Proposal for collaboration between OSG sites and members and
emerging National Grid Initiatives in South America and South Africa
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Summary of the proposal:

One of the many areas OSG is working on is outreach and education. As a part of this effort, the OSG is conducting a program to promote the collaboration and educational activities with other countries, particularly in South America and South Africa[1]. This is a joint effort between the OSG Outreach team and DOSAR, a grass roots grid organization which also specializes in grid education.

The goal of this activity is to support the development and deployment of National and/or regional grid infrastructures in those countries, and to establish collaborations with them to mutual benefit.

Typically the collaboration starts with a series of workshops and training courses where representatives from both the academia and research institutions, as well as fabric infrastructure and funding agencies, are introduced to the grid computing paradigm and to the OSG computational model. All topics from the introduction to basic concepts, end-user training, scientific applications migration, site deployment and administration, and National Grid Initiatives (NGI) management, are covered.

In a second step, we establish technical and scientific collaboration, supporting the deployment of National Grid Infrastructures and sharing resources for common scientific projects. These activities will lead, with the support of OSG and EGEE, to the deployment of International Grid Infrastructures.

These methods have todate proven useful in Brazil and Colombia

The work proposed here aims to improve the collaboration during the second step, benefiting from the broad expertise accumulated in the Open Science Grid institutions running operations at large scale, improving the rate of transfer of knowledge and reducing the time to the collaborators being able to "act and support themselves".

The goal of this proposal is the creation of a framework to establish point-to-point collaborations between OSG members (sites and experts) and their equivalent in the existing collaborations (initially), to disseminate knowledge and expertise, and to help the formation of these new National Grid Initiatives.

We propose two initial activities: training foreign system administrators at OSG member sites, and finding co-advisors to help in the supervision of research and development activities conducted by foreign engineering and PhD students. The work would initially rely on contributions from members of the OSG, and, with an

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[1] http://osg-docdb.opensciencegrid.org/0008/000830/001/OSG_Americas_Outreach.pdf

intent to seek a modicum of funding from elsewhere if the program is seen as successful.

Description of the program of work:

(1) System Administration Training

Sites in the Open Science Grid have been running real operations for a few years, and therefore their system administration members are fully trained in the installation and maintenance of grid middleware and services in a production environment.

At the same time, the OSG Grid Operation Center (GOC) has also been providing reliable support services. System administrators operating in the new NGIs will require to reach the same level of expertise to give an equivalent level of reliable service to their local scientific communities.

This proposal aims to identify OSG members who would host, for a period of time, a system administrator from one of these NGIs, who can be trained in the day-to-day operations in a real production environment and also contribute to the site administration and support while resident there.

OSG members would participate on a completely voluntary basis. The hosting institution and the student's home institution would decide on the total amount of time that the student would spend at that OSG site. It is recommended that the student stays enough time to be fully trained on installation and administration of grid services, and also to have the opportunity to perform some real work at the hosting institution that can help him/her to practice the new skills and to spend some time doing actual work for the hosting institution as a reward for the time invested in his/her training.

Both, the OSG hosting site and the student's home institution would need to arrange also the details for the student's maintenance. It is recommended for a student who will work at a site giving support to a particular scientific community to get this training time at an OSG site that is also supporting the same scientific project or experiment, if possible. However, that would not be a requirement, just desirable.

The student could also be offered the chance to spend half the training time at the OSG Grid Operation Center, to be trained in GOC services.

We would propose to start the program with one or two hosting institutions, and decide the continuity or cancellation of the program based on the experience.

Therefore, some mechanism would be needed to measure the level of success of the program. This mechanism should include a channel for the student's home institution to report the level of performance of the student after his/her return from OSG. After the evaluation of the results, the continuity of the program as a whole would be studied, as well the continuity of the each OSG hosting institution.

Co-supervising on Research and Development Projects.

It is very common that new NGIs in South America and South Africa involve engineering students and master or PhD students in Computer Science or similar engineering branches. These students, as part of their research project or their university degree graduation project, have to perform some research or development activities.

When these research and development activities are related to grid computing, the expertise of the Open Science Grid member could be an invaluable input. Many OSG members have been working on grid computing activities for several years, including operations on running experiments. This experience can give them a clearer idea of what type of ideas can be more likely useful or adapted by the international grid community, which research is easier to be published, or what type of development tasks could be integrated into the current middleware or services.

This proposal consists of the identification of OSG members who would be prepared to collaborate in the supervision of these undergraduate or graduate students involved in some research and/or development project related grid computing. The OSG member would act as a co-adviser or co-supervisor, in the terms he/she negotiates with the actual student's adviser from his/her home university, including the percentage of time the OSG co-adviser would dedicate to this tutoring activity, the inclusion of the OSG member in the list of advisors in the final thesis document the student has to present to the university, and the inclusion of the OSG member in the list of authors of any possible paper or publication as a result of the research project.

The OSG member would clearly not interfere with the regular relationship between the student and his/her home university and actual adviser. The OSG member would provide advice and guidance, based on his/her experience, on what specific research line is interesting, useful, publishable, etc. He/she would help to identify specific research topics where the student can make a noticeable contribution, and help the student publish the research or integrate the software developed into already existing tools or repositories. But the guidelines, methods, projects, and policies already established by the student's home university would always respected and accepted.

It would in the first instance be the responsibility of each OSG member to find funds for his/her tutoring activities if needed, but OSG would help try to find other sources of funds if need be. There are at least two possibilities for collaboration: (a) students can advertise their research or development program, and OSG members interested can contact them, (b) OSG members can advertise proposed ideas for research or development work, and students can evaluate their interest on those ideas.

We propose to start the program with only one or two co-supervision projects, and decide the continuity or cancellation of the program based on the results. Therefore, some mechanism would be needed to measure the level of success of the program.

After the evaluation of the results, the continuity of the program as a whole would be studied, as well the continuity of each OSG co-adviser member.