



Accelerating Open SDV Innovation with SoDeV on Raspberry Pi

About myself(Yuichi Kusakabe)

- 2005/4 Automotive Tier1 in Japan
 - Renesas H8S AVN power control(Non-OS)
 - Panasonic UniPhier USB-Audio(Fastest in the industry with HDD transfer function)
- 2009/12 Working together with in Japan OEM
 - Engaged in the R&D of SoC for next-generation IVI and multimedia OS
- 2011/1 Paradigm shift to use OSS
 - Renesas RMA1 Linux-PF Project Leader, **AGL Board Member**
 - Renesas R-Car M2/H3/M3 Fast Boot, Java, HTML5 browser
- 2020/6 Join Honda Motor in IVI software development team
 - Qualcomm SA8155P AAOS based IVI Lead Architect
- 2024/4 Launched Honda **OSPO(Open Source Program Office)**
 - SDV(Software Defined Vehicle) SW Chief Architect and **OSPO Tech Lead**
 - **Xen Board Member, ELISA and Zephyr Member**



Agenda

SEP 08, 2026

TOKYO, JAPAN

- **Background to software changes in the automotive industry**
- **Why open source is important**
- **SDV Reference PF AGL -SoDeV-**
- **Conclusion**



Background to software changes in the automotive industry

- Shift 1: Hardware → Software-Defined Vehicle
 - Vehicle value shifts from hardware to software
- Shift 2: Close → Open Standards & Consortia
 - Siloed, proprietary systems limit scalability
- Shift 3: Linear Supply Chain → Ecosystem
 - The traditional OEM and Tier 1 hierarchy is changing

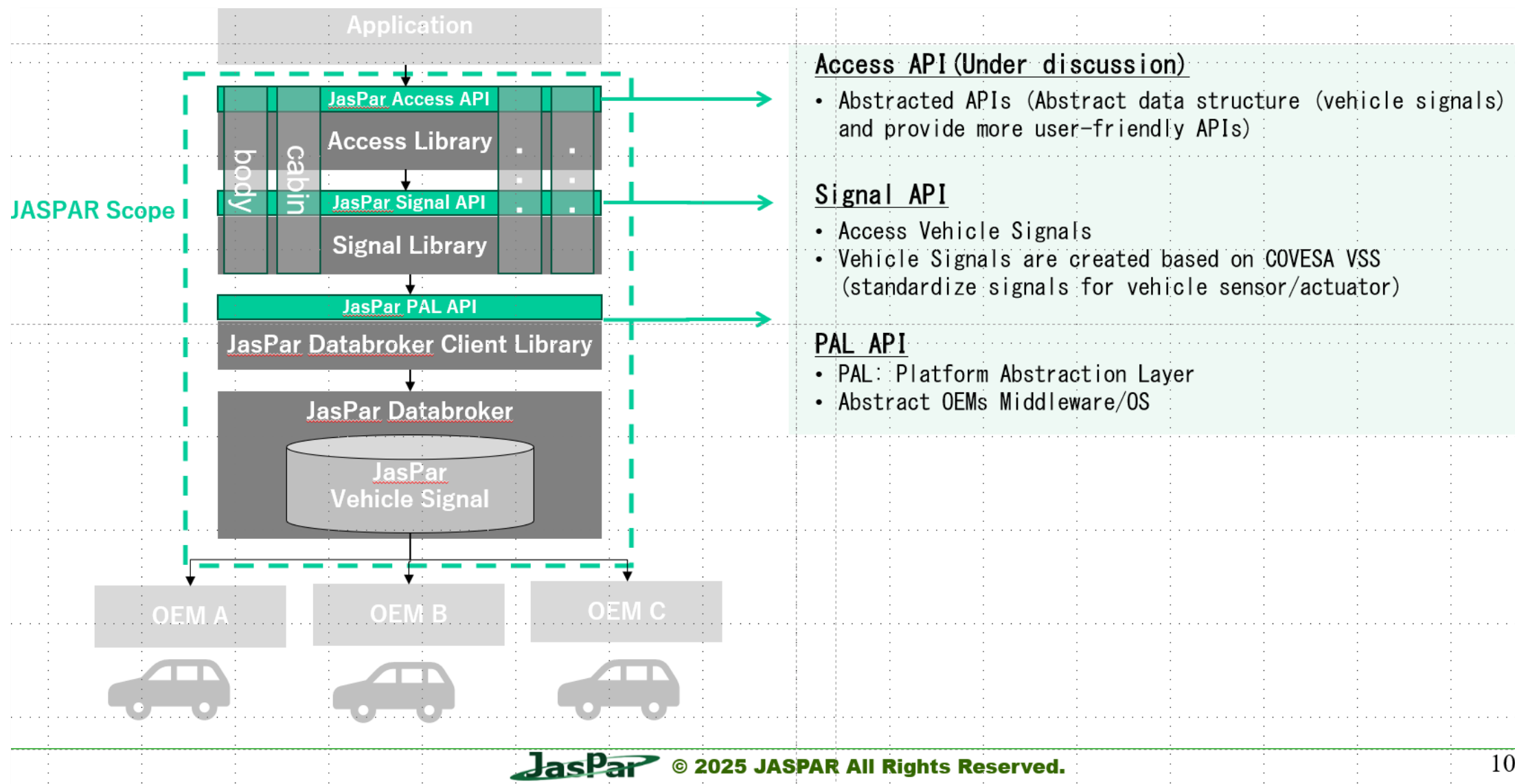
Shift 1: Hardware → Software-Defined Vehicle

- Vehicle value shifts from hardware to software
 - Functions are defined and updated by software
 - Over-the-air (OTA) updates enable continuous evolution
 - The vehicle becomes a software-driven platform

Shift 2: Close → Open Standards & Consortia

- Siloed, proprietary systems limit scalability
 - Common data models and APIs enable interoperability
 - Industry consortiums (e.g., JasPar) drive standardization
 - OEMs focus on differentiating software and services

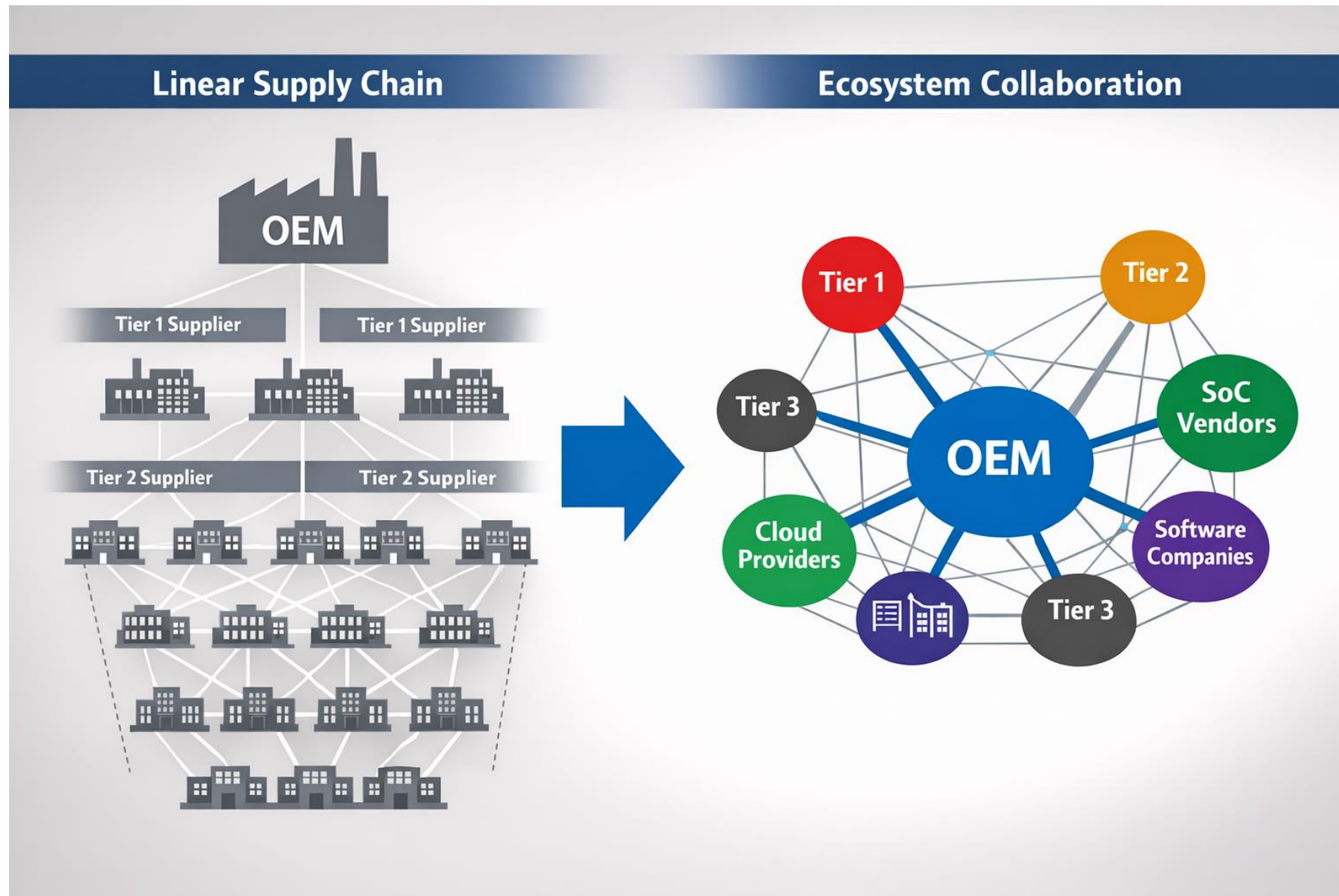
Shift 2: Close → Open Standards & Consortia



Shift 3: Linear Supply Chain → Ecosystem

- The traditional OEM and Tier 1 hierarchy is changing
 - Semiconductor, cloud, and software players gain importance
 - Value is created through cross-industry collaboration
 - OEMs increasingly act as ecosystem orchestrators

Shift 3: Linear Supply Chain → Ecosystem



MAY 13 – 14, 2026

TOKYO, JAPAN



Why open source is important

A Lots of OSS communities involved in SDV



<https://www.linuxfoundation.org/projects>

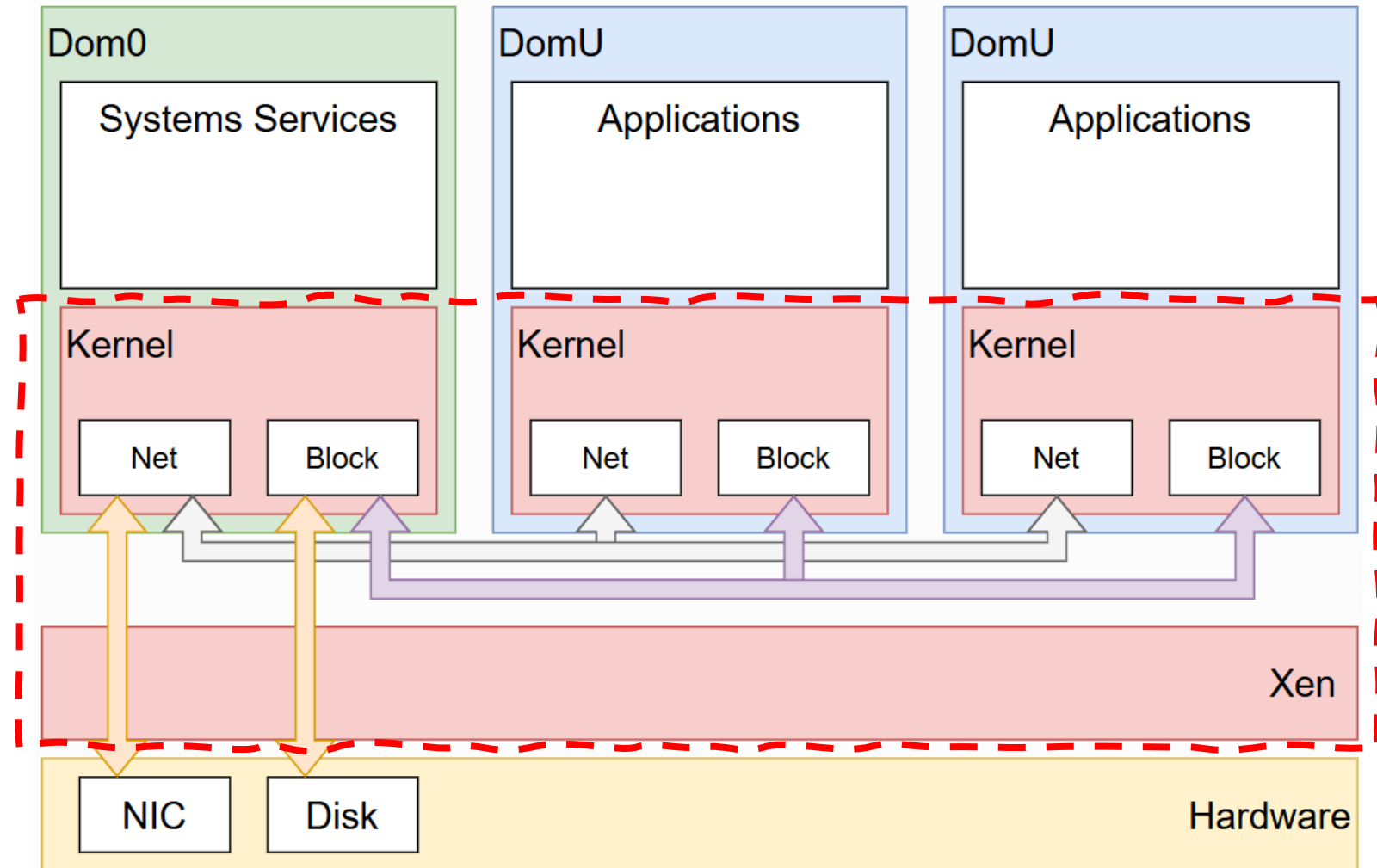
Type1 Hypervisor: Xen



Xen is an open source, bare metal hypervisor. It runs as the most privileged piece of software, and shares the resources of the hardware between virtual machines.

In Xen terminology, there are domains, commonly abbreviated to dom, which are identified by their numeric domid.

When Xen boots, dom0 is automatically started as well. Dom0 is a virtual machine which, by default, is granted full permissions



Type1 Hypervisor: Xen



Functional safety

With sponsorships from the likes of AMD, we're on a mission to align Xen with top safety standards, including **ISO 26262 ASIL D** and IEC 61508 SIL 3.

Initiatives like the MISRA C course for community members and striving for MISRA C compliance in the Xen upstream codebase underscore our dedication to ensuring Xen's role in safety-critical environments.

Xen is not just a technology; it's a vision coming to life, shaping the future of embedded systems, and redefining what's possible.

Xen Project's Progress Toward Safety Certification

Stefano Stabellini
Fellow at AMD
Xen Hypervisor & Linux Kernel Maintainer

Roberto Bagnara – BUGSENG
Ayan Kumar Halder – AMD
Senthil Rajagopal – AMD





The Final Phase of Xen Safety: Solving Coverage and Residual Gaps - Stefano Stabellini, AMD



Click here to remove from My Schedule.



Wednesday May 20, 2026 11:55am - 12:35pm CDT



200C (Level Two)

AMD, in collaboration with the Xen community, continues to advance efforts to make the Xen hypervisor safety-certifiable to ISO 26262 ASIL D and IEC 61508 SIL 3. The project has progressed from Safety Concept Approval toward the final certification phase.

This presentation will share practical lessons learned, including how we structure requirements and architecture specification documents to make them easier to review for Open Source experts. It will describe the tools and processes we use to maintain end-to-end traceability and explain how we leverage GitLab to automate requirements-based testing and verification pipelines.

We will also address the remaining challenges on the path to completion, including code coverage and FMEA. In particular, we will explain why achieving comprehensive code coverage is uniquely challenging for a widely used Open Source project such as Xen and outline the strategies we are applying to meet 100% code coverage targets.

Finally, we will describe our approach to FMEA (Failure Mode and Effects Analysis) and how it evolved to better align with existing upstream Xen failure-handling practices.

Speakers



Stefano Stabellini

Fellow, AMD

Stefano Stabellini is a Fellow at AMD, where he leads system software architecture and the virtualization team. Previously, he developed a virtualization-based security solution for containers and authored several security articles. Stefano has been involved in Xen development since... [Read More →](#)

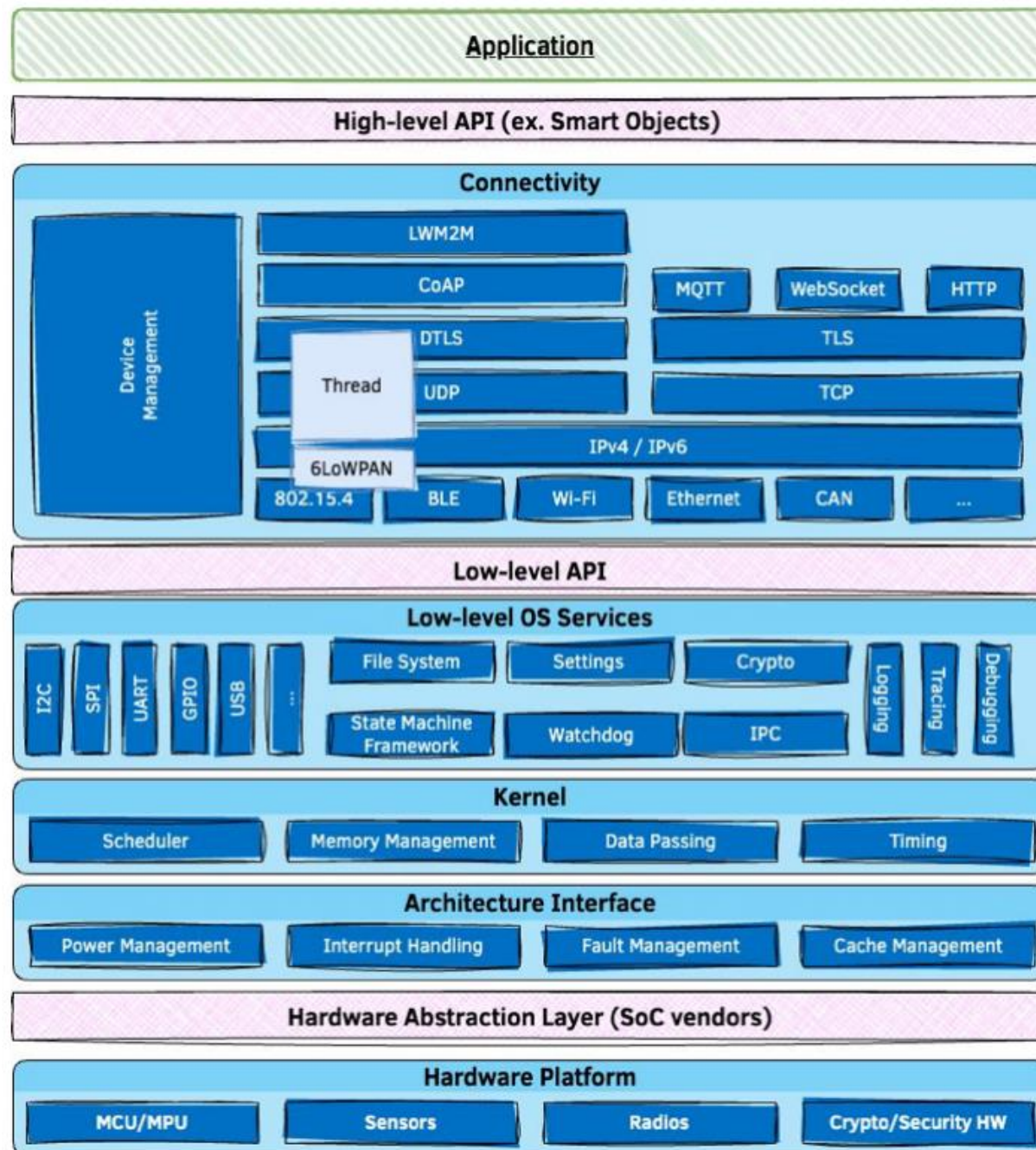


Safety-critical Software

Architecture



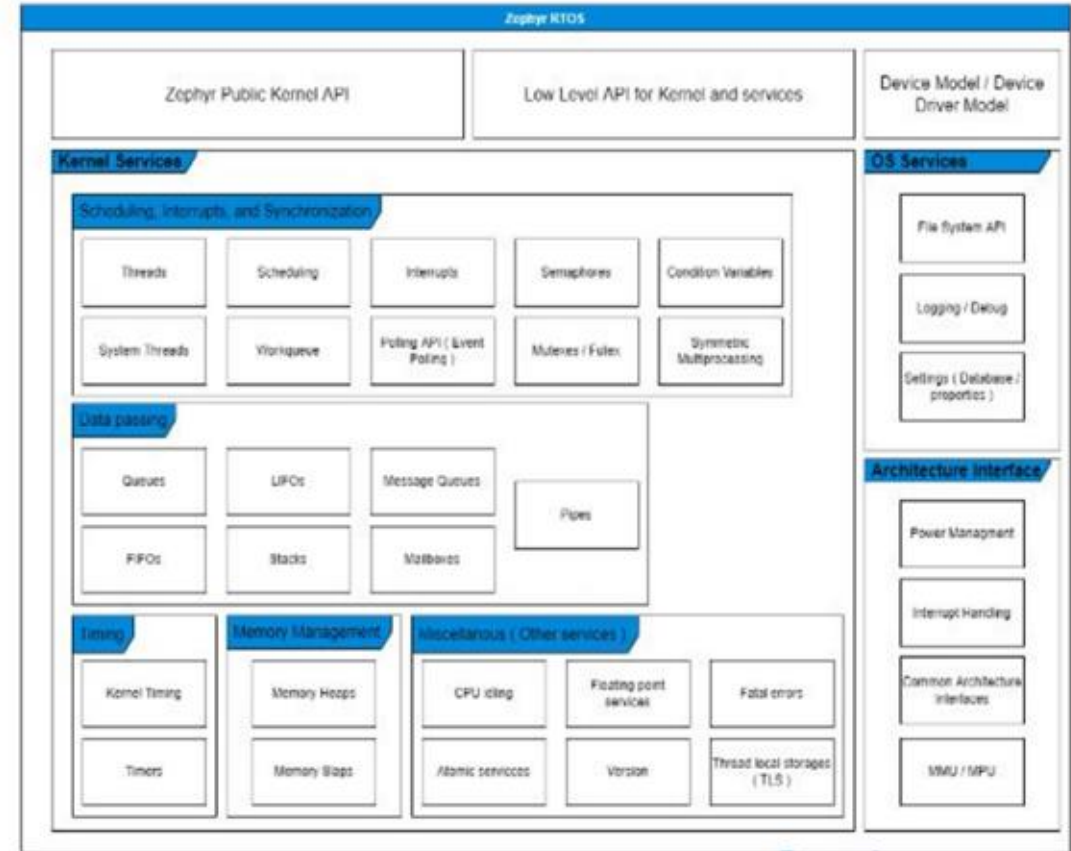
- **Lightweight kernel** & supporting drivers and services
- **Portable, secure, power-efficient**
- **Highly connected**
 - Bluetooth 5.0 & BLE
 - Wi-Fi, Ethernet, CANbus, ...
 - IoT protocols: CoAP, LwM2M, MQTT, OpenThread, ...
 - USB & USB-C



Zephyr Initial Certification Focus



- Start with a limited scope of kernel and interfaces
- Initial target is IEC 61508 SIL 3 / SC 3 (IEC 61508-3, 7.4.2.12, Route 3s)
- Option for 26262 certification has been included in contract with certification authority should there be sufficient member interest



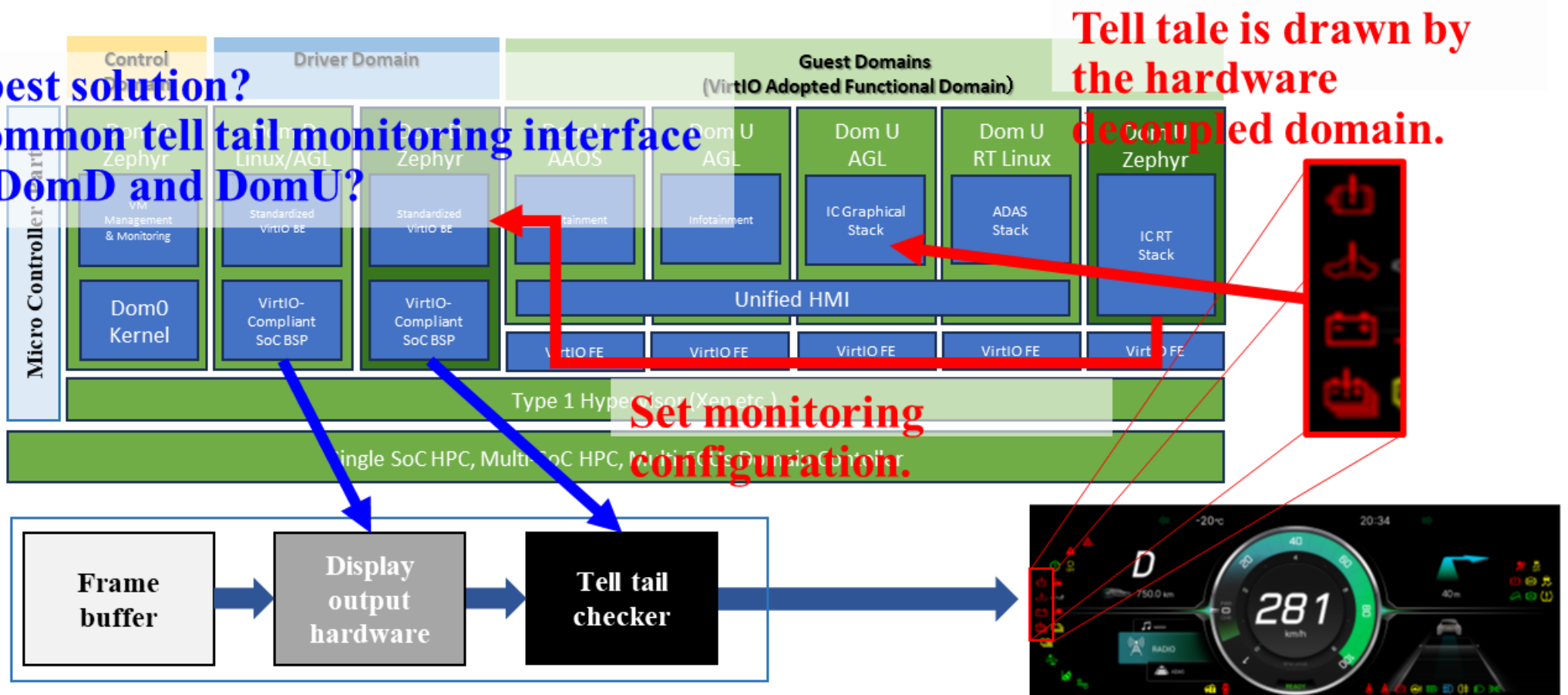
Starting scope

Scope can be **extended** to include **additional components** with associated **requirements** and **traceability** as determined by the safety committee

The Enabling Linux In Safety Applications (ELISA)

- How to achieve safety?
 - Example use case: Tell tale for instrument cluster.

What is best solution?
Create common tell tail monitoring interface
between DomD and DomU?
Others?



Open Standards & Consortia(VirtIO)



-What is VirtIO (a standardized device virtualization technology)

VirtIO is an open standard for device I/O in virtual environments. It allows the same drivers and device models to work across different operating systems, hypervisors, and hardware. The specification is developed and maintained as an international standard by OASIS.

-OASIS activities: defining and maintaining the VirtIO specification

OASIS operates the Virtual I/O Device (VIRTIO) Technical Committee. This committee publishes and updates the VirtIO specifications (such as VirtIO v1.1 and v1.2) as official Committee Specifications. This ensures an open, neutral standard without vendor lock-in.



Virtual I/O Device (VIRTIO) Version 1.2

Committee Specification 01

01 July 2022

This stage:

<https://docs.oasis-open.org/virtio/virtio/v1.2/cs01/tex/> (Authoritative)

<https://docs.oasis-open.org/virtio/virtio/v1.2/cs01/virtio-v1.2-cs01.pdf>

<https://docs.oasis-open.org/virtio/virtio/v1.2/cs01/virtio-v1.2-cs01.html>

Previous stage:

<https://docs.oasis-open.org/virtio/virtio/v1.2/csd01/tex/> (Authoritative)

<https://docs.oasis-open.org/virtio/virtio/v1.2/csd01/virtio-v1.2-csd01.pdf>

<https://docs.oasis-open.org/virtio/virtio/v1.2/csd01/virtio-v1.2-csd01.html>

Latest stage:

<https://docs.oasis-open.org/virtio/virtio/v1.2/virtio-v1.2.pdf>

<https://docs.oasis-open.org/virtio/virtio/v1.2/virtio-v1.2.html>

Technical Committee:

OASIS Virtual I/O Device (VIRTIO) TC

Chairs:

Michael S. Tsirkin (mst@redhat.com), Red Hat

Cornelia Huck (cohuck@redhat.com), Red Hat

Editors:

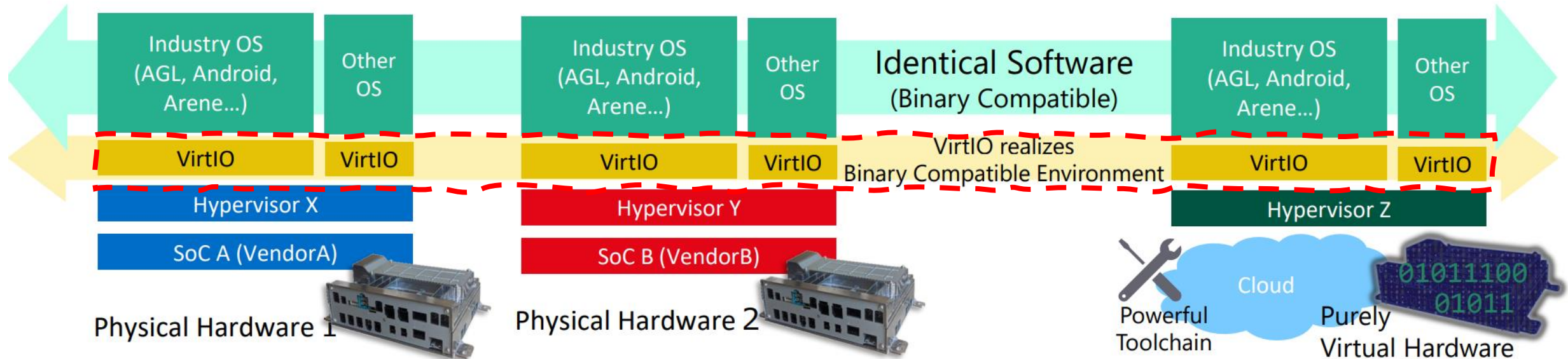
Michael S. Tsirkin (mst@redhat.com), Red Hat

Cornelia Huck (cohuck@redhat.com), Red Hat

VirtIO support for Xen



ARM: Add “tech preview” implementation for VirtIO. Xen now includes full support for VirtIO on embedded systems, on ARM, for the virtio-mmio transport, allowing a wide range of VirtIO devices to be supported. This includes front-end support in Linux, toolstack (libxl/xl) and dom0less support, and a userspace backend. Currently, the following stand-alone backends are available and have been tested: virtio-disk, virtio-net, i2c, and gpio.



What is Automotive Grade Linux?

Automotive Grade Linux is a collaborative, open source project that brings together automakers, suppliers, and technology companies for the purpose of building Linux-based, open source software platforms for automotive applications that can serve as de facto industry standards.

AGL address all software in the vehicle: infotainment, instrument cluster, heads-up-display (HUD), telematics, connected car, advanced driver assistance systems (ADAS), functional safety, and autonomous driving.

Adopting a shared platform across the industry reduces fragmentation and allows automakers and suppliers to reuse the same code base, which leads to rapid innovation and faster time-to-market for new products.

AGL is a Linux Foundation project and its goals are as follows:

- 
- A large green arrow pointing to the right, positioned to the left of the bulleted list.
- Build a single platform for the entire industry
 - Develop 70 to 80% of the starting point for a production project
 - Reduce fragmentation by combining the best of open source
 - Develop an ecosystem of developers, suppliers, and expertise that all use a single platform

You can find additional overview information on the "[About Automotive Grade Linux](#)" page. You can find information on the AGL Unified Code Base on the "[Unified Code Base](#)" page.

Charter: AGL is “Code First”

- AGL is a Linux Foundation Open Collaborative Project
- Leverage Linux and Open Source technologies
- Build standardized platform(s) and app framework for the entire industry and for all functions in the vehicle
- Develop ~80% of the starting point for a production project
- AGL is a “Code First” organization
- Work with upstream projects
- Educate the industry in open source collaboration and best practices

- VirtIO available in UCB for hypervisor use cases
- Non-hypervisor (loopback) use cases complete for Quillback
- Unified HMI – Virtual display used by different ECUs based on VirtIO (Panasonic)
- ***SDV reference PF under development***

Charter

The AGL Software Defined Vehicle (SDV) Expert Group (SDV-EG) (formerly known as Virtualization and Containers Expert Group (EG-VIRT)) is responsible to design and implement virtualization solutions for AGL. Containers, Hypervisors (both based on Virtualization Extensions and TrustZone) and any other virtualization solution for x86/ARM are considered to be of interest for this Expert Group. The AGL Unified Code Base (UCB) supports the KVM hypervisor on the Renesas RCar M3 platform.

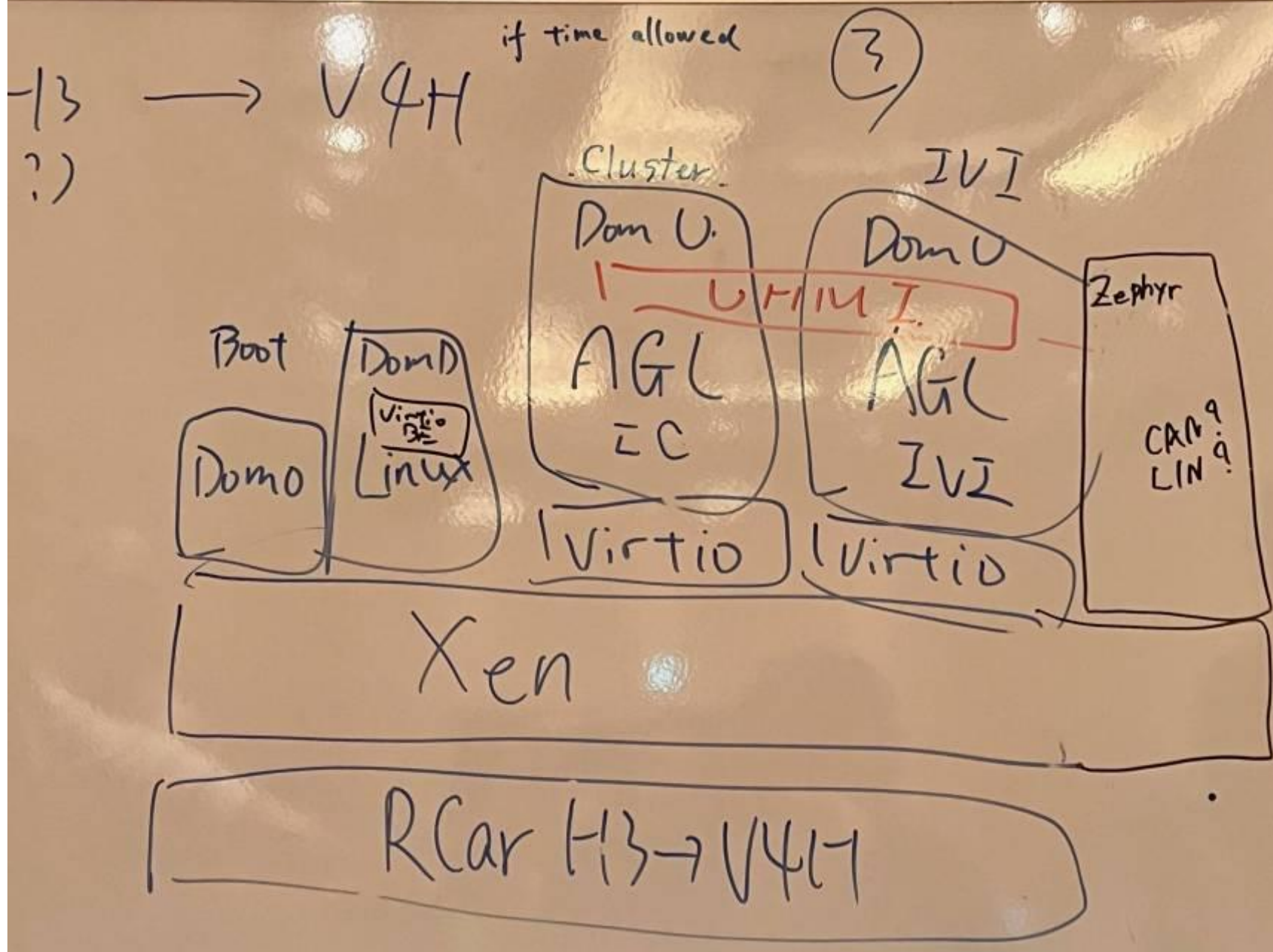
The SDV-VIRT expert group has been focused on defining the Virtualization platform architecture of AGL since 2018. One result of the work is this [white paper](#)



SEP 08, 2026

TOKYO, JAPAN

SDV Reference PF AGL -SoDeV-



Automotive Grade Linux Launches Open Source SoDeV Reference Platform to Accelerate Software Defined Vehicles

By AGL | December 5, 2025 | Announcements

New AGL SoDeV reference platform supports ECU consolidation, virtualization, hardware abstraction and cloud integration for next-generation vehicles.

Highlights:

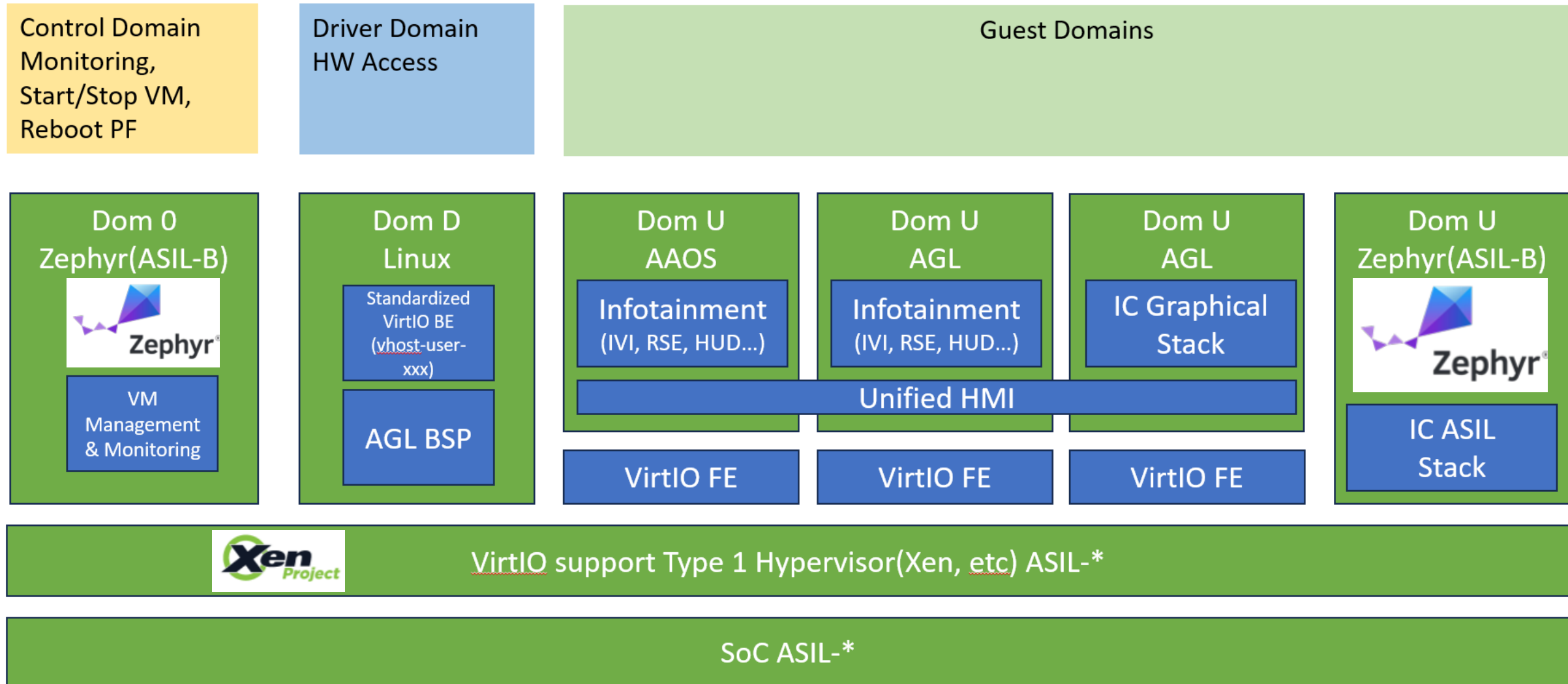
- **AGL SoDeV** is an open source reference platform for software defined vehicles enabling software-first development, independent of hardware constraints.
- The initiative is led by **Panasonic Automotive Systems, Honda, and the AGL SDV Expert Group**, with contributions from Toyota, Mazda, AISIN and Renesas.
- SoDeV integrates the **AGL Unified Code Base** with key open source projects including **Linux Containers, VirtIO, Xen, Yocto Project, Zephyr and ELISA**.
- Availability is planned for **early 2026** for virtual environments, cloud processors and automotive SoCs.

SAN FRANCISCO, December 5, 2025 – **Automotive Grade Linux** (AGL), a collaborative cross-industry effort developing an open source platform for connected car technologies, today announced SoDeV, a new open source SDV reference implementation that enables software-first development, decoupled from hardware constraints.

Led by Panasonic Automotive Systems, Honda and the AGL Software Defined Vehicle (SDV) Expert Group, SoDeV combines the AGL Unified Code Base (UCB) with multiple open source projects hosted by the Linux Foundation to support consolidation of ECUs, hardware abstraction using virtualization, and cloud integration for next-generation vehicles. Additional contributors to SoDeV include Toyota, Mazda, AISIN and Renesas.

<https://www.automotivelinux.org/announcements/sodev/>

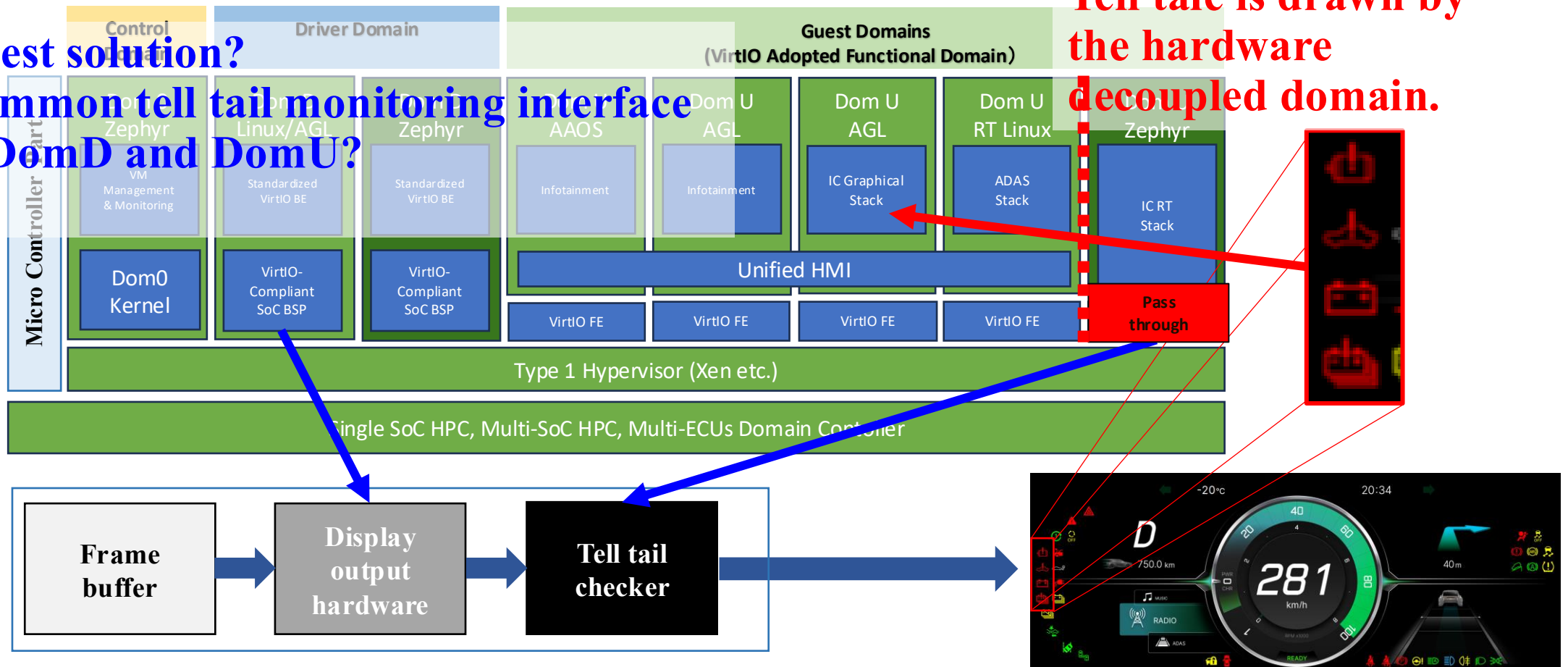
SoDeV Architecture Overview(SoC ASIL-A/B)



SoDeV safety use case(Zephyr pass-through)

- How to achieve safety?
 - Example use case: Tell tale for instrument cluster.

What is best solution?
Create common tell tail monitoring interface
between DomD and DomU?
Others?





EXCITING NEWS

AGL Releases SoDeV Platform

Welcomes five **new members**

EMQ – Lineo Solutions – MediaTek
VA Linux Systems Japan – Very Good Ventures

AGL releases initial version of the open source SoDeV reference platform for software-defined vehicles and welcomes EMQ, Lineo Solutions, MediaTek, VA Linux Systems Japan, and Very Good Ventures as new members

<https://www.automotivelinux.org/announcements/automotive-grade-linux-releases-open-source-sodev-reference-platform-for-software-defined-vehicles-and-welcomes-five-new-members/>

Renesas V4H Sparrow Hawk



CPU

Arm® Cortex®-A76 cores at 1.8GHz x4

lockstep Arm® Cortex®-R52 cores at 1.4GHz x3

Campaign : 8GB memory R-Car V4H SBC "Sparrow Hawk" board for US\$299.00 (Limited quantity)

Basic Kit (Board only)

8GB Memory R-Car V4H SBC "Sparrow Hawk"

16GB Memory R-Car V4H SBC "Sparrow Hawk"

Complete Kit

8GB Memory R-Car V4H SBC "Sparrow Hawk" + Argon FAN, Micro USB cable + 32GB Micro SD card

16GB Memory R-Car V4H SBC "Sparrow Hawk" + Argon FAN, Micro USB cable + 32GB Micro SD card

Support Renesas R-Car V4H series Processor

8GB/16GB LPDDR5 memory

GPU AXM-8-256 @ 600MHz, >150 GFLOPS

Communication: CAN, Ethernet AVB

PCIe Gen4 x 1

Computing power up to 30 TOPS

Target Applications: Autonomous Mobile Manipulator, Smart Manufacturing, Smart Healthcare

main1 Branch 0 TagsTAdd file<> Code

hiroishii Bump external/meta-rcar-demo

354923a · 15 hours ago 27 Commits



agl/patches

Change AGL repository to github fork

3 months ago



external

Bump external/meta-rcar-demo

15 hours ago



flatcar

Bump submodules

last week



.gitignore

Add DomAGL-IVI and DomAGL-IC guests

4 months ago



.gitmodules

add flatcar build process to build.sh

last month



LICENSE

Initial commit

5 months ago



README.md

Update README.md

5 months ago



build.sh

Disable Android and Flatcar guests by default

last week



README

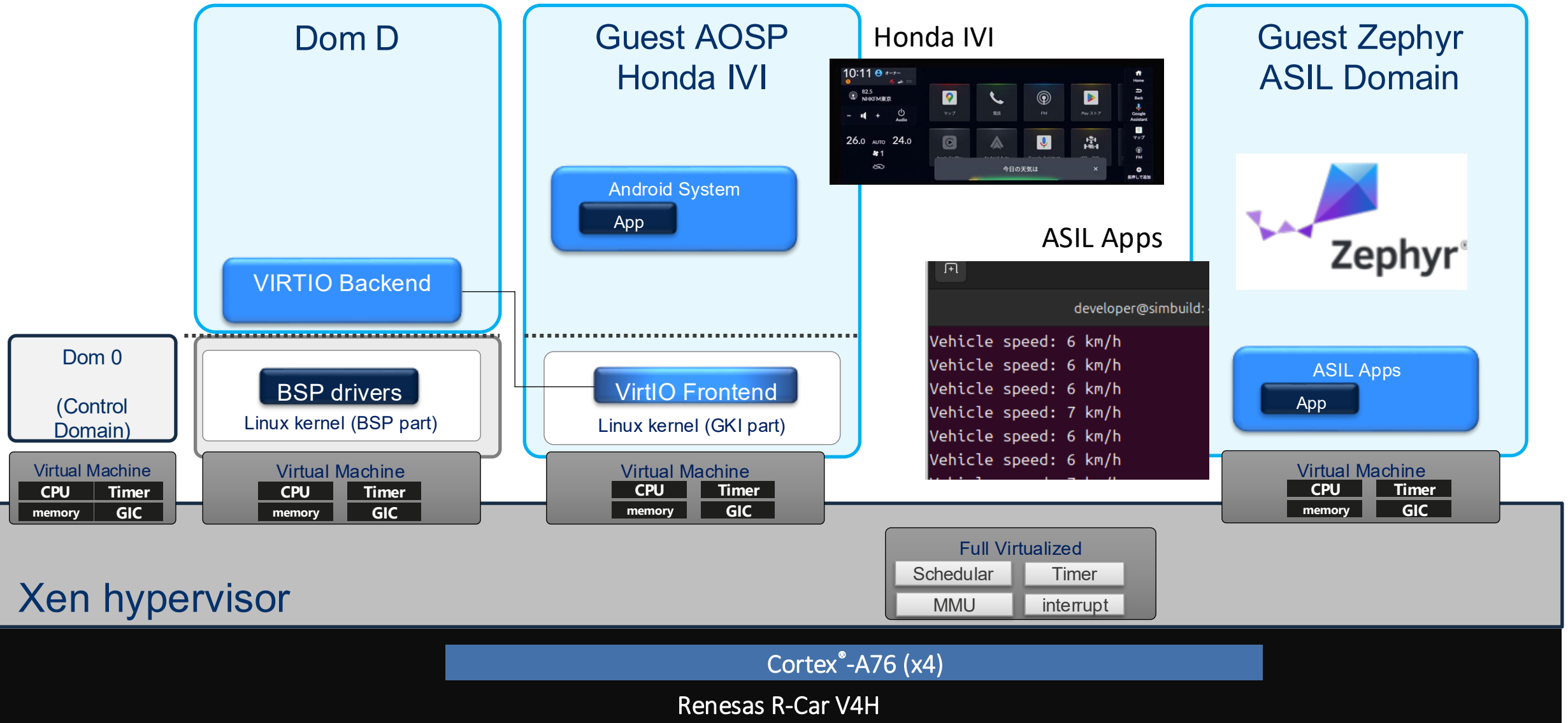


Apache-2.0 license



sodev-demo-workspace

AGL SDV Reference PF(V4H) - SoDeV -



Raspberry Pi5(RPi5) HW

Raspberry Pi **5** **16GB RAM**

For power users and professional applications.

Raspberry Pi 5 16GB is available now for \$305.



Broadcom BCM2712 2.4GHz quad-core 64-bit Arm Cortex-A76 CPU, with cryptography extensions, 512KB per-core L2 caches and a 2MB shared L3 cache

VideoCore VII GPU, supporting OpenGL ES 3.1, Vulkan 1.3

Dual 4Kp60 HDMI® display output with HDR support

4Kp60 HEVC decoder

LPDDR4X-4267 SDRAM (1GB, 2GB, 4GB, 8GB, and 16GB)

Dual-band 802.11ac Wi-Fi®

Bluetooth 5.0 / Bluetooth Low Energy (BLE)

microSD card slot, with support for high-speed SDR104 mode

2 × USB 3.0 ports, supporting simultaneous 5Gbps operation

2 × USB 2.0 ports

Gigabit Ethernet, with PoE+ support (requires separate PoE+ HAT)

2 × 4-lane MIPI camera/display transceivers

PCIe 2.0 x1 interface for fast peripherals (requires separate M.2 HAT or other adapter)

5V/5A DC power via USB-C, with Power Delivery support

Raspberry Pi standard 40-pin header

Real-time clock (RTC), powered from external battery

Power button

Raspberry Pi4/5 SoDeV Repository



sodev-demo-workspace-rpi Public Unwatch

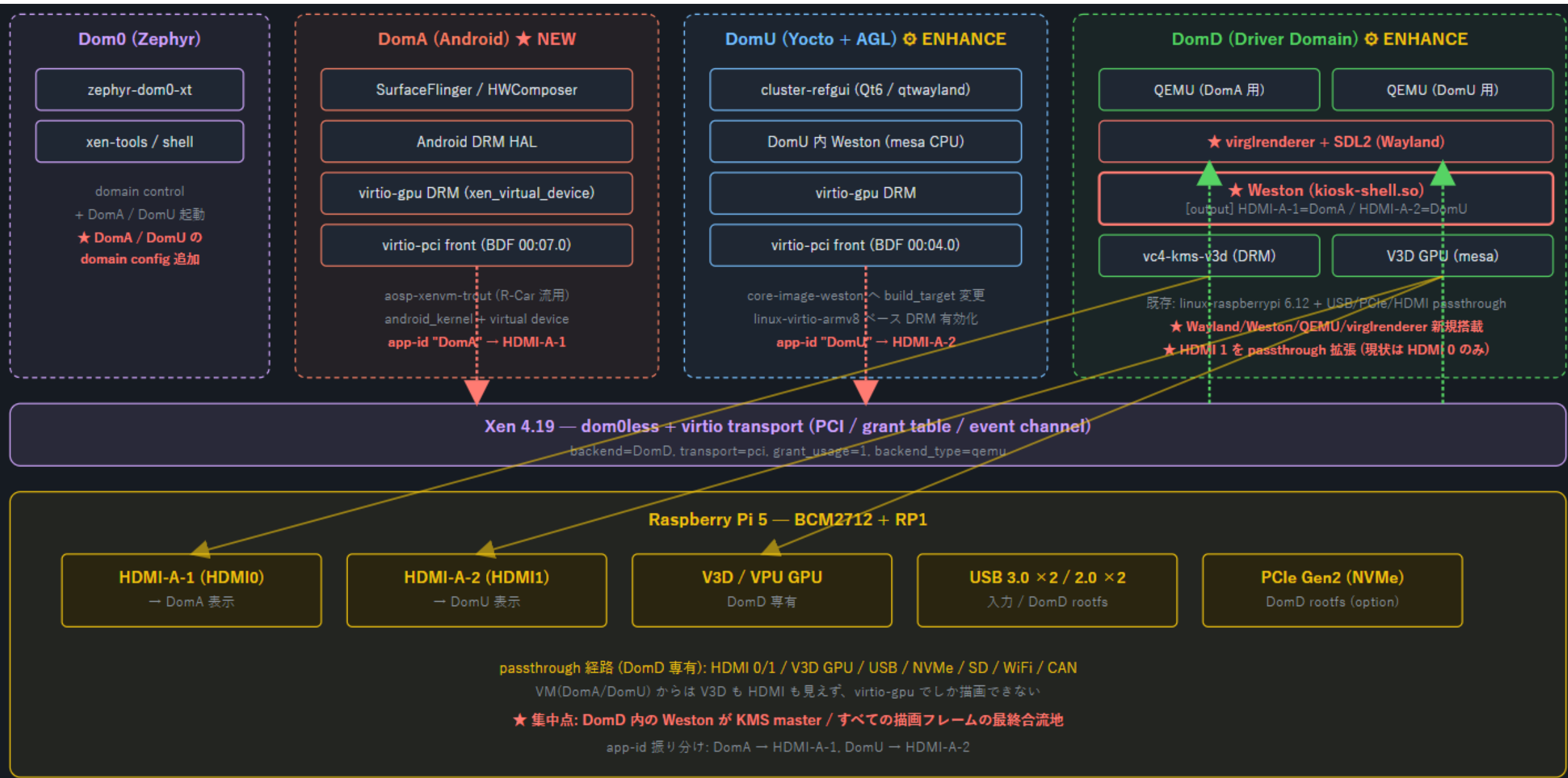
main 2 Branches 0 Tags Go to file Add file Code

yuichi-kusakabe docs: correct the figures, scopes and claims BUILD_ISSUES pointed out b2e27b8 · 2 hours ago 54 Commits

docker	build: give the build image its own tag; AGL_DOCKER follows ...	3 hours ago
docs	docs: correct the figures, scopes and claims BUILD_ISSUES po...	2 hours ago
domz	docs: correct the figures, scopes and claims BUILD_ISSUES po...	2 hours ago
external	build: SoDeV RPi5 Xen demo workspace (moulin, docker, sub...	last month
meta-rpi-sodev	docs: correct the figures, scopes and claims BUILD_ISSUES po...	2 hours ago
tools	docs: correct the figures, scopes and claims BUILD_ISSUES po...	2 hours ago
.gitignore	build: wire the four domains into the products, and update th...	2 days ago
.gitmodules	build: SoDeV RPi5 Xen demo workspace (moulin, docker, sub...	last month
LICENSE	Initial commit	7 months ago
README.md	docs: correct the figures, scopes and claims BUILD_ISSUES po...	2 hours ago
build.sh	docs: correct the figures, scopes and claims BUILD_ISSUES po...	2 hours ago
rpi4-sodev.yaml	build: check a prebuilt bundle's generation, not just its board	2 hours ago
rpi5-sodev.yaml	build: check a prebuilt bundle's generation, not just its board	2 hours ago

<https://github.com/automotive-grade-linux/sodev-demo-workspace-rpi>

Xen + Dom0(Zephyr) + DomA(Android) ★ NEW + DomU(Yocto + AGL) ✨ ENHANCE + DomD(Driver Domain) ✨ ENHANCE



V4H / RPi5 performance measurement results



ドメイン	vCPU	Linux Dom0 時	Zephyr Dom0 時	新FW(2026-05-26)
Dom0	1	≈0%	0%	0%
DomD	2	110%	125%	137%(/200)
DomU	1	48%	52%	55%(/100)
DomA	2	6% (AAOS15)	9%	6–7% (AAOS17 idle)

	V4H (PowerVR)	RPi5 案X (V3D)	差
総合 GPU 使用率 (同一デモ)	≈34% (実測 32–45%)	≈94% (render・飽和寸前)	≈2.8–3×
render エンジン単体	3D 18%	render 94%	≈5×
GPU 余裕	~66%	~6% (ほぼ飽和)	—
GPU 理論 GFLOPS	153.6	92.16	1.67×
• RPi5 が高負荷なのは GPU HW 性能差が主因 (PowerVR AXM-8-256 ≧ V3D 7.1)。virgl tax・単一 GPU 共有は両機共通で差にならない。 • RPi5 側で負荷を下げる手は ワークロード削減のみ (AGL fps cap 60→30・AAOS 解像度↓)。実測で fps cap 60→30Hz は DomU render を –26% 削減。 • CPU・メモリ・帯域は RPi5 で飽和には至らず、律速は一貫して GPU/DRAM 帯域。			

DomU/A binary compatibility



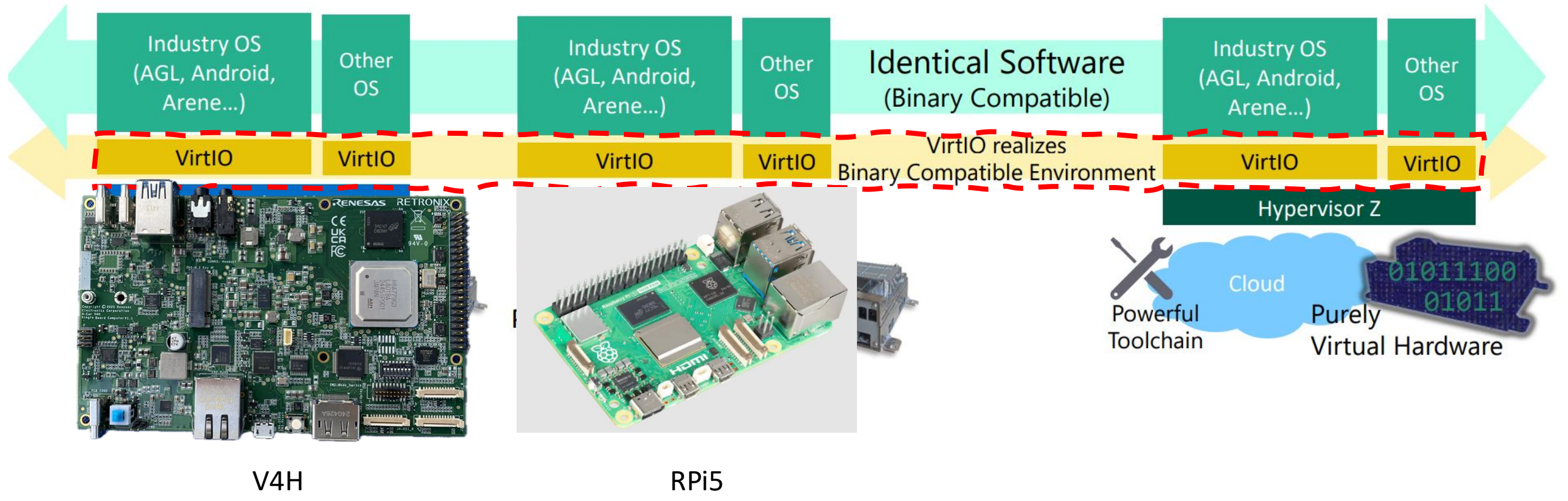
AAOS17



AAOS17



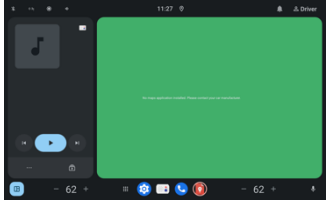
移植



V4H

RPi5

A good example of an AAOs update using AI



PC(x86_64)
Goldfish



PC(x86_64)
Cuttlefish



PC(arm64)
Cuttlefish

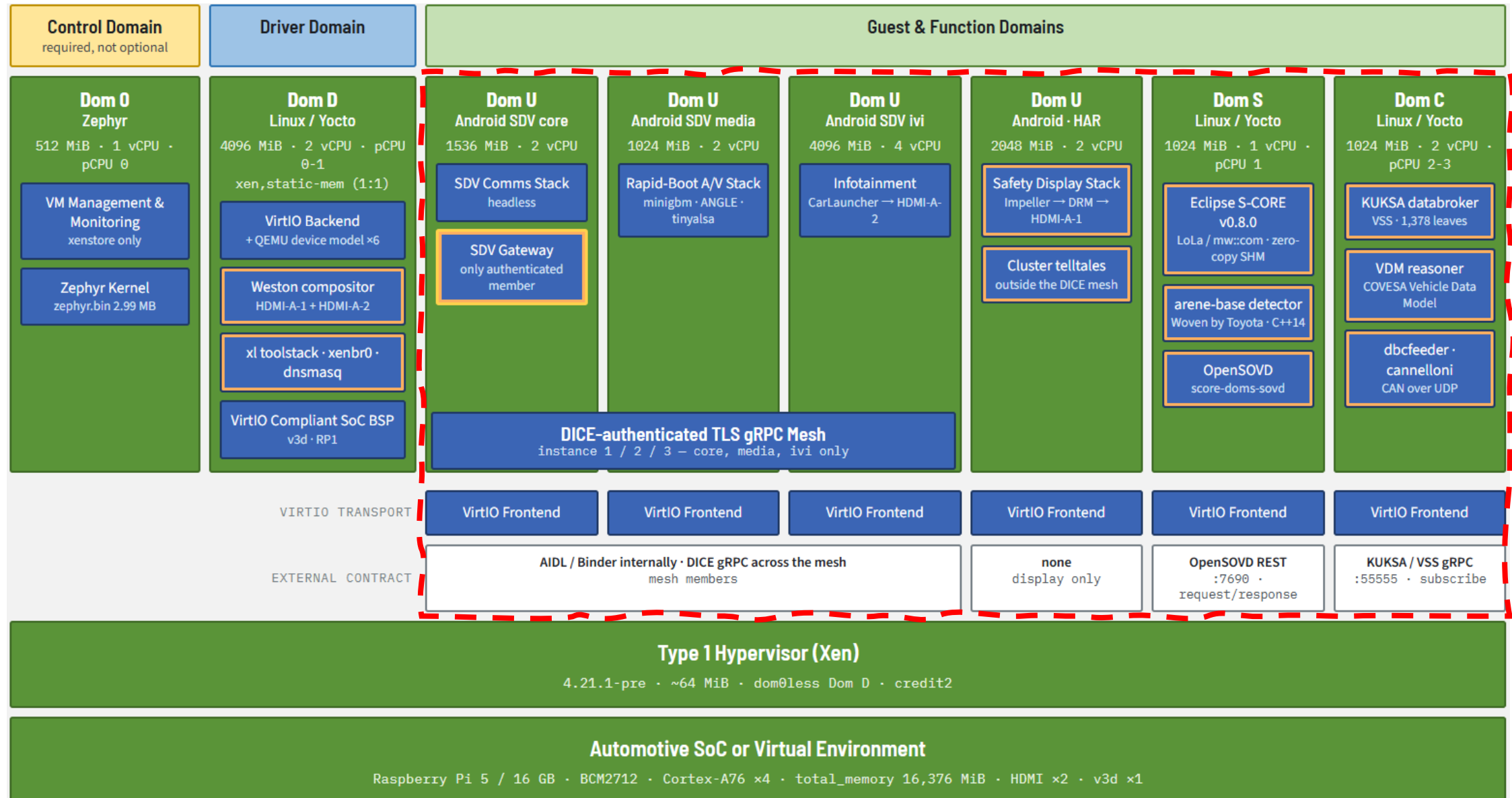


RPi(arm64)
Cuttlefish



5 Days

Scalability and Capabilities of SoDeV



Scalability and Capabilities of SoDeV

```
Linux virtio-armv8-xt-doms 6.8.0-rc1-yocto-standard-00001-gd524ee610ac2 #1 SMP PREEMPT aarch64
[selftest] Eclipse S-CORE DomS validation starting (aarch64, 6.8.0-rc1-...)
[selftest] shm: PASS
[selftest] lola_pubsub: PASS
[selftest] comm_showcase: PASS
[selftest] kyron_select: PASS
[selftest] kyron_main_macro: PASS
[selftest] time_steady: PASS
[selftest] time_system: PASS
[selftest] orch_persistency: PASS
[selftest] datarouter: PASS (endpoint open and still running 2s later, 1s)
[selftest] arene_detect: PASS
[selftest] lifecycle: PASS
[selftest] lola_fanout: PASS
[selftest] feo_chain: PASS
[selftest] sovd_rest: PASS
[selftest] fault_ipc: PASS
[selftest] dtc_store: PASS
[selftest] sovd_faults: PASS
[selftest] diag_supervised: PASS (agent pid 679 under launch_manager)
SCORE-SELFTTEST: PASS (n=18, skip=0)
```

Fuego-based mixed criticality Test Framework



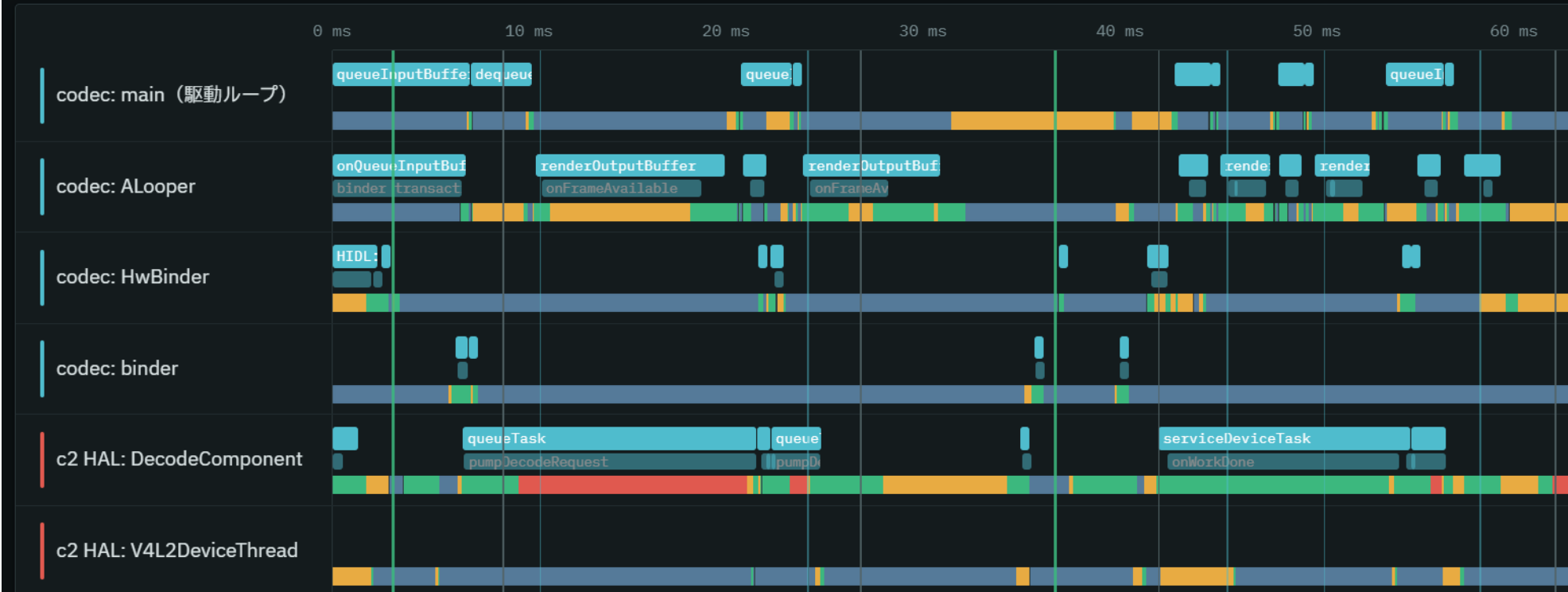
Test domain	Count	Representative tests	Host self-check
CPU / memory / crypto	11	Dhrystone, STREAM, OpenSSL, linpack, sysbench	3 PASS
Real-time / latency	11	cyclictest, hackbench, signaltest, deadlinetest (rt-tests v1.1.1)	not run
Storage / filesystem	10	fio, IOzone, bonnie, dbench, tiobench	fio: build fails
Networking	4	iperf3, netperf, netpipe (metrics suitable for VirtIO-net overhead separation)	not run
Graphics / GPU	4	GLMark, x11perf, gtkperf	not run
Kernel / large suites	11	LTP, kselftest, arch_timer	not run
Stress / endurance	13	stress, linus_stress family	not run
Fuego self-diagnostics	44	hello_world, fuego_*, batch_*	1 PASS
Other Functional	94	Library / utility sanity checks	not run
★Xen virtualization / FFI	1 (in-house)	Functional.ffi_verification (ISO 26262 freedom from interference)	not run
★Display-pipeline latency	1 (in-house)	Benchmark.sodev_latency (control-path / data-path separation)	not run

under development

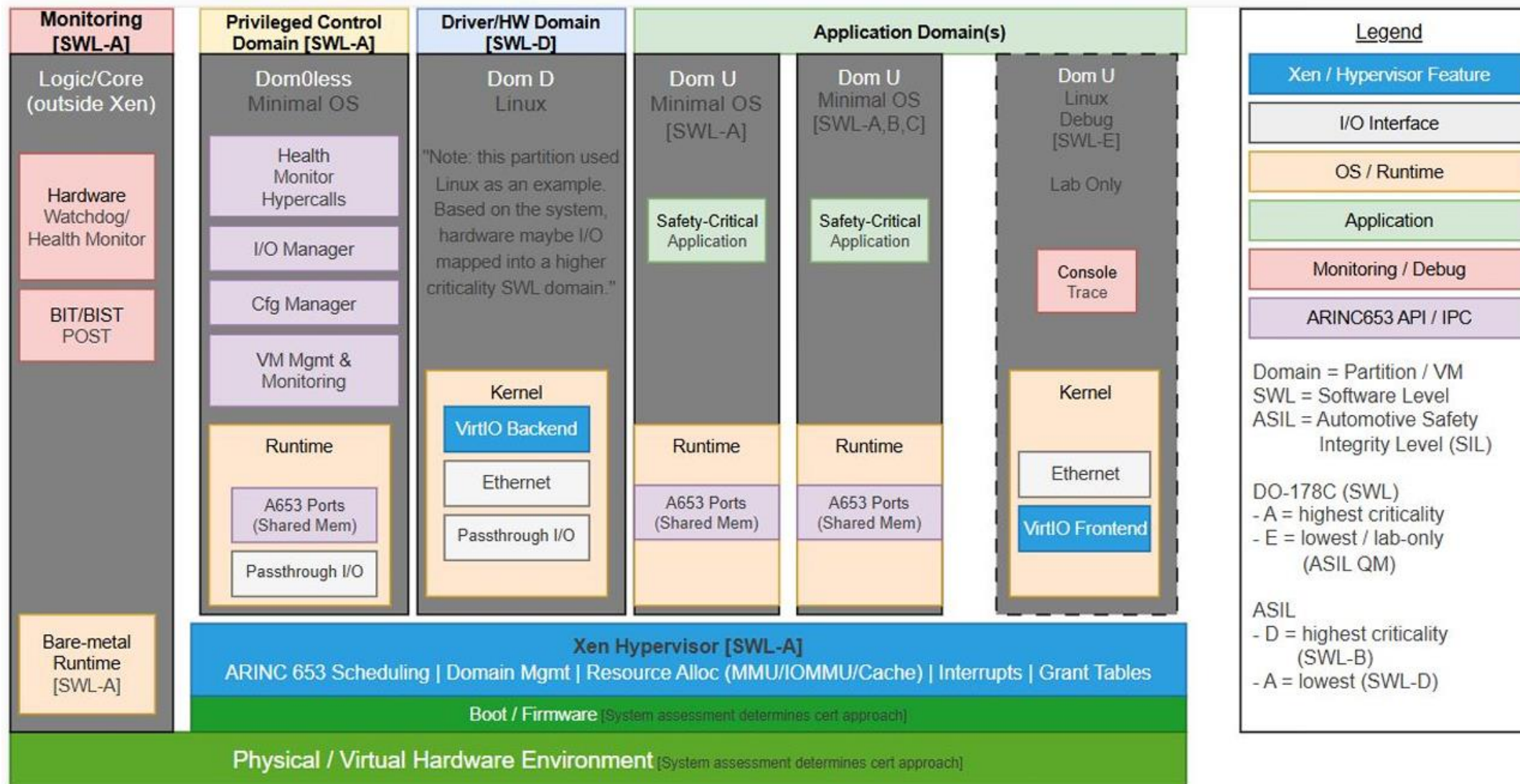
- Vulkan support for DomD, DomU, and DomA
- Wi-Fi and Bluetooth support for DomA
- Hardware decoder support for DomA (H.264 1080p60)

71 ms の窓 — この窓では 5 枚デコードして 2 枚が出た

代表窓 (`d_dev1080-1`、DEVICE 合成・レイヤ 1 枚)。上段の太いバーが 関数スライス、
その下の細い帯が **そのスレッドの実際の状態**。縦の実線が vsync、太い緑線が
`present`、破線が `queueBuffer`。



SoDeV Use Cases in Other Fields (Aviation and Aerospace)



Additional Information

Automotive World 2026@Makuhari

セミナー会場 ② Conference Venue

Fixstars Amplify
Fixstars Amplify
A8-51

SparkLink Japan
コンソーシアム
SparkLink Japan Consortium
A7-51

PERSEUS
PERSEUS
A6-52

COVESA 特別出展エリア COVESA Special Exhibition Area

イータス / ティアフォー / 日本ミシュランタイヤ / ボッシュ /
ルネサスエレクトロニクス / Geotab / Intellias /
MOTER Technologies / OmniTrust / P3 Japan /
Real-Time Innovations / RemotiveLabs / Scytale / SDVerse
WirelessCar Japan

Bosch / ETAS / Geotab / Intellias / MOTER Technologies /
NIHON MICHELIN TIRE / OmniTrust / P3 Japan /
Real-Time Innovations / RemotiveLabs / Renesas Electronics /
Scytale / SDVerse / TIER IV / WirelessCar Japan
A3-52

セミナー会場 ① Conference Venue

AUTOSAR 特別出展エリア AUTOSAR Special Exhibition Area

アテック / イーソル /
イータス / VicOne / A2Mac1 Japan /
エレクトロニクス日本 /
日立産業制御ソリューションズ

ATEC / eSOL / ETAS / A2Mac1 JAPAN /
Elektrobit Nippon /
Hitachi Industry & Control Solutions /
VicOne
A2-51

飲食ラウンジ FOOD COURT

部品・加工技術ゾーン / Components & Processing Technology Zone

ログラス
Loglass
A8-44

Unseed
Unseed
A8-41

Quark
Quark
A8-42

MIGHT ELECTRONIC
MIGHT ELECTRONIC
A8-41

SRA
Software Research Associates
A7-40

日本合成化工
NIHON GOSHI KAKO
A9-35

巴工業
TUMCOE Engineering
A8-36

日立ハイテック
Hitachi High-Tech
A8-39

Minitab
Minitab
A8-35

ロゼッタ
Rozetta
A7-36

DI ELECTRONICS /
ay Industries /

KAWASAKI BUSINESS INCUBATION CENTER /
ANAX Optics / Graphentry / 3DC

フェザーインバータ

特別展示 & オープンセミナー

Feather Inverter
Special Exhibition &
A8-29

かわさき産業
創造センター (KIC)
ANAX Optics
グラフィナリー
3DC
A8-29

nmsHD
グループ
nms Holdings
A7-30

テラダイン
Teledyne LeCroy
A7-29

マクニカ
MACNICA
A6-29

パーソナル
クロス
テクノロジ
PERSONAL CROSS
TECHNOLOGY
A5-30

大丸興業
DAIMARU KOGYO
A5-29

Upstream Security
Upstream Security
A4-30

Automotive Grade Linux
Automotive Grade Linux
A3-30

新製品・新技術 セミナー会場 ① Exhibitors' Product / Technology Seminar Venue ①

Eclipse SDV
Eclipse SDV
A5-44

Trimble
Trimble
A6-41

北海道AI-
DX推進局
アイティ
アクセス
IT TAccess
A6-39

技術研究組合
最先端半導体
技術センター
Leading-edge
Semiconductor
Technology Center
A6-35

Hokkaido Government

ライト
テクノロジー
LITE-ON
TECHNOLOGY
A5-43

マークラインズ
ソフト開発
MarkLines
Software Development
A4-42

アイティ
アクセス
IT TAccess
A5-40

Horizon Robotics
Horizon Robotics
A5-36

GENERAL INTERFACE
SOLUTION HOLDING

NXP Semiconductors
NXP Semiconductors
A4-42

MARK LINES
Software Development
A4-42

RISC-V International
MIPS by GF
RISC-V International
MIPS by GF
A5-39

GENERAL INTERFACE
SOLUTION HOLDING
A5-35

Upstream Security
Upstream Security
A4-30

ソニックス
Sonix
A3-44

Zenken
Zenken
A4-41

COONTEC
COONTEC
A3-42

Sonatus
Sonatus
A3-36

旭鍍金
ASAHI-PLATING
A3-45

バンテック
VANTECH
A3-43

太陽工業
TAYO INDUSTRY
A3-41

ES LINK
ES LINK
A2-42

ファソテック
FASOTEC
A2-36

Corplast
Tape Technology
(Kunshan)
Complast
Tape Technology
(Kunshan)
A3-29

三洲ワイヤー
ハーネス
Sanshu Wire-Harness
A2-30

阿波製紙
AWA PAPER & TECHNOLOGICAL COMPANY
A2-29

イナック
INAC
A2-43

LOUNGE

上板塑性
KAMIITA SOSEI
A2-35

テレワークラウンジ TELEWORK LOUNGE

Wi-Fi
Wi-Fi

Wi-Fi
Wi-Fi

Wi-Fi
Wi-Fi

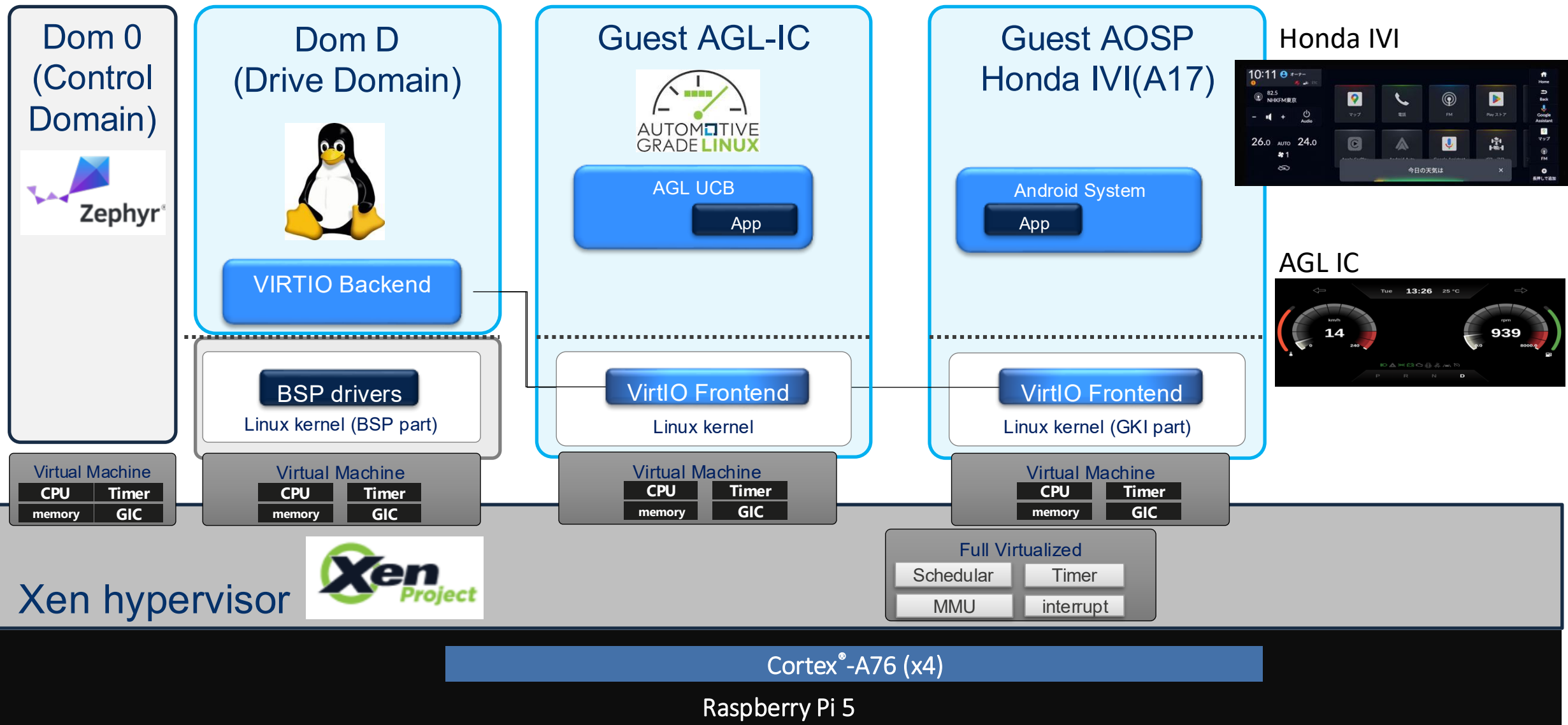
Wi-Fi
Wi-Fi

Wi-Fi
Wi-Fi

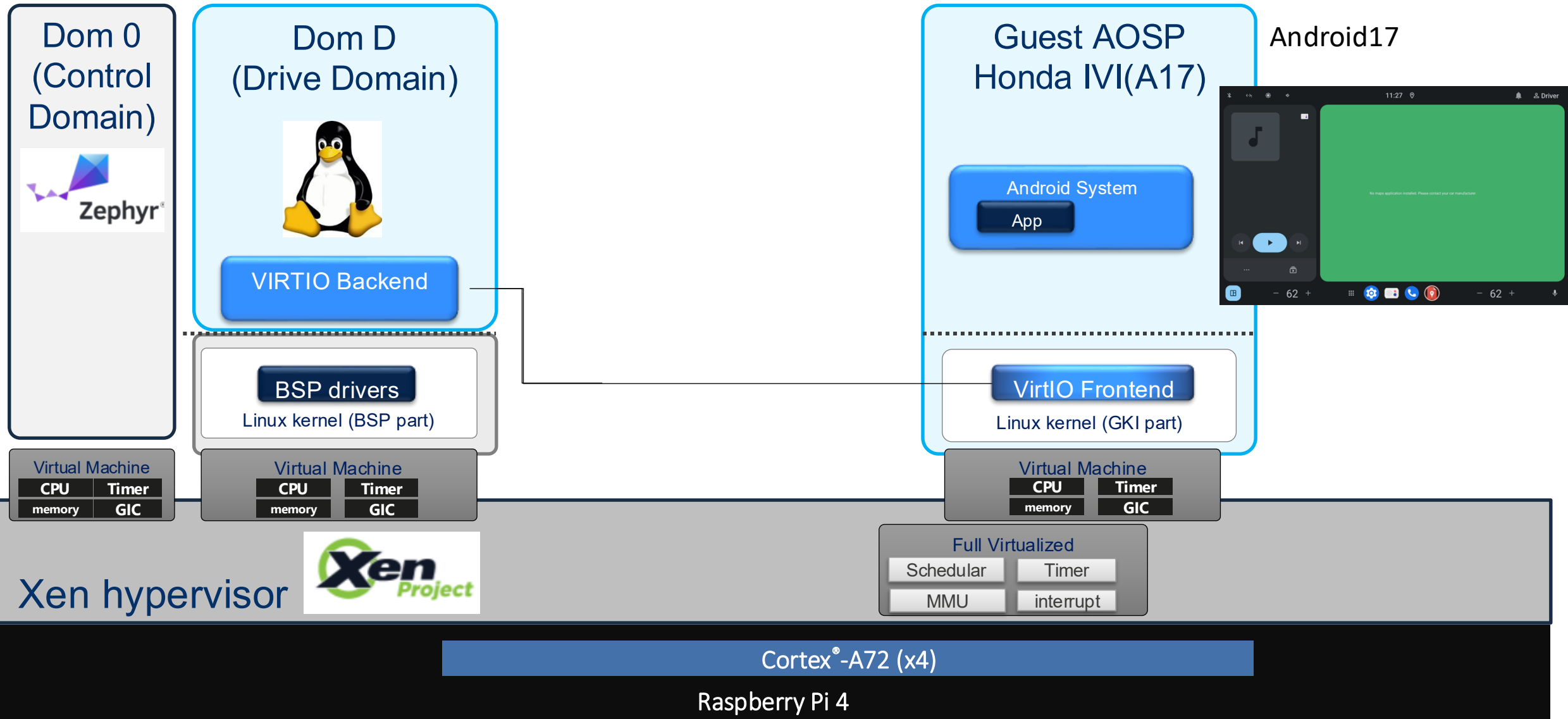
Wi-Fi
Wi-Fi

Wi-Fi
Wi-Fi

RPi5 x 4 Multi-domain Full-stack Configuration



RPi4 x 3 Multi-Domain Stack Configuration



Thank you very much

Let's build the future together and Open Way