OSG Update

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OSG Organization

- Organizationally, OSG looks similar to how it did at last update.

  - No new faces in the different area coordinator positions.

- We had a (personal opinion) very positive review this summer with the funding agency.

  - Unfortunately, the funding agency has not released any public summary so I have nothing to share.

About this Update

- I have a few slides per OSG area - all areas, including non-LHC ones.

  - Hopefully this crowd finds the "big picture" useful in understanding where the OSG is going.

OSG Operations

- OSG-run CVMFS service (OASIS) - including repository nodes, Stratum-0, and Stratum-1's continues to function normally.

  - Working with security requirements to be able to replicate egi.eu repos (must be able to forcibly "blank" repos we replicate) on our Stratum-1.

- SLA of all services are being met with no exceptions.

- Only minimal new progress on IPv6 support for central operations services.

- WLCG Accounting: following discussion of correct multicore accounting to APEL. Validation was done internally; .

OSG Activities - Networking

- Sites are deploying perfSonar 3.4.x; this is a major upgrade which - importantly for the OSG - contains a new measurement archive (database) component.

- OSG's OIM software now generates various perfSonar meshes used by our perfSonar sites.

- We are doing acceptance testing of a collector probe for the remote measurement archives.

  - This probe parses a mesh file, queries all the perfSonar instances in the mesh for probe results, and uploads the probe results centrally.

- This results in a central measurement archive with an overview of the mesh's activity (can then power dashboard).

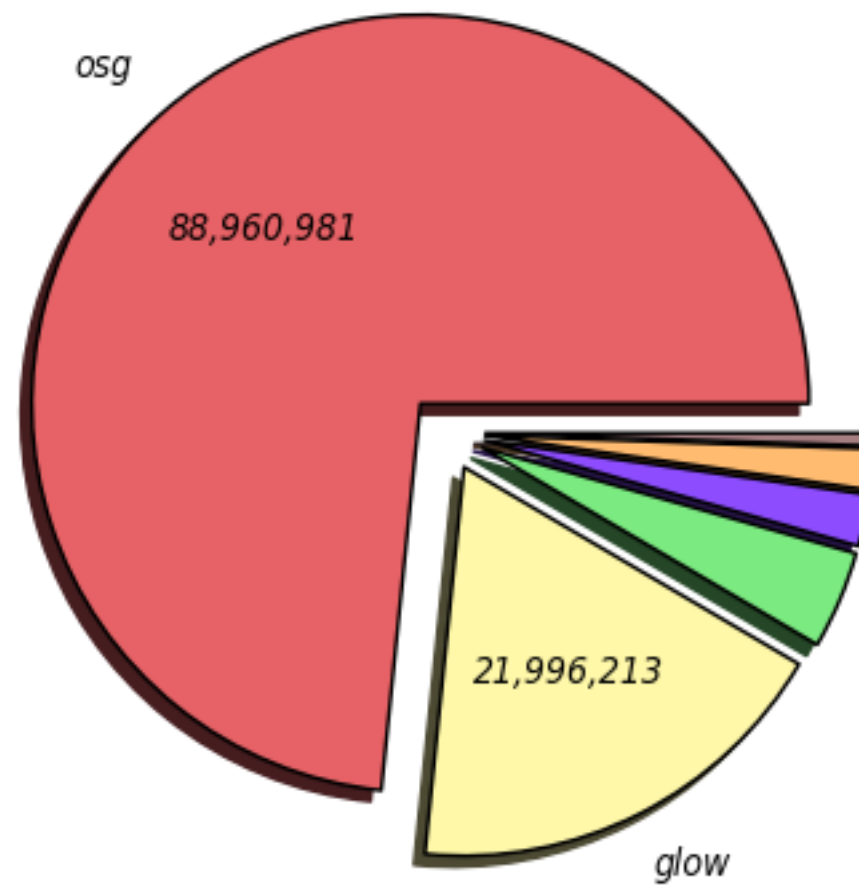 - Plan is that we can keep this data centrally in the database long-term, eventually archiving to tape.

OSG Activities - User Support

- The user support team continues to gain new users through the "OSG-Direct" (users who come to us directly) and the "OSG-XD" (users with computing allocations from the funding agencies) efforts.

- Recently upgraded submit hardware; users are able to get 30k running jobs.

- **Biggest projects**: finding new users, improving our data handling capabilities.

OSG Activities - User Support

We have seen opportunistic usage continue to increase - currently at 120M hours in the last 12 months.

Wall Hours by VO (Sum: 121,212,190 Hours)
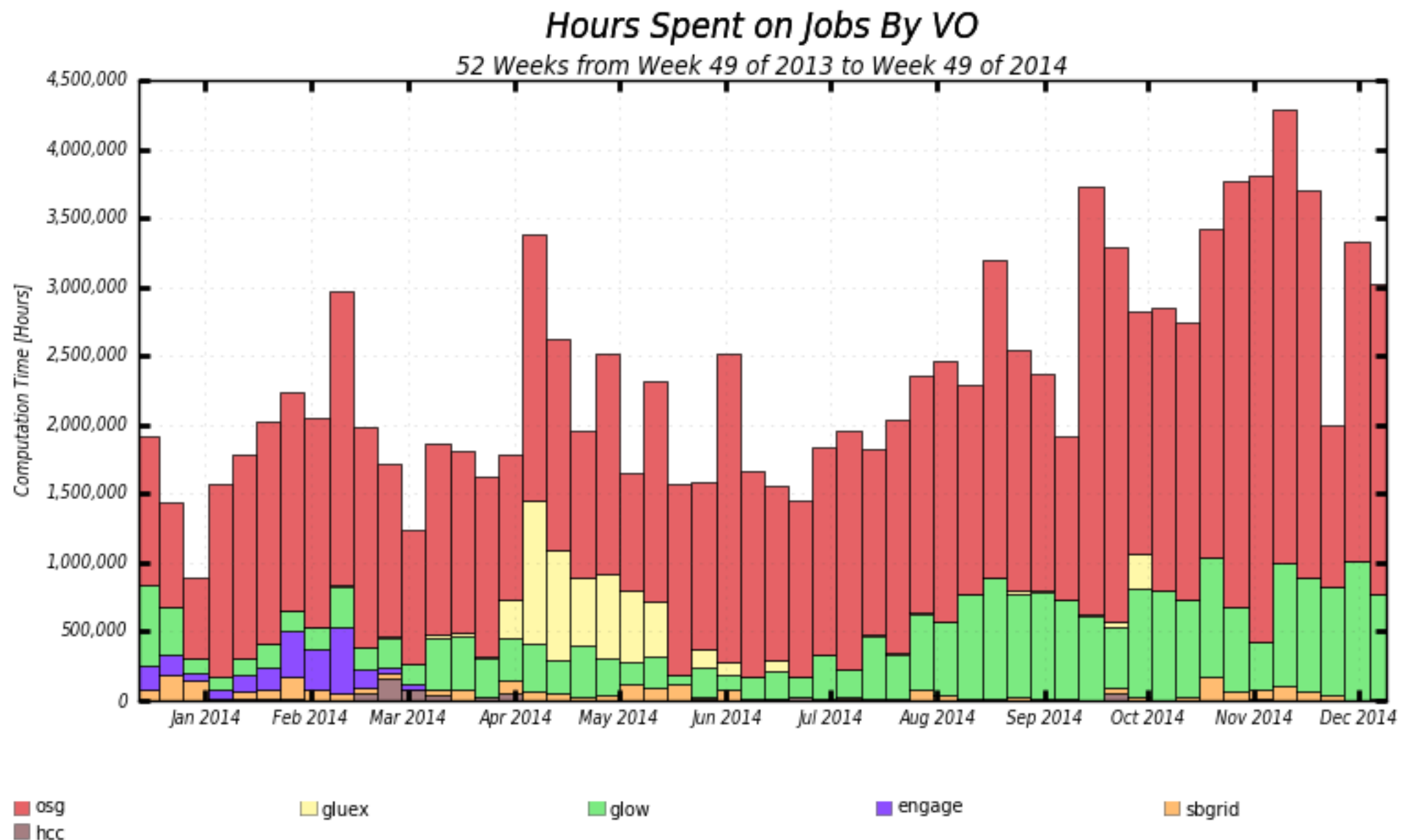52 Weeks from Week 49 of 2013 to Week 49 of 2014

osg
88,960,981

21,996,213

glow

- osg (88,960,981)
- glow (21,996,214)
- gluex (4,941,842)
- sbgrid (2,610,413)
- engage (2,057,497)
- hcc (645,244)

OSG Activities - User Support

Recently, we've been able to reliably hit 3M hours / week.

Hours Spent on Jobs By VO
52 Weeks from Week 49 of 2013 to Week 49 of 2014

Maximum: 4,280,396 Hours, Minimum: 889,783 Hours, Average: 2,331,085 Hours, Current: 3,028,498 Hours

OSG Activities - Campus Grids

- Area focus: How can we easily enable users and campus resources to use High Throughput Computing?

- The OSG-Connect is a hosted service that serves as a lightweight entry point into HTC.

  - Working to allow users to utilize HTC *without* putting their resources on the grid or needing grid certificates.

  - This is about *enabling* capabilities for users, no getting users onto the OSG.

- Developing user training models in conjunction with the "Software Carpentry" workshops.

  - We have a bank of tutorials and how-to guides for using this service.

OSG Activities - Software

- Yesterday we released OSG 3.1.42 and 3.2.18:

  - The OSG 3.1 series is security-updates-only (/etc/vomses updates, CA certificates).

- Significant OSG 3.2 recent updates:

  - **HTCondor 8.2.x** series. In the "upcoming" repository, we now ship 8.3.x.

  - **GUMS 1.4.x**. This series improves user banning, Unix group mapping capabilities (for non-LHC FNAL), and significant performance increases.

    - Will be talking more about these capabilities tomorrow.

  - **HTCondor-CE 1.x**: Refinements and bugfixes found by deployed sites.

  - Usually 15-20 updates per month; too many to list here. The above are just my personal favorites.

- I don't think I've presented it in this forum, but it's worth mentioning (and old news) that all our software is SHA-2 and RFC-proxy compliant.

- Not in release (yet), but we are starting to build RPMs for PanDA and APF.

Software

- We are now in the planning stages for the OSG 3.3 series.

    - Adding EL7 support; considering drop of EL5 support

        - As we grow the number of EL7 builds, we may do a few preview releases.

    - We will significantly reduce the number of RPMs shipped (depend more on EPEL) and amount of software installed.

- Earliest possible date of release - May 2015 (as this would coincide with the end-of-life of OSG 3.1).

Technology - HTCondor-CE

- HTCondor-CE is progressing nicely; our goal is to have all LHC sites converted before Run 2.

  - Currently the default CE for *new* deploys. Upgrades stay with the same gateway (GRAM/HTCondor) they user.

- All USCMS T1/T2 sites have deployed a HTCondor-CE service except one. USATLAS T1 and two USATLAS T2s have also deployed a service.

  - *Note* that not all of these are production services (yet!).

  - Some CMS sites have begun to turn off GRAM. I believe Nebraska and Vanderbilt were the first to do this.

Technology - HTCondor-CE Info Services

- USATLAS requested we improve the information services before they roll out new. We have deployed the first version of the HTCondor-CE info service.

  - Based on a central HTCondor collector at the GOC.

  - Each HTCondor-CE advertises a ClassAd to the collector containing contact and provisioning information.

    - Provisioning can describe the type of resource they want (RequestCPUS=1, RequestMemory=3000, etc) and determine the job transformations needed to the pilot to access such a resource.

      - "To get a node with 1 CPU and 3GB RAM, set xcount=1 and maxmemory=3000."

    - Currently, we ship a small python script to help with the matching.

  - **Important**: This is meant to be information for provisioning services, not monitoring.

  - **Important**: This eschews a queue-based model, although a queue model can be implemented with this.

- Another step toward disabling the interop BDII, which has been a long-standing OSG goal.

Conclusion: OSG is a busy place!
Questions?