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Full paper

Using a Virtual Machine Environment to Support Simulations on the Grid

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Abstract. Conducting large experiments with agent-based models is becoming common practice. eScience solutions aim to facilitate such scientific activities, including collaboration on a large scale using Grid technologies to enable access to heterogeneous computing resources. However, installing and using simulation environments on such infrastructure is a complex task. In this paper we explore the use of virtualization technologies in combination with existing eScience infrastructure to deploy a re-usable virtual machine image called simulationBox.

Full paper

An Architecture for Agent-based Modelling and Simulation of Geospatial Phenomena

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Abstract. This work presents a general architecture for building and simulating agent-based models that use real-world geospatial data, take into account all the ways geospatial data can feed these models. We focus on how data can be used to create an initial arrangement for the model, as if it was a static representation. We have as hypothesis that the Generalized Proximity Matrix (GPM) is a foundation for setting up the relations between the entities of an agent-based model for simulating geospatial phenomena. The architecture has been implemented in the TerraME framework, which is capable of exchanging data with TerraLib databases. Both softwares are freely available in the Internet.