

Meeting Notes 2021

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Jan 13, 2021

Attendees:

- Jerry Zhao - Panasonic
- Jan-Simon Moeller - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Laurent Cremmer - Carmeq
- Victor Duan - Linaro
- Tadao Tanikawa - Panasonic
- Binghua - Qualcomm
- Sonic - ?

Agenda:

- Quick summary of virtual SAT on 09 Dec 2020
 - virtio devices in the list <https://confluence.automotivelinux.org/display/VE/Support+VirtIO+Front+End+Driver+in+AGL> has already be committed as a new machine (virtio-aarch64) in meta-agl-devel by 02 Dec 2020
 - new virtio machine accepted to meta-agl with SAT approval.
 - [Mikhail Golubev](#) will commit the migration from meta-agl-devel to meta-agl by 20 Jan 2021
- Progress of virtio reference implementation [Mikhail Golubev](#)
 - The PoC will be ready by April and able to request download from AGL websites
 - The backend and HV are proprietary but frontend (including virtio drivers) are open and can be customized

Announce the new virtio feature and reference implementation on KK in AB and AMM(?) [Walt Miner](#)

After moving to meta-agl, it can be announced

A draft of two/three sentences are needed

Build Instruction e.g. https://docs.automotivelinux.org/en/master/#0_Getting_Started/2_Building_AGL_Image/5_2_Raspberry_Pi_4/

[Jan-Simon Moeller](#) create new category for virt-EG to write documentation about virtio

- Collaboration proposal from RHSA-EG (Mazda is the leader)
 - Present the reference implementation PoC in AMM
 - What is the deadline for CFP
- Workshop for discussion about virtio planned to be held after new year (rough plan)
 - 1st Open Discussion Workshop: Optimization of VirtIO-gpu3d (how to achieve zero-copy in gpu 3d mode) 20 Jan 2021
 - 2nd Open Discussion Workshop: What devices need to be virtualized for an virtual AGL (what else virtio-devices needed for AGL) TBD
- Future EG Planning
 - 20 Jan 2021 1st Workshop (virtio-gpu3d topic) [Jerry, Jiancong Zhao](#) will email to invite community members (especially gpu, mesa/virgl expert to join)
 - 03 Feb 2021 normal EG session
 - TBD: 2nd Workshop (necessary virtual devices for AGL) [Jerry, Jiancong Zhao](#) will email to invite community members (especially gpu and virtio expert to join)

[Walt Miner](#) please share the google doc link of past EG white paper.

- Last but important:
 - Thanks so much for all the EG members for great work in 2020! Happy new year!

Jan 20, 2021

Attendees:

- Jerry Zhao - Panasonic
- Jan-Simon Moeller - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Vasyl Vavrychuk - OpenSynergy
- Andriy Tryshnivsky - OpenSynergy
- Laurent Cremmer - Carmeq
- Mark Silberberg - Volkswagen
- ~~Victor Duan - Linaro~~
- Alex Bennée (Stratos Tech Lead) - Linaro
- Peter Griffin (Multimedia Tech Lead) - Linaro
- Tadao Tanikawa - Panasonic
- Binghua - Qualcomm
- Marius Vlad - Collabora
- Tadao Tanikawa - Panasonic
- Kenji Hosokawa - ADIT
- Harunobu Kurokawa - Renesas
- Masahiro Hasegawa - Renesas
- Tomeu Vizoso
- Venkata Ramalinga Prasad Tadepalli
- Parag Borkar - OpenSynergy

Agenda:

- 1st VirtIO Workshop: VirtIO GPU-3d Performance - How to achieve Zero-Copy with AGL
- Open Synergy Slides (How to achieve zero-copy on Renesas SoC)
 - [VirtIO_GPU_3D_Workshop.pdf](#)
 - cache coherence between CPU/GPU
 - Discussion Points:
 - Does VirtIO GPU supports zero-copy in QEMU, crosvm, etc?
 - crosvm uses host allocations, is it requirement for something?
 - progress in crosvm is on-going and related to Vulkan.
 - crosvm use the virtio-pci (to expose host memory to guest - which also avoid memory copy)
 - Any available standard solution/platform to solve this zero-copy for the AGL community
 - Tomeu: Collabora is having project in ChromeBook (which is more focusing on gaming) but expose host memory to guest
 - Alex: not using virtio-pci may be the limitation (kiran explained why it is not because limitation with 64 bit PCI addressing the windows are more than large enough)
 - Conclusion: there's no good solution available at the moment for zero-copy mechanism for automotive use case
 - Note: sometimes, copying smaller buffers (< 4k) is faster than using zero copying
 - Does virglrenderer supports zero-copy of OpenGL buffers (vertex buffer, element buffer, etc.)?
 - there are some mechanisms in virglrenderer. no copy happened. (although some limitation may exist)
 - EXT_image_dma_buf_import fails with EGL_BAD_ACCESS
 - Tomeu: Reason is that specific platform stride requirements are not propagated to the guest. New IOCTL exist to propagate stride info to the guest, but not mainlined yet.
 - <https://gitlab.freedesktop.org/olv/drm-misc-next/-/commit/6b2013a48528fc9ea1e82c6b68c85521f6d03041>
 - why stride information is needed in guest? This info will be pitched to MESA3d.
 - GPU/display supports only 32-bit addresses. Issue: ensure device guest (mesa) allocates memory from lower addresses
 - Bounce buffers:
 - Stratos prj is interested in a mechanism to limit guest's allocations to a particular mem window (potentially, breaking virtio driver mem model)
 - Kernel dma pools are being looked at. This will result in memcpy from userspace to kernel dma capable pool (page cache as well?)
 - Virglrenderer tests fails on R-CAR

Feb 3, 2021

Attendees:

- Jerry Zhao - Panasonic
- Jan-Simon Moeller - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Vasyl Vavrychuk - OpenSynergy
- ~~Andriy Tryshnivsky - OpenSynergy~~

- ~~Laurent Cremmer - Carmeq~~
- ~~Mark Silberberg - Volkswagen~~
- ~~Victor Duan - Linaro~~
- Francis Ozog - Linaro
- Masami Hiramatsu - Linaro
- Alex Bennée (Stratos Tech Lead) - Linaro
- ~~Peter Griffin (Multimedia Tech Lead) - Linaro~~
- Tadao Tanikawa - Panasonic
- Binghua - Qualcomm
- ~~Marius Vlad - Collabora~~
- Tadao Tanikawa - Panasonic
- Kenji Hosokawa - ADIT

Agenda:

- Development Progress of VirtIO feature for KK
 - virtio machine (virtio-aarch) has been merged to meta-agl (thanks [Jan-Simon Moeller](#))
 - virtio related documentation (how to build, how to deploy) has been pushed but pending for review: [https://gerrit.automotivelinux.org/gerrit/q/topic:%22SPEC-3778-virtio-documentation%22+\(status:open%20OR%20status:merged\)](https://gerrit.automotivelinux.org/gerrit/q/topic:%22SPEC-3778-virtio-documentation%22+(status:open%20OR%20status:merged))
 - 1 bitbake build (multi-config)
 - multi-config can create image with backend and frontend in one build (one place) still possible to build/update specific VM
 - documentation still need to be updated
 - Include virtio as KK feature into release note ([Walt Miner](#), [Jan-Simon Moeller](#))
 - Trial on KVM and Xen (Linaro [Alex Bennée](#))
- Development Progress of AGL KK VirtIO Reference Demo on Reference Hardware [Mikhail Golubev](#)
- Sample virtio building for Reference Hardware EG
- Next Workshop about VirtIO-GPU
 - Summary of 1st Workshop
 - Candidate: 17 Feb 2021

Feb 17, 2021

Attendees:

- Jerry Zhao - Panasonic
- Jan-Simon Moeller - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Vasyl Vavrychuk - OpenSynergy
- Parag Borkar - OpenSynergy
- ~~Andriy Trychnivsky - OpenSynergy~~
- ~~Laurent Cremmer - Carmeq~~
- ~~Mark Silberberg - Volkswagen~~
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- Tadao Tanikawa - Panasonic
- Kenji Hosokawa - ADIT

Agenda: 2nd workshop to Discuss how to achieve zero-copy for VirtIO GPU (3d mode)

Workshop Topic:

Follow up discussion on how to achieve Zero-Copy for VirtIO-GPU (3d mode)

Workshop Agenda:

- Quick review of 1st workshop discussion*
 - *For the 1st workshop meeting notes, please find at <https://confluence.automotivelinux.org/display/VE/Meeting+Agenda#MeetingAgenda-Jan20,2021>
- Discussion on two methods to achieve zero-copy: dynamic vs dedicated heap
 - GPU/CPU cache coherency challenges
 - Host allocation (share hostmem with guest) vs Guest allocation
 - ChromeOS uses dynamic hostside allocation
 - does host allocation and sharing introduce security concerns?
 - (over to Parag, OpenSynergy)
 - Dynamic vs Dedicated hostside allocation

- where in host memory needs to be exposed to guest
 - host also has knowledge of where the real HW can see
- Dedicated GPU heap (VRAM):
 - Idea: have a dedicated inter-vm shared mem area, guest requests buf params from hosts and allocates objects in shared memory and "sends" objects to host (paddrs)
 - What is needed to be done:
 - virtio gpu kernel driver adaptations allocations from vram will be needed as well
 - MESA3d adaptations?
 - virgl adaptations
- Can VFIO on Intel be applicable to the zero-copy case?
 - Which address space are buffers in? Can we use IOMMU for that?
 - IOMMU is a must have to defeat against DMA attacks
 - Intel pioneered VFIO; Huawei did develop so called "warpdrive" technology
 - [François-Frédéric Ozog](#) to check if the Huawei guy would like to give a speech on "warpdrive" in the Virtualization EG?
 - WarpDrive details:
 - <https://lwn.net/Articles/761461/>
 - <https://connect.linaro.org/resources/hkg18/hkg18-214/>
- Type 1/2 HV: does the problem also apply to T2 HV?
 - There should be no difference between T1/2 HV, the same problem exists.
- Xen HV:
 - QEmu - generic virtio backend for Xen
 - Virtio patches are being discussed
- Updates from GPU workshop #1
 - Stride requirements were found (for RCar), hardcoded, but visual artifacts can be seen activity postponed
- Discuss on how we should move forward
- Slides:

? Unknown Attachment
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March 3, 2021

Attendees:

- Jerry Zhao - Panasonic
- Jan-Simon Moeller - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Vasyl Vavrychuk - OpenSynergy
- ~~Andriy Trychnivsky - OpenSynergy~~
- ~~Laurent Crommer - Carmeq~~
- ~~Mark Silberberg - Volkswagen~~
- ~~Victor Duan - Linaro~~
- Francis Ozog - Linaro
- Masami Hiramatsu - Linaro
- ~~Alex Bennée (Stratos Tech Lead) - Linaro~~
- ~~Peter Griffin (Multimedia Tech Lead) - Linaro~~
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Agenda:

- Question from Hosokawa-san:
 - would like to watch the archive of unified HMI demo
 - ALS Presentation from Virt-EG: Eugene Kheyfets
 - Webinar on Device Virtualization:
 - would like to know when the unified HMI
- GSoC Proposal from Virt-EG
 - Link: <https://wiki.linuxfoundation.org/gsoc/2021-gsoc-agl>
 - 17 Mar 2021



- Experience Level: Description
- Beginner:

- Task #1: webcam demo app - write an app exposing the v4l webcam feed
 - your task will be to develop an QT/QML-based application to display the a webcam feed - talk to jsmoeller (at) [linuxfoundation.org](mailto:jsmoeller@linuxfoundation.org)

- Intermediate:

- Task #2: demo app for the IIO service. Display sensor data from the iio-service on the display.
 - Your task will be to develop an QT/QML-based application to show data from sensors - talk to jsmoeller (at) [linuxfoundation.org](mailto:jsmoeller@linuxfoundation.org)

- Advanced:

- Task #3: Platform Development - create or enhance the container image
 - Your task will be to either create or enhance a container-based setup using AGL - talk to jsmoeller (at) [linuxfoundation.org](mailto:jsmoeller@linuxfoundation.org)

- Advanced++:

- Task #4 integration of ROS (Robot OS - meta-ros) - talk to jsmoeller (at) [linuxfoundation.org](mailto:jsmoeller@linuxfoundation.org)
- Task #5 extend the jailhouse support

- VirtIO KK Release
 - VirtIO related documentation disappeared.
<https://docs.automotivelinux.org/en/master/>
 - available on the git but not on the webpage (Jan-Simon Moeller is checking)
 - it seems to related to browser cache and Jan to check further. But for virtio documentation it became alive again. https://docs.automotivelinux.org/en/master/#0_Getting_Started/2_Building_AGL_Image/5_4_Virtio/
- All Member Meeting (Mar 16~17)
 - <https://events.linuxfoundation.org/agl-amm/program/schedule/>
 - Introduction to Automotive Grade Linux - Walt Miner, The Linux Foundation
 - Mention Virt-EG work VirtIO? Any input/slide need from us?
 - Will introduce KK features
 - Jerry, Jiancong Zhao to prepare a slide about Virt-EG work and send to Walt by 04 Mar 2021
 - (Virtualization Related) Obtaining VirtIO-enabled Virtualized AGL KK Reference Demo Distribution - Mikhail Golubev, OpenSynergy GmbH
 - deadline for recording video is Friday.
 - (Virtualization Related) Software Define Architecture in a Car: Using VIRTIO to Change the Way the Car Software is Developed. - Tero Salminen, OpenSynergy GmbH
 - (Virtualization Related) HTML5 on the AGL Demo Platform with Chromium and WAM - Lorenzo Tilve & Antia Puentes, Igalia
 - (by EG member Kenji Hosokawa) Functions and Requirements of Production Readiness Profile - Riku Nomoto, Woven Alpha, Inc. & Kenji Hosokawa, Advanced Driver Information Technology Corp.
 - IC-EG Leader: Haraki-san haraki@hhq.suzuki.co.jp for virtualized IC use case
 - IC-EG QM (VirtIO) with AGL
 - FuSa features with ELISA
 - ELISA Information;
 - <https://lists.elisa.tech/g/automotive>
 - Github: <https://github.com/elisa-tech/meta-elisa>
 - Meeting Minutes: https://docs.google.com/document/d/1qgEkB6HBjq0ojoTSml_E18BZco3IORK1ZZDrBH1YQo0/edit
 - IVI-EG Leader: Nomoto-san riku.nomoto@woven-planet.global
- Follow-up of last workshop on VirtIO-gpu
 - Can VFIO on Intel be applicable to the zero-copy case?
 - Which address space are buffers in? Can we use IOMMU for that?
 - IOMMU is a must have to defeat against DMA attacks
 - Intel pioneered VFIO; Huawei did develop so called "warppdrive" technology mainly for "server" hardware acceleration encryption & decryption (kind of passthrough but can be shared across different VMs)
<https://connect.linaro.org/resources/bkk19/bkk19-401/>
 - Type 1 hypervisor can passthrough device for guest VM easily. But driver need to be have in the front end guest. (will be dependent onto SoC platform)
 - IOMMU should be able used but not used in the crosvm (instead, used host allocation). Coherent memory is needed.
 - Linaro Hiramatsu's comment: to share the memory between the guest, I think we need ivshmem like driver. (but that is not transparent)



Mail from Kenneth (Huawei)

Hello, Jerry,

Nice meeting you. We are happy to discuss UADK with colleagues of the same profession. We are just afraid that we cannot give what you need. Because it seems you are looking for VFIO rather than UADK. We tried to merge our requirement to VFIO initially. But we gave up after the first RFC. To us, the major down side of VFIO is that it is a practical device. But we don't take it a device. We take it a heterogeneous CPU. In UADK, the process attach to the accelerator, the accelerator share whole or part of the address space of the process. So the process can deliver task to the accelerator without worrying how to copy data to the accelerator. So there is no independent device is created, no DMA operation is provided. It is just for sharing memory between CPU and the accelerator. Because of this, we solve different set of problem. E.g. we have to take care of process-cloning to duplicate/stop the interface to child process.

But it seem you are looking for a solution to isolate some GPU resource for particular VM. This is exactly what VFIO trying to do.

So now it is you who may want to tell me. Are you guys really want to know the detail of UADK? J

Cheers

- Future Activity of EG
 - Welcome proposal from members
 - Feature List for 2021
 - Roadmap for Virt-EG of 2021
 - Walt need to present to SAT within two weeks

March 17, 2021

Attendees:

- Jerry Zhao - Panasonic
- Jan-Simon Moeller - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Masami Hiramatsu - Linaro
- Kenji Hosokawa - ADIT
- Anmol -GSoC Candidate
- Nedeljko Miljevic

Agenda:

- Add a hashtag in the mailing list (agl-virt)
- Road map discussion (EG Members voting required)
[2021 Roadmap](#)

March 31, 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Jan-Simon Moeller - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Damian Hobson-Garcia - iGel
- Masami Hiramatsu - Linaro
- Hanrunobu Kurokawa- Renesas
- Riku Nomoto - Toyota
- Richard Elberger - AWS
- Anmol -GSoC Candidate

Agenda:

- (30m) Guest Speaker's Sharing about Container & DRM sharing in IC-EG [Damian Hobson-Garcia](#)
Q&A:
1. Q: is libdrm used?
A: can be used. or use I/O controller directly. weston use drmOpen/drmClose interface

2. Q: How the gpu2d part is organized?

A: drmrendernode is used. map in the rendernote. inside container, acces to gpu with the rendernote.

3. Q:

- (3m) Quick summary of F2F SAT
 - Cooperate with IVI-EG and IC-EG in SAT, especially
 - Define necessary devices for overall AGL (also find missing virtio frontends)
 - Define common device interface (take advantage of virtio driver I/F) for both virt and non-virt AGL
 - (Not discussed in SAT yet) port IVI and IC profile (from IVI-EG and IC-EG) on the top of virt-EG's work (maybe can have a collaborative demo in some events?)
 - In to enhance cooperation with other EGs [Jerry, Jiancong Zhao](#) plans to join other EGs' call as an audience

? Unknown Attachment

- (20m) Follow-up discussion & Final Conclusion on [2021 Roadmap](#)
- (7m) Wrap-up

Apr 14, 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Masami Hiramatsu - Linaro
- Anmol - GSoC Candidate
- Francois Ozog - Linaro
- Kenji Hosokawa - ADIT

Agenda:

- AGL Event:
 - 2021.6 Virtual F2F meeting (Week 24/25, June 14 ~ 23)
 - 2021.9 or 10 AMM (Fully-virt or hybrid with local on-site in EU)
 - 2021.12 ALS (Fully-virt & maybe local on site in JP)
 - GSoC outcome (wrapped up in August) may be part of presentation in AMM or ALS
- Good News: Linaro maybe 90% able to show a virtual Trustzone demo with AGL. [François-Frédéric Ozog](#) to follow up.
- AGL Device Virtualization (Define Device Importance & priority for future I/F commonization activities)
<https://docs.google.com/spreadsheets/d/1jpLNUBKz19LOdtGyqan5Wk4OgZFFxUNcSpMrFMPFCKI/edit?usp=sharing>
Virt-EG: need to select top 10
 - Mission of Virt-EG: Virtualization of AGL. (Make AGL profiles like IVI, IC, Telematics as a working virtual machine)
 - Priority from the point of view of Virt-EG (Short-leasted Proposal)
 - Devices without standard VirtIO (in order to make virt-AGL applicable for real-world production)
 - Standard Devices but need improvement or extension for virtual AGL use case
 - See detailed discussion in [2021 Virt-EG Device Virtualization Priority](#)

May 12, 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Masami Hiramatsu - Linaro
- Anmol - GSoC Candidate
- Francois Ozog - Linaro
- Kenji Hosokawa - ADIT

Agenda:

- Steering committee results [Walt Miner](#)
 - funding request, contractor (if any) needed to be proposed as soon as possible (ideally within two weeks)
 - virtio-related work may be difficult to estimate at the moment. Walt & Jerry to set up individual call later.
- Continue Discussion in 2021 Virt-EG Device Virtualization Priority
 - [2021 Virt-EG Device Virtualization Priority](#)
- 2021 Virt-EG Event Plan
 - AGL Event:

- 2021.6 Virtual F2F meeting (Week 24/25, June 14 ~ 23)
- 2021.9 or 10 AMM (Fully-virt or hybrid with local on-site in EU)
- 2021.12 ALS (Fully-virt & maybe local on site in JP)
- GSoC outcome (wrapped up in August) may be part of presentation in AMM or ALS

May 26, 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Masami Hiramatsu - Linaro
- Anmol - GSoC Candidate
- Francois Ozog - Linaro
- Kenji Hosokawa - ADIT
- Alex Bennée - Linaro

Agenda:

- Steering community discussion result sharing
 - non-virtual AGL related activities related to VirtIO and device virtualization are approved to get funding
 - virtual AGL related activities to VirtIO will mainly be contribution from OpenSynergy, Panasonic and other Virt-EG member
 - A new EG for container discussion will be setup
 - Will be started from 09 Jun 2021 13:00~14:00 UTC
- Progress of Virt-EG work for AGL JJ
 - Kernel upgrade to 5.10
 - small patch for virtio-input to support multi-touch
 - virtio-sound already integrated to meta-agl
 - working on virtio-scmi (handling problems with hardware) - tested with the COQOS hypervisor backend
- Device Priority of Virt-EG in 2021 - need finalization
 - [2021 Virt-EG Device Virtualization Priority](#)
- Virt-EG Demo Plan Discussion
 - Automotive Linux Submit - Nov or Dec (TBD)
 - Presentation from Virt-EG
 - Linaro is willing to join the demo. Illustrate AGL on top of system-ready board (secure boot, update)
 - Xen will be used (TBD)
 - Show both on native AGL and virt-AGL
 - VirtIO features will be shown in the demo. Firmware update.
 - virtio-net with TNS
 - virtio-scmi
 - OpenSynergy under discussion. virtio-audio, virtio-scmi
 - Anmol GSoC project (ALS)
- CES (maybe hybrid)

Jun 9, 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Masami Hiramatsu - Linaro
- Anmol - GSoC Candidate
- Francois Ozog - Linaro
- Kenji Hosokawa - ADIT
- Alex Bennée - Linaro

Agenda:

- Device Virtualization Priority from each EG
 - <https://docs.google.com/spreadsheets/d/1jpLNUBKz19LOdtGyqan5Wk4OgZFFxUNcSpMrFMPFCKI/edit#gid=1231808174>
 - follow-up discussion in next SAT
- Virt-EG Demo Plan Discussion
 - Automotive Linux Submit - Nov or Dec (TBD)
 - CFP may be from next month
 - held virtually

- Presentation from Virt-EG
 - Linaro is willing to join the demo. Illustrate AGL on top of system-ready board (secure boot, update)
 - Xen will be used (TBD)
 - Show both on native AGL and virt-AGL
 - VirtIO features will be shown in the demo. Firmware update.
 - virtio-net with TSN
 - virtio-scsi
 - *What about virtio-sound?*
 - *Has a PoC with Xen under plan*
 - *Probably included in the Demo*
 - OpenSynergy is also going to join the demo
 - COQOS HV will be used
 - Board will be AGL Reference Hardware
 - Potential Demo Candidate:
 - virtio-sound
 - virtio-scsi
 - virtio-input (with multi-touch feature)
 - Anmol's GSOC progress report

Jun 16, 2021 Virtual F2F SAT

Representative from Virt-EG:

- Jerry Zhao - Panasonic
- Mikhail Golubev - Open Synergy
- Vasyl Vavrychuk - OpenSynergy

Presented Slides:

- Virt-EG progress for LL:

? Unknown Attachment
- Device Virtualization (Common Device I/F for both non-virt and virt)

? Unknown Attachment

Jun 25, 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Masami Hiramatsu - Linaro
- Anmol - GSOC Candidate
- Francois Ozog - Linaro
- Kenji Hosokawa - ADIT
- Alex Bennée - Linaro

Agenda:

- F2F SAT Meeting Quick Update
 - I/O product ready requirements (under discussion)[Production Readiness Specification for Edit](#)
 - goal of virt-eg is to have the product ready profile working on virtualization platform
 - Virt-EG's presentation (see above)
 - Virt-EG plan to have a presentation & demo
- Multi-config discussion
 - 1 click build for the whole platform (host vm and guest vm) is necessary for the AGL CI
 - streamline across different EGs (use agl_setup.sh)
 - build and test easily
 - Vasyl presented some idea (slide)
 - [Scott Murray](#) will take care of the script modification and take both Virt-Eg and IC-EG need.
 - Virt-EG need: Able to build in two ways
 - Separate build (as it is now)
 - 1 click build (in order to fit AGL CI framework requirement from Jan)
- Anmol's project progress
 - [2021 - Anmol](#)

Jul 7, 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Masami Hiramatsu - Linaro
- Anmol - GSoC Candidate
- Francois Ozog - Linaro
- Kenji Hosokawa - ADIT
- Alex Bennée - Linaro

Agenda:

- AGL Tech Day
 - <https://events.linuxfoundation.org/agl-linux-tech-day/>
 - Virt-EG presentation will be based on the previous year ALS presentation
- Brainstorm Discussion: Future of Automotive & Virtualization

Jul 21, 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Masami Hiramatsu - Linaro
- Anmol - GSoC Candidate
- Francois Ozog - Linaro
- Kenji Hosokawa - ADIT
- Alex Bennée - Linaro

Agenda:

- [Vasyl Vavrychuk](#) shared status of virtio development for AGL LL. [Vasyl Vavrychuk](#) please upload the pdf slide you used on July 21 EG
- GSOC Project Progress

Presented slides:

? Unknown Attachment

Aug 4, 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Masami Hiramatsu - Linaro
- Anmol - GSoC Candidate
- Francois Ozog - Linaro
- Kenji Hosokawa - ADIT
- Alex Bennée - Linaro

Agenda:

- VirtIO development progress by [Vasyl Vavrychuk](#)
 - [Scott Murray](#) has confirmed that both Panasonic & Konsulko has tried camera on AGL Reference platform.
 - [Scott Murray](#) to email to [Vasyl Vavrychuk](#) a test file about camera.
- GSoC Progress . [Anmol](#)

Presented slides:

? Unknown Attachment

September 1, 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Masami Hiramatsu - Linaro
- Anmol - GSoC Candidate
- Francois Ozog - Linaro
- Kenji Hosokawa - ADIT
- Alex Bennée - Linaro

Agenda:

- ALS: [Walt Miner](#) to check about the CFP for ALS
- Funding for VirtIO Activities
 - [Walt Miner](#) to share the past sample for RFQ
 - [Jerry, Jiancong Zhao](#) to come up with a rough timeline.
 - Procedure:
 - Virt-EG member prepare the RFQ*
 - * no specific format restriction. AGL manager Walt-san will share some samples in the past.
 - Virt-EG will review the RFQ (basically the leader (Jerry) decide yes or no)
 - Walt will send the RFQ to target company and request response for RFQ
 - Virt-EG will review the response and decide go or not.
 - If "GO", Linux Foundation will have a contract with the target company based on the job described in the RFQ.
- Sharing on VirtIO-video and virtio-camera
 - No current implementation with QEMU open to the public with virtio-video but virtio-video is already working in crosvm (depends on if they will open source it or not)
 - ? Unknown Attachment

September 15, 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Masami Hiramatsu - Linaro
- Anmol - GSoC Candidate
- Francois Ozog - Linaro
- Kenji Hosokawa - ADIT
- Alex Bennée - Linaro

Agenda:

- ALS: CFP ddl to be 19 Sep 2021
 - Title: VirtIO - A common device framework to achieve Software Defined Vehicle
 - Abstract:

Device virtualization has been a hot topic in the automotive world along with the increasing needs for ECU consolidation. VirtIO, one of the most mature para-virtualization frameworks, has been officially accepted as a common standard for device virtualization in AGL.

In this session, we will introduce achievements of AGL virtualization expert group on extending VirtIO in AGL to better fit automotive needs and share our thoughts on future trends of Software Defined Vehicle empowered by VirtIO which abstracts SW from HW (ECU, desktop and even cloud). We will also be sharing some VirtIO related demos from the member companies.

- Speakers
 - Jerry
 - Linaro: [François-Frédéric Ozog](#) send [Jerry](#), [Jiancong Zhao](#) short biography within today.
 - OpenSynergy: [Mikhail Golubev](#)
 - *note: [Anmol](#) will present the GSoC project in a separate talk but the Virt-EG session can have one sentence referring to that talk.
- ALS Demos:
 - Linaro: <https://docs.google.com/presentation/d/1gABJnFnxyUREg2pysvDOWpcwGnTAifRCbNdnc7u1dtU/edit?usp=sharing>
 - OpenSynergy: [Vasyl Vavrychuk](#) please upload load the pdf slides here [blocked URL](#)
 - Please [Mikhail Golubev](#) and [François-Frédéric Ozog](#) prepare each company part (5~7min) in video format by 12 Nov 2021
 - Then [Jerry](#), [Jiancong Zhao](#) will merge the videos to the whole EG presentation and send to ALS committee by end of Nov (TBD)
- IVI PR Input HAL: https://docs.google.com/presentation/d/1gABJnFnxyUREg2pysvDOWpcwGnTAifRCbNdnc7u1dtU/edit?form=MY01SV&OCID=MY01SV#slide=id.gf038ca4a60_0_1

September 29, 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Masami Hiramatsu - Linaro
- Anmol - GSoC Candidate
- Francois Ozog - Linaro
- Kenji Hosokawa - ADIT
- Alex Bennée - Linaro

Agenda:

- ALS: CFP for Virt-EG has been submitted. Only 1 co-speaker allowed to be input in the application form, so [François-Frédéric Ozog](#) was input, after getting response from ALS organizer, [Jerry](#), [Jiancong Zhao](#) will request to add [Mikhail Golubev](#)
- Discussion about Virt-BT
 - after Scott come back, talking about details
 - [Mikhail Golubev](#) pointed out that possibly vendor HAL is needed in the front end.
 - [François-Frédéric Ozog](#) mentioned that there are some ongoing discussion about a general solution to abstract wireless technology (BT, 5G, WiFi and etc)
- ☐ [Jerry](#), [Jiancong Zhao](#) to set up a Workshop for Virtualization of Wireless Technology **14 Oct 2021**
- ☐ [Mikhail Golubev](#) to prepare material to introduce virtio-bt, virtio-wifi, and etc researched by OpenSynergy. Also invite related expert in the next call.
- ☐ [François-Frédéric Ozog](#) to invite related engineer from Linaro to join this workshop
- Test Framework
 - [François-Frédéric Ozog](#) asked if there is any test suite for AGL in order to check their platforms
- ☐ [Jan-Simon Moeller](#) to share where to find the automated tests for AGL.
 - Check out <https://git.automotivelinux.org/src/qa-testdefinitions/tree/test-suites/short-smoke> and <https://git.automotivelinux.org/src/qa-testdefinitions/tree/common/scripts>
 - Essentially the yml files are the description/caller executed by java and the scripts are the actual test being executed
 - We do exec these here for example: <https://lava.automotivelinux.org/results/21104>
 - Contact me for more details and a walkthrough if needed. HTH.

Oct 13 , 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Masami Hiramatsu - Linaro
- Anmol - GSoC Candidate
- Francois Ozog - Linaro
- Kenji Hosokawa - ADIT

- Alex Bennée - Linaro

Agenda:

- Merged with F2F Virtual SAT session for discussing the following topics:
 - Workshop: Virtualization of Connectivity Devices
 - VirtIO in Non-HV environment
- [Mikhail Golubev](#) would you please upload the slides here.

Oct 27 , 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Masami Hiramatsu - Linaro
- Anmol - GSoC Candidate
- Francois Ozog - Linaro
- Kenji Hosokawa - ADIT
- Alex Bennée - Linaro

Agenda:

- ALS Schedule
 - Virt EG Session: 14 Dec 2021
 - Video Submission DDL: 01 Dec 2021
 - Speaker Registration by 07 Nov 2021
 - Linaro: [François-Frédéric Ozog](#)
 - OpenSynergy: [Mikhail Golubev](#)
 - Virt-EG Demo Preparation DDL (provide to Jerry to merge)
 - 1st draft: 17 Nov 2021
 - final draft: 24 Nov 2021
 - Presentation Slides (drafted by [Jerry, Jiancong Zhao](#))
 - 24 Nov 2021 and review in the Virt-EG
- Non-HV VirtIO RFQ Requirements
 - <https://opensynergy-my.sharepoint.com/:w:/p/ats/EeQuJOedFkdIhYKxL6iWnlsB6ACfBQpHUAAt7arfyYV-Qg?rttime=Q7Gu8PiZ2Ug>
 - Francois: seems to be good approach. Under ARM, multi-SoC communication is using virtio without Hypervisor. Would like to see its application in one SoC architecture.

Nov 10 , 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Vasyl Vavrychuk - OpenSynergy
- Petter Griffin - Linaro
- Hiroyuki Ishii - Panasonic
- Nedeljko Miljevic - AVL

Agenda:

- Self Introduction of New Member Ned
 - main focus on ADAS related SW
 - middleware (ROS, OpenCV, accelerators)
 - ADAS features based on AGL
 - heartbeat
 - Further discussion on virtualization of ADAS feature on the top of AGL on 08 Dec 2021 (30min): Check any cooperation opportunity (current implementation of virtio in Virt-EG is missing ADAS features)
- ALS Schedule
 - Title: VirtIO - A common device framework to achieve Software Defined Vehicle

- Abstract:
Device virtualization has been a hot topic in the automotive world along with the increasing needs for ECU consolidation. VirtIO, one of the most mature para-virtualization frameworks, has been officially accepted as a common standard for device virtualization in AGL. In this session, we will introduce achievements of AGL virtualization expert group on extending VirtIO in AGL to better fit automotive needs and share our thoughts on future trends of Software Defined Vehicle empowered by VirtIO which abstracts SW from HW (ECU, desktop and even cloud). We will also be sharing some VirtIO related demos from the member companies.
- Speakers
 - Jerry
 - Linaro: [François-Frédéric Ozog](#) send [Jerry, Jiancong Zhao](#) short biography within today.
 - OpenSynergy: [Mikhail Golubev](#)
- Virt EG Session: 14 Dec 2021
- Video Submission DDL: 01 Dec 2021
- Speaker Registration by 07 Nov 2021
 - Linaro: [François-Frédéric Ozog](#)
 - OpenSynergy: [Mikhail Golubev](#)
- Virt-EG Demo Preparation DDL (provide to Jerry to merge)
 - 1st draft: 17 Nov 2021 ([François-Frédéric Ozog](#)-san to check whether this schedule still work)
 - final draft: 24 Nov 2021
- Presentation Slides (drafted by [Jerry, Jiancong Zhao](#))
 - 24 Nov 2021 and review in the Virt-EG
- Non-HV VirtIO RFQ Requirements
 - Ask in SAT to see if any one request extending review period
 - If no, proceed to next step:
 - Send RFQ to GlobalLogic (potential candidate which already contacted in advance and said potentially able to work)

Nov 24 , 2021

Attendees:

- Jerry Zhao - Panasonic
- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Hiroyuki Ishii - Panasonic

Agenda:

- RFQ for Device Virtualization in Virt-AGL and non-Virt AGL
 - Will send to Global Logic & Open Virtual System
 - Final Answer Deadline for both two companies will be 07 Dec 2021
 - Check in the next Virt-EG (if have time) on 08 Dec 2021
 - Process
 - Section by section review (response quality for each section)
 - [Walt Miner](#) will send to [Jerry, Jiancong Zhao](#)
 - Must-to-answer questions
 - Company Size (employee member)
 - Experience in OSS development (in terms of years)
 - Contribution to OSS projects (in terms of commits, mails or other subject figures)
 - Experience in Hypervisor (either OSS or commercial)
 - Experience of development over different SoC platforms (detailed SoC names, indicate both for hv and non-hv development)
 - Experience in AGL development (PoC or commercial development)
 - Experience in VirtIO (both front end and back end): provide details as much as possible, also better provide subject figures for the development experience
- Embedded World AGL Booth
 - CFP by 10 Dec 2021
 - <https://events.linuxfoundation.org/agl-at-embedded-world/>
 - OpenSynergy would like to attend: Same as ALS PoC
 - 1meter space in AGL booth, without additional charge to AGL member
 - Good quality demo is required
 - short application form is needed
 - Jerry will contact [François-Frédéric Ozog](#) to see if Linaro is also interested
 - [François-Frédéric Ozog](#) will check internally to see whether will present the ALS PoC in the AGL booth. Final confirmation by 08 Dec 2021
 - Covid situation is getting worse in Germany: F2F workshop in March ? discuss in next A

Dec 08 , 2021

Attendees:

- Jerry Zhao - Panasonic

- Walt Miner - Linux Foundation
- Scott Murray - Konsulko
- Mikhail Golubev - Open Synergy
- Hiroyuki Ishii - Panasonic
- Nedeljko Miljevic - AVL

Agenda

- [Nedeljko Miljevic](#) 's talk on Virtualization about ADAS on AGL will be scheduled to 19 Jan 2022
- Vasyl pointed out the UTC time of EG was wrong on EG wiki and Walt had fixed it
- [Walt Miner](#) will send the evaluation criteria matrix to Jerry within today or tmr. After double checked by Jerry, [Walt Miner](#) will send out the RFQ to candidate companies within this week and set deadline before next EG (cancel 22 Dec 2021 and set a special call on 12 Jan 2022)
DDL for candidates to response to RFQ: 10 Jan 2022
- ALS
 - Submission has been done
 - OpenSynergy will bring the ALS demo to Embedded world
 - Still check with whether Linaro will bring thir ALS demo to embdeed world [François-Frédéric Ozog](#) CFP ddl is by 10 Dec 2021
 - Less women in AGL 😞
- Release for MM
 - [Vasyl Vavrychuk](#): virtio-scmi, virtio-video (w EVS feature) already contributted to gerrit. wait for [Jan-Simon Moeller](#) to merge for MM M1 by Christmas.
 - camera functionality is under work.