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Modernizing bpftrace with libbpf

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bpftrace is a popular, BPF-powered tool for observability of both the kernel and userspace. It comes with a domain-specific language, bpfscript, which it compiles into BPF bytecode.

In the past year, bpftrace modernized the way it creates BPF programs by making the emitted BPF ELF objects compatible with libbpf's bpf_object. This allows bpftrace to use modern BPF features such as subprograms, relocations, or global variables.

In this talk, we will walk you through the most important steps and help you understand what are the obstacles and challenges of creating a custom BPF front-end which is compatible with state-of-the-art BPF technology, using libbpf as the back-end.

Along the journey, we also ran into several issues and missing features in libbpf. We would like to discuss them with the community and propose potential solutions.

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