Open Science Grid News

January 2006

Meetings and Events

OSG Consortium and Council Meeting
January 23–26, 2006

GGF16
February 13–16, 2006

CHEP06: Computing in High Energy and Nuclear Physics
February 13–17, 2006

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Consortium Meeting Next Week

The University of Florida physics building.

The OSG Consortium Meeting takes place Monday through Wednesday of next week at the University of Florida's Reitz Union. The meeting agenda is available, as well as a list of demonstrations to be presented Tuesday and Wednesday. For those who can't attend the meeting, the plenary sessions will be available via VRVS and telephone conference. The Council Meeting will take place on Thursday following the Consortium Meeting.

OSG Resource Validation

From the Interim Executive Board

Dear OSG Consortium and Friends,

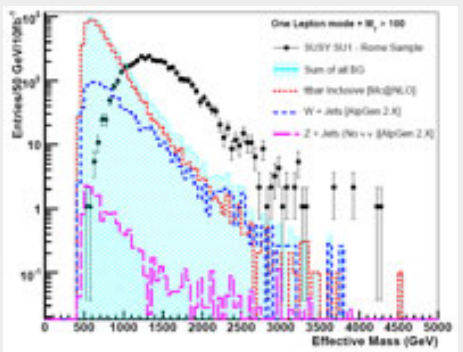
I am very pleased to announce that we have elected Ruth Pordes as our Executive Director. Congratulations to Ruth, and thanks to Mark Green, Jerome Lauret and Doug Olson for their hard work during the election process. Ruth is already in high gear, taking responsibility for next week's OSG Consortium Meeting agenda, coordinating the OSG Letter of Intent in response to the DOE's SciDAC-2 solicitation, an almost-simultaneous submission to the NSF, and the release of OSG 0.4.

The January 5–9 election was preceded by extended discussions about management plans and election rules, and I encourage those of you who are interested to peruse OSG documents 311 and 314. There is a fair bit of work still to come, but the foundation for the transition towards a managed OSG project has been laid.

The integration test bed declared success this week, delivering a release candidate for provisioning, and the first OSG 0.4.0 sites should be up next week. The next minor release, OSG 0.4.1, is planned for March, followed by a June/July release of OSG 0.6.0. And finally, the OSG infrastructure has enjoyed record utilization in the last month. More than 2,700 simultaneously running jobs were running on January 8, a result of heavy use by ATLAS (see story below) and a significant increase in GRASE activity.

Sincerely,
Frank Wuerthwein, Chair of the OSG Interim Executive Board

Applications - ATLAS SUSY Studies and Calibrations



SUSY signal (dots) in the connihilation region compared with various SM backgrounds (histograms).
(Click on image for larger version.)

The passion to explore the energy frontier with the Large Hadron Collider (LHC) has led us to harvest CPU resources beyond our local batch system. To make the physics discovery of the century, we will need enough computing tools and resources to analyze in real time every LHC collision event from the ATLAS detector, and to compare these events with simulations.

It is now possible to perform a detailed study involving large-scale CPU resources within the uniform OSG infrastructure. The large energies available at the LHC make possible several hard multijet final states. Calculations of these states involve complex matrix elements that need to be merged with shower developments, which can be performed with a Monte Carlo generator such as ALPGEN. We have recently used ALPGEN within the OSG framework to study the background processes for discovery physics such as supersymmetry (SUSY). These studies involve generation and simulation of complex Standard Model (SM) processes. In

The Advanced Computational Data Center (ACDC) Grid and Operations Dashboards provide key infrastructure for OSG administrators and users. As operational status and functional validation of grid services are critical components of a production grid, continual monitoring of the grid's service state is essential. The dashboards are designed to answer simple questions about the status of grid services, operational status of resources and which VOs each resource supports, and to provide administrators and users with tools to answer more complex questions.

The ACDC Operations Dashboard provides functional validation tools for the grid administrator and service operational status for the grid user. For administrators, action items provide point-and-click infrastructure for registering, validating, monitoring, updating and setting online/offline status for their resources. They may also confirm off-site operational service status for supported VOs. This validates the resource firewall access, VO authentication, grid user mapped account validity, gridFTP access and 30 other functional tests.

Grid users can consume this information in a point-and-click environment that is tailored to their VO. Detailed operational service status is available for all resources, and users can contact the grid administrator and operations center associated with a given resource. The information presented on the dashboards is continually updated and time stamped. An automated email system notifies users of resource operational status changes indicating production, pending or offline status.

Mark L. Green, SUNY at Buffalo

Supported By

the lepton channel example shown, expected to provide a clean discovery channel in the early months of the LHC's running period, there is a clear enhancement of the SUSY signal over all SM background processes.

Earlier hadronic calibration studies in ATLAS were performed using fully simulated events from the Pythia (QCD) generator. We are now in the process of performing the hadronic calibration studies using more realistic multijet samples. OSG will be useful for many other detector performance studies that involve intense CPU and storage usage.

Sanjay Padhi, University of Wisconsin-Madison

The OSG Generic Information Provider

The OSG Generic Information Provider (OSG-GIP) has been developed by the Grid Research and educatiOn group @ IoWa (GROW) to enable OSG-WLCG interoperability, OSG resource selection services, OSG GridCat and other services. The GIP is an information service that aggregates static and dynamic resource information for use with LDAP-based information systems. The GIP produces information based on the GLUE Schema.

Monitoring OSG-WLCG interoperability.
(Click on image for larger version.)

The OSG-GIP adopts the design of the WLCG GIP and focuses on the following three aspects of development work:

1. **Resource status:** Creating dynamic plug-ins and provider scripts to capture OSG resource status and usage.
2. **Automatic configuration:** Configuring GIP properly without fully understanding the GLUE Schema is a daunting task. We have created a tool that automatically configures a working OSG-GIP out-of-the-box with minimal administrator intervention by leveraging the existing OSG configuration information. Currently, OSG-GIP is compliant with the GLUE Schema 1.2.
3. **Validation:** The OSG-GIP validation service infrequently pulls information (using LDAP search) directly from individual OSG systems to perform sanity checks on their GIP information. The systems on both the OSG ITB and the production GridCat are being validated by this service. The service has been implemented to provide a user-friendly interface.

Shaowen Wang, The University of Iowa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