

A.N.Tchernykh, A.M.Stepanov, A.I.Lupenko, N.G.Tchernykh. Extraction and Optimization of the Implicit Program Parallelism by Dynamic Partial Evaluation -pAs'97 The Second Aizu International Symposium on Parallel Algorithms/Architecture Synthesis, Aizu-Wakamatsu, Fukushima, JAPAN, p. 332-339, IEEE Computer Society Press, 1997.

Much work has been done to implement declarative languages in parallel form. Most of them tend to resort to imperative features for some purposes, particularly for description of the parallelism. We propose parallel computation on associative networks, a machine independent parallel programming model, for automatic extraction of available inherent parallelism and optimization of declarative programs. Associative networks are used for representing program-like and data-like information. The computation follows the transformation style of information processing. All computational mechanisms are oriented toward the processing incomplete information and perform parallel partial evaluation. This partial evaluation is a base of the proposed technique for automatic transforming, optimizing, and parallelizing declarative programs.

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