

知 HPE ProLiant DL580 Gen10配置HPE SN1200E 16Gb HBA卡, 无NVMe磁盘, Redhat 7.6系统内核自检报错Disabling NVME support: Not supported by firmware:1.1

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组网及说明

服务器型号: DL580 Gen10

HBA卡型号: HPE SN1200E 16Gb 2p FC HBA

问题描述

DL580 Gen10配置HPE SN1200E 16Gb HBA卡, 无NVMe磁盘, Redhat 7.6系统内核自检报错Disabling NVME support: Not supported by firmware:1.1

```
Nov 11 20:05:46 localhost kernel: lpfc: loading out-of-tree module taints kernel.
Nov 11 20:05:46 localhost kernel: lpfc: module verification failed: signature and/or required key missing - tainting kernel
Nov 11 20:05:46 localhost kernel: lpfc 0000:12:00.0: 0:6101 Disabling NVME support: Not supported by firmware: 1.1
Nov 11 20:05:46 localhost kernel: lpfc 0000:12:00.0: 0:2574 10 channels: irqs 4 fcp 4 nvme 0 MRQ: 16
Nov 11 20:05:46 localhost kernel: lpfc 0000:12:00.0: 0:3176 Port Name 0 Physical Link is functional
Nov 11 20:05:47 localhost kernel: lpfc 0000:12:00.1: 1:6101 Disabling NVME support: Not supported by firmware: 1.1
Nov 11 20:05:47 localhost kernel: lpfc 0000:12:00.1: 1:2574 10 channels: irqs 4 fcp 4 nvme 0 MRQ: 16
Nov 11 20:05:47 localhost kernel: lpfc 0000:12:00.1: 1:3176 Port Name 1 Physical Link is functional
Nov 11 20:05:48 localhost kernel: lpfc 0000:12:00.0: 0:1303 Link Up Event xl received Data: xl x0 x80 x0 x0 x0 0
Nov 11 20:05:48 localhost kernel: lpfc 0000:12:00.1: 1:1303 Link Up Event xl received Data: xl x0 x80 x0 x0 x0 0
```

过程分析

查看当前HBA卡固件版本

```
[root@localhost ~]# cat /sys/class/scsi_host/host3/option_rom_version
12.0.346.43
```

查看当前HBA卡驱动版本

```
[root@localhost ~]# modinfo lpfc
filename: /lib/modules/3.10.0-957.el7.x86_64/extra/elx-lpfc/lpfc.ko
supported: external
retpoline: Y
version: 0:12.0.346.15
author: Broadcom
description: Emulex LightPulse Fibre Channel SCSI driver 12.0.346.15
license: GPL v2
retpoline: Y
rhelversion: 7.6
```

查看lpfc驱动所加载的模块

```
[root@localhost ~]# lsmod | grep lpfc
lpfc 901416 0
nvmet_fc 27790 1 lpfc
nvme_fc 33244 1 lpfc
scsi_transport_fc 64007 1 lpfc
crc_t10dif 12912 2 lpfc, sd_mod
```

查询Redhat官网KB:

[https://access.redhat.com/documentation/en-](https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/7.6_release_notes/new_features_storage)

[us/red_hat_enterprise_linux/7/html/7.6_release_notes/new_features_storage](https://access.redhat.com/documentation/en-us/red_hat_enterprise_linux/7/html/7.6_release_notes/new_features_storage)

NVMe/FC is fully supported on Broadcom Emulex Fibre Channel Adapters

查询broadcom官网关于 lpfc_enable_fc4_type参数的解释说明:

<https://docs.broadcom.com/docs/12378863>

1 = Enable just FCP (default).

3 = Enable both FCP and NVMe

Table 1: Static FC and FCoE Driver Parameters (Continued)

Parameter	Description	sysfs Visible	Applicable Adapters	Activation
lpfc_enable_fc4_type	When enabled, this parameter defines the FC4 types that are supported. The possible values are: ■ 1 = Enable just FCP (default). ■ 3 = Enable both FCP and NVMe Supported values are 1 or 3. Default value is 1 NOTE: For additional information, refer to the <i>Emulex NVMe over Fibre Channel User Guide</i> .	Yes	LPe31000-series and LPe32000-series	Driver reload

解决方法

1.编辑 /etc/modprobe.d/lpfc.conf 添加一行内容, 可以如下的cat输出内容

options lpfc lpfc_enable_fc4_type=3

```
[root@localhost ~]# cat /etc/modprobe.d/lpfc.conf
options lpfc lpfc_enable_fc4_type=3
```

2.重新加载内核模块

```
[root@localhost ~]# dracut --force
```

3.重启操作系统

```
[root@localhost ~]# reboot
```

4.再次检查nvme_fc是否开启

```
[root@localhost ~]# cat /sys/module/lpfc/parameters/lpfc_enable_fc4_type
```

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