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Revision History

Revision	Date	Description
A	Nov. 2016	Initial release

Note: There is no Rev. I, O, Q, S, X, or Z per Mil. standards.

内容

- Audio
 - Important docs update
 - [ADSP] dynamic loading failure due to fastrpc issue
 - [MI2S] No sound on MI2S due to new AFE APIs on ADSP.2.8
 - [ADSP stability] ADSP crash in cvd_cal_query()
 - [ANR] BT耳机通话, ANR
 - [Kernel] qurt_mem_region_create fails
 - [SVA] SVA got exception when recognition in screen off
 - [BOA] Change the system time later than the present, the playback will stop
- Display
 - The critical documents for MSM8998 Display bring up
 - How to disable UEFI display on 8998
 - Display Kernel driver location change on 8998
 - MSM8998 MDP wait4pingpong timeout issue



Audio

Important docs update

- Docs
 - [80-P2484-103](#) MSM8998 USB LOW POWER DIGITAL AUDIO OVERVIEW
 - [80-P8754-21](#) SDM660 LINUX ANDROID AUDIO OVERVIEW
 - [80-NV610-33](#) MSM8952 VOICE SOFTWARE ARCHITECTURE
 - [80-NN686-1](#) DESCRIBES THE SUPPORTED VOICE SERVICES APIS
- Solutions
 - [KBA-160718021012](#) - How to change MI2S Clock source from Digital to Analog PLL

[ADSP] dynamic loading failure due to fastrpc issue

- 描述：Video recording failed due to dynamic loading of aac encoder is failed
- 复现步骤和现象：
 - Clear steps are unknown, but issue is reproduced with following steps.
 - 1. Reboot the device
 - 2. Do any sensor related tests
 - 3. Do video recording
 - 4. Expected results: video recording should be successes.
 - 5. Actual Results: Video recording failed.
- 基线：MSM8953/MSM8940/MSM8976Pro
- CR：**1093033**
- 代码修改：
 - Inside ADSP, please get it with case

[MI2S] No sound on MI2S due to new AFE APIs on ADSP.2.8

- 描述 : No sound on MI2S due to AFE APIs change on ADSP.2.8
- 复现步骤和现象 :
 - With tinymix command similar with :
 - tinymix 'QUAT_MI2S_RX Audio Mixer MultiMedia1' 1
 - tinyplay /sdcard/1k.wav
 - No sound is found
 - In the QXDM log, it shows :
 - AudiolfClkDriver.cpp 01360 afe_set_audioif_clk_cfg has not been initialized
- 基线 : MSM8953/MSM8940/MSM8976Pro
 - N release which has ADSP version 2.8
- CR : 1094689
- 代码修改 :
 - ADSP 2.8 need new AFE APIs for MI2S from AP kernel driver
 - We missed the change on msm8952-slimbus.c , it presents on msm8952.c
 - 正在mainline, please get it with case

[ADSP stability] ADSP crash in cvd_cal_query()

- 描述：ADSP crash in cvd_cal_query()
- 复现步骤和现象：
 - Voice call和VoIP call并发
- 基线：LA.UM.*
- CR：1086922
- 代码修改：
 - hal/audio_hw.c
 - int select_devices(struct audio_device *adev, audio_usecase_t uc_id)
 - in_snd_device);
 - }
 - ...
 - + /* Update VOICE/VOIP device post configuration */
 - + if (usecase->type == VOICE_CALL || usecase->type == VOIP_CALL) {
 - + status = platform_switch_voice_call_device_post(adev->platform,
 - + out_snd_device,
 - + in_snd_device);
 - + }
 - +
 - /* Enable new sound devices */
 -
 - if (usecase->type == VOICE_CALL || usecase->type == VOIP_CALL) {
 - - status = platform_switch_voice_call_device_post(adev->platform,
 - - out_snd_device,
 - - in_snd_device);
 - enable_audio_route_for_voice_usecases(adev, usecase);
 - }
 - 正在mainline

[ANR] BT耳机通话 , ANR

- 描述 : BT call, systemserver died
- 复现步骤和现象 :
 - 1. DUT connected the Bluetooth
 - 2. DUT dial the phone number manually, after phone call connected, DUT hang up quickly, Then repeat this step for several times.
 - 3. DUT's phone app will be ANR,
 - 4. After a few minutes, systemserver died and phone reboot.
- 基线 : MSM8940.LA.2.0, MSM8953.LA.2.0, 8996 N
- CR : 1093067
- 代码修改 :
 - services/audioflinger/Threads.cpp
 - 正在mainline, please get it with case

[Kernel] qurt_mem_region_create fails

- 描述：qurt_elite_memorymap_region_create qurt_mem_region_create fails, qurt_mem_result:(2)
- 复现步骤和现象：
 - Monkey test, audio no sound, kernel log prints :
 - qurt_elite_memorymap_region_create qurt_mem_region_create fails, qurt_mem_result:(2)
 - Race condition happens between AFE_SVC_CMD_SET_PARAM and AFE_SERVICE_CMD_SHARED_MEM_MAP_REGIONS commands
- 基线：kernel.lnx.4.4, kernel.lnx.3.18
- CR：1094151
- 代码修改：
 - sound/soc/msm/qdsp6v2/q6afe.c
 - ```
static int afe_map_cal_data(int32_t cal_type,
 }
 }
 + mutex_lock(&this_afe.afe_cmd_lock);
 atomic_set(&this_afe.mem_map_cal_index, cal_index);
 ret = afe_cmd_memory_map(cal_block->cal_data.paddr,
 cal_block->map_data.map_size);

 done:
 + mutex_unlock(&this_afe.afe_cmd_lock);
 return ret;
 }
```

# [Kernel] Crash at AudioDaemon for USB sound card

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- 描述 : Crash at AudioDaemon for USB sound card
- 复现步骤和现象 :
  - press power button to select restart
  - quickly insert C type USB headset before system restart
  - crash occurs at AudioDaemon when doing poll operation
  - Issue may only happen when USB sound card is detected before MSM sound card is detect.
- 基线 : MSM8953 etc. which uses USB type C headset.
- CR : 1090587
- 代码修改 :
  - audiod/AudioDaemon.cpp
  - 正在mainline, please get it with case

# [SVA] SVA got exception when recognition in screen off

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- 描述：SVA got exception when recognition in screen off
- 复现步骤和现象：
  - 1, open voice activation
  - 2, choose "nihao xiaolong" , then enable the voice activation
  - 3, suspend the phone
  - 4, say "nihao xiaolong"
  - 5.phone was activated, but SVA feature was disabled
- 基线：LA.BR.1.3.4, LA.BR.1.3.5
- CR：1088756
- 代码修改：
  - If need it, please get it with case
    - audio-listen/sva/src/com/qualcomm/qti/sva/MessageType.java
    - audio-listen/sva/src/com/qualcomm/qti/sva/SoundModelRepository.java
    - audio-listen/sva/src/com/qualcomm/qti/sva/VwuService.java
    - audio-listen/sva/src/com/qualcomm/qti/sva/ux/user/MainActivity.java

# [QACT] N release need QACT v6.0.13.3 or later version

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- 描述：When do audio recording, RTC mode Topology isn't same with Offline mode
- 复现步骤和现象：
  - 1, Open QACT for RTC tuning
  - 2, Start recording, QACT log shows :
    - Error getting payload for tableID:1, Indices: DEVICE-0x00000015 SAMPLERATE-0x00001F40 APPTYPE-0x00011130 MODULE-0x00010719 PARAM-0x0001071A
    - Exception: Failed to get data from Target for following IDs with Error Code: -1
- 基线：MSM8940 N etc.
- CR：1009200
- 代码修改：
  - Due to ADSP image is upgraded to ADSP 2.8
  - Need to use QACT v6.0.13.3 or later version which has the CR#1009200

# [BOA] Change the system time later than the present, the playback will stop

- 描述：Change the system time later than the present, the playback will stop
- 复现步骤和现象：
  - As the subject
- 基线：N release
- CR：Bug of Android, Android\_7.1.0\_r7 will has the fix, Android 7.1 will be merged in Qualcomm's base code in December
- 代码修改：
  - libc/bionic/pthread\_cond.cpp
    - extern "C" int pthread\_cond\_timedwait\_relative\_np(pthread\_cond\_t\* cond\_interface,
    - pthread\_mutex\_t\* mutex,
    - const timespec\* rel\_timeout) {
    - timespec ts;
    - timespec\* abs\_timeout = nullptr;
    - if (rel\_timeout != nullptr) {
    - - absolute\_timespec\_from\_timespec(ts, \*rel\_timeout, CLOCK\_REALTIME);
    - + absolute\_timespec\_from\_timespec(ts, \*rel\_timeout, CLOCK\_MONOTONIC);
    - abs\_timeout = &ts;
    - }
    - - return \_\_pthread\_cond\_timedwait(\_\_get\_internal\_cond(cond\_interface), mutex, true, abs\_timeout);
    - + return \_\_pthread\_cond\_timedwait(\_\_get\_internal\_cond(cond\_interface), mutex, false,
    - abs\_timeout);
    - }



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# Display

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# The critical documents for MSM8998 Display bring up

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- 对于MSM8998, 在panel bring up时, 请先阅读以下文档:

| Document ID | Description                            |
|-------------|----------------------------------------|
| 80-P2484-11 | MSM8998_Linux_Android_Display_Overview |
| 80-NU323-32 | MSM8998_Display_Panel_Bring_Up_Guide   |
| 80-NH713-1  | DSI_Timing_Parameters                  |
| 80-NB116-2  | ACPI_Guide_Display_Drivers_Windows     |

# How to disable UEFI display on 8998

- 在8998平台上，Little kernel (LK) has been replaced with UEFI.
- Continuous splash screen is enabled by default and supported by the UEFI driver.
- 在kernel 进行panel bring up时，有时候需要disable UEFI display，参考如下：
- In /BOOT.XF.1.2/QcomPkg/Library/MDPLib/MDPLib.c
  - MDP\_Status MDPExitBoot(uint32 uFlags)
  - {
    - MDP\_Panel\_AttrType \*pDisplayInfo = MDP\_GET\_DISPLAYINFO(MDP\_DISPLAY\_PRIMARY);
    - /\* If seamless splash is not required, turn off the display before leaving \*/
    - + if (1) /\* MDP\_PANEL\_FLAG\_DISABLE\_SEAMLESS\_SPLASH & pDisplayInfo->eDisplayFlags) \*/
    - - if (MDP\_PANEL\_FLAG\_DISABLE\_SEAMLESS\_SPLASH & pDisplayInfo->eDisplayFlags)
    - {
    - // Turn off the displays clocks before exiting
    - MDPDeInit(MDP\_DISPLAY\_PRIMARY, 0x0);
    - MDPDeInit(MDP\_DISPLAY\_EXTERNAL, 0x0);
    - // Turn off the core clocks and footswitches as well
    - MDPTerm(0x0);
  - }

# Display Kernel driver location change on 8998

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- 在8998平台上，linux kernel 的版本为4.4：
- Display kernel driver folder:
  - \drivers\video\fbdev\msm
- Display PLL driver folder:
  - /kernel/msm-4.4/drivers/clk/qcom/mdss/
- Note that in kernel/msm-4.4/Documentation/devicetree/bindings/fb/ folder, 包括了对Display Port，HDMI, Rotator 属性的描述：
  - mdss-dp.txt
  - mdss-dsi-panel.txt
  - mdss-dsi.txt
  - mdss-mdp.txt
  - mdss-pll.txt
  - mdss-rotator.txt
  - msm-hdmi-tx.txt

# MSM8998 MDP wait4pingpong timeout issue

## ■ Issue description:

- During the stability test, sometimes MDP wait4pingpong timeout issue happened.
  - Kernel panic - not syncing: mdss\_mdp\_cmd\_wait4pingpong

## ■ Fix changes:

- `diff --git a/drivers/video/fbdev/msm/mdss_fb.c b/drivers/video/fbdev/msm/mdss_fb.c`
- `index 08e06c7..d528305 100644`
- `--- a/drivers/video/fbdev/msm/mdss_fb.c`
- `+++ b/drivers/video/fbdev/msm/mdss_fb.c`
- `@@ -233,9 +233,11 @@ static int mdss_fb_notify_update(struct msm_fb_data_type *mfd,`
- `}`
- `} else if (notify == NOTIFY_UPDATE_STOP) {`
- `mutex_lock(&mfd->update.lock);`
- `- if (mfd->update.init_done)`
- `+ if (mfd->update.init_done) {`
- `mutex_unlock(&mfd->update.lock);`
- `mutex_lock(&mfd->no_update.lock);`
- `reinit_completion(&mfd->no_update.comp);`
- `- else {`
- `+ } else {`
- `mutex_unlock(&mfd->update.lock);`
- `pr_err("notify update stop called without init\n");`
- `return -EINVAL;`

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## Questions?

<https://support.cdmatech.com>

