

HighPoint NVMe RAID AIC BootRAID Installation Guide

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1. Overview

Boot-RAID: a RAID array that functions as a system disk (bootable drive or volume). In most cases, a Boot-RAID is configured as a redundant RAID array (RAID1, 10), as it adds a layer of data security to the OS.

Boot-RAID volumes must be created before an OS can be installed; a bootable drive cannot be converted into a RAID array. Administrators can configure the array depending on the AIC using the AIC's UEFI tool.

Note: Though a Boot-RAID array can be moved from one HighPoint solution to another within the same product class and remain recognized, the Boot-RAID is unlikely to remain bootable. This isn't unique to HighPoint or RAID in general. Boot volumes (this includes bootable, single disks) are generally "tied" to the computing platform in place at the original OS installation. The Boot-RAID volume would be recognized and readable but could not be used to boot another system.

The following is a table of Operating Systems and NVMe RAID AICs.

Supported NVMe RAID AICs	• R7628A
	• R7608A
	• R7528D
	• RA7608AW
Supported Operating Systems	Microsoft Windows
	• Windows 11
	• Windows 10
	Microsoft Windows Server
	Windows Server 2022
	• Windows Server 2019
	Windows Server 2016
	Microsoft Windows Hyper-V Server
	• Hyper-V 2019
	Red Hat Enterprise Linux
	• Red Hat Enterprise Linux 9.4
	Rocky Linux
	Rocky Linux 9.4
	Debian
	• Debian 12.5
	Ubuntu
	• Ubuntu Server 24.04
	Ubuntu Desktop 24.04

Table 1: Supported Operating Systems and NVMe RAID AICs

2. Prerequisites

To configure a bootable NVMe RAID array, please perform the following operations.

2.1. Prepare Your Hardware for Installation

- 1. The NVMe RAID AIC needs to connect the disks for a bootable NVMe RAID array. Note: The RocketAIC series NVMe AIC SSDs already include pre-configured SSDs.
- 2. The NVMe RAID AIC must be installed into a PCIe slot.
- 3. Remove all the NVMe SSDs not physically attached to the NVMe RAID AIC from your system.
- 4. Disconnect the system from the internet and any local network.

Note: If connected to the Internet, the system will automatically update the latest kernel after the installation is complete without saving the initial version of the kernel, which will result in the system not booting correctly after the installation is complete.

2.2. Prepare Two USB Flash Drives

- 1. Prepare two USB flash drives formatted as FAT32.
- 2. The first USB flash drive is used as a bootable USB flash drive. You can use third-party software to flash the operating system to a USB flash drive.
- 3. The second USB flash drive is used to save the files the operating system needs, such as Linux HighPoint RAID Software, Linux binary driver, and Windows driver.

You must extract HighPoint_NVMe_Linuxxx.xx_x86_64_vx.x.x_xx_xx_xx.tar.gz to a USB flash drive's top(/) directory. It will look like:



2.3. Adjust System EFI Settings

Adjust the UEFI settings. Allow the option ROM settings for third-party devices to load. Different motherboards will provide different UEFI-related BIOS settings. Please consult your motherboard's user manual for more information. This section provides examples of two different types of motherboard BIOS menus.

- 1. Set UEFI setting with SuperMicro X11DPi-NT motherboard as an example.
 - a. Boot the system and access the motherboard BIOS menu.
 - b. Select the **Boot** tab and set the **Boot Mode** Select to **UEFI**.



c. Select Advanced→PCIe/PCI/PnP Configuration→CPUSlot PCI-E OPROM to EFI. NVMe AIC is connected to motherboard CPU1 Slot 2 PCI-E X16; then you should set "CPU1 Slot 2 PCI-E X16 OPROM" to "EFI".

Aptio Setup Utility – Advanced	Copyright (C) 2021 Am	erican Megatrends, Inc.
PCI Bus Driver Version	A5.01.19	▲ Enables or disables CPU1 SLOT2 PCI-E 3.0 X16 OPROM
PCI Devices Common Settings:		option.
Above 4G Decoding	[Enabled]	
SR-IOV Support	[Disabled]	
BME DMA Mitigation	[Disabled]	
PCIe ARI Support	[Auto]	
PCIe Ten Bit Tag Support	[Auto]	
PCIe Spread Spectrum	[Disabled]	
Relaxed Ordering	[Enabled]	
No Snoop CPU1	SLOT2 PCI-E 3.0 X16 (DPROM
VGA Priority Disabled		
NVMe Firmware Source		
M.2 (AHCI) Firmware Source		
	Firmware)	
CPU2 SLOT1 PCI-E 3.0 X8 OPROM	[EFI]	++: Select Screen
CPU1 SLOT2 PCI-E 3.0 X16 OPROM		↑↓: Select Item
CPU1 SLOT3 PCI-E 3.0 X8 OPROM	[EFI]	Enter: Select
CPU1 SLOT4 PCI-E 3.0 X16 OPROM	[EFI]	+/-: Change Opt.
CPUIL SLOTS PCT-E 3.0 X8 OPROM	[FET]	E1: General Heln

Note: If the OPROM is not configured correctly, the UEFI driver will not load correctly!

- 2. Set UEFI setting with ASUS Pro WS WRX90E-SAGE SE motherboard as an example.
 - a. Set Boot from Storage Devices to UEFI only.

Compatibility Support Module	e Configuration
Launch CSM	[Enabled]
Boot Device Control Boot from Network Devices Boot from Storage Devices Boot from PCI-E/PCI Expans Devices	(UEFI and Legacy OPROM) (UEFI only) [UEFI only] ion [UEFI only]
	Boot from Storage Devices Ignore <mark>UEFI only</mark> Legacy only

b. And Boot Device Control to UEFI Only or UEFI and Legacy OPROM.

Compatibility Support Module Co	nfiguration
Launch CSM	[Enabled]
Boot Device Control Boot from Network Devices Boot from Storage Devices Boot from PCI-E/PCI Expansion Devices	[UEFI and Legacy OPROM] [UEFI only] [UEFI only] [UEFI only]
	Boot Device Control UEFI and Legacy OPROM Legacy OPROM only UEFI only

Note: If the OPROM is not configured correctly, the UEFI driver will not load correctly!

2.4. Adjust Secure Boot Setting

The Windows Boot-RAID supports Secure Boot enabled and disabled.

The Linux Boot-RAID supports Secure Boot disabled. If Secure Boot is enabled, the HighPoint driver can not work.

Set UEFI setting with SuperMicro X11DPi-NT motherboard as an example.

- 1. Boot the system and access the motherboard BIOS menu.
- 2. Set Secure Boot to Disabled/ Enabled.



2.5. Create a RAID Array

Note: RocketAIC series NVMe AIC SSDs are already pre-configured with RAID0. You can skip those steps. You can follow the steps if you want to use another type of RAID for Boot-RAID.

To create a RAID, perform the following steps:

1. Power on the motherboard→the BIOS Setting→Advanced, HighPoint RAID Management Utility should appear.



- 2. Enter HighPoint RAID Management Utility and select Create RAID....
- 3. A disk list will appear, displaying all available disks.

Log.	ical	Device	e Information
[VD	0]	1/E1/1	Seagate FireCuda 530 ZP1000GM30013 (Single),
1000	DGB	Normal	
[VD	1]	1/E1/2	Samsung SSD 980 PRO 1TB (Single), 1000GB Normal
[VD	2]	1/E1/3	Samsung SSD 980 PRO 2TB (Single), 2000GB Normal
[VD	3]	1/E1/4	HP-EM2802T0GMTCB58R-E26P4 (Single), 2000GB Normal
[VD	4]	1/E1/5	Samsung SSD 980 PRO 500GB (Single), 500GB Normal
[VD	5]	1/E1/6	Sabrent Rocket 4.0 1TB (Single), 1000GB Normal
[VD	6]	1/E1/7	KXG80ZN84T09 KIOXIA (Single), 4096GB Normal
[VD	7]	1/E1/8	Sabrent Rocket 4.0 1TB (Single), 1000GB Normal

4. Select the **RAID type** from the dropdown list. Use the keyboard or mouse's up and down keys to select the RAID type and press **Enter**.



5. Select the disk that needs to create a RAID array and the status of the disk changes from **Disabled** to **Enabled**.

Advanced	
Specify RAID type, member disks and RAID RAID	capacity to Create
Select RAID type from dropdown list Select disk(s) to be used to create RAID:	[RAIDO]
1/E1/1 Seagate FireCuda 530 ZP1000GM30013 (Single)	[Enabled]
1/E1/2 Samsung SSD 980 PRD 1TB (Single)	[Disabled]
1/E1/3 Samsung SSD 980 PRD 2TB (Single)	[Disabled]
1/E1/4 HP-EM2802T0GMTCB58R-E26P4 (Single)	[Disabled]
1/E1/5 Samsung S (Single) Disabled	Cuda 530 ZP1000GM30013 (Single)
1/E1/6 Sabrent R Enabled	
1/E1/7 KXG80ZN84	
1/E1/8 Sabrent Roc	

6. Use the keyboard to input the space (GB) you want to set aside for this array. You can decide how much storage capacity will be assigned to the array.



7. Select and **press to create RAID** to complete the RAID Array creation. A pop-up window prompt: **Are you sure to create RAID0 with following disk(s).** Press **the Enter** key to confirm.



8. A pop-up window will state that **RAID***** creation succeeded. Press the Enter key to confirm the operation again.



3. Install the Windows OS in a RAID array

Please install the Windows operating system in a RAID array following the following sections.

- 1. Insert a bootable USB flash drive into the target system.
- 2. Boot the system using a bootable USB flash drive.



 Windows setup begins; follow the on-screen prompts. When Windows asks, "Where do you want to install Windows?" you should see several legacy disks (one for each SSD installed into the NVMe RAID AIC).

	A		
Name	Total size	Free space Type	1
Drive 0 Unallocated Space	931.5 GB	931.5 GB	
Drive 1 Unallocated Space	931.5 GB	931.5 GB	
Drive 2 Unallocated Space	1863.0 GB	1863.0 GB	
Drive 3 Unallocated Space	1863.0 GB	1863.0 GB	
Drive 4 Unallocated Space	465.8 GB	465.8 GB	
Refresh	<u>Eormat</u>	<mark>₩</mark> N <u>e</u> w	
🚯 Load driver 🚔 Extend			
			Next

- 4. Insert a file USB flash drive with the Windows driver into the target system.
- 5. Click "Load driver" in the pop-up window, and click "Cancel".

Se	elect the driver to install
	Load driver
	To install the device driver for your drive, insert the installation media containing the driver files, and then click OK. Note: The installation media can be a CD, DVD, or USB flash drive.
	Browse OK Cancel
	Hide anvers that aren't compatible with this computer's naroware.
	Browse Rescan

6. Insert a USB flash drive that contains the Windows driver into the motherboard USB slot and click "**Browse**". Select the driver file as shown:

Select the driver to install
(HighPoint_NVMe_G5_KAID_Windows_Software_v1.4.0.01_24_04_30\Installer Package\Driver\xb4\h 7608A\HighPoint_NVMe_G5_KAID_Windows_Software_v1.4.0.01_24_04_30\Installer Package\Driver\
Hide drivers that aren't compatible with this computer's hardware.
Brguvse Rescan Next

Note: The driver revision shown in the screenshots may not correspond with current software releases. Please download the latest driver from the AIC's Software Updates page.

7. After loading the driver, return to the **"Where do you want to install Windows?**" interface. The previous legacy disks will now be recognized as a RAID array:

Nam	ne		Total siz	e Free space	Туре
S Drive	e 0 Unallocated	Space	3725.5 G	B 3725.5 GB	
€ <u>≯ R</u> efresh	~	Delete	Eormat	* Ngw	
🕑 Load drive	er G	Extend			

- 8. Continue and complete the Windows installation procedure.
- 9. Boot into the Windows and disable Hibernation.
 - a. Enter the command to turn off hibernation.

#powercfg /h off



b. Enter the command to check that the quick shutdown is turned off.

#powercfg /a



Note: If you do not turn the hibernation functionality off, you may experience the following problems:

• Shutdown time is extended by an additional 3-5 minutes.

• You cannot shut down properly; you need to manually press the power switch button of the motherboard to power off the system.

4. Install the Ubuntu OS in a RAID array

Please disconnect from the network and follow these steps to install the Ubuntu operating system in a RAID array.

- 1. Insert a bootable USB flash drive into the target system.
- 2. Boot the system using a bootable USB flash drive.



- 3. Block the system kernel module so that NVMe SSD is not occupied by the system driver.
 - a. When the Installation screen appears, press **e** key to edit boot command line option.



b. On the edit command window, move the cursor to the end of the line "linux /casper/vmlinuz...", and append "modprobe.blacklist=nvme,mpt3sas".

		GNU 0	GRUB	version	2.12	
setparams 'Try or	Install Ubuntu'					
set gfxpa	Jload=keep					
linux initrd	/casper/vmlinuz /casper/initrd				modprobe.blacklist=nvme,mpt3sas	-

- c. Press CTRL+X or F10 to start the system.
- 4. Install the binary driver in a RAID array.
 - For Ubuntu Server:

Example: Ubuntu Server 24.04

a. When the following window appears during installation. Press ALT+F2 to switch to the shell on console 2.

Willkommen! Bienvenue!	Welcome! Добро пожаловать! Welkom!	
Use UP, DOWN and ENTER	keys to select your language. [Asturianu [Bahasa Indonesia [Català [Deutsch [English [English] [English]	*] *] *] *]

Note: The shortcut to switch to the shell may be different for different Ubuntu versions.

b. Press Enter to activate this console.

Ubuntu 24.04 LTS ເ	ibuntu-server tty2
Welcome to Ubuntu	24.04 LTS (GNU/Linux 6.8.0-31-generic x86_64)
* Documentation: * Management: * Support:	https://help.ubuntu.com https://landscape.canonical.com https://ubuntu.com/pro
System informatio	n disabled due to load higher than 1.0

c. Switch to root privileges.

```
ubuntu-server@ubuntu-server:~$ sudo su
root@ubuntu-server:/home/ubuntu-server#
```

- d. Execute the following command to create a mount point for the USB flash drive.
 #mkdir /hptdd
- e. Execute the following command to mount the USB flash drive to /hptdd.
 #mount /dev/sda1 /hptdd/
- f. Execute the following command to copy the binary driver installation file to the system's temporary directory.

#cp -a /hptdd/hptdd /tmp/

g. Execute the following command to unmount the USB flash drive.



- h. When the USB flash drive is unmounted, please unplug the USB flash drive from the system.
- i. Execute the following command to load the NVMe AIC binary driver.

#sh /tmp/hptdd/preinst.sh		
root@ubuntu-server:/home/ubuntu-server#	sh	/tmp/hptdd/preinst.sh
This step succeeded!		

- j. Press ALT+F1 to switch back to the installation screen and continue the installation.
- k. Select the previously created RAID.



1. When the screen shows **Install complete!** Press **ALT+F2** to the shell and type the following command to install the NVMe AIC binary driver.



A message will be displayed that the driver has been installed successfully.

m. Press ALT+F1 to switch back to the installation screen and finish the installation.



Ubuntu Desktop:

Example: Ubuntu Desktop 24.04

a. When the following window appears during installation. Open the Terminal.

	Choose your language:	
	Dansk	
	Deutsch	
	Eesti	
😳 Ubuntu	English	
	Español	
	Esperanto	
	Euskara	
	• • • • • • • • • • • • •	Next

b.

	ubuntu@ubuntu:~9	sudo su		Í		
c.	Execute the f	followin	g command to create a mount point for the	USB f	lash	drive.

#mkdir /hptdd

- d. Execute the following command to mount the USB flash drive to /hptdd. #mount /dev/sdb1 /hptdd/
- e. Execute the following command to copy the binary driver installation file to the system's temporary directory.

#cp -a /hptdd/hptdd /tmp/

f. Execute the following command to unmount the USB flash drive.

#umount /hptdd	
root@ubuntu:/home/ubuntu#	mkdir /hptdd
root@ubuntu:/home/ubuntu#	mount /dev/sda1 /hptdd/
root@ubuntu:/home/ubuntu#	cp -a /hptdd/hptdd/ /tmp/
root@ubuntu:/home/ubuntu#	umount /hptdd/

- g. When the USB flash drive is unmounted, please unplug the USB flash drive from the system.
- h. Execute the following command to load NVMe AIC binary driver.

# sh /tmp/hptdd/preinst.sh		
root@ubuntu:/home/ubuntu#	sh	/tmp/hptdd/preinst.sh
This step succeeded!		

i. Close the Terminal and continue the installation.

k.

j. Select the previously created RAID.

	Disk setup	×
	How do you want to install Ubuntu? Erase disk and install Ubuntu Start from scratch on your selected disk. Advanced features None selected	4
	Manual Installation For advanced users seeking customized dis	sk setups.
Back	0 0 0 0 0 0 0 🔮 0 0 0 0	Next
erify information	on and start installation.	
	Ready to install	×

0	General	
	Disk setup	Erase disk and install Ubuntu
1/1/1/1	Installation disk	hptblock11n0p
6	Applications	Default selection
	Security & more	
(MA)	Disk encryption	None
	Proprietary software	None
80	Partitions	
	partition hptblock11n0p1 forma	tted as fat32 used for /
	boot/efi	
	partition hptblock11n0p2 forma	tted as ext4 used for /

1. When the screen shows **Install complete!** Open the **Terminal** and enter the following command to install the NVMe AIC binary driver.

#sh /tmp/hptdd/postinst.sh



m. Close the Terminal and finish the installation.

- 5. If you want to boot from another kernel, please install the HighPoint RAID Software package after entering the system.
 - a. Boot the system.



b. Enter the following command to extract the HighPoint RAID Software package:



c. Enter the following command to install the HighPoint RAID Software.



- d. Manually restart the system.
- e. Execute the following command to download package information from all configured sources. (please connect to the internet) to install available upgrades of all packages currently installed on the system.

#apt-get update

root@test-Super-Server:/home/test/Desktop#	apt-get update	
Get:1 http://archive.ubuntu.com/ubuntu nob	ole inkelease [256	kB]
Get:2 http://security.ubuntu.com/ubuntu nc	ble-security InRe	lease [126 kB]
Get:3 http://security.ubuntu.com/ubuntu nc	ble-security/main	amd64 Packages [106 kB]
Get:4 http://security.ubuntu.com/ubuntu no	ble-security/main	Translation-en [29.8 kB]
Get:5 http://security.ubuntu.com/ubuntu no	ble-security/main	amd64 Components [6.876 B]

f. Execute the following command to install available upgrades of all packages currently installed on the system.



5. Install the RHEL OS in a RAID array

Please disconnect from the network and follow these steps to install the Red Hat Enterprise Linux operating system in a RAID array.

- 1. Insert a bootable USB flash drive into the target system.
- 2. Boot the system using a bootable USB flash drive.



3. Block the system kernel module so that NVMe SSD is not occupied by the system driver.

Example: Red Hat Enterprise Linux 9.4

a. When the Installation screen appears, press e key to edit boot command line option.

	GRUB version 2.06	
Install Red Hat	Enterprise Linux 9.4	
∗Test this media	& install Red Hat Enterprise Linux 9.4	
Troubleshooting	>	

b. On the edit command window, move the cursor to the end of the line "linux efi/images/pxeboot/vmlinuz...", and append "modprobe.blacklist=nvme,mpt3sas".

GRUB version 2.06
setparams 'Test this media & install Red Hat Enterprise Linux 9.4'
lin <mark>uxefi /images/pxeboot/vmlinuz_inst</mark> .stage2=hd:LABEL=RHEL-9-4-0-BaseOS-x86_64 rd.live.\
check quiet modprobe.blacklist=nvme,mpt3sas_ initrdefi /images/pxeboot/initrd.img

- c. Press CTRL+X or F10 to start the system.
- 4. Install the binary driver in a RAID array.
 - a. When the following window appears during installation. Press CTRL+ALT+F2 to switch to the shell on console 2.

		RED HAT ENTERPRISE LINUX 9.4 INSTALLATION
WELCOME TO RED HAT ENT	ERPRISE LINUX 9.4.	
What language would you like to use du	ring the installation process?	
trgish	denbic English Context States)	
Francis	Franch English (India)	
Deutsch	German English (Australia)	
842	Japanese Badidi (Desmark)	
中文	Mandarin Chinese English (reland)	
Руссний	Russian English (New Zealand)	
Español	Spanish English (Nigeria)	
Arkaans	Afrikaans English (Hong Kang SAR China)	
a-mc17	Amharic English (Philippines)	
यन्त्रीय	Assamese English (South Africa)	

Note: The shortcut to switch to the shell may be different for different Red Hat Enterprise Linux versions.

- Execute the following command to create a mount point for the USB flash drive.
 #mkdir /hptdd
- c. Execute the following command to mount the USB flash drive to /hptdd.#mount /dev/sda1 /hptdd/

d. Execute the following command to copy the binary driver installation file to the system's temporary directory.

#cp -a /hptdd/hptdd /tmp/

e. Execute the following command to unmount the USB flash drive.



- f. When the USB flash drive is unmounted, please unplug the USB flash drive from the system.
- g. Execute the following command to load the NVMe AIC binary driver.

#sh /tmp/hptdd/rhel-install-step1.sh					
[anaconda root@localhost	/]#	sh	/tmp/hptdd/rhel-install-step1.sh		
Driver Installation					
Driver installation step	1 cc	omp	leted.		

- h. Press ALT+F6 to switch back to the installation screen and continue the installation.
- i. Select Installation Destination and click Refresh.



j. Select the previously created RAID.



k. Set Software Selection and choose Server with GUI and Development Tools.

SOFTWARE SELECTION Date	RED HAT ENTERPRISE UNUX 9.4 INSTALLATION
Conversion 20 Arrow manual set to survey to use of the spectral set of the set	Additional determinants Instruct for the folder planshowing signations and specific determinants Instruct for the folder planshowing signations and specific determinants Instruct for the folder planshowing signations and specific determinants Instruct for the folder planshowing signations and specific determinants Instruct for the folder planshowing signations and specific determinants Instruct for the folder planshowing signation and specific determinants Instruct for the folder planshowing signation and specific determinants Instruct for the folder planshowing signation and specific determinants Instruct for the folder planshowing structure folder planshowing specific determinants Instruct for the folder planshowing structure folder planshowing specific determinants Instruct for the folder planshowing structure folder planshowing specific determinants Instruct for the folder planshowing structure folder planshowing specific determinants Instruct for the folder planshowing structure folder planshowing specific determinants Instruct for the folder planshowing structure folder planshowing specific determinants Instruct for the folder planshowing structure folder planshowing specific determinants Instructure folder Instructure folder Instructure folder Instructure folder Instructure folder

1. Set the **Root Password** and create the User to begin the installation.

C Red Hat	INSTALLATION SUMMARY				RED HAT ENTERRISE LINUX 94 INSTALLATION
		LOCULIATION Image: Constraint of the second of the seco	SOTUNNE	STEM Image: Instantian extended and and and and and and and and and an	
					Begin Installation

If the following information is displayed during the installation, select Yes.



- m. When the screen shows Install complete! Press CTRL+ALT+F2 to the shell.
- n. Execute the following command to copy the binary driver installation file to the system.
 #cp -r /tmp/hptdd /mnt/sysimage/tmp/hptdd
- Execute the following command to switch to the top(/) directory.
 #chroot /mnt/sysimage/
- p. Execute the following command to install the NVMe AIC binary driver.
 #sh /tmp/hptdd/rhel-install-step2.sh
 A message will be displayed that the driver has been installed successfully.
- q. Execute the following command to delete the NVMe AIC binary driver file.#rm -rf /tmp/hptdd

r. Execute the following command to exit the top(/) directory.

#exit

+CAIL	
[anaconda root@localhost /]# cp -r /tmp/hptdd /mnt/sysimage/tmp/hptdd	Ī
[anaconda root@localhost /]# chroot /mnt/sysimage/	
[anaconda root@localhost /]# sh /tmp/hptdd/rhel-install-step2.sh	
Driver Installation	
Jpdating 5.14.0-427.13.1.e19_4.x86_64	
Driver installation step 2 completed.	
[anaconda root@localhost /]# rm -rf /tmp/hptdd/	
Tanaconda root@localhost /]# exit	

- s. Press ALT+F6 to switch back to the installation screen and finish the installation.
- 5. If you want to boot from another kernel, please install the HighPoint RAID Software package after entering the system.
 - a. Boot the system.



b. Enter the following command to extract the HighPoint RAID Software package:

#tar zxvf	HighPo	int N	VMe	G5	Linux	Software	vx.x.xx	XX	XX	_xx.tar.g	Z
[root@localhost	Documents]#	ar zxvf	HighPoint	_NVMe_G5	_RAID_Linux	_Software_v1.8.1.	0.1_24_06_22	tgz			
README.txt											

c. Enter the following command to install the HighPoint RAID Software.

#sh setup.bin <u>(or ./se</u> tup.bin)
[root@localhost Documents]# ./setup.bin
Verifying archive integrity
Uncompressing HighPoint NVNe G5 RAID Linux Software package installer
Verifying archive integrity All good.
Uncompressing HighPoint NVMe RAID Controller Linux Open Source package installer
Checking and installing required toolchain and utility
Found program gcc (/bin/gcc)
Found program make (/bin/make)
Found program perl (/bin/perl)
Found program wget (/bin/wget)
Generating grub configuration file
Found Debian GNU/Linux 12 (bookworm) on /dev/nvme10n1p2
Found Debian GNU/Linux 12 (bookworm) on /dev/nvme14n1p2
Adding boot menu entry for UEFI Firmware Settings
done
Generating grub configuration file
Found Debian GNU/Linux 12 (bookworm) on /dev/nvme10n1p2
Found Debian GNU/Linux 12 (bookworm) on /dev/nvme14n1p2
Adding boot menu entry for UEFI Firmware Settings
Created symlink /etc/systemd/system/default.target.wants/hptdrv-monitor.service → /usr/lib/systemd/system/hptdrv-monitor.servi
SUCCESS: Driver hptnvme is installed successfully for kernel 5.14.0-427.13.1.el9_4.x86_64.
Driver hptnvme is installed successfully for kernel 5.14.0-427.22.1.el9_4.x86_64.
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.
Verifying archive integrity All good.
Uncompressing HighPoint Web RAID Management Software package installer
readline lib is already installed!
removing previous hptsvr(3.2.1)
Waiting for hptsvr to be terminated
Installing hptsvr(3.2.1)
Installing related files
Configuring service
[root@localhost Documents]#

- d. Manually restart the system.
- e. Execute the following command to download package information from all configured sources. (please connect to the internet) to install available upgrades of all packages currently installed on the system.

#yum update [root@localhost test]# yum update Updating Subscription Management repositories. Last metadata expiration check: 0:01:38 ago on Tue 11 Jun 2024 01:04:51 PM CST. Dependencies resolved. Package Archite Installing: kernel x86_64

f. Execute the following command to install available upgrades of all packages currently installed on the system.



6. Install the Rocky Linux OS in a RAID array

Please disconnect from the network and follow these steps to install the Rocky Linux operating system in a RAID array.

- 1. Insert a bootable USB flash drive into the target system.
- 2. Boot the system using a bootable USB flash drive.



3. Block the system kernel module so that NVMe SSD is not occupied by the system driver.

Example: Rocky Linux 9.4

a. When the Installation screen appears, press e key to edit boot command line option.

	GRUB version 2.06
Install Rocky Linux 9.4	
*Test this media & install Rocky Linux	9.4
Troubleshooting>	

b. On the edit command window, move the cursor to the end of the line "linux efi/images/pxeboot/vmlinuz...", and append "modprobe.blacklist=nvme,mpt3sas".



- c. Press CTRL+X or F10 to start the system.
- 4. Install the binary driver in a RAID array.
 - a. When the following window appears during installation. Press CTRL+ALT+F2 to switch to the shell on console 2.

Rocky				ROCKY LINUX 9	9.4 INSTALLATIO
Linux				🖽 us	Help!
WEL	LCOME TO ROCKY LI t language would you like to	NUX 9.4.	s?		
Engl	lish	English 💙	English (United States)		
مربية	الع	Arabic	English (United Kingdom)		
Fran	icais	French	English (India)		
Deut	tsch	German	English (Australia)		
日本	88	Japanese	English (Denmark)		
中文	c	Mandarin Chinese	English (Ireland)		
Pycci	жий	Russian	English (New Zealand)		
Espa	nol	Spanish	English (Nigeria)		
Afrik	kaans	Afrikaans	English (Hong Kong SAR China)		
<u>م</u>	37	Amharic	English (Philippines)		
অসম	गेया	Assamese	English (South Africa)		
Astu	irianu	Asturian	English (Zambia)		

Note: The shortcut to switch to the shell may be different for different Rocky Linux versions.

- Execute the following command to create a mount point for the USB flash drive.
 #mkdir /hptdd
- c. Execute the following command to mount the USB flash drive to /hptdd.#mount /dev/sda1 /hptdd/

d. Execute the following command to copy the binary driver installation file to the system's temporary directory.

#cp -a /hptdd/hptdd /tmp/

e. Execute the following command to unmount the USB flash drive.



- f. When the USB flash drive is unmounted, please unplug the USB flash drive from the system.
- g. Execute the following command to load the NVMe AIC binary driver.



- h. Press ALT+F6 to switch back to the installation screen and continue the installation.
- i. Select Installation Destination and click Refresh.

INSTALLATION DESTINATION	ROCKY LINUX 9.4 INSTALLATION
	🖽 us Help!
Device Selection	
Select the device(s) you'd like to install to. They will be left untouched until you click on the main menu's "Begin Installation" button.	
Local Standard Disks	
28.65 G/B	
sda / 992.5 KiB free	
Specialized & Network Disks	Disks left unselected here will not be touched.
Add a disk	
	Disks left unselected here will not be touched.
Storage Configuration	
Q Automatic Custom	
I would like to make additional space available.	
Encryption	
Encrypt my data. You'll set a passphrase next.	
Eull disk summary and boot loader 1 disk se	elected; 28.65 GiB capacity; 992.5 KiB fre Refresh

j. Select the previously created RAID.

INSTALLATION DESTINATION	ROCKY LINUX 9.4 INSTALLATION
Lone	🖼 us Help!
Device Selection	
Select the device(s) you'd like to install to. They will be left untouched until you click on the main menu's "Begin Installation" button.	
Local Standard Disks	
1.75 TB 001000 hptblodd/whp/1.735 TB free	
	Disks left unselected here will not be touched.
Specialized & Network Disks	
Add a disk	
	Disks left unselected here will not be touched.
Storage Configuration	
O Automatic Custom	
U I would like to make additional space available.	
Encryption Encrypt my data. You'll set a passphrase next.	

k. Set Software Selection and choose Server with GUI and Development Tools.

COFTWARE SELECTION	ROCKY LINUX 9.4 INSTALLATION
State Environment Sever with GUI An Integrated, seyste-makage server. Minimal Install Basic Internationality. Workstall Basic Internationality. Basic Internationality. Descriptionality. Basic Internationality. Virtualization Feat Memory System Basic Internation For a contem Resty Linux system. Virtualization Feat Memory System Statement (Statement Internationality)	Additional software for Selected Environment Additional software for Selected Storage Thesp catages for additional software for the software such as DHCP, Kerbers and NIS. Additional software for additional additional software for the soft

1. Set the **Root Password** and create the User to begin the installation.

Rocky Linux	INSTALLATION SUMMARY		k RO	CKY LINUX 9.4 INSTALLATION us Helpi
	LOCALIZATION Image: Constraint of the Supple Action Image: Constraint of the Action of the	SOFTWARE	SYSTEM Constraints and a second seco	xton ner
	ن المعامر المعام المعامر المعام المعامر المعامر	led. Click for details.	We won't touch your	fisks until y ear they a microantantan

If the following information is displayed during the installation, select Yes.

Recky Linux		5. The following processoring while installing the base founder. The system we can be baseline would possible to symmethic and continue with	ROCKY LINUX 9.4 INSTALLATION
	→ installing boot loader	The following error occurred while installing the basis faster. The system will not be bosonable. Would you like to gamer this and continue with installation? No Ves	

- m. When the screen shows Install complete! Press CTRL+ALT+F2 to the shell.
- n. Execute the following command to copy the binary driver installation file to the system.
 #cp -r /tmp/hptdd /mnt/sysimage/tmp/hptdd
- Execute the following command to switch to the top(/) directory.
 #chroot /mnt/sysimage/

p. Execute the following command to install the NVMe AIC binary driver.

```
#sh /tmp/hptdd/rhel-install-step2.sh
A message will be displayed that the driver has been installed successfully.
```

- q. Execute the following command to delete the NVMe AIC binary driver file.#rm -rf /tmp/hptdd
- r. Execute the following command to exit the top(/) directory.

#exit	
[anaconda root@localhost /]# [anaconda root@localhost /]# [anaconda root@localhost /]#	<pre>cp -r /tmp/hptdd /mnt/sysimage/tmp/hptdd chroot /mnt/sysimage/ sh /tmp/hptdd/rhel-install-step2.sh</pre>
Driver Installation	가지만 - Marce # Marce # Marceleon Apres 10 - 11 - 2000년 10 - 2000년 # Honologie
Updating 5.14.0-427.13.1.el9	_4.x86_64
Driver installation step 2 c	ompleted.
[anaconda root@localhost /]#	rm -rf /tmp/hptdd/
[anaconda root@localhost /]#	exit
GAIL	

s. Press ALT+F6 to switch back to the installation screen and finish the installation.

Rocky Linux	INSTALLATION PROGRESS	*	ROCKY LINUX 9.4 INSTALLATION
10.19			
	ζωηρουν Η ποιοιοιοιοιοιοιοιοιοιοιοιοιοιοιοιοιοιοι		
		Rocky Linux is now su Go ahi	ccessfully installed and ready for you to use! and reboot y to system to say to say the Reboot System
	👜 Use of this product is subject to the license agreement found at /usr/share/rocky-release/EULA		

- 5. If you want to boot from another kernel, please install the HighPoint RAID Software package after entering the system.
 - a. Boot the system.



b. Enter the following command to extract the HighPoint RAID Software package:

tar zxvf	HighPo	int	: N	VMe	G5	5 Lir	ıux	Softwa	re	vx.x.xx	XX	XX	_xx.ta	r.gz
root@localhost	Documents]#	tar	zxvf	HighPoint	_NVMe_	_G5_RAID	_Linux	_Software_v1	.8.1.	0.1_24_06_22	.tgz			
EADME.txt														

- c. Enter the following command to install the HighPoint RAID Software.
 - #sh setup.bin (or ./setup.bin)



- d. Manually restart the system.
- e. Execute the following command to download package information from all configured sources. (please connect to the internet) to install available upgrades of all packages currently installed on the system.



f. Execute the following command to install available upgrades of all packages currently installed on the system.



7. Install the Debian OS in a RAID array

Please disconnect from the network and follow these steps to install the Debian operating system in a RAID array.

- 1. Insert a bootable USB flash drive into the target system.
- 2. Boot the system using a bootable USB flash drive.



3. Block the system kernel module so that NVMe SSD is not occupied by the system driver.

Example: Debian 12.5

a. When the Installation screen appears, press e key to edit boot command line option.



b. On the edit command window, move the cursor to the end of the line "linux /install.amd/vmlinuz...", and append "modprobe.blacklist=nvme,mpt3sas".



c. Press CTRL+X or F10 to start the system.

- 4. Install the binary driver in a RAID array.
 - a. When the following window appears during installation. Press Ctrl+ALT+F2 to switch to the shell on console 2.

	() debia	an 12	-5		1
artition disks					
he installer can guide ou can do it manually. asults. you choose guided pa artitioning method:	you through partition With guided partition rtitioning for an entir	ing a disk (using diffe ing you will still have e disk, you will next b	erent standard se a chance later t be asked which d	chemes) or, if y o review and co isk should be u	ou prefer, ustomise the used.
uided - use entire dis	ę				
iuided - use entire dis	and set up LVM	1.0.00			
iuided - use entire disk	and set up encrypte	d LVM			
lanual					

Note: The shortcut to switch to the shell may be different for different Ubuntu versions.

b. Press Enter to activate this console.

Please press Enter to activate this console.	
BusyBox v1.35.0 (Debian 1:1.35.0-4+b3) built-in shell (ash) Enter 'help' for a list of built-in commands.	
~ #	

- c. Execute the following command to create a mount point for the USB flash drive.
 #mkdir /hptdd
- d. Execute the following command to mount the USB flash drive to /hptdd.

#mount /dev/sda1 /hptdd/

e. Execute the following command to copy the binary driver installation file to the system's temporary directory.

#cp -a /hptdd/hptdd /tmp/

f. Execute the following command to unmount the USB flash drive.

```
#umount/hptdd
    # mkdir /hptdd/
    # mount /dev/sda1 /hptdd/
    # cp -a /hptdd/hptdd/ /tmp/
    # umount /hptdd/
```

- g. When the USB flash drive is unmounted, please unplug the USB flash drive from the system.
- h. Execute the following command to load the NVMe AIC binary driver.

#sh /t	mp/ł	nptdd/preinst.sh	
~ #	sh	/tmp/hptdd/preinst.sh	
This	5 51	tep succeeded!	

i. Press Ctrl+ALT+F5 to switch back to the installation screen and continue the installation.

j. Click the Go Back first, then click Detect disks and Continue to detect the hptnvme disk.

⊘ debian 12		
Partition disks		
The installer can guide you through partitioning a disk (using different stan you can do it manually. With guided partitioning you will still have a chance results. If you choose guided partitioning for an entire disk, you will next be asked v <i>Partitioning method</i> :	ndard schemes) or, if later to review and which disk should be	you prefer, customise the used.
Turdoning method.		
Guided - use entire disk		
Guided - use entire disk and set up LVM		
Guided - use entire disk and set up encrypted LVM		
Manual		
		-
Screenshot	Go Back	Continue
Screenshot	Go Back	Continue
Screenshot	Go Back	Continue
© dehian 12	Go Back	Continue
© debian 12	Go Back	Continue
© debian 12	Go Back	Continue
Cebian 12 Debian installer main menu	Go Back	Continue
C debian 12 Debian installer main menu	Go Back	Continue
Choses the next step in the install process:	Go Back	Continue
Choose the next step in the install process: Configure the keyboard	Go Back	Continue
Chose the next step in the install process: Configure the keyboard Detect and mount installation media	Go Back	Continue
Chose the next step in the install process: Configure the keyboard Detect and mount installation media Load installer components from installation media	Go Back	Continue
Choose the next step in the install process: Configure the keyboard Detect and mount installation media Load installer components from installation media Detect retwork hardware	Go Back	Continue
Chose the next step in the install process: Configure the keyboard Detect and mount installation media Load installer components from installation media Detect network hardware Configure the network	Go Back	Continue
Choose the next step in the install process: Configure the keyboard Detect and mount installation media Load installer components from installation media Detect network hardware Configure the network Set un unser and passwords	Go Back	Continue
Configure the network Configure the network Configure the keyboard Detect and mount installation media Load installer components from installation media Detect network hardware Configure the network Set up users and passwords Configure the otherk	Go Back	Continue
Configure the keyboard Detect and mount installation media Load installer components from installation media Detect and mount installation media Load installer components from installation media Detect network hardware Configure the network Set up users and passwords Configure the clock	Go Back	Continue
Creenshot Cebian 12 Debian installer main menu Choose the next step in the install process: Configure the keyboard Detect and mount installation media Load installer components from installation media Detect network hardware Configure the network Set up users and passwords Configure the clock Detect disks	Go Back	
Configure the network hardware Configure the network set of the network set of the network hardware Configure the network hardware Configure the network set of the network set of the network hardware Configure the network Set of users and passwords Configure the clock	Go Back	
Choose the next step in the install process: Configure the keyboard Detect and mount installation media Load installer components from installation media Detect network hardware Configure the network Set up users and passwords Configure the clock Detect disks Install the base system	Go Back	
Configure the network Set up users and passwords Configure the concents from installation media Load installer components from installation media Detect network hardware Configure the network Set up users and passwords Configure the clock Detect disks Partition uses Install the base system Configure the package manager	Go Back	
Creenshot Cobian 12 Debian installer main menu Choose the next step in the install process: Configure the keyboard Detect and mount installation media Load installer components from installation media Detect network hardware Configure the network Set up users and passwords Configure the lock Detect disks Partition clock Detect disks Partition clock Detect disks Partition clock Detect and install software	Go Back	
Choose the next step in the install process: Configure the keyboard Detect and mount installation media Load installer components from installation media Detect and mount installation media Load installer components from installation media Detect at network hardware Configure the network Set up users and passwords Configure the clock Detect disks Install the base system Configure the package manager Select and install software Install the GRUB boot loader	Go Back	
Configure the package manager Set up users and pasked manager Set up users and pasked manager Set up users and paskwords Configure the network Set up users and paskwords Configure the network Set up users and paskwords Configure the package manager Select and install software Install the GRUB boot loader Continue without boot loader	Go Back	
Choose the next step in the install process: Configure the keyboard Detect and mount installation media Load installer components from installation media Detect and mount installation media Detect disks Install the backage manager Select and install software Install the fostlation Continue without boot loader Finish the installation	Go Back	
Configure the keyboard Detect and mount installation media Load installer components from installation media Load installer components from installation media Detect and mount installation media Load installer components from installation media Detect and mount installation media Detect and work Sature	Go Back	
Configure the keyboard Detect and mount installation media Load installer components from installation media Load installer components from installation media Load installer components from installation media Detect and mount installation media Detect disks Set up users and passwords Configure the clock Detect disks Tarttutom cusks Install the base system Configure the package manager Select and install software Install the GRUB boot loader Continue without boot loader Finish the installation Change debconf priority Check the integrity of installation media	Go Back	
Choose the next step in the install process: Configure the keyboard Detect and mount installation media Load installer components from installation media Detect and mount installation media Detect and mount installation media Detect and mount installation media Detect and mount installation media Detect disks Configure the enetwork Set up users and passwords Configure the clock Detect disks Install the back age manager Select and install software Install the factMage manager Select and install software Install the installation Change debconf priority Check the integrity of installation media	Go Back	
Configure the keyboard Detect and mount installation media Load installer components from installation media Load installer components from installation media Load installer components from installation media Detect and mount installation media Load installer components from installation media Detect and mount installation media Load installer components from installation media Detect and work Set up users and passwords Configure the clock Detect disks Install the base system Configure the package manager Select and install software Install the GRUB boot loader Continue without boot loader Continue without boot loader Finish the installation Change debconf priority Check the integrity of installation media	Go Back	Continue

k. Select the previously created RAID.

tition disks				
is is an overview of your (stem, mount point, etc.),	currently configured partitions and mount p a free space to create partitions, or a device	oints. Select a partitior e to initialize its partitio	to modify its se n table.	ttings (file
Guided partitioning				
configure ISCSI volum	es			
/dev/hptblock11n0p -	1.9 TB Unknown			
SCS113 (0,0,0) (SUD) -	ov.o op osp sandisk 3.2Gen1			
SCSIIS (0,0,0) (sub) -	bo.o gp USB San Disk 3.2Gen1			
Undo changes to part Finish partitioning an	itions d write changes to disk			
SC3113 (0,0,0) (sdb) - Undo changes to part Finish partitioning an	30.8 up - 055 - San Disk 3.2Gen1 itions d write changes to disk			
scars (0,0,0) (sub) - Undo changes to part Finish partitioning an	30.8 08 05 5 sun disk 3.2Gen1 itions d write changes to disk			
acaiza (0,0,0) (sdb) - Undo changes to part Finish partitioning an	aora on opp pambisk 3.2Gen1 itions d write changes to disk			
35313 (0,0,0) (sdb) - Undo changes to part Finish partitioning an	oca op opp pandisk 3.2Gen1 itions d write changes to disk			

1. When the screen shows **Install complete!** Press **Ctrl+ALT+F2** to the shell and type the following command to install the NVMe AIC binary driver.



A message will be displayed that the driver has been installed successfully.

m. Press Ctrl+ALT+F5 to switch back to the installation screen and finish the installation.

Installat	ion complete tion is complete, s	o it is time to boot in	o y <mark>our n</mark> ew system	n. Make sure to remove	e the
installat Please c	ti្មn media, so tha hoose <continue< th=""><th>t you boot into the ne > to reboot.</th><th>ew system rather t</th><th>han restarting the ins</th><th>tallation.</th></continue<>	t you boot into the ne > to reboot.	ew system rather t	han restarting the ins	tallation.

- 5. If you want to boot from another kernel, please install the HighPoint RAID Software package after entering the system.
 - a. Boot the system.



b. Enter the following command to extract the HighPoint RAID Software package:



c. Enter the following command to install the HighPoint RAID Software.

"sn setup.sm (or "setup.sm)

Poot@deblan:/home# ./setup.bin
veringing archive integring All good.
uncompressing HighPoint NVME GS RHID LINUX SUTTWARE package installer
zeringing archive integrity Hit good. Decampaced as WidtPalat NUMA PAID Controllar Linux Open Source package installar
Meding and installing population toolchain and utility
Second program dec (/usp/bip/dec)
Sound program make (///sc//in/make)
Sound program make((/us/ /hin/make)
Sand program wet (/usr/hin/wet)
Benerating would configuration file
nund background image: /usr/share/images/desktop-base/desktop-grub.png
ound linux image: /boot/vmlinuz-6.9.5
ound initrd image: /boot/initrd.img-6.9.5
Found linux image: /boot/vmlinuz-6.9.5.old
Found initrd image: /boot/initrd.img-6.9.5
Found linux image: /boot/vmlinuz-6.1.90
ound initrd image: /boot/initrd.img-6.1.90
Found linux image: /boot/vmlinuz-6.1.90.old
Found initrd image: /boot/initrd.img-6.1.90
Found linux image: /boot/vmlinuz-6.1.80
ound initra image: /boot/initra.img-6.1.80
ound linux image: /boot/vmlinuz-6.1.80.01d
ound initra image: /bod/initra.img-6.1.80
Sound Linux Inlage: / Dout/vini.nuz-6.1./9
Sound line inge / boot/initia.ing-5.1/5
Sund inited image: /host/inite_5
Sound linux image: /hot//wilinuz-6 1 0-18-amd64
Sound inited image: /hoot/inited image 1 0-18-amd64
warning: os-prober will not be executed to detect other bootable partitions.
Systems on them will not be added to the GRUB boot configuration.
Check GRUB_DISABLE_OS_PROBER documentation entry.
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
µpdate-rc.d: warning: enable action will have no effect on runlevel 1
Superprinting state of bridge moniton convice with Suck convice conjet with /lib/sustand/sustand suce install
synchi unizing state of iptur v-nonitor.setvice with sysvise vice script with /iib/systemu/systemu-sysv-install. Sventing /lib/sustemu/sustantsustantsall enable bridev_monitor
neaters / norsection will have no effect on runlevel 1
preated sumlink /etc/sustemi/sustem/default.target.wants/hotdry-monitor.service → /lib/sustemi/sustem/hotdry-mor
SUCCESS: Driver hptnyme is installed successfully for kernel 6.1.0-18-amd64.
Please restart the system for the driver to take effect.
[f you want to uninstall the driver from the computer♦ please run hptuninhptnvme to uninstall the driver files.
/erifying archive integrity All good.
Jncompressing HighPoint Web RAID Management Software package installer
readline lib is already installed!
removing previous hptsvr(3.2.1)
Waiting for hptsvr to be terminated
Installing hptsvr(3.2.1)
Installing related files
Jonflguring Service
UU UW BUILDING AND

- d. Manually restart the system.
- e. Execute the following command to download package information from all configured sources. (please connect to the internet) to install available upgrades of all packages currently installed on the system.

#apt-get update	
root@debian:/home#_apt-update_	
-bash: apt-update: command not found	
root@debian:/home# apt-get update	
Hit:1 https://security.debian.org/debian-securi	ty bookworm-security InRelease
Hit:2 https://mirrors.tuna.tsinghua.edu.cn/debi	an bookworm InRelease
Get:3 https://mirrors.tuna.tsinghua.edu.cn/debi	an bookworm-updates InRelease [55.4 kB]
Get:4 https://mirrors.tuna.tsinghua.edu.cn/debi	an bookworm-backports InRelease [56.5 kB]

f. Execute the following command to install available upgrades of all packages currently installed on the system.

#apt-get upgrade

root@debian:/home# apt-get upgrade
Reading package lists vone
Building dependency tree Done
Reading state information Done
Calculating upgrade Done
The following packages were automatically installed and are no longer required:
libwpe-1.0-1 libwpebackend-fdo-1.0-1
Use 'apt autoremove' to remove them.
The following packages have been kept back:
linux-image-amd64
The following packages will be upgraded:
apache2-bin bind9-dnsutils bind9-host bind9-libs bsdextrautils bsdutils eject fdisk
gir1.2-javascriptcoregtk-4.0 gir1.2-javascriptcoregtk-4.1 gir1.2-webkit2-4.0 gir1.2
gstreamer1.0-gl gstreamer1.0-plugins-base gstreamer1.0-x imagemagick-6-common less
libglib2.0-bin libglib2.0-data libgs-common libgs10 libgs10-common libgstreamer-gl1
libjavascriptcoregtk-4.1-0 libjavascriptcoregtk-6.0-1 libmagickcore-6.q16-6 libmagi
libreoffice-base-core libreoffice-calc libreoffice-common libreoffice-core libreoff
libreoffice-help-en-us libreoffice-impress libreoffice-math libreoffice-style-colib
Ilbuno-cppu3 libuno-cppuhelpergcc3-3 libuno-purpenvhelpergcc3-3 libuno-sal3 libuno-
libwebkitgtk-6.0-4 mount python3-uno uno-libs-private ure util-linux util-linux-ext
xserver-xorg-legacy
80 upgraded, 0 newly installed, 0 to remove and 1 not upgraded.
Need to get 279 MB/286 MB of archives.
After this operation, 10.8 MB of additional disk space will be used.
Do you want to continue? [Y/n] _

8. Trouble shooting

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

8.1.1. For Debian

1. Description of the Problem

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@debiar:/home/test/Documents# ./setup.bin Verifying archive integrity... All good. Uncompressing HighPoint NMMe RAID Controller Linux Open Source package installer...... Checking and installing required ton chain and utility ... Installing program make ... (failed) Installing program myet //usr/Din/pett) Found program weet //usr/Din/yett) found program weet //usr/Din/yett) found program weet //usr/Din/yett) found program weet //usr/Din/yett Synchronizing state of hydrv.monitor service with SysV service script with /lib/systemd/systemd-sysv-install. Executing: /lib/systemd/systemd-sysv-install enable hptrv-monitor update-rc.i: warning: enable action will have on effect on runlevel 1 Toolchain to built the driver is incomplete, please install the missing package to build the driver. Exit.

2. Cause of the Problem

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

3. Solution

- a. Ensure that the network is properly connected.
- b. Reinstall the HighPoint software.

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

```
root@debian:/home/test/Documents# ./setup.bin
Verifying archive integrity... All good.
Uncompressing HighPoint NVMe GS RAID Linux Software package installer......
Verifying archive integrity... All good.
Uncompressing HighPoint NVMe RAID Controller Linux Open Source package installer.....
Checking and installing required toolchain and utility ...
Installing program gcc ...
Media change: please insert the disc labeled
'Debian GNU/Linux LS.0. Bookworm_ - Official amd64 DVD Binary-1 with firmware 20240210-11:28'
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. To install using the USB flash drive:
 - a) The system needs to be resourced. For details, please refer to the official website file: <u>https://www.debian.org/doc/manuals/debian-faq/uptodate.en.html</u>
 - b) Open the system terminal with root privileges and enter the following command:
 #nano /etc/apt/sources.list
 - c) Replace the contents of the file with the following illustration

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

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

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

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

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

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

Note: See the mirror list at https://www.debian.org/mirror/list for more information.

d) apt-get update

	U	1							
root@t	test:/ho	me/test/Docu	nents# nano /e	etc/apt/sour	ces.list				
root@1	test:/ho	me/test/Docu	nents# apt-get	t update					
Get:1	https:/	/mirrors.tuna	.tsinghua.edu		bullseve 1	nRelease	[116 kB]		
Get:2	https:/	/mirrors.tuna	a.tsinghua.edu	.cn/debian	bullseye-u	pdates In	Release [44.1	. kB]	
Get:3	https:/	/mirrors.tuna	a.tsinghua.edu	.cn/debian	bullseve-b	ackports	InRelease [49	.0 kB1	
Get:4	https:/	/mirrors.tuna	a.tsinghua.edu	.cn/debian-	security b	ullseye-s	ecurity InRel	ease [48.4 kB]	
Get:5	https:/	/mirrors.tuna	a.tsinghua.edu	.cn/debian	bullseve/r	on-free S	ources [81.2	kB1	
Get:6	https:/	/mirrors.tuna	a.tsinghua.edu	.cn/debian	bullseye/m	ain Sourc	es [8,633 kB]		
Get:7	https:/	/mirrors.tuna	a.tsinghua.edu	.cn/debian	bullseve/d	ontrib So	urces [43.2 k	B1	
Get:8	https:/	/mirrors.tuna	a.tsinghua.edu	.cn/debian	bullseye/m	nain amd64	Packages [8,	184 kB]	
Get:9	https:/	/mirrors.tuna	a.tsinghua.edu	.cn/debian	bullseye/m	ain Trans	lation-en [6,	239 kB]	
Get:10	https:	//mirrors.tu	ha.tsinghua.ed	du.cn/debian	bullseye/	main amd6	4 DEP-11 Meta	data [4,049 kB]	
Get:11	1 https:	//mirrors.tu	na.tsinghua.eo	du.cn/debian	bullseye/	main DEP-	11 48x48 Icon	is [3,478 kB]	
Get:12	2 https:	//mirrors.tu	ha.tsinghua.ed	du.cn/debian	bullseve/	main DEP-	11 64x64 Icor	is [7,315 kB]	
Get:13	B https:	//mirrors.tu	na.tsinghua.eo	du.cn/debian	bullseye/	contrib a	md64 Packages	[50.6 kB]	
Get:14	4 https:	//mirrors.tu	na.tsinghua.eo	du.cn/debian	bullseye/	contrib T	ranslation-er	[46.9 kB]	
Get:15	5 https:	//mirrors.tu	na.tsinghua.eo	du.cn/debian	bullseye/	contrib a	md64 DEP-11 M	letadata [13.6 kB	3]
Get:16	5 https:	//mirrors.tu	na.tsinghua.eo	du.cn/debian	bullseye/	contrib D	EP-11 48x48 I	cons [47.2 kB]	
Get:17	7 https:	//mirrors.tu	na.tsinghua.ed	du.cn/debian	bullseye/	contrib D	EP-11 64x64 I	cons [93.3 kB]	
Get:18	B https:	//mirrors.tu	na.tsinghua.eo	du.cn/debian	bullseye/	non-free	amd64 Package	s [97.7 kB]	
Get:19	https:	//mirrors.tu	na.tsinghua.ed	du.cn/debian	bullseye/	non-free	Translation-e	n [92.4 kB]	
Get:20	<pre>https:</pre>	//mirrors.tu	na.tsinghua.eo	du.cn/debian	bullseye/	non-free	amd64 DEP-11	Metadata [17.9 H	<b]< th=""></b]<>
Get:21	1 https:	//mirrors.tu	na.tsinghua.eo	du.cn/debian	bullseye/	non-free	DEP-11 48x48	Icons [741 B]	
Get:22	2 https:	//mirrors.tu	na.tsinghua.eo	du.cn/debian	bullseye/	non-free	DEP-11 64x64	Icons [27.7 kB]	
Get:23	B https:	//mirrors.tu	na.tsinghua.ed	du.cn/debian	bullseye-	updates/m	ain Sources [3,588 B]	
Get:24	4 https:	//mirrors.tu	na.tsinghua.eo	du.cn/debian	bullseye-	updates/m	ain amd64 Pac	kages [6,344 B]	
Get:25	5 https:	//mirrors.tu	ha.tsinghua.ed	du.cn/debian	bullseye-	updates/m	ain Translati	on-en [5,890 B]	
Get:26	5 https:	//mirrors.tu	na.tsinghua.eo	du.cn/debian	bullseye-	backports	/main Sources	[314 kB]	
Get:27	7 https:	//mirrors.tu	na.tsinghua.ed	du.cn/debian	bullseye-	backports	/non-free Sou	irces [3,996 B]	
Get:28	B https:	//mirrors.tu	ha.tsinghua.ed	du.cn/debian	bullseye-	backports	/contrib Sour	ces [2,712 B]	
Get:29	9 https:	//mirrors.tu	ha.tsinghua.ed	du.cn/debian	bullseye-	backports	/main amd64 F	ackages [341 kB]	1
Get:30	<pre>9 https:</pre>	//mirrors.tu	ha.tsinghua.ed	du.cn/debian	bullseye-	backports	/main Transla	tion-en [281 kB]	1
Get:31	1 https:	//mirrors.tu	na.tsinghua.ed	du.cn/debian	bullseye-	backports	/contrib amd6	4 Packages [4,40	90 B]
Get:32	2 https:	//mirrors.tu	ha.tsinghua.ed	du.cn/debian	bullseye-	backports	/contrib Tran	slation-en [4,32	20 B]
Get:33	B https:	//mirrors.tu	na.tsinghua.ed	du.cn/debian	bullseye-	backports	/non-free amo	64 Packages [11.	.5 kB]
Get:34	4 https:	//mirrors.tu	ha.tsinghua.ed	du.cn/debian	bullseye-	backports	/non-free Tra	inslation-en [8,9	960 B]
Get:35	5 https:	//mirrors.tu	na.tsinghua.eo	du.cn/debian	-security	bullseye-	security/main	Sources [160 kB	3]
Get:36	5 https:	//mirrors.tu	ha.tsinghua.ed	du.cn/debian	-security	bullseye-	security/non-	free Sources [63	32 B]
Get:37	7 https:	//mirrors.tu	ha.tsinghua.eo	du.cn/debian	-security	bullseye-	security/main	amd64 Packages	[189 kB]
Get:38	B https:	//mirrors.tu	ha.tsinghua.ed	du.cn/debian	-security	bullseye-	security/main	Translation-en	[119 kB]
Get:39	9 https:	//mirrors.tu	na.tsinghua.ed	du.cn/debian	-security	bullseye-	security/non-	free amd64 Packa	ages [528 B]
Get:40	9 https:	//mirrors.tu	ha.tsinghua.ed	du.cn/debian	-security	bullseye-	security/non-	free Translation	1-en [344 B]
Fetche	ed 40.2	MB in 3min 1	Bs (208 kB/s)						
Readin	ng packa	ge lists I)one						
root@1	test:/ho	me/test/Docu	nents#						

e) Reinstall the HighPoint software.

8.1.2. For RHEL

1. Description of the Problem

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:



2. Cause of the Problem

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

3. Solution

- a. Ensure that the network is properly connected.
- b. Go to the Red Hat website and register an account: Register for Red Hat IDP

- c. Open the system terminal with root privileges.
- d. Enter the following command to log in:

#subscription-manager register --username=*** --password=*** --auto-attach (root@localhost Documents)# subscription-manager register --username= Registering to: subscription.rhsm.redhat.com:443/subscription The system has been registered with ID: 96 If The registered system mame is: localhost.localdomain

e. Reinstall the HighPoint software.



9. Revision History

Version 1.00, June 26, 2024

Initial version.

Version 1.01, July 1, 2024

Add RA7608AW support.