CSIR General News

Potential of eInfrastructure investigated

An eInfrastructures Partnership Workshop was held at the CSIR on 2 May 2006 by the Department of Science and Technology and the European Commission's Directorate-General Information Society. The aim was to foster eInfrastructure research and innovation partnerships between African and European scientists.

eInfrastructures relate to the deployment of broadband networks within research communities and the creation of distributing environments for the sharing of computing resources, i.e. CPU power and storage capacities (known as the Grid paradigm). This integrated networking and middleware environment is known as eInfrastructure.

"eInfrastructure provides key building blocks that allow scientists and engineers to tackle major challenges relating not only to early-stage scientific questions, but also impacting directly on both the quality of life and competitiveness of industry," says Johan Eksteen of the Meraka Institute, who is South Africa's national contact point for the European Union's 6th Framework Programme in the information society area. "Issues such as global climate change and the search for cures for neglected diseases share the stage with investigations into black hole dynamics and the fundamentals of materials. eInfrastructure is rapidly becoming an indispensable tool in the global knowledge generation and application areas," he comments.

The technologies provided by grid-enabled eInfrastructure provide exciting, new resources to support international research collaboration across and in many scientific disciplines. The objective of the partnership workshop was therefore to consider how the potential of eInfrastructure can best be harnessed to support research and innovation partnerships between Africa and Europe.

Representatives from six leading European eInfrastructure projects delivered presentations at the Partnership Workshop. These projects are:

- DANTE (Delivery of Advanced Network Technology to Europe) that plans, builds and operates pan-European networks for research and education, such as the GEANT2 high-speed research and education network, the fastest and most advance of its kind. More at http://www.dante.net

- EGEE (Enabling eGrids for Science) which brings together scientists and engineers from more than 90 institutions in over 30 countries to provide a seamless grid infrastructure, integrating applications from scientific fields such as high energy physics, life science, geology and computational chemistry. More at: http://www.eu-egee.org

- BioInfoGRID (Bioinformatics Grid Application for life science) that supports research in the fields of genomics, proteomics, transcriptomics and applications in molecular dynamics by reducing data calculation times thanks to the distribution of the calculation at any one time on thousands of computers across the world. More at: http://www.itb.cnr.it/bioinfogrid

- WISDOM (Wide In Silico Docking On Malaria) which aims to demonstrate the relevance and the impact of the grid approach in addressing drug discovery for neglected diseases, through a scalability step towards a full in silico drug discovery platform. More at: http://wisdom.eu-egee.fr/

• DEISA (Distributed European Infrastructure for Supercomputing Applications) that is a consortium of leading national supercomputing centres that currently deploys and operates a persistent, production quality, distributed supercomputing environment with continental scope. More at: http://www.deisa.org/

• EXPRES (Express Production Real-time eVLBI Service) which aims to connect major radio telescope facilities in Europe, Asia, Australia, South America, South Africa and the United States by using high speed optical fibre networks, creating a real-time eVLBI network - a unique astronomical telescope of continental and intercontinental dimensions. More at: http://www.jive.nl

"These presentations were contextualised by presentations on developments in the South(ern) Africa area where major government initiatives such as the establishment of the Centre for High Performance Computing, the imminent roll-out of the South African Research Network (SANReN) and regional activities such as Ubuntunet were highlighted," explains Eksteen.

The workshop was presented with the support of the European South African Science and Technology Advancement Programme (ESASTAP) - http://www.esastap.org.za and as a pre-event to the IST-Africa 2006 Conference – http://www.ist-africa.org/Conference2006 .

Details on the event are available at: http://www.esastap.org.za/Events/saEvents.html

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