



Enabling Grids for E-science

NA2 in EGEE-II

Hannelore Hämmerle, CERN

www.eu-egee.org



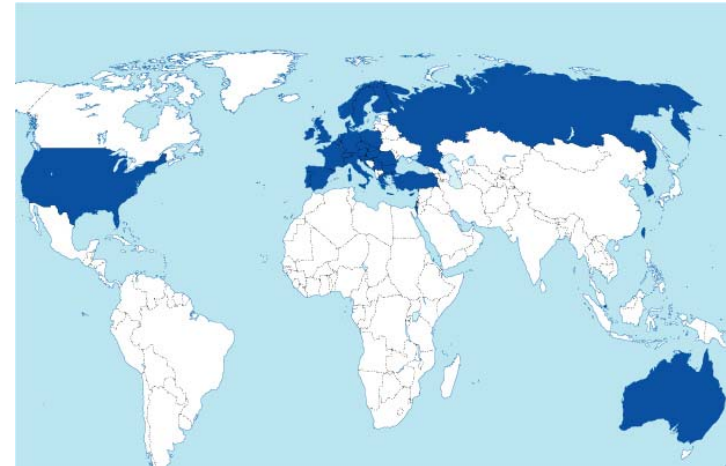
- **NA2 in EGEE-II**
- **New NA2 Partners**
- **Programme of work for NA2 in EGEE-II**
 - Same tasks as in EGEE
 - New Plans
- **Brainstorming**

- **EGEE-II expands consortium**

- 27 to 32 countries
- 70 to 93 partners

- **For NA2**

- Larger budget
- Much better coverage, every federation represented
- Nearly all NA2 partners from EGEE
- Many new partners for EGEE-II



- **NeSC (UEDIN) (UK)**

- National e-Science Centre, Edinburgh, UK
- Contact: Alison McCall



- **EGEE NA2**

- Dissemination and Outreach for the UK (0.5 FTE)
- Started end April 2005
- Promote EGEE and Training Team Activities (NA3) within UK
- Maintain website with Events, press releases, NeSC Newsletter, Articles in Publications, Database of UK Contacts, attend UK Events to promote EGEE, produce publication materials for Training Team.
- Setting up formal process for Training Team to monitor /report on Dissemination Activities

- **CNRS** (France)
 - Centre National de la Recherche Scientifique

- **CRSA** (France)
 - Centrale recherche SA
 - Subsidiary of the École Centrale Paris



Une Grande École sans frontières • A Grande Ecole without boundaries

École Centrale Paris

- **INFN (Italy)**
 - National Institute of Nuclear and Particle Physics
 - large Italian public research institution
 - experience in distributed computing
 - international projects

- **EGEE**
 - **NA2, NA3, NA4, NA5, SA1, JRA1** activities in Italy

- **EGEE-II**
 - Same as EGEE
 - + **JRA1** coordinated at project level
 - + contribution to **SA3**



- **NA2@INFN in EGEE:**

- GILDA (Grid INFN Laboratory for Dissemination Activities)
 - Grid Testbed with *Virtual Organization* and *Certification Authority*
 - <https://gilda.ct.infn.it>
 - Grid Demonstrator
 - <https://grid-demo.ct.infn.it> and <https://glite-demo.ct.infn.it>
 - Video Tutorials
 - <https://gilda.ct.infn.it/video.html>
 - INFNGrid video
 - <https://gilda.ct.infn.it/video/INFN/INFNGridComputing.ram> or <mms://rembrandt.terena.nl/windowsmedia/gridvids/inf-n-grids.wmv>
 - GILDA Live User Interface on DVD (to send jobs to GILDA)
 - <https://gilda.ct.infn.it/live-cd>
- Translation of infosheets
- Promoting EGEE in different events



- **NA2@INFN in EGEE-II:**

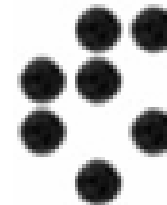
- Creation of new multi-media contents concerning EGEE, GILDA, and GENIUS
- Continue translations of infosheets, press releases
- Continue dissemination activities within NA4 Generic Applications
- Build a Web site for all INFN activities in EGEE



- **BUTE** (Hungary)
- **CESNET** (Czech Republic)
- **II-SAS** (Slovakia)
- **ICM** (Poland)
- **JSI** (Slovenia)
- **RBI** (Croatia)
- **JKU** (Austria)



Budapest University of Technology and Economics



-  **Budapest University of Technology and Economics**
 - Largest and oldest (1782) technical university in Hungary

- **Funding member of Hungarian Grid Competence Centre**
 - National and international grid related projects
 - ClusterGrid
 - SuperGrid
 - EGEE

- **Good industrial relations**
 - R&D projects (HP, Scansoft, T-Systems, SMEs, ...)
 - Regional Knowledge Centre (complex information systems)



- **EGEE**

- NA2

- Translation of infosheets, news
 - Promoting EGEE in different events
 - Maintenance of <http://egee.ik.bme.hu>

- NA3

- Induction courses
 - Translation of course materials
 - Course development



- **EGEE-II**

- NA2 activity only

- Disseminate the benefits of EGEE infrastructure in Hungary

- Translations of infosheets, news
 - Translation of GridCafé
 - Using strong links to industry BUTE will make sure that his industrial partners are aware of development in EGEE-II
 - Maintenance of <http://egee.ik.bme.hu>

- **Institute of Informatics
Slovak Academy of Sciences
Slovakia**



- **Ladislav Hluchý**

- **SAS**

- more than 50 scientific and research institutes

- **II-SAS**

- www.ui.sav.sk
- Current related projects
 - K-Wf Grid: Knowledge-based Workflow System for Grid Applications
www.kfgrid.net
 - MEDIGRID: Mediterranean Grid of Multi-Risk Data and Models
<http://www.eu-medin.org/projectPage.php?acronym=MEDIGRID>

- **EGEE-II**

- continue to promote EGEE in Slovakia (demonstrations, presentations, website with translated material)

- broad spectrum of potential users
- prospective EGEE sites

→ necessary for wider adoption of Grid (and EGEE) in Slovakia

- **IISAS manpower – 12 PMs**

- TNA2.1 (2) Media relations
- TNA2.2 (2) Industrial and governmental relations
- TNS2.3 (4) Production of promotional material
- TNA2.5 (2) User Relations and websites
- TNA2.6 (2) Events organisation and attendance

- **Interdisciplinary Centre for Mathematical and Computational Modelling of Warsaw University**



- **EGEE:**

- NA2 unfunded
- Translation of selected EGEE press releases to Polish → Newsroom section on <http://spin.fuw.edu.pl>
- Writing own press releases in Polish and English
- Events and courses with NA3
 - E.g. at Opening of Advanced Micro Devices Inc. Polish Office, Warsaw, 15 April 2005

- **EGEE-II:**

- ICM operates Academic Scientific TV, distributed on the Internet http://www.atvn.pl/index_moz_eng.php → broadcast(s) devoted to Grid computing (EGEE), both in Polish and English
- Local EGEE website <http://spin.fuw.edu.pl/>
 - Press releases and other media information (Polish and English)
- Continue dissemination within scientific communities – events with NA3
 - High energy physics
 - Biophysics
 - Earth sciences (meteo group)



- **Croatia**

- new partner-country in EGEE-II
- JRU model of participation in project
- Croatian JRU members:
 - University computing centre – SRCE, Zagreb (coordinator, EGEE-2 JRU contractor)
 - Ruđer Bošković Institute – RBI, Zagreb (**NA2 partner**)
 - Faculty of Electrical Engineering, Mechanical Engineering and Naval Architecture – FESB, Split



- **RBI: Ruđer Bošković Institute**

- interdisciplinary institute
- primarily natural and technical sciences

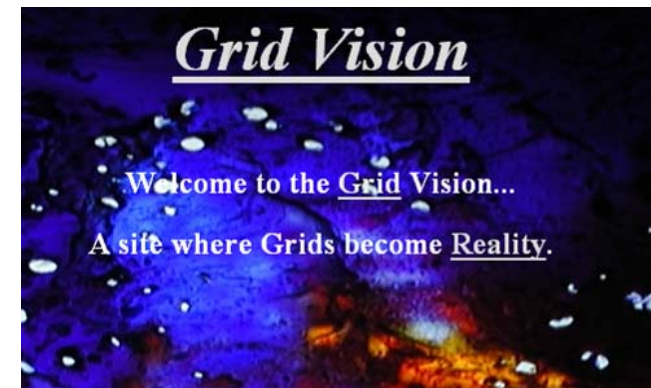
- **NA2 Team members**

- [Karolj Skala, skala@irb.hr](mailto:skala@irb.hr)
- [Zorislav Šojat, sojat@irb.hr](mailto:sojat@irb.hr)
- [Goran Topić, amadan@irb.hr](mailto:amadan@irb.hr)
- [Ivo Kuzmanić, kuzma@irb.hr](mailto:kuzma@irb.hr)



- **RBI vision in NA2 is to strive to satisfy**
 - the needs and necessities of the scientists on our Institute and other scientific Institutes → multidisciplinary scientific community
 - the necessities of global scientific community
 - the need to promote the modern computing environments and e-infrastructure to a wide variety of public audiences

- **CIC (Centre for Informatics and Computing at RBI) develops**
 - completely new approach to disseminate and promote e-Science
 - «Distributed Interactive Dissemination»
 - 'interactive multimedia'-type webcasting
 - requests trigger on-the-fly re-editing of audio, visual and textual material
 - to get a story about the user's interest
 - Content primarily based on visual material
 - to be developed in tight cooperation with national televisions
 - To enable users to feel the Grid-like structure of the visual materials
 - to promote the Grid as a future e-Society infrastructure to audiences worldwide



<http://gridvision.irb.hr/>

- **GUP + RISC == JKU (Johannes Kepler University, Linz)**

NEW

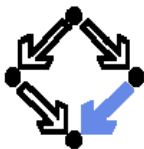
- Institute of Graphics and Parallel Processing



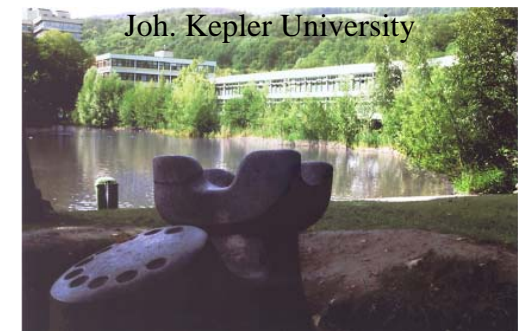
- Major Austrian academic HPC and networking centre
- Main AustrianGrid Computing and Support Centre
- Main EGEE operator for the eastern part of Austria
- AFC representative for Central Europe
- Leader and coordinator of the Austrian Grid
- strong expertise in grid computing



- Research Institute for Symbolic Computing



- Excellence in doing symbolic computation, parallel and distributed algorithms and software systems
- Development of a grid variant of a medical software system for virtual eye surgery in cooperation with a medical partner



- **New Partner name, same people in NA2**
- **Continuation of EGEE dissemination efforts for Austria**
 - Doing localized releases
 - Running Austrian website
 - Representing EGEE at external Events
- **New target audience “Biomed-Community” through RISC**
- **Close cooperation with AustrianGrid Partner UIBK**
- **Planned JRU**



Come see us!!

<http://www.austriangrid.at/symposium/>

- **FZK** (Germany)



Forschungszentrum Karlsruhe
in der Helmholtz-Gemeinschaft

- **CSCS** (Switzerland)



- **Forschungszentrum Karlsruhe, Germany**
Science and engineering research institution

Research areas: Structure of Matter, Earth and Environment, Health, Energy, and Key Technologies

NA2 in EGEE-II:

- Concentrate on the most effective means of dissemination according to EGEE experience

[Note: Very limited (wo)man-power of 1 FTE for 25% of EU population]

- Extend and develop GridKa School (now in its 3rd year)

- Challenge: Integration with D-Grid
- Continue presentations at conferences, trade shows

- Where possible coupled with paper
- Translation of press releases and PR material
- Build / extend local Web presence as first point of contact

Lokale Dienste

Üblicherweise läuft in einem Alien-Cluster-Zentrum eine Reihe von Diensten lokal. Ein typisches Beispiel ist der Cluster-Service, der die lokale Ressourcenverwaltung also eine einheitliche Schnittstelle für alle einlaufenden Anfragen. Außerdem sind die Computing-Elemente (CE, Rechen-Elemente). Sie bilden die Schnittstelle zu lokalen Rechenressourcen.

Benutzerschnittstellen

Die Benutzer bedienen Alien über einen User Interface Layer. Die Kommandozeile-Verwaltung hat die wichtigsten Funktionen, aber ein grafisches Benutzerschnittstelle mit einem Webportal. Mit Hilfe von Webbrowsern können die Benutzer die Ressourcen und manipulieren. Um auch Anwendungsprogrammen Zugang zu Alien zu verschaffen, bedarf es

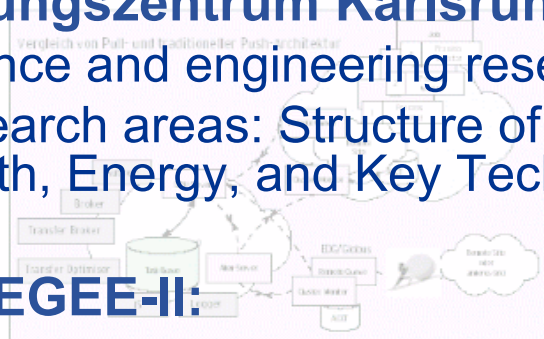


Abbildung 5: Das Rucio-Lite-Monitoring-System zeigt angeschlossene Rechenzentren (gelbe Kreise). Zudem sind laufende Alien-Hosts (blau Kreise) zu sehen.

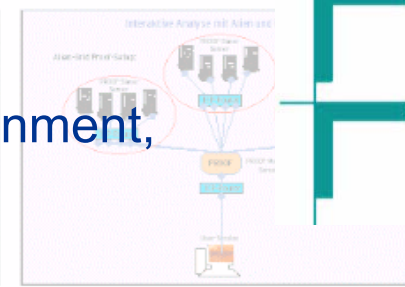


Abbildung 6: SuperPROOF und Alien erhalten die PROOF-Umgebungen mehrerer Instanzen zusammen. Der Master-Server läuft auf der Alien-Master-Maschine.



Die Parallel ROOT Facility

Die Parallel ROOT Facility (PRF) ist ein System zur Ausführung von ROOT-Routinen mit dem Alien-Grid und meldet sich wieder ab. »DÄLÉN« regelt zudem die Zugriffe auf Aliens virtuellen Filesystem. Die PRF ist ein System zur Ausführung von ROOT-Routinen mit dem Alien-Grid und meldet sich wieder ab. »DÄLÉN« regelt zudem die Zugriffe auf Aliens virtuellen Filesystem. Die PRF ist ein System zur Ausführung von ROOT-Routinen mit dem Alien-Grid und meldet sich wieder ab. »DÄLÉN« regelt zudem die Zugriffe auf Aliens virtuellen Filesystem.

Ausblick und Zusammenfassung

Die Parallel ROOT Facility (PRF) ist ein System zur Ausführung von ROOT-Routinen mit dem Alien-Grid und meldet sich wieder ab. »DÄLÉN« regelt zudem die Zugriffe auf Aliens virtuellen Filesystem. Die PRF ist ein System zur Ausführung von ROOT-Routinen mit dem Alien-Grid und meldet sich wieder ab. »DÄLÉN« regelt zudem die Zugriffe auf Aliens virtuellen Filesystem.

zurück. Richtig Leistung entsteht, wenn Alien viele PROOF-Cluster zu einem SuperPROOF-Cluster vereint. Nach dem Alice-Experiment zeigen nun auch weitere HEP-Experimente und mehrfache Projekte Interesse an Alien. Die PRF ist ein System zur Ausführung von ROOT-Routinen mit dem Alien-Grid und meldet sich wieder ab. »DÄLÉN« regelt zudem die Zugriffe auf Aliens virtuellen Filesystem.

Referenzen

- [1] Alice (<http://alice.web.cern.ch/alice/>)
- [2] LHC (<http://lhc-new.horwaglab.com/~/lhc-new-horwag/>)
- [3] Alien (<http://alien.cern.ch/>)
- [4] P. Saz, L. A. P. Coelho, F. Buncic, R. Piskun, J. E. Resnais, V. Sessa, »ALICE – ALICE environment on the GRID: Nuclear Instruments and Methods, 2003, S. 427 bis 440
- [5] Globus Project (<http://www.globus.org/>)
- [6] SOAP (<http://www.soap4j.com/>)
- [7] SASL (<http://orgweb.cern.ch/sasl/>)
- [8] Condor Classads (<http://www.cs.wisc.edu/condor/classad/>)
- [9] UGS (<http://lhcweb.cern.ch/UGS/>)
- [10] LUIS (<http://luis.sourceforge.net/>)
- [11] ROOT (<http://root.cern.ch/>)
- [12] CCGA (<http://www.globus.org/ccga/>)
- [13] Wanno-Grid (<http://www.globe4.org/WANNOGRID.shtml/>)
- [14] GPCALMA (http://celestis.lap.org/ARCFYS/082/082_1.htm/)
- [15] Panda (<http://www.grid.ac.uk/projects/panda/>)



- **Swiss National Supercomputing Centre, Manno (Canton Ticino)**
 - To provide, develop and promote technical and scientific services
 - For the Swiss research community
 - High-performance and high-throughput computing

- **Associated partner of EGEE**
 - Support and operation of a Grid infrastructure in Switzerland
 - Support for integration of new Virtual Organizations
 - User helpdesk front-end

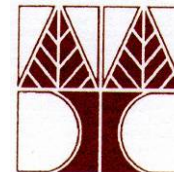
- **EGEE-II (full partner)**
 - Resource management and operation
 - User support
 - User training
 - Identification and support of new applications
 - with strong emphasis in biology



- **In EGEE-II**
- **Partner**
 - Université Libre de Bruxelles (ULB)
- **..with Third Party:**
 - Vrije Universiteit Brussel (VUB)
- **Brussels, Belgium**
- **Participating in:**
 - NA2 (for the Northern Region)
 - NA3
 - NA4
 - Unfunded contribution in SA3 (testing)



- **IPP-BAS** (Bulgaria)
- **GRNET** (Greece)
- **ICI** (Romania)
- **IPB** (Serbia)
- **TAU** (Israel)
- **UCY** (Cyprus)
- **ULAKBİM** (Turkey)



- **The Institute for Parallel Processing - Bulgarian Academy of Sciences, Sofia**
- **Leading position in Bulgaria in**
 - Computer Science
 - Scientific Computations
 - Supercomputing
 - Linguistic Modeling
 - Communications and Control
- **IPP-BAS participates in:**
 - EGEE: NA2, SA1
 - EGEE-II (expected) : NA2, NA3, NA4, SA1



- **1st EGEE and SEE-GRID Workshop in Bulgaria, October 30-31, 2004, Borovets**
 - Purpose: to disseminate the ideas and to spread technical information for the EU projects EGEE and SEE-GRID among members of the Bulgarian Grid Consortium
 - Follow-up events (seminars, presentations and visits at the members of BgGrid)
- **EGEE Dissemination day on EGEE applications**
 - Audience: users which will benefit most from using the Grid
- **2nd EGEE and SEE-GRID Workshop in Bulgaria, March 2006**



- **Institute of Physics in Belgrade**
 - Leading scientific institution in Serbia

- **Scientific Computing Laboratory**
 - New partner in EGEE-II (SEE federation)
 - Leading partner in Academic and Educational Grid Initiative of Serbia (AEGIS)
 - Host of central grid site in Serbia: AEGIS01-PHY-SCL
 - FP6 CoE for Simulation of Complex Systems (best ranked proposal in the call)

- **EGEE-II**
 - Local operation and support centre for Serbia
 - Training and dissemination

- **NA2**
 - Identify target user communities and relevant applications
 - Provide dissemination and outreach activities in Serbia
 - Responsible person: Aleksandar Belic

- **Looking forward to the opportunity to learn from more experienced teams!**



<http://www.phy.bg.ac.yu/>



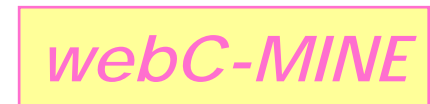
<http://scl.phy.bg.ac.yu/>

- **Tel Aviv University representing Israel Academic Grid (IAG)**
- **EGEE: SA1, NA3; belonging to SEE**
- **SA1**
 - Two production grid sites (WIS and TAU) since July 2004.
 - Currently installing two additional ones (Technion and OU)
 - Operative but still unlicensed
- **NA3**
 - Two induction workshops, a
 - General, December 2004
 - Specialized, Sept 2005
- **EGEE-II: additionally NA2**
 - To increase grid awareness in Israel
- **PI: Prof. David Horn, Tel Aviv University**
<http://horn.tau.ac.il>



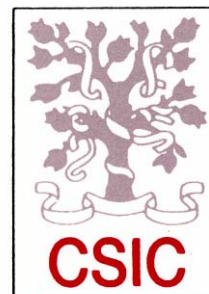
<http://iag.iucc.ac.il>

- **University of Cyprus**
- **Maria Poveda, HPCL, University Of Cyprus**
- **Department of Computer Science**
 - Since 1992, one of the four departments of the School of Pure and Applied Sciences
 - Runs a large number of research programs
- <http://grid.ucy.ac.cy>
- **EGEE partner:**
High Performance Computing systems Lab (HPCL)
 - Established 2001-2002
 - External funding for 2001-2006
> 1 Million Euros (FP5, FP6, RPF)
- <http://grid.ucy.ac.cy>



- **HPCL** was established in an effort to **promote** and **coordinate research** activities in the areas of:
 - Parallel and Distributed Systems
 - Grid technologies – **CyGRID** initiative in Cyprus
 - Middleware and Performance Engineering
 - Web Technologies
 - Internet Computing
- **Promote applications of Internet and High-Performance Computing and Networking in Cyprus** through support and know-how to local users of **HPC technologies**
- **Develop, support, and exploit a high-quality research infrastructure**
- **10 members** (2 Faculty, 1 Postdoctoral Associate, 2 PhD candidates, 3 Research Associates, 2 M.Sc. Students)
- **Close collaborations** with Rutgers Univ. (USA), ICS/FORTH (GR), Univ. of Manchester (UK), Trinity College Dublin (IR), CNR (IT), Univ. of Athens (GR)

- **CSIC** (Spain)
- **LIP** (Portugal)
- **RED.ES** (Spain)



- **Two centres involved:**

- IFCA (Instituto de Física de Cantabria, Santander)
- IFIC (Instituto de Física Corpuscular, Valencia)



- **Experience in Grid projects (CrossGrid, IrisGrid, EGEE) without explicit responsibility:**

- Talks, presentations etc. in several national workshops, dissemination activities of our centres (Semana de la Ciencia, Guided Visits, talks in High Schools, etc)
- Outreach/dissemination material for distribution: posters, brochures, contribution to Physics and Computing Science Reviews
- Interaction with media: press releases, TV and radio interviews

- **Initiatives:**

- To coordinate the efforts done by the SW partners in dissemination, outreach and communication to achieve a good knowledge by the society of the progress performed by EGEE project
- Actions under study to give a high momentum inside SW Federation

- **Red.es**

- Institution operating the Spanish NREN, RedIRIS
- Providing advanced internet connectivity and services to the Spanish research and academic community since 1988



- **IRISGrid = Grid support infrastructure of RedIRIS**

- **Contribution to e-IRG White Papers**

- **Implication with EGEE outreach activities**

- Asia, Southern Mediterranean, Latin-America

- **Activity in the establishment of global middleware infrastructures**

- Chair of TF-EMC2 (TERENA)
- Leading the AAI activity of GÉANT2
- One of the European members of MACE (Internet2)

- **JINR** – Joint Institute for Nuclear Research, Dubna
 - International, intergovernmental organization
 - 18 Member States
 - fundamental research of the structure of matter
 - development and application of high technologies
 - university education

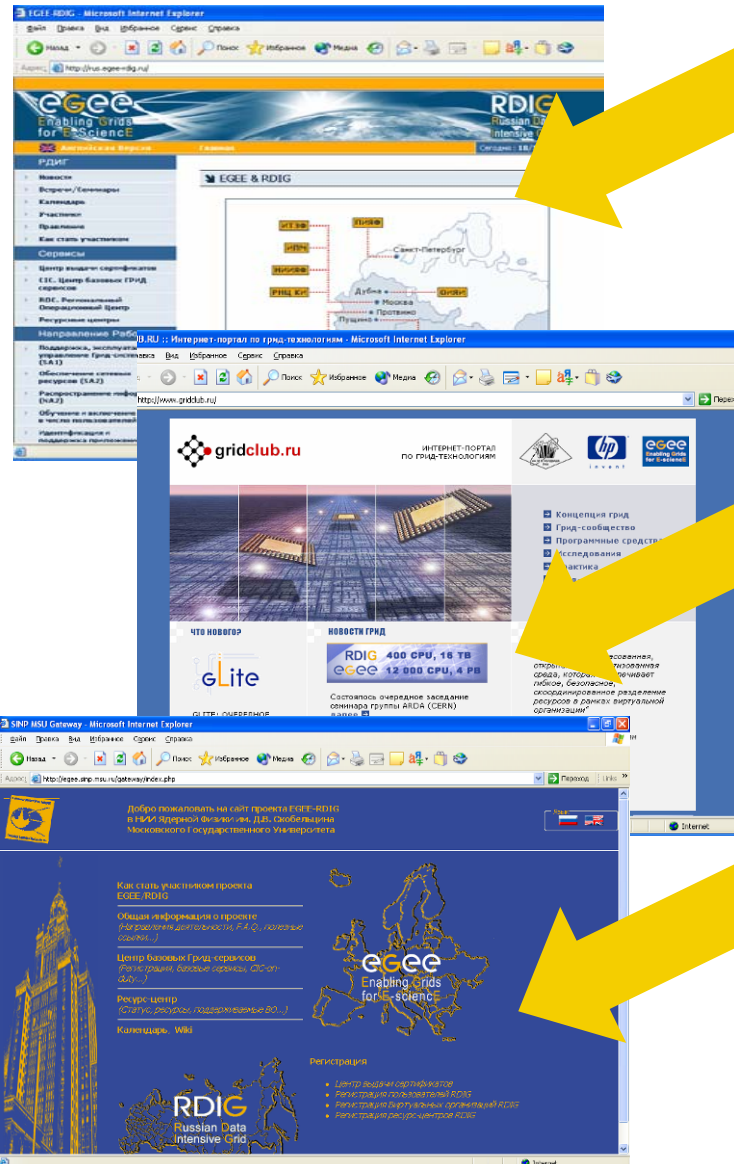


- **KIAM RAS** – Keldysh Institute of Applied Mathematics of Russian Academy of Sciences Moscow
 - founded in 1953 to solve complex mathematical problems in space exploration, atomic and thermonuclear energy etc. → developing appropriate computer hardware and software facilities



- **SINP MSU** – Skobeltsyn Institute of Nuclear Physics of Moscow State University
 - independent institution for research and education
 - high energy physics, physics of nuclei and space





JINR

- lead local NA2 partner in Russia: coordinate local dissemination activities
- support the website <http://www.egee-rdig.ru> of the Russian EGEE Federation (RDIG)
- organising at least one RDIG conference per year

KIAM RAS

- Russian Grid Club Web site <http://www.gridclub.ru>: scientific and other communities in Russia
- localising EGEE-II dissemination material to Russia

SINP-MSU

- disseminate EGEE-II experience and achievements in Russia
- promoting the EGEE infrastructure especially to the higher-education area and Industry

- **Expertise in promotion, management, dissemination developments**
- **Workshop and international conference organisations**
- **Community Portal functionality & Pan-European database realisation, content population and maintenance**
- **Production of promotional material**

- **NA2:**
 - Silvana Muscella
 - Hilary Hanahoe
 - Douglas McKinley



- **CERN = European Organization for Nuclear Research**
 - Fundamental research in particle physics
 - Currently builds the Large Hadron Collider (LHC)
- **Lead partner for EGEE (and EGEE-II)**
- **NA2:**
 - Hannelore Hämmerle (hannelore.hammerle@cern.ch)
 - Owen Appleton (owen.appleton@cern.ch)



- **TERENA will not be part of EGEE-II**
 - Many thanks to them for the excellent job they've done!
- **NA2 leadership moves to CERN**
 - Proximity to Project Office is key for smooth running
- **New partner, Metaware SpA will be responsible for specific tasks**
 - Conference organisation, Industrial & governmental dissemination, contact database

- **Media information and relations**
 - Translate news releases and information sheets issued centrally
 - Produce news releases of local interest
 - And provide English translations for the main EGEE site
 - Maintain contact with local media and industry
 - Liaise with Press Office at your institute
- **Websites**
 - Produce local language EGEE websites wherever possible
- **Events**
 - Promote EGEE at local events
 - Organise local events where possible

→ **Pass reports and contacts made to NA2 management**

- **Internal Communications**
 - Help ensure clear communication within the project
 - Make sure we don't miss any dissemination opportunities
 - News within the project
 - Staff attendance at events etc.
 - Look at alternative communication systems
 - Ways around email deluge and use of lists that people don't read!

- **Targeting: Specific material for specialist audiences**
 - Follow-on from Industry targeted flyers
 - Press releases targeted to specific communities, e.g. biomed
 - Presence at specialist events: at least one per application domain

- **Impact assessment/feedback**
 - Need to have a better idea of our impact in all areas
 - Need reports on attendance at events by staff
 - Content
 - Contacts
 - Is it worth attending the events again?
 - Media impact
 - Improve collection of clippings
 - Analyse clippings: publication type, size
 - Follow-up on contacts made
 - Do they join the project?
 - Do Training?

- **Related Project GRM (Grid Relations Management)**
 - Common tools for EGEE and related projects
 - PPT, Common Newsletter

- **November: Hearings with EU (managed by PEB/PMB)**
- **November: Writing the Technical Annex**
 - Detailed implementation plan for the project
 - Manpower \leftrightarrow Tasks/Deliverables
 - Input from NA2 partners welcome!
- **December: Likely start of Negotiations with EU**
 - May involve changes to Proposal/Technical Annex

- **Foreseen contract start 1 April 2006!**
- **Need to ensure smooth transition EGEE → EGEE-II**
 - Current partners: lot of work wrapping up EGEE
 - New partners: getting to know the project
- **May 2006**
 - Final review of EGEE
- **Directly afterwards: kick-off meeting for EGEE-II**
 - All partners invited to attend

- **Change of management not easy, but we'll do our best to make the transition as smooth as possible**
- **Hope to have an as successful team, as Joanne brought together!**

- **Suggestions from DE/CH:**
 - Some dissemination tasks work better if they are centralized
 - NA2 head office as service centre for federations
 - Provide ready-to-use layouts (designed with **integration of partner logos in mind !!!**)
 - Translation of press releases and PR material coordinated centrally
 - Local federation representatives
 - act as a press office for local media
 - take care of the distribution of press releases and PR material
 - There should be a **speaker's bureau** to make sure that EGEE is represented at all major conferences

- **Key events**

- **Dissemination materials**