FPGA based acceleration scientific workloads - Why? How?

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Coarse-grain parallelism offered by multi core architectures have been the de-facto way of thinking for parallel processing. With the availability of new development flows for Field Programmable Gate Arrays (FPGA), fine grain parallelism can also be explored easily from software oriented development flows. In this talk, I will talk about the differences of fine-grain parallelism and its different styles in the context of task and data parallelism. I will also present on high level design flows for FPGA. Some application examples will be shown on how these high level flows helped achieve great performance and power figures on FPGA.