsum -inputfile <filename>. The input file itself can contain the same flags on the command line. The usual command line flags can still be used with
the `inputfile` flag, and takes precedence over any given input file. The `<filename>` field can be enclosed in double quotes to enable paths with spaces.

**Input file format and rules**

The input file is divided into two sections:

- **Configuration**
  The configuration section starts from the beginning of the file and proceeds until the first target section is encountered. This section consists of a number of settings parameters and their values. Each configuration setting must appear on a fresh line in the file along with its value. Comments start with a `#` character at the beginning of the line. Only one `#` is allowed on any line.

- **Target**
  You can provide remote host targets to HP Smart Update Manager. This section can repeat any number of times in the input file, providing a way to organize targets in related sets.

  The section starts with a special header “TARGETS” enclosed in a pair of square brackets:

  ```plaintext
  [TARGETS]
  ```

  Targets section ends with the special string "END" enclosed in a pair of brackets:

  ```plaintext
  [END]
  ```

  The keyword TARGETS can be suffixed with an optional arbitrary string. This enables you to tag the purpose of the TARGETS section. Other than the visible difference in the header, the contents of such a section are not treated any differently. For example,

  ```plaintext
  [TARGETS_WIN2003]
  ...
  [END]
  ```

  - **Credentials**: The TARGETS section allows the targets to be grouped according to the credentials needed for logging in remotely. Each TARGETS section must have a set of login credentials, which applies to all targets in that section. If you want to use the current host’s login credentials to log into one or more remote targets, you can do so by setting the variable `USECURRENTCREDENTIAL` to YES. Login credentials for one or more hosts can be supplied using the variables `UID` and `PWD`. If given at the beginning of a TARGETS section, both variables must be used. If given in the middle of a TARGETS section, one or the other can be used to override the selected variable and continue using the active value for the remaining variable.

  - **Remote Target**: A remote target can be specified using the variable `HOST`. Possible values are a DNS Name or an IP address.

**File encoding**

To allow for the inclusion of double-byte characters, the input file is in UTF-8 format.

**Error reporting**

If errors are encountered in the input file, HP Smart Update Manager exits with a return value of -2 (bad parameter). The details of the location and nature of the error are recorded in `hpsum_execution_log_<date>_<time>.raw`. 

### Input file parameters

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Possible values</th>
</tr>
</thead>
<tbody>
<tr>
<td>SILENT</td>
<td>This parameter causes the installation to run silently without GUI or console output. All data is written to the log file. Any generated prompts use the default option and continue the installation without user input. If a component requires input before installation (such as configuration information), then the component installation fails (unless the IGNOREERRORS = “FailedDependencies” parameter is supplied), and an error message is written to the log file.</td>
<td>YES, NO</td>
</tr>
<tr>
<td>FORCEALL</td>
<td>This parameter forces both firmware and software components.</td>
<td>YES, NO</td>
</tr>
<tr>
<td>FORCEROM</td>
<td>This parameter forces updates to firmware components.</td>
<td>YES, NO</td>
</tr>
<tr>
<td>FORCESOFTWARE</td>
<td>This parameter forces updates to software components.</td>
<td>YES, NO</td>
</tr>
<tr>
<td>FORCEBUNDLE</td>
<td>This parameter enables you to override or downgrade an existing installation of components in the selected bundle.</td>
<td>YES, NO</td>
</tr>
<tr>
<td>DOWNGRADE</td>
<td>This parameter enables you to downgrade to an earlier version of firmware for multi-target devices such as hard drives and array controllers. (Applies to firmware only.)</td>
<td>YES, NO</td>
</tr>
<tr>
<td>REWRITE</td>
<td>This parameter enables you to rewrite the same version of firmware only for multi-target devices such as hard drives and array controllers. (Applies to firmware only.)</td>
<td>YES, NO</td>
</tr>
<tr>
<td>REBOOTALLOWED</td>
<td>This parameter enables you to reboot, if required.</td>
<td>YES, NO</td>
</tr>
<tr>
<td>REBOOTMESSAGE</td>
<td>This parameter enables you to create a message to be displayed prior to rebooting.</td>
<td>Any string (not exceeding 256 characters)</td>
</tr>
<tr>
<td>REBOOTDELAY</td>
<td>This parameter enables you to delay before rebooting.</td>
<td>Time in seconds</td>
</tr>
<tr>
<td>COMPONENTSLIST</td>
<td>This parameter enables you to limit the list of components to be updated.</td>
<td>Component names with file extensions (.exe, .rpm, or .scexe)</td>
</tr>
<tr>
<td>BUNDLESLIST</td>
<td>This parameter enables you to limit the list of bundle xml files to be filtered.</td>
<td>Bundle file names</td>
</tr>
<tr>
<td>ALLOWUPDATEBUNDLE</td>
<td>This parameter is a filter switch and enables you to install newer versions of components defined in a PSP, ISP, or bundle. This parameter enables these components to replace the older versions of the same component that might have shipped with the bundles.</td>
<td>YES, NO</td>
</tr>
<tr>
<td>SKIPTARGET</td>
<td>This parameter defines the behavior when a remote target has an existing HP SUM session in progress. This parameter enables you to skip the host if an existing HP SUM session already exists. A NO overrides the session in progress and reinitializes the installation framework on the remote host.</td>
<td>YES, NO</td>
</tr>
<tr>
<td>IGNOREERRORS</td>
<td>This parameter causes the installation to continue ServerNotFound.</td>
<td>ServerNotFound,</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
<td>Possible values</td>
</tr>
<tr>
<td>---------------</td>
<td>--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------</td>
<td>----------------------------------------</td>
</tr>
<tr>
<td></td>
<td>and ignore errors. The ServerNotFound option can be used to bypass inactive or unavailable remote hosts when deploying firmware or software to multiple remote hosts at the same time. FailedDependencies can be used to ignore any failed dependencies and proceed with the ones that are ready to be installed.</td>
<td>BadPassword, FailedDependencies</td>
</tr>
<tr>
<td>SOURCEPATH</td>
<td>This parameter can be used to provide a single local repository path. This creates an inventory from the given path instead of the local or default repository.</td>
<td>Directory path</td>
</tr>
<tr>
<td>USELATEST</td>
<td>This parameter is a filter switch for use with bundles. The parameter enables you to use the latest version of the bundle when multiple versions of bundles are listed on the command line. If no bundles are specified on the command line, and multiple bundles are in the directory, then this parameter enables HP SUM to use the bundle with the latest version for installation.</td>
<td>YES, NO</td>
</tr>
<tr>
<td>DRYRUN</td>
<td>This parameter simulates the installation for a test run. Nothing is installed.</td>
<td>YES, NO</td>
</tr>
<tr>
<td>OPTIONS</td>
<td>This parameter can be used to specify the HP SUM CLI options inside the input file, which overrides the configuration settings. Parameters can be separated by a semi-colon, comma, or a space. This parameter replaces the LSOPTIONS parameter that was previously supported with LDU.</td>
<td>One or more CLI switch</td>
</tr>
<tr>
<td>USESNMP</td>
<td>This parameter specifies that components, which use SNMP protocol, are available to be selected for installation. These components are available for selection by default. When the /usesnmp parameter is used, and the /usewmi parameter is not used, the WMI components are optional. This parameter does not apply to HP Integrity Servers.</td>
<td>YES, NO</td>
</tr>
<tr>
<td>USEWMI</td>
<td>This parameter specifies that components, which use WMI protocol, are available to be selected for installation. These components are optional by default and are not installed unless this parameter is used. When the /usewmi parameter is used, and the /usesnmp parameter is not used, the SNMP components are optional. This parameter does not apply to HP Integrity Servers.</td>
<td>YES, NO</td>
</tr>
<tr>
<td>ROMONLY</td>
<td>This parameter is a filter switch and allows the user to view only the firmware components required for installation. Do not use the /romonly parameter with the /softwareonly parameter.</td>
<td>YES, NO</td>
</tr>
<tr>
<td>SOFTWAREONLY</td>
<td>This parameter is a filter switch and allows the user to view only the software components required for installation. Do not use the /softwareonly parameter with</td>
<td>YES, NO</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
<td>Possible values</td>
</tr>
<tr>
<td>----------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>USECURRENTCREDENTIAL</td>
<td>This parameter enables the credentials of the local host to be used as the credentials to access the targets instead of providing the username and password explicitly for each target. The assumption is that the current credentials are valid for the targets being accessed. (Applies to Windows® operating systems only.)</td>
<td>YES, NO</td>
</tr>
<tr>
<td>WEBUPDATENEEDED</td>
<td>This parameter enables you to instruct HP SUM to include the components from the HP FTP site (ftp://ftp.hp.com) in the list of possible updates. This parameter does not apply to Integrity Servers.</td>
<td>YES, NO</td>
</tr>
<tr>
<td>USEPROXYSERVER</td>
<td>This parameter enables the inclusion of a proxy server (and port number) to access the HP FTP site (ftp://ftp.hp.com). This parameter does not apply to Integrity Servers.</td>
<td>String value For example, 11.22.33.44:80</td>
</tr>
<tr>
<td>USEPROXYSCRIPT</td>
<td>This parameter enables the inclusion of a proxy script to access the HP FTP site (ftp://ftp.hp.com). This parameter does not apply to Integrity Servers.</td>
<td>Web URL (for example, autoproxy.com)</td>
</tr>
<tr>
<td>DELETEINPUTFILE</td>
<td>This parameter enables you to instruct HP SUM to delete the input file after it has been read in.</td>
<td>YES, NO (default)</td>
</tr>
<tr>
<td>ONFAILEDDEPENDENCY</td>
<td>This parameter instructs HP SUM how to proceed when a component has a failed dependency. The default of OmitHost causes the host to be put in a failure state and no install is attempted on it. OmitComponent clears the affected components and proceeds with any updates that do not have dependency failures. Force attempts all updates, even if they have dependency failures.</td>
<td>OmitHost (default), OmitComponent, Force</td>
</tr>
<tr>
<td>HOST</td>
<td>This parameter is the IP address or the DNS name of a remote server, remote iLO NIC port, Virtual Connect Ethernet or Fibre Channel Module for c-Class BladeSystem, or BladeSystem Onboard Administrator. When two Onboard Administrators are in an enclosure, this parameter is the active Onboard Administrator. When specifying the IP address, you can use either the IPv4 or IPv6 format. This parameter specifies an already defined group name in the HP SUM GUI.</td>
<td>IP address, DNS name</td>
</tr>
<tr>
<td>UID</td>
<td>This parameter enables you to log in to the target hosts with your user ID.</td>
<td>&lt;username&gt;</td>
</tr>
<tr>
<td>PWD</td>
<td>This parameter enables you to use the password for the user ID specified in the UID. The password is used to log in to target hosts.</td>
<td>&lt;password&gt;</td>
</tr>
<tr>
<td>LOGFILENAME</td>
<td>This parameter enables you to set the name of the log file generated by HP SUM to something other than the default of /var/log/hpSUM.log. The path must already exist or the log file remains the default file name.</td>
<td>Log file name</td>
</tr>
<tr>
<td>CMALOCAHOSTROCOMMSTR</td>
<td>This parameter enables you to specify an SNMP read/write community string for local host access. (Applies to Linux PSP only.)</td>
<td>SNMP read/write community string</td>
</tr>
<tr>
<td>CMALOCAHOSTROCOMMSTR</td>
<td>This parameter enables you to specify an SNMP read-only community string for local host access. (Applies to Linux PSP only.)</td>
<td>SNMP read-only</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
<td>Possible values</td>
</tr>
<tr>
<td>---------------------------</td>
<td>------------------------------------------------------------------------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>CMAMGMTSTATIONRWIPORDNS</td>
<td>This parameter enables you to specify the IP address or DNS host name of a system with read/write access to serve as a management station. You can specify multiple locations separated by a space. (Applies to Linux PSP only.)</td>
<td>IP address, DNS name</td>
</tr>
<tr>
<td>CMAMGMTSTATIONRWCOMMSTR</td>
<td>This parameter enables you to specify an SNMP read/write community string for a system with read/write access that serves as a management station. You can specify multiple strings separated by a space. (Applies to Linux PSP only.)</td>
<td>SNMP read/write community string</td>
</tr>
<tr>
<td>CMAMGMTSTATIONROIPORDNS</td>
<td>This parameter enables you to specify the IP address or DNS host name of a system with read-only access to serve as a management station. You can specify multiple locations separated by a space. (Applies to Linux PSP only.)</td>
<td>IP address, DNS name</td>
</tr>
<tr>
<td>CMAMGMTSTATIONROCOMMSTR</td>
<td>This parameter enables you to specify an SNMP read/write community string for a system with read-only access that serves as a management station. You can specify multiple strings separated by a space. (Applies to Linux PSP only.)</td>
<td>SNMP read/write community string</td>
</tr>
<tr>
<td>CMADEFTRAPCOMMSTR</td>
<td>This parameter enables you to set a default SNMP community string for traps. (Applies to Linux PSP only.)</td>
<td>SNMP community string</td>
</tr>
<tr>
<td>CMATRAPDESTINATIONCOMMSTR</td>
<td>This parameter enables you to specify the SNMP destination trap community string. (Applies to Linux PSP only.)</td>
<td>SNMP trap destination</td>
</tr>
<tr>
<td>CMATRAPDESTINATIONIPORDNS</td>
<td>This parameter enables you to specify the IP address or DNS host name of a server as a destination for SNMP traps, such as Systems Insight Manager. (Applies to Linux PSP only.)</td>
<td>IP address, DNS name</td>
</tr>
<tr>
<td>CMASYSCONTACT</td>
<td>This parameter enables you to specify a person or phone number for administration of this system. (Applies to Linux PSP only.)</td>
<td>String value</td>
</tr>
<tr>
<td>CMASYSLOCATION</td>
<td>This parameter enables you to designate the location of this system. (Applies to Linux PSP only.)</td>
<td>String value</td>
</tr>
<tr>
<td>CMASTARTWEBAGENT</td>
<td>This parameter determines whether the HP Insight Systems Manager Web Agent is started when the health application loads. (Applies to Linux PSP only.)</td>
<td>• YES (start the web agent) • NO (do not start the web agent)</td>
</tr>
<tr>
<td>CMASTARTSTORAGEAGENT</td>
<td>This parameter determines whether the HP Insight Systems Manager Storage Agent is started when the health application loads. (Applies to Linux PSP only.)</td>
<td>• YES (start the storage agent) • NO (do not start the storage agent)</td>
</tr>
<tr>
<td>CMASTARTNICAGENT</td>
<td>This parameter determines whether the HP Insight Systems Manager NIC agent is started. (Applies to Linux PSP only.)</td>
<td>• YES (start the web agent) • NO (do not start the web agent)</td>
</tr>
<tr>
<td>CMANOTAINTEDKERNEL</td>
<td>This parameter determines whether the HP Lights-Out management driver is started when the health application loads. (Applies to Linux PSP only.)</td>
<td>• YES (start the HP Lights-Out management driver)</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
<td>Possible values</td>
</tr>
<tr>
<td>------------------------</td>
<td>-----------------------------------------------------------------------------</td>
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</tr>
<tr>
<td></td>
<td>only.</td>
<td></td>
</tr>
<tr>
<td>HPVCAVCRMSERVER</td>
<td>This parameter informs the VCA of the name of the VCRM to use as a software distribution repository. (Applies to Linux PSP only.)</td>
<td>VCRM name</td>
</tr>
<tr>
<td>HPVCAVCRMLOGINID</td>
<td>This parameter is the login ID that the VCA uses to communicate with the VCRM. (Applies to Linux PSP only.)</td>
<td>VCA login ID</td>
</tr>
<tr>
<td>HPVCAVCRMLOGINPASSWD</td>
<td>This parameter is the password for the login ID specified in the HPVCAVCRMLOGIN parameter. (Applies to Linux PSP only.)</td>
<td>VCA login password</td>
</tr>
<tr>
<td>FORCE-OVERWRITE</td>
<td>This parameter is used by the HP Systems Management Homepage (hpsmh) to force overwrite the SMH settings of an existing configuration file.</td>
<td>YES, NO (default)</td>
</tr>
<tr>
<td>ADMIN-GROUP</td>
<td>This parameter is used by the HP Systems Management Homepage (hpsmh) to set up security for the web server. (Applies to Linux PSP only.)</td>
<td>Up to five Linux groups, separated by spaces or semicolons, to enable administrative access to the web services.</td>
</tr>
<tr>
<td>USER-GROUP</td>
<td>This parameter is used by the HP Systems Management Homepage to set up security for the web server. (Applies to Linux PSP only.)</td>
<td>Up to five Linux groups, separated by spaces or semicolons, to enable user-level access to the web servers.</td>
</tr>
<tr>
<td>OPERATOR-GROUP</td>
<td>This parameter is used by the HP Systems Management Homepage to set up security for the web server. (Applies to Linux PSP only.)</td>
<td>Up to five Linux groups, separated by spaces or semicolons, to enable operator-level access to the web servers.</td>
</tr>
<tr>
<td>ANONYMOUS-ACCESS</td>
<td>This parameter determines whether an anonymous user can access the HP Systems Management Homepage. (Applies to Linux PSP only.)</td>
<td>YES, NO (default)</td>
</tr>
<tr>
<td>IP-BINDING</td>
<td>This parameter is used by the HP Systems Management Homepage to determine whether hpsmh can use all available NICs and detect subnets for its web services. (Applies to Linux PSP only.)</td>
<td>YES, NO (default)</td>
</tr>
<tr>
<td>IP-BINDING-LIST</td>
<td>This parameter is used by the HP Systems Management Homepage to restrict the NICs and subnets to use for its web servers. The IP-BINDING parameter must be set to yes for this parameter to be used during installation. (Applies to Linux PSP only.)</td>
<td>IP address/NetMask pairs separated by semicolons (for example, 10.1.1.1/255.255.255.0 ; 10.2.2.2/255.255.255.0)</td>
</tr>
<tr>
<td>IP-RESTRICTED-LOGINS</td>
<td>This parameter is used by the HP Systems Management Homepage to restrict login access. (Applies to Linux PSP only.)</td>
<td>YES, NO (default)</td>
</tr>
</tbody>
</table>

To enable restrictions on who can log in to the web server, this parameter must be set to yes, and values must be provided to the IP-RESTRICTED-EXCLUDE option.
<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Possible values</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IP-RESTRICTED-EXCLUDE</strong></td>
<td>This parameter is used by the HP Systems Management Homepage to exclude specific IP address/NetMask pairs from logging into the web services. (Applies to Linux PSP only.) This parameter is ignored unless the IP-RESTRICTED-LOGINS parameter is set to yes.</td>
<td>List of IP address ranges separated by semicolons (for example, 10.1.1.1-10.1.1.10;10.2.2-10.2.2.10)</td>
</tr>
<tr>
<td><strong>IP-RESTRICTED-INCLUDE</strong></td>
<td>This parameter is used by the HP Systems Management Homepage to enable login only from the IP address/NetMask pairs specified. (Applies to Linux PSP only.) This parameter is ignored unless the IP-RESTRICTED-LOGINS parameter is set to yes.</td>
<td>List of IP address ranges separated by semicolons (for example, 10.1.1.1-10.1.1.10;10.2.2-10.2.2.10)</td>
</tr>
<tr>
<td><strong>LOCALACCESS-ENABLED</strong></td>
<td>This parameter is used by the HP Systems Management Homepage to determine whether to enable local anonymous access to the web services. (Applies to Linux PSP only.)</td>
<td>• YES (default to include anonymous access)</td>
</tr>
<tr>
<td><strong>LOCALACCESS-TYPE</strong></td>
<td>This parameter is used by the HP Systems Management Homepage to determine the type of access granted to local users. (Applies to Linux PSP only.)</td>
<td>• Anonymous (default)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Administrator</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>CAUTION</strong>: Selecting local access with administrator privileges as the login provides full access to any user with access to the local console, without prompting for a user name or password.</td>
</tr>
<tr>
<td><strong>TRUSTMODE</strong></td>
<td>This parameter is used by the HP Systems Management Homepage to set up the trust relationship mode. (Applies to Linux PSP only.)</td>
<td>• TrustByCert—If this value is used, the CERTLIST parameter must be defined to enable access to the server.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• TrustByName—If this value is used, the XENAMENLIST parameter must be defined.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>• TrustByAll—HP does not recommend using this value because of possible negative security consequences.</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>CAUTION</strong>: The accepted values are case-sensitive and must be capitalized as shown. Failure to do so prevents the trust relationship from being set up properly during</td>
</tr>
<tr>
<td>Parameter</td>
<td>Description</td>
<td>Possible values</td>
</tr>
<tr>
<td>--------------</td>
<td>-----------------------------------------------------------------------------</td>
<td>---------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>CERTLIST</td>
<td>This parameter enables a user to provide a list of certificate files or servers where certificates can be obtained for trust relationships for the HP Systems Management Homepage. (Applies to Linux PSP only.)</td>
<td>Certificate file name or Server DNS name</td>
</tr>
<tr>
<td>XENAMELIST</td>
<td>This parameter enables a user to provide a list of servers, separated by semicolons, for trust relationships for the HP Systems Management Homepage. (Applies to Linux PSP only.) This parameter is only valid if the TRUSTMODE parameter is set to TrustByName. (Applies to Linux PSP only.)</td>
<td>Server DNS name</td>
</tr>
<tr>
<td>HPQLA2X00FO</td>
<td>This parameter is used by the hp_qla2x00 QLogic Fibre Channel Driver to determine the failover mode to use. (Applies to Linux PSP only.)</td>
<td>• SinglePath&lt;br&gt;• SecurePath&lt;br&gt;• QLogicFailure&lt;br&gt;(No default value)</td>
</tr>
<tr>
<td>HPQLA2X00FORCE</td>
<td>This parameter is used by the hp_qla2x00 QLogic Fibre Channel Driver to determine whether to skip detection of third-party storage. (Applies to Linux PSP only.)</td>
<td>&quot;Y&quot;, &quot;N&quot; (default)</td>
</tr>
<tr>
<td>OAUlD</td>
<td>This parameter provides the username credentials for OA associated with VC. You must define a value of these variables before HOST variable in [TARGETS] section. This parameter only applies for VC firmware.</td>
<td>User can define OAUlD variable multiple times before each HOST variable.</td>
</tr>
<tr>
<td>OAPWD</td>
<td>This parameter provides the password credentials for OA associated with VC. You must define a value of these variables before HOST variable in [TARGETS] section. This parameter only applies for VC firmware.</td>
<td>User can define OAPWD variable multiple times before each HOST variable.</td>
</tr>
</tbody>
</table>

Examples of the HP SUM input file include:

REBOOTALLOWED = YES
REBOOTREQUIRED = NO
REBOOTMESSAGE = "Server is going down for a reboot"
REBOOTDELAY = 15
COMPONENTSLIST = cp001234.exe, cp001235.exe
BUNDLESLIST = bp001234.xml
ALLOWUPDATEBUNDLE = YES
SKIPTARGET = NO
IGNOREERRORS = ServerNotFound, FailedDependencies
SOURCEPATH = c:\pkgsource1
USELATEST = YES
SILENT = YES
OPTIONS = /f:rom

[TARGETS]
HOST = schinta1
HOST = schinta2
UID = root
PWD = root123
HOST = 234.567.765.432

[END]

USAGE: hpsum /inputfile <path:\inputfile.txt>

Examples of inputfile.txt file:

Example 1: The two targets are passed to be updated. The targets do not necessarily have to be OAs. They can be any target supported by HP SUM.

  DRYRUN = YES
  SILENT = YES
  [TARGETS]
   HOST = BL465C-01
   HOST = 192.168.1.2
  [END]

Example 2: A host DNS is passed along with the user ID and password to use for the hosts in the group.

  DRYRUN = YES
  SILENT = YES
  [TARGETS]
   HOST = BL685cG6
   UID = Bigboss2
   PWD = password
  [END]

Example 3

  SILENT = YES
  IGNOREERRORS = ServerNotFound, BadPassword, FailedDepedencies
  SKIPTARGET = NO
  SOURCEPATH = C:\fwcd\firmware-8.70-0\hp\swpackages
  [GROUPS]
  HOST=winserver
  UID=Userid
  PWD=password
  [END]

Example 4

  SILENT = YES
  IGNOREERRORS = ServerNotFound, BadPassword, FailedDepedencies
SKIPTARGET = NO
SOURCEPATH = C:\ fwcd\firmware-8.70-0\hp\swpackages
FORCEALL = YES
REBOOTALLOWED = YES
REBOOTDELAY = 30
REBOOTMESSAGE = “Install complete, server will reboot in 30 seconds”

[TARGETS]
HOST=16.83.62.141
UID=Userid
PWD=password
[END]

[TARGETS]
HOST=16.83.61.48
UID=Userid
PWD=password
[END]

[TARGETS]
HOST=16.83.62.196
UID=Userid
PWD=password
[END]

[TARGETS]
HOST=16.83.61.24
UID=Userid
PWD=password
[END]
Troubleshooting installation of PSP for Microsoft Windows

You might encounter the following issues with the Microsoft® Windows® PSPs.

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

  ![Windows Security Alert]

  **Do you want to keep blocking this program?**
  
  **Name:** HP Smart Update Manager  
  **Publisher:** Hewlett-Packard Development Group, L.P.

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

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

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

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

  Microsoft® recommends that you remove all software from the system before upgrading from Windows Server® 2003 to Windows Server® 2008. If you leave software applications on the system during the upgrade process, Microsoft® does not guarantee the stability of the operating system or the software after the upgrade is complete.
• **HP SUM encountered a fatal error while initializing when running in a directory path containing double-byte characters.**

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

• **How do I use HP SUM over a firewall? Which ports will I need to open? Are they configurable?**

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

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

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

<table>
<thead>
<tr>
<th>Ports</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ports 445 and 137/138/139 (Port 137 is used only if you are using NetBIOS naming service.)</td>
<td>These ports are needed to connect to the remote ADKIN$ share on target servers. These ports are standard ports that Windows® servers use to connect to remote file shares. If you can connect remotely to a remote Windows® file share on the target server, then you have the correct ports open.</td>
</tr>
<tr>
<td>Ports 60000-60007</td>
<td>Random ports are used in this range to pass messages back and forth between the local and remote systems using SSL. These ports are used on the system running HP SUM to send data to the target server. Several internal processes within HP SUM automatically use the port from 60000 when no other application uses it. If a port has a conflict, the manager uses the next available port. HP does not guarantee that the upper limit is 60007 because the limit depends on how many target devices are selected for installation.</td>
</tr>
<tr>
<td>Ports 61000-61007</td>
<td>These ports are used to communicate from the target server to the system running HP SUM. The same mechanism is used by the remote access code as the 60000 ports, with the first trial port as 61000. The upper limit might not be 61007 when a conflict occurs. In the case of IPv4-only and one NIC, the lowest available port is used by HP SUM to pass information between processes on the local workstation where HP SUM is executed, and the next available port is used to receive messages</td>
</tr>
</tbody>
</table>
Troubleshooting installation of PSP for Linux

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

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

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

- **I used the -r flag to reboot the server and one of the components that was installed required a reboot, but the server did not reboot. What is happening?**
  
  If any of the components chosen for installation 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 install storage components and restart the server, there are one or more new entries in the LILO or GRUB tables for kernels to boot from. Is this normal?**
  
  Yes, this is normal. Each storage driver reconnects the driver to the base kernel and adds a new entry in the LILO or GRUB tables that appear at boot. To ensure that you get the kernel with the latest drivers, select the last entry in the table.

- **I attempted to install a component that compiles from source code, but the installation fails on the make command.**
  
  The build tools necessary to complete the build from kernel source are not located on the server where the LDU is deploying. To build from source RPMs, the following RPMs must be installed on the server where the HP SUM is deploying software:
- 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

**How do I use HP SUM over a firewall? Which ports will I need to open? Are they configurable?**

The ports that HP SUM uses cannot be configured. When HP SUM port initiates communications to remote targets, it uses several well-known ports depending on the operating system. For Linux, HP SUM uses port 22 (SSH) to start communications with the remote target.

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

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

<table>
<thead>
<tr>
<th>Ports</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Port 22</td>
<td>This port establishes a connection to the remote Linux server using SSH.</td>
</tr>
<tr>
<td>Ports 60000-60007</td>
<td>Random ports are used in this range to pass messages back and forth between the local and remote systems using SSL. These ports are used on the system running HP SUM to send data to the target server. Several internal processes within HP SUM automatically use the port from 60000 when no other application uses it. If a port has a conflict, the manager uses the next available port. HP does not guarantee that the upper limit is 60007 because the limit depends on how many target devices are selected for installation.</td>
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</tr>
<tr>
<td>Port 62286</td>
<td>This port is the default for some internal communications. This port is listening on the remote side if a conflict does not exist. If a conflict occurs, the next available port is used.</td>
</tr>
<tr>
<td>Ports 80 or 63000-63005</td>
<td>The logs are passed to the target, and the logs are retrieved using an internal secure web server that uses port 80 (if available) or a random port between 63000 and 63005, if port 80 is not available. This support enables updates of the iLO firmware without the need to access the host server and enables servers running VMware or other virtualization platforms to update their iLO without rebooting their server or migrating their virtual machines to other servers.</td>
</tr>
</tbody>
</table>
Reference documentation

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

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

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

For information about HP SUM, see the HP Smart Update Manager User Guide. (http://www.hp.com/support/HP_Smart_Update_Manager_UG_en)

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

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

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

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

For information about HP Insight Control Management Software, see the HP website (http://www.hp.com/servers/rdp).

For general information on management products, see the Insight Foundation website (http://www.hp.com/servers/proliantessentials).

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

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

Operating system information

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

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

- Red Hat Linux (http://www.redhat.com)
- SUSE Linux (http://www.suse.com)
HP contact information

For the name of the nearest HP authorized reseller:

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

For HP technical support:

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

AMD
Advanced Micro Devices

GRUB
Grand Unified Bootloader

GTK+
GIMP Toolkit

GUI
graphical user interface

HP SUM
HP Smart Update Manager

HTTP
hypertext transfer protocol

iLO
Integrated Lights-Out

IP
Internet Protocol

LDU
Linux Deployment Utility

LILO
Linux Loader

NIC
network interface controller

OS
operating system
PSP
HP ProLiant Support Pack

RPM
Red Hat Package Manager

SLES
SUSE Linux Enterprise Server

SMHP
HP System Management Homepage

SNMP
Simple Network Management Protocol

SOAP
Simple Object Access Protocol

SSH
Secure Shell

SSL
Secure Sockets Layer

TCP/IP
Transmission Control Protocol/Internet Protocol

UNC
Universal Naming Convention

VCA
Version Control Agent

VCRM
Version Control Repository Manager

WMI
Windows Management Instrumentation

XML
extensible markup language
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