HDDL-S installation guide

1. **Install OpenVINO R3**

<https://software.intel.com/en-us/openvino-toolkit/choose-download/free-download-linux>

<https://software.intel.com/en-us/articles/OpenVINO-Install-Linux>

*#source /opt/intel/computer\_vision\_sdk/bin/setupvars.sh*

1. **Install OpenCL**

*#cd /opt/intel/computer\_vision\_sdk/install\_dependencies*

*#sudo ./install\_NEO\_OCL\_driver.sh*

Add OpenCL users to the video group:

*#sudo usermod -a -G video USERNAME*

e.g. if the user running OpenCL host applications is foo, run: sudo usermod -a -G video foo

Install 4.14 kernel using install\_4\_14\_kernel.sh script and reboot into this kernel

*#sudo ./install\_4\_14\_kernel.sh*

If you use 8th Generation Intel processor, you will need to add::

i915.alpha\_support=1

to the 4.14 kernel command line, in order to enable OpenCL functionality for this platform.

1. **Install OpenCL SDK**

*#sudo apt-get install dkms*

*#tar -xvf intel\_sdk\_for\_opencl\_2017\_7.0.0.2568\_x64.gz*

*#cd intel\_sdk\_for\_opencl\_2017\_7.0.0.2568\_x64*

*#./install\_GUI.sh*

1. **Install HDDL-R**

**4.1 dependency package**

#sudo apt-get install libelf-dev

#sudo apt-get install libusb-1.0-0-dev libudev-dev libssl-dev rpm cmake libboost-program-options1.58-dev libboost-thread1.58 libboost-filesystem1.58 git

**4.2 Install json-c**

#git clone https://github.com/json-c/json-c.git

#cd json-c

#git checkout f8c632f579c71012f9aca81543b880a579f634fc

#sudo apt-get install autoconf libtool

#sh autogen.sh

#./configure

#make

#sudo make install

* 1. **install HDDL rpm package**

#sudo rpm -ivh --nodeps Intel\_Movidius\_MyriadX\_HDDL-R\_Linux-01.02.12.B.36.3.rpm

#export HDDL\_INSTALL\_DIR=/usr/local

#export LD\_LIBRARY\_PATH=/usr/local/lib

#sudo usermod -a -G users,video $USER

1. **Install gstreamer**

*#sudo apt-get install gstreamer1.0-plugins-base gstreamer1.0-plugins-good gstreamer1.0-plugins-ugly gstreamer1.0-plugins-bad libgstreamer1.0-dev libgstreamer-plugins-base1.0-dev*

*#export PKG\_CONFIG\_PATH=$PKG\_CONFIG\_PATH:/opt/intel/mediasdk/lib64/pkgconfig*

1. **Install uWebSocket**

#sudo apt-get install libssl-dev

#git clone https://github.com/uNetworking/uWebSockets.git

#make && sudo make install

1. **Install OpenCV**

*#sudo apt-get install libgtk2.0-dev pkg-config libgtkglext1-dev*

*#export CPLUS\_INCLUDE\_PATH=/opt/intel/mediasdk/include:$CPLUS\_INCLUDE\_PATH*

*#git clone https://github.com/opencv/opencv.git*

*#cd opencv && git checkout 6ffc48769ac60d53c4bd1913eac15117c9b1c9f7*

*#mkdir build && cd build*

*#cmake -DWITH\_VA\_INTEL=ON -DWITH\_CUDA=OFF ..*

*#make -j8*

*#sudo make install*

Note: OpenVINO has provided OpenCV libraries, but HDDL-S need VA support in OpenCV, so we must rebuild it.

1. **Install HDDL-S**

**8.1 download source code**

*#git clone* [*git@gitlab-icv.inn.intel.com:hddl/s\_framework.git*](mailto:git@gitlab-icv.inn.intel.com:hddl/s_framework.git)

**8.2 build MSDK gst-plugin**

*#sudo apt-get install libdrm-dev libudev-dev libgstreamer-plugins-bad1.0-dev libx11-xcb-dev libgles2-mesa-dev libgl1-mesa-dev*

*#sudo ln -sf /opt/intel/mediasdk/lib64/libva.so.2 /usr/lib/libva.so*

*#sudo ln -sf /opt/intel/mediasdk/lib64/libva-drm.so.2 /usr/lib/libva-drm.so*

*#cd gstreamer-media-SDK && mkdir build && cd build && cmake ..*

*#make*

*#sudo cp build/lib/release/libgstmfx.so /usr/lib/x86\_64-linux-gnu/gstreamer-1.0/libgstmfx.so*

* 1. **build OpenVINO gst-plugin**

#cd gstreamer\_plugin\_openVINO

#make

#sudo make install

Run below command to check if it has been installed successfully:

*# gst-inspect-1.0 cvdlfilter*

*# gst-inspect-1.0 resconvert*

*# gst-inspect-1.0 wssink*

1. **install media server**

#sudo apt-get install nodejs-legacy npm

#npm config set proxy http://child-prc.intel.com:913

#sudo npm install -g n

#sudo n stable

#npm install ws@6.0.0

#npm install child\_process

#npm install arraybuffer-to-string

1. **setup rtsp server**

*#wget* [*https://gstreamer.freedesktop.org/src/gst-rtsp-server/gst-rtsp-server-1.8.3.tar.xz*](https://gstreamer.freedesktop.org/src/gst-rtsp-server/gst-rtsp-server-1.8.3.tar.xz)

*#tar -xvf gst-rtsp-server-1.8.3.tar.xz*

*#cd gst-rtsp-server-1.8.3*

*#sudo apt-get install gtk-doc-tools*

*#./autogen.sh && ./configure && make*

*#cd example*

*#./test-launch --gst-debug=3 "( filesrc location=/home/lijunjie/1600x1200.mp4 ! qtdemux ! rtph264pay name=pay0 pt=96 )"*

1. **run**

*#export LD\_LIBRARY\_PATH=/opt/intel/mediasdk/lib64:/usr/local/lib:/usr/local/lib/ubuntu\_16.04/intel64:$LD\_LIBRARY\_PATH*

*#export CVDL\_KERNEL\_DIR=/usr/lib/x86\_64-linux-gnu/libgstcvdl/kernels*

*#export CVDL\_CLASSIFICATION\_MODEL\_FULL\_PATH=/usr/lib/x86\_64-linux-gnu/libgstcvdl/models/vehicle\_classify/carmodel\_fine\_tune\_1062\_bn\_iter\_370000.xml*

*#export CVDL\_DETECTION\_MODEL\_FULL\_PATH=/usr/lib/x86\_64-linux-gnu/libgstcvdl/models/vehicle\_detect/yolov1-tiny.xml*

**run from HDDL side:**

n use 10.10.0 server.js

**run from host side:**

n use 10.10.0 receive\_data\_client.js

n use 10.10.0 send\_path\_client.js