A Simple Optimal Randomized Algorithm for Sorting on the PDM[1]

Sanguthevar Rajasekaran
Department of CSE, Univ. of Connecticut

Sandeep Sen[2]
Department of CS, IIT New Delhi

Abstract. The Parallel Disks Model (PDM) has been proposed to alleviate the I/O bottleneck that arises in the processing of massive data sets. Sorting has been extensively studied on the PDM model due to the fundamental nature of the problem. Several randomized algorithms are known for sorting. Most of the prior algorithms suffer from undue complications in memory layouts, implementation, or lack of tight analysis. In this paper we present a simple randomized algorithm that sorts in optimal time **with high probablity** and has all the desirable features for practical implementation.

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