Linux Driver Failed To Connect to the WebGUI (SSD7100 Series)

This document describes how to collect data for the purpose of resolving the RAID Management interface's (WebGUI) inability to connect to the SSD7100 Series NVMe RAID Controller. If the procedure does not resolve the problem, please send the data collected in Step 4 to our Support Department, either as an attachment to your existing Support Case ID, or by submitting a new support ticket. An SSD7101A-1 controller is used for the example procedure.

1. Install the SSD7101A-1, with four NVMe M.2 SSDs, into one of the motherboard's PCIe x16 slots. Power on the system and boot the Linux OS.

2. Open terminal, and enter the following command:

   #lspci | grep 8747

   This command will display information about the SS7101A-1's primary chipset (8747). If nothing is reported (refer to the screenshot below), the system does not detect the SSD7101A-1. Shutdown the system, and carefully wipe the SSD7101A-1's PCIe connectors ("golden fingers"), then reboot and restore the motherboard's BIOS default settings, the boot the Linux OS.

   Open terminal and repeat the command:

   #lspci | grep 8747

3. If the system detects the SSD7101A, open terminal and type the following to check the status of the SSD's:

: #fdisk –l

If the NVMe SSD's are not detected, shutdown the system and move the SSD7100 controller to another PCIe x16 slot, if available.

```
                              root@localhost:~                    _  □  ×

 File  Edit  View  Search  Terminal  Help
[root@localhost ~]# fdisk -l

Disk /dev/sda: 60.0 GB, 60022480896 bytes, 117231408 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk label type: dos
Disk identifier: 0x0009a439

   Device Boot      Start         End      Blocks   Id  System
/dev/sda1   *        2048     2099199     1048576   83  Linux
/dev/sda2         2099200   117229567    57565184   8e  Linux LVM

Disk /dev/mapper/centos-root: 35.6 GB, 35571892224 bytes, 69476352 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes


Disk /dev/mapper/centos-swap: 6002 MB, 6002049024 bytes, 11722752 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes

Disk /dev/nvme0n1: 1024.2 GB, 1024209543168 bytes, 2000409264 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk label type: dos
Disk identifier: 0x7c2cf155

        Device Boot      Start         End      Blocks   Id  System

Disk /dev/nvme1n1: 250.1 GB, 250059350016 bytes, 488397168 sectors
Units = sectors of 1 * 512 = 512 bytes
Sector size (logical/physical): 512 bytes / 512 bytes
I/O size (minimum/optimal): 512 bytes / 512 bytes
Disk label type: dos
```

4. If the SSD7100 controller is not detected, update your existing Case ID or submit a new support ticket to our Support Department.

5. If the SSD7100 controller is detected, download the driver package and management software for the SSD7100 controller from the HighPoint website (http://highpoint-tech.com/USA_new/series-ssd7101a-1-download.htm for the SSD7101A-1). Ensure that the system is networked and decompress the driver download.

```
        root@localhost:~/Desktop/7101a/RocketNVMe_Linux_Src_v1.2.13_18_07_09  _  □  ×

 File  Edit  View  Search  Terminal  Help
[root@localhost RocketNVMe_Linux_Src_v1.2.13_18_07_09]# ./rsnvme_linux_src_v1.2.
13_18_07_09.bin
Verifying archive integrity... All good.
Uncompressing RocketNVMe 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)
Created symlink from /etc/systemd/system/default.target.wants/hptdrv-monitor.ser
vice to /usr/lib/systemd/system/hptdrv-monitor.service.

Please run hptuninrsnvme to uninstall the driver files.

Please restart the system for the driver to take effect.
[root@localhost RocketNVMe_Linux_Src_v1.2.13_18_07_09]# ▊
```

6. Install the driver per standard procedure, as directed by the controller's User Guide. You can open terminal and type in the following command to check the driver status:

    #lsmod | grep rsnvme

    ```
                                    root@localhost:~                    _  □  ×

    File  Edit  View  Search  Terminal  Help
    [root@localhost ~]# lsmod | grep rsnvme
    rsnvme                234860  0
    [root@localhost ~]#
    ```

7. You can also enter **#dmesg | grep rsnvme** to view the entire loading process of the **rsnvme** module. If the driver is not loaded, please confirm the system network is operating normally, and re-install the driver:
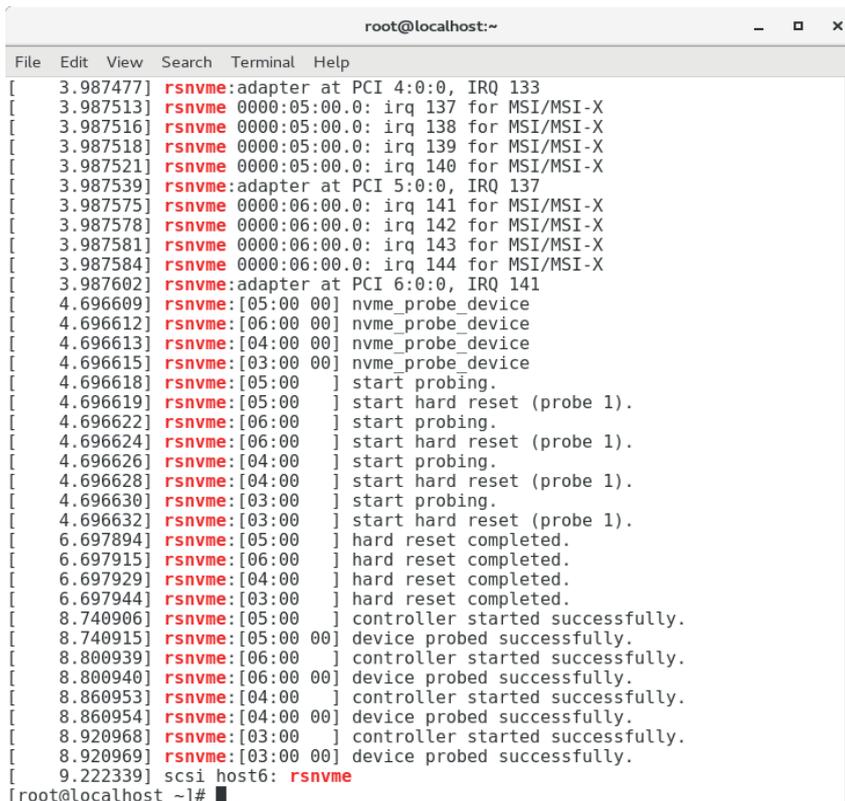
    ```
                                    root@localhost:~                    _  □  ×

    File  Edit  View  Search  Terminal  Help
    [    3.987477] rsnvme:adapter at PCI 4:0:0, IRQ 133
    [    3.987513] rsnvme 0000:05:00.0: irq 137 for MSI/MSI-X
    [    3.987516] rsnvme 0000:05:00.0: irq 138 for MSI/MSI-X
    [    3.987518] rsnvme 0000:05:00.0: irq 139 for MSI/MSI-X
    [    3.987521] rsnvme 0000:05:00.0: irq 140 for MSI/MSI-X
    [    3.987539] rsnvme:adapter at PCI 5:0:0, IRQ 137
    [    3.987575] rsnvme 0000:06:00.0: irq 141 for MSI/MSI-X
    [    3.987578] rsnvme 0000:06:00.0: irq 142 for MSI/MSI-X
    [    3.987581] rsnvme 0000:06:00.0: irq 143 for MSI/MSI-X
    [    3.987584] rsnvme 0000:06:00.0: irq 144 for MSI/MSI-X
    [    3.987602] rsnvme:adapter at PCI 6:0:0, IRQ 141
    [    4.696609] rsnvme:[05:00 00] nvme_probe_device
    [    4.696612] rsnvme:[06:00 00] nvme_probe_device
    [    4.696613] rsnvme:[04:00 00] nvme_probe_device
    [    4.696615] rsnvme:[03:00 00] nvme_probe_device
    [    4.696618] rsnvme:[05:00    ] start probing.
    [    4.696619] rsnvme:[05:00    ] start hard reset (probe 1).
    [    4.696622] rsnvme:[06:00    ] start probing.
    [    4.696624] rsnvme:[06:00    ] start hard reset (probe 1).
    [    4.696626] rsnvme:[04:00    ] start probing.
    [    4.696628] rsnvme:[04:00    ] start hard reset (probe 1).
    [    4.696630] rsnvme:[03:00    ] start probing.
    [    4.696632] rsnvme:[03:00    ] start hard reset (probe 1).
    [    6.697894] rsnvme:[05:00    ] hard reset completed.
    [    6.697915] rsnvme:[06:00    ] hard reset completed.
    [    6.697929] rsnvme:[04:00    ] hard reset completed.
    [    6.697944] rsnvme:[03:00    ] hard reset completed.
    [    8.740906] rsnvme:[05:00    ] controller started successfully.
    [    8.740915] rsnvme:[05:00 00] device probed successfully.
    [    8.800939] rsnvme:[06:00    ] controller started successfully.
    [    8.800940] rsnvme:[06:00 00] device probed successfully.
    [    8.860953] rsnvme:[04:00    ] controller started successfully.
    [    8.860954] rsnvme:[04:00 00] device probed successfully.
    [    8.920968] rsnvme:[03:00    ] controller started successfully.
    [    8.920969] rsnvme:[03:00 00] device probed successfully.
    [    9.222339] scsi host6: rsnvme
    [root@localhost ~]# 
    ```

8. Once the driver loads, unzip the management software installation package as directed by the User Manual:
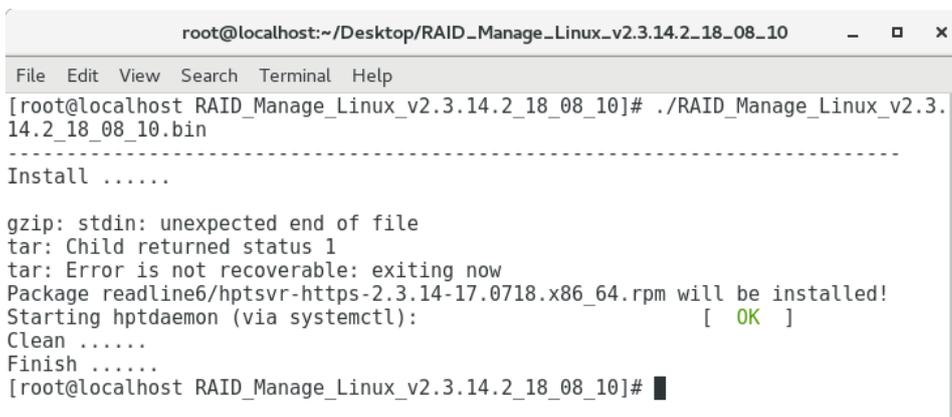
    ```
                    root@localhost:~/Desktop/RAID_Manage_Linux_v2.3.14.2_18_08_10    _  □  ×

    File  Edit  View  Search  Terminal  Help
    [root@localhost RAID_Manage_Linux_v2.3.14.2_18_08_10]# ./RAID_Manage_Linux_v2.3.
    14.2_18_08_10.bin
    ----------------------------------------------------------------------
    Install ......

    gzip: stdin: unexpected end of file
    tar: Child returned status 1
    tar: Error is not recoverable: exiting now
    Package readline6/hptsvr-https-2.3.14-17.0718.x86_64.rpm will be installed!
    Starting hptdaemon (via systemctl):                        [  OK  ]
    Clean ......
    Finish ......
    [root@localhost RAID_Manage_Linux_v2.3.14.2_18_08_10]# 
    ```

9. Open terminal and enter #**ps aus | grep hptsvr** to view the status of the hptsvr process of the management software. If the process cannot be found, or the process status is not in the **Sl** state, you can start the hptsvr process manually by typing: #**hptsvr** in the terminal:
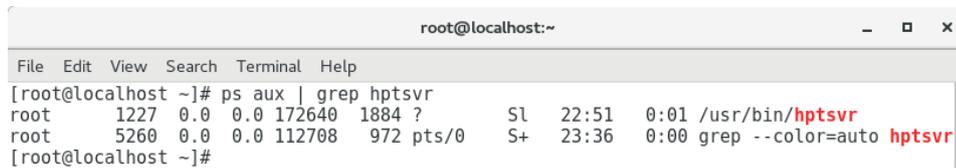
```
                                    root@localhost:~                          _  □  ✕

 File   Edit   View   Search   Terminal   Help
 [root@localhost ~]# ps aux | grep hptsvr
 root       1227  0.0  0.0 172640  1884 ?        Sl   22:51   0:01 /usr/bin/hptsvr
 root       5260  0.0  0.0 112708   972 pts/0    S+   23:36   0:00 grep --color=auto hptsvr
 [root@localhost ~]#
```

10 . If the driver still cannot establish a connection with the WebGUI, try to obtain the Linux system log and attach a copy to your support Case ID. To obtain the system log, follow the procedures below:

   a. For Debian, CentOS, or Ubuntu:
      1) Open terminal.
      2) Enter: #**cd /var/log**
      3) Enter**: #tar zcvf hptsyslog.tgz**
      4) Attach the **/var/log/hptsyslog.tgz** file to your support Case ID.

   b. For Fedora
      1) Open terminal
      2) Enter: #**journalctl > hptsyslog.txt**
         This will export the system log as a txt file
      3) Attach a copy of **hptsyslog.txt** to your support Case ID.