



Open Science Grid

Opportunistic Eco-System & OSG-XD Update

OSG Council Meeting

April 11, 2014

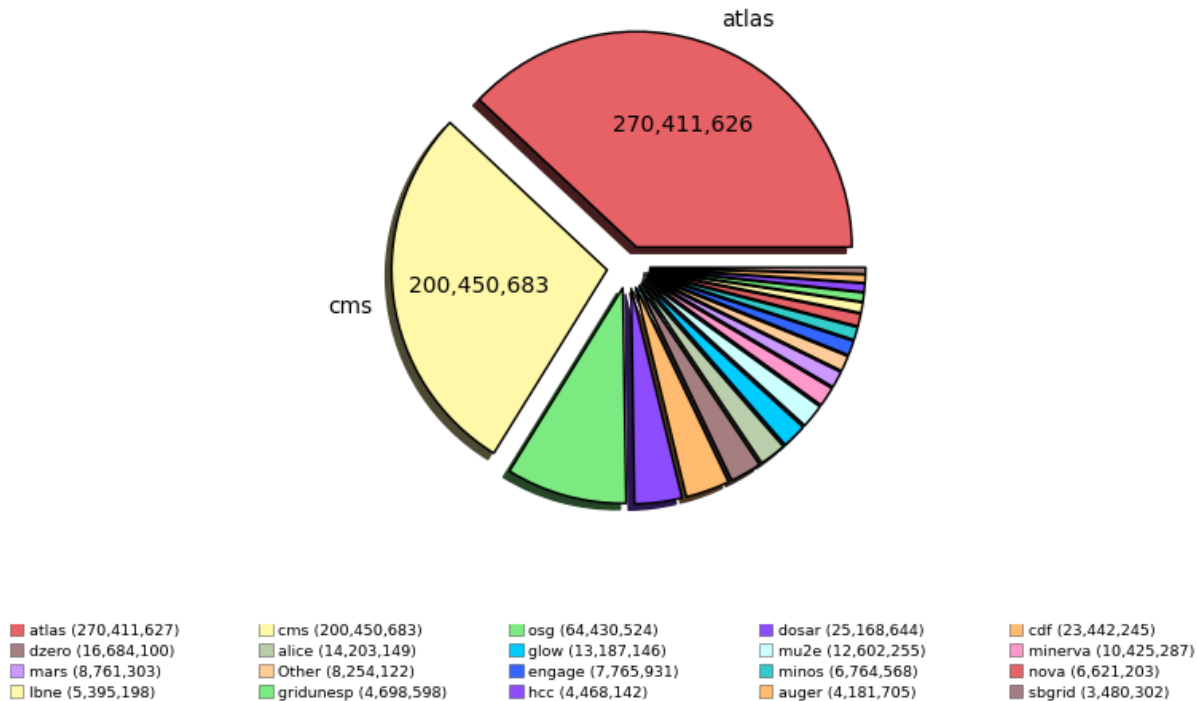
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All OSG Usage

All OSG Usage for 12 months ending 31-March-2014

Wall Hours by VO (Sum: 711,396,733 Hours)
53 Weeks from Week 13 of 2013 to Week 13 of 2014

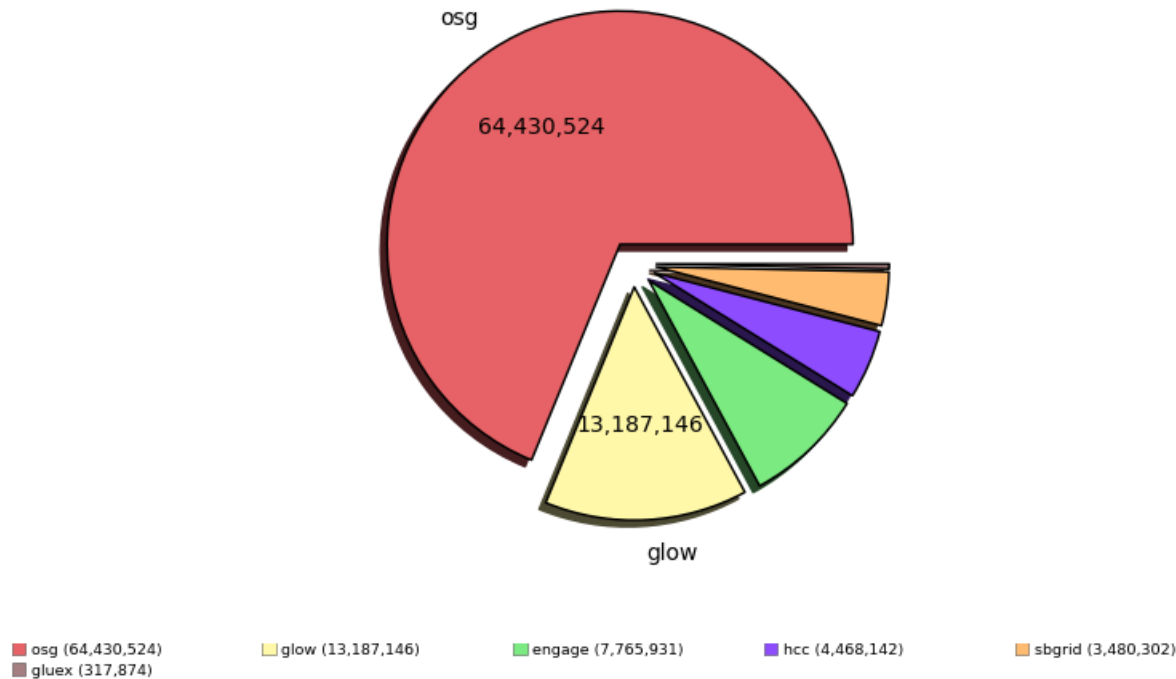


**Some of these VOs access opportunistic cycles
e.g. osg, glow, engage, hcc, sbgrid**

OSG Opportunistic Eco-system

Usage by “opportunistic VOs” for 12 months ending 31-March-2014

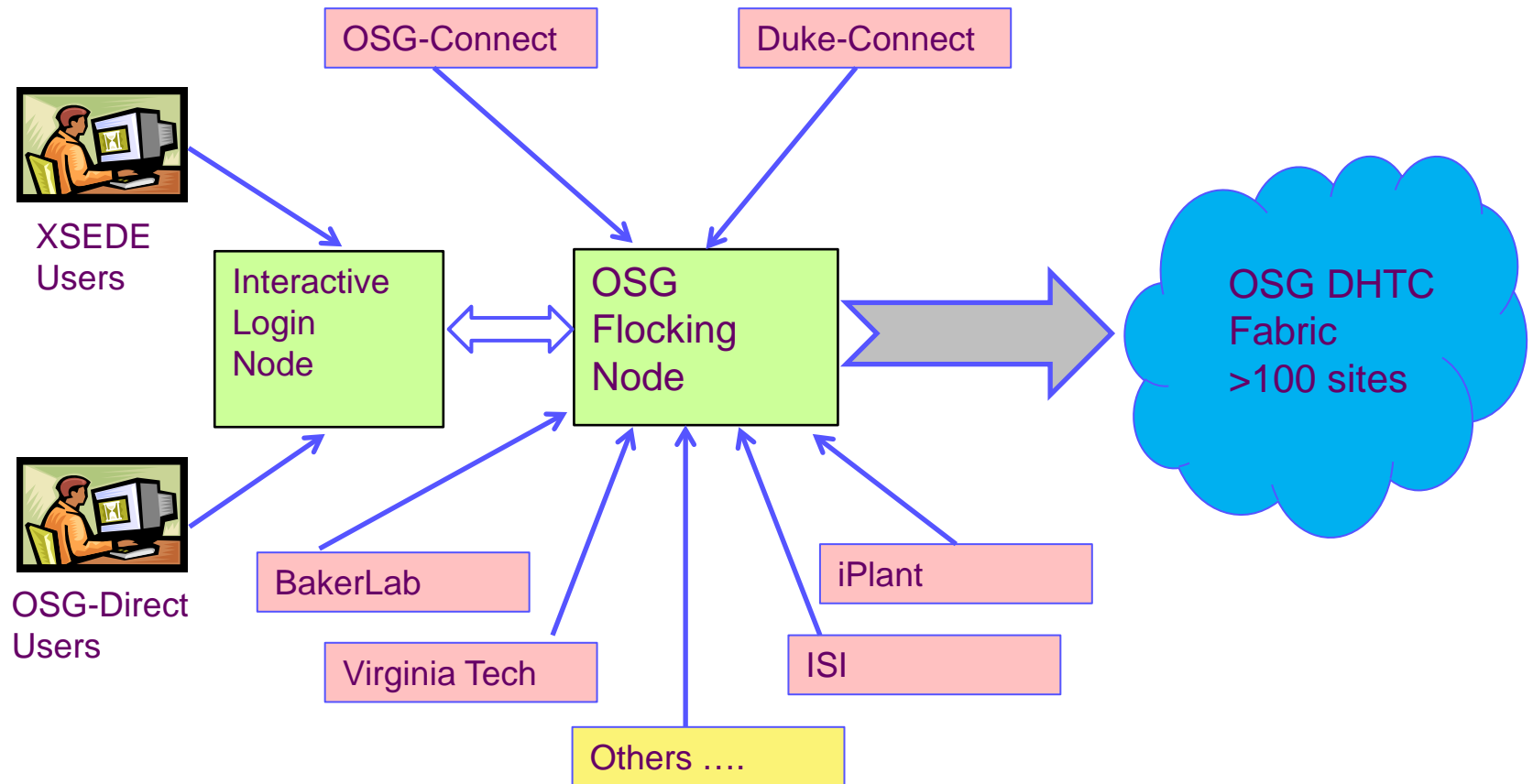
Wall Hours by VO (Sum: 93,649,919 Hours)
53 Weeks from Week 13 of 2013 to Week 13 of 2014



Of these, the OSG VO provides access to US researchers who are not already affiliated with an existing community in OSG



Easier “On-Ramp” to the OSG DHTC Fabric



All access operates under the OSG VO using glideinWMS



OSG VO Scope & Usage

The OSG VO does not own any computing resources and only exists to harvest unused cycles at OSG sites (Opportunistic cycles) and make them available to researchers who are not already affiliated with an OSG VO.

For the 12 months ending 31-March-2014, the OSG VO harvested 64.4M hours (from sites by using gWMS) and delivered 57.7M hours to various submit hosts to enable the computing of researchers

Submit Host	Wall Hours
OSG-XD (XSEDE and OSG Direct)**	54,694,294
UCSDgrid	1,104,882
Bakerlab	1,012,264
OSG-CONNECT **	870,640
ISI	3,539
LSU	63
Total	57,685,682

** Core OSG Services



2014Q1 OSG-XSEDE Usage

Month	Active PIs	Wall Hours
Jan 2014	12	4,023,673
Feb 2014	9	4,662,850
Mar 2014	11	2,311,350
TOTAL		10,997,873

- Service delivery continues at high quality
- Significant start-up awards; but very few XRAC awards

(March 2014 reduction is due to more OSG-Direct users competing for opportunistic cycles)



XSEDE users April 2013 to March 2014

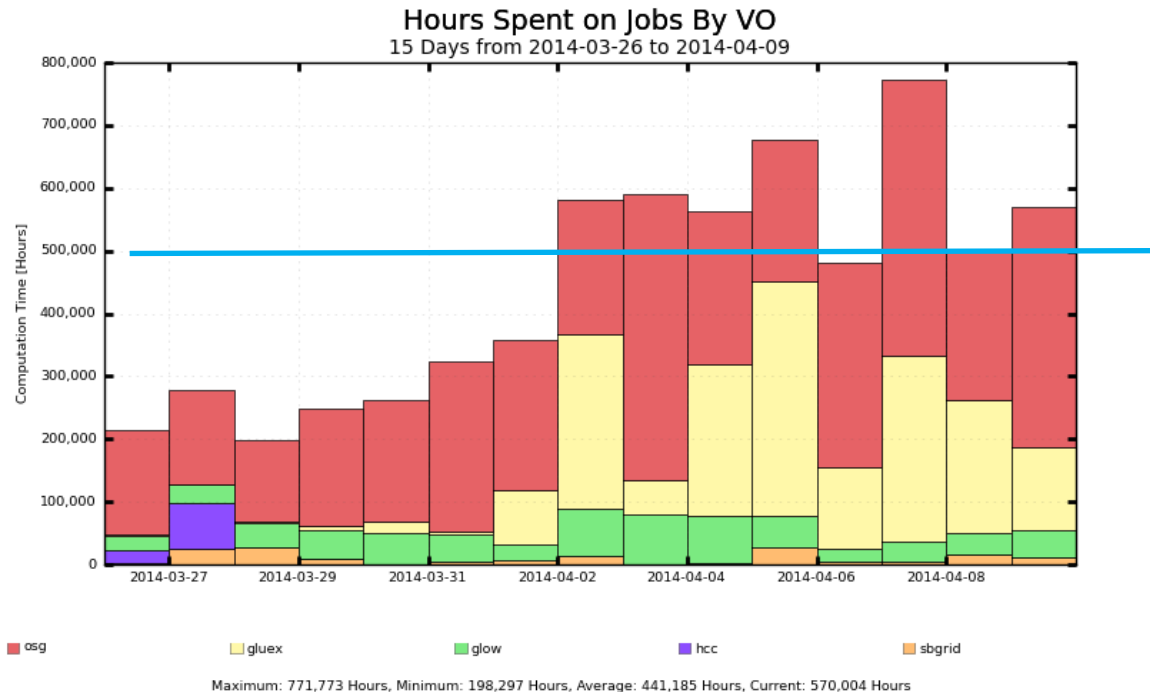
Project Name	PI	Institution	Field of Science	Wall Hours
TG-IBN130001	Donald Krieger	University of Pittsburgh	Biological Sciences	29,495,083
TG-PHY120014	Qaisar Shafi	University of Delaware	Physics	528,458
TG-TRA100004	Andrew Ruether	Swarthmore College	Other	444,374
TG-DMR130036	Emanuel Gull	University of Michigan	Materials Research	318,768
TG-MCB100109	Lillian Chong	University of Pittsburgh	Molecular Biosciences	264,362
TG-CHE130091	Paul Siders	University of Minnesota; Duluth	Chemistry	86,280
TG-ATM130015	Phillip Anderson	University of Texas at Dallas	Atmospheric Sciences	77,169
		University of Massachusetts;		
TG-IRI130016	Joseph Cohen	Boston	Information; Robotics; and Intelligent Systems	70,536
TG-DMS120024	Benjamin Ong	Michigan State University	Mathematical Sciences	68,908
		Massachusetts Institute of		
TG-CHE130103	Jeremy Moix	Technology	Chemistry	58,355
TG-ATM130009	Phillip Anderson	University of Texas at Dallas	Atmospheric Sciences	39,971
TG-MCB090163	Michael Hagan	Brandeis University	Molecular Biosciences	38,590
TG-OCE130029	Yvonne Chan	University of Hawaii; Manoa	Ocean Sciences	31,670
TG-TRA120014	Pol Llovet	Montana State University	Cross-Disciplinary Activities	19,472
TG-IBN130008	Jorden Schossau	Michigan State University	Biological Sciences	16,857
TG-MCB120070	Joseph Hargitai	Albert Einstein College of Medicine	Molecular Biosciences	378
TG-TRA120041	Hanning Chen	George Washington University	Computer and Information Science	231
TG-MCB090174	Shantenu Jha	Rutgers University	Molecular Biosciences	58
TG-PHY110015	Pran Nath	Northeastern University	Physics	37
TG-MCB130072	Robert Quick	Indiana University	Molecular Biosciences	16
TG-CCR120041	Luca Clementi	San Diego Supercomputer Center	Computer and Computation Research	12
	Nancy Wilkins-			
TG-STA110014S	Diehr	University of California-San Diego	Other	5
Total		22 users		31,559,590

OSG-Direct users April 2013 to March 2014

Project Name	PI	Institution	Field of Science	Wall Hours
Snowmass	Meenakshi Narain	Brown University	High Energy Physics	8,632,986
SPLINTER	Robert Quick	Indiana University	Medicine	4,601,962
Duke-QGP	Steffen A. Bass	Duke University	Nuclear Physics	2,543,933
ECFA	Meenakshi Narain	Brown University	High Energy Physics	1,744,646
UMich	Paul Wolberg	University of Michigan	Microbiology	1,433,598
Pheno	Stefan Hoeche	SLAC	High Energy Physics	1,108,623
RIT	P. Stanislaw Radziszowski	Rochester Institute of Technology	Computer Science	721,291
UPRRP-MR	Steven Massey	Universidad de Puerto Rico (UPRRP)	Bioinformatics	714,359
IU-GALAXY	Robert Quick	Indiana University	Bioinformatics	640,484
DetectorDesign	John Strologas	University of New Mexico	Medical Imaging	451,803
EIC	Tobias Toll	Brookhaven National Laboratory	Accelerator Physics	410,594
OSG-Staff	Chander Sehgal	Fermilab	Computer Science	43,948
DeerDisease	Lene Jung Kjaer	Southern Illinois University	Biological Sciences	28,599
SNOplus	Joshua R Klein	University of Pennsylvania	Physics - Neutrino	489
P0-LBNE	Maxim Potekhin	Brookhaven National Laboratory	Physics - Neutrino	17
BNLPET	Martin Purschke	Brookhaven National Laboratory	Medical Imaging	1
Total		16 users		23,077,333



OSG Opportunistic – Recent Usage



In the last week, for the first time we have seen opportunistic at > 0.5M per day

- Our understanding of opportunistic availability is limited -- primarily based on history and heuristics
- We are now applying staff to research and understand the OSG opportunistic eco-system



Challenges and Opportunities

Major Challenges

1. We don't have a good understanding of the OSG opportunistic eco-system and “optimal” methods to quantify and access these opportunistic resources – we are attempting to develop a better understanding
2. We need better methods to reach potential researchers who can benefit from access to OSG DHTC resources – exploring use of XSEDE campus champions as a channel
 - ❖ Try to grow OSG-XSEDE channel?
 - ❖ Try to grow OSG-Direct channel?
 - ❖ Try to grow OSG-Connect channel?