Memorandum of Understanding between EGI.eu and IHEP

Resource Infrastructure Provider MoU

Table of Content

BACKGROUND

European Grid Initiative Foundation – EGI.eu

The Stichting European Grid Initiative Foundation (hereafter referred to as "EGI.eu") has been created under the Dutch law with the mission to create and maintain a pan-European Grid Infrastructure in collaboration with its Participants i.e. the National Grid Initiatives (NGIs) and Associated participants (e.g. European International Research Organisations - EIROs) in order to guarantee the long-term availability of a generic e-infrastructure for all European research communities and their international collaborators. In its role of coordinating grid activities between European NGIs EGI.eu will: 1) operate a secure integrated production grid infrastructure that seamlessly federates resources from providers around Europe; 2) coordinate the support of the research communities using the European infrastructure coordinated by EGI.eu; 3) work with software providers within Europe and worldwide to provide high-quality innovative software solutions that deliver the capability required by our user communities; 4) ensure the development of EGI.eu through the coordination and participation in collaborative research projects that bring innovation to European Distributed Computing Infrastructures (DCIs). A summary of EGI.eu is attached as Annex 1.

Institute of High Energy Physics - Chinese Academy of Sciences – IHEP

IHEP, founded in 1973, is the leading high energy physics laboratory in China, being involved in high energy, cosmic ray and accelerator physics and technologies, radiation technologies and applications. It is staffed with over 1100 physicists and engineers. IHEP participates to ARGO-YBJ Cosmic Ray Experiment at Yangbajing, Tibet, an Italian-Chinese collaboration dealing with the study of Extensive Air Showers. IHEP is member of LHC ATLAS and CMS experiments, contributing on detector research and is involved in the LHC physics analyses being a Tier-2 Centre. IHEP is member of BES experiment focusing on tau/charm physics at BEPC (Beijing Electron-Positron Collider) at IHEP, with 30 institutes and universities involved in the project. IHEP is one of the pioneers in China on computing and network, having set up the first Internet link connected to the international network in 1980s. The Institute built and operated high performance computing infrastructures for HEP and cooperates with IT divisions of Laboratories like CERN, KEK and SLAC. In 2003 IHEP joined the LCG Computing Grid for LHC experiments and its WLCG site merged into the global LCG system. IHEP is building also a grid-based computing system for ARGO-YBJ. IHEP helped Peking University and Shandong University to build their LCG systems and provides training and support service. IHEP built a certificate authority (CA), accredited by EUGridPMA. In the framework of CHAIN-REDS, IHEP is in charge of establishing and operating CHINA-ROC, the regional operation centre of Grid infrastructure.

ARTICLE 1: PURPOSE

The purpose of this Memorandum of Understanding[1] (MoU) is to define a non-binding framework of collaboration between EGI.eu and the Institute of High Energy Physics, IHEP (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: DEFINITIONS

For the purpose of this MoU, the definitions in the EGI glossary are relevant (http://go.egi.eu/glossary).

ARTICLE 3: INFRASTRUCTURE COMPOSITION

Institute of High Energy Physics is in the position as the China-ROC coordinator and represents the Grid infrastructure at the Computing Centre of IHEP. IHEP as the China ROC operator will support other resources centres in the country that want to join the China-ROC national infrastructure and interoperate with EGI, as well as support the research communities related to IHEP and its collaborating centres.

- Institute of High Energy Physics, Beijing China (BEIJING-LCG2)

ARTICLE 4: JOINT WORK PLAN

The parties contribute to enable the vision of providing European and Chinese scientists an international collaboration for sustainable distributed computing services to support their work.

In this broad context, the specific goals of the collaborations are to:

1. To provide Local and Global operational services as needed to support the international collaborations in this context.
2. To subscribe to a mandatory set of policies, procedures and OLAs;
3. To comply with the operations interfaces required by the EGI Operations Architecture[2], which are needed to ensure seamless and interoperable access to resources;
4. To be able to participate as an observer in the Operations Management Board and contribute to the EGI operations agenda.
5. To participate be represented in the Security Policy Group to comment on the development of the security policies fabric of the infrastructure.

As coordinating party to the MoU, IHEP reserves the right to delegate work described below to the Regional Operations Centre.

The specific activities to be carried out in the framework of the collaboration are[3]:

WP1 Participation to the EGI.eu operation policy groups

Parties Involved: EGI.eu (Contact: Senior Operations Manager); IHEP

Description of work: Operations experts from participating institutes to be regularly represented in the Operations Management Board, to provide requirements necessary to drive the evolution of

1 An MoU is a written agreement that clarifies relationships and responsibilities between two or more parties that share services, clients, and resources.

2 EGI Operations Architecture: Infrastructure Platform and Collaboration Platform Integration, EGI-InSPIRE Deliverable D4.6, March 2012 (https://documents.egi.eu/document/1309)

3 Party leading the activity is underlined.

the operations architecture and generally to provide feedback through attendance to meetings, questionnaires and e-mail.

IHEP to regularly participate to the SPG meetings, with the status of voting member, contributing to the development of the security policies that ensure a secure distributed computing infrastructure.

Expected outcome:

Participation to OMB work. China-ROC Operations Manager and China-ROC Security Manager/Officer are already appointed and contributing to the OMB. Performance of Operations Centre is assessed on an annual basis by EGI.eu.

WP2 Global services

Parties Involved: EGI.eu (Contact: Senior Operations Manager); IHEP

Description of work: Identify a set of EGI.eu Global services China-ROC is interested in using on the ROC according to CHAIN-REDs deliverable D3.1[4], together with the respective guaranteed quality parameters that EGI.eu commits to provide.

Expected outcome:

- **A2.1 (**EGI.eu to define SLA for the Global services offered to IHEP to be released and approved.. (**Leader Peter Solanga**)
- IHEP will use of GOCDB, GGUS, Accounting Service and Grid Monitoring Services.

WP3 Local services

Parties involved: EGI.eu (Contact: Senior Operations Manager), China-ROC (IHEP)

Leading partner: IHEP

Description of work: Identify a set of IHEP local services and the respective minimum quality of service that the Party commits to provide to EGI.eu in order to be part of EGI.eu

A3.1: IHEP to adopt and employ Operational Policies and Procedures (AP-CHINAROC-7)

WP4 Integration

Parties involved: EGI.eu (M.Krakowian EGI.eu), IHEP

Leading partner: EGI COD

Description of work: IHEP infrastructure to be supported validated and integrated by the EGI.eu within EGI according to the established procedure.

Expected outcome: IHEP enters the EGI production infrastructure

A4.1 (xx/xxxx): IHEP, as the Resource Infrastructure Provider, carries out integration on operational level with EGI.eu

A4.2: IHEP to setup and Operate a Grid Monitoring Service (AP-CHINAROC-5)

A4.3: IHEP to create a new Operations Centre in the EGi.eu GOCDB and transfer Resource Centres from ROC Canada to the newly established Operations Centre (AP-CHINAROC-6)

A4.4: IHEP to set up dedicated Support Unit in GGUS (AP-CHINAROC-8)

WP5 Reporting

Parties Involved: EGI.eu (Contact: Senior Operations Manager); IHEP

Description of work: As part of the EGI quality assurance procedures, performance of the services provided by China-ROC Resource Centre (site-level grid services) and performance of the core services provided by China-ROC (operations centre-level services) is reported on a monthly basis. Reports are produced by EGI.eu and are accessible on the EGI wiki: https://wiki.egi.eu/wiki/Performance

[4] http://documents.ct.infn.it/record/556/files/CHAIN-REDS-D3.1-i.pdf

China-ROC resource centre agrees to adhere to the minimum service level targets defined in the Resource Centre OLA[5] and the Resource Infrastructure Provider OLA[6] (AP-CHINAROC-7) .

China-ROC installed capacity and utilization are also assessed yearly as part of the annual assessment of EGI. EGI.eu is performing this assessment, which is publicly available on EGI document DB.

Expected outcome:

- **A5.1 (every year) -** Annual report on performance of China-ROC Local services (Resource Centre services and NGI services) **(Leader Peter Solagna)**
- **A5.2 (every year) -** Annual assessment of services and installed capacity and utilization **(Leader Peter Solagna)**

The EGI.eu Strategy and Policy Team (SPT) will coordinate the periodic review of the progress of the activities defined in the table above, follow-up the milestones and distribute reports to both Parties. Special meetings between the points of contact designated under 5 (Communication) shall be held, as often as necessary, to examine the progress in the implementing of this Agreement.

ARTICLE 5: 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.

Each Party shall designate a "point of contact" to 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.eu: Operations Centre. E-mail: operations (at) egi.eu

IHEP: ROC manager e-mail : roc-manager (at) ihep.ac.cn

Questions of principle or problems that cannot be solved at primary contact level are escalated to the EGI.eu Director director (at) egi.eu and the Director of IHEP Computing Centre Gang Chen (Gang.Chen (at) ihep.ac.cn). Should there be, in rare occasions, a need to escalate beyond the competency area, the director of the Institute should be contacted : yfwang (at) ihep.ac.cn

ARTICLE 6: PARTICIPATION IN EGI.EU GROUPS

IHEP agrees to name a technical representative (with deputy) for the EGI OMB.

IHEP may be asked to nominate representatives to serve on other policy groups as appropriate.

Sites included in China-ROC may nominate representatives to serve on or participate to user support or technical work groups, as well as EGI Virtual Teams, as appropriate.

ARTICLE 7: INTELECTUAL PROPERTY RIGHTS, JOINTLY OWNED RESULTS AND LICENSE

A. INTELECTUAL PROPERTY RIGHTS AND LICENSE

1. "Intellectual Property Rights" shall mean all intellectual creations including but not limited to

5 Resource Centre Operational Level Agreement: http://documents.egi.eu/document/31

6 Resource Infrastructure Provider Operational Level Agreement: http://documents.egi.eu/document/463

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.

B. 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.

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 filling as well as any further details with regard to persecuting and maintaining of relevant patent applications.

ARTICLE 8: 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.

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 9: STARTING DATE, DURATION AND TERMINATION

This MoU will start when signed by the authorised representatives of the Parties and shall remain until

completion of the activities identified in Article 4 (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 10: AMENDMENTS

The MoU is subject to updates and modifications that can be triggered by changes in either EGI organizational model, or the changes in other party's organizational model

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

ARTICLE 11: ANNEXES

Annexes Annex 1, Annex 2, Annex 3, Annex 4 and Annex 5 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 10: Amendments.

ARTICLE 12: LANGUAGE

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

Memorandum of Understanding between EGI.eu and IHEP

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

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

EGI.eu Director
Yannick Legré

IHEP Institute Director
Yifang Wang

Annex 1 – EGI.eu 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 objective of EGI.eu (a non-for-profit foundation established under Dutch law) is to coordinate and manage the European Grid Infrastructure (EGI) federation on behalf of its members: National Grid Initiatives (NGIs) and European International Research Organisations (EIROs) to help guarantee the long-term availability of a generic e-Infrastructure for all European research communities and their international collaborators.

Services provided by EGI.eu to the wider EGI community:

- Oversee the operations of EGI to guarantee the integration of resources from providers around Europe into a seamless and secure e-Infrastructure.
- Coordinate the support provided to EGI's user communities.
- Work with technology providers to source high-quality and innovative software solutions to answer users' requirements.
- Represent the EGI federation in the wider Distributed Computing Infrastructures (DCI) community through coordination and participation in collaborative projects.
- Coordinate the external services provided by partners in the community.
- Steer the evolution of EGI's policy and strategy development.
- Organise EGI's flagship events and publicise community's news and achievements.

The EGI.eu is supporting a federation of high-performance computing (HPC) and high-throughput computing (HTC) resources and cloud resources. EGI.eu is also 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 collects user requirements and provides support for the current and emerging user communities. Support is also 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.

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, 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.

Further information (e.g. governance; services) can be found at: www.egi.eu/about/EGI.eu

Annex 2 – *Description of Institute of High Energy Physics*

The Institute of High Energy Physics (IHEP) is the biggest and comprehensive fundamental research center in China. The major research fields of IHEP are particle physics, accelerator physics and technologies, radiation technologies and application, including the following leading research areas:

- Particle physics experiments: BES, neutrino experiments, experiments at LHC and B-factories…
- Theoretical Physics: particle physics, medium and high energy nuclear physics, cosmology, field theory…
- Particle astrophysics: cosmic ray, astrophysics experiments…
- Accelerator physics and technology: high luminosity e+e– collider, high power proton accelerator, accelerator applications…
- Synchrotron radiation: technology and application;
- Nuclear analytical technique and application;
- Free electron laser;
- Nuclear detector and fast electronics;
- Computing and network application;
- Radiation protection.

The main scientific facilities at IHEP are:

- Upgraded Beijing Electron Positron Collider
- Beijing Spectrometer (BES)
- Beijing Synchrotron Radiation Facility
- Daya Bay Reactor Neutrino Experiment
- Yangbajing International Cosmic Ray Observatory in Tibet
- China Spallation Neutron Source in Dongguan, Guangdong (under construction)
- Hard X-Ray Modulation Telescope (under construction)

IHEP has extensive cooperation with all high energy physics laboratories and participates in many important particle physics experiments in the world.

As of April 2013, over 1390 employees work at the Institute of High Energy Physics, among whom 1100 are scientists and engineers, including 7 CAS academicians, 2 CAE academicians, 8 chief scientists of Project 973, 45 winners of the CAS Hundred Talents Scheme and 18 winners of the Outstanding Youth Fund. In addition, there are over 460 post-graduates and over 50 post-doctorates on site.

Annex 3 – Detailed Contact List

Role	EGI.eu	Collaborating Organisations
Signing Authority	Director Yannick Legré Yannick.legre@egi.eu	IHEP Institute Director Yifang Wang Yifang.Wang@ihep.ac.cn
MoU Contact Point	Strategy and Policy Manager Sergio Andreozzi sergio.andreozzi@egi.eu	IHEP Computing Center Director Gang Chen Gang.Chen@ihep.ac.cn
User support	Senior Operations Manager Peter Solagna peter.solagna@egi.eu	China-ROC User Support team china-roc@ihep.ac.cn
Infrastructure Operations	Senior Operations Manager Peter Solagna peter.solagna@egi.eu	China-ROC Operations Manager Xiaofei Yan Xiaofei.Yan@ihep.ac.cn
Technical Coordination	Technical Manager Michel Drescher michel.drescher@egi.eu	China-ROC Operatons Manager Jingyan Shi Jingyan.Shi@ihep.ac.cn
Dissemination	Communications Manager Neasan O'Neill neasan.oneill@egi.eu	IHEP Director's Office Wei Meng Wei.Meng@ihep.ac.cn

These contact points may be the same person. The EGI.eu Strategy and Policy Team (policy@egi.eu) is to be notified regarding any changes to the contact list.