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Newsletter

September 2006

Geneva, Switzerland, 25-29 September 2006

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GLITE-3 NOW USED BY 80% OF EGEE SITES

Since its first release in May 2006, the EGEE middleware stack gLite-3 has been deployed by about 80% of the sites connected to the EGEE infrastructure and is now the main middleware distribution used in production. This provides the users with a more homogeneous system to work with, moving towards a "re-unification" of the two loosely coupled stacks that have been used in EGEE previously (LCG-x.x with some gLite components and gLite-1.5 – or earlier).

gLite 3.0 combines the consolidated middleware stack used on the production infrastructure for years with the re-engineered and custom-built solutions provided by the EGEE middleware development activity. Distributed under an open source licence, gLite is based on middleware from EGEE's predecessor, the European DataGrid (EDG) project, and makes use of components from other ongoing middleware projects (such as Condor and Globus). The gLite middleware is designed as a modular system to allow users to tailor the system to their specific needs by using the services they require, rather than having to use the system as a whole.

The unification of the gLite and LCG distributions also includes moving to common build tools provided by the ETICS related project and to the new EGEE software process, thus harmonising processes and controls – a perquisite for evolving the system while it is used in production. And while the change to gLite-3 has not brought many short term advantages initially – as is the case for all big changes and especially if new complex services are introduced into a production system – this step is necessary to improve the service to users in the future. In the mid- and long-term, gLite will allow more efficient and complex handling of workloads, better scalability, and an accelerated software life cycle amongst other benefits.

Hannelore Hämmerle, EGEE

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RESEARCH MAKES MOUNT ETNA SING!

Predicting eruptions will become easier now scientists are using technology to translate the patterns of a volcano's behaviour into sound waves. EGEE, in collaboration with the EELA (E-Infrastructure shared between Europe and Latin America) project, who are already investigating volcano sonification at Mount Etna, Sicily, are using the GÉANT2 and ALICE-RedCLARA networks to further extend this important study to include Ecuador's Tungurahua volcano.

Mount Etna, Sicily, Europe's largest active volcano

The research project, which brings together experts from Europe and Latin America, digitally collects geophysical information on seismic movements before using data sonification to transform them into audible sound waves, which can then be 'scored' as melodies. The resulting 'music' is then analysed for patterns of behaviour and used to identify similarities in eruption dynamics and so predict future activity.

The software used for sonification was first developed by Dr. Domenico Vicinanza, then working at the Italian National Institute of Nuclear Physics (INFN), for use at Mount Etna, the tallest volcano in Europe. Following the initial work, Dr. Vicinanza and a team of scientists, led by Prof. Roberto Barbera from the University of Catania and EGEE's NA3 and NA4 activities, are now collaborating with colleagues in Ecuador to study the Tungurahua volcano, transferring data across GÉANT2 to the ALICE-Red-CLARA network using a transatlantic 622 Mbps connection. The Ecuadorian National Research and Education Network (CEDIA) is responsible for the connection to the scientists based at Tungurahua itself.

"Through expanding this research to include Latin America's volcanoes we are hopeful we can build on and further develop the extensive data and information we have already obtained from the studies at Mount Etna," said Prof. Barbera, also Technical Coordinator of the EELA project. "Data sonification can be considered the acoustic counterpart of data graphic visualisation and is key to expanding our knowledge of volcanic seismic patterns to gain a deeper understanding of volcanic activity, especially when this activity precedes eruptive phenomena." continued Dr. Vicinanza, now at CERN, the world's largest particle physics laboratory.

Dai Davies, General Manager of DANTE, said: "This project is contributing new knowledge to volcanic research and we are delighted to be providing the networking support needed for the international exchange of scientific learning. The ability to be able to translate geophysical data into sound waves is not only exciting but could prove vital to predicting future eruptions, benefiting everyone in these regions."

Based on Joint EGEE/GÉANT2/EELA/ALICE press release

JUST THREE WEEKS UNTIL EGEE'06 – REGISTER NOW!

With only three weeks to go before the EGEE'06 conference, we invite you to register now to this unique event where you will be able to meet with research, academic and business experts to discuss the current status and future of Grid technology.

The week-long programme of EGEE'06 will offer a wide mix of meetings aimed at specific communities or discussing specific technical topics, ranging from a business track and a mini user forum, technical discussions on progress in the fields of middleware, operations and applications support, to sessions of projects related to EGEE, as well as cross-activity meetings. A selected number of Grid users will demonstrate the applications that they are running on the EGEE infrastructure and participants can find out more about various aspects of Grid in an indus-

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trial and research exhibition.

The opening plenary will feature talks by notable international speakers, including representatives of the European Commission, the Swiss government, Intel (Gold Sponsor), CERN (the European Organization for Nuclear Research), the US National Science Foundation, the Japanese NAREGI project, and the Library of Alexandria. Further keynote presentations at plenary sessions during the week will be given by Dennis Gannon (Indiana University), Carole Goble (University of Manchester), David Snelling (Fujitsu) and Mark Linesch (HP/OGF) that give insights into standards emerging in the Grid field and ideas on how to make Grids easier to use and encourage adoption from a broad community.

Don't miss this ideal opportunity to meet high level representatives in the field of Grids, users and Grid experts all in one place to discuss the future of Grid technology! Register now as hotels are filling up fast.

For regular updates, the latest information on the programme, registration details and logistics visit the EGEE'06 webpage: http://www.eu-egee.org/egee06. Training sessions will also be running on the weekend preceding the conference, see News in Brief section later on in the newsletter for details.

Anna Cook, EGEE

EGEE INDUSTRY DAY AT THE ISCHIA GRID SUMMER SCHOOL

Set in the spectacular surroundings of the Italian coastal island of Ischia, the third EGEE Industry Day was held on the afternoon of 12 July 2006 in conjunction with the International Summer School on Grid computing.

The day, organised by the EGEE Industry Forum (IF), demonstrated how business can get involved in the project and make use of the EGEE infrastructure – used in production mode and ready to work with business users as well as scientists.

By bringing together organisations from public and private institutions, the invited speakers discussed topics central to Grid business. Discussions revolved around the challenges faced when adopting

Grid technology in business, how Grids be can used as a workable solution in business, the methods of knowledge transfer from research to industry, Grids as a viable option for SMEs and re-orientation of business models to implement a useable Grid solution in business.

The extremely active EGEE Grid training activity (NA3) was highlighted as a 'way in' to the Grid for business, and the project has been approached about the possibility of providing commercial Grid training.

The next EGEE business event will be the business track at the upcoming EGEE'06 conference in Geneva, Switzerland, 25-29 September 2006 (see www.eu-egee.org/egee06 for details). This will be followed by another Industry Day in Catania, Italy, 26-27 October 2006, hosted by the local department of the Istituto Nazionale di Fisica Nucleare (INFN).

The motivation behind the event is to demonstrate to business, in particular SMEs, the advantages of using the EGEE Grid infrastructure and give an insight into the current Grid demands from end users and the Grid infrastructure solutions available to meet these demands. For more about this and other industry days visit the Industry Forum section of the EGEE website http://www.eu-egee.org/.

Douglas McKinley, Metaware

## GRIDWISETECH SPEEDS UP ADVANCED DEVICE PROTOTYPING

EGEE LCG API in combination with a web portal, both of which were recently developed by GridwiseTech (long-time collaborators of EGEE), enable the execution of computationally intensive simulations of advanced electronic devices. Thanks to that, global leaders in the medical appliance industry can obtain higher quality results and save time spent on building prototypes of their products. This is possible because the solution enables easy access to EGEE resources, which can be reached by means of any electronic device capable of displaying Web pages.

So far the extensive EGEE infrastructure has been used mainly for academic purposes, with only a single fully deployed industrial application at this stage. A client of GridwiseTech used the resources when creating a new medical device, thus saving time and

reaching higher quality level already at the prototyping stage. Instead of building traditional prototypes, a mathematical model of the device has been developed and now simulations are being performed.

The algorithm for such a model is computationally intensive. So far it might have taken several months on several tens of CPU's to complete a single simulation. GridwiseTech's solution enables running the entire set of simulations in multiple instances on many different machines. This allows a more efficient exploitation of the EGEE resources, however, it leads to generating multiple, and large, output files. For example, the first algorithm, if run in 100 instances, generates around 100 files, of 1 GB each, that are further processed and merged to a single file of 80 MB. This file can be easily downloaded to a user's machine.

The architecture used in GridwiseTech's system
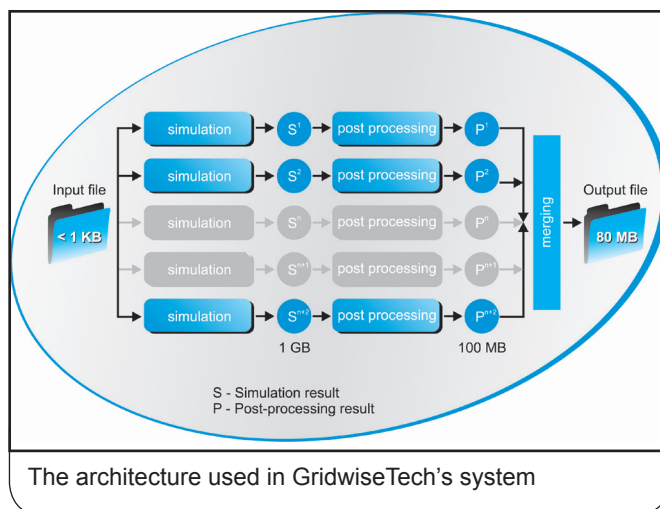
Apart from the workflow execution engine (provided by the EGEE LCG API), GridwiseTech has developed a Grid-enabled Web portal, which is a comfortable interface to the applications that perform the simulations. The users of these applications are not IT specialists; therefore, a command line interface was not suitable for them. Moreover, GridwiseTech's solution makes it possible to run simulations without the deployment of heavy software on their machines. All simulations are executed on the EGEE infrastructure, but they can be comfortably managed from the level of a Web browser.

The solution by GridwiseTech enables comfortable and user-friendly access to vast amounts of computational resources gathered within the EGEE infrastructure, from virtually any device capable of displaying Web pages. This is a milestone on the way to make the EGEE infrastructure—and Grid technology in general—more useful to businesses that need large computational resources in order to gain substantial advantage over their competitors.

Owen Appleton, EGEE

CERN OPENLAB STIMULATES

ENTREPRENEURSHIP

On 26 July, a "Grid Entrepreneurship Day" was held at CERN, as part of the CERN openlab student programme. The goal of the event was to increase awareness amongst summer students and young researchers involved in Grid projects, in particular EGEE and CERN openlab, of the possibilities as well as the challenges that high-tech entrepreneurship offers.

Bob Jones, EGEE-II Project Director, kicked off the event, emphasising that part of EGEE's mission is to promote uptake of Grid technology by business and industry. Nathan Hill and Alex Efimov of PPARC's Kite Club gave a series of general talks about entrepreneurship with advice, examples and a healthy dose of reality and humour. The audience will remember that FFF stands for typical first-round investors in a new venture: Family, Friends and Fools. They also presented first results of a PPARC-sponsored analysis of the industrial potential of EGEE, which will be followed up with fresh results during the business track of the upcoming EGEE'06 conference.

There were two case studies of European start-ups involved in Grid and cluster technology. The first case study was a French initiative, Kerlabs, with an interesting business model for cluster computing based on open-source software. The CTO of this very early stage start-up, Pascal Gallard, explained how the host institute INRIA (Institut National de Recherche en Informatique et Automatique) played a very constructive role in stimulating this spin-off.

The second case study was a Danish firm, MESH-Technologies, which has developed several Grid-related products. The CEO, Søren Nielsen, emphasized that good ideas are not enough – you need to find customers, which is challenging when dealing with new technologies. He demonstrated their latest offer, a "broadband computer", essentially a thin client for running open-source PC software over

broadband connections, which caught the audience's attention.

Presentations were also made by representatives for regional organisations tasked with promoting spin-off, who explained their current policies. The French and Swiss representatives, Bruna Carchia and Daniel Loeffler, made a joint presentation to emphasize the close collaboration now going on across the border in CERN's immediate neighbourhood. An interesting finding of a study of spin-off from CERN they had commissioned was that most of the 20-odd spin-offs they had traced to CERN were due to CERN users, not CERN staff. A significant majority of Italian entrepreneurs was another surprising result.

The Finnish presentation by Antti Heikkelae emphasized the focused approach that Finland has taken to ensuring effective transfer of technology from CERN and other big facilities – surely a role model for other countries. In addition, Beatrice Bressan of CERN's TT group presented the CERN approach to knowledge and technology transfer.

The take home message of the event for some 20 openlab students, as well as an audience of some 30 other persons from CERN and the region, is that starting up a technology company is not something to do if you want to get rich, but can be extremely stimulating if you like to be your own boss. The students were also reminded that starting young is a big advantage.

PPARC, the Particle Physics and Astronomy Research Council of the UK, was a special sponsor of this event. The programme, video and PowerPoint presentations from the event can be found on the openlab website at http://openlab-mu-internal.web.cern.ch/openlab-mu-internal/News-Events/Event_pages/06-02_Grid_Entrepreneurship_Day.asp .

Neasan O'Neill, GridPP, and Francois Grey, CERN

EU COMISSIONER POTOČNIK VISITS INSTITUTE OF PHYSICS, BELGRADE

On 14 July, 2006 the Institute of Physics in Belgrade (a new partner for EGEE-II) and its Scientific Computing Laboratory were hosts to high level delegations from EU Directorate General for Research, headed by Janez Potočnik, Commissioner for Research, and from the Ministry of Science of Serbia, headed by Aleksandar Popović, Minister of Science.

EU Commissioner for Science and Research, Janez Potočnik, with Serbian EGEE partner Aleksandar Belić at the Institute of Physics, Belgrade

The joint delegation also included Andras Siegler, Director INCO, Giancarlo Caratti, JRC, Tania Friederichs, DG Research, Ivan Videnović, Assistant Minister of Science, and Gradimir Milovanović, Chairman of the National Science Council.

The main purpose of the Commissioner's visit to the IPB was to get first hand information about the four IPB laboratories that were awarded three year EU Centre of Excellence grants that started on 1 July 2006. The results of the 2005 SSA call for reinforcing of research excellence in the West Balkans were a success for Serbia whose R&D centres got eight of the region's ten grants; for Serbian physics (six grants), and, most impressively for the Institute of Physics in Belgrade whose high quality research was recognized with the award of EU Centre of Excellence grants to four of its laboratories. The success of IPB was further enhanced by the fact that the CX-CMCS project of its Scientific Computing Laboratory (SCL) was the best evaluated R&D proposal in the whole West Balkan region.

At the Scientific Computing Laboratory Commissioner Potočnik was greeted by Aleksandar Belić, head of SCL, and given a brief overview of the laboratory's mission and R&D activity. In particular, the Commissioner for Research was informed about SCL's three year project for reinforcing SCL research capacity transforming it into an EU Centre of Excellence for the Computer modelling of complex systems and Grid technologies. Commissioner

Potočnik was particularly interested to learn about SCL's participation in EU e-Infrastructure projects: EGEE-II, SEE-GRID, and SEE-GRID 2. During the tour of SCL the joint delegation had a chance to view the lab's computing infrastructure, particularly its PARADOX parallel cluster – one of the central Grid resources in South-Eastern Europe.

Aleksandar Bogojevic, Institute of Physics, Belgrade

GRID EVENT IN BULGARIA PRESENTS NEW NANOTECHNOLOGY AND POLLUTION APPLICATIONS

A successful dissemination event – a special session devoted to the Bulgarian involvement in the European Grid initiatives – was held in Bulgaria last month. This special session was organised in the framework of the 6th International Conference on Numerical Methods and Applications, held on 20-24 August 2006, in the beautiful mountain resort of Borovets, Bulgaria. The conference was attended by 118 participants, most of them with experience in developing mathematical models and solving the resulting large scale computational problems. The conferences of this series have always been a forum for scientists of established research groups from various countries to share ideas and establish fruitful scientific collaborations.

Students at the Fourth International Grid Summer School, held in Ischia, near Naples, Italy

The special Grid session included presentations of EGEE, SEE-GRID and Bulgarian Grid-related activities made by Dr. E. Atanassov (Bulgarian EGEE team leader), Dr. T. Gurov (Bulgarian SEE-GRID team leader) and Dr. A. Karaivanova (Bulgarian NGI contact). The session was followed by a discussion, chaired by Dr. E. Atanassov, where interested participants posed their questions about porting their applications onto the Grid and joining EGEE Grid as users.

Additionally, during the scientific program three members of the Bulgarian Grid team presented

new results on applications in the domains of nanotechnology and air pollution modelling, achieved while running the Bulgarian Grid-applications. The SALUTE (Stochastic ALgorithms for Ultra-fast Transport in sEmiconductors) application ran on South-East European Grid sites. SALUTE is a pilot MPI Grid application developed by the Institute for Parallel Processing, BAS, Bulgaria that integrates stochastic algorithms of Monte Carlo type to solve important problems in nanotechnology. Meanwhile, ENVMOD, an application studying air pollution using the Danish Eulerian Model with the aim to estimate the agricultural losses in Bulgaria, ran on sites from EGEE's Earth Science Research VO.

Aneta Karaivanova, Institute of Parallel Processing, Bulgarian Academy of Sciences

FOURTH INTERNATIONAL GRID SUMMER SCHOOL

This summer sixty-five students from 17 different countries traveled to the beautiful Island of Ischia, near Naples. Throughout two weeks, they took part in an intensive programme designed by an international committee to give them an in-depth introduction to Grid technologies and applications.

The participants of the Fourth International Summer School for Grid Computing included young researchers from technical industries, research laboratories, and academic environments who were interested in using or developing Grid technologies. Students from computer science, computational science and application backgrounds attended the school.

The students received more than seventy hours of lectures, listened to over 47 presentations from 30 expert speakers and performed practical exercises on equipment installed on the school site. The testbed was established locally and was connected to major international Grid resources and thus provided a rich and challenging environment for hands-on

learning and experimentation.

This year, the school was sponsored by Microsoft, AMD, Global Grid Forum, HP, IBM, Allied Telesen and support was provided by EGEE, the Italian National Institute for Nuclear Physics (INFN), the ICEAGE Project, the Globus Alliance, NAREGI, the Condor Project, OMII, the National Research Council, UNF II, OGSADAI, Micron, ETICS, FIRB Grid.it Project, and SPACI consortium, and funding support was given by the UK e-Science programme. The summer school provided students with one of the few opportunities to learn the basics of Grid computing in a hands-on manner.

This is the fourth in a series of schools which started in 2003 – the first school was held in Vico Equense in Italy, again near Naples. Next year there are plans to move the school to Sweden for the first time.

For more information please refer to the ISSGC06 website at http://www.dma.unina.it/~murli/ISSGC06/.

Alison McCall, NeSC
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JOINT REGIONAL EGEE CENTRAL EUROPEAN FEDERATION AND SEE-GRID-2 SUMMER SCHOOL ON GRID COMPUTING

Future Grid users and Grid developers from South-East Europe (SEE) gathered recently in Budapest in the framework of the Joint Regional Central Europe (CE) EGEE and SEE-GRID Summer School on Grid Application Support. The aim was to get acquainted with Grid technology, and to study and practice – together with their European colleagues – application development methods and tools, using the Central European Virtual Organization of Europe's biggest multi-disciplinary Grid infrastructure, EGEE, and the South East European Grid infrastructure (SEE-GRID). The summer school focused on the end-user view of Grids and provided a unique occasion to get first-hand user experience with the technology, meet representatives of Grid user communities, Grid infrastructure providers and Grid tool developer groups.

Lecturers from the two regions gave talks on the current state of Grid infrastructures, Grid technologies and application development tools, and intro-

duced the recent Grid developments of flagship European infrastructure projects such as EGEE and SEEGRID. During special sessions, attendees were even able to port their Applications to the Grid with the help of Grid experts.

Furthermore, under the umbrella of the Summer School, SEE-GRID Certification Authority team delivered a half-day training event for perspective Certification Authorities as well as existing Registration Authorities within the region. The Certification Authority lies at the heart of Grid operations, issuing the certificates for the end-users – their passports to the Grid. Helping all SEE countries to establish an independent Certification Authority is seen as crucial in paving the way for long-term, sustainable country-level Grid infrastructures that will serve wide local communities. The SEE-GRID CA Training event catered for 18 participants from 8 countries in the region.

The summer school was an example how European and South East European Grid infrastructures, which are developed in the framework of the European Commission FP6 EGEE and SEE-GRID projects, allow researchers from different scientific fields to share available computational and data resources, thus having large amounts of computing power and data storage available at any time. The EGEE and SEE-GRID infrastructures enable scientists to create virtual organizations, to share resources and to develop applications that are capable to use these resources.

Specifically, the research and education communities of South-East Europe benefit from the next generation regional computing and storage Grid Infrastructure and advanced applications that the SEE-GRID 2 project will deliver. SEE-GRID 2 officially started on 1 May 2006 and its aim is to further advance and integrate the existing Grid Infrastructure and services that have been created by its predecessor (SEE-GRID), to further strengthen scientific collaboration among the participating countries, and ultimately achieve sustainability for national and regional eInfrastructures.

Dimitra Kotsokali, GRNet

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NEWS IN BRIEF

UK E-SCIENCE AHM 2006

The Fifth UK e-Science All Hands Meeting takes place this September from Monday 18 to Thursday 21 September. The theme of this years' event is "Achievements, Challenges and New Opportunities". There will be a broad range of presentations and discussions at the meeting about completed activities, challenges for new areas, research issues and industry take-up of prototype technologies.

The programme is now available to view online and includes many international and highly esteemed keynote speakers, numerous workshops, panel sessions, posters and BoFs together with interactive demonstrations at the e-Science centres' and other exhibitor booths. To look at the programme see: http://www.allhands.org.uk/programme/index.html

To register go to: http://www.allhands.org.uk/registration/index.html

BELIEF IN INDIA: CONNECTING THE KNOWLEDGE OF TODAY FOR THE VALUE OF TOMORROW

In the wake of the GÉANT2 link with India and the country's connectivity priorities, the BELIEF e-Infrastructures conference & exhibition, on 13-15 December in New Delhi, will set out valuable insights into the trends and visions of the dynamic eInfrastructures ecosystem in India and Europe.

Organised by the EU funded e-Infrastructures project, BELIEF, the conference takes up on the key themes that are high on business agendas and that were the subject of recent Indian presidential addresses including e-Learning, reducing the digital divide and e-Health. The potential value of connecting European with Indian scientific knowledge may seem exciting but how best to harness this connectivity and make it a sustainable reality for many user communities in the two regions is a key theme that the conference will address.

In this light, the conference platform of plenary, parallel sessions and tutorials presented by high level experts is an ideal opportunity for research and business to exchange knowledge, showcase achievements and discuss the priorities for mutual eInfrastructures co-operation between India and Europe.

The event is free of charge – to register your participation and find out the details of the conference programme, visit http://www.beliefproject.org/events/international-conferences.

TRAINING AT THE EGEE'06 CONFERENCE

The following two one-day training events have been arranged in conjunction with the EGEE'06 conference in Geneva. Both will be held at CERN:

- Application Developers course:
Saturday 23 September 2006.
This event is to support those intending to write or port applications to run using gLite 3.0 middleware. Agenda can be found at: http://agenda.cern.ch/fullAgenda.php?ida=a063196 and the registration page is at http://www.nesc.ac.uk/action/registration/egee/index.cfm?id=707.

- Training the trainers course:
Sunday 24 September 2006
This event is to support those intending to give training courses during EGEE-II. Participants might be members of the NA3 activity, or might be members of related projects or application communities associated with EGEE. The full agenda can be viewed at http://agenda.cern.ch/fullAgenda.php?ida=a063195.

RECENT DELIVERABLES & MILESTONES

Each issue we publish the list of recent Deliverables or Milestones of the project. A full list of these is available online at http://egee-jra2.web.cern.ch/EGEE-JRA2/EGEE-II/Deliverables/Deliverables.htm with links to the documents.

MNA3.4.1 - Virtual organisation and external project support plan
MJRA1.3 - Grid Components Reengineering Workplan
MNA3.2.2 - Development of enhanced e-learning facilities and report
MNA4.1 - HEP and Earth Science Demonstrations
MNA5.1.1 - EGEE-II outlook on eInfrastructure Reflection Group White Papers and Roadmaps
MSA1.3 - Site operational procedures policy in place

LISTINGS

FORTHCOMING EVENTS

11-14 September, 2006, Washington, USA
GridWorld
http://www.gridworldhome.com/live/42/

13-15 September, 2006, Munich, Germany
HPCC-06
http://hpcc06.lrr.in.tum.de/

15 September, 2006, Rome, Italy
EUMEDGRID 1st Conference
http://www.eumedgrid.org/Conf-Roma06/

18 September, 2006, Rome, Italy
EUCHINAGRID 1st Conference
http://www.euchinagrid.org/Conf-Roma06/

18-21 September, 2006, Nottingham, UK
UK e-Science All Hands Meeting
 http://www.allhands.org.uk/registration/index.html

19-21 September, 2006, Brussels, Belgium
European Grid Technology Days
http://www.cordis.lu/ist/grids/agenda_15_09_04.htm

21-23 September, 2006, Innsbruck, Austria
Austrian Grid Symposium
http://www.austriangrid.at/austriangrid/

25-29 September, 2006, Geneva, Switzerland
EGEE'06 conference
http://www.eu-egee.org/egee06

28-29 Spetemebr, 2006, Barcelona, Spain
GRID2006
http://www.grid2006.org

1-2 October, 2006, San Jose, USA
GRIDNETS 2006
http://gridnets.org/2006/

4-6 October, 2006, Riga, Latvia
BalticGrid 2nd AHM
http://2ahm.lumii.lv/

21-23 October, 2006, Changsha, China
International Conference on Grid and Cooperative Comput-
ing (GCC 2006)
http:// vce.org.cn/gcc2006/

11-17 November, 2006, Tampa, USA
Supercomputing (SC06)
http:// sc06.supercomputing.org/

CALLS FOR PAPERS AND PARTICIPATION

IEEE IPDPS 2007 Call for Papers and Participation
Deadline 9 October 2006
http://www.ipdps.org/ipdps2007/2007_participation.html
http://www.ipdps.org/ipdps2007/2007_cfp.html

TRAINING EVENTS

11-15 September, 2006, Karlsruhe, Germany
GridKa School 2006
http://www.fzk.de/gks06

11-13 September, 2006, Rome, Italy
Grid training at the EUMEDGRID 1st Conference
http://www.eumedgrid.org/Conf-Roma06/

19-21 September, 2006 Zagreb, Croatia
Cluster and Grid Workshop
http://www.srce.hr/english/international/egee/

23 September, 2006, CERN, Switzerland
Application Developers Course
http://www.nesc.ac.uk/action/registration/egee/index.
cfm?id=707

24 September, 2006, CERN, Switzerland
Training the Trainers
http://www.nesc.ac.uk/action/registration/egee/index.
cfm?id=708

2 October, 2006, CERN, Switzerland
GGUS Training
http://www.nesc.ac.uk/action/registration/egee/index.
cfm?id=713

6-7 November, 2006, Karlsruhe, Germany
GGUS Training
http://www.nesc.ac.uk/action/registration/egee/index.
cfm?id=714

Thanks for reading this newsletter, which will keep you up to date on events within the project and the European Grid community in general. You are receiving this newsletter as you have expressed an interest in the EGEE project. If you have any questions, comments or suggestions for the next issue, please feel free to contact owen.appleton@cern.ch .