Scalability Analysis of Parallel Numerical Solvers for Linear Pore-scale Network Simulation

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Recent developments in the use of linear network models in multiscale simulations of porous media fluid flow have generated a need for fast, parallel linear solvers for these problems. The current study profiles the effectiveness of the use of various parallel iterative and direct solvers for structured and unstructured linear network models of porous media. We propose a framework for load distribution of processors for linear networks and their implementation within a multiscale simulation.