

Performance Modeling for Dynamic Algorithm Selection

Title: [Performance Modeling for Dynamic Algorithm Selection](#)

Authors: M.McCracken, A.Snavely, A.Malony

Abstract: Adaptive algorithms are an important technique to achieve portable high performance. They choose among solution methods and optimizations according to expected performance on a particular machine. Grid environments make the adaptation problem harder, because the optimal decision may change across runs and even during runtime. Therefore, the performance model used by an adaptive algorithm must be able to change decisions without high overhead. In this paper, we present work that is modifying previous research into rapid performance modeling to support adaptive grid applications through sampling and high granularity modeling. We also outline preliminary results that show the ability to predict differences in performance among algorithms in the same program.

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