

Inspired

Autumn 2011



European Grid Infrastructure

News from the EGI community

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This Issue

Welcome to the Inspired Autumn 2011 issue! We have another packed edition, featuring...

- > Steven Newhouse introduces the new role of the NGI Coordinator
- > Sven Gabriel reports on the 2011 Service Security Challenge
- > Agnes Szeberényi talks about an international collaboration against Alzheimer's disease
- > Neasan O'Neill finds how one user is pushing the grid to the limit
- > Mário David walks us through the staged rollout procedure
- > Damir Marinovic tells us what to expect from Horizon 2020

But that's not all: Viviane Li searches under the hedgerows for our mascot, we look at the agreements signed behind the scenes of the Technical Forum and we have a profile of the German NGI, the host of our next event. If you want to know more about our upcoming Community Forum, turn to the last page for a sneak preview.

As always, if you want to contribute ideas, suggestions or stories to the newsletter don't forget to let me know!

Sara Coelho
sara.coelho@egi.eu



It's getting colder, but I can count many good things about Autumn...
(Credit: zentolos/wikicommons)

Reward: Mascot Missing

GNU has a wildebeest and has Linux has the penguin.
But what can you think of for EGI?, asks Viviane Li

Date last seen and current whereabouts unknown. Friendly. No tag or collar (as far as we know). If found, please return to EGI.eu by 31 December. Reward for safe return.

Have you seen our mascot? EGI.eu is holding a worldwide idea competition for a mascot to represent the European Grid Infrastructure.

For a chance to win the grand prize, which includes a touch screen tablet computer, all you need to do is propose an idea for a suitable mascot – you don't even need to be good at drawing.

Entrants are not expected to produce a finished design. The competition is open to any suggestion, as long as you can explain why and how it reflects aspects of EGI, grid computing and/or grid-based research. It should be

suitable for adoption as a tangible character and can be used across different media, such as web, print, and memorabilia.

Even if you are not entering the competition, you can still help us to find our mascot by putting up a Mascot Missing reward poster at your university, institution or organisation. •

More Information

For more details on how to enter, and poster .pdf, go to:

<http://www.egi.eu/mascot>

Facebook: europeangrid



Key Dates

Submission of ideas:

- > opens 15 October 2011

Deadline for submissions:

- > 31 December 2011

Online voting:

- > 11 January-8 February 2012

Winners announced:

- > 15 February 2012

Introducing the NGI Coordinators

Steven Newhouse unveils the plan for the revised NA2 work package

After ten years of hard work within the EGI operations community we have succeeded in developing a world-leading production infrastructure. The achievement is significant and celebrates the commitment of this community from the days of the European DataGrid project right up to the transition from the EGEE series of projects, to the first year of EGI-InSPIRE.

Now... What are we going to do with this e-infrastructure? How are we going to make the most of EGI, consolidate the investments over the last decade and develop our current e-infrastructure into a driver of knowledge and innovation across Europe?

The next step in this journey is to focus on developing the non-operational aspects such as policy and strategy, planning, marketing, communication, events, and – above all – outreach to new communities.

The message from the EGI-InSPIRE's project first review could not have been clearer: we need to improve these areas to guarantee our own sustainability.

There are certainly many examples of excellence within individual NGIs in the areas of policy, support and outreach. However, the challenge facing us now is how to ensure that we bring this work together and integrate these activities into a European-wide strategy, by sharing experiences and establishing best practices.

Following the June review, the EGI-InSPIRE Description of Work is being amended to merge the External Relations (NA2) and User Community

Coordination (NA3) work packages to refocus on the non-operational tasks of strategic development and outreach to new user communities. Key to these changes is the development of a new role, currently being referred to as an NGI Coordinator who will help to integrate national non-operational tasks taking place in an NGI into a community-wide strategy that is aligned with national priorities.

From a practical point of view, the NGI Coordinator role is created from the consolidation of scattered NA2 & NA3 effort, now concentrated within an NGI to support this new position. It provides a means for the community to tap into the distributed expertise that lies within an NGI (brought together via the NGI Coordinator) through the establishment of virtual teams around short-term projects. These could include integrating a new user community and their applications into EGI, developing requirements for a new service – anything that requires mixed teams from across different NGIs.

With the NGI Coordinator acting as a spearhead, individual NGIs will be able to demonstrate their added value at a European level and to share their skills with the whole community.

Working together with teams in EGI.eu, the NGI Coordinator will link the non-operational activities taking place in their own NGIs with the rest of the community. The initial phase of this work will focus on defining a long-term strategy for EGI and to engage new user communities, both locally and at a European level.

Synchronising local work with global activities will enable us to increase both the number of users and the diversity of our user community. Supporting a strong user base and a growing number of research communities will help us to demonstrate the importance of further investment nationally and within Europe.

The first meeting of NGI Coordinators will take place in Amsterdam, on the 10th of November. I'm confident that this will be the start of a fruitful new way of collaborating that will help us all along our path to sustainability. •

More Information

The first meeting of the NGI Coordinators will be held in Amsterdam on 10 November

<http://go.egi.eu/NGICoord KickOff>

The grid is under attack!

Sven Gabriel reports on the outcome of the 2011 Service Security Challenge

Challenging the IT-security incident response is like a fire drill. In both cases you want to make sure that the response system is flawless and to ensure that everything works as expected. In the end you have to try out your response plans and procedures to be sure that they actually work in these special circumstances.

To do this, the Computer Security Incident Response Team (EGI-CSIRT) has run a series of security drills against a huge fraction of the infrastructure. Over the years these drills evolved from exercises targeted at the traceability of a grid job back to the sender, to realistic simulations of a security incident affecting multiple sites. These runs have resulted in a number of operational improvements developed by the participating teams, such as communication templates, general incident response procedures, a simple forensics how-to and specialised tools to facilitate operations.

The 2011 drill

For the 2011 service security challenge (SSC5) we created a story where the credentials of a legitimate ATLAS user were stolen and the password was cracked. The 'compromised' credentials were then used to deploy the 'malware', in this case a trojan named WOPR, using the ATLAS job-submission-framework PANDA. The ATLAS-VO helped us by creating a parallel PANDA factory including a specifically created



Practice makes perfect - you want to be prepared if the worse comes to worst.
(Credit: wikimedia commons / Brad Gillette)

certificate DN under which the pilot jobs were running. This ensured that incident response operations would not affect the ATLAS work.

We invited 40 resource centres from 20 countries, including ARC sites and one ATLAS site from the Open Science Grid to participate in our drill. We then deployed the 'malware', by creating a bot-net affecting these resource centres that simulates a security incident on a global scale.

After the 'malware' was successfully deployed at all participating sites, we sent an alert to one site in the Asian-Pacific region (on 25 May, 9:00 local time) and

Eygene's team was able to track us down, identify the EGI-CSIRT as the source of the attack, and stop our 'malicious' activity (...) all in less than four hours.

recorded how long it took until the alarm propagated around the globe. We also wanted to record how long it took to contain the incident (time elapsed between detection of the incident and the moment all processes were stopped) and how long were the 'compromised' credentials still usable on the infrastructure.

Once the initial alarm was received, each site was expected to inform the EGI-CSIRT, which is responsible for coordinating the response to the incident with the help of the NGIs.

As in a real case the participating sites had very little initial information about the incident. To find out the details about the attack the teams had to use various sources such as analysis of the submitted jobs or network logs.

They had to estimate the extent of the incident (how many sites were affected), identify the attack vector (what were the methods used to propagate the malware) and which

VO and user credentials were involved. The teams also had to contain the incident, i.e. stop all malicious processes and suspend the potentially compromised credentials at all participating sites.

From Russia with speed

The Russian team led by Eygene Ryabankin, a security expert based at the Kurchatov Institute, detected the activity of the drill at an early stage - actually even before receiving the official alarm. They were able to track us down, identify the EGI-CSIRT team as the source of the attack, and stop our 'malicious' activity by shutting down the Command & Control centre. All in less than four hours.

Eygene's quick response is great news if we ever face a real incident. For the purposes of the drill his team was just too fast and we had to explain to them that this was a part of the SSC5 exercise and that the system was needed to continue the security drill.

In general, a key step in these situations is that all sites suspend the 'attackers' DN at their systems to make sure that the credentials cannot be used on the infrastructure. This was recognised as an area for improvement as some sites did not manage to successfully ban the attacker from their site and we were



The 'malware' deployed by the EGI-CSIRT team to test incident response was a trojan called 'WOPR'. Rings a bell? It was named after the supercomputer that went rogue in the 1983 movie 'War Games'. (Credit: en.wikipedia)

able to submit jobs via regular gLite job submission. Other mechanisms to control the user access were also used. These have the advantage that they can be done centrally, but need some time to take effect, for example suspending the user at the VO has a latency of up to 24 hours and certificate revocation information should be at the sites within six hours. Nevertheless, due to local settings, update of the certificate revocation information might take up to 48 hours - this is currently being investigated.

One of the nice things about the 2011 security drill was the community involvement. Almost all 40 resource centres participated actively in the drill and sites are already volunteering for the next exercise scheduled for 2012.

Given the positive feedback it seems we managed to get some fun in these drills. •

SSC5 - the movie

All activities were recorded by the SSC-Monitor and summarised in a movie called "**48h of incident response in 5 minutes**"

You can download it from:
> <http://go.egi.eu/SSC5movie>

Almost all 40 resource centres participated actively in the drill and sites are already volunteering for the next security drill.

Security drills, step-by-step

Security drills may be organised in many ways, but they all address the same key steps of incident response:

- > **Communication** of the local findings to the coordinating team and other involved entities, such as Virtual Organisations or Certification Authorities.
- > **Access & control** of a compromised account.
- > **Process management**, stop all processes related to compromised accounts.
- > **Contain** the malware and send it to the team coordinating the incident.
- > **Forensics** analysis of the malware.

Project profile: SHIWA and outGRID

Agnes Szeberényi introduces an international collaboration against Alzheimer's disease

Scientists know that the thickness of the grey matter of Alzheimer's disease patients is a clinical marker related to the progress of the disease.

Now, a successful worldwide co-operation between the two EU FP7 projects – outGRID and SHIWA – and the LINGA application to compute cortical thickness, will help to develop drugs for Alzheimer's disease by combining heterogeneous Distributed Computing Infrastructure (DCI) technologies.

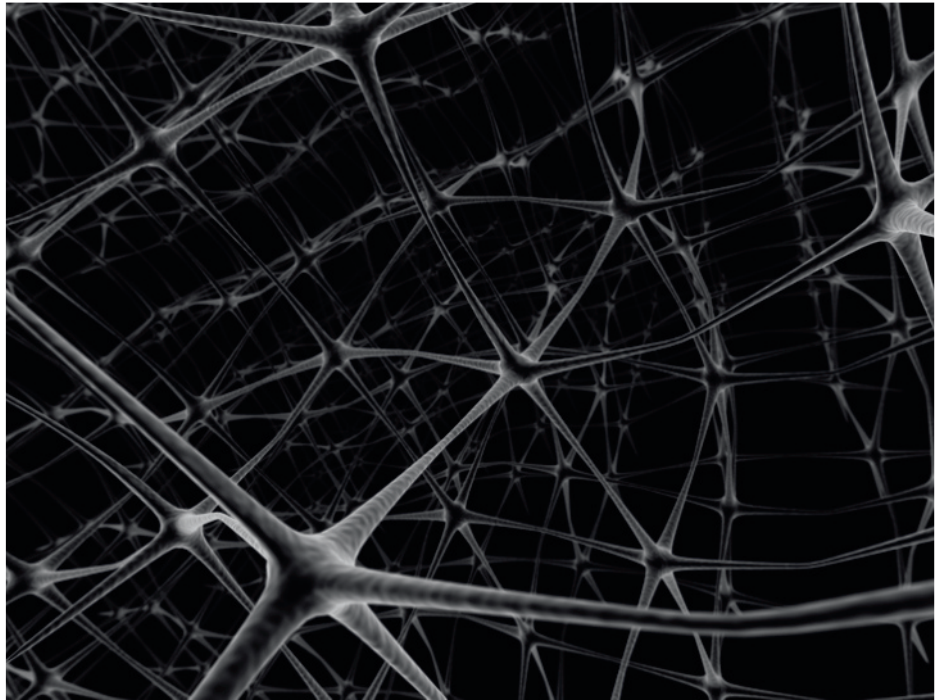
SHIWA

The SHIWA project – short for Sharing Interoperable Workflows for large-scale scientific simulations on Available DCIs – focuses on the interoperability of many different European workflow systems (such as Moteur, P-Grade, Askalon or Gwes) with the help of coarse-grained and fine-grained approaches.

The coarse-grained (CG) approach allows the combination of workflows written in different languages, in order to reuse existing applications. The CG approach treats existing workflows as black box systems that can be incorporated into other workflow applications as workflow nodes.

On the other hand, the fine-grained approach addresses language interoperability by defining an intermediate representation to be used for translation of workflows across various workflow systems.

SHIWA develops, deploys and operates the SHIWA Simulation Platform to offer production-level services supporting workflow interoperability following both approaches. As part of the Simulation Platform the SHIWA Repository facilitates publishing and sharing workflows, and the SHIWA Portal enables their actual deployment. Use cases targeting various scientific domains will serve to drive and evaluate this platform from a user's perspective. SHIWA supports



major grid infrastructure systems used in Europe (such as gLite, UNICORE, ARC or BOINC).

outGRID

The outGRID project aims to consolidate the three existing e-infrastructures for computational neuroscience into one unique worldwide facility. In Europe, neuGRID provides large sets of brain images paired with grid-based computationally intensive algorithms for studies of neurodegenerative diseases. The CBRAIN centre at McGill in Montreal, Canada and LONI at University of California, Los Angeles offer computational resources and algorithm pipelines.

LINGA, tying it all together

The LINGA (Linked Neuroscientific Grand challenge) is the first large-scale neuroscientific experiment that involves the three globally separated neuro-scientific infrastructures within outGRID and EGI.

The LINGA workflow analyses the patient's cortical thickness through a demanding image processing pipeline using data sources hosted

and processed by the three neuroscience DCIs involved in outGRID. Once the analysis is finished, the outputs are sent back to the European Grid Infrastructure and statistically compared with selected meaningful criteria, and used to produce the graphs neuroscientists will then base their interpretations on.

Porting the LINGA workflow with SHIWA technologies speeds up (up to seven times) the database analysis time of the thousands of brain scan images from Alzheimer's patients. This allows the available data to be statistically organised and used for further research activities.

The framework developed by the SHIWA consortium enables orchestration between the heterogeneous infrastructures, which is a huge step forward in neuroscience. •

More Information

> www.shiwa-workflow.eu

> www.outgrid.eu

> www.neugrid.eu

Case study: A gem of a user

Neasan O'Neill finds how Ernesto Garcia is putting the grid to good use

How much grid does one person need? Well one man, Professor Ernesto Garcia Para, apparently needs a lot. He has used over 15 million hours of CPU on the European Grid Infrastructure and his work is still going strong. Garcia expects to use 5 million hours this year.

Based at the University of the Basque Country in Vitoria, Garcia and his team are interested in investigating what is going on at the atomic level in chemical reactions. This is a very wide field and the reactions studied have many applications. Garcia's recent results have focused on reactions in the atmosphere including how they are affected by carbon emissions or their impact on spacecraft re-entry.

Garcia started using the grid back in 2006. "We couldn't do our research without computers, the days of the back of an envelope or the blackboard are well gone. However, doing detailed calculations of reactions takes a long time on the standard resources available to us. To be honest when I was first shown the grid I was a little sceptical but decided that if it delivered on its promises it would be a boon to our field."

This research combines cutting edge theoretical chemistry with computer modelling, to examine, and predict real world scenarios. The computer models take into account as many variables as possible, to ensure that they follow theory and match experimental results. This requires an enormous amount of computing resources.

He explains: "Some of the reactions we are investigating look quite simple, but saying $A+B$ give you $C+D$ hides a huge amount of complexity. What are the intermediate steps, what part do the local conditions play, can the reaction go backwards? This made even a 'simple' reaction that involves only three atoms extremely



Ernesto Garcia investigates how spacecraft re-entry affects atmospheric chemical reactions.

problematic."

Garcia and his team are not alone. Computational chemistry was one of the first communities that saw the potential of grid computing and by 2006, when they started, there were applications already there for them to try out. The tools have matured with the infrastructure and Garcia has seen this progress first hand: "When we started the tools were useful but slightly crude. Now the guys at the University of Perugia have developed the Grid Empowered Molecular Simulator (GEMS), which makes my life a lot easier."

One of the people at Perugia is Antonio Lagana, from the university's Department of Chemistry, who coordinates a joint team of molecular and computer scientists. He says: "I think one of the most important steps was the creation of the COMPCHEM VO [Virtual Organisation]. This gave new, wary, users instant access to resources and applications but more importantly it gave them a support network and a way for them and developers to communicate."

The GEMS application is built in 'blocks', making it modular and

customisable. Each block performs a certain kind of calculation and can be used or discarded, as the user wants. The user can also determine the code/algorithm each block uses.

GEMS has also tackled another problem. "The lack of standard data formats has plagued this community for years," says Lagana. "This has made collaboration difficult as the different codes people use just simply can't talk to each other. During our work on GEMS we have made some progress on this. We needed the different blocks and codes to be able to exchange information so we have developed and adopted standards that will benefit even the non-grid users in our community." •

More Information

Department of Physical Chemistry
University of the Basque Country

<http://www.quimicafisica.ehu.es>

Staged rollout of grid middleware components to EGI

Mário David explains how it works

The EGI staged rollout is a procedure by which the updates of supported grid middleware components, are deployed and tested by Early Adopter sites before made available to all sites integrated in the infrastructure.

The European Grid Infrastructure consists of a few hundred resource centres federated in several dozens of National Grid Initiatives, providing the resources for scientists gathered in Virtual Organisations, also known as VOs. The plethora of different middleware stacks, added to the wide range of scientific disciplines, applications and workflows contribute to the highly heterogeneous environment found in the infrastructure.

The staged rollout process makes it possible to test updates in a production infrastructure, i.e. in environments that are not available on any of the previous testing phases. It allows for potential issues with an update to be discovered at a small scale and workarounds to be added to the release notes if need be. Depending on the severity of the issues or problems, an update may be rejected for wider deployment.

Furthermore, the staged rollout increases the confidence in the quality of the updates that pass limited deployment tests. This guarantees that the vast majority of the sites should experience smooth

updates. Resource centres (sites) usually participate in the staged rollout for services that they have a particular interest, and are required to report their findings.

Staging a rollout

In its first year of activities, EGI has established business relationships with two Technology Providers: European Middleware Initiative (EMI), which delivers the gLite, ARC, dCache and UNICORE components, and the Initiative for Globus in Europe (IGE), which provides Globus components.

New versions of middleware components released by Technology Providers are submitted to EGI that processes them through a verification procedure, and after through the staged rollout procedure.

The verification procedure consists in checking a software component against a set of generic criteria, such as available and updated documentation, and specific criteria that depends on the capability under test. It may include deployment in a small test infrastructure, and some level of testing.

Following verification, the staged rollout exposes those newly released versions in the heterogeneous and 'chaotic' grid infrastructure. This process was adapted and extended

from the previous project Enabling Grids for E-science (EGEE-III), for gLite components.

Over the past one and a half year, the number of Early Adopter has increased to more than 50 sites that have been involved in over 150 staged rollout tests. The rate of rejection of components is low (below 10), but the tests have permitted the discovery of bugs that would otherwise passed unnoticed to the production infrastructure.

The staged rollout testing has contributed to the strengthening, robustness and increased confidence in the middleware that is deployed in the EGI. •

Staged rollouts

June 2010-September 2011

Middleware stacks:

gLite 3.1	16
gLite 3.2	75
globus	3
EMI:	
> gLite	68
> ARC	8
> UNICORE	12

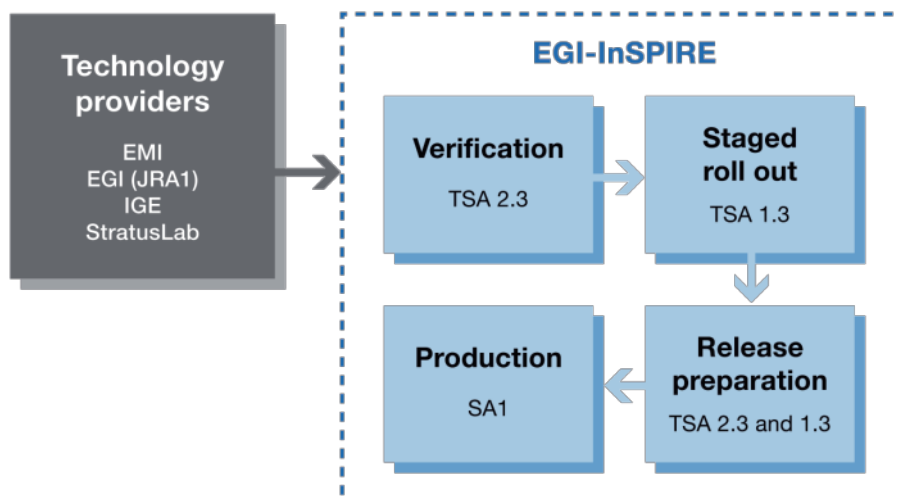
Participating NGIs:

16 Resource Infrastructure Providers collaborated with the staged rollout process. The top five were:

- > NCI_IBERGRID (Portugal & Spain)
- > NCI_IT (Italy)
- > NCI_DE (Germany)
- > NCI_CH (Switzerland)
- > NCI_UK (United Kingdom)

More Information

The staged rollout is managed under the EGI-InSPIRE task TSA1.3 and coordinated by NCI_IBERGRID



Horizon 2020 – what to expect?

Damir Marinovic introduces the new Framework Programme for Research and Innovation

The current European Union research & innovation programmes and related funding schemes will end in 2013 and many stakeholders are wondering what to expect afterwards.

The European Commission (EC) has already decided to combine the current Framework Programme with the Competitiveness and Innovation Programme and the European Institute of Innovation and Technology into a single Common Strategic Framework (CSF) for Research and Innovation. This new programme has been named **Horizon 2020**.

The implementation of the upcoming Horizon 2020 for Research and Innovation will be of crucial importance in defining the future funding environment of EGI and ensuring its sustainability.

The current budget of €55 billion, provided during the 2007–2013 programme for research and innovation, is likely to increase to €80 billion in 2014–20, which represents a sharp 46% increase. This substantial raise can be considered as a big success and a vote of confidence, especially since budgets in other areas will either shrink or remain flat.

Horizon 2020 will move away from the non-cohesive priorities defined in the various EC programmes and initiatives to a set of common objectives based on the Europe 2020 strategy and the related Digital Agenda for Europe and Innovation Union initiatives. Horizon 2020 will be based on three main blocks:

- > excellence in science base;
- > tackling societal challenges and
- > creating industrial leadership and competitive frameworks.

The EC is committed to allowing more openness and flexibility in

Horizon 2020, less prescriptive calls and better use of bottom-up initiatives. Horizon 2020 will allow a simpler funding landscape for research and innovation with common rules and funding schemes, a single audit approach and shorter negotiation and selection phases.

Through Horizon 2020, e-Infrastructures are seen as critical for e-science and open access to scientific data, providing added European value. Therefore, continuous support in upgrading e-Infrastructures and further federation of national efforts is needed in order to enable knowledge and innovation for research infrastructures hence fostering the development of genuine pan-European infrastructures.

The most important aspect of e-Infrastructure in the years to come is the development of innovative services, digital curation, open access, interoperability and a stronger user-centric approach.

Some of the areas that are identified as a critical include:

- > Improving the relationship between users and service providers;
- > Addressing the underdevelopment of the data layer of e-Infrastructures;
- > Reducing the distance between Research Infrastructures and e-Infrastructures;
- > Addressing the lack of awareness for the fundamental role of data and interoperability;
- > Leveraging activities and services beyond research and including communication, education and training as part of all e-Infrastructures initiatives;
- > Enhancing the dialogue with industry (especially SMEs) to foster

knowledge and technology transfer, both as a supplier and as user;

- > Combining top-down, policy-driven initiatives with a bottom-up approach to identify innovation opportunities, new requirements and new communities;
- > Broaden the role of e-Infrastructures beyond research to other areas, e.g. transport, government, energy and health;
- > Tackle environmental ICT issues.

The next steps for the Horizon 2020 will be the publication of the final version of the Commission proposal, which should be ready by the end of 2011, followed by relevant legislative decisions by the Council and European Parliament during 2012 and 2013. The first call for proposals is expected to appear in autumn 2013 with Horizon 2020 officially starting from 2014. •

More Information

Key references to understand Horizon 2020 and what it entails:

- > *Horizon 2020 – the Framework Programme for Research and Innovation*
<http://go.egi.eu/horizon-2020>
- > *Green Paper – From Challenges to Opportunities: Towards a Common Strategic Framework for EU Research and Innovation funding*
<http://go.egi.eu/csf-green-paper>
- > *EGI Position Paper on Common Strategic Framework for future EU Research and Innovation Funding*
<http://go.egi.eu/csf-egi-position-paper>
- > *Report on a consultation workshop on the possible content of "Horizon 2020"*
<http://go.egi.eu/horizon-2020-workshop>

Lyon: A great place to make friends

A look at the agreements signed behind the scenes of the Technical Forum

In September the EGI community met up at the annual Technical Forum in Lyon, to discuss, present and debate the progress of the infrastructure. In between the sessions, coffee breaks and amazing dinners Steven Newhouse, director of EGI.eu, was able to snatch a few minutes to sign Memorandums of Understanding with SIENA and SAGrid.

Both MoUs are an important piece of the puzzle for EGI in enabling the vision of providing sustainable distributed computing services to support European researchers and their international collaborators.

SIENA is an EC-funded support action tasked with defining a roadmap for e-Infrastructures. Like EGI, SIENA is focussed on the standards they use and how they should interoperate. These issues are at the very heart of creating sustainable access to computing resources for researchers and SIENA invited Michel Drescher, EGI's technical manager, to be on the roadmap's editorial board (REB).

Michel was delighted to get involved: "We have just set up a federated clouds task force to provide the community with best practices, recommendations, and documentation to help EGI create a federated, virtualised infrastructure. The roadmap that SIENA is putting together will allow us to contribute to the future of these activities beyond EGI but also let us learn from the experiences of others."

The MoU with SIENA is based on three main areas: disseminating the results of the collaboration, increasing the visibility of project objectives and results and highlighting the exchange of ideas and collaboration between the two.

Representing SIENA was Silvana Muscella, of Trust-IT. "Signing the MoU solidifies an already ongoing & strong relationship with EGI. We have been working with EGI through the SIENA REB but this lets us work



Steven Newhouse signs agreements with SIENA's Silvana Muscella (top) and SAGrid's Bruce Becker at the EGI Technical Forum in Lyon.

together even closer to help EGI document the outputs of their task force," she said. "We are at a very strategic stage in the open standards market, defining service contracts now and understanding how those standards potentially play a role in the areas of interoperability and portability is important."

The second agreement signed at the Technical Forum was with the Meraka Institute, a member of the South African Council for Scientific and Industrial Research. They signed it on behalf of the South African national grid SAGrid, which is one of the youngest regional infrastructures. The MoU aims to bring SAGrid into the EGI community but also to let them gain from the expertise of EGI's other members.

As SAGrid is a resource provider, the MoU focuses on policy and technological questions that guarantee the integration of the services they provide with EGI.

Bruce Becker signed on the dotted line alongside Steven Newhouse and

sees the MoU as an important part of SAGrid's growth. "We have been working on building a grid infrastructure for a while now. This has seen some real results recently with many institutes now actively providing computing resources. This is the next logical step for us, helping EGI build a worldwide research infrastructure. We are now a part of something beyond our borders and this is a brilliant opportunity for South Africa to be a player on the global stage."

These MoUs represent the diversity of the partners within EGI. It is this range of partners that will allow EGI to cement its reputation as a world leader in grid technology but also as an important part of the research community's toolkit. •

More Information

- > <http://www.sienainitiative.eu/>
- > <http://www.sagrid.ac.za/>

NGI Profile: NGI-DE

Sara Coelho looks into the German NGI, co-host of the first EGI Community Forum



Germany is a leading member of the European distributed computing community since the integration of the country's high performance computing centres through a UNICORE infrastructure, more than ten years ago. Since then, Germany has participated and continues to contribute to DEISA, PRACE, the Open Grid Forum, the European DataGrid, the series of EGEE projects and EMI.

Germany is also a key member of the European Grid Infrastructure and the host of the first EGI Community Forum, which will take place in Munich (26-30 March 2012).

The German National Grid Initiative (NGI-DE) was established in 2010, following the break-up of the EGEE Regional Operations Centres, as a partnership of universities and research centers led by the Karlsruhe Institute of Technology (KIT) (check infobox for full list of partners). The strategic direction of NGI-DE is defined by the Gauß-Alliance, an association of academic computing centres involved in high performance

and grid computing at a national level.

NGI-DE operates 22 resource centres across the country integrating a large variety of resources accessible via several middleware technologies (in particular gLite, Globus, UNICORE and dCache), catering for the different use cases by the German grid user communities.

As of August 2011, NGI-DE provides services to about 1,400 users. Particle physics plays a large role, but it's not the only discipline represented: users from astronomy, life sciences, climate and earth sciences and other scientific domains account for a good proportion of the resource usage. Further collaborations exist in the areas of computational science, engineering, medicine and bioinformatics.

NGI-DE hosts the GridKa School, a yearly international summer school on grid and cloud computing, which has been running in Karlsruhe since 2003. It's now one of the largest and the longest running grid summer schools in Europe. The 2011 edition brought together around 100 students from eleven countries.

NGI-DE supports grid users from Germany and their VOs through a common helpdesk. In addition, the NGI supports resource providers to enable them to operate more efficiently and integrate their grid resources in the infrastructure.

Germany has also contributed many solutions in use by the international community. An example is the Global Grid User Support (GGUS), a tool developed by KIT which is now the basis of the EGI

Helpdesk. The development of GGUS has recently spawned an offshoot called xGUS, a helpdesk template that can be customised and used by NGIs and user communities as their helpdesk.

There are more technologies in the international community with their roots in Germany. UNICORE was originally developed at the Forschungszentrum Jülich and dCache at DESY. The European support for the Globus Toolkit is coordinated at the Leibniz-Rechenzentrum der Bayerischen Akademie der Wissenschaften (LRZ).

Looking towards the future, NGI-DE is focusing on the sustainability plans of the German grid infrastructure. To do this, NGI-DE is looking carefully at all available services, to identify products and services that can help to fund further activities.

NGI-DE also wants to grow further and expand the techniques and services established over the course of the past decade that have been providing an invaluable contribution to science. •

NGI-DE Partners

- > D-Grid GmbH
- > DESY
- > Deutsches Forschungsnetz
- > Fraunhofer ITWM
- > Fraunhofer SCAI
- > Forschungszentrum Jülich GmbH
- > Leibniz-Rechenzentrum der Bayerischen Akademie der Wissenschaften
- > Leibniz Universität Hannover
- > Karlsruhe Institute of Technology

More Information

- > <http://www.ngi-de.eu/>
- > <http://cg2012.egi.eu/>

Upcoming Events

Announcing the Community Forum in Munich

The countdown for the first EGI Community Forum has started.

The event will take place at the Leibniz Supercomputing Centre (LRZ) in Garching near Munich, Germany between 26-30 March 2012. The event will be hosted by EGI.eu in partnership with the Munich Network Management, a consortium of four German research institutions, and will be held in conjunction with the second EMI Technical Conference.

The forum will highlight the services, technologies and tools available to scientific communities to better support their research.

The organisers invite all members of the community to submit abstracts for presentations, demonstrations, posters and workshops. The deadline for submissions is 2 December, 2011.

The programme committee, chaired by Steve Brewer EGI.eu's Chief Community Officer, welcomes abstracts in the following areas:

- > Users and communities, their requirements and achievements.
- > Software services for users and communities.
- > Middleware services.
- > Operational services and infrastructure.
- > Coordination and Communication.

The Community Forum will take place in the facilities of the LRZ and at the Faculty of Mathematics and Informatics (FMI) building, famous for its indoor slides.

Sadly, the Forum will miss the Oktoberfest, but will coincide with the 'strong beer season'. The tradition of brewing strong beer dates from the Middle Ages, when the local monasteries brew nutritious beers in late winter, so that they could survive Lent with no ill effects. The enjoyment of strong beer was not regarded as a sin: "Liquid nourishment doesn't break your fast". The tradition of strong beer lives on to this day. •



Key dates

2011

- > Abstract submission opens: 24 Oct
- > Registration opens: 15 Nov
- > Abstract submission ends: 2 Dec

2012

- > Programme published: 13 Feb
- > Early-bird registration ends: 15 Feb
- > End of registration: 23 Mar

<http://cf2012.egi.eu>

Call for papers: HealthGrid 2012

EGI.eu is pleased to announce its participation in the jointly organised HealthGrid 2012 Conference and the 4th International Workshop on Science Gateways for Life Sciences.

This joint event will take place at the Amsterdam Medical Centre in The Netherlands and will run from 21 to 24 May 2012 (Monday to Thursday).

The conference presents the opportunity for speakers to introduce and share novel ideas for the integration of grid, cloud and other e-infrastructures into the fields of biology, bioinformatics, biomedicine and healthcare, focusing on fundamental and practical aspects of middleware, technologies, applications and deployment issues.

For EGI.eu in particular, this repre-

sents an invaluable opportunity to interact directly with an important sector of the community of researchers and developers that use grid computing resources and as a result, another unique chance to gather new requirements for future development of our infrastructure and to understand the needs of today's users.

Calls for Papers are now open for HealthGrid 2012 and IWSG-Life2012. The main conference track welcomes contributions related but not limited to the following topics:

- > Challenges in the accessibility and adoption of e-Infrastructures by biomedical users.
- > Core technologies, infrastructures, middleware, algorithms and tools.
- > Security and protection of medical data.

> Knowledge integration and management.

> Applications, in particular to bioinformatics, biomedical informatics, medical imaging, public health informatics, epidemiological studies, drug discovery, clinical tests and virtual physiological human.

> Socio-economic aspects, integration of healthgrid and cloud applications into clinical practice, sustainability and market strategies, virtual organizations and their sociology. •

More Information

[url: amsterdam2012.healthgrid.org/](http://amsterdam2012.healthgrid.org/)