



H Interconnection & Interoperability of Grids
between Europe & China H

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Abstract: This document summarizes the EUChinaGRID activities and results over the full duration of the project.

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1. PROJECT EXECUTION

Co-Funded by the European Commission in the framework of FP6, EUChinaGRID Project officially started on 1st January 2006 with the aim to support the interconnection of the existing European and Chinese Grid Infrastructures and enable their interoperability, thus creating a network of collaboration between Europe and China.

EUChinaGRID provided specific support actions to foster the integration and interoperability of the Grid infrastructures in Europe (EGEE [R3]) and China (CNGrid [R2]) for the benefit of e-Science applications and worldwide Grid initiatives, in line with the support of the intercontinental extension of the European Research Area (ERA).

The project studied and supported the extension of a pilot intercontinental infrastructure using the EGEE-supported applications and promoted the migration of new applications on the Grid infrastructures in Europe and China; this was done by training new user communities and supporting the adoption of grid tools and services for scientific applications. A set of existing Euro-Chinese collaborations in research, marked by strong requirements in terms of analysis of large quantities of data and needs for wide amounts of computing power, were selected as pilot applications in order to validate the infrastructure.

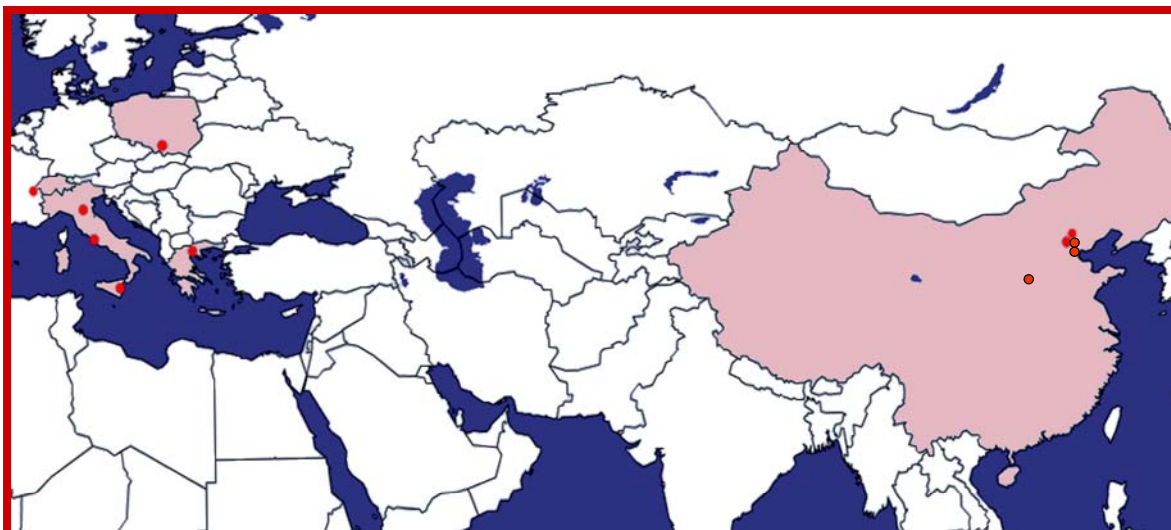


Table 1 - Operating sites on the EUChinaGRID e-Infrastructure

During the 27 months of duration, the Project achieved several goals.

The pilot infrastructure includes 12 sites (8 in the first year) 5 of which are in China (4 in Beijing and one in Shandong). All the relevant Grid services were started and are maintained to facilitate the access of users and Virtual Organizations (VO)

through the web portal (www.euchinagrid.eu)[R3]. Some of those core Grid services are hosted in China.

A special stress was posed on designing an e-Infrastructure allowing full interoperability, both horizontally (i.e. between European and Chinese middleware) and vertically (i.e. between Grid middleware and the different versions of the IP protocol). The impact of achieving both kinds of interoperability is far beyond the scope of the project itself, as the former implies the possibility for European and Chinese e-Infrastructures to work effectively together, while the latter allows the deployment of grid nodes in an IPv6 environment. Although at the moment the IPv6 protocol is not widely used for grid purposes, such applications could indeed take advantage from some features; furthermore, the deployment of the first double-stack Grid nodes has proved to be useful in order to overcome IPv4 bottlenecks and give resilience to the e-Infrastructure.

Works towards both objectives lead to interesting results and the EUChinaGRID findings in this field raised interest amongst middleware developers in EGEE and ETICS [R4] communities leading to common activities such as a code checker for IPv6 compliance implemented in the ETICS building system.

A Gateway between gLite and GOS has been build and extensively tested and improved. The Gateway allows to exchange jobs between the two infrastructures taking care of the differences related to the Job Description Languages and the Security mechanisms. The gained experience has suggested a more general architecture for a multi-middleware Gateway implementation that has been presented at the workshop organised jointly with EU-IndiaGRID at the last EGEE'07 Conference in Budapest.

Application deployment has also achieved significant impact in several science fields:

- ▶ High Energy experiments (ATLAS [R5] and CMS [R6]) at the CERN Large Hadron Collider (LHC) [R7] can run their applications on the pilot infrastructure.
- ▶ Astroparticle experiment ARGO-YBJ [R8], a joint collaboration between Chinese and Italian researchers, is currently collecting data on Cosmic Ray showers in the YangBaJing laboratory in Tibet; a complete system has been deployed to perform the data transfer from YangBaJing to IHEP (Beijing) and INFN-CNAF (Bologna) sites, using the EUChinaGRID Grid Infrastructure and the 2.5 Gbps link provided by the ORIENT [R9] project. Data transfer from the laboratory in YangBaJing to IHEP (Beijing) and INFN-CNAF (Bologna) sites are in production and this made a dramatic change in the way the ARGO experimenters can process and analyse the data in a quasi-on-line system.

- ▶ EUChinaGRID also supported Biological applications in the field of simulation and discovery of new proteins. The work in this field, carried out in the laboratories of Biology Department of University of Roma Tre (UROM3), Jagiellonian University – Medical College (JU-MC) and Peking University (PKU), led to first *ab-initio* protein structure prediction processes ever deployed in a Grid environment. The parallel approaches adopted by UROM3 and JU-MC have been compared on a large sample of candidates (2×10^4), while the predicted protein structures are being experimentally verified by the PKU group.

EUChinaGRID had an intense dissemination activity with two website versions in English and Chinese [R3], [R10] and the presence at major Grid and e-Infrastructure worldwide workshops and conferences and several other more general events organised in China and in Europe, reaching overall 500 delegates..

More than 300 Chinese researchers, engineers and students took part to the advanced knowledge tutorials held in China during the period of 27 months and many of them became tutors and vehicles of further dissemination of Grid knowledge in their Country. A specific dissemination action was carried out towards the community of middleware developers, to raise their awareness about IPv6 compliance and interoperability issues, and to suggest actions and best practices for overcoming these problems. This included the delivery of focused workshops and tutorials, that involved more than 150 developers, and the publication of a dedicated IPv6 website (<http://www.euchinagrid.org/IPv6/index.html> [R12]), as well as the collaboration with other projects such as 6DISS[R11].

The EUChinaGRID Project is coordinated by INFN and involves several partners from China (Beihang University, CNIC-CAS, IHEP-CAS, and Peking University), Greece (GRNET), Italy (Consortium GARR, Department of Biology - Università di Roma Tre), Poland (Jagiellonian University – Medical College) and international organization (CERN), while the Department of Physics – Università di Roma Tre and Academia Sinica Grid Computing Centre (ASGC) of Taipei participate as third parties.

For more information, please visit our web site: <http://www.euchinagrid.eu> (English) and/or <http://www.euchinagrid.cn/> (Chinese).

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1.1. OBJECTIVES

The EUChinaGRID activities were oriented to completely reach the project's objectives. A synthetic summary of the achievements related to them is presented in the following.

O1: *Significantly contribute to the creation of a human network in the area of Grids, e-Science and e-Infrastructures between Europe and China, promoting the existing and creating new international collaborations.*

This objective has been fully reached with the creation of a human network that has extended its influence well beyond the project itself. New communities were contacted and the proposal of a continuation (EUChinaGRID-2) was joined by 8 new institutions in China in other scientific domains which were not originally covered. The cooperation with other projects and initiatives such as ECHOGRID [R12][R13] and SPICE [R14] proved to be very effective and showed the credit that EUChinaGRID has reached, as well as the reach of the project beyond its internal community. The project succeeded in bringing together middleware developers and Grid professionals from different projects in Europe and China (EGEE [R1], ETICS [R4], CROWN [R15] etc), as witnessed by the participation to EUChinaGRID targeted workshops and conferences, often indeed co-organised with some of these projects.

The Deliverable D5.4 thoroughly describes the activities related to this objective.

O2: *Disseminate the results of successful European Grid infrastructures, like EGEE, in China and compare such results with the experience gained in CNGRID, creating awareness regarding Grid developments through focused events (workshops, conferences, and hands-on demonstrations) and technical publications (guidelines, technical cookbooks). A typical number of 6 training events with a total of 300 trainees involved will be the target of the project in this area.*

The dissemination activity, especially towards the wider scientific community (that was indeed the first and most important target audience for the project, as described in D5.2 [R16] and D.4[R17]) was always very intense. In the last 15 months, it effectively built upon the local team of Chinese trainers: this measure enhanced the

contextualization of training into the trainees' daily work experience and proved to be indeed very effective, increasing the level of the trainees' satisfaction in the feedbacks. The Deliverable D5.4 [R17] extensively discusses the activity performed.

O3: *Support the interoperability of existing European Grid-based infrastructure, namely EGEE, with the corresponding infrastructure in China, to reach new levels of scientific collaboration. Contributing to the creation of a “virtual Grid-based research space” for the eScience, in an integrated multi-protocol (IPv4/IPv6) network infrastructure. An important issue for the objective is to feed back the results of the other relevant Grid project like Globus, EGEE-JRA1 etc.*

A special stress was posed on designing an e-Infrastructure allowing full interoperability, both horizontally (i.e. between European and Chinese middleware) and vertically (i.e. between Grid middleware and the different versions of the IP protocol). The impact of achieving both kinds of interoperability is far beyond the scope of the project itself, as the former implies the possibility for European and Chinese e-Infrastructures to work effectively together, while the latter allows the deployment of grid nodes in an IPv6 environment. The activity has been very successful providing an extensive survey of the IPv6 compliance of many software packages used by the current middleware in gLite and GOS. GOS has been made completely compliant with IPv6, while the collaboration with EGEE and ETICS led to the integration of a code checker for IPv6 compliance in the building system and to the creation of a test-bed for the testing of IPv6 compliance of software packages. It was effectively complemented by a focused dissemination towards middleware developers, so that to make them well acquainted with the issues and best practices connected to protocol-agnostic middleware programming¹.

A Gateway between gLite and GOS has been build and extensively tested and improved. The Gateway allows to exchange jobs between the two infrastructures taking care of the differences related to the Job Description Languages and the Security mechanisms. The gained experience has suggested a more general architecture for a multi-middleware Gateway implementation that has been presented at the workshop organised jointly with EU-IndiaGRID at the last EGEE'07 Conference in Budapest.

¹ See for a discussion of connected activities D5.3 and 5.4.

O4: *Make use of the existing and planned infrastructure provided by the research networks like the Gigabit Pan-European Research & Education Network (GEANT), exploit the initiatives of high speed intercontinental network connections, like TEIN2 and ORIENT and work in synergy with them for the optimization of network usage in agreement with the objectives of the Communication Network Development scheme. To collect the network requirements and report on the network usage and the liaisons with the network projects is the target of this objective.*

Good relationships were established between EUChinaGRID and the ORIENT [R9] and TEIN2 [R18] projects. The cooperation has been really very close and EUChinaGRID participated in the meetings with CERNET [R19] and CSTNET [R20] to reach an agreement on the international routing policies. The project manager of EUChinaGRID was also invited to the review of ORIENT to present the EUChinaGRID use cases. Meanwhile, network performances of importance to the EUChinaGRID infrastructure and applications were constantly monitored and results were shared with partners and discussed with them. Deliverables D2.3 and D2.4 show the obtained results in terms of performances and final achievements [R21], [R22].

O5: *Foster interoperability of solutions across different disciplines to achieve broader scale uptake of Grid technology across user communities, involving, amongst others, those applications which are able to produce and process large quantities of scientific relevant data. The target is to involve, as early users, the communities already engaged in Grid Applications (Astroparticle Physics, Biology, High Energy Physics).*

All pilot user communities migrated their applications to Grid, while new applications were ported. The initial benefits of exploiting the new infrastructure, thus dramatically pulling down computation time etc, as well as the relevance of scientific results thus obtained is witnessed by a long list of publications on scientific journals and presentations.

O6: *Harmonize European, and Chinese eScience user and infrastructure requirements in terms of resources needed, Grid services, and application software. Provide recommendations for adapting the present best practices and tools (Virtual Organizations, Certification Authority, Policies, etc.).*

The activity has produced a large number of documents (available on the web site) and the organisation of dedicated tutorials to specific topics, such as ROC on duty.

The level of interoperations and interoperability reached, the number of sites installed and the presentations made on such topic are state of the art.

2. DISSEMINATION AND USE

2.1. EXPLOITABLE KNOWLEDGE AND ITS USE

Not applicable.

2.2. DISSEMINATION OF KNOWLEDGE

From the very beginning, Dissemination was considered of strategic importance for the success of the Project. A remarkable part of the project effort was spent in disseminating the project's results at different levels: users', site administrators' and decision makers' (i.e. policy levels, executives in R&D organizations, major companies in the sector, etc). This was mainly done in the framework of WP5, although for their scope and relevance some activities can be regarded as a horizontal action of the project.

EUChinaGRID dissemination had a significant impact both in Europe and China, and towards all relevant segments of the target audience mentioned above. Amongst most relevant achievements it is worth mentioning:

- ▶ The presence at relevant external events, such as the G8-UNESCO World Forum on 'Education, Research and Innovation'²[R23], the SPICE [R14] Workshops and Meetings on ICT Research Collaboration between China & the European Union[R24] large technological fairs and exhibitions in China, etc³.
- ▶ The organization of a high-level conference [R25], in collaboration with the ECHOGRID[R13], project.
- ▶ The creation of awareness in the Chinese government about the EUChinaGRID project and its activity, thanks to a number of contacts and meetings. This activity had some visible and remarkable outcomes, including the organization of a visit of the Chinese delegation to EU, the grant of matching funding by MoST, the writing of support letters fro the continuation of EUChinaGRID activities by officers of the Chinese government to EC officers⁴.
- ▶ The gradual individuation and involvement of a local training team of Chinese tutors in the activities of related to advanced knowledge training and tutoring. This led to an improvement In the overall trainees satisfaction, as reflected by the improvement in feedbacks. This was interpreted as a result of the better knowledge of training needs of their colleagues researchers by the local training

² In collaboration with EELA, EU-IndiaGrid and EUMEDGRID.

³ See D5.4 for full details about the presence to external events.

⁴ See below for a full account on the subject.

team, and of their capacity to contextualize the topics to their previous knowledge and professional experiences/environment. Of course, the use of the native language in the tutorials may have helped this contextualization.

The evolution of feedback from tutorials in the second half of the project shows a general improvement in the trainees' satisfaction (NB: the scale ranges from 1 to 6), which was interpreted as a result of the work of the local team (Table 2).

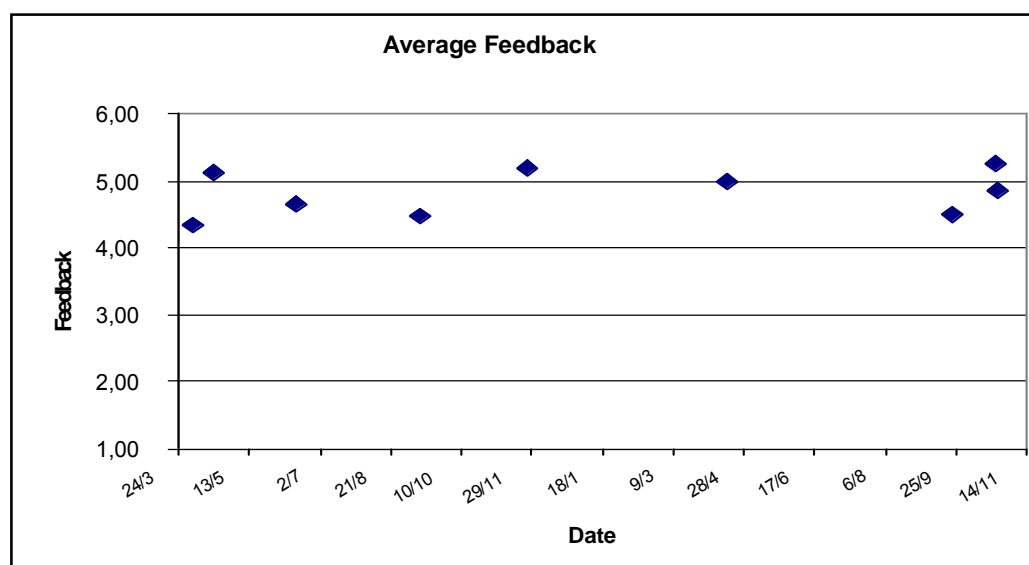


Table 2 - The evolution of feedback from tutorials in the second half of the project

Progress towards objectives

WP5 activities had a quick start in the early phases of the project and target segmentation, strategy and full planning for dissemination actions were available at project month 6, with the delivery of the Initial plan for Dissemination and Outreach, which was then reviewed at the end of the first project year in D5.3, "Intermediate report, with plan update, on outreach and dissemination activities".

During the first year of activity, several activities were carried out and results were accomplished. The following are a few highlights illustrating the starting point of the dissemination activity for the reporting period:

- ▶ Creation of two dissemination teams, respectively located in Europe and China. The two groups were involved in all dissemination activities and were able to work independently at the local level (of course maintaining a close coordination with the colleagues in the other continent); specific sub-groups (such as the webmasters' team and the training team were created).

- ▶ Implementation of a complete bi-lingual website and creation/translation of bi-lingual dissemination materials (including more than 150 web pages and 4 leaflets).
- ▶ Organization of 4 international events, for overall 210 attendees; and participation to 16 external events with various dissemination activities (including exhibition booths, poster presentations, talks, distribution of dissemination materials and branded freebies, live demonstrations etc).
- ▶ Organization of 5 training events for overall 231 trained people.
- ▶ Press relations leading to 46 press cuttings collected across 3 continents in 9 different languages including Chinese.
- ▶ 48 questionnaires filled by new potential users' communities.

The general objectives for the workpackage were deemed as still valid and achievable after the previous year; hence, no major changes were envisaged in the dissemination strategy. However, the first review provided a few recommendations on the subject, whose influence contributed in better focusing on some aspects of the dissemination strategy. The following is an abstract from the reviewers' recommendation that highlight major points addressed in the reporting period:

R.1.1 - Focus on raising awareness in the broader scientific community, governments, funding bodies and the commercial word. Complementing EC FPs with regional/national initiatives, support/funding programmes from other international organizations, donations from industry, etc., can contribute to the sustainability of the effort;

R1.3 - Engage in common activities and exchange of "best-practices" as well as "bad-practices" with GRID@ASIA, BELIEF, SEE-GRID-2, BalticGrid, EU-IndiaGrid, EUMEDGRID, EELA to achieve higher visibility;

The following is the list of the preformed actions answering the recommendations (specific points are listed for the reader's convenience). Of course, in some cases the activity was planned before the review, but was re-focused to better address the reviewers' remarks.

1. *Focus on raising awareness in the broader scientific community, governments, funding bodies and the commercial word. This point was especially addressed in the framework of A5.1*
 - ▶ Presence at the SEEREN2 [R26] day dedicated to International Projects and Initiatives in ICT (14 March, Kopaonic, Serbia)
 - ▶ Presence at ISGC2007 in Taipei (26-29 March)[R27].
 - ▶ Organization of Joint ECHOGRID-EUChinaGRID international conference [R25], held in Beijing on 24-25 April.

- ▶ Joint presence at G8-UNESCO World Forum on Education, Research and Innovation: New Partnership for Sustainable Development' at ICTP, in Trieste, Italy, 10-12 May [R23]; EUChinaGRID presence (Presentations, demonstrations) to the EGEE User Forum in Manchester (9-11 May)[R28].
 - ▶ *Meetings and contacts with Chinese government, and promotion of liaisons between EC and MoST officers, also thanks to the organization of a visit of Chinese government officials to EC.*
 - ▶ Organization of the Second EUChinaGRID Workshop, in conjunction with CGW2007 (Cracow Grid Workshop 2007 - Cyfronet) and ViroLab - Cracow (PL) October 17-18 2007, specifically addressing the BioMed community.
2. *Establish tighter collaboration with related projects in Cina and Europe; CNGrid, ChinaGrid, CROWN, CERT, CSTNET, ETICS, TEIN2, ORIENT, ECHOGRID, EC-GIN were individuated by reviewers as relevant;*
- ▶ Joint conference with ECHOGRID. The conference was conceived to be as well an important moment to tighten the bonds with other project such as CNGrid, CROWN and ChinaGrid, whose representatives were invited to participate.
3. *Engage in common activities and exchange of “best-practices” as well as “bad-practices” with GRID@ASIA, BELIEFSEE-GRID-2[R30], BalticGrid, EU-IndiaGrid, EUMEDGRID, EELA to achieve higher visibility;*
- ▶ MoU with BELIEF[R29] was finalized in the 5th quarter and all relevant documents in the EUChinaGRID project repository were described with metadata information, required for being available in the BELIEF DL **Errore. L'origine riferimento non è stata trovata.**
4. *Further promote the survey, analyse the results;*
- ▶ Several actions on the survey were planned, but the strategy was slightly changed (see the paragraph on deviations from the work plan).

Other activities continued as scheduled, independently from the outcomes of the review and, in many cases, with their explicit blessing. This was the case of planning and organization of tutorials, whose importance was highlighted in the reviewers' report. During 5th project quarter, the training plan was revised in order to include some IPv6 tutorials (see below).

Project Dissemination

A large part of the effort was concentrated on organizing dissemination events aiming at different audiences, or participating to external ones.

The largest event delivered in the period was the joint conference on “Networking EU & Chinese Grid Experiences for Innovation” held in Beijing in April 2007 and co-organized with the ECHOGRID project[R25]. The event brought together more than 200 attendees from the field of Research and industry, and members from major European and Chinese grid projects including CNGRID, ChinaGrid, CROWN and EGEE. Chinese policy levels were as well represented.

Activities for this event involved both the Chinese and European teams and included design of the programme, information material and advertising (website, leaflets, conference brochure, co-branded giveaways etc), press relations and of course the local organization.

Other events were more targeted and aimed at specific audiences. The table here below summarizes the delivered conference and workshops (organized in the framework of A5.1).

Table 3 - Major dissemination events organized in the period

Event	Location	Dates	Related link
1st Joint ECHOGRID-EUCHINA GRID International Conference on “Networking EU & Chinese Grid Experiences for Innovation”	ICT, Chinese Academy of Science, Beijing, China	24-27 April 2007,	http://echogrid.ercim.org/content/view/11/18b
Joint EUChinaGRID/EGEE/ ETICS Workshop on “Grids and IPv6”	EGEE Conference, Budapest, Hungary	1 October 2007	http://indico.cern.ch/sessionDisplay.py?sessionId=4&slotId=0&confId=18714#2007-10-01
Joint EUChinaGRID/ EU-IndiaGrid workshop on “Grid Interoperability between Europe and Asia, status and future strategies”		5 October 2007	http://indico.cern.ch/sessionDisplay.py?sessionId=54&slotId=0&confId=18714#2007-10-05
EUCHINA GRID Workshop at CGW07	Cracow, Poland	7th October 2007	https://agenda.euchinagrid.org/conferenceDisplay.py?confId=49

The organization of conferences and workshop was complemented with the presence to external relevant events, exhibitions etc. This was a major occasion for reaching targets whose involvement was otherwise difficult for a project with limited budget and a very specific scope. The following are major events where the project was represented, with a brief indication of the form of participation:

- ▶ Presence at the SEEREN2 day dedicated to International Projects and Initiatives in ICT, held on 14 March, in Kopaonic, Serbia: invited speech
- ▶ International Symposium of Grid Computing (ISGC2007) in Taipei at the end of 3/2007: invited presentations, dissemination materials[R27].
- ▶ G8-UNESCO World Forum on “Education, Research and Innovation: New Partnership for Sustainable Development” (<http://g8forum.ictp.it/>), held on 10-12 May at ICTP, in Trieste. An exposition/information booth was jointly set up with sister project EELA, EUMEDGRID and EU-IndiaGrid[R23].
- ▶ EGEE User Forum/OGF20, held on 9-11 May in Manchester, UK.. An articulated mix of dissemination activities was performed, including talks, live demonstrations, and poster presentations [R28].
- ▶ SPICE – Workshops and Meetings on ICT Research Collaboration between China & the European Union [R24] in:
 - Beijing (25.5.2007), in conjunction with "CHITECH 2007". CHITEC ("China Beijing International Hi-Tech Expo 2007") – Invited speeches
 - Xi'an (29.5.2007) – Invited speeches
 - Shanghai (31.5.2007) – Invited speeches
 - China Hi-Tech Fair (CHTF) in ShenZhen from 12/10 to 17/10 (<http://www.chtf.com/english/index.jsp>). In this case, also a joint EUChinaGRID – SPICE booth was set up with project dissemination materials and live demonstration.
- ▶ China-Europe Workshop on Earth Observation Grid Technology and Next Generation Spatial Information Infrastructure (CEWEOG 2007), held at Center for Earth Observation and Digital Earth (CEODE) of CAS on 3-6/12/2007 - – Invited speech. Further collaboration with CEODE about data transfer issues followed.
- ▶ IUGG 2007[R31]. (Perugia, July 2-13, 2007). An exposition/information booth was jointly set up with sister project EUMEDGRID[R32], EELA[R33][R34] and EU-IndiaGrid

Important steps forward were made in addressing policy makers. Apart from the relevant participation of policy levels in the Joint ECHOGRID-EUChinaGRID conference, some important actions and achievements should be mentioned:

- ▶ Two letters by Chinese officers were sent to the EC, where the work done by the project was appreciated and further developments in the collaboration on related issues were envisaged.

- ▶ A visit of a Chinese delegation to EC was organised thanks to the involvement of Chinese partners in the project.
- ▶ Chinese partners reported to the Chinese government about the project progresses and benefits in several occasions, including a meeting with the International Department of MoST about EU-China cooperation on Grid on Dec. 4, 2007. In this occasion, MoST granted matching funding to EUChinaGRID activities.
- ▶ Furthermore, they organized a workshop on China-EU cooperation on Grid technology, 24 January, 2008. Officers from International Cooperation Department of MoST and more than 60 experts attended the workshop.

A further EU-China workshop sponsored by the MoST and EC has been proposed for next October.

Another major dissemination mean was the project website, available in Chinese and English. Although of course the website was updated during the whole project lifetime, its architecture, design and implementation was mostly carried out during the first year of the project. Statistics about the main website and tools can be found at:

<http://www.euchinagrid.eu/awstats/awstats.pl>

<http://agenda.euchinagrid.eu/awstats/awstats.pl>

<http://support.euchinagrid.eu/awstats/awstats.pl>

<http://timesheet.euchinagrid.eu/awstats/awstats.pl>

<http://documents.euchinagrid.eu/awstats/awstats.pl>

Training and dissemination of technical knowledge

In line with the project original approach and with the comments by reviewers, who recognized dissemination of advanced knowledge as “*of paramount importance in order to educate and raise awareness in the prospective user groups*”, the activity of delivering targeted tutorials continued in the reporting period.

This was done in the framework of A5.2 and 3, as well as cross-fertilization with other workpackages, namely WP2. It should be highlighted that, in comparison with the previous period, finer-grained target segmentation has been adopted in the delivery of tutorials. This allowed to better address the training needs of specific groups (such as middleware developers, application developers or advanced users, site administrators etc. The table here below summarizes the event delivered in the period, and indicates the size and kind of audience. A connected activity was the

creation and/or adaptation of training materials for the events. The complete set of supporting materials and exercises created for the project are available online on the document repository, at: <https://documents.euchinagrid.org/collection/Training%20materials> (and are researchable on the BELIEF digital library [R30] thanks to the metadata description) IPv6 materials can be found on the EUChinaGRID IPv6 Website (<http://www.euchinagrid.org/IPv6/index.html> [R12]).

The school of Application porting held in Beijing In October 2007 is probably the most important event of the period in terms of reaching further user communities and demonstrated great interest and awareness in eScience applications amongst Chinese potential users.

Table 4 – Training events organized in the period

Event/Location	Dates	N° of Attendees	Audience
User tutorial, CNIC, Beijing (China)	16-17 April 2007	18	Users
Sysadmin tutorial, CNIC, Beijing (China)	18-20 April 2007	30	System administrators, Site managers
IPv6 tutorial, University of Catania, Catania, Italy	06 June 2007	19	Middleware developers
IPv6 tutorial, University of Thessaloniki, Thessaloniki, Greece	18 September 2007	27	Middleware developers
User tutorial, ShanDong University, Jinan, China	22-23 September 2007	26	Users
ROC-on-Duty tutorial, Beijing, China	23-24 October 2007	9	Site managers
School on application porting, Beijing, China	25 October 2007	10	Application developers
IPv6 tutorial, CASPUR, Rome, Italy	16 January 2007	8	Middleware developers

Press activities continued in the period and included the issue of three new press releases. Input for external newsletters and journals, such as ISGTW [R35] was also provided in several occasions and papers and short communications addressed specific audiences (see, for example the special issue of BASM, published in occasion of the 2nd EUChinaGRID Workshop.

Press activities resulted in articles and mentions on other media. The press cuttings relating to EUChinaGRID are reported in D.4. In comparison with the first period, the total amount of press cuttings is more than doubled.

Table 5 - press cuttings collected along the project lifetime

Date	Newspaper, Magazine or website	Title	Language	Link (If any)
21/11/05	Ambasaba Republicii Populare Chineze în Romania	Chinese, European researchers to collaborate on Grid research	English	
24/01/06	GARR news	Inizia il Progetto EUChinaGRID	Italian & English	http://www.garr.it/news/garr-b-notiziario.shtml
24/01/06	EGEE website	The EUChinaGRID Project Kicks-off	English	http://public.eu-egee.org/news/fullstory.php?news_id=67
24/01/06	Bulgarian Grid Arnes	EUChinaGRID Start projekta EUChinaGRID	Bulgarian Slovenian	http://www.arnes.si/novice/2006_01_24_EUChinaGRID.html
24/01/06	Beijing Association for Science and Technology	EUChinaGRID project officially kicks off	English/Chinese	http://www.ebast.net.cn/ebast/kxpj/55801.shtml
24/01/06	GridClub	EUChinaGRID	Russian	
25/01/06	Academia Sinica Grid Computing Centre website	EUChinaGRID Project Kicks Off	English	http://www.twgrid.org/News_Event/academia_news/euchina_grid/view?searchterm=euchina_grid
25/01/06	GridIce	EUChinaGRID kick-off meeting	English	
25/01/06	GridsWatch	EUChinaGRID Kicks-off	English	http://www.gridswatch.com/index.php?option=com_content&task=view&id=304&Itemid=14
25/01/06	Grid Today	EUChinaGRID Project Kicks Off	English	http://www.gridswatch.com/index.php?option=com_content&task=view&id=304&Itemid=14
25/01/06	HIEP news	EUChinaGRID	Chinese	
25/01/06	IST Results news	Building Grids between EU and China	English	http://istresults.cordis.lu/index.cfm?section=news&tpl=news&ID=80187
25/01/06	TERENA news	Official Kick-off for the EUChinaGRID Project: Pursuing Interconnection and Interoperability of Grids between Europe and China	English	

Date	Newspaper, Magazine or website	Title	Language	Link (If any)
25/01/06	Science Grid	EUChinaGRID	English	http://www.interactions.org/sqw/2006/0125/
26/01/06	Super Computing Online	EUChinaGRID Project Kicks Off	English	http://www.supercomputingonline.com/print.php?sid=10284
26/01/06	Surfnet Nieuws	EUChinaGRID verbindt Europese en Chinese grid	Dutch	
26/01/06	Science Guide	EU/Chinees gridwerk	Dutch	http://www.scienceguide.nl/article.asp?articleid=100312#intro
01/06	Renater news	Official Kick-off for the EUChinaGRID Project: Pursuing Interconnection and Interoperability of Grids between Europe and China	English	
08/02/06	Chinese Academy of Science	EUChinaGRID project officially kicks off	English/Chinese	
24/02/06	CLARA website	The EUChinaGRID project kicks-off	English	http://apc-clara.reuna.cl/canal1.shtml?http://apc-clara.reuna.cl/eng_2006.shtml?AA_SL_Session=0818a50380440650188b079b85731bd8&x=722
02/06	ILIB.cn	EUChinaGRID Project Officially Kicks Off	English and Chinese	http://scholar.ilib.cn/Abstract.aspx?A=zgkxyyb-e200602025
01-02/06	NESC news	EUChinaGRID Project Officially Started this week	English	http://www.nesc.ac.uk/news/newsletter/January06.pdf
09/03/06	Week it	Il grid in salsa europea non solo per gli scienziati	Italian	http://www.weekit.it/index.php?option=com_content&task=view&id=37524&Itemid=191
18/03/06	EGEE Newsletter	EUChinaGRID: creating a "virtual gridbased research space" between Europe and China	English	http://public.eu-egee.org/news/newsletter/newsletter.html
03/06	DeCLARA bulletin	EUChinaGRID	English	http://www.redclara.net/en/07/02_02/06_07.htm
06/04/06	Il Sole 24 Ore	Un ponte con Pechino	Italian	
07/04/06	Punto Informatico	Italia motore della Nuova Rete nel Mediterraneo	Italian	http://punto-informatico.it/p.asp?i=58762
28/04/06	European Commission Press Release	EU and China to link up high-speed electronic networks for an open exchange among their best researchers and students	English	http://europa.eu.int/rapid/pressReleasesAction.do?reference=IP/06/549&format
02/05/06	Key4biz	Europa e Cina accorciano le distanze: reti elettroniche high speed per favorire la cooperazione	Italian	http://www.key4biz.it/News/2006/05/02/Policy/Europa_e_Cina_accorciano_le_distanze.html

Date	Newspaper, Magazine or website	Title	Language	Link (if any)
02/05/06	Supercom – strategie d'impresa	Europa e Cina accorciano le distanze: reti elettroniche high speed per favorire la cooperazione	Italian	http://www.supercom.it/web/001751/00175119.html
04/05/2006	Molecularlab	Ricercatori europei e cinesi uniti da una internet ad alta velocità	Italian	http://www.molecularlab.it/news/view.asp?n=4069
06/06/06	Week.it	L'Italia ha bisogno della Rete della ricerca	Italian	http://www.weekit.it/index.php?option=com_content&task=view&id=37882&Itemid=193
06/2006	Alma Mater newsletter	EUCHINA GRID	Polish	
12/06/06	Virgilio Economia	Da oggi a Pechino incontro sul Progetto EUCHINA GRID	Italian	
12/06/06	Primeur	Grid experts from Europe and China meet	English	
13/06/06	Bollettino Università & Ricerca	É appena iniziato il primo Workshop del Progetto EUCHINA GRID	Italian	http://www.bur.it/2006/N_G_061575.php
13/06/06	Città della Scienza per la scuola	Al via collaborazione Ue Cina sulla Grid, l'Inf coordina il progetto	Italian	http://www.cittadellascienza.it/portale_scuola/news_scientifiche.cfm?ID_LANCI=4943
13/06/06	Punto Informatico	Grid, incontro UE-China	Italian	http://punto-informatico.it/p.aspx?id=1526048
13/06/06	TERENA news	First EUCHINA GRID Project Workshop in Beijing	English	http://www.terena.org/news/community/index.php?dgpearnews_v408pageID=9
14/06/06	IST News website	Building Grids between EU and China	English	http://istresults.cordis.lu/index.cfm/section/news/tpl/news/istStart/6/currentpage/6/BrowsingType/News In Brief
14/06/06	CLARA website	Hoy concluye Primer Taller GRID EUCHINA	Spanish	http://apc-clara.reuna.cl/canal1.shtml?http://apc-clara.reuna.cl/esp_2006.shtml?AA_SL_Session=6a9e8bcc22e78f6dd074a77f0a794ed0&x=1162
19/06/06	Interactions.org	EUCHINA GRID Workshop	first English	http://www.interactions.org/cms/?pid=1024280
21/06/06	EGEE website	Beijing, 12 June 2006 First EUCHINA GRID Workshop	English	http://www.eu-eg ee.org/news/beijing-12-june-2006-the-first-euchinagrid-project-workshop/
21/06/06	Super Computing Online	EUCHINA GRID Workshop	first English	http://supercomputingonline.com/article.php?sid=11412
26/06/06	Grid Today	EUCHINA GRID Workshop Takes Place in Beijing	English	http://www.gridtoday.com/grid/704072.html

Date	Newspaper, Magazine or website	Title	Language	Link (If any)
06/06	IHEP bullettin	1 st EUChinaGrid Workshop	Chinese	http://www.ihep.ac.cn/news/news2006/060614b.htm
06/06	IHEP bullettin	The 1 st EUChinaGrid workshop took place in Beijing	Chinese	
11/07/06	CLARA website	Primera Conferencia EUChinaGRID	Spanish	http://apc-clara.reuna.cl/esp_2006.shtml?AA_SL_Session=a31753dbb54fa0bbeea9c26f71dad873&x=1275
03/08/06	GÉANT2 website	EUChinaGRID Conference	1 st English	http://www.geant2.net/server/show/conEvent.285
19/09/06	Punto informatico	EUChinaGRID, Conferenza in corso	Italian	http://punto-informatico.it/p.aspx?id=1654125
22/09/06	DeCLARA bullettin	EUChinaGRID Conference: Interconnecting European and Chinese Grids for eScience	1 st English	http://apc-clara.reuna.cl/canal1.shtml?http://apc-clara.reuna.cl/eela.shtml?AA_SL_Session=37d06bf51930e5e650a9bcd9a3bea54d&x=2348
24/09/06	GuangMing Daily	EUChinaGRID Conference	1 st Chinese	http://www.gmw.cn/01gmr/2006-09/24/content_484081.htm
24/09/06	GuangMing Daily	EUChinaGRID Conference	1 st Chinese	http://www.gmw.cn/01gmr/2006-09/24/4449_b.htm and http://www.gmw.cn/01gmr/2006-09/24/4449_s.htm .
26/06/06	The Ipv6 portal	EUChinaGRID Workshop Takes Place in Beijing	English	http://www.ipv6f.org/index.php?page=news/newsroom&id=2088
27/06/06	Icons Internet Community of Online Network Specialists	EUChinaGRID Workshop Takes Place in Beijing	English	http://icons.apricot.net/index.php?option=com_content&task=view&id=189&Itemid=99
10/2006	Cracow '06 Grid Workshop newsletter	The Quest for Pharmacology Active 'Never Born proteins' within EUChinaGRID Project	English	
31/01/07	CNRS news	Malaria: more than 4.3 million medicines tested thanks to calculation grids	English, French	http://www2.cnrs.fr/en/802.htm
02/02/07	GridPP website	WISDOM fights malaria – with help from GridPP	English	http://www.gridpp.ac.uk/news/-1170422779.710671.wlg
05/02/07	Grid today	From Sheffield to Singapore, International Grid Battles Malaria	English	http://www.gridtoday.com/grid/1245120.html

Date	Newspaper, Magazine or website	Title	Language	Link (If any)
13/02/07	Medical News today	More Than 4.3 Million Malaria Medicines Tested Thanks To Calculation Grids	English	http://www.medicalnewstoday.com/articles/62700.php
08/03/07	CANet news by Bill St. Arnaud	International Grid battles Malaria	English	http://billstarnaud.blogspot.com/2007/03/international-grid-battles-malaria.html
28/03/07	ISGTW	1st International Joint EUChinaGRID & ECHOGRID Conference announcement	English	
02/04/07	Repubblica Multimedia	"Grid", una rete orizzontale	Italian	
03/04/07	Super Computing Online	The 1ST Joint EchoGRID & EUChinaGRID International Conference	English	http://www.supercomputingonline.com/article.php?sid=13419
03/04/07	Grid today	Conference to Discuss European, Chinese Grid Experiences	English	http://www.gridtoday.com/grid/1349268.html
04/04/07	EGEE	First Joint International Conference EchoGRID project and EUChinaGrid project	English	http://www.eu-egee.org/egee_events/events/First_joint_EchoGRID-EUChinaGrid_Conference_in_Beijing_China/
04/04/07	IST News website	1st International Conference on European Union and Chinese Grid Experiences	English	http://ec.europa.eu/information_society/newsroom/cf/itemdet ail.cfm?item_id=3337
04/04/07	Belief website	First Joint International Conference EchoGRID project and EUChinaGrid	English	http://www.beliefproject.org/news/First_Joint_International_Conference_EchoGRID_project_and_EUChinaGrid_project/
04/04/07	AlphaGalileo	1st International Conference on European Union and Chinese Grid Experiences	English	http://www.alphagalileo.org/index.cfm?ez_search=1&fuseaction=readevent&eventid=519538
24/04/07	Next Grid	1st Joint EchoGRID & EUChinaGRID International Conference	English	http://www.nextgrid.org/events.html
04/07	ERCIM news	First EchoGRID-EUChinaGRID International Conference	English	http://ercim-news.ercim.org/content/blogcategory/58/405/
01/05/07	Grid today	EU, China to Link Up High-Speed Electronic Networks	English	http://www.gridtoday.com/grid/642165.html
4/05/07	EuroChina-ICT	International Grid projects for development at G8-UNESCO forum	English	http://www.eurochina-ict.org/news.html#140507
14/05/07	Primeur	International Grid projects for development at G8-UNESCO forum	English	http://www.hoise.com/primeur/07/articles/monthly/AE-PR-06-07-83.html

Date	Newspaper, Magazine or website	Title	Language	Link (If any)
14/05/07	Euro-China-ICT.com	International Grid projects for development at G8-UNESCO forum	English	http://www.eurochina-ict.org/news.html#150207
21/05/07	Grid today	Int'l Grid Projects Participate in G8-UNESCO Forum	English	http://www.gridtoday.com/grid/1570373.html
06/06/07	ISGTW	Image of the Week - Science on Top of the World	English	http://www.isgtw.org/?pid=1000461
10/07	DLAstudenta Kracow	EUCHINAGrid Conference	Polish	http://krakow.dlastudenta.pl/studia/?act=show_ar&id=16533
10/07	Fundacja dla Uniwesytetu Jagiellońskiego	EUCHINAGRID 2007	Polish	http://www.fundacja.uj.pl/link_dzialania.php?lc=kronika
05/12/07	Bioinformation Journal for Beyond Bioinformatics	E-infrastructure technologies triggering of Bioinformatics development	English	http://www.pubmedcentral.nih.gov/articlerender.fcgi?artid=2255070 and http://www.bioinformation.net/002/003100022007.pdf
13/12/07	La Stampa.it	Grid, la scienza di oggi ha bisogno di supercomputer	Italian	http://www.lastampa.it/web/cmstp/tmplrubriche/tecnologia/grubrica.asp?ID_blog=30&ID_articolo=3679&ID_sezione=&sezione=
13/12/07	Key4Biz	Supercomputer: l'Internet del futuro viaggia verso oriente. L'Istituto di Fisica Nucleare all'avanguardia nel Grid arriva in Cindia	Italian	
17/12/07	La Stampa.it	La Grid rete del futuro viaggia verso Oriente	Italian	
19/12/07	Newton	L'Infra all'avanguardia della GRID, la nuova "rete" mondiale	Italian	
20/12/07	AGI	Clima: anche India e Cina entrano nella supergrid	Italian	
20/12/07	ADNKRONOS	Internet: la rete del futuro ora viaggia verso l'Oriente	Italian	
26/12/07	Informaticameglio.it	La "GRID" ha un protagonista Italiano.	Italian	http://www.informaticameglio.it/home/index.php
12/07	Infosecurity	Internet viaggia verso oriente	Italian	http://www.infosecurity.it/IT/no_vita-sicurezza-informatica/news_170.aspx
07/01/08	TorinoScienza	Tutto il mondo unito dalla GRID	Italian	
5/3/08	Pubblica Amministrazione.net	Grid computing, un passo verso l'oriente	Italian	http://www.pubblicaamministrazione.net/connettivita/articoli/543/grid-computing-un-passo-verso-loriente-.html

Reaching beyond the initial target of the project

Looking at the collection of press cuttings about the project, an interesting (although not unexpected) finding is that business specialized press and web portals in Europe seemed to be especially interested in the developments of EUChinaGRID – also if no immediate business application was involved. Apparently, the idea of scientific EU-Chinese is associated with the one of excellence in ICT and is seen as something that should be monitored (and possibly exploited) in the future also by the private sector. This is in agreement with the interest raised in several companies which attended EUChinaGRID (or related) events; both can be regarded as a positive feedback and an indicator of the maturity of EU and Chinese companies for future involvement.

In the shorter term, however, aim of the project was to reach and involve new user communities from the scientific domain. Initially, this activity was planned in analogy with the experience of other projects, i.e. largely basing on a survey on candidate applications, to be widely advertised across the Chinese and EU scientific groups with existing or foreseen collaborations with each others.

During the first year, about 50 responses were obtained, mainly from EU researchers. Notwithstanding the effort spent in the second year for further disseminate the survey, only a handful of new responses were provided. This behaviour diverges from the experience of other related projects in Europe and partner countries and is somehow corroborated by other indicators as well, i.e. for example the complete lack of peaks in the responses corresponding to major dissemination occasions (a behaviour that is easily shown in similar initiatives). The failure of the questionnaire in reaching a relevant group of Chinese scientists was widely discussed with Chinese project partners, and this led to a change in the strategy, and to discarding the use of this mean in favour of other ways of contacting communities. These include:

- ▶ Face-to-face meetings
- ▶ Contacts through CAS and other Chinese institutions

This approach proved to be on the contrary very successful, contacted research organizations from different regions of China and from several scientific fields. Examples of new Chinese communities positively involved through this way come from different domains, including:

- ▶ Life sciences and medicine (Beijing Genomic Institute, Shanghai Institute of Materia Medica)

- ▶ Earth science and technology (Institute for Hydrology and Environmental Geology, Xi'An JiaoTong University, Beijing University of Technology and the Network Research Centre of Tsinghua University).

It is worth mentioning that the level of involvement of these communities is far from being superficial, as some of the mentioned applications were involved in the school on application porting and several new communities asked to be part of further initiatives to be proposed for funding (including a EUChinaGRID2, submitted to an EC call of 2007 and unfortunately discarded, and a Italian-Chinese project currently under evaluation of the Italian Ministry of University and Research in the framework of bilateral agreements for scientific cooperation between the two countries.

3. REFERENCES AND GLOSSARY

3.1. REFERENCES

- | | | |
|-------|---|---|
| [R1] | EGEE project | http://public.eu-egee.org/ |
| [R2] | CNGRID | http://www.cngrid.org/ |
| [R3] | Project web portal | www.euchinagrid.eu |
| [R4] | ETICS project | http://etics.web.cern.ch/etics/ |
| [R5] | ATLAS experiment | http://atlas.ch/ |
| [R6] | CMS experiment | http://cms.cern.ch/ |
| [R7] | LHC | http://lh.web.cern.ch/lhc/ |
| [R8] | ARGO | http://webusers.fis.uniroma3.it/~nucleare/argo/argo.html |
| [R9] | ORIENT project | http://global.dante.net/server/show/nav.1418 |
| [R10] | Chinese project website | http://www.euchinagrid.cn/ |
| [R11] | 6DISS project | http://www.6diss.org/ |
| [R12] | IPv6 website | http://www.euchinagrid.org/IPv6/index.html |
| [R13] | ECHOGRID project | http://echogrid.ercim.org/component/option,com_frontpage/Itemid,1/ |
| [R14] | SPICE project | http://www.europe.ict-china.eu/index.php?id=29 |
| [R15] | CROWN | http://www.crown.org.cn/en/ |
| [R16] | D5.2 “Dissemination and Outreach plan” | http://www.euchinagrid.org/deliverable/D5.2.html |
| [R17] | D5.4 “Report on raising public participation and awareness” | http://www.euchinagrid.org/deliverable/D5.4.html |
| [R18] | TEIN2 Project | http://global.dante.net/server/show/nav.1417 |
| [R19] | CERNET | http://www.edu.cn/HomePage/english/index.shtml |
| [R20] | CTSNET | http://www.cstnet.net.cn/english/index.htm |
| [R21] | D2.3 Final Interoperability report | http://www.euchinagrid.org/deliverable/D2.3.html |
| [R22] | D2.4 | http://www.euchinagrid.org/deliverable/D2.4.html |
| [R23] | G8-UNESCO Forum | http://g8forum.ictp.it/ |
| [R24] | SPICE Workshops | http://www.europe.ict-china.eu/index.php?id=26 |

- [R25] Joint EUChinaGRID- <http://echogrid.ercim.org/content/view/11/18/>
ECHOGRID conference
- [R26] SEEREN-2 <http://www.seeren.org/>
- [R27] ISGC2007 conference http://event.twgrid.org/isgc2007/conf_datevenue.htm
- [R28] EGEE-UF/OGF20 <http://egee-intranet.web.cern.ch/egee-intranet/User-Forum/>
- [R29] BELIEF project <http://www.beliefproject.org/>
- [R30] BELIEF DL <http://www.beliefproject.org/digital-library>
- [R31] IUGG conference <http://www.iugg2007perugia.it/>
- [R32] EUMEDGRID <http://www.eumedgrid.eu>
- [R33] EELA <http://www.eu-eela.org>
- [R34] EU-IndiaGRID <http://www.euindiagrid.eu>
- [R35] ISGTW <http://www.isgtw.org/>

3.2. GLOSSARY

ARGO	Acronym for “Astrophysical Radiation with Ground-based Observatory at YangBaJing”
CA	Acronym for Certification Authority.
CERNET	China Education and Research Network
CNGrid	Acronym for China National Grid, the Chinese national testbed for the new generation of information.
Cluster	The term describes a cluster is a group of machines that are networked together and used as a single unit to run parallel programs.
CROWN	Acronym for China Research and Development environment Over Wide-area Network
CSTNET	China Science & Technology Network
EGEE	Enabling Grids for e-Science
Grid	The term designates a distributed infrastructure of computation and storage resources, which can be used by a VO in a transparent way (i.e. without need to know about the location of the resources etc).

<i>GILDA</i>	Grid INFN Laboratory for dissemination activities
<i>gLite</i>	Codename of the Middleware software suite developed by EGEE JRA1.
<i>Globus</i>	“Globus Toolkit” is the name of all software components for Grid Computing platforms available under an open-source license from the consortium Globus Alliance.
<i>GridICE</i>	Distributed monitoring tool designed for Grid systems.
<i>GStat</i>	Code for multivariable geostatistical modelling, prediction and simulation, widely adopted within EGEE in order to provide statistics about pilot sites installations.
<i>LHC</i>	Large Hadron Collider
<i>Middleware</i>	Generic terms defining a communications layer that allows applications to interact across hardware and network environments.
<i>NGI</i>	National Grid Initiative
<i>ROC</i>	Regional Operation Centre
<i>VO</i>	Virtual Organization: a Virtual Organization can be defined as geographically dispersed group of collaborating scientists.

3.3. DOCUMENT AMENDMENT PROCEDURE

In order to amend the document, please contact the Project Office at:
po@euchinagrid.org