

EINLADUNG

Zeit: Donnerstag, 01.02.2007, 16.30 Uhr

Ort: AH I, Ahornstr. 55

Referent: Prof. Dr. Ulrich Rüde
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Titel: High End Computing for Large Scale Simulations

Abstract:

Tremendous advances in computer power and new algorithms enable simulations of very large scale systems. In this talk, we will present some of the current challenges in high performance simulation based on two examples. The first part will discuss the techniques to solve a linear system arising from a finite element problem with more than 10^{10} unknowns by a parallel multilevel algorithm running on 1024 processors. This world record is made possible by the hierarchical hybrid grid data structure that exploits redundancies in the matrix coefficients and thus saves about an order of magnitude in memory consumption. As a second example we will present methods to simulate, visualize, and animate water flow with free surface using parallel algorithms.

Es laden ein: Die Dozenten der Informatik