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Linux-CAN Subsystem: BoF - State of the Union and Outlook

Friday 20 September 2024 17:25 (20 minutes)

Marc (Linux kernel CAN subsystem maintainer) and Oleksij (Linux kernel J1939 maintainer) will give an overview of current best practices for the Linux CAN subsystem and J1939 stack.

They will address high latencies in the RX path, presenting a two-step approach to avoid buffer overflows and out-of-order reception using the RX-Offload helper.

Modern CAN controllers provide RX and TX-complete time stamps. In order to use them in user space, they need to be converted from the CAN controller's internal clock to the kernel representation in nanoseconds. Marc and Oleksij will give a short introduction to the cyclecounter/timecounter helpers that should be used by new drivers.

They will also discuss future goals like configurable CAN frame queuing (FIFO vs. priority) and using ethtool for CAN HW filter configuration.

Updates on the J1939 stack adoption, validation efforts, and user space ecosystem enhancements will also be covered.

Primary authors: KLEINE-BUDDE, Marc (Pengutronix); REMPEL, Oleksij (Pengutronix)

Presenters: KLEINE-BUDDE, Marc (Pengutronix); REMPEL, Oleksij (Pengutronix)

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