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Towards the environment for mass-collaboration for software synthesis

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Overview

This presentation exposes the scientific software development project now executing in Siauliai university. The main goal of this project is to develop the environment for scientific software synthesis using grid, cloud and Wiki-oriented technologies.
For the project start the set of statistical simulation and optimization problems is chosen as a target domain for scientific software development. In the future the created environment can be applied to other domains too.

Impact

The results of the project will have direct positive impact in the scientific software development, because of bridging two technologies, each of them promise good performance. The power of Wiki-technologies will ensure the ability for the scientists to interactive collaboration on software developing using the terms of particular domain. On the other hand the bridge of new environment and the grid/cloud infrastructure will give the possibility to use all power of distributed computing infrastructures.

Description of the work

The project is started at Siauliai University from the October 1 of 2010's. The main goal of this project is to develop the environment for scientific software synthesis using grid, cloud and Wiki-oriented technologies.
We are stating the hypothesis that using together wiki-based technologies, software synthesis methods and the power of grid/cloud infrastructure scientific software can be developed more rapidly and the quality of the software will be better. As the target domain for scientific software development we have chosen the set of statistical simulation and optimization problems. In the future the created environment can be applied to other domains too.
The project consist of three main stages:
i) The development of the portal for the wiki-based mass-collaboration. This portal will be used as the user environment enabling scientists to write the problems for software development, to rewrite/refine the problem definitions and software artifacts given by other researchers, to contribute all software developing for particular domain process;
ii) The development of the model of "bridge"between wiki-based portal and the LitGrid or other grid/cloud-based infrastructure;
iii) To refine existing methods for software synthesis using the power of distributed computing infrastructures. The research group of Siauliai university has the experience of the automated software development using grid infrastructure. This approach has started few years ago, in the early stages of the LitGrid project;

URL

http://www.grid.su.lt

Conclusions

In order the project is started only few months ago this is too early to make some conclusions, but the intermediate results are promising: we have made the portal for the wiki-based mass-collaboration for the developing of scientific software. Our near-time future work is to develop a model of interoperability between wiki-based portal and the LitGrid infrastructure.

Primary authors: Dr ŽILINSKAS, Kęstutis (Siauliai University); Prof. SAKALAUSKAS, Leonidas (Siauliai University); Dr GIEDRIMAS, Vaidas (Siauliai University)

Presenter: Dr GIEDRIMAS, Vaidas (Siauliai University)

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