HighPoint NVMe G5 Data RAID Installation Guide (Linux)

V1.18– Nov 22, 2023

Contents

Overview

This guide includes important hardware/software requirements, installation & upgrade procedures, and troubleshooting tips for using NVMe products with a Linux operating system.

The following is a list of supported NVMe products.

Supported Controller	SSD7101A-1 SSD7104 SSD7104F SSD7105 SSD7140A SSD7120 SSD7180 SSD7184 SSD7202 SSD7204 SSD7502 SSD7505 SSD7540 SSD7580A SSD7580B SSD7580C SSD7749M SSD7749E RocketAIC 7105HW Series RocketAIC 7140AW Series RocketAIC 7502HW Series RocketAIC 7505HW Series RocketAIC 7540HW Series RocketAIC 7749EW Series

Prerequisites
This section describes the base hardware and software requirements for the NVMe products.

UEFI BIOS settings
This section describes how to configure your motherboard UEFI settings for use with NVMe products.

Driver Installation
This section covers driver installation, driver upgrade and driver uninstallation procedures for NVMe products. in a Linux environment.

Management Software Installation
This section explains how to download and install the HighPoint RAID Management Software Suite for Linux distributions. The download includes both the Web RAID Management Interface (WebGUI), and the CLI (Command Line Interface).

Troubleshooting
Please consult this section if you encounter any difficulties installing or using NVMe products. It includes solutions and description for commonly reported technical issues.

Appendix
This section describes how to collect troubleshooting information for support cases you have submitted via our Online Support Portal.

Prerequisites for a Data-RAID Configuration

In order to configure a non-bootable NVMe RAID array, you will need the following:

1. **An NVMe SSD must be installed.** At least one NVMe SSD must be installed into or connected to the NVMe products.
   Note: *The RocketAIC series NVMe drives already include pre-configured SSDs.*
2. **A PCIe 5.0 or PCIe 4.0 slot or PCIe3.0 with x8 or x16 lanes.** The NVMe products must be installed into a PCIe 5.0 or PCIe 4.0 slot or PCIe3.0 with x8 or x16 lanes.
3. **Your motherboard must have a UEFI BIOS with option ROM settings** for third-part devices (such as the NVMe products, optical drives and USB flash drives). If this is not configured correctly, the system wi ll fail to load the NVMe products. Please check the NVMe products's compatibility lists for recommended motherboards.
4. **Secure Boot must be disabled.** HighPoint Linux Driver capability has not been signed and certified. If Secure Boot is enabled, the motherboard will not recognize the NVMe products, and you will be unable to proceed with installation.
5. **Make sure any non-HighPoint drivers are uninstalled for any SSD's hosted by the** NVMe products**.** Drivers provided by 3rd party software and manufacturer may prevent the NVMe products from functioning properly.

Warnings:

1) **Failing to remove the NVMe products and SSDs when uninstalling the driver may result in data loss.**
2) **Always make sure the HighPoint Linux driver is installed before moving NVMe products & RAID array to another Linux system.**

   Linux distributions will always load the default NVMe support after the HighPoint Linux driver has been uninstalled, or if it detects the present of a card when no driver has been loaded – this driver will only recognize the NVMe SSDs as separate disks.

   If the SSDs are recognized separately, any data they contain may be lost – including RAID configuration data.

UEFI BIOS Settings

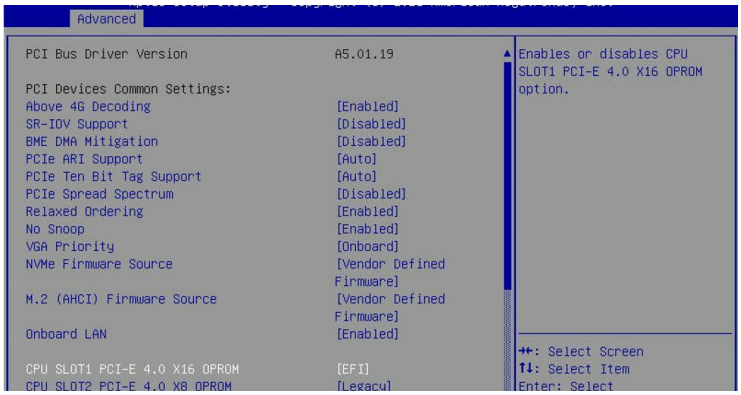
The following is a list of supported UEFI NVMe products.

Supported Controller	SSD7105 SSD7202 SSD7502 SSD7505 SSD7540 SSD7580A SSD7580B SSD7580C SSD7749M SSD7749E RocketAIC 7105HW Series RocketAIC 7502HW Series RocketAIC 7505HW Series RocketAIC 7540HW Series RocketAIC 7749EW Series

Note: *Products that do not support UEFI can skip this section.*

Different motherboards will provide different UEFI-related BIOS settings. Please consult your motherboard's user manual for more information. This section provides examples using a SuperMicro H12SSL-i motherboard.

1. Boot the system and access the motherboard BIOS menu.
2. Under "**Advanced->PCIe/PCI/PnP Configuration->**, change **"CPU Slot x PCI-E OPROM**" to "**EFI**". "**x**" represents the PCIE slot assignment. For this example, the SSD7505 is installed into "CPU Slot 1".



3. Set "**Secure Boot**" to "**Disabled**".

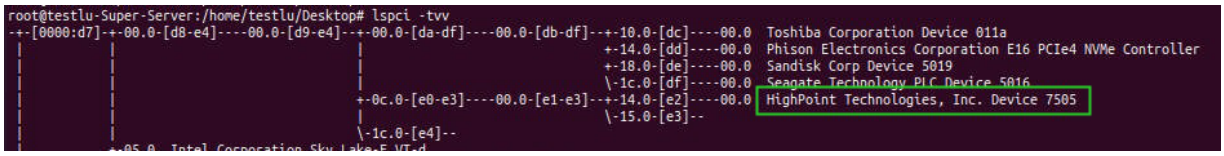
Driver Installation

Installing the Open-Source Driver

1. Power on the system and boot the Linux distribution.
2. Open a system terminal with root privileges, and verify that **NVMe product** is detected by using the following command:

   lspci -tvv

   ### Example screenshot

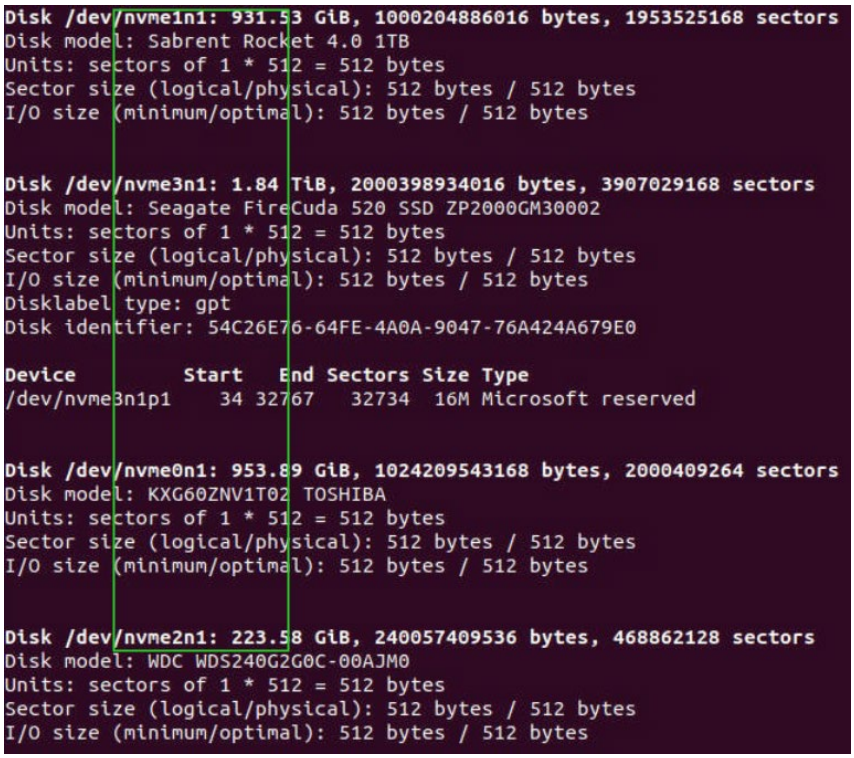


   Note: the picture is only for reference, please make the object as the standard.

   Additionally, you can verify that the NVMe drives are detected by using the following command:

   fdisk -l

   ### Example screenshot



   Note: the picture is only for reference, please make the object as the standard.

3. Download the appropriate driver from the Software Downloads web page.

4. Using the system terminal with root privileges, browse to the directory where the driver download is located, and enter the following commands to extract the Linux Open-source Driver software package:

   tar zxvf HighPoint_NVMe_G5_Linux_Src_vx.x.xx_xx_xx_xx.tar.gz

```
root@testlu-Super-Server:/home/testlu/Documents# tar zxvf HighPoint_NVMe_G5_Linux_Src_v1.5.1_2023_02_21.tar.gz
hptnvme_g5_linux_src_v1.5.1_2023_02_21.bin
README
```

   Note: *The driver revision shown in the screenshots may not correspond with current software releases. Please make sure to download the latest driver updates from the product's Software Updates page.*

5. Install the open-source Driver using the following command.
   sh hptnvme_g5_linux_src_vx.x.xx_xx_xx_xx.bin or
   ./hptnvme_g5_linux_src_vx.x.xx_xx_xx_xx.bin

```
root@testlu-Super-Server:/home/testlu/Documents# sh hptnvme_g5_linux_src_v1.5.1_2023_02_21.bin
Verifying archive integrity... All good.
Uncompressing HighPoint NVMe RAID Controller Linux Open Source package installer.............................
.....................
Checking and installing required toolchain and utility ...
Found program make (/usr/bin/make)
Found program gcc (/usr/bin/gcc)
Found program perl (/usr/bin/perl)
Found program wget (/usr/bin/wget)
Sourcing file `/etc/default/grub'
Sourcing file `/etc/default/grub.d/init-select.cfg'
Generating grub configuration file ...
Found linux image: /boot/vmlinuz-5.15.0-71-generic
Found initrd image: /boot/initrd.img-5.15.0-71-generic
Found linux image: /boot/vmlinuz-5.15.0-46-generic
Found initrd image: /boot/initrd.img-5.15.0-46-generic
Adding boot menu entry for UEFI Firmware Settings
done
Synchronizing state of hptdrv-monitor.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable hptdrv-monitor
update-rc.d: warning: enable action will have no effect on runlevel 1

SUCCESS: Driver hptnvme is installed successfully for kernel 5.15.0-46-generic.
Driver hptnvme is installed successfully for kernel 5.15.0-71-generic.
Please restart the system for the driver to take effect.
If you want to uninstall the driver from the computer, please run hptuninhptnvme to uninstall the driver files
```

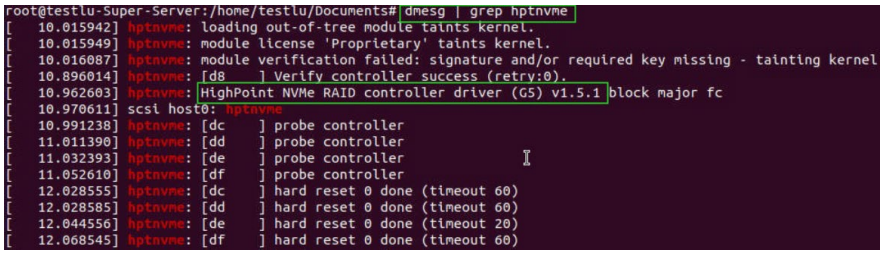
```
root@testlu-Super-Server:/home/testlu/Documents# ./hptnvme_g5_linux_src_v1.5.1_2023_02_21.bin
Verifying archive integrity... All good.
Uncompressing HighPoint NVMe RAID Controller Linux Open Source package installer.............................
.....................
Checking and installing required toolchain and utility ...
Found program make (/usr/bin/make)
Found program gcc (/usr/bin/gcc)
Found program perl (/usr/bin/perl)
Found program wget (/usr/bin/wget)
Sourcing file `/etc/default/grub'
Sourcing file `/etc/default/grub.d/init-select.cfg'
Generating grub configuration file ...
Found linux image: /boot/vmlinuz-5.15.0-71-generic
Found initrd image: /boot/initrd.img-5.15.0-71-generic
Found linux image: /boot/vmlinuz-5.15.0-46-generic
Found initrd image: /boot/initrd.img-5.15.0-46-generic
Adding boot menu entry for UEFI Firmware Settings
done
Synchronizing state of hptdrv-monitor.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable hptdrv-monitor
update-rc.d: warning: enable action will have no effect on runlevel 1

SUCCESS: Driver hptnvme is installed successfully for kernel 5.15.0-46-generic.
Driver hptnvme is installed successfully for kernel 5.15.0-71-generic.
Please restart the system for the driver to take effect.
If you want to uninstall the driver from the computer, please run hptuninhptnvme to uninstall the driver files
```

6. After driver installation is complete, the system will prompt you to restart to make the driver take effect. **Manually restart the system.**

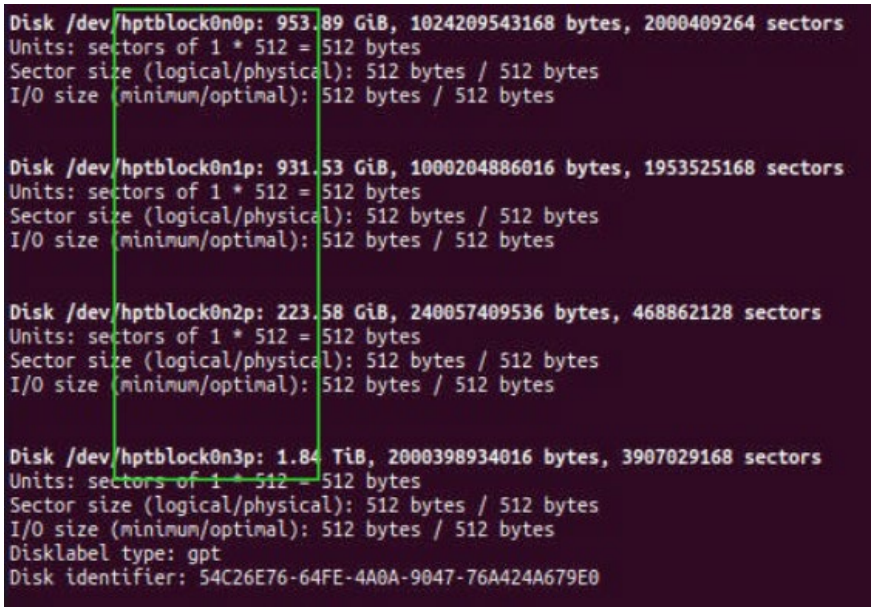
7. After the distribution has rebooted, open the system terminal with root privileges and check the driver status using the following command:

   dmesg | grep hptnvme

   The following screenshot shows driver v1.5.1.



   Additionally, you can check the NVMe drive using the following command:
   fdisk –l



Updating the Driver

As of May 2022, current open-source driver releases include our Auto-Compile feature – auto compile checks the kernel version each time the system is booted to ensure compatibility. If a new kernel is detected, Auto Compile will check our online database for required updates and automatically compile a new driver.

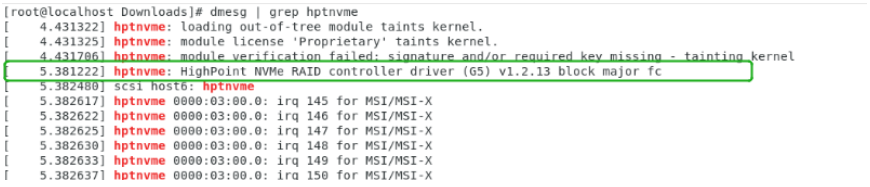
The latest open-source driver is available from the Software Downloads web pages. If you want to manually update using this download, please follow the procedure below.

1. **Prerequisites**

   a. Ensure that NVMe product is installed into the motherboard.

   b. Open the system terminal with root privileges to check the current driver version by using the following command: **dmesg | grep hptnvme**.

   The screenshot below shows driver version v1.2.13 is installed:



2. **Updating the driver**

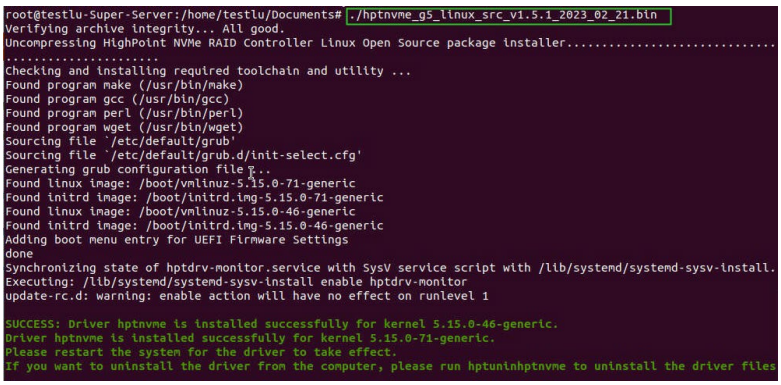
   a. Open the directory where the latest driver version is located and open the system terminal with root privileges. Execute the following commands to complete the installation. The illustrated driver version is v1.5.1.

   b. Extract the Linux Opensource Driver software package using the following command:

   tar zxvf HighPoint_NVMe_G5_Linux_Src_vx.x.xx_xx_xx_xx.tar.gz

   c. Make sure the system has an active internet connection. To manually install the latest Open-source Driver, open the system terminal with root privileges and enter the following command:

   ./hptnvme_g5_linux_src_vx.x.xx_xx_xx_xx.bin



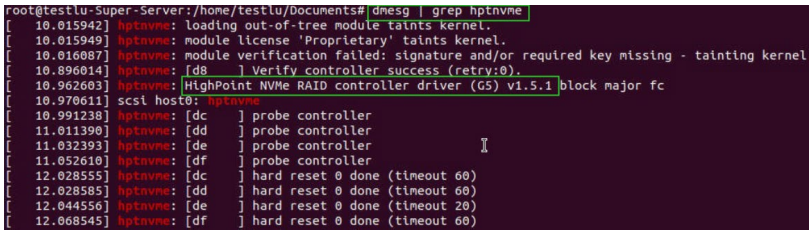
d. After the driver installation is complete, the system will prompt you to restart to allow the new driver to take effect. Please manually restart the system.

Note: *for more information about this procedure, please consult the readme file included with each Openn-source download.*

e. Once the distribution has rebooted, open the system terminal with root privileges and check the current driver version using the following command.

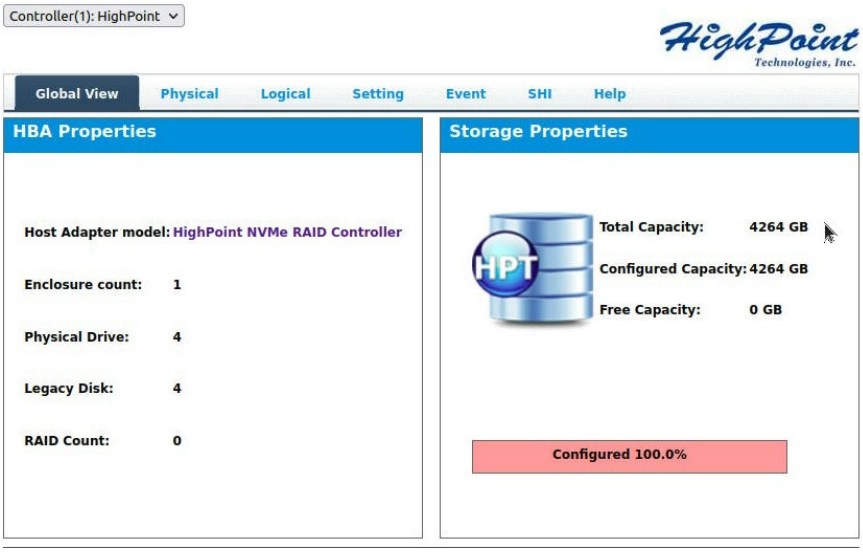
dmesg | grep hptnvme.

The screenshot below shows driver v1.5.1 is installed:



f. Open the WebGUI to make sure it can connect to the NVMe product and recognize the NVMe SSD's/RAID array.

g. As shown below, the new driver has been successfully installed and loaded at bootup – the WebGUI can connect to the NVMe product and recognize the SSD's and RAID array.



Uninstalling the Driver

1. Prerequisites

a. Power off the system and remove the NVMe product from the motherboard.
Note: failing to remove the NVMe product and SSDs when uninstalling the driver may result in data loss. *The Linux distribution will load the default NVMe support after the HighPoint Linux driver has been uninstalled – this driver will only recognize the NVMe SSD's as separate disks.*

2. To uninstall the driver:

a. Open the system terminal with root privileges. Enter the following commands to uninstall the driver:

hptuninhptnvme

b. Press '**Y**' to confirm.

```
[root@localhost Downloads]# hptuninhptnvme
Are you sure to uninstall the driver hptnvme from system? (Y/n): y
Removed symlink /etc/systemd/system/default.target.wants/hptdrv-monitor.service.
Removed symlink /etc/systemd/system/sysinit.target.wants/systemd-hptdrv.service.
All files installed have been deleted from the system.
[root@localhost Downloads]#
```

c. After uninstalling the driver, manually reboot the system.

d. After the distribution has rebooted, open the system terminal with root privileges. And enter the following command to check the driver status:

lsmod | grep hptnvme

Before uninstalling:

```
[root@localhost test]# lsmod | grep hptnvme
hptnvme               235401  0
```

After uninstalling:

```
[root@localhost test]# lsmod | grep hptnvme
[root@localhost test]#
```

e. If the system does not display information about "**hptnvme**", the driver has been successfully uninstalled.

HighPoint RAID Management (WebGUI) Installation

The HighPoint RAID Management software is used to configure and monitor the SSDs hosted by the NVMe product.

Download the HighPoint RAID Management software package from the HighPoint website.

1. Using the system terminal with root privileges, browse to the directory where the software download, and enter the following commands to extract the management software package:

   tar zxvf RAID_Manage_Linux_v3.x.x.x_x_x_x.tgz

   ```
   root@testlu-Super-Server:/home/testlu/Desktop# tar zxvf RAID_Manage_Linux_v3.1.12_22_11_01.tgz
   HPT_CLI_Guide.pdf
   README.txt
   RAID_Manage_Linux_v3.1.12_22_11_01.bin
   ```

   Note: *The driver revision shown in the screenshots may not correspond with current software releases. Please make sure to download the latest driver updates from the product's Software Updates page.*

2. Install the HighPoint RAID management software (WebGUI & CLI) using the following command:
   ./ RAID_Manage_Linux_v2.x.x_x_x_x.bin

   ```
   root@testlu-Super-Server:/home/testlu/Desktop# ./RAID_Manage_Linux_v3.1.12_22_11_01.bin
   ```

3. After the software is installed, open the WebGUI to make sure it can connect to the NVMe product.
4. You can also check the NVMe product using the CLI (command line interface). Using the system terminal, enter the following command:

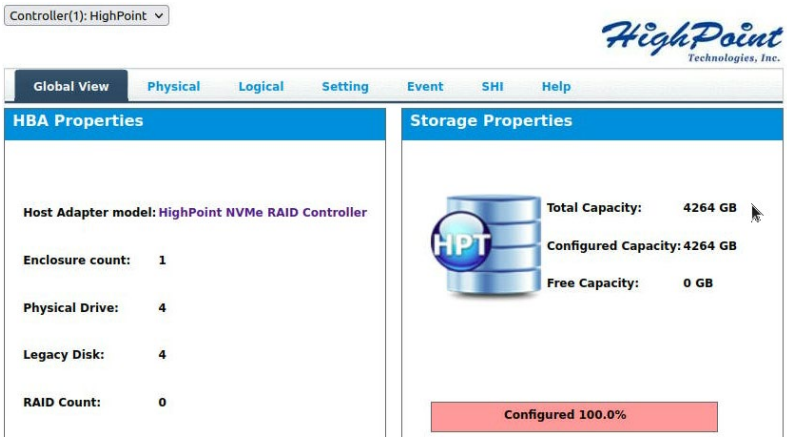
   hptraidconf

   For more information about the CLI, please download the guide: Link.

   ```
   [root@localhost test]# hptraidconf

   HPT CLI>query devices

   ID      Capacity    MaxFree     Flag    Status    ModelNumber
   ------------------------------------------------------------------------------
   1/E1/1  250.06      0           SINGLE  LEGACY    Samsung SSD 960 EVO 250GB
   1/E1/2  250.06      0           SINGLE  LEGACY    Samsung SSD 960 EVO 250GB
   1/E1/3  250.06      0           SINGLE  LEGACY    Samsung SSD 960 EVO 250GB
   1/E1/4  250.06      0           SINGLE  LEGACY    Samsung SSD 960 EVO 250GB
   ------------------------------------------------------------------------------
   ```

5. If the WebGUI/CLI can connect to the NVMe product and recognized the NVMe SSD's, the driver has been installed and is functioning normally.

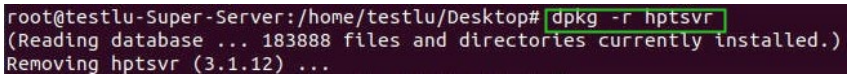
Example screenshot



Uninstalling the HighPoint RAID Management Software (WEBGUI & CLI)

Open the system terminal with root privileges. Enter the following commands to uninstall the RAID Management:

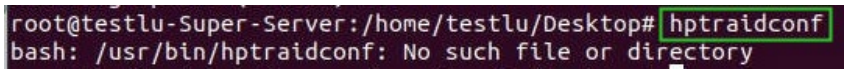
dpkg -r hptsvr (or rpm -e hptsvr-https)



Enter the following command to check if the RAID Management has been removed successfully:

hptraidconf

after uninstall:

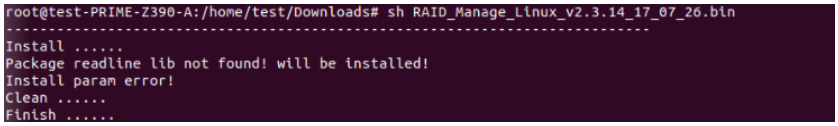


Troubleshooting

WebGUI

1. The WebGUI fails to install

If you use an Ubuntu system, the system may prompt you about the lack of a **readline5** package when installing the WebGUI – this will interrupt the installation process.



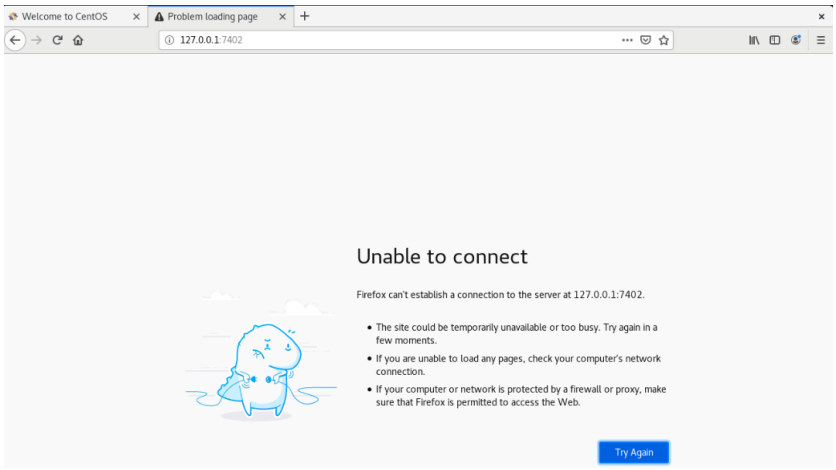
Solution:

a. With root permissions enabled, you can use the following command to load readline5 at using a terminal, and will be allowed to install the WebGUI:
apt-get install libreadline5

b. Once complete, restart the WebGUI installation procedure.

2. The WebGUI cannot connect to the NVMe product

If you are unable to access the NVMe product using the WebGUI:

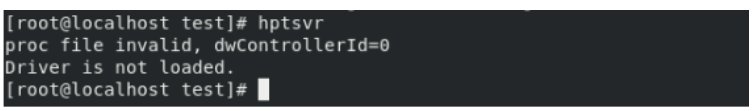


a. WebGUI service did not start successfully.

Solution:

Start the WebGUI by opening the system terminal with root privileges and entering the following command: **hptsvr**

b. The driver cannot be compiled.



Solution：

01. Make sure at least one NVMe SSD's has been installed into the NVMe product.
02. Make sure motherboard can recognize the NVMe product and display NVMe information during the BIOS post.
03. If you use a CentOS system, open the system terminal with root privileges and enter the following command to install "elfutils-libelf-devel":

    yum install elfutils-libelf-devel

    Once complete, install the HighPoint NVMe Linux driver once more.
04. If you use an Ubuntu/Debian system, open the system terminal with root privileges and enter the following command to install "libelf-dev":

    yum install libelf-dev

    Once complete, install the HighPoint NVMe Linux driver once more.

3. Fail to compile gcc, make and other driver files.

For Ubuntu

When installing the driver, due to various factors, driver files such as **gcc** and **make** cannot be compiled, thus interrupting the driver installation process:

```
root@testlu-Super-Server:/home/testlu/Desktop# ./hptnvme_g5_linux_src_v1.6.2.0_2023_06_21.bin
Verifying archive integrity... All good.
Uncompressing HighPoint NVMe RAID Controller Linux Open Source package installer..............
.....................................
Checking and installing required toolchain and utility ...
Installing program make ... (failed)
Installing program gcc ... (failed)
Found program perl (/usr/bin/perl)
Found program wget (/usr/bin/wget)
Sourcing file `/etc/default/grub'
Sourcing file `/etc/default/grub.d/init-select.cfg'
Generating grub configuration file ...
Found linux image: /boot/vmlinuz-5.15.0-72-generic
Found initrd image: /boot/initrd.img-5.15.0-72-generic
Found linux image: /boot/vmlinuz-5.15.0-46-generic
Found initrd image: /boot/initrd.img-5.15.0-46-generic
error: invalid volume.
error: invalid volume.
error: invalid volume.
error: invalid volume.
error: invalid volume.
error: invalid volume.
Found FreeDOS on /dev/sdb1
Adding boot menu entry for UEFI Firmware Settings
done
Synchronizing state of hptdrv-monitor.service with SysV service script with /lib/systemd/system
d-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable hptdrv-monitor
update-rc.d: warning: enable action will have no effect on runlevel 1
ERROR: Toolchain to built the driver is incomplete, please install the missing package to build
 the driver.
Exit.
```

This problem can be caused by：

a. The system is not connected to a network (internet connection)

Solution：

- Double check the system's internet connection
- Once confirmed, reinstall the driver.

b. System process is occupied/busy

Solution:

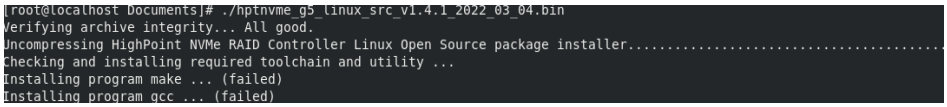
Open the system terminal with root privileges and enter the following command:

apt-get update

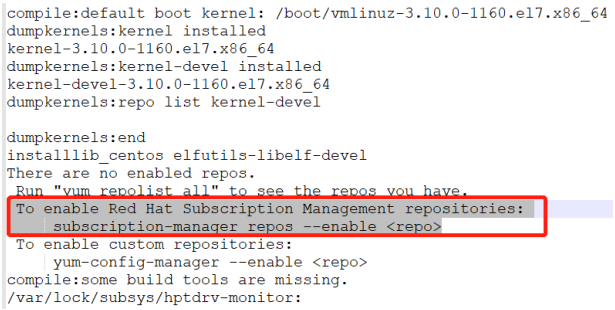
This will prompt the system to release the process and update the download source. **Install the driver again** after the system process has been released.

For Redhat

When installing the driver, due to various factors, driver files such as **gcc** and **make** cannot be compiled, thus interrupting the driver installation process:



Or a prompt with '**subscription-manager repos**':



Solution:

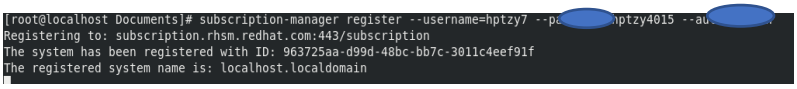
a. Go to the Red Hat website and register an account:

Register for | Red Hat IDP

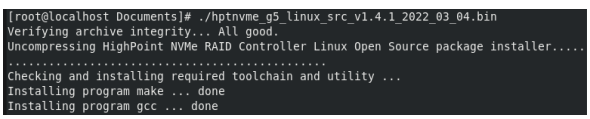
b. Open the system terminal with root privileges.

Enter the following command to log in:

subscription-manager register --username=* --password=*** --auto-attach**



Reinstall the driver



For Debian

When installing the driver, due to various factors, driver files such as **gcc** and **make** cannot be compiled, thus interrupting the driver installation process:

```
root@debian:/home/test/Documents# ./hptnvme_g5_linux_src_v1.4.4_2022_06_13.bin
Verifying archive integrity... All good.
Uncompressing HighPoint NVMe RAID Controller Linux Open Source package installer.............................
Checking and installing required toolchain and utility ...
Installing program make ... (failed)
Installing program gcc ... (failed)
Found program perl (/usr/bin/perl)
Found program wget (/usr/bin/wget)
old pcie_aspm=off iommu=off intel_iommu=off amd_iommu=off
new pcie_aspm=off iommu=off intel_iommu=off amd_iommu=off
Synchronizing state of hptdrv-monitor.service with SysV service script with /lib/systemd/systemd-sysv-install.
Executing: /lib/systemd/systemd-sysv-install enable hptdrv-monitor
update-rc.d: warning: enable action will have no effect on runlevel 1
Toolchain to built the driver is incomplete, please install the missing package to build the driver.
Exit.
```

This problem can be caused by：**The system is not connected to a network (internet connection)**

Solution：

a. Double check the system's internet connection

b. Once confirmed, reinstall the driver.

If the following occurs after the network connection and reinstall driver：

```
root@debian:/home/test/Documents# dhclient
root@debian:/home/test/Documents# ./hptnvme_g5_linux_src_v1.4.4_2022_06_13.bin
Verifying archive integrity... All good.
Uncompressing HighPoint NVMe RAID Controller Linux Open Source package installer........
Checking and installing required toolchain and utility ...
Installing program make ...
Media change: please insert the disc labeled
 'Debian GNU/Linux 11.5.0 _Bullseye_ - Official amd64 DVD Binary-1 20220910-10:40'
in the drive '/media/cdrom/' and press [Enter]
```

This problem can be caused by a lack of dependency packages：

Solution：

a. To install using the CD-ROM: insert the CD-ROM back and press Enter

b. Use USB startup disk to install:

01. The system needs to be resourced

For details, please refer to the official website file:

https://www.debian.org/doc/manuals/debian-faq/uptodate.en.html

Solution(Here is the process of changing the source of Debian 11.5)：

Open the system terminal with root privileges and enter the following command:

nano /etc/apt/sources.list

Replace the contents of the file with the following illustration

deb https://mirrors.tuna.tsinghua.edu.cn/debian/ bullseye main contrib non-free

deb-src https://mirrors.tuna.tsinghua.edu.cn/debian/ bullseye main contrib non-free

deb https://mirrors.tuna.tsinghua.edu.cn/debian/ bullseye-updates main contrib non-free

deb-src https://mirrors.tuna.tsinghua.edu.cn/debian/ bullseye-updates main contrib non-free

deb https://mirrors.tuna.tsinghua.edu.cn/debian/ bullseye-backports main contrib non-free

deb-src https://mirrors.tuna.tsinghua.edu.cn/debian/ bullseye-backports main contrib non-free

deb https://mirrors.tuna.tsinghua.edu.cn/debian/ bullseye-security main contrib non-free

deb-src https://mirrors.tuna.tsinghua.edu.cn/debian/ bullseye-security main contrib non-free

Note: *You can replace https://mirrors.tuna.tsinghua.edu.cn/debian with the name of a faster Debian mirror near you. See the mirror list at https://www.debian.org/mirror/list for more information.*

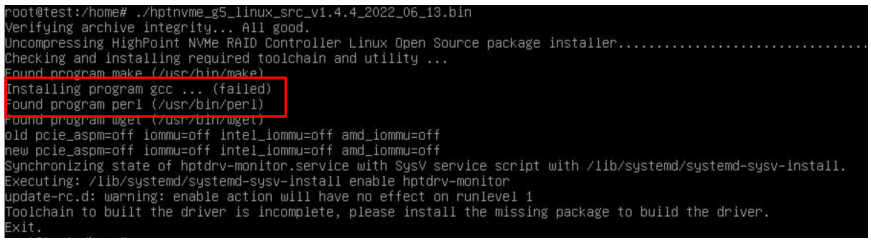
02. apt-get update

```
root@test:/home/test/Documents# nano /etc/apt/sources.list
root@test:/home/test/Documents# apt-get update
Get:1 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye InRelease [116 kB]
Get:2 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye-updates InRelease [44.1 kB]
Get:3 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye-backports InRelease [49.0 kB]
Get:4 https://mirrors.tuna.tsinghua.edu.cn/debian-security bullseye-security InRelease [48.4 kB]
Get:5 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/non-free Sources [81.2 kB]
Get:6 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/main Sources [8,633 kB]
Get:7 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/contrib Sources [43.2 kB]
Get:8 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/main amd64 Packages [8,184 kB]
Get:9 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/main Translation-en [6,239 kB]
Get:10 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/main amd64 DEP-11 Metadata [4,049 kB]
Get:11 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/main DEP-11 48x48 Icons [3,478 kB]
Get:12 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/main DEP-11 64x64 Icons [7,315 kB]
Get:13 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/contrib amd64 Packages [50.6 kB]
Get:14 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/contrib Translation-en [46.9 kB]
Get:15 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/contrib amd64 DEP-11 Metadata [13.6 kB]
Get:16 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/contrib DEP-11 48x48 Icons [47.2 kB]
Get:17 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/contrib DEP-11 64x64 Icons [93.3 kB]
Get:18 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/non-free amd64 Packages [97.7 kB]
Get:19 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/non-free Translation-en [92.4 kB]
Get:20 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/non-free amd64 DEP-11 Metadata [17.9 kB]
Get:21 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/non-free DEP-11 48x48 Icons [741 B]
Get:22 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye/non-free DEP-11 64x64 Icons [27.7 kB]
Get:23 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye-updates/main Sources [3,588 B]
Get:24 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye-updates/main amd64 Packages [6,344 B]
Get:25 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye-updates/main Translation-en [5,890 B]
Get:26 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye-backports/main Sources [314 kB]
Get:27 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye-backports/non-free Sources [3,996 B]
Get:28 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye-backports/contrib Sources [2,712 B]
Get:29 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye-backports/main amd64 Packages [341 kB]
Get:30 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye-backports/main Translation-en [281 kB]
Get:31 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye-backports/contrib amd64 Packages [4,400 B]
Get:32 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye-backports/contrib Translation-en [4,320 B]
Get:33 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye-backports/non-free amd64 Packages [11.5 kB]
Get:34 https://mirrors.tuna.tsinghua.edu.cn/debian bullseye-backports/non-free Translation-en [8,960 B]
Get:35 https://mirrors.tuna.tsinghua.edu.cn/debian-security bullseye-security/main Sources [160 kB]
Get:36 https://mirrors.tuna.tsinghua.edu.cn/debian-security bullseye-security/non-free Sources [632 B]
Get:37 https://mirrors.tuna.tsinghua.edu.cn/debian-security bullseye-security/main amd64 Packages [189 kB]
Get:38 https://mirrors.tuna.tsinghua.edu.cn/debian-security bullseye-security/main Translation-en [119 kB]
Get:39 https://mirrors.tuna.tsinghua.edu.cn/debian-security bullseye-security/non-free amd64 Packages [528 B]
Get:40 https://mirrors.tuna.tsinghua.edu.cn/debian-security bullseye-security/non-free Translation-en [344 B]
Fetched 40.2 MB in 3min 13s (208 kB/s)
Reading package lists... Done
root@test:/home/test/Documents#
```

03. Reinstall the driver.

For Proxmox

When installing the driver, due to various factors, driver files such as **gcc** and **make** cannot be compiled, thus interrupting the driver installation process:



This problem can be caused by:

a. The system is not connected to a network (internet connection)

Solution:

01. Double check the system's internet connection
02. Once confirmed, reinstall the driver.

b. System process is occupied/busy

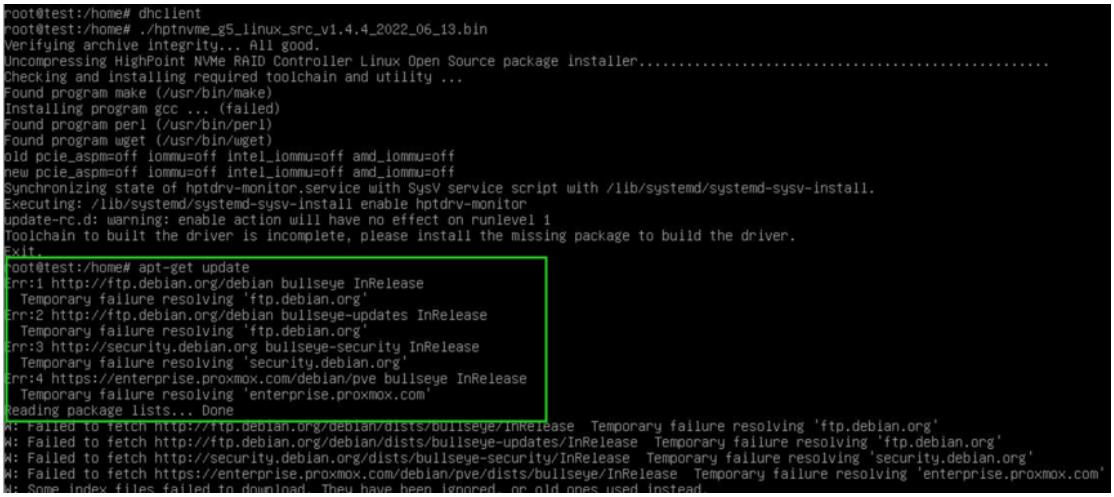
Solution:

Open the system terminal with root privileges and enter the following command:

apt-get update

This will prompt the system to release the process and update the download source. Install the driver again after the system process has been released.

If you are using a completely new system, the following error occurs when installing the driver or **apt-get update**:



This problem can be caused by：

01. The system needs to be resourced

This article is a proxmox7.2 feeding.
The previous version of the source can refer to the official website:
https://pve.proxmox.com/wiki/Downloads#Update_a_running_Proxmox_Virtual_Environment_7.x_to_latest_7.2

- Open the system terminal with root privileges and enter the following command to delete the source that comes with it
  rm /etc/apt/sources.list.d/pve-enterprise.list

- Add a domestic source:
  echo 'deb http://mirrors.ustc.edu.cn/proxmox/debian/pve bullseye pve-no-subscription' >> /etc/apt/sources.list.d/pve-no-subscription.list

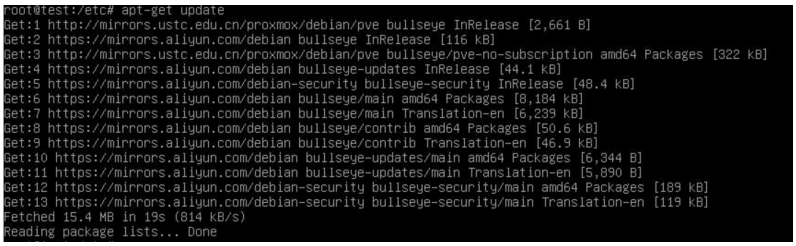
- Edit the source file: /etc/apt/sources.list
  nano /etc/apt/sources.list

- Replace the contents of the file with the following illustration

```
# debian aliyun source
deb https://mirrors.aliyun.com/debian bullseye main contrib
deb https://mirrors.aliyun.com/debian bullseye-updates main contrib
# security updates
deb https://mirrors.aliyun.com/debian-security bullseye-security main contrib
```

Note: You can replace https://mirrors.aliyun.com/debian with the name of a faster Debian mirror near you. See the mirror list at https://www.debian.org/mirror/list for more information.

02. **apt-get update**



03. **Reinstall the driver.**

4. **If you experience any other WebGUI or CLI related problems,** please submit a support ticket using our Online Support Portal, which includes a description of the problem in as much detail as possible, and upload the following:

   Please click the following Appendix for more information about locating and collecting these logs.

Controller and Drive Detection Issues

If the system is unable to detect the NVMe product or SSD's, make sure to remove all NVMe devices from the system that is not related to the NVMe product during the troubleshooting process. The presence of other NVMe devices may interfere with the detection of the NVMe product.

If you experience any other controller related problems, please submit a support ticket using our Online Support Portal, which includes a description of the problem in as much detail as possible.

Please check the Appendix – providing system logs, screenshots and other information about your system will enable our Support Department resolve your support issue as quickly and efficiently as possible.

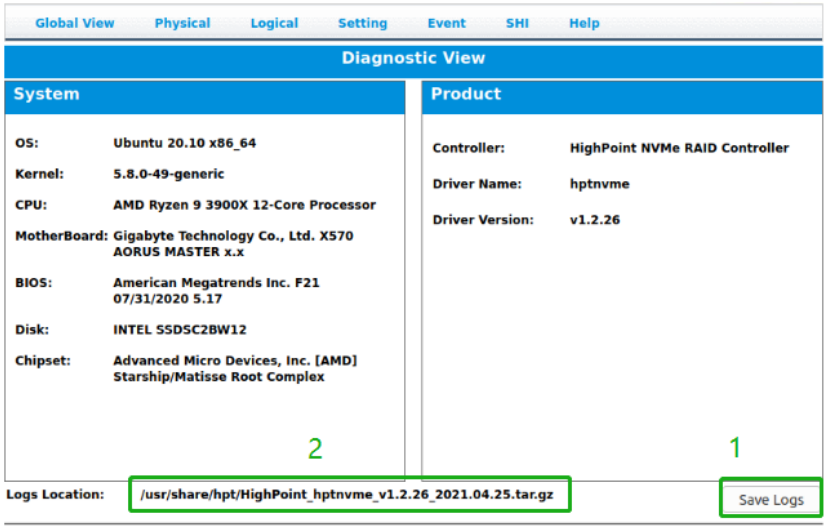
Appendix

When submitting s support ticket via our Online Support Portal, the following information will help out Support Department diagnose and resolve your issue as quickly and efficiently as possible.
For information collection methods, please refer to the following steps and video links

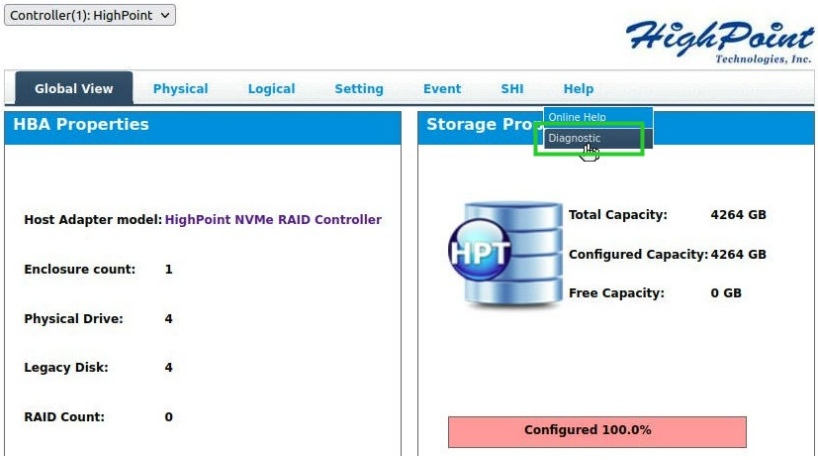
How to collect Log information in WEBGUI

We have provided a detailed video on log collection methods: link

1. **1-Click Self-Diagnostic Solution**: Diagnostic View provides a “1-click” information collection system for troubleshooting. It will gather all necessary hardware, software and storage configuration data and compile it into a single file, which can be transmitted directly to our FAE Team via our Online Support Portal;

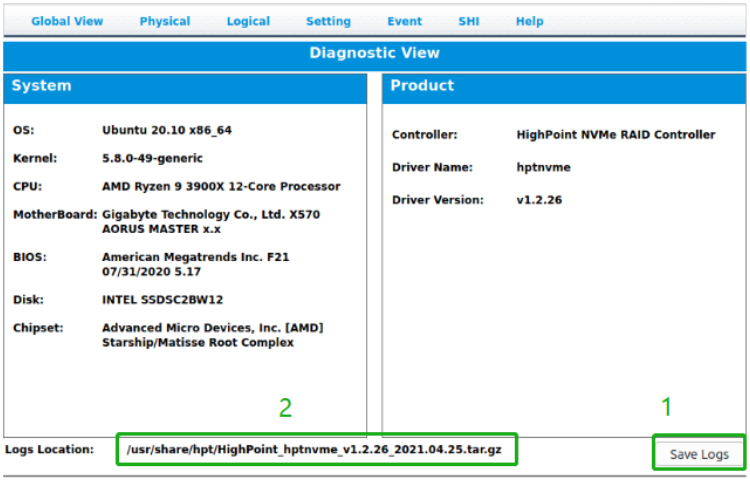


2. You can also click '**Help**'→'**Diagnostic**' to enter the diagnostic view.



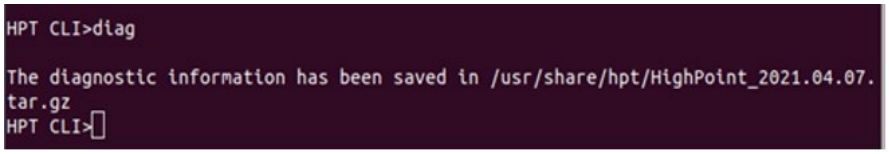
3. Click the "**Save Logs**" button to create the diagnostic file.

   Note: *this process may take several minutes to complete.*



How to collect Log information CLI

1. Execute the command '**hptraidconf'** to enter the CLI;
2. Execute the command **'diag'** in **CLI**, your log information will be collected.



Please submit the log file to our **Support Department** using our online services: Link.