## Calendar/Meetings

### JUNE

20-23, GCA'05 - The 2005 International Conference on Grid Computing and Applications, Las Vegas, Nevada

22-24, 20th International Supercomputer Conference, Heidelberg, Germany

22-24, First International Conference on e-Social Science, Manchester, UK

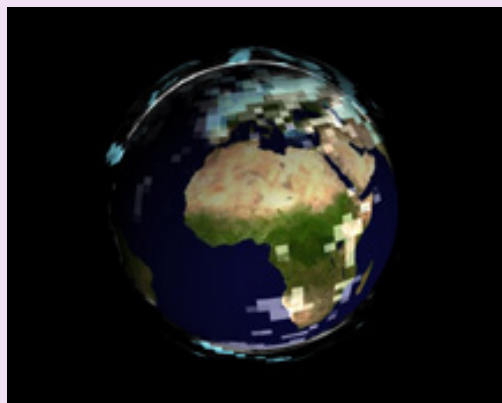23-24, GRIDS Center Community Workshop, Chicago, Illinois

26-29, Global Grid Forum 14, Chicago, Illinois

27, Globus Toolkit Version 4: Status and Experiences - A Workshop at GGF-14, Chicago, Illinois
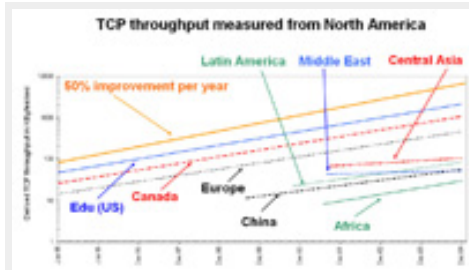
Full Calendar

### Image of the Week

**Visualization of world cloud cover. (Click on image for larger version.)**
*Courtesy Climateprediction.net*

The Climateprediction.net experiment,

## Feature Story

### PingER Quantifies the Digital Divide



Throughput from SLAC to different world regions from January 1995 to December 2004.

Tools developed to help physicists monitor their Internet connectivity are now helping the world monitor the digital divide between developed and developing countries. PingER, the Ping End-to-end Reporting project, has been measuring Internet connectivity around the world for over ten years, and now monitors over 600 Internet sites in 114 countries.

"The original purpose of PingER was to provide Internet monitoring for the high energy and nuclear physics communities," said Les Cottrell from the Stanford Linear Accelerator Center, leader of the project. "More recently, as a result of a collaboration with the International Centre for Theoretical Physics in Italy and the World Summit on the Information Society in Geneva, it has been extended and now has an increased emphasis on quantifying the digital divide and understanding the performance of developing regions."

Internet data is broken up and sent in packets, and PingER measures the round trip time to send a packet from one host to another and for the packet to be echoed back and received by the sender. PingER also measures the fraction of packets that are not received back at the sender, called packet loss. Throughput, a measure of the amount of data transferred through Internet connections in a specific amount of time, is then

## Profile

### Leigh Grundhoefer Monitors the Grid



Leigh Grundhoefer

You have a computing job that you'd like to run on the grid. There are hundreds, perhaps thousands, of computing resources available to you. How do you know where to send your job? Leigh Grundhoefer and her colleagues at Indiana University Bloomington work to help users and grid site administrators make sense of all the information coming from the grid. Grundhoefer is part of the International Virtual Data Grid Laboratory, where she concentrates on Open Science Grid and Grid3 operations.

"One of the key aspects of grid operations is knowing what's going on in your grid at all times," said Grundhoefer. "I try to gather information from grid sites in a non-intrusive way, and present only the information pertinent to different people and different tasks."

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## Grids in the News

launched in September 2003, distributes state-of-the-art climate models to people to run on their home, school and work computers.

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**Definitions of Grid Computing**
Wikipedia lists many grid computing definitions and links to grid computing resources. You can also join a discussion on grid computing, and view definitions of related terms such as data grid and distributed computing.

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NSF   Office of Science/ U.S. DOE

derived from the two measurements.

Measurements from the past decade (see graph) show that the throughput from SLAC to sites in the U.S., Europe, Canada, China, Africa and Latin America is increasing at a rate of almost 50 percent a year, and no one region is increasing faster than the others. The U.S. and Canadian throughputs are highest since the measurements are made from the U.S. Developing regions such as China are several years behind Europe, and Africa, which registers the lowest throughput, shows no sign of catching up. Countries in the Middle East and Central Asia are not even maintaining the same rate of increase, and thus falling farther behind each year. PingER measurements show that the Internet, though a potential instrument to help bridge the digital divide, also has its own divide.

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**FAQS: Grid computing**
FCW.com, June 20, 2005

Grid computing is a way to share computing resources within and among organizations. The concept first emerged in the mid-1990s as academic researchers began exploring the rudiments of grid infrastructures.

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**EGEE Makes Rapid Earthquake Analysis Possible**
EGEE Press Release, June 16, 2005

Using the advanced grid infrastructure of the Enabling Grids for E-sciencE (EGEE) project, researchers at the Institut de Physique du Globe de Paris (IPGP), France, were able to analyse the large Indonesian earthquake, which struck on 28 March 2005, within 30 hours of it occurring.

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**WestGrid, SHARCNET Move Toward Canadian Supercomputer Network**
GRIDtoday, June 15, 2005

Two of Canada's most powerful distributed computing environments -- WestGrid and SHARCNET -- are now connected over a dedicated high speed optical link -- the first step toward a pan-Canadian network of High Performance Computing (HPC) facilities.

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