HP ProLiant Firmware Maintenance CD User Guide

Part Number 447788-003
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Contents

Introduction

HP ProLiant Firmware Maintenance CD overview

The HP ProLiant Firmware Maintenance CD delivers a collection of firmware for your ProLiant servers and options. Beginning with the Firmware Maintenance CD 7.50, the HP Smart Update Manager utility enables you to deploy firmware components from a single, easy-to-use interface that is supported in both Microsoft® Windows® and Linux environments. This utility enables legacy support of existing firmware components while simplifying the firmware deployment process. The CD also provides installation logic and version control that automatically check for dependencies, installing only the correct updates for optimal system configuration.

To deploy the Firmware Maintenance CD contents, see "Online deployment (on page 6)" and "Offline deployment (on page 7)."

CAUTION: The Firmware Maintenance CD and its contents should be used only by individuals who are experienced and knowledgeable in their use. Before using HP Smart Update Manager to update firmware, be sure to back up the target server and take all other necessary precautions so that mission-critical systems are not disrupted if a failure occurs.

HP Smart Update Manager stores host and group information from session to session. However, usernames, passwords, and current credentials are not stored in a session or from session to session.

Minimum requirements

To successfully deploy HP Smart Update Manager on target systems based on Microsoft® Windows®, the following must be available:

- A local administrative system with 256 MB of memory, running a supported Windows® operating system.
- Sufficient hard-drive space—As a standard practice, sufficient hard-drive space equals at least twice the file size of the components to be deployed.

To successfully deploy HP Smart Update Manager on target systems based on Linux, the following must be available:

- A local administrative system with 256 MB of memory, running a supported Linux operating system
- 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

To successfully update HP Smart Update manager on remote target systems based on Linux, the following must be available:

- tcl-8.x package

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

IMPORTANT: The HP Smart Update Manager does not support cross-platform deployments (for example, deployments from Linux systems to Windows® systems).

Obtaining the HP ProLiant Firmware Maintenance CD

The ProLiant Firmware Maintenance CD and others can be downloaded at no cost from the HP website (http://www.hp.com/support). Instead of using the CD, you can also run the Firmware Maintenance applications from a USB key by downloading the HP USB Key Utility from the Support and Drivers download page (http://www.hp.com/support). The HP Smart Update Manager utility is available from the ProLiant Firmware Maintenance CD.

Deployment options

You can run the Firmware Maintenance CD either online or offline.

- When performing an online deployment, you must boot the server from the operating system. HP Smart Update Manager supports online deployments of all ROM flash components for both Windows® and Linux including HP Onboard Administrator for HP c-Class BladeSystem and system, hard-drive (SAS only), array-controller, and Lights-Out Management ROM flash components.

  NOTE: The Onboard Administrator is supported only in online deployments.

- When performing an offline deployment, you can boot the server from the Firmware Maintenance CD or a USB drive key that contains the Firmware Maintenance CD contents. The HP Smart Update Manager supports offline deployments of all ROM flash components including system, hard-drive, array-controller, QLogic Fibre HBA flash, and Lights-Out Management ROM flash components. When performing an offline deployment, you can also access a removable device such as a USB drive key or the Firmware Maintenance CD that contains supplemental updates.

  NOTE: You can add firmware components to the USB drive key in the /compaq/swpackages directory.

Online deployment

To deploy components online:

1. Insert the Firmware Maintenance CD or USB drive key.

- If you use the Firmware Maintenance CD, the Firmware Maintenance CD interface opens automatically.
- If you use a USB drive key, you must start the interface manually.
  a. Open a CLI.
  b. To access the Firmware Maintenance CD, enter one of the following commands:

- In Windows®:

  ```
  \_autorun\autorun_win
  ```

- In Linux:

  ```
  ./autorun
  ```

1. Read the End-User License Agreement. To continue, click **Agree**. The Firmware Maintenance CD interface appears.
2. Click the **Firmware Update** tab.
3. Click **Install Firmware.** The HP Smart Update Manager is initiated.
4. Select, and then install the desired components. For more information, see "Local host installations using the GUI (on page 13)" or "Multiple-host installations using the GUI (on page 23)."

Offline deployment

To deploy components offline:

1. Boot the server from the Firmware Maintenance CD or a USB drive key.
2. At the prompt, select a language and keyboard.
3. Click **Continue.**
4. Read the End-User License Agreement. To continue, click **Agree**. The Firmware Maintenance CD interface appears.
5. Click the **Firmware Update** tab.
6. Click **Install Firmware.** The HP Smart Update Manager is initiated.
7. Select, and then install the desired components. For more information, see "Local host installations using the GUI (on page 13)" or "Multiple-host installations using the GUI (on page 23)."

Firmware Maintenance CD powered by HP Smart Update Manager

Deployment scenarios

HP Smart Update Manager deploys smart firmware components on a local host or one or more remote hosts. The remote hosts must be online and running the same operating system as the system running HP Smart Update Manager such as when the remote hosts are running Linux, the HP Smart Update Manager should also be running on a Linux system. HP Smart Update Manager supports the following operating systems:

- Microsoft® Windows Server™ 2003 and Microsoft® Windows Server™ 2003 x64
- Red Hat Enterprise Linux 3, 4, and 5, and SUSE Linux Enterprise Server 9 and 10 x86 and AMD64/EM64T

The following table describes typical HP Smart Update Manager deployment scenarios.

Scenario	Description
Graphical deployment on a local host	Use this scenario when you: • Are not familiar with command line tools • Are deploying components on a local, single-host • Do not require scripting
Scripted deployment on a local host	Use this scenario when you: • Are familiar with command line tools • Are deploying components on a local, single-host • Must perform a customized, scripted deployment
Graphical deployment to a remote host	Use this scenario when you: • Are not familiar with command line tools • Are deploying components on one or more remote hosts • Do not require scripting
Scripted deployment to a remote host	Use this scenario when you: • Are familiar with command line tools • Are deploying components on one or more hosts • Must perform a customized, scripted deployment to one or more host systems

Graphical deployment on a local host

To easily deploy components to a single local host, use the HP Smart Update Manager GUI.

To deploy components to a local host using the GUI:

1. Ensure all minimum requirements are met as described in "Minimum requirements (on page 5)."
2. Ensure that the components to be deployed are accessible to the local host and are available in the same directory as the HP Smart Update Manager.

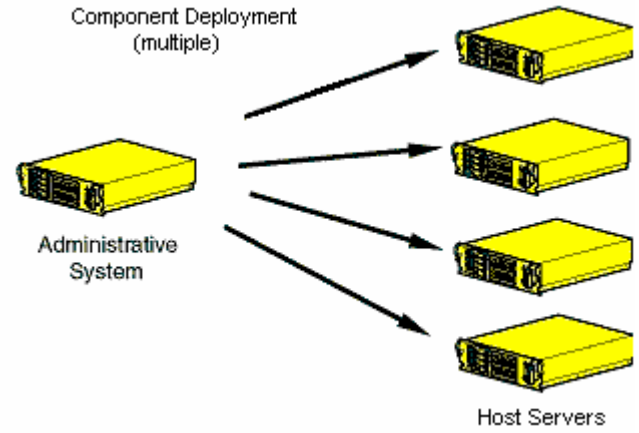
For information about performing the deployment using the GUI, see "Local host installations using the GUI (on page 13)."

Scripted deployment on a local host

To deploy components to a local host using the command line interface:

1. Ensure all minimum requirements are fulfilled as described in "Minimum requirements (on page 5)."
2. Ensure that the components to be deployed are accessible to the local host and are available in the same directory as the HP Smart Update Manager.
3. Create a script to customize the deployment. See "Scripted deployment (on page 35)" for more information.
4. Execute the script.

Deployment to multiple remote hosts



To deploy components to multiple remote hosts using the GUI:

1. Ensure that all minimum requirements are met as described in "Minimum requirements (on page 5)."
2. Ensure that the components to be deployed are accessible to the administrative system and are available in the same directory as the HP Smart Update Manager.

For more information about performing the deployment using the graphical interface, see "Multiple-host installations using the GUI (on page 23)."

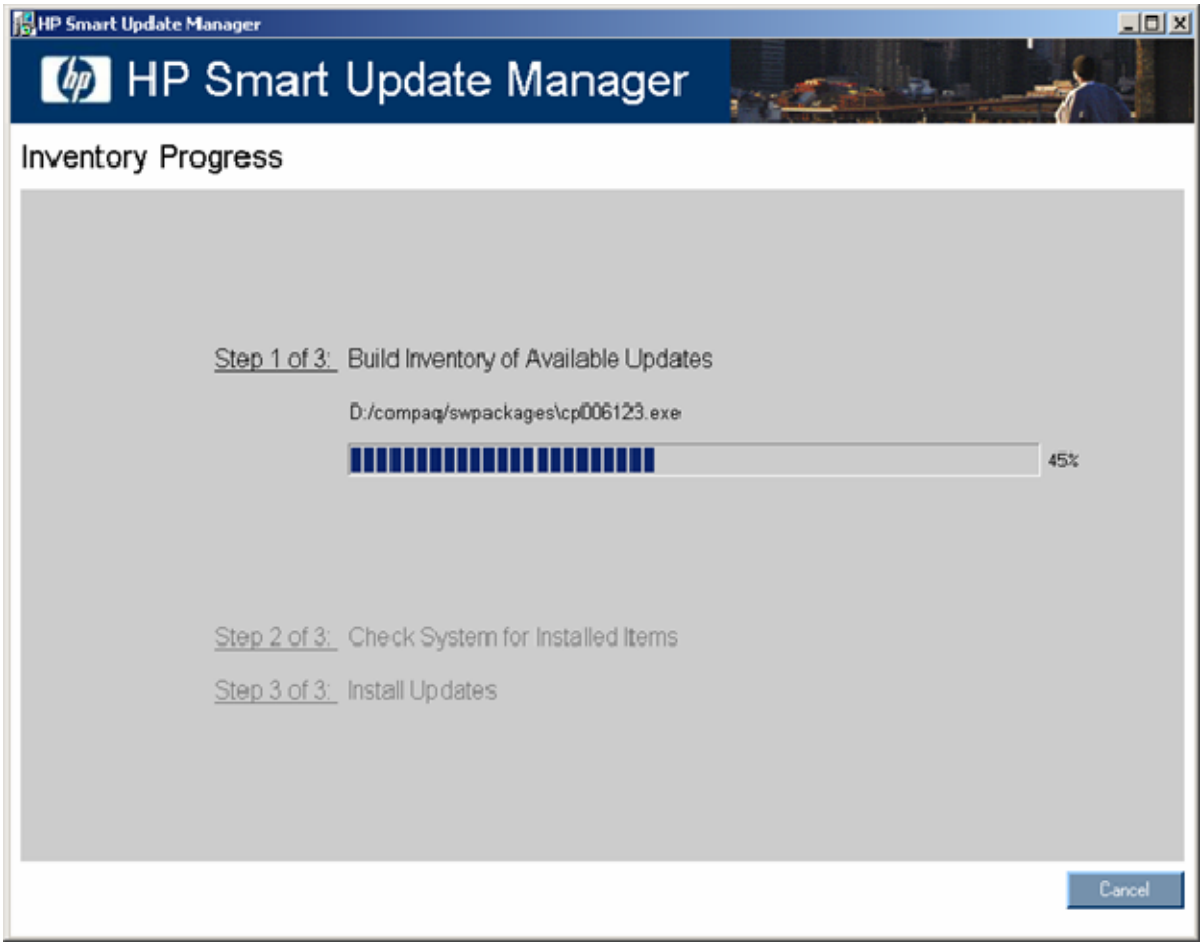
To deploy components to multiple remote hosts using the CLI:

1. Ensure that all minimum requirements are met as described in "Minimum requirements (on page 5)."
2. Ensure that the components to be deployed are accessible to the administrative system and are available in the same directory as the HP Smart Update Manager.
3. Create a script to customize the deployment. For more information, see "Scripted deployment (on page 35)."
4. Execute the script.

First time installation

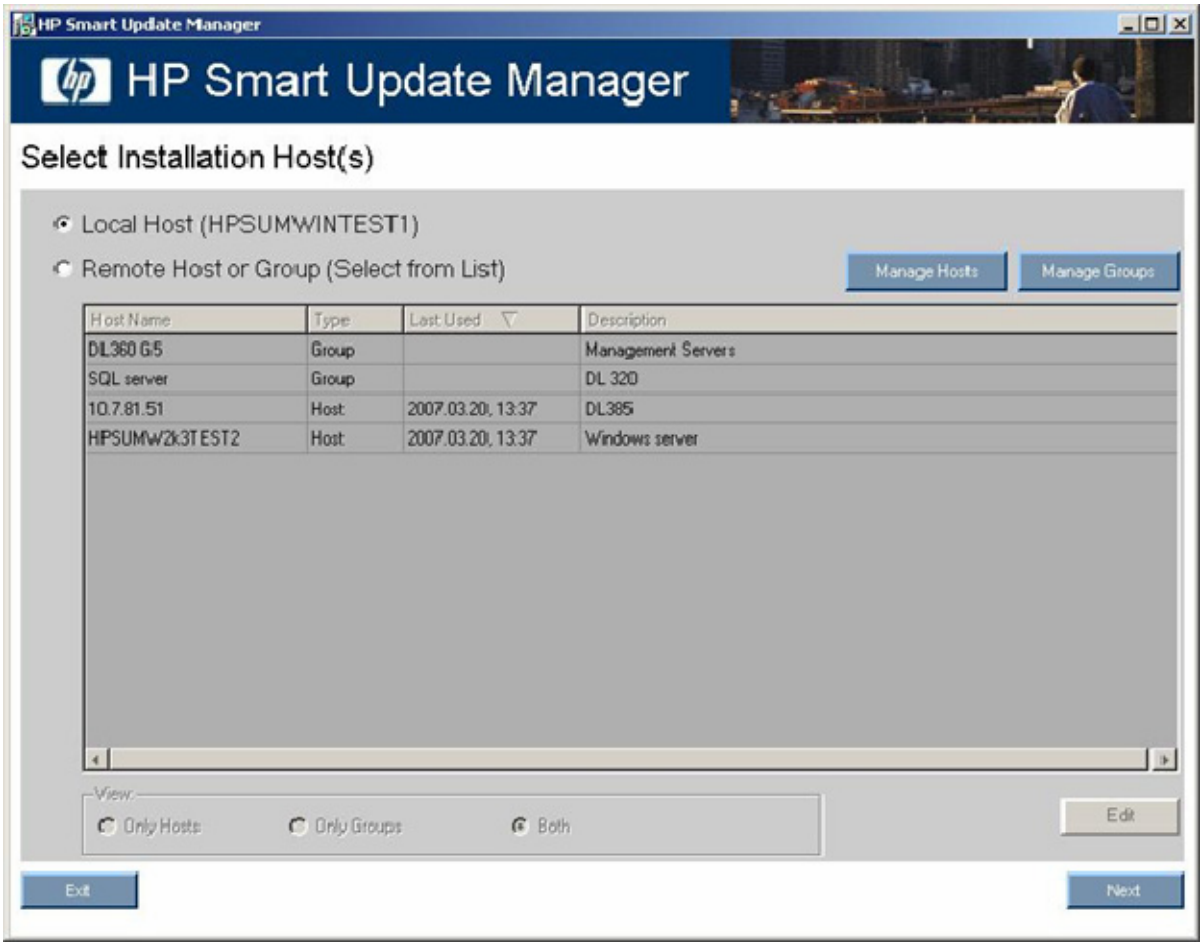
The HP Smart Update Manager provides an easy-to-use graphical interface that enables you to deploy and maintain firmware components. To access the HP Smart Update Manager, see "Deployment Options (on page 6)."

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



Selecting an installation host for the first time

The Select Installation Host(s) screen appears when the inventory process ("First time installation" on page 10) is complete.

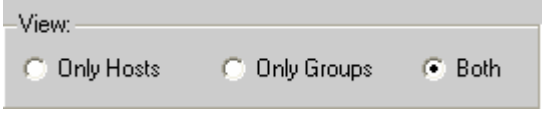


The Select Installation Host(s) screen enables you to choose a host for component installation. By default, the first time you run HP Smart Update Manager on a particular system, the only host available is the local host. However, you can also select remote hosts as your targets. For more information about using the graphical interface for multiple remote deployments, see "Multiple-host installations using the GUI (on page 23)."

The following columns are included in the Select Installation Host(s) screen:

- Host Name—Displays the host IP address or DNS name.
- Type—Categorizes the system as a host or group.
- Last Used—Enables you to sort the list by the most recently used hosts.
- Description—Displays the user-defined description given to a host.

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



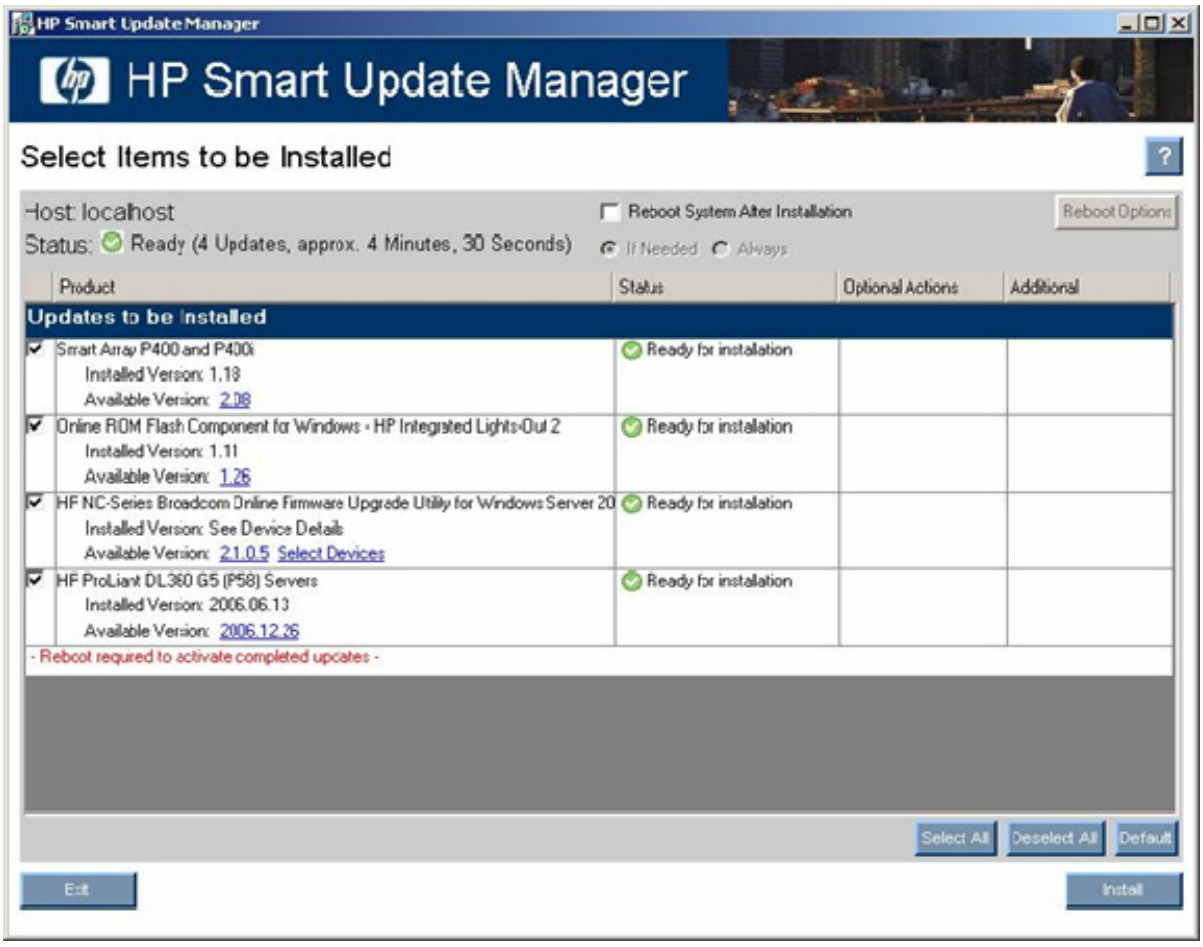
The Select Installation Host(s) screen also includes the following buttons:

- Manage Hosts—Enables you to add, edit, and delete hosts.
- Manage Groups—Enables you to add, edit, and delete groups.
- Edit—Enables you to edit the selected host.
- Next—Proceeds to the next step in the installation process where the local or remote system checks for already installed items.
- Exit—Exits HP Smart Update Manager.

To continue selecting an installation host, click **Next.** For multiple remote deployments, enter the credentials for the host. The Select Items to be Installed screen appears.

Selecting components to install for the first time

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



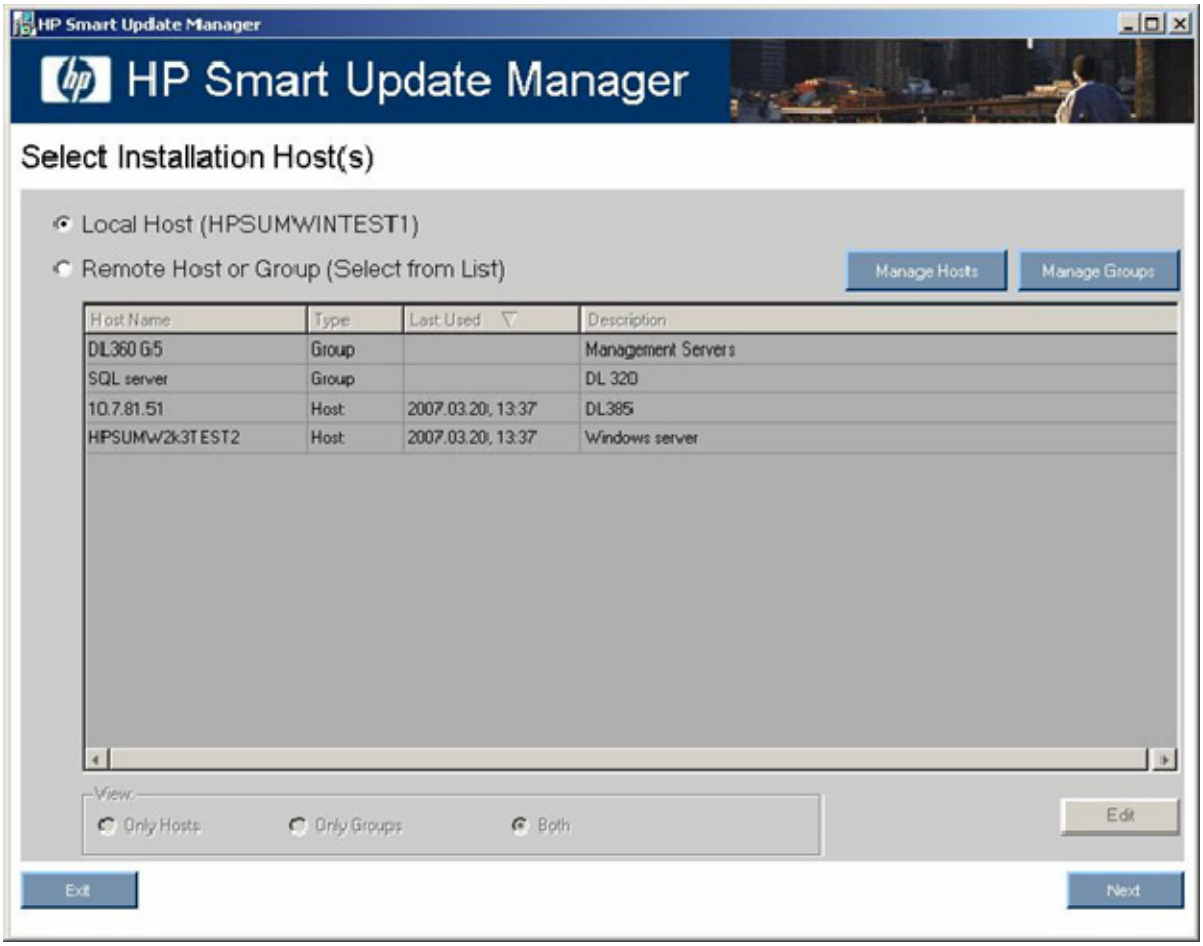
For more information about the Select Items to be Installed screen and its sections, see "Selecting components to install (on page 14)."

Local host installations using the GUI

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

Selecting an installation host

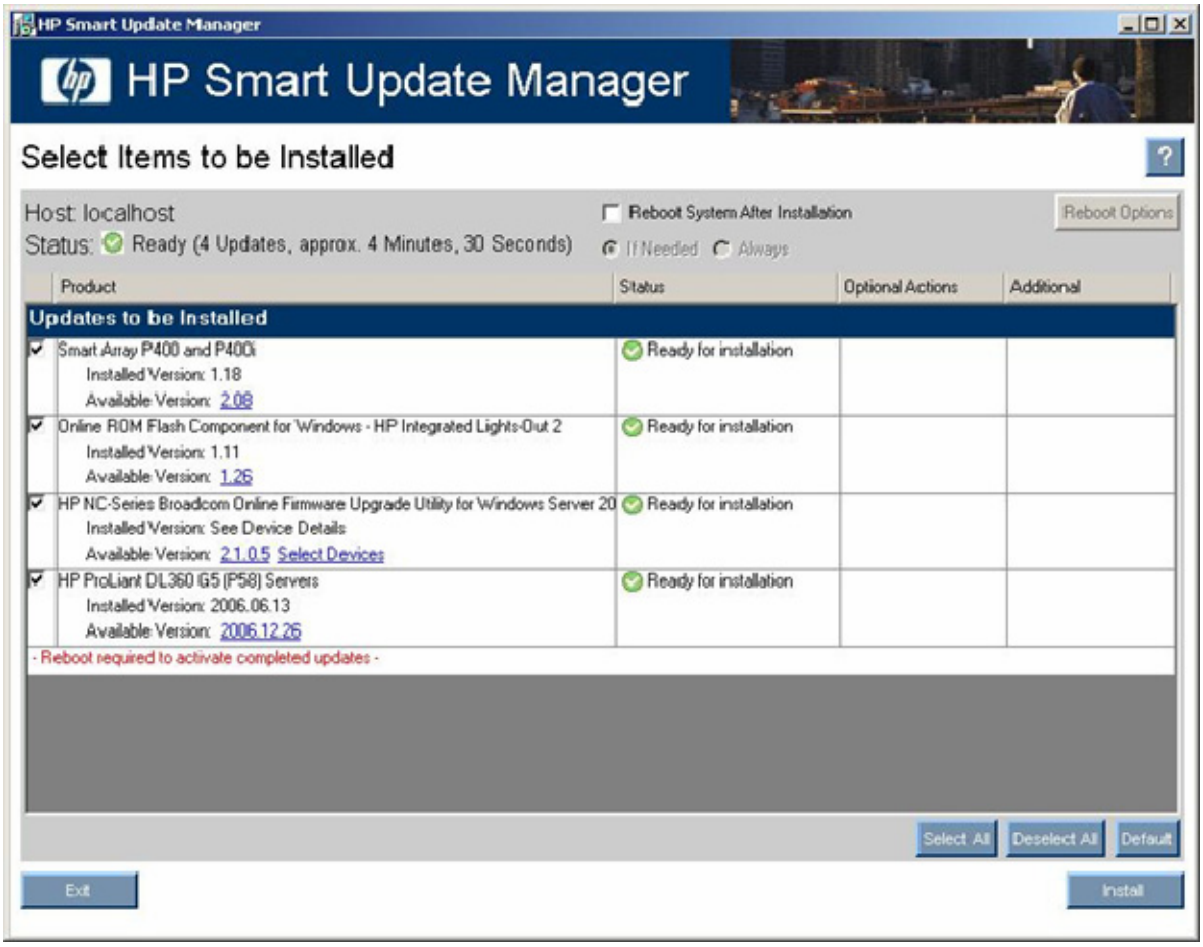
To continue with the deployment process using a local host, select a host from the Select Installation Host(s) screen, and click **Next**.



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

Selecting components to install

When the discovery process ("Selecting an installation host" on page 13) is complete, the Select Items to be Installed screen appears.



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

- Product—Displays the system on which to install the selected items.
- Status—Indicates if the installation is ready to proceed.
- Reboot section—Enables you to specify reboot settings and determine when reboots occur.
- Component selection pane—Enables you to specify which components to install.

When multiple hardware devices such as hard drives or array controllers exist in a single server, HP Smart Update Manager only lists each device once. If the devices have different firmware versions, then the versions are listed from latest to earliest in a range. When multiple instances of the firmware are available for installation, the instances are listed from earliest to latest. If necessary, all hardware device firmware is flashed to the selected version.

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

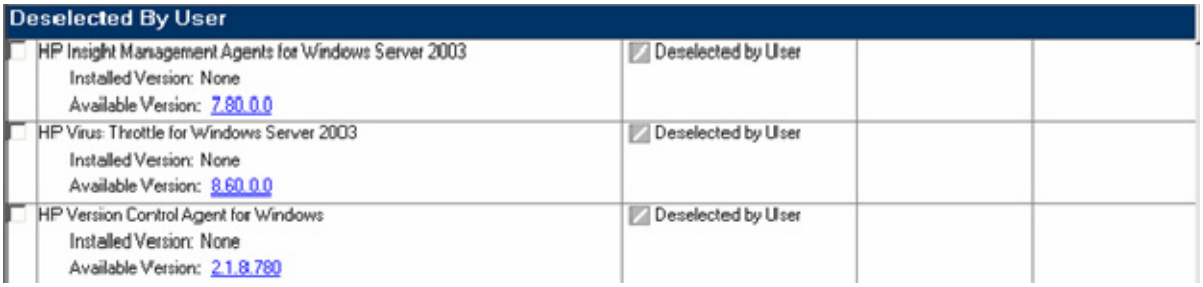
The Select Items to be Installed screen also includes the following GUI buttons:

- Select All—Selects all available components for installation.

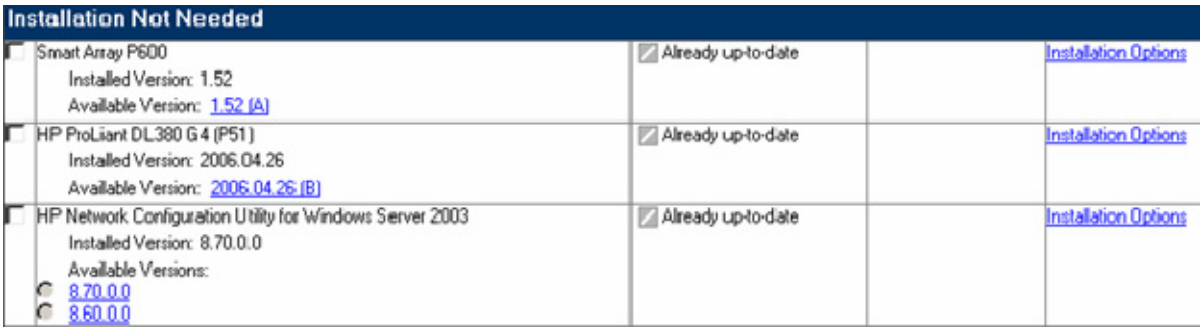
- Deselect All—Deselects all components currently selected for installation.
- Default—Restores the selections in the product installation pane to the default view, which is based on the existing configuration of the local system.
- Exit—Exits HP Smart Update Manager.
- Install—Installs all selected components.
- Add Supplemental—Enables you to deploy additional components from a removable device. The additional components must be located on the root of the device. This button is available only for offline deployments.

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

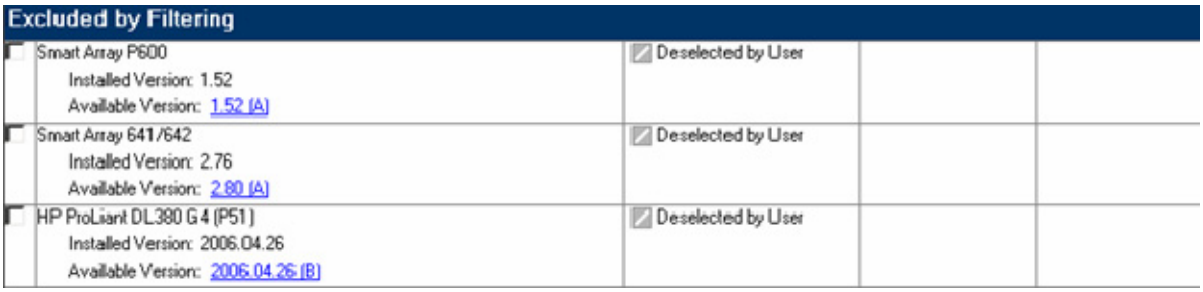
- Deselected By User—You have deselected the components in this section, and the components are not installed.



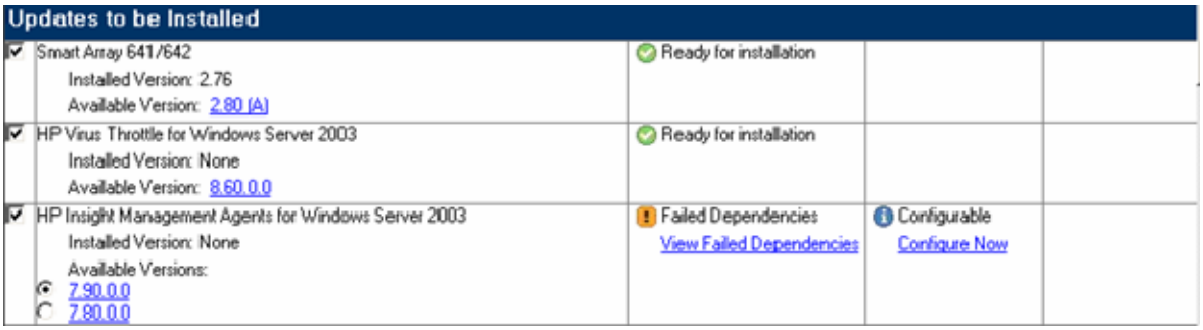
- Installation Not Needed—The components in this section do not need to be updated, but can be. To update the components, select the components, and then click **Installation Options.**



- Excluded by Filtering—The components in this section were excluded through your filtering options.



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



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

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

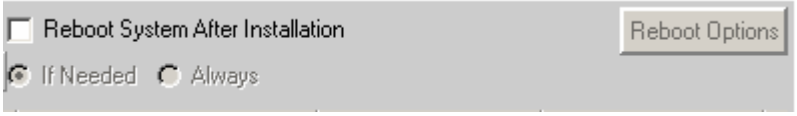
Status field

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

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

Reboot section

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

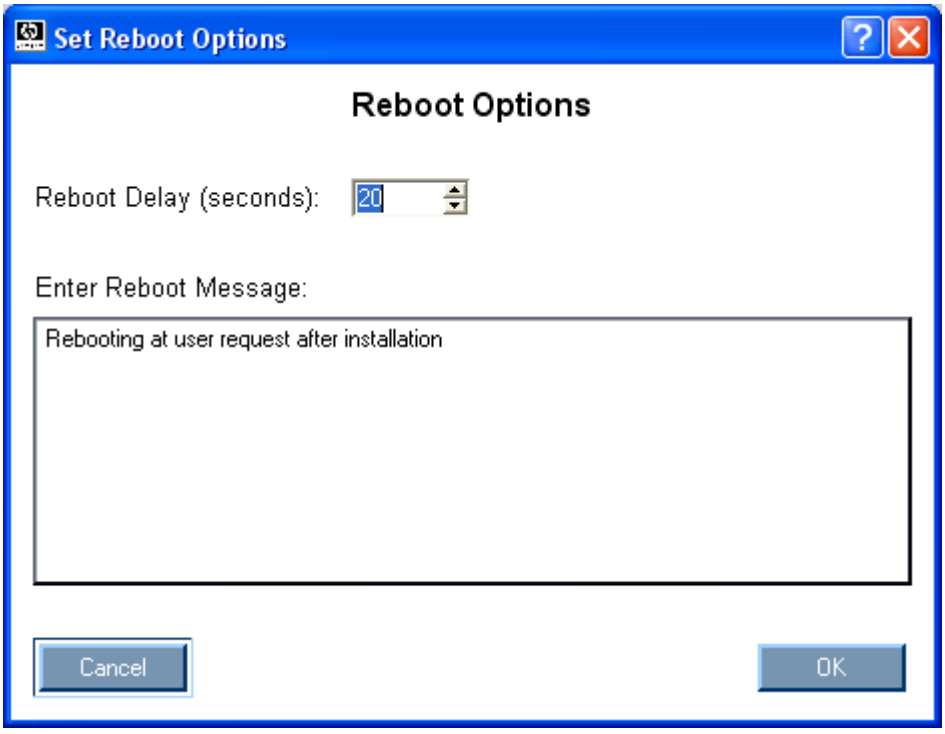


To instruct the system to reboot after updates are installed:

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

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

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



NOTE: In Linux, the Reboot Delay time is automatically converted from seconds to minutes. Any value under a full minute, 59 seconds or less, will be rounded to the next minute for Linux.

Make any changes, and click **OK.**

Component selection pane

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

The component selection pane is divided into the following columns:

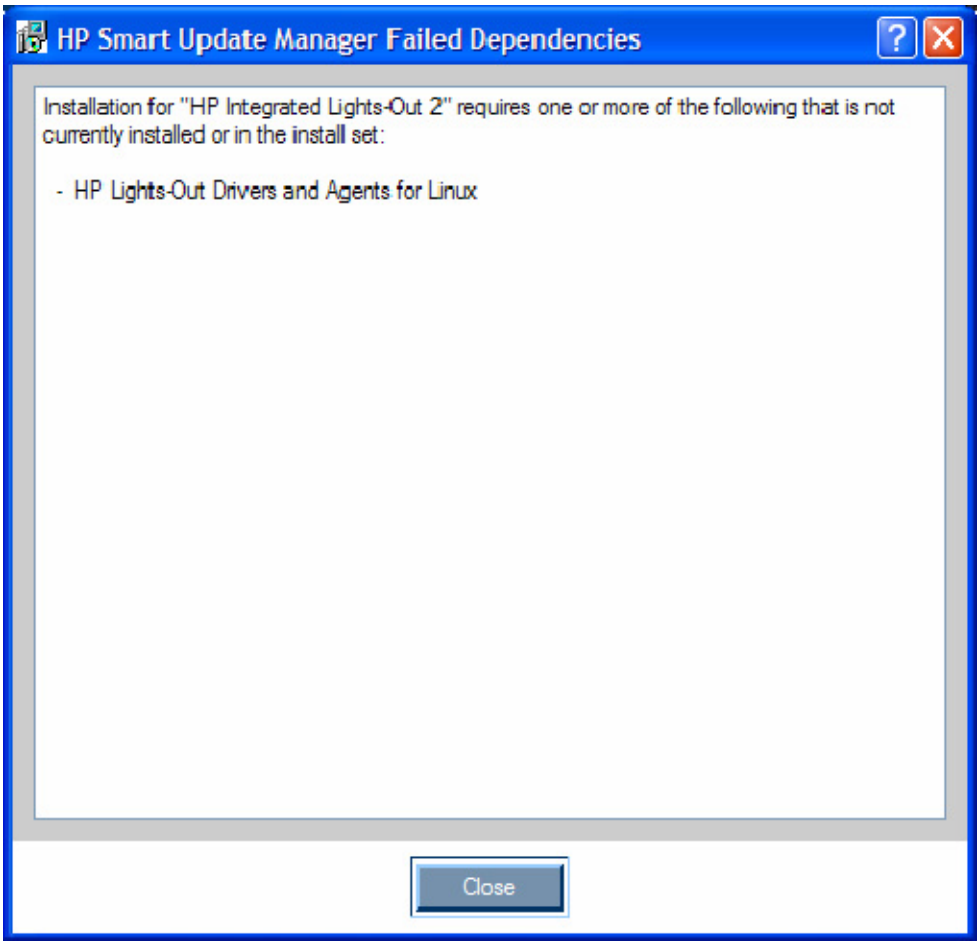
- Product—Specifies the name of the component, version number, and new component version number. To view the component version history, click the new version number.
- Status—Displays the status of the component.

Icon	Text	Description
	Ready for installation	The component is ready for installation.

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

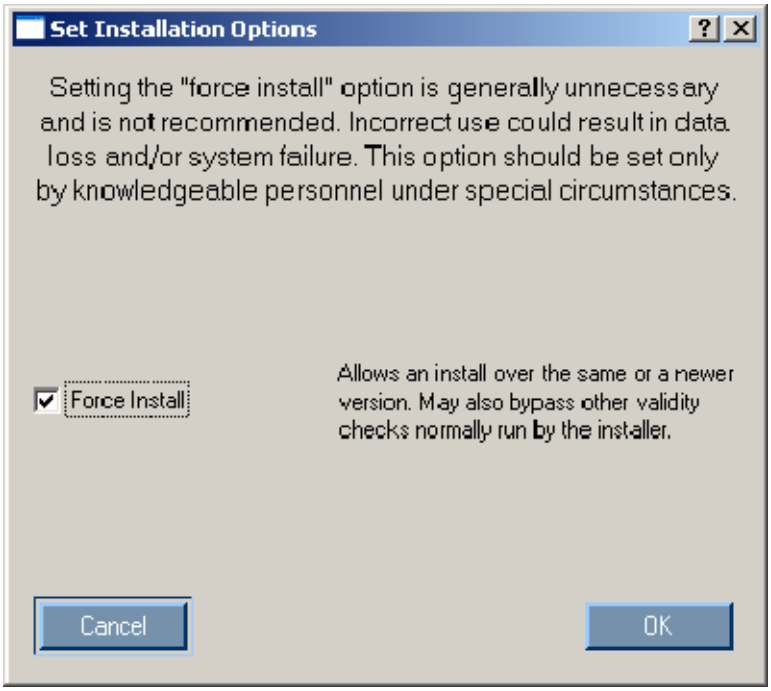
- Optional Actions—Reserved for future use.
- Additional—Contains the installation options for the components.

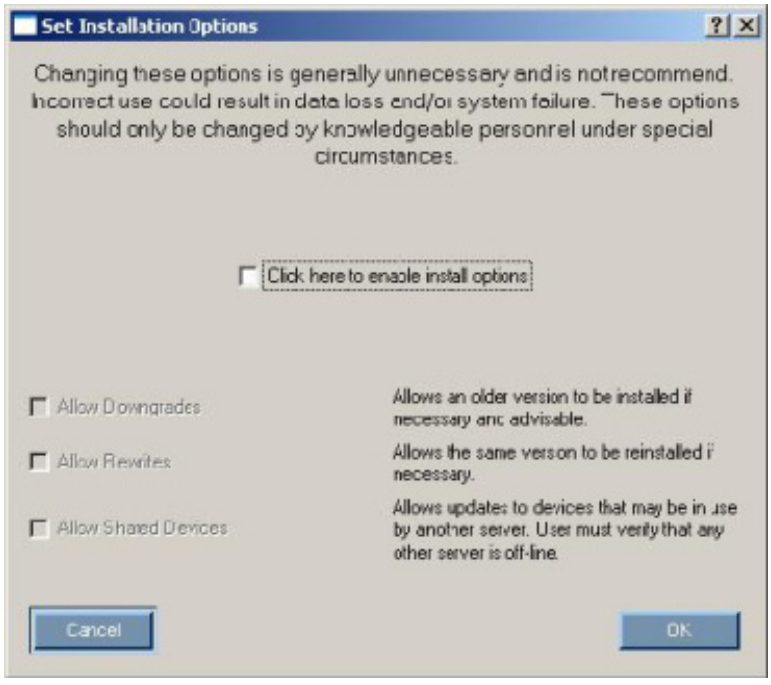
The following figure shows the Failed Dependencies screen:



Installation options

You can specify firmware upgrade behavior for installable components by selecting one or more options from the Additional Options field. Depending on the component type, one of the following screens appears.





- Select **Allow Downgrades** to downgrade the current firmware to an older version.
- Select **Allow Rewrites** to enable HP Smart Update Manager to overwrite the current firmware version with the same version.
- Select **Allow Shared Devices** to upgrade firmware in a shared storage environment.

△ **CAUTION:** Updating the firmware while a shared device is in use can lead to data loss. Before enabling the **Allow Shared Devices** option, be sure any other servers sharing the selected devices are offline.

The following table illustrates how changing the options for firmware upgrade behavior can change the firmware upgrade results. In this example, the array controller is assumed to be an HP Smart Array 6402 controller.

If the existing array controller has firmware version 3.00 installed, then updating the firmware produces results as described in the following table.

	Default	**Allow downgrades**	**Allow rewrites**
Firmware upgrade v3.05	3.05	3.05	3.05
Firmware upgrade v3.10	3.10	3.10	3.10

If the existing array controller has firmware version 3.10 installed, then updating the firmware produces results as described in the following table.

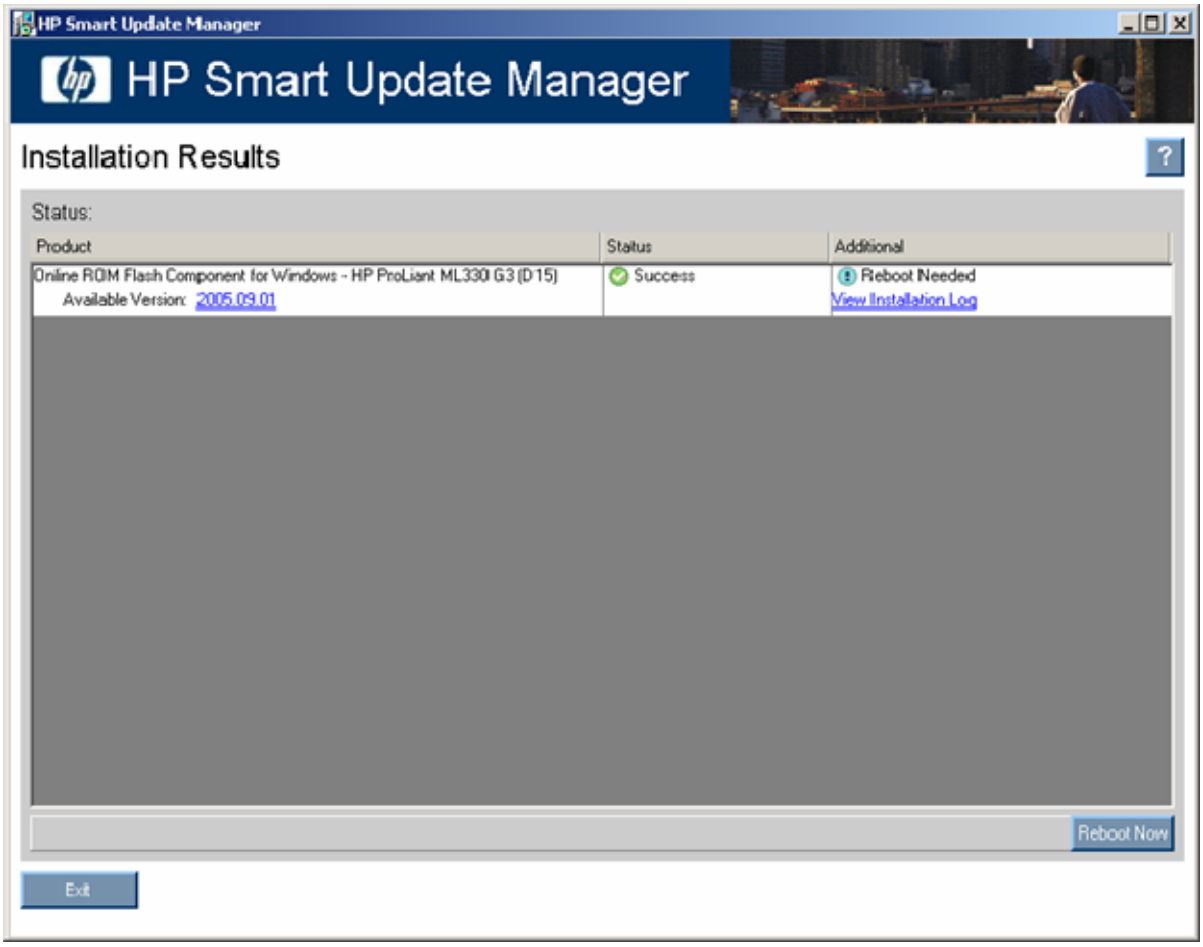
	Default	**Allow downgrades**	**Allow rewrites**
Firmware upgrade v3.05	No change	3.05	3.10
Firmware upgrade v3.10	No change	No change	3.10

NOTE: When updating installation for NIC components, select the devices to be updated in the window that appears.

After you have selected all the components that you want to install, click **Install** to proceed with the installation. The Installation Progress screen appears.

Viewing the installation results

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



The Installation Results screen is divided into the following columns:

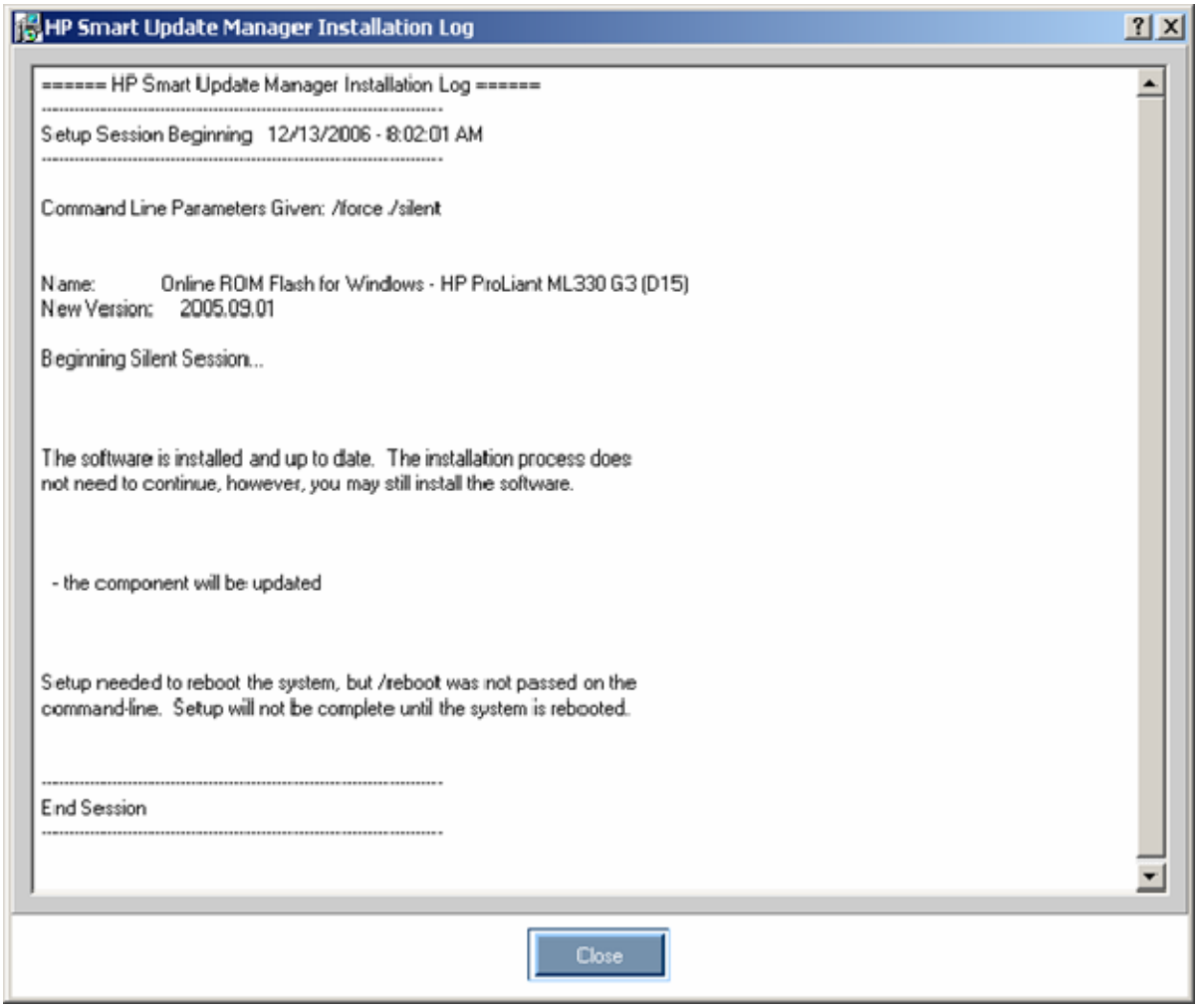
- Product—Specifies the name of the installed component. To see the component version history, click the version number.
- Status—Specifies the installation status of the component.

Icon	Text	Description
	Success	The component was installed successfully.
	Same/older version successfully installed	The existing component was successfully downgraded or reflashed to the same or an older version.
	Update returned an error	An update error has occurred. See the HP Smart Update Manager log file for details.
	Installation failed	The component was not installed. To see additional details, click **View Installation Log**.

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

Icon	Text	Description
	Reboot Needed	The server must be rebooted for the component to take effect.

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



The Installation Results screen also includes the following buttons:

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

The log files can be found in the following locations:

There are installation logs named hpsum_log.txt and hpsum_detail_log.txt, which contain information about the installation activity for each host being updated. The hpsum_log.txt log contains a brief summary of the installation activity. The hpsum_detail_log.txt log contains all of the installation details, including errors, for each component installed.

- For Windows®, these files are located in subdirectories named according to the IP address of each host in the \CPQSYSTEM\hp\log subdirectory on the boot partition of the local host. The directory containing the local host information is named localhost instead of being named after the IP address.
- For Linux, these files are located in subdirectories named according to the IP address of each host in the /var/hp/log subdirectory of the local host. The directory containing the local host information is named localhost instead of being named after the IP address.

Multiple-host installations using the GUI

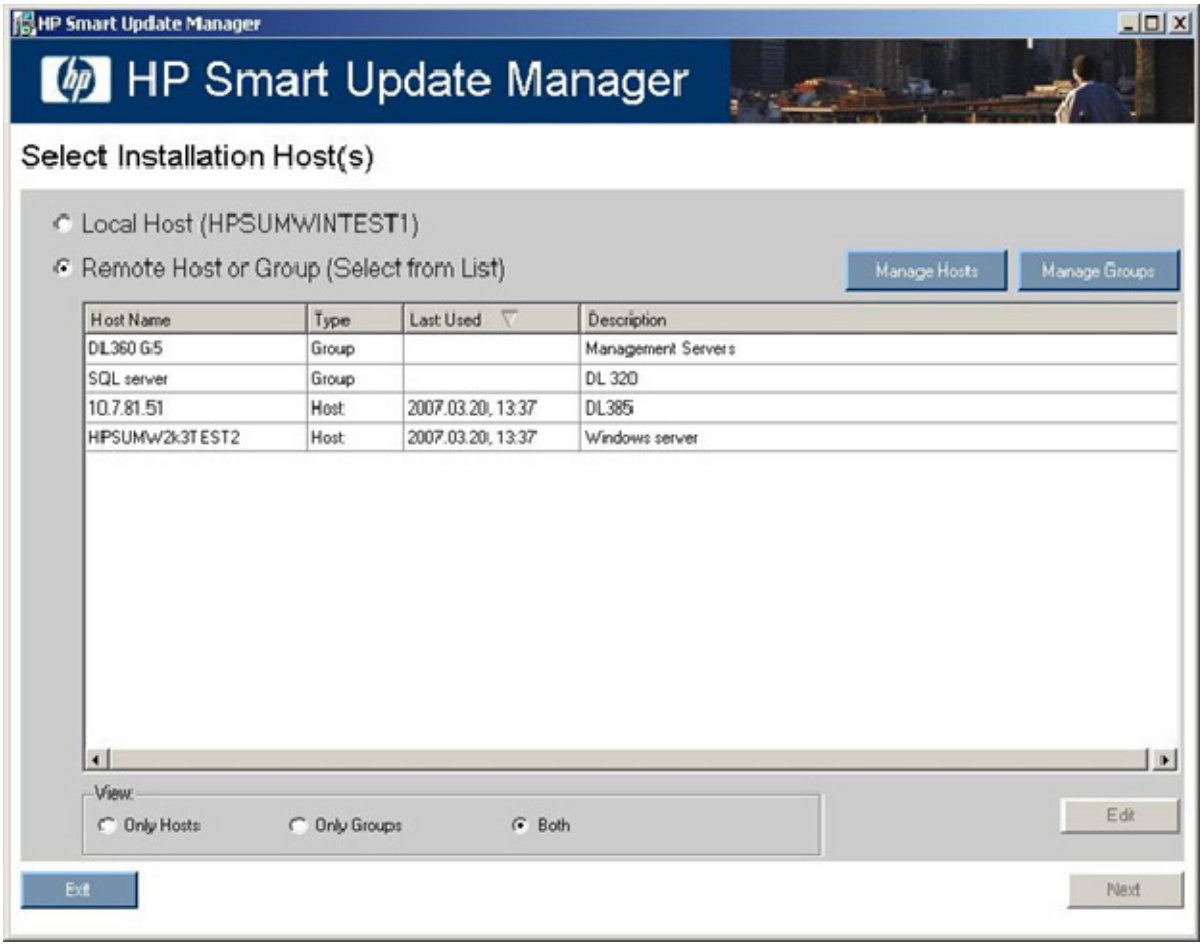
HP Smart Update Manager provides an easy-to-use graphical interface that enables you to deploy and maintain firmware components. To access HP Smart Update Manager, see "Deployment options (on page 6)."

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

Selecting remote hosts or groups

The Select Installation Host(s) screen enables you to choose multiple groups and/or hosts for component installation.

NOTE: Local hosts cannot be included in a list with remote hosts or in a group.



To add hosts, see "Managing Hosts (on page 24)." To add groups, see "Managing Groups (on page 26)."

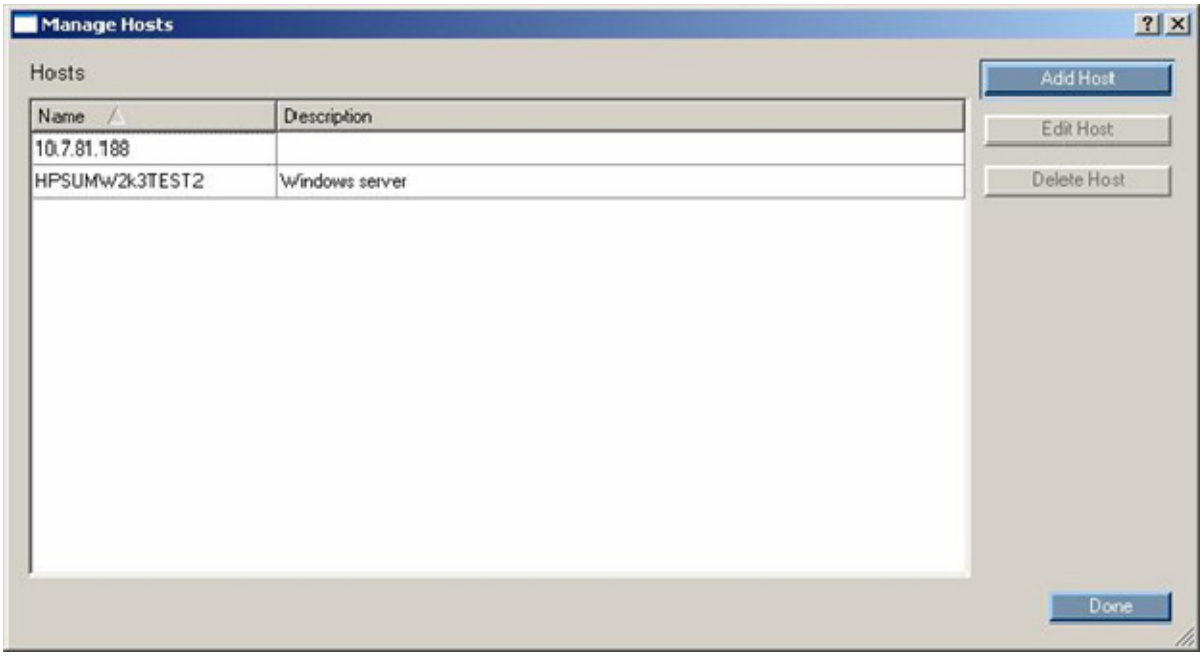
To continue with the deployment process:

1. Select one or more hosts and/or groups.
2. Click **Next** to continue.

3. Enter the credentials for the host ("Entering credentials for hosts" on page 29).
4. Click **OK** to proceed, as described in Selecting components to install on multiple hosts (on page 31).
5. When the installation is complete, the Installations results for multiple hosts screen ("Viewing the installation results for multiple hosts" on page 33) appears.

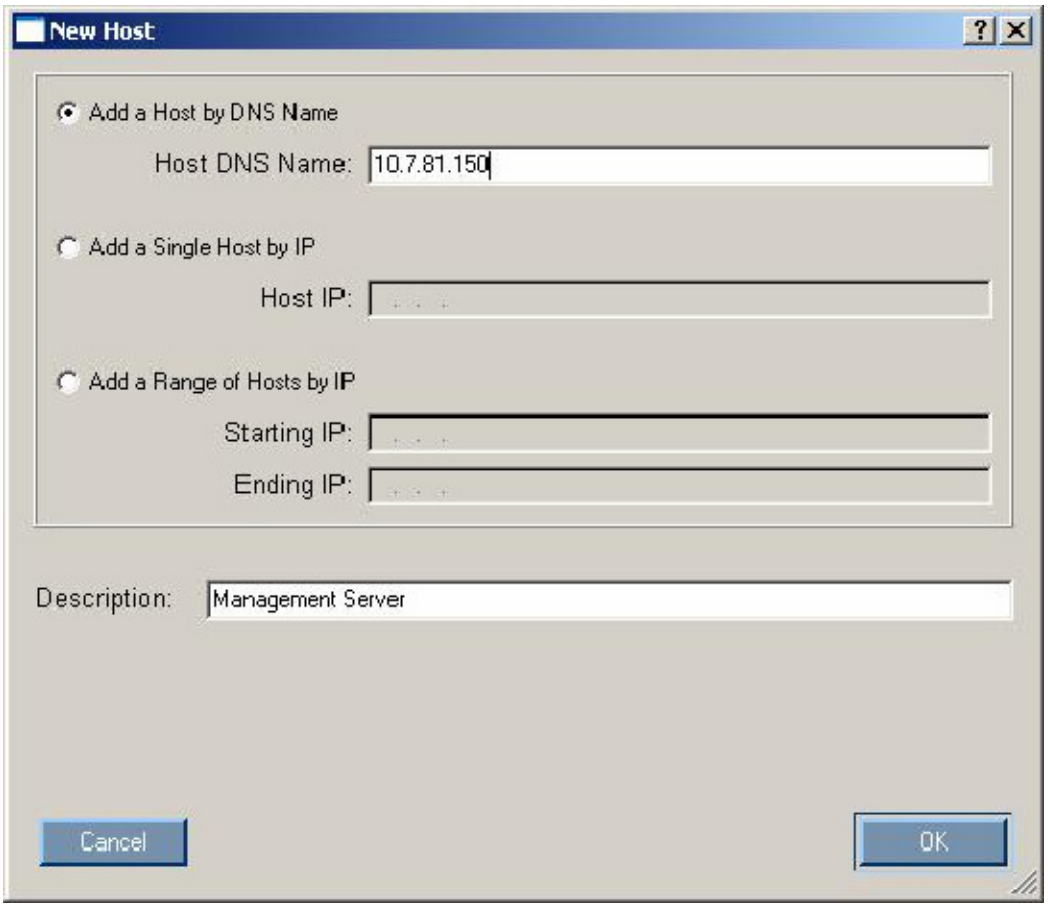
Managing hosts

To add, edit, or delete hosts, click the **Manage Hosts** button. The Manage Hosts screen appears.



To add a host:

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

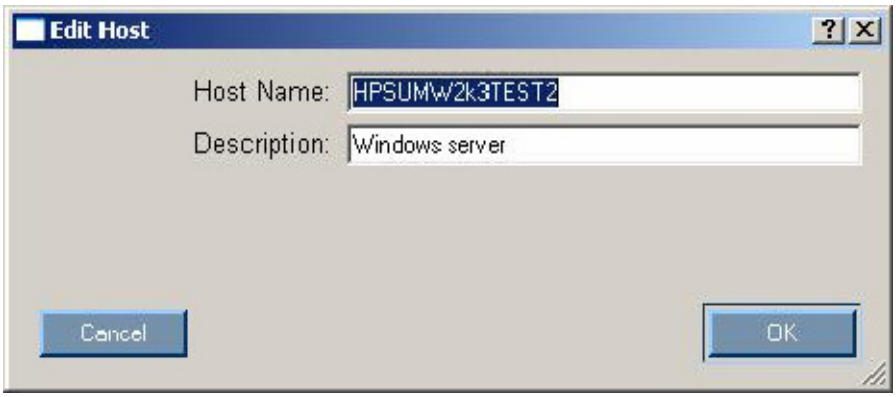


2. Select the method to add a host from the following:
   a. Enter the DNS name of the host to be added.
   b. Enter the IP address of the host to be added.
   c. Enter the IP address range of the hosts to be added. The starting and ending IP addresses must both be on the same subnet.
3. Enter an optional user-defined description given to the host to be added.
4. Click **OK.**

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

To edit an existing host:

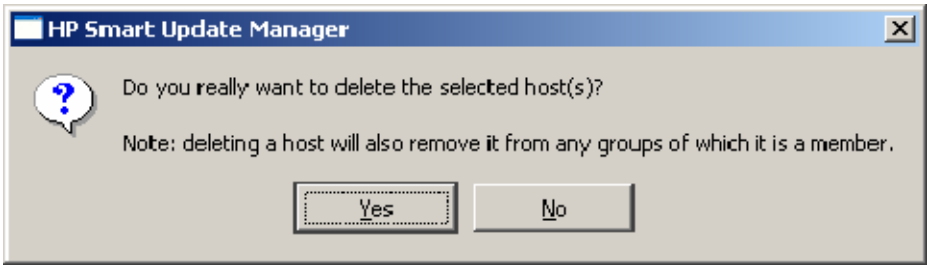
1. Click the **Edit Host** button on the Manage Hosts screen. The Edit Host dialog box appears.



2. Make the desired edits.
3. Click **OK.**

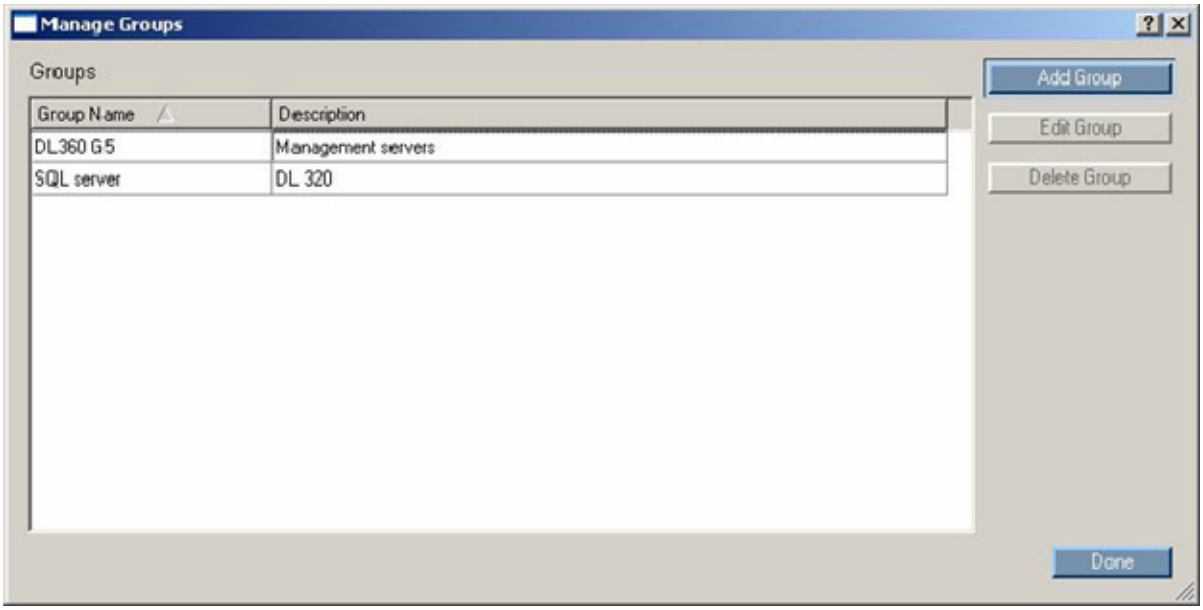
To delete a host:

1. Click the **Delete Host** button on the Manage Hosts screen.
2. Click **Yes** when the confirmation screen appears.



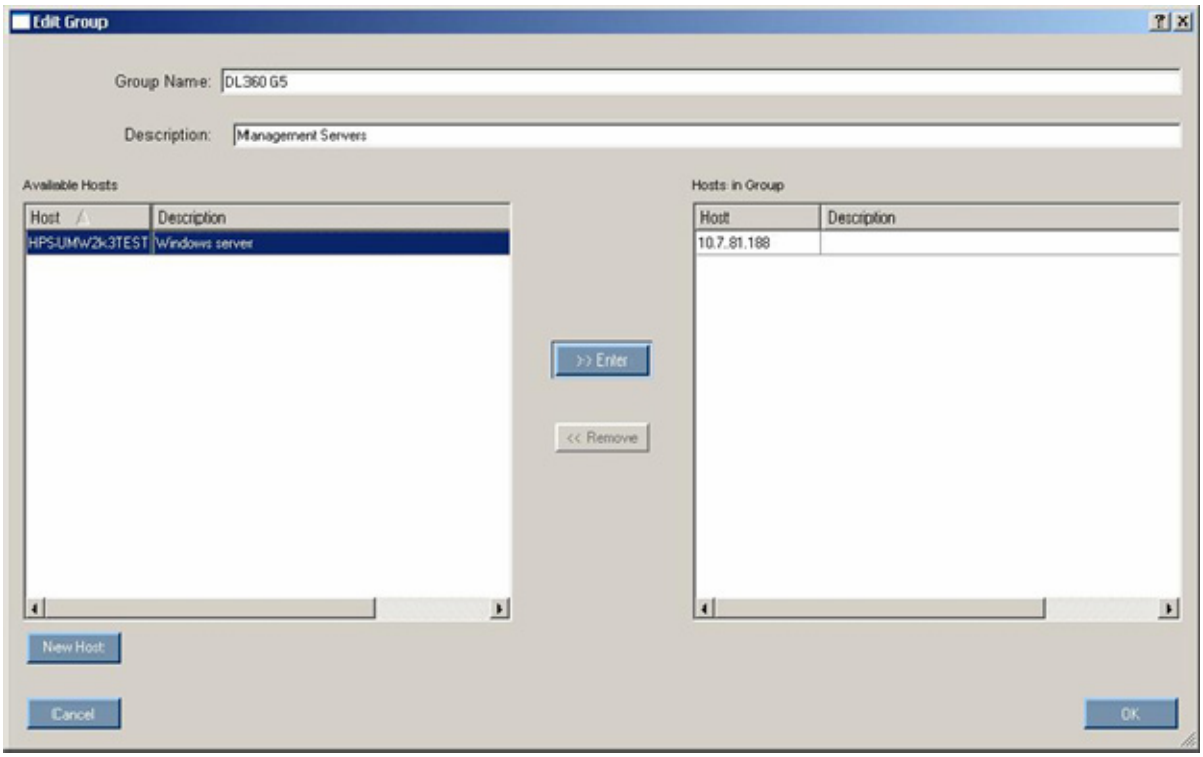
Managing groups

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



To add a group:

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

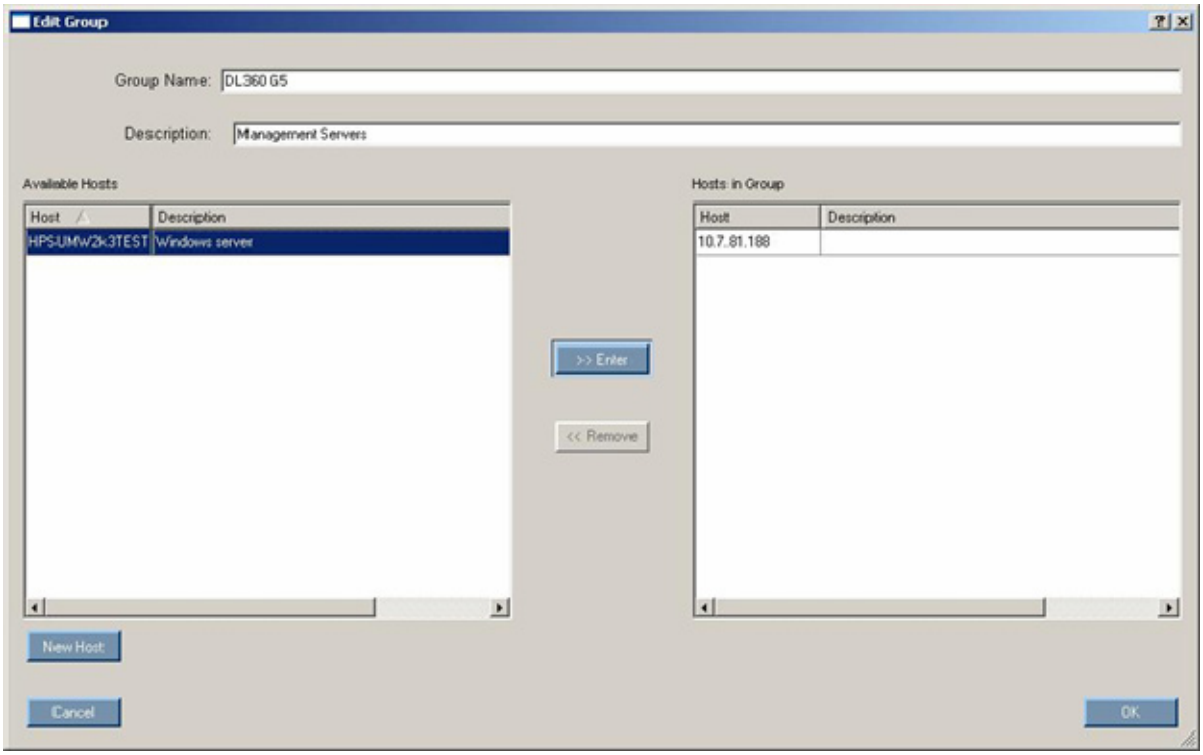


2. Enter a group name.
3. Enter an optional user-defined description given to the group to be added.
4. Select the hosts to be added to the group from the available hosts pane. You can add new hosts from this screen by clicking the **New Host** button. For more information on adding hosts, see "Managing hosts (on page 24)."
5. Click the **Enter >>** button to move the selected hosts to the new group.
6. Click **OK.**

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

To edit an existing group:

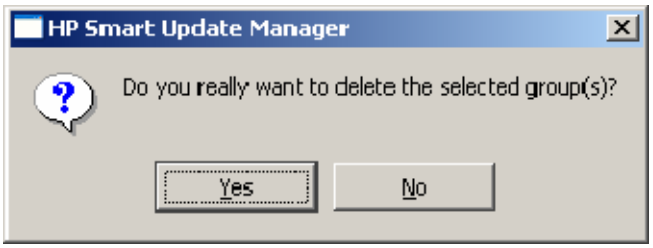
1. Select the desired group and click the **Edit Group** button on the Manage Groups screen. The Edit Group dialog box appears.



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

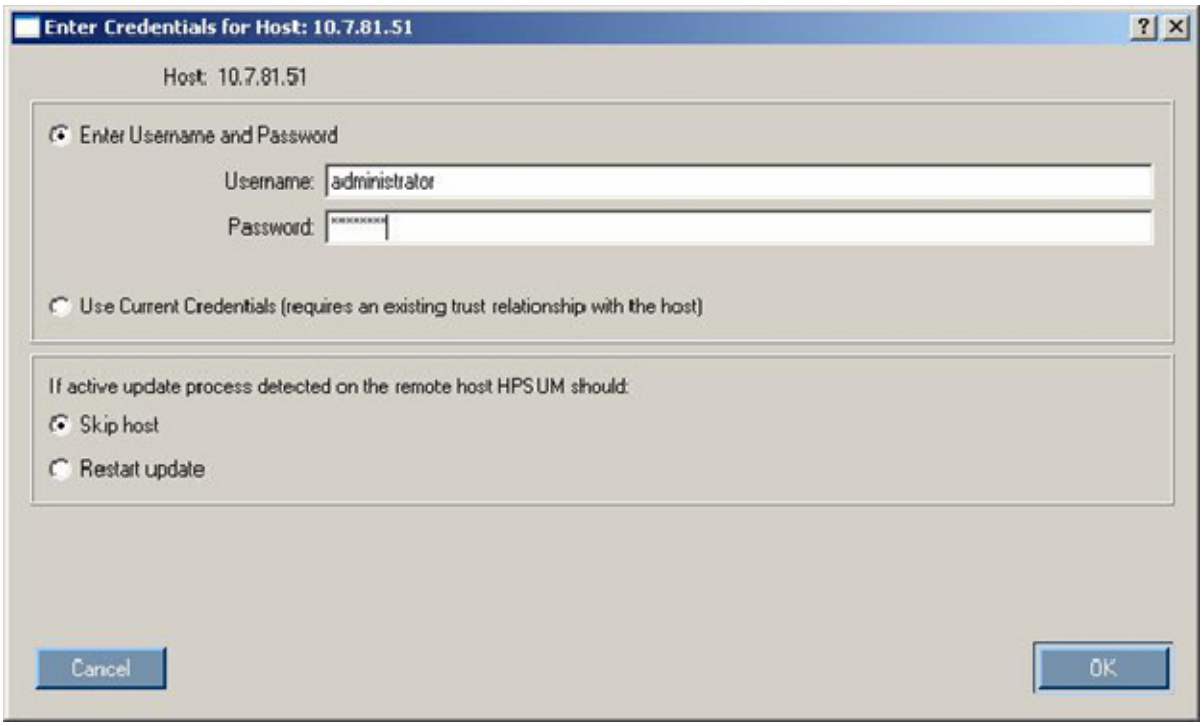
To delete a group, select the group on the Manage Groups screen, then click the **Delete Group** button.

Click **Yes** when the confirmation screen appears.



Entering credentials for hosts

When a single remote host is selected, the Enter Credentials for Host screen appears.



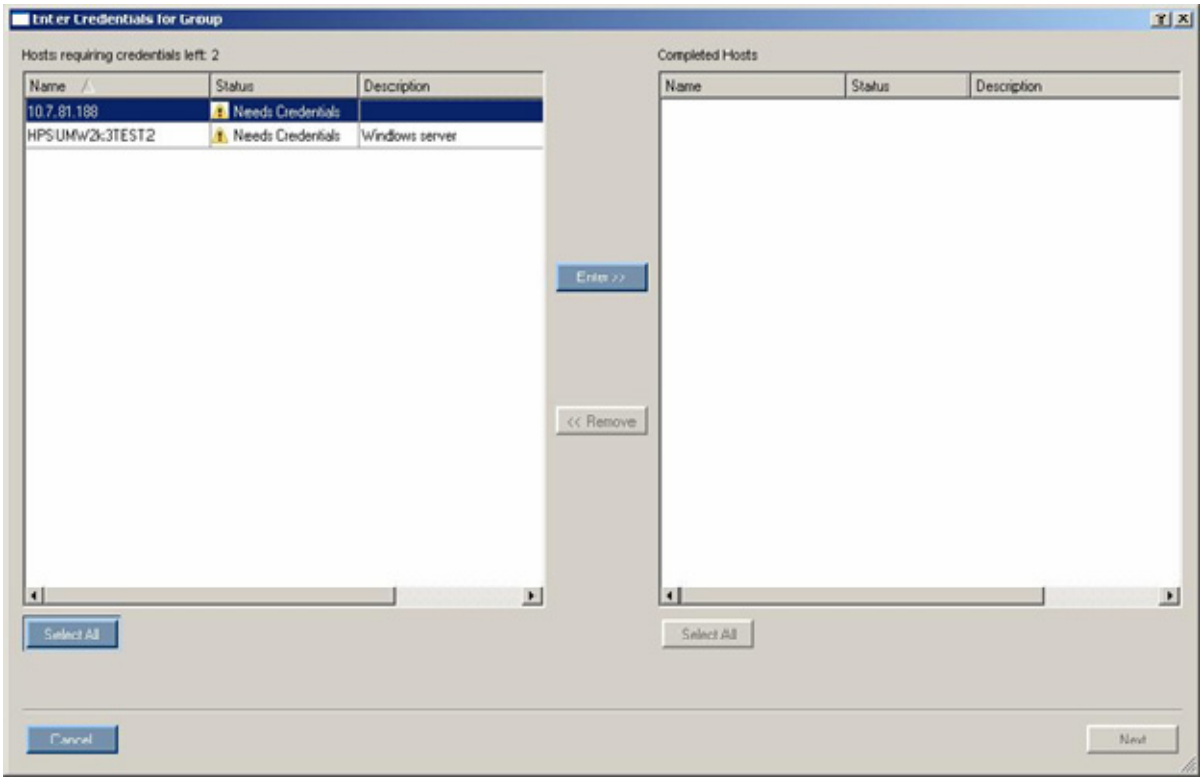
To enter the credentials for the host, choose one of the following:

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

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

Click **OK** to continue.

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



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

Each pane is divided into the following columns:

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

Icon	Text	Description
	Entered	The credentials for the host have been entered.
	Needs Credentials	The credentials for the host have not been entered.
	Credentials Failed	The credentials entered for the host have failed.
	Unable to access host	The host cannot be accessed using the credentials entered, or the host cannot be found in the network.
	Host Skipped Due to Existing HPSUM Session	The host is skipped due to an existing HP Smart Update Manager session.

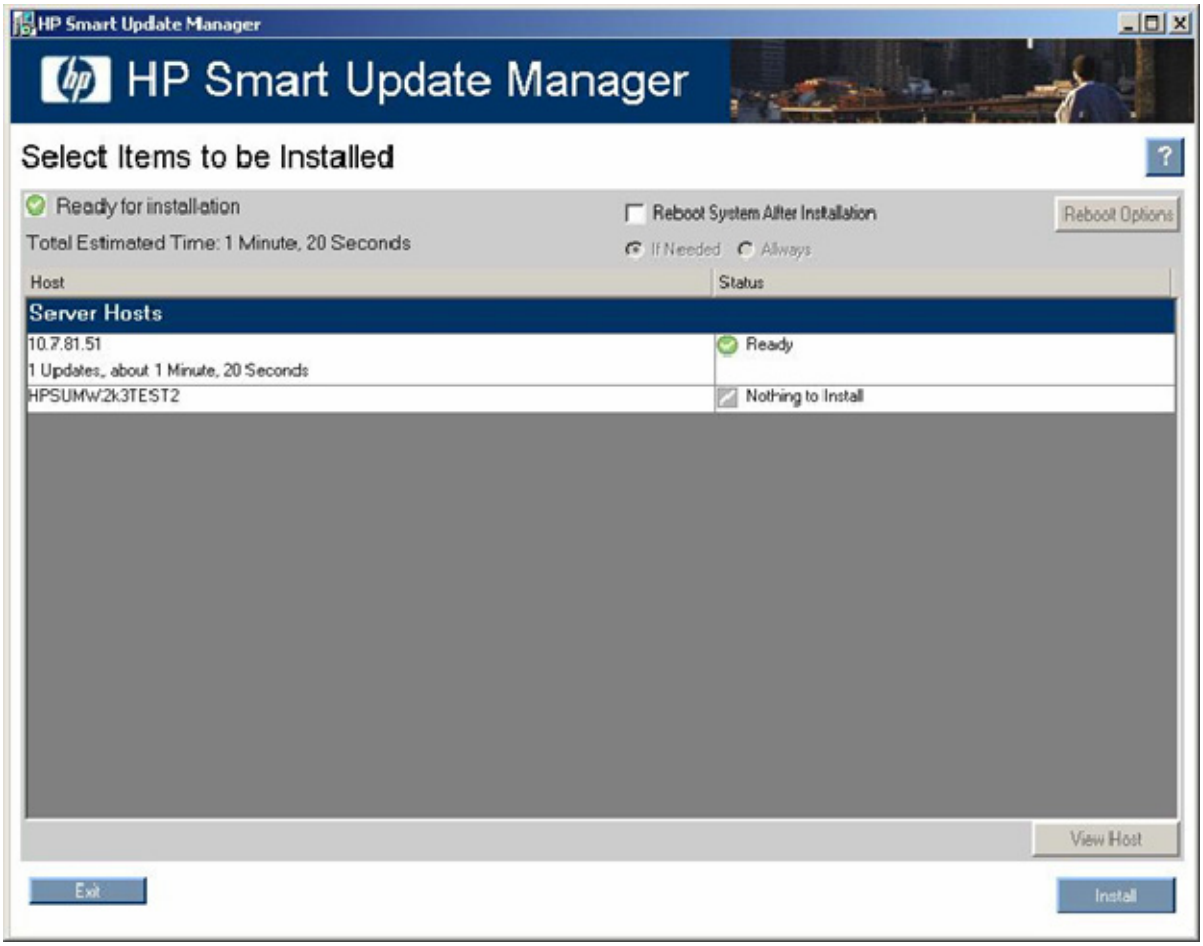
- Description—Displays the user-defined description given to the host.

To enter the credentials for the host:

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

Selecting components to install on multiple hosts

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



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

- View Host—Enables you to view additional information about a host after you select it.
- Install—Installs all selected components on all remote hosts.
- Exit—Exits HP Smart Update Manager.

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

The server host pane is divided into the following columns:

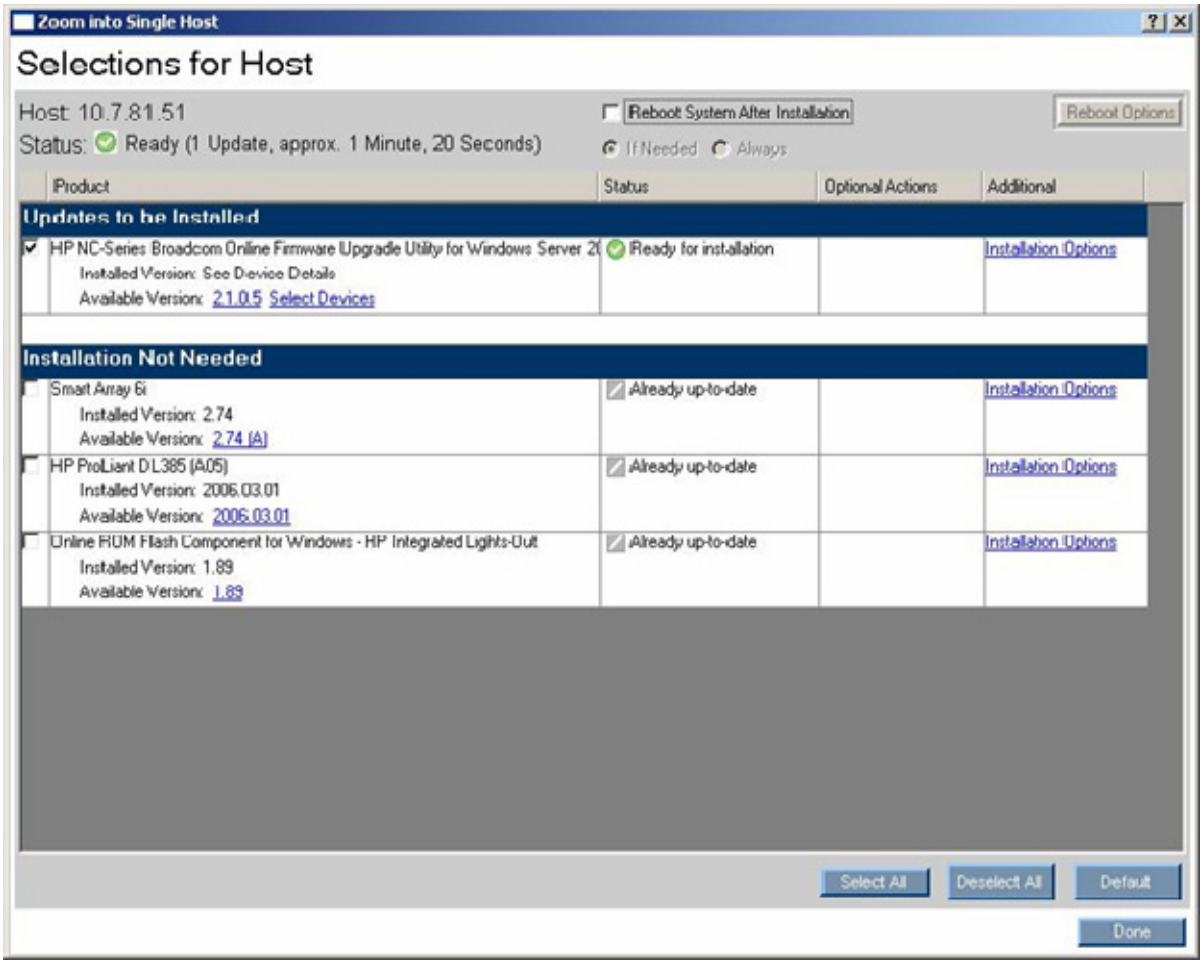
- Host—Specifies the name of the system, number of updates available, and the estimated time for the installation.
- Status—Specifies the status of the host.

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

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

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

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

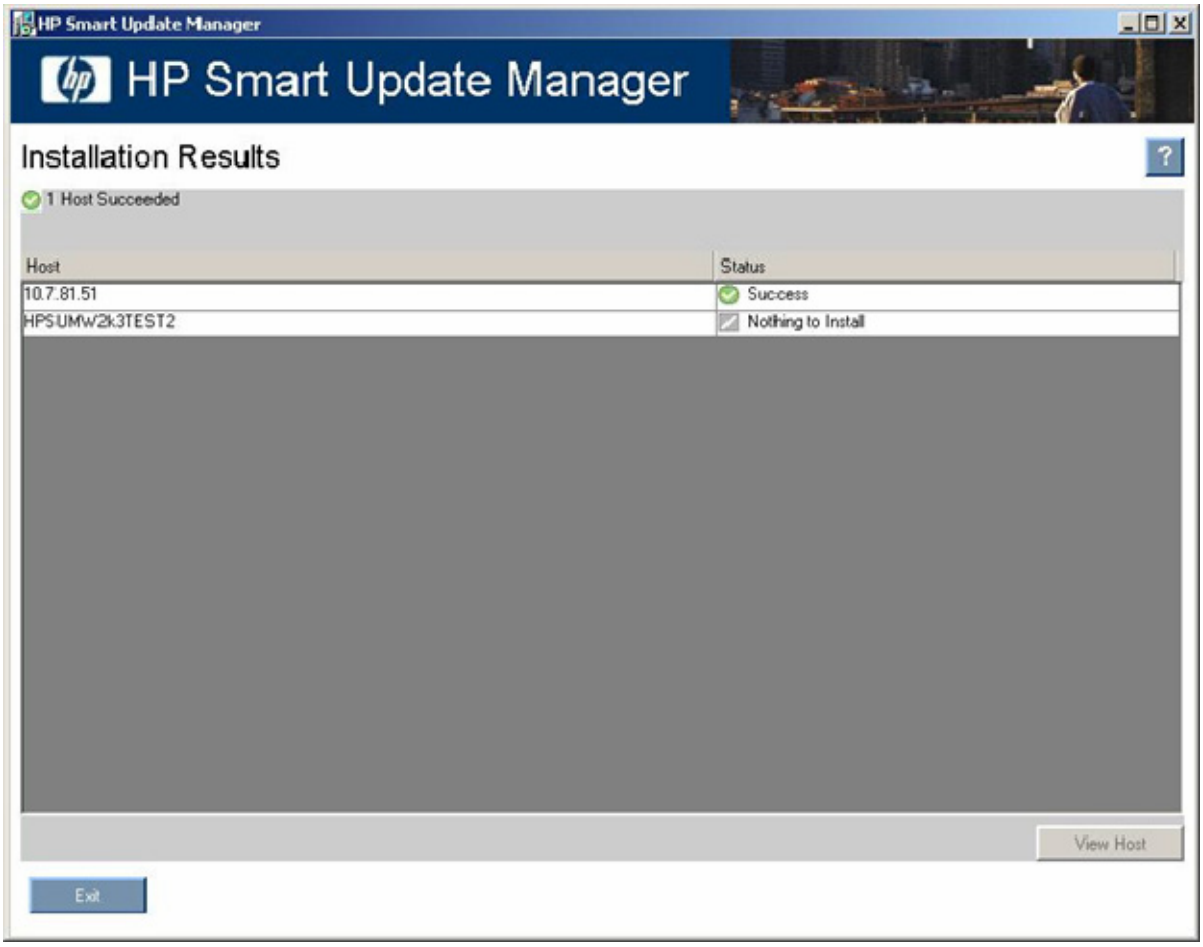


To set single-host selections, proceed as described in "Selecting Components to Install (on page 14)."

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

Viewing the installation results for multiple hosts

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



The Installation Results screen is divided into the following columns:

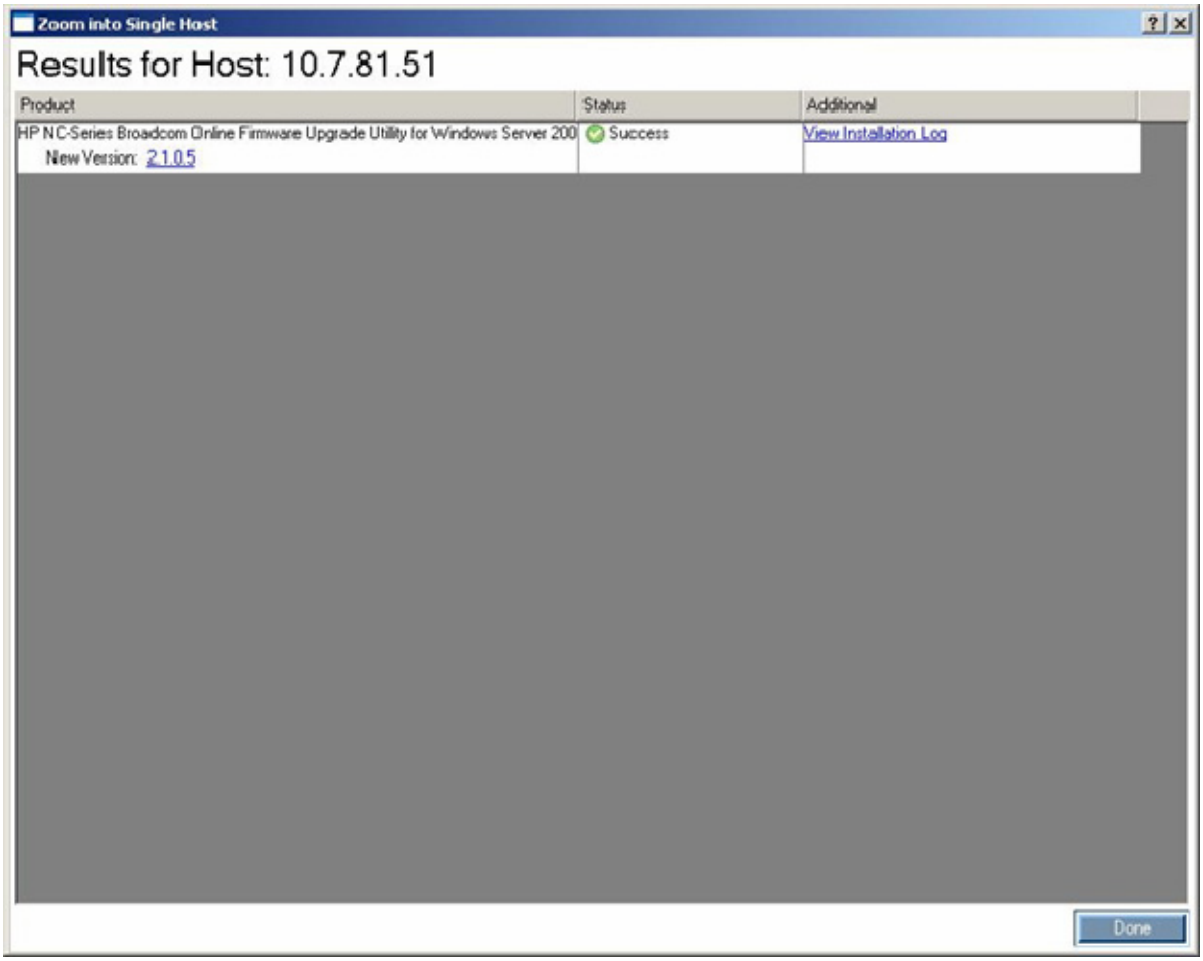
- Host—Specifies the IP address or DNS name of the host.
- Status—Specifies the overall installation status of the components on the remote host.

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

The Installation Results screen also includes the following buttons:

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

In order to view single-host installation results, double-click on the host or select the host, and click **View Host.**



Proceed as described in "Viewing the installation results (on page 21)."

Scripted deployment

Command line interface

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

Command line syntax

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

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

The HP Smart Update Manager with Onboard Administrator requires a user ID and password to log in.

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

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

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

Command line arguments

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

Some arguments such as `/romonly` and `/softwareonly` cannot be used together.

Command line argument	Description	Firmware version	Software version
`/h[elp] or /?`	This argument displays command line Help information.	7.60	7.90

Command line argument	Description	Firmware version	Software version
`/f[orce]`	This argument enables you to override or downgrade an existing component installation. This has the same behavior as `/f:software`.	7.60	7.90
`/f[orce]:bundle`	This argument enables you to override or downgrade the existing installation of components in the selected bundle.	7.91	8.0
`/f[orce]:rom`	This argument enables you to override or downgrade the existing installation of the selected firmware components. (Applies to firmware only.)	7.91	8.0
`/f[orce]:software`	This argument enables you to override or downgrade the existing installation of the selected software components.	7.91	8.0
`/f[orce]:all`	This argument enables you to override or downgrade the existing installation of the selected software components, firmware components, and bundles.	7.91	8.0
`/g or /downgrade`	This argument enables you to downgrade to an earlier version of firmware for multi-target devices such as hard drives and array controllers. (Applies to firmware only.)	7.60	7.90
`/e or /rewrite`	This argument enables you to rewrite the same version of firmware only for multi-target devices such as hard drives and array controllers. (Applies to firmware only.)	7.60	7.90
`/m[utual]`	If the device to be flashed is in a shared storage environment, then this argument informs the firmware flash engine to flash the firmware. If the device to be flashed is in a shared storage environment, and the `/m` option is not passed, then the component installation fails. (Applies to firmware only.)	7.60	7.90
`/r[eboot]`	If the following conditions are met, then this argument causes the server (or host server in a remote installation) to reboot: • The `/reboot` option is selected or given as a command line argument. • All components selected for installation are successfully installed. • At least one of the installed components requires a reboot to complete its installation.	7.60	7.90

Command line argument	Description	Firmware version	Software version
`/reboot_message` *"reboot message"*	This argument displays the specified reboot message on remote consoles connected to the server to be rebooted. This argument must be used with the `/reboot` option, or the argument is ignored.	7.60	7.90
`/reboot_delay` *timeout_in_seconds*	This argument delays the reboot of the server for the length of time specified by the *timeout_in_seconds* variable. This argument must be used with the `/reboot` option, or the argument is ignored. Acceptable values are between 15 and 3600. The default timeout value is 15 seconds for Microsoft® Windows® and 60 seconds for Linux. In Linux, the Reboot Delay time is automatically converted from seconds to minutes. Any value under a full minute, 59 seconds or less, round to the next minute for Linux.	7.60	7.90
`/reboot_always`	If the following conditions are met, then this argument forces the server to reboot: • The `/reboot_always` option is selected or given as a command line argument. • All components selected for installation are successfully installed.	7.60	7.90
`/s[ilent]`	This argument causes the installation to run silently with no GUI or console output. All data is written to the log file. Any prompts that are generated 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 is written to the log file. Failed dependencies are not reported to the user when using the `/s[ilent]` argument. To check for failed dependencies, remove the `/s[ilent]` argument, reissue the command line, and then the HP Smart Update Manager GUI presents.	7.60	7.90

Command line argument	Description	Firmware version	Software version
/c[omponent] *<component to install>* or *<component1_to_install>* *<component2_to_install>*	This argument specifies the components to install. Components to install can be specified with or without the /c[omponent] argument. If using the /c[omponent] argument, only one component can be specified with the argument. However, multiple /c arguments and components can be specified on the same line. If the /c[omponent] argument is not used, multiple components can be specified at the same time, but the components must be separated by a blank and listed after all the arguments on the command line. The components are installed in the order provided unless dependencies between components require installation in a different order. If so, the utility changes the installation order based on the component dependencies to ensure the successful installation of as many components as possible. Multiple components and bundles can be specified on the same command line. When mixing components and bundles on the command line, the filter switches control what components and bundles are installed.	7.60	7.90
/group *"group_name"*	This argument specifies an already defined group name in the HP Smart Update Manager graphical user interface.	7.90	7.90
/b[undle] *<bundlename>* or *<bundle1_to_install>* *<bundle2_to_install>*	This argument specifies the bundles to install. Bundles to install can be specified with or without the /b[undle] argument. If using the /b[undle] argument, only one bundle can be specified with the argument. However, multiple /b arguments and bundles can be specified on the same line. If the /b[undle] argument is not used, multiple bundles can be specified at the same time, but the bundles need to be separated by a blank and listed after all the arguments on the command line. Multiple components and bundles can be specified on the same command line. When mixing components and bundles on the command line, the filter switches control what components and bundles are installed.	7.90	7.90

Command line argument	Description	Firmware version	Software version
`/allow_update_to_bundle`	This argument is a filter switch and enables the user to install newer versions of components defined in a PSP or firmware bundle if they exist. This parameter enables these components to replace the older versions of the same component that might have shipped with the bundles.	7.90	7.90
`/allow_non_bundle_components`	This argument is a filter switch and enables the user to install components which are not included in the bundle but reside in the directory with the components in the bundle.	7.91	7.91
`/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 Smart Update Manager to use the bundle with the latest version for installation.	7.91	8.0
`/use_location` *"file_share"*	This argument specifies a directory or file share that contains the PSP and components for use with HP Smart Update Manager. If this argument is not specified, the directory containing hpsum.exe or HP Smart Update Manager is used by default. The logged-in account must have access to this location. The `/user` and `/passwd` arguments do not have any effect when attempting to access the file share. They are only used when connecting to a target system.	8.0	8.0
`/use_snmp`	This argument specifies that components, which use SNMP protocol, are available to be selected for installation. These components are available for selection by default. When the `/use_snmp` argument is used and the `/use_wmi` argument is not, the WMI components are optional.	8.0	8.0

Command line argument	Description	Firmware version	Software version
/use_wmi	This argument specifies that components, which use WMI protocol, are available to be selected for installation. These components are optional by default and will not be installed unless this argument is used. When the /use_wmi argument is used and the /use_snmp argument is not, the SNMP components are optional.	8.0	8.0
/romonly	This argument is a filter switch and allows the user to only see the firmware components needed for installation. When using this filter switch, you must exit, and then restart HP Smart Update Manager to return to an unfiltered state. Do not use the /romonly argument with the /softwareonly argument.	7.91	8.0
/softwareonly	This argument is a filter switch and allows the user to only see the software components needed for installation. When using this filter switch, you must exit, and then restart HP Smart Update Manager to return to an unfiltered state. Do not use the /softwareonly argument with the /romonly argument.	7.91	8.0
/dryrun	This argument simulates the installation for a test run. Nothing is installed.	7.90	7.90
/continue_on_error *<error>*	This argument causes the installation to continue and ignore errors. Valid values are *<error>*=ServerNotFound and *<error>*=BadPassword. The ServerNotFound option can be used to bypass inactive or unavailable remote hosts when deploying firmware or software to multiple remote hosts at the same time.	7.90	7.90
/override_existing_connection	This argument is used to define the behavior when a remote target has an existing HP Smart Update Manager session in progress. This parameter overrides the session in progress and reinitializes the installation framework on the remote host.	7.90	7.90
/express_install	This argument starts express install (for local host only). The HP Smart Update Manager performs discovery, install, or exit without user interaction. The user can cancel or terminate HP Smart Update Manager.	7.90	7.90

Command line argument	Description	Firmware version	Software version
`/user <username> or /username <username>`	This argument enables you to log in to HP BladeSystem c-Class Onboard Administrator with your user ID.	7.80	7.90
`/passwd <password>`	This argument enables you to use the password for the user ID specified in the `/user` parameter. The password is used to log in to remote hosts and HP BladeSystem c-Class Onboard Administrators.	7.80	7.90
`/current_credential`	This argument enables the credential of the local host to be used as the credential to access the targets instead of providing the username and password explicitly for each target. The assumption is that the current credential is valid for the targets being accessed. (Applies to Windows® only.)	7.91	8.0
`/target "netAddress"`	This argument is the IP address or the DNS name of a HP BladeSystem c-Class Onboard Administrator or remote host. When two Onboard Administrators are in an enclosure, this argument should be the active Onboard Administrator.	7.80	7.90
`/logdir "path"`	This argument enables you to redirect the output from HP Smart Update Manager or the HP BladeSystem c-Class Onboard Administrator flash utility to a different directory than the default location. For Windows® components, the default location is *%SYSTEMDRIVE%\CPQSYSTEM\hp\log\<netAddress>* and the redirected location is *<path>\hp\log\<netAddress>*. For Linux components, the default location is */var/hp/log/<netAddress>* and the redirected location is *<path>/hp/log/<netAddress>*.	7.91	8.0

Component configuration for Windows components only

To configure components without going through the HP Smart Update Manager GUI, issue the command, `hpsum_config <component_to_configure>`. This command presents the same configuration screens seen in the HP Smart Update Manager GUI. Configuration for a given component only needs to be executed once. The configuration is stored within the component and is propagated to all target servers when deployed through HP Smart Update Manager GUI or command line. To change the configuration, rerun `hpsum_config` against the component and a new configuration writes out. If a component does not need configuration, `hpsum_config` will return to the console.

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

Command line examples

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

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

Example 1:

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

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

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

Example 2:

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

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

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

Example 3:

This command line input deploys firmware:

```
hpsum /romonly
```

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

Example 4:

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

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

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

Example 5:

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

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

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

Return codes

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

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

To view the installation log file locations, see "Viewing the installation results (on page 21)."

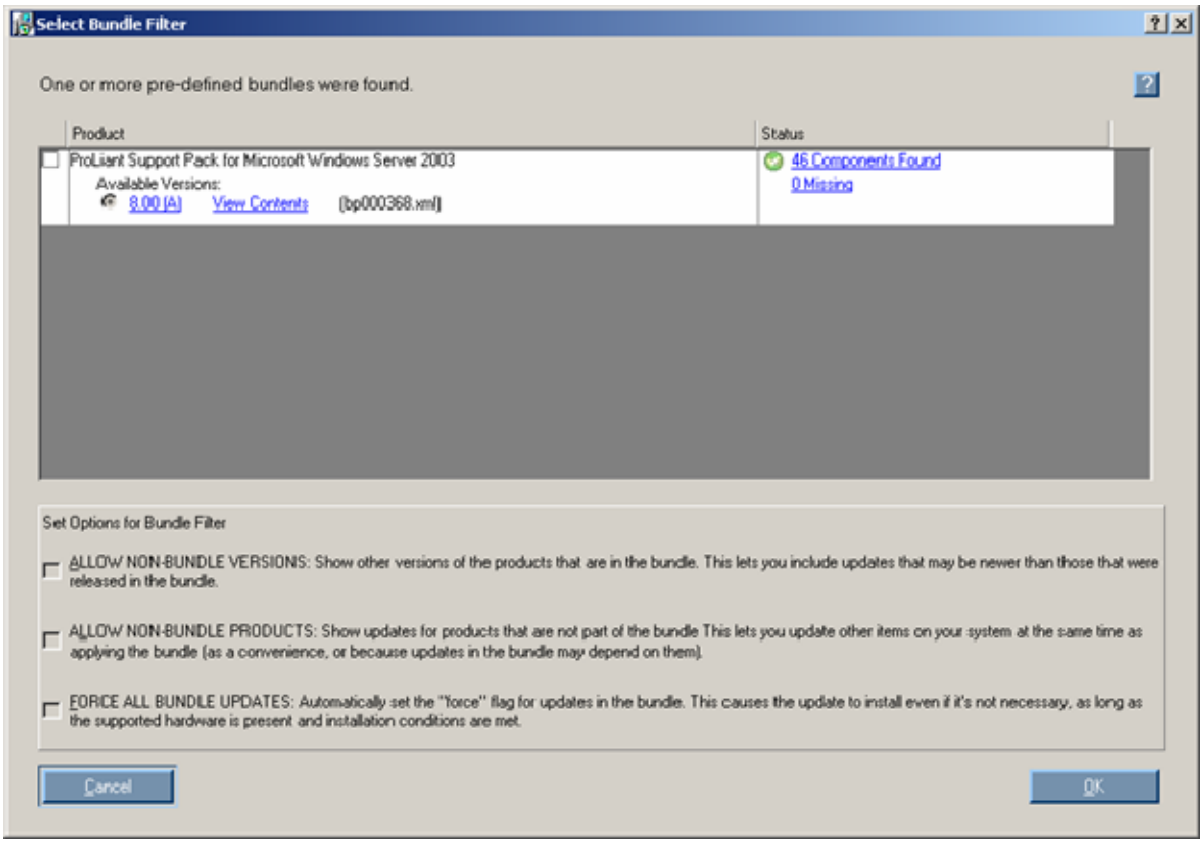
Return code	Value	Linux	Windows	Text
SUCCESS_NO_REBOOT	0	0	0	The installation was successful.
SUCCESS_REBOOT	1	1	1	The installation was successful, but a reboot is required.
SUCCESS_NOT_REQUIRED	3	3	3	The component was current or not required.
FAILURE_GENERAL	-1	255	255	A general failure occurred. See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

Advanced topic—Deploying firmware and software simultaneously

Deploying firmware and software simultaneously

HP Smart Update Manager utility enables you to deploy firmware and software components simultaneously. Deployment of firmware and software components from Windows® PSPs and server blade bundles simultaneously is supported only for Windows® online deployments. The Microsoft® Windows® PSP, bundles, and firmware components must be in the same directory to deploy simultaneously.

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



To proceed with the deployment process, click **OK.** The Select Items to be Installed ("Selecting components to install" on page 14) screen appears with the appropriate firmware and software components.

For more information on the PSPs, see the *HP ProLiant Support Pack User Guide*.

Troubleshooting

Recovering from a failed ROM upgrade

Recovering from a failed system ROM upgrade

Use redundant ROM or ROMPaq to recover from a system ROM upgrade failure.

Redundant ROM recovery

When you flash the system ROM, ROMPaq writes over the backup ROM and saves the current ROM as a backup, enabling you to switch easily to the alternate ROM version if the new ROM becomes corrupted for any reason. This feature protects the existing ROM version, even if you experience a power failure while flashing the ROM.

When the server boots, the server detects if the current ROM is corrupt. If a corrupt ROM is detected, then the system boots from the backup ROM and sends an alert through POST that the ROM is corrupt.

To access the redundant ROM through RBSU:

1. Power up your desktop. A prompt appears in the upper right corner of the screen.
2. Access RBSU by pressing F9.
3. Select **Advanced Options.**
4. Select **ROM Selection.**
5. Select **Switch to Backup ROM.**
6. Press the **Enter** key.
7. To exit the current menu, press the **Esc** key, or to exit RBSU, press the **F10** key. The server restarts.

If RBSU is inaccessible, then you can switch ROM images by changing the switch settings on the system configuration switch. For more information, see your server documentation.

If both ROM images are corrupt, use ROMPaq recovery.

ROMPaq recovery

The Disaster Recovery feature supports systems that do not support the Redundant ROM feature. Disaster Recovery only applies to platforms with nonredundant system ROM. If both the up-to-date and backup versions of the ROM are corrupt, then perform ROMPaq Disaster Recovery procedures:

1. On another server, insert the Firmware Maintenance CD. The Firmware Maintenance CD interface appears.
2. Read the End-User License Agreement. To continue, click **Agree.** The Firmware Maintenance CD interface reappears.
3. Click the **Firmware Update** tab.
4. Click **Browse Firmware CD.**

5. Browse to and save the ROMPaq image to the hard drive.
6. Execute the ROMPaq image to create the ROMPaq diskette.
7. Switch to the server with the corrupted ROM.
8. Power down the server.
9. Insert the ROMPaq diskette.
10. Power up the server.

    The server generates one long beep and two short beeps to indicate that it is in disaster recovery mode. If the diskette is not in the correct place, then the system continues to beep until a valid ROMPaq diskette is inserted.

    The ROMPaq diskette flashes both system ROM images. If successful, a sequence of ascending audible beeps is generated. If unsuccessful, a sequence of descending audible beeps is generated, and you must repeat the disaster recovery process.
11. Power down the server.
12. Remove the ROMPaq diskette.
13. Power up the server.

To manually set the server for ROMPaq disaster recovery:

1. Power down the server.
2. Remove the access panel.
3. Set the system maintenance switch positions for disaster recovery. Switch positions are server-specific; see the server documentation for information about the correct settings for your server.
4. Insert a ROMPaq diskette with the latest system ROM from the Firmware Maintenance CD or the HP website (http://www.hp.com/support).
5. Install the access panel.
6. Power up the server.
7. Allow the system to boot completely.
8. Repeat steps 1 and 2.
9. Reset the system maintenance switch positions to their original settings.
10. Repeat steps 5 and 6.

Recovering from a failed option ROM upgrade

To recover from an option ROM upgrade failure, use the recovery method that is appropriate to the specific option.

Array controller ROMs

Array controllers support Recovery ROM, which is a redundancy feature that ensures continuous system availability by providing a backup ROM. During the flash process, a new version of the firmware can be flashed to the ROM while the controller maintains the last known version of the firmware. If the firmware becomes corrupt, the controller reverts back to the redundant version of the firmware and continues operating.

NOTE: Storage option ROMs cannot be downgraded with ROMPaq because ROMPaqs have been retired as a delivery method for storage options.

Lights-Out management ROMs

To perform disaster recovery for RILOE II, iLO, and iLO 2, see the documentation for your particular Lights-Out management product on the Remote management website (http://www.hp.com/servers/lights-out).

Recovering from a loss of Linux remote functionality

Configuring firewall settings

When the `Unable to Access Host` message appears, the target firewall is enabled. By default, the target firewall is enabled in Linux.

To recover remote Linux functionality, the target and host firewall must be disabled or reconfigured.

Recovering from a blocked program on Microsoft Windows

Configuring Windows firewall settings

The Windows® Security Alert appears when a program is blocked from accepting connections from the Internet or a network.

To set the rules for the Windows® Firewall and Security Policy, click **Unblock,** and set your firewall settings to the following:

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.**

Allowing ports in HP Smart Update Manager

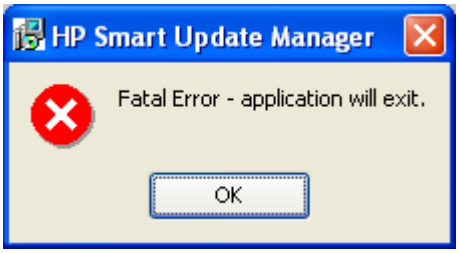
The port that HP Smart Update Manager uses cannot be configured. When HP Smart Update Manager initiates communications to remote targets, it uses several well-known ports depending on the OS. For Windows®, it uses ports 138 and 445 to connect to remote targets (equivalent to net use functionality). For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

HP Smart Update Manager uses random ports above 49152 to communicate between the remote target and the workstation where HP Smart Update Manager is executing. When you run HP Smart Update Manager, it uses the administrator/root privileges to dynamically register the port with the default Windows® and Linux firewalls for the length of the application execution, then closes and deregisters the port. All communications are over a SOAP server using SSL with additional functionality to prevent man-in-the-middle, packet spoofing, packet replay, and several other attack profiles. The randomness of the port is one of the methods used to prevent port scanning software from denying service to the application. The SOAP server is landed on the remote target using the initial ports described above (ports 138, 445, and 22) and then allocates another independent port above 49152 for its communications back to the workstation where HP Smart Update Manager is running. During shutdown of HP Smart Update Manager, the SOAP server is shutdown and removed from the target server, leaving no trace it was there other than the log files in the %WINDOWS%\temp directory.

Recovering from Fatal Error - application will exit message

Running in a directory path containing double-byte characters

When running in a directory path containing double-byte characters, the HP Smart Update Manager encounters a fatal error while trying to initialize.



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

Technical support

Reference documentation

To download the ProLiant Firmware Maintenance and other CDs, see the SmartStart download website (http://www.hp.com/go/ssdownloads).

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

For information about support for updating SATA hard drives in a Modular Smart Array 20/50/60/70 storage enclosure connected to a ProLiant server using a Smart Array controller, see the HP StorageWorks Modular Smart Arrays website (http://www.hp.com/go/msa) for the support matrix.

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

For information about firmware support, refer to the ProLiant Firmware Maintenance CD Matrix (http://www.hp.com/servers/smartstart/supportmatrices).

Operating system information

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

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

- Red Hat Linux (http://www.redhat.com)
- SUSE LINUX (http://www.novell.com/linux)

HP contact information

For the name of the nearest HP authorized reseller:

- In the United States, see the HP US service locator webpage (http://www.hp.com/service_locator).
- In other locations, see the Contact HP worldwide (in English) webpage (http://welcome.hp.com/country/us/en/wwcontact.html).

For HP technical support:

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

- In other locations, see the Contact HP worldwide (in English) webpage (http://welcome.hp.com/country/us/en/wwcontact.html).

Acronyms and abbreviations

AMD

Advanced Micro Devices

GUI

graphical user interface

HBA

host bus adapter

HPSUM

HP Smart Update Manager

iLO

Integrated Lights-Out

iLO 2

Integrated Lights-Out 2

NIC

network interface controller

OS

operating system

POST

Power-On Self Test

PSP

ProLiant Support Pack

RBSU

ROM-Based Setup Utility

RILOE II

Remote Insight Lights-Out Edition II

ROM

read-only memory

SAS

serial attached SCSI

SCSI

small computer system interface

SOAP

Simple Object Access Protocol

SSH

Secure Shell

SSL

Secure Sockets Layer

USB

universal serial bus

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