

# HP Service Pack for ProLiant 2015.10.0 Release Notes



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## Overview


HP Service Pack for ProLiant (SPP) is a systems software and firmware solution delivered as a bootable ISO. This solution uses HP Smart Update Manager (HP SUM) as the deployment tool and is tested on supported HP ProLiant servers.

## Compatibility

HP SUM and the components delivered in this SPP are tested together and meet the dependencies of the other components in the SPP.

Systems using software and firmware components delivered with the following products should be able to easily migrate to this SPP:

Product	Version
Service Pack for ProLiant	2015.06.0
	2015.04.0
	2014.09.0

 When migrating directly from an older version of the SPP to the latest, please review the [release notes](#) for the versions being skipped to be aware of changes that have occurred during those releases.

## Support

HP supports each SPP version for 12 months from the release date. Customers may choose to update to the current SPP from a previous SPP version. This is acceptable as long as the earlier version is within current version's 12 month support period. This means that customers may directly update their SPP by skipping intermediate releases within the 12 month support period. See the table in the Compatibility section for details on the components contained in earlier SPPs that can migrate to this SPP.

The end of a support period can be determined by the version number of the release. For example, if SPP 2015.06.0 is currently installed, support for it would end the last day of June, 2016. This is based on version 2014=year, 06= month, 0=full release id number. Applying a Maintenance Supplement Bundle (MSB) will extend the support period of the SPP.

SPP Version	End of Support Period
2015.10.0	October 31, 2016
2015.06.0	June 30, 2016
2015.04.0	April 30, 2016
2014.09.0 + MSB 2014.10	October 31, 2015

For more details on the support period, please refer to [www.hp.com/go/spp/supportpolicy](http://www.hp.com/go/spp/supportpolicy).

## Summary of Changes

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### Important Notes

- The SPP contains firmware components in either .rpm or .scexe formats. The use of .rpm formatting enables some firmware components in the SPP to provide signed firmware components and to align with the Linux native package format.
- When flashing Emulex, QLogic, and QLogic BR-series (Brocade) HBA firmware in online mode in the SPP, a set of specific steps must be followed. Those steps are listed in the Known Issues section below.
- The SPP 2015.10.0 is the final version that includes support for VMware ESXi 5.0. Support for VMware ESXi 5.0 will still be available on hp.com.
- The 2015.10.0 SPP does not contain support for the HP ProLiant Smart Array Controller Driver for VMware vSphere. An updated driver will be released in the future.
- The 2015.10.0 SPP does not contain RHEL 7.1 support for the HP H2xx SAS/SATA Host Bus Adapter Driver. An updated driver will be released in the future.

### Release Summary

This HP Service Pack for ProLiant (SPP) release supersedes the 2015.06.0 SPP.

Included in this SPP release:

- Support for new options
- HP Smart Update Manager v7.4.0

The SPP will not fit on standard DVD media.

See the [HP Service Pack for ProLiant Component Notes](#) for detailed information on individual components.

See the [HP Service Pack for ProLiant Server Support Guide](#) for information on supported HP servers.

### Fixes

The following issues from SPP 2015.06.0 have been fixed in SPP 2015.10.0:

- **Upgrading Broadcom drivers from SPP 2014.09.0 will return an error in VMware**
- **HP CNU shows as ready for install on every launch**
- **Mellanox Ethernet drivers are not supported on VMware ESXi 6.0**
- **HP SUM fails to deploy NIC updates and displays the error 'return code-3'**
- **Systems with Emulex Fibre Channel HBAs cycle back to POST when booting from iLO-mounted media**
- **The QLogic P3 firmware offline interactive update installs with 'update returned an error' message**

- **Emulex Fibre Channel Host Bus firmware flash component incorrectly reports a failure with multiple port cards on VMware**
- **Option to deploy QLogic Fibre Channel HBA firmware not presented for some VMware hosts**

See the [HP Service Pack for ProLiant Release Notes 2015.06.0](#), Known Issues section, for more information about these resolved issues.

Information on fixes for individual components can be found in the [Component Notes](#) document.

## Enhancements

The following lists of firmware and software components are new additions to the SPP:

### Added Firmware/Software

#### Windows

- Online ROM Flash Component for Windows (x64) - HP Apollo 4200 Gen9
- Online ROM Flash Component for Windows (x64) - EG0300FCHHR, EG0450FCHHT, EG0600FCHHU, and EG0900FCHHV Drives
- Online ROM Flash Component for Windows (x64) - M00200JDVET, M00400JDVEU, M00800JDVEV, E00200JDVFA, E00400JDVFB, and E00800JDVFC Drives
- Online ROM Flash Component for Windows (x64) - EH0300JEDHC, EH0450JEDHD, and EH0600JEDHE Drives
- Online ROM Flash Component for Windows (x64) - MB4000JEQNL and MB6000JEQNN Drives
- Online ROM Flash Component for Windows (x64) - MM1000JEFRB and MM2000JEFRC Drives
- Online ROM Flash Component for Windows (x64) - MM1000FECVH Drives
- Online ROM Flash Component for Windows (x64) - V01920JEUQQ Drives
- Online ROM Flash Component for Windows (x64) - MK0960GECQK Drives
- Online ROM Flash Component for Windows (x64) - TK0120GECQL, VK0240GECQN, and VK0480GECQP Drives
- Online ROM Flash Component for Windows (x64) - MB4000GEQNH and MB6000GEQNK Drives
- Online ROM Flash Component for Windows (x64) - MB6000GEQUT and MB8000GEQUU Drives
- HP 3PAR HostExplorer for Windows x86 Operating Systems

#### Linux

- Online ROM Flash Component for Linux (x64) – HP Apollo 4200 Gen9
- Supplemental Update / Online ROM Flash Component for Linux (x64) – HP Apollo 45xx Gen9 Backplane Expander Firmware
- Supplemental Update / Online ROM Flash Component for Linux (x64) - EG0300FCHHR, EG0450FCHHT, EG0600FCHHU, and EG0900FCHHV Drives
- Supplemental Update / Online ROM Flash Component for Linux (x64) - M00200JDVET, M00400JDVEU, M00800JDVEV, E00200JDVFA, E00400JDVFB, and E00800JDVFC Drives
- Supplemental Update / Online ROM Flash Component for Linux (x64) - EH0300JEDHC, EH0450JEDHD, and EH0600JEDHE Drives

- Supplemental Update / Online ROM Flash Component for Linux (x64) - MB4000JEQNL and MB6000JEQNN Drives
- Supplemental Update / Online ROM Flash Component for Linux (x64) - MM1000JEFRB and MM2000JEFRC Drives
- Supplemental Update / Online ROM Flash Component for Linux (x64) - MM1000FECVH Drives
- Supplemental Update / Online ROM Flash Component for Linux (x64) - VO1920JEUQQ Drives
- Supplemental Update / Online ROM Flash Component for Linux (x64) - MK0960GECQK Drives
- Supplemental Update / Online ROM Flash Component for Linux (x64) - MK0960GECQK Drives
- Supplemental Update / Online ROM Flash Component for Linux (x64) - MB4000GEQNH and MB6000GEQNK Drives
- Supplemental Update / Online ROM Flash Component for Linux (x64) - MB6000GEQUT and MB8000GEQUU Drives

### **VMware**

- Online ROM Flash Component for VMware ESXi – HP Apollo 4200 Gen9
- Online ROM Flash Component for VMware ESXi – HP Apollo 45xx Gen9 Backplane Expander Firmware
- Online ROM Flash Component for VMware ESXi - EG0300FCHHR, EG0450FCHHT, EG0600FCHHU, and EG0900FCHHV Drives
- Online ROM Flash Component for VMware ESXi - M00200JDVET, M00400JDVEU, M00800JDVEV, E00200JDVFA, E00400JDVFB, and E00800JDVFC Drives
- Online ROM Flash Component for VMware ESXi - EH0300JEDHC, EH0450JEDHD, and EH0600JEDHE Drives
- Online ROM Flash Component for VMware ESXi - MB4000JEQNL and MB6000JEQNN Drives
- Online ROM Flash Component for VMware ESXi - MM1000JEFRB and MM2000JEFRC Drives
- Online ROM Flash Component for VMware ESXi - MM1000FECVH Drives
- Online ROM Flash Component for VMware ESXi - VO1920JEUQQ Drives
- Online ROM Flash Component for VMware ESXi - MK0960GECQK Drives
- Online ROM Flash Component for VMware ESXi - TK0120GECQL, VK0240GECQN, and VK0480GECQP Drives
- Online ROM Flash Component for VMware ESXi - MB4000GEQNH and MB6000GEQNK Drives
- Online ROM Flash Component for VMware ESXi - MB6000GEQUT and MB8000GEQUU Drives

For a complete list of components on the ISO, see the SPP Contents Report on the ISO or the [SPP documentation page](#).

### **Driver Update Disks (DUD) for Linux**

DUDs for the following controllers for all Red Hat and SUSE supported operating systems can be found in the 'DUD' directory at the root of the ISO.

- HP Dynamic Smart Array SATA RAID Controller
- HP Smart Array B110i SATA RAID Controller
- HP ProLiant Smart Array Controller
- HP Dynamic Smart Array B140i SATA RAID Controller Driver

## Components Changes

### Critical Components:

The following components are considered to be critical updates that released with this SPP. If a component is marked “critical” and was initially released with a previous version of the SPP, it will not be listed here.

#### Critical firmware components for Systems running a supported version of Windows:

- Online ROM Flash Component for Windows (x64) - MB4000JEQNL and MB6000JEQNN Drives
- Online ROM Flash Component for Windows (x64) - V01920JEUQQ Drives
- Online ROM Flash Component for Windows (x64) - MK0960GECQK Drives
- Online ROM Flash Component for Windows (x64) - TK0120GECQL, VK0240GECQN, and VK0480GECQP Drives
- HP 3PAR HostExplorer for Windows Server 2008 and 2012 x64 Operating Systems
- HP ProLiant Smart Array SAS/SATA Controller Driver for Windows Server 2012 x64 Edition

#### Critical firmware components for Systems running a supported version of Linux:

- Supplemental Update / Online ROM Flash Component for Linux (x64) - MB4000JEQNL and MB6000JEQNN Drives
- Supplemental Update / Online ROM Flash Component for Linux (x64) - V01920JEUQQ Drives
- Supplemental Update / Online ROM Flash Component for Linux (x64) - MK0960GECQK Drives
- Supplemental Update / Online ROM Flash Component for Linux - MB2000ECVJF, MB3000ECVJH, and MB4000ECVJK Drives
- Supplemental Update / Online ROM Flash Component for Linux - MB2000GCVBR, MB3000GCVBT, and MB4000GCVBU Drives

#### Critical firmware components for Systems running a supported version of VMware:

- Online ROM Flash Component for VMware ESXi - MB4000JEQNL and MB6000JEQNN Drives
- Online ROM Flash Component for VMware ESXi - V01920JEUQQ Drives
- Online ROM Flash Component for VMware ESXi - MK0960GECQK Drives
- Online ROM Flash Component for VMware ESXi - TK0120GECQL, VK0240GECQN, and VK0480GECQP Drives

## Known Limitations

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The following is a select list of known issues and limitations relating to the smart components and HP SUM version delivered with this SPP. For a full list, please visit the [SPP Download page](#), select the “Hot Fixes & Advisories” tab, and the “Known Limitations” heading. This procedure can be followed for any currently listed SPP by selecting the preferred SPP version listed next to ‘Currently Supported Versions’ to open its version specific page.



## General

### **Drivers and/or enablement kits must be installed prior to detecting and updating some hardware and firmware - HP SUM may need to be run twice for all firmware components to be presented for installation**

Drivers and/or enablement kits must be installed prior to detecting and updating some hardware and firmware. There are several scenarios when HP SUM may need to be run twice for all firmware components to be presented for installation. This is due to a requirement that drivers are needed in order for HP SUM to discover some hardware and thus the needed firmware. After the drivers are installed for the first time and the system rebooted, HP SUM needs to be run again for all of the firmware components to be presented for installation. The scenarios are:

- Network Adapters (NIC's), Host Bus Adapters (HBA's), and iLO require a driver or enablement kit to be installed in order to be recognized by HP SUM.
- When running HP SUM on Windows, if the iLO Channel Interface Driver is not installed, the iLO firmware will show a version of 'None' 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 attempting to update the firmware, it may fail to update if it is already up to date.
- When using HP SUM on Linux, the iLO Channel Interface Driver needs to be loaded from the operating system for the iLO firmware to display for installation.
- The Power Management Controller, the Advanced Power Capping Microcontroller Firmware for HP ProLiant BL/DL/MLGen9 Servers, and the Smart Array H240ar, H240, H241, H244br, P244br, P246br, P440ar, P440, P441, P741m, P840, and P841 firmware also require the iLO Channel Interface Driver for firmware installation.
- Broadcom NICs are not discovered by HP SUM unless the appropriate driver is installed and all Ethernet ports are up. The Ethernet port can be brought up by using the following command:

```
# ifup ethx  
or  
# ifconfig ethx up
```

To update the firmware for Broadcom NIC, use the following steps:

- 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.
- Enable all the Ethernet ports

Run the Broadcom FW upgrade component

### **Emulex, QLogic, and QLogic BR-series (Brocade) HBA firmware is flashed in online mode Service Pack for ProLiant using the following steps**

1) Prep the operating system:

- If flashing Emulex CNAs or Fibre Channel HBAs on Linux, install the following RPMs from the operating system installation media, if not present on the system:
  - libsysfs or sysfsutils (depending on Linux OS) if the Emulex CNAs are flashed, see CA c04366000 for additional information
  - libhbaapi (required for the Emulex Enablement Kit)

- For VMware use the HP Custom Image released at or shortly after the release of the SPP. To obtain the VMware Custom Image from HP, visit the HP web site to download drivers and other software to enable features such as SPP discovery and HBA firmware flashing. [Custom HP ESXi images.](#)

2) Use the SPP to install necessary drivers for the HBAs, including any NIC drivers where applicable. At this time do not install the Enablement Kit or flash the HBA firmware, even if the selections are enabled by default in the SPP; deselect them. If on-site processes do not permit the installation of out of box drivers, review HP SPOCK for inbox driver support information for the configuration.

3) If the drivers were updated, reboot the target system.

4) Use SPP to install the Enablement Kits on Linux targets if using Fibre Channel (FC) cards (also recommended if using CNA cards in FCoE mode). No reboot is required after installing the Enablement Kits.

- ⚠ Important! Do not install the QLogic BR-series (Brocade) Enablement Kit on the same system with another vendor's Enablement Kit. QLogic BR-series FC HBAs are not supported with other vendor HBAs unless the other vendor HBAs are used only as NICs.

5) Perform an SPP inventory of the target system and deploy the firmware flash components to flash the HBA.

- Note: For legacy QLogic 8Gbps FC HBAs, see the release note "Legacy QLogic 8Gb Fibre Channel Adapters show an Active/Available Multi-boot Version of '00.00.00'".

6) After the flash operation completes, reboot the target system.

## Components

### **Updated Firmware, Drivers, and Enablement Kits for QLogic BR-series (Brocade) adapters are not available on certain OS's**

Updated firmware, drivers, and Enablement Kits for QLogic BR-series (Brocade) adapters are not available for Windows 2008 32-bit, Windows 2008 64-bit, and 32-bit Linux systems. Components for BR-series adapters are available on the SPP for Windows 2008 R2 (and later) and 64-bit Linux systems.

### **Legacy QLogic 8Gb Fibre Channel Adapters show an Active/Available Multi-boot Version of "00.00.00"**

The QLogic Fibre Channel (FC) Firmware Flash Component reports the Active and/or Available Version of the multi-boot image as "00.00.00" for 8Gb Fibre Channel HBAs. If an update is needed, use the Force option to update the firmware on these cards. To determine if the legacy QLogic FC HBA requires an update, use QCC to get the current firmware version on the card, and review the available version listed in the QLogic flash component's metadata in SPP by clicking on the flash component in the Baseline Library.

### **RHEL 7 user has to wait 5-7 minutes to view the system management details due to the required init services not being in a running state**

**Root Cause:** In RHEL7 boot process, only the OS required init services are started before the user login screen/console is displayed. Then the remaining init services will be started. User will wait 5-7 minutes to view the system management details if logged into the system immediately before the init services are up and in a running state. With older RHEL (RHEL5, 6) boot processes, all the init services are started first before the login screen/console is displayed, so user would not face this issue.

### **"No Adapter Found!" and "error" log messages appear when flashing QLogic and QLogic BR-series Fibre Channel HBA Firmware using offline SPP**

"No Adapter Found!" and "error" messages appear in the logs during QLogic and QLogic BR-series (Brocade) Fibre Channel HBA firmware flash operations using offline SPP. These messages do not indicate a problem with the firmware flash operation and may be ignored.

### **HP B320i Dynamic Smart Array FW is not supported in SLES 12 or RHEL 7**

The HP B320i Dynamic Smart Array firmware contained in this SPP currently does not support either SUSE Linux Enterprise Server 12 or Red Hat Enterprise Linux 7. Support for these operating systems is available in the previous version of the firmware found in the 2015.04.0 SPP. Updated firmware support for these operating systems will be added in a future release.

### **Most VMware firmware smart components are no longer published as a .scexe**

Beginning with SPP 2015.06.0, most VMware firmware smart components will no longer be published as .scexe; instead they are published as .zip. If HP SUM is used as the delivery method for the firmware smart components, this change will have no impact. However, if the components are installed manually, please make note of these instructions for installation.

Installing VMware firmware smart components directly on the ESXi host requires enablement of the Direct Console User Interface. An understanding of all the interdependencies between the specific versions of firmware and specific installation order requirements is also required. If you must use firmware smart components directly on the ESXi host, perform the following steps:

1. Unzip the VMware file.
2. Enable the Secure Shell (SSH) on the ESXi host through the Direct Console User Interface (DCUI).
3. Copy the smart component to a local directory on the ESXi host.
4. Log in to the ESXi host.
5. Manually execute the smart component with desired options.

### **When verbose logging is enabled, HP SUM fails to deploy several components and will display the error message Return code – 1073741819**

HP SUM fails to deploy several components and will display the error message Return code – 1073741819. This is caused when verbose logging is enabled and these components do not support verbose logging. Verbose logging is not enabled by default.

Affected components include but are not limited to:

- Online ROM Flash Component for Windows - HP Host Bus Adapters H220, H221, H222, H210i and H220i
- Online ROM Flash Component for Windows - HP Smart Array B320i RAID controller
- Online ROM Flash Component for Windows (x64) - HP Gen8 Server Backplane Expander Firmware for HP Smart Array Controllers and HP HBA Controllers
- Online HP 6Gb SAS BL Switch Firmware Smart Component for Windows (x86/x64)
- Online HP 3Gb SAS BL Switch Firmware Smart Component for Windows
- Online ROM Flash Component for Windows - Smart Array P700m

## Supported Operating Systems

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The following operating systems are supported for system software and firmware support:

- Microsoft Windows Server 2012 R2
- Microsoft Windows Server 2012 - All Editions
- Microsoft Windows Server 2012 Essentials
- Microsoft Windows Server 2008 R2
- Microsoft Windows Server 2008 R2 Foundation Edition
- Microsoft Windows HPC Server 2008 R2
- Microsoft Windows Server 2008 x64 - All Editions
- Microsoft Windows Server 2008 x64 - Server Edition
- Microsoft Windows Server 2008 x64 - Server Core Edition
- Microsoft Windows Server 2008 W32 - All Editions
- Microsoft Windows Server 2008 W32 - Server Edition
- Microsoft Windows Server 2008 W32 - Server Core Edition
- Microsoft Windows Server 2008 Foundation Edition
- Red Hat Enterprise Linux 7 Server
- Red Hat Enterprise Linux 6 Server (x86-64)
- Red Hat Enterprise Linux 6 Server (x86)
- SUSE LINUX Enterprise Server 12
- SUSE LINUX Enterprise Server 11 (AMD64/EM64T)
- SUSE LINUX Enterprise Server 11 (x86)
- VMware vSphere 6.0
- VMware vSphere 5.5
- VMware vSphere 5.1
- VMware ESXi 5.0

Firmware-only Support:

- VMware ESXi 4.1 U2, U3 (offline only)
- Novell Open Enterprise Server (Linux) (offline only)
- Novell SUSE Open Linux (offline only)
- Oracle Enterprise Linux (offline only)
- Debian Linux (all releases) (offline only)

For more information on HP Operating Systems and Virtualization Software Support for HP ProLiant Servers, please visit our OS Support Site at: [www.hp.com/go/ossupport](http://www.hp.com/go/ossupport).

## SPP Support for Client Operation System on HP ProLiant WS460c Graphics Server Blade

HP SPP software is an HP ProLiant technology designed for server platforms but is supported on certain client operating systems supported only on HP WS460c Graphics Server Blade. Support for the SPP when used with Windows 7/8.1 on HP ProLiant WS460c Graphics Server Blade is listed below.

- SPP Offline Mode (Firmware Update) is fully supported by HP ProLiant WS460c Graphics Server Blade G6, Gen8 and Gen9.

- SPP Online Mode (Drivers, Software and Firmware) is supported on HP ProLiant WS460c Graphics Server Blade Gen8 and Gen9 only.

Note:

The following components will be detected for install/update by SPP online mode. These utilities, which will function on Windows 7/8.1, are administration tools intended for Server operating systems and may not be appropriate for Client OS base images.

- HP ProLiant Integrated Management Log Viewer
- HP Lights-Out Online Configuration Utility
- HP ProLiant Array Configuration Utility
- HP Network Configuration Utility
- HP ProLiant Smart Array SAS/SATA Event Notification Service

The following components may be detected by SPP online mode for installation/update. These utilities have not been tested on Windows 7/8.1 on HP ProLiant WS460c Graphics Server Blade and are not recommended. The stability of the system will not be affected if these utilities are inadvertently installed, however, de-selecting these components during the SPP component install process is recommended.

- HP Insight Diagnostics Online Edition for Windows
- HP Insight Management WBEM Providers

## Prerequisites

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### Component Prerequisites

Some components have prerequisites. Check the individual components for their prerequisites.

### HP SUM Prerequisites

The most current prerequisites for HP SUM can be found at the HP SUM documentation page <http://www.hp.com/go/hpsum/documentation>.

## Deployment Instructions

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### General

**README replaces Start in online and offline modes.**

Users familiar with using Start on the previous SPP .iso will notice that it has been replaced with a new file known as README. README.html will present locations for finding out more information on the web, and the basics of how to use the SPP in multiple languages. End User License Agreements (EULA) are available in

the EULA folder for viewing.

### Installation instructions

There are two methods for using the Service Pack for ProLiant to update your ProLiant servers:

- Online mode - Runs on a Windows or Linux hosted operating system
- Offline mode - Server is booted to the ISO
  - Automatic mode - Firmware components will be updated without interaction
  - Interactive mode - Follow the onscreen steps to update firmware components

To initiate deployment in Interactive mode:

Run the `launch_hpsum.bat` (windows) or `launch_hpsum.sh` (linux) script which is found in the root of the ISO

Automatic mode will by default run firmware update without any user interaction after sitting 30 seconds at the menu screen when an SPP .iso image is used to boot the server.

Booting the SPP from iLO virtual media is only supported in Automatic Firmware Update mode. Users attempting this in any other mode may experience hangs from connection timeouts, difficulties updating iLO firmware, and mouse syncing issues.

**Note:** If you install a software from the SPP and then install a Microsoft Windows operating system Service Pack or other operating system updates, HP recommends reinstalling the software from the SPP.

## Installation

Follow these steps to install the components found on this SPP:

1. Download the SPP 2015.10.0.iso file from the SPP download page, [www.hp.com/go/spp/download](http://www.hp.com/go/spp/download).
2. Determine how to access the data on the ISO – bootable USB key, mounted ISO, etc. Use the appropriate tool to obtain the ISO in the desired format.
3. Determine how to initiate deployment to the targets using the SPP – Offline mode or Online mode:
  - a Online mode - Runs on a Windows® or Linux hosted operating system
  - b Offline mode - Server boots to the SPP ISO (Bootable ISO only)
    - i Automatic mode - Firmware components update without interaction
    - ii Interactive mode - Onscreen instructions guide the user to update firmware components
4. Initiate deployment.

To initiate deployment in **Online mode**:

- From the SPP folder:
  - Windows: `launch_hpsum.bat`
  - Linux: `./launch_hpsum`

- For VMware hosts, select the host to update as a remote target. Online firmware update on a VMware host requires the HP Insight Management WBEM providers to be installed on the VMware host.
- To review the EULA, locate README.htm which is found in the root of the ISO.

For more information, see the HP SUM User Guide and HP ProLiant Best Practices Implementation Guide.

[www.hp.com/go/spp/documentation](http://www.hp.com/go/spp/documentation)

To initiate deployment in **Offline mode**:

- Boot the server to the SPP using one of the supported methods including mounting the ISO or DVD or using a bootable USB key.
- Select either Automatic mode or Interactive mode.
  - If Automatic mode is selected, the firmware will be automatically updated on the server without any further interaction.
  - If Interactive mode is selected, follow the instructions on the screen.
- Select the Firmware Update option on the screen to start HP SUM

## Additional Information for using the SPP on Linux Operating Systems

The following operating systems are supported for system software, drivers, and firmware support:

- Red Hat Enterprise Linux 7.1 and 7.0
- Red Hat Enterprise Linux 6.7 and 6.6
- SUSE LINUX Enterprise Server 12
- SUSE LINUX Enterprise Server 11 SP4 and SP3

Please refer to the following links for Technical Exception matrices for minimum OS support:

Red Hat Enterprise Linux -

<http://h18004.www1.hp.com/products/servers/linux/supportmatrix/rhel/exceptions/rhel-exceptions.html>

SUSE LINUX Enterprise Server -

<http://h18004.www1.hp.com/products/servers/linux/supportmatrix/sles/exceptions/sles-exceptions.html>

The SPP contains Linux drivers, agent software and firmware in a single ISO image. Alternatively, 'downloads.linux.hp.com' contains software repositories that may be used with software configuration managers (Yum, Zypper or Apt).

For drivers and agent software, subscribe your system to the "spp" repository:

<http://downloads.linux.hp.com/SDR/project/spp/>

For firmware, subscribe your system to the "fwpp" repository:

<http://downloads.linux.hp.com/SDR/project/fwpp/>

## Additional Information for using the SPP on VMware Operating Systems

The SPP can deploy drivers and firmware to a system running a supported VMware operating system in an online mode. Drivers are also available at [HP vibsdepot](#). For a consolidated recipe of firmware and driver support, please review the [VMware FW and Software Recipe](#) document.

To determine support for these operating systems, see the HP ProLiant Server VMware Support Matrix at:

<http://h18004.www1.hp.com/products/servers/vmware/supportmatrix/hpvmware.html>

## Additional Resources

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### Hot Fixes

Hot Fixes and their associated Customer Advisories are released between SPP releases. Hot Fix components are tested against applicable SPPs.

The Hot Fixes and the Customer Advisories for the latest SPP can be found by selecting the “Hot Fixes & Advisories” tab on the SPP Download page, [www.hp.com/go/spp/download](http://www.hp.com/go/spp/download). The Customer Advisory can be reviewed to determine if the Hot Fix applies and determine which component(s) need to be downloaded.

To update the current configuration with a Hot Fix:

1. Click the grey + expander to the left of the Hot Fix Advisory to expand the list of associated downloadable component(s).
2. Click the title of the desired component to download to a designated repository.
3. Deploy it using HP SUM.

### SPP Supplements

A supplement is an add-on bundle that may contain firmware, drivers, and/or applications which is released between SPPs. If the Supplement’s contents include Linux components, the components will also be available on the [SDR](#). The components in the supplement are rolled into the next release of the SPP.

- SPP Supplements can be downloaded from the SPP Download page (<http://www.hp.com/go/spp/download>).
- The Release Notes can be found on the [SPP Documentation Tab](#).

**MSB Supplements:** The Maintenance Supplement Bundle (MSB) is a collection of hot fixes, security releases, and important updates that occur between SPP releases. The MSB will release each April and October, and the version number will reflect the release date. If the SPP is released in either April or October, a separate MSB will not be published. Installation and use of the MSB will extend the support period of the SPP. Further support details are included in the MSB Release Notes.


**OS Supplements:** An OS Supplement is a bundle containing software and/or firmware components. It includes support for a new operating system update, but works with the components in the SPP.



Supplements allow HP to deliver support when it is needed so customers do not have to wait on a full SPP's availability. Support for OS Supplements are included as part of the associated SPP's support period.

## Using a PXE Server to Deploy Components from the full SPP ISO over a network

Follow these steps to use a PXE server to deploy components from the full SPP ISO over a network.

 The files needed to configure the menu system for use with a PXE server can be found in the pxe directory on the full SPP ISO.

### Prerequisites

The following is required before proceeding with the configuration:

- The user must have a good working knowledge of PXE and TFTP.
- A network with a DHCP server on it.
- A TFTP server configured on the same network as the DHCP server.
- A network file server hosting the ISO images and can be accessed by a PXE booted system.
- PXELinux (<http://syslinux.zytor.com/wiki/index.php/PXELINUX>)

The use of a Linux TFTP server and the TFTP package (<http://www.kernel.org/pub/software/network/tftp>) is assumed. Other TFTP servers should work similarly.

### Setup

Before proceeding with the configuration, ensure that the TFTP server and PXELinux configuration are setup and configured properly. To set up PXE boot for the SPP:

1. Copy the SPP ISO image to the network file system, and note its location. NFS and Windows® file shares are supported.
2. For this example, the NFS and path to the ISO image used is 192.168.0.99/path/to/spp/image/(SPPfilename).iso. Test the network file system to ensure that is accessible before proceeding.
3. The /system directory of the ISO image will need to be accessed, either by burning the ISO image, mounting the ISO image, or extracting it using a third-party tool.
4. Copy all the files from the /system directory of the ISO image to the TFTP server so that it is accessible by the TFTP software.

### Configuring PXELINUX

Follow these steps to configure PXELINUX:

1. Using the isolinux.cfg file from the /system/ directory of the ISO as a guide, copy the labeled targets to the PXELinux configuration file. The entire file does not need to be included:

**label sos**

**MENU LABEL Automatic Firmware Update Version 2015.10.0**

kernel hpboot\_v.c32

```
append vmlinuz initrd=initrd.img media=cdrom rw root=/dev/ram0 ramdisk_size= init=/bin/init
loglevel=3 ide=nodma ide=noraid nopat pnpbios=off vga=791 splash=silent hp_fibre showopts
noexec32=off numa=off nox2apic TYPE=AUTOMATIC AUTOPOWEROFFONSUCCESS=no
AUTOREBOOTONSUCCESS=yes
```

**label vsos**

**MENU LABEL Interactive Firmware Update Version 2015.10.0**

kernel hpboot\_v.c32

```
append vmlinuz initrd=initrd.img media=cdrom rw root=/dev/ram0 ramdisk_size= init=/bin/init
loglevel=3 ide=nodma ide=noraid nopat pnpbios=off vga=791 splash=silent hp_fibre showopts
noexec32=off numa=off nox2apic TYPE=MANUAL AUTOPOWEROFFONSUCCESS=no
```


**label sos\_poweroff**

**MENU HIDE Automatic & POWEROFF Firmware Update Version 2015.10.0**

kernel hpboot\_v.c32

```
append vmlinuz initrd=initrd.img media=cdrom rw root=/dev/ram0 ramdisk_size= init=/bin/init
loglevel=3 ide=nodma ide=noraid nopat pnpbios=off vga=791 splash=silent hp_fibre showopts
noexec32=off numa=off nox2apic TYPE=AUTOMATIC hp_poweroff
```

2. Replace the lines “kernel hpboot\_v.c32” with “kernel vmlinuz”.
3. Remove vmlinuz from the append line.

 The paths to files on the TFTP server are vmlinuz and initrd.img. They must be modified to include any directories or naming conventions that are on the TFTP server.

4. Replace “media=cdrom” with “media=net” on the append line
5. Specify the ISO image path. For the PXE booted server to find the ISO Image, add the ISO Image path to the append line in the PXELINUX configuration file. Add the following arguments:

```
iso1=nfs://192.168.0.99/path/to/spp/image/(SPPfilename).iso
iso1mnt=/mnt/bootdevice
```

The iso1 parameter helps the PXE booted SPP locate the ISO image. The iso1mnt parameter tells the PXE booted FWDVD where the iso1 image must be mounted.

The final configuration file must be similar to the following example:

**label sos**

**MENU LABEL Automatic Firmware Update Version 2015.10.0**

kernel vmlinuz

```
append initrd=initrd.img media=net rw root=/dev/ram0 ramdisk_size= init=/bin/init loglevel=3
ide=nodma ide=noraid nopat pnpbios=off vga=791 splash=silent hp_fibre showopts noexec32=off
numa=off nox2apic TYPE=AUTOMATIC AUTOPOWEROFFONSUCCESS=no
AUTOREBOOTONSUCCESS=yes iso1=nfs://192.168.0.99:/path/to/spp/image/(SPPfilename).iso
iso1mnt=/mnt/bootdevice
```

### **label vsos**

MENU LABEL Interactive Firmware Update Version 2015.10.0

kernel vmlinuz

```
append initrd=initrd.img media=net rw root=/dev/ram0 ramdisk_size= init=/bin/init loglevel=3
ide=nodma ide=noraid nopat pnpbios=off vga=791 splash=silent hp_fibre showopts noexec32=off
numa=off nox2apic TYPE=MANUAL AUTOPOWEROFFONSUCCESS=no iso1=nfs://
192.168.0.99:/path/to/spp/image/(SPPfilename).iso
iso1mnt=/mnt/bootdevice
```

### **label sos\_poweroff**

MENU HIDE Automatic & POWEROFF Firmware Update Version 2015.10.0

kernel vmlinuz

```
append initrd=initrd.img media=net rw root=/dev/ram0 ramdisk_size= init=/bin/init loglevel=3
ide=nodma ide=noraid nopat pnpbios=off vga=791 splash=silent hp_fibre showopts noexec32=off
numa=off nox2apic TYPE=AUTOMATIC hp_poweroff
iso1=nfs://192.168.0.99:/path/to/spp/image/(SPPfilename).iso
iso1mnt=/mnt/bootdevice
```

Additional ISO images can be added by specifying the additional iso# and iso#mnt arguments, for example, iso2=/path/to/iso2.iso iso2mnt=/mnt/iso2.

## **Supported network file systems**

The following network file systems are supported for use with PXE booting:

### **NFS:**

```
iso1=nfs://192.168.0.99/path/to/spp/image/(SPPfilename).iso
iso1mnt=/mnt/bootdevice
```

**NFS volumes are mounted with the following options:**

- *-o ro*
- *nolock*

**The mount options can be explicitly set with the *iso#opts* parameter**

*iso1opts="rsiz=32768,ro,nolock"*

**Windows® operating systems:**

*iso1=smbfs://192.168.0.99/share/path/to/spp/image/(SPPfilename).iso*

*iso1mnt=/mnt/bootdevice*

**Windows® operating systems with login credentials:**

*iso1=smbfs://user:password@192.168.0.99/share/path/to/spp/image/(SPPfilename).iso*

*iso1mnt=/mnt/bootdevice*

Once these steps have been completed, the SPP components are ready to be deployed using the PXE boot functionality.

## Common Abbreviations

Abbreviations	Name
<b>AMS</b>	Agentless Management Service
<b>CNU</b>	Converged Network Utility
<b>HBA</b>	Host Bus Adapter
<b>iLO</b>	Integrated Lights-Out
<b>OA</b>	Onboard Administrator
<b>RHEL</b>	Red Hat Enterprise Linux
<b>SIM</b>	Systems Insight Manager
<b>SLES</b>	SUSE Linux Enterprise Server
<b>SPP</b>	Service Pack for ProLiant

