

Dell Optiplex 3070

The Dell Optiplex with Debian 13 throws the following BIOS related errors in the journal:

1. PCIe ASPM error: AER: Correctable error message received from 0000:02:00.0
2. ACPI Error: AE_NOT_FOUND, while evaluating GPE method [_L6D]

The following paragraphs describe possible solutions.

ASPM errors BIOS

Power saving errors in journalctl:

```
pcieport 0000:00:1d.0: AER: Correctable error message received from
0000:02:00.0
nvme 0000:02:00.0: PCIe Bus Error: severity=Correctable, type=Physical
Layer, (Receiver ID)
nvme 0000:02:00.0:   device [1344:5410] error status/mask=00000001/00002000
nvme 0000:02:00.0:   [ 0] RxErr                               (First)
```

Option 1

This worked to remove the error and gave the lowest power usage (4 Watt). Add extra kernel boot parameter: `pcie_aspm=off, acpi_mask_gpe=0x6d` into `/etc/default/grub`.

- `pcie_aspm=off` : Let BIOS manage ASPM for pcie bus avoiding “pcieport 0000:00:1d.0: AER: Correctable error message”
- `acpi_mask_gpe=0x6d` : Suppress “ACPI Error: AE_NOT_FOUND, while evaluating GPE method [_L6D]”

```
# nano /etc/default/grub

GRUB_CMDLINE_LINUX_DEFAULT='quiet pcie_aspm=off acpi_mask_gpe=0x6d
resume=UUID=40794123-1105-4c1

# update-grub
```

Option 2

This also worked to remove the error, but gave a slightly higher power usage (7 Watt) than Option 1. Solved by disabling ASPM on bridge and/or drive:

```
# Disabling ASPM on bridge
/usr/bin/setpci -s 00:1d.0 0x50.B=0x40
```

```
# Disabling ASPM on nvme drive
/usr/bin/setpci -s 02:00.0 0x90.B=0x40
```

This can be achieved by creating a specific systemctl service (aspm-override.service).

ACPI errors BIOS

Getting rid of ACPI error:

```
# kernel: ACPI Error: AE_NOT_FOUND, while evaluating GPE method [_L6D]
(20240827/evgpe-511)
# kernel: ACPI BIOS Error (bug): Could not resolve symbol
[\_SB.PCI0.GLAN.GPEH], AE_NOT_FOUND (20240827/psargs-332)
# kernel: ACPI Error: Aborting method \_GPE._L6D due to previous error
(AE_NOT_FOUND) (20240827/psparse-529)
```

Option 1

Create service with:

```
/usr/bin/echo "disable" > /sys/firmware/acpi/interrupts/gpe6D
```

This works but +/-30 seconds after boot this entry is being overwritten again to "enabled". It is not clear what is doing this

Option 2

Adding the 'acpi=off' option to grub did not suppress these errors. But adding 'acpi_mask_gpe=0x6d' seems to work.

```
# nano /etc/default/grub
GRUB_CMDLINE_LINUX_DEFAULT='quiet acpi_mask_gpe=0x6d'
# update-grub
```

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