

GRATIA “SCOREBOARD” (?)

Charge

“Create a scoreboard that would be a nice and quick way to run down the experiments” – Steve Timm’s description of Steve Wolbers’s request

Requirements

- First and only meeting about a month ago
- Need to look at resource usage by experiments
- Report should include:
 - ▣ Grid Resource Usage
 - ▣ Grid Quota
 - ▣ Average Number Slots Used per Day
 - ▣ Grid Resource Usage
 - ▣ Network (File Transfer) Usage
 - ▣ GPCF Usage

Sources

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- Spreadsheets of Experiments/ Liaisons/Current Grid Quotas provided by Steve Timm
- Grid Accounting Service (Gratia)
- Condor/pbs monitoring logs created by Keith Chadwick



Gratia Overview

Gratia Overview & Statistics

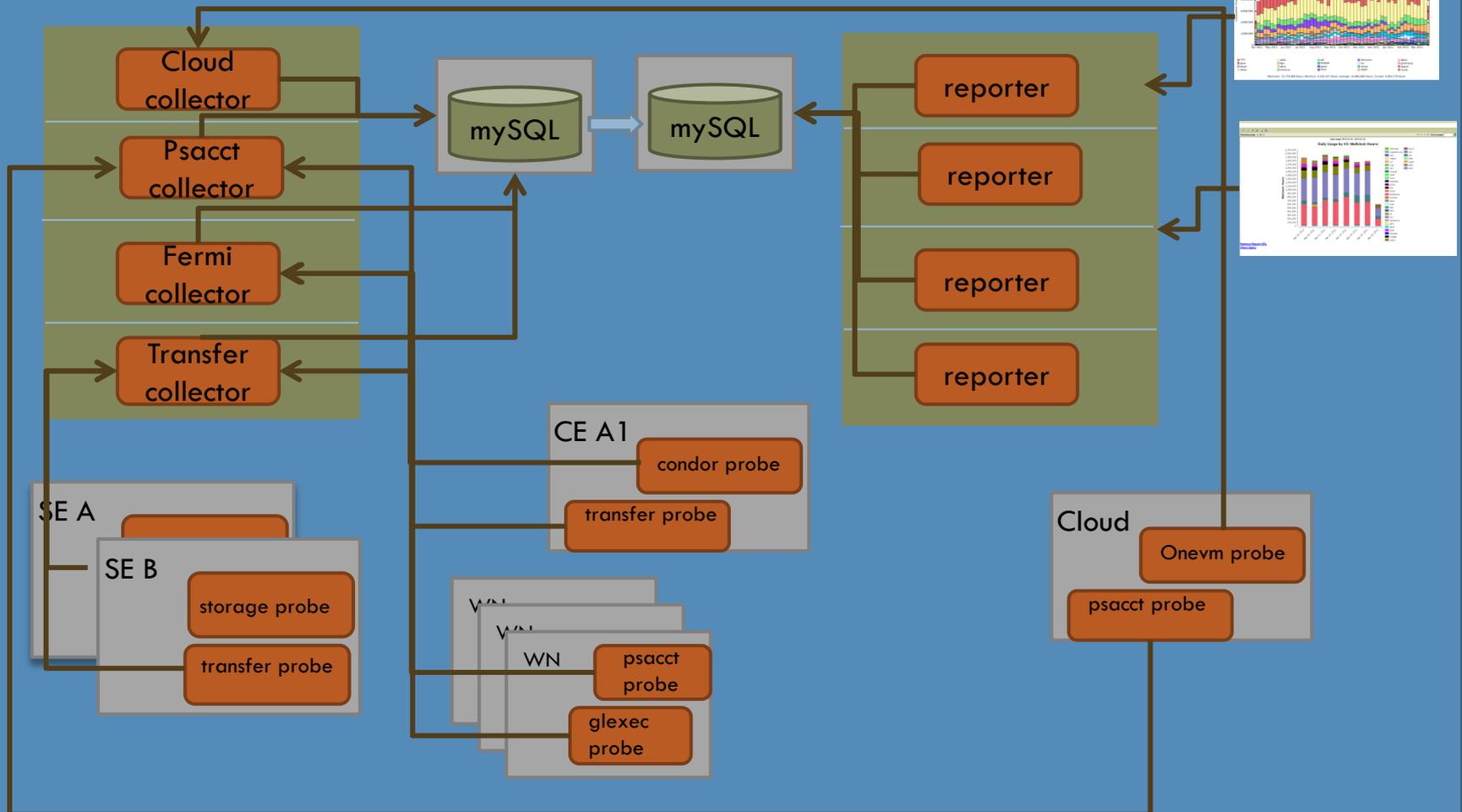
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- Gratia Service consists of several subsystems:
 - ▣ Collector
 - ▣ Reporter (WEB UI for user and admins)
 - ▣ Database
 - ▣ Email reports generating scripts
- Information is generated by various probes and sent to Gratia collectors via Gratia API. Probes collect information about:
 - ▣ Batch and glide-in jobs (condor, lsf, pbs, sge)
 - ▣ Linux process accounting (deployed at Fermilab)
 - ▣ Various Metrics (RSV probes)
 - ▣ File transfers
 - ▣ Storage Usage and Allocation
 - ▣ Cloud accounting (deployed at Fermilab)
- Gratia supports multiple collectors. It permits hierarchical forwarding & filtering between collectors.

Gratia Architecture

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Fermilab Gratia Services



Status

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- Multiple instances of Gratia Service are installed at Fermilab
 - ▣ 5 Collectors
 - ▣ 8 different types of probes that collect batch jobs, transfers, metrics and cloud records
 - ▣ More than 50 active probes are currently reporting to the collectors
- Email reports are sent daily, weekly and monthly to FermiGrid admins.
- All parts of gratia software (collector & reporter, email reports and probes) are packaged as rpms and are included in OSG Software 3.x distribution.
- Access to data is available via gratiaweb tool.

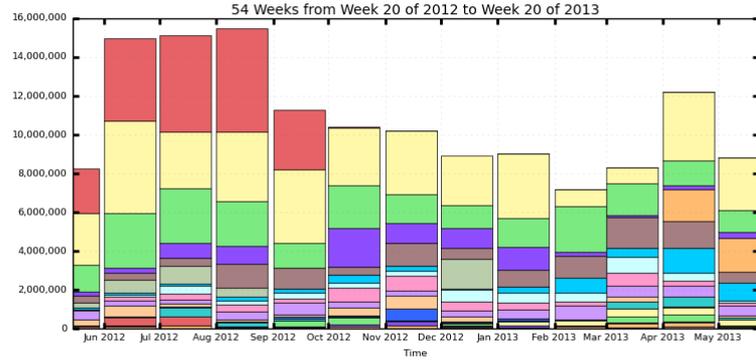
Gratia Web Graphs

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Fermi Grid

[Gratia Status Graphs](#)
[Gratia Events Graphs](#)
[Data Queries](#)
[Pie Chart](#)
[Glidein and C Graphs](#)

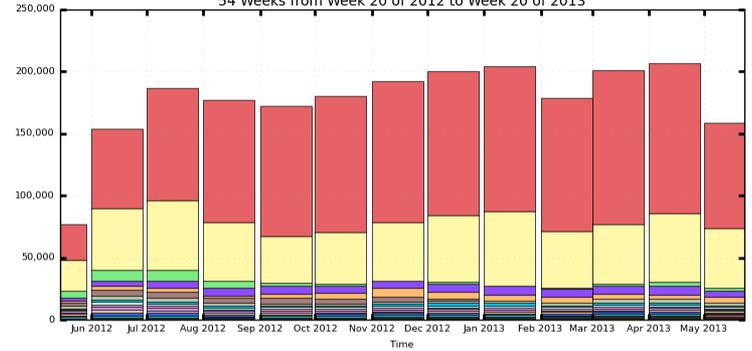
Monthly Wall Hours per VO



- cms
- minerva
- minos
- bne
- dzero
- GlueX
- efgag
- uboone
- cdf
- mars
- ic
- argoneut
- auger
- nova
- GLOW
- Other
- osg
- mu2e
- hcc
- SBGrid

Fermi Cloud

Monthly Wall Hours per VO
54 Weeks from Week 20 of 2012 to Week 20 of 2013



- fermilab
- atlas
- mu2e
- cms
- osg
- minos
- nova
- lsst
- cdf
- geant4
- bne
- ic
- dzero
- argoneut
- gn2
- marismu2e
- minerva
- uboone
- des
- mcdrd

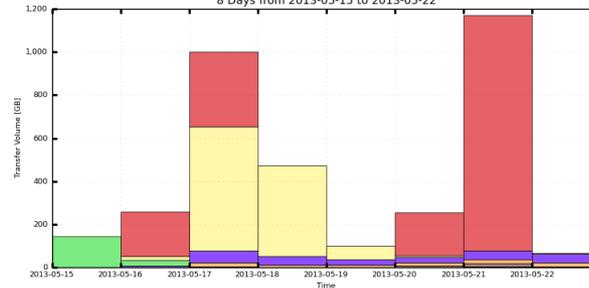
Maximum: 206,902 , Minimum: 0.00 , Average: 163,556 , Current: 159,003

http://gratia-fermi-osg-reports.fnal.gov:8100/gratia/xml/monthly_vo_hours

http://gratia-fermi-fermicloud-reports.fnal.gov:8100/gratia/xml/monthly_vo_hours

Fermi Transfer

Volume of Gigabytes Transferred By User
8 Days from 2013-05-15 to 2013-05-22



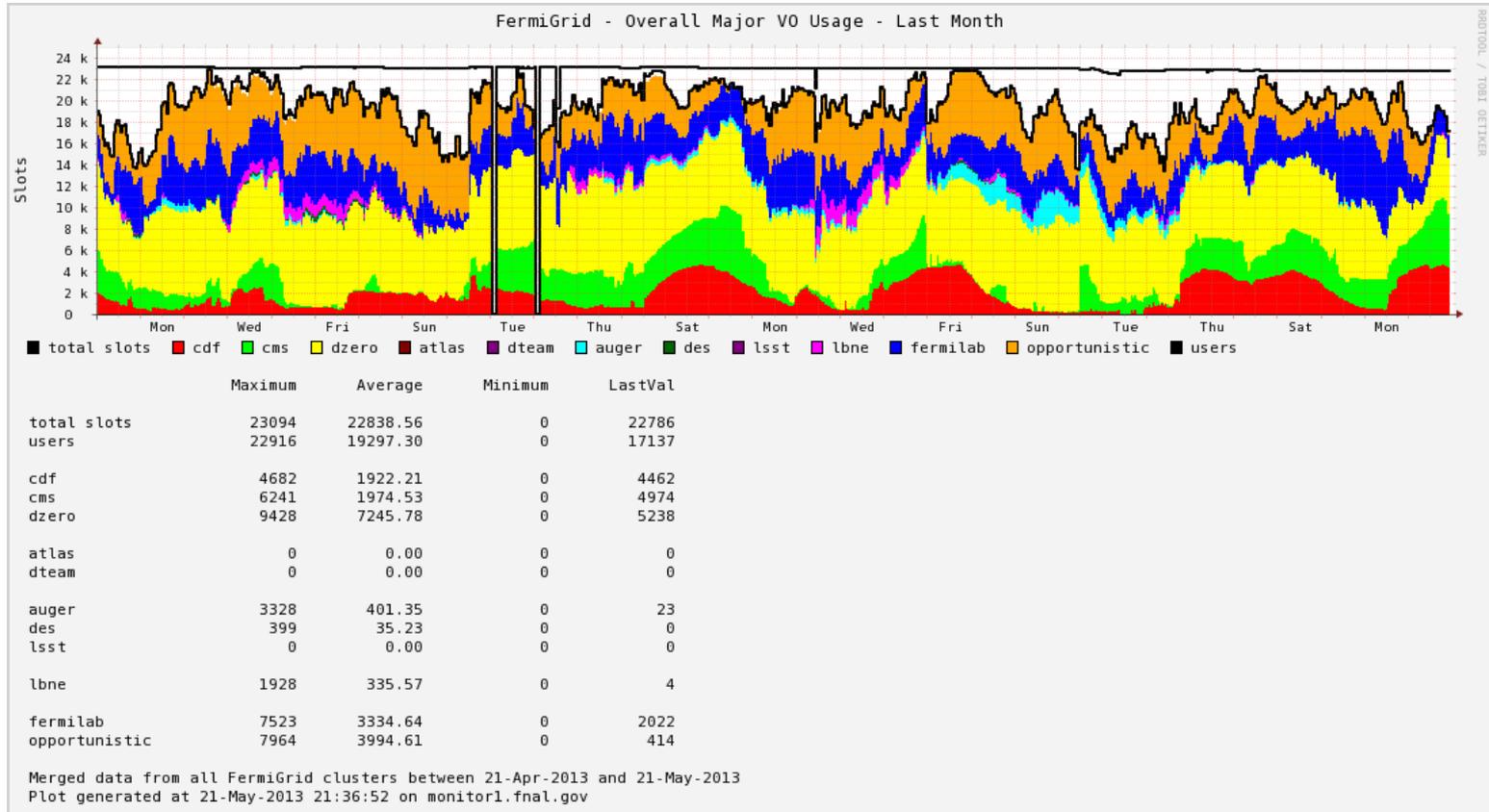
- Ankit Chandra
- Howard Rubin
- Steven C. Timm
- Carleton Detar
- Rogel Ruiz
- Marc W. Mengel
- Generic lqcd user
- Generic fermilab user
- Generic nova user
- Miserrano
- Jean-noel Albert
- Julio lozano bahilo
- Fodca2a.fnal.gov

Maximum: 1,168 GB, Minimum: 64.62 GB, Average: 433.14 GB, Current: 64.62 GB

http://gratia-fermi-transfer-reports.fnal.gov:8100/gratia/xml/user_transfer_volume

FermiGrid - Merged Batch Slots Major VO Usage Monitor

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Draft Report

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- Automatically generated report of Fermilab Resource Usage for the last month.
- The report provides resource utilization by major Fermilab experiments/groups on FermiGrid and FermiCloud based on information collected by Gratia.
- It also extracts information about average daily slots usage from historical log files generated by Keith Chadwick's scripts.
- There are three versions of report (txt, html and csv) sent in one email.
- We are still working on fixing Storage reporting configuration so we can accurately map transfers to a particular experiment.
- Todo list: GPCF. This data are missing from the report for now.

Fermilab Resource Usage 2013/4/17 - 2013/5/17

Exp Name	Liaison/Contact	Use Grid	Grid Quota	#Jobs	delta #Jobs	Wall Hours	delta Wall Hours	Average # Slots	Average # Waiting Jobs	Use Cloud	#VMs	delta #VMs	Wall Hours	delta Wall Hours	Use Storage	Use GPCF
Accelerator	Jean-Paul Carneiro	True	500	18,599	0	43,118	0	57	221	False	0	0	0	0	False	False
ArgoNeut	Michael H Kirby/Mitch Soderberg	True	200	5,611	-39,498	17,027	-41,781	23	1	False	0	0	0	0	False	False
Auger	Paul Lebrun/Eun-Joo Ahn	True	500	23,426	16,598	74,222	66,081	454	27	False	0	0	0	0	False	False
CDF	Stephan Lammel	True	800	154,614	-38,513	1,292,636	-307,402	1,860	16	True	8	2	3,713	1,892	False	False
CDMS	Donald J Holmgren/Lauren Hsu	True	500	5,671	-8,626	11,719	-63,958	11	5	False	0	0	0	0	False	False
CMS	Lothar A Bauerdick	True	400	1,271	-1,609	446	-522	1,752	715	True	1	0	720	-23	False	False
COUPP	Gabriele Garzoglio/Stephen Brice	False	200	0	0	0	0	0	0	False	0	0	0	0	False	False
Darkside	Michael H Kirby, Ruth Pordes/Jonghee Yoo	False	0	0	0	0	0	0	0	False	0	0	0	0	False	False
DES	Elizabeth Buckley-Geer/Nikolai Kuropatkin	True	980	2,113	957	27,372	4,688	36	0	True	2	-1	1,690	1,570	False	False
Dzero	Qizhong Li/Mike Diesburg	True	1,200	437,360	319,423	3,305,943	2,579,832	4,551	141	True	6	1	7,176	503	False	False
Fermilab	Keith Chadwick	True	25	78,588	-18,594	1,055	849	2	0	True	202	48	122,223	-2,586	False	False
Geant4	Hans Wenzel	False	25	0	0	0	0	0	0	True	4	1	1,434	-51	False	False
GENDETRD	Adam Para	True	200	1,062	0	1,368	0	1	0	False	0	0	0	0	False	False
gm2	Adam L Lyon	True	200	8,885	-25,798	6,885	-30,680	9	1	True	4	1	1,435	-51	False	False
Holometer	Chris Stoughton/Aaron Chou	False	0	0	0	0	0	0	0	False	0	0	0	0	False	False
ILC	Lynn A Garren	False	100	0	-68	0	-18	0	0	False	0	0	0	0	False	False
LBNE	Eileen F Berman, Anne Heavey/Tom Junk	True	500	26,621	-16,310	302,048	60,882	397	12	True	4	1	1,435	-52	False	False
LQCD	Jim Simone	False	25	0	0	0	0	0	0	False	0	0	0	0	False	False
LSST	Stephen M. Kent/Gabriele Garzoglio	False	25	0	0	0	0	0	0	True	1	0	720	-25	False	False
MAP	Tom Roberts	False	200	0	0	0	0	0	0	False	0	0	0	0	False	False