HP ProLiant Support Pack User Guide

Abstract

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



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1 Introduction

PSP overview

PSPs represent operating system specific bundles of optimized drivers, utilities, and management agents.

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 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.

IMPORTANT: The HP PSP is not shipped with ProLiant Gen8 servers and will be discontinued. PSP 9.10 is the last version. Instead, use HP SPP. SPP is a comprehensive systems software and firmware solution delivered as a single ISO used to update HP ProLiant and BladeSystem servers and enclosures. You can download SPP from the HP website at http://www.hp.com/go/spp/download.

PSPs are operating system-specific bundles of drivers, utilities, and management agents optimized for HP ProLiant servers and BladeSystem infrastructures. 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.

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 downloading current and previous PSPs, see the PSP website at http://www.hp.com/servers/psp.

Components in the PSP

Component	Description/Benefit
NICs—Windows NICs— Linux	Includes the latest support and bug fixes
Storage—Windows	Includes the latest support for Smart Array controllers and bug fixes
Storage—Windows – Tape	This utility automatically installs the SCSI, SAS, and USB drivers for HP StorageWorks Ultrium and DAT tape drives, tape autoloaders, and tape libraries for systems running Windows Server 2008, Windows XP, Windows Vista, Windows 7, Windows Server 2008 R2, and Windows 2011 Small Business. With this component, customers can obtain unique HP drivers, which offer unique functionality over standard in-box drivers. Non-HP, in-box drivers might not be available in some cases.

Component	Description/Benefit
Storage—Linux	• `hpahcisr`—A closed-source driver for the Smart Array B110i controller, which does not ship in Red Hat or SUSE. • `hpsa` and `cciss`—Includes the latest support for Smart Array controllers and bug fixes. For this release includes improved support for `kdump`. • `mptlinux`—Includes `csmi` code to support HP Storage Agents. • `hpvsa`—Driver for the Dynamic Smart Array.
Fibre Channel and FCoE—Windows Fibre Channel and FCoE—Linux	Includes the latest support and bug fixes for Fibre Channel and FCoE options.
HP Agentless Management service	The iLO firmware performs server monitoring tasks. Therefore, no operating system resources are used to run management agents.
Windows—ACU Linux—ACU	The HP ACU 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 ACU for several tasks such as initially configuring the array controller, adding disk drives to an existing configuration, or reconfiguring your array controller.
Windows—VCA Linux—VCA	VCA enables management of the HP ProLiant software and firmware on the system, in conjunction with HP VCRM.
Windows—Health/Agents/Platform SW Linux—Health/Agents/Platform SW	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.
Windows—Diagnostics Linux—Diagnostics	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.
Windows—WBEM	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.
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

- New features for PSP 9.10:
  - Uses HP SUM 5.1.0
  - Ability to deploy firmware from Windows servers to Linux targets
  - Automatic discovery of blades and interconnects when given the Onboard Administrator as the target
  - Support for the following Windows drivers:
    - iLO drivers
    - Chipset drivers
    - VGA drivers
  - Added support for the following Gen8 servers:
    - HP ProLiant BL465c server
    - HP ProLiant BL420c server
    - HP ProLiant DL385p server
    - HP ProLiant DL380e server
    - HP ProLiant DL360e server
    - HP ProLiant ML350e server

Obtaining PSP

The latest PSPs and individual components for supported Windows and Linux operating systems are available on the Downloads tab on the HP website at http://www.hp.com/go/foundation.

As of PSP 9.00, the recommended method for obtaining updates is to use the HP SPP instead of PSP. For more information, see the HP website at http://www.hp.com/go/spp/download.

Version control

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

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

For more information about version control tools, see the *HP Systems Insight Manager Help Guide* and the *HP Version Control Installation Guide* on the HP Systems Insight Manager website at http://www.hp.com/go/hpsim.

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 the HP website (through an admin server), or Microsoft Explorer.

2 Deploying PSPs

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.

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

PSP deployment scenarios

Operating system environment	Scenario
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 CLI • Command-line deployment on a multiple-host system using the HP SUM CLI • Command-line deployment on a multiple-host system managed by HP SIM
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 CLI • Command-line deployment on a multiple-host system using the HP SUM CLI

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.

For a current list of supported operating systems, see the HP PSP website at http://www.hp.com/servers/psp.

Minimum requirements for Microsoft Windows PSP

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

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

- A local administrative system with 512 MB of memory and running a supported Windows operating system must be used.
- One or more remote host servers that run a supported Windows operating system and need a software upgrade must be available. If the local administrative system (local host) is the only server that requires an upgrade, then remote host servers are not necessary.
- Sufficient hard-drive space, which is generally at least twice the file size of the components you want to deploy, must be available.
- WMI must be enabled.

NOTE: When attempting to use the remote deployment functionality of HP SUM on any edition of Windows Server 2008, you must ensure that the file and print services feature is enabled and that the file and print services exception has been enabled in the Windows firewall. Failure to do so prevents HP SUM from deploying remote Windows target servers.

- All remote host servers must be connected to the same network and use TCP/IP to enable the systems to be accessed by the administrative system.
- Each host server must have an account with administrator privileges. HP recommends that the user name and password for the administrator account on each host server be the same as those on the local administrative system. If administrator privileges are not set up in this manner, then you must have the user name and password for each remote server available. Alternatively, you can use a domain account on the local administrative system that has administrator privileges on the host servers.
- When installing PSP on a remote host, ensure the following:
  - User specified has administrator rights
  - Remote share `\\servername\c$` is available and enabled
- The beginning and ending IP addresses for the range of hosts must both be on the same subnet.

Installing the PSP for Windows

HP SUM enables the deployment of PSP software components from a single, easy-to-use interface that is supported in Windows environments. This utility enables legacy support of existing software components, while simplifying the overall deployment process. You do not have to run the SETUP executable files (`SETUPC.EXE`, `SETUPEX.EXE`, and `SETUP.EXE`). HP SUM provides this functionality. The utility also provides installation logic and version control that automatically check for dependencies, installing only the correct updates for optimal configuration.

With HP SUM version 3.2.0 and later, the storage location for the persistent data (Hosts and Groups) has changed. Persistent data entered with earlier versions of HP SUM is automatically moved to a new location the first time you run HP SUM version 3.2.0 and later. The data is not available for use with earlier versions of HP SUM. This process occurs only once. If an earlier version of HP SUM is run after the persistent data is 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, see the *HP Smart Update Manager User Guide* on the HP website at 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. Click **Repository Contents** to view the contents of the chosen repository and their version number.
5. Click **Configure Components** to select components to configure.

   This option is available only for a local repository with components that require configuration.
6. Click **Configure**.
7. Click OK to return to the **Source Selection** screen.
8. 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.

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

Upgrading a PSP from HP SUM

1. Download the zip from HP SUM.
2. Unzip the `hpsum.exe` file and then double-click it to start HP SUM.
3. Select an item on the screen, and then click **OK**.
4. Select the location where the source file was saved, and then click **Start Inventory**.
5. Select the installation host, and then click **Next**.
6. Click **Install**. The installation begins
7. After the update is completed, the results display. Click **Restart Now** to restart your computer.

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.

The deployment utility contained on the PSP is HP SUM. HP SUM enables the customer to choose the components to install. The default setting within HP SUM installs all available components. Additionally, HP SUM enables software deployment for multiple HP ProLiant servers from a single GUI.

With this version of the Linux PSP:

- 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 Microsoft Windows PSP" (page 8) 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:

- A local administrative system with 1 GB of memory
- `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

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.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)

Minimum requirements for Red Hat Enterprise Linux 6 servers

NOTE: The following versions listed are needed as a minimum. Later versions of these might be used as well.

Ensure that each NIC has an IP address assigned. To get the IP address assigned to a NIC, enter 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.

- Red Hat Enterprise Linux console mode

  No X console in either x86 or x86_64 servers. To run HP SUM in silent mode, you must install the base server with defaults and the following RPMs:
  - `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

- Red Hat Enterprise Linux 6 graphical mode

  If the user elects to install the XWindows support, then the following applies to both x86 and x86_64 servers.

  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
  - libstdc++-4.4.4-13.el6.i686.rpm
  - net-snmp-5.5-27.el6.<arch>.rpm

  In addition, the build directory for RPMs built from source has changed depending on the name of the user building them. Up through Red Hat Enterprise Linux 5, the directory had been /usr/src/redhat/RPMS/<architecture>. Under Red Hat Enterprise Linux 6, 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 SUSE Linux Enterprise Server 10 x86 servers:
  - compat-2006.1.25-11.2.i586 or later
  - compat-libstdc++-5.0.7-22.2.i586 or later

    - `perl` (required to provide the `libperl.so`)
    - `libnl` (required for QLogic and Emulex drivers)
- For SUSE Linux Enterprise Server 10 AMD64/EM64T servers:
    - `compat-2006.1.25-11.2.x86_64` or later
    - `compat-32bit-2006.1.25-11.2.x86_64` or later
    - `compat-libstdc++-5.0.7-22.2. x86_64` or later
    - `perl` (required to provide the `libperl.so`)
    - `libnl` (required for QLogic and Emulex drivers)
    - `e2fsprogs-32bit`
- For SUSE Linux Enterprise Server 11 x86 servers:
    - `perl` (required to provide the `libperl.so`)
    - `compat-libstdc++-296-2.96-132.7.2.i386` or later
    - `libstdc++33-3.3.3-11.9.i586` or later
    - `perl-SNMP-5.4.2.1-6.3.i586` or later
    - `net-snmp-5.4.2.1-6.3.i586` or later
    - `libnl` (required for QLogic and Emulex drivers)
- For SUSE Linux Enterprise Server 11 AMD64/EM64T servers:
    - `glib-1.2.10-15.i386` or later
    - `compat-libstdc++-296-2.96-132.7.2.i386` or later
    - `libstdc++33-32bit-3.3.3-11.9` or later
    - `perl-SNMP-5.4.2.1-6.3.x86_64` or later
    - `net-snmp-5.4.2.1-6.3.x86_64` or later
    - `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`
    - Required to build RPMs from source.
    - 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 at 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 or upgrading a PSP for Linux

Installing or upgrading the HP PSP for Linux using autorun:

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

Red Hat distributions include autorun. Be sure to install and properly configure autorun before beginning. Autorun typically mounts the CD 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 automount the CD with the `noexec` property set. To use 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 on `/media/cdrom`.

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

Manually installing or upgrading HP PSP for Linux:

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 mount point is not defined in `/etc/fstab`, then a complete mount command is required.

Installing or upgrading a PSP for Linux in CLI mode:

1. Log on to the console as root.
2. Mount the CD.

   For example, mount `/mnt/mnt` or `mount -t iso9660 /dev/cdrom /mnt/mnt`.
3. Change to the `/compaq/csp/linux` directory.
4. Perform the `/hpsum --silent` command to install the HP PSP for Linux from the command line.

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* at http://www.hp.com/support/HP_Smart_Update_Manager_UG_en.

Verifying Installed Components

If you want to verify the installation of components, there are two ways to check:

- Using the RPM database. Run the command:

  ```
  rpm -qa | grep hp
  ```

  This command works on all versions of SUSE Linux Enterprise Server and Red Hat Enterprise Linux.

- Using HP SUM logs. HP recommends checking the HP SUM execution logs to determine what components were installed, and if a component has a dependency issue.

  Check the following file to determine the installed components:

  ```
  /var/cpq/Component.log
  ```

  Check the following file for more detailed information:

  ```
  /tmp/hpsum
  ```

For more information, see "Troubleshooting" (page 41).

3 Advanced topics

Command-line interface

You can use the HP SUM command-line interface to script custom installations.

For more information on using HP SUM, see the *HP Smart Update Manager User Guide* at http://www.hp.com/support/HP_Smart_Update_Manager_UG_en.

Command-line syntax

The general command-line syntax for HP SUM is as follows:

```
hpsum [/h[elp]] [/?] [/f[orce]] [/f[orce]:bundle] [/f[orce]:rom]
[/f[orce]:software] [/f[orce]:all ] [/g (/downgrade)] [/e (/rewrite)
[/r[eboot]] [/reboot_message "reboot message"]
[/reboot_delay timeout_in_seconds] [/reboot_always] [/s[ilent]]
[/c[omponent] <component_to_install>] [/group "group_name"]
[/b[undle] <bundle_to_install>] [/allow_update_to_bundle]
[/allow_non_bundle_components] [/use_latest] [/use_location "file_share"]
[/use_web] [/use_d[ownloaded]] [/tpmbypass] [/ignore_tpm] [/use_snmp]
[/use_wmi] [/use_ams][/romonly] [/softwareonly] [/dryrun]
[/continue_on_error <error>] [/override_existing_connection]
[/express_install] [/user <username> or /username <username>] [/passwd
<password>] [/current_credential] [/target "netAddress"] [/logdir "path"]
[/v[erbose]] [/veryv[erbose]] [/report][/inventory_report]
[/firmware_report] [/On_failed_dependency:<parameter>] [/oa_username
<username>] [/oa_password <password>] [/use_proxy <proxy server>]
[/proxy_script <proxy script>] [/proxy_user <username>] [/proxy_passwd
<password>][/inputfile "filename"] [/c[omponent]
<component_to_install>][<component1_to_install> <component2_to_install>
...][<bundle1_to_install> <bundle2_to_install>...]
```

The following commands are supported only by Superdome 2 servers:

```
[/update_type<type>] [/device_list <device[,device]…>] [/reboot_list
<npar[,npar]…>]
```

HP SUM with OA 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 parameters and information enclosed in brackets are optional. The parameters may be prefixed with either a hyphen (-) or slash (/) character. These examples show only the slash.

On Windows operating systems, use a slash before each argument. On Linux operating systems, use a hyphen before each argument.

If the `/s[ilent]` argument is not included on the command line, the HP SUM GUI appears.

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

Switch update commands

HP ProLiant G7 and earlier servers do not support AMS agents. The following tables show what updates occur when you use the switch agent commands.

The following table shows what updates occur if no switches are currently installed.

Command	G7 and earlier servers	Gen8 servers
`no switches`	SNMP	AMS
`/use_ams`	N/A	AMS
`/use_snmp`	SNMP	SNMP
`/use_wmi`	WBEM	WBEM
`/use_ams /use_snmp`	SNMP	AMS and SNMP
`/use_ams /use_wmi`	WBEM	AMS and WBEM
`/use_wmi /use_snmp`	WBEM and SNMP	WBEM and SNMP
`/use_ams /use_wmi /use_snmp`	WBEM and SNMP	AMS, SNMP and WBEM

The following table shows what updates occur if SNMP switches are currently installed.

Command	G7 and earlier servers	Gen8 servers
`no switches`	SNMP	SNMP
`/use_ams`	SNMP	SNMP and AMS
`/use_snmp`	SNMP	SNMP
`/use_wmi`	WBEM and SNMP	WBEM and SNMP
`/use_ams /use_snmp`	SNMP	AMS and SNMP
`/use_ams /use_wmi`	WBEM and SNMP	AMS, SNMP, and WBEM
`/use_wmi /use_snmp`	WBEM and SNMP	WBEM and SNMP
`/use_ams /use_wmi /use_snmp`	WBEM and SNMP	AMS, SNMP, and WBEM

The following table shows what updates occur if WBEM switches are currently installed.

Command	G7 and earlier servers	Gen8 servers
no switches	WBEM	WBEM
`/use_ams`	WBEM	WBEM and AMS
`/use_snmp`	WBEM and SNMP	WBEM and SNMP
`/use_wmi`	WBEM	WBEM
`/use_ams /use_snmp`	WBEM and SNMP	AMS, SNMP, and WBEM
`/use_ams /use_wmi`	WBEM	WBEM and AMS
`/use_wmi /use_snmp`	WBEM and SNMP	WBEM and SNMP
`/use_ams /use_wmi /use_snmp`	WBEM and SNMP	AMS, SNMP, and WBEM

The following table shows what updates occur if AMS switches are currently installed.

Command	G7 and earlier servers	Gen8 servers
no switches	N/A	AMS
`/use_ams`	N/A	AMS

Command	G7 and earlier servers	Gen8 servers
/use_snmp	N/A	AMS and SNMP
/use_wmi	N/A	AMS and WBEM
/use_ams /use_snmp	N/A	AMS and SNMP
/use_ams /use_wmi	N/A	AMS and WBEM
/use_wmi /use_snmp	N/A	AMS, SNMP, and WBEM
/use_ams /use_wmi /use_snmp	N/A	AMS, SNMP, and WBEM

Command-line arguments

HP SUM recognizes the following command-line arguments, which you can use to pre-populate the GUI on the Source Selection and Review/Install Updates screens. If you specify the target and credentials, use the /s[ilent] parameter to proceed with the installation.

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

Help	Description
/h[elp] or /?	Displays command line help information.

Installation options	Description
/f[orce]	Overrides or downgrades an existing component installation. This produces the same results as /f:software.
/f[orce]:bundle	Overrides or downgrades the existing installation of components in the selected bundle.
/f[orce]:rom	Overrides or downgrades the existing installation of the selected firmware components (applies to firmware only).
/f[orce]:software	Overrides or downgrades the existing installation of the selected software components.
/f[orce]:all	Overrides or downgrades the existing installation of the selected software components, firmware components, and bundles.
/g or /downgrade	Downgrades to an earlier version of firmware for multi-target devices such as hard drives and array controllers (applies to firmware only).
/e or /rewrite	Downgrades to an earlier version of firmware for multi-target devices such as hard drives and array controllers (applies to firmware only).
/s[ilent]	Causes the installation to run silently with no GUI or console output. All data writes to the log file. Any generated prompts use the default option and continue the installation without user input. If a component requires input before installation (such as configuration information), then the component installation fails, and an error message writes to the log file. Failed dependencies are not reported to the user when you are using the /s[ilent] argument. To check for failed dependencies, remove the /s[ilent] argument and reissue the command line. The HP SUM GUI appears.

Installation options	Description
/c[omponent]<component_to_install> or <component1_to_install> <component2_to_install>	Specifies which components to install. Components to install can be specified with or without the /c[omponent] argument. • If you are using the /c[omponent] argument, then only one component can specified with the argument. However, multiple /c arguments and components can be specified on the same line. • If you do not use the /c[omponent] argument, 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 you are mixing components and bundles on the command line, the filter switches control what components and bundles are installed.
/group "group_name"	This argument specifies an already defined group name in the HP SUM GUI.
/b[undle] <bundle_to_install> or <bundle1_to_install> <bu/use_latestndle2_to_install>	This argument specifies bundles to install. Bundles to install can be specified with or without the /b[undle] argument. • If you are using the /b[undle] argument, only one bundle can specified with the argument. However, multiple /b arguments and bundles can be specified on the same line. • If you do not use the /b[undle] argument, multiple bundles can be specified at the same time, but the bundles must be separated by a blank and listed after all the arguments on the command line.
/allow_update_to_bundle	This argument is a filter switch. It enables you to install newer versions of components defined in a PSP, ISP, or firmware bundle. This argument enables these components to replace the older versions of the same component that might have shipped with the bundles.
/allow_non_bundle_components	This argument is a filter switch. It enables you to install components that are not included in the bundle but reside in the directory with the components in the bundle.
/use_latest	This argument is a filter switch for use with bundles. The argument enables the latest version of the bundle to be used when multiple versions of bundles are listed on the command line. If there are no bundles specified on the command line, and multiple bundles are in the directory, the /use_latest argument allows HP SUM to use the bundle that has the latest version for installation.
/use_location "file_share"	Specifies a directory or file share that contains the PSP, ISP, and components for use with HP SUM. The *file_share* format must be a mapped file share and not in UNC format. If this argument is not specified, the directory that contains hpsum.exe or HP SUM is used by default. The logged-in account must have access to this location.

Installation options	Description
	The `/user` and `/passwd` arguments do not have any effect when you are attempting to access the file share. Use those arguments only when you are connecting to a target system.
`/use_web`	Specifies that the check box for **Check ftp.hp.com** on the Source Selection screen is selected. This enables components to be retrieved from ftp.hp.com and used in the list of possible updates.
`/use_proxy` *<Proxy server>*	Enables the inclusion of a proxy server (and port number) to access ftp.hp.com. This parameter must be used with `/use_web`. For example, `/use_web /use_proxy <1.22.33.44:80>`.
`/proxy_script` *<Proxy script>*	Enables the inclusion of a proxy script to access ftp.hp.com. This parameter must be used with `/use_web`. For example, `/use_web /proxy_script <autoproxy.com>`.
`/proxy_password`*<password>*	Sets the password to be used for an authenticating proxy server.
`/use_d[ownloaded]`	Specifies that the check box for **Use last downloaded repository from ftp.hp.com** on the Source Selection screen in the GUI is selected. This enables the previously downloaded components to be included in the list of possible updates.
`/use_snmp`	Specifies that components that use SNMP protocol and the AMS components are available for installation by default. When the `/use_snmp` argument is used, the AMS components are required, but the WMI components are optional.
`/use_wmi`	Specifies that components that use the WMI protocol are available for installation. These components are optional and are not installed unless this argument is used. When the `/use_wmi` argument is used, and the `/use_snmp` & `/use_ams` arguments are not, the SNMP and AMS components are optional. This argument does not apply to HP Integrity servers.
`/use_ams`	Specifies which AMS components can be installed along with SNMP components. The AMS and SNMP components are available to select by default. When the `/use_ams` argument is used, the SNMP components are required, and the WMI components are optional.
`/romonly`	This filter switch allows you to see only the firmware components needed for installation. When you are using this filter switch, you must exit and restart HP SUM if you want to return to an unfiltered state. Do not use the `/romonly` argument with the `/softwareonly` argument. (Applies to firmware only.)
`/softwareonly`	This filter switch allows you to see only the software components needed for installation. When you are using this filter switch, you must exit and restart HP SUM if you want to return to an unfiltered state. Do not use the `/softwareonly` argument with the `/romonly` argument.
`/express_install`	Starts an express installation (for the local host only). The HP SUM performs discovery, installation, or exit without user interaction. You can cancel or terminate HP SUM. An express installation will force install all components in the

Installation options	Description
	default repository and may downgrade drivers and firmware to the versions in the default directory as part of the installation operation. The express installation feature allows you to set a baseline and enforce it regardless of the currently installed version of drivers and firmware on the local server.

Overriding errors	Description
`/tpmbypass` or `/ignore_tpm`	Specifies that if a TPM is enabled, the warning message should be ignored and component installation can continue. For more information about TPM, see the *HP Smart Update Manager User Guide*.
`/ignore_warnings`	Allows the installation to proceed on a Superdome 2 target even when warnings are returned during analysis.
`/continue_on_error` *<error>*	Causes the installation to continue and ignore errors. Valid values are as follows: * `<error>=ServerNotFound` and * `<error>=BadPassword.` * `<error>=FailedDependencies` You can use the `ServerNotFound` option to bypass inactive or unavailable remote hosts when you are deploying firmware or software to multiple remote hosts at the same time.
`/override_existing_connection`	Defines the behavior when a remote target has an existing HP SUM session in progress. It overrides the session in progress and re-initializes the installation framework on the remote host.
`/On_failed_dependency:` *<parameter>*	Provides HP SUM *<parameter>* the information on how to proceed when a component has a failed dependency. The supported parameters for this argument are `Omit_Host` (default), `Omit_Component` , and `Force`. `Omit_Host` causes the host to be put into a failure state, and no installation is attempted. `Omit_Component` deselects the affected components and proceeds with any updates that do not have dependency failures. `Force` attempts all updates, even if they have dependency failures.
`/partition_only`	Use this argument to select a partition to update.
`/oa_name` and `/oa_password`	Use these arguments if you do not use the `/partition_only` argument. If you do not enter the selections, then the update will display and error and exit.

Reboot options	Description
`/r[eboot]`	If the following conditions are met, 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. • At least one of the installed components requires a reboot to complete its installation.
`/reboot_message "reboot message"`	Displays the specified reboot message on remote consoles connected to the server that you want to reboot. You must

Reboot options	Description
	use this argument with the `/reboot` option, or the argument is ignored.
`/reboot_delay timeout_in_secs`	Delays the reboot of the server for the length of time that the `timeout_in_seconds` variable specifies. 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 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.
`/reboot_always`	If the following conditions are met, 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.

Simulating HP SUM	Description
`/dryrun`	Simulates the installation for a test run. Nothing is installed.

Targets	Description
`/user`*<username>* or `/username` *<username>*	Use this argument to log in to the remote targets by using the user ID. For the OA target, use the `/oa_username` argument.
`/psswd` *<password>*	Use this argument to use this password for the user ID specified in the `/user` parameter (except for the OA target). The password is used to log in to remote targets. For the OA target, use the `/oa_password` argument.
`/target` "*netAddress*"	This is the IP address or the DNS name of a remote host, which can be a remote server, remote iLO NIC port, Virtual Connect Ethernet or Fibre Channel Module for c-Class BladeSystem, or BladeSystem OA. When two OAs are in an enclosure, this argument should be the active OA. When specifying the IP address, use either the IPv4 or IPv6 format.
`/current_credential`	Enables the credential of the local host to be used as the credential to access the targets instead of providing the user name and password explicitly for each target. The assumption is that the current credential is valid for the targets being accessed. (Applies to Windows only)
`/oa_username`	This argument provides the user name credential for OA associated with VC specified with the `target` command-line parameter. Only one set of OA credentials can be specified with command-line parameters. You can add multiple VC targets to command-line parameters with the `target` parameter only if the credentials of OAs associated with specified VCs are the same. The argument `oa_username` is not required if VC has the same credentials as the associated OA. You do not need to provide an OA network address associated with VC. HP SUM queries it from a specified VC target.

Targets	Description
	To update multiple VCs with different user names and passwords, or VCs with OAs that have different credentials, use the corresponding input files `OAUID` and `OAPWD`.
`/_password`	Provides the password credential for OA associated with VC specified with the "target" command-line parameter. Only one set of OA credentials can be specified with command-line parameters. You can add multiple VC targets to command-line parameters with the "target" parameter only if the credentials of OAs associated with specified VCs are the same. The argument `oa_password` is not required if VC has the same credentials as the associated OA. You do not need to provide an OA network address associated with VC. HP SUM queries it from a specified VC target. To update multiple VCs with different user names and passwords, or VCs with OAs that have different credentials, use the corresponding input files `OAUID` and `OAPWD` .

Log files	Description
`/logdir` *"path"*	Redirects the output from HP SUM or the HP BladeSystem c-Class OA flash utility to a different directory than the default location. • For Windows components, the default location is `%SYSTEMDRIVE%\CPQSYSTEM\hp\log<netAddress>` and the redirected location is `<path>\hp\log\<netAddress>`. • For Linux components, the default location is `/var/hp/log/<netAddress>` and the redirected location is `<path>/hp/log/<netAddress>`.
`/v[erbose]` or `/veryv[erbose]`	Sets the verbosity level for the HP SUM execution log file, `hpsum_execution_log_<date>_<time>.log`. It increases the level of detail that is retained in the log file. The default value is normal verbosity.

Generating reports	Description
`/report`	Generates a report listing of the target summary and describes how the components in the repository affect the target; for example, whether each component applies to the target. The report is generated in HTML and XML with file name formats of `HPSUM_Report_<date>_<time>.html` and `HPSUM_Report_<date>_<time>.xml` . By default, the files are located in the present working directory where HP SUM is initiated. If that location is write-protected, you can find the files in the same directory as the HP SUM log files.
`/inventory_report`	Generates a report listing of the components in the specified repository. The report is generated in HTML and XML with file name formats of `HPSUM_Inventory_Report_<date>_<time>.html` and `HPSUM_Inventory_Report_<date>_<time>.xml`. By default, the report is located in the present working directory where HP SUM is initiated. If that location is

Generating reports	Description
	write-protected, you can find the report in the same directory as the HP SUM log files.
/firmware_report	Generates a report listing of the firmware installed and details of the target. The report is generated in HTML and XML with file names of HPSUM_Firmware_Report.html and fwreport.xml in the directory named HPSUM_Firmware_Report_<date>_<time>. By default, the report is located in the present working directory where HP SUM is initiated. If that location is write-protected, you can find the report in the same directory as the HP SUM log files.

Using input files	Description
/inputfile *"filename"*	Enables you to script the deployment of firmware and software to multiple remote systems at one time. For more information, see "Input files" (page 28).
/deleteinputfile	Enables you to instruct HP SUM to delete the input file after it has been read.

Superdome 2 server commands	Description
/update_type<*type*>	Determines which Superdome 2 firmware is updated. You can choose ALL, COMPLEX, or PARTITIONS. The default selection is ALL. Example: /update_type PARTITIONS
/device_list <*device[,device]…*>	Use this argument when the /update_type argument is PARTITIONS. This argument specifies the subset of partitions or blades to update when you do not want to update all partitions or blades. Valid devices are: npar(number) and blade(enc)/(bay). Do not put any spaces between the parameters. Example: /device_list npar1,npar2,blade1/1,blade1/2
/reboot_list <*npar[,npar]…*>	Use this argument when the /update_type is ALL or PARTITIONS. This argument specifies specific partitions to reboot after the partition firmware has been updated. Valid npar values are npar(number). Do not put any spaces between parameters. Example: /reboot_list npar1,npar2

Component configuration for Windows components only

To configure components without using the HP SUM GUI, issue the command hpsum_config<component_to_configure>. This command presents the same configuration screens that appear in the HP SUM GUI. Run this command from a writable media source. Configuration for a given component must be executed only one time. The configuration is stored within the component and is propagated to all target servers when it is deployed through the HP SUM GUI or a command line. To change the configuration, rerun hpsum_config against the component. If a component does not need configuration, the hpsum_config command returns to the console.

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

Command-line examples

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

- Firmware:
  - System ROM
  - Smart Array controller
  - Hard drives
  - iLO
- Software—later version of:
  - HP Insight Diagnostics Online Edition for Windows Server 2003 (`cp008097.exe`)
  - HP System Management Homepage (HP SMH) for Windows (`cp008257.exe`)
- HP SUM
  - Defined groups: Management Servers—three servers (Management Server1, Management Server2, Management Server3)

Example 1:

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

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

Results: All software components and firmware components from the update bundle, which HP SUM determined must be installed, were installed.

Example 2:

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

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

Results: All software components and firmware components from the update bundle, which HP SUM determined must be installed, were installed. No firmware was installed.

Example 3:

This command-line input deploys firmware:

```
hpsum /romonly
```

Results: All firmware components that must be installed, were installed. No software was installed.

Example 4:

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

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

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

Example 5:

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

- `hpsum /group "Management Servers" /current_credential /use_latest /allow_update_to_bundle /allow_non_bundle_components /force:all`

```
/override_existing_connection /continue_on_error ServerNotFound
/silent /logdir "Management_Server_Files"
```

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

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

Return codes

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

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

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

Windows smart-component return codes

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

Linux smart-component return codes

Single-target servers:

Error level	Meaning
0	The smart component was installed successfully.
1	The smart component was installed successfully, but the system must be restarted.

Error level	Meaning
2	The installation was not attempted because the required hardware is not present, the software is current, or there is nothing to install.
3	The smart component was not installed. For more information, see the log file.

Multi-target servers:

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

Linux RPM return codes

Error level	Meaning
0	The Linux RPM installation was successful.
1	The Linux RPM installation failed.

Input files

HP SUM provides the ability to script the update of multiple, individual targets or groups of targets (HP ProLiant and Integrity servers 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 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. You can use the `DRYRUN=YES` option 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 separators can be commas, semicolons, or spaces.

NOTE: The credentials can be omitted from the file for greater security and passed on the command line to HP SUM. The only limitation that the user ID 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 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 the file 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 options on the command line. The usual command-line options can still be used with the `-inputfile` option and they take precedence over any given input file.

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 and their values. Each configuration setting must appear on a fresh line in the file, along with its value. Comments start with a pound (#) character at the beginning of the line. Only one pound character is allowed on any line.

- Target

  You can provide remote host targets to HP SUM. 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 the following special header enclosed in brackets:

  ```
  [TARGETS]
  ```

  The section ends with the following special string enclosed brackets:

  ```
  [END]
  ```

  The keyword `TARGETS` can be suffixed with an optional arbitrary string. This string 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:

  ```
  [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 in to one or more remote targets, you can do so by setting the variable `USECURRENTCREDENTIAL` to `YES`. You can supply login credentials for one or more hosts by using the variables `UID` and `PWD`. If you want to provide the variables at the beginning of a `TARGETS` section, use both of them. If you want to provide the variables in the middle of a `TARGETS` section, use one or the other to override the selected variable and continue using the active value for the remaining variable.
  - Remote target: You can specify a remote target by 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 occur in the input file, HP SUM 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

Parameter	Description	Possible values
SILENT	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), the component installation fails (unless the IGNOREERRORS = "FailedDependencies" parameter is supplied), and an error message is written to the log file.	YES, NO
FORCEALL	Forces updates to both firmware and software components.	YES, NO
FORCEROM	Forces updates to firmware components.	YES, NO
FORCESOFTWARE	Forces updates to software components.	YES, NO
FORCEBUNDLE	Enables you to override or downgrade an existing installation of components in the selected bundle.	YES, NO
DOWNGRADE	Downgrade to an earlier version of firmware for multi-target devices such as hard drives and array controllers. (Applies to firmware only.)	YES, NO
REWRITE	Rewrite the same version of firmware only for multi-target devices such as hard drives and array controllers. (Applies to firmware only.)	YES, NO
REBOOTALLOWED	Enables you to reboot, if required.	YES, NO
REBOOTMESSAGE	Create a message to be displayed prior to rebooting.	Any string (not exceeding 256 characters)
REBOOTDELAY	Delay before rebooting.	Time in seconds
COMPONENTSLIST	Limit the list of components to be updated.	Component names with file extensions (.exe, .rpm, or .scexe)
BUNDLESLIST	Limit the list of bundle xml files to be filtered.	Bundle file names
ALLOWUPDATEBUNDLE	This 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.	YES, NO
SKIPTARGET	Defines the behavior when a remote target has an existing HP SUM session in progress. Use this parameter to skip the host if an existing HP SUM session already exists. A value of NO overrides the session in progress and reinitializes the installation framework on the remote host.	YES, NO

Parameter	Description	Possible values
IGNOREERRORS	Causes the installation to continue 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. Use FailedDependencies to ignore any failed dependencies and proceed with the ones that are ready to be installed.	ServerNotFound, BadPassword, FailedDependencies
SOURCEPATH	Provide a single local repository path. This action creates an inventory from the given path instead of the local or default repository.	Directory path
USELATEST	This 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, this parameter enables HP SUM to use the bundle that has the latest version for installation.	YES, NO
DRYRUN	Simulates the installation for a test run. Nothing is installed.	YES, NO
OPTIONS	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 LSPOPTIONS parameter that was previously supported with LDU.	One or more CLI switch
USESNMP	Specifies that components that 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.	YES, NO
USEWMI	Specifies that components that 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.	YES, NO
ROMONLY	This is a filter switch that allows you to view only the firmware components required for installation. Do not use the /romonly parameter with the /softwareonly parameter.	YES, NO

Parameter	Description	Possible values
SOFTWAREONLY	This is a filter switch that allows you to view only the software components required for installation. Do not use the /softwareonly parameter with the /romonly parameter.	YES, NO
USECURRENTCREDENTIAL	Enables the credentials of the local host to be used as the credentials to access the targets instead of providing the user name and password explicitly for each target. The assumption is that the current credentials are valid for the targets that are being accessed. (Applies to Windows operating systems only.)	YES, NO
WEBUPDATENEEDED	Instructs HP SUM to include the components from the HP FTP site (ftp://ftp.hp.com) in the list of possible updates.	YES, NO
USEPROXYSERVER	Use a proxy server (and port number) to access the HP FTP site (ftp://ftp.hp.com).	String value For example, 11.22.33.44:80
USEPROXYSCRIPT	Include a proxy script to access the HP FTP site (ftp://ftp.hp.com).	Web URL (for example, autoproxy.com)
DELETEINPUTFILE	Instructs HP SUM to delete the input file after it has been read.	YES, NO (default)
ONFAILEDDEPENDENCY	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 installation 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.	OmitHost (default), OmitComponent, Force
HOST	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 OA. When two OAs are in an enclosure, this parameter is the active OA. 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.	IP address, DNS name
UID	Logs in to the target hosts with your user ID.	*<username>*
PWD	Uses the password for the user ID specified in the UID. The password is used to log in to target hosts.	*<password>*
LOGFILENAME = "path"	Redirects the output from HP SUM or the HP BladeSystem c-Class OA flash utility to a different directory than the default location.	Log file name

Parameter	Description	Possible values
	* For Windows components, the default location is %SYSTEMDRIVE%\CPQSYSTEM\hp\log<netAddress> and the redirected location is <path>\hp\log\<netAddress>. * For Linux components, the default location is /var/hp/log/<netAddress> and the redirected location is <path>/hp/log/<netAddress>.	
CMALOCALHOSTRWCOMMSTR	Specifies an SNMP read/write community string for local host access. (Applies to Linux PSP only.)	SNMP read/write community string
CMALOCALHOSTROCOMMSTR	Specifies an SNMP read-only community string for local host access. (Applies to Linux PSP only.)	SNMP read-only community string
CMAMGMTSTATIONRWIPORDNS	Specifies 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.)	IP address, DNS name
CMAMGMTSTATIONRWCOMMSTR	Specifies 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.)	SNMP read/write community string
CMAMGMTSTATIONROIPORDNS	Specifies 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.)	IP address, DNS name
CMAMGMTSTATIONROCOMMSTR	Specifies 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.)	SNMP read/write community string
CMADEFTRAPCOMMSTR	Sets a default SNMP community string for traps. (Applies to Linux PSP only.)	SNMP community string
CMATRAPDESTINATIONCOMMSTR	Specifies the SNMP destination trap community string. (Applies to Linux PSP only.)	SNMP trap destination
CMATRAPDESTINATIONIPORDNS	Specifies 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.)	IP address, DNS name
CMASYSCONTACT	Specifies a person or phone number for administration of this system. (Applies to Linux PSP only.)	String value
CMASYSLOCATION	Designates the location of this system. (Applies to Linux PSP only.)	String value
CMASTARTWEBAGENT	Determines whether the HP Systems Insight Manager Web Agent is started when the	• YES (start the web agent) • NO (do not start the web agent)

Parameter	Description	Possible values
	health application loads. (Applies to Linux PSP only.)	
CMASTARTSTORAGEAGENT	Determines whether the HP Systems Insight Manager Storage Agent is started when the health application loads. (Applies to Linux PSP only.)	• YES (start the storage agent) • NO (do not start the storage agent)
CMASTARTNICAGENT	Determines whether the HP Systems Insight Manager NIC agent is started. (Applies to Linux PSP only).	• YES (start the web agent) • NO (do not start the web agent)
CMANOTAINTEDKERNEL	Determines whether the HP Lights-Out management driver is started when the health application loads. (Applies to Linux PSP only.)	• YES (start the HP Lights-Out management driver) • NO (do not start the HP Lights-Out management driver)
HPVCAVCRMSERVER	Informs the VCA of the name of the VCRM to use as a software distribution repository. (Applies to Linux PSP only.)	VCRM name
HPVCAVCRMLOGINID	This parameter is the login ID that the VCA uses to communicate with the VCRM. (Applies to Linux PSP only.)	VCA login ID
HPVCAVCRMLOGINPASSWD	This parameter is the password for the login ID specified in the HPVCAVCRMLOGIN parameter. (Applies to Linux PSP only.)	VCA login password
FORCE-OVERWRITE	HP Systems Management Homepage (hpsmh) uses this parameter to force overwrite the SMH settings of an existing configuration file.	YES, NO (default)
ADMIN-GROUP	HP Systems Management Homepage (hpsmh) uses this parameter to set up security for the web server. (Applies to Linux PSP only.)	Up to five Linux groups, separated by spaces or semicolons, to enable administrative access to the web services.
USER-GROUP	HP Systems Management Homepage uses this parameter to set up security for the web server. (Applies to Linux PSP only.)	Up to five Linux groups, separated by spaces or semicolons, to enable user-level access to the web servers.
OPERATOR-GROUP	HP Systems Management Homepage uses this parameter to set up security for the web server. (Applies to Linux PSP only.)	Up to five Linux groups, separated by spaces or semicolons, to enable operator-level access to the web servers.
ANONYMOUS-ACCESS	Determines whether an anonymous user can access HP Systems Management Homepage. (Applies to Linux PSP only.)	YES, NO (default)
IP-BINDING	HP Systems Management Homepage uses this parameter to determine whether HP SMH can use all available NICs and detect subnets for its web services. (Applies to Linux PSP only.)	YES, NO (default)
IP-BINDING-LIST	HP Systems Management Homepage uses this parameter 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.)	IP address pairs separated by semicolons (for example, 10.1.1.1/255.255.255.0; 10.2.2.2/255.255.255.0)

Parameter	Description	Possible values
IP-RESTRICTED-LOGINS	HP Systems Management Homepage uses this parameter to restrict login access. (Applies to Linux PSP only.)	YES, NO (default) To enable restrictions on who can log in to the web server, this parameter must be set to yes, and values must be provided to the IP-RESTRICTED-EXCLUDE or IP-RESTRICTED-INCLUDE parameters.
IP-RESTRICTED-EXCLUDE	HP Systems Management Homepage uses this parameter 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.	List of IP address ranges separated by semicolons (for example, 10.1.1.1-10.1.1.10; 10.2.2.2-10.2.2.10)
IP-RESTRICTED-INCLUDE	HP Systems Management Homepage uses this parameter 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.	List of IP address ranges separated by semicolons (for example, 10.1.1.1-10.1.1.10; 10.2.2.2-10.2.2.10)
LOCALACCESS-ENABLED	HP Systems Management Homepage uses this parameter to determine whether to enable local anonymous access to the web services. (Applies to Linux PSP only.)	• YES (default to include anonymous access) • NO
LOCALACCESS-TYPE	HP Systems Management Homepage uses this parameter to determine the type of	• Anonymous (default) • Administrator **CAUTION:** Selecting local access with administrator privileges as the login provides full access to any user who has access to the local console, without prompting for a user name or password.

Parameter	Description	Possible values
	access granted to local users. (Applies to Linux PSP only.)	
TRUSTMODE	HP Systems Management Homepage uses this parameter to set up the trust relationship mode. (Applies to Linux PSP only.)	• TrustByCert—If you use this value, you must define the CERTLIST parameter to enable access to the server. • TrustByName—If you use this value, you must define the XENAMELIST. • TrustByAll—HP does not recommend using this value because of possible negative security consequences. **CAUTION:** The accepted values are case-sensitive and must be capitalized as shown. Failure to do so prevents the trust relationship from being set up properly during installation and might affect access to the web server.
CERTLIST	Enables you 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.)	Certificate file name or Server DNS name
XENAMELIST	Enables you 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 valid only if the TRUSTMODE parameter is set to TrustByName. (Applies to Linux PSP only.)	Server DNS name
HPQLA2X00FO	The hp_qla2x00 QLogic Fibre Channel Driver uses this parameter to determine the failover mode to use. (Applies to Linux PSP only.)	• SinglePath • SecurePath • QLogicFailure **NOTE:** No default value
HPQLA2X00FORCE	The hp_qla2x00 QLogic Fibre Channel Driver uses this parameter to determine whether to skip detection of third-party storage. (Applies to Linux PSP only.)	Y, N (default)
OAUID	Provides the user name credentials for the OA associated with VC. You must define a value of these variables before the HOST variable in the [TARGETS] section. This parameter applies only for VC firmware. You can also use OAUSER or OAUSERNAME.	User can define the OAUID variable multiple times before each HOST variable.
OAPWD	Provides the password credentials for the OA associated with VC. You must define a value of these variables before the HOST variable in the [TARGETS] section. This parameter applies only for VC firmware. You can also use OAPASSWORD.	User can define OAPWD variable multiple times before each HOST variable.

Parameter	Description	Possible values
IGNOREWARNINGS	Allows the installation to proceed on a Superdome 2 target even when warnings are returned during analysis.	YES, NO Superdome 2 servers only
UPDATETYPE	This argument determines which Superdome 2 firmware is updated.	ALL, COMPLEX, PARTITIONS Superdome 2 servers only
DEVICELIST	Use this argument when the UPDATETYPE=PARTITIONS. This argument specifies the subset of partitions or blades to update when you do not want to update all partitions. Valid devices are: npar(number) and blade(enc)/(bay).	For example: DEVICELIST = npar1, blade1/1 Superdome 2 servers only
REBOOTLIST	Use this argument when the UPDATETYPE= ALL or UPDATETYPE= PARTITIONS. This argument specifies specific partitions to reboot after the partition firmware has been updated. Valid npar values are npar(number).	For example: REBOOTLIST = npar1, npar2 Superdome 2 servers only

Examples of the HP SUM input file include the following:

```
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: The two targets are passed to be updated. The targets do not necessarily have to be OAs. They can be any target that HP SUM supports.

```
DRYRUN = YES
SILENT = YES
```

```
[TARGETS]
HOST = BL465C-01
HOST = 192.168.1.2
[END]
```

Example: 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:

```
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:

```
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]
```

Example: Superdome 2 input files:

```
IGNOREWARNINGS = TRUE
[TARGET] HOST = 10.0.0.206
UID = Userid
PWD = password
UPDATETYPE = PARTITIONS
DEVICELIST = npar1, npar2, blade1/4, blade 1/5
REBOOTLIST = npar1, npar2
[END]
```

Reports

HP SUM generates three types of reports about the specified system or repository. HP SUM generates these reports by using the command-line arguments. If no additional arguments are specified on the command line, HP SUM uses the local host and default repository locations (the directory where HP SUM was initiated). You can specify a target if you provide the appropriate credentials. You can specific a repository by using other command-line parameters to generate reports. For specific commands, see "Command-line interface" (page 17).

Report type	Description	Report file information
`/report`	This argument generates a report listing, a target summary, and description of how the components in the repository affect the target. For example, whether each component applies to the target. Usage: `hpsum /report`	The following report files are generated: • `hpsum_Report_<date>.html` • `hpsum_Report_<date>.xml`
`/inventory_report`	This argument generates a report listing of the components in the specified repository. Usage: `hpsum /inventory_report`	The following report files are generated: • `hpsum_Inventory_Report_<date>.html` • `hpsum_Inventory_Report_<date>.xml`
`/firmware_report`	This argument generates a report listing of the firmware in the specified repository. Usage: `hpsum /firmware_report`	The following report files are generated: • `HPSUM_Firmware_Report_<date>` • `fwreport.xml` is placed in a folder named `HPSUM_Firmware_Report_<date>`

Report type	Description	Report file information
/dependency_report	This argument generates a report that lists failed dependencies for all targets.	The following report file is generated: HPSUM_FailedDependency_Reports_<datatime>.xml or .html
/installed_report	This argument generates a report that lists all installed firmware, software, and driver versions installed on targets.	The following report file is generated: HPSUM_Installed_Report_<datatime>.xml or .html

HP SUM generates the reports as an XML or HTML files that you can view in a JavaScript-enabled web browser. The supported browsers for viewing the report files are Microsoft Internet Explorer 6.0 and Mozilla Firefox 3.5 and later. By default, the reports are located in the current working directory from where HP SUM was initiated. If that current location is write-protected, the reports are located in the same directory as the HP SUM log files.

The HP SUM log files are located in these folders:

- On Windows operating systems: C:\cpqsystem\hp\log
- On Linux operating systems: /var/hp/log

When HP SUM generates the report, the HP SUM GUI does not appear. When the report is generated, HP SUM displays the report file location.

4 Troubleshooting

Installation troubleshooting for Microsoft Windows

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

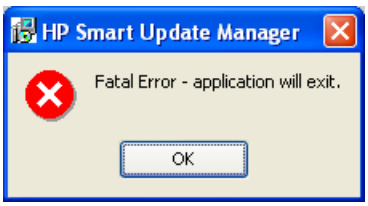
- **How do I set the rules for Windows Firewall and Security Policy?**



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

1. Click **Start→Control Panel→ Administrative Tools→Windows Firewall with Advanced Security→Inbound Rules→Remote Administration (NP-IN)**.
2. Select **Enabled**, and then select **Allow the connections**.

- **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 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.

Ports	Description
Ports 445 and 137/138/139 (Port 137 is used only if you are using NetBIOS naming service.)	These ports are needed to connect to the remote ADMIN$ share on target servers. These 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.
Ports 60000-60007	Random ports are used in this range to pass messages back and forth between the local and remote systems using SSL. These ports are used on the system running HP 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.
Ports 61000-61007	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 from remote servers.
Port 62286	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.
Ports 80 or 63000-63005	The logs are passed to the target, and the logs are retrieved using an internal secure web server that uses port 80 (if 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.

- **HP SUM is disconnected.**

  When either iLO or NIC firmware is updated, HP SUM loses the connection and cannot install components. If an access error occurs, HP SUM cancels the installation.

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

  HP SUM generates a set of debug trace logs located in the `%TEMP%\hp_sum` directory on Windows systems and `\tmp\hp_sum` on Linux systems. These files contain internal process and debug information that can help you determine HP SUM failures.

- **How do I reboot when running HP SUM on a Japanese version of Windows?**

  You can specify a message to appear before shutting down the system during a reboot operation. When using a Japanese character set and running on a Japanese version of a

Windows operating system, the message prevents an automatic reboot. For a successful reboot, you must click **Exit**.

Installation troubleshooting for Linux

The following issues might be encountered when attempting to install PSPs for Linux.

- **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.

Ports	Description
Port 22	This port establishes a connection to the remote Linux server using SSH.
Ports 60000-60007	Random ports are used in this range to pass messages back and forth between the local and remote systems using SSL. These ports are used on the system running HP 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.
Ports 61000-61007	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 from remote servers.
Port 62286	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.
Ports 80 or 63000-63005	The logs are passed to the target, and the logs are retrieved using an internal secure web server that uses port 80 (if 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.

5 Support and other resources

Information to collect before contacting HP

Be sure to have the following information available before you contact HP:

- Software product name
- Hardware product model number
- Operating system type and version
- Applicable error message
- Third-party hardware or software
- Technical support registration number (if applicable)

How to contact HP

Use the following methods to contact HP technical support:

- See the Contact HP worldwide website:
  http://www.hp.com/go/assistance
- Use the `Contact hp` link on the HP Support Center website:
  http://www.hp.com/go/hpsc
- In the United States, call +1 800 334 5144 to contact HP by telephone. This service is available 24 hours a day, 7 days a week. For continuous quality improvement, conversations might be recorded or monitored.

Subscription service

HP recommends that you register your product at the Subscriber's Choice for Business website: http://www.hp.com/country/us/en/contact_us.html After registering, you will receive email notification of product enhancements, new driver versions, firmware updates, and other product resources.

Related information

Documents

- *HP Smart Update Manager User Guide*
- *HP Systems Insight Manager Help Guide*
- *HP Service Pack for ProLiant User Guide*
- *HP Smart Update Firmware DVD User Guide*
- *HP Version Control Installation Guide*

You can find these documents from the Manuals page of the HP Business Support Center website:

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

Websites

- For information about SPP, see the SPP website at http://www.hp.com/go/spp
- For information about PSPs and to download the latest PSPs, see the PSP website at http://www.hp.com/servers/psp.
- For information about firmware support, see the HP Smart Update Firmware DVD at http://www.hp.com/servers/smartstart/supportmatrices

Typographic conventions

Table 1 Document conventions

Convention	Element
Blue text: Table 1 (page 46)	Cross-reference links and e-mail addresses
Blue, underlined text: http://www.hp.com	Website addresses
Bold text	• Keys that are pressed • Text typed into a GUI element, such as a box • GUI elements that are clicked or selected, such as menu and list items, buttons, tabs, and check boxes
Italic text	Text emphasis
`Monospace` text	• File and directory names • System output • Code • Commands, their arguments, and argument values
`Monospace, italic` text	• Code variables • Command variables
`Monospace, bold` text	Emphasized monospace text

△ **CAUTION:**
Indicates that failure to follow directions could result in damage to equipment or data.

⓵ **IMPORTANT:** Provides clarifying information or specific instructions.

NOTE: Provides additional information.

TIP: Provides helpful hints and shortcuts.

HP Insight Remote Support software

HP strongly recommends that you install HP Insight Remote Support software to complete the installation or upgrade of your product and to enable enhanced delivery of your HP Warranty, HP Care Pack Service, or HP contractual support agreement. HP Insight Remote Support supplements your monitoring 24 x 7 to ensure maximum system availability by providing intelligent event diagnosis, and automatic, secure submission of hardware event notifications to HP, which will initiate a fast and accurate resolution, based on your product's service level. Notifications may be sent to your authorized HP Channel Partner for on-site service, if configured and available in your country.

The software is available in two variants:

- HP Insight Remote Support Standard: This software supports server and storage devices and is optimized for environments with 1–50 servers. Ideal for customers who can benefit from proactive notification but do not need proactive service delivery and integration with a management platform.
- HP Insight Remote Support Advanced: For customers with mid-size to large environments with over 500 devices who require HP Proactive Services, or customers currently using HP Operations Manager or SAP Solution Manager to manage their environment, HP recommends installing the latest HP Insight Remote Support Advanced software. This software provides comprehensive remote monitoring and proactive service support for nearly all HP servers, storage, network, and SAN environments, plus selected non-HP servers that have a support obligation with HP. It is integrated with HP Systems Insight Manager. A dedicated server is recommended to host both HP Systems Insight Manager and HP Insight Remote Support Advanced.

Details for both versions are available on the HP website (http://www.hp.com/go/insightremotesupport).

To download the software, go to Software Depot (http://www.software.hp.com). Select **Insight Remote Support** from the menu on the right.

The HP Insight Remote Support software release notes detail the specific prerequisites, supported hardware, and associated operating systems. For more information:

- See the HP Insight Remote Support Standard Release Notes on the HP website (http://www.hp.com/go/insightremotestandard-docs).
- See the HP Insight Remote Support Advanced Release Notes on the HP website (http://www.hp.com/go/insightremoteadvanced-docs).

6 Documentation feedback

HP is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback (**docsfeedback@hp.com**). Include the document title and part number, version number, or the URL when submitting your feedback.

Acronyms and abbreviations

ACU	HP Array Configuration Utility
AMD	Advanced Micro Devices
FCoE	Fibre Channel over Ethernet
GRUB	Grand Unified Bootloader
GTK+	GIMP Toolkit
HP SIM	HP Systems Insight Manager
HP SUM	HP Smart Update Manager
HTTP	hypertext transfer protocol
iLO	HP Integrated Lights-Out
IP	Internet Protocol
LDU	Linux Deployment Utility
LILO	Linux Loader
NIC	network interface controller
PSP	HP ProLiant Support Pack
RPM	Red Hat Package Manager
SMHP	HP System Management Homepage
SNMP	Simple Network Management Protocol
SOAP	Simple Object Access Protocol
SPP	HP Service Pack for ProLiant
SSH	Secure Shell
SSL	Secure Sockets Layer
TCP/IP	Transmission Control Protocol/Internet Protocol
TPM	Trusted Platform Module
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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