Fall 2008 All Hands Meeting Notes

SURA, 4th Floor Conference Rooms A – B
1201 New York Avenue, NW
Washington, DC 20005

Wednesday 10/01/08

Gridway Tutorial Puri Bangalore & John-Paul Robinson (UAB)

(http://www.sura.org/programs/docs/GridWayIntroduction.pdf)

(http://www.sura.org/programs/docs/GridWayTutorial.pdf)

(http://www.sura.org/programs/docs/SURA-GW-rev3.pdf)

Puri and John-Paul facilitated an excellent review of Gridway scheduler – work that is an outcome of the ongoing Metascheduler Working Group that they are leading. The Gridway instance at UAB handles job submissions and assigns them to resources running at UAB or ODU. Puri presented a case study related to optimizing BLAST jobs when a grid presents multiple sites that can run jobs. By applying classic computer science technique of costs and weights for BLAST running at the different sites available, UAB was able to reduce BLAST run times from over 19 hours to 25 minutes – very nicely demonstrating the value of using a distributed environment and clearly offering a very interesting area of future research in enhancing a metascheduler to make smart decisions on resource assignments.

Thursday 10/02/08

SGC – State of SURAgrid Art Vandenberg, GSU

(http://www.sura.org/programs/docs/StateOfSURAgrid2Oct2008.pdf)

A recap of SURAgrid activities and progress was provided. Membership and SURAgrid portal resources (CPUs, GFlops, Memory, Disk) were presented with metrics on growth since September 2005 Fall All Hands. A review of SURAgrid Governance Committee activities since March 2008 All Hands, including election of new SGC members and the newly adopted (Aug. 19, 2008) SURAgrid Strategic Plan http://www.sura.org/programs/docs/SURAgridSPlan.pdf. SURAgrid communications outlets and current Working Groups were summarized and SURAgrid response to a Survey on SURAgrid Monthly Calls was presented (confirming continued interest on focusing Monthly Calls around Working Group Activities.) PhD Student Gina Henderson's research on snowcover and sea surface temperature anomalies on atmospheric circulation was highlighted as an example of the SURAgrid resources being used by SURA members (Gina is using CAM3 application simulations on the IBM System p575 systems). State of SURAgrid concluded with overview of the Strategic Plan 2008-2012 Goals and a call to ACTION to accomplish those goals.

Site Report Updates All Institutional Representatives

(http://www.sura.org/programs/docs/SiteReportsfall08.pdf)

SURAgrid sites provided updates of their activities, generating good discussion of ongoing collaboration opportunities.

State of SURAgrid Applications Report Linda Akli, SURA

(http://www.sura.org/programs/docs/ApplicationsstatusSummary10_10_08.pdf)

Twelve applications are running or have run successfully on SURAgrid. One new application, the ODU Options Pricing application (SURAgrid's first financial application), was successfully ported to SURAgrid and used to test Hybrid MPI-OpenMP implementation on IBM P5 machines. The initial research is complete and some additional research may be pursued later. There are two applications in the process of being ported to SURAgrid: HU Tokamak Divertor Maps and NCAT ab initio Structure Prediction. Two new application descriptions were submitted: UAB-R, a biostatistics tool, and Florida International University Weather Research and Forecasting (FIU-WRF). Coordination to match them to SURAgrid resources is underway.

There was a discussion of performing an inventory of application software tools. Linda Akli drafted an email and asked some of the SGC members to review to get feedback before sending it out. The concept behind the email is to get information from resource providers on what is available. Puri Bangalore mentioned that he had a student developing a registry tool that would compliment this effort. The registry could drive a display at the SURAgrid portal to assist researchers in knowing more about the tools and services available in SURAgrid and on specific clusters.

Funding and Corporate Partnership Report Gary Crane, SURA

Gary provided an update on the current funding activities, including the submission of a NSF STCI proposal lead by Warren Smith at TACC, and a NSF REU SITE proposal lead by Art Vandenberg at Georgia State. Both proposals included SURAgrid community members and infrastructure components as key elements of their proposals. Gary updated us on the Microsoft/SURAgrid collaboration. Norfolk State University is participating in the *SURA Microsoft Bioinformatics Pilot project* - providing a Dell cluster for the work. NSU implemented the Windows Compute Cluster Server system CCS2003 and is migrating to the HPC2008 cluster operating system with web services. The upgrade to the HPC2008 enables communications between Windows and Globus systems. NSU and UKY's contribution is opening the potential for expanding SURAgrid to include Windows-based clusters.

While overall funding environment is rather depressed, Gary and Mary Fran Yafchak are continuing the SURAgrid Funding Working Group in which various NSF, NIH and other funding opportunities are reviewed and teams of SURAgrid community members identified who have an interest in submitting proposals that incorporate aspects of SURAgrid.

Strategic Plan Introduction Art Vandenberg, GSU & John-Paul Robinson, UA
(http://www.sura.org/programs/docs/SURAgridStratPlan2Oct2008.pdf)
The Strategic Plan overview was presented as an introduction to **working the plan**. The Strategic Plan included a rather detailed context based on national cyberinfrastructure initiatives and specific SURA region elements. Goals and Milestones were reviewed with the concept of working groups as vehicles to "work the plan."

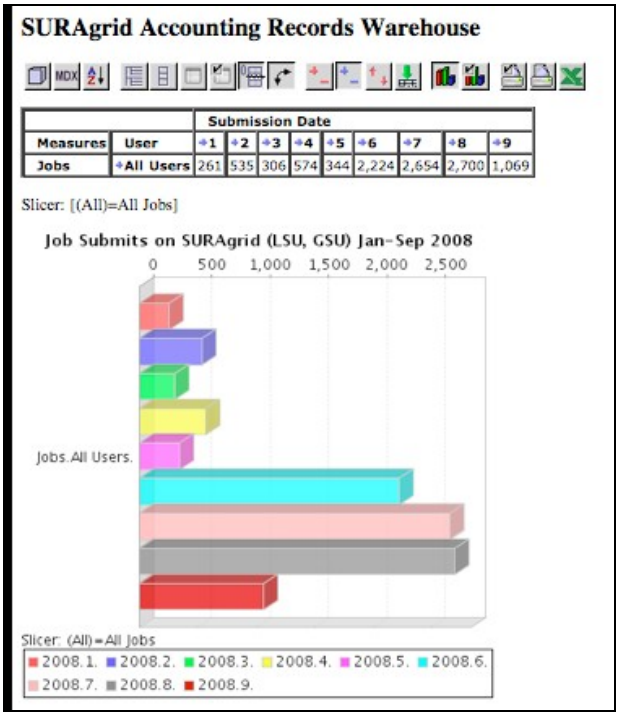
Working Group Reports

- SURAgrid Working Groups Overview Steve Johnson, TAMU
  (http://www.sura.org/programs/docs/Fall08WGreport.pdf)

- Accounting Working Group Report and Portal Demo Dali Wang, SURA & Jaro Klc, GSU
  Accounting Portal Twiki (http://pyxis.gsu.edu/twiki/bin/view/ResearchComputing/SuraAccounting)

  Dali Wang provided a status of prior working group activity: defining a SURAgrid Accounting record schema, based on Usage Record Working Group XML Schema definition (GFD.98) © Open Grid Forum (2006-2007), and implementing initial scripts for converting accounting records to the XML schema. Jaro worked with Steve Brandt of LSU to collect initial LSU and Georgia State accounting records from their respective IBM System p575 LoadLeveler records.

  Jaro presented a demo (using vClass, see below in Collaborative Workspace notes) of the in development SURAgrid accounting data portal (http://pyxis.gsu.edu:8095/mondrian/index.html) that implements a Mondrian (http://mondrian.pentaho.org/) instance to expose the usage records, using jpivot to "slice and dice" the data cube.



e" the data cube.A TWIKI site is set up that would provide SURAgrid site admins with a mechanism of upload their records such that they are stored in a data cube.

Jaro identified some work that needs to be done to enhance the initial accounting data schema – most importantly:

- Mapping systems to institutions in the accounting record specification.
- Mapping users to institutions in the accounting record specification.
- Providing Total Time in addition to Wall Time.

- Gridway Working Group Report — Puri Bangalore, UAB

- Access Management Working Group — *Moderator*: Jim Jokl, UVA
  Use Case Studies by ODU, TAMU, UAB, UMich

SURAgrid Collaborative Workspace — ***Moderator:*** **Linda Akli, SURA**

Two collaborative tools were used during the meeting.

For the Accounting Working Group presentation and portal demonstration, GSU's VClass was used. Via VClass we could see the Jaro's desktop. Features not used included a chat feature, audio (which can be used instead of the conference bridge), display of class participants who have video cameras, and interactively adding text and drawings to a whiteboard. Names of participants appear, votes can be taken, and participants can raise their hands to get the presenters attention.

For the OSG Grid-to-Grid Integration presentation, Clemson's Webex service was used. It was very similar in function to VClass. Tools like VClass and Webex allow desktop sharing, whiteboard functions, and the ability to record or capture sessions.

Additional tools presented and discussed included the following.

1. WIKIs were favored by several participants as a useful community tool. John-Paul Robinson pointed out that the key to a successful WIKI is an information champion. Additionally it was recommended that information needs to be moved from the TWIKI into final release format and this process needs oversight. WIKIs may be best organized by working group where there is a strong and immediate need for collaboration and information sharing. WIKI tools suggested for further investigation and experimentation included MediaWiki which is in use at UAB and TWIKI.org which is in use at GSU.
2. Alan Sill recommended looking at CERN's HyperNews as an example of a tool with a good interface that supports both email and web interfaces; thus, allowing the user to select from information push or pull options.
3. Gurchuran of RIT presented their Collaboration Grid and the use of HDTV across their campus and with International locations.
4. AccessGrid was suggested but not reviewed during the discussion.

In summary, Linda suggested we experiment with the various tools over the next 3 to 6 months in support of the SURAgrid monthly calls, working group activities, and the SURAgrid Governance Committee. We invited any SURAgrid member that has tools to offer them for a call or meeting during this time. John-Paul Robinson is going to set up several SURAgrid working group WIKIs at UAB. Linda will make sure the tools show up on the working group page that is going to be added to the SURAgrid web pages.

Through this experimentation process we can evaluate the usefulness of the tools for the variety of communication needs that exist in the SURAgrid community. This topic will be revisited at the next All Hands meeting and as part of the SURAgrid Strategic Plan goal for the development of a communication strategy.

Friday 10/3/08

SGC SURAgrid Strategic Planning

Preparation: Read the plan available at http://sura.org/programs/sura_grid_gov.html.

Grid to Grid Integration — Gary Crane & John-Paul Robinson

Special Presentation: OSG Case Study — Jill Gemmill, Clemson University
(http://www.sura.org/programs/docs/2008-10-OSG-SURAGRID.pdf)

There are multiple ways for the Open Science Grid and SURAgrid to collaborate.

1. *Through the current initiative being funded by their recent NSF CI-Team award, engagement partners program and engagement virtual organization has two thrusts: building infrastructure through identifying new campus resource providers and assisting researchers with applications that can make use of OSG resources. SURAgrid can assist OSG with the identification of SURAgrid institutions that would benefit from joining the Engagement VO.*
2. *Another way to collaborate is to become Partner Grids. How partner grids connect, share, and operate is to be determined. OSG is willing to explore this option with SURAgrid.*
3. *The last option that has been discussed previously is to become an OSG Virtual Organization.*

Some of the issues raised during the discussion included concerns over the software stacks. OSG's implementation of the stack requires the monitoring options. The estimate of a half staff year to support participation in OSG as a resource provider becomes significant for many organizations when this is added to existing responsibilities. Some scenarios were discussed included a managed gateway for the gird-to-grid scenario. This raised a discussion of identity/account management and the approach that the OSG VOM Server would be a client of the SURAgrid LDAP.

For a Grid-to-Grid Partnership, both OSG and SURAgrid are going to need to negotiate changes. One proposal for consideration is that OSG becomes a SURAgrid member and SURAgrid becomes a member of OSG. Then a joint working group would be established to work out the technical and policy details.

SURAgrid Strategic Plan: Plan to Action — **Art Vandenberg & John-Paul Robinson**

Below is the summary of the Strategic Plan Milestones alignment and identification of SURAgrid working groups and leadership - - -

***Goal 1 – Milestone 1: Identify Two New Collaborative Research projects**. – After discussion of GPU, there was clearly interest from a variety of institutions and in the region. So a GPU Working Group was formed with Dali Wang (SURA), Mike Sachon (ODU), and David Chaffin (TTU). Since the meeting David McNabb and Ronald Kasl of UMD expressed interest in participating in this group. Dali Wang has established a listserv for the group and will proceed with the initial organization of this group.*

***Goal 1 – Milestone 2: MSI Outreach** – Art Vandenberg, Linda Akli, and Nicole Geiger will work on this together to build upon the current outreach efforts that are active within SURAgrid.*

***Goal 2 – Milestone 1: Establish an Infrastructure Working Group** – An infrastructure working group still needs to be established, but one activity that falls under this goal is relationships with other grids. Volunteers for a SURAgrid Strategic Grid Relationships working group included Alan Sill, John-Paul Robinson, and Gurcharan Khanna. This working group will investigate and recommend a course of action for pursuing relationships with CAbig, OSG, and TeraGrid.*

***Goal 2 – Milestone 2: SURAgrid Inventory** – Volunteers for this included Saravanaraj Duraisamy and Ennis Afghan with guidance from Art Vandenberg and Puri Bangalore.*

***Goal 3 – Milestone 1: Establish a Public Relations Working Group** – Volunteers for this included John-Paul Robinson and Alan Sill.*

***Goal 3 – Milestone 3:** Additional discussion around the collaborative workspace development included John-Paul Robinson offering a Confluence WIKI resource for use by SURAgrid working groups which he*

will synch with the SURAgrid LDAP for identity management. Other tools that will be considered include CERN Indigo. Additionally, SURAgrid will continue to experiment with tools for meetings and con calls including VCLASS, Webex and other services. See discussion on the Development of the SURAgrid Collaborative Workspace for additional details on activities related to this milestone.

***Goal 4 – SURAgrid Sustainability** – Gary Crane will work with a subset of the SGC on developing a SURAgrid sustainability model.*

***Goal 5 – Milestone 2: New Partnerships** – A working group that will focus on biomedical partnerships composed of Alan Sill (TTU), Gary Crance (SURA), John-Paul Robinson (UAB), and maybe Tim Miller (WFU). Discussion on this included large organizational partners and MD Anderson, proton therapy modeling application, some work at Norfolk State University's Biomedical Center for Biotechnology and Biomedical Sciences, Universityof Miami and several others.*

Participant List SURAgrid All Hands Oct. 1-3, 2008

In Person Participants:

Organization	Name
University of Alabama, Birmingham	John-Paul Robinson
University of Alabama, Birmingham	Puri Bangalore
Georgia State University	Art Vandenberg
University of Kentucky	John Connolly
University of Kentucky	Vikram Gazula
University of Maryland	David McNabb
Old Dominion University	Mike Sachon
Rochester Institute of Technology	Gurcharan Khanna
Stephen F. Austin State University	PR Blackwell
SURA	Linda Akli
SURA	Gary Crane
SURA	Dali Wang
Texas A&M University	Steve Johnson
Texas Tech	Alan Sill
University of Virginia	Jim Jokl
Wake Forest University	Timothy Miller

Remote Participants:

Organization	Name
University of Alabama, Birmingham	Christie Bellah
University of Alabama, Birmingham	Poornima Pochana
Clemson University	Jill Gemmill
Georgia State University	Victor Bolet
Georgia State University	Nicole Geiger
Georgia State University	Jaro Klc
Hampton University	Barbara Tibbs
Old Dominion University	Mahantesh M Halappanavar