Hewlett Packard Enterprise

HPE MSA Health Check User Guide

Abstract

This document provides information about the HPE MSA Health Check Web application, including instructions for how to download MSA logs from your array and upload them for analysis.

Part Number: R0Q73-90025
Published: September 2020

© Copyright 2020 Hewlett Packard Enterprise Development LP

Notices

The information contained herein is subject to change without notice. The only warranties for Hewlett Packard Enterprise products and services are set forth in the express warranty statements accompanying such products and services. Nothing herein should be construed as constituting an additional warranty. Hewlett Packard Enterprise shall not be liable for technical or editorial errors or omissions contained herein.

Confidential computer software. Valid license from Hewlett Packard Enterprise required for possession, use, or copying. Consistent with FAR 12.211 and 12.212, Commercial Computer Software, Computer Software Documentation, and Technical Data for Commercial Items are licensed to the U.S. Government under vendor's standard commercial license.

Links to third-party websites take you outside the Hewlett Packard Enterprise website. Hewlett Packard Enterprise has no control over and is not responsible for information outside the Hewlett Packard Enterprise website.

Acknowledgments

Microsoft® and Windows® are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

UNIX® is a registered trademark of The Open Group.

Contents

About MSA log files 4

About MSA Health Check 5

Accessing MSA Health Check 6

Downloading the MSA Log File 7

- Downloading the MSA Log File using SMU v2 7
- Downloading the MSA Log File using SMU v3 8
- Downloading the MSA Log File using SMU v4 9
- Downloading the MSA Log File using FTP and SFTP 10

Uploading the MSA Log File using MSA Health Check 12

About the MSA Health Check Summary Page 13

- Health Summary tab 13
- Unhealthy Components tab 15
- Firmware Inventory tab 15
- Finish tab 15

Websites 17

Support and other resources 18

- Accessing Hewlett Packard Enterprise Support 18
- Accessing updates 18
- Remote support 19
- Warranty information 19
- Regulatory information 19
- Documentation feedback 20

About MSA log files

MSA log files can be saved as a compressed zip file using the MSA Storage Management Utility (SMU). The log file contains the following data:

- Device status summary, which includes basic status and configuration data from the array.
- Management Controller (MC) logs for each controller.
- Event log for each controller.
- Debug log for each controller.
- Boot log for each controller, which shows the startup sequence.
- Critical error dumps from each controller, if critical errors have occurred.
- Configuration Application Programming Interface (CAPI) traces from each controller.

NOTE: The MSA log complies with Hewlett Packard Enterprise data privacy standards and policies and does not collect user accounts, passwords, or complete memory/crash dumps.

About MSA Health Check

MSA Health Check is a Web application that is used to read, diagnose, and resolve MSA issues quickly using uploaded MSA log data. MSA Health Check provides HPE-recommended repair actions based on experience and best practices. MSA Health Check generates a report summarizing important findings, recommended improvements, and opportunities to maximize the availability of your array.

For additional support, contact **mailto:MSAHealthCheckSupport@hpe.com**.

Accessing MSA Health Check

Procedure

1. To access the MSA Health Check Web page, go to **https://www.hpe.com/storage/MSAHealthCheck** in a supported browser.

   Supported browsers include:

   - Internet Explorer 11
   - Chrome 51 or later
   - Firefox 46 or later

Downloading the MSA Log File

Refer to one of the following procedures:

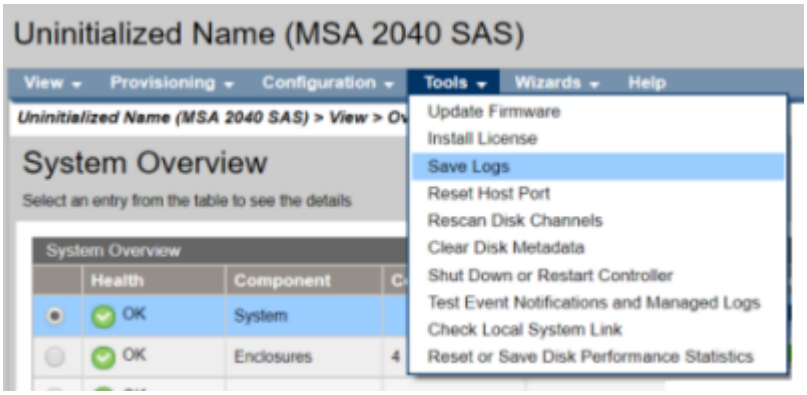
Procedure

1. **Downloading the MSA Log File using SMU v2**
2. **Downloading the MSA Log File using SMU v3**
3. **Downloading the MSA Log File using SMU v4**
4. **Downloading the MSA Log File using FTP and SFTP**

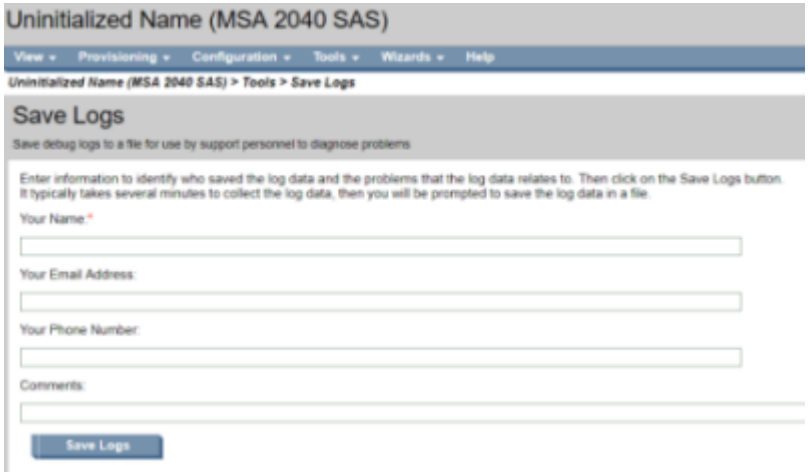
Downloading the MSA Log File using SMU v2

Procedure

1. Log in to the SMU (v2).
2. Select **Tools** > **Save Logs**



3. On the Save Logs page:
   a. Enter your information and include "MSA Health Check" in the comments.



   b. Click **Save Logs**.

Log data is collected, which takes several minutes.

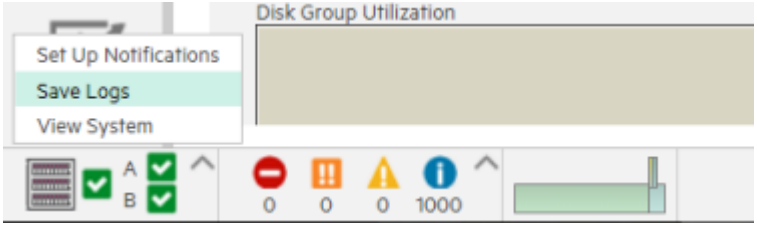
NOTE: If the download is blocked by a security bar in Microsoft Internet Explorer, select its **Download File** option. If the download does not succeed the first time, return to the Save Logs panel and retry the save operation.

4. When prompted to open or save the file, click **Save**.
   - If you are using Chrome, the file `store.zip` is saved to the downloads folder.
   - If you are using Firefox and have a download directory set, the file `store.zip` is saved to that directory.
   - For all other browsers, specify the file location and name. The default file name is `store.zip`.
5. Upload the .zip file to the MSA Health Check Web site. (See **Uploading the MSA Log File using MSA Health Check**.)

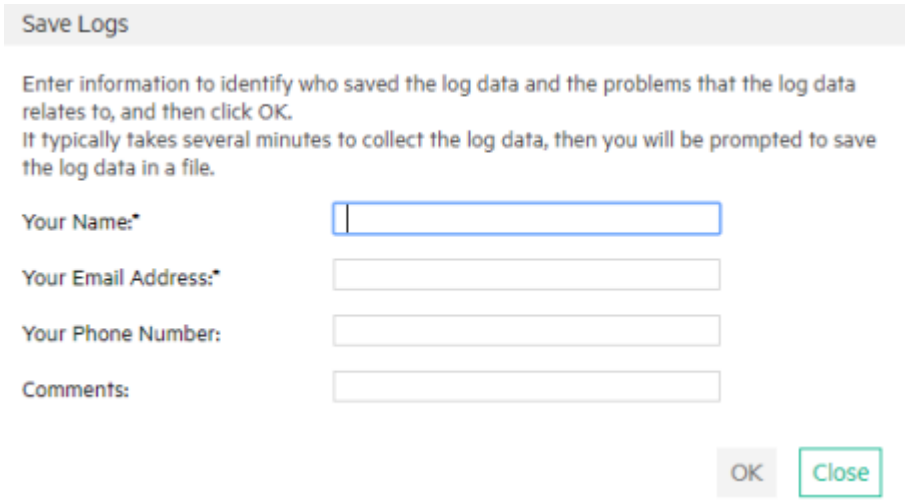
Downloading the MSA Log File using SMU v3

Procedure

1. Log in to the SMU (v3).
2. In the footer, click the health panel and select **Save Logs**.



3. On the Save Logs page:
   a. Enter your information and include "MSA Health Check" in the comments.



   b. Click **OK**.

      Log data is collected, which takes several minutes.

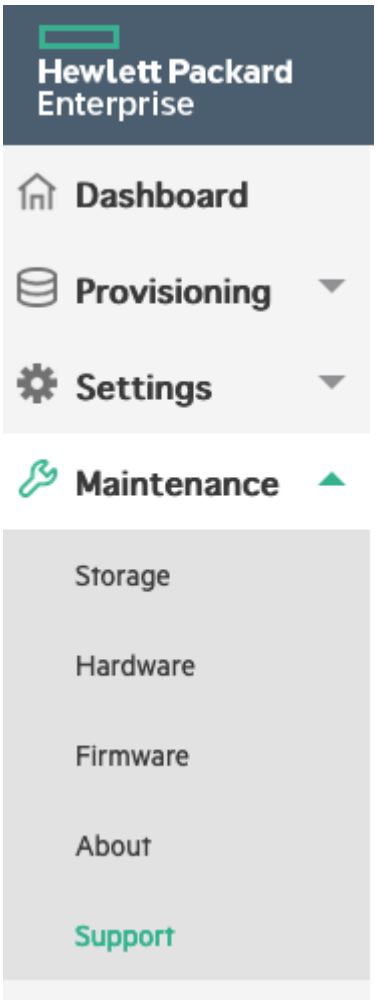
NOTE: If the download is blocked by a security bar in Microsoft Internet Explorer, select its **Download File** option. If the download does not succeed the first time, return to the Save Logs panel and retry the save operation.

4. When prompted to open or save the file, click **Save**.
   - If you are using Chrome, the file `store.zip` is saved to the downloads folder.
   - If you are using Firefox and have a download directory set, the file `store.zip` is saved to that directory.
   - For all other browsers, specify the file location and name. The default file name is `store.zip`.
5. Upload the .zip file to the MSA Health Check Web site. (See **Uploading the MSA Log File using MSA Health Check**.)

Downloading the MSA Log File using SMU v4

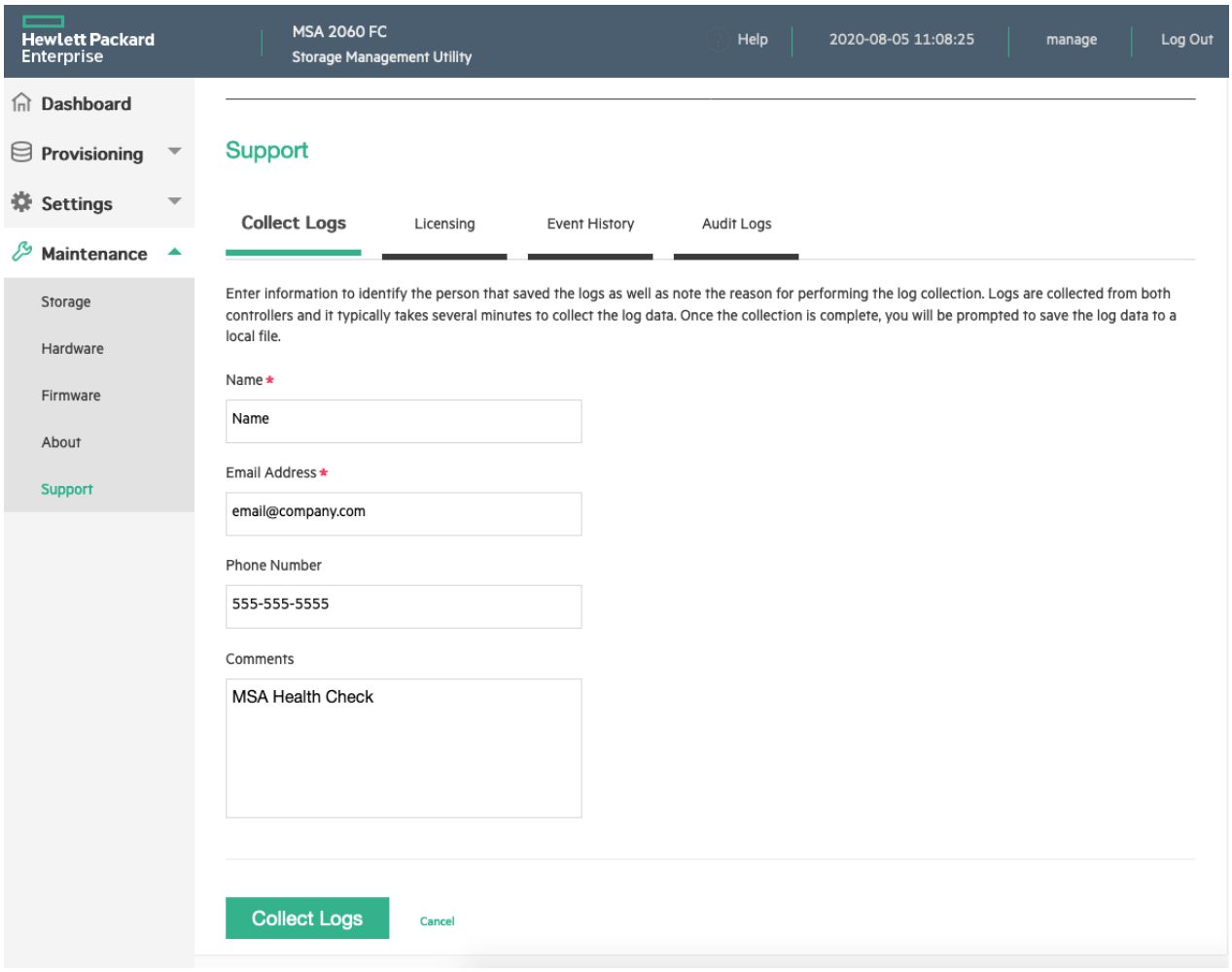
Procedure

1. Log in to the Storage Management Utility.
2. In the Menu pane, click **Maintenance** > **Support**.



3. In the **Collect Logs** tab, enter the following information:

- Name
- Email address
- (Optional) Phone number
- Enter "MSA Health Check" in the Comments field.



4. Click the **Collect Logs** button.

   Log data is collected, which can take several minutes.

   NOTE: When using Microsoft Internet Explorer, if the download is blocked by a security bar, select its **Download File** option. If the download does not succeed initially, return to the **Save Logs** panel and retry the save operation.

5. When prompted to open or save the file, click **Save**.

   The default file name is **logs.zip**. The file will reside in your **Downloads** folder.

6. Upload the .zip file to the MSA Health Check tool website: **https://www.hpe.com/storage/MSAHealthCheck**.

Downloading the MSA Log File using FTP and SFTP

Although the SMU is the preferred interface for downloading the log file, you can also use the FTP and SFTP protocols to complete this task.

Procedure

For detailed instructions, see the HPE MSA Storage Management Guide for your model, available at:

https://www.hpe.com/info/MSADocs

Uploading the MSA Log File using MSA Health Check

Procedure

1. On the MSA Health Check home page, click **Upload MSA Log File (.zip)**.
2. Navigate to your log file and click **Open**.

   NOTE: The maximum file size allowed for upload is 250 MB. For logs greater that 250 MB, contact **mailto:MSAHealthCheckSupport@hpe.com**.

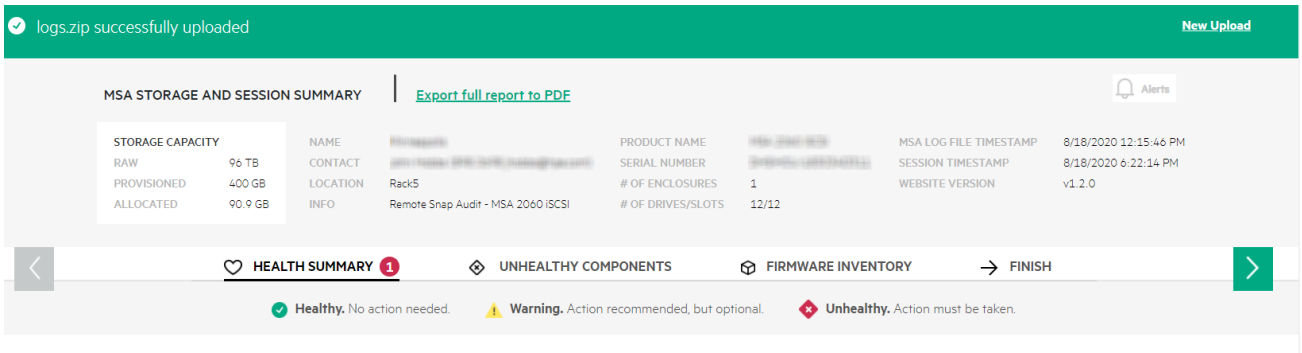
   A window displays the log file parsing progress as a completion percentage.

About the MSA Health Check Summary Page

MSA Health Check provides a summary of the MSA Array, Health Summary, Firmware Inventory, and a list of unhealthy components.

Below the green bar that displays the name of the MSA Log file that was processed, the following array summary information is available:

- **Name**: The name of the array that was configured during setup. "Uninitialized" is displayed if this value has not been set.
- **Contact**: The name of the person who administers the array. "Uninitialized" is displayed if this value has not been set.
- **Location**: The location of the array. "Uninitialized" is displayed if this value has not been not set.
- **Info**: A brief description of what the array is used for or how it is configured.
- **Product Name**: The array model identifier.
- **Serial Number**: The entitlement serial number of the array.
- **# of Enclosures**: The number of enclosures in the array.
- **# of Drives/Slots**: The number of drives and slots in the array.
- **MSA Log file creation time stamp**: The time stamp when the log file was created.



Health Summary tab

The log file is analyzed and each test is listed. This tab lists each test name, result, and a health status reason. The health reason status is empty if the test result is healthy. A description of each test follows:

- **Controller Firmware Versions Match**: HPE recommends running the same firmware version on both controllers of the array. The health check will determine if the firmware versions of the controllers match. The health check will report unhealthy if any of the versions are found to be different. Check the Firmware Inventory tab to review further. In the case of an unhealthy status, HPE recommends reinstalling the same firmware on both controllers, preferably with the latest available firmware. (Healthy or Unhealthy)
- **Drive Firmware Versions Match**: HPE recommends having all drives for a given model running the same firmware. The health check will determine if any drive model in the system is running different firmware versions. The health check will report unhealthy if any drive model is found to have two or more firmware versions. Check the Firmware Inventory tab to review further. In the case of an unhealthy status, HPE recommends upgrading all drives for the given model to the same firmware version, preferably to the latest firmware available. (Healthy or Unhealthy)
- **Enclosure Firmware Versions Match**: HPE recommends running the same firmware version on both IO modules in each disk enclosure. The health check will determine if the firmware on the modules on a given enclosure are the same. The

health check will report unhealthy if the controllers are running different firmware versions. Check the Firmware Inventory tab to review further. In the case of an unhealthy status, HPE recommends upgrading the firmware on the given enclosure to the same firmware version, preferably to the latest firmware available. (Healthy or Unhealthy)

- **Firmware Versions Up to Date:** HPE recommends running the latest controller, drive, and disk enclosure firmware to benefit from the continual improvements in the performance, reliability, and functionality of the HPE MSA Storage Array. For additional information, see the release notes and release advisories for the respective HPE MSA products. The health check will determine if all the system firmware is current. In the case of an unhealthy status, check the Firmware Inventory tab to review further. HPE recommends downloading the Recommended Version and upgrading to the latest available firmware. (Healthy or Unhealthy)
- **Memory Card Events Issues**: HPE recommends monitoring the system for possible memory card issues. The health check will check the last 100 event entries in the array to determine if any known non informational memory card events have occurred. The health check will report unhealthy if any of these events are found in the last 100 events. In the case of an unhealth status, HPE recommends scanning log events to determine if the issues have already been resolved. (Healthy or Unhealthy)
- **New User Account Created**: HPE recommends creating at least one additional user with the manage role. The health check will determine if any new users have been created for managing and monitoring the system. The health check will report a warning if only the default set of users is found, unless it can be determined that the default passwords have been changed. In the case of a warning, HPE recommends creating additional users or ensuring that the default passwords have been changed. (Healthy or Warning)
- **Notifications Turned On**: HPE recommends enabling one or more of the notification settings (SNMP, email, or syslog) to properly monitor the system. The health check will determine if one of the notification services has been enabled. The health check will report unhealthy if SNMP, email (SMTP), and syslog are all not configured. In the case of an unhealthy status, HPE recommends enabling one or more of the notification settings to properly monitor the system. (Healthy or Unhealthy)
- **Partner Firmware Update (PFU) Enabled**: HPE recommends enabling Partner Firmware Update (PFU) to ensure that the controller firmware versions will remain synchronized. The healty check will determine if the PFU setting is enabled. The health check will report unhealthy if PFU is disabled. In the case of an unhealthy status, HPE recommends enabling PFU on the system. (Healthy or Unhealthy)
- **Scrubbing Enabled**: HPE recommends enabling background scrubbing of both disk groups and drives to have the system continuously analyze drives to detect, report, and store information about drive defects. The health check will determine if the two background scrub settings have been enabled. The health check will report a warning if Disk Background Scrub setting is disabled. It will report unhealthy if the Disk Group Background Scrub setting is disabled. The health check will also report unhealthy if the Disk Background Scrub setting is disabled and there are available or spare drives found in the array. In the case of a warning or unhealthy status, HPE recommends enabling both disk group and disk background scrubbing. (Healthy, Warning, or Unhealthy)
- **Sparing Best Practice Check**: HPE recommends drive sparing through dedicated, global, or dynamic spares to allow for reconstruction of data in the event of a drive failure in the disk groups. The health check will determine if the array contains spare capacity to utilize in the event of a drive failure. The health check will result in only a warning if the dynamic sparing setting is not enabled. The health check will report unhealthy if the following conditions are not met:
  - A dedicated spare is not defined for the disk group (for linear disk groups).
  - A global spare is assigned in the array, but spare is not large enough to protect all disk groups.
  - The dynamic sparing setting is enabled, but the available drives are not large enough to protect all disk groups.

  In the case of a warning, HPE recommends enabling dynamic sparing. In the case of an unhealthy status, HPE recommends adding spare capacity to properly protect all disk groups. (Healthy, Warning, or Unhealthy)
- **Unhealthy Components Check:** HPE recommends monitoring the system for any unhealthy components. This health check will determine if the system has reported any unhealthy components. In the case of an unhealthy status, check the Unhealthy Components tab to review further. HPE recommends following the recommended actions for the unhealthy components. (Healthy or Unhealthy)

- **Unsecure Protocols Check**: HPE recommends enabling and using only secure communication protocols when communicating with the system. The health check will determine if any of the unsecure protocols are currently enabled for the management interface. This includes checking if any of the following protocols is enabled: HTTP, Telnet, Unsecure SMI-S, FTP, debug, or the activity progress. The health check will report unhealthy if any of these protocols are enabled. In the case of an unhealthy status, HPE recommends disabling any unsecure protocols not required for managing the array. (Healthy or Unhealthy)
- **Volumes Mapped on Both Controllers**: HPE recommends that volumes be mapped to ports on both controllers to allow proper operation during a failover situation. Furthermore HPE recommends using explicit, or host based, mapping. The health check will determine if each volume is mapped to all hosts (default mapped) and mapped correctly to ports on both controllers. It will report a warning if any volume is mapped to all hosts (default mapped). The health check will report unhealthy if any volume is only mapped out of only one controller. In the case of a warning or unhealthy status, HPE recommends reviewing volume mapping to ensure volumes are mapped to both controllers and explicitly mapped to initiators or hosts. (Healthy, Warning, or Unhealthy)

Unhealthy Components tab

In this tab, a table lists any unhealthy components, the component description, and the recommendation. The following is a list of all possible unhealthy components that could appear in this table:

- Drives
- Fans
- Power Supplies
- Enclosure IOMs
- Controllers

Firmware Inventory tab

In this tab, a table shows each component, the installed firmware version, and recommended firmware version. The recommended firmware version may be blank if the installed version is current. The following components may be displayed:

- **Enclosure 1**: Controller A/B: If both controllers A and B are present, MSA Health Check displays a row for each. The recommended firmware version contains links to the Smart Component firmware flash for both Windows & Linux.
- **Enclosures 2-8 - IOM A/B**: If present, enclosures 2 through 8 are displayed with a row for each I/O Module in the enclosure. The recommended firmware version contains links to the Smart Component firmware flash for both Windows & Linux.
- **Drives (both HDD & SSD)**: For each drive model present, MSA Health Check displays a row in the Firmware Inventory table. For each drive firmware version found, the count of drives appears in parentheses. For example, HPD3 (3), HPD4 (2), indicates that three drives of the same model are running firmware version HPD3 and two drives of this same model are running firmware version HPD4. The recommended firmware version for drives includes links to the Smart Components firmware flash for both Windows & Linux as well as the .FLA (raw), if available.

Finish tab

This tab summarizes the following MSA Health Check results and recommendations:

For security reasons, all contents will be deleted when the app is closed. Note: You will need to re-upload your log file to see these results again.

Before closing the MSA Storage Health Check:

1. **Export full report to PDF** to download and retain a copy of these results.
2. Review any Health Summary items that have a Warning ( ) or a Critical ( ) status.
3. Review Unhealthy Components (if any) and take the recommended actions.
4. Review Firmware Inventory and download recommended firmware versions (if any) for upgrade during a maintenance window.

Additional Step: MSA Storage Health Check provides the top level best practices. HPE recommends following the MSA Best Practices Guide for optimizing and deploying HPE MSA Storage.

Websites

GENERAL WEBSITES

Hewlett Packard Enterprise Information Library

https://www.hpe.com/info/EIL

Single Point of Connectivity Knowledge (SPOCK) Storage compatibility matrix

https://www.hpe.com/storage/spock

HPE Support

https://support.hpe.com/hpesc/public/home/

Storage white papers and analyst reports

https://www.hpe.com/storage/whitepapers

MSA WEBSITES

MSA QuickSpecs

https://www.hpe.com/info/qs

MSA Manuals

https://www.hpe.com/info/MSAdocs

MSA Firmware

https://www.hpe.com/storage/MSAFirmware

HPE MSA Support Material Access

https://www.hpe.com/storage/MSASupportMaterialAccess

MSA Health Check

https://www.hpe.com/storage/MSAHealthCheck

Support and other resources

Accessing Hewlett Packard Enterprise Support

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

  https://www.hpe.com/info/assistance

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

  https://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

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

  Hewlett Packard Enterprise Support Center: Software downloads

  https://www.hpe.com/support/downloads

  My HPE Software Center

  https://www.hpe.com/software/hpesoftwarecenter

- To subscribe to eNewsletters and alerts:

  https://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:

  https://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.

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

https://www.hpe.com/services/getconnected

HPE Proactive Care services

https://www.hpe.com/services/proactivecare

HPE Datacenter Care services

https://www.hpe.com/services/datacentercare

HPE Proactive Care service: Supported products list

https://www.hpe.com/services/proactivecaresupportedproducts

HPE Proactive Care advanced service: Supported products list

https://www.hpe.com/services/proactivecareadvancedsupportedproducts

Proactive Care customer information

Proactive Care central

https://www.hpe.com/services/proactivecarecentral

Proactive Care service activation

https://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

https://www.hpe.com/support/ProLiantServers-Warranties

HPE Enterprise and Cloudline Servers

https://www.hpe.com/support/EnterpriseServers-Warranties

HPE Storage Products

https://www.hpe.com/support/Storage-Warranties

HPE Networking Products

https://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:

https://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:

https://www.hpe.com/info/reach

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

https://www.hpe.com/info/ecodata

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

https://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.