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# 高通多媒体技术期刊 20160427

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Qualcomm Technologies, Inc.

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# Confidential and Proprietary – Qualcomm Technologies, Inc.

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# Revision History

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Revision	Date	Description
A	Apr. 2016	Initial release

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

# 内容

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- Display
  - 8996 Common Critical Issues
    - System crash issue with NULL pointer
    - Display memory leakage 问题
    - AD Strength 问题
  - The important documents
  - 8909 wifi crash when do iperf testing
- Video
  - New Feature Introduction in HLS
    - Embedded Image Support
    - HEVC support
    - Dolby support
    - DTS support
    - Bandwidth estimation



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# Display

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# [8996] System crash issue with NULL pointer

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- 问题描述：
  - 在进行压力测试时，偶尔会出现由于NULL指针照成的死机，从call stack来分析，与MDSS driver相关。
- 解决方案：
  - msm: mdss: fix possible race condition in mdp resource control
  - <https://us.codeaurora.org/cgit/quic/la/kernel/msm-3.18/commit/?h=LA.HB.1.3.1&id=a5b719efbd2fe9f7a86fd99883dc2031cdb0af06>
- 补充：
  - Call trace:
  - [<fffffc000dfcee4>] \_\_mutex\_lock\_slowpath+0xa4/0x15c
  - [<fffffc000dfcfc4>] mutex\_lock+0x28/0x48
  - [<fffffc00052b460>] mdss\_mdp\_resource\_control#0xa94/0xc4c
  - [<fffffc00052c408>] early\_wakeup\_work+0xd0/0x19c
  - [<ffffbffc000234658>] process\_one\_work+0x240/0x3e0
  - [<ffffFfc000235608>] worker\_thread+0x320/0x440
  - [<fffffc000239674>] kthread+0xe0/0xec

# [8996] Display memory leakage 问题

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- 问题描述：
  - 在应用切换的过程中，通过procrank查看到SurfaceFlinger有内存泄露。
- 解决方案：
  - Revert "sdm: Allocate layer stack objects individually."
  - <https://us.codeaurora.org/cgit/quic/la/platform/hardware/qcom/display/commit/?id=fa54538112adee3f7b1d31a1daa78b00c02b530a>
- 补充：
  - 一般对于memory leakage问题来说，都是通过procrank去查看不同线程是否有泄漏。

# [8996] AD Strength 问题

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- 问题描述：

- 打开AD后，显示效果随着Lux的值变化而变化，在使用single DSI的情况下，当lux增加时，显示效果变亮，但lux减少时，显示效果没有恢复到原始效果。注意，在使用Dual DSI的情况下没有此问题。

- 解决方案：

- msm: mdss: Fix AD configuration for single DSI case
- <https://us.codeaurora.org/cgit/quic/la/kernel/msm-3.18/commit/?h=LA.HB.1.3.1&id=ad44e4e1375fd922d6a3d04f7e74cab66ff32009>

- 补充：

- 对于AD，全称是Assertive Display, 主要功能是强光阅读，此功能是需要付费的，如果想使用AD功能，请先联系Apical team获取licence。



# The Important Documents

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- 80-NJ118-15\_B\_LCD\_AMOLED\_Boost\_and\_Inverting\_Buck-Boost\_Module
  - 此文档介绍了对于LCD、AMOLED panel的regulator supply，以及如何配置不同时序，对panel的bring up有很大帮助。
- 80-P2271-1\_A\_Display Postprocessing Service
  - 对于8996/8953平台，Post Processing 功能，如CABL/AD/FOSS/SVI，使用dpps，请查看如上文档，可以了解具体框架，以及如何通过socket的方法去开关后处理功能。
- 80-NV396-37\_C\_Snapdragon\_Display\_Manager\_User\_Guide
  - 此文档主要描述了SDM实现框图，以及一些debug 手段。

# [8909] wifi crash when do iperf testing

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- 问题描述：

- Enable Wifi and Stablish Wifi Direct session between two DUT
- Start iperf server on 1<sup>st</sup> DUT and iperf client on 2<sup>nd</sup> DUT
- Start the data transfer between DUTs
- After long time test, DUTs were crashing and crash dumps point to RXP time out in WCNS resulting in APPS crash.

- 解决方案：

- msm: mdss: always vote for ab/ib before sold fill starts on MDP3
- [https://us.codeaurora.org/cgit/quic/la/kernel/msm-3.10/commit/?h=LA.BR.1.2.7\\_rb1.11&id=c73e6977ef060a6709cf8e4b3188aa392a7fcca6](https://us.codeaurora.org/cgit/quic/la/kernel/msm-3.10/commit/?h=LA.BR.1.2.7_rb1.11&id=c73e6977ef060a6709cf8e4b3188aa392a7fcca6)

- 补充：

- To protect Wifi from encountering such latencies, MDP driver will do an early bus voting for when performing status bar update after exiting for display static screen case.



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# Video

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# Embedded Image Support

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- 背景

这个feature主要是Orange认证时需要。媒体播放器应该支持TS文件的0x15 (Metadata carried in PES packets)。如果一个TS文件只有一个audio track，该track包含嵌入的图片，那么在播放该TS文件时应该显示该图片。

- 谁需要这个feature

过Orange HLS 认证的客户需要这个feature。

可以提case去申请CR#910412。

- Code Change

这部分修改包括两部分，一部分在AOSP，一部分在libavenhancement.so。

1. AOSP:

<https://us.codeaurora.org/cgit/quic/la/platform/frameworks/av/commit/media?h=LA.HB.1.3.1-02310-8x96.0&id=0bb42323c0ec767ba771298f933babdcb51cb41b>

2. 由于license问题，avenhancement的修改需要提交case申请。

# HEVC support

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- 背景

由于HEVC越来越流行，HLS添加对HEVC的支持。

- 谁需要这个feature

通过HLS播放包含HEVC的流媒体的客户需要这个feature。

- Code change

For L

<https://us.codeaurora.org/cgit/quic/la/platform/frameworks/av/commit/media/libstagefright?h=LA.BF64.1.1-07910-8x94.0&id=5987105548128e4983cf634222471442d10c9778>

<https://us.codeaurora.org/cgit/quic/la/platform/frameworks/av/commit/media/libstagefright?h=LA.BF64.1.1-07910-8x94.0&id=4069557c668b8487e28484a52e98334728cc63d8>

<https://us.codeaurora.org/cgit/quic/la/platform/frameworks/av/commit/media/libstagefright?h=LA.BF64.1.1-07910-8x94.0&id=8886aa508a53a03e01b5b025a7c37e65d1a59f2c>

For M

<https://us.codeaurora.org/cgit/quic/la/platform/frameworks/av/commit/media/libstagefright?h=LA.HB.1.3.1-02310-8x96.0&id=de00e03bdb3b2223201541be84ae1d6518099ab1>

# Dolby DAP and UDC support

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- 背景

HLS添加对Dolby的支持。

- 谁需要这个feature

通过HLS播放包含Dolby 音频的流媒体的客户需要这个feature。

- Code change

<https://us.codeaurora.org/cgit/quic/la/platform/frameworks/av/commit/?h=LA.BF64.1.1-07910-8x94.0&id=280859af5fd9d7b88ec847557523c67f570126b4>

# DTS support

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- 背景

HLS添加对DTS的支持。

- 谁需要这个feature

通过HLS播放包含DTS音频的流媒体的客户需要这个feature。

- Code change

For M

<https://us.codeaurora.org/cgit/quic/la/platform/frameworks/av/commit/media/libstagefright?h=LA.HB.1.3.1-02310-8x96.0&id=bff544f01922cc44a331d074ef33130ac6741252>

# Bandwidth estimation

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- 背景

HLS添加对带宽估量的支持，可以更准确的计算出当前带宽，切换到适当的媒体文件。并进行了一些优化，避免切换时间过长，或不必要的切换。

- Code change

For L

<https://us.codeaurora.org/cgit/quic/la/platform/frameworks/av/commit/media/libstagefright?h=LA.BF64.1.1-07910-8x94.0&id=c62165b829f0244ad8e3646b3c4e314d6b4ccbb1>

<https://us.codeaurora.org/cgit/quic/la/platform/frameworks/av/commit/media/libstagefright?h=LA.BF64.1.1-07910-8x94.0&id=4b75de37ce14ece3b427901fd33afe242526680b>

<https://us.codeaurora.org/cgit/quic/la/platform/frameworks/av/commit/media/libstagefright?h=LA.BF64.1.1-07910-8x94.0&id=d73701495fa2bd56b518109633b441367c1b7d2e>

For M

<https://us.codeaurora.org/cgit/quic/la/platform/frameworks/av/commit/media/libstagefright?h=LA.HB.1.3.1-02310-8x96.0&id=c62165b829f0244ad8e3646b3c4e314d6b4ccbb1>

<https://us.codeaurora.org/cgit/quic/la/platform/frameworks/av/commit/media/libstagefright?h=LA.HB.1.3.1-02310-8x96.0&id=a93fd2be99d21629bed504b9b7df035fc2f54562>

<https://us.codeaurora.org/cgit/quic/la/platform/frameworks/av/commit/media/libstagefright?h=LA.HB.1.3.1-02310-8x96.0&id=358e71747a4707f9429b8565a05482c1f68d0ed3>



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## Questions?

<https://support.cdmatech.com>

