

## Calendar/Meetings

### September 2005

4-17, [CERN School of Computing 2005](#), Saint Malo, France

6-15, [Second National Virtual Observatory Summer School](#), Aspen, Colorado

11-14, [The Second Grid Applications and Middleware Workshop](#), Poznan, Poland

19-22, [Fall 2005 Internet2 Member Meeting](#), Philadelphia, Pennsylvania

19-22, [U.K. e-Science All Hands Meeting 2005](#), Nottingham, UK

19-22, [2nd International Conference on Grid Service Engineering and Management](#), Erfurt, Thuringia, Germany

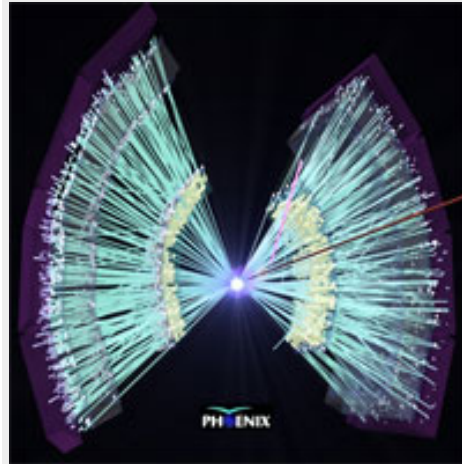
21, [International Workshop on Advanced Technologies for E-Learning and E-Science \(ATELS '05\)](#), Compiègne, France

[Full Calendar](#)

## Image of the Week

## Feature Story

### PHENIX Experiment Uses Grid to Transfer 270 Terabytes of Data to Japan



A collision of gold nuclei as seen in the center of the PHENIX detector, with no magnetic field applied.

*Image Courtesy PHENIX Collaboration*

During the polarized proton-proton run that ended in June at the Relativistic Heavy Ion Collider at Brookhaven, grid tools were used by the PHENIX experiment to send recently acquired data to a regional computing center for the experiment in Japan. Brookhaven National Laboratory, on Long Island, New York, is home to the RHIC/ATLAS Computing Facility (RCF), which is the main computing center for experiments at RHIC and a Tier-1 computing center for ATLAS. The PHENIX regional computing center in Japan (CCJ) is at the RIKEN research centre on its Wako campus close to Tokyo.

Going into the polarized proton-proton run, PHENIX faced the challenge that the RCF would be busy reconstructing and analyzing gold-gold and copper-copper data recorded in 2004 and 2005. The enormous polarized proton-proton data set was transferred to Japan to make use of the substantial computing resources at CCJ, which is comparable to the PHENIX portion of the RCF.

## OSG Focuses on Monitoring and Information Services



*Image Courtesy Matteo Melani*

Design and requirements for Open Science Grid monitoring and information services was the focus of the OSG Blueprint Meeting, held August 29–30 at the University at Buffalo's Center for Computational Research. Over 25 OSG technology leaders met with representatives from the LHC Computing Grid and the TeraGrid at the latest in a series of OSG architectural design meetings.

"These 'blueprint' meetings are held periodically to focus our understanding of particular areas of grid computing, and to extract basic design principles for the OSG," said meeting chair Dane Skow. "At this meeting we discussed the current state of MIS and plans for the future."

Unlike most areas of grid computing, there are many implementations of MIS growing out of operations, resource selection, accounting and project-specific efforts. Understanding the reasons behind these different implementations and agreeing on basic requirements and goals were the objectives of the blueprint meeting. Participants identified several different characteristics vital for effective MIS and reached agreement on some basic principles of the MIS architectural design, such as the need for a standardized interface to pass data collected from the network of sensors to the data presentation layer.

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## Announcement



**Illustration of grid architecture.**  
(Click on image for larger version.)

Image and text courtesy of the [GridCafé](#), CERN

The architecture of the grid is often described in terms of "layers," each providing a specific function. At the base of everything is the network, which assures the connectivity for the resources in the grid. On top of it lies the resource layer, which includes computers, storage systems, data catalogues, and even sensors such as telescopes. The middleware layer provides the tools that enable the various elements to participate in a unified grid environment. The application layer is highest, and includes all the different user applications, portals and development toolkits supporting the applications.

### Statistic of the Week

# 750,000

Number of source lines of code in the middleware package gLite as of July 20, 2005. The source code is written in more than six different programming languages.

**Source:** [CERN Courier](#)

The PHENIX data acquisition can sustain a peak data rate of up to 600 megabytes per second, and runs at a typical rate of 250 megabytes per second while beam is stored in RHIC. The data were buffered at the experimental site before being transferred and archived in the RCF tape library. A 35 terabyte disk-storage system (about 60 hours at typical data rates) allowed PHENIX to archive and transfer data at a lower steady rate, taking advantage of various breaks in the flood of data. A transfer rate of 60 megabytes per second sustained steadily around the clock was able to keep up with the incoming data stream.

[Read the full article in this month's CERN Courier](#)

### Mesoscale Meteorology and Grid Computing—the L.E.A.D. Project



When we discuss grid computing's role in mass-scale data crunching and predictive analysis, many of us associate the discussion with the financial services industry—where Grid powers complex Monte Carlo models to help large brokerages glean new insights into capital markets outcomes/scenarios.

Today, a group of mesoscale meteorologists ("mesoscale" referring to the a range from 1–1,000 kilometers) are applying similar Grid principles—to making sense of weather patterns—and specifically, predicting and analyzing major weather anomalies (like tornados, hurricanes, earthquakes, etc.).

Predictive analysis and data crunching are certainly not new phenomena for meteorologists—but what we're seeing today is an increasing sophistication in tools at their disposal.

[Read more...](#)

*This article by Dennis Gannon originally appeared in the September issue of the Globus Consortium Journal.*

### Next Version of Globus Toolkit Now Available

Version 4.0.1 of the Globus Toolkit is now available for download. This incremental release includes important fixes for bugs reported against version 4.0.0 of the Globus Toolkit. Other highlights include: adoption of Version 2 of the Apache License without modification; improved support for Apache Tomcat; improved support for message-level security in C WS Core; integration of the WS MDS vulnerability fix; an updated version of OGSA-DAI containing the complete set of public interfaces; and the addition of a new tech preview component, an early release of the SweGrid Accounting System.

[Download 4.0.1](#)

### Grids in the News

#### 17 million euros for the construction of a national grid infrastructure

Heise Online, September 9, 2005

This Thursday, the German Ministry of Education and Research (BMBF) approved 17 million euros to set up a national grid infrastructure (D Grid).

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#### Beta Version of GridShib Software Released

NCSA News Release, September 8, 2005

The GridShib team from NCSA, Argonne National Laboratory and the University of Chicago has released the initial beta version of the GridShib software to enable interoperability between the Globus Toolkit (GT) and Shibboleth.

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#### Researchers take 'LEAD' to improve hurricane, tornado predictions

EurekAlert, September 7, 2005

BLOOMINGTON, Ind. -- Indiana University School of Informatics researchers are part of national team



devising technology that more accurately predicts and tracks large-scale weather events such as Hurricane Katrina, which left thousands dead and injured and a path of devastation in its wake.

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