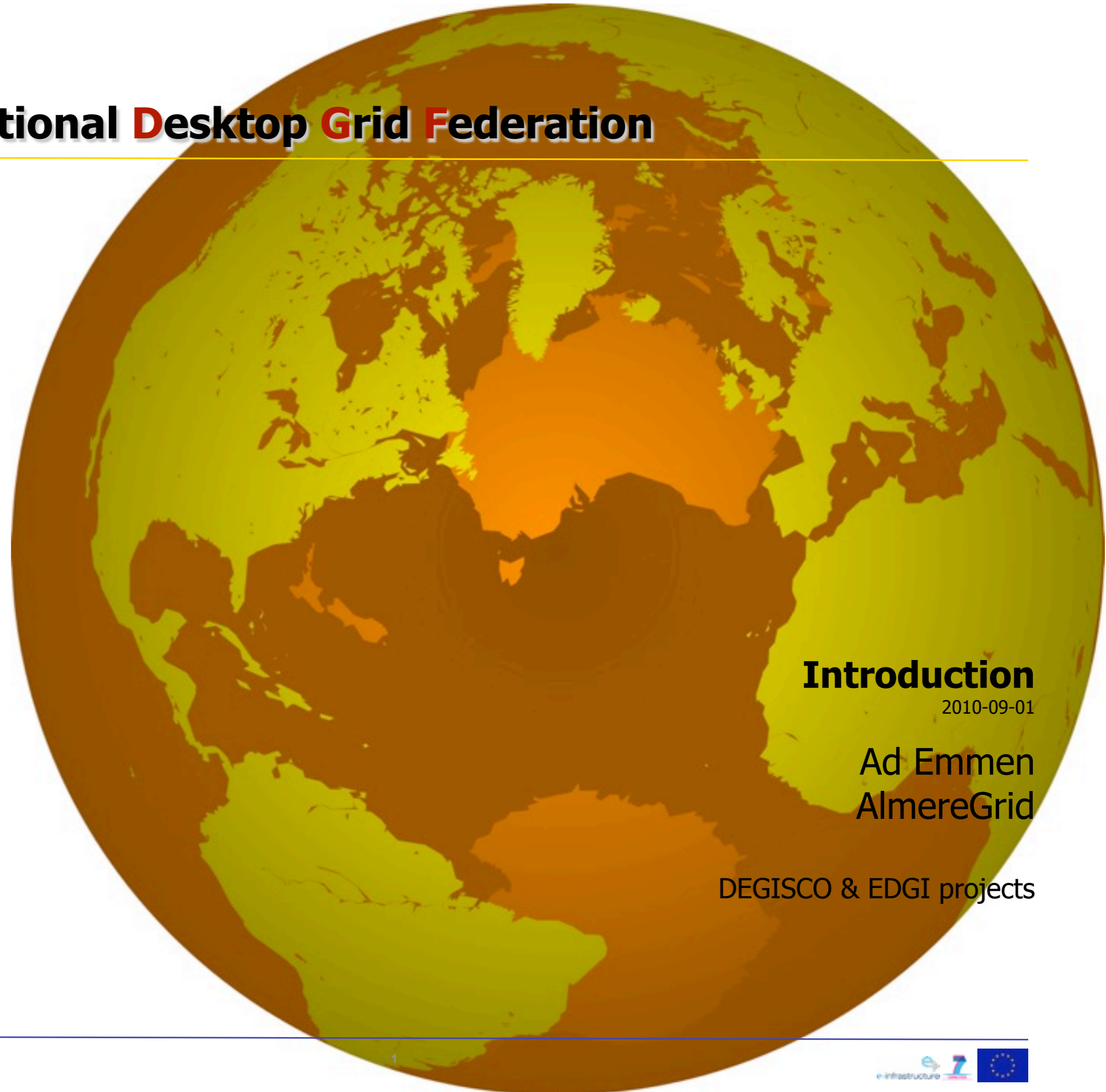




# **IDGF** **International Desktop Grid Federation**

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## **Introduction**

2010-09-01

Ad Emmen  
AlmereGrid

DEGISCO & EDGI projects



# A London room with a view

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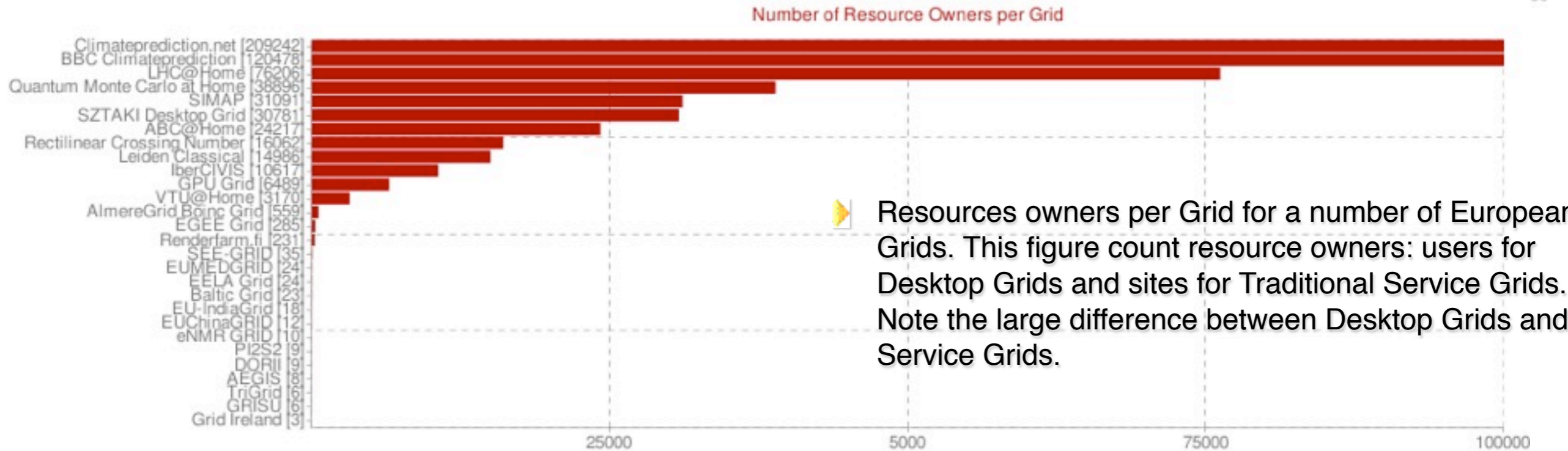
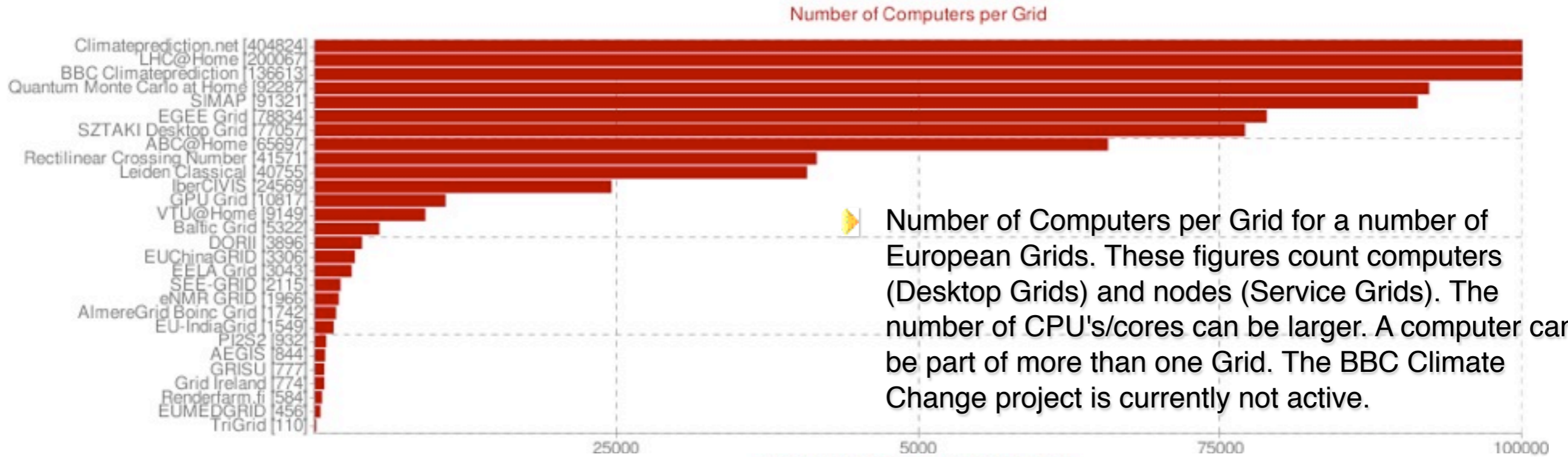
# A London room with a view

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# Importance of Desktop Grids for Science: <http://knowledgebase.e-irg.eu>



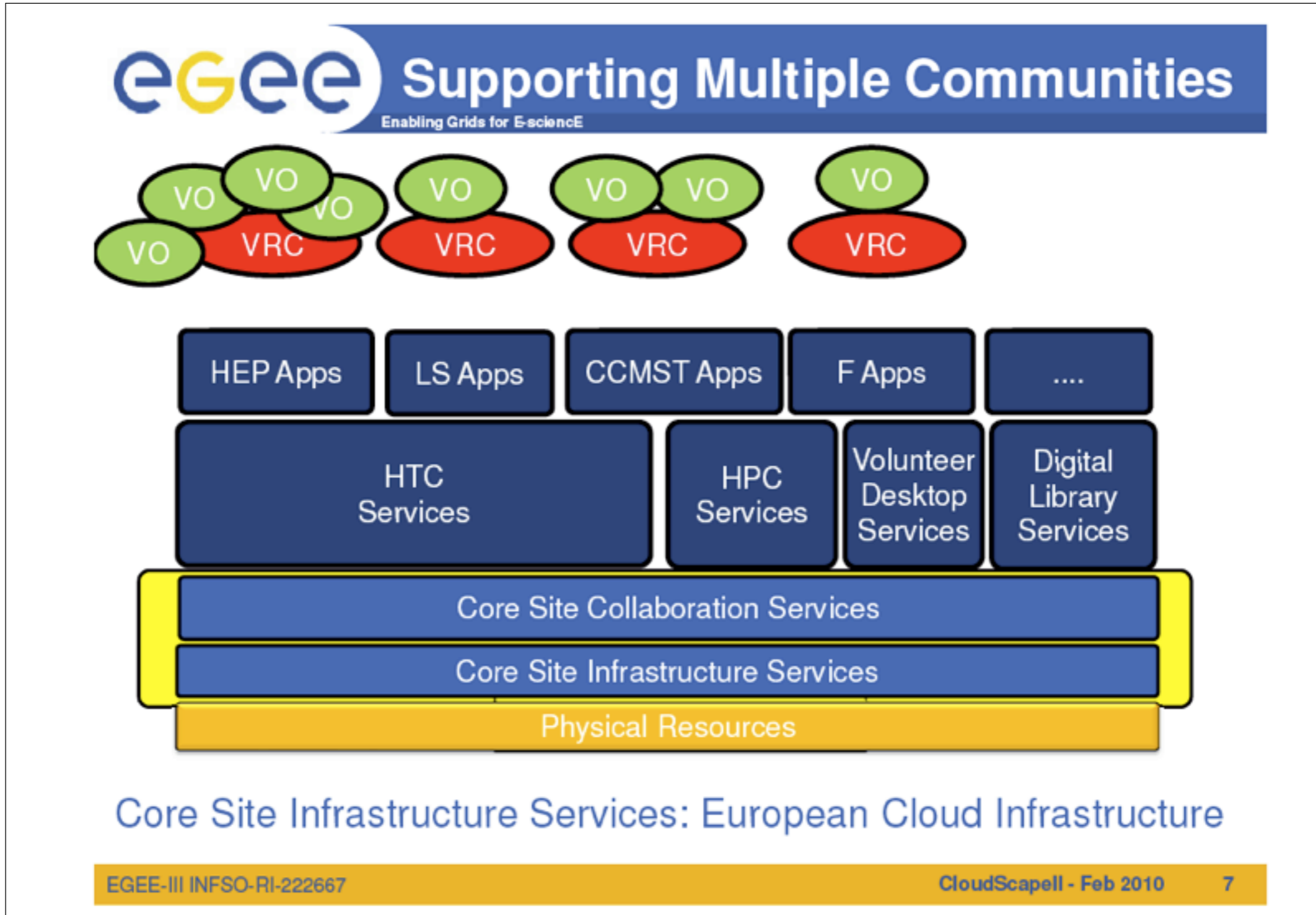


# Volunteer Desktop Grids take their place in the eScience ecosystem

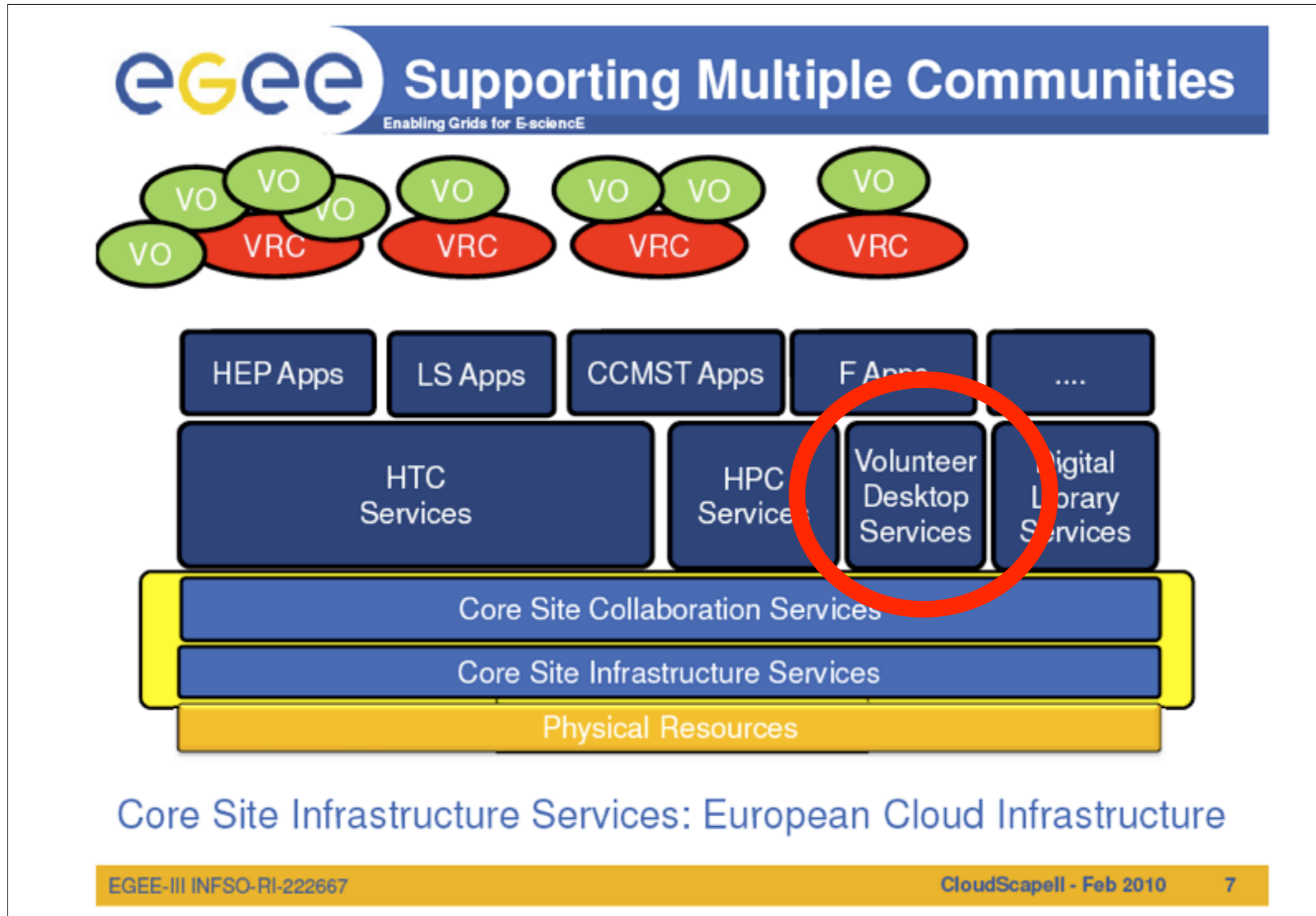
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- ▶ Steven Newhouse
- ▶ Director of the European Grid Initiative (EGI)
- ▶ February 2010 in Brussels CloudScape II
- ▶ European ecosystem for computational support for scientists
- ▶ Volunteer Desktop Grids have their place in that ecosystem.

# Volunteer Desktop Grids take their place in the eScience ecosystem



# Volunteer Desktop Grids take their place in the eScience ecosystem





# Start dreaming

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- ▶ Today 5 million computers that at one point in time connected to a volunteer computing grid
  - ▶ That is less computers then there are in London
- ▶ About 10% are active at each instant of time
  - ▶ That is less computers then there are in Westminster
- ▶ So that is not really that many
- ▶ What if we could increase that tenfold, hundred fold
- ▶ What wonderful science could be done...





# Stop dreaming

---

- ▶ But dreaming will not get us there
- ▶ Hard work, smart work and co-operation can
- ▶ It is the *co-operation* that IDGF wants to foster and facilitate
- ▶ Co-operation between Desktop Grids, between Desktop Grids and Service Grids/clouds
- ▶ Co-operation between Grids and developers, scientific and funding organisations
- ▶ Lot of capacity also from local desktop Grids at Universities, institutes. Not volunteer, but planned



# Extending the community

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- ▶ IDGF is not a replacement or competitor for existing cooperations or groups
- ▶ Like the pangalactic BOINC workshop
- ▶ But it is aimed at extending the community
- ▶ Help the community crossing the chasm, and get Volunteer Desktop Grid computing into the main stream
- ▶ How?



# Providing services for its members

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- ▶ IDGF is a member organisation
- ▶ You can become member, your organisation can, your company can, so do it
- ▶ IDGF provides services to its members. Services aimed at improving cooperation between those involved in Desktop Grids:
  - ▶ Member administration, including interest group and chapter management
  - ▶ Dissemination services
  - ▶ News service
  - ▶ Discussion fora
  - ▶ Support services
  - ▶ Meetings and event organisation



# Know other members and their area of expertise

---

## ▶ Member administration, including interest group and chapter management

- ▶ There are several interest groups that one can join.
- ▶ Two chapters: European and International

## ▶ Dissemination services

- ▶ Tell what you do, know what others do. Share experiences. Joint campaigns

## ▶ News service

- ▶ Blog, RSS/Atom, Twitter
- ▶ News for and from members

## ▶ Discussion fora



# Joint campaigns

---

- ▶ Create material for citizens that works
- ▶ If it does: translate and reuse in other countries
- ▶ In IDGF already: French, Dutch, Hungarian, Russian, Chinese, Danish, Portuguese, Spanish, and even English speakers
- ▶ Re-use campaign elements that work:
  - ▶ material for schools
  - ▶ media campaigns
- ▶ Even do joint campaigns

# Joint campaigns

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<http://www.omroepflevoland.nl/nieuws/recent?NewsKey=5479D73C07E37DA0C12575A5004E84D5>



# Joint Campaign

## EDGeS@Home - Donate to Energy Research



# Joint Campaign EDGeS@Home - Donate to Energy Research

The screenshot shows the EDGeS@Home website interface. At the top, there are two browser windows. The main window displays the 'Introduction' page in French. The page features a navigation menu on the left, a central statistics table, and a main text area with a diagram of the EGEE service grid.

**EDGeS@Home Statistics**

Grid	Users	Comp.
BOINC	2.350	4.921
XtremWeb <sup>HEP-E</sup>	n/a	56
<b>Total</b>	<b>2.350</b>	<b>4.977</b>

**EDGeS@Home - Introduction**

EDGeS@Home vous permet d'accorder votre puissance de calcul inutilisée aux sciences. EDGeS@Home fait opérer des applications qui ont été développées pour des grilles scientifiques mais qui sont également aptes pour les grilles de PC sur la base du volontariat composées des ordinateurs domestiques.

Tout le monde peut accorder sa puissance de calcul inutilisée à EDGeS@Home et ainsi aux chercheurs scientifiques qui utilisent EGEE. Il suffit de télécharger et d'installer un petit logiciel permettant la connexion au réseau EDGeS@Home qui active l'ordinateur lorsque celui-ci n'est pas utilisé afin d'effectuer des calculs scientifiques. Les résultats sont transmis à votre PC. EDGeS@Home est adapté pour Windows MacOSX et des systèmes Linux.

EDGeS@Home assure la sécurité: nous ne vous faisons utiliser que des programmes de software qui ont subi des testes de sécurité, de validation et de confiance et des applications qui ne mettront en aucun danger votre système.

**EDGeS@Home propose deux versions différentes.**

Nous vous présentons EDGeS@Home en deux versions différentes:

- EDGeS@Home BOINC Grid
- EDGeS@Home XtremWeb<sup>HEP-E</sup>

EDGeS@Home BOINC Grid utilise le Middleware de BOINC Desktop Grid de l'Université de Berkeley, California, USA. Un des avantages consiste dans le choix d'accorder votre puissance de calcul inutilisée aux plusieurs projects, et non seulement à EDGeS@Home. BOINC a aussi un interface agréable et des outils qui vous montrent ce que vous avez contribué.

EDGeS@Home XtremWeb<sup>HEP-E</sup> est un Middleware de Desktop Grid développé par INRIA/IN2P3 en France. Il a été étendu pour être utilisé au sein d'EDGeS. Il opère plutôt à l'arrière-plan et est spécifiquement utile si vous voulez accorder votre puissance de calcul inutilisée sans trop d'outils supplémentaires.





# Joint Campaign

## EDGeS@Home - Donate to Energy Research

The screenshot shows three overlapping browser windows displaying the EDGeS@Home website. The main window is titled 'EDGeS@Home - XtremWeb Grid' and shows the 'XtremWeb - Hosts' page. The page features a navigation menu, a 'XtremWeb News' section, and a table of host information. A pie chart shows the distribution of operating systems: Linux (39), Windows (23), and MacOSX (2).

**XtremWeb News**  
The "tasks" pages are updated once a day. The "hosts" info is updated in realtime.

**XtremWeb - Hosts**  
Number of hosts: 64  
Number of Linux hosts: 39  
Number of MacOSX hosts: 2  
Number of Windows hosts: 23

Computer name	Date last contact	OS	Processor	Local IP	Details
tipi02.lri.fr	2009-12-12 09:39:24.0	LINUX	IX86	129.175.6.202	[details]
tipi04.lri.fr	2009-12-12 09:37:44.0	LINUX	IX86	129.175.6.204	[details]
tipi07.lri.fr	2009-10-02 17:27:57.0	LINUX	IX86	129.175.6.207	[details]
tipi08.lri.fr	2009-12-12 09:39:43.0	LINUX	IX86	129.175.6.208	[details]
MacBook-de-Oleg.local	2009-10-05 15:22:05.0	MACOSX	IX86	192.168.0.11	[details]
server1	2010-01-08 12:39:25.0	LINUX	IX86	82.148.216.194	[details]
edges-fedak.gillus.net	2010-02-19 08:46:17.0	MACOSX	IX86	192.168.0.173	[details]
almeregrid7	2010-03-20 16:37:53.0	WIN32	IX86	192.168.7.157	[details]
tipi01.lri.fr	2010-01-15 16:36:26.0	LINUX	IX86	129.175.6.201	[details]
tipi03.lri.fr	2010-03-31 04:43:34.0	LINUX	IX86	129.175.6.203	[details]
7pron	2010-01-17 14:02:33.0	WIN32	IX86	192.168.1.2	[details]
URA	2010-02-06 21:18:25.0	WIN32	IX86	192.168.1.3	[details]
MAHNO	2010-04-06 10:05:08.0	WIN32	IX86	10.9.0.40	[details]
wmub	2010-03-04 16:31:05.0	LINUX	IX86	127.0.1.1	[details]
stouf-laptop	2010-03-08 17:17:23.0	LINUX	IX86	127.0.1.1	[details]
PC	2010-03-04 22:54:29.0	WIN32	IX86	192.168.11.2	[details]



# Joint Campaign

## EDGeS@Home - Donate to Energy Research

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### ▶ Good message

- ▶ With EDGeS@Home you can help solve the world's energy crisis
- ▶ Donate unused computing time to fusion research
- ▶ Program ISDEP of Spanish scientists

### ▶ Good initial coverage

- ▶ Fusion communication departments
- ▶ Press, radio
- ▶ Available in local languages, local press releases

### ▶ But...

- ▶ Not a large amount of production work
- ▶ Technical problems with part of the Grid
- ▶ New “test” applications blurred the message



# Educate, train, support

---

## ▶ *Support services:*

- ▶ Expert support for Desktop Grid operators
- ▶ Expert support for application developers

## ▶ **Call for Operators and Developers (through EDGI) with financial support for 2 x 2 small projects.**

- ▶ Open later this month
- ▶ Connected Cloud/Desktop Grid/Service Grid infrastructure

## ▶ *Meetings and event organisation:*

- ▶ Tutorials on Desktop Grids and integration into the standard scientific e-Infrastructure (EGI,...)
- ▶ About one each month already
- ▶ Next one: September 17, Amsterdam, EGITF
- ▶ And session in large Grid training school in Beijing September 8

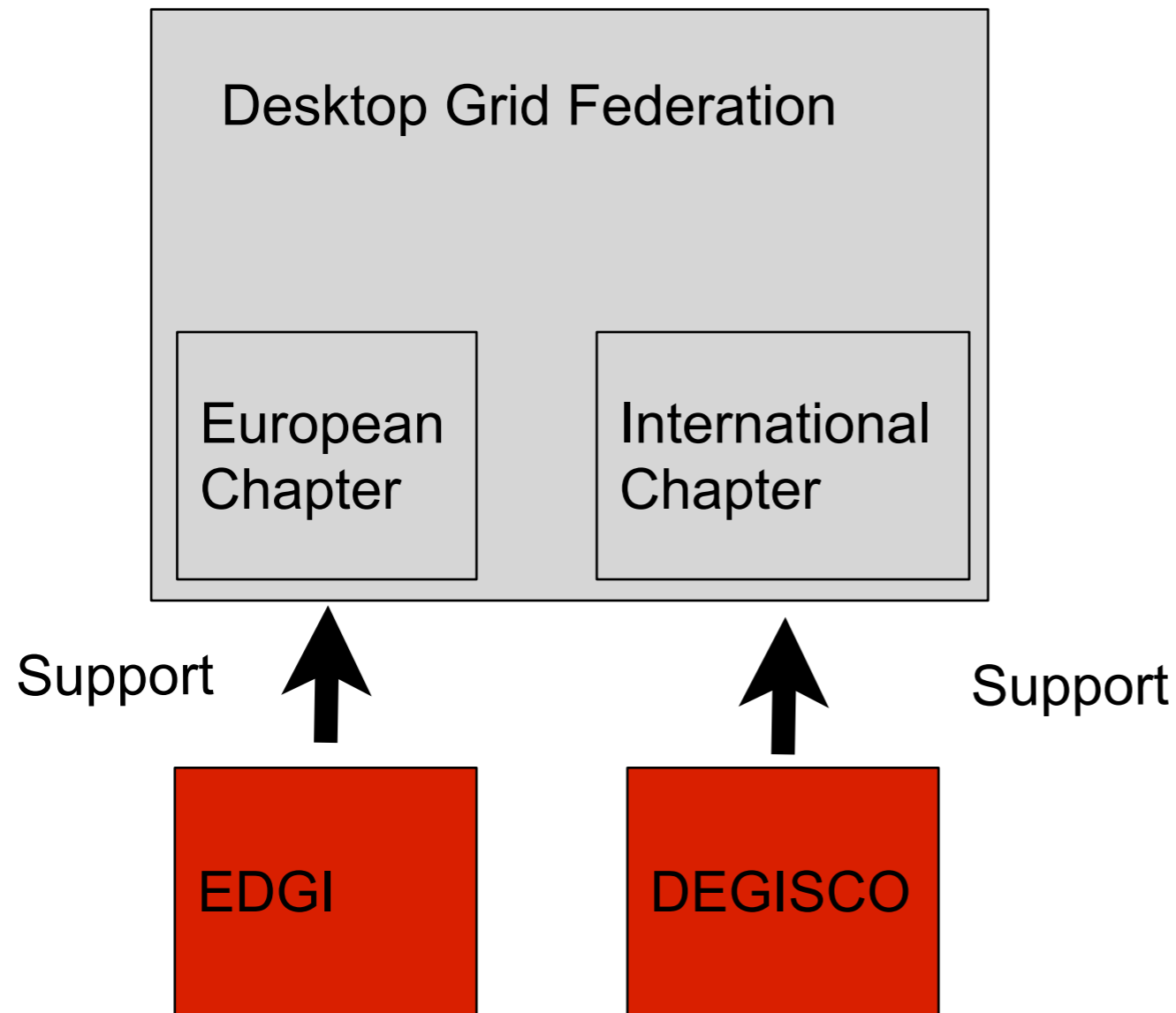


# Who pays for it?

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- ▶ It is a member organisation, guess who...
- ▶ We are looking at member contributions and paid services
- ▶ But the good news: IDGF is supported by two European projects for the next two years: DEGISCO and EDGI
- ▶ The projects bring in a lot of experts, support, documentation, website support, etc.
- ▶ Valued at over € 1 million per year
- ▶ So let us not waste that money

# Relation between entities



- ▶ Desktop Grid Federation entity independent of the projects
- ▶ Membership organisation
- ▶ Partners of DEGISCO and EDGI are members of the Federation (about 20 organisations)
- ▶ All activities of the Federation either “supported by EDGI” or “supported by DEGISCO” when appropriate and for reporting in the projects
- ▶ Work in progress: choose legal vehicle if any, develop bylaws, etc.



# What is already there

---



# What is already there

International Desktop Grid Federation - International Desktop Grid Federation

http://desktopgridfederation.org/

International Desktop Grid Federation

Start Members Events Documentation Experts Infrastructures Contact Forum

**Blogs (Start)**

Search

[Registration open for 2nd IDGF tutorial on Desktop Grid computing](#)

August 3, 2010 2:36 PM

The registration is open for the 2nd IDGF Tutorial - Using Desktop Grids in an eScience environment . It will be held in Amsterdam, the Netherlands (co-located with the EGI Technical Forum) on September 17. More information: <http://desktopgridfederation.org/2nd-idgf-tutorial>

By Ad Eikman | 32 Views, 0 Comments

Subscribe to this blog.

Showing 1 result.

**The International Desktop Grid Federation**

Desktop Grids, Desktop Clouds, allow to employ otherwise idle computing time of Desktop computers for large computational programmes. Desktop Grids can be used inside an organisation, or they can collect computing time from volunteers all over the country, or even all over the world.

However, operating a desktop grid and developing programmes for desktop grids poses specific challenges. That is why the International Desktop Grid Federation is formed.

**Who should become member?**

Organisations and persons can become member of the International Desktop Grid Federation. When should you consider joining?

- Your organisation is operating a Desktop Grid and would like to share experiences with operators, get support and trainings
- 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 (for instance based on gLite, Knowarc or Unicore)
- 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

**Services offered by the International Desktop Grid Federation**

The Federation offers several services for its member:

- Meetings, workshops and conferences: were you can meet and discuss with other members
- Training sessions and tutorials
- Technical support in operation Desktop Grids
- Technical support in connecting Desktop Grids with other Grids and Clouds
- Web site and information centre. Material available in several languages.

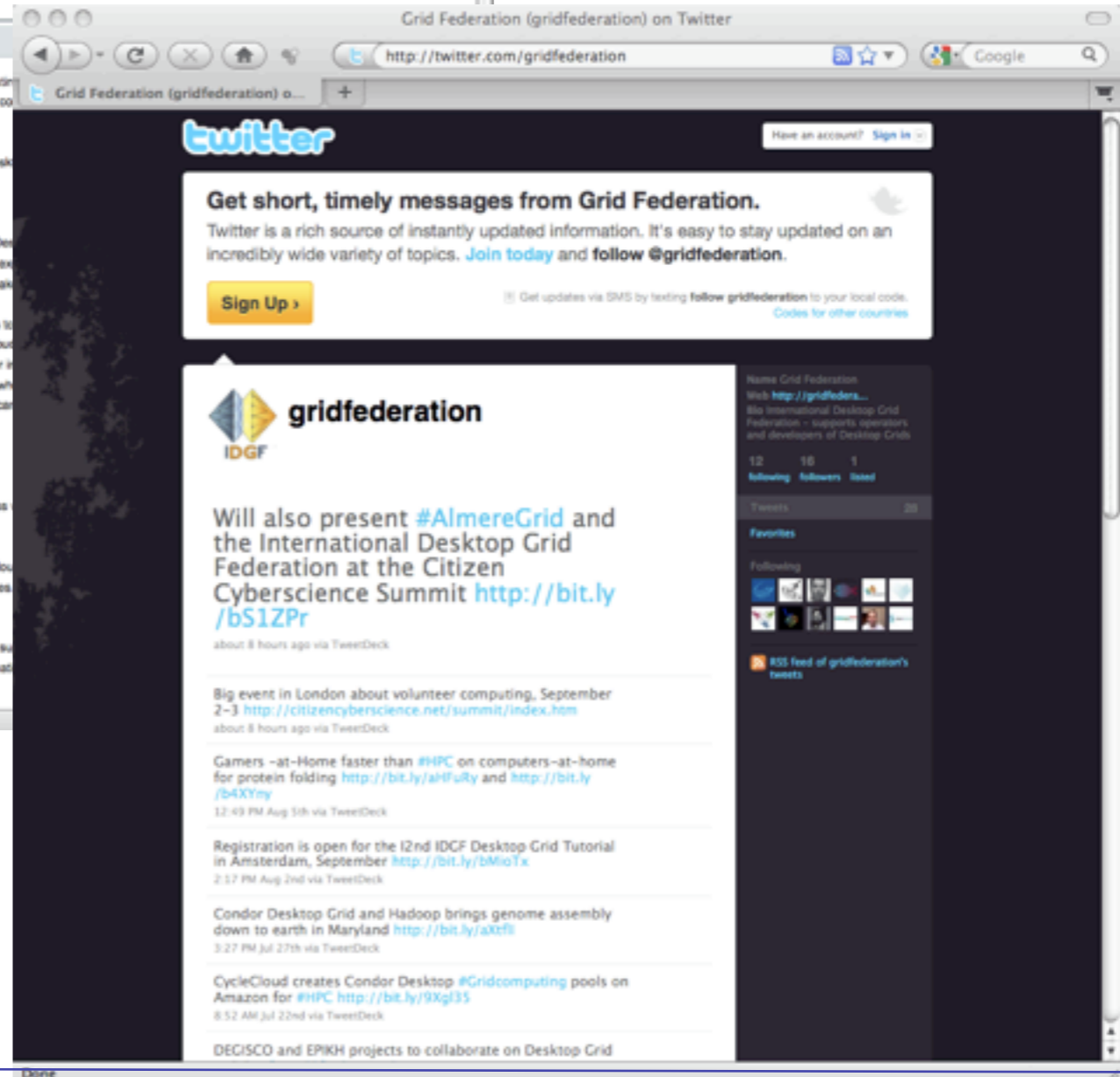
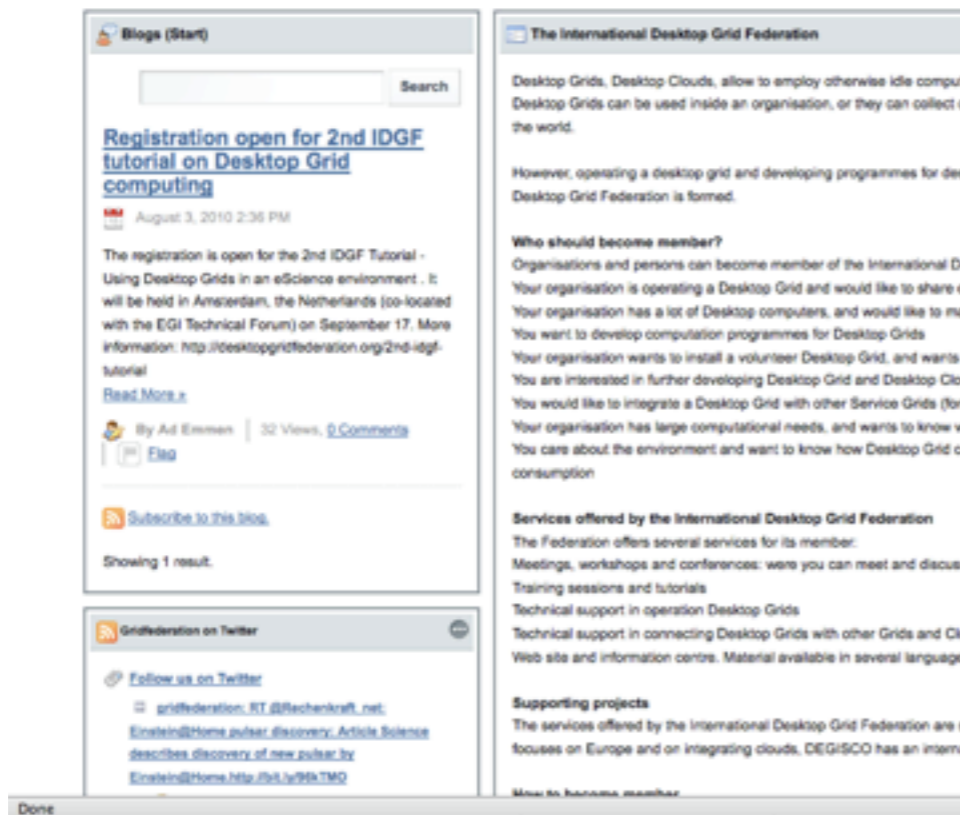
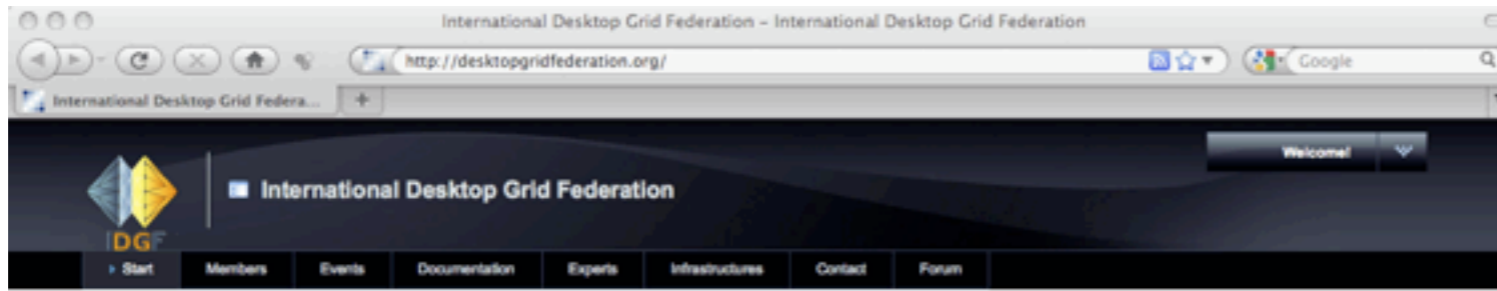
**Supporting projects**

The services offered by the International Desktop Grid Federation are supported by two European projects: EDGI and DEGISCO. EDGI focuses on Europe and on integrating clouds, DEGISCO has an international approach.

Done



# What is already there







# List of organisation and individual members

---



# List of organisation and individual members

A screenshot of a web browser displaying the 'Members - International Desktop Grid Federation' page. The browser's address bar shows the URL 'http://desktopgridfederation.org/members'. The page has a dark blue header with the IDGF logo and a navigation menu. The main content area is divided into several sections: a 'Navigation' sidebar with links to 'Start', 'Members', 'Events', 'Documentation', 'Experts', 'Infrastructures', 'Contact', and 'Forum'; a 'Membership application' section with a link to a form; an 'Academia Sinica' section featuring the organization's logo and a detailed text description of its role in the project; and an 'AlmereGrid' section with a small logo. The 'Organisation Members list' section lists several member organizations, including Academia Sinica (Taiwan), AlmereGrid (The Netherlands), Alos Origin (Spain), Cardiff University (United Kingdom), CNRS (France), G.V. Kuratov Institute for Metal Physics (Ukraine), Huazhong University of Science and Technology (China), INRIA (France), Institute of Russian Academy of Sciences (Russia), and Kazakh Technical University.



# List of organisation and individual members

The screenshot shows the 'Members - International Desktop Grid Federation' page. The browser address bar indicates the URL <http://desktopgridfederation.org/members>. The page features a navigation menu with links for Start, Members, Events, Documentation, Experts, Infrastructures, Contact, and Forum. A 'Membership application' section provides a link to the [membership application form](#). Below this, the 'Academia Sinica' profile is displayed, including its logo and a detailed description of its role in the project. A sidebar on the left contains a 'Navigation' menu and an 'Organisation Members list' with the following entries:

- Academia Sinica (Taiwan)
- AlmereGrid (The Netherlands)
- Alon Origin (Spain)
- Cardiff University (United Kingdom)
- CNRS (France)
- G.V. Kurbatov Institute for Metal Physics (Ukraine)
- Huazhong University of Science and Technology (China)
- INRIA (France)
- Institute of Russian Academy of Sciences (Russia)
- Kanazawa Institute of Technology (Japan)

The screenshot shows the user profile page for 'Francisco Brasileiro' on the IDGF website. The browser address bar shows the URL [portal.desktopgridfederation.org/group/control\\_panel/manage?p\\_id=1254p](http://portal.desktopgridfederation.org/group/control_panel/manage?p_id=1254p). The page includes a 'Back to Guest' link and a 'Back' button. The user's profile information is displayed, including a profile picture and a list of details:

- User ID:** 15190
- Birthday:** December 9, 1965
- Gender:** Male
- Job Title:** Professor
- Last Name:** Brasileiro
- Suffix:** PH.D.

The right sidebar contains a 'User information' section with links to various profile details: Personal, Organizations, Communities, User Groups, Roles, Categorization, Identification, Addresses, Phone Numbers, Additional Email Addresses, Websites, Instant Messenger, Social Network, SMS, OpenID, and Miscellaneous (Announcements, Display Settings, Comments, Custom Attributes). 'Save' and 'Cancel' buttons are located at the bottom of the sidebar.



# Events: tutorials, workshops

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# Events: tutorials, workshops

A screenshot of a web browser displaying the 'Tutorials' page of the International Desktop Grid Federation. The browser's address bar shows the URL 'http://desktopgridfederation.org/tutorials'. The website header includes the IDGF logo and a navigation menu with items like 'Start', 'Members', 'Events', 'Documentation', 'Experts', 'Infrastructures', 'Contact', and 'Forum'. The main content area is divided into two columns. The left column, titled 'Navigation', contains a link to 'Events' and a sub-menu for 'Tutorials' with links to '1st IDGF tutorial', '2nd IDGF tutorial', and 'Conferences &amp; workshops'. The right column, titled 'Tutorials', lists 'Future tutorials' (2010-09-19, 2nd IDGF Tutorial, Amsterdam, The Netherlands, supported by EDGI) and 'Past Tutorials' (2010-06-29, 1st IDGF Tutorial, Dubna, Russia, supported by DEGISCO). The browser's status bar at the bottom shows 'Done'.



# Events: tutorials, workshops

The image shows two browser windows. The top window displays the 'Tutorials - International Desktop Grid Federation' page. The URL is <http://desktopgridfederation.org/tutorials>. The page features a navigation menu with 'Events' selected. A sidebar on the left shows 'Events' with a sub-menu for 'Tutorials' containing links for '1st IDGF tutorial', '2nd IDGF tutorial', and 'Conferences & workshops'. The main content area lists 'Future tutorials' (2010-09-19, 2nd IDGF Tutorial, Amsterdam, The Netherlands) and 'Past Tutorials' (2010-06-29, 1st IDGF Tutorial, Dubna, Russia (supported by the Russian Federation)).

The bottom window shows a detailed view of the '2nd IDGF tutorial - Using Desktop Grids in an eScience environment'. The URL is <http://desktopgridfederation.org/2nd-idgf-tutorial>. The page includes the following information:

- Date:** September 17
- Time:** 14.00 - 17.30h
- Place:** Amsterdam, Beurs van Berlage
- Objective:** The goal of the second IDGF tutorial is to provide an introduction into Desktop Grid computing; programming for Desktop Grids; and connecting Desktop Grids to standard scientific working environments, such as the European Grid Infrastructure (EGI).
- Who should attend?:**
  - Anyone who considers setting up a local or Volunteer Desktop Grid.
  - Scientists and application developers looking for ways to use more computing power.
  - NGI/EGI Grid operators who want to extend their services with more computational power and are considering Desktop Grids.
- Organisation:** The second IDGF tutorial is organised by the International Desktop Grid Federation, with support from the EGI project and Gridforum.nl. It is facilitated by the EGI technical Forum. Local organisation: AlmereGrid.

Logos for EGI Technical Forum 2010 and GF GRIDFORUM are visible at the bottom of the page.

# Green Desktop Grids

- ▶ Are Desktop Grids green?
  - ▶ In London they probably are
  - ▶ In Dubai they probably are not
- ▶ Airco takes a lot of energy
- ▶ Within IDGF (DEGSICO) we are systematically investigating the energy costs of Desktop Grids
- ▶ You can join the survey and discussion forum
- ▶ Results useful for any Desktop Grid



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# What do *you* think

---

- ▶ Are you interested in joining?
  - ▶ What should we focus on?
  - ▶ Which pitfalls to avoid?
- 
- ▶ Main question:
    - ▶ *Will it help to substantially increase the number of volunteers and the number of local Grids at universities?*



---

**[http://  
desktopgridfederation.eu](http://desktopgridfederation.eu)**

Globe adapted from  
[http://upload.wikimedia.org/  
wikipedia/commons/f/fa/  
Globe.svg](http://upload.wikimedia.org/wikipedia/commons/f/fa/Globe.svg)



**[http://  
desktopgridfederation.eu](http://desktopgridfederation.eu)**

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