

NeSC News

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A question of trust

by Iain Coleman

All of a sudden, IT security is front page news. From the loss of the entire UK's Child Benefit claimant data on unencrypted CDs to the hijacking of the Lodz tram network by an enterprising Polish teenager with a home-made remote control, the vulnerabilities in our public infrastructure have never been more flagrantly exposed. But the fundamental issues of security aren't just a problem for British parents or Polish commuters: they are also cause for serious concern in the e-Science community.

Whether for legal, ethical or commercial reasons, many potential users won't touch e-Science products because they don't believe the security is up to scratch. Andrew Martin, leader of the new e-Science Institute theme "Trust and Security in Virtual Communities", wants to change all that. In his public lecture, held at eSI on 8 January, he set out his plan for making e-Science attractive to users with stringent security requirements, and invited participation in the theme.

Security is about people and procedures, not just software. It's no good having the ability to securely transmit sensitive data if users just put it on a CD and stick it in the post instead. Human beings are usually the weak link in any security chain, but that's not always their fault. If a security system is cumbersome and awkward, people who are trying to get on with a job will find they have to circumvent it to get anything done. It's as if a bank stored all its currency in a vault so impenetrable that the staff had to keep the door open all day just so that customers could make withdrawals.

It's a tricky balancing act, as is shown by the example of personal identity certificates for access to e-Science systems. Make the certificates too easy to obtain, and the security is meaningless: make it too difficult, and people will share certificates in order to get on and do their science, negating the whole point of the certificates in the first place.

Part of the problem is that it's hard to motivate people about security until after a catastrophe has taken place. Human beings just don't have reliable intuition about rare events. It's similar to the argument about backups – we all know they're necessary, but few of us are as diligent as we should be. Indeed, in many cases it hardly matters whether a loss of data happens due to a malicious attack or a ghastly accident. There are still scientists who keep years of valuable work on a laptop, with no backup. Even if it has no commercial value, the personal value is immense and the cost of reproducing the work is generally prohibitive. Similarly, it is not just commercially sensitive information that has to be protected from harm. Data from the Large Hadron Collider may not be of any value in the marketplace, but scientists still need to be able to rely upon it reaching them unaltered.

So trust and security are important issues even for the purest of sciences. What happens when science becomes more politicised? That was the question facing scientists behind climateprediction.net, the project to carry out distributed climate prediction calculations on thousands of home PCs. They needed to be confident that the results they were getting back were the genuine

output of the program – and with extreme opposition to the idea of anthropogenic climate change coming from some political sectors, it is easy to imagine that false data might be maliciously fed into the



Andrew Martin

project. Meanwhile, the individuals who were running these calculations at home faced the opposite problem. While the project scientists trusted their own code, but could not trust the host machines, the home users trusted their own machines, but needed to be sure that the software would not damage their PC or steal confidential information. As more and more computing is performed on distributed systems, this kind of dual problem will become increasingly common. Whether it is labelled e-Science, grid computing or cloud computing, it all involves trusting the unknown operators of a host of different systems. Even if the probability of failure at any given point is low, the cumulative probability can be unnervingly high.

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A question of trust *continued*

One industry-led approach to coping with security in this new distributed computing environment is the Trusted Platform Module. The idea is that data can be encrypted so that it can only be used by a specified application. This helps prevent misuse. For example, an image containing confidential medical data could be sent to a particular browser that is unable to save the images, helping to ensure that a legitimate remote user can see the image, but not copy it. This low-level component could form the basis of a whole ecosystem of possibilities, although it has been criticised by open computing advocates as allowing new forms of anti-consumer behaviour by large IT and media corporations.

This has certainly been a common perception of Digital Rights Management, widely seen as a mechanism by which media companies exploit their consumers. But can the underlying idea be rehabilitated and democratised as Personal Rights Management? The idea would be that each of us could specify security policies for all our individual bits of data. We could then allow particular systems to process our data, confident that it will not be used or abused for any other purpose. This is a long way off, if it happens at all, but a mechanism like this may redress the balance of information power in favour of the individual user.

The theme will run throughout 2008, and anyone with an interest in security issues is invited to take part. There is already a working paper on the eSI wiki, and further contributions are welcome.

Slides from this event can be accessed from <http://www.nesc.ac.uk/esi/events/847/>

The theme wiki can be found at http://wiki.esi.ac.uk/Trust_and_Security_in_Virtual_Communities



Cybernetworking... We're Virtually working together

Cambridge scientists have established a networking site for scientists, based on the recent advances in the use of Web 2.0.

The use of social networking sites, such as MySpace, facebook and bebo has escalated in recent years. MySpace receives around 65 million visitors per month, with facebook pulling in 15 million users, continuing to grow at a monthly rate of 11% (www.compete.com). Now, a group of Cambridge scientists have built a site that focuses not only on developing networks between users, but also provides tools to facilitate research collaborations as well: SciSpace.

SciSpace (<http://scispace.niees.group.cam.ac.uk/>) has been developed to address specific needs that are common to all scientific disciplines. Work by eMinerals scientists in the Department of Earth Sciences highlighted how difficult it is

to communicate between researchers who work at different length scales. In their particular case they needed a method to span from the molecular to the global scale. SciSpace was born, bringing together the collaborative functionality of wikis and the communication and networking facilities of social networking sites.

"In SciSpace, we have harnessed networking and collaborative web 2.0 technology to provide a completely new way of working", said founder Dr Kat Austen. "The site has been running for 6 months, and is already being used for European and trans-Atlantic collaborations and the production of a number of publications." The website was used exclusively in the production of a recent article for JPCM by Dr Austen as part of the eMinerals project. "As the eMinerals team is a 'Virtual Organisation', it's imperative that we have a good way to keep up-to-date with each others' work. We

used SciSpace to track calculations, discuss results, and ultimately as a collaborative environment in which to write up the article", says Austen. SciSpace has recently been adopted by a new project NSF funded project in the USA, called 'Collaborative Research in Chemistry'. The project spans four universities spread across 3 different states.

The development of a tailored site that combines collaboration with networking capabilities heralds a new era for research practices. With Web 2.0, the world is shrinking. Now, it doesn't matter where you live, or where you work. The most important address you can have is www.scispace.net.

SciSpace was built and is maintained by the National Institute for Environmental eScience (NIEeS) and members of the eMinerals project, using Elgg technology. Access to the site is free and open to any scientist worldwide on request.

ICEAGE workshop

The ICEAGE Project (<http://www.iceage-eu.org/v2/index.cfm>) is organising a Workshop on Curricula Development for e-Science and Grid Computing being held on 14-15 February at the Scotland Europa Conference Centre in Brussels (http://www.scotlandeuropa.com/conf_home2.htm).

To date, there has been little international cooperation on development of grid and e-Science education curricula. The workshop will provide a forum for collaboration on curricula design and development in order to advance the fields of e-Science and grid computing worldwide. By the end of the workshop, we will draft a customisable common core syllabus for grid computing that will have international relevance.

Your participation in this event will be crucial to the improvement of educational courses in grid computing. The results will be presented to European Commission officials and will also inform curricula development documents being prepared by the Open Grid Forum Education and Training Community Group (<https://forge.gridforum.org/sf/projects/et-cg>) and by the e-Infrastructures Reflection Group Education and Training Task Force (<https://eirgsp-wiki.grnet.gr/bin/view/Main/TrainingAndEducation>).

The results of the meeting will also be made available on the ETCG wiki and on the ICEAGE website for further comment, iteration and use. Please let us know if you would be interested in attending by emailing evmeer@nesc.ac.uk.

Draft ICEAGE training policy document posted

A draft version of the e-IRG Education and Training Task Force Policy Report is now available for download from the ICEAGE website.

<http://www.iceage-eu.org/v2/index.cfm>

The Report is also up for discussion and comment on the e-IRG wiki training and education page at <https://eirgsp-wiki.grnet.gr/bin/view/Main/TrainingAndEducation>.

ICWMC 2008 and ICCGI 2008 call for submissions

ICWMC 2008 : The Fourth International Conference on Wireless and Mobile Communications (<http://www.iaria.org/conferences2008/ICWMC08.html>) and ICCGI 2008 : The Third International Multi-Conference on Computing in the Global Information Technology (<http://www.iaria.org/conferences2008/ICCGI08.html>) have both issued a call for submissions, with a deadline of March 5, 2008.

Submissions will be peer-reviewed, published by IEEE CPS, posted in IEEE Digital Library, and indexed with the major indexes. Extended versions of selected papers will be invited for specialised journals.

Main conference topics include:

ICWMC 2008	Applications and services based on wireless infrastructures	agent-based systems
Wireless Communications Basics	Standardisation and regulations	Mobility and multimedia systems
Radio Interfaces and Systems	Design and implementation	Systems performance
Spectrum Allocation and Management	Wireless and mobile network deployment	Networking and telecommunications
Circuits for Wireless Communications	ICCGI 2008	Software development and deployment
Wireless and Mobility	Industrial systems	Knowledge virtualisation
Protocols for wireless and mobility	Evolutionary computation	Systems and networks on the chip
Traffic and congestion control	Autonomic and autonomous systems	Context-aware systems
QoS, Resource Management	Bio-technologies	Networking technologies
Wireless and mobile technologies	Knowledge data systems	Security in network, systems, and applications
Performance Evaluation, Simulation and Modeling of wireless networks and systems	Mobile and distance education	Knowledge for global defense
Management of wireless and mobile networks	Intelligent techniques, logics, and systems	Information Systems [IS]
Security in wireless and mobile environment	Knowledge processing	IPv6 Today - Technology and deployment
Networks convergence and integration	Information technologies	Modeling
	Internet and web technologies	Optimisation
	Digital information processing	Complexity
	Cognitive science and knowledge	

More information is available here:

http://www.iaria.org/conferences2008/Greece_July_2008.html



The National Grid Service helps tackle HIV

The NGS has played a key role in helping scientists to simulate the efficacy of a HIV drug in blocking a key protein used by the virus. The study, by Peter Coveney and colleagues from the Department of Chemistry at UCL (University College London), involved a sequence of simulation steps performed across the NGS and the US TeraGrid. The study was published online in January in the *Journal of the American Chemical Society (JACS)*, the most cited journal in chemistry. A large number of simulations were run to predict how strongly the drug saquinavir would bind to three resistant mutants of HIV-1 protease and wild type protease, one of the proteins produced by the virus to propagate itself. Saquinavir is a known inhibitor of HIV-1 Protease as it blocks the maturation step of the HIV life cycle.

This study is an early example of the Virtual Physiological Human (VPH) which will use grid computing to simulate the internal workings of the human body. The VPH allows scientists to simulate the effects of a

NGS welcomes new institutions

The NGS has grown further over the last few months with the joining of the University of Glasgow as a partner site and the Universities of Keele and Edinburgh as affiliates. HPCx at Edinburgh is already a partner of the NGS but the new resources are from the Edinburgh Compute and Data Facility (ECDF). Additional resources have also been contributed from Oxford University in the form of Oxford GridPP / EGEE cluster. The addition of the new sites has again increased the resources available to NGS users.

Full details of the new sites can be found on the NGS website.



Peter Coveney presenting at the NGS User Forum. Photo courtesy of Katie Weeks, NGS.

drug and see what is happening at the organ, tissue, cell and molecular level.

Several drugs are available to inhibit HIV-1 protease but doctors have no way of matching a drug to the unique profile of the virus as it mutates in each patient. Instead, they prescribe a course of drugs and then test whether these are working by analysing the patient's immune response. One of the goals of VPH is for such 'trial and error' methods to eventually be replaced by patient-specific treatments tailored to a person's unique genotype. Professor Peter Coveney says:

"This study represents a first step towards the ultimate goal of 'on-demand' medical computing, where doctors could one day 'borrow' supercomputing time from the national grid to make critical

decisions on life-saving treatments.

"For example, for an HIV patient, a doctor could perform an assay to establish the patient's genotype and then rank the available drugs' efficacy against that patient's profile based on a rapid set of large-scale simulations, enabling the doctor to tailor the treatment accordingly.

"We have some difficult questions ahead of us, such as how much of our computing resources could be devoted to helping patients and at what price. At present, such simulations – requiring a substantial amount of computing power – might prove costly for the National Health Service, but technological advances and those in the economics of computing would bring costs down."

More information is available here: http://www.nesc.ac.uk/news/press_release/20080129.htm

NGS celebrates a centenary!

The NGS celebrated the occasion of their 100th Operations Board with a meeting in Birmingham in January. Although the Operations meetings are largely technical, representatives were invited from all NGS sites to discuss a wide variety of topics including the future of the NGS, outreach and service updates. Thirty four representatives attended the meeting and a great deal of discussion took place. There was also time for some socialising with a meal at a Chinese restaurant in the city centre followed by a quiz and the first ever NGS awards ceremony. Winners will remain anonymous!

eSI Thematic Programme - Call for Topics

The e-Science Institute (eSI) is calling for topics for its 2009 thematic programme, which concentrates on in-depth and sustained investigation of a topic by a series of linked talks, visitors, workshops and conferences over a period of six months to a year. Such themes are led by a theme leader who is a long-term funded visitor to the Institute.

The programme is now in its fourth year and the eSI is now calling for submissions for themes to start in January 2009 or late 2008. These should be submitted no later than March 7, 2008.

Theme topics, as well as being interesting in their own right, should address issues that are relevant to applications researchers, and be able to demonstrate significant buy-in from both the applications and computational scientist communities. It is not intended that they address only the sciences – all areas of academic research present opportunities for the application of e-Science techniques.

eSI is hosted by the University of Edinburgh, is the UK's Centre for e-Science Meetings. Funded by the e-Science Core Programme, it has been operating since August 2001, during which time it has run more than 470 meetings attended by some 14,000 delegates and hosted 65 visitors who have stayed for varying periods, from one day to a year.

More information is available here: <http://www.nesc.ac.uk/esi/themes/downloads/Call-for-Themes--March-08.pdf>

ITU Symposia: ICTs and Climate Change

Kyoto, Japan, 15-16 April 2008 and London, UK, 17-18 June 2008
Call for papers and speakers - deadline: 29 February 2008

Climate change is a concern for all of humanity and requires efforts on the part of all sectors of society, including the information and communication technologies (ICTs) sector. Although ICTs contribute only an estimated 2.5 per cent of total greenhouse gases, this share is set to grow as usage of ICTs expands globally, growing at a faster rate than the general economy. ICTs are thus part of the cause of global warming, but they can also be part of the solution. ICTs are also vital in monitoring the spread of global warming.

ITU is organising two Symposia on ICTs and Climate Change. The first will be held in Kyoto, Japan, hosted by Ministry of Internal Affairs and Communications (MIC) Japan, and the second in London, UK, hosted by BT. To contribute to this work, you are invited to submit an abstract, of maximum 300 words, for a paper or presentation which is relevant to one or more of the topics below.

Climate change and the impact of ICTs
Use of ICTs in monitoring climate change
ICTs for mitigating the local effects of climate change
ICTs and concerted action against global warming
ICT standardisation in the field of climate change

To participate, please send an email to tsbtechwatch@itu.int by Friday, 29 February 2008, with the following information: The title of the proposed paper or presentation; A brief abstract (maximum 300 words); the topic(s) from the list above to which it is relevant; the author's full name, job title, affiliation and nationality; a short biography for the lead author(s); Contact details: postal address, telephone/mobile number and e-mail, and preference for presentation at the Kyoto or London events. You may alternatively suggest a particular high-level speaker for inclusion in the programme.

Accepted papers/presentations should be submitted, in full, no later than Friday, 28 March 2008 (for the Kyoto symposium) or Friday 30 May (for the London symposium).

eSI Public lectures

The e-Science Institute will host two public lectures in February:

“Dynamising Spatial Semantics” by Dr Werner Kuhn, Professor of Geoinformatics, Münster Semantic Interoperability lab, University of Münster

“Geography in Motion” by Professor Mike Worboys, Chair of the Department of Spatial Information, Science and Engineering, University of Maine

“Dynamizing Spatial Semantics” will be held on February 8, at 4pm and will also be available via web cast. Those attending in person are invited to join us for tea and coffee at 17:00.

“Geography in Motion” will follow on February 11, also at 4pm

This lecture will also be available via web cast. Those attending the lecture in person are invited to join us for wine and canapés at 17:00.

Public lectures are open to all interested parties in academia and industry. There is no need to register.

vizNET Uses of Visualization Showcase

All those working in the area of visualization are invited to submit work for the vizNET Uses of Visualization Showcase. The goal is to disseminate good practice and provide stimulation to users and developers of visualization in all application domains. This is the third year of this Showcase.

Last year the competition was won by Dr Lakshmi Sastry & her team at STFC e-Science Centre for Data exploration using remote commodity visualization cluster and won the year before by Dr Nick Holliman and his colleagues, at the University of Durham for Cosmic cookery: visualizing galaxy formation using observed and simulated data. Other notable participants and runners-up include: So you think you can design a jet engine by Prof Philip Withers and his team from the University of Manchester, Massive data visualization using real time ray tracing by Dr Steven Parker and Group at University of Utah, Hyperstreamball visualization of second order tensors from Jia Liu of the University of Manchester, Facilitating visualization of large scale data in virtual human atrium simulations by Dr Ian Grimstead and team from Cardiff University and Visualizations of a nuclear pressure vessel by Dr Joanna Leng and colleagues from the Universities of Manchester and Durham.

Prize: Selected entries will feature in the vizNET website. The Eurographics UK Chapter (EGUK) will host a session at their annual conference, TP.CG '08 which will be held at the University of Manchester, UK June 9th-11th to showcase the winning entries. EGUK will pay for a full conference ticket - entrance, tutorials, socials and accommodation - for the winning submission.

The criteria for the Showcase centre on the usefulness (for example measured by the fresh insight gained in the application domain) and novelty (for example the application of known visualization techniques to new domains, or the application of

new techniques to existing domains). Applications are invited from all domains in the arts, sciences and humanities. The Showcase is open to entries from around the world.

A successful submission will show a significant understanding of the needs and motivations of the users. Fundamental characteristics that the judges will expect to find in a successful submission include:

- * Innovation
- * Usefulness
- * Degree of finish
- * Awareness of 'state of the art'
- * Technical ingenuity
- * Usability
- * Meeting declared aims

The submission must include details of all the authors and a brief statement (no more than one A4 page) indicating the aims and status of the work. Emphasise what is novel about your use of visualisation, and provide evidence of the added value that is provided to the application domain. In addition, at least one of the following must be included: images from the application showing computer generated graphics; a movie file of the application in use; a runnable executable to demonstrate the application; a reference to a persistent web site.

These materials should be supplied electronically either as file attachments in email or uploaded on the vizNET Wiki, <http://wiki.viznet.ac.uk/>. Submissions should be received by Lakshmi Sastry (m.sastry@rl.ac.uk) on or before Friday 14 March 2008. Submissions received after this closing time will not be considered. In addition to the electronic media, each submission should contain the name, address, telephone, FAX, email and affiliation of a contactable submitter, as well as a signed and dated statement indicating willingness to accept the rules of the competition and for vizNET to include the work, if selected, in the vizNET Visualization Showcase web site.

Details at <http://www.viznet.ac.uk/>

Century-of-Information Research (CIR) Strategy Workshop

This workshop aims to bring together the community's views on the future of research and develop the Century of Information (CIR) Strategy. The emphasis will be on identifying both e-Science successes and other UK research assets on which it should build and the e-Science challenges that should be addressed in order to make the Strategy possible.

We would particularly welcome participants who can identify practical and repeatable successes in their field, or who can identify e-Science challenges that must be addressed before priority goals can be achieved. Computer scientists, computational scientists and data specialists who can identify successes and opportunities and who wish to work on the future e-Science challenges are particularly welcome.

The background and history of the CIR Strategy, the composition of the working party and the work in progress can be found at http://wikis.nesc.ac.uk/escienvoy/Century_of_Information_Research_Strategy. It also contains PDF versions of the documents in preparation. Associated with each of these are wiki pages, where you are encouraged to add comments and endorse the CIR Strategy.

The majority of the work over the two days will be conducted in small working groups and the output will be a report, with all of the participants as authors.

Target Audience: Leaders and innovators in the e-Science and computational science community; Computer scientists who wish to engage in identifying the challenges and in finding solutions; Anyone else with enthusiasm and good ideas.

<http://www.nesc.ac.uk/esi/events/859/>

JISC Conference 2008

JISC is delighted to announce that registration for the JISC Conference 2008 is now open! It will be held on April 15, in Birmingham.

We are confident that 2008 will be another successful year for the JISC Conference. The 2007 conference attracted over 700 senior managers, practitioners, and support staff involved in the use of Information and Communications Technology in further and higher education and research. We are expecting the 2008 conference to be even more popular so make sure that you get signed up as soon as possible!

The conference programme will be built on the theme of 'Enabling Innovation'. We are pleased to confirm Lord Puttnam (Chancellor of the Open University) and Angela Beesley (Vice President Community Relations & Co-Founder, Wikia / Chair of Wikimedia Foundation Advisory Board) as the conference keynote speakers. The conference will reflect the breadth of JISC activities in providing guidance, advice and opportunities for the use of Information and Communications Technology (ICT) in education and research.

Delegates will be given opportunities to learn about the full range of JISC's work by participating in seminars, debates, workshops and demonstrations. In the exhibition area, a range of JISC services as well as corporate companies, agencies and associations will be able to provide you with advice and guidance on a range of support and resources available to your institution.

This event will be of interest to all those in post 16 and higher education and research involved in planning for and supporting the use of ICT. To view the draft conference programme and to book your place, please visit the JISC Conference 2008 website at: <http://www.jisc.ac.uk/events/2008/04/jiscconference08.aspx>

Protocol for Implementing Open Access Data announced

Science Commons has announced the Protocol for Implementing Open Access Data (<http://sciencecommons.org/projects/publishing/open-access-data-protocol/>) ("the Protocol").

The Protocol is a method for ensuring that scientific databases can be legally integrated. The Protocol is built on the public domain status of data in many countries (including the United States) and provides legal certainty to both data deposit and data use. The protocol is not a license or legal tool in itself, but instead a methodology for a) creating such legal tools and b) marking data already in the public domain for machine-assisted discovery.

The Protocol was built after a year-long process of meetings and consultations with a broad set of stakeholders, including representatives of the geospatial and biodiversity science communities. We solicited input from China, Uganda, Brazil, Japan, France, Netherlands, Germany, Italy, the UK, Colombia, Peru, Belgium, Catalonia and Spain.

We expect to convert this work into a working group with founding members from our existing communities of practice. However, the world is moving very quickly in terms of data production, and as such we created the Protocol as a guide and as a tool to bring together the existing data licensing regimes into a single space.

Science Commons has worked with data licensing thought leaders and is pleased to announce partnerships with Jordan Hatcher (<http://www.opencontentlawyer.com>), the lawyer behind the Open Database License; Talis (<http://www.talis.com/>), the company behind the Open Database License process; and the Open Knowledge Foundation (<http://www.okfn.org>), creators of the Open Knowledge Definition (<http://www.opendefinition.org/1.0/>).

Jordan has drafted the Open Data Commons Public Domain Dedication and License - the first legal tool to fully implement the Protocol. It is available at his Web site (<http://www.opencontentlawyer.com/open-data/>). This draft is remarkable not just for the Public Domain Dedication but for the encoding of scholarly and scientific norms into a standalone, non-legal document. This is a key element of the Protocol and a major milestone in the fight for Open Access data. Talis, a company with a strong history in the open science data movement, played a key role in birthing Jordan's work, and we're pleased to work with them as well. We are also pleased to announce that the Open Knowledge Foundation has certified the Protocol as conforming to the Open Knowledge Definition. We think it's important to avoid legal fragmentation at the early stages, and that one way to avoid that fragmentation is to work with the existing thought leaders like the OKF.

We will be launching a wiki for comments on the Protocol soon, and will announce a strategy for versioning the Protocol in 2008.

Forthcoming Events Timetable

February

8	The e-Science Institute Public Lecture - "Dynamizing Spatial Semantics"	e-Science Institute	http://www.nesc.ac.uk/esi/events/833/
11	The e-Science Institute Public Lecture - "Geography in Motion"	e-Science Institute	http://www.nesc.ac.uk/esi/events/855/
12	Browsing genes and genomes with Ensembl	e-Science Institute	
21-22	ATLAS Analysis Tutorial	e-Science Institute	http://www.nesc.ac.uk/esi/events/857/
28	LHCb UK Workshop on Proper Times	National e-Science Centre	http://www.nesc.ac.uk/esi/events/860/

March

5-6	The Application-Led Security Agenda for e-Science	e-Science Institute	
13-14	Century-of-Information Research (CIR) Strategy Workshop	National e-Science Centre	http://www.nesc.ac.uk/esi/events/859/
25-27	The Marriage of Mercury and Philology: Problems and Outcomes in Digital Philology	e-Science Institute	

EuroSys 2008 - Call for Participation

31 March - 4 April 2008,

The third edition of the European Conference on Computer Systems is being held the week of 31 March at the University of Glasgow, Glasgow, Scotland.

An excellent set of papers has been selected for the conference proper (2-4 April), and an exciting set of workshops and tutorials will take place on 31 March and 1 April. Please visit the web site for more information on the technical programme and the tutorials/workshops: <http://www.dcs.gla.ac.uk/Conferences/EuroSys2008/>

Early registration closes on 1 March 2008.

If you require a visa to enter the UK, it is essential that you register for the conference proper as soon as possible, as invitation letters to support such visa applications will only be sent to paid registrants.

A second registration step will be required to register for workshops and tutorials; this two-step approach is required to accommodate some of the workshops, where only those individuals that have submitted accepted papers are permitted to attend the workshop. All individuals registering for workshops/tutorials are required to first register for the conference proper.

This is only a selection of events that are happening in the next few months. for the full listing go to the following websites:

Events at the e-Science Institute: <http://www.nesc.ac.uk/esi/esi.html>

External events: http://www.nesc.ac.uk/events/ww_events.html

If you would like to hold an e-Science event at the e-Science Institute, please contact:

Conference Administrator,

National e-Science Centre, 15 South College Street, Edinburgh, EH8 9AA

Tel: 0131 650 9833 Fax: 0131 650 9819

Email: events@nesc.ac.uk

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The deadline for the March 2008 Newsletter is: 22nd February 2008