



**Memorandum of Understanding  
between  
EGI-InSPIRE and EDGI**



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## Memorandum of Understanding between EGI-InSPIRE and EDGI



### BACKGROUND

The **Integrated Sustainable Pan-European Infrastructure for Researchers in Europe** project (hereafter referred to as **EGI-InSPIRE**)<sup>1</sup> supports the transition from a project-based system to a sustainable pan-European e-Infrastructure, by supporting ‘grids’ of High-Performance Computing (HPC) and High-Throughput Computing (HTC) resources. EGI-InSPIRE, the central organization that provides a coordinating hub for European DCIs, will also be ideally placed to integrate new Distributed Computing Infrastructures (DCIs) such as clouds, supercomputing networks and desktop grids, to benefit the user communities within the European Research Area (ERA). A summary of EGI-InSPIRE is attached as Annex 1.

The **European Desktop Grid Initiative (EDGI)**<sup>2</sup> project aims to deploy desktop grid (DG) and cloud services for EGI user communities that are heavy users of DCIs and require an extremely large multi-national e-infrastructure. In order to achieve this goal software components of ARC, gLite, UNICORE, BOINC, XWHEP, ADICS, 3G Bridge, OpenNebula, Eucalyptus will be integrated into Service Grid (SG)→Desktop Grid (DG)→Cloud platforms for service provision and as a result EDGI will extend ARC, gLite and UNICORE grids with volunteer and institutional DG systems. EDGI will create novel QoS support for the DG systems and will explore new service provision models in order to ensure harmonized DG→Cloud interfaces to ARC, gLite and UNICORE resources. EDGI will provide a workflow-oriented science gateway to enable user communities to more easily access the EDGI infrastructure. EDGI will establish the IDGF organization to coordinate DG-related activities in Europe both for solving technical issues as well as to attract volunteer DG resource donors by disseminating results of the EDGI and EGI projects. IDGF and EDGI will work in strong collaboration with EGI, EMI, NorduGrid, UNICORE Forum and interested NGIs. A summary of EDGI is attached as Annex 2.

Institutions common to both projects are: MTA SZTAKI, CNRS, UNIZAR-I3A (Universidad de Zaragoza) and INAF (as EDGI sub-contractor).

### ARTICLE 1: PURPOSE

The purpose of this Memorandum of Understanding (MoU) is to define a framework of collaboration between EGI-InSPIRE and EDGI (hereafter also referred to as “the Party” or the “Parties”). The Parties recognise, by this MoU, the opening of a wider and longer-term cooperation in activities that will bring visible benefits.

### ARTICLE 2: JOINT WORK PLAN

The parties contribute to enable the vision of providing European scientists and international collaboration for sustainable distributed computing services to support their work. In this broad context, the specific goals of the collaborations are:

- To collaborate on the integration of Desktop Grids into monitoring and designing the integrated accounting activities and the other operational systems of EGI for a seamless operation of Desktop Grids;
- To prototype, test and roll to production the devised solution (this will be in collaboration with the Hungarian NGI) and to support the provided integration software;

<sup>1</sup> <http://www.egi.eu/projects/egi-inspire/>

<sup>2</sup> <http://edgi-project.eu>



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- Once ready for production, to disseminate the integration solution through the existing appropriate channels (operations meetings, community meetings etc.).

The specific activities to be carried out in the framework of the collaboration are<sup>3</sup>:

### A.1 Integrating Desktop Grids with EGI

**Parties Involved:** EGI-InSPIRE SA1 Activity Leader; EDGI Technical Coordinator

**Description of work:** Collecting requirements needed for the integration of Desktop Grids into monitoring and accounting of EGI; a design study will be produced as a result of this. A prototype for the integrated monitoring will be implemented, tested and rolled to production. In particular, EDGI will develop and maintain probes for monitoring Desktop Grid. Probes must be provided as RPM packages and follow EGI probe development guidelines<sup>4</sup>. Integration of Desktop Grid probes will be performed in cooperation with the SAM team and according to the procedure for integrating new probes<sup>5</sup>. The developed set of probes, their integration into SAM, and the extension of the EGI service registry (GOADB) are all pre-requirements for the inclusion of DG Services into the EGI's production infrastructure to provide seamless access to monitoring results through MyEGI (EGI monitoring portal), and for the future integration of them into Availability/Reliability reports.

**Expected outcome:**

- M1.1: Collecting requirements (including ARC, gLite, UNICORE)
- M1.2: EDGI development of integrated monitoring prototype
- M1.3: Testing and rolling to production the monitoring solution in collaboration with NGI\_HU
- M1.4: EDGI design study for integrated accounting

### A.2 Disseminating the integration of Desktop Grids – EGI infrastructure

**Parties Involved:** EGI-InSPIRE SA1 Activity Leader; EDGI NA2 Leader

**Description of work:** The results of the integration activities (A.1) will be disseminated across the EGI Resource infrastructure providers through presentations at meetings during community events and in EGI press articles.

**Expected outcome:**

- M2.1: Advertise the start of the collaboration on each party website with a dedicated static page and news article
- M2.2: Presentation of integration results and related *Inspire* newsletter article
- M2.3: EGI.eu, EDGI and IDGF web pages describing and disseminating the integrated Desktop Grids – EGI infrastructure

## ARTICLE 3: TIMELINE AND REPORTING

The EGI.eu Policy Development Team (PDT) will coordinate the periodic review of the progress of the activities defined in Article 2 (Joint Work Plan), follow-up the milestones defined below and distribute reports to both Parties. Special meetings between the points of contact designated under Article 4 (Communication) shall be held, as often as necessary, to examine the progress in the implementation of this Agreement.

<sup>3</sup> Party leading the activity is underlined.

<sup>4</sup> <https://tomtools.cern.ch/confluence/display/SAMDOC/Probes+Development+Policy>

<sup>5</sup> <https://wiki.egi.eu/wiki/PROC07>



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Date	Activity	Additional Information
Nov 2011	Task A.1	M1.1 and M1.2 are completed
Dec 2011	Task A.2	M2.1 is completed
Feb 2012	Task A.1	M1.3 is completed
May 2012	Task A.1	A.1 is completed
May 2012	Task A.1	M1.4 is completed
May 2012	Task A.2	A.2 is completed, including M2.2 and M2.3

#### **ARTICLE 4: COMMUNICATION**

The Parties shall keep each other informed on all their respective activities and on their progress and shall consult regularly on areas offering potential for cooperation.

Joint working groups may be established to examine in detail proposals in areas assigned to them by the Parties referred to in Article 2 (Joint Work Plan) and to make recommendations to the Parties.

Each Party shall designate a “point of contact” that shall be responsible for monitoring the implementation of this MoU and for taking measures to assist in the further development of cooperative activities. Such points of contact shall be the ordinary channel for the Parties' communication of proposals for cooperation.

The primary point of contact for each Party is:

EGI-InSPIRE: EGI.eu Operations Office (operations@egi.eu)

EDGI: Agnes Szeberenyi (szeberenyi@sztaki.hu)

Questions of principle or problems that cannot be solved at primary contact level are escalated to the EGI-InSPIRE Project Director and the EDGI Project Coordinator.

#### **ARTICLE 6: RIGHTS AND RESPONSIBILITIES**

The procedure is set out in Annex 3.

#### **ARTICLE 7: FUNDING**

Each Party shall bear the costs of discharging its respective responsibilities under this MoU, including travel and subsistence of its own personnel and transportation of goods and equipment and associated documentation, unless otherwise agreed in this MoU.

Each Party shall make available free of charge to the other Party any office/meeting space needed for the joint activities.

The Parties' obligations hereunder are subject to their respective funding procedures and the availability of appropriated funds. Should either Party encounter budgetary problems in the course of its respective internal procedures that may affect the activities carried out under this MoU, that Party shall notify and consult with the other Party in a timely manner in order to minimise the negative impact of such problems on the cooperation. The Parties shall jointly look for mutually agreeable solutions.



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In order to reduce the impact on travel costs, face-to-face meetings should be co-located with other events where participants are likely to attend. Meeting via teleconferences should be considered when the nature of the discussion does not strictly require a face-to-face presence.

**ARTICLE 8: ENTRY INTO FORCE, DURATION AND TERMINATION**

This MoU will enter into force when signed by the authorised representatives of the Parties and shall remain in force until completion of the activities identified in Article 2 (Joint Work Plan), or upon termination of the projects in which the Parties participate, or upon three (3) months prior written notice by one Party to the other. In the event of termination, the parties shall endeavour to reach agreement on terms and conditions to minimise negative impacts on the other Party. In the event of the continuation of the present cooperation, the Agreement may be extended and/or amended by mutual agreement in writing.

**ARTICLE 9: AMENDMENTS**

The MoU may be amended by written agreement of the Parties. Amendments shall be valid only if signed by the authorized representatives of the Parties.

**ARTICLE 10: ANNEXES**

Annexes 1, 2, 3 and 4 attached hereto have the same validity as this MoU and together constitute the entire understanding and rights and obligations covering the cooperation accepted by the Parties under this MoU. Annexes may be amended following the provisions of Article 9 (Amendments).

**ARTICLE 11: LANGUAGE**

The language for this MoU, its interpretation and all cooperative activities foreseen for its implementation, is English.

**ARTICLE 12: GOVERNING LAW - DISPUTE RESOLUTION**

The terms of this MoU shall be interpreted in accordance with their true meaning and effect independently of national and local law. Provided that if and insofar as this MoU does not stipulate, or any of its terms are ambiguous or unclear reference shall be made to the substantive laws of Belgium. Disputes shall be resolved by amicable settlement or failing which by arbitration in accordance with the procedure set out in Annex 4.



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IN WITNESS WHEREOF, the Parties have caused their duly authorised representatives to sign two originals of this Memorandum of Understanding, in the English language.

The following agree to the terms and conditions of this MoU:

Handwritten signature of Dr. Steven Newhouse in black ink.

**Dr. Steven Newhouse  
EGI-InSPIRE Project Director**

Handwritten signature of Prof. Dr. Peter Kacsuk in black ink.

**Prof. Dr. Peter Kacsuk  
EDGI Project Co-ordinator**

22/11/11  
**Date**

22/11/2011  
**Date**



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### Annex 1 EGI-InSPIRE Description

To support science and innovation, a lasting operational model for e-Infrastructure is needed – both for coordinating the infrastructure and for delivering integrated services that cross national borders. The EGI-InSPIRE project will support the transition from a project-based system to a sustainable pan-European e-Infrastructure, by supporting ‘grids’ of high-performance computing (HPC) and high-throughput computing (HTC) resources. EGI-InSPIRE will also be ideally placed to integrate new Distributed Computing Infrastructures (DCIs) such as clouds, supercomputing networks and desktop grids, to benefit the user communities within the European Research Area. EGI-InSPIRE will collect user requirements and provide support for the current and emerging user communities. Support will also be given to the current heavy users of the infrastructure, such as high energy physics, computational chemistry and life sciences, as they move their critical services and tools from a centralised support model to one driven by their own individual communities.

**Objectives:** The objectives of the project are:

- The continued operation and expansion of today’s production infrastructure by transitioning to a governance model and operational infrastructure that can be increasingly sustained outside of specific project funding.
- The continued support of researchers within Europe and their international collaborators that are using the current production infrastructure.
- The support for current heavy users of the infrastructure in earth science, astronomy and astrophysics, fusion, computational chemistry and materials science technology, life sciences and high energy physics as they move to sustainable support models for their own communities.
- Interfaces that expand access to new user communities including new potential heavy users of the infrastructure from the ESFRI projects.
- Mechanisms to integrate existing infrastructure providers in Europe and around the world into the production infrastructure, so as to provide transparent access to all authorised users.
- Establish processes and procedures to allow the integration of new DCI technologies (e.g. clouds, volunteer desktop grids) and heterogeneous resources (e.g. HTC and HPC) into a seamless production infrastructure as they mature and demonstrate value to the EGI community.

The EGI community is a federation of independent national and community resource providers, whose resources support specific research communities and international collaborators both within Europe and worldwide. EGI.eu, coordinator of EGI-InSPIRE, brings together partner institutions established within the community to provide a set of essential human and technical services that enable secure integrated access to distributed resources on behalf of the community. The production infrastructure supports Virtual Research Communities – structured international user communities – that are grouped into specific research domains. VRCs are formally represented within EGI at both a technical and strategic level.

**Consortium:** The EGI-InSPIRE consortium has 50 partners with representatives of 42 National Grid Initiatives (NGIs) and European International Research Organisation (EIROs) in geographical Europe, and eight Asia Pacific partners, coordinated by EGI.eu a dedicated organisation established to provide an integrated sustainable pan-European Infrastructure for all researchers in Europe.

**Duration: 48 months - EC Contribution: 25,000,000 € - Total Budget: cca. 72,000,000 €**

**Total Manpower: 9,241 Person Months.**





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### Annex 2 EDGI Description

The EDGI (European Desktop Grid Initiative) project aims to deploy desktop grid (DG) and cloud services for EGI user communities that are heavy users of DCIs and require extremely large multi-national e-infrastructure. In order to achieve this goal software components of ARC, gLite, UNICORE, BOINC, XWHEP, ADICS, 3G Bridge, OpenNebula, Eucalyptus will be integrated into SG→DG→Cloud platforms for service provision and as a result EDGI will extend ARC, gLite and UNICORE grids with volunteer and institutional DG systems. EDGI will create novel QoS support for the DG systems and will explore new service provision models in order to ensure harmonized DG→Cloud interfaces to ARC, gLite, UNICORE resources. EDGI will provide a workflow-oriented science gateway to enable user communities to more easily access the EDGI infrastructure. EDGI will establish the IDGF organization to coordinate DG-related activities in Europe both for solving technical issues as well as to attract volunteer DG resource donors by disseminating results of the EDGI and EGI projects. IDGF and EDGI will work in strong collaboration with EGI, EMI, NorduGrid, UNICORE Forum and interested NGIs.

### Project objectives

- To develop bridge middleware to extend ARC-, gLite and UNICORE-based Grids with Desktop Grids
- To develop DG→Cloud bridge middleware in order to get instantly available additional resources on demand when QoS requirements need it
- To improve Desktop Grid middleware in order to handle QoS requirements
- To improve the SG→DG bridge middleware in order to support data-intensive applications
- To consolidate the existing EDGeS production infrastructure and further develop towards the more comprehensive EDGI production infrastructure
- To create a European Desktop Grid federation

### Fact sheet

<http://edgi-project.eu/facts>

### Participating EDGI Members

Project Co-ordinator: Peter Kacsuk

Technical Co-ordinator: Jozsef Kovacs

EDGI Production DCI Service (SA1) Workpackage Leader: Zoltan Farkas

Quality Assurance (SA2) Workpackage Leader: Dario Ferrer

NA2 Leader: Ad Emmen



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**Annex 3 Rights and Responsibilities**

**A. GENERAL**

1. EDGI agrees to adhere to applicable policies and procedures relating to the use of the production infrastructure.
2. A Party which makes material, equipment or components available to the other Party, for the purposes of activities under this MoU shall remain the proprietor of such material, equipment or components.
3. Each Party shall remain fully responsible for its own activities, including the fulfilment of its obligations under any grant agreement with the European Commission or under any consortium agreement related thereto.

**B. PERSONNEL**

1. Each Party shall be solely responsible for any personnel hired to carry out work under this MoU.
2. In case personnel employed by one Party temporarily carries out work under this MoU on the premises of another (hereafter referred to as "secondment"), the following provisions shall apply:
  - (a) The persons seconded shall be subject to all regulations, including, in particular, safety regulations, applicable on the site of the Party they are seconded to.
  - (b) The personnel seconded by a Party to another shall remain employees of the Party having seconded them and such Party, as employer, shall bear exclusive responsibility for the payment of salary and for the procurement of adequate social security and insurance, including third party liability insurance and health insurance.
  - (c) Unless otherwise agreed by the Parties concerned, Intellectual Property Rights generated by personnel seconded by a Party to another shall be owned by the Party having seconded such personnel.

**C. INTELLECTUAL PROPERTY RIGHTS AND LICENSE**

1. "Intellectual Property Rights" shall mean all intellectual creations including but not limited to inventions, know-how, layouts, drawings, designs, specifications, computer programs, reports, processes, protocols, calculations and any other matter and protected by intellectual property rights, whether registered or not, including patents, registered designs, copyrights, design rights and all similar proprietary rights and applications for protection thereof.
2. Intellectual property rights generated by a Party under this MoU shall be the property of that Party who shall be free to protect, transfer and use such Intellectual Property Rights as it deems fit.
3. Notwithstanding the foregoing each Party shall grant the other a non-exclusive royalty free, perpetual license to use the Intellectual Property Rights generated by it under this MoU for use within its project or for the exploitation the results thereof. Such license shall include the right to sublicense the entities involved in the project.

**D. JOINTLY OWNED RESULTS**

1. Results that were jointly generated by both Parties will be jointly owned by the Parties, hereinafter referred to as ("Jointly Owned Results") and each of the Parties shall be free to use these Jointly Owned Results as it sees fit without owing the other Party any compensation or requiring the consent of the other Party. Each Party, therefore, for example and without limitation, has the transferable right to grant non-exclusive, further transferable licenses under such Jointly Owned Results to third parties. Each Party shall be entitled to disclose such Jointly Owned Results without restrictions unless such Jointly Owned Results contain a Joint Invention in which case no disclosure must be made prior to the filing of a priority application.



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2. With respect to any joint invention resulting from this MoU (i.e. any invention jointly made by employees of both Parties), the features of which cannot be separately applied for as Intellectual Property Rights and which are eligible for statutory protection requiring an application or registration (herein referred to as “Joint Invention”), the Parties shall agree on which Party will carry out any filing as well as any further details with regard to persecuting and maintaining of relevant patent applications.

**E. PUBLIC RELATIONS**

1. Any publication by a Party resulting from the activities carried out under this MoU shall be subject to prior agreement of the other Party not be unreasonably withheld.

2. EGI-InSPIRE and EDGI may each release information to the public, provided it is related only to its own part of the activities under this MoU. In cases where the activities of the other Party are concerned prior consultation shall be sought. In all relevant public relations activities, the contribution of each Party related to activities covered by this MoU shall be duly acknowledged.

**F. CONFIDENTIALITY OF INFORMATION**

1. The Parties may disclose to each other information that the disclosing Party deems confidential and which is (i) in writing and marked “confidential”, or (ii) disclosed orally, and identified as confidential when disclosed, and reduced in writing and marked “confidential” within fifteen (15) days of the oral disclosure (hereafter referred to as “Confidential Information”). Confidential Information shall be held in confidence and shall not be disclosed by the receiving Party to any third party without the prior written consent of the disclosing Party.

2. Notwithstanding the foregoing a Party is entitled to disclose Confidential Information which it is required by law to disclose or which, in a lawful manner, it has obtained from a third party without any obligation of confidentiality, or which it has developed independently from any Confidential Information received under this MoU, or which has become public knowledge other than as a result of a breach on its part of these confidentiality provisions.

**G. LIABILITY**

1. Each Party shall use reasonable endeavours to ensure the accuracy of any information or materials it supplies to the other Party and of any other contribution it makes hereunder and promptly to correct any error therein of which it is notified. The supplying Party shall be under no obligation or liability other than as stated above and no warranty or representation of any kind is made, given or to be implied as to the sufficiency, accuracy or fitness for a particular purpose of such information, materials or other contribution or as to the absence of any infringement of any proprietary rights of third parties through the possession or use of such information, materials or other contribution. The recipient Party shall be entirely responsible for its use of such information, materials or other contribution and shall hold the other Party free and harmless and indemnify it for any loss or damage with regard thereto.

2. Except in case of gross negligence or wilful misconduct, neither Party shall be liable for any indirect or consequential damages of the other Party, including loss of profit or interest, under any legal cause whatsoever and on account of whatsoever reason.

**H. PARTICIPATION IN SIMILAR ACTIVITIES**

1. Parties are not prevented by this MoU from participating and activities similar to those described in this document with third parties. There is no obligation to disclose any similar activity to the other party. However, when considered of mutual benefit, both parties are encouraged to involve the other party in similar activities to the goal of disseminating the knowledge about EGI-InSPIRE.



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**Annex 4 Settlement of Disputes**

1. All disputes or differences arising in connection with this MoU which cannot be settled amicably shall be finally settled by arbitration in accordance with the procedure specified below which shall be adapted in the light of the number of Parties involved.
2. Within thirty (30) calendar days of written notification by a Party to the other Party of its intention to resort to arbitration, the first Party shall appoint an arbitrator. The second Party shall appoint an arbitrator within three (3) months of the appointment of the first arbitrator. The two arbitrators shall, by joint agreement and within ninety (90) calendar days of the appointment of the second arbitrator, appoint a third arbitrator, who shall be the Chairman of the Arbitration Committee.
3. If the second Party fails to appoint an arbitrator or the two arbitrators fail to agree on the selection of a third arbitrator, the second or, as the case may be, the third arbitrator, shall be appointed by the President of the Court of Justice of the European Communities.
4. Unless otherwise agreed by the Parties concerned within thirty (30) calendar days of the provision of notice referred to in Article 12 above, the arbitration proceedings shall take place in Brussels and shall be conducted in English. The Parties shall within one month of the appointment of the third arbitrator agree on the terms of reference of the Arbitration Committee, including the procedure to be followed.
5. The Arbitration Committee shall faithfully apply the terms of this MoU. The Arbitration Committee shall set out in the award the detailed grounds for its decision.
6. The award shall be final and binding upon the Parties, who hereby expressly agree to renounce any form of appeal or revision.
7. The costs including all reasonable fees expended by the Parties to any arbitration hereunder shall be apportioned by the Arbitration Committee between these Parties.