SPMD Message Passing Broadcast on TILE-Gx8036

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Abstract

The advent of manycore architectures raises new scalability challenges for concurrent applications. Implementing scalable data structures is one of them. Several manycore architectures provide hardware message passing as a means to efficiently exchange data between cores. In this paper we study the implementation of high-throughput, low latency broadcast algorithms in message-passing manycores. The model is validated through experiments on a 36-core TILE-Gx8036 processor. Evaluations show that an efficient implementation of the algorithms can lead to maximize the number of messages exchanged and reduction of the delay.

Biography

Mircea-Valeriu Ulinic graduated the B.Sc. of Telecommunications Technologies and Systems and is currently studying at the Technical University of Cluj-Napoca, expecting to get the M.Sc. in Telecommunications in July 2015. He is 23 years old with a great interest in programming software solutions for the world needs. During the summer of 2013 he has performed a two months internship at the Distributed Systems Laboratory lead by André Schiper, École Polytechnique Fédérale de Lausanne.

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