SCIENCE GRID THIS WEEK

August 23, 2006

Calendar/Meetings

August

21-23, Open Science Grid Consortium Meeting, Seattle, Washington

29-September 1, Euro-Par 2006, Dresden, Germany

September

4-5, First EELA Conference, Santiago, Chile

6-14, 2006 National Virtual Observatory Summer School, Aspen, Colorado

Full Calendar

Image of the Week

LCG/EGEE Real Time Monitor with Google Earth visualization. (Click on image for larger version.)
Image Credit Imperial College London

The Google Earth visualization of the Real Time Monitor shows computing sites currently participating in the Worldwide LHC Computing Grid Collaboration (WLCG) and the Enabling Grids for E-sciencE (EGEE) project. Using the Google Earth program, users can zoom in to see where each grid site appears in its local area. Clicking on each site also

Feature Story

Research Makes Mount Etna Sing

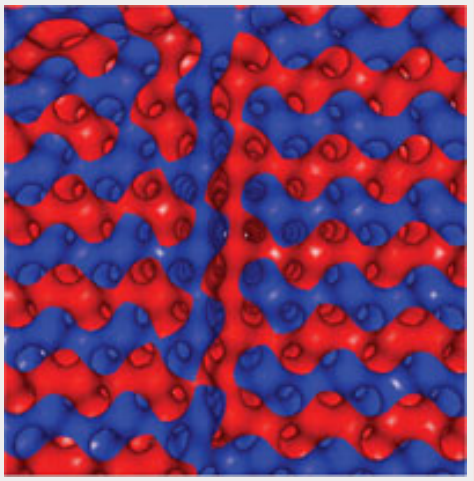
The volcano sonification project will be extended to the Tungurahua Volcano in Ecuador.
Image Credit Alcinoe Calahorrano, El Instituto Geofísico de la Escuela Politécnica Nacional

Predicting eruptions will become easier now scientists are using technology to translate the patterns in a volcano's behaviour into sound waves. The EU funded "Enabling Grids for E-sciencE" and the "E-Infrastructure shared between Europe and Latin America" projects, which are already investigating volcano sonification at Mount Etna, Sicily, are using the GÉANT2 and ALICE-RedCLARA networks to further extend this important study to include Ecuador's Tungurahua volcano.

The research project, which brings together experts from Europe and Latin America, digitally collects geophysical information on seismic movements before using data sonification to transform them into audible sound waves, which can then be "scored" as melodies. The resulting "music" is then analysed for patterns of behaviour and used to identify similarities in eruption dynamics and so predict future activity.

Real the full GÉANT2 press release

TeraGrid Computations Show Gyroid Defect Formation



Two gyroid domains with a domain wall running vertically between them.
Image Credit Pittsburgh Supercomputing Center

The Royal Society, the UKs national academy of science, has published findings from computations performed by the TeraGyroid Project, a large-scale grid-computing project that linked more than 6,000 processors with a capability of 17 teraflops (trillions of calculations per second) at six different facilities on two continents. The resulting simulations are the first to show formation and evolution of realistic gyroid systems structures that are a fascinating hybrid of liquid-solid physical features.

The paper, "Chirality and domain growth in the gyroid mesophase," Proceedings of the Royal Society A (23 June 2006), is authored by theoretical chemist Peter Coveney, University College London, and his colleague Jonathan Chin. "Thanks to the TeraGrid," said Coveney, "we were able to harness unprecedented resources and look at a problem that hadn't been studied before. Liquid-crystal systems are scientifically important, and this study was possible only because multi-site grid resources were available."

Read the full TeraGrid press release

shows a plot of grid jobs run over the past two weeks, sorted by virtual organization, and provides a Web link to more information about the site's current status.

Link of the Week

NEES Site Activities Demo

View this short QuickTime demonstration of the NEES Site Activities interface to see earthquake engineering in action. Learn how to view telepresence feeds from experiments at sites across the nation, including those with shake tables, giant centrifuges and tsunami basins. Then visit the NEES Site Activites Web site to view live telepresence feeds.

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XML RSS Headlines

Office of Science/ U.S. DOE

Trends in Cyberinfrastructure for Bioinformatics and Computational Biology

The current issue of CTWatch Quarterly highlights the role of cyberinfra-structure and advanced computing in the biological sciences. Below is an excerpt from one of the articles, "Computing in the 'Age of Biology'" by Natalia Maltsev from Argonne National Laboratory.

The past decade has completely changed the face of biology. The image of a biologist passionately chasing butterflies in the wilderness of an Amazon rainforest or losing sight spending hours staring in a microscope has been substituted by pictures of factory-like sequencing facilities and high-throughput automated experimental complexes. The technology has changed the entire fabric of biology from a science of lonely enthusiasts to a data-intensive science of large projects involving teams of specialists in various branches of life sciences spread between multiple institutions. The new generation of biology is tightly interlinked with the progress in computer science. Indeed, in order to exploit the enormous scientific value of biological data for understanding living systems, the information must be integrated, analyzed, graphically displayed, and modeled computationally in a timely fashion.

Full article

Grids in the News

U.S. government offers grid computing tool kit
Computerworld, August 23, 2006
By Robert Mullins

A new open-source software tool kit is available to improve online collaboration via grid computing.

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A Move to Secure Data by Scattering the Pieces
The New York Times, August 21, 2006
By John Markoff

Chris Gladwin, a software designer and businessman in Chicago, had time on his hands after selling his company, the online music store Music Now, in 2004.

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Govt to use schools in supercomputer experiment
The Yomiuri Shimbun, August 17, 2006

The Education, Science and Technology Ministry will begin an experiment on grid computing next month by using a large network of school computers to gain a computing capacity equivalent to that of a supercomputer.

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