

Abstract - Dependence testing

Authors:

Radek Sedlák

Martin Šafář

Optimization of compilers is very important for speed and resource requirements of the executable program. One of the optimizing methods is using parallelism on loop iterations. In order to find out whether a loop could be parallelized we need to check data dependence of statements inside the loop. Specifically, dependence testing discovers data relations between two subscripted references to the same array. In this presentation we introduce some methods and algorithms used for dependence testing. The methods are used together, to make sure that the most frequent cases of data dependence are handled efficiently. Some of the dependence testing methods have been implemented and tested in vector computer compilers.