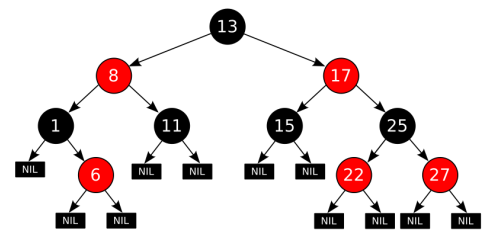


Semester or Master Thesis Faster parallel data structures

Motivation and Informal Description

Ever since the first parallel computer (PASM-I, see picture) was developed, there was a need for concurrent (=parallel) data structures. Originally, the demand was driven mainly by small scientific communities. These days due to the advent of multi-core processors concurrent data structures are needed in almost any computer. The goal of this work is to improve the performance of concurrent data structures and develop a library including data structures such as lists and trees using a new technique. Clearly, if we do excellent work and dramatic performance increases are achieved, Microsoft, Sun, Oracle and others will be the first to read our paper and download ☺ !



Offered theses

As stated before, the goal of this work is to develop a new library for concurrent data structures by enhancing state of the art algorithms with a new technique developed in our group. The outcome should be a downloadable library in some programming language such as Java, C# or C++. A library developed during a term thesis will most likely only consist of a few (or at least one) data structures (e.g. a linked list), whereas for a master thesis more data structures should be incorporated and more optimizations will be considered. The student should have good programming skills and an interest in data structures.

Interested? Please contact us for more details!

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