Hewlett Packard Enterprise

ClearOS 7 on HPE ProLiant Servers Configuration Guide

Abstract

This guide describes the steps required to configure and begin managing the ClearOS server. It assumes the user is familiar with software installation principles and has a basic understanding of computer hardware and networking.

Contents

Introduction to ClearOS

ClearOS is a server operating system that provides enterprise-level network security and application services to small and medium-sized businesses (SMBs) and the distributed enterprise. It enables organizations to protect against incoming threats, enforce policy, and increase productivity through integrated applications and services.

ClearOS is a multipurpose platform for managing your IT infrastructure. It can serve as:

- A firewall

- A server running line-of-business (LOB) applications such as directory services and file shares

- A network-attached storage (NAS) device

ClearOS installation methods

This guide describes how to configure ClearOS that is **preinstalled** on an HPE ProLiant Server. However, it includes information that is relevant for ClearOS that is installed using one of the following methods:

- Intelligent Provisioning

- USB, optical media, or iLO mounted media

- ISO in a virtual environment

For information about downloading and installing ClearOS using one of these methods, see the *ClearOS 7 User Guide* at **https://www.clearos.com/resources/documentation/clearos/index:userguide7**.

Configuring ClearOS: Process overview

Procedure

1. **Confirm that the software and hardware prerequisites have been met**.

2. **Select ClearOS boot menu options**.

3. **Configure ClearOS using the Install Wizard**.

4. **Set the ClearOS root password**.

Prerequisites for configuring ClearOS

Software requirements

An Internet connection is required to register ClearOS and receive software updates.

Hardware requirements

- **Server support**

  For information about ClearOS support on HPE ProLiant Servers, go to the **ClearOS Certification and Support for HPE Servers** webpage.

- **Server installation and setup**

  The hardware user guides for HPE ProLiant Servers are available at the Hewlett Packard Enterprise Information Library:

  - Gen9 servers: **http://www.hpe.com/info/proliantgen9/docs**
  - Gen10 servers: **http://www.hpe.com/info/proliantgen10-docs**

- **Network cards**

  At least one network card must be connected to the Internet to complete the setup in the ClearOS Install Wizard.

  Recommendation

  If ClearOS will function as the gateway, Hewlett Packard Enterprise recommends that you have additional network ports or cards so that data meant to remain in your network is routed in your network and is not exposed to or compromised by external network traffic.

- **Network modes and gateway support**

  The following table indicates the number of network ports required to support specific functions. VLANs are supported by ClearOS.

Network use	One network interface	Two or more network interfaces
Private Server Mode or Public Server Mode	X	X
Gateway Mode		X
Multi-WAN support		X
DMZ / HotLAN / LAN support		X

- **Physical storage**

  The hard drive should have 32+ GB of storage.

  Recommendation

If you are considering hardware or software RAID, Hewlett Packard Enterprise recommends that you read the ClearOS RAID support overview at **https://www.clearos.com/resources/documentation/clearos/content:en_us:7_c_raid_support**.

- **CPU and memory**

  ClearOS is preinstalled on HPE ProLiant Servers that meet CPU and RAM requirements. The following table provides general guidelines on the processor, memory, and storage requirements for each server.

Number of users	Processor	RAM	Storage
1–4	2 GHz - dual core	4 GB	1+ TB
5–9	2 GHz - dual core	8 GB	2+ TB
10–49	3 GHz - dual core+	16 GB	4+ TB
50–250	3 GHz - quad core+	32+ GB	10+ TB

Selecting ClearOS boot menu options

ClearOS includes a customized boot menu from which you can perform certain actions:

- Select the language of the boot menu.

- Autoboot to ClearOS so that you can try and evaluate ClearOS.

- Wipe ClearOS from your system.

- Keep ClearOS by removing the option to wipe ClearOS, which causes ClearOS to autoboot on subsequent boots.

- Reinstall ClearOS.

- Change the preferences for the RAID configuration to reinstall ClearOS.

NOTE:

The boot menu is visible when a monitor is connected to the server. The boot menu is on a timer. If you do not move the cursor, the boot menu proceeds to the ClearOS Install Wizard. Skipping the boot menu does not adversely impact the ClearOS installation.

Prerequisites

- ClearOS is preinstalled on the HPE ProLiant Server.

- A keyboard and monitor are attached to the server.

Procedure

1. From the boot menu, use the arrow keys on the keyboard to select the desired language.

   The **Language Selection** screen is on a timer. If you do not select a language, English is selected by default.

2. Press **Enter** to proceed.

Next steps

1. **Select the Try ClearOS, Keep ClearOS, or Remove ClearOS option**.

2. **Use the advanced options**.

Selecting the Try ClearOS, Keep ClearOS, or Remove ClearOS option

After the **Language Selection** screen, a menu appears, displaying two options: **Try ClearOS, Keep ClearOS, or Remove ClearOS** and **Advanced Options**. This topic explains how to select the appropriate ClearOS option.

Procedure

1. On the menu, select **Try ClearOS, Keep ClearOS, or Remove ClearOS**.

2. On the next menu, select one of the following options:

   • **Try ClearOS** (default)

   This option is selected by default, and if you do nothing, it proceeds to boot ClearOS. A countdown timer appears at the top of the screen. If you want to select another ClearOS option, you can interrupt the countdown by pressing any keyboard key, such as one of the arrow keys.

   • **Keep ClearOS**

   Select this option to keep ClearOS and prevent accidental deletion of your data. When you select this option, you are prompted to confirm your decision, after which the system boots. This option tree is removed so that, in the future, the system boots ClearOS by default.

   • **Remove ClearOS**

   (!) IMPORTANT:
   This process is irreversible so consider carefully whether you want to remove ClearOS. Doing so zeroes out a significant portion of the first part of each disk attached to the system, effectively destroying the partition tables of all attached disks, even those on which ClearOS is not installed.

   Select this option to remove ClearOS from the server. A confirmation message is displayed that you must respond to in order to continue.

Using the advanced options

Use the advanced options to perform the following tasks before launching the ClearOS Install Wizard:

• **Select the RAID option**.

• **Change the default language**.

• **Rescue the ClearOS system**.

• **Reinstall ClearOS**.

Selecting the RAID option

Selecting the RAID option helps to ensure that your data is safely stored in the event of a disk failure.

NOTE:

Only ClearOS software RAID is available, with RAID options 0 through 10. If you want to use a hardware RAID controller, you must follow the configuration and installation procedures for that controller. The HPE Smart Array S100i software RAID controller is not supported.

Prerequisites

• The system has more than one disk.

• All hard drives to be used in the RAID set are inserted properly and connected in the server.

• You are familiar with RAID.

  If you are not familiar with RAID, contact a Hewlett Packard Enterprise authorized IT professional for more information.

Procedure

1. On the menu, select the ClearOS software RAID option (0 to 10) that is appropriate for your system.

2. Confirm your selection in the **Set RAID Configuration for data partition** screen.

Changing the default language

Procedure

1. On the menu, select **Return to Main Menu**.

2. Use the arrow keys on the keyboard to select the desired language, and then press **Enter**.

Rescuing the ClearOS system

This option enables you to use the rescue utility on the system.

Procedure

On the menu, select **Rescue a ClearOS System**.

The system immediately boots to the rescue utility.

Reinstalling ClearOS

ⓘ **IMPORTANT:**

Selecting this option wipes all data on the server and reinstalls ClearOS using the selected RAID option (see **Selecting the RAID option** on page 10). If the system has only one disk, no RAID level is applied.

Procedure

1. On the menu, select **Reinstall ClearOS**.

2. Select **Reinstall ClearOS** again.

3. Select **Continue. Reinstall ClearOS (wipe all data)**.

Configuring ClearOS using the Install Wizard

Before you begin using ClearOS, you must complete the Install Wizard.

Prerequisites

- You are familiar with the Internet Protocol and configuring networks.

- You have decided on a unique hostname for this server.

Procedure

1. **Start the ClearOS Install Wizard**.

2. **Select the network mode**.

3. **Configure the network interfaces**.

4. **Configure the DNS servers**.

5. **Select the ClearOS edition**.

6. **Register the server**.

7. **Get software updates**.

8. **Assign the server domain name**.

9. **Assign a hostname**.

10. **Set the date and time on the server**.

11. **Select the synchronization mode**.

12. **Install ClearOS Marketplace applications**.

Starting the ClearOS Install Wizard

This topic describes how to connect to Webconfig, the ClearOS web-based administration tool, and then start the ClearOS Install Wizard.

ⓘ **IMPORTANT:**

If you cannot access the web interface for the Install Wizard, you can connect a monitor, keyboard, and mouse to access a Network Configuration user interface and complete the wizard. If you do not get any response from the monitor or keyboard, restart the server manually or by pressing **Ctrl+Alt +F2** followed by **Ctrl+Alt+Delete**.

Prerequisites

- An external network connection is available and connected to the server.

- You have read **Webconfig considerations** on page 13.

Procedure

1. To connect to Webconfig, open a web browser on your workstation, laptop, or mobile device.

2. Enter the static IP address 172.22.22.1.

3. Enter the user name `root` and the password `password`.

   The first ClearOS Install Wizard screen is displayed. It provides general information about the wizard and explains where you can get assistance with installation and configuration.

4. Click **Next** to continue.

Webconfig considerations

The Webconfig tool:

- Uses encrypted protocols (https instead of http)

- Uses a self-signed certificate that you must accept

- Runs on a nonstandard port (the **:81** appended to the webpage address) so that it does not interfere with an existing web server

Selecting the network mode

Procedure

1. On the **ClearOS Wizard – Network Mode** screen, under **Settings**, select one of the following options:

   - **Public Server Mode**—Use this mode for standalone servers installed in an unprotected environment, such as a data center or a hotspot.

   - **Gateway Mode**—Use this mode for connecting a network of systems to the Internet or to an internal network. This mode requires a minimum of two network cards.

   - **Private Server Mode**—Use this mode for standalone servers installed on a protected network, such as an office network. The firewall is disabled in this mode. The environment's infrastructure must provide port and IP security.

2. Click **Next** to continue.

Configuring the network interfaces

You can configure or modify your network settings on the **ClearOS Wizard – Interfaces** screen. If you use a proxy, you can configure it on this screen.

Prerequisites

- Gather the following information: IP address, netmask, default gateway (IP), and primary nameserver.

- Connect the external physical interface to a network that can be used to access the Internet.

Procedure

1. On the **ClearOS Wizard – Interfaces** screen, click **Edit** for the interface connected to the Internet-facing network.

2. Configure this interface as external and specify valid settings to access the Internet.

3. Click **Update**.

4. Click **Next** to continue.

Configuring the DNS servers

DNS servers are required to register ClearOS and perform updates.

Procedure

1. On the **ClearOS Wizard – DNS** screen, verify that the DNS settings are appropriate for your network.

2. Optional: Modify the DNS settings as needed.

3. Click **Next** to continue.

Selecting the ClearOS edition

Procedure

1. On the **ClearOS Wizard – Select Edition** screen, select one of the following options:

   • **Community Edition**

   This edition is intended for experienced administrators or those who might want to experiment with the software. It is supported by a community of volunteers who donate their time and knowledge through the ClearFoundation. ClearOS Community Edition offers the latest in code, which is untested and therefore likely to cause unintended consequences. If you are considering using this edition in a commercial, professional, educational, or large-scale deployment, be sure to factor in things like technical skill, number of users, data sensitivity, and resources.

   • **Home Edition**

   This edition is designed for home users who want a simple solution for security, media, and IT functions that are not typically provided by ISP-issued gateways or home-targeted network devices.

   • **Business Edition** (Recommended)

   Hewlett Packard Enterprise recommends this edition because it is a secure, stable, IT platform for businesses that want to minimize the risk of downtime. ClearOS Business Edition provides access to exclusive business applications and is supported by a group of experienced Linux

administrators, developers, and deployment specialists. It offers the most comprehensive, production-ready suite, and includes both self-support and full-support plans.

2. Click **Next** to continue.

Registering the server

ClearOS requires registration with a ClearCenter account. Registration ensures that the server receives dynamic software and security updates. It also activates the ClearOS Marketplace on the server, which you use to find and install applications and services.

ⓘ **IMPORTANT:**
After authentication to your portal account is complete, you must select an available subscription license from the drop-down list. If you do not have a ClearCenter account, you can create one by clicking **Create Account** at the bottom of the registration screen. Your ClearOS version and license determine the benefits and updates associated with your installation.

Procedure

1. On the **ClearOS Wizard – System Registration** screen, enter your authentication credentials or create a ClearCenter account.

   ⓘ **IMPORTANT:**
   If you already have an account, proceed to step 3.

2. Optional: Create a ClearCenter account.

   a. **Account Username**—Enter a ClearCenter account user name.

      This user name is associated with things like support tickets and invoices.

   b. **Password**—Enter a ClearCenter account password.

      NOTE:
      Although the ClearCenter Service Delivery Network Portal is available worldwide, and there are no restrictions on what you can use for a password, Hewlett Packard Enterprise strongly recommends that you create a secure password.

   c. **Email address**—Enter the email address associated with the account user name.

      You will use this email address for things like account recovery.

   d. Click **Create Account**.

      You return to the **ClearOS Wizard – System Registration** screen.

3. Enter your authentication credentials.

   a. **Account**—Enter your ClearCenter account name, not the user name you use to access the server.

   b. **Password**—Enter your ClearCenter account password, not the password you use to access the server.

4. Select one of the following options: **New Install** or **Upgrade/Reinstall**.

- **New Install**—Use this option to apply a license that has not been installed on any system. You can also use this option to apply a new subscription to an existing system whose subscription has expired.

  ◦ **Subscription**—View the subscriptions that are associated with the account name but that have not been used. If you just created a new account, you should see two choices: 30-day Evaluation and Purchase Subscription.

  ◦ **System Name**—Enter the name that you will use for the ClearCenter Service Delivery Network Portal. This name will be displayed on ClearCenter reports. You can change the system name later.

  ◦ **Environment**—Select the environment that most closely reflects how the server will be deployed.

  ◦ Click **Next** to continue.

- **Upgrade/Reinstall**—Use this option to upgrade to a new version of ClearOS or to reinstall ClearOS on the same system.

  a. **Eligible systems**—View the list of servers on which ClearOS has already been installed, and then select the server to which you want to assign the license.

     NOTE:

     Subscription displays the type of license installed on the previous system. **System Name** displays the system name, which you can change later in the ClearCenter Service Delivery Network Portal.

  b. **Environment**—Select the environment that most closely reflects how the server will be deployed.

5. Click **Register System**.

6. Click **Next** to continue.

Getting software updates

Procedure

1. On the **ClearOS Wizard – Available Updates** screen, review the information and apply all updates.

   NOTE:

   It can take several minutes to update the repository and other details. The time it takes depends on your system and the updates that have been made since the creation of your system installation media.

2. Click **Next** to continue.

Assigning the server domain name

The domain name is a global setting that associates the ClearOS server with other servers and services in an organization or organizational unit. For example, google.com is the domain name used by all

Google servers. The domain name you use should be one that you have registered. You can also use an arbitrary, internal domain name.

Procedure

1. On the **ClearOS Wizard – Settings – Internet Domain** screen, specify a valid domain name.

2. Click **Next** to continue.

Assigning a hostname

The hostname is a unique name that the internal network uses to identify the ClearOS server. By default, ClearOS suggests a hostname, but you can modify it as needed (for example server.domain.lan or gateway.example.com).

Procedure

1. On the **ClearOS Wizard – Settings – Hostname** screen, specify a valid hostname and Internet hostname.

   NOTE:

   Typically, you specify the same name for **Hostname** and **Internet Hostname**. You might specify unique names if you use a domain for your internal network but you plan to have services routable to ClearOS using a valid Internet hostname. If you plan to use services such as VPN, website hosting, and email delivery, you must specify a fully qualified domain name (FQDN) for **Internet Hostname**.

2. Click **Next** to continue.

Setting the date and time on the server

Several applications and services require the correct date, time, and time zone, so it is important to ensure that they are accurate.

Procedure

1. On the **ClearOS Wizard – Date and Time** screen, make sure the time zone is correct for the server's physical location.

   If you are unsure about the time zone, you can specify a global time standard such as Coordinated Universal Time (UTC).

   NOTE:

   If Automatic Synchronization is enabled, the system clock is synchronized periodically.

2. If you changed the time zone, click **Update**; otherwise, click **Next** to continue.

Selecting the synchronization mode

Depending on your ClearOS edition (Community, Home, or Business), you might or might not need to complete this procedure. If this option is not available in your edition, proceed to **Installing ClearOS Marketplace applications** on page 18.

Procedure

1. On the **ClearOS Wizard – Settings** screen, from the **Mode** drop-down list, select the synchronization mode that is appropriate for your installation.

   - **Standalone**—The server does not share its directory with any other servers. This option is ideal for single-site installations and Microsoft Active Directory Connector installations.

   - **Master**—The central and primary server whose directory must be shared with other servers.

   - **Slave**—The server for backup and remote site locations where a ClearOS master server is already installed and available over the network. It must have a synchronization key from the master server and communicate to the master hostname over the network or VPN.

2. Click **Set Mode**.

3. Click **Next** to continue.

Installing ClearOS Marketplace applications

The ClearOS Marketplace offers a large selection of both free and paid applications. It enables you to quickly find and install applications and to manage them individually or in groups. This topic describes how to use the ClearOS Marketplace Wizard to complete these tasks.

NOTE:

You can skip this procedure if you are familiar with the ClearOS Marketplace or if you prefer to use the ClearOS Marketplace directly to install applications and services. You can also use the ClearOS Marketplace to correct any mistakes made while selecting applications in the Install Wizard.

Procedure

1. On the **Marketplace Getting Started** screen, click **Select** to choose the method you want to use to install Marketplace applications:

   - **By Function**—Enables you to identify common tasks and group them by function (for example, sharing files among users, prohibiting users from accessing certain websites).

   - **By Category**—Displays groups of applications that are linked in the navigation menu. This option requires familiarity with networking and server concepts and terminology and with the ClearOS Marketplace.

   - **Quick Select File**—A text file that you can use as a template for replicating servers as mirror configurations. There is a large selection of preconfigured templates to help expedite the configuration process. For more information, see **Where can I get QSF files?** on the ClearCenter website.

   - **Skip Wizard**—Allows you to skip the ClearOS Marketplace Wizard. However, for the server to function properly, you must install certain applications through the Marketplace.

2. Click **Next**.

3. Based on the method you chose in step 1, select applications and services, and then click **Next**.

4. Click **Download and Install**.

A progress bar is displayed.

5. When the installation is complete, click **Update Navigation Menus**.

Setting the ClearOS root password

If you used traditional methods to install ClearOS, you have already set the password for the root user account and so you can skip this procedure.

For systems with ClearOS preinstalled, the password for the root account is `password`. To protect the root account, you must specify a secure password. As a best practice, use long passwords that contain a variety of characters, including numbers, symbols, uppercase letters, and lowercase letters.

Prerequisites

You have completed the ClearOS Install Wizard.

Procedure

1. In the web-based interface, log in as root (for example, https://172.22.22.1:81).

2. In the upper right corner of the Webconfig screen, click **ROOT**.

3. Select **User Profile** from the drop-down list.

4. In the **Current Password** box, specify the existing password, and then specify the new password in the **New Password** and **Verify** boxes.

5. Click **Update**.

ClearOS support and other resources

ClearCARE technical support

Support for ClearOS is purchased and delivered by ClearCenter, not Hewlett Packard Enterprise. 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

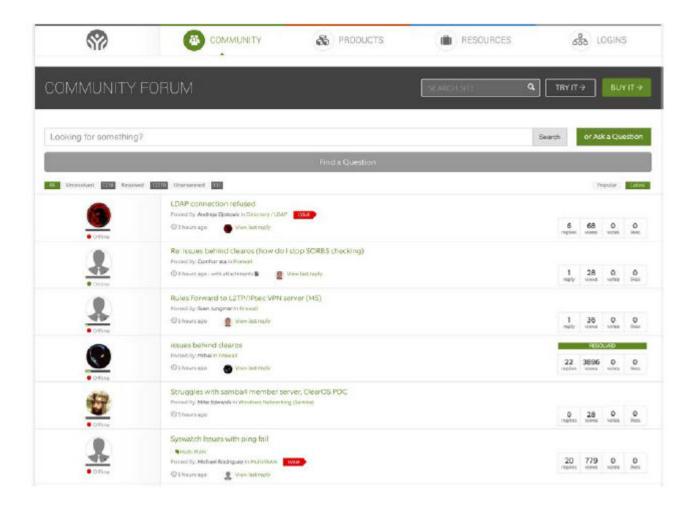Email: **sales@clearcenter.com**

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 website

For online user guides and how-to documents, community sites and forums, technical support, and search engine information, go to **https://www.clearos.com/resources/documentation/documentation-overview**.

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 for your product or to view the *Safety and Compliance Information for Server, Storage, Power, Networking, and Rack Products* reference document, go to the Enterprise Safety and Compliance website:

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

Additional warranty information

HPE ProLiant and x86 Servers and Options

    www.hpe.com/support/ProLiantServers-Warranties

HPE Enterprise 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.