

Linux Plumbers Conference 2024



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Rust for Linux

Thursday, 19 September 2024 12:00 (45 minutes)

Rust for Linux is the project adding support for the Rust language to the Linux kernel. This talk will give a high-level overview of the status and the latest news around Rust in the kernel since LPC 2023.

We will start with a summary of the new safe abstractions, modules and architectures that are in mainline or getting upstreamed soon. We will cover the different strategies subsystems are adopting to ramp up the Rust support and the policies for dealing with mixing C and Rust code.

Next, we will cover improvements in the infrastructure, including the new build system: why we need it, how it differs from the C side, what features it introduces, the kernel crate split, etc. In addition, we will talk about third-party crates, <https://rust.docs.kernel.org> and kernel CIs.

Furthermore, we will give an update on the unstable features: we now support several Rust compiler versions, which allows several Linux distributions to work out of the box. We are now collaborating with the Rust project to get the kernel into stable Rust. In particular, Linux has been included in their 2024h2 project goals and it is being built-tested in their pre-merge CI.

Finally, we will conclude with what is going on in other related projects, such as the ones that provide a path to build the kernel with GCC (`rustc_codegen_gcc` and GCC Rust).

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