

# International Desktop Grid Federation (IDGF)

<http://desktopgridfederation.org>

The International Desktop Grid Federation is a member organisation that brings together people from companies, universities and institutes that are interested in using this type of computing power and that want to exchange experiences with others. The Federation provides several services to its members. This includes face-to-face meetings, in workshops and tutorials, a library of documentation, message boards, a portal and help by experts.

*Why should you become IDGF member?*

- Your organisation is operating a Desktop Grid and would like to share experiences with operators, get support and training
- Your organisation has a lot of Desktop computers, and would like to make better use of them
- You want to develop computation programmes for Desktop Grids
- Your organisation wants to install a volunteer Desktop Grid, and wants to know how to attract volunteers
- You are interested in further developing Desktop Grid and Desktop Cloud technology
- You would like to integrate a Desktop Grid with other Service Grids
- Your organisation has large computational needs, and wants to know whether Desktop Grids could be used.
- You care about the environment and want to know how Desktop Grid can contribute to a Green ICT infrastructure with less power consumption

## Desktop Grids for International Scientific Collaboration (DEGISCO)

<http://degisco.eu>

The main aim of the DEGISCO project is the further extension of the European DCI infrastructure that is already interconnected by EDGeS to International Cooperation Partner Countries (ICPC) in strong collaboration with on the one hand local partners in ICPC countries and on the other hand European e-Infrastructure experts (including 3G Bridge know-how) and thus, reinforce the global relevance and impact of European distributed infrastructures.

## Enabling Desktop Grids for e-Science (EDGI)

<http://edgi-project.eu>

EDGI develops middleware that consolidates the results achieved in the EDGeS project concerning the extension of Service Grids with Desktop Grids (DGs) in order to support European Grid Initiative (EGI) and National Grid Initiative user communities that are heavy users of Distributed Computing Infrastructures (DCIs) and require an extremely large number of CPUs and cores. EDGI is moving beyond existing DCIs that are typically cluster Grids and supercomputer Grids, and extends them with public and institutional Desktop Grids and Clouds. EDGI integrates software components of ARC, gLite, Unicore, BOINC, XWHEP, 3G Bridge, and Cloud middleware into SG-DG-Cloud platforms for service provision and as a result EDGI extends ARC, gLite and Unicore Grids with volunteer and institutional DG systems.

The International Desktop Grid Federation,  
in collaboration with the  
EU-funded DEGISCO  
and EDGI projects,  
presents



## MAJOR DESKTOP GRID COMPUTING EVENTS

at EGI User Forum  
Vilnius, Lithuania  
11-15 April 2011

All EGI User Forum participants  
are kindly invited  
to attend the following  
Desktop Grid programme  
items:

### **1. EDGI demonstration: Utilising Desktop Grid resources through gLite**

**12 April 2011 10:30 - 19:00**

Three demos will be displayed:

- a. the applications portal featuring Tamas Kiss, University of Westminster, London
- b. the portal based gLite infrastructure featuring Jozsef Kovacs, MTA SZTAKI, Budapest
- c. the command line based infrastructure featuring Jozsef Kovacs, MTA SZTAKI, Budapest

### **2. IDGF workshop: Desktop Grids for scientific applications**

chaired by Robert Lovas, MTA SZTAKI,  
Budapest

**14 April 2011 11:00 - 12:30 Epsilon**

Programme:

- a. General introduction - Tamas Kiss, UoW, London, Peter Kacsuk, MTA SZTAKI, Budapest
- b. Presentations of applications ported and running on the IDGF/EDGI/DEGISCO infrastructure
- c. DEGISCO Road Map - Robert Lovas, MTA SZTAKI, Budapest
- d. Wrap-up

### **3. EDGI presentation by Jozsef Kovacs, MTA SZTAKI**

The EDGI infrastructure and its usage for the  
European Grid user communities

**14 April 2011 14:00 - 14:30 Alfa**

### **4. DEGISCO presentation by Robert Lovas, MTA SZTAKI**

Integration, sharing and exploitation of national and  
international e-Infrastructures

**14 April 2011 15:00 - 15:30 Alfa**



The International Desktop Grid Federation (IDGF) has prepared a full-option programme for all EGI User Forum attendees who are interested in Desktop Grid Computing.

In collaboration with the EU-funded EDGI and DEGISCO projects, IDGF is presenting a complete picture of the Desktop Grid infrastructure as well as porting and running applications on this type of infrastructure.

Take care you don't miss our four key Desktop Grid sessions at the EGI User Forum!

Visit our demonstration on **April 12** and watch how you can use Desktop Grid resources through gLite, live at our booth. Jozsef Kovacs will be showing you the nuts and bolts. Tamas Kiss will be demonstrating the applications portal.

Also take a look at our movie featuring background information on the EDGI and DEGISCO projects and on the International Desktop Grid Federation.

We invite you to join IDGF as a member and to attend our Summer School in July 2011 in Budapest, Hungary!

**April 14** will be a Top Desktop Grid Day!

In the **morning** we invite you to participate in the IDGF workshop in room Epsilon at 11:00 for an application-focused session with a variety of application examples that already run on our Desktop Grid infrastructure.

Peter Kacsuk will be happy to give a clear-cut introduction to Desktop Grid Computing and all that it involves.

Five invited applications will be presented to the audience:

- Application deployment on a local desktop grid at the AMC by Vladimir Korkhov
- GATE from Creatis by Jozsef Kovacs
- Materials Science Applications on the basis Desktop Grid DCI in DEGISCO project by Yuri Gordienko from the G.V. Kurdyumov Institute for Metal Physics (IMP) of the National Academy of Science of Ukraine - prerecorded
- To integrate the high throughput Virtual Screening Service with Desktop Grid technology by Hsin-Yen Chen from the Academia Sinica in Taiwan
- Distributed Computing in the Cloud: BOINC and Amazon's Elastic Compute Cloud (EC2) by Maximilian Palm, Rechenkraft - prerecorded



We will also present the DEGISCO Road Map, the must-have-read document for people who are considering setting up a Desktop Grid to run scientific applications.

Desktop Grids for eScience - a Road Map aims to provide insight in the power of Desktop Grid computing, what it can do for eScience, how it can support scientists in the academic world, researchers and engineers in industry, and how citizens can actively be involved in this process. As such, Desktop Grids offer a holistic approach of providing huge amounts of computing power for science. It is presented as a White Paper: we try to present you correct, objective information.

The first version of the Road Map currently is ready for evaluation in a consultation round, which means that we are keen to receive your feedback and to insert your experiences in Desktop Grid Computing into the next Road Map edition. Your comments are welcome!

The **afternoon User Environments** session includes two presentations from our EDGI and DEGISCO project partners.

The **EDGI** presentation will address the importance of the EDGI infrastructure for the European Grid user communities.

The Service Grid to Desktop Grid bridging service which is being developed by the EDGI project leans on two key components: modified computing element on the service grid (gLite, ARC, UNICORE) to forward the job to a desktop grid site and the 3GBridge service on the desktop grid site which is able to receive and transform the job as a workunit for execution for the desktop grid (BOINC, XtremWeb) site.

In the **DEGISCO** presentation Robert Lovas will expand on the integration, sharing and exploitation of national and international e-Infrastructures.

The DEGISCO project transfers the knowledge concerning the combined Distributed Computing Infrastructure towards new communities by supporting the creation, integration, and operation of new Desktop Grids for e-Science worldwide. As the result of the current activities the project members provide best practices and well-organized assistance in application porting, as well as training on the Grid and its usage.