

Intel N150 GPU aktivieren: Kernel-Update

Quelle <https://www.number13.de/nipogi-e1-mit-intel-n150-als-mini-server-im-test/>

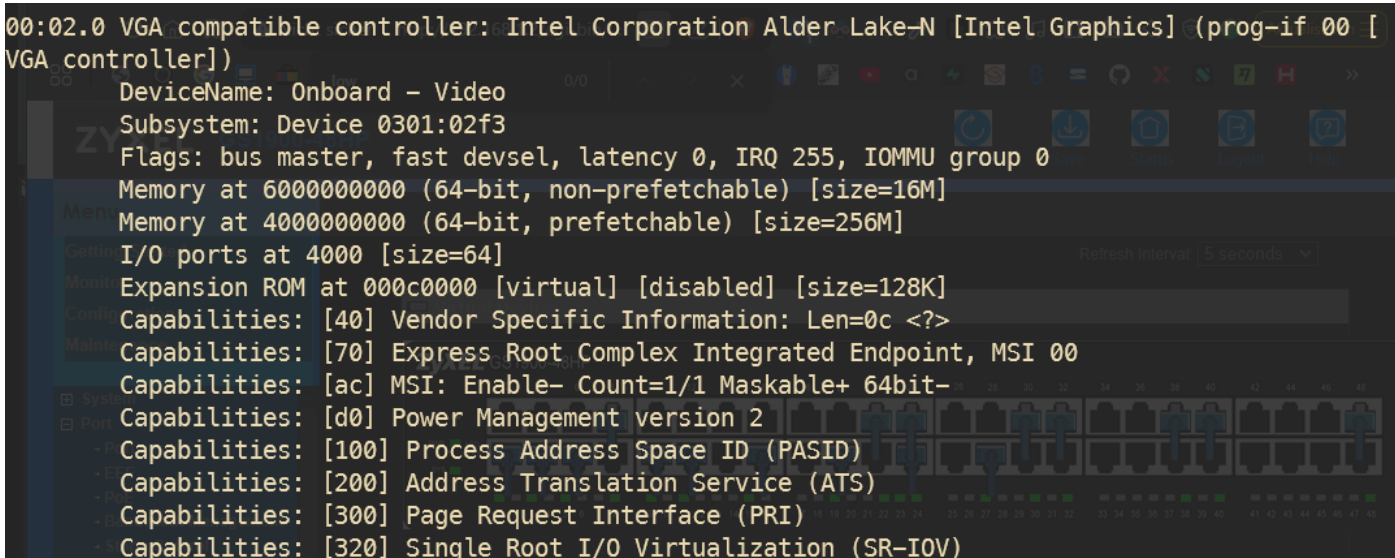
Eikes Ulti-Kommando:

```
sudo add-apt-repository ppa:cappelikan/ppa
sudo apt update && sudo apt upgrade -y
sudo apt install -y mainline policykit-1
mainline install 6.11.XXX # ANPASSEN, je nach mainline list
```

Damit die Grafikeinheit des Intel N150 (zb im GMKtec G3 Plus) erkannt wird, ist ein aktuellerer Kernel notwendig, als der, der mit zb Ubuntu derzeit mitgeliefert wird.

Hardwareinfo aufrufen:

```
sudo lspci -v
```



```
00:02.0 VGA compatible controller: Intel Corporation Alder Lake-N [Intel Graphics] (prog-if 00 [
VGA controller])
    DeviceName: Onboard - Video
    Subsystem: Device 0301:02f3
    Flags: bus master, fast devsel, latency 0, IRQ 255, IOMMU group 0
    Memory at 6000000000 (64-bit, non-prefetchable) [size=16M]
    Memory at 4000000000 (64-bit, prefetchable) [size=256M]
    I/O ports at 4000 [size=64]
    Expansion ROM at 000c0000 [virtual] [disabled] [size=128K]
    Capabilities: [40] Vendor Specific Information: Len=0c <?>
    Capabilities: [70] Express Root Complex Integrated Endpoint, MSI 00
    Capabilities: [ac] MSI: Enable- Count=1/1 Maskable+ 64bit-
    Capabilities: [d0] Power Management version 2
    Capabilities: [100] Process Address Space ID (PASID)
    Capabilities: [200] Address Translation Service (ATS)
    Capabilities: [300] Page Request Interface (PRI)
    Capabilities: [320] Single Root I/O Virtualization (SR-IOV)
```

wenn hier keine Kernelinformationen angezeigt werden, fehlt der neueste Kernel

```
00:02.0 VGA compatible controller: Intel Corporation Alder Lake-N [Intel Graphics] (prog-if 00 [VGA controller])
DeviceName: Onboard - Video
Subsystem: Intel Corporation Alder Lake-N [Intel Graphics]
Flags: bus master, fast devsel, latency 0, IRQ 133, IOMMU group 0
Memory at 6000000000 (64-bit, non-prefetchable) [size=16M]
Memory at 4000000000 (64-bit, prefetchable) [size=256M]
I/O ports at 5000 [size=64]
Expansion ROM at 000c0000 [virtual] [disabled] [size=128K]
Capabilities: [40] Vendor Specific Information: Len=0c <?>
Capabilities: [70] Express Root Complex Integrated Endpoint, MSI 00
Capabilities: [ac] MSI: Enable+ Count=1/1 Maskable+ 64bit-
Capabilities: [d0] Power Management version 2
Capabilities: [100] Process Address Space ID (PASID)
Capabilities: [200] Address Translation Service (ATS)
Capabilities: [300] Page Request Interface (PRI)
Capabilities: [320] Single Root I/O Virtualization (SR-IOV)
Kernel driver in use: i915 ←
Kernel modules: i915
```

Kernel-Version abfragen:

```
uname -r
```

```
pl-admin@pl-mini-02-fbs:~$ uname -r
6.8.0-55-generic
```

Wir brauchen mindestens 6.11.x um auf die Grafikeinheit des N150 zugreifen zu können.

Mainline installieren, um neueste Kernels zu installieren:

```
sudo add-apt-repository ppa:cappelikan/ppa
sudo apt update && sudo apt upgrade -y
sudo apt install -y mainline
```

Entweder Mainline GUI starten oder in Shell:

```
mainline list
```

```
pl-admin@pl-mini-02-fbs:~$ mainline list
```

```
mainline 1.4.12
```

```
Updating Kernels...
```

Available Kernels

```
6.13.6
```

```
6.13.5
```

```
6.13.4
```

```
6.13.2
```

```
6.13.1
```

```
6.13
```

```
6.12.18
```

```
6.12.17
```

```
6.12.16
```

```
6.12.13
```

```
6.12.12
```

```
6.12.4
```

```
6.12.3
```

```
6.12.2
```

```
6.12.1
```

```
6.12
```

```
6.11.11
```

```
6.11.10
```

```
6.11.9
```

```
6.11.8
```

```
6.11.7
```

```
6.11.4
```

```
6.11.3
```

```
6.11.2
```

```
6.11.1
```

```
6.11
```

```
6.10.14
```

```
6.10.12
```

```
6.10.11
```

```
6.10.10
```

```
6.10.9
```

```
sudo -i
```

```
# Falls der Fehler
```

```
# sh: 1: pkexec: not found
# erscheint, policykit installieren:
apt update
apt install policykit-1

mainline install 6.11.11
```

```
root@pl-mini-02-fbs:~# mainline install 6.11.11
mainline 1.4.12
Updating Kernels...
Downloading 6.11.11
Installing 6.11.11
Selecting previously unselected package linux-headers-6.11.11-061111-generic.
(Reading database ... 99995 files and directories currently installed.)
Preparing to unpack .../linux-headers-6.11.11-061111-generic_6.11.11-061111.202412051415_amd64.deb ...
Unpacking linux-headers-6.11.11-061111-generic (6.11.11-061111.202412051415) ...
Selecting previously unselected package linux-modules-6.11.11-061111-generic.
Preparing to unpack .../linux-modules-6.11.11-061111-generic_6.11.11-061111.202412051415_amd64.deb ...
Unpacking linux-modules-6.11.11-061111-generic (6.11.11-061111.202412051415) ...
Selecting previously unselected package linux-image-unsigned-6.11.11-061111-generic.
Preparing to unpack .../linux-image-unsigned-6.11.11-061111-generic_6.11.11-061111.202412051415_amd64.d
eb ...
Unpacking linux-image-unsigned-6.11.11-061111-generic (6.11.11-061111.202412051415) ...
Selecting previously unselected package linux-headers-6.11.11-061111.
Preparing to unpack .../linux-headers-6.11.11-061111_6.11.11-061111.202412051415_all.deb ...
Unpacking linux-headers-6.11.11-061111 (6.11.11-061111.202412051415) ...
Setting up linux-modules-6.11.11-061111-generic (6.11.11-061111.202412051415) ...
Setting up linux-image-unsigned-6.11.11-061111-generic (6.11.11-061111.202412051415) ...
I: /boot/vmlinuz is now a symlink to vmlinuz-6.11.11-061111-generic
I: /boot/initrd.img is now a symlink to initrd.img-6.11.11-061111-generic
Setting up linux-headers-6.11.11-061111 (6.11.11-061111.202412051415) ...
Setting up linux-headers-6.11.11-061111-generic (6.11.11-061111.202412051415) ...
Processing triggers for linux-image-unsigned-6.11.11-061111-generic (6.11.11-061111.202412051415) ...
/etc/kernel/postinst.d/initramfs-tools:
update-initramfs: Generating /boot/initrd.img-6.11.11-061111-generic
/etc/kernel/postinst.d/zz-update-grub:
Sourcing file `/etc/default/grub'
Generating grub configuration file ...
Found linux image: /boot/vmlinuz-6.11.11-061111-generic
Found initrd image: /boot/initrd.img-6.11.11-061111-generic
Found linux image: /boot/vmlinuz-6.8.0-55-generic
Found initrd image: /boot/initrd.img-6.8.0-55-generic
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
mainline: done
root@pl-mini-02-fbs:~# mainline install 6.11.11
```

```
reboot
```

```
uname -r
```

```
pl-admin@pl-mini-02-fbs:~$ uname -r
6.11.11-061111-generic
```

```
sudo lspci -v
```

```
pl-admin@pl-mini-02-fbs:~$ sudo lspci -v
[sudo] password for pl-admin:
Sorry, try again.
[sudo] password for pl-admin:
00:00.0 Host bridge: Intel Corporation Device 461c
  DeviceName: Onboard - Other
  Flags: bus master, fast devsel, latency 0, IOMMU group 1
  Capabilities: [e0] Vendor Specific Information: Len=14 <?>
  Kernel driver in use: igen6_edac
  Kernel modules: igen6_edac

00:02.0 VGA compatible controller: Intel Corporation Alder Lake-N [Intel Graphics] (prog-if 00 [VGA controller])
  DeviceName: Onboard - Video
  Subsystem: Device 0301:02f3
  Flags: bus master, fast devsel, latency 0, IRQ 142, IOMMU group 0
  Memory at 6000000000 (64-bit, non-prefetchable) [size=16M]
  Memory at 4000000000 (64-bit, prefetchable) [size=256M]
  I/O ports at 4000 [size=64]
  Expansion ROM at 000c0000 [virtual] [disabled] [size=128K]
  Capabilities: [40] Vendor Specific Information: Len=0c <?>
  Capabilities: [70] Express Root Complex Integrated Endpoint, MSI 00
  Capabilities: [ac] MSI: Enable+ Count=1/1 Maskable+ 64bit-
  Capabilities: [d0] Power Management version 2
  Capabilities: [100] Process Address Space ID (PASID)
  Capabilities: [200] Address Translation Service (ATS)
  Capabilities: [300] Page Request Interface (PRI)
  Capabilities: [320] Single Root I/O Virtualization (SR-IOV)
  Kernel driver in use: i915
  Kernel modules: i915
```

yay

Revision #4

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