

Open e-IRG workshop, Prague, 14-15 May, 2009

– Summary Report –

National e-IRG delegates from more than 20 European countries, leaders of major EU-funded e-Infrastructure projects, and European Commission representatives (around 80 people in total) attended the e-IRG workshop in Prague, on 14-15 May 2009, held at the Czech Ministry of Education, Youth and Sports. The workshop was organised by CESNET, the Czech National Research and Education Network (NREN), under the auspices of the Czech Presidency of the European Union. It focused on a number of key challenges related to e-Infrastructures and research in Europe, such as partnerships and cooperation at national and regional levels, governance models, and legal issues.

14 May, 2009

Jan Gruntoràd (CESNET) welcomed the participants, presented CESNET activities, and the agenda of this two-day workshop. **Leif Laaksonen** (e-IRG chairman) recalled the goals of the e-IRG, its mission and vision, and the current activities the e-IRG was involved in (e.g. the white paper and the roadmap). Addressing a broader scope of e-Infrastructure, **Laaksonen** called for a more sustainable approach and deeper cooperation beyond the national borders – two important themes developed in this workshop.

Konstantin Glinos (European Commission) began the concrete series of talks by presenting a recent communication published by the European Commission, and entitled “ICT Infrastructures for e-Science”. This communication highlights the strategic role of ICT infrastructures as a crucial asset underpinning European research and innovation policies. It calls on Member States and the scientific communities, in cooperation with the European Commission, for a reinforced and coordinated effort to foster world-class ICT infrastructures (e-Infrastructures), to pave the way for the scientific discoveries of the 21st century. **Glinos** emphasised on the fact that significant scientific advances were needed in order to face the major contemporary challenges (e.g. in the areas of health or climate). He also pointed out that ICT tools and infrastructures were playing an increasing role in science, and were changing its process, enabling for example to test more rapidly theories through simulations. Yet, the development of ICT tools and infrastructures poses many new challenges that need to be tackled: for example managing exascale computing, dealing with a growing flood of more and more complex data, data sharing in an open and distributed infrastructure, and developing new tools and applications to maximise the benefits brought by these new technical opportunities, require the adoption of a global and coordinated approach, at European level. As a personal note, **Glinos** emphasised the importance of openness as a fundamental paradigm of the e-Infrastructure-related activities.

Nadezda Witzanyova (Czech Ministry of Education, Youth and Sports) presented to the audience the conclusions from a conference held in Prague on 24-25 March, 2009, and entitled “Research Infrastructures and the Regional Dimension of ERA”. The aim of the conference was to help policy makers and project coordinators to develop together a strategic and consistent approach in the field

of research infrastructures. The conference emphasised on the fact that research infrastructures were at the root of European competitiveness, and were also crucial to regional social and economic development. In the field of e-Infrastructures, the conference acknowledged the growing importance of e-Infrastructures for the efficient operation of research infrastructures, data storage, and grid computing along with data communication throughout networks.

A series of questions followed each of these two first talks. The issue of cloud computing and of the integration of cloud-based services into the existing infrastructure, in particular, was raised by the audience. This provided the opportunity for **Glinos** to inform the audience that cloud computing was to be addressed in the EC Work Programme 2010, as part of distributed computing infrastructures, and that the EC was encouraging improvements in this technology. The sustainability of e-Infrastructures and the role of the EC in this respect was another issue discussed, prompting **Glinos** to remind that the EC was supporting the evolution towards sustainable governance models in EU funded projects (e.g. GEANT, EGI, PRACE). Following Witzanyova's intervention, the role of the e-Infrastructure as a catalyst for integration was raised, and the opportunities and challenges related to motivating individual researchers and new organisations to share resources were discussed in detail. The cooperation between universities and industries, and the provision and sharing of data in open infrastructures, were also among the topics discussed during the morning session.

The afternoon session began with a talk on scientific data by **Dany Vandromme** (RENATER). **Vandromme** presented today's major challenges concerning data (e.g. the growing volume of data, produced and used everywhere, etc.), and recalled the importance of having a global approach for storing, sharing and accessing scientific data in building the European Research Era (ERA).

The CLARIN project was then presented by **Peter Wittenburg** (MAX-Planck society), the director in charge of the technical infrastructure in this project. CLARIN aims to create an integrated and interoperable infrastructure in the field of language resources. **Wittenburg** focused his presentation on data bases and web services at the EU level for research infrastructures.

Andrew Lyall (European Bioinformatics Institute) presented ELIXIR, a project dedicated to the creation of a sustainable infrastructure for biological information in Europe. As ELIXIR project manager, **Lyall** pointed out the fact that new data-generating technologies were transforming biology, and that Europe needed a reliable e-Infrastructure for biology, in order to meet the European Grand Challenges in this field. He also emphasised the importance of global collaboration.

The last talk of this second session was dedicated to the Future Internet Conference, held in Prague on 11-13 May 2009. **Jiri Peterka** (Charles University) attended the conference, and gave a fresh overview of this event. Following the Bled Declaration of 31 March 2008, in which more than 80 EU funded research projects agreed to develop a European approach to the issue, the Future Internet Assembly (FIA) was established. It meets twice a year for high-level conferences. Europe wants to be a key player shaping the future of the Internet, and different issues (such as regulatory issues in

the field of telecommunications, issues related to privacy and ethics, massive connecting of active and passive devices, etc) need to be tackled in order to meet this objective. Each of these talks generated fruitful questions and answers that were to be developed during the panel session.

The first day of the e-IRG workshop culminated with a panel session moderated by **Leif Laaksonen**. The six panellists (**Konstantin Glinos**, **Nadezda Witzanyova**, **Sverker Holmgren**, **Neil Geddes**, **Dany Vandromme**, and **Norbert Meyer**) were invited to share their view on the support provided by the e-Infrastructure to the development of the European Research Area (ERA).

Access to data and computing at the international level, interdisciplinarity, integration at the EU level, education and training, were among the topics the panellists viewed as major challenges. **Konstantin Glinos** also addressed the issue of governance models and user involvement, reiterating the importance of adopting an approach that takes into consideration the users of the infrastructures. This issue was also raised by several workshop participants, some of them calling for a stronger bottom-up approach, and for closer links between e-Infrastructure users and providers. **Laaksonen** asked the panellists their opinion on the connection between the research communities and the (e)-Infrastructure users and developers, and the level of alignment of their visions. Most of the panellists considered that these connections should be improved. Finding the right balance between providing stable production services and promoting technically advanced innovations as part of the e-Infrastructure solutions was also seen as an issue that requires attention. **Dany Vandromme** regretted the fact that many communities did not know much about the services offered, and called for more publicity around this. **Sverker Holmgren** was also concerned by the weak connections, but pointed out the fact that there was nonetheless some ongoing collaboration between e-Infrastructure providers and users, and also between tool developers. He also proposed a collaboration model where the e-Infrastructure providers would – in addition to providing basic services – offer consulting for the new user communities when they adapt their tools and working practices to the common e-Infrastructure. **Norbert Meyer** advocated a stronger sharing of resources between users and providers. **Neil Geddes** regretted that researchers were often reluctant to engage in discussion beyond their discipline, and that some local e-Infrastructure providers (such as universities or research centers) wanted to keep control of the discussion with their users. The challenge for the e-Infrastructure area is to ensure that using the common e-Infrastructure provides (almost) immediate benefits to the new users.

The discussion progressively moved on the issue of new governance models for e-Infrastructures in which user communities could be better involved. The panelists presented some examples of structures including users in their own countries. **Holmgren** mentioned the case of SWEGrid in Sweden, whose resources are governed by the SNIC (Swedish National Infrastructure for Computing) and the HEP (High Energy Physics) community. Some major EU projects are also trying to integrate users, for example through User forums (e.g. in the EGI project). The role that the Commission could have in getting involved user communities, and more generally, in the overall coordination of national, regional and European policies in the area of e-Infrastructures, was then discussed. **Glinos** presented this role as multidimensional: in terms of integration of national-

regional policies, legislation on data and other issues, and as a funding agency. Competition and collaboration between the projects and the infrastructures, both at national and international level, was another important topic discussed during this closing session.

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The second day of the workshop began with presentations of other European projects related to e-Infrastructures. **Mauro Campanella** (GARR) presented FEDERICA, a project launched in 2008, aiming at implementing an experimental network infrastructure for trialling new network technologies on a large-scale research infrastructure. This is an example of a special case of a research infrastructure, which serves research and development activities that focus directly on the ICT domain itself.

Ivo Vondrák (CESNET) presented for his part the IT4Innovations project, which seeks to unify a wide range of fields of knowledge and science around the central theme of information technologies.

David Wallom (University of Oxford) closed the first session of this second day with a talk on OGF and OGF-Europe. He emphasized on the need to create community- led distributed computing standards for e-Infrastructures. This first session gave rise to a number of interesting discussions on user communities, networks and virtualization technology, and cloud computing. In the following discussion the importance of stable application programming interfaces (APIs) was considered. Their main benefit would be to enable parallel development of optimizing the service provision of Grid and HPC services (e-Infrastructure internal area) and development of more efficient application frameworks for integrating legacy applications and developing new applications on the common e-Infrastructure. **Wallom** agreed that this approach should be promoted and said that the success of the HPC basic profile and the launch of the Production Grid Infrastructure working group were examples of OGF's concrete actions towards this model.

The second session was dedicated to legal issues in research infrastructure. **Panos Louridas** (GRNET) began by presenting an analysis produced for the e-IRG by the e-IRG Support Programme 2 (e-IRGSP2). The analysis was conducted by a group of lawyers, who were asked to focus on legal forms for research infrastructures, pre-commercial procurement issues, and legal issues in grids (such as privacy, and intellectual rights). This report is viewed as unique, as it brings together the legal and technological perspectives: although produced by an experienced legal team, it is addressed to a technical audience, seeking to provide those involved with an account of the legal issues raised by the areas in which they work.

Annika Thies (European Commission Research Infrastructures Directorate General for Research) focused her talk on the Community legal framework for a European Research Infrastructure (ERI), giving key elements and updates on the status of this legal form, concerning in particular the set-up,

the governance structure, and the tax rules. The aim of the ERI is to provide an easy-to-use legal instrument adapted to European infrastructures. It should therefore be as flexible as possible, in order to adapt to projects, and should provide some of the advantages allowed at national levels for intergovernmental organisations.

Bernice Elger (Center for Legal Medicine, University of Geneva) closed this session on legal issues with a talk on the exchange of medical information across European countries, and the ethical and legal issues it raised. The exchange of medical information is crucial in many respects (research on rare diseases, epidemiological studies, mobility of patients and doctors across national borders, etc.) but the use of these data raises important issues related to data protection and confidentiality. An additional challenge in this context is the lack of common vocabulary describing the different degrees of privacy (level of anonymisation and the safeguards implemented to guard them) across the different organizations active in the field.

Leif laaksonen gave some concluding remarks on the workshop. Analysing the different topics that had been discussed during the event, Laaksonen identified three types of themes. “New themes” (such as users concerns, governance and legal issues, sustainability, and services for the community), “familiar themes which are gaining momentum” (such as data issues and global cooperation), and “themes making a return” (such as “bridges vs common operational models”, standardisation, domain specific vs general / local vs global shared e-Infrastructures. **Laaksonen** looked forward to seeing all the participants of this Prague workshop at the next e-IRG workshop, in Sweden.