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Multi-core processors and multithreading

Monday, 23 February 2015 14:30 (1 hour)

This lecture will analyze trends in the evolution of the hardware architectures, as well as software approaches to harness parallelism. It will justify the need for multithreaded software and will explain why there are no major gains in single thread performance anymore.

Targeted audience: The lecture targets participants willing to follow developments in the computing hardware and to understand the impact that hardware has on software.

Benefits of attending the lecture: After this lecture, the attendees will have a notion of evolution of the CPUs over past three decades. They will know how to approach parallelism in a simple way. They will be aware of the caveats which may suppress code performance.

Prerequisites: This lecture targets people having computer programming experience and basic notion of the computer architectures.
*It is recommended that the attendees follow the first lecture before attending this one. This is not a hard requirement, though.

Presenter: SZOSTEK, Pawel (CERN)

Session Classification: Evolution of processor architectures: growing complexity of CPUs and its impact on the software landscape