Test Decoder Card

Oct 2018
Updated Feb 2019

Introduction

When testing the MFCP decode, it is possible that the decoder card may have failed, and that the MFCP has dropped to SW decoding. In 4K this my not be obvious if you are decoding some very simple content.

There are however a couple of tests that can be made to ensure that the decoder card is working (as much as we can tell).

Introduction

The hardware list for devices is:

decoder0 (decoder card)
delta-x3600 (ASI card)
sdi

lspci gives (this unit has no RF card)

```
00:00.0 Host bridge: Intel Corporation Device 5918 (rev 05)
00:01.0 PCI bridge: Intel Corporation Skylake PCIe Controller (x16) (rev 05)
00:01.1 PCI bridge: Intel Corporation Skylake PCIe Controller (x8) (rev 05)
00:02.0 VGA compatible controller: Intel Corporation Device 591d (rev 04)
00:14.0 USB controller: Intel Corporation Sunrise Point-H USB 3.0 xHCI Controller (rev 31)
00:14.2 Signal processing controller: Intel Corporation Sunrise Point-H Thermal subsystem (rev 31)
00:16.0 Communication controller: Intel Corporation Sunrise Point-H CSME HECI #1 (rev 31)
00:17.0 SATA controller: Intel Corporation Sunrise Point-H SATA controller [AHCI mode] (rev 31)
00:1c.0 PCI bridge: Intel Corporation Sunrise Point-H PCI Express Root Port #1 (rev f1)
00:1d.0 PCI bridge: Intel Corporation Sunrise Point-H PCI Express Root Port #9 (rev f1)
00:1d.2 PCI bridge: Intel Corporation Sunrise Point-H PCI Express Root Port #11 (rev f1)
00:1d.3 PCI bridge: Intel Corporation Sunrise Point-H PCI Express Root Port #12 (rev f1)
00:1e.0 Signal processing controller: Intel Corporation Sunrise Point-H Serial IO UART #0 (rev 31)
00:1f.0 ISA bridge: Intel Corporation Sunrise Point-H LPC Controller (rev 31)
00:1f.2 Memory controller: Intel Corporation Sunrise Point-H PMC (rev 31)
00:1f.3 Audio device: Intel Corporation Sunrise Point-H HD Audio (rev 31)
00:1f.4 SMBus: Intel Corporation Sunrise Point-H SMBus (rev 31)
02:00.0 Multimedia video controller: TELEFON AKTIEBOLAGET LM Ericsson Device 1234
03:00.0 Multimedia controller: Deltacast Device 000f
05:00.0 Ethernet controller: Intel Corporation I210 Gigabit Network Connection (rev 03)
06:00.0 Ethernet controller: Intel Corporation I210 Gigabit Network Connection (rev 03)
```

Is the Decoder Card detected by the Driver?

Each time the MFCP is started, the driver communicates with the decoder card, we can see if the decoder was detected by looking for the driver in CentOs.

```
  Run the command:
  ls /dev
  Among the listed files/folders you should see the following:
  decoder0
  sdi0
```
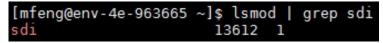
```
[mfeng@env-4e-963665 ~]$ ls /dev
autofs          hpet            mqueue          ptp0        tty12   tty34   tty56   vcs2        xdma0_events_11
block           hugepages       mtd0            ptp1        tty13   tty35   tty57   vcs3        xdma0_events_12
bsg             hwrng           mtd0ro          pts         tty14   tty36   tty58   vcs4        xdma0_events_13
btrfs-control   i2c-0           mtd1            random      tty15   tty37   tty59   vcs5        xdma0_events_14
bus             i2c-1           mtd1ro          raw         tty16   tty38   tty6    vcs6        xdma0_events_15
char            i2c-2           mtd2            rtc         tty17   tty39   tty60   vcsa        xdma0_events_2
console         i2c-3           mtd2ro          rtc0        tty18   tty4    tty61   vcsa1       xdma0_events_3
core            i2c-4           mtd3            sda         tty19   tty40   tty62   vcsa2       xdma0_events_4
cpu             i2c-5           mtd3ro          sda1        tty2    tty41   tty63   vcsa3       xdma0_events_5
cpu_dma_latency i2c-6           mtd4            sda2        tty20   tty42   tty7    vcsa4       xdma0_events_6
crash           i2c-7           mtd4ro          sda3        tty21   tty43   tty8    vcsa5       xdma0_events_7
decoder0        i2c-8           mtd5            sdi0        tty22   tty44   tty9    vcsa6       xdma0_events_8
delta_x3000     i2c-9           mtd5ro          sg0         tty23   tty45   ttyS0   vfio        xdma0_events_9
disk            icap0           net             snapshot    tty24   tty46   ttyS1   vga_arbiter xdma0_h2c_0
dm-0            initctl         network_latency snapshot    tty25   tty47   ttyS2   vg_main     xdma0_user
dm-1            input           network_throughput snd      tty26   tty48   ttyS3   vhci        zero
dm-2            intfpgactl0     null            stderr      tty27   tty49   uhid    vhost-net
dmachan0        kmsg            nvram           stdin       tty28   tty5    uinput  watchdog
dri             log             oldmem          stdout      tty29   tty50   urandom watchdog0
drm_dp_aux0     loop-control    port            tty         tty3    tty51   usbmon0 xdma0_c2h_0
fb0             mapper          ppp             tty0        tty30   tty52   usbmon1 xdma0_control
fd              mcelog          pps0            tty1        tty31   tty53   usbmon2 xdma0_events_0
full            mei0            pps1            tty10       tty32   tty54   vcs     xdma0_events_1
fuse            mem             ptmx            tty11       tty33   tty55   vcs1    xdma0_events_10
[mfeng@env-4e-963665 ~]$
```

If these are missing, the card may have failed (or just failed to boot) if you restart the unit and still don't see these two entries then you may have a decoder card failure.

If these are not listed then there is a hardware or driver issue with the card. First step would be to try reinstalling.

When the Decoder is in use

```
    From the command line, run:
    lsmod | grep decoder

    You should see an output similar to the following:
    decoder  22463  1
    decoder is the decoder module
    22463 is the driver size in bytes, so this may change depending on your verions
    1 is the number of decodes. So 0 means you are not decoding using the module, and 1-4 is decodes (1
UHD or up
    to 4 HD)

    For the SDI:

    lsmod | grep sdi

    sdi  17706  1
    Last number is number of instances using driver. 0 means the device isn't used.
```

```
[mfeng@env-4e-963665 ~]$ lsmod | grep decoder
decoder                 22463  1
```

```
[mfeng@env-4e-963665 ~]$ lsmod | grep sdi
sdi                     13612  1
```