Reproducible Stencil Compiler Benchmarks Using PROVA!

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The stencil pattern represents a vast variety of applications, ranging from geophysics to medical science. In application codes, the stencil kernel is often the part where most of the time is spent, thus forcing an efficient parallel implementation of it. On the other side we know that stencil computations are often memory-bound, which requires sophisticated parallelization techniques to get scalable solutions.In this paper we present the results of a stencil benchmark experiment run on two different systems by means of the PROVA! tool we are currently implementing. PROVA! aims for reproducible performance experiments and makes collaborative stencil benchmarking feasible through web repositories and interfaces.
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