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Android and the kernel: herding billions of penguins, one version at a time

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Historically, kernels that ran on Android devices have typically been 2+ years old compared to mainline (this year's flagship devices are shipping with 4.9 kernels) and because of the challenges associated with updating, most devices in the field are far behind the latest long-term stable (LTS) releases. The Android team has been gradually putting in place the necessary processes and enhancements to permanently bridge this gap. Much of the work on the Android kernel in 2018 focused on improving the ability to update the kernel – at least to recent LTS levels. This work comprises a significant testing effort to ensure downstream partners that updating to new LTS levels is safe, as well as process work to convince partners that the security benefits of taking LTS patches far outweigh the risk of new bugs. The testing also focuses on ABI consistency (within LTS releases) for interfaces relied upon by userspace and kernel modules. This has resulted in enhancements to the LTP suite and a new proposal to the mailing list for “kernel namespaces”.

Additionally, the Android kernel testing benefits from additional tools developed by Google that are enabled via the Clang compiler. Google's devices have been shipping kernels built via Clang for 2 years. The Android team tests and assists in maintaining arm and arm64 kernel builds with clang.

The talk will also cover some of the key features being developed for Android and introduce topics that will be discussed during the Android Micro-Conference.

I agree to abide by the anti-harassment policy

Yes

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