Xubuntu 16.04 on Dell XPS 13 (9360)

Useful links are:

- ArchWiki: Dell XPS 13 (9360)
- ArchWiki: DisplayLink
- erik.torgesta.com: Things to improve Ubuntu 16.04 on Dell XPS 13 (9630)

Then, my procedure was (main points):

1. first of all i updated the BIOS, as described in BROKEN-LINK:Dell Knowledge BaseLINK-BROKEN
2. added boot option `pci=noaer` to `GRUB_CMDLINE_LINUX_DEFAULT` in `/etc/default/grub` to get rid of a lot of error messages in kernel ring buffer (dmesg)
3. installed DisplayLink Driver software to use my D3100 docking station, as described at DisplayLink Knowledge Base[1] – on each kernel update you must de-install the *DisplayLink* drivers and then re-install it again:

   ```
   sudo displaylink-installer uninstall
   sudo displaylink-driver-4.2.29.run
   ```

4. use Intel X11 driver instead of generic *modesetting* driver, with this configuration:[2]

   ```
   Section "Device"
       Identifier "Intel Graphics"
       Driver "intel"
       Option "AccelMethod" "sna"
       Option "HotPlug" "true"
       Option "TearFree" "true"
       Option "TripleBuffer" "true"
       Option "MigrationHeuristic" "greedy"
       Option "Tiling" "true"
       Option "Pageflip" "true"
       Option "ExaNoComposite" "false"
       Option "VSync" "false"
   EndSection
   ```

   in `/usr/share/X11/xorg.conf.d/10-intel.conf`, as suggested at:

   - ArchWiki
   - GitHub: DisplayLink Debian, Post Installation Guide
   - GitHub: DisplayLink Debian, Issue 68
   - GitHub: DisplayLink, Issue 85
5. get rid of kernel ring buffer messages like this:

   ```
   [ 1862.304249] [drm:intel_pipe_update_end [i915]] *ERROR* Atomic update
   failure on pipe A (start=110659 end=110660) time 235 us, min 1073, max
   1079, scanline start 1069, end 1085
   ```

   by adding `i915.enable_rc6=0` to kernel boot parameters

6. reduce the log level of *evdi* kernel module in `/etc/modprobe.d/evdi.conf`, as described in DisplayLink Knowledge Base
7. solve a touchpad driver clash as described in BROKEN-LINK:Dell TechCenterLINK-BROKEN
8. improved touchpad handling by using *libinput* instead of *synaptics* driver, see ArchWiki [3)]
9. disabled USB autosuspend for *Qualcom Atheros* Wifi/Bluetooth module and *DisplayLink* in Laptop Power Management configuration file `/etc/default/tlp`:[4)]

```
USB_BLACKLIST="0cf3:e300 17e9:436e" # determine correct ID for example by: sudo tlp-stat -u -v
```

10. fix *Bluetooth* issues with my Dell WM527 mouse and KM717 keyboard (freeze after some minutes, keyboard lags, mouse stutter)
    - installed *Linux* kernel `4.13.0-38-generic`
    - updated *Qualcom Atheros* firmware in `/lib/firmware/ath10k/QCA6174/hw3.0/` from *Linux* Git repository mentioned in Linux Mint Forums
    - updated *Qualcom Atheros* Bluetooth firmware in `/lib/firmware/qca` from BROKEN-LINK:Dell SupportLINK-BROKEN (extracted the files from “Windows 10, 64-bit” driver file (according to Ask Ubuntu)
    - installed bluez 5.48-0ubuntu3.4, bluez-cups, bluez-tools and libreadline7 from *Ubuntu* 18.04LTS[5)]
    - increased the *Dell WM527 Mouse* polling rate to about 100 Hz, editing (according to Stack Exchange and ArchWiki) the *Bluez* / *bluetoothctl* file `/var/lib/bluetooth/9C\:B6\:D0\:EC\:D3\:A8/E7\:77\:13\:C8\:70\:73/info`:

```
[ConnectionParameters]
MinInterval=6
MaxInterval=9
Latency=44
Timeout=216
```

    - and without any significant effect (removed at the moment):
      - turn off power management for Bluetooth devices by a new *udev* rule in `/etc/udev/rules.d/91-bluetooth.rules`:

```
ACTION=="add", SUBSYSTEM=="bluetooth", TEST=="power/control", ATTR{power/control}="on"
```

      - set option `poll=0` for module *drm_kms_helper* as kernel parameter `drm_kms_helper.poll=0` (see Grub), or in `/etc/modprobe.d/dkms.conf` (according to Stack Exchange), and finally verify with

```
sudo cat /sys/module/drm_kms_helper/parameters/poll
```

      - added option `-E` to start of `bluetoothd` in `/lib/systemd/system/bluetooth.service` and `/etc/init.d/bluetooth` (see Ask Ubuntu)
      - enable line `UserspaceHID=true` in `/etc/bluetooth/input.conf`
11. set wireless regulatory `REGDOMAIN=DE` in file `/etc/default/crda`
12. get rid of GTK warning: `Couldn't connect to accessibility bus: Failed to connect to socket /tmp/dbus-KQthIjtnmQ` by adding this to `/etc/environment`:

```
NO_AT_BRIDGE=1
```



Sometimes *DisplayLink* dies by unknown reason. You should use command

```
systemctl status displaylink.service
```

respective

```
systemctl status dlm.service
```

to detect this situation.[6] Also commands

```
lsusb -d 17e9: # vendor ID of DisplayLink devices
xrandr --listproviders
```

are helpful.

Finally i want to present my kernel ring buffer output (dmesg) regarding this setup:

```
[    0.000000] microcode: microcode updated early to revision 0xca, date =
2019-09-26
[    0.000000] random: get_random_bytes called from start_kernel+0x42/0x50d
with crng_init=0
[    0.000000] Linux version 4.13.0-38-generic (buildd@lgw01-amd64-027) (gcc
version 5.4.0 20160609 (Ubuntu 5.4.0-6ubuntu1~16.04.9)) #43~16.04.1-Ubuntu
SMP Wed Mar 14 17:48:43 UTC 2018 (Ubuntu 4.13.0-38.43~16.04.1-generic
4.13.16)
[    0.000000] Command line: BOOT_IMAGE=/boot/vmlinuz-4.13.0-38-generic
root=UUID=17691d48-21cc-422c-a6e7-5049e662cd6a ro alx.enable_wol=1
mem_sleep_default=deep quiet splash pci=noaer vt.handoff=7
[    0.000000] KERNEL supported cpus:
[    0.000000]   Intel GenuineIntel
[    0.000000]   AMD AuthenticAMD
[    0.000000]   Centaur CentaurHauls
[    0.000000] x86/fpu: Supporting XSAVE feature 0x001: 'x87 floating point
registers'
[    0.000000] x86/fpu: Supporting XSAVE feature 0x002: 'SSE registers'
[    0.000000] x86/fpu: Supporting XSAVE feature 0x004: 'AVX registers'
[    0.000000] x86/fpu: Supporting XSAVE feature 0x008: 'MPX bounds
registers'
[    0.000000] x86/fpu: Supporting XSAVE feature 0x010: 'MPX CSR'
[    0.000000] x86/fpu: xstate_offset[2]:  576, xstate_sizes[2]:  256
[    0.000000] x86/fpu: xstate_offset[3]:  832, xstate_sizes[3]:   64
[    0.000000] x86/fpu: xstate_offset[4]:  896, xstate_sizes[4]:   64
[    0.000000] x86/fpu: Enabled xstate features 0x1f, context size is 960
bytes, using 'compacted' format.
[    0.000000] e820: BIOS-provided physical RAM map:
```

```
[    0.000000] BIOS-e820: [mem 0x0000000000000000-0x0000000000057fff] usable
[    0.000000] BIOS-e820: [mem 0x0000000000058000-0x0000000000058fff]
reserved
[    0.000000] BIOS-e820: [mem 0x0000000000059000-0x000000000009dfff] usable
[    0.000000] BIOS-e820: [mem 0x000000000009e000-0x00000000000fffff]
reserved
[    0.000000] BIOS-e820: [mem 0x0000000000100000-0x00000000694ebfff] usable
[    0.000000] BIOS-e820: [mem 0x00000000694ec000-0x00000000694ecfff] ACPI
NVS
[    0.000000] BIOS-e820: [mem 0x00000000694ed000-0x00000000694edfff]
reserved
[    0.000000] BIOS-e820: [mem 0x00000000694ee000-0x000000007a47ffff] usable
[    0.000000] BIOS-e820: [mem 0x000000007a480000-0x000000007a80afff]
reserved
[    0.000000] BIOS-e820: [mem 0x000000007a80b000-0x000000007a84efff] ACPI
data
[    0.000000] BIOS-e820: [mem 0x000000007a84f000-0x000000007aef3fff] ACPI
NVS
[    0.000000] BIOS-e820: [mem 0x000000007aef4000-0x000000007b5fefff]
reserved
[    0.000000] BIOS-e820: [mem 0x000000007b5ff000-0x000000007b5fffff] usable
[    0.000000] BIOS-e820: [mem 0x000000007b600000-0x000000007f7fffff]
reserved
[    0.000000] BIOS-e820: [mem 0x00000000e0000000-0x00000000efffffff]
reserved
[    0.000000] BIOS-e820: [mem 0x00000000fe000000-0x00000000fe010fff]
reserved
[    0.000000] BIOS-e820: [mem 0x00000000fec00000-0x00000000fec00fff]
reserved
[    0.000000] BIOS-e820: [mem 0x00000000fee00000-0x00000000fee00fff]
reserved
[    0.000000] BIOS-e820: [mem 0x00000000ff000000-0x00000000ffffffff]
reserved
[    0.000000] BIOS-e820: [mem 0x0000000100000000-0x000000047e7fffff] usable
[    0.000000] NX (Execute Disable) protection: active
[    0.000000] e820: update [mem 0x67375018-0x67385057] usable ==> usable
[    0.000000] e820: update [mem 0x67375018-0x67385057] usable ==> usable
[    0.000000] extended physical RAM map:
[    0.000000] reserve setup_data: [mem
0x0000000000000000-0x0000000000057fff] usable
[    0.000000] reserve setup_data: [mem
0x0000000000058000-0x0000000000058fff] reserved
[    0.000000] reserve setup_data: [mem
0x0000000000059000-0x000000000009dfff] usable
[    0.000000] reserve setup_data: [mem
0x000000000009e000-0x00000000000fffff] reserved
[    0.000000] reserve setup_data: [mem
0x0000000000100000-0x0000000067375017] usable
[    0.000000] reserve setup_data: [mem
0x0000000067375018-0x0000000067385057] usable
[    0.000000] reserve setup_data: [mem
```

```
0x0000000067385058-0x00000000694ebfff] usable
[    0.000000] reserve setup_data: [mem
0x00000000694ec000-0x00000000694ecfff] ACPI NVS
[    0.000000] reserve setup_data: [mem
0x00000000694ed000-0x00000000694edfff] reserved
[    0.000000] reserve setup_data: [mem
0x00000000694ee000-0x000000007a47ffff] usable
[    0.000000] reserve setup_data: [mem
0x000000007a480000-0x000000007a80afff] reserved
[    0.000000] reserve setup_data: [mem
0x000000007a80b000-0x000000007a84efff] ACPI data
[    0.000000] reserve setup_data: [mem
0x000000007a84f000-0x000000007aef3fff] ACPI NVS
[    0.000000] reserve setup_data: [mem
0x000000007aef4000-0x000000007b5fefff] reserved
[    0.000000] reserve setup_data: [mem
0x000000007b5ff000-0x000000007b5fffff] usable
[    0.000000] reserve setup_data: [mem
0x000000007b600000-0x000000007f7fffff] reserved
[    0.000000] reserve setup_data: [mem
0x00000000e0000000-0x00000000efffffff] reserved
[    0.000000] reserve setup_data: [mem
0x00000000fe000000-0x00000000fe010fff] reserved
[    0.000000] reserve setup_data: [mem
0x00000000fec00000-0x00000000fec00fff] reserved
[    0.000000] reserve setup_data: [mem
0x00000000fee00000-0x00000000fee00fff] reserved
[    0.000000] reserve setup_data: [mem
0x00000000ff000000-0x00000000ffffffff] reserved
[    0.000000] reserve setup_data: [mem
0x0000000100000000-0x000000047e7fffff] usable
[    0.000000] efi: EFI v2.40 by American Megatrends
[    0.000000] efi:  ACPI=0x7a818000  ACPI 2.0=0x7a818000  SMBIOS=0xf0000
SMBIOS 3.0=0xf0020  ESRT=0x7b29f118  MEMATTR=0x77dba018
[    0.000000] random: fast init done
[    0.000000] SMBIOS 3.0.0 present.
[    0.000000] DMI: Dell Inc. XPS 13 9360/0PF86Y, BIOS 2.3.1 10/03/2017
[    0.000000] e820: update [mem 0x00000000-0x00000fff] usable ==> reserved
[    0.000000] e820: remove [mem 0x000a0000-0x000fffff] usable
[    0.000000] e820: last_pfn = 0x47e800 max_arch_pfn = 0x400000000
[    0.000000] MTRR default type: write-back
[    0.000000] MTRR fixed ranges enabled:
[    0.000000]   00000-9FFFF write-back
[    0.000000]   A0000-BFFFF uncachable
[    0.000000]   C0000-FFFFF write-protect
[    0.000000] MTRR variable ranges enabled:
[    0.000000]   0 base 0080000000 mask 7F80000000 uncachable
[    0.000000]   1 base 007E000000 mask 7FFE000000 uncachable
[    0.000000]   2 base 007D000000 mask 7FFF000000 uncachable
[    0.000000]   3 disabled
[    0.000000]   4 disabled
```

```
[    0.000000]   5 disabled
[    0.000000]   6 disabled
[    0.000000]   7 disabled
[    0.000000]   8 disabled
[    0.000000]   9 disabled
[    0.000000] x86/PAT: Configuration [0-7]: WB  WC  UC- UC  WB  WC  UC- WT
[    0.000000] e820: last_pfn = 0x7b600 max_arch_pfn = 0x400000000
[    0.000000] esrt: Reserving ESRT space from 0x000000007b29f118 to
0x000000007b29f150.
[    0.000000] Scanning 1 areas for low memory corruption
[    0.000000] Base memory trampoline at [ffff999200098000] 98000 size 24576
[    0.000000] Using GB pages for direct mapping
[    0.000000] BRK [0x1ff32c000, 0x1ff32cfff] PGTABLE
[    0.000000] BRK [0x1ff32d000, 0x1ff32dfff] PGTABLE
[    0.000000] BRK [0x1ff32e000, 0x1ff32efff] PGTABLE
[    0.000000] BRK [0x1ff32f000, 0x1ff32ffff] PGTABLE
[    0.000000] BRK [0x1ff330000, 0x1ff330fff] PGTABLE
[    0.000000] BRK [0x1ff331000, 0x1ff331fff] PGTABLE
[    0.000000] BRK [0x1ff332000, 0x1ff332fff] PGTABLE
[    0.000000] BRK [0x1ff333000, 0x1ff333fff] PGTABLE
[    0.000000] BRK [0x1ff334000, 0x1ff334fff] PGTABLE
[    0.000000] Secure boot disabled
[    0.000000] RAMDISK: [mem 0x2c45e000-0x2f849fff]
[    0.000000] ACPI: Early table checksum verification disabled
[    0.000000] ACPI: RSDP 0x000000007A818000 000024 (v02 DELL  )
[    0.000000] ACPI: XSDT 0x000000007A8180C0 0000FC (v01 DELL   CBX3
01072009 AMI  00010013)
[    0.000000] ACPI: FACP 0x000000007A83D7C0 00010C (v05 DELL   CBX3
01072009 AMI  00010013)
[    0.000000] ACPI: DSDT 0x000000007A818248 025576 (v02 DELL   CBX3
01072009 INTL 20160422)
[    0.000000] ACPI: FACS 0x000000007AEF1180 000040
[    0.000000] ACPI: APIC 0x000000007A83D8D0 000084 (v03 DELL   CBX3
01072009 AMI  00010013)
[    0.000000] ACPI: FPDT 0x000000007A83D958 000044 (v01 DELL   CBX3
01072009 AMI  00010013)
[    0.000000] ACPI: FIDT 0x000000007A83D9A0 0000AC (v01 DELL   CBX3
01072009 AMI  00010013)
[    0.000000] ACPI: MCFG 0x000000007A83DA50 00003C (v01 DELL   CBX3
01072009 MSFT 00000097)
[    0.000000] ACPI: HPET 0x000000007A83DA90 000038 (v01 DELL   CBX3
01072009 AMI. 0005000B)
[    0.000000] ACPI: SSDT 0x000000007A83DAC8 000359 (v01 SataRe SataTabl
00001000 INTL 20160422)
[    0.000000] ACPI: BOOT 0x000000007A83DE28 000028 (v01 DELL   CBX3
01072009 AMI  00010013)
[    0.000000] ACPI: SSDT 0x000000007A83DE50 0012CF (v02 SaSsdt SaSsdt
00003000 INTL 20160422)
[    0.000000] ACPI: HPET 0x000000007A83F120 000038 (v01 INTEL  KBL-ULT
00000001 MSFT 0000005F)
[    0.000000] ACPI: SSDT 0x000000007A83F158 000D84 (v02 INTEL  xh_rvp07
```

```
00000000 INTL 20160422)
[    0.000000] ACPI: UEFI 0x000000007A83FEE0 000042 (v01
00000000      00000000)
[    0.000000] ACPI: SSDT 0x000000007A83FF28 000EDE (v02 CpuRef CpuSsdt
00003000 INTL 20160422)
[    0.000000] ACPI: LPIT 0x000000007A840E08 000094 (v01 INTEL  KBL-ULT
00000000 MSFT 0000005F)
[    0.000000] ACPI: WSMT 0x000000007A840EA0 000028 (v01 DELL   CBX3
00000000 MSFT 0000005F)
[    0.000000] ACPI: SSDT 0x000000007A840EC8 000161 (v02 INTEL  HdaDsp
00000000 INTL 20160422)
[    0.000000] ACPI: SSDT 0x000000007A841030 00029F (v02 INTEL  sensrhub
00000000 INTL 20160422)
[    0.000000] ACPI: SSDT 0x000000007A8412D0 003002 (v02 INTEL  PtidDevc
00001000 INTL 20160422)
[    0.000000] ACPI: SSDT 0x000000007A8442D8 0000DB (v02 INTEL  TbtTypeC
00000000 INTL 20160422)
[    0.000000] ACPI: DBGP 0x000000007A8443B8 000034 (v01 INTEL
00000002 MSFT 0000005F)
[    0.000000] ACPI: DBG2 0x000000007A8443F0 000054 (v00 INTEL
00000002 MSFT 0000005F)
[    0.000000] ACPI: SSDT 0x000000007A844448 0007AC (v02 INTEL  UsbCTabl
00001000 INTL 20160422)
[    0.000000] ACPI: SSDT 0x000000007A844BF8 0084F1 (v02 DptfTa DptfTabl
00001000 INTL 20160422)
[    0.000000] ACPI: NHLT 0x000000007A84D0F0 00002D (v00 INTEL  EDK2
00000002      01000013)
[    0.000000] ACPI: BGRT 0x000000007A84D120 000038 (v00
01072009 AMI  00010013)
[    0.000000] ACPI: ASF! 0x000000007A84D158 0000A0 (v32 INTEL   HCG
00000001 TFSM 000F4240)
[    0.000000] ACPI: DMAR 0x000000007A84D1F8 0000F0 (v01 INTEL  KBL
00000001 INTL 00000001)
[    0.000000] ACPI: Local APIC address 0xfee00000
[    0.000000] No NUMA configuration found
[    0.000000] Faking a node at [mem 0x0000000000000000-0x000000047e7fffff]
[    0.000000] NODE_DATA(0) allocated [mem 0x47e7d5000-0x47e7fffff]
[    0.000000] Zone ranges:
[    0.000000]   DMA      [mem 0x0000000000001000-0x0000000000ffffff]
[    0.000000]   DMA32    [mem 0x0000000001000000-0x00000000ffffffff]
[    0.000000]   Normal   [mem 0x0000000100000000-0x000000047e7fffff]
[    0.000000]   Device   empty
[    0.000000] Movable zone start for each node
[    0.000000] Early memory node ranges
[    0.000000]   node   0: [mem 0x0000000000001000-0x0000000000057fff]
[    0.000000]   node   0: [mem 0x0000000000059000-0x000000000009dfff]
[    0.000000]   node   0: [mem 0x0000000000100000-0x00000000694ebfff]
[    0.000000]   node   0: [mem 0x00000000694ee000-0x000000007a47ffff]
[    0.000000]   node   0: [mem 0x000000007b5ff000-0x000000007b5fffff]
[    0.000000]   node   0: [mem 0x0000000100000000-0x000000047e7fffff]
[    0.000000] Initmem setup node 0 [mem
```

```
0x0000000000001000-0x000000047e7fffff]
[    0.000000] On node 0 totalpages: 4164635
[    0.000000]   DMA zone: 64 pages used for memmap
[    0.000000]   DMA zone: 21 pages reserved
[    0.000000]   DMA zone: 3996 pages, LIFO batch:0
[    0.000000]   DMA32 zone: 7762 pages used for memmap
[    0.000000]   DMA32 zone: 496767 pages, LIFO batch:31
[    0.000000]   Normal zone: 57248 pages used for memmap
[    0.000000]   Normal zone: 3663872 pages, LIFO batch:31
[    0.000000] tboot: non-0 tboot_addr but it is not of type
E820_TYPE_RESERVED
[    0.000000] Reserving Intel graphics memory at
0x000000007d800000-0x000000007f7fffff
[    0.000000] ACPI: PM-Timer IO Port: 0x1808
[    0.000000] ACPI: Local APIC address 0xfee00000
[    0.000000] ACPI: LAPIC_NMI (acpi_id[0x01] high edge lint[0x1])
[    0.000000] ACPI: LAPIC_NMI (acpi_id[0x02] high edge lint[0x1])
[    0.000000] ACPI: LAPIC_NMI (acpi_id[0x03] high edge lint[0x1])
[    0.000000] ACPI: LAPIC_NMI (acpi_id[0x04] high edge lint[0x1])
[    0.000000] IOAPIC[0]: apic_id 2, version 32, address 0xfec00000, GSI
0-119
[    0.000000] ACPI: INT_SRC_OVR (bus 0 bus_irq 0 global_irq 2 dfl dfl)
[    0.000000] ACPI: INT_SRC_OVR (bus 0 bus_irq 9 global_irq 9 high level)
[    0.000000] ACPI: IRQ0 used by override.
[    0.000000] ACPI: IRQ9 used by override.
[    0.000000] Using ACPI (MADT) for SMP configuration information
[    0.000000] ACPI: HPET id: 0x8086a701 base: 0xfed00000
[    0.000000] smpboot: Allowing 4 CPUs, 0 hotplug CPUs
[    0.000000] PM: Registered nosave memory: [mem 0x00000000-0x00000fff]
[    0.000000] PM: Registered nosave memory: [mem 0x00058000-0x00058fff]
[    0.000000] PM: Registered nosave memory: [mem 0x0009e000-0x000fffff]
[    0.000000] PM: Registered nosave memory: [mem 0x67375000-0x67375fff]
[    0.000000] PM: Registered nosave memory: [mem 0x67385000-0x67385fff]
[    0.000000] PM: Registered nosave memory: [mem 0x694ec000-0x694ecfff]
[    0.000000] PM: Registered nosave memory: [mem 0x694ed000-0x694edfff]
[    0.000000] PM: Registered nosave memory: [mem 0x7a480000-0x7a80afff]
[    0.000000] PM: Registered nosave memory: [mem 0x7a80b000-0x7a84efff]
[    0.000000] PM: Registered nosave memory: [mem 0x7a84f000-0x7aef3fff]
[    0.000000] PM: Registered nosave memory: [mem 0x7aef4000-0x7b5fefff]
[    0.000000] PM: Registered nosave memory: [mem 0x7b600000-0x7f7fffff]
[    0.000000] PM: Registered nosave memory: [mem 0x7f800000-0xdfffffff]
[    0.000000] PM: Registered nosave memory: [mem 0xe0000000-0xefffffff]
[    0.000000] PM: Registered nosave memory: [mem 0xf0000000-0xfdffffff]
[    0.000000] PM: Registered nosave memory: [mem 0xfe000000-0xfe010fff]
[    0.000000] PM: Registered nosave memory: [mem 0xfe011000-0xfebfffff]
[    0.000000] PM: Registered nosave memory: [mem 0xfec00000-0xfec00fff]
[    0.000000] PM: Registered nosave memory: [mem 0xfec01000-0xfedfffff]
[    0.000000] PM: Registered nosave memory: [mem 0xfee00000-0xfee00fff]
[    0.000000] PM: Registered nosave memory: [mem 0xfee01000-0xfeffffff]
[    0.000000] PM: Registered nosave memory: [mem 0xff000000-0xffffffff]
[    0.000000] e820: [mem 0x7f800000-0xdfffffff] available for PCI devices
```

```
[    0.000000] Booting paravirtualized kernel on bare hardware
[    0.000000] clocksource: refined-jiffies: mask: 0xffffffff max_cycles:
0xffffffff, max_idle_ns: 7645519600211568 ns
[    0.000000] setup_percpu: NR_CPUS:8192 nr_cpumask_bits:4 nr_cpu_ids:4
nr_node_ids:1
[    0.000000] percpu: Embedded 45 pages/cpu @ffff99967e400000 s146520 r8192
d29608 u524288
[    0.000000] pcpu-alloc: s146520 r8192 d29608 u524288 alloc=1*2097152
[    0.000000] pcpu-alloc: [0] 0 1 2 3
[    0.000000] Built 1 zonelists in Node order, mobility grouping on.  Total
pages: 4099540
[    0.000000] Policy zone: Normal
[    0.000000] Kernel command line: BOOT_IMAGE=/boot/vmlinuz-4.13.0-38-
generic root=UUID=17691d48-21cc-422c-a6e7-5049e662cd6a ro alx.enable_wol=1
mem_sleep_default=deep quiet splash pci=noaer vt.handoff=7
[    0.000000] PID hash table entries: 4096 (order: 3, 32768 bytes)
[    0.000000] Calgary: detecting Calgary via BIOS EBDA area
[    0.000000] Calgary: Unable to locate Rio Grande table in EBDA - bailing!
[    0.000000] Memory: 16206476K/16658540K available (12300K kernel code,
2481K rwdata, 4008K rodata, 2368K init, 2372K bss, 452064K reserved, 0K cma-
reserved)
[    0.000000] SLUB: HWalign=64, Order=0-3, MinObjects=0, CPUs=4, Nodes=1
[    0.000000] Kernel/User page tables isolation: enabled
[    0.000000] ftrace: allocating 37844 entries in 148 pages
[    0.000000] Hierarchical RCU implementation.
[    0.000000]  RCU restricting CPUs from NR_CPUS=8192 to nr_cpu_ids=4.
[    0.000000]  Tasks RCU enabled.
[    0.000000] RCU: Adjusting geometry for rcu_fanout_leaf=16, nr_cpu_ids=4
[    0.000000] NR_IRQS: 524544, nr_irqs: 1024, preallocated irqs: 16
[    0.000000] spurious 8259A interrupt: IRQ7.
[    0.000000] vt handoff: transparent VT on vt#7
[    0.000000] Console: colour dummy device 80x25
[    0.000000] console [tty0] enabled
[    0.000000] clocksource: hpet: mask: 0xffffffff max_cycles: 0xffffffff,
max_idle_ns: 79635855245 ns
[    0.000000] hpet clockevent registered
[    0.004000] tsc: Detected 2400.000 MHz processor
[    0.004000] Calibrating delay loop (skipped), value calculated using
timer frequency.. 4800.00 BogoMIPS (lpj=9600000)
[    0.004000] pid_max: default: 32768 minimum: 301
[    0.004000] ACPI: Core revision 20170531
[    0.044870] ACPI: 11 ACPI AML tables successfully acquired and loaded
[    0.045772] Security Framework initialized
[    0.045773] Yama: becoming mindful.
[    0.045791] AppArmor: AppArmor initialized
[    0.048465] Dentry cache hash table entries: 2097152 (order: 12, 16777216
bytes)
[    0.049769] Inode-cache hash table entries: 1048576 (order: 11, 8388608
bytes)
[    0.049830] Mount-cache hash table entries: 32768 (order: 6, 262144
bytes)
```

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[    0.049872] Mountpoint-cache hash table entries: 32768 (order: 6, 262144
bytes)
[    0.050060] CPU: Physical Processor ID: 0
[    0.050061] CPU: Processor Core ID: 0
[    0.050066] ENERGY_PERF_BIAS: Set to 'normal', was 'performance'
[    0.050067] ENERGY_PERF_BIAS: View and update with
x86_energy_perf_policy(8)
[    0.050069] FEATURE SPEC_CTRL Present
[    0.050073] mce: CPU supports 9 MCE banks
[    0.050084] CPU0: Thermal monitoring enabled (TM1)
[    0.050104] process: using mwait in idle threads
[    0.050107] Last level iTLB entries: 4KB 64, 2MB 8, 4MB 8
[    0.050107] Last level dTLB entries: 4KB 64, 2MB 0, 4MB 0, 1GB 4
[    0.050109] Spectre V2 mitigation: Mitigation: Full generic retpoline
[    0.050110] Spectre V2 mitigation: Speculation control IBPB supported
IBRS supported
[    0.050110] Spectre V2 mitigation: Retpoline compiled kernel.  Defaulting
IBRS to disabled
[    0.050111] Spectre V2 mitigation: Filling RSB on context switch
[    0.051223] Freeing SMP alternatives memory: 36K
[    0.054338] smpboot: Max logical packages: 2
[    0.054344] DMAR: Host address width 39
[    0.054345] DMAR: DRHD base: 0x000000fed90000 flags: 0x0
[    0.054352] DMAR: dmar0: reg_base_addr fed90000 ver 1:0 cap
1c0000c40660462 ecap 19e2ff0505e
[    0.054354] DMAR: DRHD base: 0x000000fed91000 flags: 0x1
[    0.054358] DMAR: dmar1: reg_base_addr fed91000 ver 1:0 cap
d2008c40660462 ecap f050da
[    0.054359] DMAR: RMRR base: 0x0000007a54e000 end: 0x0000007a56dfff
[    0.054361] DMAR: RMRR base: 0x0000007d000000 end: 0x0000007f7fffff
[    0.054362] DMAR: ANDD device: 1 name: \_SB.PCI0.I2C0
[    0.054363] DMAR: ANDD device: 2 name: \_SB.PCI0.I2C1
[    0.054364] DMAR-IR: IOAPIC id 2 under DRHD base  0xfed91000 IOMMU 1
[    0.054365] DMAR-IR: HPET id 0 under DRHD base 0xfed91000
[    0.054366] DMAR-IR: Queued invalidation will be enabled to support
x2apic and Intr-remapping.
[    0.055817] DMAR-IR: Enabled IRQ remapping in x2apic mode
[    0.055818] x2apic enabled
[    0.055828] Switched APIC routing to cluster x2apic.
[    0.059841] ..TIMER: vector=0x30 apic1=0 pin1=2 apic2=-1 pin2=-1
[    0.100723] TSC deadline timer enabled
[    0.100727] smpboot: CPU0: Intel(R) Core(TM) i7-7560U CPU @ 2.40GHz
(family: 0x6, model: 0x8e, stepping: 0x9)
[    0.100793] Performance Events: PEBS fmt3+, Skylake events, 32-deep LBR,
full-width counters, Intel PMU driver.
[    0.100827] ... version:                4
[    0.100828] ... bit width:              48
[    0.100828] ... generic registers:      4
[    0.100829] ... value mask:             0000ffffffffffff
[    0.100830] ... max period:             00007fffffffffff
[    0.100830] ... fixed-purpose events:   3
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[    0.100831] ... event mask:             000000070000000f
[    0.100870] Hierarchical SRCU implementation.
[    0.101776] NMI watchdog: enabled on all CPUs, permanently consumes one
hw-PMU counter.
[    0.101790] smp: Bringing up secondary CPUs ...
[    0.101873] x86: Booting SMP configuration:
[    0.101874] .... node  #0, CPUs:      #1 #2 #3
[    0.105998] smp: Brought up 1 node, 4 CPUs
[    0.105998] smpboot: Total of 4 processors activated (19200.00 BogoMIPS)
[    0.108495] devtmpfs: initialized
[    0.108495] x86/mm: Memory block size: 128MB
[    0.109224] evm: security.selinux
[    0.109225] evm: security.SMACK64
[    0.109225] evm: security.SMACK64EXEC
[    0.109226] evm: security.SMACK64TRANSMUTE
[    0.109226] evm: security.SMACK64MMAP
[    0.109227] evm: security.ima
[    0.109227] evm: security.capability
[    0.109240] PM: Registering ACPI NVS region [mem 0x694ec000-0x694ecfff]
(4096 bytes)
[    0.109240] PM: Registering ACPI NVS region [mem 0x7a84f000-0x7aef3fff]
(6967296 bytes)
[    0.109240] clocksource: jiffies: mask: 0xffffffff max_cycles:
0xffffffff, max_idle_ns: 7645041785100000 ns
[    0.109240] futex hash table entries: 1024 (order: 4, 65536 bytes)
[    0.109240] pinctrl core: initialized pinctrl subsystem
[    0.109240] RTC time: 10:58:38, date: 04/03/20
[    0.109240] NET: Registered protocol family 16
[    0.109240] cpuidle: using governor ladder
[    0.109240] cpuidle: using governor menu
[    0.109240] PCCT header not found.
[    0.109240] Simple Boot Flag at 0x47 set to 0x80
[    0.109240] ACPI FADT declares the system doesn't support PCIe ASPM, so
disable it
[    0.109240] ACPI: bus type PCI registered
[    0.109240] acpiphp: ACPI Hot Plug PCI Controller Driver version: 0.5
[    0.109240] PCI: MMCONFIG for domain 0000 [bus 00-ff] at [mem
0xe0000000-0xefffffff] (base 0xe0000000)
[    0.109240] PCI: MMCONFIG at [mem 0xe0000000-0xefffffff] reserved in E820
[    0.109240] PCI: Using configuration type 1 for base access
[    0.112040] HugeTLB registered 1.00 GiB page size, pre-allocated 0 pages
[    0.112040] HugeTLB registered 2.00 MiB page size, pre-allocated 0 pages
[    0.112070] ACPI: Added _OSI(Module Device)
[    0.112071] ACPI: Added _OSI(Processor Device)
[    0.112071] ACPI: Added _OSI(3.0 _SCP Extensions)
[    0.112072] ACPI: Added _OSI(Processor Aggregator Device)
[    0.113207] ACPI: Executed 34 blocks of module-level executable AML code
[    5.106383] ACPI: [Firmware Bug]: BIOS _OSI(Linux) query ignored
[    5.112234] ACPI: Dynamic OEM Table Load:
[    5.112241] ACPI: SSDT 0xFFFF99966B4C8000 000651 (v02 PmRef  Cpu0Ist
00003000 INTL 20160422)
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[    5.112492] ACPI: Executed 1 blocks of module-level executable AML code
[    5.112569] ACPI: \_PR_.CPU0: _OSC native thermal LVT Acked
[    5.113606] ACPI: Dynamic OEM Table Load:
[    5.113612] ACPI: SSDT 0xFFFF99966B565400 0003FF (v02 PmRef  Cpu0Cst
00003001 INTL 20160422)
[    5.113841] ACPI: Executed 1 blocks of module-level executable AML code
[    5.114296] ACPI: Dynamic OEM Table Load:
[    5.114302] ACPI: SSDT 0xFFFF99966B4CA000 00065C (v02 PmRef  ApIst
00003000 INTL 20160422)
[    5.114768] ACPI: Executed 1 blocks of module-level executable AML code
[    5.114983] ACPI: Dynamic OEM Table Load:
[    5.114987] ACPI: SSDT 0xFFFF99966B598200 00018A (v02 PmRef  ApCst
00003000 INTL 20160422)
[    5.115215] ACPI: Executed 1 blocks of module-level executable AML code
[    5.116719] ACPI: EC: EC started
[    5.116719] ACPI: EC: interrupt blocked
[    5.121643] ACPI: \_SB_.PCI0.LPCB.ECDV: Used as first EC
[    5.121644] ACPI: \_SB_.PCI0.LPCB.ECDV: GPE=0x14, EC_CMD/EC_SC=0x934,
EC_DATA=0x930
[    5.121649] ACPI: \_SB_.PCI0.LPCB.ECDV: Used as boot DSDT EC to handle
transactions
[    5.121650] ACPI: Interpreter enabled
[    5.121700] ACPI: (supports S0 S3 S4 S5)
[    5.121701] ACPI: Using IOAPIC for interrupt routing
[    5.121742] PCI: Using host bridge windows from ACPI; if necessary, use
"pci=nocrs" and report a bug
[    5.122361] ACPI: GPE 0x42 active on init
[    5.122404] ACPI: Enabled 8 GPEs in block 00 to 7F
[    5.136551] ACPI: Power Resource [WRST] (on)
[    5.136933] ACPI: Power Resource [WRST] (on)
[    5.137296] ACPI: Power Resource [WRST] (on)
[    5.137657] ACPI: Power Resource [WRST] (on)
[    5.138021] ACPI: Power Resource [WRST] (on)
[    5.138386] ACPI: Power Resource [WRST] (on)
[    5.138968] ACPI: Power Resource [WRST] (on)
[    5.139345] ACPI: Power Resource [WRST] (on)
[    5.139710] ACPI: Power Resource [WRST] (on)
[    5.140221] ACPI: Power Resource [WRST] (on)
[    5.140590] ACPI: Power Resource [WRST] (on)
[    5.140951] ACPI: Power Resource [WRST] (on)
[    5.141313] ACPI: Power Resource [WRST] (on)
[    5.141677] ACPI: Power Resource [WRST] (on)
[    5.142036] ACPI: Power Resource [WRST] (on)
[    5.142399] ACPI: Power Resource [WRST] (on)
[    5.142761] ACPI: Power Resource [WRST] (on)
[    5.144164] ACPI: Power Resource [WRST] (on)
[    5.144530] ACPI: Power Resource [WRST] (on)
[    5.144891] ACPI: Power Resource [WRST] (on)
[    5.166476] ACPI: PCI Root Bridge [PCI0] (domain 0000 [bus 00-fe])
[    5.166482] acpi PNP0A08:00: _OSC: OS supports [ExtendedConfig ASPM
ClockPM Segments MSI]
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[    5.166829] acpi PNP0A08:00: _OSC: platform does not support [PCIeHotplug
PME]
[    5.167152] acpi PNP0A08:00: _OSC: OS now controls [PCIeCapability]
[    5.167153] acpi PNP0A08:00: FADT indicates ASPM is unsupported, using
BIOS configuration
[    5.167818] PCI host bridge to bus 0000:00
[    5.167821] pci_bus 0000:00: root bus resource [io  0x0000-0x0cf7 window]
[    5.167822] pci_bus 0000:00: root bus resource [io  0x0d00-0xffff window]
[    5.167824] pci_bus 0000:00: root bus resource [mem 0x000a0000-0x000bffff
window]
[    5.167825] pci_bus 0000:00: root bus resource [mem 0x000c0000-0x000c3fff
window]
[    5.167826] pci_bus 0000:00: root bus resource [mem 0x000c4000-0x000c7fff
window]
[    5.167828] pci_bus 0000:00: root bus resource [mem 0x000c8000-0x000cbfff
window]
[    5.167829] pci_bus 0000:00: root bus resource [mem 0x000cc000-0x000cffff
window]
[    5.167830] pci_bus 0000:00: root bus resource [mem 0x000d0000-0x000d3fff
window]
[    5.167832] pci_bus 0000:00: root bus resource [mem 0x000d4000-0x000d7fff
window]
[    5.167833] pci_bus 0000:00: root bus resource [mem 0x000d8000-0x000dbfff
window]
[    5.167834] pci_bus 0000:00: root bus resource [mem 0x000dc000-0x000dffff
window]
[    5.167836] pci_bus 0000:00: root bus resource [mem 0x7f800000-0xdfffffff
window]
[    5.167837] pci_bus 0000:00: root bus resource [mem 0xfd000000-0xfe7fffff
window]
[    5.167839] pci_bus 0000:00: root bus resource [bus 00-fe]
[    5.167848] pci 0000:00:00.0: [8086:5904] type 00 class 0x060000
[    5.167981] pci 0000:00:02.0: [8086:5926] type 00 class 0x030000
[    5.167994] pci 0000:00:02.0: reg 0x10: [mem 0xdb000000-0xdbffffff 64bit]
[    5.168000] pci 0000:00:02.0: reg 0x18: [mem 0x90000000-0x9fffffff 64bit
pref]
[    5.168007] pci 0000:00:02.0: reg 0x20: [io  0xf000-0xf03f]
[    5.168156] pci 0000:00:04.0: [8086:1903] type 00 class 0x118000
[    5.168170] pci 0000:00:04.0: reg 0x10: [mem 0xdc420000-0xdc427fff 64bit]
[    5.168386] pci 0000:00:14.0: [8086:9d2f] type 00 class 0x0c0330
[    5.168411] pci 0000:00:14.0: reg 0x10: [mem 0xdc410000-0xdc41ffff 64bit]
[    5.168485] pci 0000:00:14.0: PME# supported from D3hot D3cold
[    5.168693] pci 0000:00:14.2: [8086:9d31] type 00 class 0x118000
[    5.168718] pci 0000:00:14.2: reg 0x10: [mem 0xdc434000-0xdc434fff 64bit]
[    5.168976] pci 0000:00:15.0: [8086:9d60] type 00 class 0x118000
[    5.169240] pci 0000:00:15.0: reg 0x10: [mem 0xdc433000-0xdc433fff 64bit]
[    5.170207] pci 0000:00:15.1: [8086:9d61] type 00 class 0x118000
[    5.170471] pci 0000:00:15.1: reg 0x10: [mem 0xdc432000-0xdc432fff 64bit]
[    5.171375] pci 0000:00:16.0: [8086:9d3a] type 00 class 0x078000
[    5.171397] pci 0000:00:16.0: reg 0x10: [mem 0xdc431000-0xdc431fff 64bit]
[    5.171463] pci 0000:00:16.0: PME# supported from D3hot
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[    5.171653] pci 0000:00:1c.0: [8086:9d10] type 01 class 0x060400
[    5.171726] pci 0000:00:1c.0: PME# supported from D0 D3hot D3cold
[    5.171903] pci 0000:00:1c.4: [8086:9d14] type 01 class 0x060400
[    5.171979] pci 0000:00:1c.4: PME# supported from D0 D3hot D3cold
[    5.172146] pci 0000:00:1c.5: [8086:9d15] type 01 class 0x060400
[    5.172221] pci 0000:00:1c.5: PME# supported from D0 D3hot D3cold
[    5.172391] pci 0000:00:1d.0: [8086:9d18] type 01 class 0x060400
[    5.172468] pci 0000:00:1d.0: PME# supported from D0 D3hot D3cold
[    5.172665] pci 0000:00:1f.0: [8086:9d4e] type 00 class 0x060100
[    5.172913] pci 0000:00:1f.2: [8086:9d21] type 00 class 0x058000
[    5.172928] pci 0000:00:1f.2: reg 0x10: [mem 0xdc42c000-0xdc42ffff]
[    5.173100] pci 0000:00:1f.3: [8086:9d71] type 00 class 0x040380
[    5.173129] pci 0000:00:1f.3: reg 0x10: [mem 0xdc428000-0xdc42bfff 64bit]
[    5.173156] pci 0000:00:1f.3: reg 0x20: [mem 0xdc400000-0xdc40ffff 64bit]
[    5.173206] pci 0000:00:1f.3: PME# supported from D3hot D3cold
[    5.173436] pci 0000:00:1f.4: [8086:9d23] type 00 class 0x0c0500
[    5.173498] pci 0000:00:1f.4: reg 0x10: [mem 0xdc430000-0xdc4300ff 64bit]
[    5.173569] pci 0000:00:1f.4: reg 0x20: [io  0xf040-0xf05f]
[    5.173881] pci 0000:01:00.0: [8086:1576] type 01 class 0x060400
[    5.174014] pci 0000:01:00.0: supports D1 D2
[    5.174016] pci 0000:01:00.0: PME# supported from D0 D1 D2 D3hot D3cold
[    5.174162] pci 0000:00:1c.0: PCI bridge to [bus 01-39]
[    5.174167] pci 0000:00:1c.0:   bridge window [mem 0xc4000000-0xda0fffff]
[    5.174172] pci 0000:00:1c.0:   bridge window [mem 0xa0000000-0xc1ffffff
64bit pref]
[    5.174253] pci 0000:02:00.0: [8086:1576] type 01 class 0x060400
[    5.174390] pci 0000:02:00.0: supports D1 D2
[    5.174391] pci 0000:02:00.0: PME# supported from D0 D1 D2 D3hot D3cold
[    5.174478] pci 0000:02:01.0: [8086:1576] type 01 class 0x060400
[    5.174616] pci 0000:02:01.0: supports D1 D2
[    5.174617] pci 0000:02:01.0: PME# supported from D0 D1 D2 D3hot D3cold
[    5.174701] pci 0000:02:02.0: [8086:1576] type 01 class 0x060400
[    5.174834] pci 0000:02:02.0: supports D1 D2
[    5.174835] pci 0000:02:02.0: PME# supported from D0 D1 D2 D3hot D3cold
[    5.174940] pci 0000:01:00.0: PCI bridge to [bus 02-39]
[    5.174949] pci 0000:01:00.0:   bridge window [mem 0xc4000000-0xda0fffff]
[    5.174956] pci 0000:01:00.0:   bridge window [mem 0xa0000000-0xc1ffffff
64bit pref]
[    5.175006] pci 0000:02:00.0: PCI bridge to [bus 03]
[    5.175015] pci 0000:02:00.0:   bridge window [mem 0xda000000-0xda0fffff]
[    5.175064] pci 0000:02:01.0: PCI bridge to [bus 04-38]
[    5.175073] pci 0000:02:01.0:   bridge window [mem 0xc4000000-0xd9efffff]
[    5.175079] pci 0000:02:01.0:   bridge window [mem 0xa0000000-0xc1ffffff
64bit pref]
[    5.175148] pci 0000:39:00.0: [8086:15b5] type 00 class 0x0c0330
[    5.175186] pci 0000:39:00.0: reg 0x10: [mem 0xd9f00000-0xd9f0ffff]
[    5.175362] pci 0000:39:00.0: supports D1 D2
[    5.175363] pci 0000:39:00.0: PME# supported from D0 D1 D2 D3hot D3cold
[    5.175506] pci 0000:02:02.0: PCI bridge to [bus 39]
[    5.175516] pci 0000:02:02.0:   bridge window [mem 0xd9f00000-0xd9ffffff]
[    5.175889] pci 0000:3a:00.0: [168c:003e] type 00 class 0x028000
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[    5.176218] pci 0000:3a:00.0: reg 0x10: [mem 0xdc000000-0xdc1fffff 64bit]
[    5.177309] pci 0000:3a:00.0: PME# supported from D0 D3hot D3cold
[    5.188270] pci 0000:00:1c.4: PCI bridge to [bus 3a]
[    5.188275] pci 0000:00:1c.4:   bridge window [mem 0xdc000000-0xdc1fffff]
[    5.188385] pci 0000:3b:00.0: [10ec:525a] type 00 class 0xff0000
[    5.188419] pci 0000:3b:00.0: reg 0x14: [mem 0xdc300000-0xdc300fff]
[    5.188527] pci 0000:3b:00.0: supports D1 D2
[    5.188529] pci 0000:3b:00.0: PME# supported from D1 D2 D3hot D3cold
[    5.200028] pci 0000:00:1c.5: PCI bridge to [bus 3b]
[    5.200032] pci 0000:00:1c.5:   bridge window [mem 0xdc300000-0xdc3fffff]
[    5.200139] pci 0000:3c:00.0: [144d:a804] type 00 class 0x010802
[    5.200171] pci 0000:3c:00.0: reg 0x10: [mem 0xdc200000-0xdc203fff 64bit]
[    5.212026] pci 0000:00:1d.0: PCI bridge to [bus 3c]
[    5.212031] pci 0000:00:1d.0:   bridge window [mem 0xdc200000-0xdc2fffff]
[    5.214759] ACPI: PCI Interrupt Link [LNKA] (IRQs 3 4 5 6 10 *11 12 14
15)
[    5.214811] ACPI: PCI Interrupt Link [LNKB] (IRQs 3 4 5 6 *10 11 12 14
15)
[    5.214860] ACPI: PCI Interrupt Link [LNKC] (IRQs 3 4 5 6 10 *11 12 14
15)
[    5.214909] ACPI: PCI Interrupt Link [LNKD] (IRQs 3 4 5 6 10 *11 12 14
15)
[    5.214958] ACPI: PCI Interrupt Link [LNKE] (IRQs 3 4 5 6 10 *11 12 14
15)
[    5.215007] ACPI: PCI Interrupt Link [LNKF] (IRQs 3 4 5 6 10 *11 12 14
15)
[    5.215056] ACPI: PCI Interrupt Link [LNKG] (IRQs 3 4 5 6 10 *11 12 14
15)
[    5.215105] ACPI: PCI Interrupt Link [LNKH] (IRQs 3 4 5 6 10 *11 12 14
15)
[    5.215191] ACPI: \_SB_.PEPD: Low Power S0 Idle interface disabled
[    5.219358] ACPI: EC: interrupt unblocked
[    5.219371] ACPI: EC: event unblocked
[    5.219400] ACPI: \_SB_.PCI0.LPCB.ECDV: GPE=0x14, EC_CMD/EC_SC=0x934,
EC_DATA=0x930
[    5.219402] ACPI: \_SB_.PCI0.LPCB.ECDV: Used as boot DSDT EC to handle
transactions and events
[    5.219795] SCSI subsystem initialized
[    5.219807] libata version 3.00 loaded.
[    5.219807] pci 0000:00:02.0: vgaarb: setting as boot VGA device
[    5.219807] pci 0000:00:02.0: vgaarb: VGA device added:
decodes=io+mem,owns=io+mem,locks=none
[    5.219807] pci 0000:00:02.0: vgaarb: bridge control possible
[    5.219807] vgaarb: loaded
[    5.219807] ACPI: bus type USB registered
[    5.219807] usbcore: registered new interface driver usbfs
[    5.219807] usbcore: registered new interface driver hub
[    5.220010] usbcore: registered new device driver usb
[    5.220269] EDAC MC: Ver: 3.0.0
[    5.220339] Registered efivars operations
[    5.225746] PCI: Using ACPI for IRQ routing
```

```
[    5.250756] PCI: pci_cache_line_size set to 64 bytes
[    5.251161] e820: reserve RAM buffer [mem 0x00058000-0x0005ffff]
[    5.251162] e820: reserve RAM buffer [mem 0x0009e000-0x0009ffff]
[    5.251163] e820: reserve RAM buffer [mem 0x67375018-0x67ffffff]
[    5.251164] e820: reserve RAM buffer [mem 0x694ec000-0x6bffffff]
[    5.251165] e820: reserve RAM buffer [mem 0x7a480000-0x7bffffff]
[    5.251166] e820: reserve RAM buffer [mem 0x7b600000-0x7bffffff]
[    5.251167] e820: reserve RAM buffer [mem 0x47e800000-0x47fffffff]
[    5.251247] NetLabel: Initializing
[    5.251248] NetLabel:  domain hash size = 128
[    5.251248] NetLabel:  protocols = UNLABELED CIPSOv4 CALIPSO
[    5.251262] NetLabel:  unlabeled traffic allowed by default
[    5.252069] hpet0: at MMIO 0xfed00000, IRQs 2, 8, 0, 0, 0, 0, 0, 0
[    5.252074] hpet0: 8 comparators, 64-bit 24.000000 MHz counter
[    5.255132] clocksource: Switched to clocksource hpet
[    5.261530] VFS: Disk quotas dquot_6.6.0
[    5.261562] VFS: Dquot-cache hash table entries: 512 (order 0, 4096
bytes)
[    5.261656] AppArmor: AppArmor Filesystem Enabled
[    5.261691] pnp: PnP ACPI init
[    5.261957] system 00:00: [io  0x0680-0x069f] has been reserved
[    5.261959] system 00:00: [io  0xffff] has been reserved
[    5.261961] system 00:00: [io  0xffff] has been reserved
[    5.261962] system 00:00: [io  0xffff] has been reserved
[    5.261964] system 00:00: [io  0x1800-0x18fe] has been reserved
[    5.261965] system 00:00: [io  0x164e-0x164f] has been reserved
[    5.261969] system 00:00: Plug and Play ACPI device, IDs PNP0c02 (active)
[    5.262076] pnp 00:01: Plug and Play ACPI device, IDs PNP0b00 (active)
[    5.262114] system 00:02: [io  0x1854-0x1857] has been reserved
[    5.262117] system 00:02: Plug and Play ACPI device, IDs INT3f0d PNP0c02
(active)
[    5.262270] pnp 00:03: Plug and Play ACPI device, IDs PNP0303 (active)
[    5.262288] pnp 00:04: Plug and Play ACPI device, IDs DLL075b PNP0f13
(active)
[    5.262528] system 00:05: [mem 0xfed10000-0xfed17fff] has been reserved
[    5.262529] system 00:05: [mem 0xfed18000-0xfed18fff] has been reserved
[    5.262531] system 00:05: [mem 0xfed19000-0xfed19fff] has been reserved
[    5.262532] system 00:05: [mem 0xe0000000-0xefffffff] has been reserved
[    5.262534] system 00:05: [mem 0xfed20000-0xfed3ffff] has been reserved
[    5.262536] system 00:05: [mem 0xfed90000-0xfed93fff] could not be
reserved
[    5.262537] system 00:05: [mem 0xfed45000-0xfed8ffff] has been reserved
[    5.262539] system 00:05: [mem 0xff000000-0xffffffff] has been reserved
[    5.262541] system 00:05: [mem 0xfee00000-0xfeefffff] could not be
reserved
[    5.262542] system 00:05: [mem 0xdffe0000-0xdfffffff] has been reserved
[    5.262545] system 00:05: Plug and Play ACPI device, IDs PNP0c02 (active)
[    5.262586] system 00:06: [mem 0xfd000000-0xfdabffff] has been reserved
[    5.262587] system 00:06: [mem 0xfdad0000-0xfdadffff] has been reserved
[    5.262589] system 00:06: [mem 0xfdb00000-0xfdffffff] has been reserved
[    5.262590] system 00:06: [mem 0xfe000000-0xfe01ffff] could not be
```

```
reserved
[    5.262592] system 00:06: [mem 0xfe036000-0xfe03bfff] has been reserved
[    5.262594] system 00:06: [mem 0xfe03d000-0xfe3fffff] has been reserved
[    5.262595] system 00:06: [mem 0xfe410000-0xfe7fffff] has been reserved
[    5.262597] system 00:06: Plug and Play ACPI device, IDs PNP0c02 (active)
[    5.262913] system 00:07: [io  0xff00-0xfffe] has been reserved
[    5.262915] system 00:07: Plug and Play ACPI device, IDs PNP0c02 (active)
[    5.264096] system 00:08: [mem 0xfe029000-0xfe029fff] has been reserved
[    5.264097] system 00:08: [mem 0xfe028000-0xfe028fff] has been reserved
[    5.264100] system 00:08: Plug and Play ACPI device, IDs PNP0c02 (active)
[    5.267561] pnp: PnP ACPI: found 9 devices
[    5.275248] clocksource: acpi_pm: mask: 0xffffff max_cycles: 0xffffff,
max_idle_ns: 2085701024 ns
[    5.275273] pci 0000:02:01.0: bridge window [io  0x1000-0x0fff] to [bus
04-38] add_size 1000
[    5.275283] pci 0000:02:02.0: bridge window [io  0x1000-0x0fff] to [bus
39] add_size 1000
[    5.275286] pci 0000:02:02.0: bridge window [mem 0x00100000-0x000fffff
64bit pref] to [bus 39] add_size 200000 add_align 100000
[    5.275296] pci 0000:01:00.0: bridge window [io  0x1000-0x0fff] to [bus
02-39] add_size 2000
[    5.275303] pci 0000:00:1c.0: bridge window [io  0x1000-0x0fff] to [bus
01-39] add_size 2000
[    5.275325] pci 0000:00:1c.0: BAR 13: assigned [io  0x2000-0x3fff]
[    5.275328] pci 0000:01:00.0: BAR 13: assigned [io  0x2000-0x3fff]
[    5.275333] pci 0000:02:02.0: BAR 15: no space for [mem size 0x00200000
64bit pref]
[    5.275335] pci 0000:02:02.0: BAR 15: failed to assign [mem size
0x00200000 64bit pref]
[    5.275337] pci 0000:02:01.0: BAR 13: assigned [io  0x2000-0x2fff]
[    5.275338] pci 0000:02:02.0: BAR 13: assigned [io  0x3000-0x3fff]
[    5.275341] pci 0000:02:02.0: BAR 15: no space for [mem size 0x00200000
64bit pref]
[    5.275343] pci 0000:02:02.0: BAR 15: failed to assign [mem size
0x00200000 64bit pref]
[    5.275344] pci 0000:02:00.0: PCI bridge to [bus 03]
[    5.275350] pci 0000:02:00.0:   bridge window [mem 0xda000000-0xda0fffff]
[    5.275360] pci 0000:02:01.0: PCI bridge to [bus 04-38]
[    5.275362] pci 0000:02:01.0:   bridge window [io  0x2000-0x2fff]
[    5.275368] pci 0000:02:01.0:   bridge window [mem 0xc4000000-0xd9efffff]
[    5.275372] pci 0000:02:01.0:   bridge window [mem 0xa0000000-0xc1ffffff
64bit pref]
[    5.275378] pci 0000:02:02.0: PCI bridge to [bus 39]
[    5.275381] pci 0000:02:02.0:   bridge window [io  0x3000-0x3fff]
[    5.275386] pci 0000:02:02.0:   bridge window [mem 0xd9f00000-0xd9ffffff]
[    5.275396] pci 0000:01:00.0: PCI bridge to [bus 02-39]
[    5.275398] pci 0000:01:00.0:   bridge window [io  0x2000-0x3fff]
[    5.275403] pci 0000:01:00.0:   bridge window [mem 0xc4000000-0xda0fffff]
[    5.275407] pci 0000:01:00.0:   bridge window [mem 0xa0000000-0xc1ffffff
64bit pref]
[    5.275414] pci 0000:00:1c.0: PCI bridge to [bus 01-39]
```

```
[    5.275416] pci 0000:00:1c.0:   bridge window [io  0x2000-0x3fff]
[    5.275419] pci 0000:00:1c.0:   bridge window [mem 0xc4000000-0xda0fffff]
[    5.275422] pci 0000:00:1c.0:   bridge window [mem 0xa0000000-0xc1ffffff
64bit pref]
[    5.275427] pci 0000:00:1c.4: PCI bridge to [bus 3a]
[    5.275431] pci 0000:00:1c.4:   bridge window [mem 0xdc000000-0xdc1fffff]
[    5.275438] pci 0000:00:1c.5: PCI bridge to [bus 3b]
[    5.275442] pci 0000:00:1c.5:   bridge window [mem 0xdc300000-0xdc3fffff]
[    5.275448] pci 0000:00:1d.0: PCI bridge to [bus 3c]
[    5.275452] pci 0000:00:1d.0:   bridge window [mem 0xdc200000-0xdc2fffff]
[    5.275459] pci_bus 0000:00: resource 4 [io  0x0000-0x0cf7 window]
[    5.275461] pci_bus 0000:00: resource 5 [io  0x0d00-0xffff window]
[    5.275462] pci_bus 0000:00: resource 6 [mem 0x000a0000-0x000bffff
window]
[    5.275463] pci_bus 0000:00: resource 7 [mem 0x000c0000-0x000c3fff
window]
[    5.275465] pci_bus 0000:00: resource 8 [mem 0x000c4000-0x000c7fff
window]
[    5.275466] pci_bus 0000:00: resource 9 [mem 0x000c8000-0x000cbfff
window]
[    5.275468] pci_bus 0000:00: resource 10 [mem 0x000cc000-0x000cffff
window]
[    5.275469] pci_bus 0000:00: resource 11 [mem 0x000d0000-0x000d3fff
window]
[    5.275470] pci_bus 0000:00: resource 12 [mem 0x000d4000-0x000d7fff
window]
[    5.275472] pci_bus 0000:00: resource 13 [mem 0x000d8000-0x000dbfff
window]
[    5.275473] pci_bus 0000:00: resource 14 [mem 0x000dc000-0x000dffff
window]
[    5.275474] pci_bus 0000:00: resource 15 [mem 0x7f800000-0xdfffffff
window]
[    5.275476] pci_bus 0000:00: resource 16 [mem 0xfd000000-0xfe7fffff
window]
[    5.275478] pci_bus 0000:01: resource 0 [io  0x2000-0x3fff]
[    5.275479] pci_bus 0000:01: resource 1 [mem 0xc4000000-0xda0fffff]
[    5.275480] pci_bus 0000:01: resource 2 [mem 0xa0000000-0xc1ffffff 64bit
pref]
[    5.275482] pci_bus 0000:02: resource 0 [io  0x2000-0x3fff]
[    5.275483] pci_bus 0000:02: resource 1 [mem 0xc4000000-0xda0fffff]
[    5.275484] pci_bus 0000:02: resource 2 [mem 0xa0000000-0xc1ffffff 64bit
pref]
[    5.275486] pci_bus 0000:03: resource 1 [mem 0xda000000-0xda0fffff]
[    5.275487] pci_bus 0000:04: resource 0 [io  0x2000-0x2fff]
[    5.275488] pci_bus 0000:04: resource 1 [mem 0xc4000000-0xd9efffff]
[    5.275490] pci_bus 0000:04: resource 2 [mem 0xa0000000-0xc1ffffff 64bit
pref]
[    5.275491] pci_bus 0000:39: resource 0 [io  0x3000-0x3fff]
[    5.275492] pci_bus 0000:39: resource 1 [mem 0xd9f00000-0xd9ffffff]
[    5.275494] pci_bus 0000:3a: resource 1 [mem 0xdc000000-0xdc1fffff]
[    5.275495] pci_bus 0000:3b: resource 1 [mem 0xdc300000-0xdc3fffff]
```

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[    5.275497] pci_bus 0000:3c: resource 1 [mem 0xdc200000-0xdc2fffff]
[    5.275645] NET: Registered protocol family 2
[    5.275793] TCP established hash table entries: 131072 (order: 8, 1048576
bytes)
[    5.276029] TCP bind hash table entries: 65536 (order: 8, 1048576 bytes)
[    5.276186] TCP: Hash tables configured (established 131072 bind 65536)
[    5.276218] UDP hash table entries: 8192 (order: 6, 262144 bytes)
[    5.276263] UDP-Lite hash table entries: 8192 (order: 6, 262144 bytes)
[    5.276327] NET: Registered protocol family 1
[    5.276340] pci 0000:00:02.0: Video device with shadowed ROM at [mem
0x000c0000-0x000dffff]
[    5.276774] pci 0000:01:00.0: enabling device (0006 -> 0007)
[    5.276840] pci 0000:02:02.0: enabling device (0006 -> 0007)
[    5.277136] PCI: CLS 128 bytes, default 64
[    5.277167] Unpacking initramfs...
[    6.095992] Freeing initrd memory: 53168K
[    6.096137] DMAR: ACPI device "device:79" under DMAR at fed91000 as
00:15.0
[    6.096140] DMAR: ACPI device "device:7a" under DMAR at fed91000 as
00:15.1
[    6.096174] PCI-DMA: Using software bounce buffering for IO (SWIOTLB)
[    6.096177] software IO TLB [mem 0x73311000-0x77311000] (64MB) mapped at
[ffff999273311000-ffff999277310fff]
[    6.096331] clocksource: tsc: mask: 0xffffffffffffffff max_cycles:
0x22983777dd9, max_idle_ns: 440795300422 ns
[    6.096454] Scanning for low memory corruption every 60 seconds
[    6.096835] audit: initializing netlink subsys (disabled)
[    6.096913] audit: type=2000 audit(1585911524.096:1): state=initialized
audit_enabled=0 res=1
[    6.097252] Initialise system trusted keyrings
[    6.097261] Key type blacklist registered
[    6.097325] workingset: timestamp_bits=36 max_order=22 bucket_order=0
[    6.098394] zbud: loaded
[    6.098885] squashfs: version 4.0 (2009/01/31) Phillip Lougher
[    6.099064] fuse init (API version 7.26)
[    6.101982] Key type asymmetric registered
[    6.101983] Asymmetric key parser 'x509' registered
[    6.102011] Block layer SCSI generic (bsg) driver version 0.4 loaded
(major 247)
[    6.102061] io scheduler noop registered
[    6.102062] io scheduler deadline registered
[    6.102084] io scheduler cfq registered (default)
[    6.103071] pcieport 0000:02:01.0: enabling device (0006 -> 0007)
[    6.103427] efifb: probing for efifb
[    6.103439] efifb: framebuffer at 0x90000000, using 8100k, total 8100k
[    6.103440] efifb: mode is 1920x1080x32, linelength=7680, pages=1
[    6.103440] efifb: scrolling: redraw
[    6.103442] efifb: Truecolor: size=8:8:8:8, shift=24:16:8:0
[    6.103560] Console: switching to colour frame buffer device 240x67
[    6.103586] fb0: EFI VGA frame buffer device
[    6.103592] intel_idle: MWAIT substates: 0x11142120
```

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[    6.103593] intel_idle: v0.4.1 model 0x8E
[    6.103806] intel_idle: lapic_timer_reliable_states 0xffffffff
[    6.104592] ACPI: AC Adapter [AC] (on-line)
[    6.105290] input: Lid Switch as
/devices/LNXSYSTM:00/LNXSYBUS:00/PNP0C0D:00/input/input0
[    6.106015] ACPI: Lid Switch [LID0]
[    6.106049] input: Power Button as
/devices/LNXSYSTM:00/LNXSYBUS:00/PNP0C0C:00/input/input1
[    6.106130] ACPI: Power Button [PBTN]
[    6.106157] input: Sleep Button as
/devices/LNXSYSTM:00/LNXSYBUS:00/PNP0C0E:00/input/input2
[    6.106167] ACPI: Sleep Button [SBTN]
[    6.106194] input: Power Button as
/devices/LNXSYSTM:00/LNXPWRBN:00/input/input3
[    6.106271] ACPI: Power Button [PWRF]
[    6.107651] (NULL device *): hwmon_device_register() is deprecated.
Please convert the driver to use hwmon_device_register_with_info().
[    6.108342] thermal LNXTHERM:00: registered as thermal_zone0
[    6.108343] ACPI: Thermal Zone [THM] (25 C)
[    6.108385] GHES: HEST is not enabled!
[    6.108504] Serial: 8250/16550 driver, 32 ports, IRQ sharing enabled
[    6.111283] Linux agpgart interface v0.103
[    6.113441] loop: module loaded
[    6.113610] libphy: Fixed MDIO Bus: probed
[    6.113610] tun: Universal TUN/TAP device driver, 1.6
[    6.113732] PPP generic driver version 2.4.2
[    6.113835] ehci_hcd: USB 2.0 'Enhanced' Host Controller (EHCI) Driver
[    6.113838] ehci-pci: EHCI PCI platform driver
[    6.113850] ehci-platform: EHCI generic platform driver
[    6.113863] ohci_hcd: USB 1.1 'Open' Host Controller (OHCI) Driver
[    6.113865] ohci-pci: OHCI PCI platform driver
[    6.113875] ohci-platform: OHCI generic platform driver
[    6.113884] uhci_hcd: USB Universal Host Controller Interface driver
[    6.114165] xhci_hcd 0000:00:14.0: xHCI Host Controller
[    6.114173] xhci_hcd 0000:00:14.0: new USB bus registered, assigned bus
number 1
[    6.115303] xhci_hcd 0000:00:14.0: hcc params 0x200077c1 hci version
0x100 quirks 0x00109810
[    6.115313] xhci_hcd 0000:00:14.0: cache line size of 128 is not
supported
[    6.115431] usb usb1: New USB device found, idVendor=1d6b, idProduct=0002
[    6.115433] usb usb1: New USB device strings: Mfr=3, Product=2,
SerialNumber=1
[    6.115435] usb usb1: Product: xHCI Host Controller
[    6.115437] usb usb1: Manufacturer: Linux 4.13.0-38-generic xhci-hcd
[    6.115439] usb usb1: SerialNumber: 0000:00:14.0
[    6.115789] hub 1-0:1.0: USB hub found
[    6.115807] hub 1-0:1.0: 12 ports detected
[    6.119841] xhci_hcd 0000:00:14.0: xHCI Host Controller
[    6.119845] xhci_hcd 0000:00:14.0: new USB bus registered, assigned bus
number 2
```

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[    6.119882] usb usb2: New USB device found, idVendor=1d6b, idProduct=0003
[    6.119884] usb usb2: New USB device strings: Mfr=3, Product=2,
SerialNumber=1
[    6.119885] usb usb2: Product: xHCI Host Controller
[    6.119886] usb usb2: Manufacturer: Linux 4.13.0-38-generic xhci-hcd
[    6.119888] usb usb2: SerialNumber: 0000:00:14.0
[    6.120000] hub 2-0:1.0: USB hub found
[    6.120062] hub 2-0:1.0: 6 ports detected
[    6.121969] usb: port power management may be unreliable
[    6.124312] xhci_hcd 0000:39:00.0: xHCI Host Controller
[    6.124316] xhci_hcd 0000:39:00.0: new USB bus registered, assigned bus
number 3
[    6.125485] xhci_hcd 0000:39:00.0: hcc params 0x200077c1 hci version
0x110 quirks 0x00009810
[    6.125781] usb usb3: New USB device found, idVendor=1d6b, idProduct=0002
[    6.125782] usb usb3: New USB device strings: Mfr=3, Product=2,
SerialNumber=1
[    6.125784] usb usb3: Product: xHCI Host Controller
[    6.125785] usb usb3: Manufacturer: Linux 4.13.0-38-generic xhci-hcd
[    6.125786] usb usb3: SerialNumber: 0000:39:00.0
[    6.126142] hub 3-0:1.0: USB hub found
[    6.126149] hub 3-0:1.0: 2 ports detected
[    6.126548] xhci_hcd 0000:39:00.0: xHCI Host Controller
[    6.126552] xhci_hcd 0000:39:00.0: new USB bus registered, assigned bus
number 4
[    6.126554] xhci_hcd 0000:39:00.0: Host supports USB 3.1 Enhanced
SuperSpeed
[    6.126594] usb usb4: New USB device found, idVendor=1d6b, idProduct=0003
[    6.126597] usb usb4: New USB device strings: Mfr=3, Product=2,
SerialNumber=1
[    6.126599] usb usb4: Product: xHCI Host Controller
[    6.126601] usb usb4: Manufacturer: Linux 4.13.0-38-generic xhci-hcd
[    6.126602] usb usb4: SerialNumber: 0000:39:00.0
[    6.127107] hub 4-0:1.0: USB hub found
[    6.127115] hub 4-0:1.0: 2 ports detected
[    6.128106] i8042: PNP: PS/2 Controller [PNP0303:PS2K,PNP0f13:PS2M] at
0x60,0x64 irq 1,12
[    6.128759] i8042: Warning: Keylock active
[    6.131245] serio: i8042 KBD port at 0x60,0x64 irq 1
[    6.131249] serio: i8042 AUX port at 0x60,0x64 irq 12
[    6.131466] mousedev: PS/2 mouse device common for all mice
[    6.131864] rtc_cmos 00:01: RTC can wake from S4
[    6.132461] rtc_cmos 00:01: rtc core: registered rtc_cmos as rtc0
[    6.132590] rtc_cmos 00:01: alarms up to one month, y3k, 242 bytes nvram,
hpet irqs
[    6.132595] i2c /dev entries driver
[    6.132638] device-mapper: uevent: version 1.0.3
[    6.132774] device-mapper: ioctl: 4.37.0-ioctl (2017-09-20) initialised:
dm-devel@redhat.com
[    6.132777] intel_pstate: Intel P-state driver initializing
[    6.133194] intel_pstate: HWP enabled
```

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[    6.133281] ledtrig-cpu: registered to indicate activity on CPUs
[    6.133283] EFI Variables Facility v0.08 2004-May-17
[    6.133654] input: AT Translated Set 2 keyboard as
/devices/platform/i8042/serio0/input/input4
[    6.139596] ACPI: Battery Slot [BAT0] (battery present)
[    6.141266] intel_pmc_core 0000:00:1f.2: enabling device (0000 -> 0002)
[    6.141437] NET: Registered protocol family 10
[    6.145016] Segment Routing with IPv6
[    6.145026] NET: Registered protocol family 17
[    6.145033] Key type dns_resolver registered
[    6.145595] RAS: Correctable Errors collector initialized.
[    6.145655] microcode: sig=0x806e9, pf=0x40, revision=0xca
[    6.145832] microcode: Microcode Update Driver: v2.2.
[    6.145956] sched_clock: Marking stable (6145820745, 0)->(6232164486,
-86343741)
[    6.146352] registered taskstats version 1
[    6.146359] Loading compiled-in X.509 certificates
[    6.147922] Loaded X.509 cert 'Build time autogenerated kernel key:
7e2286d9a4c044101e0c6ffeb6c3945a9a549eb6'
[    6.148155] Loaded UEFI:db cert 'Dell Inc. UEFI DB:
5ddb772dc880660055ba0bc131886bb630a639e7' linked to secondary sys keyring
[    6.148170] Loaded UEFI:db cert 'Microsoft Corporation UEFI CA 2011:
13adbf4309bd82709c8cd54f316ed522988a1bd4' linked to secondary sys keyring
[    6.148183] Loaded UEFI:db cert 'Microsoft Windows Production PCA 2011:
a92902398e16c49778cd90f99e4f9ae17c55af53' linked to secondary sys keyring
[    6.148260] Couldn't get size: 0x800000000000000e
[    6.148261] MODSIGN: Couldn't get UEFI MokListRT
[    6.148564] zswap: loaded using pool lzo/zbud
[    6.151619] Key type big_key registered
[    6.151622] Key type trusted registered
[    6.152974] Key type encrypted registered
[    6.152976] AppArmor: AppArmor sha1 policy hashing enabled
[    6.152978] ima: No TPM chip found, activating TPM-bypass! (rc=-19)
[    6.152990] evm: HMAC attrs: 0x1
[    6.154129]   Magic number: 0:713:981
[    6.154376] rtc_cmos 00:01: setting system clock to 2020-04-03 10:58:44
UTC (1585911524)
[    6.154534] BIOS EDD facility v0.16 2004-Jun-25, 0 devices found
[    6.154534] EDD information not available.
[    6.154573] PM: Hibernation image not present or could not be loaded.
[    6.155982] Freeing unused kernel memory: 2368K
[    6.155983] Write protecting the kernel read-only data: 18432k
[    6.156440] Freeing unused kernel memory: 2024K
[    6.156570] Freeing unused kernel memory: 88K
[    6.157757] x86/mm: Checked W+X mappings: passed, no W+X pages found.
[    6.157758] x86/mm: Checking user space page tables
[    6.158840] x86/mm: Checked W+X mappings: passed, no W+X pages found.
[    6.220341] hidraw: raw HID events driver (C) Jiri Kosina
[    6.242227] rtsx_pci 0000:3b:00.0: enabling device (0000 -> 0002)
[    6.242888] wmi_bus wmi_bus-PNP0C14:01: WQBC data block query control
method not found
```

```
[    6.243382] nvme nvme0: pci function 0000:3c:00.0
[    6.269309] [drm] Found 64MB of eDRAM
[    6.271651] [drm] Memory usable by graphics device = 4096M
[    6.271652] checking generic (90000000 7e9000) vs hw (90000000 10000000)
[    6.271653] fb: switching to inteldrmfb from EFI VGA
[    6.271672] Console: switching to colour dummy device 80x25
[    6.271734] [drm] Replacing VGA console driver
[    6.278009] [drm] Supports vblank timestamp caching Rev 2 (21.10.2013).
[    6.278009] [drm] Driver supports precise vblank timestamp query.
[    6.286969] [drm] Finished loading DMC firmware i915/kbl_dmc_ver1_01.bin
(v1.1)
[    6.287700] i915 0000:00:02.0: vgaarb: changed VGA decodes:
olddecodes=io+mem,decodes=io+mem:owns=io+mem
[    6.299808] [drm] Initialized i915 1.6.0 20170619 for 0000:00:02.0 on
minor 0
[    6.308777] ACPI: Video Device [GFX0] (multi-head: yes  rom: no  post:
no)
[    6.309572] input: Video Bus as
/devices/LNXSYSTM:00/LNXSYBUS:00/PNP0A08:00/LNXVIDEO:00/input/input7
[    6.314995] fbcon: inteldrmfb (fb0) is primary device
[    6.315055] Console: switching to colour frame buffer device 240x67
[    6.315073] i915 0000:00:02.0: fb0: inteldrmfb frame buffer device
[    6.444064] usb 1-3: new full-speed USB device number 2 using xhci_hcd
[    6.452073] usb 3-1: new high-speed USB device number 2 using xhci_hcd
[    6.474072]  nvme0n1: p1 p2 p3 p4
[    6.585232] usb 1-3: New USB device found, idVendor=0cf3, idProduct=e300
[    6.585233] usb 1-3: New USB device strings: Mfr=0, Product=0,
SerialNumber=0
[    6.601636] usb 3-1: New USB device found, idVendor=2109, idProduct=2813
[    6.601638] usb 3-1: New USB device strings: Mfr=1, Product=2,
SerialNumber=0
[    6.601639] usb 3-1: Product: USB2.0 Hub
[    6.601640] usb 3-1: Manufacturer: VIA Labs, Inc.
[    6.602577] hub 3-1:1.0: USB hub found
[    6.602767] hub 3-1:1.0: 4 ports detected
[    6.612056] raid6: sse2x1   gen() 12299 MB/s
[    6.660049] raid6: sse2x1   xor()  9691 MB/s
[    6.704077] usb 1-5: new high-speed USB device number 3 using xhci_hcd
[    6.708058] raid6: sse2x2   gen() 15919 MB/s
[    6.756060] raid6: sse2x2   xor() 11111 MB/s
[    6.762559] usb 4-1: new SuperSpeed USB device number 2 using xhci_hcd
[    6.804063] raid6: sse2x4   gen() 17528 MB/s
[    6.852068] raid6: sse2x4   xor() 11811 MB/s
[    6.883434] CPU2: Core temperature above threshold, cpu clock throttled
(total events = 1)
[    6.883437] CPU0: Core temperature above threshold, cpu clock throttled
(total events = 1)
[    6.883437] CPU2: Package temperature above threshold, cpu clock
throttled (total events = 1)
[    6.883440] CPU0: Package temperature above threshold, cpu clock
throttled (total events = 1)
```

```
[    6.883471] CPU1: Package temperature above threshold, cpu clock
throttled (total events = 1)
[    6.883472] CPU3: Package temperature above threshold, cpu clock
throttled (total events = 1)
[    6.884417] CPU2: Core temperature/speed normal
[    6.884418] CPU2: Package temperature/speed normal
[    6.884421] CPU0: Core temperature/speed normal
[    6.884422] CPU0: Package temperature/speed normal
[    6.884455] CPU1: Package temperature/speed normal
[    6.884456] CPU3: Package temperature/speed normal
[    6.886934] usb 4-1: New USB device found, idVendor=2109, idProduct=0813
[    6.886936] usb 4-1: New USB device strings: Mfr=1, Product=2,
SerialNumber=0
[    6.886936] usb 4-1: Product: USB3.0 Hub
[    6.886937] usb 4-1: Manufacturer: VIA Labs, Inc.
[    6.900018] raid6: avx2x1   gen() 21547 MB/s
[    6.904172] hub 4-1:1.0: USB hub found
[    6.906629] hub 4-1:1.0: 4 ports detected
[    6.908569] usb 1-5: New USB device found, idVendor=0c45, idProduct=670c
[    6.908570] usb 1-5: New USB device strings: Mfr=2, Product=1,
SerialNumber=0
[    6.908571] usb 1-5: Product: Integrated_Webcam_HD
[    6.908572] usb 1-5: Manufacturer: CN09GTFMLOG0078VBCXFA01
[    6.948050] raid6: avx2x1   xor() 17135 MB/s
[    6.976709] usb 3-1.2: new high-speed USB device number 3 using xhci_hcd
[    6.996044] raid6: avx2x2   gen() 28267 MB/s
[    7.044047] psmouse serio1: synaptics: queried max coordinates: x
[..5666], y [..4734]
[    7.044069] raid6: avx2x2   xor() 19836 MB/s
[    7.072445] psmouse serio1: synaptics: queried min coordinates: x
[1276..], y [1118..]
[    7.072448] psmouse serio1: synaptics: Your touchpad (PNP: DLL075b
PNP0f13) says it can support a different bus. If i2c-hid and hid-rmi are not
used, you might want to try setting psmouse.synaptics_intertouch to 1 and
report this to linux-input@vger.kernel.org.
[    7.092043] raid6: avx2x4   gen() 31556 MB/s
[    7.140019] raid6: avx2x4   xor() 19047 MB/s
[    7.140020] raid6: using algorithm avx2x4 gen() 31556 MB/s
[    7.140021] raid6: .... xor() 19047 MB/s, rmw enabled
[    7.140021] raid6: using avx2x2 recovery algorithm
[    7.140035] clocksource: Switched to clocksource tsc
[    7.140877] xor: automatically using best checksumming function   avx
[    7.141462] usb 3-1.2: New USB device found, idVendor=2109,
idProduct=2813
[    7.141464] usb 3-1.2: New USB device strings: Mfr=1, Product=2,
SerialNumber=0
[    7.141465] usb 3-1.2: Product: USB2.0 Hub
[    7.141467] usb 3-1.2: Manufacturer: VIA Labs, Inc.
[    7.142394] hub 3-1.2:1.0: USB hub found
[    7.142699] hub 3-1.2:1.0: 4 ports detected
[    7.150377] Btrfs loaded, crc32c=crc32c-intel
```

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[    7.167433] psmouse serio1: synaptics: Touchpad model: 1, fw: 8.2, id:
0x1e2a1, caps: 0xf00323/0x840300/0x12e800/0x0, board id: 3038, fw id:
2375007
[    7.198321] EXT4-fs (nvme0n1p3): mounted filesystem with ordered data
mode. Opts: (null)
[    7.206739] input: SynPS/2 Synaptics TouchPad as
/devices/platform/i8042/serio1/input/input6
[    7.364545] usb 4-1.1: new SuperSpeed USB device number 3 using xhci_hcd
[    7.385893] usb 4-1.1: New USB device found, idVendor=17e9,
idProduct=436e
[    7.385895] usb 4-1.1: New USB device strings: Mfr=1, Product=2,
SerialNumber=3
[    7.385896] usb 4-1.1: Product: Dell D3100 USB3.0 Dock
[    7.385897] usb 4-1.1: Manufacturer: DisplayLink
[    7.385897] usb 4-1.1: SerialNumber: 1709061573B
[    7.530693] usb 4-1.2: new SuperSpeed USB device number 4 using xhci_hcd
[    7.654921] usb 4-1.2: New USB device found, idVendor=2109,
idProduct=0813
[    7.654923] usb 4-1.2: New USB device strings: Mfr=1, Product=2,
SerialNumber=0
[    7.654924] usb 4-1.2: Product: USB3.0 Hub
[    7.654925] usb 4-1.2: Manufacturer: VIA Labs, Inc.
[    7.671957] hub 4-1.2:1.0: USB hub found
[    7.674356] hub 4-1.2:1.0: 4 ports detected
[    7.788167] usb 4-1.3: new SuperSpeed USB device number 5 using xhci_hcd
[    7.801371] systemd[1]: systemd 229 running in system mode. (+PAM +AUDIT
+SELINUX +IMA +APPARMOR +SMACK +SYSVINIT +UTMP +LIBCRYPTSETUP +GCRYPT
+GNUTLS +ACL +XZ -LZ4 +SECCOMP +BLKID +ELFUTILS +KMOD -IDN)
[    7.808427] [drm] RC6 on
[    7.808882] usb 4-1.3: New USB device found, idVendor=17e9,
idProduct=436e
[    7.808883] usb 4-1.3: New USB device strings: Mfr=1, Product=2,
SerialNumber=3
[    7.808884] usb 4-1.3: Product: Dell D3100 USB3.0 Dock
[    7.808885] usb 4-1.3: Manufacturer: DisplayLink
[    7.808886] usb 4-1.3: SerialNumber: 1709061573
[    7.820256] systemd[1]: Detected architecture x86-64.
[    7.820356] systemd[1]: Set hostname to <rho>.
[    7.864538] systemd[1]: Reached target User and Group Name Lookups.
[    7.864596] systemd[1]: Started Trigger resolvconf update for networkd
DNS.
[    7.864640] systemd[1]: Listening on Journal Audit Socket.
[    7.864664] systemd[1]: Listening on Journal Socket (/dev/log).
[    7.864687] systemd[1]: Started Forward Password Requests to Wall
Directory Watch.
[    7.864691] systemd[1]: Reached target Remote File Systems (Pre).
[    7.864715] systemd[1]: Listening on Journal Socket.
[    7.877272] EXT4-fs (nvme0n1p3): re-mounted. Opts: errors=remount-ro
[    7.881498] lp: driver loaded but no devices found
[    7.883703] ip_tables: (C) 2000-2006 Netfilter Core Team
[    7.884232] ppdev: user-space parallel port driver
```

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[    7.905031] systemd-journald[321]: Received request to flush runtime
journal from PID 1
[    7.907653] nf_conntrack version 0.5.0 (65536 buckets, 262144 max)
[    7.923534] ip6_tables: (C) 2000-2006 Netfilter Core Team
[    7.998582] input: Intel HID events as
/devices/platform/INT33D5:00/input/input8
[    7.999106] intel-hid INT33D5:00: platform supports 5 button array
[    7.999131] input: Intel HID 5 button array as
/devices/platform/INT33D5:00/input/input9
[    8.003242] Bluetooth: Core ver 2.22
[    8.003253] NET: Registered protocol family 31
[    8.003254] Bluetooth: HCI device and connection manager initialized
[    8.003256] Bluetooth: HCI socket layer initialized
[    8.003258] Bluetooth: L2CAP socket layer initialized
[    8.003261] Bluetooth: SCO socket layer initialized
[    8.011359] random: crng init done
[    8.022612] input: Intel Virtual Button driver as
/devices/pci0000:00/0000:00:1f.0/PNP0C09:00/INT33D6:00/input/input10
[    8.029400] Bluetooth: HCI UART driver ver 2.3
[    8.029401] Bluetooth: HCI UART protocol H4 registered
[    8.029402] Bluetooth: HCI UART protocol BCSP registered
[    8.029414] Bluetooth: HCI UART protocol LL registered
[    8.029415] Bluetooth: HCI UART protocol ATH3K registered
[    8.029416] Bluetooth: HCI UART protocol Three-wire (H5) registered
[    8.029441] Bluetooth: HCI UART protocol Intel registered
[    8.029452] Bluetooth: HCI UART protocol Broadcom registered
[    8.029453] Bluetooth: HCI UART protocol QCA registered
[    8.029453] Bluetooth: HCI UART protocol AG6XX registered
[    8.029454] Bluetooth: HCI UART protocol Marvell registered
[    8.044706] (NULL device *): hwmon_device_register() is deprecated.
Please convert the driver to use hwmon_device_register_with_info().
[    8.048913] intel-lpss 0000:00:15.0: enabling device (0000 -> 0002)
[    8.054642] idma64 idma64.0: Found Intel integrated DMA 64-bit
[    8.066480] proc_thermal 0000:00:04.0: enabling device (0000 -> 0002)
[    8.069208] shpchp: Standard Hot Plug PCI Controller Driver version: 0.4
[    8.069259] mei_me 0000:00:16.0: enabling device (0000 -> 0002)
[    8.083428] dcdbas dcdbas: Dell Systems Management Base Driver (version
5.6.0-3.2)
[    8.085354] intel-lpss 0000:00:15.1: enabling device (0000 -> 0002)
[    8.086622] idma64 idma64.1: Found Intel integrated DMA 64-bit
[    8.093223] dell_wmi: Detected Dell WMI interface version 1
[    8.093265] input: Dell WMI hotkeys as
/devices/platform/PNP0C14:01/wmi_bus/wmi_bus-PNP0C14:01/9DBB5994-A997-11DA-
B012-B622A1EF5492/input/input11
[    8.099202] i2c_hid i2c-DLL075B:01: i2c-DLL075B:01 supply vdd not found,
using dummy regulator
[    8.102371] RAPL PMU: API unit is 2^-32 Joules, 5 fixed counters, 655360
ms ovfl timer
[    8.102372] RAPL PMU: hw unit of domain pp0-core 2^-14 Joules
[    8.102373] RAPL PMU: hw unit of domain package 2^-14 Joules
[    8.102373] RAPL PMU: hw unit of domain dram 2^-14 Joules
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[    8.102374] RAPL PMU: hw unit of domain pp1-gpu 2^-14 Joules
[    8.102374] RAPL PMU: hw unit of domain psys 2^-14 Joules
[    8.114204] AVX2 version of gcm_enc/dec engaged.
[    8.114205] AES CTR mode by8 optimization enabled
[    8.167892] intel_rapl: Found RAPL domain package
[    8.167893] intel_rapl: Found RAPL domain core
[    8.167894] intel_rapl: Found RAPL domain uncore
[    8.167895] intel_rapl: Found RAPL domain dram
[    8.223902] input: DLL075B:01 06CB:76AF Touchpad as
/devices/pci0000:00/0000:00:15.1/i2c_designware.1/i2c-7/i2c-
DLL075B:01/0018:06CB:76AF.0001/input/input13
[    8.224879] hid-multitouch 0018:06CB:76AF.0001: input,hidraw0: I2C HID
v1.00 Mouse [DLL075B:01 06CB:76AF] on i2c-DLL075B:01
[    8.241334] snd_hda_intel 0000:00:1f.3: enabling device (0000 -> 0002)
[    8.241518] snd_hda_intel 0000:00:1f.3: bound 0000:00:02.0 (ops
i915_audio_component_bind_ops [i915])
[    8.279606] Adding 33316860k swap on /dev/nvme0n1p4.  Priority:-1
extents:1 across:33316860k SSFS
[    8.308505] snd_hda_codec_realtek hdaudioC0D0: autoconfig for ALC3246:
line_outs=1 (0x14/0x0/0x0/0x0/0x0) type:speaker
[    8.308506] snd_hda_codec_realtek hdaudioC0D0:    speaker_outs=0
(0x0/0x0/0x0/0x0/0x0)
[    8.308508] snd_hda_codec_realtek hdaudioC0D0:    hp_outs=1
(0x21/0x0/0x0/0x0/0x0)
[    8.308508] snd_hda_codec_realtek hdaudioC0D0:    mono: mono_out=0x0
[    8.308509] snd_hda_codec_realtek hdaudioC0D0:    inputs:
[    8.308510] snd_hda_codec_realtek hdaudioC0D0:      Headset Mic=0x19
[    8.308511] snd_hda_codec_realtek hdaudioC0D0:      Headphone Mic=0x1a
[    8.308512] snd_hda_codec_realtek hdaudioC0D0:      Internal Mic=0x12
[    8.359870] input: HDA Intel PCH Headphone Mic as
/devices/pci0000:00/0000:00:1f.3/sound/card0/input18
[    8.359917] input: HDA Intel PCH HDMI/DP,pcm=3 as
/devices/pci0000:00/0000:00:1f.3/sound/card0/input19
[    8.359956] input: HDA Intel PCH HDMI/DP,pcm=7 as
/devices/pci0000:00/0000:00:1f.3/sound/card0/input20
[    8.362346] input: HDA Intel PCH HDMI/DP,pcm=8 as
/devices/pci0000:00/0000:00:1f.3/sound/card0/input21
[    8.362400] input: HDA Intel PCH HDMI/DP,pcm=9 as
/devices/pci0000:00/0000:00:1f.3/sound/card0/input22
[    8.362445] input: HDA Intel PCH HDMI/DP,pcm=10 as
/devices/pci0000:00/0000:00:1f.3/sound/card0/input23
[    8.379158] audit: type=1400 audit(1585911526.724:2): apparmor="STATUS"
operation="profile_load" profile="unconfined" name="/usr/bin/ubuntu-core-
launcher" pid=840 comm="apparmor_parser"
[    8.380714] audit: type=1400 audit(1585911526.726:3): apparmor="STATUS"
operation="profile_load" profile="unconfined"
name="/usr/lib/lightdm/lightdm-guest-session" pid=836 comm="apparmor_parser"
[    8.380716] audit: type=1400 audit(1585911526.726:4): apparmor="STATUS"
operation="profile_load" profile="unconfined"
name="/usr/lib/lightdm/lightdm-guest-session//chromium" pid=836
comm="apparmor_parser"
```

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[    8.381157] audit: type=1400 audit(1585911526.726:5): apparmor="STATUS"
operation="profile_load" profile="unconfined" name="/sbin/dhclient" pid=837
comm="apparmor_parser"
[    8.381160] audit: type=1400 audit(1585911526.726:6): apparmor="STATUS"
operation="profile_load" profile="unconfined"
name="/usr/lib/NetworkManager/nm-dhcp-client.action" pid=837
comm="apparmor_parser"
[    8.381161] audit: type=1400 audit(1585911526.726:7): apparmor="STATUS"
operation="profile_load" profile="unconfined"
name="/usr/lib/NetworkManager/nm-dhcp-helper" pid=837 comm="apparmor_parser"
[    8.381163] audit: type=1400 audit(1585911526.726:8): apparmor="STATUS"
operation="profile_load" profile="unconfined"
name="/usr/lib/connman/scripts/dhclient-script" pid=837
comm="apparmor_parser"
[    8.381242] audit: type=1400 audit(1585911526.726:9): apparmor="STATUS"
operation="profile_load" profile="unconfined" name="/usr/lib/snapd/snap-
confine" pid=841 comm="apparmor_parser"
[    8.381244] audit: type=1400 audit(1585911526.726:10): apparmor="STATUS"
operation="profile_load" profile="unconfined" name="/usr/lib/snapd/snap-
confine//mount-namespace-capture-helper" pid=841 comm="apparmor_parser"
[    8.430978] Bluetooth: BNEP (Ethernet Emulation) ver 1.3
[    8.430979] Bluetooth: BNEP filters: protocol multicast
[    8.430981] Bluetooth: BNEP socket layer initialized
[    8.436240] usbcore: registered new interface driver btusb
[    8.448180] Bluetooth: hci0: using rampatch file:
qca/rampatch_usb_00000302.bin
[    8.448182] Bluetooth: hci0: QCA: patch rome 0x302 build 0x3e8, firmware
rome 0x302 build 0x111
[    8.509716] Bluetooth: hci0: using NVM file: qca/nvm_usb_00000302.bin
[    9.069972] media: Linux media interface: v0.10
[    9.074366] Linux video capture interface: v2.00
[    9.213732] cdc_ncm 4-1.3:1.5: MAC-Address: 9c:eb:e8:5b:da:8a
[    9.213734] cdc_ncm 4-1.3:1.5: setting rx_max = 16384
[    9.214038] cdc_ncm 4-1.3:1.5: setting tx_max = 16384
[    9.214377] cdc_ncm 4-1.3:1.5 usb0: register 'cdc_ncm' at
usb-0000:39:00.0-1.3, CDC NCM, 9c:eb:e8:5b:da:8a
[    9.226018] usbcore: registered new interface driver cdc_ncm
[    9.227177] usbcore: registered new interface driver cdc_wdm
[    9.227859] usbcore: registered new interface driver cdc_mbim
[    9.234996] uvcvideo: Found UVC 1.00 device Integrated_Webcam_HD
(0c45:670c)
[    9.276434] uvcvideo 1-5:1.0: Entity type for entity Extension 4 was not
initialized!
[    9.276436] uvcvideo 1-5:1.0: Entity type for entity Extension 3 was not
initialized!
[    9.276437] uvcvideo 1-5:1.0: Entity type for entity Processing 2 was not
initialized!
[    9.276438] uvcvideo 1-5:1.0: Entity type for entity Camera 1 was not
initialized!
[    9.276526] input: Integrated_Webcam_HD: Integrate as
/devices/pci0000:00/0000:00:14.0/usb1/1-5/1-5:1.0/input/input24
```

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[    9.276629] usbcore: registered new interface driver uvcvideo
[    9.276630] USB Video Class driver (1.1.1)
[    9.282026] usb 4-1.3: Warning! Unlikely big volume range (=511),
cval->res is probably wrong.
[    9.282029] usb 4-1.3: [15] FU [Dell USB Audio Playback Volume] ch = 6,
val = -8176/0/16
[    9.282675] usb 4-1.3: Warning! Unlikely big volume range (=767),
cval->res is probably wrong.
[    9.282676] usb 4-1.3: [12] FU [Mic Capture Volume] ch = 2, val =
-4592/7680/16
[    9.282862] usbcore: registered new interface driver snd-usb-audio
[    9.283697] cdc_ncm 4-1.3:1.5 enx9cebe85bda8a: renamed from usb0
[    9.310163] IPv6: ADDRCONF(NETDEV_UP): enx9cebe85bda8a: link is not ready
[    9.310210] IPv6: ADDRCONF(NETDEV_UP): enx9cebe85bda8a: link is not ready
[    9.326543] cdc_ncm 4-1.3:1.5 enx9cebe85bda8a: 1000 mbit/s downlink 1000
mbit/s uplink
[    9.342608] cdc_ncm 4-1.3:1.5 enx9cebe85bda8a: network connection:
connected
[    9.342627] IPv6: ADDRCONF(NETDEV_CHANGE): enx9cebe85bda8a: link becomes
ready
[    9.508013] Bluetooth: RFCOMM TTY layer initialized
[    9.508017] Bluetooth: RFCOMM socket layer initialized
[    9.508021] Bluetooth: RFCOMM ver 1.11
[   10.194231] PKCS#7 signature not signed with a trusted key
[   10.194237] evdi: loading out-of-tree module taints kernel.
[   10.194286] evdi: module verification failed: signature and/or required
key missing - tainting kernel
[   10.196656] evdi: [I] Initialising logging on level 4
[   10.196657] evdi: [I] Atomic driver:yes
[   11.126741] [drm] Cannot find any crtc or sizes - going 1024x768
[   11.127512] evdi evdi.0: fb1: evdidrmfb frame buffer device
[   11.127513] [drm] Supports vblank timestamp caching Rev 2 (21.10.2013).
[   11.127513] [drm] No driver support for vblank timestamp query.
[   11.127574] [drm] Initialized evdi 1.6.1 20180913 for evdi.0 on minor 1
[   11.132692] evdi: [I] Task 1198 (Xorg) of process 1198 (Xorg)
[   11.132941] evdi: [I] Task 1198 (Xorg) of process 1198 (Xorg)
[   11.136168] evdi: [I] Task 1801 (DesktopManagerE) of process 1793
(DisplayLinkMana)
[   12.513184] ath10k_pci 0000:3a:00.0: enabling device (0000 -> 0002)
[   12.515097] ath10k_pci 0000:3a:00.0: pci irq msi oper_irq_mode 2 irq_mode
0 reset_mode 0
[   12.667859] Non-volatile memory driver v1.3
[   12.793627] ath10k_pci 0000:3a:00.0: qca6174 hw3.2 target 0x05030000
chip_id 0x00340aff sub 1a56:1535
[   12.793629] ath10k_pci 0000:3a:00.0: kconfig debug 0 debugfs 1 tracing 1
dfs 0 testmode 0
[   12.793995] ath10k_pci 0000:3a:00.0: firmware ver WLAN.RM.4.4.1-00079-
QCARMSWPZ-1 api 6 features wowlan,ignore-otp crc32 fd869beb
[   12.857297] ath10k_pci 0000:3a:00.0: board_file api 2 bmi_id N/A crc32
4ac0889b
[   13.460556] ath10k_pci 0000:3a:00.0: Unknown eventid: 118809
```

```
[   13.463665] ath10k_pci 0000:3a:00.0: Unknown eventid: 90118
[   13.464589] ath10k_pci 0000:3a:00.0: htt-ver 3.47 wmi-op 4 htt-op 3 cal
otp max-sta 32 raw 0 hwcrypto 1
[   13.551031] ath: EEPROM regdomain: 0x6c
[   13.551032] ath: EEPROM indicates we should expect a direct regpair map
[   13.551033] ath: Country alpha2 being used: 00
[   13.551033] ath: Regpair used: 0x6c
[   13.555040] ath10k_pci 0000:3a:00.0 wlp58s0: renamed from wlan0
[   13.586338] IPv6: ADDRCONF(NETDEV_UP): wlp58s0: link is not ready
[   14.318289] ath10k_pci 0000:3a:00.0: Unknown eventid: 118809
[   14.321283] ath10k_pci 0000:3a:00.0: Unknown eventid: 90118
[   14.365975] IPv6: ADDRCONF(NETDEV_UP): wlp58s0: link is not ready
[   14.366540] nf_conntrack: default automatic helper assignment has been
turned off for security reasons and CT-based  firewall rule not found. Use
the iptables CT target to attach helpers instead.
[   14.427422] IPv6: ADDRCONF(NETDEV_UP): wlp58s0: link is not ready
[   23.815183] wlp58s0: authenticate with 38:10:d5:2f:9e:4b
[   23.855732] wlp58s0: send auth to 38:10:d5:2f:9e:4b (try 1/3)
[   23.857385] wlp58s0: authenticated
[   23.859877] wlp58s0: associate with 38:10:d5:2f:9e:4b (try 1/3)
[   23.861764] wlp58s0: RX AssocResp from 38:10:d5:2f:9e:4b (capab=0x1511
status=0 aid=1)
[   23.864303] wlp58s0: associated
[   23.864349] IPv6: ADDRCONF(NETDEV_CHANGE): wlp58s0: link becomes ready
[   23.866294] ath: EEPROM regdomain: 0x8114
[   23.866296] ath: EEPROM indicates we should expect a country code
[   23.866296] ath: doing EEPROM country->regdmn map search
[   23.866297] ath: country maps to regdmn code: 0x37
[   23.866297] ath: Country alpha2 being used: DE
[   23.866298] ath: Regpair used: 0x37
[   23.866298] ath: regdomain 0x8114 dynamically updated by country IE
[   23.958863] wlp58s0: Limiting TX power to 23 (23 - 0) dBm as advertised
by 38:10:d5:2f:9e:4b
[   25.929040] NET: Registered protocol family 38
[   27.413809] input: Dell WK717Keyboard as
/devices/virtual/misc/uhid/0005:413C:2114.0002/input/input25
[   27.414015] hid-generic 0005:413C:2114.0002: input,hidraw1: BLUETOOTH HID
v0.01 Keyboard [Dell WK717Keyboard] on 9C:B6:D0:EC:D3:A8
[   34.412194] input: Dell WM527 Mouse as
/devices/virtual/misc/uhid/0005:413C:301E.0003/input/input26
[   34.412966] hid-generic 0005:413C:301E.0003: input,hidraw2: BLUETOOTH HID
v0.01 Mouse [Dell WM527 Mouse] on 9C:B6:D0:EC:D3:A8
```

1)

See also the *DisplayLink* trouble shooting page.

2)

For a description of options see man 4 intel

3)

If XFCE is used as desktop, then mouse acceleration settings may not work, see reddit.

4)

See also Bluetooth section in this Wiki.

5)

Produces broken dependencies for packages `blueman` and `gnome-bluetooth`, so `bluez-obex` is not usual.
6)

In general *DisplayLink* 1.4 seems not to be stable.

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