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Core Scheduling for RT

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Recently speculative execution techniques have shown that an untrusted application can steal data from another one when both share the same core. To avoid such problems users have to disable SMT, causing non-negligible performance impact. Core-scheduling tries to mitigate the performance problem by allowing trusted applications to run concurrently on siblings of a core while avoiding two untrusted applications to share the same core.

However, this has a number of ramifications and applications for Real-Time schedulers too. For instance, the Admission Control of SCHED_DEADLINE depends on the number of CPUs, but with core scheduling, the number of CPUs available is a dynamic function. OTOH Real-Time workloads often want SMT disabled for determinism, and core-scheduling gives the capability for a single task to claim an entire core.

So I propose discussing the impact and possibilities of core-scheduling for Real-Time.

I agree to abide by the anti-harassment policy

Yes

I confirm that I am already registered for LPC 2019

Primary author: ZIJLSTRA, Peter (Intel OTC)

Presenter: ZIJLSTRA, Peter (Intel OTC)

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