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MADALGO seminar by Deepak Ajwani, Aarhus University

Computing on Solid-State disks: Modeling and Algorithmic challenges

Abstract:

Flash memory based solid-state disks are fast becoming the dominant form of end-user storage technology for mobile devices, partly even replacing the traditional hard disks. The I/O characteristics of the currently available solid-state disks fundamentally differ from those of the hard disks. In this talk, I will present new computation models that can capture the intricacies of the flash devices better. I will then discuss the relationship between the proposed models and the existing memory hierarchy models and show how a large body of merging-based external memory algorithms can be adapted to the flash models.

Joint work with Andreas Beckmann, Ulrich Meyer, Gabriel Moruz and Riko Jacob.