Workshop Media Partner

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Brochure: http://go.egi.eu/hnws1-brochure

Online agenda: http://go.egi.eu/hnws1

Helix Nebula: http://www.helix-nebula.eu

EGI.eu: http://www.egi.eu

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Helix Nebula Workshop
on Interoperability among
e-Infrastructures and Commercial Clouds

19 September 2012
Room Leo, Clarion Conference Center
Prague, Czech Republic

Event co-located with the EGI Technical Forum 2012
To attend, register at http://tf2012.egi.eu/Registration/

Agenda V.12

#hnws1

Overview

The EC-funded Helix Nebula project is a step towards a European cloud-based scientific e-Infrastructure composed of resources and services from commercial and publicly owned providers. This workshop is the first of three to bring together the appropriate technology and policy representatives to address the integration and interoperation of their respective infrastructures.

The first session focuses on requirements for **technical interoperability** among publicly owned e-Infrastructures and commercial cloud providers. The session kicks off with an initial list of current and potential use cases for using integrated clouds infrastructures. Then, describes the technical architecture of the EGI Federated Cloud and Helix Nebula. The expected outcome of this session is an initial list of meaningful use cases, a set of agreed technical requirements and the identification of working groups that should be started in order to analyse them towards the definition of a roadmap for their implementations [http://go.egi.eu/hnws1-p1].

The second session dives into the topic of **networking services** covering coordination with GEANT and the NRENs to ensure network connectivity and policy compliance for the data-intensive use cases and presentations on commercial networking solutions from Helix Nebula suppliers. As the evaluation criteria and key performance metrics for the Helix Nebula cloud offering will be defined based on the specific goals of each flagship application, networking performance will also be a key aspect. It will also allow EGI to fine-tune with the agenda of GEANT/NRENs in terms of next steps for activities related to cloud services and to discuss common issues in this area [http://go.egi.eu/hnws1-p2].

The final session of the workshop looks at **potential business** for integrated e-infrastructures with commercial clouds and the **legal issues** around scientific data in publicly owned and private infrastructures. In addition, preliminary results from a study on the cost of e-Infrastructures will be presented. The expected outcome of this session includes a preliminary list of usage models for hybrid clouds and a possible identification of cost models as well as of scenarios to operate cloud services in current and changing regulatory environment. The workshop will close with an overall summary including agreements, open issues and actions [http://go.egi.eu/hnws1-p3].

Program
http://go.egi.eu/hnws1

Technical Interoperability   (convener: S. Andreozzi)

11:00-11:10	Introduction and Goals (S. Andreozzi, EGI.eu)
11:10-11:30	Use Cases for using integrated clouds infrastructures (S. Andreozzi, EGI.eu)
11:30-11:50	EGI FedCloud Architecture (M. Turilli, OeRC)
11:50-12:10	The Helix Nebula Technical Architecture (E. Mathot, Terradue; M.E. Begin, SixSq)
12:10-12:30	Discussion on the technical interoperability requirements (Moderator: S. Andreozzi)

Networking Connectivity   (convener: C. Asero)

14:00-14:05	Introduction and Goals (C. Asero, EGI.eu)
14:05-14:25	Connecting commercial cloud providers with NRENs/GEANT (N. Hersoug, DANTE)
14:25-14:45	Commercial Networking Solutions - Helix Nebula Supplier (U. Schäfer, Alcatel-Lucent)
14:45-15:05	Network Connectivity - Scientific Clouds (J. de la Mar, T-Systems)
15:05-15:30	Discussion (Moderator: C. Asero)

Business Models and Legal Aspects (convener: S. Andreozzi)

16:00-16:05	Introduction and Goals (S. Andreozzi, EGI.eu)
16:05-16:25	Business models for integrated e-infrastructures with commercial clouds (J. Doll, SAP; M. Symonds, Atos)
16:25-16:45	Personal data processed in cloud infrastructures: main legal aspects (E. Pelino, ICT Legal Consulting & EPA)
16:45-17:05	Cost of e-Infrastructures (F. Karagiannis, AUEB)
17:05-17:30	Discussion / Workshop Wrap-up / Action Summary (Moderator: S. Andreozzi)

Enrico Pelino is a Senior Associate at ICT Legal Consulting and an attorney at the Bologna bar since 2003. He is specialised in data protection and IT law, which have been his core interests all over his career as a professional. In recent years he has been deeply involved in exploring the tangle of legal implications generated by the large scale adoption of cloud computing technologies. He also works on such topics as Fellow of the European Privacy Association (EPA) and of the Istituto Italiano per la Privacy (Italian Privacy Institute). As an attorney, he actively practices private and commercial litigation and contract law. He graduated with honours from the University of Parma in 1998 and then had a longstanding collaboration with CIRSFID, a University-linked centre of research based in Bologna. In 2005, he earned his Ph.D. in IT law from the University of Bologna with a dissertation on data protection and control. He took part in a number of high-profile research projects, among which the 2007 Italian PRIN research project (Research Project of National Interest).

Cost of e-Infrastructures. The presentation summarises the current findings of the e-FISCAL project about evaluating the cost of e-Infrastructures. These findings are based on questionnaire data received from a mix of computing centres belonging to EGI, PRACE or purely national e-Infrastructures. In addition, a survey of the state of the art in financial analysis of ICT infrastructures will be presented, as well as some initial results of the benchmarking efforts of the project that compare commercial cloud offerings with research e-Infrastructures. The presentation will exploit the workshop as an opportunity to get feedback from the participants, especially on the financial front and the related business models.

Fotis Karayannis has 18 years of experience in the ICT research, focusing mainly in Research Networking and Computing e-Infrastructures. He received his PhD in 1998 in the fields of Integrated Communications and Management of Broadband Networks from NTUA, Greece. He participated in multiple European research projects working for commercial or research entities such as now OTEPlus, GRNET, CERN, CESNET, Microsoft Research Cambridge and Microsoft Innovation Center Greece, ATHENA Research Center, and Athens University of Economics and Business. He has worked for major e-Infrastructure projects such as the GEANT, EGEE series, EGI Design Study, PRACE, and the e-IRG support projects.

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Use cases for using integrated clouds infrastructures

E-Infrastructures for science have been built to support scientific collaborations and enable digital research to tackle modern grand challenges. On the other side, the commoditisation of virtualisation technologies and the emerging of cloud computing from commercial providers is becoming attractive to some scientific domains or groups. This presentation introduces a number of initial use cases that would benefit from the integration of commercial and publicly-funded infrastructure. The goal is to stimulate the discussion on technical, legal, policy and business aspects.

Sergio Andreozzi has been involved in grid computing since 2002, when he joined INFN to work on interoperability aspects. Since 2007, he has co-chaired the GLUE Working Group in OGF and contributed to several standard activities. In June 2010, he joined EGI.eu as Strategy and Policy Manager to steer the policy development process and support strategic planning of the European Grid Infrastructure. Sergio holds a PhD in Computer Science from the University of Bologna and a MSc in Computer Science Engineering from the University of Pisa.

EGI FedCloud Architecture

See the online program

Matteo Turilli

Matteo Turilli is a Research Associate at the Oxford e-Research Centre. He holds a DPhil (PhD) in Computer Science from the University of Oxford and he is involved in several projects concerning the research and development of Cloud Computing. Matteo's main research interests are in parallel and distributed computing, software design, specifically as it relates to ethical requirements and the concept of design.

The Helix Nebula Technical Architecture

This presentation introduces to the current knowledge of the Helix Nebula Technology and Architecture Group regarding the need of a federated framework to simplify discovery, access, usage and management of a federated cloud system. Alongside this objective, we aim at providing an integration framework, where current and future suppliers (i.e. cloud service providers) can easily interface their system in order to attract and receive cloud workload.

Emmanuel Mathot has a master degree in Computer Science specialized in data-mining from Université Catholique de Louvain, Belgium. During 5 years at European Space Agency, he led the development and operations for the Grid processing on demand project of ESA (G-POD) where he worked closely with multi-disciplinary scientific communities on HPC for satellite imagery. He joined Terradue Srl 2 years ago as Technical Leader and Architect for Grid/Cloud solutions.

Connecting commercial cloud providers with NRENs/GEANT
See the online program

Niels Hersoug joined DANTE as General Manager in 2011. A Certified Project Manager and Master of Science and Business Administration, Niels is highly experienced in management and technology. Prior to DANTE, Niels worked in a number of senior management roles in a range of technology-driven companies.

Commercial Networking Solutions - Helix Nebula Supplier

The limiting factor in the adoption and success of Cloud Computing today is moving from IT towards the WAN infrastructure, where Internet – even if it is high speed – is not any more good enough. It is about guaranteed transfer rates, latency at the speed of light – all together without losing any bit of transferred data. This and inherent security of all data while being in WAN transit can be facilitated by commercial networking solutions.

Udo Schäfer joined Alcatel-Lucent in February 1992. He studied computer science and received his degree from the University of Stuttgart. In different roles within the company he worked on networking solutions as the German research & education network G-Win built with SDH in 2000, the WDM based Géant2 built in 2005 and the IP based ESnet now in 2012. Today he leads the customer marketing team in Alcatel-Lucent's Global Account organization focusing on the Deutsche Telekom Group.

Network Connectivity - Scientific Clouds

Network connectivity has become a key element of success for cloud computing deployments. Especially when large distributed computing and/or data-intensive applications are concerned. Apart from building networks to provide ubiquitous bandwidth at acceptable costs industry is focussing also on solutions to simplify management of such complex infrastructures with software defined network (SDN) technologies. The presentation will give insight into current SDN-type developments and how this may benefit future e-Infrastructures and Helix Nebula deployments with flexible cloud network security.

Jurry de la Mar joined T-Systems/Deutsche Telekom group in 1994. He studied Nuclear Physics and received his degree from Free University in Amsterdam. He has started and lead various strategic projects with European Institutions for T-Systems in Europe. In 2008 he took over the sales and account management responsibility for European Institutions in Germany as well as the Galileo and Earth Observation programmes within T Systems' Public Sector. In 2011 he was one of the initiators to create Cloud Computing services for European Science which has now led to Helix Nebula – The Science Cloud consortium. And he is Member of the Supervisory Board of cesah GmbH, the Centre for Satellite Navigation in the State of Hesse, Germany. He began his career with Siemens where he held various international positions in the medical and high-tech industry in Germany, Netherlands and Sweden spanning from product management to sales and operations.

Business models for integrated e-infrastructures with commercial clouds

Insights to business models i.e. definition, analysis, design and evaluation as foreseen by Work Package 7 of the Helix Nebula project. First the concept of business models is explained on the basis of the Osterwalder model. Secondly, steps to analyse and understand business models are explained. Thirdly, methods to design innovative business models and to evaluate a set of potential models are presented. In the end a few insights on the expected business case calculations are shown. Further, the slides highlight how Work Package 6 could collaborate to address the business case of publicly-funded infrastructures integrated with commercial providers.

Julia Doll holds a Master of Science majoring in Management Information Systems from the University of Mannheim and a Master of Business majoring in Marketing from the University of Queensland, Australia. Julia has been working at SAP since 2007 in several areas comprising: Product Management, Business Development and Business Model Innovation Research. Since 2012 she joined SAP Switzerland as Project Lead for Business Model Innovation. She has coached several projects regarding analysis, design and evaluation of business models. Her current research focuses on business model elements and their correlation.

Personal data processed in cloud infrastructures: main legal aspects

Cloud computing involves a variety of actors related each other through a tangle of outsourcing schemes and a fast and widespread circulation of data: all elements that challenge classical approaches to data storage and even defy the traditional perception of national borders. The main aim of this presentation is to provide the audience with a quick overview of some basic legal questions: identification of the applicable legislation (as cloud services physically involve several countries); lawfulness of extra-EU transfers of personal data; determination of security standards; data subjects' rights to transparency and control, including the right to "data portability"; accountably of the cloud provider. Such topics are either totally dependant or strictly connected with a correct allocation of privacy roles (controller/processor), that have to be viewed in the light of the recent position expressed by the European data protection authorities (the "art. 29 Working Party"). The presentation will also raise attention over some provisions of the forthcoming Regulation on data protection, expected to enter into force in 2014. Finally, it will briefly address some generally shared concerns related to the protection of intellectual property in a cloud environment.