



**Hewlett Packard
Enterprise**

Smart Update Manager 8.5.0 Release Notes

Abstract

This document describes release information about this version of SUM. This document is intended for individuals who understand the configuration and operations of Microsoft Windows, Windows Server, Linux, Smart components, VMware, and the risk of data loss from performing updates.

Part Number: 869606-401
Published: December 2019
Edition: 1

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Open source tools

| Tool | Version | URL |
|-----------------------|------------------------------|---|
| Pegasus | 2.13.0 | http://www.OpenPegasus.org |
| Mongoose | X (Commercial License - 6.7) | http://sourceforge.net/projects/mongoose/develop |
| Openwsman | 2.4.12 | http://sourceforge.net/projects/openwsman |
| Zlib | 1.2.11 | http://zlib.net |
| Curl | 7.64.1 | http://curl.haxx.se/libcurl |
| Gsoap | 2.8.82 | http://gsoap2.sourceforge.net |
| Libssh2 | 1.8.0 | http://www.libssh2.org |
| Libxml2 | 2.9.9 | http://www.xmlsoft.org |
| Libxslt | 1.1.33 | http://www.xmlsoft.org |
| OpenSSL | 1.0.2r | http://www.openssl.org |
| Jsoncpp | 0.5.0 | |
| Sqlite | 3.27.2.0 | |
| Cygwin - xorriso | 1.3.4 | http://cygwin.com/index.html |
| Cygwin - rpm.exe | 4.12.0 | |
| Cygwin - rpm2cpio.exe | 4.12.0 | |
| Cygwin - rpmkeys.exe | 4.12.0 | |

Table Continued

| Tool | Version | URL |
|------------------------|----------------|------------|
| Cygwin - sed.exe | 4.4 | |
| Cygwin - strings.exe | 2.25.2 | |
| Cygwin - cpio.exe | 2.11 | |
| Cygwin - grep.exe | 3 | |
| Cygwin - rm.exe | 8.26 | |
| Cygwin - sha512sum.exe | 8.26 | |
| Cygwin - tar.exe | 1.29 | |
| Cygwin - wget.exe | 1.19.1 | |
| Cygwin - gpg.exe | 1.4.21 | |
| jquery | 1.8.3 | |
| require.js | 2.1.4 | |

Release Notes

Smart Update Manager

SUM is an innovative tool for maintaining and updating the firmware, drivers, and system software of HPE ProLiant, HPE BladeSystem, HPE Synergy, and HPE Apollo servers, infrastructure, and associated options.

SUM identifies associated nodes you can update at the same time to avoid interdependency issues.

Key features of SUM include:

- Discovery engine that finds installed versions of hardware, firmware, and software on nodes.
- SUM deploys updates in the correct order and ensures that all dependencies are met before deploying an update.
- Interdependency checking.
- Automatic and step-by-step Localhost Guided Update process.
- Web browser-based user interface.
- Ability to create custom baselines and ISOs.
- Support for iLO Repository (Gen10 iLO 5 nodes only).
- Simultaneous firmware and software deployment for multiple remote nodes.
- Local offline firmware deployments with SPP deliverables.
- Extensive logging in all modes.

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

Update recommendation

Recommended—Includes new enhancements, features, and/or minor bug fixes. Hewlett Packard Enterprise recommends all customers to update at their earliest convenience.

Supersede information

Supersedes: 8.4.5

Products

This release applies to the following product:

SPP and related supplements

The minimum SPP version is 2016.10.0.

Supported browsers

- Internet Explorer version 9, 10, or 11
- Edge browser: Users must launch SUM using `Run as Administrator`.
- Firefox version 54.0 ESR (Linux) and version 18 (Windows) or later
- Chrome version 24 or later
- Screen resolution of 1024 x 768 or higher

Devices supported

Installation of this release allows the following operating systems to then be supported on the product models:

| SUM runs on/SUM deploys to | Windows ^{2,3} | | Linux ^{2,3} | | VMware ESXi/vSphere ² | |
|----------------------------|------------------------|----------|----------------------|----------|----------------------------------|------------------|
| | Firmware | Software | Firmware | Software | Firmware | Software |
| Windows | Yes | Yes | Yes | Yes | Yes ¹ | Yes ¹ |
| Linux | N/A | N/A | Yes | Yes | Yes ¹ | Yes ¹ |
| Offline SPP | Yes | N/A | Yes | N/A | Yes | N/A |

The offline SPP can also deploy firmware to supported hardware, no matter what operating system it normally runs.

1. VMware vSphere ESXi 6.0 U2, 6.0 U3, 6.5 U1, 6.5 U2, 6.5 U3, and 6.7 U2/U3 only. SUM 8.5.0 supports online driver/firmware updates for VMware vSphere ESXi 6.0 U2/U3, 6.5 U1/U2, and 6.7 U1.

NOTE:

SUM 8.x does not support update of VMware vSphere ESXi 6.0 servers having Intel NIC cards installed.

2. ProLiant nodes running a supported OS version.
3. SUM does not support running on IA64 systems.

Operating systems

SUM is supported on the following operating systems.

- Windows:

- Windows Server 2012 R2
- Windows Server 2016
- Windows Server 2019

SUM requires that the `admin$` is enabled on Windows systems. For more information on enabling the `admin$` share, see <https://technet.microsoft.com/en-us/library/hh831453.aspx>.

NOTE: SUM does not support Windows clustered environments. To deploy updates, remove the server from the cluster system.

Launch SUM using `Run as Administrator`.

- Linux:
 - Red Hat Enterprise Linux 6
 - Red Hat Enterprise Linux 7
 - Red Hat Enterprise Linux 7.7
 - Red Hat Enterprise Linux 8.0
 - SUSE Linux Enterprise Server 11
 - SUSE Linux Enterprise Server 12
 - SUSE Linux Enterprise Server 15

NOTE: SUM 8.5.0 has been tested with the following modules installed:

- Basesystem-Module 15.1-0
 - Desktop Applications Module 15.1-0 (For GUI)
 - Development Tools Module 15.1-0
 - Python 2-Module 15.1-0
 - SUSE Linux Enterprise Server 15- Sp1 15.1-0
-

Launch SUM as a root user or using `sudo` for Linux systems.

- SUSE Linux Enterprise Server 15 U1
- Offline SPP or SUM ISO



IMPORTANT: SUM does not support adding Windows nodes or deploying components to Windows nodes from a Linux host.

More information

[Prerequisites](#)

Languages

- English
- Japanese
- Simplified Chinese

Enhancements

This version of SUM includes the following enhancements:

SUM now installs the kernel space tool (flint) along with signed kernel module (mst.ko) required to access the Mellanox network adapter firmware in Secure Boot mode during inventory.

SUM checksums

| Filename | SHA-256 Checksum |
|--------------|--|
| contents.txt | 424feb3c3dcc490c16072d15d006afe38c77331732b7690ec0def96df6fb626a |
| sum850.zip | 57616386be8c39e26ac1e1c670f7df0ea4d1aad399a3173e34f43c20e8e0d1bc |

Issues and solutions

Known issues

- When a single vSphere Installation Bundle (VIB) in a multi-VIB component requires a fresh installation, it is not selected for update by default. SUM GUI displays the node status as 'Update not required.'
- When multiple VMware nodes—a mix of lockdown and nonlockdown nodes—update is attempted using an input file, the node scouting for few nodes fails with the error `Failed to get CIM service ticket. Host is not supported by vCenter %2`.
- SUM does not proceed with the deployment of VC firmware version 4.80 and later if a Bergstorm interconnect module is installed in the enclosure.

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

Symptom

User sees 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.

Action

1. Open a command prompt window.
2. Enter `net use`.
3. If the command returns open connections on the remote node, enter `net use <node_admin_share> /delete`.
4. Retry the operation in SUM that caused SUM to display the error.

Updating the HPCISS2 and HPCISS3 drivers

Symptom

Confusion about which driver to install.

Action

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 HPCISS2 and HPCISS3 drivers on the Review/Deploy screen:

| Installed driver version | CISS2 | CISS3 |
|--------------------------|---|---|
| HPSAMD driver | Installs if only this driver is selected. | Installs CISS3 if both drivers were selected. |
| HPCISS2 driver | Installs and updates. | |
| HPCISS3 driver | | Installs and updates. |

The `open_firewall` command does not work on some nodes

Symptom

On some nodes, SUM launches and adds nodes, but fails when you inventory a node.

Action

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

SUM page refreshes in Internet Explorer 11 unexpectedly

Symptom

SUM page refreshes in Internet Explorer 11 unexpectedly.

Cause

This is a known issue with Internet Explorer 11.

Action

For information on how to resolve this issue, see the Microsoft web page at <https://support.microsoft.com/en-us/kb/956196>.

Drivers and/or enablement kits must be installed prior to detecting and updating some hardware and firmware

Symptom

You might need to run SUM twice for all firmware components to be presented for installation.

Cause

This is due to a requirement that drivers are needed for SUM to discover some hardware and thus the needed firmware. After the drivers are installed for the first time and the system rebooted, SUM needs to be run again for all of the firmware components to be presented for installation.

Action

1. When performing online updates on a new installation of a supported Windows or Linux OS, all of the appropriate drivers are listed on the Review/Deploy screen but all of the applicable firmware components might not be listed.
2. Network Adapters (NICs), Host Bus Adapters (HBAs), and iLO require a driver or enablement kit to be installed to be recognized by SUM.
3. If the iLO Channel Interface Driver is not installed, the iLO firmware will show a version of “CHIF Needed” as the installed version and “Ready for Installation” as the status on the Select Bundle or Select Component page. This applies to firmware for iLO 2, 3, and 4. When you try to update the firmware, it might not update if it is already up to date.
4. Broadcom NICs are not discovered by SUM unless the appropriate driver is installed and all Ethernet ports are up. To bring up Ethernet port, use the following command:

```
# ifup ethX
```

or

```
# ip link set enoX up
```
5. To update the firmware for Broadcom NIC, use the following steps:
 - a. Install the appropriate Windows or Linux driver found in the SPP. If updating a Linux server, the driver can also be retrieved from the SDR or the Linux distro.
 - b. Enable all the Ethernet ports.
 - c. Run the Broadcom FW upgrade component.

SUM cannot unzip a component

Symptom

SUM cannot unzip a component.

Action

SUM requires the Linux utility `unzip`.

SUM does not display RPM components correctly

Symptom

SUM displays one of the following with a firmware RPM component:

- Baseline inventory lists a firmware RPM as a software or driver RPM.
- The deployment screen only displays software or driver components.
- The baseline screen does not show the component configuration link.
- Inventory fails for Virtual Connect components on Linux nodes.

Cause

The absolute path for the baseline includes a space.

Action

1. Remove the baseline from SUM.
2. Shut down SUM.
3. Remove empty spaces from the directory absolute path.
4. Run `clean-cache`.
5. Launch SUM, add the node and baseline, and then perform the updates.

SUM GUI does not launch from a path that includes non-ASCII characters

Symptom

The SUM GUI fails to launch when you run SUM from a path that includes non-ASCII characters (Windows, Linux).

Cause

The web server is unable to parse non-ASCII characters in the URL. As a result, the web server is not able to communicate with the SUM engine and the SUM GUI does not launch.

Action

Launch SUM from a path that includes only ASCII characters.

SUM displays unexpected components for deployment

Symptom

- SUM displays components that do not apply to a node.
- `cp030019.exe` displays for Gen10 servers.

Action

Manually de-select the component so it is not deployed.

SUM inventory fails if the remote system is in a different domain

Symptom

SUM inventory fails if the remote system is in a different domain.

Action

Make sure that the user account on the local host running SUM has administrator privileges on the remote domain and node.

SUM fails to add the localhost node

Symptom

SUM fails to add the localhost node when the `smartupdate /s /target localhost /user sumtest \administrator /passwd ****` command is passed. It displays the message that you do not have administrative rights to proceed with the inventory and update.

Cause

You are already logged in as administrator. Therefore, SUM does not accept administrator credentials again while creating the node.

Action

Launch SUM from within an elevated command prompt with the credentials you want to use. Do not provide the credentials for localhost.

Deployment error: Deploy skipped, Omit Host is set

Symptom

When you deploy SUM in a Linux server using the GUI (Local host guided update with interactive mode), the deployment fails with the following error message: `Deployment error. Deployment skipped as one of the installable has failed dependency and Omit Host is set.`

Cause

When you force update a component and if its dependent component is not in the baseline, the deployment is skipped and Omit Host is set.

Action

Add the dependent component to the baseline and rerun the update.

Alternatively, pass the parameter `on_failed_dependency:OmitComponent`.

NVMe PIC component fails to install

Symptom

When you try to install the NVMe PIC component, SUM displays the message: `No reboot required for this component`.

If you rerun SUM without rebooting the server, SUM shows the component as "Install Needed" until the reboot is done.

Cause

The NVMe PIC component firmware image does not have boot flags.

Action

Reboot the server if the NVMe PIC component is installed as part of the overall deploy before attempting to rerun SUM.

Unsupported Mellanox RoCE driver lists on Linux OS for 545 series adapters

Symptom

The Mellanox RoCE driver `mlnx-ofa_kernel-4.3-OFED.4.3.1.0.1.1.g8509e41.3.sles12sp3.x86_64.rpm` may show applicable, even though the supported device is not installed on the system.

Cause

Supported PCI devices are listed in the component. However, SUM still erroneously selects this driver.

Action

Do not select the driver component for deployment.

SUM crashes during scalability run after VMware ESXi nodes are added

Symptom

In a mixed environment, if you add 15 VMware ESXi nodes along with other node types for SUM scalability run, SUM crashes.

Cause

A scale run with 15 VMware ESXi nodes in a mix environment is not supported by SUM.

Action

Do not add more number of VMware ESXi nodes in a mix environment.

System does not reboot automatically after VMware Gen10 iLO 5 deployment

Symptom

After you deploy a VMware ESXi Gen10 iLO 5 node using SUM, the system does not reboot automatically.

Cause

The VMware node will not be rebooted because iSUT is not configured in AutoDeployReboot mode and Maintenance mode of the VMware node is not enabled.

Action

To enable automatic reboot, perform the following steps:

1. Set Reboot Options to **If Needed** on the Deploy page of SUM.
2. Run the command `sut -set mode=autodeployreboot` to set iSUT to AutoDeployReboot mode.
3. Run the command `esxcli system maintenanceMode set -e true` on the VMware node to enable Maintenance mode.

Emulex Controller Driver fails to install on Gen10 when Personality is set to FCoE or iSCSI

Symptom

The Emulex Controller driver fails to install on Gen10 servers when this controller personality is configured for FCoE or iSCSI. The same issue occurs when using HPE OneView and iLO Amplifier Pack to perform the driver install.

Action

Install the proper driver outside of SUM, HPE OneView, or iLO Amplifier Pack.

HPE Emulex Fibre Channel Enablement Kit for RHEL 7 shows dependency failure on libhbaapi package

Symptom

SUM shows dependency failure for HPE SN1200E Fibre Channel Kit for RHEL 7 Server.

Cause

HPE SN1200E Fibre Channel Kit for RHEL 7 Server requires libhbaapi installed on the OS.

Action

Install libhbaapi-2.2.9-6.el7.x86_64.rpm and then perform the update.

Inventory error on iLO 4 node

Symptom

During iLO 4 nodes scouting, if you provide incorrect credentials, the scouting is still successful. However, during inventory, SUM displays the error, `Inventory Error. Re-enter Credentials`.

Cause

This behavior is per SUM design. SUM is able to identify an iLO 4 node even without credentials during discovery process. However, during inventory, SUM requires the credentials to retrieve data from iLO 4.

Action

Provide the correct credentials and continue with the inventory.

64-bit Intel NIC Component Installers fails on Gen9 VMware ESXi 6.0, 6.5, 6.7

Symptom

On any HPE ProLiant Gen9 server running VMware ESXi 6.0, VMware ESXi 6.5, or VMware ESXi 6.7 and configured with HPE Network Adapters, the HPE Intel Online Firmware Upgrade Utility for VMware performed through SPP version 2018.03.0, or later, fails to install.

Solution 1

Cause

The issue occurs due to a library limitation. In addition, in Interactive mode, the firmware component is not listed and in Automatic mode, the firmware component is not updated.

Action

Update the firmware in Standalone mode by performing the following steps:

1. Download the HPE Intel Online Firmware Upgrade Utility for VMware from https://support.hpe.com/hpsc/swd/public/detail?swItemId=MTX_87c83853cb5a4bc5949e9b0dd5#tab2.
2. Follow the Installation instructions available in CP032772.txt, included in CP032772.zip.

Solution 2

Action

Update the firmware in SPP Offline mode by performing the following steps:

1. Boot the server to the SPP using one of the supported methods: mounting of the ISO or DVD or using a bootable USB key.

NOTE: If you boot the SPP through USB, an automatic offline update occurs.

2. Select Automatic or Interactive mode:
 - a. If you select Automatic mode, the firmware is automatically updated on the server without any further interaction.
 - b. If you select Interactive mode, follow the instructions on the screen.
3. To start SUM, select the **Firmware Update** option on the screen.

SUM inventory fails on HPE Superdome Flex when secure boot is enabled on the system

Symptom

If you enable secure boot, SUM inventory fails on HPE Superdome Flex and you cannot proceed with online Linux update.

Action

Disable the secure boot and perform the deployment.

Linux host cannot inventory to Linux node from non-ASCII folder/path

Symptom

Linux host cannot inventory to Linux node when you launch it from a path or folder that includes non-ASCII characters.

Cause

SUM is unable to read the path or folder containing non-ASCII characters and public key verification fails for RPM components. Therefore inventory fails. The same issue is observed on Windows when you launch SUM from a path that includes non-ASCII characters.

Action

Launch SUM from a path that includes only ASCII characters.

Deploy fails after downgrade to iLO 5 FW version less than 1.37

Symptom

When you downgrade the iLO 5 FW version to less than 1.37 in a high security mode and if Require Host Authentication is disabled, the deployment fails.

Cause

Enabling or disabling host authentication is supported from iLO 5 FW Version 1.37 and above.

Action

Enter iLO credentials when you are downgrading the iLO 5 FW version to less than 1.37.

HPE Virtual Connect firmware rollback fails from 4.75 (or higher)

Symptom

When you downgrade HPE Virtual Connect firmware from VC4.75 (or higher) to versions less than 4.75 on RHEL 64-bit OS, the downgrade process fails.

Cause

The downgrade to versions less than 4.75 is dependent on some dynamic libraries being available on the system where SUM is running. The downgrade will fail if the libraries are not present on the system.

Action

1. Ensure that the following libraries are installed on your system:

- `/lib/tls/libpthread.so.0`
- `/lib/libdl.so.2`

- /usr/lib/libstdc++.so.6
- /lib/tls/libm.so.6
- /lib/libgcc_s.so.1
- /lib/tls/libc.so.6
- /lib/ld-linux.so.2

Wrapper upgrade error while installing IE/ME firmware RPMs manually

Symptom

The deployment of IE/ME firmware RPMs on a Gen10 Linux node fails when you execute the `smartupdate upgrade` command.

Cause

The deployment of IE/ME firmware RPMs cannot be performed in the firmware wrapper.

Action

Use normal SUM modes.

`smartupdate requires` does not work as expected on RHEL8 and SLES15 SP1

Symptom

When you use the `smartupdate requires` command on RHEL8 and SLES15 SP1, packages are not installed and the `smartupdate list` shows as empty.

Action

1. Install the firmware RPM manually without using the `smartupdate requires` command.
2. Proceed with the rest of the commands to flash the firmware.

`smartupdate requires` does not list `firmware-spsgen10/firmware-iegen10` for install

Symptom

When you use the `smartupdate requires` command on RHEL8, the `smartupdate list` shows as empty and IE/ME components are not installed.

Action

Install IE and ME components from the SPP.

OS node is unable to clear existing task queue items

Symptom

The OS node does not clear existing task queue items and displays a deploy error.

Cause

The issue occurs only when a user performs OS and iLO Repository-based updates and if there are any pending task queue items, which cannot be deleted with iLO credentials that do not have recovery privilege.

Action

To clear the queue, use the same iLO credentials in SUM as the iLO task queue creator.

Prerequisites

Before deploying any components to a system, be sure that a recent backup of the system is available in the event the deployment procedure fails.

Make sure that there is at least:

- 1 GB of free disk space available for SUM for temporary files.
- 100 MB free memory to launch SUM.

SUM uses language settings on the host system to determine which language it displays.

Windows operating system dependencies

- WLDAP32.dll
- OLEAUT32.dll
- RPCRT4.dll
- KERNEL32.dll
- USER32.dll
- SHELL32.dll
- ole32.dll
- ADVAPI32.dll
- WS2_32.dll
- GDI32.dll
- NETAPI32.dll
- IPHLPAPI.DLL
- SETUPAPI.dll
- dbghelp.dll
- Secur32.dll
- MPR.dll
- VERSION.dll
- WINMM.dll
- admin\$ is enabled

Linux operating system dependencies and utilities

The following Linux utilities need to be installed on the system running SUM and the node you are updating:

Operating system dependencies

- libcrypt.so
- libcrypt.so.1
- /usr/lib/libqldsmdm.so
- /usr/lib64/libqldsmdm-x86_64.so
- /lib/cim/libqldsmdm.so
- /usr/lib/libemsdmdm.so
- /usr/lib64/libemsdmdm.so
- /lib/cim/libemsdmdm.so
- /usr/lib/bfahbaapi.so
- /usr/lib64/bfahbaapi.so
- /lib/cim/bfahbaapi.so
- linux-vdso.so.1
- /lib64/libpthread.so.0
- /lib64/libz.so.1
- /lib64/libdl.so.2
- /lib64/librt.so.1
- /usr/lib64/libstdc++.so.6
- /lib64/libm.so.6
- /lib64/libgcc_s.so.1
- /lib64/libc.so.6
- /lib64/ld-linux-x86-64.so.2

Required Linux utilities

- coreutils
 - cut
 - ls
 - rm
 - uname
 - cat
 - chmod
 - chown
 - nohup

- stat
- su
- echo
- mkdir
- find
- mv
- mknod
- kcmodule
- reboot
- cd
- exit
- shutdown
- df
- wc
- id
- dirname
- mkisofs—Required for creating custom ISO images for legacy (BIOS) nodes.
- xorriso—Required to create ISO images for UEFI nodes.
- sed
- rpm
- bash
- util-linux
 - kill
 - killall
- shutdown
- module-init-tools(lsmmod)
- pciutils(lspci)
- gawk
- awk
- grep
- sambantim_auth
- uuuid
- procps
- dmidecode
- ipmitool

- sudo—Required to use sudo credentials for remote nodes.
- model
- dirname
- df
- GNU Dev Tools strings
- ldd
- ldconfig
- rpm2cpio—Required for extracting the RPM package files.
- cpio—Required for extracting the RPM package files.
- unzip
- mount

! **IMPORTANT:** If you are updating a VC or OA node, make sure the required 32-bit libraries are installed on the system running SUM. For more information about the required components, see the *Service Pack for ProLiant Components Notes*.

Updating VMware remote host firmware

To update servers running VMware ESXi, perform the following steps:

1. Install iSUT for ESXi on the VMware ESXi host running on a Gen10 server.
2. Start SUM and include the iLO node IP address of the VMware ESXi running a Gen10 server.
3. Inventory the iLO node using iLO credentials.
4. After selecting the suggested components, deploy the firmware and software updates.

NOTE: For more information, see *Installing VMware software Smart Components on Gen10 using SUM and iSUT* in the *Smart Update Manager 8.5.0 User Guide* at www.hpe.com/info/sum-docs.

The SPP contains the latest released firmware. For recommended driver and firmware versions for ProLiant servers running VMware ESXi 6.0, 6.5, 6.7 or VMware vSphere 5.1 and later, see the VMware firmware and software recipe available on the Hewlett Packard Enterprise Online Depot, available at vibsdepot.hpe.com. For information on the firmware updates available in the SPP, see the *Service Pack for ProLiant Release Notes*. The SPP 2014.09.0 and later releases include Hewlett Packard Enterprise and third-party drivers that Hewlett Packard Enterprise includes in the Hewlett Packard Enterprise Custom Image.

Linux root credentials for remote nodes

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

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.

Prerequisites for using Linux sudo credentials

- Provide one of the following:

- Username and password
 - Username and SSH key file path (in PEM format)
 - Give the sudo users write access to the `/var/tmp` directory.
 - For sudo users, add the user to the `/etc/sudoers` file. The following shows the privileges and specifications for users.
 - User: `<Sudo_user>` (the actual name of the user account)
 - 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 all systems.
-
- 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**.

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 7.3.0 and later) | To target | From target (SUM 7.3.0 and later) |
| Windows | Windows | 445, 135, 137, 138, 139 | None | 445, 135, 137, 138, 139 | None |
| Windows or Linux | Linux | 22 | None | 22 | None |

Table Continued

| System running SUM | Target node type | Inventory phase | | Deployment phase | |
|--------------------|--|-----------------|-------|------------------|--------------|
| Windows or Linux | VMware: Only on Gen9 and previous generation servers | 443, 5989 | 63001 | 443, 5989 | 63001 |
| Windows or Linux | OA | 22, (80), 443 | None | 22, (80), 443 | None |
| Windows or Linux | Superdome X | 22, (80), 443 | None | 22, (80), 443 | 63001, 63002 |
| Windows or Linux | iLO, VC, FC switch, SAS switch | 22, (80), 443 | None | 22, (80), 443 | 63001 |
| Windows or Linux | Superdome Flex | 443 | None | 443 | 63002 |

SUM uses port 63002 to communicate between the `sum_binary` and `sum_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.
- To use the iLO Repository, iLO must be used as the 'target node type.'

Use the parameters `/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:

```
smartupdate /port 80 /ssl_port 443
```

You can use the parameter `/ftp_port` to assign which port to use for FTP service. By default the FTP port is disabled. Use this option 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 the *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`.

Component dependencies

In some cases, SUM might not detect that there is a missing library dependency until it attempts to deploy the component. If you see a `Return Code = 7` error in the component log file, you are likely running on a 64-bit Linux operating system and don't have the required 32-bit dependencies on your system.

iLO Channel Interface Driver

Before SUM can determine the firmware version on an iLO node, you have to install the iLO CHIF drivers. For more information, see the *iLO 4 User Guide* at https://www.hpe.com/support/ilo4 Ug_en and the *iLO 5 User Guide* at https://support.hpe.com/hpsc/doc/public/display?docId=a00018324en_us.

For Linux nodes, the name of the iLO CHIF driver is `hpilo.ko`. Supported Linux distributions include the kernel module.

Installation instructions

See the following document for installation instructions:

Smart Update Manager User Guide

Part number: 881504-008

Edition: 1

Related information

You can find the latest documentation for SUM in the Smart Update Manager information Library website at <https://www.hpe.com/info/sum-docs>. Available documents include the following:

- *Smart Update Manager User Guide*
- *Smart Update Manager Release Notes*
- *Smart Update Manager CLI and Interactive CLI Guide*

To open the Smart Update Manager online help in the GUI, click the **?** in the upper right-corner of the application.

For help using any of the CLI options, see the *Smart Update Manager User Guide*. You can also type `smartupdate /h /s` (CLI mode) or `smartupdate /h` (interactive CLI mode) from the directory where you saved SUM.

Documentation feedback

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