

Linux Plumbers Conference 2025



Contribution ID: 23

Type: **not specified**

Scheduler and Real-Time MC

For Linux Plumber 2025, we propose a joint microconference for Real Time and Scheduler as in the past. These two areas have always been tightly linked and continue to generate cross functional changes especially after PREEMPT_RT has been merged. The scheduler is at the core of Linux performance; With different topologies and workloads, giving the user the best experience possible is challenging, from low latency to high throughput and from small power-constrained devices to HPC.

Since last year's micro conference, progress has been made on the following topics:

- Progress on proxy execution
- <https://lore.kernel.org/all/20241011232525.2513424-1-jstultz@google.com/>
- <https://lore.kernel.org/all/20250602221004.3837674-1-jstultz@google.com/>
- Defer throttle when task exits to user
- <https://lore.kernel.org/all/20250520104110.3673059-1-ziqianlu@bytedance.com/>
- The EEVDF scheduler responsiveness
- <https://lore.kernel.org/all/20250418151225.3006867-1-vincent.guittot@linaro.org/>
- <https://lore.kernel.org/all/20250209235204.110989-1-qyousef@ljalina.io/>

Some topics also continued to be discussed at the OSPM conference: <http://retis.sssup.it/ospm-summit/>

Ideas of topics to be discussed include (but are not limited to):

- Improve responsiveness of fair tasks
- Improvements on EEVDF
- Adding more usages of push callback
- Improve PREEMPT_RT
- Defer throttle to user space
- IPI impact
- Improve Locking and priority inversion
- Proxy execution
- Impact of new topology, including hybrid or heterogeneous system
- Taking into account task profile
- Improvements on SCHED_DEADLINE and DL server
- Tooling for debugging low latency analysis

This is not an exhaustive list. We welcome all proposals related to process scheduling. The goal is to discuss open problems, preferably with patch set submissions already being discussed on the mailing list. Presentations are meant to be limited to 2 or 3 slides intended to seed a discussion and debate - allowing for high bandwidth discussion with key stakeholders in the same room.

Key attendees:

- Ingo Molnar
- Peter Zijlstra
- Juri Lelli
- Vincent Guittot
- Dietmar Eggemann
- Steven Rostedt
- Ben Segall
- Mel Gorman
- Valentin Schneider
- Thomas Gleixner

- John Stulz
- Sebastian Andrzej Siewior
- K Prateek Nayak
- Shrikanth Hegde
- Phil Auld
- Dhaval Giani
- Clark Williams

Primary authors: DHAVAL, Giani; LELLI, Juri (Red Hat); AULD, Phil (Red Hat); ROSTEDT, Steven; GUITTOT, Vincent (Linaro)

Presenter: GUITTOT, Vincent (Linaro)