

TRANSFORM

Theoretical Foundations of Transactional Memory

Summary

Multicore architectures have come to stay; yet multicore is useless without concurrent programming. The constructors are now calling for a new software revolution: the concurrency revolution. This might look at first glance surprising for concurrency is almost as old as computing and tons of concurrent programming models and languages were invented. In fact, what the revolution is about is way more than concurrency alone: it is about concurrency for the masses.

The current parallel programming approach of employing locks is widely considered to be too difficult for any but a few experts. Transactional Memory (TM) is a new programming paradigm which is considered by many researchers as the future of parallel programming due to its simplicity of programming. To understand properly TM systems as well as be able to assess them and improve them, a rigorous theoretical study of the approach, its challenges and its benefits is urgently needed. This is the challenging research goal to be undertaken by the recruited Early Stage Researchers.

Our goal through this project is to gather leading researchers in the field of concurrent computing over Europe, and combine our efforts in order to define what might become the modern theory of concurrent computing. We aim at training a set of Early Stage Researchers (ESR) in this direction and hope that, in turn, these students will help Europe become a leader in concurrent computing.

CONTRACT NUMBER
23839

FULL NAME
TransForm: Theoretical Foundations of Transactional Memory

TYPE OF PROJECT
Marie-Curie Initial Training Network

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TIMETABLE
Starting Date: November 1, 2009
Duration: 48 months

Academic Partners

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