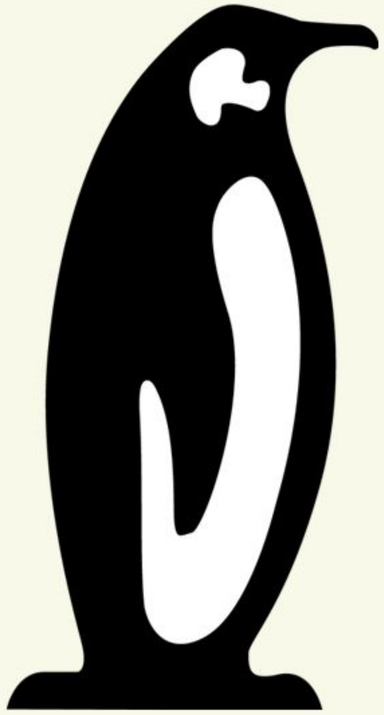

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Linaro

AOSP and Devboards

Android Micro Conference

Linaro

Agenda

- Devboards
- AOSP on Devboards
- Devboards in AOSP
- Community building

Devboards - history, why

- Excellent talk was given by John and Amit about Linaro supported Devboards in AOSP - the history, the benefits at Linaro Virtual Connect'21
- Amit also talked at the ELC'23 about what it takes to maintain these Devboards in AOSP [slides] [video]

Devboards currently supported by Linaro for AOSP

- **Active**: RB5, DB845c (RB3)
- **Legacy**: Hikey960, Hikey
- **Upcoming**: E850-96

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AOSP **on** Devboards

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Keeping up with AOSP Features

- system_dlkm support
- EROFS enablement and validation
- Module parallel loading enablement *
- DRM HAL to AIDL switch, switch to bazel builds ...

Linaro enabled support features

- Software Rendering target
  - Idea inspired from cuttlefish
  - Useful for AOSP bringup in new devices without GPU support
  - Works on Qualcomm-Soc based Devboards right now
  - Needs work to support other Devboards

- Thermal HAL - WIP
  - A Generic HAL developed by Linaro's KWG
  - Based on upstream new thermal netlink using libthermal
  - Provides the abstraction to the platform thermal configuration
  - Tuned and validated on RB3; RB5 also shows no regressions

* WIP, due to a bug

Keep AOSP working (userspace and ACK)

- AOSP and **A**ndroid **C**ommon **K**ernel (ACK) testing on Devboards
  - Relevant combinations tested amongst:
    - **Kernels:** android-mainline, android{14,15}-6.1, android{14,13}-5.15, android{13,12}-5.10, android{12,11}-5.4 android-4.19 and android-4.14 [and -lts versions of some of these]
    - **Userspace:** AOSP/main, android14, android13, android12, android11

- Since Jan'23:
  - we have run **~820M** tests, **~2.8B** since we started testing
  - Have caught / triaged / fixed **36** issues towards AOSP

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Devboards in AOSP

Keeping up with Upstream Linux

- Merge window regressions and fixes
  - Caught / triaged / reported / fixed **18** issues since Jan'23
- Changes upstream like Kconfig, sysfs etc

.. and other Upstream projects

- We've found / reported / fixed a few issues with **mesa**, **drm_hwcomposer** and **minigbm** upstream
- Sync'ed AOSP versions to upstream a few times
- Kept in sync with linux-firmware upstream changes for the Devboards

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Community Development for AOSP and Devboards

Collaborative Community space for AOSP on Devboards

- Overall idea is to provide an umbrella space for collaboration
  - discussions, common HALs, implementation best practices, common scripts/tools
- Helps consolidate everything about “Devboards that work with AOSP”
  - Essential info like: documentation, code, binaries
- Help AOSP-style collaboration for new Devboards and communities
- Confidence boosting about Devboards and AOSP
- Dashboard for build / boot / test run with mainline AOSP

devboardsforandroid.linaro.org

- Discussion forum via #aosp-developers @ OFTC
- AOSP-style collaboration
  - Source navigation
  - gerrit-based review
  - Hikey960 as a reference
  - space for binary releases like vendor-packages

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Discussion / Q & A?

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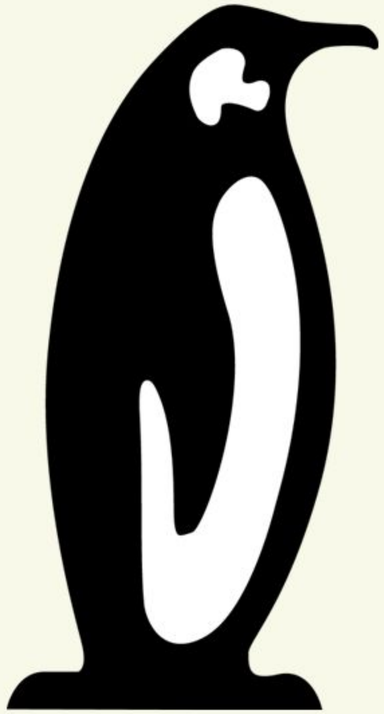

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