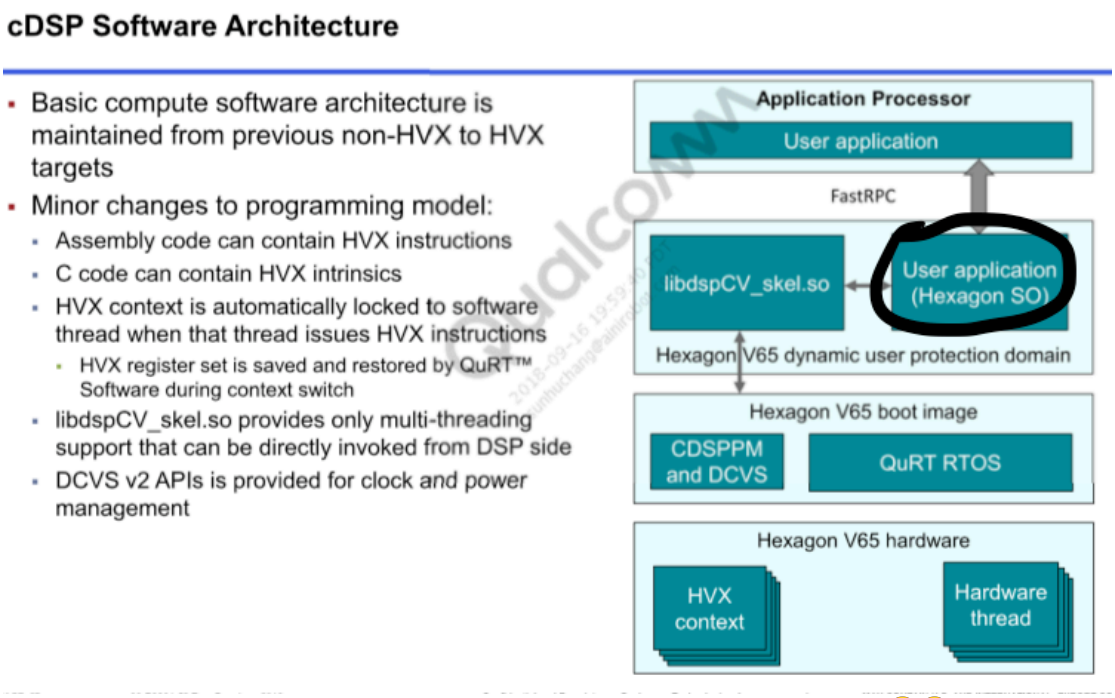
hexagon nnlib

- nn_lib available at https://source.codeaurora.org/quic/hexagon_nn/nnlib

libhexagon_nn_skel.so//hexagon/fastrpc.mak-→运行在 CDSP 上的 hexagon SO

Qcom 维护（Code aurora 是高通的开源社区网站）

```
130|sdm845:/ # ls vendor/lib/rfsa/adsp/libhexagon_nn_skel.so
vendor/lib/rfsa/adsp/libhexagon_nn_skel.so
```



@Interface/Hexagon_nn.idl//IDL 编译器编译，与实现方式无关的😄😄通用接口描述文件，定义格式,cpu 这边的 user thread(如下面的 libhexagon_controller.so 中)调用方法：

hexagon_nn_prepare(…)

Interface hexagon_nn{

…

Long prepare(..)

Long execute(..)

Long treardown(..)

…

}

真正 C 接口的定义在 hexagon/include/nn_graph_if.h 中（接口名称必须与 IDL 中的一致）；接口的实现在 hexagon/src/interface.c 中

- Tensor flow integration at

https://github.com/tensorflow/tensorflow/tree/master/tensorflow/contrib/hvx

libhexagon_controller.so//tensorflow/contrib/hvx/hexagon_controller/target/make/android.min

----google/tensorflow 的人维护

- hvx hal for android NNAPI

https://android.googlesource.com/platform/hardware/qcom/neuralnetworks/hvxservice
google 的人维护， 已经支持到 androidP NNapi v1.2 v1.1 v1.0

```
vendor.qti.neuralnetworks@1.0-service-hvx
130|sdm845:/ # ls vendor/bin/hw/vendor.qti.neuralnetworks@1.0-service-hvx
```

```
nbtp_daemon   hdcp1prov     hdcp2p2prov  hvdcp_opti   hw/
MacBook-Pro-3:prebuilt_HY11 sunhuchang$ cd target/product/sdm845/vendor/bin/hw/
android.hardware.gatekeeper@1.0-service-qti
android.hardware.keymaster@3.0-service-qti
vendor.display.color@1.0-service
vendor.qti.hardware.qdutils_disp@1.0-service-qti
vendor.qti.hardware.qteeconnector@1.0-service
vendor.qti.hardware.tui_comm@1.0-service-qti
vendor.qti.neuralnetworks@1.0-service-hvx
```

- framework/ml/nn
  编译出 libneuralnetwork.so

```
130|sdm845:/ # cd system/lib/libne
libnetd_client.so       libnetlink.so           libnetutils.so          libneuralnetworks.so
130|sdm845:/ #
```

- tensorflow/core/kernels/hexagon/
- anroidP/external/tensorflow, androidO 下面没有， libtensorflow_jni.so 打包在 apk 中：

```
sdm845:/ # find . -name *tensor*
./data/app/org.benchmark.demo-G5RL2eXUz82o5rs5hDL3cQ==/lib/arm64/libtensorflowlite_jni.so
```