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Real-time and Scheduling MC

The real-time and scheduling micro-conference joins these two intrinsically connected communities to discuss the next steps together.

Over the past decade, many parts of PREEMPT_RT have been included in the official Linux codebase. Examples include real-time mutexes, high-resolution timers, lockdep, ftrace, RCU_PREEMPT, threaded interrupt handlers, and more. The number of patches that need integration has been significantly reduced, and the rest is mature enough to make their way into mainline Linux.

The scheduler is 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, where CPU isolation is critical.

The following accomplishments have been made as a result of last year's microconference:

- Progress on rtda/osnoise to support any workload [1]
- Progress on adding tracepoints for IPI [2]
- Improvements in RCU to reduce noise
- Progress on the latency-nice patch set [3]

This year's topics to be discussed include:

- Improve responsiveness for CFS tasks - e.g., latency-nice patch
- The new EVVDF scheduler proposal [4]
- Improvements in CPU Isolation
- The status of PREEMPT_RT Locking improvements - e.g., proxy execution [5]
- Improvements on SCHED_DEADLINE
- Tooling for debugging scheduling and real-time [6]

Links:

- [1] <https://lore.kernel.org/lkml/cover.1669115208.git.bristot@kernel.org>
- [2] <https://lore.kernel.org/lkml/20230307143558.294354-1-vscheid@redhat.com/T/>
- [3] <https://lore.kernel.org/lkml/20230224093454.956298-3-vincent.guittot@linaro.org/>
- [4] <https://lore.kernel.org/lkml/20230328092622.062917921@infradead.org/T/>
- [5] <https://lore.kernel.org/lkml/20230411042511.1606592-1-jstultz@google.com/>
- [6] <https://lore.kernel.org/lkml/cover.1675179318.git.bristot@kernel.org/>

Organizers:

- Daniel Bristot de Oliveira
- Juri Lelli
- Vincent Guittot
- Steven Rostedt

Primary authors: BRISTOT DE OLIVEIRA, Daniel (Red Hat, Inc.); LELLI, Juri (Red Hat); ROSTEDT, Steven; GUITTOT, Vincent (Linaro)

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