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HID-BPF

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HID (Human Interface Device) is an old protocol which handles input devices. It is supposed to be standard and to allow devices to work without the need for a driver. Unfortunately, it is not standard, merely "standard" .

The HID subsystem has roughly 80 drivers, half of them are fixing only one tiny bit, either in the protocol of the device or in the key mapping for instance.

Historically, fixing such devices requires users to submit a patch to the kernel. The process of updating the kernel has greatly improved over the past few years, but still, we can not safely fix those devices in-place (without rebooting and risking messing up the system).

But here is the future: eBPF. eBPF allows loading kernel-space code from user-space.

Why not apply that to HID devices too? This way we can change the small part of the device that is not working while still relying on the generic processing of the kernel to support it.

In this talk, we will outline this new feature that we are currently upstreaming, its advantages and why this is the future, for HID at least.

I agree to abide by the anti-harassment policy

Yes

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