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Formal Methods for Kernel Hackers

Wednesday, November 14, 2018 2:45 PM (45 minutes)

Formal methods have a reputation of being difficult, accessible mostly to academics and of little use to the typical kernel hacker. This talk aims to show how, without “formal” training, one can use such tools for the benefit of the Linux kernel. It will introduce a few formal models that helped find actual bugs in the Linux kernel and start a discussion around future uses from modelling existing kernel implementation (e.g. cpu hotplug, page cache states, mm_user/mm_count) to formally specifying new design choices. The introductory examples are written in PlusCal (an algorithm language based on TLA+) but no prior knowledge is required.

I agree to abide by the anti-harassment policy

Yes

Primary author: MARINAS, Catalin

Presenter: MARINAS, Catalin

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