

Porting the Distributed and Unified Numerics Environment (DUNE) to BlueGene/P

Markus Blatt

IWR - University Heidelberg

In this talk we will present our experiences made when porting our (parallel) application and the underlying framework DUNE to Blue Gene/P.

The Distributed and Unified Numerics Environment (DUNE) <http://www.dune-project.org/> is a modular (C++) toolbox for solving partial differential equations. We will focus on the Iterative Solver Template Library (ISTL) module of DUNE which provides scalable parallel iterative solvers based on an abstract parallelization approach. This approach allowed us to achieve good scalability on Blue Gene with minor changes to our code base.

The scalability results shown will be from a computation of water infiltration into a heterogeneous soil.