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Block Layer Rust API

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Rust for Linux has brought in Rust as a second programming language in the Linux Kernel. The Rust for Linux project is making good progress towards building a general framework for writing Linux kernel device drivers in safe Rust. The block layer is still missing necessary plumbing to achieve this goal.

In this talk report on the work that we have done in the block layer to enable Rust drivers. We showcase two drivers using the work: the Rust null_blk driver and the Rust NVMe driver. We present results with performance analysis and we discuss challenges we encountered during performance optimizations.

We also talk about the challenges we encounter while attempting to upstream the Rust block layer API, and potential paths forward for the project.

Primary author: Mr HINDBORG, Andreas (Samsung)

Presenter: Mr HINDBORG, Andreas (Samsung)

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