Contribution ID: **437**   Type: **poster**

Forget multicore. The future is manycore - An outlook to the explosion of parallelism likely to occur in the LHC era.

Tuesday 24 March 2009 08:00 (20 minutes)

This talk will start by reminding the audience that Moore's law is very much alive. Transistors will continue to double for every new silicon generation every other year. Chip designers are therefore trying every possible "trick" for putting the transistors to good use. The most notable one is to push more parallelism into each CPU: More and longer vectors, more parallel execution units, more cores and more hyperthreading inside each core. In addition highly parallel graphics processing units (GPUs) are also entering the game and compete efficiently with CPUs in several computing fields. The speaker will try to predict the CPU dimensions we will reach during the LHC era, based on what we have seen in the recent past and the projected roadmap for silicon. He will also discuss the impact on HEP event processing software. Can we continue to rely on event-level parallelism at the process levels or do we need to move to a new software paradigm? Finally he will show several examples for successfully threading of HEP software.

Presentation type (oral | poster)

Oral

Author: Mr JARP, Sverre (CERN)

Presenter: Mr JARP, Sverre (CERN)

Session Classification: Poster session

Track Classification: Hardware and Computing Fabrics