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Scheduling of multicore jobs

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Nowadays, the Worldwide LHC Computing Grid consists of multi and manycore CPUs. A lot of work is undertaken by the experiments and the HEP community, in order to use these resources more efficiently. As a result, the parallelization of applications has been the main goal so far in order to allow a parallel execution of jobs. However, experiments must also consider how to schedule multicore jobs within the Computing Grid. Taking into account the trend of going towards manycore architectures, tasks might not scale sufficiently well on large number of cores. Since non linear speedup can drastically decrease overall throughput, a scheduler must define the best degree of parallelism for each job.

The aim of the presentation is to define the scheduling problem and to present algorithms to solve it. Related problems, like estimation of job runtimes, will be also discussed.

Summary

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