

Hewlett Packard
Enterprise

HPE Rapid Setup Software Installation and Configuration Guide

Abstract

Configuring and installing an operating system with HPE Rapid Setup Software.

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About HPE Rapid Setup Software

HPE Rapid Setup Software is a simple, fast, and easy way to:

- Install operating system drivers for supported versions of Windows and VMware.
- Install ClearOS or ClearVM without needing other media sources.
- Install server operating systems and virtualization software on your HPE ProLiant server.
- Configure a RAID on your system.
- Manage BIOS settings

NOTE: HPE Rapid Setup Software does not support installing a RedHat or SUSE Linux operating system.

Supported servers

HPE Rapid Setup Software supports the following HPE servers:

- HPE ProLiant MicroServer Gen10
- HPE ProLiant ML30 Gen10
- HPE ProLiant ML110 Gen10
- HPE ProLiant ML350 Gen10
- HPE ProLiant DL20 Gen10
- HPE ProLiant DL325 Gen10
- HPE ProLiant DL360 Gen10
- HPE ProLiant DL380 Gen10
- HPE ProLiant DL385 Gen10
- HPE ProLiant DL560 Gen10
- HPE ProLiant DL20 Gen9
- HPE ProLiant ML30 Gen9

NOTE: HPE Rapid Setup Software is supported for use with HPE Smart Array SR Gen10 controllers. HPE Smart Array MR Gen10 controllers are not supported.

Supported operating systems

HPE Rapid Setup Software can install a supported operating system for your server. For information on the supported operating systems for each server, see **http://www.hpe.com/servers/ossupport**.

HPE Rapid Setup Software does not support installing a RedHat or SUSE Linux operating system. If you want to install a support Linux operating system, use Intelligent Provisioning.

Configuring a RAID overview

When the server boots from the USB key, HPE Rapid Setup Software prompts you to select your RAID setup.

Procedure

1. Insert the HPE Rapid Setup Software USB key, and then power on the server.

   NOTE: Some servers have the HPE Rapid Setup Software USB key preinstalled on the server.

2. If prompted, press **F11**, and then select **Boot from Generic USB** from the boot menu.

   The server launches the embedded HPE Rapid Setup Software on the USB key.

   NOTE: If the HPE Rapid Setup Software is preinstalled, the server boots automatically to the USB key.

3. If prompted, read and accept the EULA to continue.

   The software scans your system for RAID array information and hardware.

4. HPE Rapid Setup Software provides RAID status and options vary based on the configuration. Do one of the following:

Scenario Description	Options
Server includes RAID driver and storage devices that do not support automatic RAID configuration. Message reads, **Hardware RAID Installed**	• To configure a new RAID array, click **Manually Configure**. • To continue to the main menu, click **Continue**.
Server includes RAID driver and storage devices that support automatic RAID configuration. Message reads, **Hardware RAID Installed**	• To configure a new RAID array, click **Manually Configure**. • To allow HPE Rapid Setup Software to configure the RAID array, click **Continue**.
Server has a RAID array configured. Message reads, **Logical Drives Exist**. **NOTE:** If the server already has a RAID array configured, configuring a new RAID array might cause a loss of data.	• To configure a new RAID, click **Manually Configure**. • To continue to the main menu, click **Continue**.
Server does not detect a supported RAID driver or storage device. Message reads, **No Disks Found**.	• To install an operating system, select an available disk, and then click **Continue**. Select a drive where you want to install the OS and follow the onscreen instructions. • To go to the main menu, click **Skip**.

HPE Rapid Setup Software opens the Integrated Storage Configuration screen or the HPE Rapid Setup Software main screen.

NOTE: HPE Rapid Setup Software does not support using Intelligent Storage Configuration to configure RAID arrays on an HPE ProLiant Gen9 system or Gen10 Microservers with a Marvell RAID driver.

More information

Using the main menu on page 12
About RAID arrays on page 8
Creating a simple RAID array manually on page 7
Creating an advanced RAID array manually on page 7

Creating a simple RAID array manually

Procedure

1. From the main page of Intelligent Storage Configuration screen, click **+ Create Array**.
2. Under **Configuration Mode**, verify that **Simple Array** is selected.
3. Select a **Logical Drive Type**, for example, **SAS HDD**.
4. Select the **Number of Drives** you want to add to the RAID array, and then click **Next**.
5. Enter a **Logical Drive Name**.
6. Select a **RAID mode**. For example, RAID 1 or RAID 5.
7. (Optional) Select a **Minimum Size** for each drive.
8. Select a RAID accelerator type, and then click **Next**.
9. Review the array settings.
10. Click **Submit**.

More information

About RAID arrays on page 8

Creating an advanced RAID array manually

Procedure

1. From the main page of Intelligent Storage Configuration screen, click **+ Create Array**.
2. Under **Configuration Mode**, click the slider to select **Advanced**.
3. Select the drives you want to include in the RAID array, and select the drive usage.
4. Click **Next**.
5. Enter a **Logical Name**.
6. Select a **RAID Mode**. For example, RAID 1 or RAID 5.
7. (Optional) Select a stripe size.
8. Select an **Accelerator**. For example, cache.
9. (Optional) Select a **RAID size**.

10. Select a **Spare Rebuild Mode**.
11. Click **Submit**.

More information

About RAID arrays on page 8

About RAID arrays

RAID arrays can help increase system performance and reduce the risk of drive failure. You can create RAID arrays with drives with different specifications, but performance will be based on the smallest drive or lowest speed. For example, if you create an array with a 1 TB drive and a 2 TB drive, then the array can store a maximum 1 TB of data. The extra storage on the larger drive is not available until you reformat the drive.

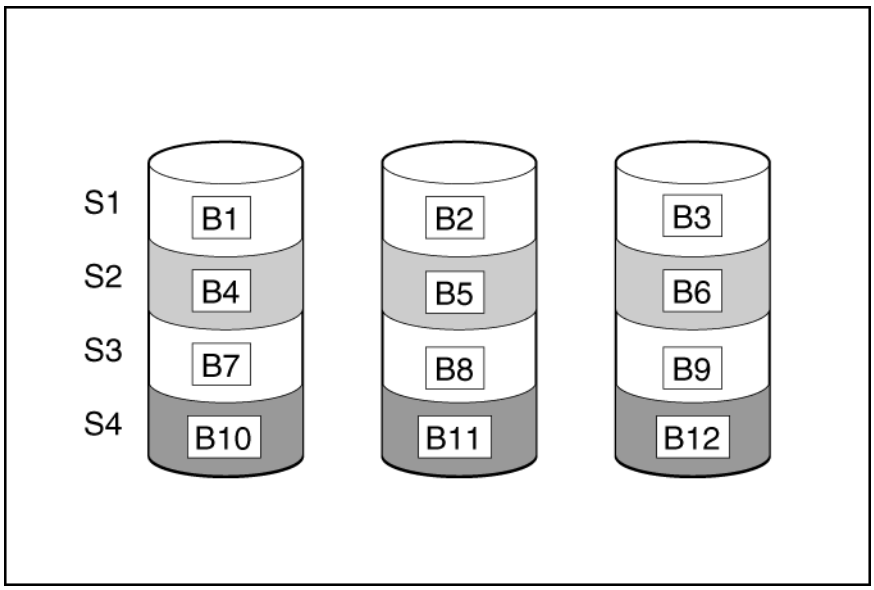
NOTE: If HPE Rapid Setup Software can automatically create a RAID array, HPE Rapid Setup Software creates the following automatically:

- If your server has one drive, the software creates a single volume storage with RAID 0.
- If your server has two drives, the software creates a mirrored array with RAID 0.
- If your server has three drives, the software creates one mirrored array (two drives) with RAID 1 and one single volume (one drive) storage with RAID 0.
- If your server has four drives, the software creates two mirrored arrays (two drives in each array) with RAID 1 mode.
- If your server has five drives, the software creates one mirrored array (two drives) with RAID 1 and a data array (remaining drives) with RAID 5.

HPE Rapid Setup Software can automatically configure a RAID array if the drives are the same type, the same speed, and the same size.

RAID 0

A RAID 0 configuration provides data striping, but there is no protection against data loss when a drive fails. However, it is useful for rapid storage of large amounts of noncritical data (for printing or image editing, for example) or when cost is the most important consideration.



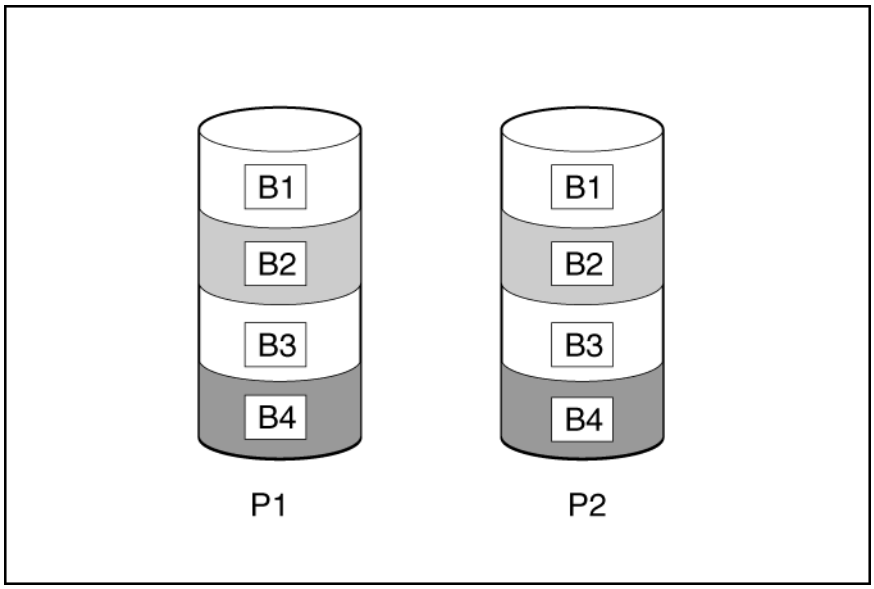
This method has the following benefits:

- Useful when performance and low cost are more important than data protection.
- Has the highest write performance of all RAID methods.
- Has the lowest cost per unit of stored data of all RAID methods.
- All drive capacity is used to store data (none allocated for fault tolerance).

RAID 1 and RAID 1+0 (RAID 10)

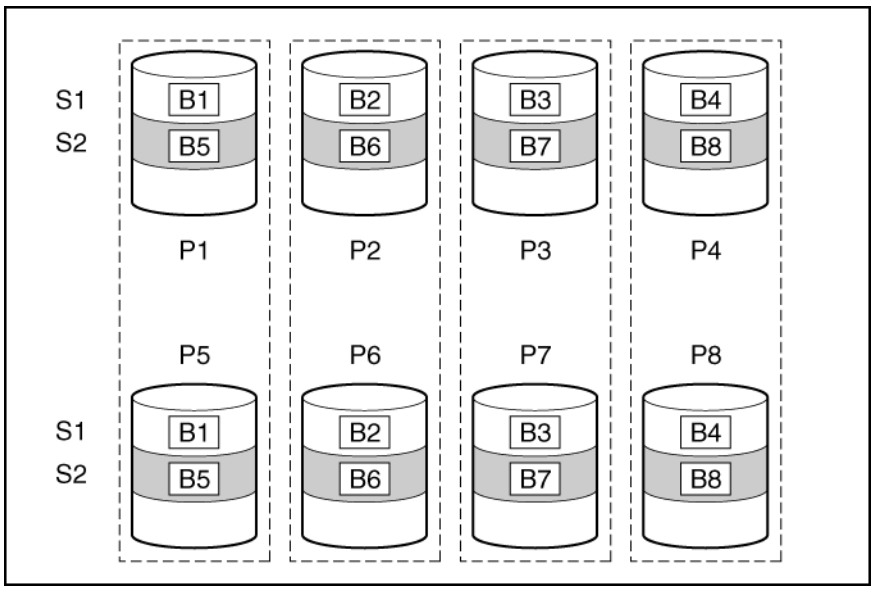
In RAID 1 and RAID 1+0 (RAID 10) configurations, data is duplicated to a second drive. The usable capacity is C x (n / 2) where C is the drive capacity with n drives in the array. A minimum of two drives is required.

When the array contains only two physical drives, the fault-tolerance method is known as RAID 1.



When the array has more than two physical drives, drives are mirrored in pairs, and the fault-tolerance method is known as RAID 1+0 or RAID 10. If a physical drive fails, the remaining drive in the mirrored pair

can still provide all the necessary data. Several drives in the array can fail without incurring data loss, as long as no two failed drives belong to the same mirrored pair. The total drive count must increment by 2 drives.

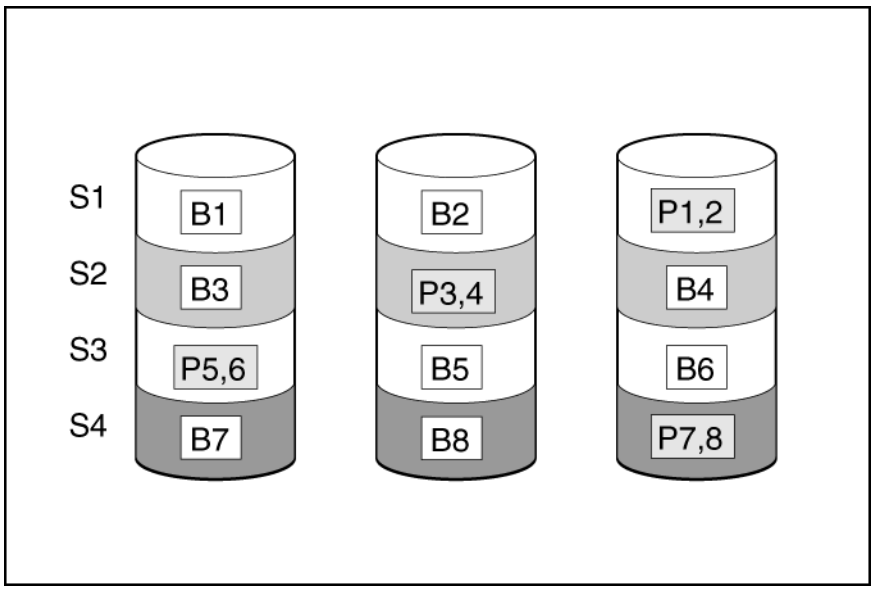


This method has the following benefits:

- It is useful when high performance and data protection are more important than usable capacity.
- This method has the highest write performance of any fault-tolerant configuration.
- No data is lost when a drive fails, as long as no failed drive is mirrored to another failed drive.
- Up to half of the physical drives in the array can fail.

RAID 5

RAID 5 protects data using parity (denoted by Px,y in the figure). Parity data is calculated by summing (XOR) the data from each drive within the stripe. The strips of parity data are distributed evenly over every physical drive within the logical drive. When a physical drive fails, data that was on the failed drive can be recovered from the remaining parity data and user data on the other drives in the array. The usable capacity is C x (n - 1) where C is the drive capacity with n drives in the array. A minimum of three drives is required.



This method has the following benefits:

- It is useful when usable capacity, write performance, and data protection are equally important.
- It has the highest usable capacity of any fault-tolerant configuration.
- Data is not lost if one physical drive fails.

Dedicated spare

The dedicated spare drive activates any time a drive within the array fails.

Failure spare activation

Failure spare activation mode activates a spare drive when a member drive within an array fails using fault tolerance methods to regenerate the data.

Assigning one or more online spare drives to an array enables you to postpone replacement of faulty drives.

Using the main menu

After the RAID configuration options, the HPE Rapid Setup Software takes you to the main menu. On this screen, you can:

- Configure BIOS/RBSU settings.
- Configure RAID settings.
- Perform hardware validation tests.
- Launch Intelligent Provisioning by rebooting the server and entering Intelligent Provisioning.
- Install a supported operating system.

More information

About Intelligent Provisioning on page 13

Installing an operating system

HPE Rapid Setup Software allows you to install the supported versions of Windows, ClearOS, ClearVM, and VMware. If you want to install a Linux operating system that is supported on your server, use Intelligent Provisioning to install the operating system.

NOTE: If you have a Smart Array S100i driver, you can only install the Windows operating system.

Prerequisites

If you are installing a supported Windows or VMware operating system, plug the media into the server or make sure that the files are available on a network drive.

NOTE: ClearOS and ClearVM are both included on the HPE Rapid Setup Software USB key, you do not need another media source.

Procedure

1. From the main menu, select the operating system that you want to install.
2. Select the location where the operating system files are saved.
3. Navigate to the operating system installation files.
4. Follow the onscreen prompts.

More information

Supported operating systems on page 5

Using the BIOS Configuration (RBSU) utility

The BIOS configuration page allows you to change some system configurations from Intelligent Provisioning. For example, you can update:

- Jitter Smoothing
- Workload Matching
- Core Boosting

- Workload profiles
- Boot options
- Storage options
- Network options
- Virtualization options

NOTE: If a lock icon is shown next to a BIOS option, you cannot change that option. The option might be restricted to the F9 screen, or you might have to change another setting, for example the Workload Profile.

NOTE: Intelligent Provisioning does not support the HPE Smart Array P824i-p MR Gen10 controller..

Procedure

1. Select **BIOS configuration (RBSU)** from the maintenance options. The BIOS configuration (RBSU) screen displays the following information:
   - ROM version
   - If a pending update follows valid RBSU dependency rules
   - Number of pending changes
   - Number of items changes automatically due to dependency rules
   - Resetting the BIOS
   - Workload profile
2. To reset the BIOS for this server, click **Reset BIOS**.
3. To update the workload profile, click **Workload Profile**
4. To change RBSU configurations, select from the menu on the left, and then select the section that contains the configuration you want to change.

   For a description of RBSU options, see the *UEFI System Utilities User Guide*.
5. To save changes, click **Update**.
6. To return to the Perform Maintenance home screen, click the **Previous** left arrow.

About Intelligent Provisioning

Intelligent Provisioning is an embedded, single-server deployment and management tool. **Intelligent Provisioning** lets you select the Intelligent Provisioning host override option for this boot only. It does not modify the normal boot order or boot mode settings. For more information, see the Intelligent Provisioning user guide on the Hewlett Packard Enterprise website (**http://www.hpe.com/info/intelligentprovisioning/docs**).

About hardware validation tool

The hardware validation tool performs discovery on the components in your system and then displays the results. You can:

- Test the system
- View test results
- Export test results

Using the hardware validation tool

Procedure

1. Click **Hardware Validation Tool**.

   The tool performs hardware discovery. This discovery process might take several minutes.
2. After discovery finishes, the tool displays the test results.
3. Select one of the following tabs:

   - **Results**: To view the status of a component, select a hardware category.
   - **Test**: Select this option and then create a test you can run.
   - **Export**: Export test results. If there is no network connection, save the files to a USB key.

Updating software and firmware

Update the server firmware and software after installing the operating system. For system software and firmware updates, download the SPP from the Hewlett Packard Enterprise website at **http://www.hpe.com/servers/spp/download**. For more information about the SPP, see the product documentation at **http://www.hpe.com/info/spp/docs**.

The SPP does not include components for ClearOS and ClearVM. Use a Linux utility, for example Yum or Zypper, to subscribe to repositories and perform updates. For more information, see the documentation on the HPE Software Delivery Repository at **http://downloads.linux.hpe.com/**. You can view the FAQ at **http://downloads.linux.hpe.com/SDR/faq.html**.

Service Pack for ProLiant

SPP is a systems software and firmware solution delivered as a single ISO file download. This solution uses SUM as the deployment tool and is tested and supports HPE ProLiant, HPE BladeSystem, HPE Synergy, and HPE Apollo servers and infrastructure.

SPP, along with SUM and iSUT, provides Smart Update system maintenance tools that systematically update HPE ProLiant, HPE BladeSystem, HPE Synergy, and HPE Apollo servers and infrastructure.

SPP can be used in an online mode on a server running Windows, Linux, or VMware vSphere ESXi, or in an offline mode where the server is booted to an operating system included in the ISO file.

The preferred method for downloading an SPP is using the SPP Custom Download at **www.hpe.com/servers/custom**.

The SPP is also available for download from the SPP download page at **https://www.hpe.com/servers/spp/download**.

Downloading the SPP

Procedure

1. Open a web browser and go to **http://www.hpe.com/servers/spp/download**.
2. Select the file that you want to download.
3. If required, provide the product entitlement credentials.
4. Save the file to a directory on your system.

Access to the SPP requires validation through the HPE Support Center. An active warranty or HPE support agreement is required to download the SPP. For more information, see the **SPP Warranty/Support Agreement Validation** document.

Smart Update Manager

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

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

Key features of SUM include:

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

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

Troubleshooting

Cannot read the USB with an operating system

Symptom

When you attempt to install an operating system from a USB, you receive the error `Cannot detect media`.

Solution 1

Cause

The USB key with the operating system is not inserted in the server.

Action

Insert the USB key into the server.

Solution 2

Cause

The operating system is not supported.

Action

For a list of supported systems, see **http://www.hpe.com/servers/ossupport**

Solution 3

Cause

The media is not in a valid file format.

Action

Verify that the USB key is mounted and that the server can read the USB key.

Websites

General websites

HPE Rapid Setup Software Information Library

http://www.hpe.com/info/rapidsetupsw-docs

HPE Rapid Setup Software

http://www.hpe.com/servers/rss

HPE iLO Licensing Guide

http://www.hpe.com/support/iLOLicenseGuide-en

HPE iLO information page

https://www.hpe.com/us/en/servers/integrated-lights-out-ilo.html

Smart Update Manager

www.hpe.com/servers/sum

Smart Update Manager Information Library

www.hpe.com/info/sum-docs

Service Pack for ProLiant

www.hpe.com/servers/spp

HPE Smart Array

http://www.hpe.com/info/SmartArrayGen10-docs

Hewlett Packard Enterprise Information Library

www.hpe.com/info/EIL

Contact Hewlett Packard Enterprise Worldwide

http://www.hpe.com/assistance

Subscription Service/Support Alerts

http://www.hpe.com/support/e-updates

Software Depot

http://www.hpe.com/support/softwaredepot

Customer Self Repair

http://www.hpe.com/support/selfrepair

Insight Remote Support

http://www.hpe.com/info/insightremotesupport/docs

For additional websites, see **Support and other resources**.

HPE support and other resources

For support with the HPE Rapid Setup Software software, or problems with the USB key, see **Support and other resources**.

For support with ClearOS or ClearVM, see **ClearOS and ClearVM support and other resources**.

Support and other resources

Accessing Hewlett Packard Enterprise Support

- For live assistance, go to the Contact Hewlett Packard Enterprise Worldwide website:

  http://www.hpe.com/assistance

- To access documentation and support services, go to the Hewlett Packard Enterprise Support Center website:

  http://www.hpe.com/support/hpesc

Information to collect

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

Accessing updates

- Some software products provide a mechanism for accessing software updates through the product interface. Review your product documentation to identify the recommended software update method.
- To download product updates:

  Hewlett Packard Enterprise Support Center

  www.hpe.com/support/hpesc

  Hewlett Packard Enterprise Support Center: Software downloads

  www.hpe.com/support/downloads

  Software Depot

  www.hpe.com/support/softwaredepot

- To subscribe to eNewsletters and alerts:

www.hpe.com/support/e-updates

- To view and update your entitlements, and to link your contracts and warranties with your profile, go to the Hewlett Packard Enterprise Support Center **More Information on Access to Support Materials** page:

  www.hpe.com/support/AccessToSupportMaterials

> **IMPORTANT:** Access to some updates might require product entitlement when accessed through the Hewlett Packard Enterprise Support Center. You must have an HPE Passport set up with relevant entitlements.

Customer self repair

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

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

http://www.hpe.com/support/selfrepair

Remote support

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

If your product includes additional remote support details, use search to locate that information.

Remote support and Proactive Care information

HPE Get Connected

www.hpe.com/services/getconnected

HPE Proactive Care services

www.hpe.com/services/proactivecare

HPE Proactive Care service: Supported products list

www.hpe.com/services/proactivecaresupportedproducts

HPE Proactive Care advanced service: Supported products list

www.hpe.com/services/proactivecareadvancedsupportedproducts

Proactive Care customer information

Proactive Care central

www.hpe.com/services/proactivecarecentral

Proactive Care service activation

www.hpe.com/services/proactivecarecentralgetstarted

Warranty information

To view the warranty information for your product, see the links provided below:

HPE ProLiant and IA-32 Servers and Options

www.hpe.com/support/ProLiantServers-Warranties

HPE Enterprise and Cloudline Servers

www.hpe.com/support/EnterpriseServers-Warranties

HPE Storage Products

www.hpe.com/support/Storage-Warranties

HPE Networking Products

www.hpe.com/support/Networking-Warranties

Regulatory information

To view the regulatory information for your product, view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products*, available at the Hewlett Packard Enterprise Support Center:

www.hpe.com/support/Safety-Compliance-EnterpriseProducts

Additional regulatory information

Hewlett Packard Enterprise is committed to providing our customers with information about the chemical substances in our products as needed to comply with legal requirements such as REACH (Regulation EC No 1907/2006 of the European Parliament and the Council). A chemical information report for this product can be found at:

www.hpe.com/info/reach

For Hewlett Packard Enterprise product environmental and safety information and compliance data, including RoHS and REACH, see:

www.hpe.com/info/ecodata

For Hewlett Packard Enterprise environmental information, including company programs, product recycling, and energy efficiency, see:

www.hpe.com/info/environment

Documentation feedback

Hewlett Packard Enterprise is committed to providing documentation that meets your needs. To help us improve the documentation, send any errors, suggestions, or comments to Documentation Feedback (**docsfeedback@hpe.com**). When submitting your feedback, include the document title, part number, edition, and publication date located on the front cover of the document. For online help content, include the product name, product version, help edition, and publication date located on the legal notices page.

ClearOS and ClearVM support and other resources

ClearCARE technical support

Support for ClearOS and ClearVM is not provided by Hewlett Packard Enterprise. Support for ClearOS and ClearVM is purchased and delivered by ClearCenter. You can purchase single support incidents by submitting a support ticket to ClearCenter, or you can purchase a Bronze, Silver, Gold, or Platinum ClearCARE subscription. For more information, go to the ClearOS website:

https://www.clearos.com/

Several levels of professional technical support are available to licensed users. For more information, go to the ClearCARE support website:

https://www.clearos.com/products/support/clearcare-overview

ClearCenter contact information



North America

Phone: +1.800.977.0574

Email: **sales@clearcenter.com**

International

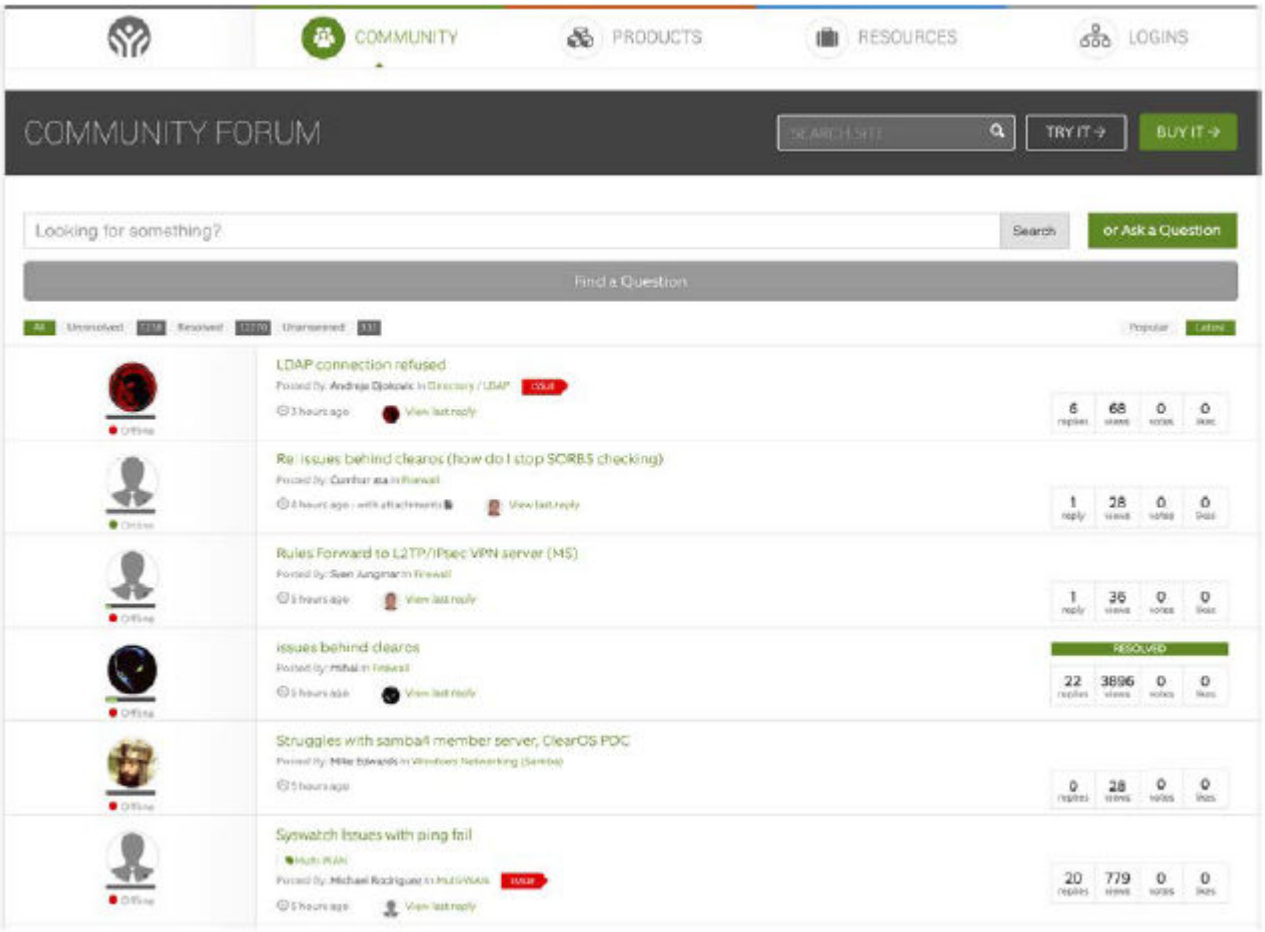
Phone: +1.801.851.5555

Email: **sales@clearcenter.com**

ClearOS community forum

ClearOS is driven by an engaged and rapidly growing community. Community members help one another set up, develop, troubleshoot, and push the boundaries of ClearOS. Get started by participating in the community.

https://www.clearos.com/clearfoundation/social/community



ClearOS documentation websites

For online user guides and how-to documents, community sites and forums, technical support, and search engine information, see:

- **https://www.clearos.com/resources/documentation/documentation-overview**
- **http://www.hpe.com/info/ClearOS-docs-en**