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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, it is not an easy task to give the user the best experience possible, from low latency to high throughput, and from small power-constrained devices to HPC.

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

- The Real-time Linux Analysis tool was merged in 5.17 [1]
- Progress on tools to facilitate maintenance of the stable RT releases.
- Progress on the full mainline merge, but some challenges were raised and more is to be done.
- Core scheduling has been merged. [2]
- Progress in the latency nice scheduling feature [3]

This year's topics to be discussed include:

- How to scale PREEMPT\_RT for very-large systems
- Improve overall system partitioning for real-time HPC workloads
- New tools for PREEMPT\_RT analysis.
- How do we teach the rest of the kernel developers how not to break PREEMPT\_RT?
- The usage of PREEMPT\_RT on safety-critical systems: what do we need to do?
- The merge's status, and how can we resolve the last issues that block the merge.
- Latency nice scheduling feature
- Better support for new processors
- What's next?

[1] <https://www.kernel.org/doc/html/latest/tools/rtla/rtla.html>

[2] <https://www.kernel.org/doc/html/latest/admin-guide/hw-vuln/core-scheduling.html>

[3] <https://lore.kernel.org/lkml/20220311161406.23497-1-vincent.guittot@linaro.org/>

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