Hypervisor/Kernel sub-group Kick Off

Core Collective Virtualization Group



Bertrand Marquis
8/06/2026

© 2026 Arm

Meeting Goals

- Define the sub-group objectives/goals
  - Write a sub-group charter
- Define the sub-group scope
  - What subjects
  - What hypervisors
  - What kernels
- Define how we work
  - What resources
  - How we share
  - When do we meet
  - Why do we meet

- Today goal: Collect ideas, not decide ☺
  - Brainstorm more than a presentation



© 2026 Arm

Participants interests

Name	Interests
Bertrand (arm)	Xen
Mark (qualcomm)	Accelarate simulation, Gunyah, (p)KVM, whpx, maintenance
Edgar (amd)	Xen, Virtio (qemu), drivers in linux, zephyr, Android, KVm, TCG, test infrastructure
Alex (Linaro)	Qemu related hypervisor, accelerated simulation use case (KVM)
Bill (Linaro)	KVM, pKVM, Xen (real-time, safety, security, dom0less), RTOS clients
Lukas (Machineware)	Simulation acceleration, KVM, HVF, Hyper-V, Nested virt
Stefano (amd)	Xen, real-time, safety, RTOS (Zephyr, unikraft), virtio-message
Michael (arm)	Arm architecture support for Xen (VHE, MTE..), Android virtualization, nested virt ?
Sumit	Virtio, RTOS, Android/pKVM
Armelle (Google)	pKVM, AVF, Virtio message



© 2026 Arm

What subjects

- pKVM (Android)
  - FF-A (notifications) + virtio message (HOST to TZ)
  - Memory sharing over vsock (AVF) – Virtio
- Xen
  - Real-time – arm specific hardware interactions
    - Bill: hard partitioning real time cores from other cores
    - Issues with CMN partitioning, hardware solutions for partitioning
  - Virtio message
  - Safety certification
  - Zephyr/unicraft as Dom0
  - Android on Xen (virtio, FF-A)
  - Arm architecture enablement (VHE, MTE, PAC, …..)
  - Nested virt – Android
- KVM
  - In context of simulation (Full system emulation)
  - Nested virtualization
- CCA (other core collective group)



© 2026 Arm

What hypervisors kernels ?

- Hypervisors
  - KVM
  - pKVM
  - Xen
  - Gunyah

- Kernels
  - Linux
  - Zephyr
  - Android
  - Baremetal
  - unikraft



© 2026 Arm

How do we organize ?

- Sub-sub groups ? To see with time
- Bi-weekly meetings ? Yes for now, next 29th of june
- How do you plan to contribute ?
  - Money, time, ??
  - To be defined once we have subjects
- What do we need ?
  - Gitlab/github/other ?
  - Mailing list ?
  - Shared drive ?
  - Wait for core collective to define what is available



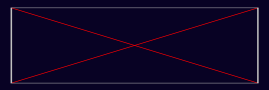
© 2026 Arm

Next subjects to disscuss

- Nested virt and simulations
  - Maybe in simulation sub-group
- Real-time Arm architecture support and help for partitioning
- Virtio-message and Virtio
  - In Virtio sub-group
- Testing and maintenance
  - Shared baremental testing for hardware support/coverage in hypervisor
  - Have more coverage of hypervisors running on top of qemu
- When should an hypervisor trap



© 2026 Arm



Tack

ಧನ್ಯವಾದಗಳು

Merci

Danke

Gracias

Grazie

谢谢

ありがとう

Asante

Thank you

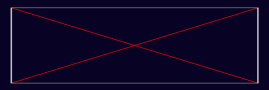
감사합니다

धन्यवाद

Kiitos

شكرًا

ধন্যবাদ



The Arm trademarks featured in this presentation are registered trademarks or trademarks of Arm Limited (or its subsidiaries) in the US and/or elsewhere. All rights reserved. All other marks featured may be trademarks of their respective owners.

www.arm.com/company/policies/trademarks