HighPoint NVMe G5 Data RAID Installation Guide (Windows)

V1.16-Jan 29, 2024

Contents

Overview

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

The following is a list of supported NVMe products:

Supported AIC	SSD7202 SSD7105 SSD7502 SSD7505 SSD7540 SSD7580A SSD7580B SSD7580C SSD7749E SSD7749M SSD7749M2 RocketAIC 7505HW Series RocketAIC 7540HW Series RocketAIC 7749EW Series RocketAIC 7502HW Series RocketAIC 7105HW Series RocketAIC 7749MW Series

Prerequisites

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

Driver Installation

This section covers driver installation, driver upgrade, and driver uninstallation procedures for NVMe products.

Management Software Installation

This section explains how to download and install RAID Management Software Suite for Windows operating systems. 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 the NVMe products. It includes descriptions and solutions for commonly reported technical issues.

Appendix

A selection of useful information and web links for the NVMe products.

Prerequisites for a Data-RAID Configuration

The NVMe products can support Data-RAID arrays. In order to configure a Data-RAID array, you will need the following:

1. **An NVMe SSD must be installed**. You must have at least one NVMe SSD installed into the NVMe products.

   Note: *The RocketAIC series NVMe drives already include pre-configured SSDs.*
2. **A PCIe 3.0/4.0/5.0 slot with x8 or x16 lanes.**
3. **Make sure any non-HighPoint drivers are uninstalled for any SSDs hosted by the NVMe products.** 3rd party software and manufacturer-provided drivers may prevent the NVMe products from functioning properly.

Warnings:

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

Windows operating systems will always load the default NVMe support after the HighPoint Windows driver has been uninstalled, or if it detects the presence 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 – this includes RAID configuration data.

Driver Installation

Installing the Device Driver

The following section discusses driver installation for a non-bootable NVMe configuration.

1. **Install NVMe products and disks into the system**

   After installing the NVMe products and disks into the system, power on the motherboard.

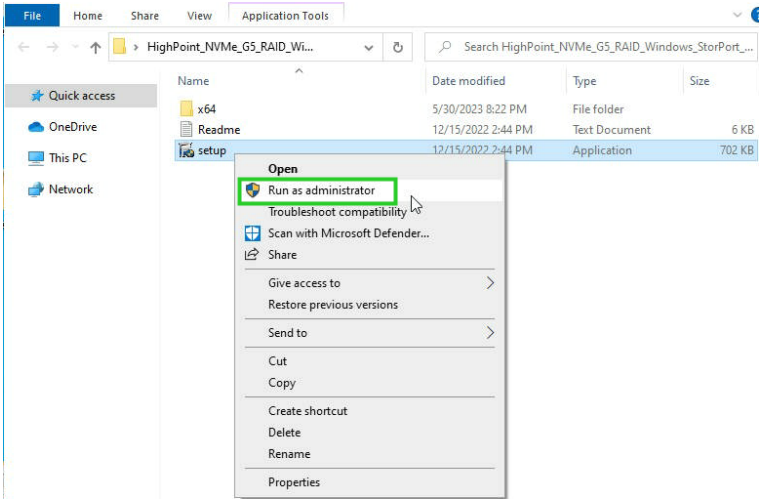
2. **Download the Device Driver**

   Download the appropriate driver from the NVMe products's Software Downloads webpage.

3. **Install the Device Driver**

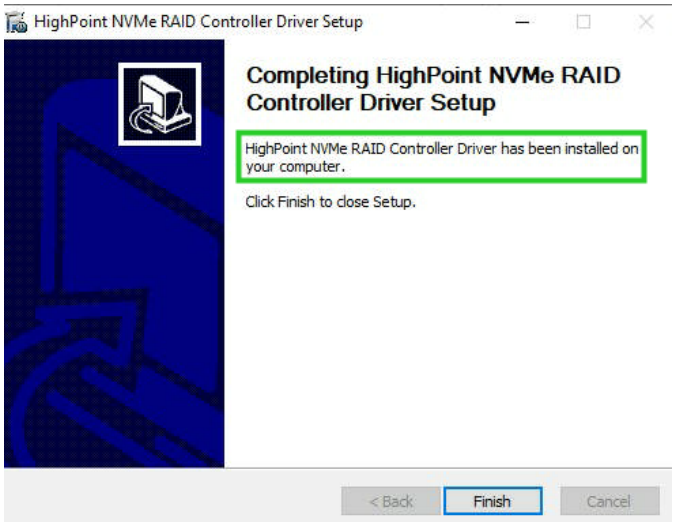
   1) Locate the driver download and open the file.

   2) Double-click **setup**.



Note: *if installation does not start, you may have to manually start setup using Administrator Privileges. Right-click* ***setup****, select* ***Run as Administrator*** *from the menu and confirm the pop-up window to proceed.*

3) After the driver installation is complete, click **Finish** to proceed.

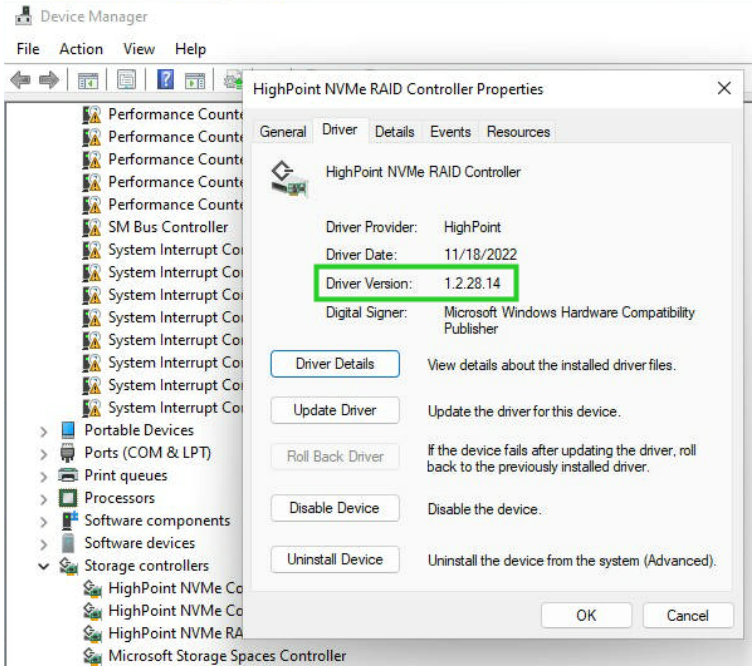


4) Reboot Windows.

5) Once Windows has rebooted, open **Device Manager** to check the status of the driver.

Expand **Storage controllers** and click on the **HighPoint NVMe RAID Controller** entry. View the properties and click the **Driver** tab:

Example screenshot

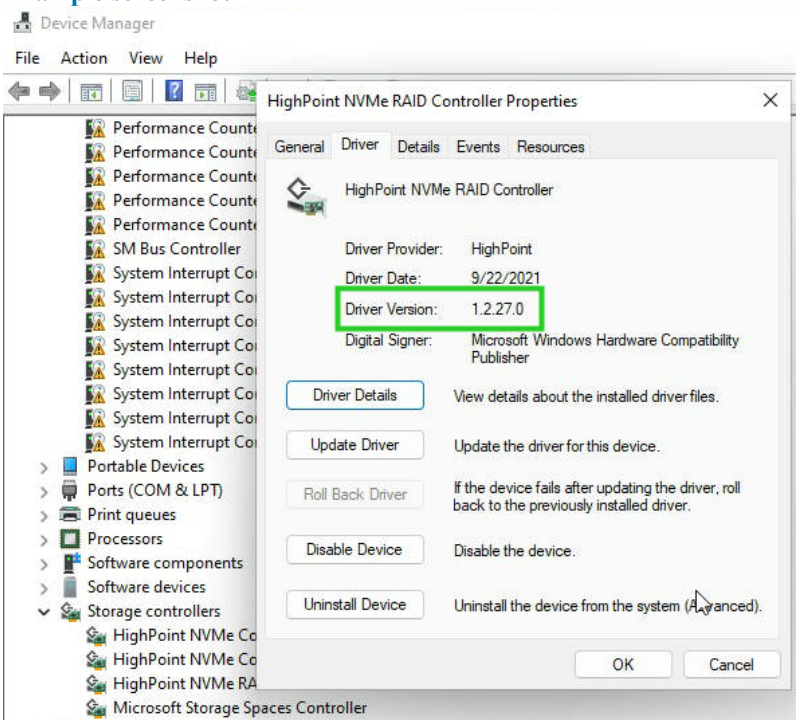


Note: *The driver revision shown in the screenshots may not correspond with current software releases. Please make sure to download the latest driver updates from the product's Software Updates page.*

Updating the Device Driver

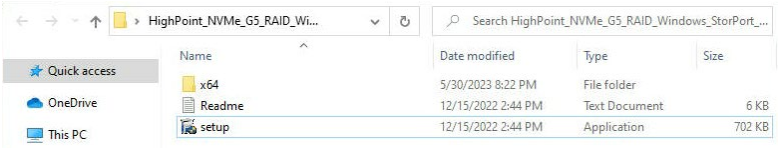
Note 1: *before attempting to update the driver entry, ensure that the* NVMe products *are installed into th e motherboard.*
Note 2: *This driver can be installed directly without uninstalling the driver.*

1. Open Device Manager to check the current driver version. Expand **Storage controllers** and click on the **HighPoint NVMe RAID Controller entry.** View the properties and click the **Driver** tab:
   Example screenshot

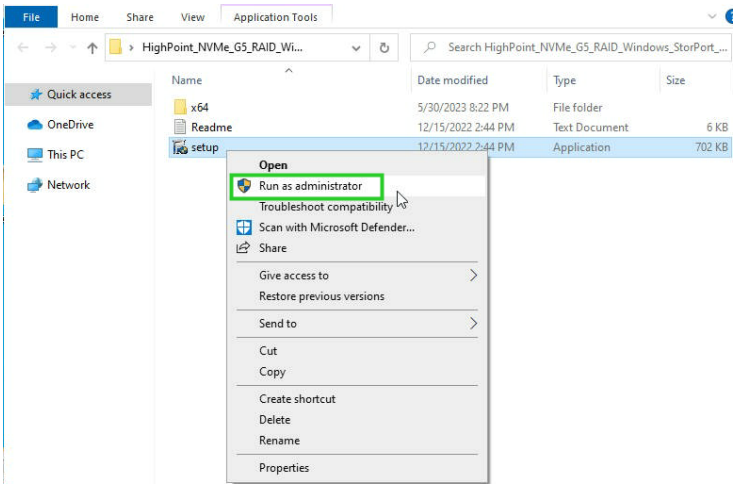


2. Download the Device Driver
   Download the latest driver from the Software Download section of the product category webpages.

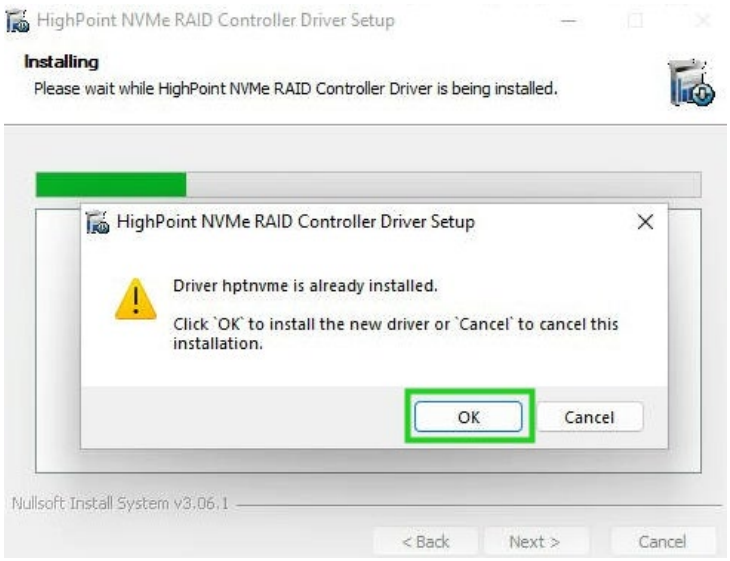
3. Update the Device Driver.
   1) Locate the driver download and open the file.
   2) Double-click **setup**.



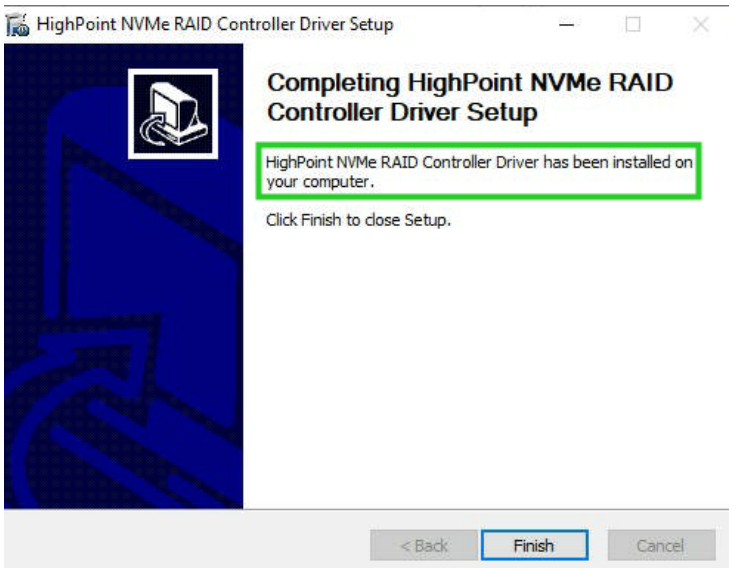
Note: *if the update does not start, you may have to manually start setup using Administrator Privileges. Right-click* ***setup****, select* ***Run as Administrator*** *from the menu and confirm the pop-up window to proceed.*



3) Windows will notify you that the driver is already installed. Click **OK** to install the new driver:



4) Once complete, click **Finish**.

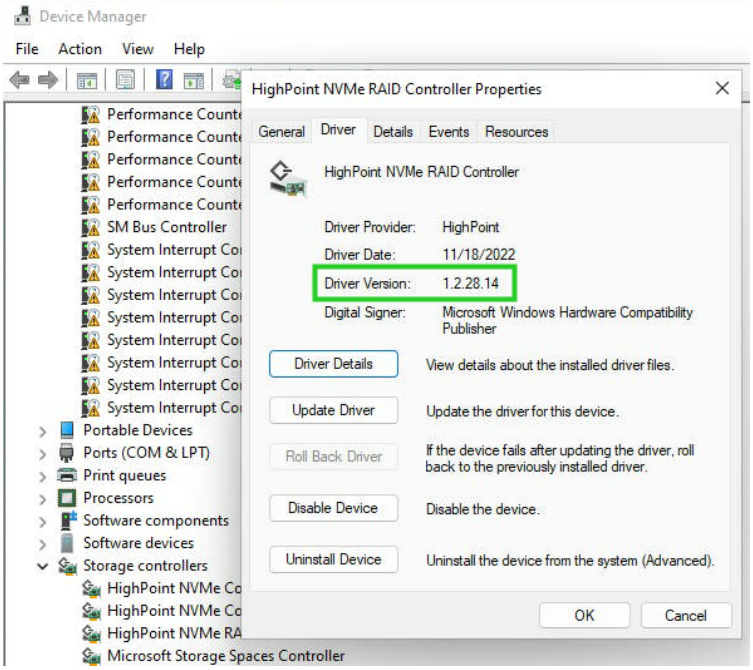


5) Reboot Windows.

6) Once Windows has rebooted, open **Device Manager** to check the status of the driver. Expand **Storage controllers** and click on the **HighPoint NVMe RAID Controller** entry. View the properties and click the **Driver** tab:

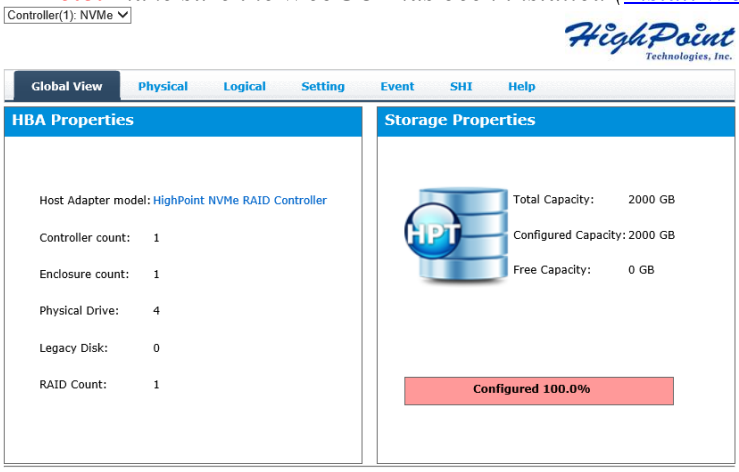
Example screenshot

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.*



7) Open the WebGUI and make sure the SSD's arrays are properly recognized.

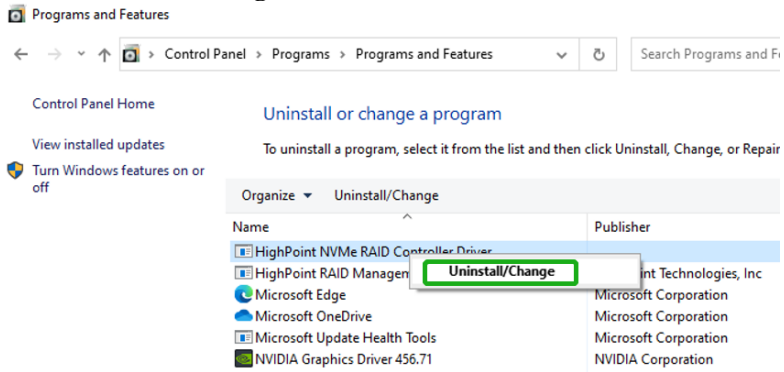
Note: *make sure the WebGUI has been installed (Install WebGUI).*



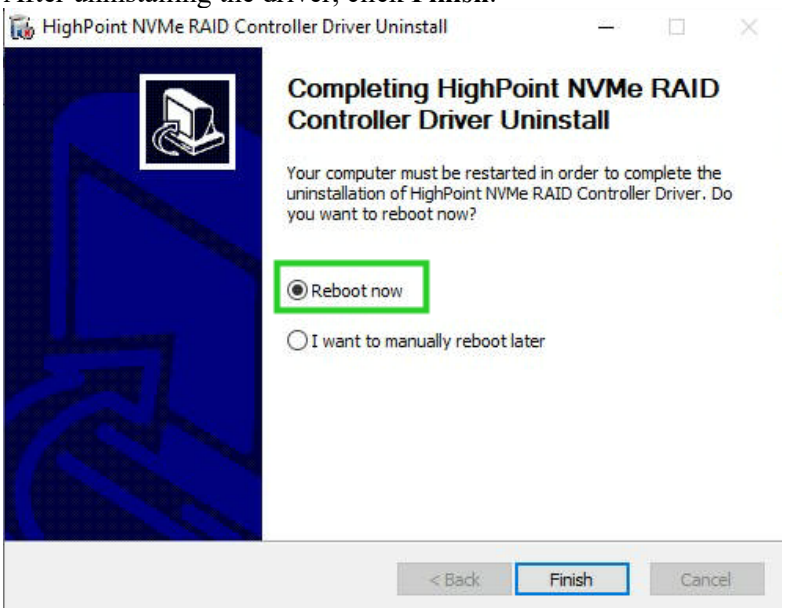
Uninstalling the Device Driver

1. Power down the system and remove the NVMe products from the motherboard.
   Note 1: *Failing to remove the NVMe products from the motherboard during the uninstall process may result in data loss.*
   Note 2: *Whenever the driver is uninstalled, Windows will attempt to install the default NVMe support, which may corrupt the RAID configurations and any data stored on SSDs hosted by the NVMe products.*

2. Power on the system and boot Windows.
3. Access **Control Panel** and select **Programs→ Programs and Features, and click on the HighPoint NVMe RAID Controller Driver** entry**.**
4. Click **Uninstall/Change.**

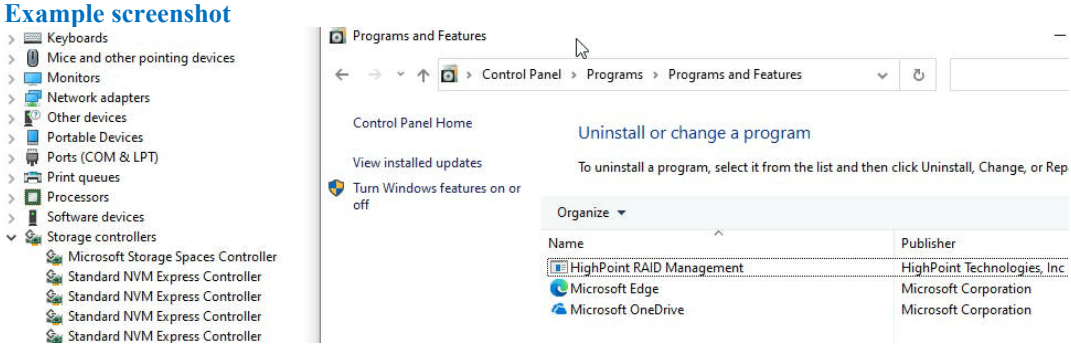


5. After uninstalling the driver, click **Finish**.



6. Reboot Windows to complete the uninstall procedure.
7. After Windows has rebooted, access **Device Manager – Storage Controllers** and **Control Panel** to make sure the driver has been uninstalled. If there are no HighPoint entries present, the driver has been successfully uninstalled

Example screenshot



Installing the HighPoint RAID Management Software (WebGUI & CLI)

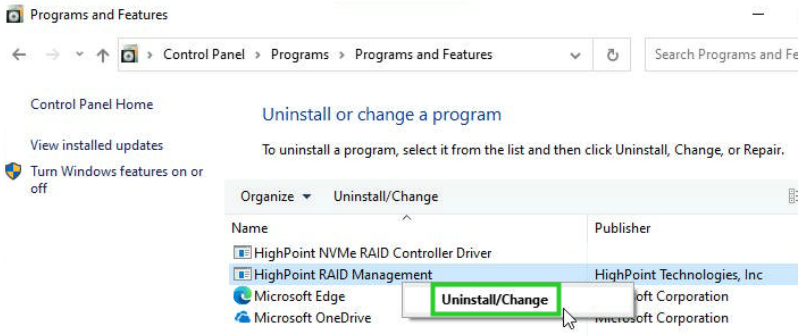
The HighPoint RAID Management Software (WebGUI and CLI utilities) is used to configure and monitor NVMe SSDs hosted by the NVMe products. Download the latest software package from the Hig hPoint website.

1. Extract the package and double-click the HighPoint RAID Management program to install the software.
2. Once installed, locate the Management icon on the desktop and double-click to start the WebGUI interface.

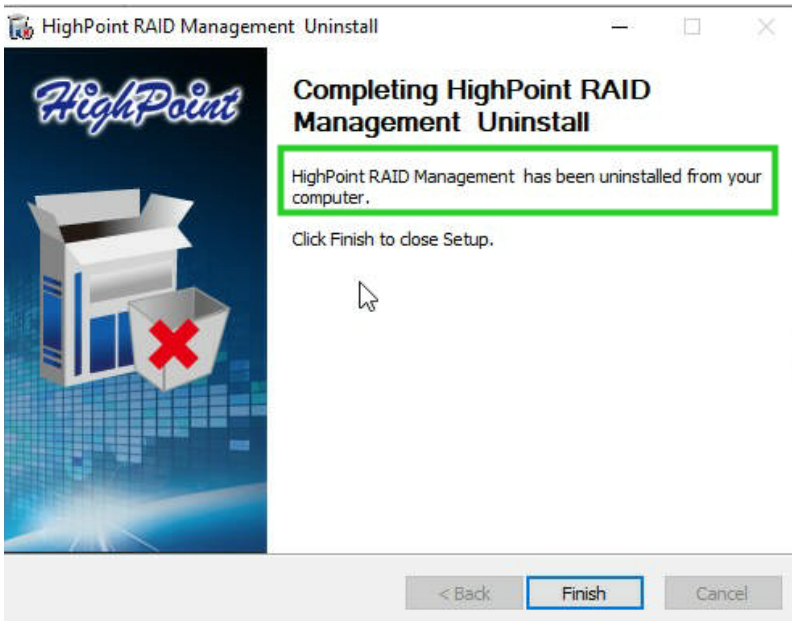
Example screenshot

Uninstalling the HighPoint RAID Management Software (WEBGUI & CLI)

1. Access **Control Panel** and select **Programs→ Programs and Features, and right-click on the** HighPoint RAID Management entry**.**
2. Click **Uninstall/Change.**



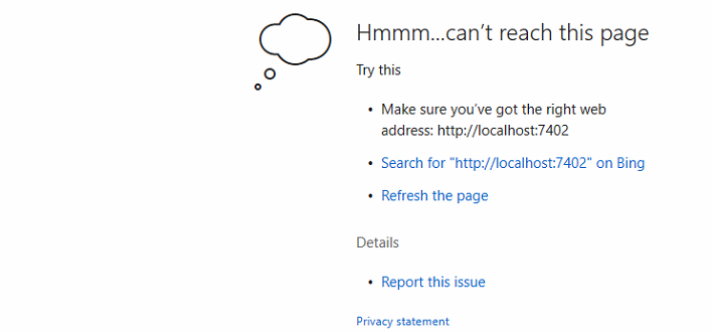
3. After uninstalling the HighPoint RAID Management, click **Finish**.



Troubleshooting

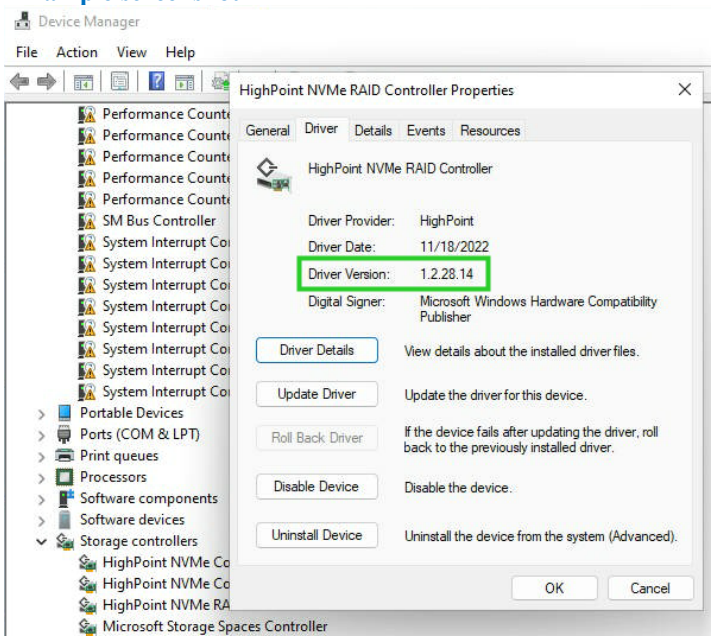
Note: *When troubleshooting your NVMe products. make sure all of the Prerequisites have been met before proceeding.*

The WebGUI will not start after double-clicking the desktop icon.



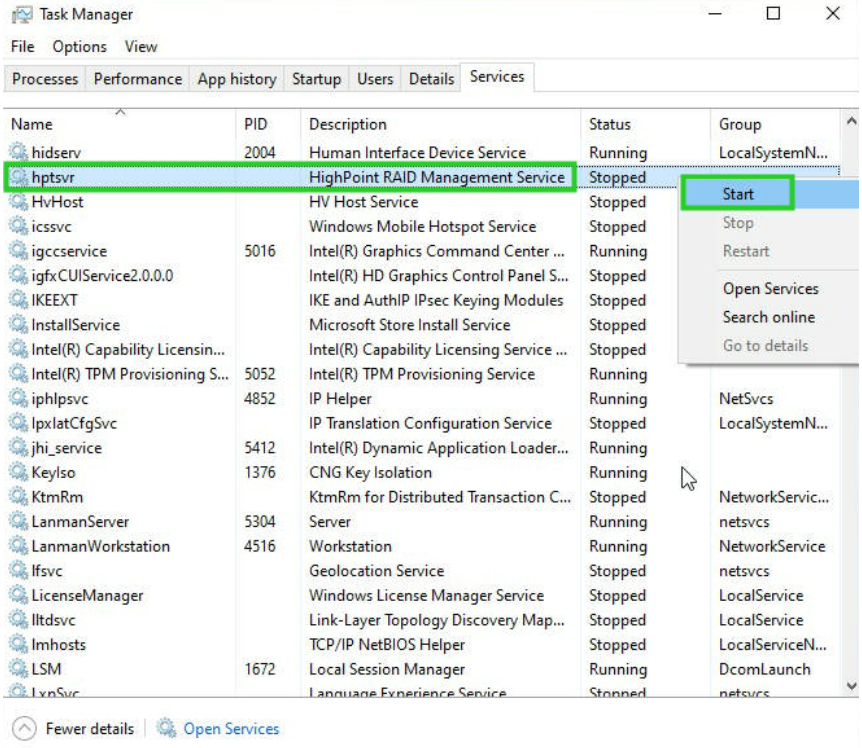
1. This is often the result of a missing driver or improperly installed driver. Open **Device Manager** and check under **Storage Controllers**.
   If the Driver is properly installed, you should see a **HighPoint NVMe Controller** entry for each NVMe SSD hosted by the NVMe products, followed by a single **HighPoint NVMe RAID Controller** entry.

Example screenshot



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.*

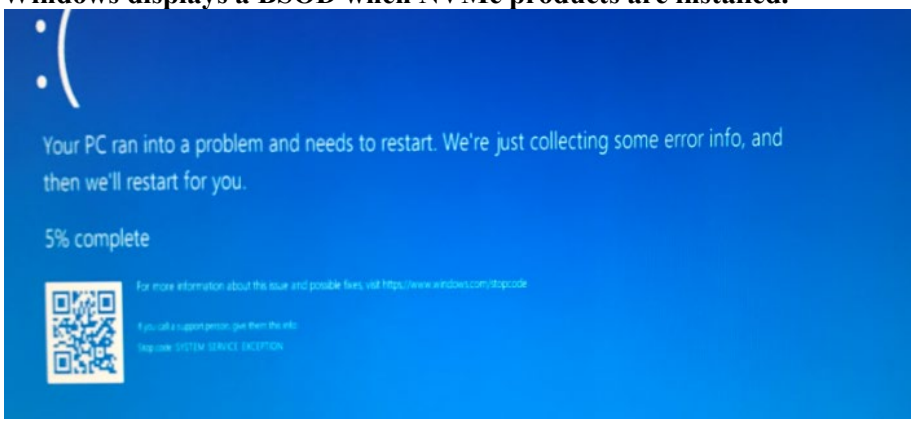
2. You should also check to make sure **hptsvr** is running under **Task Management → Services**. If the status of **hptsvr** process is **Stopped**, right-click on this entry and select Start from the menu:



BSOD (Blue Screen of Death)

There are three scenarios in which a BSOD may occur:

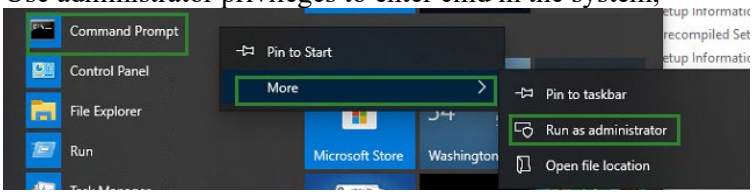
1. **Windows displays a BSOD when NVMe products are installed.**



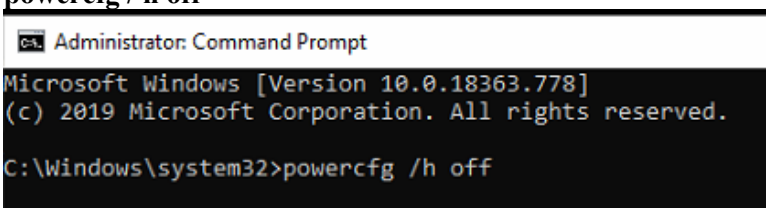
If you are running Windows 10, please make sure that **Quick Shutdown** is disabled – these features can cause a BSOD when NVMe products are installed into or removed from your motherboard. BSODs can be avoided by **completely powering off** your system.

How to Turn off Quick Shutdown for Windows

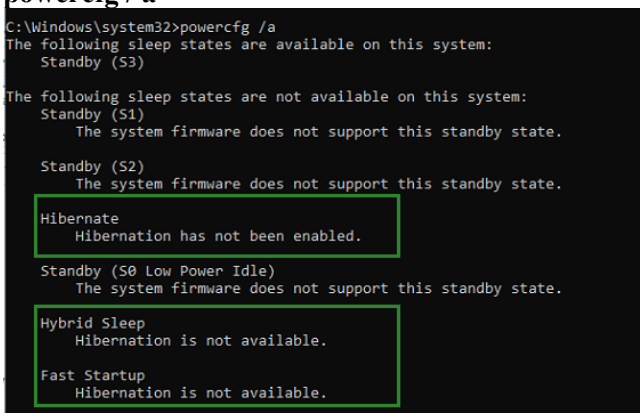
a. Use administrator privileges to enter cmd in the system;



b. Enter the command in cmd to close the quick shutdown;
powercfg / h off



c. Enter the command to check that the quick shutdown is turned off;
powercfg / a



d. Shut down the computer and remove the NVMe products from the motherboard;
e. **Restart the system** and open the NVMe products's driver download.
f. Double-click **Setup** to reinstall the driver; if you are prompted to uninstall the driver, you will need to follow the prompts and restart; after rebooting, double-click Setup once more to install the driver.
g. After the driver installation is complete, shut down the computer. Connect/install the NVMe SSDs I changed to NVMe products, and inserted it into the motherboard PCIe slot.
h. Power on; boot Windows and access the WebGUI; if the WebGUI can't connect, you need to restart again.
i. If it fails to start the second time, please access our Online Support portal and submit a support ticket.

2. A BSOD is encountered when installing the driver:

If you experience a BSOD during driver installation, please collect the log information refer to How to Collect Diagnostic Logs, and submit a new support ticket via our Online Support Portal.

3. If Windows reports that driver installation has failed:

Please collect this log information refer to How to Collect Diagnostic Logs

Note: *If you experience a BSOD or error when installing the driver, please ensure that any* ***Quick Shutdown*** *options are* ***not enabled*** *– Quick shutdown can cause a BSOD when removing the NVMe products from your motherboard, and plugging it back in. BSODs can be avoided by* ***completely powering off*** *your system:*

Controller and Drive Detection Issues

1. If your motherboard or Windows is unable to detect the NVMe products or NVMe SSD, please shut d own the system and try moving the controller to another PCIe slot.
2. Make sure any unrelated NVMe devices are removed from the motherboard while troubleshooting the NVMe products.

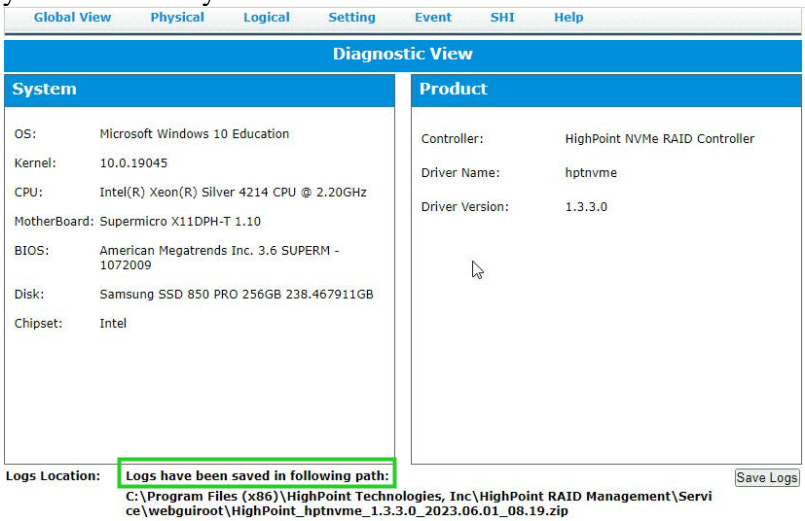
Appendix

When submitting s support ticket via our Online Support Portal, the following information will help our Support Department diagnose and resolve your issue as quickly and efficiently as possible.

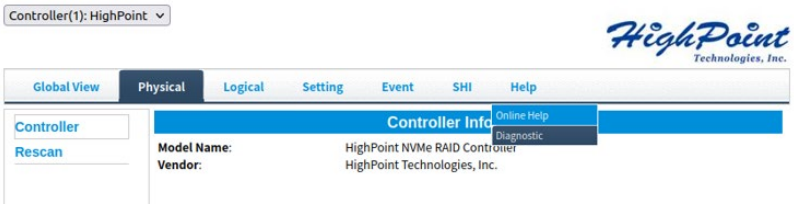
How to Collect Diagnostic Logs in WEBGUI

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

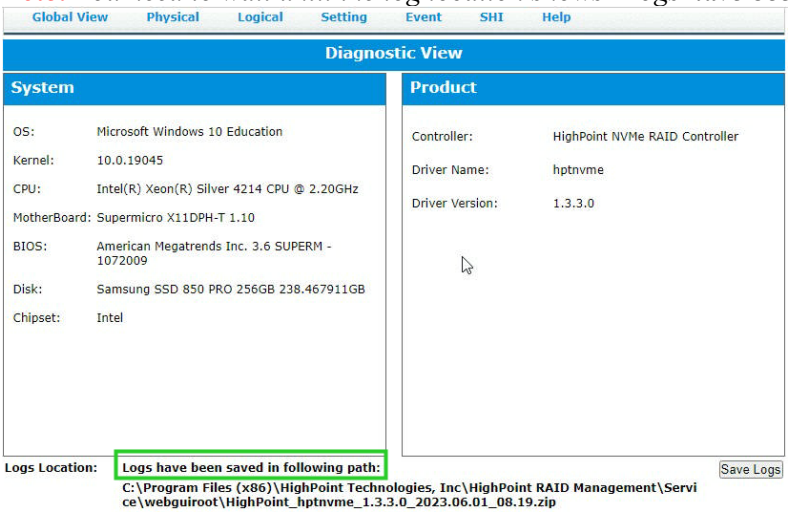
1. Start the WEBGUI, The Diagnostic view will appear when the Driver or HPT card is not affected, you can see the system information and HPT Product information in this view.



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

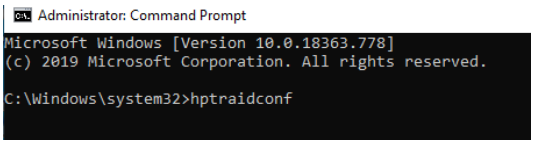


3. Enter the Diagnostic view, and click 'Save Logs', your log information will be collected. 'Logs Location' will display the location of the saving path.
   Note: *You need to wait until the log location shows "Logs* ***have been saved*** *in the following path:"*

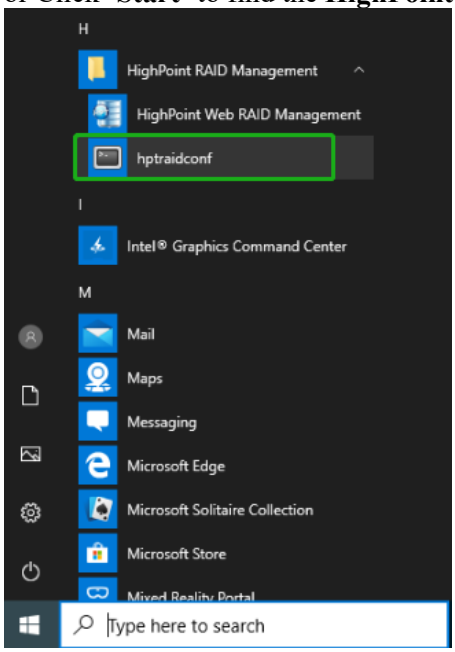


How to Collect Diagnostic Logs in CLI

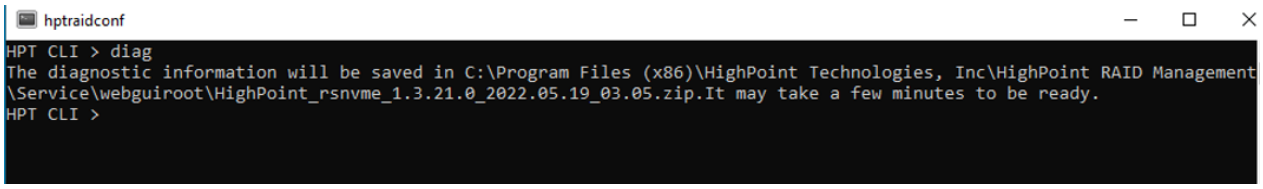
1. Run '**Command Prompt**' as **Administrator** enter **hptraidconf** and press Enter.



or Click '**Start**' to find the **HighPoint RAID Management** folder, and click on **hptraidconf**



2. Execute the command **'diag'** in **CLI**, your log information will be collected.



If you have problems in use, please submit the log to our online service Link.