



DEGISCO **Desktop Grids for International Scientific Collaboration**

Introduction

2010-12-13

Start date: 2010-06-01

Duration: 24 months

DEGISCO consortium

version 7.0

EDGI is supported by the FP7 Capacities Programme under contract nr RI-261561

Project Background

- ▶ European e-Infrastructure **EDGeS (Enabling Desktop Grids for E-Science)** connects 100.000 Desktop Grid computers with 150.000 core EGEE and other service Grids, including EELA2, SEE-Grid
- ▶ Goal of the initiative:
 - ▶ Connect non-EU countries (ICPC countries in Europe, Asia and Latin-America) to this European infrastructure
 - ▶ Help them to set-up local Desktop Grids

→ <http://degisco.eu>



DEGISCO

Desktop Grids for International Scientific Collaboration

Project acronym:
DEGISCO

Contract n°: RI-261561

Project type: CSA-SA

Start date: 01/06/2010

Duration: 24 months

Funding from the EC:
800.000 €

**Total funded effort
in person-month:** 320

Web site: <http://degisco.eu>

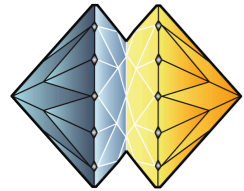
Coordinator:

Dr. Robert Lovas

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*“Expand European DCIs into non-EU partner countries by supporting the creation of **new Desktop Grids** for e-Science in those countries and in Europe and by **connecting** them using the EDGeS bridge technology. **Support applications** on this expanded infrastructure, **disseminate**, promote and provide **training** about this expanded infrastructure and its usage”.*

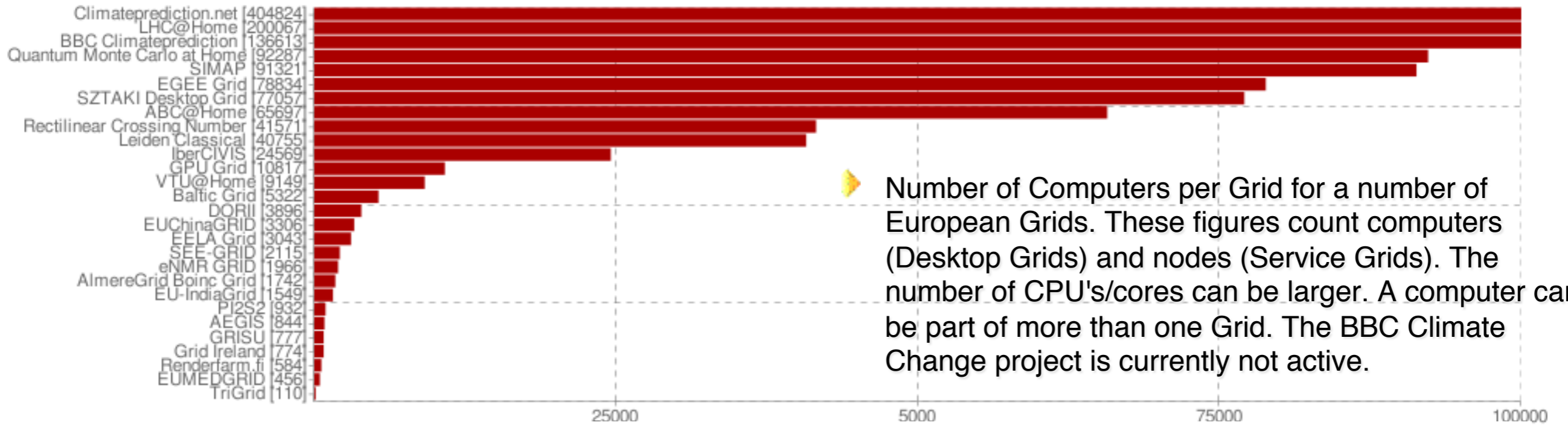




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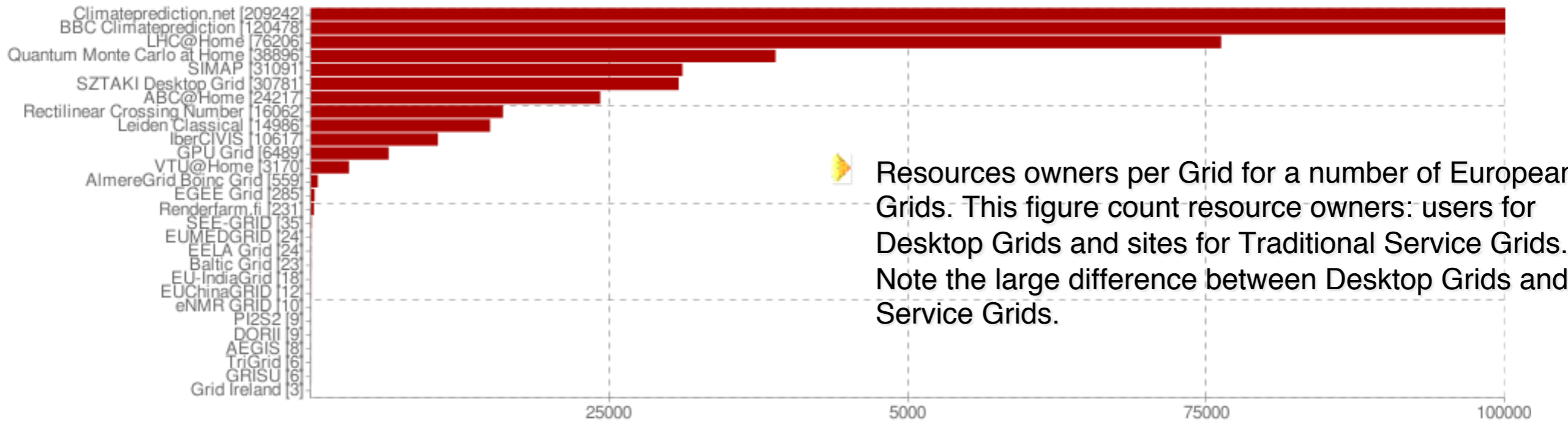
Importance of Desktop Grids for Science: <http://knowledgebase.e-irg.eu>

Number of Computers per Grid



Number of Computers per Grid for a number of European Grids. These figures count computers (Desktop Grids) and nodes (Service Grids). The number of CPU's/cores can be larger. A computer can be part of more than one Grid. The BBC Climate Change project is currently not active.

Number of Resource Owners per Grid



Resources owners per Grid for a number of European Grids. This figure count resource owners: users for Desktop Grids and sites for Traditional Service Grids. Note the large difference between Desktop Grids and Service Grids.

DEGISCO, EDGI & EDGeS

Supercomputer based service grids



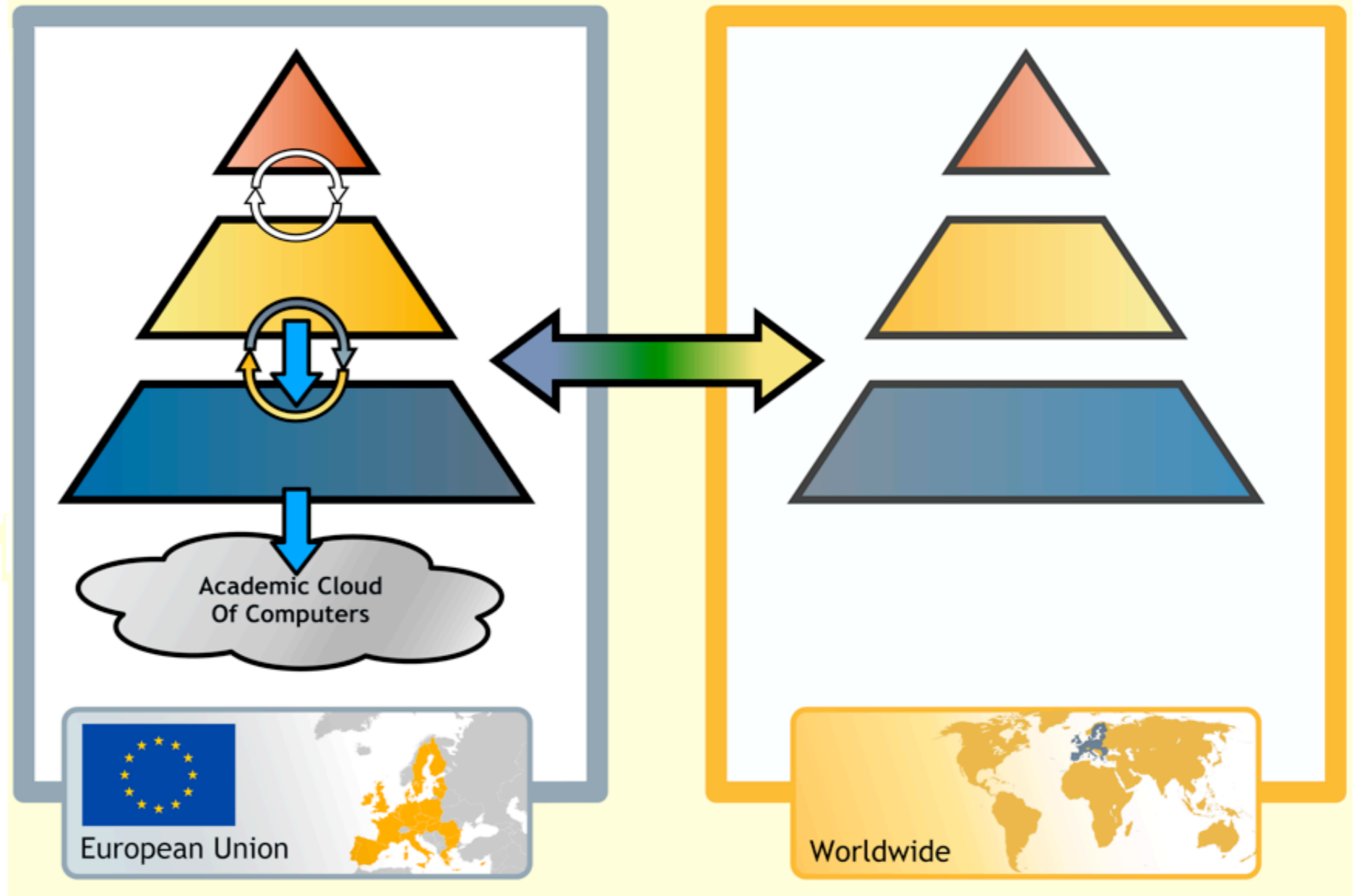
Cluster based service grids



Volunteer or organisational desktop grids



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Countries involved in DEGISCO

Participant Countries/Regions

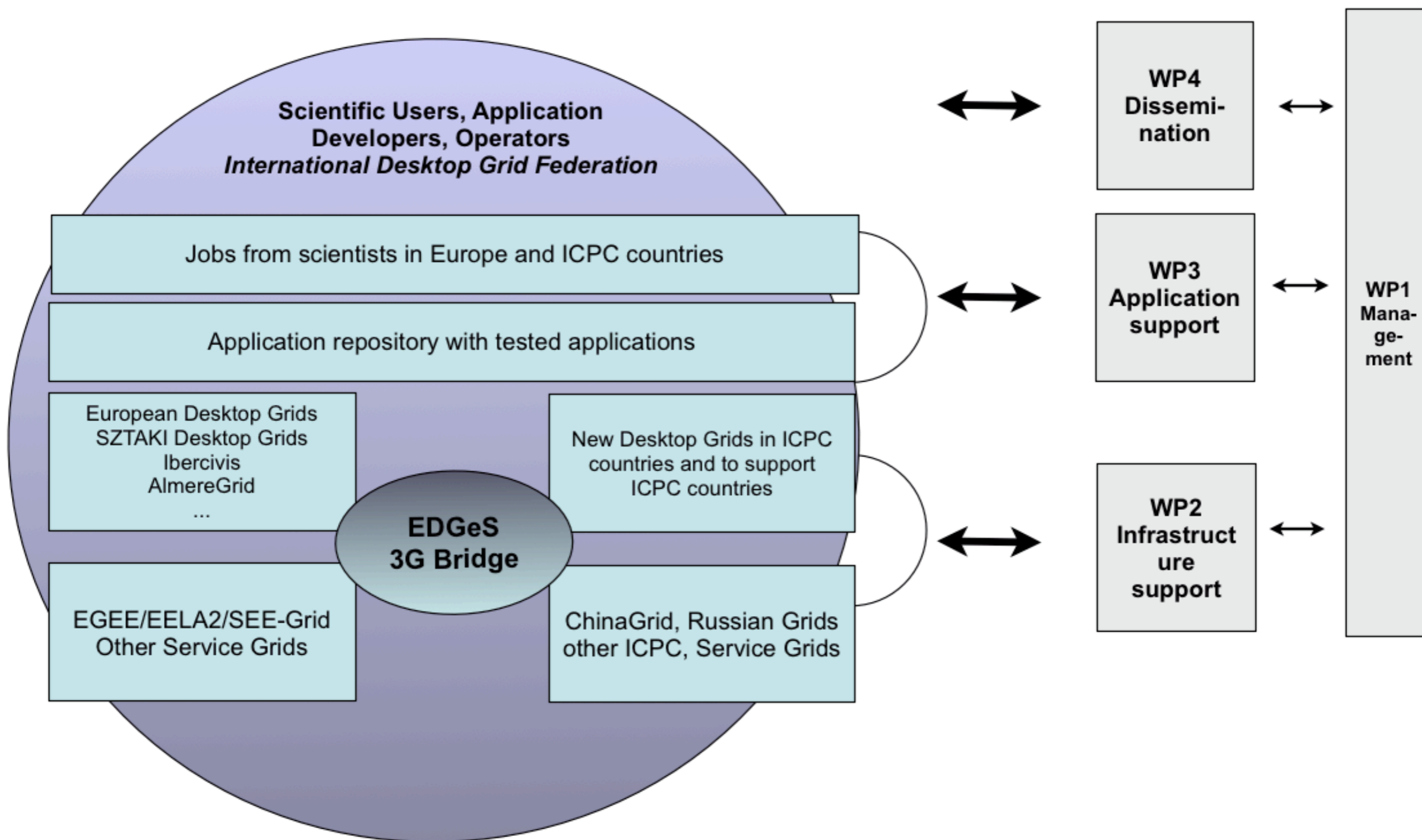


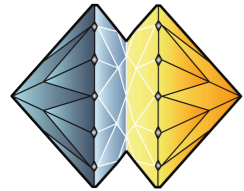
DEGISCO Partners

	Participant organisation name	Short name	Country/Region	Expertise
1	Magyar Tudományos Akadémia Számítastechnikai és Automatizálási Kutatóintézet	MTA SZTAKI	Hungary 	Desktop Grids, Service grids, project management
2	Centre National de la Recherche Scientifique	CNRS	France 	XtremWeb, gLite
3	Universidad de Zaragoza Insituto de Biocomputación y Física de Sistemas Complejos	UNIZAR-Ibercivis	Spain 	Spanish Desktop Grid federation, Grid operation, applications, dissemination
4	Stichting AlmereGrid	AlmereGrid	The Netherlands 	Desktop Grids, Dissemination
5	The University of Westminster	UoW	United Kingdom 	Application support, Grid operation
6	Academia Sinica Grid Computing	ASGC	Taiwan 	Local IT expertise/users
7	Institute for Systems Analysis Russian Academy of Sciences	ISA RAS	Russian Federation 	Local/Regional IT expertise/users
8	G.V. Kurdyumov Institute for Metal Physics	IMP	Ukraine 	Local/Regional IT expertise/users
9	JSC Kazakh-British Technical University	KBTU	Kazakhstan 	Local IT expertise/users
10	Universidade Federal de Campina Grande	UFCG	Brazil 	Regional Desktop Grid expertise/users
11	School of Computer Huazhong University of Science and Technology	HUST	China 	Local/Regional IT expertise/users
12	Atos Origin S.A.	ATOS Origin	Spain 	Business use of grids



The International Desktop Grid Federation and support from DEGISCO





Project work plan

▶ WP1 Management

▶ WP2 Infrastructure support

- ▶ Technically support the setting up and operation of new desktop grids, especially in ICPC countries. Both local desktop grids, inside organisations, and public volunteer desktop grids will be supported.

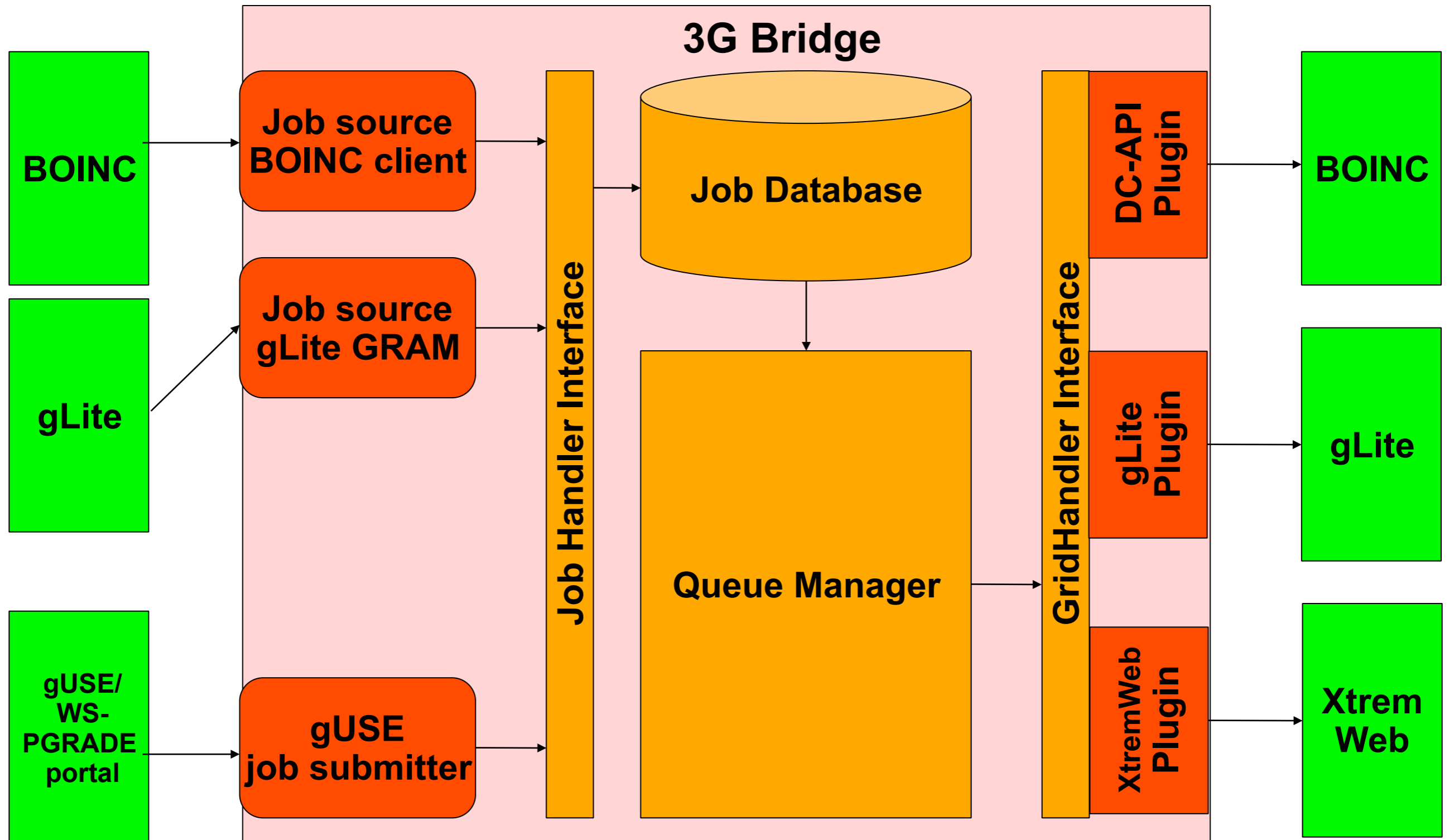
▶ WP3 Application support

- ▶ The infrastructure that is supported by WP2, will be used by scientific applications that will be run by researchers in ICPC countries or collaborations including researchers from ICPC countries and Europe.

▶ WP4. Communication, dissemination, and community management

- ▶ Create awareness amongst all possible stakeholders; recruit new resource providers, new grid operators, new application developers, and new scientific users. It will also disseminate project results and provide training.

Generic Grid - Grid Bridge (WP2)





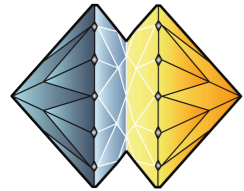
Applications available in 2010/Q3 (WP3)

Application	Area
AutoDock	Molecular docking simulations using AutoDock
BinSys	Search for Generalized Number Systems
Blender	Blender: 3D Video Rendering
CALD	laserac: CALD - Cellular Automata-based Laser Dynamics
Convert	ImageMagick Convert
Correlizer	Genome analysis
DART	Audio Retrieval
DSP	DSP: Defining the class of optimal periodic non-uniform sampling sequence
EMMIL	E-Marketplace Model Integrated with Logistics
ISDEP	Nuclear Fusion application
InterProScan	
MOPAC	MOPAC (Molecular Orbital PACKage)
Merlin	Genetic Linkage Analysis
MultiscaleIVideoP	Multiscale Image and Video Processing
PLINK	Analysis of Genotype Data
PR	PR: Patient Readmission Application
SIMAP	Simulating and analysing the dynamic behaviour of biochemical models
SLinCA	Scaling Laws in Cluster Aggregation
SOGA	Signal and Image Processing with GT4Tray
UCExplorer	
ViSAGE	Video Stream Analysis
Visvio	Visualisation Interface to the Virtual Observatory
WISDOM PE	WISDOM Production Environment
X-ray	Extraction of X-ray Diffraction Profiles



International Desktop Grid Federation (WP4)

- ▶ Main vehicle for dissemination during the project lifetime and for continuation after the project
- ▶ Federation is open for organisations and individuals in research and industry
- ▶ A member organisation
- ▶ Focal point for DCI/Desktop operators and Application developers
- ▶ Website: discussion fora, events and workshops
- ▶ Also supported by EDGI (For European chapter)



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<http://degisco.eu>

<http://desktopgridfederation.org>

Globe adapted from
<http://upload.wikimedia.org/wikipedia/commons/f/fa/Globe.svg>