OSG User Support & Campus Grids

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OSG Area Coordinator's Meeting, **August 17, 2016**

Open Science Grid

In brief (from 4/13; updated 6/22)

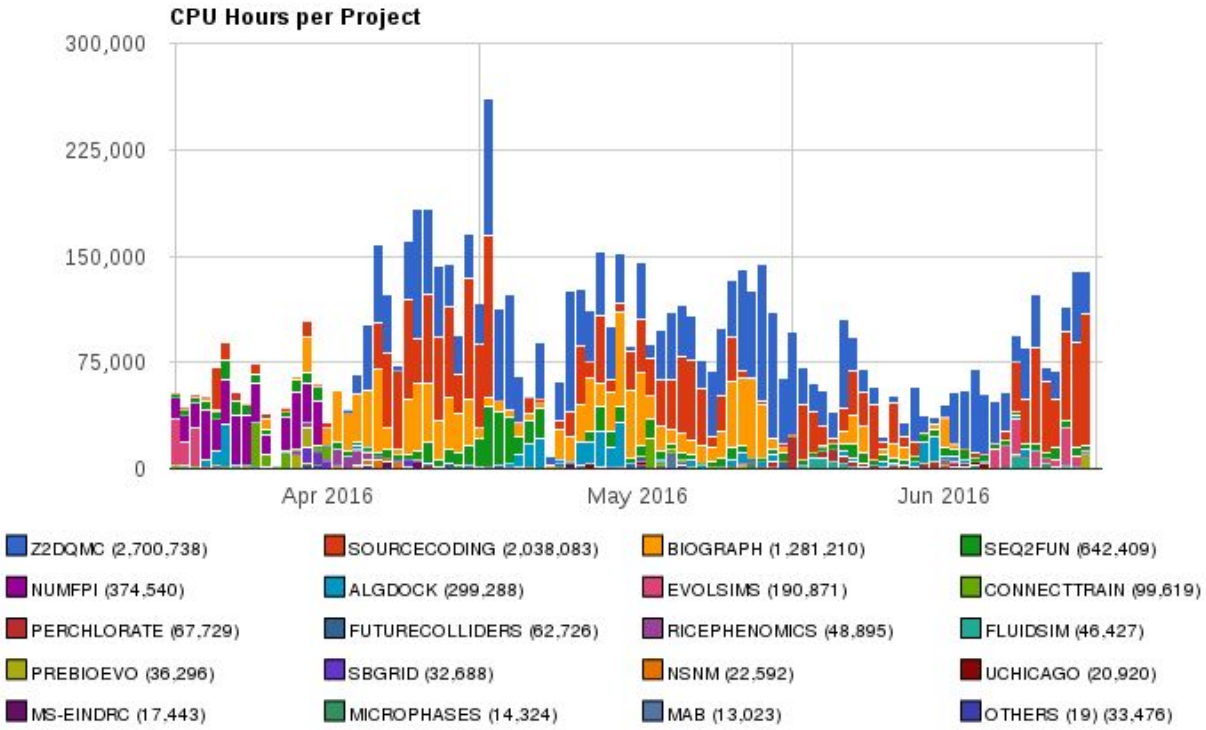
- Overall things are humming along fine given the available manpower & scope
  - A steady stream of user support requests are handled daily
  - Streamlined ticket system policies and expectations
  - Deep engagements with Xenon1T and soon South Pole Telescope **(both, going well!)**
  - New FreeSurfer execution service - v.1 rolled out, v.2 in the works
  - New user software in OASIS modules
  - Several requests for CC* proposal involvement
  - New submit host to handle training accounts (Italy, Africa)
  - Discussing liason & coordination XSEDE 2.0 campus engagement facilitators
  - Local scratch space on OSG Connect submit hosts
- No significant risks or issues given current scope

OSG VO: 3 Months (Apr-Jun)

	Active Projects (4/15-6/15)	Active Projects (4/16-6/16)	Total Wall Hours (4/15-6/15)	Total Wall Hours (4/16-6/16)
OSG Connect	31	45	2,771,316	17,848,847
XD Login + OSG Direct	29	30	29,996,289	23,061,721
UChicago CI Connect[1]	4	4	30,635	2,248
Duke CI Connect[2]	2	5	326,001	1,275,131

1. Expect to increase as Xenon1T and SPT ramp up
2. Episodic usage from glass dynamics group (Chemistry), Duke Physics (Bass)

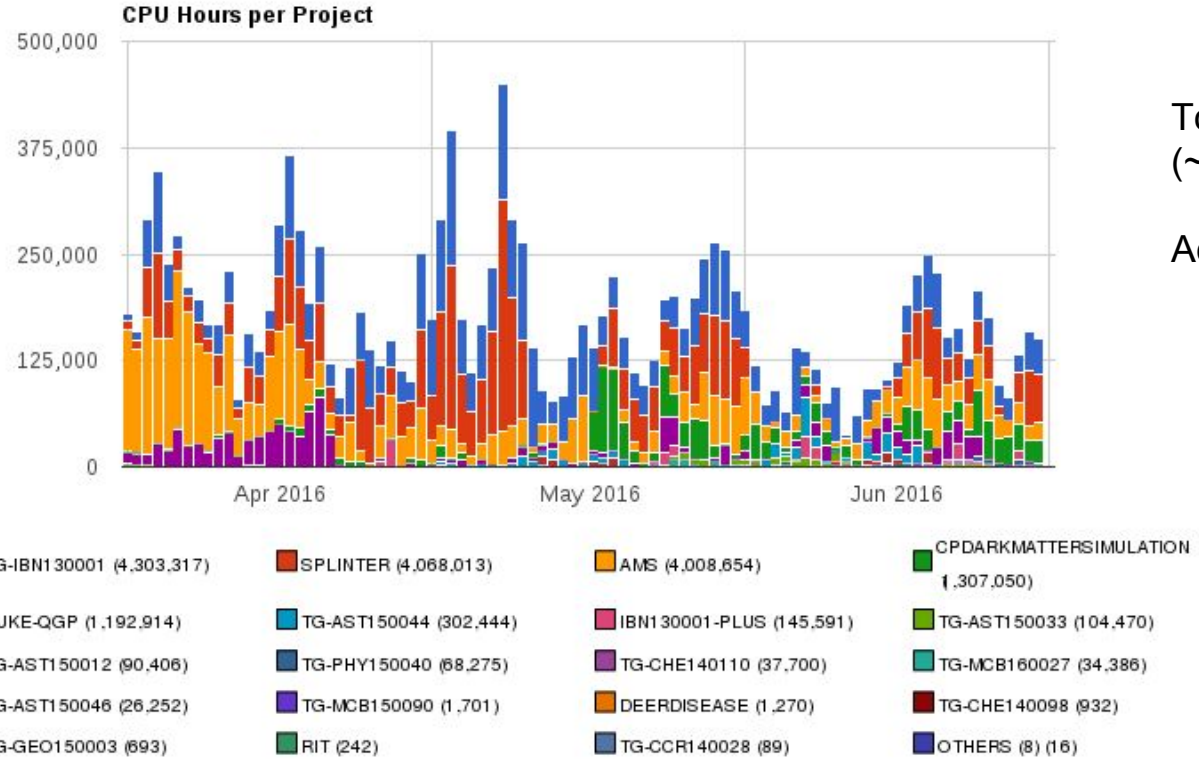
OSG Connect: 3 Months (Apr-Jun)



Total wall hours = ~19 Million
(~6 Million Wall Hours/month)

Active projects = 45

XD + OSG-Direct: 3 Months (Apr-Jun)



Total wall hours = ~23 Million
(~8 Million Wall Hours/month)

Active projects = 30

NSF 16-567 CC*

The Campus Cyberinfrastructure (CC*) program invests in coordinated campus-level cyberinfrastructure (CI) components of data, networking, and computing infrastructure, capabilities, and integrated services leading to higher levels of performance, reliability and predictability for science applications and distributed research projects. Learning and workforce development (LWD) in CI is explicitly addressed in the program. Science-driven requirements are the primary motivation for any proposed activity.

CC* awards will be supported in seven areas:

1. Data Driven Multi-Campus/Multi-Institution Model Implementations awards will be supported at up to $3,000,000 total for up to 4 years.
2. Cyber Team awards will be supported at up to $1,500,000 total for up to 3 years.
3. Data Driven Networking Infrastructure for the Campus and Researcher awards will be supported at up to $500,000 total for up to 2 years.
4. Network Design and Implementation for Small Institutions awards will be supported at up to $400,000 total for up to 2 years.
5. Network Integration and Applied Innovation awards will be supported at up to $1,000,000 total for up to 2 years.
6. Campus Computing awards will be supported at up to $500,000 for up to 3 years.
7. Innovative Integrated Storage Resources awards will be supported at up to $200,000 for up to 2 years.

NSF 16-567 Campus Cyberinfrastructure

“Each proposal should describe its approach to sharing the proposed computing resource (1) across the science drivers and researchers at its institution; (2) how the resource will be accessed by external research groups; and (3) how the resource will be integrated with national or regional activities, broadly defined.”

NSF 16-567 Campus Cyberinfrastructure

“Proposals should include in their plans putting in place PerfSonar-based network performance measurement capability to initially measure achievable end-to-end network performance for scientific data flows between the resource and relevant end points of researchers.”

CC* - How can OSG help?

- We can provide software and services that allow you to share your resources with a specific set of other institutions, or the nation at-large. Who you share with is entirely under your control.
  - In some cases OSG can host these services on your behalf
- We can provide software and services that allow your scientists access to shared resources at a specific set of other institutions, or the nation at large. Whose resources your scientists access is under the control of the scientists, once enabled by you and us.
- We can help you with your perfSonar configuration - to include in mesh testing with other universities and archival of measurements for troubleshooting

XSEDE Campus Champions & OSG

- Met with Dana Brunson (VP Research Computing at Oklahoma State and new Champions coordinator) at XSEDE16 to discuss communication for campus issues
- OSG User Support-Campus Grids will regularly attend monthly Champions call henceforth
- Mats, Bala and Rob are on the Champions email list to respond to any OSG related questions
- Discussed scheduling OSG webinars to Champions

Stashcp testing

- Tony Aburaad (summer student) working with lija Vukotic doing systematic load testing
- Goal is to help bring StashCache into production for real users
- Developments to the stashcp client:
  - Improved monitoring and error reporting (retries, code versions, etc.)
  - Correctly handling insufficient local space.
  - Correctly propagating and reporting xrdcp exit codes.
  - Fixed code doing timeouts of slow transfers.
  - Collecting data in elasticsearch for analysis
- Next steps
  - More testing simple stashcp and cache stability and performance
  - StashCache-over-CVMFS

FreeSurfer - FSurf

- FSurf is a service Suchandra developed to provide the FreeSurfer community easy access to OSG - collaboration with Don Krieger
- Current status:
  - Client tool (fsurf) allows users to run standard FreeSurfer workflow
  - Completed internal testing by user support team & Lauren (UWisc)
  - User documentation: http://bit.ly/freesurferopensciencegrid
  - V1 eleased to FreeSurfer community
- Next steps:
  - Implement better monitoring of ongoing and completed workflows
  - Allow users to run customized workflows

Xenon1T Software / Computing

- Ongoing efforts:
  - Setting up OASIS external repository (xenon1t.opensciencegrid.org) to allow collaboration to use deployHQ for software deployment
  - Helping to extend current workflows to use dagman and GFAL2 tools
  - Will install GFAL2 client tools in OASIS/modules
- Completed efforts:
  - Provided scripts for running reconstruction of raw data
    - Used to reprocessing Xenon100 data on OSG (~27TB on Stash) several times from login.ci-connect.uchicago.edu
  - Installed Xenon1T tools (PAX, CAX, HAX) in OASIS

Xenon1T Storage / Data transfer

- Ongoing:
  - Working with collaboration to create Rucio/FTS3 infrastructure to automate data transfers and replication
- Completed Efforts:
  - Providing storage for Xenon100 runs (~30 TB) on Stash
  - Provisioned SRM SE to allow data on Stash to be used by jobs running on OSG
  - Assisting UChicago RCC in setting up and optimizing SRM SE instance for Xenon1T Tier1 center