



Open Science Grid

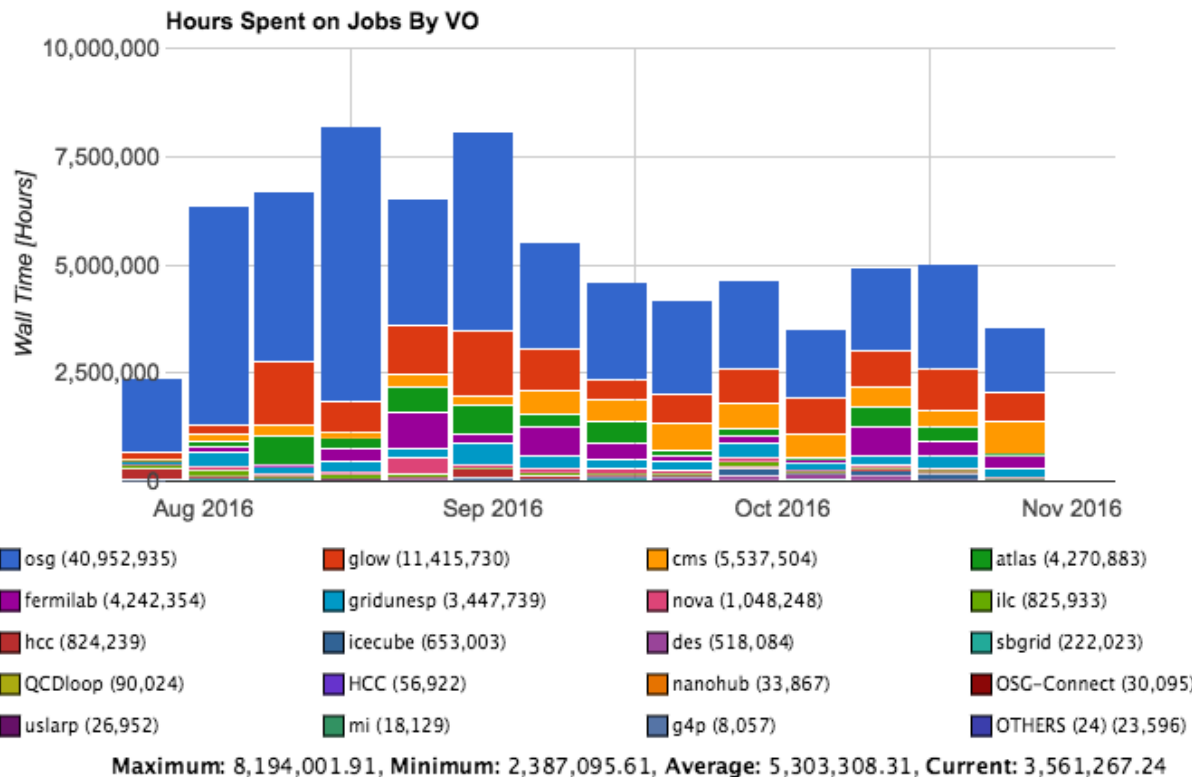
Production Support Report

Ken Herner

16 Nov 2016



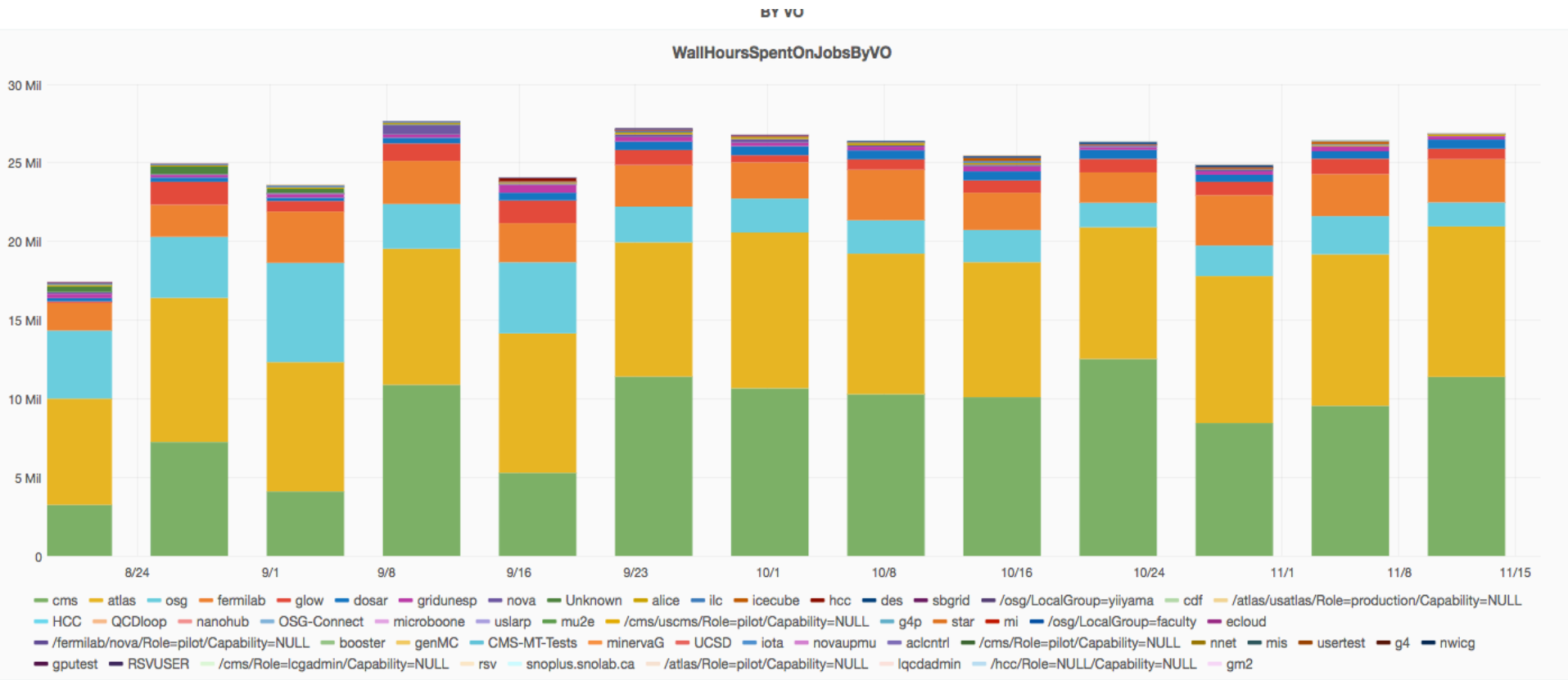
Opportunistic jobs: past 90 days



- Nearly 69M past 90 days (75M hours from 6/14 – 9/14)
- Totals down last several weeks, mostly driven by increased ATLAS and CMS usage (mostly CMS)
- Fermilab accounting issue now fixed
- More on this later



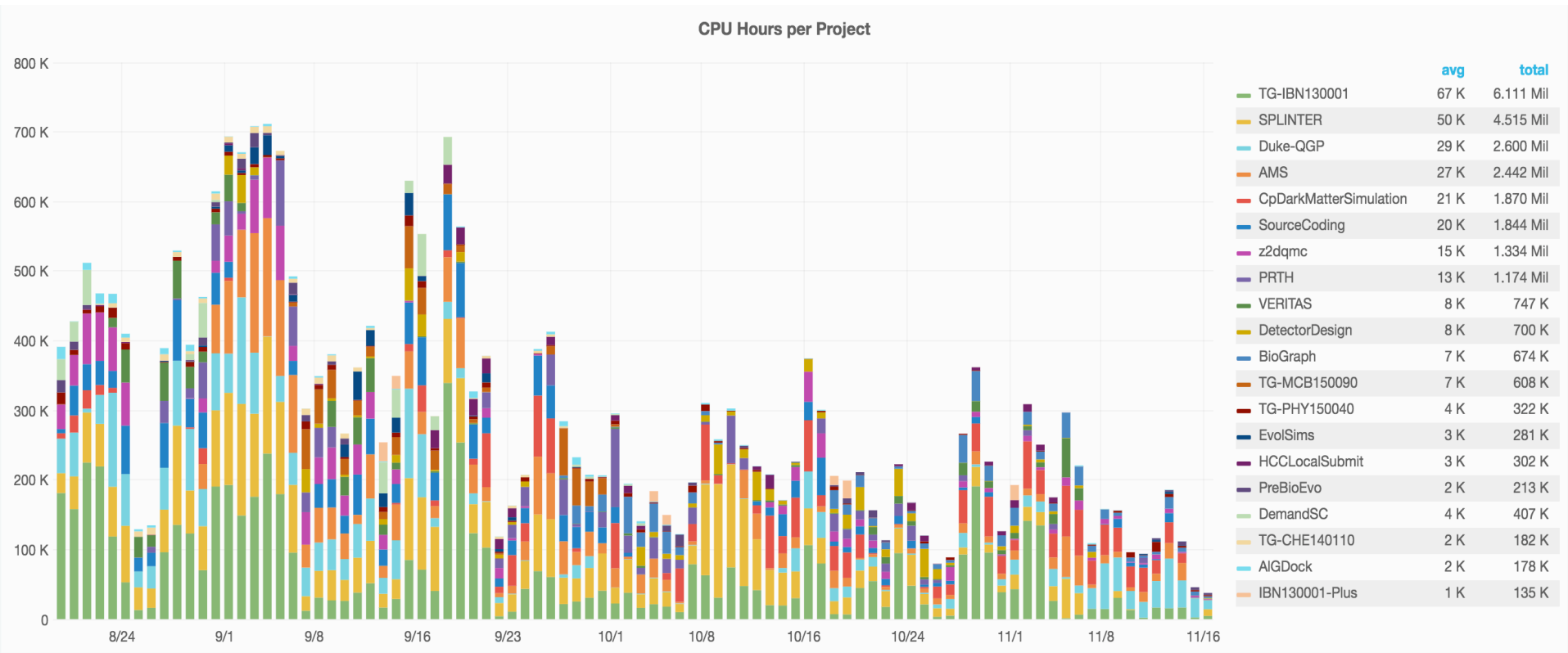
Total hours over 90 days



This is not opportunistic only
Had to exclude GaTech because they
reported 69M CPU hours in one day for LIGO

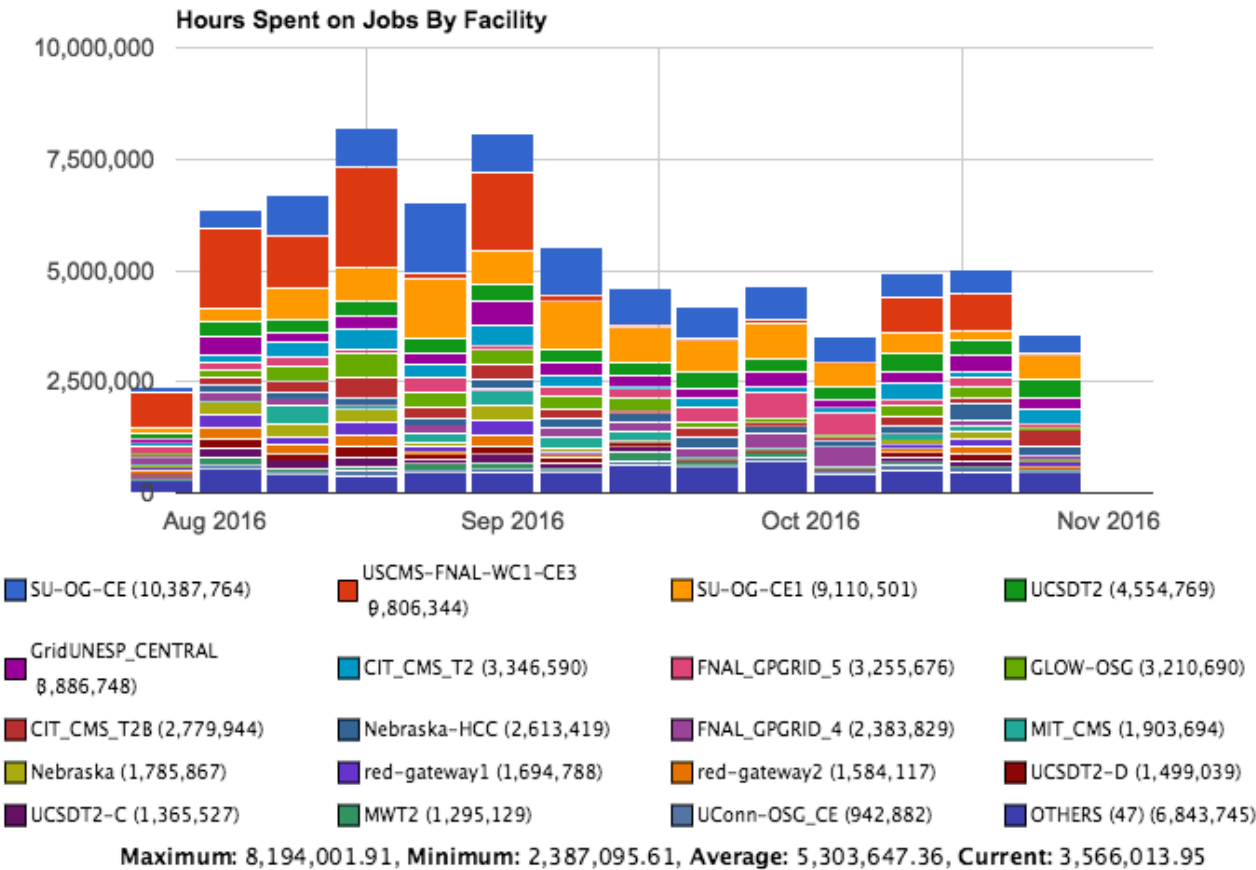


OSG VO at the project level





Top opportunistic sites



- Most of the usual suspects, but overall numbers down in Oct/Nov

Recent progress with new sites

- Stanford
 - Pilots working, jobs going through
 - Had some successful Fermilab jobs
- CENF (Neutrino Platform at CERN)
 - Progress stalled; email in to CENF admins
- JINR
 - Two existing CREAM CEs; using them for WLCG jobs
 - NOvA jobs now running there
 - Need to fix Gratia probe
 - Now setting up third (HTCondor) CE per OSG instructions
 - Will initially be limited to NOvA and STAR



HPC

- MINOS and CMS ~~still attempting to~~ **running** at Stampede
 - Problem seems to be missing globus libraries in requested HTCondor tarballs
 - Solution: make sure globus libraries ship with all versions of HTCondor being requested at Stampede
 - MINOS still adapting workflow but test jobs do succeed
- Opportunistic running on Comet continues
 - still not yet with allocations
- Hopeful to get Stanford GPU cluster up and running in the semi-near future (get rest of site working first)



GPUs

- Tusker (HCC) has nodes with GPUs on OSG
 - accessible via dedicated factory entry
 - Currently in use by IceCube (GLOW) and OSG VOs
 - Fermilab VO now testing. **Several experiments interested.**
- We should also express openness to sites that are willing to share GPUs
 - e.g., new BNL institutional cluster (non-ATLAS) with ~200 GPUs, Stanford
 - Spoke with Alex a few weeks back, sounds like it's not ready yet



FIFE Updates

- NOvA testing StashCache over CVMFS (requires CVMFS 2.2)
 - Focusing on FZU (Prague) in the short term
 - Several sites have upgraded their installations since last time. Should be able to run a more meaningful test soon.
- (not technically FIFE but uses a lot of the tools) DES StashCache instance now deployed
- CVMFS 2.2 rolling out across FNAL clusters now; should lead to increased use of StashCache over time

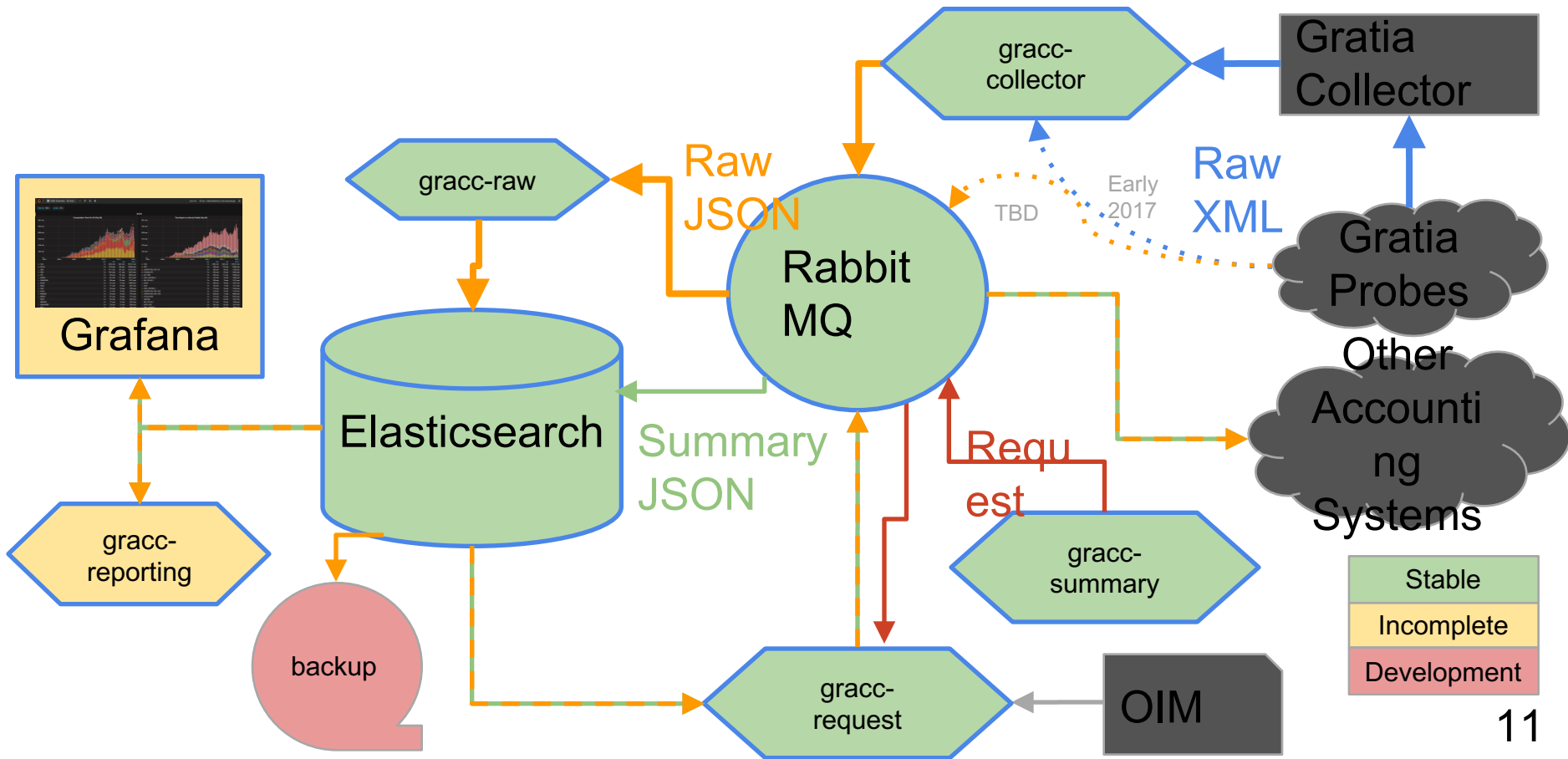


GRACC Status per Kevin

- Poster presentation at CHEP went well, lots of interest in Elasticsearch throughout HEP
- OIM information and name corrections in summary records (GRACC-7)
 - All part of “request agent” processing pipeline
- OSG Display in progress, some hiccups (GRACC-18)
 - Difficulty deploying dev environment
 - Elasticsearch python modules have issues on EL6
 - Transfer database not yet summarized (GRACC-32)
 - Njobs attribute needs to be remapped to integer (GRACC-35)
- FIFE daily production job reports using GRACC are live
 - Shreyas now focusing on OSG reports (GRACC-26)
- GRACC project workshop/hackathon Dec 12-13 @ FNAL
 - Review project status/readiness, focus on knocking out the many “little things” left

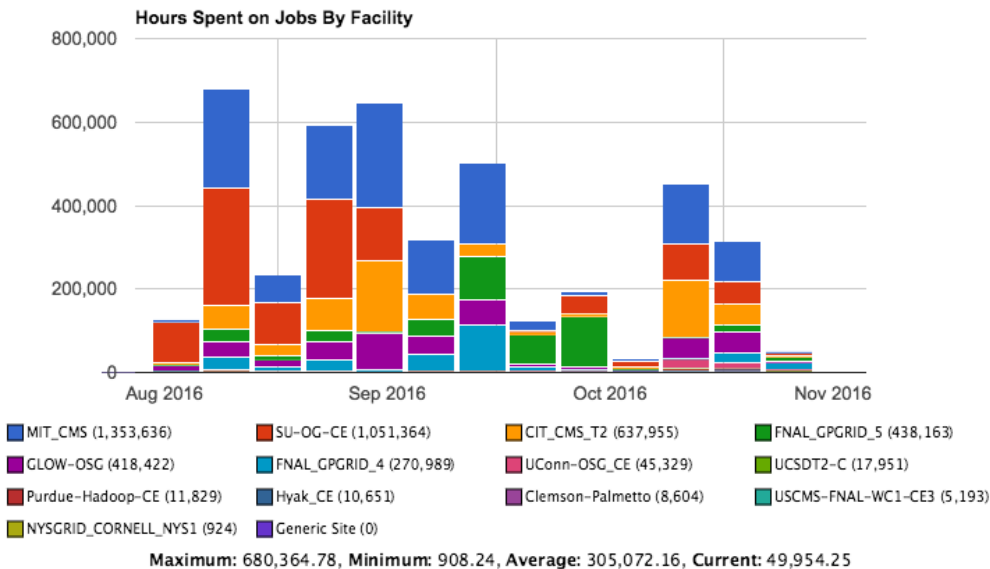


Architecture

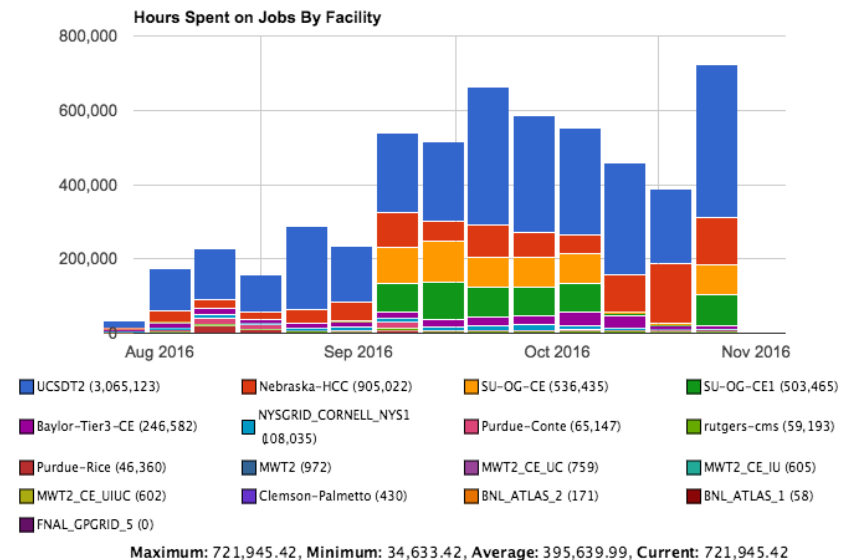


Opportunistic running, Sep. vs. Oct.

- Total hours, all sites, all VOs: 109.4M vs. 115.6M (+5.5%)
- Total ATLAS hours: 36.9M vs. 37.2M (+0.9%)
- Total CMS hours: 34.3M vs. 50.5M (+47.1%)
- **Total OSG VO hours: 16.2M vs. 8.3M (-49%)**
- **Total "opportunistic" VO hours (OSG,HCC,GLOW,SBGrid): 20.75M vs. 11.6M (-44.2%)**



ATLAS Opp Hours past 90 days



CMS Opp Hours past 90 days



Is this the new normal?

- Added ATLAS/CMS use
- Conversations at CHEP indicate that LHC expts do plan to continue increased opportunistic usage for the foreseeable future
- What, if anything, can we do about this? Do we want to do anything?
- Assuming the answer is yes, some random ideas:
 - Continue to add non-LHC computing resources (will do anyway)
 - Negotiate with sites regarding enhanced priority for opportunistic access (e.g. give non-LHC VOs a boost)
 - Work on LHC sites to open up to OSG, GLOW, etc. Most are, but maybe there's some change in the couch cushions...
 - Other ideas?



Plans

- Continue efforts on new sites (LSJU, JINR, CENF, already mentioned)
- Need to also follow up on Utah (BOSCO proxy issue) and Colorado; Rutgers may also come into play later
- Continue to push HPC (e.g. Stampede) and GPU (Nebraska can be a good template)