

# Technology Investigations Update

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Area Coordinator's Meeting - November 9

# Highlights

- LIGO runs are continuing.
- Seeing production StashCache activity.
- Singularity activity going well.
- GRÅCC: Relatively smooth operations, working on final punchlist.
- BDII retirement is hitting the endgame.
- Writing CHEP papers!

# OSG-Storage

- Seeing consistent, multi-hundred-TB use of the StashCache infrastructure.
  - Still O(5) large users: infrastructure can get very quiet between runs.
  - Extended downtime right now at UChicago for OSG-VO-related components.
  - CVMFS components are quite resilient to individual cache failures.
- StashCP 4.x series deployed by default for OSG VO users.
- CVMFS synchronization was reliable over the holidays.
- Deployed prototype server @ Syracuse for *authenticated* version of the infrastructure. Cache server only serves data to LIGO users!

# OASIS

- Important set of updates occurring early 2017. Most important: remove the remaining RHEL5 component.
- Still looking at ways to improve the end-to-end update latency. Did a technical prototype last year; working on figuring out how to best deploy it.
- Deployed new RHEL7.3-based Stratum-1 at Nebraska.
  - Includes switch to Squid3; hopefully means we can add IPv6 support soon.

# Singularity

- Singularity = container solution oriented toward running inside batch system environments.
- In osg-upcoming as of yesterday! Aiming for OSG 3.4 release (mid-2017?).
  - In current CernVM 4 pre-release (request from LHCb).
- Derek is working with Purdue to utilize an existing install for CMS.
- Next step for Brian: work with Mats / OSG user support to enable singularity on their frontend.
  - Lessons learned on OSG gWMS frontend would translate directly for CMS frontend.
- Contacted largest glxex stakeholder (CMS) to start retirement discussions.

# GRÅCC

- Held a productive GRÅCC F2F last month - first since original design meeting in Feb 2016.
- “Version 1.0 punchlist” is now down to 5 items:
  - Move GRACC-based collector into production (currently in ITB). GRACC-45
  - Add NJobs to summary data & migrate historical job data. GRACC-41.
    - Note one prerequisite was a reindexing of 684M raw records @ 2KHz. Unlike Gratia, we can do major corrections and/or update data.
  - Update Reports. GRACC-37, GRACC-38
  - Clean up some test records. GRACC-40, GRACC-43
  - Finish and deploy archiving component. GRACC-59
- The optimistic schedule is to have 1.0 sometime in February.

# BDII Retirement

- AGIS-compatibility JSON URL is live (<http://collector.opensciencegrid.org/json/agis-compatible>).
  - Corresponding org-configure changes are in the latest production release.
  - BNL upgraded early and published its queues. Not clear what percentage of other ATLAS sites have upgraded.
- OSG long-term goal: eliminate concept of 'queue' and exposing internal site information. Instead, describe resources available and have the CE select the appropriate queue.
  - Continuing discussions with John Hover for next step.
  - **But more important:** finish transition!

# SRM Retirement

- High priority need from T2 sites (CMS & ATLAS): improve LVS / GridFTP documentation from OSG.
  - **Holdover from last time.** Software team is aware of importance.
- CMS T2 sites continue transition. Two completed! Every site is working hard to finish - various levels of progress.
- ATLAS is progressing:
  - 5 sites have transitioned space reporting away from SRM.
  - Three sites moved endpoint to gridftp; two had to rollback due to PanDA pilot bugs (will try again shortly).
  - Three sites report they are waiting on documentation from OSG.



# Authz overhaul

- GUMS is the current default suggested authorization mechanism.
- We would like something simpler & optimize for the new sites, not just the mature sites.
- edg-mkgridmap has a huge number of deficiencies.

# Concerns

- The TODO list for OSG 3.4 remains daunting.
  - The HDFS 3.0 upgrade appears to be most at-risk.
- BDII deprecation & OASIS upgrade will be a race to the finish.
  - Hard deadlines help focus effort though!
- LVS / GridFTP documentation is at risk of being too late to be useful.