

Grid Computing Now! Industry Workshop at AHM 2008

Research opportunities for e-Science in the UK commercial and public sectors

Tuesday 9th September, 4:00 – 6:30

Informatics Forum, University of Edinburgh

To be followed by the AHM 2008 Reception, sponsored by Grid Computing Now!

Description

As in previous years, Grid Computing Now! are pleased to host a workshop at the AHM. The theme of our 2008 event will be research opportunities for e-science in the UK commercial and public sectors. Invited speakers will describe a range of areas in which e-Science and grid computing may be exploited in order to benefit the economy, environment and health of the UK. The workshop is particularly aimed at academics with a passionate interest in the application of large-scale ICT to scientific and commercial applications; we hope to connect interested parties and catalyse innovative solutions.

The programme for the workshop is as follows. Full details of the speakers and presentations are given on the following pages.

Dave Berry, Technical Lead, Grid Computing Now!

Welcome and introduction

Mark Ferrar, Director of Infrastructure Architecture, NHS Connecting for Health
IT infrastructure in the NHS in England

Liam Newcombe, Secretary, BCS Data Centre Specialist Group

Modelling Data Centre Energy Efficiency and Cost

Alex Efimov, CERN and ESA UK Technology Transfer Office

Open source grid computing in the finance industry

Chris Greenwell, University of Durham

Greening the oil-industry: e-Science and oil & gas well drilling chemistry

Panel:

Introduced and chaired by **Ian Osborne**, Project Director, Grid Computing Now!

Opportunities for innovative research and exploitation

Grid Computing Now! is a Knowledge Transfer Network funded by the UK Technology Strategy Board. Our aim is to promote the exploitation of grid and other advanced IT technologies by the UK commercial and public sectors. For more information, please visit our web site, <http://www.gridcomputingnow.org>.

IT infrastructure in the NHS in England

Mark Ferrar



As Director of Infrastructure Architecture for the National Health Service in England, Mark leads a broad team that covers infrastructure projects, infrastructure services, infrastructure standards and unified communications, including IT security responsibilities. Covering strategy and architecture for large national programmes such as NHSmail and the N3 network, the infrastructure directorate also embraces provision of guidance throughout the NHS for the desktop, the Network Operating System and associated services and common applications used throughout the NHS. Mark also plays a key role managing relationships with suppliers such as Microsoft, Novell, Nokia, Cisco, Intel, AMD, Oracle and Vodafone.

Mark joined the NHS in September 2004 after 17 years with ICI, the international chemicals and paint company (since acquired by Akzo Nobel in January 2008), where he held a variety of IT management and architecture roles including Global Infrastructure Manager in the Office of the Global CIO.

Mark holds BSc, MBA and PhD qualifications, the latter for work on the computer simulation of flow-processed short-fibre reinforced composite materials whilst at Liverpool University.

Modelling Data Centre Energy Efficiency and Cost

Liam Newcombe

A presentation of a new data centre simulation tool and opportunities for further development and research. This open source software tool is under development by the British Computer Society and the Carbon Trust. It allows holistic modelling of a data centre environment from applied IT workload to utility energy use and provides both cost and energy outputs. This allows operators to both make informed decisions on equipment choice and to determine the financial and environmental costs of delivering a service. We will discuss the requirement for this form of analysis capability and provide an overview of how the tool works. Finally we will identify some known areas for further development and research that we believe are important to the industry.



Liam Newcombe has over 15 years experience in IT infrastructure, software development and solution design. Liam has delivered services and products used by many of the UK's biggest brand names. Liam has held a wide variety of roles ranging from operational management to product engineering. He has brought to market a number of data centre based product offerings for businesses such as Digital Island and Cable & Wireless ranging from managed servers to business continuity services. A key innovation was the use of formal mathematical techniques for reliability and maintainability analysis and prediction of customer ICT solutions and service level agreements.

Liam is a founding committee member of the British Computer Society Data Centre Specialist Group and is also a member of the BCS Ethics Forum Strategic Panel. Today Liam consults on energy efficiency, solution architecture and enables businesses to truly understand the relationship between their requirements and the holistic environmental and financial costs of the technical solutions.

Open source grid computing in the finance industry

Alex Efimov

"Cloud computing" is a buzzword that's getting more and more popular these days. It describes the direction in which information infrastructure seems to be moving. Is there still any space left on the market for open source Grids developed by e-scientists? A recent spinout from Rutherford Appleton Lab called Constellation Technologies has an ambitious goal to build its business around the open source gLite middleware. This presentation will provide an overview of its strategy, plans and achievements.



Alex Efimov is a Knowledge Exchange Advisor for the Science and Technology Facilities Council (STFC) Knowledge Exchange Service and a UK Technology Transfer Officer for CERN. He is also leading the STFC KES Kite Club IT and Software Special Interest Group.

Alex holds a B.Sc. (Hons) degree in Physics from the Moscow Engineering and Physics University and an MBA from the University of Cambridge. Alex used to work at the Institute for Radio Technologies in Moscow and in telecommunications companies in Russia and Germany. He is involved in technology transfer and knowledge exchange activities of PPARC (now STFC) since January 2006. Since that time Alex conducted a number of technology evaluation and market research projects focused on the Grid domain. His main responsibility is supporting commercialisation of early stage technologies developed by STFC-funded scientists and creation of partnerships with industry.

Greening the oil-industry: e-Science and oil & gas well drilling chemistry

Chris Greenwell

The UK Technology Strategy Board funded “New Improved Muds from Environmental Sources (NIMES)” project links a leading oilfield drilling fluid supplier, MI-SWACO, with the latest advances in scientific grid computing, bringing together large-scale simulation, computational steering and high-end stereo visualization to fast track a solution to a pressing industry need. In order to maintain and increase production of oil and gas in UK continental shelf waters, all chemicals used during drilling of exploration and production wells need to meet strict environmental legislation. A combination of computational modelling, linked to experimental work and visualisation through grid computing is being used to design new, efficient, environmentally friendly chemicals for oilfield applications.



Dr H. Chris Greenwell is Addison Wheeler Fellow at Durham University and Honorary Research Fellow of University College London. He obtained his PhD in 2003, at the University of Cambridge, working under Prof W. Jones in the Materials Chemistry Group on the synthesis and computer simulation of organo-minerals. From 2003 to 2005 he was based at the Centre for Computational Science, University College London, where he developed large-scale molecular dynamics simulations of composite materials. Following this, Dr Greenwell was an industry liaison officer and head of the Applied Marine Chemistry group at the School of Ocean Sciences, University of Wales.

Dr Greenwell now heads the Organic Geochemistry group at Durham University, where research is focussed on hybrid organic-inorganic systems, where the inorganic component is a synthetic or naturally occurring mineral. Research spans a range of areas and techniques including synthetic approaches, novel uses of characterisation methods including electron and atomic force microscopy, and computer simulation at the atomistic and electronic structure levels. The group works closely with a range of industry partners, including companies from the oilfield service industry, biofuel production, and wastewater treatment sectors.

Welcome and Introduction

Dave Berry



Dave Berry is Deputy Director for Research & e-Infrastructure Development at the UK's National e-Science Centre (NeSC). He is the technology lead of the Grid Computing Now! Knowledge Transfer Network. He has organised many events for the network, including the business track at OGF20 and a range of webinars.

Dave gained a Ph.D. in computer science from the University of Edinburgh, after which he worked in software houses for 10 years. He joined NeSC in 2002. He leads the NeSC contribution to research projects in the fields of statistical genetics, the design of next-generation microchips and of fire safety for the future built environment.

Panel: Opportunities for innovative research and exploitation

Ian Osborne



Ian Osborne was appointed project manager for the Grid Computing Now! Project in February 2005. Intellect is the UK trade association for the IT, telecoms and electronics industries. Its members account for over 80% of these markets and include blue-chip multinationals as well as early stage technology companies.

Ian has worked in ICT since 1972. In 1979, Ian joined the Hewlett-Packard Company where he enjoyed a substantial career working in Research & Development, Quality and Marketing at HP locations in the US and UK. He held senior management positions in HP's European Research Laboratories and Telecom Systems Business.

Ian has a Masters Degree in the Management of Technology, a joint degree awarded by the Universities of Sussex and Brighton in 1992.