- # Background

We encoutered issues

1, ADSP(Audio) did not sleep, resulting in high power consumption on SDM660/SDM630

From ADSP dump, we can see here latency vote of 1ms from TOUCH is blocking ADSP to enter in to XO

[--- Latency Voters ---]

clientId = 3
clientName = DCVSClt_TARGET
latency (us) = 65535

clientId = 30
clientName = adsprpc_08_0
latency (us) = 1000

0624200 F03903C0 0000008A 46 8 WAITING IRQ_TOUCH

2, ADSP crash on MSM8953/8917, error type :

```
Error from ADSP:
Error cause: ERR_PRECISE, a precise exception occurred.
```

From the kernel log, we can see "hbtp" is runing

```
148986.882970: <2> init: Starting service 'hbtp'...

148987.059166: <2> init: Service 'hbtp' (pid 10980) exited with status 255

148987.059232: <2> init: Service 'hbtp' (pid 10980) killing any children in process group

148991.172139: <2> init: Starting service 'hbtp'...
```

This may be due to improveTouch(hbtp) is runing.

improveTouch(hbtp) is ADSP based touch panel feature, if you don't use it please disable it.

- # How to disable improveTouch(hbtp) of QC

As a quick fix recommendation they can go to the init.qcom.post_boot.sh script used by them in Android user-space and do the changes as shown.

device/qcom/common/rootdir/etc/init.qcom.post_boot.sh

```
- # Start Host based Touch processing

- case "$hw_platform" in

- "MTP" | "Surf" | "RCM" )

- #if this directory is present, it means that a

- #1200p panel is connected to the device.

- dir="/sys/bus/i2c/devices/3-0038"

- if [ ! -d "$dir" ]; then

- start hbtp

- fi

- ;;

- esac
```

For a much clean and optimized solution, they can remove the below code snippets

<u>LA Kernel Configuration</u>

For internal solution, we use these configs:

- arch/arm/configs/msmcortex-perf_defconfig
- arch/arm/configs/msmcortex_defconfig
- arch/arm64/configs/msmcortex-perf_defconfig
- arch/arm64/configs/msmcortex_defconfig

```
- CONFIG_INPUT_HBTP_INPUT=y
```

<u>LA DT node</u>

For internal solution, we use these DT files:

- arch/arm/boot/dts/qcom/msm8953-mtp.dtsi
- arch/arm/boot/dts/qcom/msm8953-cdp.dtsi

```
- hbtp {

- compatible = "qcom,hbtp-input";

- vcc_ana-supply = <&pm8953_l10>;

- vcc_dig-supply = <&pm8953_l5>;

- qcom,afe-load = <50000>;

- qcom,afe-vtg-min = <2850000>;

- qcom,afe-vtg-max = <2850000>;

- qcom,dig-load = <15000>;

- qcom,dig-vtg-min = <1800000>;

- qcom,dig-vtg-max = <1800000>;

- };
```

Android User-space post-boot script

For internal solution, we use : device/qcom/common/rootdir/etc/init.qcom.post_boot.sh

```
- # Start Host based Touch processing

- case "$hw_platform" in

- "MTP" | "Surf" | "RCM" )

- #if this directory is present, it means that a

- #1200p panel is connected to the device.

- dir="/sys/bus/i2c/devices/3-0038"

- if [ ! -d "$dir" ]; then

- start hbtp

- fi

- ;;

- esac
```

Android User-space init.target.rc

For internal solution, we use

device/qcom/msm8953_32/init.target.rc (32 bit)

device/qcom/msm8953_64/init.target.rc (64 bit)

- mkdir /data/misc/hbtp 0750 system system

#start camera server as daemon

service qcamerasvr /system/bin/mm-qcamera-daemon

@@ -248,12 +247,6 @@ on property:sys.ims.DATA_DAEMON_STATUS=1

start ims_rtp_daemon

start imscmservice

-service hbtp /system/vendor/bin/hbtp_daemon

```
- class main

- user system

- group system

- disabled

-
```

Also if the device id's are being returned for MTP, then In TZ, following changes need to be done (highlighted in yellow) in the **core\buses\qup_accesscontrol\bear\config\QUPAC_8953_Access.xml** for <device id=**BLSP_QUP_3_DEV_ACCESS**> (assuming that the customer still uses QUP3 for connecting the Touch screen).

```
<props name="CHIP_BUS_INDEX" type=DALPROP_ATTR_TYPE_UINT32> BLSP_QUP_3 </props>

<props name="BUS_PROTOCOL" type=DALPROP_ATTR_TYPE_UINT32> PROTOCOL_I2C </props>

<props name="IS_GPIO_PROTECTED" type=DALPROP_ATTR_TYPE_UINT32> 0 </props>

<props name="GPIO_NUMBERS" type=DALPROP_ATTR_TYPE_BYTE_SEQ> 10, 11, end </props>

<props name="GPIO_RG_INDEX" type=DALPROP_ATTR_TYPE_BYTE_SEQ> end </props>
```

```
<props name="SUBSYSTEM_ID" type=DALPROP_ATTR_TYPE_UINT32> AC_HLOS </props>

<props name="IS_PERSISTENT" type=DALPROP_ATTR_TYPE_UINT32> 0 </props>

<props name="CORE_RG_INDEX" type=DALPROP_ATTR_TYPE_UINT32> 11 </props>
```