Open Science Grid

OSG
Consortium and Council
Eco System

August 19, 2014

Ruth Pordes
OSG Council Chair

Overview

Consortium: All Members – Contributors – to OSG

- Own and provide access to the resources
- Develop and support the software
- Adapt applications to and then Use the OSG
- Use the OSG software releases, or parts thereof
- study the social and/or technical structure and/or use of OSG

Council: Representatives of the Consortium

- Major contributors
- Diverse member types
- Oversight and governance of the Project
- Committed to the Vision and Goals

Past 2 years

Consortium:

- Extended membership to include Campuses and Projects (see other talks)

Council:

- Consolidated physics collaboration representation (LHC experiments reduced from 2 to 1 each; Run II instead of separate CDF and D0 representatives)

- Added ESNET – Greg Bell

- Increased Campus representation –CRC@Notre Dame, Jarek Nabrzyski

- Added XD HPC representative – Mike Norman, Director of SDSC*

- Added User Representative – Don Krieger, Pittsburgh

* (?Model of representing the entire La Jolla Mesa. I.e. SDSC, UCSD, SRI, Salk, GA, Ventner, Sanford-Burnham Consortium of Regenerative Medicine, Burnham, etc. etc.?)

Council

- Generates requests to the project (in the request system)

- Encourages general directions e.g.
    - Provide support for Galaxy applications; led to Indiana usage and ND/IU collaboration
    - Meetings with commercial organizations to explore collaboration benefits
    - Understand/recommend how to provision and access dynamic/virtualized resources.
    - Encourage collaboration with ACI-REF
    - Facilitate planning and engagement with Intensity Frontier experiments as a "group"

Open Science Grid

Intensity Frontier Experiments and the OSG Eco-System

- Background:
  - User support for Belle-II (PNNL, Virginia Tech) and SNO+ (U of Chicago, U Penn)
  - LBNE (BNL, FNAL, LBNL) including OSG as part of their distributed facility planning.
  - NOvA (Harvard, SMU, Ohio Supercomputing Center) initial use of OSG for simulation
  - Common project at for computing support for IF (NOvA , MINOS, MicroBoone, Minerva, LBNE, G-2 etc)

- Process of approach as a group:
  - Discussions of the impact of supporting the Intensity Frontier experiments at a production level of service within the project.
  - Discussions with experiment and program managers, Fermilab Computing Sector, within OSG.

- Status:
  - Agreement for support with evolving constraints
  - Include support as part of the OSG project as a collaboration that includes a Fermilab contribution.

The Satellite Eco-System

Open Science Grid

Synergistically contributing to current and future needs of Consortium:

- Bringing Distributed High Throughput Computing to the Network (LARK)

- Accelerating the Rate of Progress Towards Extreme Scale Collaborative Science (dVDT)

- Data And Software Preservation for Open Science (DASPOS)

- International Science Grid this Week (iSGTW)

- eXtreme Scale Identity Management in Scientific. Collaborations. (XSIM)

Characterization of Benefits

"ESnet's participation in the OSG is providing us a **valuable forum for understanding, collaborating with and supporting a variety of scientific communities** with large compute and data need **in a unique environment** of >100 clusters cooperating as a shared facility." Greg Bell, Director, Energy Sciences Network.

"We regard membership in the OSG Council as a useful forum for **engaging with OSG Communities towards the integration and use of the new COMET resource** at SDSC over the next few years. " Mike Norman, Director San Diego Supercomputer Center

"….we are able not only **to benefit but also contribute in the future thinking – for example in the integration and use of virtualized cluster computing** or new paradigms for opportunistic computing."Jarek Nabrzyski, Director, Center for Research Computing, University of Notre Dame

"…The **Council provides an excellent venue for communication across a diverse set of science domains**, (whose ideas) .. we use locally **for promoting the use and value of sharing of resources**". Piotr Sliz, Harvard Medical School

"The work we have accomplished in the past year would have literally required millennia on a single state-of-the-art workstation and it would have cost at least $500,000 using commercial cloud computing. Instead **we were able to run 'opportunistically' on the OSG and use cycles which otherwise would have been lost."** Don Krieger University of Pittsburgh Department of Neurological Surgery

Characterization of Benefits

"The OSG Consortium gives the University of Nebraska a **unique collaborative arrangement for both contributing and receiving resources and expertise**. Our faculty, staff, students and collaborators on and beyond campus continue to benefit from both the use of, and participation in the development of, the production distributed high throughput computing environment OSG provides". David R. Swanson, Director Holland Computing Center, University of Nebraska

The OSG is helping to **solve big data problems, which will help policy makers**. Because much of the data we use is nested, we are creating new methodologies that work better with that kind of data. Traditional methods are not as effective." Courtney Hall. Ph.D. candidate studying quantitative methods in the Department of Educational Psychology at the University of Wisconsin-Madison (UW-Madison).

"The OSG Consortium provides a broad forum of collaboration and I, in my short tenure to date, have found the Council a **useful forum to understand the broader goals and achievements of the wider aspects project beyond those of my experiment, ATLAS**" Mark Neubauer, University of Illinois

"I really wish to recommend the OSG to other scientists who need to deal with large-scale data or intensive computing jobs. **It is easy to get started, and you can always get help from the people in this great community."** Liang Zheng, EIC Collaboration, Ph.D. candidate on an exchange program at BNL.