



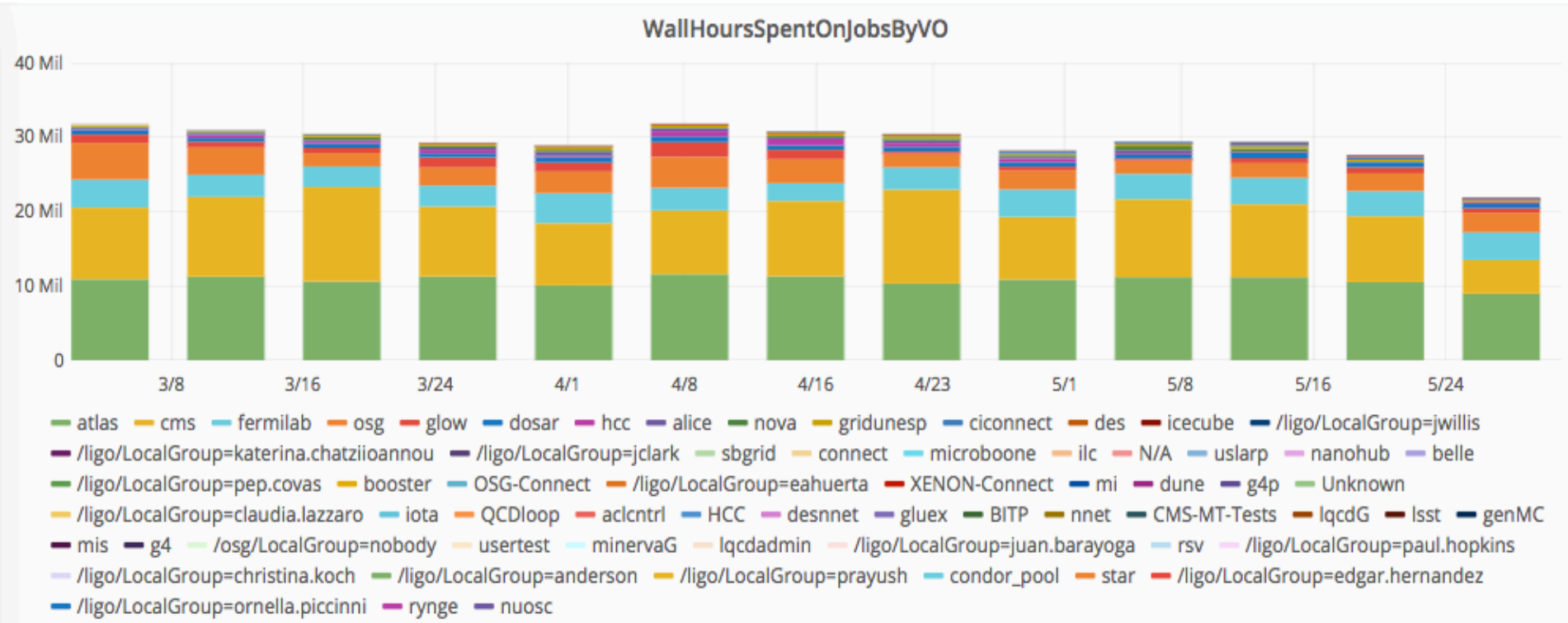
Open Science Grid

Production Support Report

Ken Herner
31 May 2017



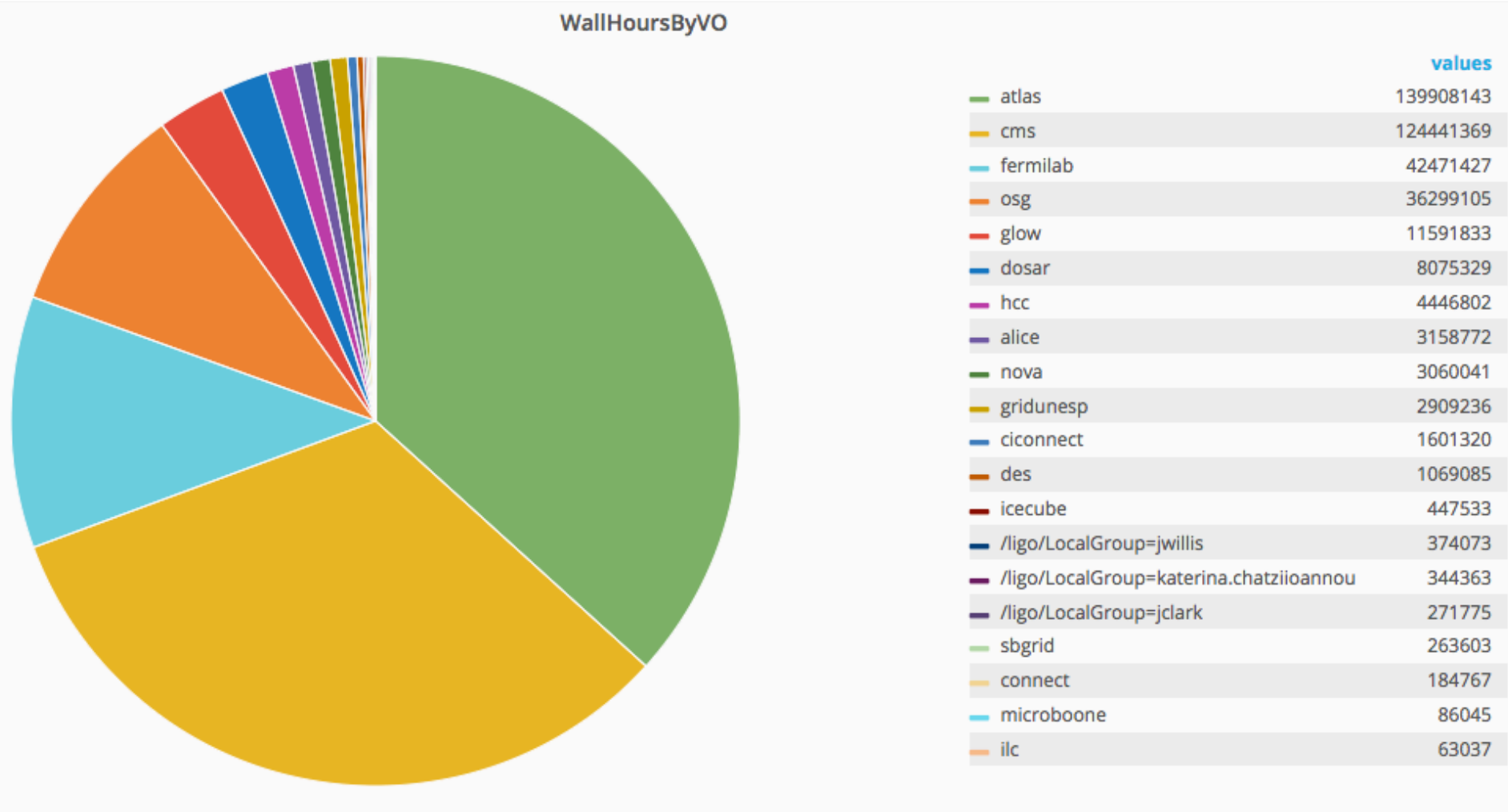
Pilot hours over 90 days



This is not opportunistic only



Pilot hours over 90 days (2)

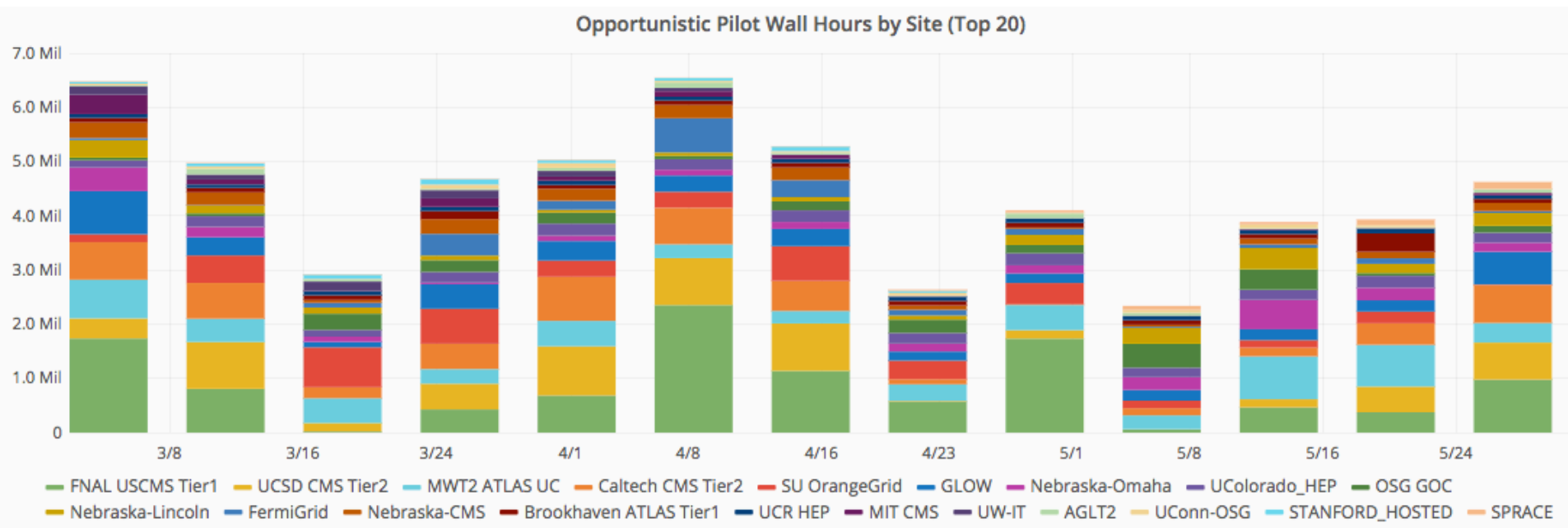


This is not opportunistic only

N.B. Some nova, microboone hours are grouped in Fermilab



Top opportunistic sites



- FNAL USCMS Tier 1 includes hours run by Fermilab VO
- Syracuse had a couple of slower weeks (end of semester?)



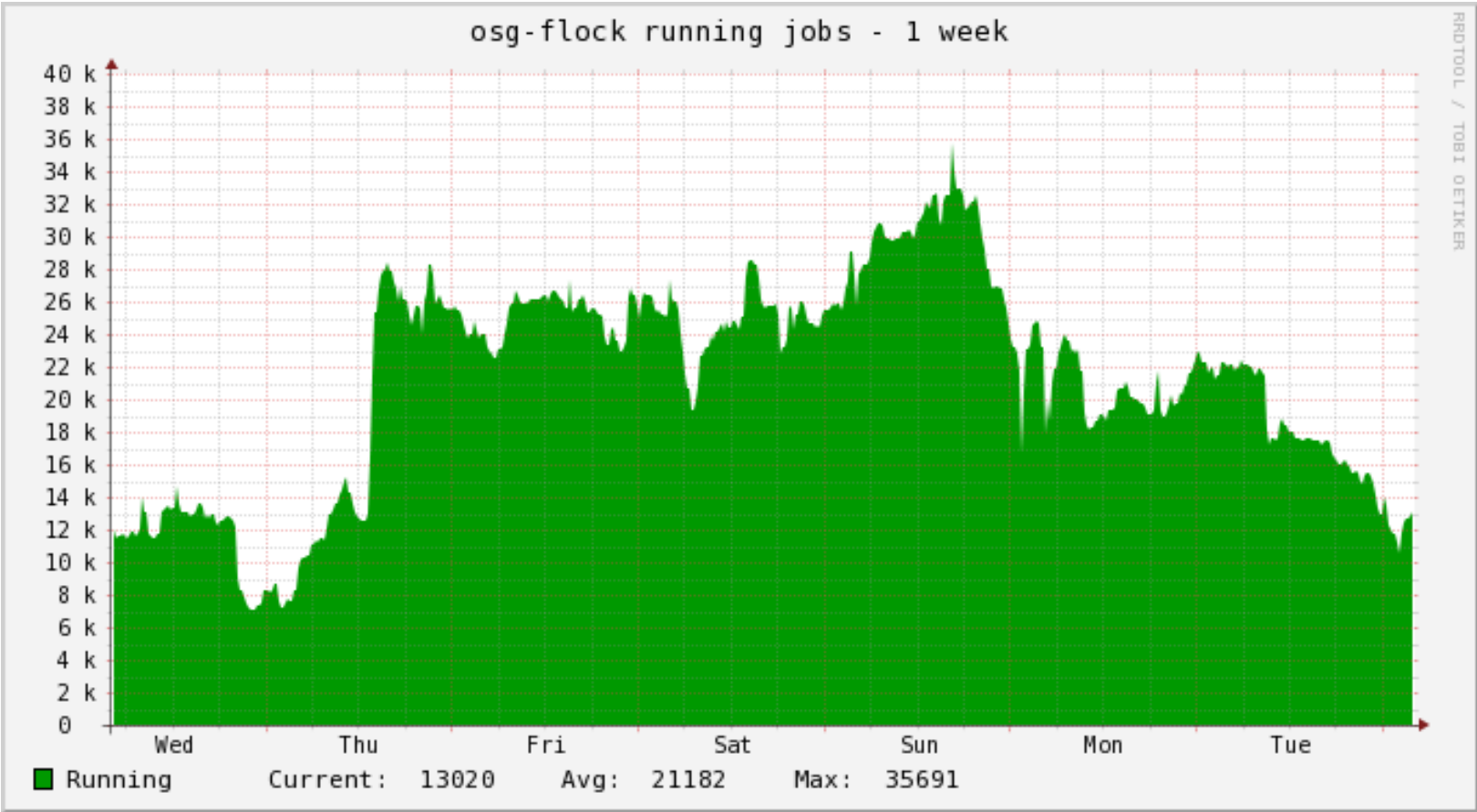
Top opportunistic sites

Top 20 Sites Providing Opportunistic Usage		
OIM_Site	OIM_Facility	Wall Hours ▾
FNAL USCMS Tier1	Fermi National Accelerator Laboratory	11347246
UCSD CMS Tier2	University of California San Diego	5999025
MWT2 ATLAS UC	University of Chicago	5776329
Caltech CMS Tier2	California Institute of Technology	5559419
SU OrangeGrid	Syracuse University	4509684
GLOW	University of Wisconsin	4208856
Nebraska-Omaha	University of Nebraska	2565859
UColorado_HEP	University of Colorado	2478358
OSG GOC	Indiana University	2436935
Nebraska-Lincoln	University of Nebraska	2209224
FermiGrid	Fermi National Accelerator Laboratory	2086415
Nebraska-CMS	University of Nebraska	2075548
Brookhaven ATLAS Tier1	Brookhaven National Laboratory	1373216
UCR HEP	University of California Riverside	962509
MIT CMS	Massachusetts Institute of Technology	943051
UW-IT	University of Washington	763659
AGLT2	University of Michigan	644486
UConn-OSG	University of Connecticut	551452
STANFORD_HOSTED	Stanford University	481609
SPRACE	Universidade Estadual Paulista	465844

- FNAL Tier 1 the top site recently (low CMS demand)



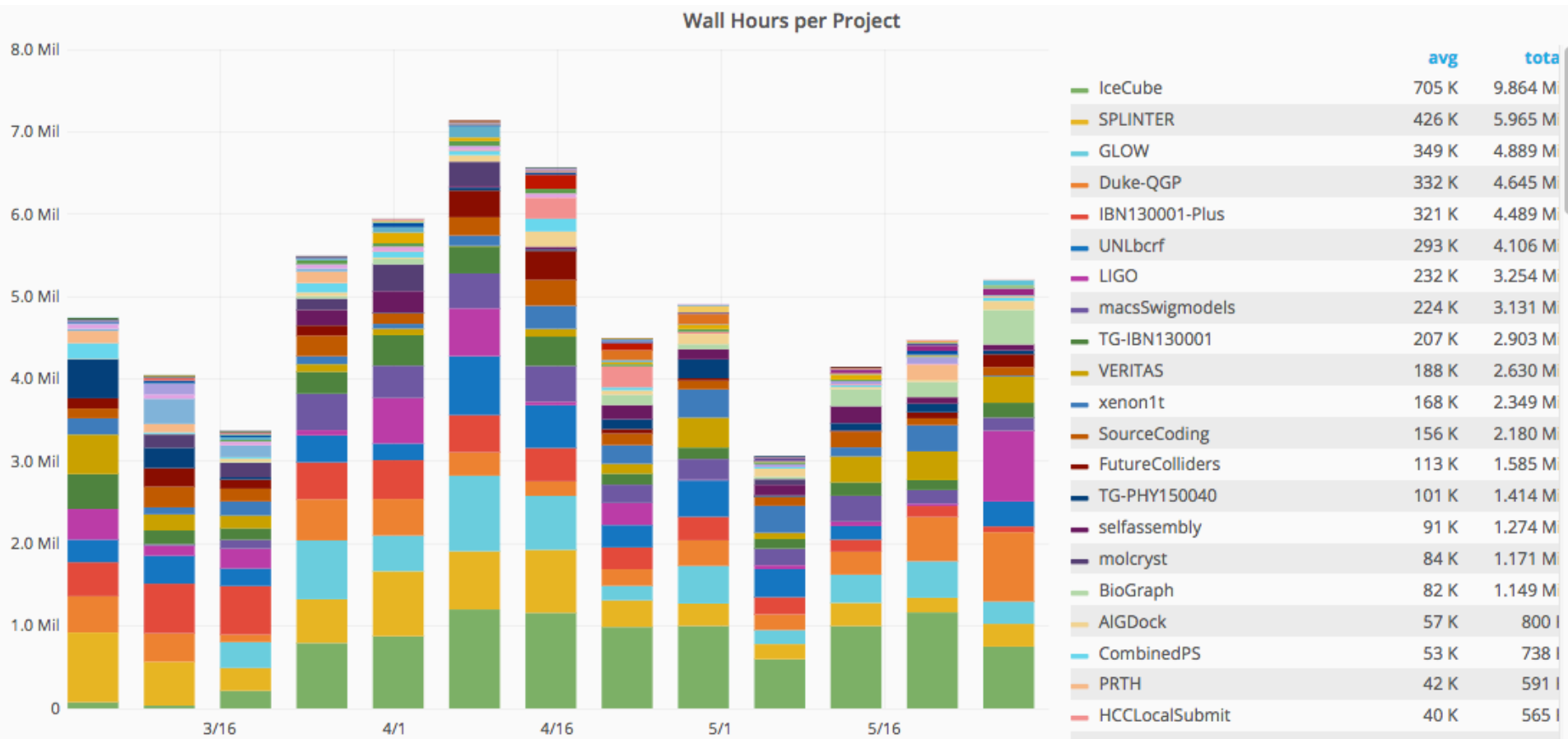
Opportunistic Usage



Reached over 35k flock jobs at peak on Sunday



Projects: past 90 days



IceCube!

For reference: <https://gracc.opensciencegrid.org/dashboard/db/projects-table>



Recent Trends

- Oct-Dec: Downturn in opportunistic resources for OSG, etc. VOs (-40%)
 - Academic year kicks in, affects campus sites
 - (The big factor) ATLAS and CMS putting greater emphasis on opportunistic running
 - **Even though things are better now, still very important to grow the pie and leverage non-LHC sites**
- Some sites are moving to SL7 (at least partially)
 - Some smoother than others
 - Containers gaining a lot of steam recently (a good thing!)

Recent progress with new sites

- DUNE has been pushing to run at more places
 - Since last talk, DUNE has successfully run at Sheffield, Imperial (UK) and FZU (Czech Republic). *2 hours to get running at FZU!*
 - Currently working on the CERN Tier 0
 - CILogon Basic still at issue at a couple of places; may restrict work to production group only for now (OSG CA cert available)
- Was going to work on getting other VOs (Fermilab for example) working Utah, PR, Ole Miss soon, but low demand pushed it to the back burner
- Working with JLab/UConn on a Hosted CE for GlueX; Rob and/or Mats have the latest



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
 - Not looking so good for the new BNL institutional cluster (non-ATLAS) with ~200 GPUs (local use keeps it pretty busy and there are funding questions about opp. use)
 - *Syracuse also has a new cluster; expressed openness to OSG jobs at the AHM*
 - As of HTCondor Week, it was 1-2 weeks away from being open to opportunistic users



Concerns

- As always, opportunistic resources for OSG, GLOW, SBGrid, etc.
 - Righted the ship recently, at least for now
 - EPS rush may not be as bad this year (too late for new data)? Little OSG can do on that front though.
 - Keep growing the pie. I'm hopeful that the Hosted CE can bring some new customers to the table
 - But new customers are coming (e.g. DUNE/protoDUNE, uboone)
- Continue to push HPC (e.g. Stampede) and GPU
 - I need to keep up just enough pressure to not be too annoying
 - Are we missing resources out there? There is pent-up demands for GPUs in particular
- **Concerns about SL7 readiness and site migration too**
 - Containers will largely mitigate that



Summary

- Solid past couple of months
 - Minor issues as always, but better resource availability, adding sites, simplifying software, making good changes for the long run
 - Several new pushes from non-LHC VOs
- Still a few concerns
 - Opp resources OK now; **Must continue to grow the pie!**
 - SL7 marches on w/o a lot of experiments now (container road map makes this a much smaller concern)
- Overall we seem to be in a decent place as far as Production is concerned. Let's keep it that way...
 - Continue to add resources, including new types (GPU)
 - Make the resources easy for VOs to use