EDGI: EUROPEAN DESKTOP GRID INITIATIVE

Funding Body:	EU	Programme:	Framework Programme 7
Start Date:	01/06/2010	End Date:	31/05/2012

Partners

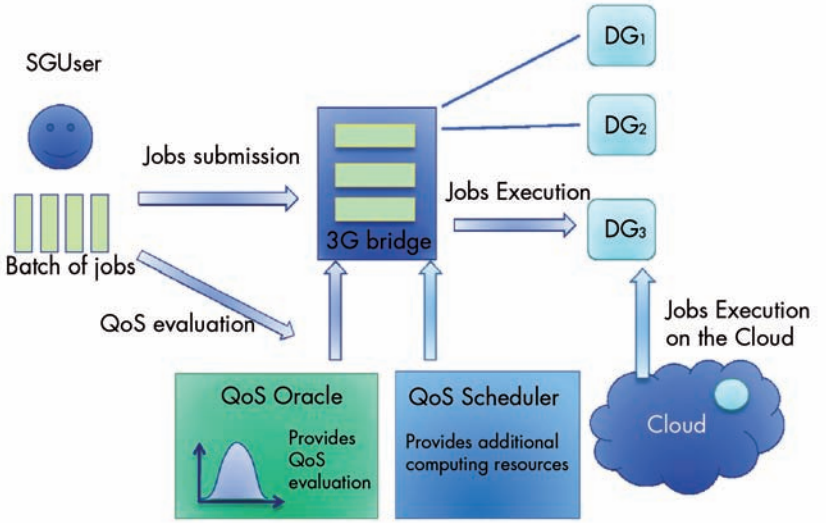
- Laboratory of the Parallel and Distributed Systems in the Computer and Automation Research Institute of the Hungarian Academy of Sciences (MTA-SZTAKI), Hungary (Coordinator)
- French National Institute for Research in Computer Science and Control (INRIA), France
- Centre National de la Recherche Scientifique (CNRS), France
- Centre for Parallel Computing, University of Westminster, UK
- Cardiff University, UK
- Institute for Biocomputation and Complex Physics Systems of the University of Zaragoza – Ibercivis, Spain
- Faculdade Ciencias e Tecnologia da Universidade de Coimbra, Portugal
- Stichting AlmereGrid, The Netherlands
- Universität Paderborn, Germany
- University of Copenhagen, Denmark.

Website

http://edgi-project.eu/

Synopsis

EDGI will develop middleware that consolidates the results achieved in the FP7 EDGeS project concerning the extension of Service Grids (SG) with Desktop Grids (DG) in order to support the European Grid Initiative (EGI) and National Grid Initiative (NGI) user communities that are heavy users of Distributed Computing Infrastructures (DCI's) and require extremely large number of CPUs and cores. EDGI will go beyond existing DCI's that are typically Cluster Grids and Supercomputer Grids, and will extend them with public and institutional Desktop Grids and Clouds. EDGI will integrate software components of ARC, gLite, Unicore, BOINC, XWHEP, 3G Bridge, and Cloud middleware such as OpenNebula and Eucalyptus into SG_DG_Cloud platforms for service provision and as a result EDGI will extend ARC, gLite and Unicore Grids with volunteer and institutional DG systems. EDGI will develop DG_Cloud bridge middleware with the goal to get instantly available additional resources for DG systems if the application has some Quality of Service (QoS) requirements that could not be satisfied



by the available resources of the DG system. EDGI will improve Desktop Grid middleware (BOINC and XWHEP) in order to handle QoS requirements and the SG_DG bridge middleware in order to support data-intensive applications. EDGI will deploy a production infrastructure that integrates ARC-, gLite- and Unicore-based Grids with Desktop Grids based on the bridge middleware developed in EDGI. The production EDGI infrastructure will also enable the dynamic, on-demand extensions of the connected Desktop Grids with Cloud resources. As such EDGI users can benefit of the versatile and flexible eco-system provided by EDGI. The EDGI production infrastructure will be offered as service for EGI and NGI user communities. It will also serve as a demonstration for NGIs to extend their eco-system with Desktop Grids and Clouds. EDGI will establish a European Desktop Grid federation (working title is "EuroCivis") to coordinate DG-related activities in Europe both for solving technical issues as well as to attract volunteer DG resource donors by disseminating results of the EDGI and EGI-related projects. EuroCivis and EDGI will work in strong collaboration with EGI, EMI, NorduGrid, Unicore Forum and interested NGIs.

Brief USP

Bridging desktop grids, service grids and clouds to create a unified Distributed Computing Infrastructure.

Contact:

Tamas Kiss
E: T.Kiss@westminster.ac.uk