开源图形驱动-SIG & 开工会

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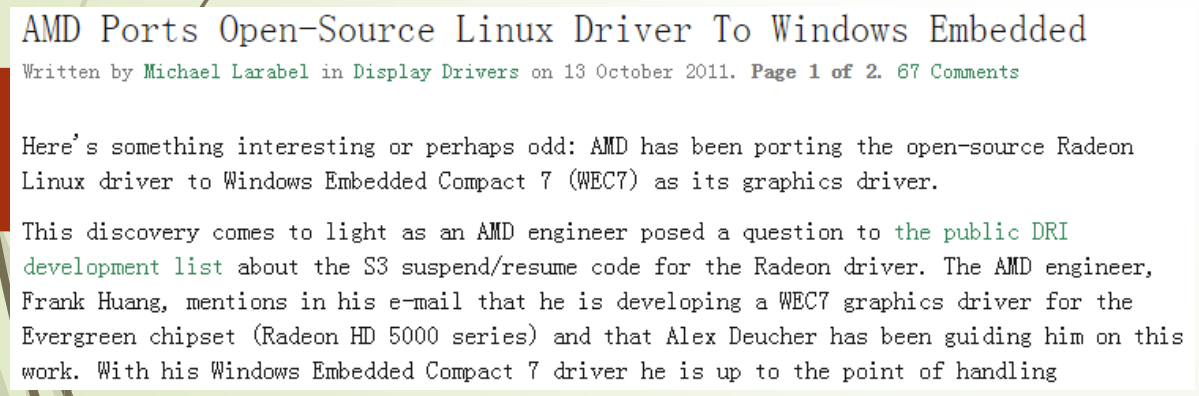
2022.1

Self Introduction

1. Worked in AMD from 2007-2016 as graphics expert, especially working on RADEON open source graphics driver for 7 years
2. Worked in Huawei from 2016-now as gaming and graphics expert. GPU Turbo is a brand

http://www.phoronix.com/scan.php?page=article&item=amd_linux_wec7&num=1



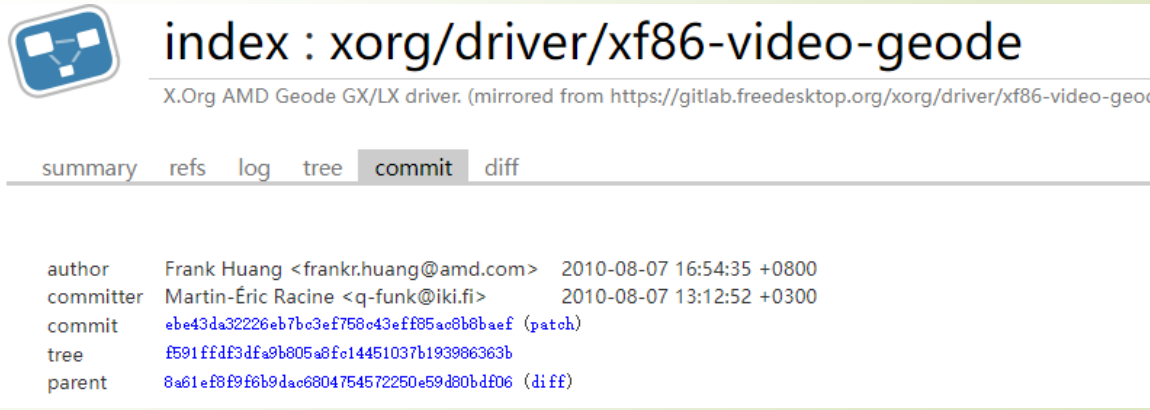
AMD Ports Open-Source Linux Driver To Windows Embedded

Written by Michael Larabel in Display Drivers on 13 October 2011. Page 1 of 2. 67 Comments

Here's something interesting or perhaps odd: AMD has been porting the open-source Radeon Linux driver to Windows Embedded Compact 7 (WEC7) as its graphics driver.

This discovery comes to light as an AMD engineer posed a question to the public DRI development list about the S3 suspend/resume code for the Radeon driver. The AMD engineer, Frank Huang, mentions in his e-mail that he is developing a WEC7 graphics driver for the Evergreen chipset (Radeon HD 5000 series) and that Alex Deucher has been guiding him on this work. With his Windows Embedded Compact 7 driver he is up to the point of handling

xorg/driver/xf86-video-geode - X.Org AMD Geode GX/LX driver. (mirrored from https://gitlab.freedesktop.org/xorg/driver/xf86-video-geode) (cgit.freedesktop.org)



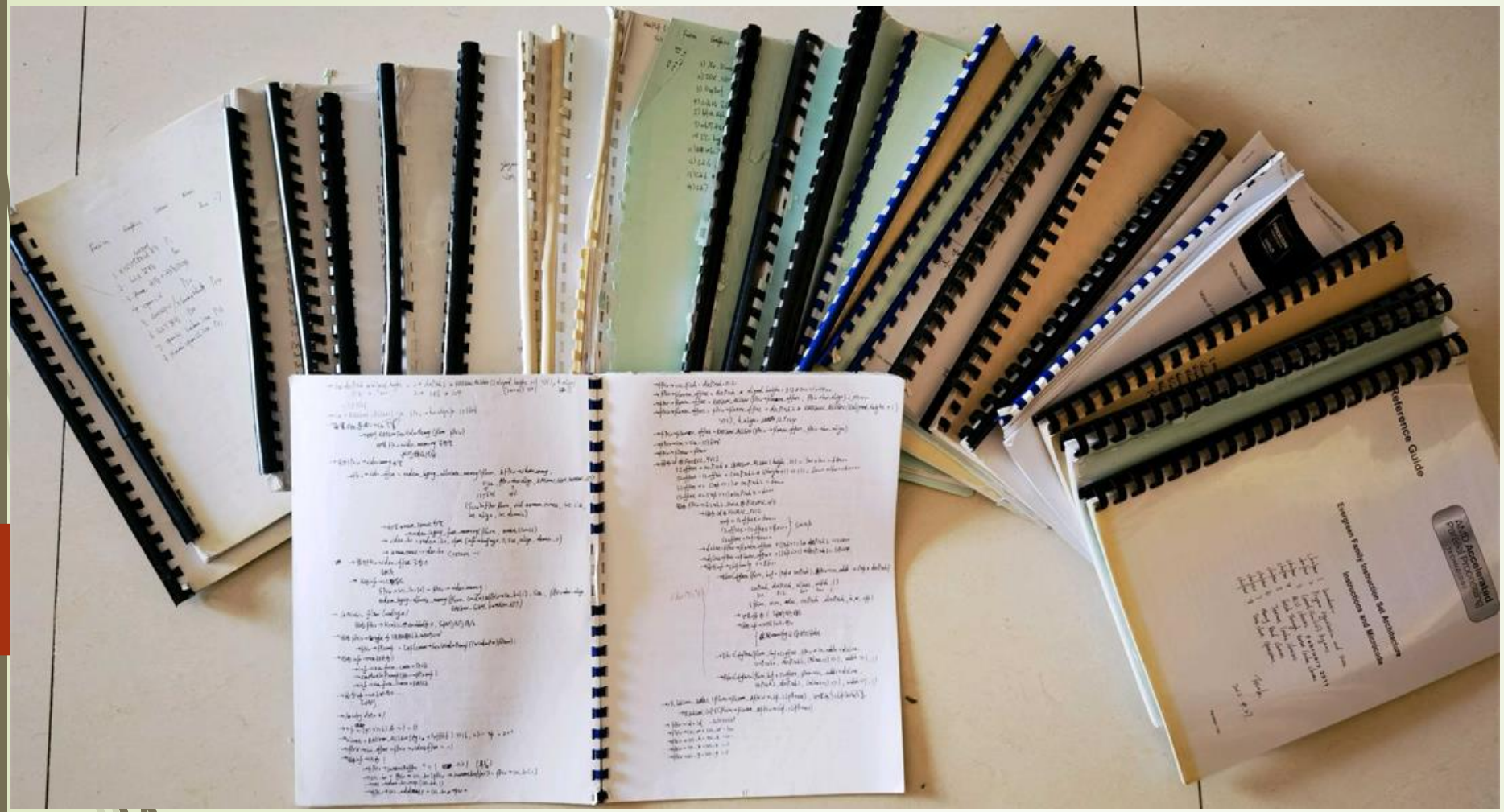
index : xorg/driver/xf86-video-geode

X.Org AMD Geode GX/LX driver. (mirrored from https://gitlab.freedesktop.org/xorg/driver/xf86-video-geo

summary refs log tree commit diff

author	Frank Huang <frankr.huang@amd.com>	2010-08-07 16:54:35 +0800
committer	Martin-Éric Racine <q-funk@iki.fi>	2010-08-07 13:12:52 +0300
commit	ebe43da32226eb7bc3ef758c43eff85ac8b8baef (patch)	
tree	f591ffdf3dfa9b805a8fc14451037b193986363b	
parent	8a61ef8f9f6b9dac6804754572250e59d80bdf06 (diff)	

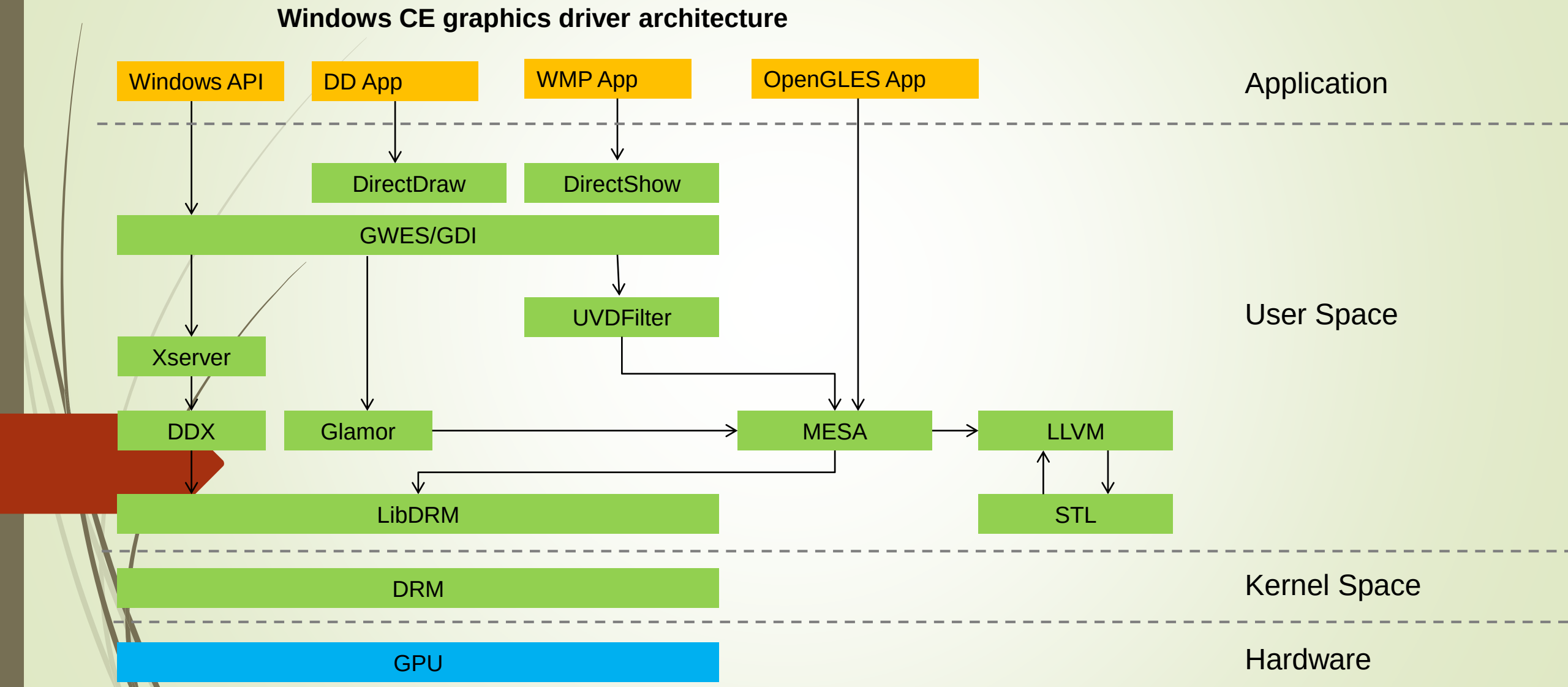
Previous work



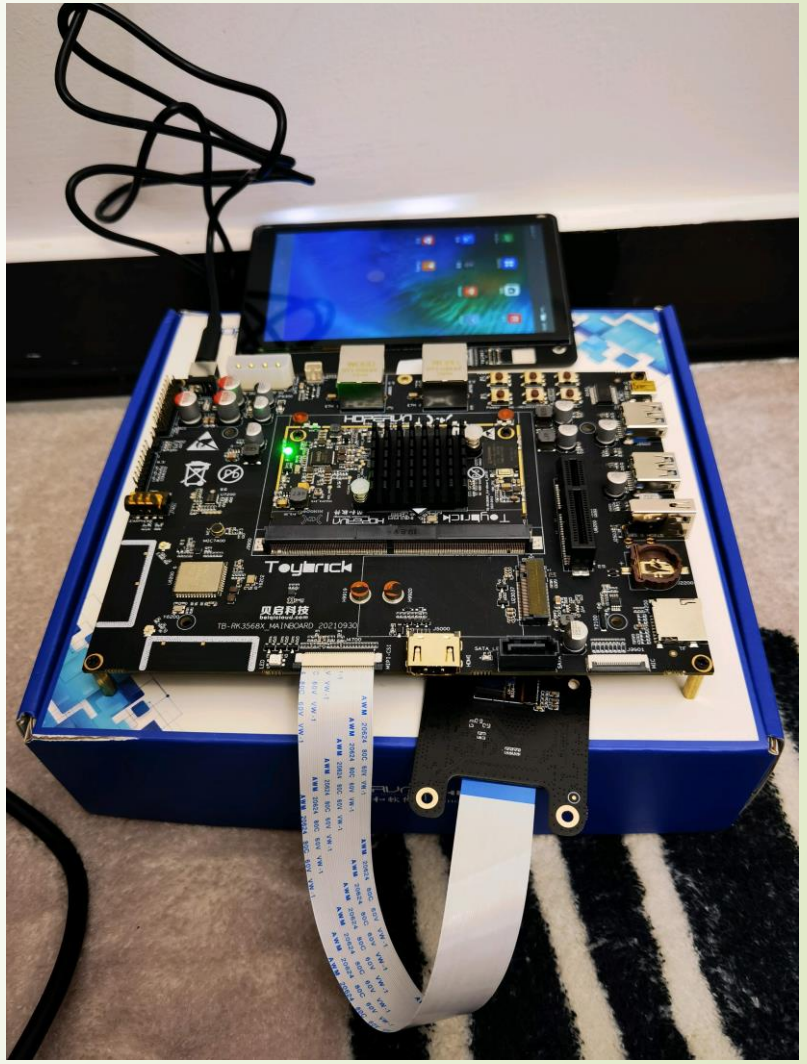
Working on Geode/Ontario/Kabini/Mullins AMD APU and boot up

1)VIOS/Init
2) 2D
3) 3D

Windows CE driver porting



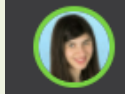
树莓派3B/STM32MP1/RK3568缺失GPU渲染加速能力



G52 based, Bifrost architecture

Panfrost on G52

Panfrost achieves OpenGL ES 3.1 conformance on Mali-G52



Alyssa Rosenzweig
September 21, 2021

The open source Panfrost driver for Mali GPUs has now achieved official conformance on Mali-G52 for OpenGL ES 3.1, as seen on the Khronos adopters list. This important milestone is a step forward for the open source driver, as it now certifies Panfrost for use in commercial products containing Mali G52 and paves the way for further conformance submissions on other Mali GPUs.

Conformance requires passing tens of thousands of OpenGL integration tests in a single run. Over the summer, we wrote hundreds of patches to fix failing tests. While no amount of testing can guarantee the absence of bugs, passing conformance gets us close.

To ensure we remain conformant, we've upgraded our continuous integration infrastructure to run more tests before every merge. Ideally, we could re-run the complete conformance suite for every commit, but that's infeasible when a single run takes 11 hours on commercial hardware. Nevertheless, with multiple devices, tuned test configurations, and multithreading, we can run 99.5% of the tests in our 10 minute pre-merge budget. This ensures to a high degree of confidence that Panfrost only becomes more stable each release without regressions. I would like to extend a warm thanks to Emma Anholt for developing the infrastructure required for this feat.

Other supported Mali GPUs benefit from the fixes to common code. Mali-G31 and Mali-G72 use the same architecture as Mali-G52, so they should work well with Panfrost. Mali-T860 and older GPUs are not yet conformant but still benefit from the driver quality and stability improvements.

Most of the bug fixes have been backported to Mesa 21.2, so upgrade your Mesa and enjoy a more stable driver!

当前状态

2021/12/20 (周一) 22:18

Huangran (Frank)

meeting minutes//答复: 答复: 答复: Open source Mali graphics driver for OpenHarmony

收件人 Daniel Stone; Alyssa Rosenzweig

答复此邮件的时间为 2021/12/26 18:26。
已删除此邮件多余的换行符。

邮件 Panfrost for OpenHarmony.pptx (2 MB)

Dear Daniel,

Great thanks for your one hour discussion today. We have a very good communication and your information and message are quite important for me. Attached is my prepared slide for you to know more about OpenHarmony and myself.

Please check below meeting minutes to see if that is fine.

Below, I recorded several Q&A session for your reference:

Q1: I see Panfrost has supported G52. Do we have a board to run this driver?
A1: Yup, you are working on a Rockship EVB board below:
https://www.aliexpress.com/i/1005002343008085.html
By the way, you have an project with RK3566 board. The GPU is also Bifrost G52.

Q2: Can we use latest mesa repository?
A2: mesa 21.3 mesa driver has supported the Panfrost. But some optimization patches have been merged with branch, but not released for latest mesa version.
Also, current linux kernel is 5.10. Daniel can provide some the link for those patch.

Q3: How about the performance about the Panfrost driver? Have we compared it with Mali close driver?
A3: It depends on specific user case. For Glmark, Gfxbench, reallife game, Panfrost can reach 80% - 120% compared to closed driver.

Q4: We have a board named Hihope RK3568 which is using G52 GPU. So I am now working with ISV to see if Ubuntu and Debian can be run on this board because I see Debian or Ubuntu has supported Panfrost driver.
A4: Good idea. Debian supports Panfrost, but you need do some kernel and user space driver update.

Q5: Do we have any RRG and ISA document for Mali G52? That is important for writing driver. And I am thinking about that currently we are not doing that by reverse-engineering. Can you share it with me?
A5: Currently ARM is working with us. But this document can not be shared. We can support you if you have any questions
By the way, we can use Channel #Panfrost(https://webchat.oftc.net/) to chat

Q6: And mature product I can buy to use our Panfrost driver?
A6: A couple of products have already been sold. Some are developed now. But they can be disclosed now. Some area need open source driver requirement.

Q7: Has our driver passed and conformance test?
A7: Yup. Khronos driver test suite on G52 (OpenGLES 3.1) have been passed. For vulkan, just a bit porting because of low priority.

开源操作系统使用开源驱动！

工作目标

- 迁移开源Mesa驱动到OpenHarmony上，支撑当前社区开发板缺失图形驱动的窘境，使能GPU渲染
- 优化开源驱动并达成持平并优于闭源驱动的能力（Glmark2）

工作范围

- Mali Midgard/Utgard/Bifrost, Vivante GPU, VideoCore GPU
- Qualcomm Adreno,
- AMD VEGA (当前Mesa已经支持)