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Exercising the Linux scheduler with Yogini

Monday, 12 September 2022 12:00 (45 minutes)

Introducing "yogini", a flexible Linux tool for stretching the Linux scheduler and measuring the result.

Yogini includes an extensible catalogue of simple workloads, including execution, cache and memory bound, as well as advanced (Intel) ISAs. The workloads are assigned to threads, which can be run at prescribed rates at prescribed times.

At the same time, yogini can run a periodic system monitor, which tracks frequency, power, sched stats, temperature and other hardware and software metrics. Since yogini tracks both power and performance, it can combine them to report energy efficiency.

Measurement results are buffered in memory and dumped to a .TSV file upon completion – to be read as text, imported to your favorite spreadsheet, or plotted via script.

As the workloads are well controlled, yogini lends itself well to be used for creating Linux regression tests – particularly those relating to scheduler-related performance and efficiency.

Yogini is new. The goal of this session it let the community know it is available, and hopefully useful, and to solicit ideas for making it even more useful for improving Linux.

I agree to abide by the anti-harassment policy

Yes

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