

Easy access to Desktop Grid computing power - experiences and support

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The International Desktop Grid Federation is working closely together within an EGI Virtual team to make it as easy as possible for scientists to use Desktop Grid resources: unused computing capacity from university computers (local desktop grids) or from volunteer citizens at home (Crowd computing).

The session presents the results to scientists and community organisers:

1. First we concentrate on how to use computing resources from Desktop Grids while staying in the comfort zone of EGI. Use the EGI connected portals, job submission and monitoring tools to get access to an additional thousand or ten-thousand processors. We will also explain to community organisers what is needed to get their community „Desktop Grid ready”. EGI and IDGF have formed a Virtual Team that can assist.
2. Second the session will explain how to organise a local Desktop Grid within a university or institute: connect the organization’s computers into one huge computing engine. Port applications to this engine and provide additional number crunching to scientists. IDGF has a support team that can help.
3. Third we will talk about Crowd computing. It is exciting to see thousands of enthusiastic citizen volunteers donating computing time to your applications. Not only can you get your work done more quickly, but also it provides an excellent opportunity to spread the knowledge about your research to society. IDGF has a special, supported, crowd computing Grid dedicated to EGI applications.

Wider impact and conclusions

We aim at reaching scientists and community managers that will leave the session with a good understanding of the possibilities to use desktop grids. We expect that the enthusiastic community talks will inspire them. They also will know better how and where inside EGI or IDGF to get support for such an activity.

A better understanding of what can be expected from citizens that donate computing time, and that working with them can be real fun is also something we want to achieve. As a result the number of people involved in crowd computing will grow.

URL(s) for further info

<http://desktopgridfederation.org>

<http://idgf-sp.eu>

https://wiki.egi.eu/wiki/Desktop_Grids_integration

https://wiki.egi.eu/wiki/VT_Promoting_Desktop_Grids

<http://desktopgridfederation.org/road-map>

Description of work

Crowd computing can provide computing resources for EGI scientists and communities. There is for instance EDGeS@home available with over 25.000 computers connected. Also SZTAKI Desktop Grid, AlmereGrid, and several others provide, combined several hundreds of thousands computer cores to scientists. Within universities and institutes there are often also thousands of computers available, especially at night.

During the past year, IDGF and EGI have worked closely together in a Virtual Team to make it easy for scientists and EGI user communities to make use of these resources. There is support, an extensive documentation, an integrated infrastructure and documentation available today. Several user communities have been helped already, their applications are now running or being tested on the infrastructure. Representatives of these communities will be invited to talk about their experiences.

The session will focus on the following three topics:

1. how to use computing resources from Desktop Grids while staying in the comfort zone of EGI. What do you need to do to submit jobs to Desktop Grids. How can you monitor the progress. What type of applications are suited.

2. explain how to organize within a university or institute a local Desktop Grid. How to involve management. How green is it to use a desktop grid (or should we just turn of the desktops and buy a cluster)

3. Crowd computing with enthusiastic citizens. People donate computing time for free. They do not want money, but they do want to be kept up to date with the scientific progress that you make thanks to their contribution. Working with them can be very rewarding, as we show in this topic.

For each we first introduce the topic. Then the experience of an EGI user community will be presented. We will end with a discussion.

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Session Classification: Supporting EGI users with crowd computing based on Desktop Grids

Track Classification: Integrated e-Infrastructure services (Track Leaders: K. Kurowski, A. Parodi)