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» [SOLVED] Nvidia GPU always loads nvidia driver instead of the vfio-pc

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2021-11-14 11:28:58	#1

jonker130

Member

Registered: 2021-11-14

Posts: 6

I'm trying to setup gpu passthrough because I want to run a windows 10 vm, I follwed this guide: https://github.com/vanities/GPU-Passthr … - Windows10 . I am currently at the "Isolating the GPU" part, but my nvidia gpu always loads the nvidia driver instead of the vfio-pci one. (My laptop is the dell g3 3500)

This is how my modules line in mkinitcpio.conf looks like:

```
MODULES="vfio vfio_iommu_type1 vfio_pci
```

I tried replacing i915 with nvidia / nouveau / nothing but it didn´t work.

This is how the hooks line looks like:

```
HOOKS="modconf base udev autodetect bloc
```

This is how my vfio.conf file looks like:

```
options vfio-pci ids=10de:1f15,10de:10f9
```

And this is the output of

```
        Kernel modules: processor_therm
00:08.0 System peripheral [0880]: Intel
        Subsystem: Dell Device [1028:09
00:12.0 Signal processing controller [1
        Subsystem: Dell Device [1028:09
        Kernel driver in use: intel_pch
        Kernel modules: intel_pch_therm
00:13.0 Serial controller [0700]: Intel
        Subsystem: Dell Device [1028:09
        Kernel driver in use: intel_ish
        Kernel modules: intel_ish_ipc
00:14.0 USB controller [0c03]: Intel Co
        Subsystem: Dell Device [1028:09
        Kernel driver in use: xhci_hcd
        Kernel modules: xhci_pci
00:14.2 RAM memory [0500]: Intel Corpor
        Subsystem: Dell Device [1028:09
00:14.3 Network controller [0280]: Inte
        Subsystem: Intel Corporation De
        Kernel driver in use: iwlwifi
        Kernel modules: iwlwifi, wl
```

Last edited by jonker130 (2021-11-14 17:51:21)

Offline

Lone_Wolf   2021-11-14 13:45:49   #2

Member

From: Netherlands, Europe
Registered: 2005-10-04
Posts: 11,467

Looks like that guide leaves out several steps …

Use https://wiki.archlinux.org/title/PCI_pa … h_via_OVMF

Post full dmesg output (run as root) and the output of the script in https://wiki.archlinux.org/title/PCI_pa … _are_valid

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Disliking systemd intensely, but not satisfied with alternatives so focusing on taming systemd.

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| 2021-11-14 14:14:48   #3 |

Lone_Wolf

jonker130

Member

Registered: 2021-11-14
Posts: 6

Thanks for the answer!
Output of the script:

```
IOMMU Group 0:
        00:00.0 Host bridge [0600]: Int
IOMMU Group 1:
        00:01.0 PCI bridge [0604]: Inte
        01:00.0 VGA compatible controll
        01:00.1 Audio device [0403]: NV
        01:00.2 USB controller [0c03]:
        01:00.3 Serial bus controller [
IOMMU Group 2:
        00:02.0 VGA compatible controll
IOMMU Group 3:
        00:04.0 Signal processing contr
IOMMU Group 4:
        00:08.0 System peripheral [0880
IOMMU Group 5:
        00:12.0 Signal processing contr
IOMMU Group 6:
        00:13.0 Serial controller [0700
IOMMU Group 7:
        00:14.0 USB controller [0c03]:
        00:14.2 RAM memory [0500]: Inte
```

Output of

```
 sudo dmesg | grep -i -e DMAR -e IOMMU
[    0.000000] Command line: BOOT_IMAGE
[    0.014935] ACPI: DMAR 0x0000000067F
[    0.014962] ACPI: Reserving DMAR tab
[    0.038000] Kernel command line: BOO
[    0.038040] DMAR: IOMMU enabled
[    0.038043] Unknown command line par
[    0.081360] DMAR: Host address width
[    0.081360] DMAR: DRHD base: 0x00000
[    0.081364] DMAR: dmar0: reg_base_ad
[    0.081365] DMAR: DRHD base: 0x00000
[    0.081367] DMAR: dmar1: reg_base_ad
[    0.081369] DMAR: RMRR base: 0x00000
[    0.081370] DMAR: RMRR base: 0x00000
[    0.081371] DMAR-IR: IOAPIC id 2 und
[    0.081372] DMAR-IR: HPET id 0 under
[    0.081373] DMAR-IR: Queued invalida
[    0.084472] DMAR-IR: Enabled IRQ rem
[    0.362509] iommu: Default domain ty
[    0.362509] iommu: DMA domain TLB in
[    0.454231] DMAR: No ATSR found
```

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Lone_Wolf

2021-11-14 14:33:17   #4

Member

From: Netherlands, Europe
Registered: 2005-10-04
Posts: 11,467

The iommu groups output don't show issues, although you may have to passthrough the 2 nvidia USB devices also .

The dmesg lacks information , please repost it without any additional parameters, just sudo dmesg .

(if it's to big, use a pastebin service)

Welcome to archlinux forums.
(didn't realise this is your first post / thread)

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jonker130   2021-11-14 14:55:43   #5

Member

Registered: 2021-11-14
Posts: 6

Thanks for the welcome! (Not only the first post here, I am also pretty new to Linux in general) Anyways, here is the full output:

```
[    0.000000] Linux version 5.15.2-arc
[    0.000000] Command line: BOOT_IMAGE
[    0.000000] x86/fpu: Supporting XSAV
[    0.000000] x86/fpu: Supporting XSAV
[    0.000000] x86/fpu: Supporting XSAV
[    0.000000] x86/fpu: Supporting XSAV
[    0.000000] x86/fpu: Supporting XSAV
[    0.000000] x86/fpu: Supporting XSAV
[    0.000000] x86/fpu: xstate_offset[2
[    0.000000] x86/fpu: xstate_offset[3
[    0.000000] x86/fpu: xstate_offset[4
[    0.000000] x86/fpu: xstate_offset[9
[    0.000000] x86/fpu: Enabled xstate
[    0.000000] signal: max sigframe siz
[    0.000000] BIOS-provided physical R
[    0.000000] BIOS-e820: [mem 0x000000
[    0.000000] BIOS-e820: [mem 0x000000
[    0.000000] BIOS-e820: [mem 0x000000
[    0.000000] BIOS-e820: [mem 0x000000
[    0.000000] BIOS-e820: [mem 0x000000
```

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                                                                   2021-11-14 15:30:12   #6
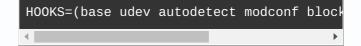
Lone_Wolf

Member

From: Netherlands, Europe
Registered: 2005-10-04
Posts: 11,467

there's no sign of vfio being initialised at all in the dmesg, a possible cause is that the hooks order is wrong .

try the default order

```
HOOKS=(base udev autodetect modconf block
```

I also think it is better to use the modules order listed in wiki

```
MODULES="vfio_pci vfio vfio_iommu_type1 v
```

Once you made these changes , regenerate the initramfs , see https://wiki.archlinux.org/title/Mkinit … generation and reboot.

post fresh *lspci -k* and dmesg .

Last edited by Lone_Wolf (2021-11-14 15:30:33)

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2021-11-14 15:44:09	#7

jonker130

Member

Registered: 2021-11-14
Posts: 6

I think it worked! The specified Nvidia devices now use the vfio-pci driver.

```
lspci -k
00:00.0 Host bridge: Intel Corporation
        Subsystem: Dell Device 09e1
        Kernel driver in use: skl_uncor
00:01.0 PCI bridge: Intel Corporation 6
        Kernel driver in use: pcieport
00:02.0 VGA compatible controller: Inte
        DeviceName: Onboard - Video
        Subsystem: Dell Device 09e1
        Kernel driver in use: i915
        Kernel modules: i915
00:04.0 Signal processing controller: I
        Subsystem: Dell Device 09e1
        Kernel driver in use: proc_ther
        Kernel modules: processor_therm
00:08.0 System peripheral: Intel Corpor
        Subsystem: Dell Device 09e1
00:12.0 Signal processing controller: I
        Subsystem: Dell Device 09e1
        Kernel driver in use: intel_pch
        Kernel modules: intel_pch_therm
```

And the dmesg:

```
[    0.000000] Linux version 5.15.2-arc
[    0.000000] Command line: BOOT_IMAGE
[    0.000000] x86/fpu: Supporting XSAV
[    0.000000] x86/fpu: Supporting XSAV
[    0.000000] x86/fpu: Supporting XSAV
[    0.000000] x86/fpu: Supporting XSAV
[    0.000000] x86/fpu: Supporting XSAV
[    0.000000] x86/fpu: Supporting XSAV
[    0.000000] x86/fpu: xstate_offset[2
[    0.000000] x86/fpu: xstate_offset[3
[    0.000000] x86/fpu: xstate_offset[4
[    0.000000] x86/fpu: xstate_offset[9
[    0.000000] x86/fpu: Enabled xstate
[    0.000000] signal: max sigframe siz
[    0.000000] BIOS-provided physical R
[    0.000000] BIOS-e820: [mem 0x000000
[    0.000000] BIOS-e820: [mem 0x000000
[    0.000000] BIOS-e820: [mem 0x000000
[    0.000000] BIOS-e820: [mem 0x000000
[    0.000000] BIOS-e820: [mem 0x000000
[    0.000000] BIOS-e820: [mem 0x000000
```

I guess now I can continue with the guide you linked me.
(Should I mark this topic as solved?)

Offline

Lone_Wolf   2021-11-15 09:49:41   #8

Member

From: Netherlands, Europe
Registered: 2005-10-04
Posts: 11,467

Looking much better and the original issue appears to be solved.

```
[   11.936340] nvidia-nvlink: Nvlink Core
```

You probably still have nvidia proprietary driver installed, consider removing it.

Disliking systemd intensely, but not satisfied with alternatives so focusing on taming systemd.

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