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Enterprise

# HPE ProLiant SCCM 2012 Integration Kit (v 2015.10.0) User Guide

## **Abstract**

This guide describes the procedures and prerequisites for installing and using the HPE ProLiant SCCM 2012 Integration Kit, which provides support for deploying ProLiant servers.

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# 1 Introduction

The HPE ProLiant SCCM 2012 Integration Kit provides the following for SCCM:

- Drivers and driver packages for deploying ProLiant servers
- Tool for collecting extended inventory data about ProLiant servers

This release contains:

- Service Pack for ProLiant 2015.10.0 Windows Server drivers

The integration kit uses a more flexible PowerShell script for installation, provides HPE ProLiant drivers and driver packages, and uses the Microsoft task sequence for deployment. This design is not tied to the latest version of Configuration Manager, benefits from enhancements to the Microsoft task sequence (e.g. UEFI support), and does not contain the custom tasks that require credentials.

The following table compares integration kit features.

Feature	2013.09.0 or earlier	2014.02.0 or later
Installation	Via GUI install utility.	Via PowerShell script.
Task Sequence Generation	By Hewlett Packard Enterprise provided wizard.	By Microsoft wizard.
Custom Reboot/State Task	Yes. Included with kit.	No. Not needed with Microsoft task sequence.
Hardware Configuration	Yes. Toolkit, package, and custom task included with kit.	Yes, via manual instructions. See <a href="#">“Hardware Configuration” (page 18)</a> .
Post-OS Configuration	Yes. Package, scripts, and smart components included with kit.	Yes, via software catalog.
Extended Inventory	Yes, via tool/package and MIF files.	Yes, via tool/package and MIF files.
Uninstallation	Via GUI uninstall utility.	Via PowerShell script.

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ⓘ **IMPORTANT:** If kit version 2013.09.0 or earlier is installed, that version will be uninstalled and then the new version will be installed. This means that existing ProLiant task sequences will no longer function. New task sequences, based upon the Microsoft task sequence, can be easily created and customized. See [“Deploying Windows Server to ProLiant servers” \(page 10\)](#) and [“Hardware Configuration” \(page 18\)](#).

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## Licensing

This kit, part of HPE OneView for Microsoft System Center, is licensed as part of HPE OneView or HPE Insight Control. There are no separate license keys. You must have one license for each managed server.

## 2 Support matrix

### Supported System Center products and target operating systems

The kit can be installed on the following versions of SCCM and can deploy the following operating systems:

Host OS \ SCCM	SCCM 2012 SP2	SCCM 2012 R2	SCCM 2012 R2 SP1
<b>Windows Server 2008 R2</b>	Windows Server 2008 R2 SP1 <sup>2</sup> Windows Server 2012 <sup>1</sup> Windows Server 2012 R2 <sup>1</sup>	Windows Server 2008 R2 SP1 <sup>2</sup> Windows Server 2012 <sup>1</sup> Windows Server 2012 R2 <sup>1</sup>	Windows Server 2008 R2 SP1 <sup>2</sup> Windows Server 2012 <sup>1</sup> Windows Server 2012 R2 <sup>1</sup>
<b>Windows Server 2012</b>	Windows Server 2008 R2 SP1 <sup>2</sup> Windows Server 2012 Windows Server 2012 R2 <sup>1</sup>	Windows Server 2008 R2 SP1 <sup>2</sup> Windows Server 2012 Windows Server 2012 R2 <sup>1</sup>	Windows Server 2008 R2 SP1 <sup>2</sup> Windows Server 2012 Windows Server 2012 R2 <sup>1</sup>
<b>Windows Server 2012 R2</b>	Windows Server 2008 R2 SP1 <sup>2</sup> Windows Server 2012 Windows Server 2012 R2	Windows Server 2008 R2 SP1 <sup>2</sup> Windows Server 2012 Windows Server 2012 R2	Windows Server 2008 R2 SP1 <sup>2</sup> Windows Server 2012 Windows Server 2012 R2

Restrictions:

- Must be a primary site server with the console installed in order to access the PowerShell cmdlets.
- On Windows Server 2008 R2, must have PowerShell 3.0 or later installed.
- <sup>1</sup> Some drivers will fail to be injected into the boot image. Refer to the [“Troubleshooting”](#) section.
- Deploying Windows Server 2008 R2 core editions is not supported.
- <sup>2</sup> When deploying Windows Server 2008 R2 to UEFI servers, UEFI Optimized Boot must be disabled and Secure Boot must be disabled.

### SCCM Compatibility and Installation requirements

The following versions of System Center Configuration Manager are supported with ProLiant SCCM 2012 Integration Kit.

SCCM 2012 SP2 with no Cumulative Update
SCCM 2012 SP2 with Cumulative Update 1
SCCM 2012 R2 with no Cumulative Update <sup>1</sup>
SCCM 2012 R2 with Cumulative Update 1 <sup>1</sup>
SCCM 2012 R2 with Cumulative Update 2 <sup>1</sup>
SCCM 2012 R2 with Cumulative Update 3 <sup>1</sup>
SCCM 2012 R2 with Cumulative Update 4 <sup>1</sup>
SCCM 2012 R2 with Cumulative Update 5 <sup>1</sup>

SCCM 2012 R2 SP1 with no Cumulative Update
SCCM 2012 R2 SP1 with Cumulative Update 1

ⓘ **IMPORTANT:** <sup>1</sup> You must install System Center Configuration Manager Cmdlet Library at <https://www.microsoft.com/en-us/download/details.aspx?id=46681> before installing ProLiant SCCM 2012 Integration Kit.

## Supported target servers

The following servers can be deployed and maintained:

BL2x220c G7	DL80 Gen9	DL380 G7	ML110 Gen9
BL420c Gen8	DL120 G7	DL380e Gen8	ML150 Gen9
BL460c G6	DL120 Gen9	DL380p Gen8	ML310e Gen8
BL460c G7	DL160 Gen8	DL380 Gen9	ML310e Gen8 V2
BL460c Gen8	DL160 Gen9	DL385 G7	ML350 G6
BL460c Gen9	DL180 Gen9	DL385p Gen8	ML350e Gen8
BL465c G7	DL320e Gen8	DL560 Gen8	ML350e Gen8 V2
BL465c Gen8	DL320e Gen8 V2	DL580 G7	ML350p Gen8
BL490c G7	DL360 G6	DL580 Gen8	ML350 Gen9
BL620c G7	DL360 G7	DL585 G7	SL4540 Gen8
BL660c Gen8	DL360e Gen8	DL560 Gen9	SL4545 G7
BL680c G7	DL360p Gen8	DL580 Gen9	
BL685c G7	DL360 Gen9	BL660c Gen9	
DL60 Gen9	DL380 G6	ML110 G7	

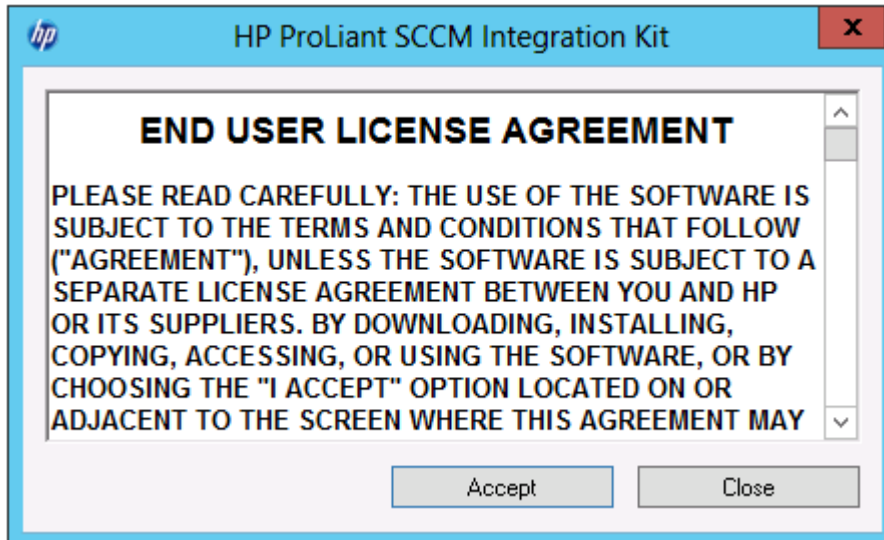
### Restrictions:

- Hardware configuration is not supported by default.
- Performing a correct deployment to servers with multiple storage controllers or multiple disks available (either multiple DAS or SAN attach) is not supported by default.
- Performing a PXE-based deployment through the HPE NC540-series network adapters is not supported.

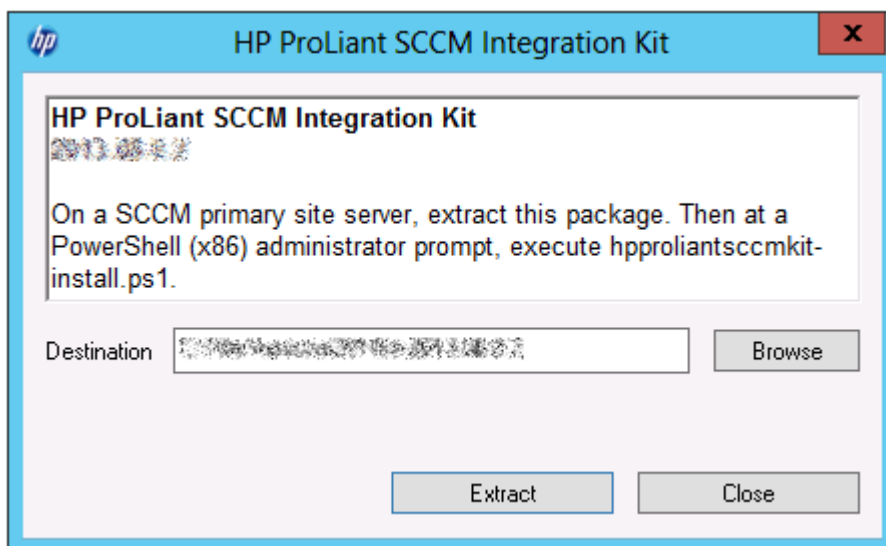
# 3 Installing and configuring

## Installing

1. Ensure that the following prerequisites are met:
  - The server meets the requirements detailed in the Support Matrix.
  - The logged in user has administrator level privileges.
2. On the SCCM primary site server, start the installation from the OneView for Microsoft System Center image by executing `autorun.hta`. Click **Install HP ProLiant SCCM 2012 Integration Kit**.
3. Click **Accept**.



4. Optionally, specify a directory to extract the package to. Click **Extract**.



5. Start PowerShell (x86) in Administrator mode.
6. Change directory to the directory specified in [Step 4](#).

7. Execute `.\hproliantscmkit-install.ps1`.

The install script removes existing drivers (if necessary), copies the new drivers, imports the new drivers with useful names and rich categories, creates driver packages, copies the inventory tool, creates a software package for the tool, and copies the uninstall script.

The installation log is named `hproliantscmkit.log` and is located in the Windows directory.

- 
- ① **IMPORTANT:** Modification of the install script is not supported.
- 

## Configuring

1. Add the ProLiant drivers to an x64 boot image.

While adding the drivers to boot image, you may get the following warning message:

```
One or more of the selected drivers is not in a storage or network class. You should only add drivers to your boot images that are required to boot.
```

Ignore the warning and click **Yes** to add the selected drivers to the boot image.

To add the ProLiant drivers, perform the following tasks:

- a. On the Drivers node, filter the list to the appropriate category, for example, “HPE ProLiant WinPE 5.0 x64”.
- b. Select all the drivers shown in the list.
- c. Right-click the selection and select **Edit > Boot Images**.
- d. Select the appropriate boot image, for example, “Boot image (x64)”.
- e. Click **OK**.

- 
- ① **IMPORTANT:**

- The drivers must be correctly matched with the version of WinPE being used.
  - The ProLiant SCCM 2012 Integration kit supports only WinPE images built from the Windows ADK version 8.0 or 8.1.
- 

2. Distribute and update the boot images to a distribution point.

- a. On the Boot Images node, select the x64 boot image.
  - b. Right-click and select **Distribute Content**.
  - c. Follow the wizard prompts.
  - d. Select the x64 boot image again.
  - e. Right-click and select **Update Distribution Points**.
  - f. Follow the wizard prompts.
- 

- ① **IMPORTANT:**

- The boot image must be updated to a distribution point for the drivers to get injected.
  - If the Update Distribution Points wizard fails, see [“Troubleshooting” \(page 14\)](#).
  - An x86 boot image must be distributed to the distribution point to ensure that PXE-based deployments work correctly.
- 

3. Distribute and update all ProLiant driver packages to a distribution point.

- a. On the Driver Packages node, select all of the ProLiant driver packages.
- b. Right-click and select **Distribute Content**.
- c. Follow the wizard prompts.
- d. Select the ProLiant driver packages again.



- e. Right-click and select **Update Distribution Points**.
  - f. Follow the wizard prompts.
4. Distribute and update all ProLiant software packages to a distribution point.
    - a. On the Packages node, select all of the ProLiant software packages and the Configuration Manager Client Package.
    - b. Right-click and select **Distribute Content**.
    - c. Follow the wizard prompts.
    - d. Select the ProLiant software packages again.
    - e. Right-click and select **Update Distribution Points**.
    - f. Follow the wizard prompts.
  5. Configure the Hardware Inventory Agent.
    - a. On the Client Settings node, double-click **Default Client Settings**.
    - b. In the left-hand pane, select **Hardware Inventory**.
    - c. Set **Maximum custom MIF file size (KB) = 512**.
    - d. Set **Collect MIF file = Collect IDMIF and NOIDMIF files**.
    - e. Click **Set Classes....**
    - f. For each of the .mof files in the <SCCM Installation>\OSD\Lib\Packages\HP\ProLiant\InventoryTool folder, click **Import...**, select the file, click **Open**, and then click **Import**.

## Upgrading

When upgrading from kit version 2013.09.0 or earlier, that version will be uninstalled and then the new version will be installed. This means that existing ProLiant task sequences will no longer function. New task sequences, based upon the Microsoft task sequence, can be easily created and customized. See [“Deploying Windows Server to ProLiant servers” \(page 10\)](#) and [“Hardware Configuration” \(page 18\)](#).

When upgrading from kit version 2014.02.0 or later, the existing drivers are removed and new drivers are added. Drivers must be re-added to the boot image. Driver packages will automatically reference the new drivers. All boot images, driver packages, and software packages must be updated to the distribution point to pick up the changes. Task sequences will continue to function since the driver packages did not get removed and then re-added.

- 
- ❗ **IMPORTANT:** You may get upgrade issues if the previous kit was installed through manual procedures and not by using the PowerShell script. In such cases, manually delete all existing Hewlett Packard Enterprise specific driver files and folders, remove all Hewlett Packard Enterprise specific drivers and driver packages created on the SCCM console, and then install the new kit using PowerShell script, `\hpproliantscmkit-install.ps1`. The upgrade should work if the previous kit was installed through PowerShell script.
- 

## Uninstalling

1. Start PowerShell (x86) in Administrator mode.
2. Change directory to the SCCM installation directory, for example, `C:\Program Files\Microsoft Configuration Manager`.
3. Execute `.\hpproliantscmkit-uninstall.ps1`.  
The uninstallation log is named `hpproliantscmkit.log` and is located in the Windows directory.

- 
- ❗ **IMPORTANT:** Modification of the uninstall script is not supported.
-

## 4 Deploying Windows Server to ProLiant servers

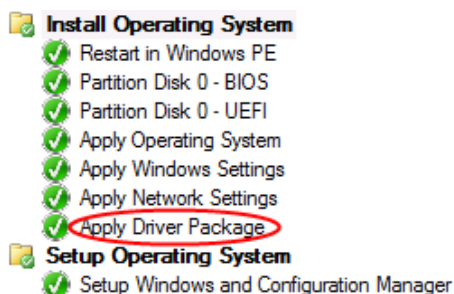
Deploying Windows Server follows the standard SCCM OSD methodology—create a task sequence, configure the task sequence, and deploy the task sequence to a collection.

To deploy Windows Server to a ProLiant server:

1. Ensure that the following conditions are met:
  - All steps from the Configuring section have been successfully completed.
  - A purpose-specific collection exists.
2. Create a new task sequence.

To open the wizard, on the **Task Sequence** node, click **Create Task Sequence** in the ribbon bar. Select the following options:

- On the **Create New Task Sequence** step, select **Install an existing image package**.
  - On the **Install Windows** step, unselect **Configure task sequence for use with Bitlocker**.
  - On the **State Migration** step, unselect all three options.
3. Edit the new task sequence.
    - a. Remove the **Apply Device Drivers** task and add an **Apply Driver Package** task in the same location, referencing the appropriate ProLiant driver package.



- b. When deploying Windows Server 2008 R2 x64 with the installation media `install.wim` file, before the **Apply Operating System** task, add a **Set Task Sequence Variable** task with the value of `OSDPreserveDriveLetter = False`.
  - c. Hewlett Packard Enterprise recommends enabling the SNMP feature to ensure the ProLiant Updates Catalog software bundles can be deployed later on. To do so, add a **Run Command Line** task at the end of the task sequence with the appropriate command line:
    - For Windows Server 2008 R2: `servermanagercmd -install SNMP-Services`
    - For Windows Server 2012 or later: `powershell.exe -command install-windowsfeature -name SNMP-Service`
4. Deploy the task sequence to the collection.
  5. Import a target server and assign it to the collection.
- 
- ① **IMPORTANT:** Both the SMBIOS GUID and PXE NIC MAC address must be specified. The SMBIOS GUID is required to ensure that the SCCM agent matches the target server in the database thus avoiding the NIC ordering problem. The PXE NIC MAC address is required for the Clear Required PXE Deployment functionality.
- 
6. Power on the target server so that it can PXE boot, connect to SCCM, and begin the deployment process.

## 5 Deploying ProLiant firmware and software updates

The ProLiant Updates Catalog provides the latest firmware and software from the SPP. The catalog can be used with SCUP and the SCCM Software Updates functionality to keep ProLiant servers up to date. For more details, see the [HPE ProLiant Updates Catalog User Guide](#).

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- ① **IMPORTANT:** Applying the catalog updates to newly deployed servers ensures that the iLO drivers get completely installed, additional drivers and utilities get installed, and existing drivers get updated.
-

# 6 Collecting extended inventory data

The HPE ProLiant Inventory Tool is a command-line utility. When executed, it gathers data from the HPE Insight Management WBEM Providers and generates HP#.mif files in the NOIDMIFS directory. The information in these files is collected by the Hardware Inventory Client Agent, populated into the SCCM database, and viewable in the Resource Explorer.

To collect extended inventory data:

1. Ensure that the following conditions are met:
  - All steps from the Configuring section have been successfully completed.
  - The managed servers have the Insight Management WBEM Providers installed.
2. Deploy the package to a collection.
 

To open the wizard, right-click on **HP ProLiant Inventory Tool** package, select **Deploy**, and then follow the prompts. Select the following option:

  - On the **Scheduling** step, add a recurring schedule and set **Rerun behavior** to “Always rerun program.”

The following tables are added to SCCM:

**Table 1 HPE ProLiant location**

Name	Value (example data)
Enclosure	Enc001
Bay	5

**Table 2 HPE ProLiant system summary**

Name	Value (example data)
Model	ProLiant BL465c G7
Serial Number	AQQ1620FJ3
GUID	9032393F-3000-0000-ABCD-303D30A652BB
CPU <sup>1</sup>	AMD Opteron(TM) Processor Family 2.3 GHz (x64 Family 16 Model 9 Stepping 1) Processor in socket 1
DIMM <sup>1</sup>	8.00 GB Physical Memory Module 1 on Processor Board 1
Management Processor <sup>1</sup>	Integrated Lights Out 3 (iLO3)
Smart Array Controller <sup>1</sup>	Smart Array P410i in Slot 0
Smart Array Disk <sup>1</sup>	68.37 GB Port:1I Box:1 Bay:1
Network Adapter <sup>1</sup>	HPE NC551i Dual Port FlexFabric 10Gb Converged Network Adapter

<sup>1</sup> Item can be repeated.

**Table 3 HPE ProLiant version control**

Type	Component (example data)	Version (example data)
Bundle <sup>1</sup>	proliantfw	2012.02.0.51
Software <sup>1</sup>	HPE ProLiant Array Configuration Utility for Windows (cpqacuxe.exe)	9.0.24.0
Software <sup>1</sup>	HPE ProLiant Integrated Lights-Out Management Interface Driver for Microsoft Windows Server 2003/2008 x64 Editions (CpqCiDrv.sys)	1.15.0.0

**Table 3 HPE ProLiant version control** *(continued)*

Type	Component (example data)	Version (example data)
Firmware	BladeSystem c3000 Enclosure	3.50
Firmware	A19 (Active)	2011.12.28
Firmware	A19 (Redundant)	2011.12.28
Firmware <sup>1</sup>	PIC	1.6
Firmware <sup>1</sup>	Integrated Lights Out 3 (iLO3) (Active)	1.28
Firmware <sup>1</sup>	Smart Array P410i in Slot 0	5.14
Firmware <sup>1</sup>	Disk EH0146FAWJB Port:1I Box:1 Bay:1	HPDH
Firmware <sup>1</sup>	NC551i Dual Port FlexFabric 10Gb Converged Network Adapter (Boot Code)	4.0.493.0

<sup>1</sup> Item type and component can be repeated.

As an alternative or complement to the inventory tool, the Hardware Inventory Agent can be configured to collect specific HPE WMI classes. To collect WMI classes, follow the SCCM directions for adding additional classes. Select the following options:

- On the **Connect to Windows Management Instrumentation (WMI)** dialog, set **Computer name** to a server running the latest Insight Management WBEM Providers, set **WMI namespace** to `root\hpg`, select **Recursive**, and if required, specify the credentials.
- On the **Add Hardware Inventory Class** dialog, select one or more classes. For details regarding the classes, see the Insight Management WBEM Providers User Guide, located at [www.hpe.com/support/hpesc](http://www.hpe.com/support/hpesc).

# 7 Troubleshooting

## Some drivers fail to be injected into the boot image

One of the reasons this might occur is that a driver is signed with a newer driver signing method than what DISM and the operating system support. In that case, the driver is treated as an unsigned driver and is not injected into the boot image. For example, when running SCCM 2012 R2 on Windows Server 2012, some Windows Server 2012 R2 drivers cannot be injected into an x64 boot image. If the driver in question is not required for the environment, remove the driver from the boot image's driver list and then retry updating the boot image to the distribution point.

## Reinstall, upgrade, or uninstall fails

Some possible causes are:

- A driver package's data source folder has been deleted, but the driver package still exists in the console.
- One of the data source folders is locked.

To resolve this issue:

- Manually delete the driver package in the console.
- Reboot the server to remove the lock on the folder.

## HPE ProLiant SCCM 2012 Integration Kit v2014.02.0, v2014.09.0 & v2015.04.0 fails to install

ProLiant SCCM 2012 Integration Kit v2014.02.0, v2014.09.0 & v2015.04.0 fails to install on SCCM 2012 R2 that have been upgraded to Cumulative Update 2 or later. On such systems, *hpproliantsccmkit-install.ps1* PowerShell installer script is throwing an exception when installing the drivers. This is due to the changes in Microsoft PowerShell cmdlets behavior after applying SCCM 2012 R2 Cumulative Update 2 or later.

This is fixed in the ProLiant SCCM 2012 Integration Kit v2015.06.0 or later. Hewlett Packard Enterprise recommends running the PowerShell scripts using v2015.06.0 or later kit version.

## Deployments may fail on SCCM 2012 SP2 and SCCM 2012 R2 SP1

Deployment of task sequence on SCCM 2012 SP2 and SCCM 2012 R2 SP1 fails due to a timing issue, resulting in the following error message in the client's `smsts.log` file:

```
There are no task sequences available to this computer. Please ensure you have at least one task sequence advertised to this computer. Skipping Task Sequence <ID> because it is not active yet.
```

To resolve this issue, advance the time of the task sequence used for deployment by a few hours.

# 8 Support and other resources

## Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:  
[www.hpe.com/assistance](http://www.hpe.com/assistance)
- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:  
[www.hpe.com/support/hpesc](http://www.hpe.com/support/hpesc)

### Information to collect

- Technical support registration number (if applicable)
- Product name, model or version, and serial number
- Operating system name and version
- Firmware version
- Error messages
- Product-specific reports and logs
- Add-on products or components
- Third-party products or components

## Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
  - To download product updates, go to either of the following:
    - Hewlett Packard Enterprise Support Center **Get connected with updates** page:  
[www.hpe.com/support/e-updates](http://www.hpe.com/support/e-updates)
    - Software Depot website:  
[www.hpe.com/support/softwaredepot](http://www.hpe.com/support/softwaredepot)
  - To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page:  
[www.hpe.com/support/AccessToSupportMaterials](http://www.hpe.com/support/AccessToSupportMaterials)
- 
- ① **IMPORTANT:** Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HP Passport set up with relevant entitlements.
- 

## Registering for software technical support and update service

Insight Management includes one year of 24 x 7 Hewlett Packard Enterprise Software Technical Support and Update Service. This service provides access to Hewlett Packard Enterprise technical resources for assistance in resolving software implementation or operations problems.

The service also provides access to software updates and reference manuals in electronic form as they are made available from Hewlett Packard Enterprise. Customers who purchase an electronic license are eligible for electronic updates.

With this service, Insight Management customers benefit from expedited problem resolution as well as proactive notification and delivery of software updates. For more information about this service, see the OneView Services website at [HPE OneView Services](http://www.hpe.com/oneview/services).

Registration for this service takes place following online redemption of the license certificate.

## How to use your software technical support and update service

As Hewlett Packard Enterprise releases updates to software, the latest versions of the software and documentation are made available to you. The Software Updates and Licensing portal gives you access to software, documentation, and license updates for products on your Hewlett Packard Enterprise software support agreement.

You can access this portal from the Hewlett Packard Enterprise Support Center at <http://www.hpe.com/support/hpesc>.

After creating your profile and linking your support agreements to your profile, see the Software Updates and Licensing portal at <http://www.hpe.com/info/hpesoftwareupdatesupport> to obtain software, documentation, and license updates.

## Websites

Website	Link
Hewlett Packard Enterprise Information Library	<a href="http://www.hpe.com/info/enterprise/docs">www.hpe.com/info/enterprise/docs</a>
Hewlett Packard Enterprise Support Center	<a href="http://www.hpe.com/support/hpesc">www.hpe.com/support/hpesc</a>
Contact Hewlett Packard Enterprise Worldwide	<a href="http://www.hpe.com/assistance">www.hpe.com/assistance</a>
Subscription Service/Support Alerts	<a href="http://www.hpe.com/support/e-updates">www.hpe.com/support/e-updates</a>
Software Depot	<a href="http://www.hpe.com/support/softwaredepot">www.hpe.com/support/softwaredepot</a>
Customer Self Repair	<a href="http://www.hpe.com/support/selfrepair">www.hpe.com/support/selfrepair</a>
Insight Remote Support	<a href="http://www.hpe.com/info/insightremotesupport/docs">www.hpe.com/info/insightremotesupport/docs</a>
Serviceguard Solutions for HP-UX	<a href="http://www.hpe.com/info/hpux-serviceguard-docs">www.hpe.com/info/hpux-serviceguard-docs</a>
Single Point of Connectivity Knowledge (SPOCK) Storage compatibility matrix	<a href="http://www.hpe.com/storage/spock">www.hpe.com/storage/spock</a>
Storage white papers and analyst reports	<a href="http://www.hpe.com/storage/whitepapers">www.hpe.com/storage/whitepapers</a>



## Customer self repair

Hewlett Packard Enterprise customer self repair (CSR) programs allow you to repair your product. If a CSR part needs to be replaced, it will be shipped directly to you so that you can install it at your convenience. Some parts do not qualify for CSR. Your Hewlett Packard Enterprise authorized service provider will determine whether a repair can be accomplished by CSR.

For more information about CSR, contact your local service provider or go to the CSR website:

[www.hpe.com/support/selfrepair](http://www.hpe.com/support/selfrepair)

## Remote support

Remote support is available with supported devices as part of your warranty or contractual support agreement. It provides intelligent event diagnosis, and automatic, secure submission of hardware event notifications to Hewlett Packard Enterprise, which will initiate a fast and accurate resolution based on your product's service level. Hewlett Packard Enterprise strongly recommends that you register your device for remote support.

For more information and device support details, go to the following website:

[www.hpe.com/info/insightremotesupport/docs](http://www.hpe.com/info/insightremotesupport/docs)

## Documentation feedback

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# A Hardware Configuration

Hardware configuration, prior to operating system deployment, may not be necessary. Hardware configuration can also be accomplished via other methods, such as ROM-Based Setup Utility (RBSU) and Option ROM Configuration for Arrays (ORCA).

- ❗ **IMPORTANT:** Since hardware configuration is performed with the HPE Scripting Toolkit for Windows and with SPP drivers in WinPE, it is susceptible to STK, driver, and WinPE issues. Check for any advisories before using them.

To add hardware configuration to a task sequence:

1. Download and extract the latest [HPE Scripting Toolkit for Windows](#).
2. Copy `x64\tools\*` and `x64\drivers\winpe50\system\hpsstkio\*` into a new UNC share.
3. Create or add any input files into the UNC share.

**NOTE:** Most toolkit utilities require an input or data file.

4. In the UNC share, create a file named `drvload.cmd` with the following contents:

```
@echo off
if not exist %systemdrive%\windows\system32\hpsstkio.sys copy hpsstkio.sys
%systemdrive%\windows\system32\drivers

pushd .

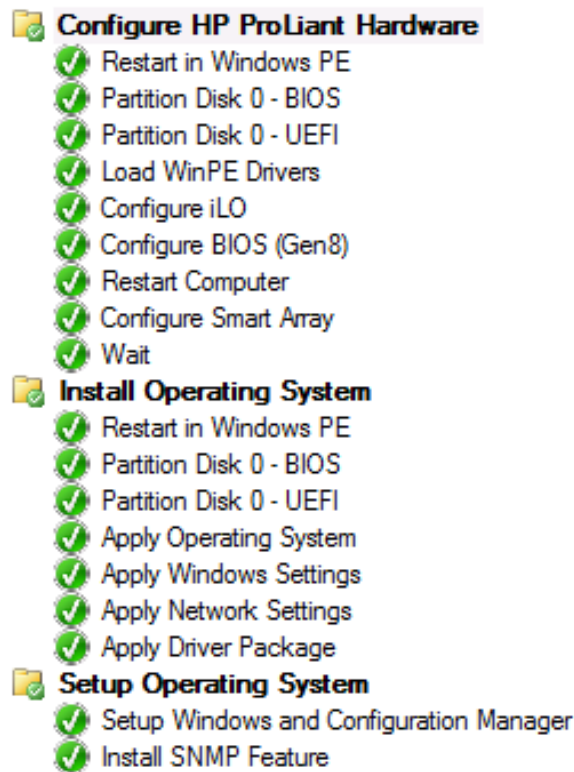
reg.exe query HKLM\System\CurrentControlSet\Enum\PCI | find "VEN_103C&DEV_3302"
set ilo2hw=%errorlevel%
reg.exe query HKLM\System\CurrentControlSet\Services\hpqilo2
set ilo2drv=%errorlevel%
if %ilo2hw%==0 if %ilo2drv%==1 (
    echo DRVLOAD: Loading iLO2 drivers
    cd /d %systemdrive%\windows\system32\driverstore\filerepository\hpqilo2*
    drvload.exe hpqilo2.inf
    cd /d %systemdrive%\windows\system32\driverstore\filerepository\cpqcidrv*
    drvload.exe cpqcidrv.inf
    ping localhost -n 60 >nul
)

reg.exe query HKLM\System\CurrentControlSet\Enum\PCI | find "VEN_103C&DEV_3306"
set ilo3hw=%errorlevel%
reg.exe query HKLM\System\CurrentControlSet\Services\hpqilo3core
set ilo3drv=%errorlevel%
if %ilo3hw%==0 if %ilo3drv%==1 (
    echo DRVLOAD: Loading iLO3 drivers
    cd /d %systemdrive%\windows\system32\driverstore\filerepository\hpqilo3core*
    drvload.exe hpqilo3core.inf
    cd /d %systemdrive%\windows\system32\driverstore\filerepository\hpqilo3chif*
    drvload.exe hpqilo3chif.inf
    ping localhost -n 60 >nul
)

popd
```

5. Create a new software package with the following properties:
  - **Name** = "HP ProLiant Hardware Configuration"
  - Select **This package contains source files**
  - **Source folder** = *The UNC share created in [Step 2](#)*
  - Select **Do not create a program**
6. Distribute the new software package to a distribution point.

7. Edit the task sequence.



- a. Create a new, first group named “Configure ProLiant Hardware”.
  - b. Copy the first three steps from the Install Operating System group into the new group.
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- ❗ **IMPORTANT:** The partitioning tasks are required when deploying to bare metal servers. On a bare metal server, the Smart Array auto-configures itself, but the drive must be partitioned and formatted to allow the Run Command Line to download its reference package and the Restart Computer task to cache its state information.
- 
- c. Follow those steps with a Run Command Line task with the following options:
    - **Name** = Load WinPE Drivers
    - **Command Line** = drvload.cmd
    - **Package** = HP ProLiant Hardware Configuration
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- ❗ **IMPORTANT:** The drvload.cmd script copies the hpsstkio.sys driver to the windows\system32\drivers directory and loads the iLO drivers that were added to the x64 boot image. These drivers are required by some of the toolkit utilities.
- 
- d. Add one or more Run Command Line tasks for each toolkit utility.
    - **Name** = *toolkit utility name*
    - **Command Line** = *toolkit utility executable with parameters*
    - **Package** = HP ProLiant Hardware Configuration
- Some example command lines are:
- setbootorder.exe pxe hd cdrom usb floppy
  - conrep.exe -l -fconrep-d.xml -xconrep.xml
  - hprcu.exe -l -f hprcu-d.xml
  - hpssascripting.exe -i acu-rd.ini -internal -reset -e %temp%\hpssascripting.log

- `hponcfg.exe /f hponcfg-d.xml /l %temp%\hponcfg.log`

See the [HPE Scripting Toolkit for Windows](#) for complete details.

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#### **IMPORTANT:**

- If you are performing a BIOS configuration, because there are two BIOS configuration utilities, either create a separate task sequence for each utility or use a batch file that will determine which utility to use.
  - If you are performing a BIOS configuration, it is probable that the system may need to be restarted after changing the configuration. Add a Restart Computer task with **The boot image assigned to this task sequence** selected.
  - If you are performing Smart Array configuration, it *must* be the last utility step in the group followed by the Install Operating System group and its partitioning tasks. Configuring the Smart Array causes `C:` to disappear and thus subsequent Run Command Line tasks that reference a package will fail. Do not execute `hpssascripting.exe` in a batch file for the same reason.
  - If you are performing Smart Array configuration to controllers supported by the HPCISSS3 driver, it is probable that the subsequent Partition Disk 0 task will fail. After the Smart Configuration task, add a Run Command Line task with a **Command line** of `ping localhost -n 60`. This will cause the task sequence to wait, giving the driver time to reinitialize. Alternatively, you could remove the driver from the boot image or perform a manual Smart Array configuration.
  - If you are performing Smart Array configuration to UEFI servers, it is probable that the subsequent Partition Disk 0 task will fail. Currently the only workaround is to perform a manual Smart Array configuration.
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# Glossary

<b>OSD</b>	Operating System Deployment
<b>SCCM</b>	System Center Configuration Manager
<b>SCUP</b>	System Center Updates Publisher
<b>SPP</b>	Service Pack for ProLiant
<b>STK</b>	Scripting Toolkit