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Erlang-based Desynchronised Urban Traffic Simulation for High-Performance Computing Systems

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Paper highlights

The paper presents a parallel implementation of an urban traffic simulation method which allows linear scalability of up to 19200 computing cores. The presented work consists of the following contributions:

1. the concept of desynchronised traffic simulation is proposed,
2. its scalable implementation in Erlang technology is presented,
3. the results of experiments involving 19200 computing cores are discussed.

I believe, that the presented analysis of the problem and the proposed solution are valuable steps in the development of simulation methods for HPC systems.