Technology Investigations Update

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Area Coordinator's Meeting - November 9

Highlights

- LIGO is ramping up again; again, pushing the technology stack.

- Seeing production StashCache activity.

- Singularity activity accelerating.

- GRÅCC: Relatively smooth operations, still missing historical summary data.

- (BDII retirement) Making progress on getting ATLAS to switched to the OSG Collector for info services.

LIGO Ramp-Up

- LIGO's next observation run starts in the next month-or-so.
- New record: 20k cores utilized across multiple platforms (OSG, Syracuse OG, VIRGO sites in EGI) for PyCBC workflow.
    - BlueWaters is somewhat stalled on their rolling out of Shifter support.
- Additional LIGO pipelines are working on porting to OSG.
    - Preferred route is making pipeline portable across software versions, OS versions, and data locality.
    - OASIS + Singularity + ligo.osgstorage.org (uses CVMFS 2.3.x features) meant to lower the bar for porting pipelines.
- LIGO preferred platform is RHEL7 over RHEL6.

StashCache

- Seeing first simple production users of StashCache:
  - NoVA flux file workflows (via stash.osgstorage.org).
  - The Clemson group in the OSG VO (directly via stashcp).
- The latter was only a semi-success: users got frustrated with too-long “stashcp” timeouts when a cache was overwhelmed.
- Seeing weeks with ~200TB of data access from caches.

Singularity

- Singularity = container solution oriented toward running inside batch system environments.
- Singularity 2.2 release contains all the features we need for OSG adoption.
    - Unfortunately, we've recently run into a kernel bug on RHEL6 (interaction with autofs mounts). Might focus on RHEL7 hosts.
- Allows for:
    - **Portability of environments**. Pick your OS image for the payload (pilot running in RHEL6 can run inside RHEL7).
    - **Isolation**. Prevent payload from interacting with other payloads or pilot.
- Goal: osg-upcoming in December 2016. Part of the OSG 3.4 release (mid-2017?).

GRÅCC

- GRÅCC infrastructure has been running stably - no significant changes there.
- Current important working items to me:
  - Migrating historical summary data.
  - Converting users of the Gratia DB to GRÅCC.
- Continued to receive positive feedback from ET team members on the web interface.
  - Probably more refinement left to go, however…

BDII Retirement

- *Finally* got an updated AGIS-compatibility JSON agreed on by all and in the ITB.
    - Updated osg-configure to generate the additional information needed by AGIS.
    - BNL has deployed updated osg-configure, updated their configuration. Believe we are waiting on feedback from the AGIS team.
- This version could be promoted from ITB to Production; would be nice to get a final thumbs-up first.

SRM Retirement

- CMS T2 sites are “stepping on the gas” for retiring SRM.
    - High priority from the CMS side to get better LVS / GridFTP documentation from OSG.
- ATLAS is a bit “stuck in the mud” with defining a JSON format for space usage reporting.
    - From the outside, it seems that the conversation hasn’t really converged in the last month or so.

Concerns

- Conversion to GRÅCC APIs (e.g., osg-display-data) continues to be behind target.
- Would really like to finish off the AGIS compatibility work.
- Maintaining a fair-share between LIGO and the OSG VO on opportunistic sites.