Inspired

Autumn 2010

European Grid Infrastructure

News from the EGI community

This Issue

Welcome to the Autumn edition of Inspired, EGI's quarterly newsletter.
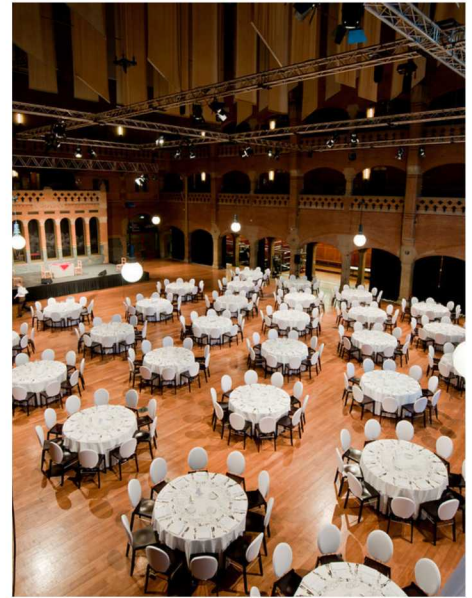
This brings you a wide range of stories, including articles on the upcoming User Forum and a profile of IGI, the Italian National Grid Initiative. But that's not all.
> Catherine Gater rounds up the e-Concertation meeting in Geneva
> Sergio Andreozzi looks into European policy
> Karolis Eigelis talks about Vilnius, host city of the next User Forum
> Erika Swiderski reveals EGI-InSPIRE's Gender Action Plan
> Neasan O'Neill reports on the CHEP event in Taipei
> Steve Brewer uncovers the EGI plan for User Support services
and
> Owen Appleton, from the gSLM project, contributes the first feature of a series collaborating projects

If you want to contribute with ideas, suggestions or stories to the newsletter please let me know!

Sara Coelho
sara.coelho@egi.eu

We hope you'll add your voice to the next issue!
(Credit: S.Andreozzi)

EGI-InSPIRE launches Gender Action Plan

Erika Swiderski introduces the plan

Gender equality has become an important point of discussion in the European Community, especially in technology and science where women are under-represented.

EGI-InSPIRE, as the second biggest ICT project funded by the EU, is committed to promoting gender balance in the distributed computing community through a dedicated Gender Action Plan (GAP).

The GAP team will use EGI's communication channels as a platform to achieve its aims. As a first step, the team created a GAP-dedicated area on the website to share information with the community and provide an archive of gender policy resources.

EGI-InSPIRE also aims to use social media channels, newsletters, press releases and EGI events to publicise stories about, for or by women in the grid community.

An important part of the plan is to work closely with the e-ScienceTalk project to promote the GAP agenda through the GridCafé, International Science Grid This Week, the GridGuide and the GridCast blog.

The GAP team is also planning to liaise with members of grid user communities and equality networks to raise awareness and collate data on gender participation in EGI-InSPIRE.

The upcoming EGI User Forum in Lithuania (11-15 April 2011) will provide the backdrop for the first public GAP event, where partners will be invited to discuss and share experience about gender issues. •

More Information

Gender Action Plan
http://www.egi.eu/projects/egi-inspire/gender_action_plan/

Contact
erika.swiderski (at) egi.eu

EGI User Forum 2011: Call for Participation

EGI welcomes extended abstracts for presentations, posters, stands and demonstrations

The European Grid Infrastructure (EGI) has announced the Call for Participation in the 2011 User Forum to be held in Vilnius, Lithuania (11-15 April).

The User Forum will be organised by EGI.eu in partnership with Vilnius University and LITGRID, the Lithuanian National Grid Initiative (NGI). The event will be held in conjunction with the European Middleware Initiative (EMI), with its first conference on distributed computing, through a number of dedicated technology tracks, alongside tracks featuring user experiences from within the EGI community.

Vilnius was selected to host the User Forum in September, after an open bidding process that started in Summer and concluded in September.

The conference will showcase the diversity of EGI's user community and the broad range of topics which binds it together. The aim is to help everyone, from end-users to application developers, operations staff and technology providers, to share recent developments, work in progress and know-how through demonstrations, presentations, posters and workshops.

There will be many opportunities to meet new people and build working relations during the meeting's networking and social events, including a new 'meet the experts' session.

The User Forum welcomes online submission of extended abstracts from all members of the EGI community and their international collaborators from November 15th. The scope of potential topics is wide, but "we especially want to hear from users and communities new to e-Infrastructure," says Steven Newhouse, Director of EGI.eu.

"The user forum is the ideal venue for newcomers to talk about their work – what they have achieved, the problems they may have encountered and solved, and the requirements they have identified to support their future work," Newhouse adds. "The forum is a great way to build colla-borations within the community around common topics and issues."

Accepted abstracts will be compiled into a book to be published for the event. "The book of abstracts is not just a great way to tell people about your work – it will be a permanent snapshot of the EGI Community in 2011," says Newhouse. ●

EGI User Forum 2011
11-15 April
Vilnius, Lithuania

More information

User Forum 2011 Website

http://uf2011.egi.eu/

Panorama of Vilnius (Credit: Jan Mehlich, wikimedia commons)

Vilnius, host city the 2011 User Forum

Karolis Eigelis introduces the capital of Lithuania

Vilnius may seem far away in the Northeast corner of Europe, but is actually its geographical 'navel' if you consider the continent's geometrical gravity centre.

Founded in 1323, Vilnius is now the capital of Lithuania and its largest city with a vibrant economic, social and cultural life.

There is a lot to see.

Vilnius's historical centre is one of the largest surviving medieval old towns in the region and enjoys UNESCO World Heritage status. The Old Town records the evolution of European architectural styles across the centuries.

Although Vilnius is often called a Baroque city, you will also stumble upon masterpieces of Gothic architecture, Renaissance monuments, or neoclassic buildings, as well as a remarkable collection of more than 20 Eastern Baroque churches.

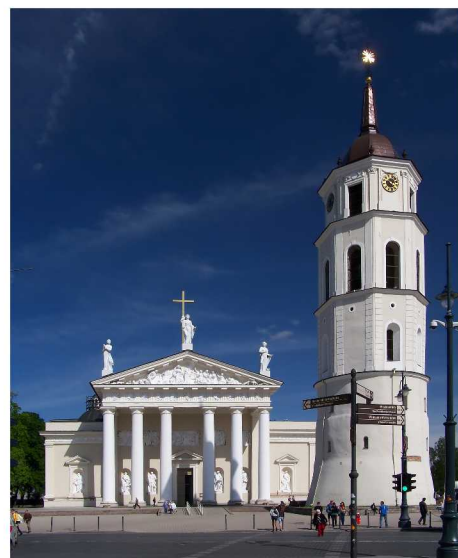The main city sights are the medieval Gediminas' Tower built to defend the old Great Duchy of Lithuania, and the Cathedral Square with its iconic bell tower and neoclassic St Stanislaus Cathedral.

Vilnius University, founded in 1579, is the oldest university in the Baltic States and one of the first to be established in Eastern Europe. Its complex of buildings extends throughout Old Town and its original architecture has changed over the centuries under influences of various styles.

At the junction of the Central, Northern and Eastern Europe, Vilnius is thriving with diverse culture. The city's artists, writers and poets are headquartered in the so-called Republic of Uzupis, an Old Town district that declared independence on April Fool's Day, 1997 and is ruled by its own constitution.

Vilnius is also the birthplace of medieval rulers, such as Great Dukes Gediminas and Vytautas, legendary queens and fiction's most sophisticated serial killer: Hannibal Lecter.

Above all, Vilnius is a great place to visit at the heart of Europe. •

St Stanislaus Cathedral, Vilnius
(Credit: Jan Mehlich, wikimedia commons)

Key conference dates

1 November

> Call for Participation announced

15 November

> Extended abstract online submission opens

17 December

> Extended abstract online submission closes

5 January

> Early-bird online registration opens

17 January

> Authors of accepted abstracts are notified

28 February

> End of early-bird registration fees

1 April

> End of normal registration fees

11 April

> User Forum kicks off in Vilnius

Check the user forum website
http://uf2011.egi.eu/
for updates to the calendar

See you in Vilnius !

NGI profile: Italian Grid Infrastructure

Sara Coelho catches up with the Italian job

Italy has come a long way since the proposal to develop an e-infrastructure was first submitted to the National Institute of Nuclear Physics (INFN) at the end of 1999. A little over ten years later, the Italian Grid Infrastructure (IGI) connects its users to 25,000 computer cores and 30 Petabytes of storage resources distributed across 58 sites throughout Italy.

Now IGI is packing its bags to go to New Orleans for SC 2010, one of the largest supercomputing events in the world, where they will showcase "the most recent achievements in Italy and develop partnerships with other institutions or industries working in the field," says Mirco Mazzucato, INFN Grid Project Manager since 2000.

At the start of the project, the main goal was to develop grid technology as a promising solution to tackle the deluge of data pouring out of the Large Hadron Collider (LHC). As the decade progressed, the benefits of distributed computing became clear to other fields of science as well.

IGI is a Joint Research Unit grounded on a Memorandum of Understanding signed in December 2007, and supported by the Italian Ministry for University and Research and the European Commission. Its 17 members include the INFN, the National Research Council (CNR), the National Institute of Astrophysics (INAF) and four universities.

The Italian grid supports about 1100 users and 49 virtual organisations operating mainly in the high energy physics field, but with an significant proportion of computational chemists, biologists, earth scientists and others. Mazzucato believes that the wide-spread interest in grid computing "is mainly due to the early pioneering adoption of grid e-infrastructures in Italy back to the early 2000s."

"Once this happened the advantages in terms of efficiency in sharing computing and data have been so large that it has become the standard computing model," Mazzucato adds.

IGI provides its users with the complete set of services and support required to keep the sites operating efficiently for the benefit of research activities. Services include middleware releases customised for Italian applications, all services provided in Regional Operations Centres, accounting, monitoring of sites, as well as certification and user authentication, authorisation and identification (AAI).

Over the past decade, "IGI has developed many of the grid middleware components included in the gLite release and currently supported within EMI," says Mazzucato. These include the Workload Management Service (WMS), the Virtual Organisation Membership Service (VOMS), the GLUE Schema, the execution service CREAM-CE and CEmon, the Grid Accounting Service DGAS, the ARGUS authorization framework and StoRM, an Storage Resource Management interface to file systems.

They are now looking forward to the next step. IGI aims to become a fully-fledged legal entity, able to provide long-term jobs for its staff. The move would contribute to an improvement of the services offered to the research sector, as well as to the expansion of grid and cloud computing that general e-Government needs, argues Mazzucato.●

IGI in numbers

- 58 sites
- 25000 cores and 8000 CPUs
- 33 Pb storage space
- 1100 users, 50 VOs
- 30 million jobs/year
- 10 application domains

www.italiangrid.org/

THE ITALIAN GRID

IGI

WWW.ITALIANGRID.ORG

Q&A: User Community Support Team

Steve Brewer tells us what his team has to offer

Inspired: What's your role in EGI?

Steve Brewer: I'm the Chief Community Officer coordinating the provision of integrated support services for new and established user communities.

Insp: How exactly do you do that?

SB: First of all we understand that it's not easy to get a user community off the ground. My team is here to provide the basic core services that emerging user communities might need to help them get started. These core services include, for example, basic tools for monitoring and configuring grid resources, an integrated helpdesk service and a collection of information sources relating to training events, training materials and ported applications. We will also help the communities to become self-sufficient and, given the time, to be able to develop their own "in house" resources.

Insp: What else?

SB: One of our main goals is to empower user communities to make informed decisions about where they want to go and how they want to proceed. As user communities expand the portfolio of services on which they depend, they will necessarily develop a set of technical requirements to enable this growth. In the end it's up to the community to articulate and prioritise their needs themselves, but we are willing to support this effort.

Insp: How?

SB: We intend to organise meetings and workshops to facilitate a dialogue between user communities, technology providers and application/tool developers. We believe that both parties have a lot to gain. User communities will be able to learn what the technology side is doing, and decide what is best suited for their own requirements. On the other hand, the developers will get an insight into where the communities are going, which will in turn help them to direct their research into new areas.

Insp: Do you provide any training? Or training materials?

SB: No, not training in itself. What we do is to provide a hub where training information can be shared by the entire community. This is a space where you can find all you need about upcoming training events, learning materials, and the trainers themselves. We will help to match training requirements with what is offered and we will identify potential provisioning gaps.

Insp: How do you know what needs to be done?

SB: If we want to provide the wide range of services we were talking about, we will need a close relationship with the user communities – we need to learn more about what they want to do to understand their requirements.

Insp: How do you do that?

SB: The best way to do this is to establish ties with Virtual Research Communities, or VRCs, through MoUs [Memoranda of Understanding]. Each VRC represents a community of researchers with an established presence in its scientific field.

Insp: What's the benefit of becoming a VRC?

SB: VRCs are recognised as the voice of a given community of users within EGI and as such are entitled to sit at the User Community Board. They play a very important role. VRCs are able to influence long-term service and technology roadmaps, they have a say on how the infrastructure develops as a whole as well as influencing the evolution of the support services.

Insp: If I'm a researcher, what's in it for me?

SB: If you're a scientist or other type of researcher such as an eHumanist, and you want to make use of grid resources, you will be encouraged to join a community. If you have no idea where to start, we will help you along the way until you find a community that could support you in your research needs and collaborations. If there is a will, we will find a way. •

Steve Brewer, cco (at) egi.eu
(Credit: S.Andreozzi)

The EGI vessel in the Commission flotilla towards Europe 2020

Sergio Andreozzi navigates the policy sea

This year, coinciding with the launch of EGI.eu, the European Commission (EC) redefined its strategic priorities to turn the EU into a smart, sustainable and inclusive economy delivering high levels of employment, productivity and social cohesion. The Commission identified seven flagship initiatives that will commit both the EU and its member states to achieve such priorities by 2020. Among these, the 'Innovation Union', the 'Digital Agenda for Europe' and the 'Resource Efficient Europe' are especially relevant to EGI.

The Innovation Union aims to improve access to finance for research and innovation and to ensure that innovative ideas can be turned into products and services that create growth and jobs. The Digital Agenda for Europe is set to maximise the social and economic potential of ICT to improve the daily life of citizens. It identifies a number of barriers (e.g., lack of interoperability, fragmentation of the digital market) that should be addressed to spur innovation. The goal of Resource Efficient Europe is to decouple economic growth from an increasing use of resources, promoting energy efficiency in the process.

What is the role of the EGI vessel in this Commission flotilla? How can EGI shape its actions to underpin a smart, sustainable and inclusive e-Science for the benefit of society?

To answer these key questions, we need to consider the advice that EU policy makers have received from expert groups. In particular, the High Level Expert Group on Scientific Data analysed the potential benefits of a collaborative data infrastructure and defined recommendations for setting this up.

The EC Cloud Computing Expert Group investigated the current impact of virtualisation technologies and associated issues, as well as derived business models for provisioning ICT services. The e-Infrastructures Reflection Group (e-IRG) issued a Blue Paper in response to a request from the European Strategy Forum on Research Infrastructures (ESFRI) to examine how e-infrastructures and their users can exploit common services to satisfy their requirements.

By connecting researchers and scientists and enabling them to share their ICT assets, EGI can play a central role in all these areas. In collaboration with other EU-funded projects related to Distributed Computing Infrastructures (DCIs), we already defined a collaboration roadmap to define the interactions and maximise synergies. Interoperability is a key issue and we are working hard to define a standards roadmap, and to encourage technology providers to commit to this vision. Concerning the fragmentation of the digital market, we will concentrate our efforts on simplifying access to scientific data by communities other than those who generate them, enabling widespread use while preserving integrity and ownership.

These are just glimpses of how EGI policies can be aligned to the wider context. The EGI.eu policy team is preparing a detailed report on these topics to inform the community and to support the decision bodies in linking our policy activities to the broader European strategy. The report will be published in the end of the year. •

More information

> *EGI Policy Team*:   policy (at) egi.eu
> *Europe 2020*:   http://bit.ly/9NynJ1
> *Report from the High Level Expert Group on Scientific Data*:   http://bit.ly/a5bvGH
> *Report from the EC CLOUD Computing Expert Group*:   http://bit.ly/9IbjHJ
> *e-IRG Blue Paper*:   http://bit.ly/9fw3Fq
> *DCI Collaboration Roadmap*:
                http://bit.ly/dqfrKj

Inspired by the 8th e-Infrastructure Concertation Meeting

Catherine Gater wraps up the event

More than 100 proposals received, 38 funded – this was the outcome of the e-Infrastructures Call 7 from last year, as presented by Enric Mitjana, from the European Commission, the coordinator of the call, at the 8th e-Infrastructure Concertation meeting at CERN on 4th and 5th November.

EGI-InSPIRE of course numbered among those projects, as did e-ScienceTalk, organiser of the event with the European Commission.

Speaking in the impressive venue of the Globe at CERN, Steven Newhouse, Director of EGI.eu, gave a overview of the six major distributed computing infrastructures that have kicked off in the last few months: EGI-InSPIRE, European Middleware Initiative (EMI), Venus-C, StratusLab, European Desktop Grid Initiative and the Initiative for Globus in Europe (IGE).

These projects can all contribute components to the recently launched flagship initiatives, The Digital Agenda and Innovation Union, part of the objectives for Europe 2020, the strategy for European growth over the next decade. The e-Infrastructure projects will also play a key role in sheltering us from the data deluge predicted to hit us in the coming years.

Working together with coordinating standards project SIENA, the six projects have identified some of the real barriers to broader adoption of e-Infrastructures. In the past, the sustainability of e-infrastructures has not been clear, a problem if you are a researcher worried about your data long term. This is now partially addressed by the new EGI structure using sustainability models adopted in other communities.
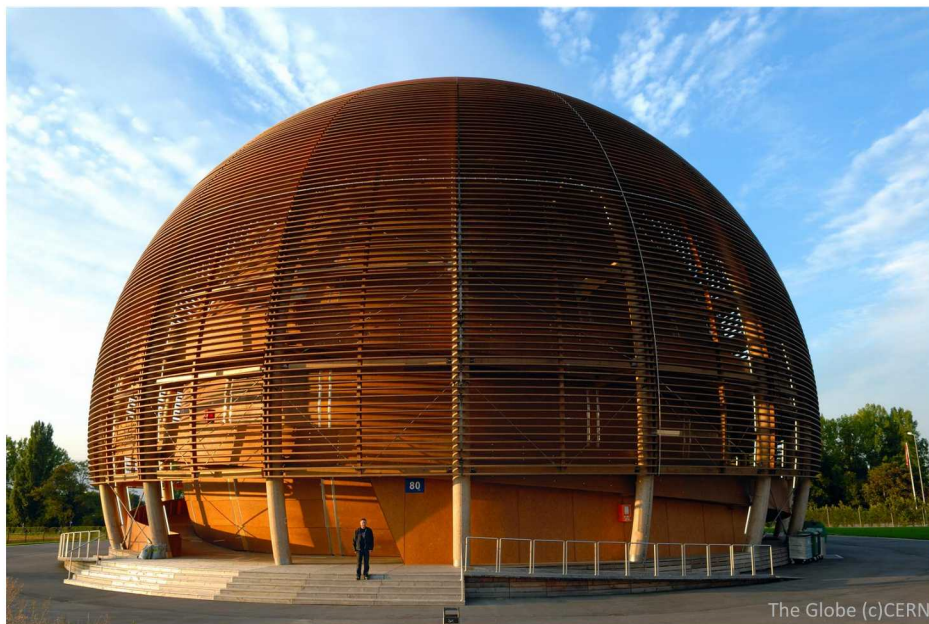
Until recently, advances in ICT have kept up with increasing needs for data analysis, but this is changing with the expected wave of data from the ESFRI projects. The fact remains that computing beyond your desktop is difficult for many – but virtualisation and new computing models should help simplify things.

Another issue is that current services do not always match the needs of new users and a flexible, federated production infrastructure will be better placed to meet these. With the advent of cloud computing, it is also important to compare up front the value, benefits and costs of public and commercial offerings.

So this is all food for thought for the projects over the coming years – but while cogitating on these barriers, they also realised some of the unique selling points that should not be forgotten. Often the compute resources are near the storage resources, co-locating processing near the data, all of which linked by high-speed networks. Moving large quantities of data around commercially can be time-consuming and expensive, so this is an advantage. For e-Infrastructures, high speed networks are 'free' at the point of use.

The projects also have more than ten years of trust built up in the community – sharing resources in a trusted environment is now second nature. In that time, the community has also established close links to its data-oriented users and has developed a strong understanding of the patterns in the ways that researchers use data, standing them in good stead for the challenges ahead.•
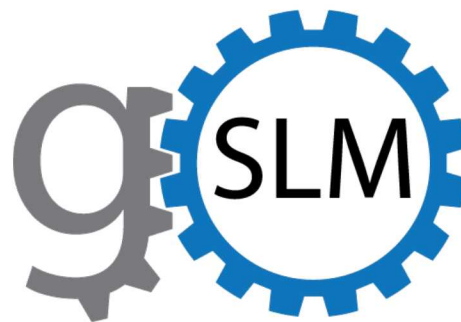

The Globe (c)CERN

www.e-sciencetalk.org/

Supporting grid and high performance computing reporting across Europe

Project profile: gSLM

Owen Appleton unveils the grid Service Level Management project

Service Level Management (SLM) is the set of processes used in the commercial sector to agree upon, define and manage a service. Now gSLM, a new project funded by the European Commission, is bringing this approach to the grid.

Grids are as much a social as a technological feat, gathering together scientists worldwide to enable new kinds of research. While IT experts have shaped the technical side of the grid, its social element was strongly influenced by the culture of collaboration within the particle physics community. This informality has also extended to many of the agreements between the mostly academic organisations participating in the grid. While this may have helped the technology get off the ground, as official or legal agreements would have been harder to agree on, it increasingly seems to be unsustainable.

The grid is increasingly used in commercial and 'mission-critical' areas such as data processing for the Large Hadron Collider, and the lack of more formal agreements between grid participants has become an issue. Users are not generally interested in hearing about SLM, but they are concerned when a service is unavailable. As the commitment of user communities has become key in justifying Europe's e-Infrastructure, they need to be able to rely on a certain level of service to justify moving to the grid. SLM is needed to be able to make these promises to users, as well as to make the agreements between providers that underpin them.

Several grid projects have tried to develop Service Level Agreements (SLAs), the contracts used to define a service between a provider and customer, but with mixed success. Other projects such as SLA@SOI have worked on SLAs in the broader area of service-orientated infrastructures but gSLM focuses more specifically on issues related to grids.

The project will bring together grid experts with IT to 'port' service management techniques to the grid. It will run a series of workshops to get input from both communities, which will then be used to generate and refine a roadmap for the improvement of grid service level management.

The first gSLM workshop will be at a major global IT Service Management event, the IM2011 to be held in Dublin, Ireland (23-27 May). The gSLM event will form part of the workshop on Business Driven IT Management, and will present the problem of grid SLM and seek SLM experts willing to contribute. The project would also welcome the participation of grid experts at the event, though later workshops will be more specifically tailored to the grid community.

Despite its grid focus, gSLM will also generate results of interest to the broader European e-Infrastructure. As hybrid or multi-cloud solutions become popular, the management of service agreements across multiple administrative and technological domains can only become more relevant. •

More Information

The gSLM project welcomes participation from the EGI community, and anyone interested in learning more can visit the project website at http://gslm.eu or email info@gslm.eu.

News in Brief

GridPP travels to the CHEP meeting in Taiwan, Neasan O'Neill

The Academica Sinica Grid Computing (AGSC), one of EGI's international partners, was the host of the 18th International Conference on Computing in High Energy and Nuclear Physics (CHEP) held in Taipei, Taiwan (18-22 October 2010).

The conference happens every 18 months and is always a chance for the community to meet and discuss their progress. This year's meeting was especially of interest as it was the first since the start-up of the Large Hadron Collider.

The CHEP series of meetings is important to the EGI community as a lot of particle physics experiments, not just the LHC, are using EGI-InSPIRE-supported services and resources to crunch their data, especially the Worldwide LHC Computing Grid (WLCG). This means that the last six months have been a real challenge for the infrastructure as it is tested to its limits.

Jeremy Coles, who works for GridPP in the UK, was impressed by the meeting: "As usual CHEP was an excellent conference and in Taipei it was exceptionally well organised," he says.

"It was great to hear so much positive feedback about the performance of WLCG. There was much talk this year about how the experiment software needs to adapt to efficiently use an increasing number of cores and perhaps also harness the rapidly increasing power of GPUs," Coles adds.

GridPP had a stand at the conference, showcasing the progress of the last year and a half. The GridPP booth featured a demonstration of RTM, the Real Time Monitor that displays an interactive map of grid activity worldwide.

The next CHEP is in New York in 2012. •

MetaCentrum Grid Computing Seminar 2010

MetaCentrum, the Czech National Grid Infrastructure, organised a grid computing seminar hosted by the CESNET association in Prague, to discuss current grid status and the implementation of new services. The meeting was held on 15 October and was attended by more than seventy experts.

The main goal of the meeting was to inform current and potential users of high-performance/high-throughput computing about the possibilities available for solving research problems at national as well as international level.

The seminar included a keynote lecture on the challenges of scaling high-performance computing applications to peta-scale levels, by Jean-Pierre Panziera director of High Performance Engineering at Bull Extreme Computing, which co-organised the event.

"The MetaCentrum seminar was an excellent opportunity for users and administrators to meet together in a face to face discussions," said Ludek Matyska, head of grid activities at CESNET association. "It helped both sides to get much better understanding of what the infrastructure is capable of and what its users are expecting to get from it."

The MetaCentrum operates the distributed computing infrastructure on the behalf of CESNET and cooperative academic centers within the Czech Republic. •

User Community Board meeting in Amsterdam

The User Community Board (UCB) is going to meet for the first time in 30 November, at EGI's headquarters in Amsterdam.

The meeting, hosted by Steve Brewer chair of the UCB, will bring together representatives from different research areas covering the whole spectrum of scientific fields, from High Energy Physics to Humanities.

"We are going to discuss the emerging requirements of the VRCs [Virtual Research Communities]," says Brewer, who will formally welcome the new VRCs to EGI.

The board meeting will also be attended by organisations not yet established as VRCs, but planning to do so in the near future.

"Our key objective for the meeting is to identify needs across the research communities to better inform the technical decisions that lay ahead," adds Brewer. •

More Information

Indico page and meeting abstract:
https://www.egi.eu/indico/conferenceDisplay.py?confId=215