



**Hewlett Packard**  
Enterprise

# Service Pack for ProLiant 2017.07.2 Release Notes

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### Document History:

Released	Description
July 2017	Initial Version
September 2017	Revised known issues

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## Overview

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The Service Pack for ProLiant (SPP) is a systems software and firmware solution delivered as a bootable ISO. This solution uses Smart Update Manager (SUM) as the deployment tool and is tested on supported HPE servers and infrastructure, including ProLiant, BladeSystem, Synergy, and Apollo.

**Note: SPP Version 2017.07.1 has been replaced with 2017.07.2. The HPE QLogic NX2 10/20GbE Multifunction Drivers for VMware vSphere 6.0/6.5 package ([bnx2.vmware60@2017.07.07\\_component-vmware\\_en](mailto:bnx2.vmware60@2017.07.07_component-vmware_en)) has been removed due to a firmware issue in the HPE QLogic NX2 Online Firmware Upgrade Utility for VMware Version 1.10.18 (or earlier).** An updated version of driver component will be released soon and will be available on HPE Support Center and on Custom Download as a hot fix.

When using the 2017.07.07 version of the BNX2X driver package from SPP version 2017.07.1, the firmware image on the network adapter is **corrupted and is not recoverable**. This is also the case for other versions of the BNX2X driver package from the custom image or in-distro drivers versions net-bnx2x\_2.713.30.v55.7-1OEM.550.0.0.1331820, and net-bnx2x\_2.713.30.v60.7-1OEM.600.0.0.2494585.

For additional information, please see the [Customer Advisory](#).

## Download

There are several ways to download the SPP:

**SPP Custom Download** (<https://www.hpe.com/servers/spp/custom>)

HPE's recommended method for downloading a post-production or production SPP is through the SPP Custom Download web service.

In addition to providing an easy interface to reduce the size of the SPP by including only the server models and OS/hypervisor versions needed and merging Hot Fixes and OS Supplements.

HPE publishes one or two HPE created SPP ISOs for download.

- Base SPP ISO – always published and contains the drivers and firmware the day the SPP was released.
- Full SPP ISO – only published when one or more Hot Fixes or OS Supplements exist and contains the drivers and firmware plus updates. (Full SPP = Base SPP + Hot Fix + OS Supplements)

**SPP Download Page** (<https://www.hpe.com/servers/spp/download>)

An alternative method for downloading the SPP (Base SPP ISO) is through the SPP Download page.

- The “Hot Fixes and Advisory” section of the SPP Download page provides a list of all the Hot Fixes and advisories for the selected SPP.

- The “Documentation” section of the SPP Download page contains the SPP documentation.
- ⚠ ***Access to the SPP requires validation via the HPE Support Center. An active warranty or HPE support agreement is required to download the SPP.***

## Summary of Changes

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### Important Notes

In order to reduce the frequency at which servers need to be updated, HPE has changed the packaging and delivery of the SPP. There are now two types of SPPs:

- A single “**Production SPP**” that contains the firmware and drivers for the all of the production server generations, and
- Multiple server generation specific “**Post-Production SPPs**” that contain the firmware and drivers for a specific post-production server generation (e.g. Gen8 only Post-Production SPP that contains the firmware and drivers for all of Gen8 server models).

The 2017.04.0 SPP was the last production SPP to contain components for the G6, G7 and Gen8 server platforms. For additional information on the changes, see [“Reducing Server Updates”](#).

### Release Summary

This Service Pack for ProLiant (SPP) release supersedes the 2017.04.0 SPP.

### Enhancements

The 2017.07.2 SPP release contains components supporting the ProLiant and Synergy Gen10 Server platforms. It also provides support for the following operating systems:

- vSphere 6.0 U3
- vSphere 6.5 for Gen9 Server Platforms (only)

See the [Service Pack for ProLiant Release Notes](#) for more information. See the [Service Pack for ProLiant Server Support Guide](#) for information on supported HPE servers.

With the new enhanced security of the Gen10 server family, there are new features in Smart Update Manager (SUM). There are additional files for each new Gen10 component to facilitate this extra layer of security. These files are named with the component file name and a “.compsig” extension. Gen9 specific components may not have these additional files and will display a warning (“component signature file missing”) in the 8.0.0.0 version of SUM. These components are signed however they lack the Gen10 specific .compsig files. They are safe for installation.

### Added Firmware/Software

- Windows:
  - HPE Intel i40ea Driver for Windows Server 2016
  - HPE Intel i40eb Driver for Windows Server 2012 R2

- HPE Broadcom NetXtreme-E Driver for Windows Server 2016
- HPE Broadcom NetXtreme-E Driver for Windows Server 2012 R2
- HPE Smart Array Gen10 Controller Driver for Windows Server 2012 R2 and Windows Server 2016
- Matrox G200eH3 Video Controller Driver for Windows Server 2016
- NVMe Drive Eject NMI Fix for Intel Xeon Processor Scalable Family for Windows
- iLO 5 Channel Interface Driver for Windows Server 2016
- iLO 5 Channel Interface Driver for Windows Server 2012 R2
- HPE Smart Array S100i SR Gen10 SW RAID Driver for Windows Server 2012 R2 and Windows Server 2016
- Identifiers for Intel Xeon Processor Scalable Family for Windows
- Firmware
  - Online ROM Flash Component - HPE ProLiant DL560 Gen10 (U34) Servers
  - Online ROM Flash Component - HPE ProLiant BL460c Gen10 (I41) Servers
  - Online ROM Flash Component - HPE Synergy 660 Gen10 (I43) Compute Module
  - Online ROM Flash Component - HPE ProLiant DL360 Gen10 (U32) Servers
  - Online ROM Flash Component - HPE Synergy 480 Gen10 (I42) Compute Module
  - Online ROM Flash Component - HPE ProLiant DL380 Gen10 (U30) Servers
  - Online ROM Flash Component - HPE ProLiant XL230k Gen10 (U37) Server
  - Online ROM Flash Component - HPE ProLiant XL260a Gen9 (U24) Server
  - Online ROM Flash Component - EG0300FCSPH, EG0450FCSPK, EG0600FCSPH, and EG0900FCSPN Drives
  - Online ROM Flash Component - MB4000JEXYA and MB6000JEXYB Drives
  - Online ROM Flash Component - EH000600JWCPF and EH000900JWCPH Drives
  - Online ROM Flash Component - MB6000JVYYV Drives
  - Online ROM Flash Component - EG000300JWBHR Drives
  - Online ROM Flash Component - MB1000JVYZL, MB2000JVYZN, MB3000JVYZP, and MB4000JVYZQ Drives
  - Online ROM Flash Component - EG1800JFHHM Drives
  - Online ROM Flash Component - MB6000JEQUV and MB8000JEQVA Drives
  - Online ROM Flash Component - MB8000JFECQ Drives
  - Online ROM Flash Component - EH0300JEDHC, EH0450JEDHD, and EH0600JEDHE Drives
  - Online ROM Flash Component - VK0120GFDKE, VK0240GFDKF, VK0480GFDKH, VK0960GFDKK, VK1920GFDKL, and VK3840GFDKN Drives
  - Online ROM Flash Component - XP0120GFJSL and XP0240GFJSN Drives
  - Online ROM Flash Component - HPE Smart Array P408i-p, P408e-p, P408i-a, P408i-c, E208i-p, E208e-p, E208i-c, E208i-a, P408e-m, P204i-c, P204i-b, P816i-a and P416ie-m SR Gen10
  - HPE D6020 12Gb SAS Disk Enclosure ROM Flash Component
  - Online ROM Flash - Advanced Power Capping Microcontroller Firmware for HPE Gen10 Servers
  - Online Flash Component - Gen10 NVMe Backplane PIC Firmware
  - Online ROM Flash Component - HPE Integrated Lights-Out 5
- Added Linux Software:
  - Broadcom Active Health System Agent for HPE ProLiant Network Adapters for Linux x86\_64
  - FCoE Driver Kit for HPE Emulex(BRCM) CNAs and mezzanine CNAs
  - HPE Broadcom NetXtreme-E Drivers

- HPE Broadcom NetXtreme-E RoCE Library
- HPE Fibre Channel Over Ethernet Enablement Kit - Emulex(BRCM)
- HPE Mellanox RoCE (RDMA over Converged Ethernet) Driver
- HPE ProLiant Agentless Management Service
- HPE ProLiant Gen10 Smart Array Controller (64-bit) Driver
- HPE QLogic FastLinQ RoCE Library
- HPE QLogic FastLinQ RoCE Library
- HPE QLogic NX2 Linux iSCSI Offload IO Daemon
- Added vSphere Software:
  - Emulex Fibre Channel driver component for VMware vSphere 6.5
  - Emulex(BRCM) Fibre Channel Over Ethernet driver component for VMware vSphere 6.0
  - Emulex(BRCM) Fibre Channel over Ethernet driver component for VMware vSphere 6.5
  - HPE Broadcom NetXtreme-E Drivers for VMware vSphere 6.0
  - HPE Broadcom NetXtreme-E Drivers for VMware vSphere 6.5
  - HPE Dynamic Smart Array B140i Controller Driver for VMware vSphere 6.5
  - HPE Emulex 10/20GbE Drivers for VMware vSphere 6.5
  - HPE Emulex 10/20GbE iSCSI Drivers for VMware vSphere 6.5
  - HPE H2xx SAS/SATA Host Bus Adapter (64-bit) Driver for vSphere 6.5
  - HPE ProLiant Smart Array Controller Driver for VMware vSphere 6.5
  - HPE QLogic FastLinQ 10/25/50GbE Multifunction Drivers for VMware vSphere 6.5
  - net-mst kernel module driver component for VMware 6.5
  - nmlx4\_en driver component for VMware 6.5
  - QLogic Fibre Channel driver component for VMware vSphere 6.5

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

## Removed Operating System Support

This SPP no longer carries components that support only vSphere 5.5. Version 2017.04.0 and the Post-Production SPPs were the last SPPs to include these components. If there are critical changes to these components, they will be included in Custom Download as hot fixes as well as being released individually on HPE Support Center.

## 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.

- HPE ProLiant Smart Array Controller
- HPE Dynamic Smart Array B140i SATA RAID Controller Driver
- HPE ProLiant Gen10 Smart Array Controller (64-bit)
- HPE H2xx SAS/SATA Host Bus Adapter

## Known Limitations

The following is a select list of known issues and limitations relating to the smart components and 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.

**Rewrite of FCoE/FC Driver Kit for HPE QLogic CNAs fails with “update returned an error” due to product name change.**

Initial install will work successfully.

**Offline update of HPE B140i in legacy BIOS mode is not supported.**

Configure the Boot Mode to UEFI Mode if using HPE SW RAID.

**HP H2xx SAS/SATA Host Bus Adapter Driver for SUSE LINUX Enterprise Server 12 SP2 & Red Hat Enterprise Linux 6.9 are not included in this SPP.**

Due to a conflict with an in-distro driver and Smart Update Manager, the HP H2xx SAS/SATA Host Bus Adapter Driver for SUSE LINUX Enterprise Server 12 SP2 is not included in this SPP. It is available on HPE Support Center at <https://www.hpe.com/global/swpublishing/MTX-c502d2922c2c47f584880ba61e>. When using SUSE LINUX Enterprise Server 12 SP2, firmware must be flashed in offline mode.

The driver for Red Hat Enterprise Linux 6.9 be included in the next SPP.

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

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

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

Drivers and/or enablement kits must be installed prior to detecting and updating some hardware and firmware. There are several scenarios when 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 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. 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 SUM.
- When running 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 iLO4



4 and iLO5. When attempting to update the firmware, it may fail to update if it is already up to date.

- When using 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 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.
- Enable all the Ethernet ports
- Run the Broadcom FW upgrade component

**HPE Network Adapters - HPE Firmware Update Components For Intel Network Adapters May Fail.** Intel NIC firmware found in 2017.07.2 SPP can only be updated from the versions found in the 2017.04.0 SPP.

Network adapter firmware versions included in Service Pack for ProLiant (SPP) Version 2017.04.0:

- HPE Intel Online Firmware Upgrade Utility for Windows Server x64 Editions version 5.0.0.27(B)(10 Jan 2017)
- HPE Intel Online Firmware Upgrade Utility for VMware version 3.1.11(10 Jan 2017)
- HPE Intel Online Firmware Upgrade Utility for Linux x86\_64 version 1.11.13(10 Jan 2017)

Network adapter firmware versions included in Service Pack for ProLiant (SPP) Version 2017.07.2:

- HPE Intel Online Firmware Upgrade Utility for Windows Server x64 Editions version 5.1.0.4(12 Jul 2017)
- HPE Intel Online Firmware Upgrade Utility for VMware version 3.4.18(12 Jul 2017)
- HPE Intel Online Firmware Upgrade Utility for Linux x86\_64 version 1.12.18(12 Jul 2017)

### **NIC tab is not visible after setting data source as SNMP with System Management Homepage 7.6.1**

The NIC tab is not shown in HPE SMH 7.6.1 UI after setting the data source as SNMP on Linux operating systems. To work around this issue, edit the file `\opt\hp\hpsmh\data\htdocs\hmanics\hmanics.js.php.en` to include `<?php virtual('/hmanics/nc-cmmn.js'); ?>` at the end of the file.

### **Tape components not listed on Gen10 server when installing from the iLO repository.**

When running from this SPP on Gen10 servers, tape components will not show up when using the iLO. Components can be installed using SUM.

### Insight Diagnostics will no longer be available in offline automatic mode

Insight Diagnostics will no longer be available in offline automatic mode, but is still available for Gen 9 servers in online mode.

**Emulex and QLogic HBA Firmware is flashed in online mode Service Pack for using ProLiant using the following steps.** This section includes optional installation of the Smart SAN Enablement Kit.

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 Emulex CNAs are flashed, see CA c04366000 for additional information
  - libhbaapi or libhbaapi2 (depending on Linux OS, 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 HPE, visit the HPE web site to download drivers and other software to enable features such as SPP discovery and HBA firmware flashing. [Custom HPE 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. Until the system is rebooted with the drivers you have installed, do not attempt to enable Smart SAN, do not install the Fibre Channel Enablement Kit, and do not flash the HBA firmware. If on-site processes do not permit the installation of out of box drivers, review HPE 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 Fibre Channel Enablement Kits on Linux targets if using Fiber Channel (FC) cards (also recommended if using CNA cards in FCoE mode). No reboot is required after installing the Fibre Channel Enablement Kits.

5) If you have installed a Smart SAN enabled driver and wish to enable the Smart SAN feature, configure the Smart SAN Enablement Kit component in HP SPP. See the SPP documentation regarding configurable components. In the configuration of the component choose to enable Smart SAN. For Linux systems also elect to rebuild the ramdisk (initrd).

- **Note:** HPE recommends that you back up your Linux system's ramdisk before rebuilding it for any purpose (driver installation, Smart SAN Enablement, and so forth). The QLogic Smart SAN Enablement Kit does not create a copy of the ramdisk for you, so HPE recommends making a backup copy manually. The Emulex Smart SAN Enablement Kit creates a copy, the name of which can be seen if you click "View Log" in the SPP after deployment.

6) Perform an SPP inventory of the target system and optionally deploy the configured Smart SAN Enablement Kit and the firmware flash components.

- **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'".

7) After the flash operation and the optional Smart SAN update complete, click "View Log" in the SPP to review the results of the operations and check for errors. Reboot the target system to enable the new HBA Firmware and Smart SAN.

**Required libraries for Linux Virtual Connect firmware:**

The following libraries are required for HPE BladeSystem c-Class Virtual Connect Firmware, Ethernet plus FC Edition Component to install on Linux 64-bit systems:

/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

## Supported Operating Systems

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

- Microsoft Windows Server 2016
- Microsoft Windows Server 2012 R2 - All Editions
- Microsoft Windows Server 2012 - All Editions
- Microsoft Windows Server 2012 Essentials
- Red Hat Enterprise Linux 7.3, 7.2
- Red Hat Enterprise Linux 6.9, 6.8 (x86-64)
- SUSE Linux Enterprise Server 12 SP2, 12 SP1
- SUSE Linux Enterprise Server 11 SP4 and SP3 (AMD64/EM64T)
- VMware vSphere 6.5
- VMware vSphere 6.0 U3, 6.0 U2

For more information on HPE Operating Systems and Virtualization Software Support for ProLiant Servers, please visit our OS Support Site at: <https://www.hpe.com/info/ossupport>

## SPP Support for Client Operating System on HPE ProLiant WS460c Graphics Server and Synergy SY480 Compute Module

SPP software is an HPE ProLiant technology designed for server OS platforms but also supports certain client operating systems on HPE WS460c Graphics Server Blade. Support for the SPP when used with Windows 10/7/8.1 on HPE ProLiant WS460c Graphics Server Blade is listed below:

- HPE SPP Offline/Online Modes are fully supported on HPE ProLiant WS460c Graphics Server Blade Gen9, and Synergy SY480 compute blade Gen9/10 when used in supported configuration (See Matrix Below).
- Important note: Changes to HPE SPP as of Version 2017.07.2.
  - Support for HPE ProLiant WS460c Gen8 systems and older will no longer be included in HPE SPP
  - Support for Microsoft Windows 7 and older Microsoft client operating systems will no longer be included in SPP

- To support older systems and Operating systems, use SPP version 2017.04.0 and update component individual as needed from there.

Windows Client OS Bare Metal Support Matrix for HPE ProLiant WS460c and Synergy 480 compute module

	NVIDIA Quadro K3100 MXM	NVIDIA Quadro M3000SE MXM	NVIDIA Tesla M6 MXM	NVIDIA Quadro M6000 M5000	NVIDIA Quadro K6000 K5000 K4000	NVIDIA Tesla M60 K1 K2	AMD FirePro S4000X MXM	AMD FirePro S7100X MXM
WS460c Gen9	7, 8.1	7, 10	7, 10	7, 8.1, 10	7, 8.1	NO	7	7, 10
Synergy 480 Gen9	NO	10	10	NO	NO	NO	NO	10
Synergy 480 Gen10	NO	10	10	NO	NO	NO	NO	10

Note:

The following components will be detected for install/update by SPP online mode. These utilities are administration tools intended for server operating systems and may not be appropriate for client operating systems.

- HPE ProLiant Integrated Management Log Viewer
- HPE Lights-Out Online Configuration Utility
- HPE Smart Storage Administrator (HPE SSA) for Windows 64-bit
- HPE 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 HPE ProLiant WS460c Graphics Server Blade or Synergy 480 Compute Modules with Client 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.

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

## Prerequisites

### Component Prerequisites

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

### SUM Prerequisites

The most current prerequisites for SUM can be found at the SUM documentation page <https://www.hpe.com/servers/hpsum/documentation>.

## Deployment Instructions

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### Installation

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\_sum.bat (windows) or launch\_sum.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, HPE recommends reinstalling the software from the SPP.

### Installation Instructions

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

1. Download the SPP 2017.07.2.iso file from the SPP download page  
<https://www.hpe.com/servers/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\_sum.bat
  - Linux: ./launch\_sum
- 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.html which is found in the root of the ISO.

For more information, see the SUM User Guide and HP ProLiant Best Practices Implementation Guide. <https://www.hpe.com/servers/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 SUM

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

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

- Red Hat Enterprise Linux - [Red Hat Enterprise Linux](#)
- SUSE Linux Enterprise Server - [SUSE Linux Enterprise Server](#)

The SPP contains Linux drivers, agent software and firmware in a single ISO image. Alternatively, [downloads.linux.hpe.com](http://downloads.linux.hpe.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.hpe.com/SDR/project/spp/>

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

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

**Gen10 Customers:** The HPE Agentless Management Service (Daemon) (amsd) for Linux distributions replaces the hp-ams, hp-health, hp-snmp-agents and hp-smh-templates used on Gen9 platforms. Customers installing supported Linux distributions on Gen10 platforms should only install AMSD on the server for full management capabilities.

## 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 [Software Delivery Repository - vibsdepot](#). For a consolidated recipe of firmware and driver support, please review the [VMware FW and Software Recipe](#) document.

NOTE: The SPP does not support online VMware Gen10 firmware and drivers since they cannot be deployed from the SPP. The SPP will support VMware Gen10 platforms with offline firmware updates only.

The SPP will carry vSphere 6.5 and vSphere 6.0 U3 drivers and firmware smart components for Gen9 which can be deployed by SUM.

To determine support for these operating systems, see the HPE ProLiant Server VMware Support Matrix at: [HPE Servers Support and Certification Matrices](#)

## Additional Resources

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### Hot Fixes

The Hot Fixes and the Customer Advisories for this SPP can be found by selecting the “Hot Fixes & Advisories” tab on the SPP Download page, <https://www.hpe.com/servers/spp/download>. The Customer Advisory can be reviewed to determine if the Hot Fix applies and determine which component(s) need to be downloaded. Individual Hot Fixes can be downloaded by selecting:

1. The grey + expander to the left of the Hot Fix Advisory to expand the list of associated downloadable component(s).
2. The title of the desired component to reveal its detail and download page.

All applicable Hot Fixes for this SPP are available for download on the [SPP Custom Download](#) page through the “Full SPP” tile. Either all Hot Fixes or a customized subset thereof can be downloaded by:

1. Hovering over the “Full SPP” tile and selecting “View Details”:
2. For the “Full SPP”, which consists of the Base SPP and all Hot Fixes, select “Download”
3. For a customized download, select “clone” to create the desired download
  - a. In “Step 1”, ensure only the Hot Fix Supplement Bundle is selected
  - b. Fill in the requested information and select “Next: Select Filters”
  - c. Further customize by selecting filters and/or select “Build”
  - d. Follow the remaining prompts to create and download a customized set of Hot Fixes

### 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 (<https://www.hpe.com/servers/spp/download>).
- The Release Notes can be found on the [SPP Download page](#) Documentation Tab.

**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 HPE 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.
- Either PXELINUX (<http://syslinux.zytor.com/wiki/index.php/PXELINUX>) [For legacy boot mode] or GRUB2 (<https://www.gnu.org/software/grub/>) [For UEFI and legacy boot mode]

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 as well as the PXELINUX or GRUB2 configuration are setup and configured properly. ELILO (<http://sourceforge.net/projects/elilo/files/>) may be used also. GRUB2 is recommended for UEFI boot mode, legacy boot mode, or mixed environments where both legacy and UEFI boot mode support are required.

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 as well as HTTP connections 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 it is accessible before proceeding.
3. The /pxe 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 /pxe directory of the ISO image to the TFTP server so that they are accessible by the TFTP software. See important instructions and information in the /pxe/README.txt file (for legacy boot mode PXELINUX configuration).

### Configuring GRUB2

Follow these steps to configure GRUB2:

1. Run the command `grub2-mknetdir --net-directory=DIR` where DIR is the root of the TFTP server.
2. Configure DHCP using the helpful output of the `grub2-mknetdir` command above (`arch = 00:07` for UEFI boot mode and `arch = 00:00` for legacy boot mode).



5. Edit the grub.cfg files on the TFTP server to set the appropriate paths to the kernel vmlinuz image file and the initial ramdisk initrd.img image file which were copied to the TFTP server from the SPP ISO /pxe directory.

## Configuring ELILO

Follow these steps to configure ELILO:

1. Add an EFI folder on the TFTP server which contains bootx64.efi, elilomenu.msg, and elilo.conf.
2. Add details in elilo.conf as it is given for configuring pxelinux.cfg (see below).
3. Change the DHCP configuration as given below:

```
if option arch = 00:07 {  
    filename "pxelinux/bootx64.efi";  
} else {  
    filename "pxelinux.0";  
}
```

## 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 2017.07.2  
kernel vmlinuz  
append initrd=initrd.img media=cdrom root=/dev/ram0 splash quiet hp_fibre cdcache  
showopts TYPE=AUTOMATIC AUTOPOWEROFFONSUCCESS=no  
AUTOREBOOTONSUCCESS=yes
```

### label vsos

```
MENU LABEL Interactive Firmware Update Version 2017.07.2  
kernel vmlinuz  
append initrd=initrd.img media=cdrom root=/dev/ram0 splash quiet hp_fibre cdcache  
showopts TYPE=MANUAL AUTOPOWEROFFONSUCCESS=no
```

### label sos\_poweroff

```
MENU HIDE Automatic & POWEROFF Firmware Update Version 2017.07.2  
kernel vmlinuz  
append initrd=initrd.img media=cdrom root=/dev/ram0 splash quiet hp_fibre cdcache  
showopts TYPE=AUTOMATIC hp_poweroff
```



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.

2. Replace “media=cdrom” with “media=net” on the append line
3. 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 SPP 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 2017.07.2  
kernel vmlinuz  
append initrd=initrd.img media=net root=/dev/ram0 splash quiet hp_fibre showopts  
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 2017.07.2  
kernel vmlinuz  
append initrd=initrd.img media=net root=/dev/ram0 splash quiet hp_fibre showopts  
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 2017.07.2  
kernel vmlinuz  
append initrd=initrd.img media=net root=/dev/ram0 splash quiet hp_fibre showopts  
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 system protocols

The following network file system protocols 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="rsize=32768,ro,nolock"
```

### **Windows® operating systems:**

```
iso1=cifs://192.168.0.99/share/path/to/spp/image/ (SPPfilename).iso
```

```
iso1mnt=/mnt/bootdevice
```

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

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

```
iso1mnt=/mnt/bootdevice
```

### **HTTP:**

```
iso1=http://192.168.0.99/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
AMS	Agentless Management Service
CNU	Converged Network Utility
HBA	Host Bus Adapter
iLO	Integrated Lights-Out
MSB	Maintenance Supplement Bundle
OA	Onboard Administrator
RHEL	Red Hat Enterprise Linux
SIM	Systems Insight Manager
SLES	SUSE Linux Enterprise Server
SPP	Service Pack for ProLiant

<b>SUM</b>	Smart Update Manager
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