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Exceptions in BPF

Monday, 13 November 2023 10:00 (30 minutes)

There has been recent work on adding the notion of exceptions to the BPF runtime in the Linux kernel. In this presentation, we will explore the necessary changes made to the BPF subsystem to fulfill this. We will also explore various implementation choices, reasons for making the feature as generic as possible, and the possibility of integrating similar features found in other languages (C++, Rust, etc.) in the future.

Finally, we discuss the value proposition of exceptions, how their careful and creative use can simplify writing BPF programs, and how they allow us to make guarantees about program behavior that are difficult to enforce through the verifier's static analysis.

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