A Design Environment for Addressing Architecture and Compiler Interactions

JACK W. DAVIDSON and DAVID B. WHALLEY

Department of Computer Science
University of Virginia
Charlottesville, VA 22903, U. S. A

ABSTRACT

Often a computer architecture is designed and implemented without determining whether is associated compilers will actually use all of the architecture's features. A more effective machine can result when the interactions between an architecture and a compiler are addressed. This paper presents an environment that integrates the tasks of translating a source program to machine instructions for a proposed architecture, imitating the execution of these instructions and collecting measurements. The environment, which is easily retargeted and quickly collects detailed measurements, facilitates experimentation with a proposed architecture and a compiler.

Note

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