

Linux Plumbers Conference 2024



Contribution ID: 12

Type: **not specified**

Real-time MC

CFP closes on July 12th.

The real-time community around Linux has been responsible for important changes in the kernel over the last few decades. Preemptive mode, high-resolution timers, threaded IRQs, sleeping locks, tracing, deadline scheduling, and formal tracing analysis are integral parts of the kernel rooted in real-time efforts, mostly from the PREEMPT_RT patch set. The real-time and low latency properties of Linux have enabled a series of modern use cases, like low latency network communication with NFV and the use of Linux in safety-critical systems.

This MC is the space for the community to discuss the advances of Linux in real-time and low latency features. For example (but not limited to):

- Bits left for the PREEMPT_RT merge
- Advances in the fully preemptive mode
- CPU isolation (mainly about how to make it dynamic)
- Tools for PREEMPT_RT and low latency analysis
- Tools for detecting non-optimal usages of the PREEMPT_RT
- Improvement on locks non-protected for priority inversion
- General improvements for locking
- General improvements for scheduling
- Other RT operating systems that run in parallel with Linux and the integration with Linux
- Real-time virtualization

Examples of topics that the community discussed over the last years that made progress in the RT MC:

- timerlat/osnoise tracers and RTLA
- DL server for starvation avoidance
- Proxy execution (still under discussion)
- Tracing improvements - for example, to trace IPIs

Join us to discuss the future of real-time and low-latency Linux.

Primary authors: BRISTOT DE OLIVEIRA, Daniel (Red Hat, Inc.); WEISBECKER, Frederic (Suse); LELLI, Juri (Red Hat); SIEWIOR, Sebastian; ROSTEDT, Steven

Presenters: BRISTOT DE OLIVEIRA, Daniel (Red Hat, Inc.); WEISBECKER, Frederic (Suse); LELLI, Juri (Red Hat); SIEWIOR, Sebastian

Track Classification: LPC Microconference Proposals