



**Hewlett Packard
Enterprise**

Smart Update Manager User Guide

Version 7.6.0

Abstract

This document describes how to use SUM to apply firmware updates to ProLiant and Integrity servers, and apply software updates to ProLiant servers. This document is intended for individuals who understand the configuration and operations of Microsoft Windows, Windows Server, Linux, smart components, HP-UX, VMware, and the risk of data loss from performing updates.

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Introduction

SUM overview

SUM is a tool for firmware and driver maintenance on ProLiant and Integrity Servers, BladeSystem enclosures, Moonshot systems, and options. It provides a browser-based GUI or a command-line scriptable interface for increased flexibility and adaptability for your needs.

SUM includes a discovery engine that finds the installed hardware and current versions of firmware and software in use on target nodes. SUM identifies associated targets you can update at the same time to avoid interdependency issues. SUM deploys updates in the correct order and ensures that all dependencies are met before deploying an update. If SUM finds version-based dependencies it cannot resolve, SUM prevents deployment.

Key features of SUM include:

- Interdependency checking
- Automatic and step-by-step Guided Update process for the localhost
- Web browser-based mode
- Ability to create custom baselines and ISOs.
- Scalable deployment of iLO Federation group updates
- Simultaneous firmware and software deployment for multiple remote nodes in GUI, text-based console, and CLI modes
- Local offline firmware deployments with SPP deliverables
- Remote offline deployment when used with the SmartStart Scripting Toolkit (ProLiant G7 and earlier servers), Scripting Toolkit (ProLiant Gen8 and later) servers, Scripting Toolkit (ProLiant Gen8 and Gen9), RESTful Interface Tool (Gen10), iLO Virtual Media, or PXE booted media.
- GUI, interactive CLI, or CLI scripting modes with extensive logging
- Support for updating firmware on network-based targets such as the OA, iLO through the Network Management Port, VC Ethernet and Fibre Channel switches, and 3Gb/6Gb SAS BL Switch interconnects on ProLiant servers
- Support for updating VC modules

NOTE:

SUM does not support third-party controllers, including flashing hard drives behind the controllers.

Scaling SUM updates in your environment

SUM supports deploying up to 50 nodes at a time in all SUM modes. Deployment times depend on system and server environment variables.

NOTE:

Update a maximum of 10 VMware nodes at a time.

Updating iLO Federation groups offline

If you are updating multiple iLO Federation groups offline, the deployment might fail if multiple groups are accessing the ISO at the same time. If an update fails, repeat the deployment of the groups that did not update. To minimize impact on network resources, update fewer groups at the same time.

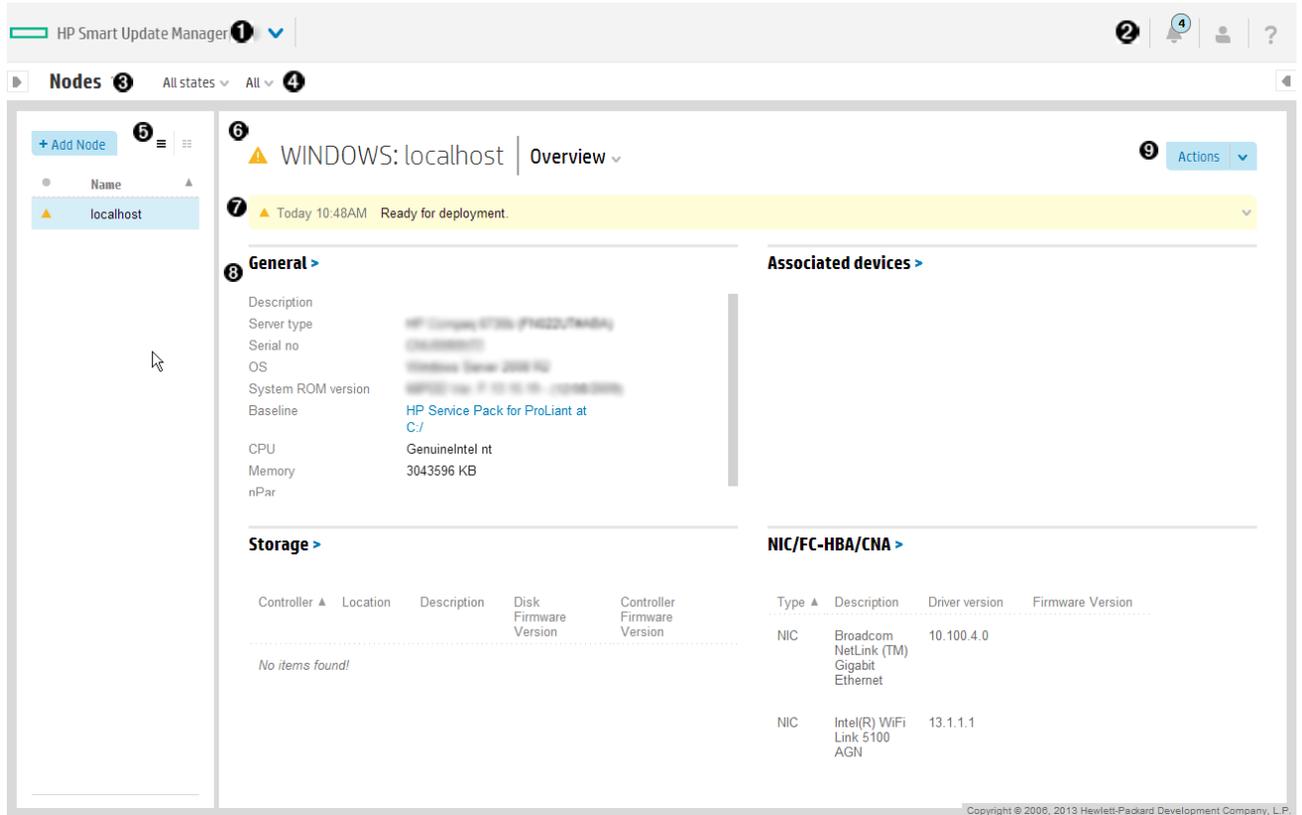
About the GUI

SUM is a web browser-based application. When you launch the GUI, the system uses the default web browser.

NOTE:

Do not use the **Back** button in your browser window.

The following image explains the major areas of the GUI. Screens options vary based on the node type.



| Item | Description |
|------|---|
| 1 | Main menu - Provides links to all application screens. |
| 2 | <ul style="list-style-type: none"> Activity list - Status updates appear briefly, and the activity icon displays the status of recent activities. To open the Activity panel, click the Activities icon. Login information - Displays the currently logged-in user and offers a logout function. Help panel - Opens the help panel. |
| 3 | Screen name - Displays the name of the screen. |
| 4 | Screen filters - Filters screen objects. |
| 5 | Screen list - Displays a list of items on the screen. |

Table Continued

| Item | Description |
|------|--|
| 6 | Baseline or Node name - Lists the baseline or node that you selected in the screen list. This example shows the name of the selected baseline. |
| 7 | Informational highlight - Highlights information that you might need to perform or know about for the selected item. Click to expand this box for all information. |
| 8 | Item details - Provides full details about the selected item. |
| 9 | Actions - Lists the available actions. <hr/> NOTE: Screen options vary based on the screen you are viewing. |

Status icon descriptions

SUM uses icons to represent the status of resources and alerts and to control the display.

Table 1: Status icons

| Large icon | Small icon | Description |
|---|---|---|
|  |  | CriticalIssue/Interrupted |
|  |  | Warning |
|  |  | OKSuccessful |
|  |  | Disabled |
|  |  | Unknown |
|  |  | A change is being applied or a task is running. |

Downloading, installing, and launching SUM

SUM files included in download

You can download SUM from the Hewlett Packard Enterprise website or from the Software Delivery Repository as a standalone application. The standalone application does not include updates for your environment. You can obtain update components from the SPP, SPP Custom Download, Integrity Firmware Bundles, or from the SDR.

The SUM download includes the following:

| | |
|------------------------------|---|
| <code>hpsum</code> | SUM runs in either GUI, interactive CLI, CLI, or Linux RPM mode. By default, SUM opens in the GUI version. If you enter <code>hpsum /s</code> , SUM runs in the CLI mode. If you enter <code>hpsum</code> and one of the interactive CLI commands, SUM opens in interactive CLI mode. |
| <code>clean-cache</code> | Removes the files in the temp directory associated with SUM that contain cached information about nodes and baselines. Logs are still maintained. |
| <code>gatherlogs</code> | Collects all logs for SUM. The logs are useful when debugging or troubleshooting issues for SUM. |
| <code>hpsum_migration</code> | Migrates node data from earlier versions of SUM to the current version of SUM. |
| <code>port-targets</code> | Migrates node location and name from SUM 5.x to the current version of SUM. |

Specifications and prerequisites are available in the *Smart Update Manager Release Notes* available at http://www.hpe.com/support/sum_rn_en.

Downloading SUM from the Hewlett Packard Enterprise website

Procedure

1. Launch a web browser.
2. Go to <http://www.hpe.com/servers/sum-download>.
3. Click the file that you want to download:
 - a. **HP Smart Update Manager**
 - The ISO contains SUM and a bootable ISO environment. Firmware and Software components can be added to create a customized baseline.
 - b. **HP Smart Update Manager RPM**
 - The RPM is a native package for Linux and is also available on the Software Delivery Repository at <http://www.hpe.com/support/SDR-SUM>
 - c. **HP Smart Update Manager zip**
 - The zip file contains the files for running SUM on supported Windows and Linux operating systems.

Downloading from SPP Custom Download

Procedure

1. Open a web browser and go to <https://www.hpe.com/servers/spp/custom>.
2. Access to the SPP requires validation through the HPE Support Center. An active warranty or HPE support agreement is required to download the SPP. For more information, please view the [SPP Warranty/Support Agreement Validation document](#); an HPE Passport login is required.
3. If necessary, click **Sign in here**, and then provide your HP Passport user credentials.
4. Select an SPP from the left side of the page.

You can:

- Create a custom SPP.
- Download any of the files available.
- Delete a custom SPP. You cannot delete a default SPP from the page.

For help with the SPP Custom Download page, see the [SPP Custom Download FAQ](#) page.

Downloading SUM from the SDR website

You can download SUM as an RPM from the Software Delivery Repository at <http://www.hpe.com/support/SDR-SUM>. The SDR contains a version of the SUM RPM for each supported operating system and architecture type. Instructions on how to set up your `yum` configuration are available on the SDR website.

You can use `yum` commands to search for and download SUM to your system. You can also use a web browser to navigate the SDR and download the rpm.

Use the following commands to search, download, or install SUM from the SDR:

| | |
|--|--|
| <code>yum search hpsum</code> | Search for SUM with yum |
| <code>yum install hpsum</code> | Install SUM with yum |
| <code>rpm -Uvh hpsum-6.0.1-14.rhel-6.x86_64.rpm</code> | Download SUM from the SDR with a web browser, and then install the RPM |

For more information on using the SDR, see the Getting Started and FAQ sections on the Software Delivery Repository website at <http://www.hpe.com/support/SDR-SUM>.

For more information on using SUM with the SDR, see Linux best practices document at <http://www.hpe.com/info/sum-docs>.

Migrating node information to the current SUM version

SUM stores node information in a database that is specific to each version of SUM. If you have used SUM to manage a node, migrate the node database information to the current version of SUM before launching SUM.

Procedure

1. From the SUM directory, launch `hpsum_migration.bat` (Windows) or `hpsum_migration.sh` (Linux).
2. Follow the on-screen instructions and then select the version you want to migrate to the version of SUM you are using.

SUM and SPP boot environments

The HPE USB Key Utility does not support multiboot setups on a single device. The SUM and SPP ISOs contain signed parts to work with the UEFI bootloader. The signed parts do not allow for multiboot setups on a

single device, such as a USB key. You can download the SPP at <http://www.hpe.com/servers/spp/download>.

The following sections discuss deployment from SUM. For more information on planning an update, see the SUM Best Practices Planning and Implementation Guides available on the Hewlett Packard Enterprise website.

Using a different version of SUM with an SPP ISO

If you want to use a different version of SUM than the version that was packaged in an SPP, use the Custom Baseline function in SUM. Replacing the SUM files in an SPP ISO manually might create issues with deployments.

Process overview:

Procedure

1. Download a copy of the SUM ISO you want to use and save it in an empty directory, and then mount the ISO.
2. Download a copy of the SPP ISO and save it in an empty directory, and then mount the ISO.
3. Open the version of SUM you want to use with the SPP components.
4. Add a baseline to the SUM session. For more information, see [Adding a baseline](#) on page 36.
5. Create a custom baseline using the SPP components, and then select the version of SUM you want to use as the version to include in the custom ISO. For more information, see [Creating a custom baseline and ISO](#) on page 37.

SUM modes

SUM supports local and remote deployments. SUM runs in Windows and Linux in online and offline mode.

| | |
|--------------------------------|--|
| GUI | An easy-to-use browser-based GUI that enables deployment and maintenance of system software and firmware components to multiple systems in a single session. |
| CLI | The CLI enables you to script custom installations. This mode might not support all functions of the GUI and interactive CLI. For more information, see the Smart Update Manager CLI Guide . |
| Inputfile CLI | You can call a text file that contains all the SUM parameters you want to use. For more information, see the Smart Update Manager CLI Guide . |
| Interactive CLI | The Interactive CLI allows you to script most of the commands that are available in the SUM GUI. Functionality available from the interactive CLI includes adding nodes and baselines, deploying nodes, collecting log files, and generating reports. For more information, see the Smart Update Manager CLI Guide . |
| Linux firmware RPM tool | The Linux firmware RPM tool mode offers a simplified deployment mode for Linux nodes. |

NOTE:

If you run SUM on a virtual machine running a supported operating system, do not deploy updates to the localhost system. Only deploy updates to remote nodes.

Deployment modes

The following key terms apply when using SUM to deploy updates. You can combine the terms to reflect an environment, for example, local-online or remote-online.

- Local** The installation runs on the physical hardware you are updating. For example, running on a server to update the system ROM of the server.
- Remote** The installation runs on one system, but updates other physical nodes. For example, updating the OA or Integrity server firmware across a network.
- Online** The installation occurs while the host processor is running in the normal server environment.
- Offline** In offline mode, the SPP boots a small Linux kernel and enables updates to occur on a single server.
- Only updates the local system
 - Deploys only firmware
 - Only uses a single baseline

NOTE:

Some features that require the regular local host operating systems are not supported in offline mode.

Deployment scenarios

SUM deploys updates from the machine running SUM, the localhost, to one or more remote hosts. If the host running SUM uses Windows, you can update Windows, Linux, VMware, or HP-UX targets. If the host running SUM uses Linux, you can update Linux, VMware, or HP-UX nodes. You can also update remote ProLiant, Integrity nodes, Synergy System, and Moonshot systems from Windows or Linux systems.

SUM deployment scenarios

- | | |
|--|--|
| Graphical deployment on a local host | <ul style="list-style-type: none"> • You are not familiar with command-line tools. • You are deploying components on a local, single host. • Updates do not require scripting. |
| Scripted deployment on a local host | <ul style="list-style-type: none"> • You are familiar with command-line tools. • You are deploying components on a local, single host. • Updates require a customized, scripted deployment. |
| Graphical deployment to a remote host | <ul style="list-style-type: none"> • You are not familiar with command-line tools. • You are deploying components on one or more remote hosts. • Updates do not require scripting. |
| Scripted deployment to a remote host | <ul style="list-style-type: none"> • You are familiar with command-line tools. • You are deploying components on one or more hosts. • Updates require a customized, scripted deployment to one, or more host systems. |

Deploying firmware for ProLiant servers using the SPP

The SPP is a repackaging of ProLiant system software and firmware for servers and their options, and BladeSystem enclosures including:

- OA
- VC
- 3 Gb and 6 Gb SAS switches

SUM deploys components to supported Windows, Linux, and VMware (supported firmware and driver updates only) operating systems. The single SPP image contains a comprehensive collection of firmware and system software components including drivers, agents, tools, utilities. These components are tested, managed, and deployed together as a single solution.

NOTE:

SUM supports deploying RPM and SCEXE components to Linux nodes.

Each SPP release includes a version of SUM you can use to deploy the SPP components. You can download the latest version of SUM from the SUM website at <http://www.hpe.com/servers/sum-download>.

For a complete list of systems and software supported by SPP, and updates available in an SPP release, see the release notes for that SPP at <http://www.hpe.com/info/spp/documentation>.

Deploying Integrity firmware bundles with SUM

You can use SUM to deploy components delivered with the Integrity firmware bundles.

Deploying firmware to Integrity servers is done remotely and is the same as deploying other firmware, such as ProLiant nodes, with the following exceptions:

- Specify the IP address of the Monarch (primary) OA on Superdome 2/X, or the Monarch iLO 3 management processor on multiblade servers.
- Specify the server IP address as the target when updating I/O firmware on HP-UX servers. You can only update remote HP-UX targets.

For more information on Integrity firmware bundles, see the Manage Integrity Servers Firmware Updates website at <http://www.hpe.com/info/smartupdate/integrity>.

Deploying Synergy System servers with SUM

The SPP and SUM can deploy updates to some HPE Synergy servers. SUM cannot deploy updates to the HPE Synergy Frame Link Module, use HPE OneView.

Disabling BitLocker to permit firmware updates (Windows only)

To allow firmware updates, temporarily disable BitLocker support:

Procedure

1. Click **Start**, and then search for `gpedit.msc` in the Search Text box.
2. When the Local Group Policy Editor starts, click **Local Computer Policy**.
3. Click **Computer Configuration > Administrative Templates > Windows Components > BitLocker Drive Encryption**.
4. When the BitLocker settings are displayed, double-click **Control Panel Setup: Enable Advanced startup options**.
5. When the dialog box appears, click **Disable**.
6. Close all windows, and then start the firmware update.

To enable advanced startup options:

- Enter `cscript manage-bde.wsf -protectors -disable c:`
- When the firmware update process is completed, the BitLocker Drive Encryption support can be re-enabled by following steps 1 through 4 but clicking **Enabled** in step 5 instead. The following command can be used to re-enable BitLocker Drive Encryption after firmware deployment has completed.
- Enter `cscript manage-bde.wsf -protectors -enable c:`

The following table describes TPM detection scenarios that you might encounter.

| Scenario | Result |
|---|---|
| TPM is detected and enabled, using GUI mode, and a system ROM must be updated. | SUM displays a warning message indicating that it detected TPM. SUM offers an option to Ignore Warnings . You can only deploy the updates if you select Ignore Warnings . |
| TPM is detected and enabled, using CLI or Input file mode, the <code>/tpmbypass</code> switch is not given, and firmware must be applied to the server. GUI mode does not support <code>/tpmbypass</code> . | No warning appears. A new log file is generated (<code>%systemdrive%\cpqsystem\log\cpqstub.log</code>). Because the installation is silent, the installation is terminated and cannot continue. |
| TPM is detected and enabled with Option ROM Measuring, using GUI mode, and a system ROM must be updated. | A warning message appears. After selecting OK , you can continue. The installation is not canceled. |
| TPM is detected and enabled with Option ROM Measuring, using CLI or Input file mode, the <code>/tpmbypass</code> switch is not given, and any firmware updated must be applied to the server. | No warning appears. A new log file is generated (<code>%systemdrive%\cpqsystem\log\cpqstub.log</code>). Because the installation is silent, the installation is terminated and cannot continue. |
| TPM is detected and enabled, using CLI or Input file mode, the installation occurs, and the <code>/tpmbypass</code> switch is supplied. | The installation occurs. |

In the SUM GUI, you can disable TPM on the Deploy screen. You can also disable TPM in CLI or interactive CLI mode.

About using SUM with BitLocker

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

A recovery event is triggered in the following situations:

- You do not temporarily disable BitLocker before flashing the system BIOS when using the Microsoft BitLocker Drive Encryption.
- You have optionally selected to measure iLO, Smart Array, and NIC firmware.

If SUM detects a TPM, it displays a message.

To enable firmware updates without the need to enter in the TPM password on each server, temporarily disable BitLocker Drive Encryption. Disabling the BitLocker Drive Encryption keeps the hard drive data encrypted. However, BitLocker uses a plain text decryption key that is stored on the hard drive to read the information. After the firmware updates have been completed, re-enable BitLocker Drive Encryption. Re-enabling BitLocker Drive Encryption removes the plain text key and BitLocker secures the drive.

△ CAUTION:

Temporarily disabling BitLocker Drive Encryption can compromise drive security and only attempt to disable it in a secure environment. If you are unable to provide a secure environment, Hewlett Packard Enterprise recommends providing the boot password and leaving BitLocker Drive Encryption enabled throughout the firmware update process. This requires setting the `/tpmbypass` parameter for SUM or the firmware update is blocked.

Using Linux and HP-UX root credentials for remote nodes

Procedure

1. You can provide root credentials, a user with sudo permissions, or provide nonroot and root credentials for remote nodes.

Prerequisites for using Linux and HP-UX sudo credentials

- Provide one of the following:
 - Username and password
 - Username and SSH key file path (in PEM format)
- For sudo users, add the user to the `/etc/sudoers` file. The following shows the privileges and specifications for users.
 - User: `Root`
Privilege: `ALL=ALL`
Specification: `ALL`
 - User: `Sudo_user`
Privilege: `ALL`
Specification: `ALL`
- Edit the entry in the `/etc/sudoers` file so the system asks for the sudo user password instead of root user password when you run the sudo command.
- The following shows the privileges to comment or remove from `/etc/sudoers`.
 - User: `ALL`
Privilege: `ALL`
Specification: `ALL`

NOTE:

Only use this option with Defaults targetpw on SuSE Linux Enterprise Systems.

- To use super user functionality, configure the user as a super user with all root privileges. You can also use nonroot user with a root user to update components.
- When using SSH keys for login credentials combined with sudo, edit the entry in the `/etc/sudoers` file so that the system does not ask for the user password as follows:
 - User: `sudo_user`
Privilege: `ALL`
Specification: `NOPASSWD:ALL`

Using an SSH keyfile with root credentials

SUM allows you to log in with a password or by providing an SSH key.

Procedure

1. On the node that is running SUM, type `ssh-keygen -t rsa`. SUM also supports DSA encryption key format. To create a DSA encryption key, type `ssh-keygen -t dsa`. A passphrase is optional.
2. Save the key in the directory `.ssh/id_rsa.pub`. Root users, use the directory `/root/.ssh`.
3. Verify that the private key is in PEM format by opening the key and viewing the top of the key for the following text:

```
----- BEGIN RSA PRIVATE KEY -----
```

4. If necessary, on the node you want to update, create an `.ssh` directory at the root level. Set the permissions level on the directory to 700.
5. Determine if the node you want to update has the filename `.ssh/authorized_keys`. If this file is not present, create or append this file. Set the permissions on the `authorized_keys` file to 640.

NOTE:

If you append the file, more users are authorized to use the private key.

6. Copy the contents of `.ssh/id_rsa.pub` on the host node, and then paste them into the filename `.ssh/authorized_keys` on the remote node.
7. Open an SSH path between the host node and the node you want to update.
 - a. Type `ssh root@10.0.0.1`. This parameter opens a shell path.
 - b. Type `ssh root@10.0.0.1 uname`. This parameter executes the command and returns.
8. SUM requires access to `id_rsa` (private key file), and the optional passphrase.

NOTE:

If other applications require the public key in PEM format, you can convert it by typing `ssh-keygen -e -f id_rsa.pub > id_rsa_pub.pem`. Open the key, and look at the PEM format for `----- BEGIN SSH2 PUBLIC KEY -----`.

To create a private key on a Windows system, you can use an application like PuTTY or PuTTY Key Generator (PuTTYGen). For more information, see <https://www.digitalocean.com/community/tutorials/how-to-create-ssh-keys-with-putty-to-connect-to-a-vps>.

To export the file to PEM format, select, **Conversion > Export OpenSSH key**.

Launching SUM

If you downloaded SUM as a stand-alone application, the ISO, zip, or RPM does not include software, driver, or firmware components. You can download components from <http://www.hpe.com>. If you downloaded SUM as part of a SPP or Integrity bundle release, the download includes component updates.

If you launch SUM from a mounted ISO, such as iLO Virtual Media, SUM creates a `%temp%/localhpsum` (Windows) or `/tmp/localhpsum` (Linux) directory. You need to delete the temporary `localhpsum` files manually because the `clean-cache` command does not clean these files. SUM displays messages about copying files to the drive specified. SUM does not need to copy the files if you run SUM on a fileshare directory.

Windows 2012 and later: Add the system to the domain and use the Domain Admin group user.

! **IMPORTANT:**

SUM does not support multiple users logging into SUM at the same time. All users must have administrator privileges, or the equivalent, for all nodes you are updating.

Procedure

1. GUI mode

: Navigate to the directory where you saved SUM. Type the command

```
hpsum.bat
```

(Windows) or

```
hpsum.sh
```

(Linux) to start the GUI.

2. Text-based console mode (interactive CLI)

: Navigate to the directory where you saved SUM. From the command line, type

```
hpsum
```

and a console parameter. For a full list of parameters, type

```
hpsum -h
```

(Linux) or

```
hpsum /h
```

(Windows).

3. CLI mode and Input file mode

: Navigate to the directory where you saved SUM. Type

```
hpsum /s /h
```

Windows and

```
hpsum -s -h
```

(Linux) for a full list of parameters. For full details on using SUM in CLI mode, see the

HP Smart Update Manager CLI Guide

Launching SUM in GUI mode from an ISO

Run SUM on a Windows or Linux operating system.

Procedure

1. Copy the files from the ISO to your local host.
2. Run `launch_hpsum.bat` (Windows) or `launch_hpsum.sh` (Linux) from the directory that contains the ISO.

NOTE:

If you are using Gnome Virtual file system, manually extract the ISO and save them in a directory. Then launch SUM.

SUM and SPP Boot environment change

Beginning with SUM 6.2.0 and SPP 2014.02.0, the HPE USB Key Utility no longer supports multi-boot setups on a single device. SUM and SPP ISOs contain signed parts to work with the UEFI bootloader. This change no longer allows for multi-boot setups on a single device, such as a USB key.

Running SUM in online or offline mode

Procedure

1. Online mode

The installation occurs while the host processor is running in the normal server environment. For example, if the server runs Microsoft Windows Server 2012, the update occurs under this environment. The update does not require you to boot to a special environment to update the firmware. You might need to reboot the node to activate the firmware.

2. Offline mode

In offline mode, SUM boots a small SUSE Linux Enterprise Server 12 boot kernel and enables updates to occur on a single server.

- Only updates the local system
- Only uses a single baseline

In offline mode, SUM does not support some features that require the regular local host operating systems.

Running SUM in offline interactive or automatic mode from an ISO with updates

If your ISO contains updates, you can copy the ISO to a DVD or USB key. From the DVD or USB key, you can run SUM in an offline interactive or automatic mode.

Procedure

1. Automatic mode

—Firmware components update without interaction. To launch automatic mode:

- a. Install the DVD or USB key into the server, boot the server to the DVD or USB key.
- b. SUM launches and deploys updates after a short period.

2. Interactive offline mode

—Allows you to use the GUI mode to deploy updates. To launch offline interactive mode:

- a. Install the DVD or USB key into the server, boot the server to the DVD or USB key.
- b. Press a key to launch SUM in offline interactive mode.

Launching SUM from the RPM

Procedure

1. From the SUM path, type `hpsum`.

Using a PXE server to deploy updates

Use these steps to set up a PXE server on a Linux system.

Procedure

1. Install the following packages:

- a. tftp-server
 - b. dhcp
 - c. httpd
 - d. syslinux
2. Set up a DNS server on your network. Although not required, Hewlett Packard Enterprise recommends setting up a DNS server.
 3. Activate TFTP within XINETD.
 - a. Change


```
disable=yes
```

to

```
disable=no
```

in

```
/ect/xinet.d/tftp
```
 - b. Restart


```
XINETD
```
 4. Set up the PXE server to use a static IP:
 - a. Create the file `/ect/sysconfig/network-scripts/ifcfg-eth0.static`
 - b. Set the contents to the file as:


```
DEVICE=eth0

BOOTPROTO=STATIC

ONBOOT=no

TYPE=Ethernet

IPADDR=<IP>

NETMASK=<IPMASK>

GATEWAY=<GATEWAYIP>
```
 5. Set up the PXE boot environment:
 - a. Copy `initrd.img` and `vmlinuz` from the `/system` directory of the SPP ISO to `/tftpboot` directory of the PXE system.
 - b. Copy `pxelinux.0` (PXE boot Linux kernel) to the `/tftpboot` directory.
 - c. Ensure the files copied to `/tftpboot` are world readable.
 6. Configure PXELINUX
 - a. Create directory `/tftpboot/pxelinux.cfg`.
 - b. Create files representing the hex value of the static IP address in the `/tftpboot/pxelinux.cfg` directory. For example, if the static IP address used is 192.168.0.254, the hex value is C0A800FE and the files to be created would be:
 - C
 - C0
 - C0A
 - C0A8
 - C0A80
 - C0A800

- C0A800F
 - C0A800FE
- c. Create a zero-sized file (using touch) representing the MAC address of the NIC of the boot PXE boot client (pre-pended with 01 and replacing ':' with '-') in the /tftpboot/pxelinux.cfg directory. For example, if the NIC MAC address were 00:01:02:03:04:05, a file name would be 01-00-01-02-03-04-05.
7. Create a default pxelinux configuration.
 - a. Create a file name default in the /tftpboot/pxelinux.cfg directory.
 - b. Set the contents of the default file to:


```
prompt 1

default Linux

timeout 100

label Linux

kernel vmlinux

append initrd=initrd.img ramdisk_size=9216 noapic acpi=off
```
 8. Copy the entire contents of the SPP ISO to a directory named /tftpboot/SPP*, where * represents the version of the SPP.
 9. Add the following to /etc/httpd/conf/httpd.conf where "*" represents the version of the SPP.
 10. <Directory /tftpboot/SPP*>.
 11. Options Indexes
 12. AllowOverride None
 13. </Directory>
 14. Alias /linux /tftpboot/SPP*
 15. Start the dhcpd and apache services and activate tftp.
 16. service dhcpd start
 17. service xinetd restart
 18. service httpd start
 19. PXE boot the servers to begin the update process.

HPE Firmware Pack for ProLiant

Updating with the Python script requires access to the Firmware Pack for ProLiant repository. For more information on setting up a repository, see <http://www.hpe.com/support/SDR-FWPP>.

| | |
|-----------------------|--|
| hpsum requires | Lists PCI devices currently installed on components. |
| hpsum list | Shows firmware currently installed on components. |
| hpsum upgrade | Initiates flash engine for firmware packages. |
| hpsum info | Provides detailed description of installed firmware. |

After establishing a Firmware Pack for ProLiant repository, use the following instructions to download and install the firmware RPMs:

- Yum install \$(hpsum requires)
- Press **Y** when prompted to install applicable RPMs.
- After the RPMs are installed, type:
- hpsum upgrade
- Press **Y** when prompted to begin flashing the firmware update to components.

Logging into SUM

Procedure

1. If SUM is already running, use the current user credentials.

Logging out of the SUM GUI

Procedure

1. Click the user icon, and then click **Logout**.
2. Select one of the following:
 - **Log Off - Current user.**
 - **Shutdown - This option will shut down SUM engine.**
3. Click **OK**.

If you close the browser window without shutting down SUM, the SUM engine continues to run in the background. Issue an interactive CLI command that shuts down the engine.

- Navigate to the directory that holds the SUM application.
- From a command line, type `hpsum shutdownengine`.

Clearing the SUM cache

SUM stores node information between sessions, including user credentials for nodes, in a database file. The `clean-cache` removes the database information. The command does not delete the log directories or files. To clear the database information:

Procedure

1. Shut down the SUM engine.
2. From a command-line window, navigate to the directory that contains SUM.
3. Type `clean-cache.bat` (Windows) or `clean-cache.sh` (Linux).

NOTE:

If you are using a GUI, you can navigate to the directory that holds SUM and run `clean-cache` to clear the cache. Running the `clean-cache` command erases all nodes, baselines, and other information entered in SUM.

Log files and changing directory locations

Collecting log files in SUM online mode

SUM generates a set of debug log files that contain internal process and debug information which can be useful in determining issues with SUM. Log files are stored in the `/tmp/HPSUM` (Linux) and `%temp%\HPSUM` (Windows) directories. SUM creates log files for each function and node that SUM updates.

SUM includes a utility named `GatherLogs.bat` (Windows) or `Gatherlogs.sh` (Linux) to create a compressed `.zip` (Windows) or `tar.gz` (Linux) file with all the logs. To review the log files, you can run this utility to gather all the logs in one file.

Procedure

1. Open the directory `hp/swpackages` and then launch `gatherlogs.bat` (Windows) or `gatherlogs.sh` (Linux).
2. Use the command `gatherlogs -s` to run the logs without a pause.

Collecting log files in SUM offline mode

Procedure

1. Boot an SPP or SUM in offline mode.
2. Launch the command prompt from the SUM GUI by pressing **CTRL+ALT+D+B+G**.
3. Select a directory where you want to save the logs. You can save the logs to a removable media to view them on another computer.
4. Type `./gatherlogs.sh` to collect the SUM logs. All logs are collected in a `.tar.gz` file in the directory where you placed SUM or in a temp directory, if the SUM directory is read-only. The log file is named `HPSUM_Logs_$(datetime).tar`.

SUM log file locations

SUM stores log files in the following locations:

| | |
|--|---|
| User logs | Windows directory: <code>C:\cpqsystem\hp\log</code> Linux directory: <code>/var/hp/log</code> |
| Debug logs | Local Windows directory: <code>%temp%\HPSUM</code> (Usually in <code>appdata</code>). Remote Windows directory: <code>admin\$\temp</code> (Usually <code>C:\windows\temp\HPSUM</code>). Linux directory: <code>/tmp/HPSUM</code> |
| Local copy of SUM binaries when needed* | Windows directory: <code>%temp%\localhpsum</code> Linux directory: <code>/tmp/localhpsum</code> SUM makes a local copy of binaries and support files when SUM is launched from a network-mounted share or read-only location. Provides SUM uninterrupted access during updates. |
| Remote node files | Windows directory: <code>admin\$\temp</code> Linux directory: <code>/tmp/HPSUM</code> |

NOTE:

If you do not find logs in the locations listed on Linux systems, check the directory `/var/cpq/Component.log`.

SUM log contents

- User log
 - Location: `HPSUM\binarylog\`
 - Initial parsing of SUM commands.
 - Launches SUM service.
 - Creates session in service and logs in the user.
 - Details commands sent and received in the session.
 - CLI / Inputfile / interactive CLI mode: Details each command as it steps through the command sequence.
 - GUI: Monitors there is a session logged in to the service, and then shut down.
- Baseline log
 - Location: `HPSUM\baseline\baseline.log`
 - Inventory of components in a baseline.
 - Source of component details.
 - Status of each component after inventory.
 - Details of custom baseline/ISO creation.
 - Details of baseline downloaded from the web.
- Node log
 - Location: `HPSUM\`
 - Details of node interaction after scouting.
 - Details of why each component is applicable or not to a node.
 - Table of components that are applicable to a node, installed and available versions, dependency failures, and other details.
 - Multiple tables are shown if options are sent, for example, force, software only, use_ams.
 - Summary of each component deployment and the return value.
 - Overall status for the node after deployment.
- Inventory log
 - Location: `HPSUM\ This log provides details of the inventory process for a node.`
- Deployment log
 - Location: `HPSUM\`
 - Details of the deployment process on a node.
 - Details per component.
- Core discovery log
 - Location: `HPSUM\`
 - Details SUM finds during inventory.
 - Type and version of system, software, and drivers found on the system.
 - Firmware details that do not require self-discovery components.
- Component self-discovery log
 - Location: `HPSUM\`
 - SUM interrogates the system with the built-in knowledge of specific hardware and outputs a details file.
 - Self-discovery component output details.

- If SUM determines that a self-discovery component might be applicable to a system, it generates the file.
 - Windows: `<comp_name> /s /d <comp_name>_disc.xml`
 - Linux: `<comp_name> -s -s <comp_name>_disc.xml`
- The log contains one `<device>` entry per item.
- The log might contain multiple `<fw_item>` entries.
- SUM log
 - Windows location: `C:\cpqsystem\hp\log\<ip>\hpsum_log.txt`
 - Linux location: `/var/cpq/hp/log/<ip>/hpsum_log.txt`
 - Top-level user log for the node at the given `<ip>` address.
 - Multiple sessions of SUM are included in the same log file.
 - Includes the summary of steps performed and components installed on the system.
 - Includes return codes for the node.
- SUM detail log
 - Windows location: `C:\cpqsystem\hp\log\<ip>\hpsum_detail_log.txt`
 - Linux location: `/var/cpq/hp/log/<ip>/hpsum_detail_log.txt`
 - Detailed level user log for node at the IP address.
 - Multiple sessions of SUM are included in the same log file.
 - Includes full output from each component run on the node.
 - Includes return codes for each component and that node.
- SUM install details log
 - Windows location: `C:\cpqsystem\hp\log\<ip>\HPSUM_InstallDetails.xml`
 - Linux location: `/var/cpq/hp/log/<ip>/HPSUM_InstallDetails_log.txt`
 - XML version of status for user of the last installation.
 - Includes overall status details.
 - Includes details for each component installed.
- cpqsetup log
 - Windows location: `C:\cpqsystem\log\cpqsetup.log`
 - Linux location: `/var/cpq/log/Component.log`
 - Includes details of each component self-discovery and installation deployed.
- Other logs created by individual components
 - Windows location: `C:\cpqsystem\log*.log`
 - Linux location: `/var/cpq/log/*.log`
 - `Flash.debug.log`
 - `Verbose.log`
 - `Cpxxxxxx.log`

GatherLogs

SUM provides a tool that collects all log files in to one file. If you are troubleshooting an issue, run `gatherlogs`. The script is available in the same directory that holds SUM.

The Windows `gatherlogs` command requires user input to run. To run the script without user input, type `gatherlogs.bat -s`.

Using the `hpsum.ini` file

When you launch SUM, it creates the `hpsum.ini` file in a temporary directory. The `hpsum.ini` file is a plain-text file that configures multiple settings for the SUM session. This file might be deleted between SUM

sessions because it is created in a temporary directory. You can save or create an `hpsum.ini` file in the directory where SUM is and it will be used instead of the file in the temporary directory.

Copying the SUM temp files

Procedure

1. Navigate to the directory where temp files are saved. The default location is:
 - a. Windows:
`%temp%\HPSUM`
 - b. Linux:
`/tmp/HPSUM`
2. Copy the temp files and paste them in a directory for future use.

Editing the default `hpsum.ini` file

Procedure

1. Navigate to the temp directory for SUM. The default location for the temp directory is `/tmp/HPSUM` (Linux) or `%temp%\HPSUM` (Windows).

NOTE:

If there is no directory or `hpsum.ini` file, launch SUM and then shut down the application to create the default `hpsum.ini` file.

2. Open the `hpsum.ini` file in a text editor.
3. Edit the parameters you want to change. For more information, see [hpsum.ini file parameters](#).
4. Save the file.
5. You can launch SUM and use these parameters.

Creating an `hpsum.ini` file

You can create the `hpsum.ini` file before you launch SUM and assign the parameters you want to use. Use a text editor to create the file, and save it in your chosen directory. For more information, see:

Procedure

1. Open a text editor and create a document.
2. Populate the document with the parameters you want SUM to use.
3. (Optional) Override the SUM RPM (Linux-only) default temp directory by creating `/opt/hp/hpsum/bin/hpsum.ini`.

Changing the temporary directory

Editing file from a write-able directory

Procedure

1. Edit the `hpsum.ini` file from a write-able directory.

NOTE:

If the environmental variable

`TMPDIR`

is set, SUM creates the directory

`localhpsum`

in the

`TMPDIR`

directory and copies necessary SUM files to the directory.

Scripting the temp directory from a write-able directory

- From a Windows system command line:
- Type:

```
echo [Engine] > hpsum.ini
echo temp_dir=c:/hpsum/logs >> hpsum.ini
hpsum
```

- Exit the command line.
- From a Linux system command line:
- Type:

```
echo "[Engine]" > hpsum.ini
echo "temp_dir=/use/john/hpsum/logs" >> hpsum.ini
./hpsum
```

- Exit the command line.

Redirecting to a writeable directory when running from a nonwriteable directory

The following commands generate an `hpsum.ini` file when you run SUM from a nonwriteable directory. The command redirects files to the new location.

- Windows system command line:Type:
- `mkdir %temp%\HPSUM`
- `echo [Engine] > %temp%\HPSUM\hpsum.ini`
- `echo temp_dir=c:/hpsum/logs >> %temp%\HPSUM\hpsum.ini`
- `hpsum`
- Exit the command line.
- Linux system command line:Type:
- `mkdir /tmp/HPSUM`
- `echo "[Engine]" > /tmp/HPSUM/hpsum.ini`
- `echo "temp_dir=/use/john/hpsum/logs" >> /tmp/HPSUM/hpsum.ini`
- `./hpsum`
- Exit the command line.

Setting the TEMP directory before running SUM (Windows)

- Windows system command line:
- Type:

```
set TEMP=c:\hpsum\logs
hpsum
```

- Exit the command line.

Creating a symbolic link between directories (Linux)

This method creates a symbolic link from `/tmp/HPSUM` to another directory before launching SUM.

- Type:

```
-mkdir /opt/hp/HPSUM
-ln -s /opt/hp/HPSUM /tmp/HPSUM
```

hpsum.ini file parameters

Define the following SUM parameters based on your environment.

```
[FTP]                port=disabled

[HTTP]              port=63001
                   ssl_port=63002
                   num_threads=40

[Engine]           temp_dir=<path>
```

NOTE:

This parameter is one method for changing the temp directory where SUM stores the log files and the nodes and the baseline database. For more information on changing the directory of the temp directory, see [Changing the temporary directory](#) on page 25.

```
node=release
use_http=false

[Download engine]  use_http=true

[Log]              file_name=engine.log
                   log_format=type3
                   column1=30
                   column2=100

[Web]              virtual_path=C:/Temp/7.1.0-final/hpsum/assets

[HEARTBEAT_SETTINGS]
remotenode_heartbeat_time_interval=10—Time in minutes. The valid
range is 1–20 minutes, the default is 10.
masternode_heartbeat_time_interval=1—Time in minutes. The valid
range is 1–5 minutes, the default is 1.
remotenode_heartbeat_elapsed_time=90—Time in minutes. The valid
range is 1–90 minutes, the default is 90.
```

```
[rpm] nodeps=false
[iLO_Federation] listen_time_in_seconds=5
auto_multicast_discovery=true
```

Using the SUM GUI

Updating a node with SUM overview

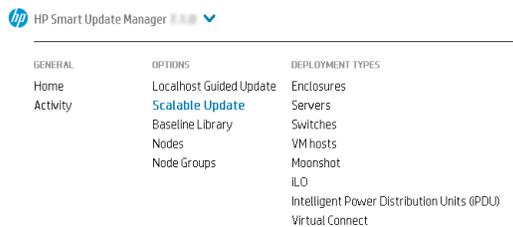
The following steps offer a simplified example of deploying updates to a single node without using the Localhost Guided Update.

Procedure

1. **Add a baseline.**
2. **Add a node.**
3. **Perform inventory on the node.**
4. **Deploy updates to the node.**
5. **Generate node reports.**

SUM Home screen

When you launch SUM, the GUI displays the Home screen. From this screen, you can click **Localhost Guided Update**, **iLO Federated Update**, **Baseline Library**, or **Nodes**. To navigate to other screens, use the navigation menu in the upper-left corner.



SUM Activity screen

The Activity screen provides a list of the activities that SUM is performing or has recently performed. The table displays the source and message related to activities SUM performs. SUM does not refresh this screen when you are viewing the screen. If you want to view the latest activity status, click **Refresh**.

The screenshot shows the SUM Activity screen with a table of activities. The table has four columns: Source, Message, State, and Last updated. The table contains three rows of activity data.

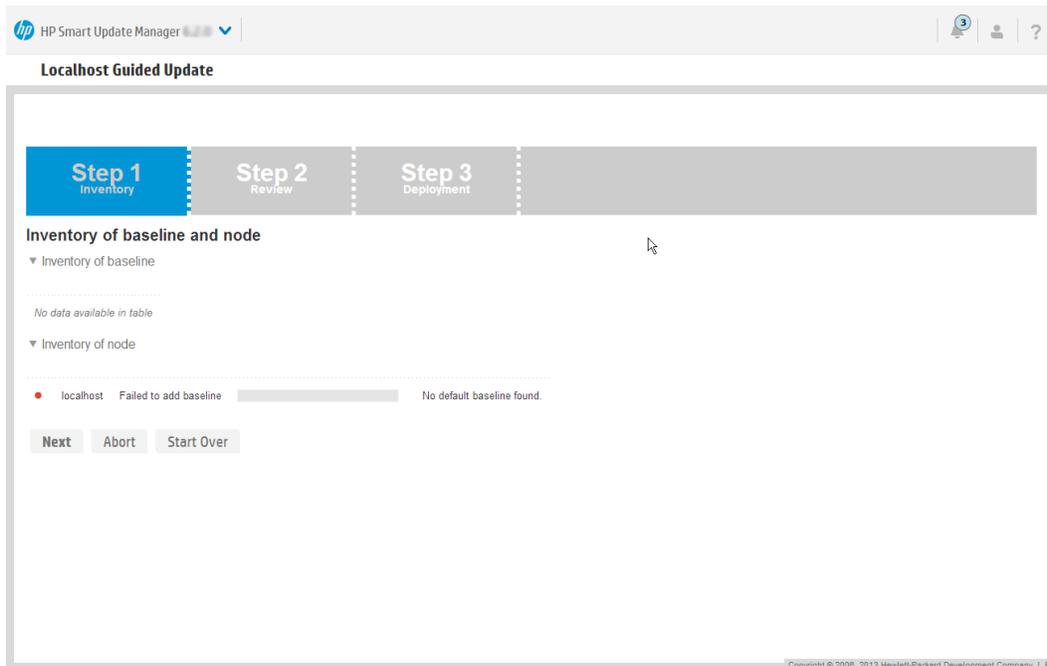
| Source | Message | State | Last updated |
|-------------|---|-----------|----------------------------|
| 10.10.10.10 | Analysis completed. Total number of applicable components is 4. | Analysis | 12/12/2016 12:12:14:181 pm |
| 10.10.10.10 | Analysis started. | Analysis | 12/12/2016 12:12:14:127 pm |
| 10.10.10.10 | Inventory completed. | Inventory | 12/12/2016 12:12:14:113 pm |

SUM Localhost Guided Update

Use the Localhost Guided Update function to update the localhost that is running SUM. You can use a baseline you have added to the Baseline Library. If you do not specify a baseline, SUM uses the updates in the directory from which SUM is run. If you want to configure components before deploying updates, make the configuration changes from the Baseline Library before running Localhost Guided Update.

Localhost Guided Update modes

- **Interactive:** SUM uses the default baseline or other baseline to update the localhost. You can choose the updates that SUM applies to the localhost.
- **Automatic:** SUM automatically updates the localhost and using the default baseline or other baseline that you select. After you click **OK**, SUM begins updating the node.



Using Localhost Guided Update in Interactive mode

Procedure

1. In the navigation menu, click **Localhost Guided Update**.

NOTE:

To make a change to your selections on this screen, click **Start Over**.

2. Select **Interactive**.
3. SUM displays the current baseline selected for the Localhost.
 - a. To use the currently selected baseline, continue to the next step.
 - b. To use a different baseline, click the **X** next to the baseline. Select **Assign Baseline** to add another **Baseline** or **Additional package**. Select the baseline or package to apply.
4. Click **OK**. SUM begins inventory on the baseline and Localhost.
5. Click **Next** after SUM finishes the inventory.
6. Recommended updates that are ready to deploy are highlighted in blue and SUM displays a green icon in the **Ready to proceed** column. If a component has a red button in the **Ready to proceed** column, it means that there is a dependency to resolve before SUM can deploy that component. Deselect the item if you want to deploy the other updates and come back later to perform this update.
7. If you selected **Deploy all updates**, select a duration of time before SUM reboots.
8. Click **Deploy**.

NOTE:

Items that are up-to-date or optional are not highlighted. Click **Select** to deploy these updates. To globally select all components to rewrite or downgrade, select **Actions > Advanced Options** and select the **Rewrite** and **Downgrade** options, and the **Reboot** options. To view the component details, double-click an update. If you want to view the information in the new update, click the hyperlink.

9. SUM performs component analysis before deploying updates.
 10. Review the installation log files.
-

NOTE:

In offline mode, if SUM failed to deploy updates, click the **Reboot** to exit SUM and reboot the node to the host operating system.

Using Localhost Guided Update in Automatic mode

Procedure

1. In the navigation menu, click **Localhost Guided Update**.
 2. Click **Automatic**.
 3. SUM displays the current baseline selected for the Localhost.
 - a. To use the currently selected baseline, continue to the next step.
 - b. Click the **X** next to the baseline to use a different baseline. Select **Assign Baseline** to add another **Baseline** or **Additional package**. Select the baseline or package to apply.
 4. Click **OK**.
-

NOTE:

SUM begins to deploy updates after you click **OK**. SUM cannot interrupt updates in the Localhost Guided Update Automatic mode. SUM cannot install SNMP and WBEM Providers components in Automatic mode. Use Interactive mode if you want to install these components.

Using the iLO Federation features in HP SUM

You can use HP SUM to inventory and deploy software to the members of an iLO Federation group. A node in the group that is called the interface iLO facilitates communication with the group members. This node is available with iLO 4 firmware version 1.40 and later.

ⓘ IMPORTANT:

Do not add an iLO as an individual node if you are going to use it as part of an iLO Federation group.

When you log in to HP SUM, it automatically searches for iLO Federation groups on your connected networks. HP SUM searches each group and displays the nodes that respond to the search. Use the **Edit scalable update group** screen to enter the IP address and user credentials for the interface iLO. This node is the member of the iLO Federation group that HP SUM uses as the interface for inventory and deployment to the nodes in the group.

After you inventory a group, HP SUM displays information about the group, including a description, server types, number of servers, and installed firmware versions. HP SUM displays the PMC, CPLD, System ROM, and iLO firmware. HP SUM can deploy System ROM, iLO firmware, PMC firmware, and CPLD firmware to iLO Federation group nodes through the iLO maintenance network.

The HP SUM iLO Federation feature relies on proper configuration of iLO Federation groups before you launch HP SUM. Multiple iLO Federation groups with the same name or fragmented iLO Federation groups will result in HP SUM only working with a portion of the expected systems.

Disabling the automatic network search functionality:

You can change the `auto_multicast_discovery` parameter in the `hpsum.ini` file.

NOTE:

If you disable automatic updates, you can still scan for iLO Federation groups. Click the **Rescan** button on the **iLO Federated Update** screen.

Adding an iLO Federation group manually

When you start HP SUM, it discovers iLO Federation groups. Local iLO Federation groups and groups within the network scope of the host running HP SUM are discovered automatically. iLO Federation groups that are not discovered automatically due to the network configuration or firewalls can be added manually.

Procedure

1. From the main menu, select **iLO Federated Update**.
2. From the **iLO Federated Update** screen, click **Add Group**.
3. Enter the **iLO Federation group name**.
4. Enter the **iLO Federation group description**.
5. Click **Add**.

Rescanning for iLO Federation groups

When you open the **iLO Federated Update** screen, HP SUM automatically scans the network for iLO Federation groups. You can force HP SUM to rescan the network to search for iLO Federation groups.

Procedure

1. From the main menu, select **iLO Federated Update**.
2. From the **iLO Federated Update** screen, click **Rescan**.

Editing an iLO Federation group

Procedure

1. From the main menu, select **iLO Federated Update**.
2. From the **iLO Federated Update** screen, select **Actions > Edit**.
3. You can change the following items for the selected iLO Federation group:
 - a. **iLO Federation group description**
 - b. **Username**
and
Password
credentials
 - c. **Baseline**
and
Additional Packages
to apply
4. To save the changes, click **OK**.

Performing inventory on an iLO Federation group

If an iLO Federation group does not have an assigned baseline, you can perform inventory on the group. Use this feature if you are deploying updates in offline mode. If you perform an inventory with no assigned baseline, HP SUM does not generate the Deploy preview, Failed Dependency details, or Combined reports.

Procedure

1. From the main menu, select **iLO Federated Update**.
2. From the **iLO Federated Update** screen, select an iLO Federation group, and then select **Actions > Inventory**.
3. In **Interface iLO**, select **Enter an iLO manually by IP or DNS** or **Select from discovered list of member iLO IPs**.
4. If the group or the interface iLO are no longer on the network, HP SUM displays a message indicating that the group or interface iLO is not available.

! **IMPORTANT:**

Do not select an interface iLO that has been added as an individual node.

5. Do one of the following:
 - a. If you selected **Select from discovered list of member iLO IPs**, select an iLO IP address.
 - b. If you selected **Enter an iLO manually by IP or DNS**, enter the iLO IP or DNS address of the iLO you want to use.
6. In the **Credentials** section, enter the **Username** and **Password** for the interface iLO.
7. In the **Baseline to Apply** section, select a **Baseline** or **Additional Package** from the Baseline Library.
8. If you assigned a baseline or additional package by editing the group or performing inventory on the group, those values are entered automatically.

NOTE:

Optional if you are deploying updates to the iLO Federation group in offline mode.

9. Click **Inventory**.

NOTE:

When you deploy updates to an iLO Federation group in offline mode, you cannot use the ISO file that includes updates to perform the inventory on the iLO Federation group. Unpack the ISO file on a drive, add it as a baseline, and then use it to perform the inventory.

Viewing iLO Federation group firmware versions

Procedure

1. From the main menu, select **iLO Federated Update**.
2. Select an iLO Federation group.
3. If the group has not been inventoried, start the inventory process.
4. In the **Inventoried firmware versions of the group** section, select one of the following firmware types:
 - a. iLO
 - b. BIOS

- c. PMC
- d. CPLD
- 5. For each firmware type, HP SUM shows the firmware type, firmware version, and the number of systems using each firmware version.

Viewing iLO Federation group members

Procedure

1. From the main menu, select **iLO Federated Update**.
2. Select an iLO Federation group.
3. If the group has not been inventoried, start the inventory process.
4. The **Servers** section lists the server models in the group and the total number of each server model.

iLO 4 firmware version 2.10 and later supports both IPv4 and IPv6 addresses. If you have an iLO system configured with IPv4 and IPv6, HP SUM displays that node twice in the iLO Federation group. This display issue has no impact on deployments to the affected node.

Deploying software to an iLO Federation group (online)

Procedure

1. From the main menu, select **iLO Federated Update**.
2. From the **iLO Federated Update** screen, select **Actions > Online Review/Deploy**.

NOTE:

Disable TPM if you have it installed on your iLO Federation group. TPM might cause issues with online deployment.

3. Select the **Installation Options**.

NOTE:

If you choose to downgrade or rewrite components, you must specify which components to downgrade or rewrite:

Firmware

,

Software

, or both.

4. In the **Filters** section, select the servers you want to update. HP SUM displays components for all nodes.
5. Optional: In the **Baseline Library** section, select the baseline to use.
6. In the **Baseline Library** section, select the components you want to deploy. If you make changes to the default selections, click **Analysis**.
7. Click **Deploy**.

If HP SUM loses connection with the interface iLO during deployment, HP SUM prompts you for the credentials for an interface iLO.

Deploying software to an iLO Federation group (offline)

Use offline update to mount an ISO to all nodes in a group and then reset the nodes to boot from the ISO and perform an offline update.

Procedure

1. From the main menu, select **iLO Federated Update**.
2. From the **iLO Federated Update** screen, select **Actions > Offline Review/Deploy**.
3. HP SUM displays the **iLO Federation group name** and **Interface iLO**.
4. Select **Use ISO on a user specified HTTP server**.
5. In the **ISO Image** box, enter the URL of an ISO image that is available via HTTP on the network.

NOTE:

Select the source ISO that contains the baseline you used to inventory the iLO Federation group.

6. Click **Validate**.
7. HP SUM confirms that the path is valid.
8. In the **Filters** section, select the servers you want HP SUM to power off and deploy components.
9. Click **Power off and Deploy**.

If the ISO image does not mount, HP SUM displays an error message.

Generating reports

HP SUM generates the same reports for iLO Federation groups as it does for regular nodes.

NOTE:

iLO Federation reports contain aggregate details for versions and updates only, not details for each server in the group.

Deleting an iLO Federation group

Procedure

1. From the **iLO Federated Update** screen, select an iLO Federation group.
2. Select **Actions > Delete**.

SUM Baseline Library screen

The Baseline Library screen displays the baselines and additional packages you will use to update your nodes. Baselines include an SPP, Integrity bundle, or custom baseline that includes updates that you select from other baselines or additional packages. Additional packages are directories that hold updates that are not included in a named update package, for example a Hot Fix. SUM saves baseline information between sessions.

SUM displays each added baseline in the left pane. Select a baseline, and SUM displays the following information for each baseline and additional package.

- Release date
- Languages
- Operating systems
- Enhancements
- Components – SUM includes a search box for finding updates that meet the search parameters. You can search on file name, description, and update type. Double-click an update to view its details.
- Component Warnings – Displays components that are listed in the baseline manifest, but the component is not present.
- Component configuration – Configure some components before you can deploy the update. For more information about configuring components, see **Component configuration** on page 41.

NOTE:

If you created a custom ISO, mount the ISO on the system so SUM can detect the files, and then add the directory as a baseline. For more information, see [Adding a baseline](#) on page 36.

About SUM baselines

Baselines are directories that contain update components SUM can apply to local and remote nodes. Some baselines include:

- SPP
- Custom SPP downloads
- Maintenance Supplement Bundle
- Custom baselines/ISOs created by SUM

When you add a baseline, SUM searches for the following files:

- `bpxxxx.xml` file: Lists the name, version, history, and components in the baseline. SUM treats any components in the directory that are not listed in the `bpxxxx.xml` file as an Additional Package, not as the main baseline. The SPP, Maintenance Supplement Bundle, and custom baselines include the `bpxxxx.xml` file.
- `..\..\hp_manifest` directory: This directory contains details about some components contained in the baseline. SPPs and custom baselines include prepopulated databases. Included in the manifest directory are:
 - `meta.xml`: Contains most of the component xml file data.
 - `primary.xml`: Contains details about RPMs in the baseline.
 - `system.xml`: Contains mapping information between ROM family and system model.
 - `revision_history.xml`: Contains history information for the component.
- `\db\BaselineDB.pdb`: This is a prepopulated database that SUM uses if there is no other database from other baselines. This file contains all details for the components when the baseline was generated. SPPs and custom baselines include prepopulated databases.

When SUM reads data from the baseline, it uses the following priority:

- Prepopulated database: The prepopulated database is the fastest way for SUM to inventory a baseline.
- Manifest files: SUM inventories a baseline more quickly with manifest files than opening each component.
- Reading each component. Each component has an embedded xml file (`cpxxxx.xml`) which contains details about the component. To view the details about the component:
 - Windows: Launch the component and then select **Extract**.
 - Linux `scexe`: From a command line, type `./CPxxxx.scexe --unpack=<dir>`.
 - Linux RPMs: From a command line, type `rpm -qp --scripts <rpm_name>`. The component xml is embedded in the output.
 - VMware zip: Unpack the zip file.

Adding a baseline

Procedure

1. On the Baseline Library screen, click **Add Baseline**.

NOTE:

If you want to clear the Add baselines screen, click **Start Over**.

SUM opens the add baseline screen.

2. Select the type of baseline you want to add and include the required information:

Browse SUM Server Path

A directory or file share that the system running SUM can access.

Enter the directory path to the baseline, or click **Browse** and use the menu to navigate to the directory.

NOTE:

If you are adding an SPP, navigate to the `hp/swpackages` directory.

UNC path (for example \\host\dir)

This location uses UNC paths that the system can access. In the **Enter URI for the baseline** field, type the UNC address for the source baseline. Enter the username and password.

NOTE:

UNC path is only supported in Windows systems.

SUM does not support mapped UNC drives.

Download from hpe.com

SUM no longer supports downloading baselines from hpe.com.

Download from http share

Enter directory path: Enter, or browse to, the directory where you want to save the baseline. SUM allows you to create a directory, if required.

Enter HTTP URL: Enter an HTTP URL where a bundle file is saved. The server can be local or remote, and you can use an Apache, Tomcat, or IIS server. Provide the complete URL, including the bundle XML. The components must reside in the same directory as the bundle XML.

If you want to download components only for specific operating systems, select the operating systems in the **OS Filter Options**.

NOTE:

SUM adds all baselines it finds in a directory.

3. Click **Add**.

Check the activity log to see the status of the baseline. If the baseline does not appear in the baseline list, make sure that there are updates in the directory.

NOTE:

SUM begins to inventory a baseline as soon as you finish adding the baseline. Wait until the baseline inventory finishes before adding another baseline.

Creating a custom baseline and ISO

Prerequisites

- Add the directories that contain updates as baselines to the Baseline Library screen. For more information on adding a baseline, see **Adding a baseline**.
- Outside of SUM, create a directory where you want to save the custom baseline or ISO.
- Make sure that each baseline directory only contains one baseline. For example, do not put an SPP ISO and hot fixes in the same directory.

Creating a custom baseline allows you to deploy specific updates from SPP releases, minimize the size of update baselines or bootable and nonbootable ISOs, standardize the updates that you deploy to your environment, and change the version of SUM you are using to deploy updates.

NOTE:

Before you create a custom bootable ISO, make sure that you have an unpacked ISO available in a local directory to use it as a source for the boot environment. For example, a recent SPP ISO. Do not unpack more than one ISO in a directory.

You can create and download a custom SPP from the SPP Custom Download website at: <https://www.hpe.com/servers/spp/custom/>.

Procedure

1. Click **+Add**, and then select **Create Custom**.
2. In the **Description** text box, enter a description for the baseline. The maximum length for the description is 50 characters.
3. Select a date for the **Version**, and enter a 1-character or 2-character identifier, for example, 1 or 1a.

The **Baseline Name** is automatically generated by combining the description and version.

4. In the **Output Location** field, click **Browse** to navigate to an empty directory where you want to save the baseline. SUM does not allow using a directory that is not empty.
5. Select **Make Bootable ISO file** to create a bootable ISO with your baseline.

To create a custom bootable ISO, you must have a bootable SPP or SUM ISO extracted in a local directory.

In the **Source ISO Location** field, click **Browse** and choose the root directory where SUM can find the extracted bootable ISO. For example:

```
C:\SUM\Baselines\spp_gen9_snap1\
```

NOTE:

Do not store more than one bootable ISO in a directory.

6. In the **Select HP SUM Source Location**, select one of the following:

Current Working Directory Copies the version of SUM you are currently using.

Custom Directory Copies a version of SUM from another directory.

Do Not Include Does not include a copy of SUM in the baseline.

In **HP SUM path** field, enter the directory path, or click **Browse** and then choose a directory that contains the version of SUM you want to use.

NOTE:

If you select Bootable ISO, **Do Not Include** is replaced with **Extracted Source ISO location**, which displays the location of the ISO with SUM.

7. In the **Baseline Sources** section, select the baselines that contain the components you want to include in the custom baseline.

NOTE:

If the same component is included in more than one source baseline, SUM lists the component multiple times. If you select the component from multiple baselines, SUM displays the component multiple times when you add it as a baseline, but the baseline only includes one copy of the component file.

8. In the Filters section:

- a.** Select whether you want the custom baseline to **Match CloudSystem Matrix Version**. Select this option to use a `MatrixConfig.xml` file saved on your local system. If you select this option the **Advanced Filters** become inactive and other filters are disabled.

If you select **Match CloudSystem Matrix Version**, do the following:

- I.** Select whether you want to compare the custom baseline to a Matrix Definition XML file on the local system. You can download the latest Matrix Definition from <http://www.hpe.com/info/matrixcompatibility>.
- SUM no longer supports comparing a baseline to a Matrix Definition XML file on hpe.com.
- II.** Enter a directory for the Matrix Definition file.
- b.** Select the **Component Type** you want to choose, **Firmware**, **Software**, or **Firmware and Software**.
-

NOTE:

Select one of these options if you want to create a baseline with only firmware or software updates. Use the baseline with only firmware or software updates to update only firmware or software for a node automatically.

- c.** Select each kind of update you want to include in the baseline:

| | |
|----------------------------|--|
| Critical Updates | Updates that require immediate deployment. |
| Recommended Updates | Updates recommended that you deploy at your earliest convenience. |
| Optional Updates | Updates to this version if your system is affected by one of the documented fixes, or if you want to utilize any of the enhanced functionalities provided by this version. |
| Advanced Filters | Select this to apply to the baseline: |

| Filter category | Options |
|------------------|---|
| Architecture | Select the system architecture to include in the baseline. |
| Operating System | Select the operating systems to include in the baseline. The list of options is provided by the source baseline. Custom baseline only supports creating baselines from SPP baseline sources. To create a bootable ISO, select all Linux operating systems to include all drivers that you can deploy. |
| Server Model | Select the server device components to include in the baseline. The list of options is provided by the source baseline. |

NOTE:

SUM supports creating a baseline for node types supported by the SPP source baselines.

9. Click **Apply Filters**. SUM displays a list of available updates.
10. Select the individual component updates you want to include in your baseline. Use the search function to find specific updates in the list.
11. Click **Create ISO and save Baseline** or **Save Baseline** to create the baseline. When you click **Create ISO and save Baseline** or **Save Baseline**, SUM does not close the Create Custom Baseline screen, in case you want to create another custom baseline.

NOTE:

Install the application `xorriso` (UEFI) or `mkisofs` (for legacy/BIOS) on Linux hosts to create a custom ISO that is bootable.

12. Click **Close** to close the Create Custom Baseline screen.

SUM saves XML files with details of the custom baseline components. SUM reads this XML file and compares the list to the contents of the directory.

Generating baseline reports

Procedure

1. You can generate an Inventory report from the Baseline Library screen. This is the same Inventory report that you can generate on the Nodes screen. For more information on generating the Inventory report, see [Generating node reports](#).

Validating a baseline

SUM can validate a baseline against the following sources:

- **Bundle file** – Allows you to validate against a bundle, for example an SPP. You can use this feature after you pull an SPP from the web or copy a bundle between systems.

If a component has been unpublished after the SPP or MSB was published, SUM does not pull the component from the web. SUM displays a message that there is a missing component when it validates

the bundle. You can look up the component on the Hewlett Packard Enterprise website to see if it is available for download.

- **CloudSystem Matrix file**– Allows you to verify that a custom baseline matches a downloaded version of CloudSystem Matrix. For more information, see <http://www.hpe.com/info/matrixcompatibility>.

SUM no longer supports validating a baseline against a CloudSystem Matrix file on hpe.com.

After SUM validates a baseline matches a CloudSystem Matrix configuration file, you can use the baseline to inventory nodes to confirm the nodes match the configuration. Node inventory reports whether the baseline is an exact match to the installed versions, or if the node needs updates to match the CloudSystem Matrix configuration. Inventory also reports if installed components are at a later version than the HPE Helion CloudSystem configuration file.

NOTE:

SUM no longer supports validating a baseline against a CloudSystem Matrix file on hpe.com.

Procedure

1. From the Baseline Library screen, select a baseline, and then select **Actions > Validate**.
SUM displays the baseline and baseline bundle file location.
2. Select a validation type, **Validate against bundle file**, or **Validate against CloudSystem Matrix version** on your local system.
 - a. In **Matrix Definition XML File**, select **Latest MatrixConfig.xml file from local**.
 - b. Enter the path, or browse, to the Matrix XML file.

Deleting a baseline

Before deleting a baseline, assign a different baseline to each node that uses the selected baseline. The Baseline screen lists how many nodes use each baseline. Click the hyperlink to display the nodes that use the baseline.

Procedure

1. On the Baseline Library screen, select a baseline.
2. Select **Actions > Delete**.

NOTE:

If the baseline is associated with one or more nodes, SUM displays a list of the nodes. Edit the nodes to change the associated baseline, or delete the node. For more information, see [Editing a node](#) or [Deleting a node](#).

3. Confirm that you want to delete the baseline.

Canceling a baseline addition or inventory

Procedure

1. SUM does not support canceling a baseline addition or inventory. Wait for the procedure to end and then delete the baseline.

Component configuration

Some components might have required or optional configuration settings. Configuration parameters include information necessary to set up the component correctly or passwords required for software installed by the component. From the Baseline Library screen, change component options, import options, and export options.

You can also configure components if you use an input file. For more information about input files, see *Smart Update Manager CLI Guide*. If you copy the configuration directory into a baseline, when you add that baseline to an SUM session, SUM imports the configuration settings during the inventory process.

You will need to reconfigure component settings if you:

- Run the `clean-cache` utility.
- Copy the component files to a remote server after configuring components settings on a local host and not exporting the configuration to the baseline directory after configuring it in SUM.

Configuring components

SUM 7.x does not support configuring components released prior to SPP 2013.09.0(B). Use SUM 5.3.5 to update these components.

Procedure

1. On the Baseline Library screen, select the baseline you want to use, select **Fixes**, and then select **Configuration state** until the components that offer configuration settings are filtered to the top.
2. Select **Configurable** or **Configured** for each a component you want to configure.

NOTE:

Components that display **Configured** have had the default configuration settings changed.

3. Enter the configuration settings, and then click **Save in SUM** to store the component settings in the current SUM database.

Repeat these steps for each component you want to configure.

NOTE:

Configuration options vary based on the component.

Exporting configured components

You can use SUM 7.2.x and later to configure components and export the component configurations to a location of your choice. You can then import these configuration settings into another SUM session or use these exported configuration parameters to configure the components as you deploy them outside of SUM or with SUM on remote nodes. This allows you to configure components once and reuse the configurations.

The exported configuration file or script is stored in a directory name `<component filename>_conf`. The directory contains the configuration file or script and a `README` file with the instructions on how to deploy the component with the configuration outside of SUM. SUM stores the configuration file or script separately from the component to not break the component security signing.

Procedure

1. On the Baseline Library screen, select the baseline you want to use, click **Components**, and then click **Configuration** or **Configured** until the components that offer configuration settings are filtered to the top.
2. Select **Configurable** for each a component you want to configure and then enter the configuration settings.

NOTE:

Configuration options vary based on the component.

3. Click **Save and Export**, and then select a directory where you want to save the component configuration. Select whether you want to include user credentials in the configuration file. SUM creates a directory named after the component you exported. The name is `<component_name>_conf`. The Activity screen displays the address where it saved the configuration file.

4. SUM includes a `README` file that provides instructions on how to deploy the component in standalone mode.

! **IMPORTANT:**

SUM stores configuration settings, possibly including user credentials, in a plain-text file format that the component can use.

5. Click **Save**. The configuration data is saved in the SUM database and written to the appropriate file.
6. Repeat these steps for each component you want to configure.

Importing component configuration settings

If you have configured components in another SUM session, or in a baseline copied from another server, you can import these settings into the GUI.

NOTE:

If you saved the baseline configuration directory in the same directory as the baseline, SUM automatically imports the configuration settings when you add the baseline to the baseline library.

Procedure

1. On the Baseline Library screen, select the baseline you want to use, select **Fixes**, and then click **Configuration** until the components that offer configuration settings are filtered to the top.
2. Scroll down the list of components, and then select **Configurable** for each component configuration file.
3. Click **Import**.
4. Select the directory where you saved the configuration file, and then click **Open**.

! **IMPORTANT:**

SUM overwrites any existing component configuration as it automatically saves the imported configuration data.

5. Repeat these steps for each component you want to configure.

SUM Nodes screen

Nodes are hardware environment components. The Nodes screen displays the nodes and associated nodes that you have added to SUM and SUM can manage. On the Nodes screen, SUM displays information about the node, including the following:

- General
- Associated devices
- Warnings/Alerts
- Storage
- NIC/FC-HBA/CNA
- Enclosures
- Switches
- Partitions
- Cartridges
- Moonshot system information
- iLO Federation group information

The yellow status bar under the node name gives a brief description of the status or action you can perform next on the node. Click the arrow to expand for full details. For example, after you add a node, the status bar might give a link to Inventory the node. Or, after you inventory a node, the status bar will provide a link to review and deploy updates.

The Deployment Type screens provide the same information as the main Nodes screen, but it filters on the specific node type, for example OA or iLO.

NOTE:

The details that SUM displays vary based on the node type.

About node status

SUM assigns the following statuses to nodes after you add the node and deploy updates:

- **Scouting:** SUM verifies the node address and user credentials.
- **Preinventory** (remote Windows and Linux nodes only): SUM runs commands on the remote node to determine operating system details, installed hardware, and installed RPMs (Linux nodes).
- **Inventory:** SUM gathers information from the node and determines which updates apply, and if there are any dependency issues. For remote nodes, SUM copies a version of itself along with required the baseline components required to determine applicability.
- **Deploy/install updates:** SUM deploys updates to the node. For remote nodes, all components required for deployment are copied to the remote node and SUM runs on the remote node.
- **Complete installation:** SUM finishes updates and, if necessary, reboots the node.

Viewing LiveLog information

The SUM **LiveLog** allows you to view the status of an active deployment. If SUM is deploying multiple components, search the list to view the status of specific components. After SUM finishes the deployment, SUM displays a **View Log** button.

Procedure

1. On the Nodes screen, select a node, and then click **LiveLog**.

Adding a node or other deployment type

Prerequisites

1. Know the IP address or DNS name of the node.
2. User login credentials for the node.
3. If you are planning to assign a baseline to a node, add the baseline first.

SUM uses the same function to add all node and deployment types.

You can add a node using a specific IP address or by searching an IP address range.

Procedure

1. **Adding a single node by IP or DNS name**
2. **Adding a node by searching a range of addresses**
3. **Adding nodes by input file**

Adding a single node by IP or DNS name

Procedure

1. From the Nodes screen, click **+Add Node** . The name of this button changes if you are adding a different deployment type, for example, OA.
2. Select **Add a single node or known range of nodes**.

3. Enter the IP address, DNS name, range of IP addresses, or multiple addresses separated by comma. For example, entering 10.0.1.1–10.0.1.20 adds 20 nodes. 10.0.1.1, 10.0.1.2, 10.0.1.7 adds three nodes. SUM adds the nodes successfully if they use the same login credentials.

NOTE:

If you are adding a VC node, use the IP address of the primary Enet module. All VC modules installed, including FC modules, are updated through the primary Enet module.

4. Enter a description for the node.
5. In the **Type of node to add** field, select the node type. If you do not know the node type, select **Unknown**. During the inventory process, SUM determines the node type. If you are adding a node from a Deployment Type screen, SUM automatically selects the node type.

Some nodes allow SUM to discover and add associated nodes automatically. For more information about associated nodes, see [Associated nodes deployment behavior](#)

NOTE:

Selecting the correct node type might help SUM complete adding the node faster.

Some nodes require information that is specific to the node. For more information about the required information for each node, see [Node-specific additional details](#).

For more information on a Moonshot node, see [Moonshot node overview](#).

6. (Optional) Select the baseline, additional package, or both to apply to this node.
7. (Optional) Select a group from the list, if you want to assign the node to a group.
8. Select one of the following:
 - **Use current credentials (requires existing trust relationship with the node)** - : This option is for Windows nodes only.
 - **Enter administrator credentials:** Enter the username and password for a user with administrator privileges on the node. Windows users can use `domain\username` if the user has administrator permission.
9. Linux and HP-UX nodes allow you to use sudo credentials to deploy updates without logging in to the node with root credentials. To use sudo commands, you have to install sudo capabilities on the node.

NOTE:

Super user and sudo are not available for all nodes.

If you want to use sudo, in the **Access Level** field, select one of the following:

- Click **Use sudo to update components** if you want to use sudo credentials.
 - Click **Enter super user credentials to update components** if you want to enter super user credentials.
-

NOTE:

If you are using super user credentials, enter normal user credentials in the **Credentials** field, and then add super user credentials in the **Access Level** field. SUM first logs in using the normal user credentials, and then uses the super user credentials to log in to the super user account.

10. Click **Add**.

In the **Added Nodes** section, SUM displays the nodes you selected.

Adding a node by searching a range of addresses

Procedure

1. From the Nodes screen, click **+Add Node** . The name of this button changes if you are adding a different deployment type, for example, OA.
2. Select **Find nodes on network**.
3. Click **Find Nodes**.
4. Select **IP Address Range** or **Port Address**.

NOTE:

SUM can search a port in the range of 0–65535.

5. Enter a range of IP addresses for SUM to search, select one of the default ports or select **Other** and enter the port, and then click **Search**.

NOTE:

SUM only searches one subnet/octet, the final four digits of an IPv4 address.

SUM displays the nodes it finds in the **Available Nodes** field.

6. Select the nodes you want to add from the **Available Nodes** section, and then click **Add Nodes**.
7. If you want to assign a baseline, select **Baseline** , **Additional Packages** in the **Baseline to Apply** field.
8. In the **Credentials** section, select whether to **Use current user credentials (requires existing trust relationship with the node)** , **Enter administrator credentials** , or **Enter SSH Key Credentials** (not available for all nodes).
9. If you choose to enter administrator credentials, enter the **Username** and **Password**.
10. Click **Add**.
11. In the **Added Nodes** section, SUM displays the nodes you selected.
12. Click **Cancel** to go back to the Nodes screen.

Adding nodes by input file

You can use a CLI with Input File script to add many nodes that you can deploy in the GUI.

Procedure

1. Create an input file with the node details. For example:

```
#Input file sample
SILENT = YES
SOURCEPATH = C:\SPP

[TARGETS_USER_1]
HOST = 192.168.1.1
HOST = 192.168.1.3
HOST = 192.168.1.2
UID = user1
PWD = user_password1
[END]

[TARGETS_USER_2]
HOST = 192.168.1.4
HOST = 192.168.1.5
HOST = 192.168.1.6
UID = user2
```

```
PWD = user_password2  
[END]
```

2. Open a terminal window, navigate to the directory where SUM is located, and then issue the command:

```
hpsum /inputfile <path:\inputfile.txt> (Windows)
```

```
./hpsum --inputfile <path:/inputfile.txt> (Linux)
```

3. Launch the GUI and manage the nodes. If the nodes were not added, verify that there are no issues with the Input File.

For more information, see <http://www.hpe.com/support/SUM-CLI-en>.

Associated nodes deployment behavior

The following describes which nodes SUM can automatically add and the order in which SUM deploys the nodes:

Onboard Administrator

Types of associated nodes:

- iLO
- Integrity iLO
- Virtual Connect
- SAS Switches

Deployment behavior:

- Deploys the OA first and then other nodes.

Virtual Connect

Types of associated nodes:

- Onboard Administrator

Deployment behavior:

- Deploys the VC first and then the OA.

FC Switch

Types of associated nodes:

- Partner FC Switches

Deployment behavior:

- Deploys to the selected switch first and then to associated switches.

6 Gb SAS BL Switches

Types of associated nodes:

- Onboard Administrator

Deployment behavior:

- Deploys to the selected switch first and then to the OA.

iLO

Types of associated nodes:

- Onboard Administrator
- Server

Deployment behavior:

- Deploys to the iLO first and then the OA and servers.

Integrity iLO

Types of associated nodes:

- None

| | |
|--|--------------------------------------|
| Integrity multibladed conjoined servers | Types of associated nodes: • None |
| Server | Types of associated nodes: • None |
| Moonshot | Types of associated nodes: • None |
| Superdome 2/X | Types of associated nodes: • None |

NOTE:

If you are running a mixed IPv4 and IPv6 environment, SUM might display the following issues:

- If you add an IPv6 iLO with associated nodes and the associated nodes are only configured with IPv4, SUM displays IPv6 nodes.
 - SUM does not support IPv6 for SAS and FC switches.
-

Node-specific additional details

Some nodes have node-specific information required when you add a node.

Windows

Additional details:

Enter what you want to do if SUM detects an update process on the node:

- **Leave the update running and bypass the node**
- **Stop any currently running update process on the node and replace it with updates from this session**

Linux

Additional details:

- You can use SSH key credentials for Linux nodes. Enter the **Username**, **Private Keyfile** location, and **Password** (if required). The private key file must use the PEM format.
- Enter what you want to do if SUM detects an update process on the node:
 - **Leave the update running and bypass the node**
 - **Stop any currently running update process on the node and replace it with updates from this session**
- Select the access level for this node:
 - None
 - Use sudo with credentials entered previously
 - Enter super user credentials

HP-UX

Additional details:

- You can use SSH key credentials for HP-UX nodes. Enter the **Username**, **Private Keyfile** location, and **Password** (if required). The private key file must use the PEM format.
- Enter what you want to do if SUM detects an update process on the node:

- **Leave the update running and bypass the node**
- **Stop any currently running update process on the node and replace it with updates from this session**
- Select the access level for this node:
 - None
 - Use sudo with credentials entered previously
 - Enter super user credentials

VMware Host

Additional details:

Select whether to use administrator credentials or open an authentication ticket with the VMware host of the vCenter. A ticket allows you to update the node regardless of the lockdown mode status.

If you select **Enter vCenter details to get ticket (for authentication to host)**, enter the **IP/DNS, Username, and Password** for the host.

NOTE:

SUM does not automatically migrate VMware nodes if DRS or HA is enabled. For more information on migrating VMware nodes, see the documentation for HPE OneView for VMware vCenter at <http://www.hpe.com/info/ovvcenter/docs>.

Onboard Administrator

Additional details:

- Select whether you want to automatically add associated nodes. This adds all nodes in the chassis.
 - If you are updating OAs and iLOs at the same time, select this for OA nodes so SUM detects associated iLO nodes. SUM can determine the proper deployment order when you deploy updates to the OA.
 - If you do not provide credentials, SUM uses the credentials you provide for the OA for associated VCs.

NOTE:

If the OA is in FIPS mode, SUM does not support downgrading or rewriting firmware. SUM displays a message and turns off the downgrade and rewrite options.

Superdome 2/X Onboard Administrator

Additional details:

No node-specific settings.

SAS B/L Interconnect Switch

Additional details:

Select whether you want to automatically add associated nodes. For more information about associated nodes, see **Associated nodes deployment behavior** on page 47.

Fibre Channel Switch

Additional details:

Select whether you want to automatically add associated nodes. For more information about associated nodes, see **Associated nodes deployment behavior** on page 47.

iLO

Additional details:

Select whether you want to automatically add associated nodes. For more information about associated nodes, see **Associated nodes deployment behavior** on page 47.

! **IMPORTANT:**

Do not add an iLO as a node if you are going to use it as part of an iLO Federation group.

Moonshot

Additional details:

- iLO Chassis Management Administrator Credentials: **Username** and **Password**.
- Switch Credentials: **Username, Password, Enable Password**. (Required only if you are updating the switch.)
- Select Credentials are the same on both switches if Switch B uses the same credentials. If not, clear this and enter the Switch B credentials.

Virtual Connect

Additional details:

Some VC options, such as VC Activation order, can be set from the Edit Node or Review/Deploy Node screen.

NOTE:

SUM cannot deploy updates to a Virtual Connect node managed by HPE OneView.

- Select whether you want to automatically add associated nodes. For more information about associated nodes, see **Associated nodes deployment behavior** on page 47.
- Add the Associated Onboard Administrator credentials
 - **Use credentials above**
: Uses the same credentials you entered previously.
 - **Enter administrator credentials**
: Enter the credentials if they differ from the credentials you entered earlier.

Editing a node

Nodes are changed using the Edit option on the Nodes screen. Make sure SUM has completed all functions, for example, node inventory or deployment, before you edit a node. Options you can edit vary based on the node. For information on specific node options, see **Node-specific additional details**.

NOTE:

SUM uses the same function to edit all node types.

Procedure

1. From the Nodes screen, highlight the node and then select **Actions > Edit**.
2. The following are some of the fields you can edit:
 - a. **Description**
 - b. **Type**
 - c. Selected baseline and additional package.
 - d. **Credentials**
 - e. **Reboot Options** – Reboot system, Reboot delay, Reboot message
 - f. **Installation Options** – Upgrading, downgrading, or rewriting versions of software, hardware, or both.
3. Click **OK** to accept the changes and return to the Nodes screen.

Aborting a node update

If SUM is deploying updates to a node and want to cancel the updates:

Procedure

1. From the Nodes screen, highlight the node, select **Actions > Abort**.

NOTE:

If SUM has started to perform updates, it completes the component update it is deploying, and then aborts the remaining component updates.

Performing node inventory

The node inventory collects information about the node, and the firmware, software, and driver versions installed on the node. SUM detects when a self-discovery component has a missing dependency.

NOTE:

SUM uses the same inventory function for all node types.

SUM must perform a node inventory during each new session to determine the firmware and software on a node.

SUM cannot inventory a node if the credentials are not valid. If the credentials are not valid for the node, edit the node credentials.

NOTE:

If you perform inventory on an OA node, SUM automatically adds and inventories the associated nodes if you select the check box on the Add Nodes screen. Add VC credentials separately. If you perform inventory on a blade iLO or VC, SUM does not find an associated OA until the end of the inventory process. Add credentials to the OA and then perform inventory on the OA node. For more information on associated nodes, see **[Associated nodes deployment behavior](#)**.

Procedure

1. From the Nodes screen, highlight the node and then select **Actions > Inventory**.

NOTE:

If a node has a baseline assigned to it, the inventory process begins immediately. The following steps are only required if you assign a baseline to a node.

2. SUM displays the baseline associated with the node. If you want to reassign the baseline that SUM will use for inventory, select a baseline, additional package, or both.
3. Click **Inventory**. SUM displays errors to resolve before you can deploy updates.

Deploying a node

When you open the Deploy screen, SUM opens in the Easy deployment mode, and displays information about the node, including:

- Node type
- Node address
- Installation and reboot options
- Advanced mode selection button
- Estimated deployment time

- Baseline and Additional Package
- Baseline size
- Number of components available to deploy
- Node compliance with the baseline
- Installation options
- Warnings panel

! **IMPORTANT:**

Do not deploy updates to the localhost if you are running SUM on a virtual machine, only deploy updates to remote nodes.

Easy and Advanced deployment modes are not available for all node types. For instructions on deploying other node types, see [Deploying other node types](#).

NOTE:

Configure components from the Baseline Library screen.

Procedure

1. From the Nodes screen, select a node to update, and then select **Actions > Review/Deploy**.
 - For information about deploying updates to Integrity Superdome 2/X nodes, see [Deploying other node types](#)
 - The Deploy function only deploys the current partition if you are updating an Integrity BL870c i4 and BL890c i4 server. If you want to deploy an enclosure, see [Deploying all partitions in an Integrity BL870c i4 or BL890c i4 node](#).
 - For more information on using the Localhost Guided Update, see [SUM Localhost Guided Update](#)
2. Do one of the following:
 - a. Deploying in easy mode: Select the **Installation Options** you want to:
 - **Enable Downgrade**
 - **Enable Re-write**

NOTE:

If an OA is in FIPS mode, SUM does not support downgrading or rewriting firmware. SUM displays a message and turns off the downgrade and rewrite options.

- **Skip Components with Dependency Failures**
-

NOTE:

SUM does not support rewriting or downgrading firmware and software in Easy Mode. Use Advanced Mode to rewrite or downgrade.

- b. Select the **Reboot Delay** with the slider.
- c. Click Deploy.

NOTE:

Use Advanced mode to deploy associated nodes.

- a. Deploying in advanced mode. To view more deployment options, click **Enable Advanced Mode for more options**, click **Proceed**, and then do the following:
 - b. Click Installation Options, and select the option to deploy.

| | |
|---------------------------------------|--|
| Upgrade Firmware and Software | Upgrades firmware and software components. |
| Upgrade Firmware | Upgrades only firmware components. |
| Upgrade Software | Upgrades only software components. |
| Downgrade and Rewrite both | Upgrades, downgrades, and rewrites firmware and software components. |
| Downgrade and Rewrite Firmware | Upgrades, downgrades, and rewrites only firmware components. |
| Downgrade and Rewrite Software | Upgrades, downgrades, and rewrites only software components. |
| Downgrade both | Upgrades and downgrades firmware and software components. |
| Downgrade Firmware | Upgrades and downgrades only firmware components. |
| Downgrade Software | Upgrades and downgrades only software components. |
| Rewrite both | Upgrades and rewrites firmware and software components. |
| Rewrite Firmware | Upgrades and rewrites only firmware components. |
| Rewrite Software | Upgrades and rewrites only software components. |

- c. In the **Baseline Library** field, select each available component that you want to update. Use the Search box to enter in search terms for the components. For more information about an update, click the version number. SUM only displays components that apply to the node.

You can click **Force** to downgrade or rewrite a component that is available for downgrade or rewrite. If you select **Downgrade**, **Rewrite**, or both in the **Installation Options**, SUM does not display the **Force** button.

- d. SUM displays the reboot options for nodes that support rebooting after deployment. Click **Reboot Options** and do the following:
- I. In **Reboot System After Installation**, select **Never**, **If Needed**, or **Always**.
 - II. In **Reboot Delay (minutes)**, enter the number of minutes you want the node to wait before beginning the reboot. The range is between 1 and 60 minutes.
 - III. In the text box, enter a reboot message of up to 255 characters to display before the node reboots.

NOTE:

If SUM cannot successfully deploy all updates in a node, it does not reboot the node. View the deployment logs to find and resolve the issue before you reboot the node.

- e. SUM displays a list of updates that are available. You can select or clear updates that you do not want to perform. If SUM lists a component as Disabled, SUM cannot deploy the component. If SUM finds two copies of the same component version, SUM displays the component that matches the following specifications:
- SUM displays the RPM component and hides the SCEXE component for Linux nodes.
 - SUM compares the component operating system to the node operating system. SUM displays the correct component version for the operating system. For example, if the baseline includes a 32-bit version of a component and a 64-bit version of a component, SUM checks the operating system of the node and displays only the version that applies.
- f. In the **Associated Node Details** field, select any nodes that you want to update along with this node.

3. Click **Deploy**. SUM verifies any changes that you made are valid and then begins deploying components.

NOTE:

To begin the deployment, all dependency issues must be resolved, or clear the component so it does not install.

4. In the General section of the Node screen, click **View log** for the node, and then click **View log** for the component you installed to view the details of the installation.

NOTE:

On the node page, click the Live Log button to view the deployment status.

Deploying all partitions in an Integrity BL870c i4 or BL890c i4 node

Procedure

1. Inventory the Integrity BL870c i4 or BL890c i4 node partition.
2. When SUM completes the inventory, it displays associated partitions in the Associated Devices section.

NOTE:

Begin inventory on the Onboard Administrator and SUM automatically inventories all partitions and displays

Deploy Domain

3. Click **Deploy Domain** in the yellow status box.
4. Select the following
 - a. In the Baselines section, select the baselines you want SUM to use.
 - b. In the Installation Options section, select whether you want to downgrade or rewrite the updates.
 - c. In

Reboot Options

, select any partitions you want to reboot after updating.

5. Click **Review/Deploy**.
6. SUM closes the Deploy Integrity iLO Domain screen, and updates the domain.

Deploying other node types

NOTE:

Not all nodes support Easy and Advanced deployment mode.

Procedure

1. If you want to change installation options, click **Installation Options** and then select from the following:
2.
 - a. The Options drop-down menu allows you to select global options for the node. You can choose to downgrade, rewrite, or downgrade and rewrite, components that are available, along with upgrading components. For information on the selections, see Advanced Mode deployment in **Deploying a node** on page 51
 - b. Select if you want SUM to create log files that might include more details than the standard log file.

3. In the **Associated Node Details** field, select any nodes that you want to update along with this node.
4. For more information on associated nodes, see **Associated nodes deployment behavior** on page 47.
5. In the **Baseline Library** field, select each available component that you want to update. Use the Search box to enter in search terms for the components. For more information about an update, click the version number. If you are deploying a Linux node, SUM displays only RPM updates that are valid for your node.

NOTE:

In the list of components available for deployment, if SUM can apply a component to more than one device, or contains more than one piece of software for the selected node, it displays

View Details

in the

Installed Version

and

Active Version

columns.

VMware VIB components only support upgrade and downgrade, you cannot rewrite VMware VIBs. If you want to force installation of all parts of a VIB component, you can select

Downgrade

for the node which will force all components.

-
6. You can click **Force** to downgrade or rewrite a component that is available for downgrade or rewrite.
 7. If you select **Downgrade**, **Rewrite**, or **Downgrade & Rewrite** in the **Installation Options**, SUM does not display the **Force** button.

NOTE:

If an OA is in FIPS mode, SUM does not support downgrading or rewriting firmware. SUM displays a message and turns off the downgrade and rewrite options.

-
8. Expand the **Warnings/Alerts** section to view any issues SUM might have discovered.
 9. SUM can reboot server node types. If you want SUM to initiate a reboot after updates are deployed, click **Reboot Options** and do the following:
 - a. In **Reboot System After Installation**, select **Never**, **If Needed**, or **Always**.
 - b. In **Reboot Delay (minutes)**, enter the number of minutes you want the node to wait before beginning the reboot. The minimum delay is one minute, and the maximum display is 60 minutes.
 - c. In the text box, enter a reboot message of up to 255 characters to display before the node reboots.

 **IMPORTANT:**

SUM might display that some components might not need a reboot. Due to configurations or unexpected situations, SUM might detect that a reboot is necessary to activate an update. To prevent unexpected downtime, leave

Reboot System After Installation

as

Never

NOTE:

If SUM cannot successfully deploy all updates in a node, it does not reboot the node. View the deployment logs to find and resolve the issue before you reboot the node.

10. SUM displays a list of updates that are available. You can select or clear updates that you do not want to perform.
11. Click **Deploy**. SUM verifies any changes that you made and begins deploying components.

NOTE:

To begin the deployment, all dependency issues must be resolved.

12. In the General section of the Node screen, click **View log** for the node, and then click **View log** for the component you installed to view the details of the installation.

Generating node reports

You can generate reports with that detail information about your SUM session, including details on a node, components you can install, and failed dependencies.

The reports for a node enable you to generate HTML, XML, and CSV reports. On the Reports screen, SUM includes a **Reports Center** that displays previous reports you have generated.

NOTE:

SUM uses the same function to generate reports for all node types.

Procedure

1. From the Nodes screen, select a node, and then select **Actions > Report**.
2. Select the reports you want to generate:
 - a. **Firmware details**
 - displays firmware versions that are currently installed on the node.
 - b. **Deploy preview**
 - displays components that SUM can install on the node.
 - c. **Failed dependency details**
 - displays any failed dependencies on the node.
 - d. **Deploy details**
 - displays details about what SUM installed on a node.
 - e. **Inventory**
 - displays details about what components are in the baselines.
 - f. **Combined report**
 - Generates one of each report type.

NOTE:

If you cannot select a report, SUM might not have enough information to generate the report.

3. Click the report format you want SUM to generate: **HTML**, **CSV**, or **XML**.
4. In the **Advanced Report Options** you can:
 - a. Select a directory to save the reports. SUM creates a directory if it does not exist.
 - b. Select whether to run the report in the background.
5. Click **Generate**.

Deleting a node

Procedure

1. From the Nodes screen, highlight the node, and then select **Actions > Delete**.
2. Click **Yes, Delete** to confirm that you want to delete the node.

Server overview

When you select a node, the Overview screen displays a progress bar for inventory and deployment of the node, and information about the node. For example, SUM does not deploy updates for the HPE Synergy Frame Link Module.

The information SUM displays varies based on the node type. Some information includes:

- Node type
- Node address
- NIC information
- FC HBA information
- Baseline and Additional Package
- Warnings/alerts

During the inventory and deploy process, SUM displays a progress bar for current tasks.

NOTE:

If you added an Integrity node, see [Integrity node overview](#) on page 57 for more information.

Integrity node overview

If you added an Integrity node, SUM automatically displays the Server Overview screen after SUM finishes inventorying and adding the node. SUM displays the following information:

- Model
- Associated OA (if the node is a blade)
- Complex firmware version
- Location
- Part number
- Serial number
- List of devices

Moonshot node overview

SUM displays the following information for Moonshot nodes:

- Description
- Chassis Name
- Product Name
- Installed Version
- Baseline
- Serial Number
- Product ID
- UUID
- Switch information
- Cartridge information

NOTE:

The first time you deploy updates to a Moonshot node, SUM does not display the Installed Version or Active Version. After deploying updates, SUM displays the Installed Version and Active Version the second time you deploy updates using SUM.

Prerequisites

- Switches are not in stacked mode.
- Updating Comwolff switches requires iLO Chassis Management 1.5.0 or later.

The following actions are available from the Overview screen:

- **Add:** See **[Adding a node or other deployment type](#)** on page 44.
- **Edit:** See **[Editing a node](#)** on page 50.
- **Report:** See **[Generating node reports](#)** on page 56.
- **Deploy:** See **[Deploying a node](#)** on page 51.

NOTE:

SUM does not support reboot options for Moonshot nodes.

About the Node Groups screen

The node groups screen allows you to combine nodes and perform tasks as a group instead of individually. You can assign baselines, enter credentials, perform inventory, and review and deploy updates to all nodes in the groups that share these settings. The settings you assign on a group screen, for example a baseline, overrides what you applied to the node when you added the node to SUM.

NOTE:

If you do not enter a setting to a node group, SUM uses the information from the node. For example, if you leave the node group credentials blank, SUM uses the credentials you entered on the Nodes screen.

Adding a node group

Procedure

1. On the Groups screen, click **Create New Group**.

2. Enter a **Node Group Name**.
3. Enter a **Node Group Description**.
4. In the **Add Node(s) to Node Group** section, select the nodes that you want to add to the group.
5. In the **Baseline** section, select a **Baseline** and **Additional Packages** (optional) for the group if you want all the nodes to use the same baseline.

NOTE:

The baseline or additional package you select overrides the baseline or additional package you selected on the Nodes screen.

6. Click **Add**.

NOTE:

To remove a node from a node group, click the **X** on the right side of the row for the node.

Editing a node group

Procedure

1. Select a node group from the list.
2. Select **Actions > Edit**.
3. Enter a new **Node Group Name** if you want to change it.
4. Enter a new **Node Group Description** if you want to change it.
5. In the **Add Node(s) to Node Group** section, select the nodes you want to add to the node group.
6. In the **Remove Node(s) from Node Group** section, select the nodes you want to remove from the node group.
7. Select the baseline and additional package if you want to change them for all the nodes in the node group.
8. Enter new user credentials if you want to change them.
9. Click **OK**.

Performing node group inventory

Procedure

1. Select a node group from the list.
2. Select **Actions > Inventory**.
3. SUM begins the inventory if a baseline is assigned to the node group. If not, assign a baseline.
4. Click **Inventory**.

Deploying a node group

Procedure

1. Select a node group from the list.
2. Select **Actions > Review/Deploy**.
3. Select the **Installation Options** you want to deploy.
4. Select **Component verbose log** if you want more detailed log files.
5. Select the **Reboot options**.
6. Review and correct if SUM displays any warnings or alerts. SUM does not deploy updates to the group unless you select **Ignore Warnings**.
7. In the **Baseline Library** section, select the components you want to deploy.
8. Click **Deploy**.
9. If you make changes, SUM verifies that there are no dependency errors, and then deploys the components. SUM does not begin deployment until failed dependencies are resolved. Either resolve the dependency, or clear the component.

Generating node group reports

Procedure

1.
 1. Select a node group from the list.
 2. Select **Actions > Reports**.
 3. Select the reports you want to generate and where you want SUM to save reports.
 4. SUM generates the same reports for node groups and for nodes. For more information about the reports, see [Generating node reports](#) on page 56.

Aborting a node group update

Procedure

1. Select a node group from the list.
2. Select **Actions > Abort**.

Deleting a node group

Procedure

1. Select a node group from the list.
2. Select **Actions > Delete**.
3. Confirm that you want to delete the node group.

Advanced topics

- [About using SUM with IPv6 networks](#)
- [SUM network ports used](#)

About using SUM with IPv6 networks

You can deploy to remote nodes in IPv6-based networks for Windows and Linux node servers.

For Windows-based servers to communicate with remote node servers, SUM uses either existing credentials or the user-provided user name and password to connect to the admin\$ share. This share is an automatic share provided by Windows Server. After SUM connects to the admin\$ share, it copies a version of the engine to the node server for the duration of the installation. After this engine starts, SUM uses this engine to communicate between the local and remote node server.

Open the firewall ports SUM needs for communication. For more information about the ports used, see [Changing the port address in the .ini file](#) on page 62. After the installation is completed or canceled, SUM stops the remote engine, removes it from the node, closes the port on the Windows firewall, and then releases the share between the node and the local system.

For Linux-based servers to communicate to remote node servers, SUM starts by using the user-provided user name and password to create an SSH connection to the node server. After it connects, SUM copies the engine to the node server for the duration of the installation. After this engine starts, SUM uses this engine to communicate between the local and remote node server.

During this process, SUM opens ports in the iptables firewall to enable SUM to communicate with the SUM engine over SSL to pass data between the local and remote systems. For more information about the ports used, see [Changing the port address in the .ini file](#) on page 62. When the installation is completed or canceled, SUM stops the remote engine, removes it from the target server, closes the port in the iptables firewall, and then closes the SSH connection to the node server.

To set up IPv6 networking, refer the documentation for your operating system.

SUM network ports used

SUM requires that certain network ports are available. If you lock down network ports, make sure that the ports listed in the network port tables are open so that SUM works correctly when connecting to remote node servers and hosts. If you are unable to unlock these network ports, you must run SUM locally and update network-based hosts through their web interfaces (for example, the OA, iLO, and VC modules).

NOTE:

Use the `open_firewall` parameter for SUM to automatically open the required firewall ports on the local host and any remote servers.

Updates for most node types require network traffic in both directions between the server running SUM and the node. The server running SUM creates a local HTTP server, which is used to serve firmware binaries to the node and to communicate node status. The remote node issues HTTP requests and posts status updates to the server running SUM during the update process. If there is a routing problem or firewall blocking traffic back from the remote node to the system running SUM, firmware updates might be blocked, status updates blocked or delayed, or both.

After creating the initial communication binds to one of the available ports, SUM traffic can move to a dedicated high-number port number (greater than 1024). This frees up the initial port for new requests.

| System running SUM | Target node type | Inventory phase | | | Deployment phase | | |
|--------------------|---|-------------------------|-------------------------------------|-----------------------------------|-------------------------|-------------------------------------|-----------------------------------|
| | | To target | From target (SUM 7.2.1 and earlier) | From target (SUM 7.3.0 and later) | To target | From target (SUM 7.2.1 and earlier) | From target (SUM 7.3.0 and later) |
| Windows | Windows | 445, 135, 137, 138, 139 | 63001, 63002 | None | 445, 135, 137, 138, 139 | 63001, 63002 | None |
| Windows or Linux | Linux | 22 | 63001, 63002 | None | 22 | 63001, 63002 | None |
| Windows or Linux | HP-UX | 22, 63002 | 63001, 63002 | 63001, 63002 | 22 | 63001, 63002 | 63001, 63002 |
| Windows or Linux | VMware | 443, 5989 | 63001, 63002 | 63001, 63002 | 443, 5989 | 63001, 63002 | 63001, 63002 |
| Windows or Linux | OA | 22, (80), 443 | None | None | 22, (80), 443 | None | None |
| Windows or Linux | iLO, VC, FC switch, SAS switch, Moonshot, Superdome 2/X | 22, (80), 443 | VC components: 63001, 63002 | None | 22, (80), 443 | 63001, 63002 | 63001, 63002 |

SUM uses port 63002 to communicate between the `hpsum_binary` and `hpsum_service` applications on both Windows and Linux systems. If ports are listed in both columns, SUM communicates bidirectionally.

NOTE:

Windows to Windows traffic uses WMI, a standard DCOM-In port 135 and Async-in and WMI-in.

Issue the commands `/port` and `/ssl_port` to change from ports 63001 and 63002 if there are firewall conflicts. Use `--open_firewall` to open the HTTP and HTTPS ports used by SUM for external access. Open these ports for remote node functionality and for remote browser access. For example:

```
hpsum /port 80 /ssl_port 443
```

You can issue the command `/ftp_port` to assign which port to use for FTP service. By default the FTP port is disabled. Use the command to enable the service.

Changing the port address in the `.ini` file

You can change the network ports SUM uses by editing the `sum.ini` file or using the `/port` or `/ssl_port` CLI parameters. For more information on using SUM CLI mode, see *Smart Update Manager CLI Guide*.

The following commonly used alternate network ports are:

Procedure

1. `port=63001` **edit to** `port=80`.
2. `ssl_port=63002` **edit to** `ssl_port=443`.

Baseline troubleshooting

SUM dependency issues

Symptom

1. SUM displays the component error, `Missing 32 lib depend.`
2. SUM lists SuSE Enterprise Linux dependencies for Red Hat Enterprise Linux systems

Solution 1

Cause

Your systems might not have all 32-bit dependencies installed.

Action

Procedure

1. Make sure that you have all the 32-bit libraries installed on your system. View the component release notes for details on required libraries.

Solution 2

Cause

SUM incorrectly lists the SuSE components instead of Red Hat components.

Action

Procedure

1. No action.

SUM displays multiple versions of the same component

Symptom

When you are creating a custom baseline, SUM displays multiple versions of a component.

Cause

Multiple source baselines contain the same component.

Action

Procedure

1. Select one copy of the component.

A component is listed as disabled

Symptom

SUM lists component `cp027753.exe` as `Disabled`.

Cause

The `masterdependency.xml` file has incorrect `allow_rewrite` and `allow_downgrade` parameter settings.

Action

Procedure

1. To work around this issue, remove or update the `masterdependency.xml` file.

⚠ CAUTION:

Removing or editing the `masterdependency.xml` file might lead to deployment failures. SUM relies on this file to resolve dependency issues between components.

2. Close SUM.
3. Open the `masterdependency.xml` file in a text editor.
4. Find the `allow_rewrite` and `allow_downgrade` parameters for `cp027753.exe` and change them to `yes`.
5. Run the `clean-cache` application to remove node and baseline information.

NOTE: `clean-cache`

deletes all node information from the SUM database.

6. Launch SUM, add the nodes, and then continue the node deployment.

SUM stops responding

Symptom

1. SUM takes more time to deploy updates than expected.
2. SUM stops responding when performing inventory on a baseline.

Solution 1

Cause

SUM might not have system or network resources.

Action

Procedure

1. Do not deploy more than the suggested number of nodes. For more information, see [Scaling SUM updates in your environment](#)

Solution 2

Cause

Performing inventory on more than one baseline might use too many system resources.

Action

Procedure

1. Only perform inventory on one large (SPP-size) baseline at a time.

Custom baseline screen does not display node types

Symptom

SUM does not display a node type when filtering source for a custom baseline.

Solution 1

Cause

The source baselines might not contain components for that node type.

Action

Procedure

1. Make sure that the baseline includes components for the node type.

Solution 2

Cause

A node type might be clear.

Action

Procedure

1. Deselect all node types in **Advanced filters** to see all components in baseline sources and then select the components you want to add to the baseline.

SUM does not save baselines after a Remote Desktop session

Symptom

SUM does not save baseline or node information between Remote Desktop sessions.

Cause

Remote Desktop does not save the temporary folders between sessions.

Action

Procedure

1. For more information, see the article on the Microsoft website <http://technet.microsoft.com/en-us/library/cc755098.aspx>

SUM does not validate HTTP baselines

Symptom

SUM cannot validate a baseline downloaded from an HTTP repository.

Cause

SUM does not validate a baseline it downloads through HTTP. The .exe files downloaded are not compared against a manifest file.

Action

Procedure

1. This is the expected behavior of SUM.

SUM screens display outdated information

Symptom

The information SUM displays on a screen is outdated and incorrect.

Cause

The web browser has saved a cached version of the SUM screen.

Action

Procedure

1. Clear the web browser cache.

SUM refreshes the browser when adding a baseline

Symptom

SUM refreshes the browser window when you click Retrieve List when adding a baseline pulled from the web.

Cause

This is an issue that happens with Internet Explorer 11.

Action**Procedure**

1. Use a different web browser.

SUM cannot select a component for deployment

Symptom

A different version of a component is available, but SUM does not select it automatically.

Cause

SUM does not recognize the date format.

Action**Procedure**

1. Update the component using the smart installer

Node troubleshooting

SUM offline deploy fails to start on all selected servers

Symptom

An Offline Review/Deploy action on an iLO Federation group does not start on all of the selected servers.

Cause

The management network cannot process the offline deploy request.

Action

Procedure

1. Try the offline deploy request with a smaller group of servers.
When working with multiple servers in an enclosure, Hewlett Packard Enterprise recommends limiting the group of servers to a maximum of 8.
2. Try the offline deploy request with a custom ISO that includes only the updates that apply to your environment.

SUM has an issue with sudo user

Symptom

SUM does not respond when editing a node with sudo.

Cause

The user credentials might not have administrator privileges on the remote node.

Action

Procedure

1. Make sure the user that is logged in to SUM is part of the administrator group for the system.

The SUM Deploy button is not shown

Symptom

SUM does not display the **Deploy** button on the Deploy Nodes screen.

Cause

SUM discovered a failed dependency.

Action

Procedure

1. Make sure that SUM has resolved all dependencies before attempting to deploy updates.

SUM node inventory fails

Symptom

- Inventory fails on remote Windows nodes. The node logs display the error `RegOpenKeyEx failed with error RegOpenKeyEx completed with error 997: Overlapped I/O operation is in progress.`
- SUM displays an inventory error on a VMware node.
- SUM displays the error `Inventory failed. The pciinfo module requires manual update on remote target for an HP-UX node.`

Solution 1

Cause

This might be an issue with other processes running on the remote Windows node, for example a backup or process that accesses the registry.

Action

Procedure

1. Shut down the remote process that is accessing the registry, or run SUM locally on the node to perform inventory and deploy updates.

Solution 2

Cause

The VMware service might not be running.

Action

Procedure

1. Make sure the VMware service is running. Log in to the VMware ESXi Shell.
2. Check the provider version, type `esxcli software vib list | grep smx.`
3. Verify that the provider service is running, type `/etc/init.d/sfcbd-watchdog status.`
4. Verify that the provider responds to queries, type `enum_instances SMX_SCInstallationService root/hpq.`
5. To restart the service, type `/etc/init.d/sfcbd-watchdog restart; /etc/init.d/sfcbd-watchdog status;.`

Solution 3

Cause

The `pciinfo.depot` file is in the wrong location.

Action

Procedure

1. Close all tasks and back up important data on the node server.
2. Log in to the node server with root privileges.
3. Transfer the file `pciinfo.depot`, located in the SUM directory `/ia64/` to the node server.
4. Run `swinstall -x autoreboot=true -s 'pwd' ./pciinfo.depot PCCIINFO`.
5. After the update finishes, you can rerun SUM on a remote host to continue with additional updates.

SUM does not detect a node

Symptom

SUM might not detect some nodes, for example, a solid-state hard drive.

Cause

Information that SUM gathers from the component might not match information from the node.

Action

Procedure

1. If SUM does not detect a node, and the component is available in the baseline, run the component outside of SUM.

Linux hosts do not add Windows nodes

Symptom

SUM does not add a Windows node when running SUM on a Linux host.

Cause

SUM does not support deploying updates from a Linux host to a remote Windows node.

Action

Procedure

1. Run SUM on a Windows host to add Windows nodes.

SUM cannot connect to a node

Symptom

SUM displays the message `Unable to login or identify node as a supported device`.

Solution 1

Cause

SUM has connection issues with the remote node.

Action

Procedure

1. Check the following:
 - The node is active on the network.
 - Network ports are open.
 - Make sure that Windows nodes have the \$Admin share enabled.
 - Make sure that HTTP and SSH access are enabled for Linux nodes.

Solution 2

Cause

User credentials are incorrect.

Action

Procedure

1. Verify that valid user credentials are provided.

NIC firmware does not activate

Symptom

NIC firmware does not activate after SUM reboots the NIC.

Cause

Confirm that all component prerequisites are met.

Action

Procedure

1. Manually reboot the NIC. Select the EFI shell during the boot sequence. The update continues and reboots to HP-UX after it completes.

H220, H221, H222, and H210 HBA adapters return an update error

Symptom

SUM displays an update error for host bus adapters H220, H221, H222, and H210.

Cause

The host running SUM or the remote node is missing library dependencies.

Action

Procedure

1. View the component log, if the return code is 7, the Linux node is missing a 32-bit library dependency. For more information on the dependencies, see the SUM release notes.

No component version information displayed

Symptom

SUM does not display version information for a component.

Cause

SUM does not read the component contents correctly.

Action

Procedure

1. If you know that the component is the version you want to use, run SUM in online mode and force the deployment of the component.

Command `open_firewall` does not work

Symptom

The CLI command `open_firewall` does not work on some nodes.

Cause

SUM is unable to open the firewall in all instances. These include: third-party firewall applications, Linux iptables DROP entries, and firewalls with complex rules.

Action

Procedure

1. When the `open_firewall` command does not work, manually open the firewall and then SUM can manage the node.

Firewall error on a remote node error

Symptom

SUM reports a potential error with a firewall on a remote node.

Action

Procedure

1. Make sure that no firewall is running, network ports are open, review the `http_proxy` parameter, `https_proxy` parameter, and review the CURL proxy settings.

You can find more information about CURL proxy settings at the website <http://curl.haxx.se/docs/manpage.html>.

You can find SuSE Linux Enterprise Server node proxy configurations in the directory `etc/sysconfig/proxy`.

Determining which HPCISSS2 and HPCISSS3 drivers to install

Symptom

Unsure which HPCISSS2 and HPCISSS3 drivers SUM installs.

Action

Procedure

1. If you are updating the Smart Array SAS/SATA driver, use the following table to determine which driver SUM installs if you select both the HPCISSS2 and HPCISSS3 drivers on the Review/Deploy screen:

| Installed driver version | CISSS2 | CISSS3 |
|--------------------------|---|--|
| HPSAMD driver | Installs if only this driver is selected. | Installs CISSS3 if both drivers were selected. |
| HPCISSS2 driver | Installs and updates. | |
| HPCISSS3 driver | | Installs and updates. |

SUM does not overwrite an HPCISSS3 driver with HPCISSS2, or HPCISSS2 with HPCISSS3. After an update, SUM displays that the HPCISSS3 driver overwrote the HPCISSS2 driver, or HPCISSS2 overwrote HPCISSS3. When you relaunch SUM, it displays that the driver did not install and is ready to install.

If you want to install a specific driver and SUM installs the other driver, perform an update outside of SUM to install the selected driver.

Power PIC components not deployed to iLO Federation groups

Symptom

SUM does not deploy Power PIC components through **iLO Federated Update** powered by iLO Federation.

Cause

Power PIC firmware for ProLiant DL580 Gen8 servers and all ProLiant Gen9 servers can be deployed online using the iLO Federated Update functionality in SUM. Power PIC firmware for all other ProLiant Gen8 servers cannot be deployed online with this functionality.

Action**Procedure**

1. Use SUM in online mode to deploy updates.

SUM skips Broadcom ports

Symptom

SUM does not update a Broadcom node.

Cause

Broadcom port is not up when SUM attempts to deploy updates.

Action**Procedure**

1. View the prerequisites of the appropriate driver for your network adapter installation to view the required port state.

SUM reports OA update incorrectly

Symptom

Fully installed OA updates are reported in SUM as failed.

Cause

There is a timing issue between SUM and the target node.

Action**Procedure**

1. Close and restart SUM, and then run inventory on the node to detect the component version details.

SUM does not deploy to Windows cluster nodes

Symptom

Unexpected issues occur when deploying updates to nodes that are part of Windows clusters.

Cause

SUM does not support Windows clustering environments.

Action**Procedure**

1. Do not use SUM to deploy updates to nodes in Windows clusters.

VMware troubleshooting

RPM updates do not deploy to VMware nodes

Symptom

SUM does not deploy RPM updates to VMware ESXi nodes.

Cause

RPM packages only support Linux nodes.

Action

Procedure

1. No action.

Custom baselines include RPM components for VMware nodes

Symptom

Custom baselines created for VMware nodes include RPM components.

Cause

Linux node type is selected.

Action

Procedure

1. Create a custom baseline and make sure that no Linux operating systems are included in the filters.

Reports troubleshooting

SUM does not generate reports

Symptom

SUM cannot generate reports for a node.

Cause

The node is offline or SUM cannot access the node.

Action

Procedure

1. Make sure the node is online, that the firewall is open, and SUM can ping the node.

SUM engine troubleshooting

SUM unexpectedly logs off users

Symptom

SUM logs out a user after an extended inactive period.

Cause

This is intentional. After an extended period of no activity, SUM logs out users.

Action

Procedure

1. Log in to SUM with your user credentials.

SUM displays zero free space on a drive

Symptom

SUM displays a warning that there is no free disk space when an available disk has more than 4 TB available.

Action

Procedure

1. In GUI mode, select `Ignore Warnings` on the Deploy screen.
2. In CLI mode, include the `/ignore_warnings` parameter.
3. In Inputfile mode, include the parameter `IGNOREWARNINGS=YES`.

Text is not translated

Symptom

Some text on screens is not translated.

Action

Procedure

1. No action. This is a known issue that will be fixed in a future version.

Error message “Multiple connections to a server or shared resource by the same user...”

Symptom

SUM displays the error message “Multiple connections to a server or shared resource by the same user...”.

Cause

SUM uses the admin\$ share function on Windows-based servers to copy files and perform required operations on remote node servers. If SUM detects multiple connections to the remote Windows node, it might display “Multiple connections to a server or shared resource by the same user, using more than one user name, are not allowed. Disconnect all previous connections to the server or shared resource and try again.”

If SUM displays the error check for open <filepath>admin\$</filepath> shares on the remote node you want to update, and remove the connections. Use the following commands to check for open shares and delete them:

Action

Procedure

1. Open a command prompt window.
2. Type `net use`.
3. If open connections on the remote node are found, type: `net use <node_admin_share> /delete`
4. Attempt the operation in SUM that caused SUM to display the error.

SUM reports port errors

Symptom

SUM reports errors with blocked ports or does not disconnect from ports.

Action

Procedure

1. Close SUM and then reboot the system.
2. Clear the ports used in `hpsum.ini`.
3. Launch SUM.

Running commands in interactive CLI mode

Updating SUM from command lines

SUM provides methods to run system commands outside the GUI.

- **CLI:** Allows you to add all parameters in one command line, and then use the silent parameter to execute the entire sequence on multiple nodes without any user interaction. You can update one or more nodes using this method.
- **CLI with Input Files:** Allows you to add all parameters to a text file, and then call SUM using the inputfile command with the text filename as the parameter. Using the input file method allows you to provide a larger number of nodes to update. For more information about using CLI and CLI with Input Files, see the SUM CLI guide.
- **Interactive CLI:** Provides an interactive method for each step of a process. This method is similar to using the GUI but you provide individual commands instead. SUM interactive CLI runs a single command at a time. Using this method allows you to have nodes at a different stage of update. For example, you can have one node in the inventory phase, one node in the deployment phase, and another node that you are adding.
- **Firmware RPMs:** The SUM RPM deployment is a Linux-only RPM deployment method.
- **Smart Update Tools (SUT):** SUT allows you to run scripts that can deploy updates to your nodes. Before running SUT, configure the component. For more information on using SUT, see the *Smart Update Tools User Guide*.

The SUM binary executable maintains state information as needed on a per-session basis. SUM saves this information in the `hpsum.ini` file. This file is in the `%tmp%\HPSUM\` location in Windows and `/tmp/HPSUM/` in Linux. SUM stores the user, session ID, host, and port information. This information enables you to log in and run SUM using different credentials.

For more information on using SUM or editing the `hpsum.ini` file, see SUM user guide.

Deploying nodes

The following steps link to the basic instructions to deploy a node.

Procedure

1. Add a node and a baseline. For more information, see [add](#) on page 82.
2. Perform inventory. For more information, see [inventory](#) on page 101.
3. Deploy the updates. For more information, see [deploy](#) on page 90.
4. Generate reports. For more information, see [generatereports](#) on page 93

abort

Description

Safely terminates any command.

Syntax

```
hpsum abort [--nodes [nodelist]]
```

Parameters

| | |
|-------------------------------|---|
| <code>--nodes</code> | |
| <code><nodelist></code> | A list of the nodes (full hostname or IP address) on which to perform the abort operation. If you do not specify nodes, the command terminates all tasks for all nodes. |

Restrictions

You cannot abort processing a local baseline.

The `abort` command does not terminate deployments on OA, VC, iLO, or switch nodes.

Windows usage

```
C:\>hpsum abort /nodes 100.2.3.4 100.2.3.5
```

Linux usage

```
$ ./hpsum abort --nodes 100.2.3.4 100.2.4.5
```

Return codes

SUCCESS_NO_REBOOT

Windows code: 0

Linux code: 0

Text: The command was successful.

FAILURE_GENERAL

Windows code: -1

Linux code: 255

Text: A general failure occurred. For details, see the logs.

FAILURE_BAD_PARM

Windows code: -2

Linux code: 254

Text: A bad input parameter was encountered. For details, see the logs.

FAILURE_COMMAND_FAILED

Windows code: -4

Linux code: 252

Text: The command failed. For details, see the logs.

activate

Description

Activates any updates previously staged or installed. This can involve rebooting or other processes based on specific devices.

Syntax

```
hpsum activate --nodes <nodelist> --cancelpending
```

Parameters

--nodes <nodelist> A list of the nodes (full hostname or IP address) on which to perform the activate nodes operation. If you do not provide any, the command applies to all nodes in the session.

--cancelPending When specified, the parameter cancels the pending firmware update instead of activating it. This parameter is available for Integrity iLO nodes only.

Restrictions

The `activate` command only applies to the Integrity iLO and server nodes.

Windows usage

```
C:\> hpsum activate /nodes 10.0.0.1 10.0.0.2
```

Linux usage

```
$ ./hpsum activate --nodes 10.0.0.1 10.0.0.2
```

Return codes

| | |
|---------------------------------|---|
| SUCCESS_NO_REBOOT | Windows code: 0 Linux code: 0 Text: The command was successful. |
| SUCCESS_NOT_REQUIRED | Windows code: 3 Linux code: 3 Text: The command completed successfully, but was not required or everything was already current. (No activation was needed) |
| FAILURE_GENERAL | Windows code: -1 Linux code: 255 Text: A general failure occurred. For details, see the logs. |
| FAILURE_BAD_PARM | Windows code: -2 Linux code: 254 Text: A bad input parameter was encountered. For details, see the logs. |
| FAILURE_COMPONENT_FAILED | Windows code: -3 Linux code: 253 Text: The installation of the component failed. |
| FAILURE_COMMAND_FAILED | Windows code: -4 Linux code: 252 Text: The command failed. For details, see the logs. |

add

Description

Adds baselines or nodes to the current working set for the current session.

Syntax

```
hpsum add --nodes
```

```
hpsum add --baselines
```

Parameters

Parameters given immediately after the `/nodes` command, but used before a node, are considered global parameters. These parameters apply to all the nodes specified in the command. For example:

```
hpsum add /nodes user=user1 password=password1 type=linux 192.168.1.2
192.168.1.10
```

The parameters `user`, `password`, and `type` apply to both nodes.

Parameters used after a specified node apply to that node only.

```
hpsum add /nodes 192.168.1.15 user=user2 password=password2 type=linux
192.168.1.17 user=user3 password=password3 type=windows
```

The parameters `user2`, `password2`, and `linux` apply to node 192.168.1.15. The parameters `user3`, `password3`, and `windows` apply to 192.168.1.17.

Node parameters

`--nodes <nodeslist>`

Object to perform the add operation. The items in the list should be delimited by spaces. You can specify the user and password globally for all nodes.

`domain_name: localhost`

`ip: 127.0.0.1`

`ipv6: ::1`

Add either nodes or baselines. Do not add both in the same command.

If you are adding a VC node, use the IP address of the primary Enet module. All VC modules installed, including FC modules, are updated through the primary Enet module.

`type = <node type>`

This parameter defines the node type. Use this as both a local and global parameter. SUM supports node types:

- windows
- linux
- ilo
- virtual_connect

Use the IP address of a primary Enet module. VC nodes require `oa_username` and `oa_password`. If you add a VC node, include the following attributes: `oa_username` and `oa_password`.

- oa
- vmware
- hpux
- sas_switch
- fc_switch
- sd2
- moonshot
- unknown

`user=<user_name>`

Example: `user=john_doe@example.com`

Node parameters

`password=<password>`

This provides the username credentials for the node. If you do not enter this on the command line, SUM prompts for the username.

Use this as both local and global parameters.

Example: `password=userpassword`

The user password credentials for the node. If you do not enter this on the command line, SUM prompts for the password.

Use this as both local and global parameters.

SUM supports Windows domains accounts for user credentials.

`su_user=<super_userID>`

Example: `user=su_john_doe@example.com`

The username for the super user.

`su_password=<super_user_password>`

Example: `password=su_userpassword`

The password for the super user.

`use_sudo`

Use credentials as sudo credentials.

Potential options:

- `true`
- `false`

`switch_username=<switch_a_username>`

Username for a Moonshot switch A. If the username for switch B is the same as switch A, then this value applies to both switches.

NOTE:

You can assign switch B credentials using the `setattributes` command.

`switch_password=<switch_a_password>`

Password for a Moonshot switch A. If the password for switch B is the same as switch A, then this value applies to both switches.

NOTE:

You can assign switch B credentials using the `setattributes` command.

`switch_enable=<enable_password>`

Enables switch A for the Moonshot node. You can use this value for the A and B switches if the password is the same.

`vcenter_host`

This is the address of the VMware vCenter when VMware is in lock-down mode. Use these parameters along with `vcenter_username` and

Node parameters

| | |
|--|---|
| | <code>vcenter_password</code> to establish a connection with a VMware host that is in lock-down mode. |
| <code>vcenter_username</code> | This is the user account to establish a connection with a VMware host. |
| <code>vcenter_password</code> | This is the account password to establish a connection with a VMware host. |
| <code>use_sshkey</code> | Potential options: <ul style="list-style-type: none">• <code>true</code>• <code>false</code> Linux nodes only. Use <code>privatekeyfile</code> and <code>passphrase</code> (optional) with this command. |
| <code>privatekeyfile=<PEM_file_absolute_path></code> | Enter the absolute address for the private key. The private key must be in PEM format. Use this as both local and global parameters. |
| <code>passphrase=<passphrase></code> | (Optional) Enter the passphrase for the private key. Use this as both local and global parameters. |

Baseline parameters

| | |
|---|---|
| <code>--baselines <directory_path></code> | Use this parameter to add local baselines by specifying the directory. If you are adding an HTTP baseline, use the <code>save_location</code> parameter. |
| <code>save_location=<working_location></code> | Directory where you want to save HTTP baselines you download. |
| <code>type=<baseline_type></code> | This parameter defines the baseline type. SUM supports baseline types: <code>http</code> <code>ftp</code> - SUM no longer supports downloading baselines from <code>hpe.com</code> <code>unc</code> (Windows only) |
| | <hr/> NOTE: Make sure that the UNC directory is not open in the localhost system. <hr/> |
| <code>unc_username=<unc_username></code> | Enter the username for the UNC directory path. Valid for (Windows only). |
| <code>unc_password=<unc_password></code> | Enter the password for the UNC directory path. Valid for (Windows only). |

Baseline parameters

bundle=<bundle_name> Enter the bundle file name you want to add. Use the command `getbaselines /list` to display the list of bundle file names. For example, `bundle=spp.2014.02.0.B`.

filter_os=<os_filter> (HTTP baselines only) This attribute allows you to filter the components SUM downloads based on operating system. The valid options are:

windows

linux

vmware

hp-ux

Restrictions

- Do not add a baseline and node in the same command. Use two separate commands.
- Before you add an ftp type baseline, add a `hp-passport-token` parameter in the `setattributes` command.

Issue the `getbaselines` command to view a list of SPP baselines available. For more information on `setattributes`, see **setattributes** on page 104 the `setattributes` help file `.hpsum`
`getbaselines --list hp.com`SUM returns a list of available baselines online, for example:

Web Baseline Information:

```
1. Name: Service Pack for ProLiant
   Bundle File Name: spp.2014.02.0.B
   Version: 2014.02.0.B
   Release Date: 2014-04-25
2. Name: Service Pack for ProLiant
   Bundle File Name: spp.2013.09.0.C
   Version: 2013.09.0.C
   Release Date: 2014-04-30
```

- SUM interactive CLI mode does not automatically add nodes or baselines. The interactive CLI mode does not automatically add associated nodes. Use GUI mode to add associated devices.

Usage

```
hpsum add [--nodes n1 [type=<node_type>] [user=<username>]
[password=<userpassword>] [su_user=<su_user>] [su_password=<suuser_password>]
[use_sudo=true] [switch_username=<Moonshot_switchA_username>]
[switch_password=<Moonshot_switchA_password>]
[switch_enable=<Moonshot_switchA_enable>]
--baselines b1 [save_location=<directory>] [type=<baseline_type>]
```

Windows usage

Windows sample command line

```
C:\>hpsum add /nodes 10.0.1.15 type=windows
C:\>hpsum add /baselines type=ftp save_location=c:\temp\pfw bundle=spp.
2014.02.0.B
C:\>hpsum add /baselines type=http save_location=c:\temp\spp bundle=http://
10.1.2.3/spp/hp/swpackages/bp002524.xml filter_os=linux
C:\>hpsum add /nodes type=vc 10.0.1.16 user=Administrator password=12iso*help
oa_username=Administrator oa_password=12iso*help
```

```
C:\>hpsum add /nodes 10.0.1.4 type=vmware vcenter_host=10.0.1.20
vcenter_username=Administrator vcenter_password=password
```

```
C:\>hpsum add /nodes 10.1.2.3 type=virtual_connect oa_username=Administrator
oa_password=mypassword1
```

Linux usage

```
$ ./hpsum add --nodes 10.0.1.16 type=linux
```

```
$ ./hpsum add --baselines "/SPP/" "/tmp/myrepos/"
```

```
$ ./hpsum add --baselines type=http save_location=c:\temp\spp bundle=http://
10.1.2.3/spp/hp/swpackages/bp002524.xml filter_os=linux
```

```
$ ./hpsum add --nodes type=vc 10.0.1.18 user=Administrator password=12iso*help
oa_username=Administrator oa_password=12iso*help
```

```
$ ./hpsum add --baselines type=ftp save_location=/tmp/pfw bundle=spp.2014.02.0.B
```

```
$ ./hpsum add --nodes 10.0.1.4 type=vmware vcenter_host=10.0.1.20
vcenter_username=Administrator vcenter_password=password
```

```
$ ./hpsum add --nodes 10.1.2.3 type=virtual_connect oa_username=Administrator
oa_password=mypassword1
```

NOTE:

If the node type is Linux or HP-UX, you can use `su_user` and `su_password`, or use `use_sudo`.

For example:

```
hpsum add /nodes 192.168.1.1 type=Linux user=user password=password
su_user=user1 su_password=password1
```

```
hpsum add /nodes 192.168.1.1 type=Linux user=user password=password
use_sudo=true
```

Return codes

SUCCESS_NO_REBOOT

Windows code: 0

Linux code: 0

Text: The command was successful.

SUCCESS_NOT_REQUIRED

Windows code: 3

Linux code: 3

Text: The command completed successfully, but was not required or everything was already current.

NOTE:

The node or baseline existed.

FAILURE_GENERAL

Windows code: -1

Linux code: 255

Text: A general failure occurred. For details, see the logs.

FAILURE_BAD_PARM

Windows code: -2

Linux code: 254

Text: A bad input parameter was encountered. For details, see the logs.

FAILURE_COMMAND_FAILED **Windows code:** -4

Linux code: 253

Text: The command failed. For details, see the logs.

configure

Description

Enables you to export, import, and display component configuration settings in a baseline.

Syntax

```
hpsum configure --export baseline=<baselinename> dir=<directoryname>
[component=<componentname> includeCredentials=true|false]
```

```
hpsum configure --import baseline=<baselinename> dir=<directoryname>
[component=<componentname>]
```

```
hpsum configure --show baseline=<baselinename> [component=<componentname>]
```

Parameters/Options/Flags/Strings/...

| | |
|--|---|
| <code>/export</code> | This parameter exports component configuration to a specified directory. |
| <code>/import</code> | This parameter imports component configuration from a specified directory. |
| <code>/show</code> | This parameter displays the component configuration options for the components in a baseline. |
| <code>baseline=<baselinename></code> | Use this parameter to specify the baseline that contains the component you want to import, export, or show. |
| <code>dir=<directoryname></code> | Use this parameter to specify the directory where you want to export or from where you want to import component configuration settings. |
| <code>component=<componentname></code> | This is an optional parameter. This specifies the name of the component that you want to import, export, or show. If you do not specify a component, SUM exports, imports, or shows all components in a baseline. |
| <code>includeCredentials=<true false></code> | This is an optional parameter. If you select <code>true</code> , SUM includes the user credentials when it exports configuration settings. The default for this parameter is <code>true</code> . |

Windows usage

```
C:\>hpsum configure /import baseline=C:\spp.2012.01 dir=C:\Components
```

In this example, all the component configurations present under `C:\Components` directory for `C:\spp.2012.01` baseline will be loaded into SUM.

```
C:\>hpsum configure /import baseline=C:\spp.2012.01 dir=C:\Components
\cp022423_conf component=cp022423.exe
```

In this example, SUM only imports the configuration for the component `cp022423.exe` of the baseline `C:\spp.2012.01` in the directory `C:\Components`.

```
C:\>hpsum configure /show baseline=C:\spp.2012.01
```

In this example, SUM displays all the component configurations from the baseline `C:\spp.2012.01`.

Linux usage

```
$ ./hpsum configure --export baseline=/root/SPP.2012.01 dir=/root/Components
```

In this example, SUM exports all the component configurations from the baseline `/root/SPP.2012.01` to the directory `/root/Components`.

```
$ ./hpsum configure --export baseline=/root/SPP.2012.01 dir=/root/Components
component=hp-snmp-agents-10.10-2657.7.rhel6.i686.rpm includeCredentials=false
```

In this example, SUM only exports the configuration for the component `hp-snmp-agents-10.10-2657.7.rhel6.i686.rpm` from the baseline `/root/SPP.2012.01` present in the directory `/root/Components`. SUM does not export credentials in this example.

```
$ ./hpsum configure --show baseline=/root/SPP.2012.01 component=hp-snmp-
agents-10.10-2657.7.rhel6.i686.rpm
```

In this example, SUM displays only the configuration for the component `hp-snmp-agents-10.10-2657.7.rhel6.i686.rpm` from the baseline `/root/SPP.2012.01`.

Return codes

SUCCESS Windows: 0

Linux: 0

Text: This returns if SUM successfully exports, imports, or displays the component configuration.

FAILURE Windows: -1

Linux: 255

Text: This returns if SUM failed to export, import, or display the component configuration.

delete

Description

Enables you to delete both selected and nonselected baselines, nodes, or both from the current session. You cannot delete a baseline if it is assigned to a node, and you cannot delete a baseline or node performing a function on the node.

Syntax

```
hpsum delete [--nodes [nodelist]]
```

```
hpsum delete [--baselines [baselinelist]]
```

Parameters/Options/Flags/Strings/...

--nodes [nodelist] Object to perform the delete operation. Delimit the list with a space. If you do not provide a nodelist, all nodes are deleted.

--baselines [baselinelist] Object to perform the delete operation. Delimit the list with a space. If you do not provide a list of baselines, all baselines are deleted.

Restrictions

Do not delete a baseline and node in the same command.

Windows usage

```
C:\> hpsum delete /baselines "spp.2012.01"
```

```
C:\> hpsum delete /nodes 10.0.0.1
```

Linux usage

```
$ ./hpsum delete --baselines "spp.2012.01"
```

```
$ ./hpsum delete --nodes 10.0.0.1
```

Return codes

SUCCESS_NO_REBOOT

Windows code: 0

Linux code: 0

Text: The command was successful.

SUCCESS_NOT_REQUIRED

Windows code: 3

Linux code: 3

Text: The command completed successfully, but was not required or everything was already current. <Node or baseline was not present, so did not need to be deleted.>

FAILURE_GENERAL

Windows code: -1

Linux code: 255

Text: A general failure occurred. For details, see the logs.

FAILURE_BAD_PARM

Windows code: -2

Linux code: 254

Text: A bad input parameter was encountered. For details, see the logs.

FAILURE_COMMAND_FAILED

Windows code: -4

Linux code: 253

Text: The command failed. For details, see the logs.

deploy

Enables you to perform the deployment for nodes in the current working set for the current session. If you do not specify any nodes, the default is all in the currently selected list.

Syntax

```
hpsum deploy [--nodes [nodelist]] [--groups [grouplist]]
```

Parameters

--nodes

[nodelist]

A list of the nodes to perform the deploy operation on. You can specify each node in three ways:

domain_name: localhost

```
ip: 127.0.0.1
```

```
ipv6: ::1
```

If you do not provide a nodelist, all nodes in the session are deployed.

Restrictions

If there are no updates for a node, SUM might indicate that it deployed updates to the node, but nothing was deployed.

Windows usage

```
C:\> hpsum deploy /nodes 10.7.0.0
```

```
C:\> hpsum deploy /groups group1
```

Linux usage

```
$ ./hpsum deploy --nodes 10.7.0.0
```

```
$ ./hpsum deploy --groups group1
```

Return codes

| | |
|---------------------------------|--|
| SUCCESS_NO_REBOOT | Windows: 0 Linux: 0 Text: The command was successful. |
| SUCCESS_REBOOT | Windows: 1 Linux: 1 Text: The command was successful but a reboot is required. |
| SUCCESS_NOT_REQUIRED | Windows: 3 Linux: 3 Text: The command completed successfully, but was not required or everything was already current. |
| FAILURE_GENERAL | Windows: -1 Linux: 255 Text: A general failure occurred. For details, see the logs. |
| FAILURE_BAD_PARM | Windows: -2 Linux: 254 Text: A bad input parameter was encountered. For details, see the logs. |
| FAILURE_COMPONENT_FAILED | Windows: -3 Linux: 253 Text: The installation of the component failed. |
| FAILURE_COMMAND_FAILED | Windows: -4 |

Linux: 252

Text: The command failed. For details, see the logs.

findavailablenodes

Enables you to search the network for available nodes. To be available, you must be able to reach nodes and another management system must not have exclusive control of the nodes. This command searches the range of IP addresses provided and accepts an optional port.

Syntax

```
hpsum findavailablenodes --type ip|port [ipAddrLow ipAddrHi] [port]
```

Description

Parameters/Options/Flags/Strings/...

--type If you pass the `type` option, the value must match one of three types:
ip|port

1. `ip`—Enter a range of IP addresses that SUM will search. Options: `ipAddrLow`; `ipAddrHi`
2. `port`—Enter a port number along with an IP address range that SUM can search. Options: `ipAddrLow`; `ipAddrHi`; `portNum`

Windows usage

```
C:\>hpsum findavailablenodes /type ip 10.7.85.0 10.7.85.128
```

Linux usage

```
$ ./hpsum findavailablenodes --type port 10.7.85.0 10.7.85.128 445
```

Return codes

| | |
|-------------------------------|---|
| SUCCESS_NO_REBOOT | Windows: 0 Linux: 0 Text: The command was successful. |
| FAILURE_GENERAL | Windows: -1 Linux: 255 Text: A general failure occurred. For details, see the logs. |
| FAILURE_BAD_PARM | Windows: -2 Linux: 254 Text: A bad input parameter was encountered. For details, see the logs. |
| FAILURE_COMMAND_FAILED | Windows: -4 Linux: 252 Text: The command failed. For details, see the logs. |

generatereports

Enables you to generate reports for the SUM session. These reports include Inventory, Firmware, Failed Dependency, Deploy preview, Installed components, and Combined reports. The output defaults to `attributes` values and the type of report to all available.

Syntax

```
hpsum generatereports [--type inventory | firmware | installables | faileddep | installed | combined] [--output html | xml | csv] [--nodes [nodelist]] [--baselines [baselinelist]]
```

Parameters/Options/Flags/Strings/...

| | |
|-----------------------------------|---|
| --type | If you specify the <code>type</code> parameter, it must be one of the following: <ul style="list-style-type: none">• Inventory• Firmware• Installables• Faileddep• Installed• Combined If you do not provide a type, all types possible are generated. |
| --output | <ul style="list-style-type: none">• xml• csv• html If you do not provide an output type, all formats are produced. |
| --nodes [nodelist] | SUM generates a single report with details for all the nodes in the list. If you do not specify a list of nodes, all nodes in the current session are selected. |
| --baselines [baselinelist] | List of baselines to include in the reports. If you do not specify a list of baselines, all baselines in the current session are selected. |

Windows usage

```
C:\>hpsum generatereports /type inventory /nodes localhost
```

Linux usage

```
$ ./hpsum generatereports --type faileddep --nodes 10.7.85.0 10.7.85.128
```

Return codes

| | |
|--------------------------|--|
| SUCCESS_NO_REBOOT | Windows: 0 Linux: 0 Text: The command was successful. |
| FAILURE_GENERAL | Windows: -1 Linux: 255 Text: A general failure occurred. For details, see the logs. |
| FAILURE_BAD_PARM | Windows: -2 |

Linux: 254

Text: A bad input parameter was encountered. For details, see the logs.

FAILURE_COMMAND_FAILED Windows: -4

Linux: 252

Text: The command failed. For details, see the logs.

getattributes

Enables you to view any of the attributes for the session or selected node. You can change attributes using the `SetAttributes` command.

Syntax

```
hpsum getattributes [--nodes [nodelist]] [--session]
```

Parameters/Options/Flags/Strings/...

--nodes [**<nodelist>**] A list of the nodes for which to get the attributes. If you do not specify a nodelist, all nodes in the session are shown.

--session Lists the attributes available in the SUM session.

Windows usage

```
C:\> hpsum getattributes /nodes localhost
```

```
C:\> hpsum getattributes /nodes 10.0.1.2
```

Linux usage

```
$ ./hpsum getattributes --nodes localhost
```

```
$ ./hpsum getattributes --nodes 10.0.1.4
```

Return codes

SUCCESS_NO_REBOOT Windows: 0

Linux: 0

Text: The command was successful.

FAILURE_GENERAL Windows: -1

Linux: 255

Text: A general failure occurred. For details, see the logs.

FAILURE_BAD_PARM Windows: -2

Linux: 254

Text: A bad input parameter was encountered. For details, see the logs.

FAILURE_COMMAND_FAILED Windows: -4

Linux: 252

Text: The command failed. For details, see the logs.

getbaselines

Enables you to show the list of the baselines in the current SUM session.

Syntax

```
hpsum getbaselines [<baselinelist>] [--details]
```

Parameters

| | |
|---------------------------------|--|
| baselinelist [--details] | Baseline location to use for performing the operation. Specify --details to get detailed baseline information. |
| --list | This parameter retrieves details of the baseline. SUM no longer supports downloading baselines from hpe.com |

Windows usage

```
C:\>hpsum getbaselines c:\spp\baseline1 /details
```

Linux usage

```
$ ./hpsum getbaselines
```

Return codes

| | |
|-------------------------------|---|
| SUCCESS_NO_REBOOT | Windows: 0 Linux: 0 Text: The command was successful. |
| FAILURE_GENERAL | Windows: -1 Linux: 255 Text: A general failure occurred. For details, see the logs. |
| FAILURE_BAD_PARM | Windows: -2 Linux: 254 Text: A bad input parameter was encountered. For details, see the logs. |
| FAILURE_COMMAND_FAILED | Windows: -4 Linux: 252 Text: The command failed. For details, see the logs. |

getcomponentlogs

Enables you to view the component logs for a node.

Syntax

```
hpsum getcomponentlogs [--nodes [<nodelist>]] [--component <componentname>]
```

Parameters

--nodes [**<nodelist>**] Nodes for this request. If you do not provide a nodelist, all nodes in the session are used.

--component
<componentname> The name of the component that SUM will display the log. If you use this parameter, you must enter a component name. If you do not specify a component, SUM generates logs for all components.

Windows usage

```
C:\> hpsum getcomponentlogs /nodes localhost
```

Linux usage

```
$ ./hpsum getcomponentlogs --nodes 10.0.1.1 --component cp020024.exe
```

Return codes

| | |
|-------------------------------|---|
| SUCCESS_NO_REBOOT | Windows: 0 Linux: 0 Text: The command was successful. |
| FAILURE_GENERAL | Windows: -1 Linux: 255 Text: A general failure occurred. For details, see the logs. |
| FAILURE_BAD_PARM | Windows: -2 Linux: 254 Text: A bad input parameter was encountered. For details, see the logs. |
| FAILURE_COMMAND_FAILED | Windows: -4 Linux: 252 Text: The command failed. For details, see the logs. |

getcurrentlyinstalledversions

Enables you to get the currently installed versions of components on nodes in the current SUM session.

Syntax

```
hpsum getcurrentlyinstalledversions [--nodes [<nodelist>]]
```

Parameters

--nodes
<nodelist> A list of the nodes to get the installed versions. If you do not provide a nodelist, all nodes in the session are used.

Windows usage

```
C:\> hpsum getcurrentlyinstalledversions /nodes localhost
```

Linux usage

```
$ ./hpsum getcurrentlyinstalledversions --nodes localhost
```

Return codes

| | |
|-------------------------------|---|
| SUCCESS_NO_REBOOT | Windows: 0 Linux: 0 Text: The command was successful. |
| FAILURE_GENERAL | Windows: -1 Linux: 255 Text: A general failure occurred. For details, see the logs. |
| FAILURE_BAD_PARM | Windows: -2 Linux: 254 Text: A bad input parameter was encountered. For details, see the logs. |
| FAILURE_COMMAND_FAILED | Windows: -4 Linux: 252 Text: The command failed. For details, see the logs. |

getenginestatus

Enables you to retrieve the status information of the SUM session.

Syntax

```
hpsum getenginestatus
```

Windows usage

```
C:/>hpsum getenginestatus
```

Linux usage

```
$ ./hpsum getenginestatus
```

Example output

```
No SUM engine found running.
```

Example output

```
Process name:
```

```
Copyright:
```

```
Version:
```

```
Active Sessions:
```

```
Engine status:
```

```
Total number of sessions:
```

Return codes

| | |
|--------------------------|--------------------------------------|
| SUCCESS_NO_REBOOT | Windows: 0 Linux: 0 |
|--------------------------|--------------------------------------|

Text: The command was successful.

FAILURE_GENERAL

Windows: -1

Linux: 255

Text: A general failure occurred. For details, see the logs.

FAILURE_BAD_PARM

Windows: -2

Linux: 254

Text: A bad input parameter was encountered. For details, see the logs.

FAILURE_COMMAND_FAILED

Windows: -4

Linux: 252

Text: The command failed. For details, see the logs.

getlogs

Launches the `GatherLogs` function for SUM, which collects all logs in to a compressed file. By default, SUM saves the log files in one of the following locations:

- Windows
 - C:\cpqsystem\log
 - C:\cpqsystem\hp\log
 - C:\Windows\Temp\HPSUM
 - %temp%\HPSUM
- Linux
 - /var/hp/log
 - /var/cpq/log
 - /tmp/HPSUM

Syntax

```
hpsum getlogs
```

Windows usage

```
C:\> hpsum getlogs
```

Linux usage

```
$ ./hpsum getlogs
```

Return codes

SUCCESS_NO_REBOOT

Windows: 0

Linux: 0

Text: The command was successful.

FAILURE_GENERAL

Windows: -1

Linux: 255

Text: A general failure occurred. For details, see the logs.

FAILURE_BAD_PARM

Windows: -2

Linux: 254

Text: A bad input parameter was encountered. For details, see the logs.

FAILURE_COMMAND_FAILED

Windows: -4

Linux: 252

Text: The command failed. For details, see the logs.

getneededupdates

Enables you to see the details of needed updates based on either the state of the current selections or items passed in as part of the command. If you do not specify any nodes, the command uses those currently selected in the session.

Syntax

```
hpsum getneededupdates [--nodes [<nodelist>]]
```

Description

Parameters

--nodes
[<nodelist>]

A list of the nodes on which to perform the check for needed updates operation. If you do not specify a nodelist, all nodes in the session are used.

Windows usage

```
C:\> hpsum getneededupdates /nodes localhost
```

Linux usage

```
$ ./hpsum getneededupdates --nodes localhost
```

Return codes

SUCCESS_NO_REBOOT

Windows: 0

Linux: 0

Text: The command was successful.

FAILURE_GENERAL

Windows: -1

Linux: 255

Text: A general failure occurred. For details, see the logs.

FAILURE_BAD_PARM

Windows: -2

Linux: 254

Text: A bad input parameter was encountered. For details, see the logs.

FAILURE_COMMAND_FAILED

Windows: -4

Linux: 252

Text: The command failed. For details, see the logs.

getnodes

Enables you to show the list of the nodes in the current SUM session.

Syntax

```
hpsum getnodes [<nodelist> --details]
```

Parameters

--<nodelist> The nodes on which to perform the operation.

--details Specify [--details] to get detailed information.

Restrictions

Windows usage

```
C:\>hpsum getnodes 10.0.1.1 /details
```

Linux usage

```
$ ./hpsum getnodes 10.0.1.1 --details
```

Return codes

| | |
|-------------------------------|---|
| SUCCESS_NO_REBOOT | Windows: 0 Linux: 0 Text: The command was successful. |
| FAILURE_GENERAL | Windows: -1 Linux: 255 Text: A general failure occurred. For details, see the logs. |
| FAILURE_BAD_PARM | Windows: -2 Linux: 254 Text: A bad input parameter was encountered. For details, see the logs. |
| FAILURE_COMMAND_FAILED | Windows: -4 Linux: 252 Text: The command failed. For details, see the logs. |

getresults

Enables you to get the results for any command executed. You can specify particular nodes. If you do not specify any nodes or baselines, the command uses the set currently selected in the session.

Syntax

```
hpsum getresults [--nodes [nodelist]][--baselines [baselinelist]]
```


- nodes**
[<nodelist>]
- A list of the nodes on which to perform the inventory command. You can specify each node in the following ways:
- localhost
 - 127.0.0.1
 - ::1
- baselines**
[<baselinelist>]
- Specify the path of the SPP or components. If the baseline location includes spaces or special characters, use escape characters (Linux) or double-quotations (Windows).
- baseline: C:\repor1
 - baseline: C:\repor1\bp0001.xml
- If you include a node list with the baseline, SUM performs inventory on the nodes with the baseline specified. If you do not include a node list, then SUM only performs inventory on the baseline.

Restrictions

Set the management options, for example, AMS, SNMP, or WMI, before performing inventory.

After performing successful inventory on a VC node using an encryption key, use the `setattributes` command to assign the `encryption_key` parameter details.

Windows usage

```
C:\>hpsum inventory /nodes 10.0.1.1 /baselines C:\Users\Administrator\Desktop
\blds\ilo\26.33
```

Linux usage

```
$ ./hpsum inventory --nodes 10.0.1.1 --baselines /root/Desktop/rono/blds/ilo
```

Return codes

- | | |
|-------------------------------|--|
| SUCCESS_NO_REBOOT | <p>Windows: 0</p> <p>Linux: 0</p> <p>Text: The command was successful.</p> |
| FAILURE_GENERAL | <p>Windows: -1</p> <p>Linux: 255</p> <p>Text: A general failure occurred. For details, see the logs.</p> |
| FAILURE_BAD_PARM | <p>Windows: -2</p> <p>Linux: 254</p> <p>Text: A bad input parameter was encountered. For details, see the logs.</p> |
| FAILURE_COMMAND_FAILED | <p>Windows: -4</p> <p>Linux: 252</p> <p>Text: The command failed. For details, see the logs.</p> |

login

Enables you to set the credentials used for the current session.

Syntax

Authenticating with credentials for the first time:

```
hpsum login [--username <username> --password <password>] [--port <port>] [--ssl_port <sslport>] [--ftp_port <ftpport>] [--open_firewall]
```

Authenticating with current credentials:

```
hpsum login
```

Parameters

| | |
|-------------------|---|
| --username | Optional parameter for adding username. |
| --password | Optional parameter for adding user password. |
| --port | Optional parameter to define a port that SUM uses. The allowed values are: 80, 1024-65535 |
| --ssl_port | Optional parameter to define an SSL port that SUM uses. The allowed values are: 443, 1024-65535 |
| --ftp_port | Optional parameter to define the FTP port that SUM uses. The allowed values are: disabled, 21, 1024-65535 |

Windows usage

```
C:\> hpsum login /username rono /password pwd123 /ssl_port 9091
```

Linux usage

```
$ ./hpsum login --username rono --password pwd123 --ssl_port 9091
```

Return codes

| | |
|--------------------------|--|
| SUCCESS_NO_REBOOT | Windows: 0 Linux: 0 Text: The command was successful. |
| FAILURE_GENERAL | Windows: -1 Linux: 255 Text: A general failure occurred. For details, see the logs. |
| FAILURE_BAD_PARM | Windows: -2 Linux: 254 |

Text: A bad input parameter was encountered. For details, see the logs.

FAILURE_COMMAND_FAILED Windows: -4

Linux: 252

Text: The command failed. For details, see the logs.

setattributes

Enables you to change the attributes of an SUM node or session. The `setattributes` command might return an invalid parameter notice if the permissions are not correct, or if either the parameter is not part of the requested set or if the value is not allowed.

To view a list of attributes you can change, use the command `getattributes`. The available attributes change based on the nodes and baselines added in each session. For example:

```
hpsum /getattributes /session (Windows)
```

```
hpsum /getattributes /nodes (Windows)
```

Syntax

```
hpsum setattributes --nodes [<nodelist>] attribute1=value1 attribute2=value2
```

```
hpsum setattributes --session attribute1=value1
```

Assign session attributes in the interactive CLI:

```
hpsum setattributes --session <attribute>=<value> (Linux)
```

```
hpsum setattributes /session <attribute>=<value> (Windows)
```

Parameters

| | |
|---|---|
| --open_firewall | Optional parameter that allows SUM to open the HTTP and HTTPS ports used by SUM for external access. Also used to open the ports for remote node functionality and for remote browser access. |
| --nodes [<nodelist>] attribute=value | Specify the nodes and attributes that you want to apply to nodes. |
| --session attribute=value | Specify the session attribute you want to apply. Session attributes are global. |

Session parameter options

| | |
|-------------------------------|---|
| auto_save_session | [true false] |
| auto_save_session_time | <integer>—The time in minutes. The default is 15 minutes. |
| engine_mode | [debug release] |
| software | [true false]—This defines the option for all nodes added in this session. |
| firmware | [true false]—This defines the option for all nodes added in this session. |

| | |
|---|---|
| rewrite | [true false]—This defines the option for all nodes added in this session. SUM does not rewrite components when FIPS mode is enabled. |
| downgrade | [true false]—This defines the option for all nodes added in this session. SUM does not downgrade components when FIPS mode is enabled. |
| language | [en ja cn] |
| verbosity | [normal verbose veryverbose] <ul style="list-style-type: none"> • normal —The default amount of information provided by SUM about a deployment. • verbose —Provides more details about a deployment, if information is available. • veryverbose —Provides more details about a deployment, if information is available. |
| verbose | [true false] <pre>hpsum setattributes /nodes verbose=true</pre> Determines the amount of details SUM provides during deployment. |
| report_dir | [directory_path] - Directory path where you want SUM to save reports. For example: C:\hpsum_reports\. |
| use_proxy_script - No longer supported | [true false] The proxy settings are primarily used for downloading an HTTP or FTP baseline. |
| proxy_url - No longer supported | <string> - Proxy server URL. |
| proxy_ftp_port - No longer supported | <string> - Proxy server FTP port. |
| proxy_script - No longer supported | <string> - Full path for the proxy script. |
| proxy_username - No longer supported | <string> - Username for the proxy server. |
| proxy_password - No longer supported | <string> - User password for the proxy server. |
| open_firewall - No longer supported | [yes no] Opens the required firewall ports to communicate with remote nodes. |

hp-passport-token=[token id] - No longer supported Use a valid HP Passport Credentials API Token Authentication key to access baseline bundles available on hp.com.

Node parameter options

| | |
|-----------------------|--|
| Use_vCenter | <p>For VMware nodes.</p> <p>[true false]</p> <p>If you set this attribute as <code>true</code>, enter the following settings:</p> <ul style="list-style-type: none">• <code>vcenter_host</code> —IP address for the VMware vCenter node.• <code>vcenter_username</code> —Username for the VMware vCenter node.• <code>vcenter_password</code> —Password for the user connecting to the VMware vCenter node. <p>These parameters can also be set as session attributes.</p> |
| encryption_key | <p>Option:</p> <p>String of a minimum of eight characters.</p> <p>Required parameter for VC nodes with FIPS mode enabled. SUM uses the encryption key to encrypt the configuration saved to disk during the update process. This value is independent and does not need to match the VC password.</p> <p>Assign this parameter after successful completion of VC inventory.</p> |
| ethactorder | <p>Possible value:</p> <p>ODDEVEN/PARALLEL/SERIAL/MANUAL, the default value is ODDEVEN.</p> <p>Use this command to determine VC-Enet module activation order.</p> |
| fcactorder | <p>Possible value:</p> <p>ODDEVEN/PARALLEL/SERIAL/MANUAL, the default value is ODDEVEN.</p> <p>Use this command to determine VC-FC activation order.</p> |
| ethactdelay | <p>Valid entries:</p> <p>0–60 minutes. The default is 0 minutes.</p> <p>Use this command to determine the time, in minutes, between activating or rebooting VC-Enet modules.</p> |
| fcactdelay | <p>Valid entries:</p> <p>0–60 minutes. The default is 0 minutes.</p> <p>Use this command to determine the time, in minutes, between activating or rebooting VC-FC modules.</p> |
| use_sshkey | <p>Linux nodes only</p> <p>Potential options:</p> |

- true
- false

Other attributes:

- privatekeyfile
–Enter the address for the private key. The private key must be in PEM format.
- passphrase
– (Optional) Enter the passphrase for the private key.

These parameters can also be set as session attributes.

no_mgmt

Potential options:

- true
- false

No AMS, SNMP, or WBEM Providers are selected for deployment.

use_snmp

(Linux only)

Potential options:

- true
- false

SUM deploys SNMP components.

use_wmi

(Windows only)

Potential options:

- true
- false

SUM deploys WBEM Provider components.

use_ams

(Gen8 and later)

Potential options:

- true
- false

SUM deploys AMS components to both Windows and Linux systems.

ignore_tpm

Potential options:

[true|false]

This parameter tells SUM to ignore the TPM warning message when a TPM or TM module is installed on a server.

This parameter is supported on server and iLO nodes.

on_failed_dependency [omithost|omitcomponent|force]

- omithost
—SUM skips the host if it discovers a dependency failure. (Default)
- omitcomponent

—SUM skips components with failed dependencies. Other components on the node are deployed.

- `force`

—SUM forces the components with a failed dependency to deploy.

ignore_warnings Potential options:

[true|false]

This parameter tells SUM to ignore warnings if it encounters any.

Superdome 2/X parameter options

update_type [ALL/COMPLEX/PARTITIONS]—This value tells SUM what to Superdome 2/X nodes to update.

device_list [devicelist]—This value tells SUM which Superdome 2/X nodes you want to update.

reboot_list [rebootlist]—This value tells SUM which Superdome 2/X nodes to reboot after deployment.

Moonshot parameter options

You can set the following Moonshot-specific attributes for switch B, if those credentials differ from switch A. These parameters can also be set as session attributes.

switch_username [username]—User name for the Moonshot A switch.

switch_password [password]—Password for the Moonshot A switch.

switch_enable [enable_password]—Enablement password for the Moonshot A switch.

switchb_username [username]—User name for the Moonshot B switch.

switchb_password [password]—Password for the Moonshot B switch.

switchb_enable [enable_password]—Enablement password for the Moonshot B switch.

Downgrade and rewrite parameter options

The following describes GUI downgrade and rewrite combinations and the corresponding interactive CLI parameters:

Software only `hpsum setattributes /nodes localhost rewrite=false
downgrade=false firmware=false software=true`

Firmware only `hpsum setattributes /nodes localhost rewrite=false
downgrade=false firmware=true software=false`

Firmware and software `hpsum setattributes /nodes localhost rewrite=false
downgrade=false firmware=true software=true`

Downgrade software `hpsum setattributes /nodes localhost rewrite=false
downgrade=true firmware=false software=true`

| | |
|---------------------------------------|---|
| Downgrade firmware | <code>hpsum setattributes /nodes localhost rewrite=false downgrade=true firmware=true software=false</code> |
| Downgrade both | <code>hpsum setattributes /nodes localhost rewrite=false downgrade=true firmware=true software=true</code> |
| Rewrite software | <code>hpsum setattributes /nodes localhost rewrite=true downgrade=false firmware=false software=true</code> |
| Rewrite firmware | <code>hpsum setattributes /nodes localhost rewrite=true downgrade=false firmware=true software=false</code> |
| Rewrite both | <code>hpsum setattributes /nodes localhost rewrite=true downgrade=false firmware=true software=true</code> |
| Rewrite and downgrade software | <code>hpsum setattributes /nodes localhost rewrite=true downgrade=true firmware=false software=true</code> |
| Rewrite and downgrade firmware | <code>hpsum setattributes /nodes localhost rewrite=true downgrade=true firmware=true software=false</code> |
| Rewrite and downgrade both | <code>hpsum setattributes /nodes localhost rewrite=true downgrade=true firmware=true software=true</code> |

Windows usage

```
C:\> hpsum setattributes /nodes 10.0.1.5 firmware=true software=true  
rewrite=true downgrade=true  
  
C:\> hpsum setattributes /nodes 10.0.1.5 update_type=all  
  
C:\> hpsum setattributes /session open_firewall=yes  
  
C:\> hpsum setattributes /nodes 10.0.0.4 use_vcenter=true vcenter_host=10.0.0.1  
vcenter_username=test vcenter_password=password
```

Linux usage

```
$ ./hpsum setattributes --nodes 10.0.1.5 firmware=true software=true  
rewrite=true downgrade=true  
  
$ ./hpsum setattributes --nodes 10.0.1.5 update_type=all  
  
$ ./hpsum setattributes -session open_firewall=yes  
  
$ ./hpsum setattributes --nodes 10.0.0.5 use_vcenter=true vcenter_host=10.0.0.1  
vcenter_username=test vcenter_password=password
```

Return code

| | |
|--------------------------|--|
| SUCCESS_NO_REBOOT | Windows: 0 Linux: 0 Text: The command was successful. |
| FAILURE_GENERAL | Windows: -1 Linux: 255 Text: A general failure occurred. For details, see the logs. |

FAILURE_BAD_PARM **Windows:** -2
Linux: 254
Text: A bad input parameter was encountered. For details, see the logs.

FAILURE_COMMAND_FAILED **Windows:** -4
Linux: 252
Text: The command failed. For details, see the logs.

shutdownengine

Enables you to terminate the SUM engine. If other sessions are active, this fails unless you use the `--force` option.

△ CAUTION:
Using `--force` can cause loss of information.

Syntax

```
hpsum shutdownengine [--force]
```

Parameters

`--force` Force shutdown even if other sessions are still active.

Options/Specifiers/...

Windows usage

```
C:>hpsum shutdownengine /force
```

Linux usage

```
$ ./hpsum shutdownengine --force
```

Return codes

SUCCESS_NO_REBOOT **Windows:** 0
Linux: 0
Text: The command was successful.

FAILURE_GENERAL **Windows:** -1
Linux: 255
Text: A general failure occurred. For details, see the logs.

FAILURE_BAD_PARM **Windows:** -2
Linux: 254
Text: A bad input parameter was encountered. For details, see the logs.

FAILURE_COMMAND_FAILED **Windows:** -4

Linux: 252

Text: The command failed. For details, see the logs.

Deploying firmware RPMs

This section describes using SUM firmware commands to deploy ProLiant firmware in the RPM format to nodes running supported Linux operating systems.

About the SUM RPM tool

SUM firmware commands tool is available at <http://www.hpe.com/support/SDR-SUM>. For information on the prerequisites for running SUM, see the SUM release notes. Versions are available for supported Red Hat Enterprise Linux and SuSE Linux Enterprise Server operating systems.

About SPP ISO and RPMs

The SPP ISO contains password protected and nonpassword protected firmware in both RPM and SCEXE format. The SDR has two folders: an SPP folder that contains nonpassword protected firmware and an FWPP folder that contains password protected firmware. All firmware on the SDR is in RPM format.

Accessing firmware RPMs

Procedure

1. Use normal Linux tools (for example, YUM), to pull a collection of system firmware from a centralized repository, for example the Software Delivery Repository at <http://downloads.linux.hpe.com/SDR>.

Prerequisites

Procedure

1. Perform these tasks on the target system, and run them with `uid=0` (root) privileges.
 - [Using YUM distributions \(RedHat\)](#) on page 112
 - [Using Zypper distributions \(SuSE\)](#) on page 113

Using YUM distributions (RedHat)

Install, deliver, and locally cache applicable firmware.

Procedure

1. Navigate to the repository location.
2. Add the repository to YUM.

```
# cd /etc/yum.repos.d/  
# wget http://hp:firmrpms@10.0.0.1/~username/firmware/hpfirmare.repo
```

Automatically find required packages

- Install the SUM firmware commands utility.
- Use SUM to query the system and report which packages you need:

```
# yum install hpsum  
# yum install $(hpsum requires) --skip-broken
```

Using Zypper distributions (SuSE)

Install, deliver, and locally cache applicable firmware.

Procedure

1. Navigate to the repository location.
2. Add the repository to Zypper:

```
# cd /etc/zypp/repos.d/  
# zypper addrepo http://hp:firmrmps@10.0.0.1/~user/firmware/hpfirmare.repo
```

Automatically find required packages

- Install the SUM firmware commands utility.
- Use SUM to query the system and report which packages you need:

```
# zypper install hpsum  
# zypper install $(hpsum requires)
```

Deploying firmware components

The primary function of SUM firmware commands is to flash or upgrade the firmware from the packaged contents to the device on the target host by using the command `hpsum upgrade`.

Procedure

1. Install the RPM using `yum install` or `zypper install`.
2. Launch the firmware flash engine using the command `hpsum upgrade`.
3. Use the parameter `-y` to script the command and automatically answer Yes when prompted to begin deployment.

Other RPM commands

info

Gather information about the firmware packages available on the target system.

Syntax

```
hpsum info
```

list

Gather information about the firmware packages available compared to what is installed on the target host.

Syntax

```
hpsum list
```

Example output

```
hpsum list
```

```
Searching for firmware.  
Analyzing results.
```

```
Info | NAME                | VERSION    | INSTALLED | TYPE |  
-----
```

```
icRU | hp-firmware-system-i15      | 2011.05.02 | 2009.07.10 | system |
ifrU | hp-firmware-ilo4           | 1.10       | 1.05       | ilo    |
```

Parameters

- i — Installable**
- 1: Yes, can be installed.
 - : Cannot be installed.
- c — Criticality**
- c: Addresses a critical issue.
 - f: Addresses an issue.
 - e: Enhanced functionality.
 - : No information.
- r — Reboot**
- r: The package requires a reboot to apply the update, but the firmware is up-to-date, no action required.
 - R: The next time the update command is run a reboot will be required.
 - : No reboot required.
- version cmp — Different between applied version and version in the package.**
- : The versions are the same.
 - d: The version in the package is older than the currently applied version.
 - U: The version in the package is newer than the currently applied version.

Options

Use a filter string for most commands to work with a specific firmware package or subset.

Example filter output

```
hpsum list '%{NAME} =~ /i15/'
```

```
Searching for firmware.
Analyzing results.
```

```
Info | NAME                | VERSION      | INSTALLED  | TYPE |
-----|-----|-----|-----|-----|
icRU | hp-firmware-system-i15 | 2011.05.02   | 2009.07.10 | system |
```

query

Extract package information in a format that you define.

Syntax

```
hpsum query
```

```
Searching for firmware.
Analyzing results.
```

```
hp-firmware-system-i15
hp-firmware-system-i15
```

```
-----
%{RELEASEDATE_SECOND} 45
%{RELEASEDATE_MONTH} 7
```

```

%{FIRMWARE_STRING} smartcomponent-linux-firmware-system
%{RPMNAME} hp-firmware-system-i15
%{REBOOT_REQUIRED} yes
%{VERSIONID} 35fa6b82aedf49cb80e1b994e7e31416
%{RELEASENUM} 1
%{MODEL} bl460c
%{XSL}
%{LANGUAGE} English (US)
%{FILENAME} CP015223.scexe
%{PLATFORM} red_hat_enterprise_linux_x86_64
%{RELEASEDATE_DAY} 7
%{UNINSTALL_SILENT}
%{UNINSTALL_COMMAND}
%{PRODUCTID} 9326
%{UNINSTALL_COMMAND_PARAMS}
%{RELEASEDATE_HOUR} 15
%{INSTALL_NEEDUSERACCT} no
%{PLATFORM_MAJOR} 5
%{FIRMWARE_ID} I15
%{INSTALL_COMMAND_PARAMS}
%{VERSION} 2011.05.02
%{FIRMWARE_NAME} bl460c-I15
%{ALTNAME} ProLiant BL460c (I15) Servers
%{RELEASE} 1
%{NAME} Online ROM Flash Component for Linux - ProLiant BL460c (I15)
%{TYPE_OF_CHANGE} 2
Servers
%{MANUFACTURER_NAME} Hewlett-Packard Development Company, L.P.
%{DESCRIPTION} Used in conjunction with HP Smart Update Manager (HPSUM), this Smart
Component allows the user to update firmware on remote servers from a central location. This remote
deployment
capability eliminates the user
being physically present at the server in order to perform a firmware update.
%{INSTALL_COMMAND} yes
%{INSTALL_COMMAND_REBOOT_REQUIRED} yes
%{UNINSTALL_COMMAND_REBOOT_REQUIRED}
%{DEBNAME} hp-firmware-system-i15
%{RELEASEDATE_MINUTE} 28
%{TYPE_OF_CHANGE_TXT} critical
%{RELEASEDATE_YEAR} 2011
%{REVISION}

```

RPM downloads are blocked

Symptom

RPM downloads are blocked.

Cause

A dependency error prevents SUM from downloading RPMs.

Action

Procedure

1. Use the command to continue downloads when SUM encounters an error: `yum install $(hpsum requires) --skip-broken`

hpsum upgrade returns an error

Symptom

When running the command `hpsum upgrade`, an error is shown instead of installing the update.

Action

Procedure

1. Run the command `hpsum upgrade` a second time.

RPM mode does not correctly handle Smart Array firmware

Symptom

SUM commands `requires`, `upgrade`, and `list` do not accurately work with Smart Array firmware.

Action

Procedure

1. Deploy Smart Array firmware with GUI or CLI mode.

Websites

General websites

| | |
|---|---|
| Hewlett Packard Enterprise Information Library | <u>www.hpe.com/info/EIL</u> |
| Smart Update Manager | <u>www.hpe.com/servers/sum</u> |
| Smart Update Manager Downloads | <u>www.hpe.com/servers/sum-download</u> |
| Smart Update Manager Information Library | <u>www.hpe.com/info/sum-docs</u> |
| Smart Update Tools | <u>www.hpe.com/servers/sut</u> |
| Smart Update Tools Information Library | <u>www.hpe.com/info/sut-docs</u> |
| Service Pack for ProLiant | <u>www.hpe.com/servers/spp</u> |
| Service Pack for ProLiant documentation | <u>www.hpe.com/info/spp/documentation</u> |
| Service Pack for ProLiant downloads | <u>www.hpe.com/servers/spp/download</u> |
| Service Pack for ProLiant custom downloads | <u>www.hpe.com/servers/spp/custom</u> |
| HPE SDR site | <u>downloads.linux.hpe.com</u> |

For additional websites, see [Support and other resources](#).

Support and other resources

Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:
<http://www.hpe.com/assistance>
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:
<http://www.hpe.com/support/hpesc>

Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
- To download product updates:

Hewlett Packard Enterprise Support Center

www.hpe.com/support/hpesc

Hewlett Packard Enterprise Support Center: Software downloads

www.hpe.com/support/downloads

Software Depot

www.hpe.com/support/softwaredepot

- To subscribe to eNewsletters and alerts:

www.hpe.com/support/e-updates

- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page:

www.hpe.com/support/AccessToSupportMaterials

ⓘ **IMPORTANT:**

Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HP Passport set up with relevant entitlements.

Customer self repair

Hewlett Packard Enterprise customer self repair (CSR) programs allow you to repair your product. If a CSR part needs to be replaced, it will be shipped directly to you so that you can install it at your convenience. Some parts do not qualify for CSR. Your Hewlett Packard Enterprise authorized service provider will determine whether a repair can be accomplished by CSR.

For more information about CSR, contact your local service provider or go to the CSR website:

<http://www.hpe.com/support/selfrepair>

Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

If your product includes additional remote support details, use search to locate that information.

Remote support and Proactive Care information

| | |
|--|--|
| HPE Get Connected | www.hpe.com/services/getconnected |
| HPE Proactive Care services | www.hpe.com/services/proactivecare |
| HPE Proactive Care service: Supported products list | www.hpe.com/services/proactivecaresupportedproducts |
| HPE Proactive Care advanced service: Supported products list | www.hpe.com/services/proactivecareadvancedsupportedproducts |

Proactive Care customer information

| | |
|-----------------------------------|--|
| Proactive Care central | www.hpe.com/services/proactivecarecentral |
| Proactive Care service activation | www.hpe.com/services/proactivecarecentralgetstarted |

Warranty information

To view the warranty for your product, see the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products* document, available at the Hewlett Packard Enterprise Support Center:

www.hpe.com/support/Safety-Compliance-EnterpriseProducts

Additional warranty information

| | |
|--|--|
| HPE ProLiant and x86 Servers and Options | www.hpe.com/support/ProLiantServers-Warranties |
| HPE Enterprise Servers | www.hpe.com/support/EnterpriseServers-Warranties |
| HPE Storage Products | www.hpe.com/support/Storage-Warranties |
| HPE Networking Products | www.hpe.com/support/Networking-Warranties |

Regulatory information

To view the regulatory information for your product, view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products*, available at the Hewlett Packard Enterprise Support Center:

www.hpe.com/support/Safety-Compliance-EnterpriseProducts

Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

www.hpe.com/info/reach

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

www.hpe.com/info/ecodata

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

www.hpe.com/info/environment

Documentation feedback

Hewlett Packard Enterprise 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@hpe.com**). When submitting your feedback, include the document title, part number, edition, and publication date located on the front cover of the document. For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.

Glossary

| | |
|----------------------|---|
| AMS | Agentless Management Service |
| Baseline | A set of updates for your hardware |
| CLI | Command Line Interface |
| CPLD | Complex programmable logic device |
| Deploy | The process where SUM begins the update process by installing the component update files to the node. |
| DNS | Domain name system |
| FIPS | Federal Information Processing Standard |
| Guided Update | An automated or wizard-style method to update the local node |
| iLO | Integrated Lights-Out |
| Inventory | The process where SUM determines baseline and node contents |
| ISP | Integrity Support Pack |
| Location | Directory for baseline updates |
| MSB | Maintenance Supplement Bundle |
| Node | A piece of hardware you want to update, for example, a server, iLO, or NIC. |
| OA | Onboard Administrator |
| Offline | Offline mode boots the server to a small Linux kernel to launch SUM and deploy updates. Offline mode does not use the installed operating system. |
| Online | Online mode uses the server's installed operating system to launch SUM and deploy updates. |
| SDR | Software Delivery Repository |
| SPP | Service Pack for ProLiant |
| SSH | Secure Shell |
| SSL | Secure Sockets Layer |

| | |
|-------------|--|
| TPM | Trusted Platform Module |
| UNC | Universal Naming Convention |
| URI | Uniform resource identifier, commonly known as the web address |
| VC | Virtual Connect |
| WBEM | Web-Based Enterprise Management |
| WMI | Windows Management Instrumentation |