Memorandum of Understanding

Between the StratusLab and EDGI Projects
Version 2: 7 April 2011

1. Project Information

1.1. EDGI

EDGI operates a distributed computing infrastructure based on desktop computing technologies (BOINC and Xtremweb) with bridges that allow interoperation between the European Grid Infrastructure (EGI) and the EDGI infrastructure.
EDGI will extend this interoperability to infrastructures based on cloud technologies and looks to create a higher quality of service for users of their infrastructure through dynamic allocation of additional resources.

1.2. StratusLab

StratusLab develops and provides a comprehensive, open source cloud distribution that allows resource center administrators to deploy private and/or public clouds. The primary focus of StratusLab is to ensure that its cloud distribution is well adapted to running EGI grid services. The project runs a certified, production EGI grid site as well as a reference cloud infrastructure to verify that the project's software meets the requirements of grid site administrators and of end-users.

1.3. Common participants

The Linear Accelerator Laboratory (LAL) of CNRS is a partner of both projects and can naturally act as a liaison between the two projects for administrative and technical collaboration.

2. Purpose

The respective roles of StratusLab and EDGI as providers and users of cloud technologies forms a natural focal point for collaboration between the two projects.

3. Work Plan

3.1. Creating Desktop Grid Client Appliances

The most straightforward deployment model for systems like BOINC and Xtremweb is to create virtual machine images ("appliances") containing the desktop grid clients. When deployed, the running virtual machines can then be treated transparently by the EDGI infrastructure like any other client. To accomplish this task, StratusLab will provide appliance-building expertise, through

its tools and direct support as well as base operating system images on which to build. EDGI will provide expertise on installation of its clients. Once the appliances are produced, EDGI will test them (on StratusLab test resources), upload them to the appliance repository, and maintain those appliances. StratusLab benefits from the feedback on the use of its tools and infrastructure. EDGI benefits from the availability of a test infrastructure and support for creating its appliances.

3.2. Creating Desktop Grid Service Appliances

As for the desktop clients, the EDGI infrastructure services can also be converted into virtual appliances and deployed on a cloud infrastructure. At a technical level, the creation of these appliances is identical to creation of the clients described above. However, these services bring additional requirements, such as being publicly accessible on the network, that will make the deployment and testing of these services more challenging. Dynamic service deployment is a core use case for the StratusLab project and this task is a concrete realization of it. Consequently, StratusLab benefits from meeting the requirements associated with deploying these types of services on the cloud. EDGI potentially benefits from having an easier deployment of its infrastructure with additional potential benefits by being able to deploy easily redundant, high-availability services.

3.3. Testing Infrastructure for Quality of Service

A core part of the EDGI work plan is the facility for providing a guaranteed quality of service to users of its infrastructure. This involves the dynamic deployment of new desktop grid clients as the demand for resources grows. Deployment of desktop grid appliances within a cloud infrastructure would be an obvious solution. The EDGI service controlling the deployment must use the cloud provider's API. EDGI benefits from collaboration with StratusLab by having a test cloud infrastructure in place. StratusLab benefits from feedback on the cloud API, ensuring that it will be able to meet this important use case.

3.4. Use of Grid Middleware Appliances

EDGI must ensure that its infrastructure and associated services continue to interoperate with EGI as its grid middleware evolves. This requires that EDGI deploy test sites with new versions of the EGI middleware and verify its own services against those new versions. To date, this requires that EDGI invest effort in learning the deployment details of the middleware and the actual deployment. StratusLab will provide grid service appliances that work within a model deployment. These appliances as well as the StratusLab test infrastructure can be used by EDGI to reduce the effort required for deploying test grid sites and to provide faster turnaround on the interoperability tests. StratusLab benefits from feedback on the grid appliances and performance of the StratusLab cloud for complex, transient deployments.

3.5. Common Training Events

Both projects have a strong connection to the EGI user community and will be providing training and informational events for it. To maximize the impact, reduce the demands on attendees, and minimize costs, both projects will endeavour to hold such events in common when possible. A first common event will be the Summer School being planned for July 2011.

4. Schedule

Tests with desktop grid *client* appliances and testing of quality of service facilities have already started with StratusLab providing its reference cloud infrastructure and EDGI providing the expertise in the desktop software. StratusLab has published initial grid service images and these can be used in larger deployment tests. Tests with desktop grid *service* appliances should take place in mid-2011.

5. Contacts

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6. Signatures

The following agree to the terms and conditions of the MoU:

Charles LOOMIS StratusLab Project Coordinator	Peter KACSUK EDGI Project Coordinator
Date:	Date: