CD FY09 Tactical Plan Status

FY09 Tactical Plan Status Report for ***GRID***

Tactical plan names listed here…	DocDB#
Grid / Grid Services and Grid / Security	2794
Grid / SciDAC2 / CEDPS	2914
Grid / FermiGrid	2813
Grid / Open Science Grid@FNAL	2909
US CMS Grid Services and Infrastructure	2821

Eileen Berman, Gabriele Garzoglio, Philippe Canal, Burt Holzman, Andrew Baranowski, Keith Chadwick, Ruth Pordes, Chander Sehgal, Mine Altunay, Tanya Levshina

May 5, 2009

Resolution of Past Action Items

- We need a CD level briefing on the “Scientific Dashboard” covering requirements, milestones, and staffing plan, by end-October
  - Status:Closed. A briefing was held presenting information gathered from possible customer interviews, and a plan for the next 6 months was discussed.
- Need to address on-going support for the “OSG Gateway to TeraGrid”
  - Status:Closed. 2009 budget - TG Gateway activity: Keith, Neha, Steve. Open Science Grid/ TeraGrid
  - In “production” for test use
- Clarify between LQCD and FermiGrid the division of work and scope w.r.t. MPI capability; what is in-scope for FermiGrid to undertake?
  - Initial discussions have been held, but each side has been effort limited.
- Can we develop a plan to host interns for site admin training? This would be for staff who work for or will work for another OSG stakeholder.
  - FermiGrid does not presently have the resources to offer this service.
- Ruth to form a task force (report by March 2009) to recommend a CD wide monitoring tool (infrastructure)?
  - DONE: in docdb, 3106, inventory, and architecture and scope documents

LHC/USCMS Grid Services & Interfaces: Summary of Service Performance

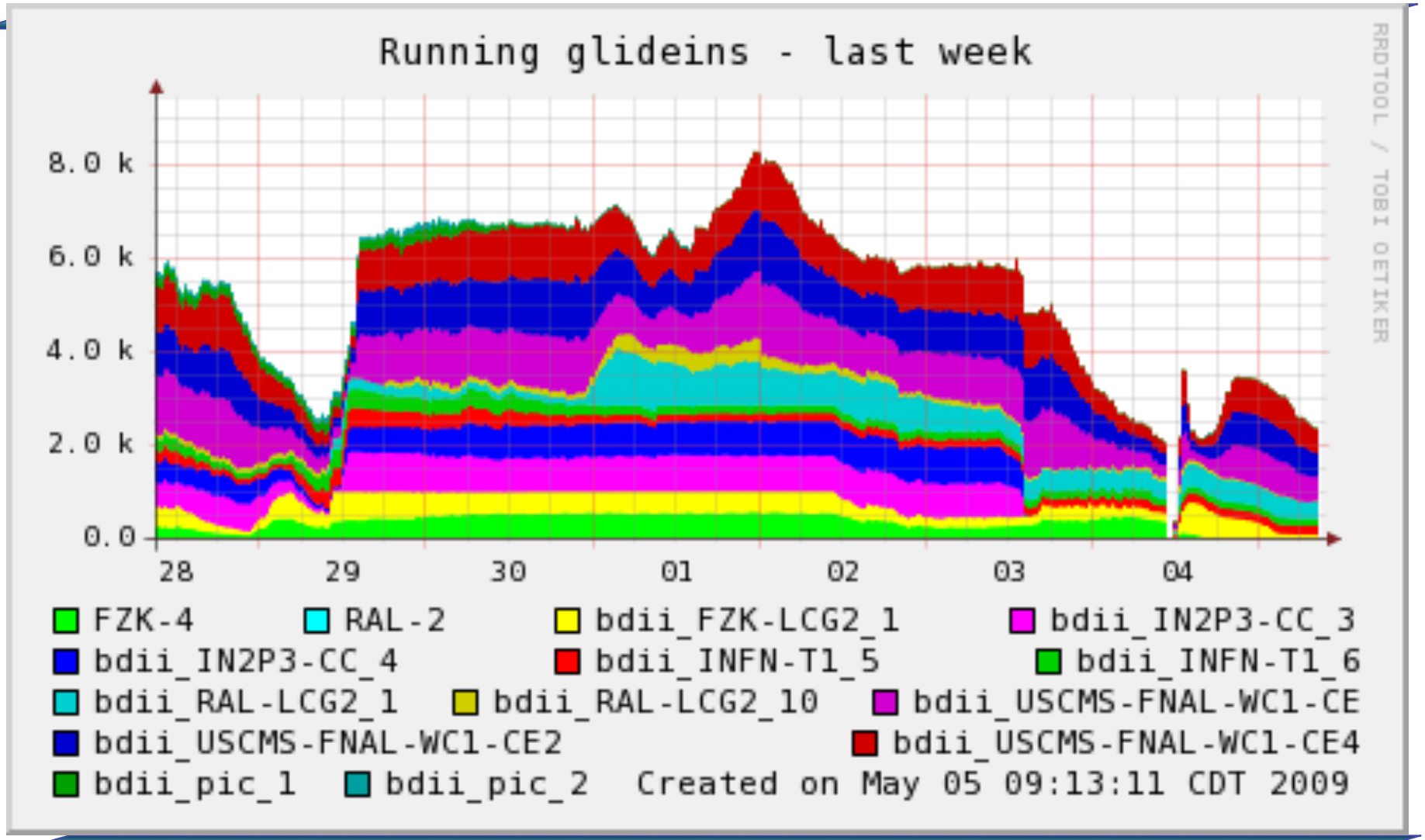
(for the period 01-Oct-2008 through 30-Apr-2009)

Service Activity	Performance Metric	Performance Target	Actual Results
GlideinWMS operations for CMS	Percentage of jobs using WMS	50%	>30%
Ensure CMS grid resources are properly accounted and availability tracked	Not specified		Availability monitored
Maintain Gratia WLCG reporting scripts	Not specified		Accounting monitored
Deploy OSG releases to CMS facilities	Not specified		OSG 1.0.0 deployed
Lead OSG/EGEE integration interoperability project	Not specified		Continuous WLCG interoperability
Participate in OSG security	Not specified		Participating

LHC/USCMS Grid Services & Interfaces: Service Performance Highlights, Issues, Concerns

- CMS Production instance of GlideinWMS has reached 8k concurrently running jobs across CMS global resources (project requirement is 10k, proof-of-principle is 25k) – see next slide
- Service availability data regularly validated and monitored (CMS Tier 1 is one of the top global sites)
- WLCG accounting data reviewed monthly before publication – currently quite stable
- OSG releases deployed at reasonable time scale
  - OSG 1.0.1 released last week, already deployed at a Tier 2
- OSG Security – we have performed as expected (even when it's not a drill)

LHC/USCMS Grid Services & Interfaces: GlideinWMS global production running



LHC/USCMS Grid Services & Interfaces: Summary of Project Performance

(for the period 01-Oct-2008 through 30-Apr-2009)

Project Deliverable / Milestone	Initial Completion Target	% Complete	Current Completion Target
GlideinWMS Development and Maintenance	v1.6: 3/31/09 v2.0: 6/30/09	v1.6: 90% v2.0: 50%	v1.6: 5/16/09 v2.0: 8/15/09
Generic Information Provider development	May 1 2009	95%	4th Quarter FY09
Interface CMS dashboard to OSG and CMS Tier 1	May 1 2009	0%	TBD
Participate in VO Services development	Not specified	100%	
Development of dCache tools	Not specified	100%	

LHC/USCMS Grid Services & Interfaces: Project Highlights, Issues, and Concerns

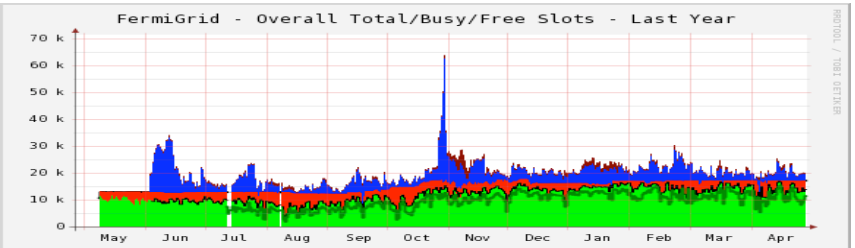
- GlideinWMS 1.6 meets nearly all CMS requirements – remaining effort is on documentation and packaging
  - Additional CD (not CMS) effort will be required to support other Fermilab-based stakeholders
  - Additional CD effort may be required to support non-Fermilab communities – OSG has shown there is definite external interest
- Generic Information Provider project has consumed more effort than planned (~1.2 FTE); will be entering maintenance phase (~ .1 FTE) at end of FY09
- Dashboard work delayed by CMS priorities and operational need (long open hires for Tier 1 Facilities and Grid Services Tier 3 support). We are watching the work of Andy's group with interest and will re-assess the best way forward.
- VO Services participation complete (project is phasing out)
- dCache tools are published as part of the OSG Storage toolkit (http://datagrid.ucsd.edu/toolkit)

FermiGrid: Summary of Service Performance

(for the period 01-Oct-2008 through 30-Apr-2009)

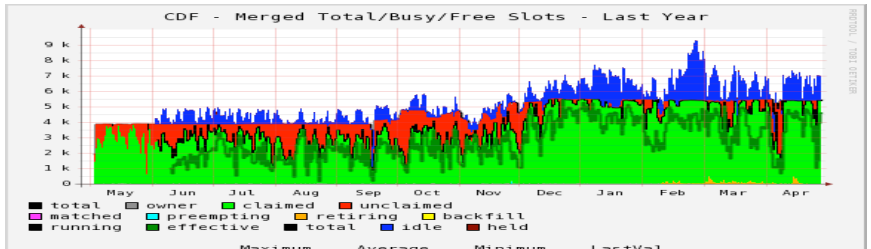
- See slides to follow.

FermiGrid, CDF, D0, GP Grid Clusters



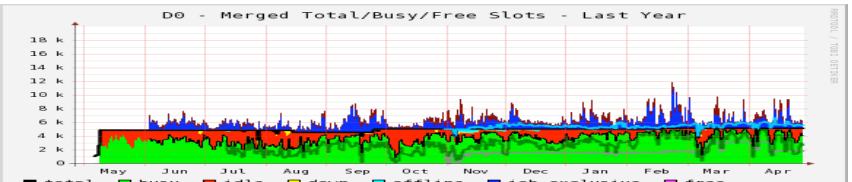
	Maximum	Average	Minimum	LastVal
Total	17801	15087	8139	17248
Busy	16978	11889	3642	13896
Idle	10627	3193	274	3350
Waiting	45759	4565	80	2342
Held	5805	640	62	367
Running	16993	12024	3658	13934
Effective	15397	9792	1979	11516
Raw Occupancy	98.41	78.08	28.13	80.57
Eff Utilization	89.33	62.09	15.29	66.77
Eff/Raw Ratio	0.9548	0.7844	0.4894	0.8287

Merged data from all FermiGrid clusters between 26-Apr-2008 and 30-Apr-2009
Plot generated on 30-Apr-2009 14:26:48



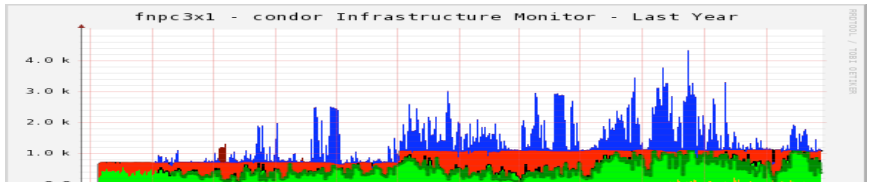
	Maximum	Average	Minimum	LastVal
total	5545	4581	1112	5429
owner	0	0	0	0
claimed	5519	3723	615	5411
unclaimed	4025	857	6	18
matched	4	0	0	0
preempting	158	1	0	0
retiring	456	60	0	0
backfill	0	0	0	0
running	5518	3809	626	5409
effective	5442	2828	178	4603
idle	3834	806	0	1566
held	182	1	0	0
raw occupancy	99.89	79.91	15.83	99.67
eff utilization	98.26	59.01	4.59	84.79
eff/raw ratio	0.9890	0.7227	0.1951	0.8507

Data for between 26-Apr-2008 and 30-Apr-2009
Plot generated on 30-Apr-2009 14:26:35



	Maximum	Average	Minimum	LastVal
Total	5203	4930	1060	5177
Busy	5130	3680	908	4074
Idle	4116	1163	0	1068
Down	1174	44	0	25
Offline	585	73	0	10
job_exclusive	5069	2916	0	2625
free	4557	1893	0	2517
transit	0	0	0	0
held	2644	410	58	360
waiting	0	0	0	0
exiting	18	0	0	0
queued	5599	1042	4	734
running	5130	3713	908	4074
effective	5010	2673	147	2725
queued (dzeropro)	1507	415	0	456
running (dzeropro)	3190	1799	23	1846
raw occupancy	98.92	74.08	17.97	78.70
eff utilization	96.66	53.51	2.90	52.64
eff/raw ratio	0.9913	0.6866	0.1286	0.6689

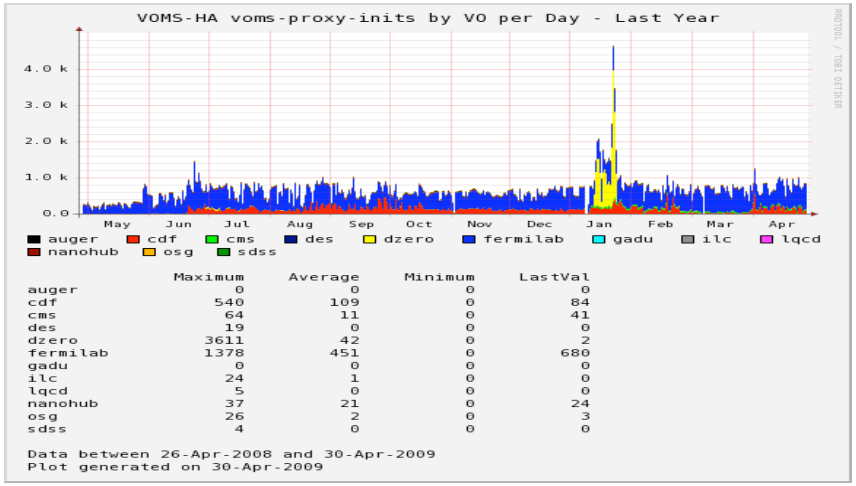
Data for d0 between 26-Apr-2008 and 30-Apr-2009
Plot generated on 30-Apr-2009 14:26:41

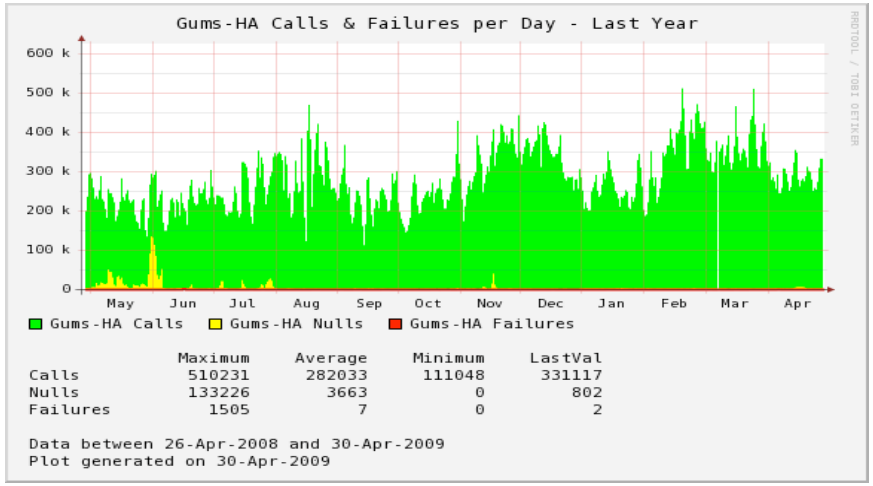


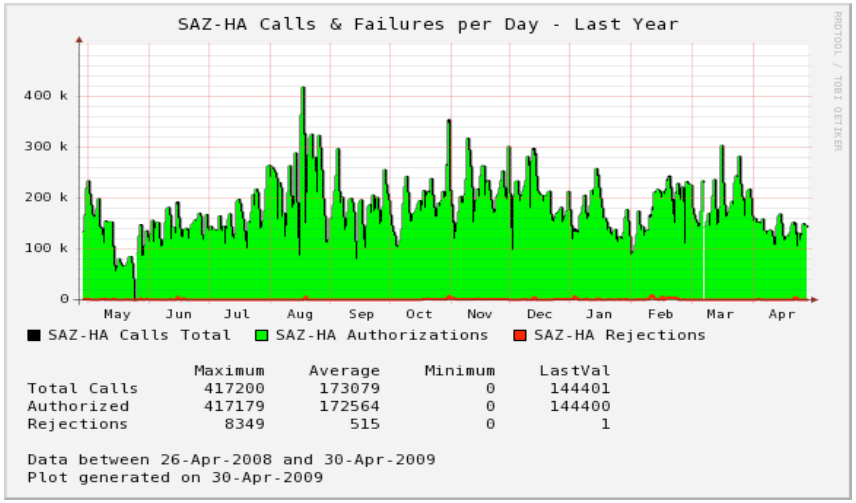
	Maximum	Average	Minimum	LastVal
total slots	1117	919	0	1089
owner	1	0	0	1
claimed	1102	530	0	474
unclaimed	1042	389	0	614
matched	41	0	0	0
preempting	16	0	0	0
retiring	199	30	0	1
backfill	0	0	0	0
running	1103	546	43	478
effective	1103	495	34	371
idle	3218	473	0	35
held	585	5	0	0
raw occupancy	99.81	57.19	3.89	43.54
eff utilization	99.76	51.93	3.17	34.07
eff/raw ratio	1.0000	0.8937	0.1415	0.7824

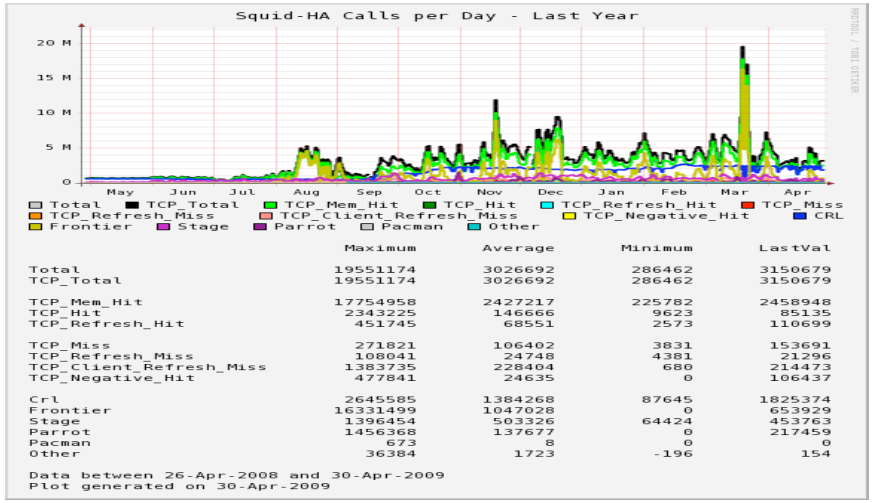
Data for fnpc3x1 between 26-Apr-2008 and 30-Apr-2009
Plot generated on 30-Apr-2009 14:23:33

FermiGrid – VOMS, GUMS, SAZ, Squid









FermiGrid: Service Performance Highlights

- Most of the services in the FermiGrid service catalog are deployed under the “FermiGrid-HA” architecture.
  - Significant benefits have been realized from this architecture.
  - Currently working on deploying ReSS and Gratia as HA services.
  - ReSS-HA hardware has just been delivered and mounted in the rack.
  - Gratia service re-deployment in advance of Gratia-HA hardware has taken place and we are working on generating the Gratia-HA hardware specifications.
  - Gatekeeper-HA, MyProxy-HA still remain to be done.
    - Don’t yet have a complete / adequate design together with the necessary tools that are required to implement.

- Services are meeting (exceeding) the published SLA.

FermiGrid Measured Service Availability

Measured Service Availability

	This Week	Past Week	Month	Quarter	"01-Jul-08"
Core Hardware	100.000%	100.000%	100.000%	99.967%	99.989%
Core Services	100.000%	100.000%	99.994%	99.993%	99.984%
Gatekeepers	96.903%	100.000%	99.537%	99.523%	99.284%
Batch Services	99.629%	99.949%	99.685%	99.437%	99.721%
ReSS	100.000%	100.000%	100.000%	100.000%	99.802%
Gratia	100.000%	99.772%	99.949%	99.678%	99.780%

The (internal to FermiGrid) service availability goal is 99.999%

The SLA for GUMS and SAZ during experiment data taking periods is 99.9% with 24x7 support.

The support agreement for “everything else” is 9x5.

FermiGrid: Service Performance Highlights

- User Support is ongoing
  - The biweekly Grid User meetings.
  - FermiGrid-Help and FermiGrid-Users email lists.
  - Interface between Fermilab and the Condor team at Madison.
  - Coordinating / facilitating the monthly Grid Admins meeting.
  - Assisting various groups/experiments in developing / porting their applications to the Grid environment.

FermiGrid: Service Performance Issues, Concerns - 1

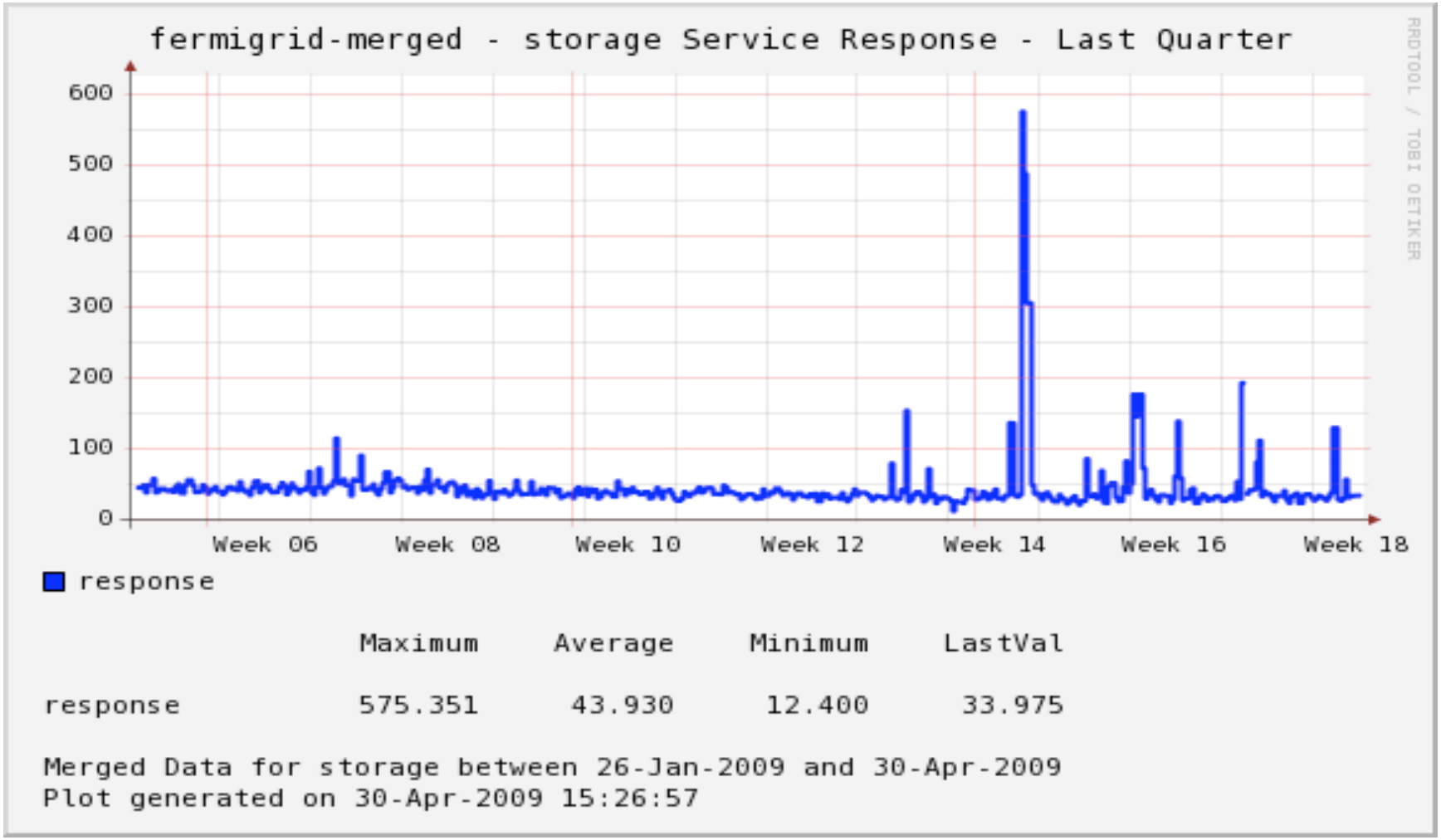
- Clients expecting service support well in excess of the published SLA.
  - GUMS & SAZ – 24 x 7.
  - Everything else – 9 x 5.

- Steve Timm and I try to offer ***some*** level of off hours coverage for “everything else”, but we are spending a ***LOT*** of off hours time keeping things afloat and responding to ***user generated*** incidents.

BlueArc Performance - 1

- BlueArc performance is a significant concern/issue.
- We have developed monitoring that can alert FermiGrid administrators (and others) about BlueArc performance problems.
- The BlueArc administrators have worked to deploy additional monitoring of the internal BlueArc performance information.
- We have worked with Andrey Bobyshev to deploy additional TopN monitoring of the network switches to aid in the diagnosis of BlueArc performance problems.
- We are evaluating additional tools/methods for monitoring the NFS performance and assisting in the failure diagnosis:
  - http://fg3x2.fnal.gov/ganglia/?m=load_one&r=day&s=descending&c=FermiGrid&h=fgt0x0.fnal.gov&sh=1&hc=4

BlueArc Slowdown Events



BlueArc Performance - 2

- May need to acquire additional fast disks to attach to the BlueArc.
  - Just started “test driving in production” some loaned FibreChannel disks to see if they offer any benefit.
- May need to think about acquisition of additional BlueArc heads.
- May need to modify portions of the current FermiGrid architecture to help alleviate the observed BlueArc performance limitations.
- May even need to consider more drastic options.
  - Maintaining the Fermilab Campus Grid model will be a significant challenge if we are forced to take this path…

BlueArc Performance - 3

- FermiGrid has continuous and ongoing discussions with members of CMS (Burt Holzman, Anthony Tiradani, Catalin Dumitrescu and Jon Bakken) and others in the OSG regarding their configurations.

- FermiGrid (CDF, D0, GP Grid) is 2x the size of CMS T1 and supports an environment that is significantly more diverse (Condor + PBS, job forwarding and meta scheduling jobs across multiple clusters, support for multiple Virtual Organizations).
  - CMS Solutions may not work for FermiGrid.

BlueArc Performance - 4

- We are looking at NFSlite (as done by CMS).
  - Tradeoff additional network I/O via Condor mechanisms to (hopefully) reduce NFS network I/O.
  - Requires adding more storage capacity to the gatekeepers as well as patches to the (already patched) Globus job manager.
  - A phased approach, starting with tests on our development Gatekeepers, then proceeding to fg1x1 (the Site Gateway) should give us the data to verify how well the tradeoff will work.
  - If the initial tests and deployment on fg1x1 is successful, we can proceed to acquire the necessary local disks and propagate the change on a cluster by cluster basis.
  - NFSlite may not be compatible with implementing a Gatekeeper-HA design.

BlueArc Performance - 5

- Exploring mechanisms to automatically reduce the rate of job delivery / acceptance when the BlueArc filesystems are under stress.

- At the suggestion of Miron Livney, we have requested an administrative interface be added to gLExec by the GlideinWMS project to allow user job management (suspension / termination) by the site operators.

Issues with User's Use of FermiGrid

- Customers expecting FermiGrid to support all use cases.
  - FermiGrid is architected as a compute intensive grid.
  - Some customers are attempting to use the resources as a data intensive grid.

- Users must "play well with others".

FermiGrid: Summary of Project Performance

(for the period 01-Oct-2008 through 30-Apr-2009)

Project Deliverable / Milestone	Initial Completion Target	% Complete (0,25,50,75,100)	Current Completion Target
OSG-ReSS Hardware Upgrade/Replacement	Q2 CY09	50	Q2 CY09
Gratia Hardware Upgrade/Replacement Phase 1	Q2 CY09	25	Q3 CY09
Gratia Hardware Upgrade/Replacement Phase 2	Q3 CY09	0	Q4 CY09
Fnpcsrv1 Upgrade/Replacement	Q4 CY08	0	Q3 CY09
Further development of SAZ banning tool	Q3 CY09	0	FY10
Cloud Computing test stand initiative	Q2 CY09	25	Q4 CY09

- All acquisition cycles delayed due to FY09 budget and more recently effort being spent on BlueArc.
- OSG-ReSS hardware has just been installed in the rack. Should be completed in the next couple of weeks.
- Phase 2 of Gratia Hardware Upgrade presently delayed to FY10 due to allocated budget.
- Reallocation of funds could allow earlier deployment of Phase 2 Gratia Hardware Upgrade.
- Fnpcsrv1 replacement has been delayed waiting for the migration of the Minos mysql farm database to new hardware. This system is now showing signs of impending hardware failure.
- Lead developer of SAZ on maternity leave, redirected to TeraGrid gateway for short term.
  - Already proven useful to traffic shape user behavior.
- Cloud computing initiative is low priority

FermiGrid – Slot Occupancy & Effective Utilization

Raw Slot Occupancy

(# of running jobs divided by total job slots)

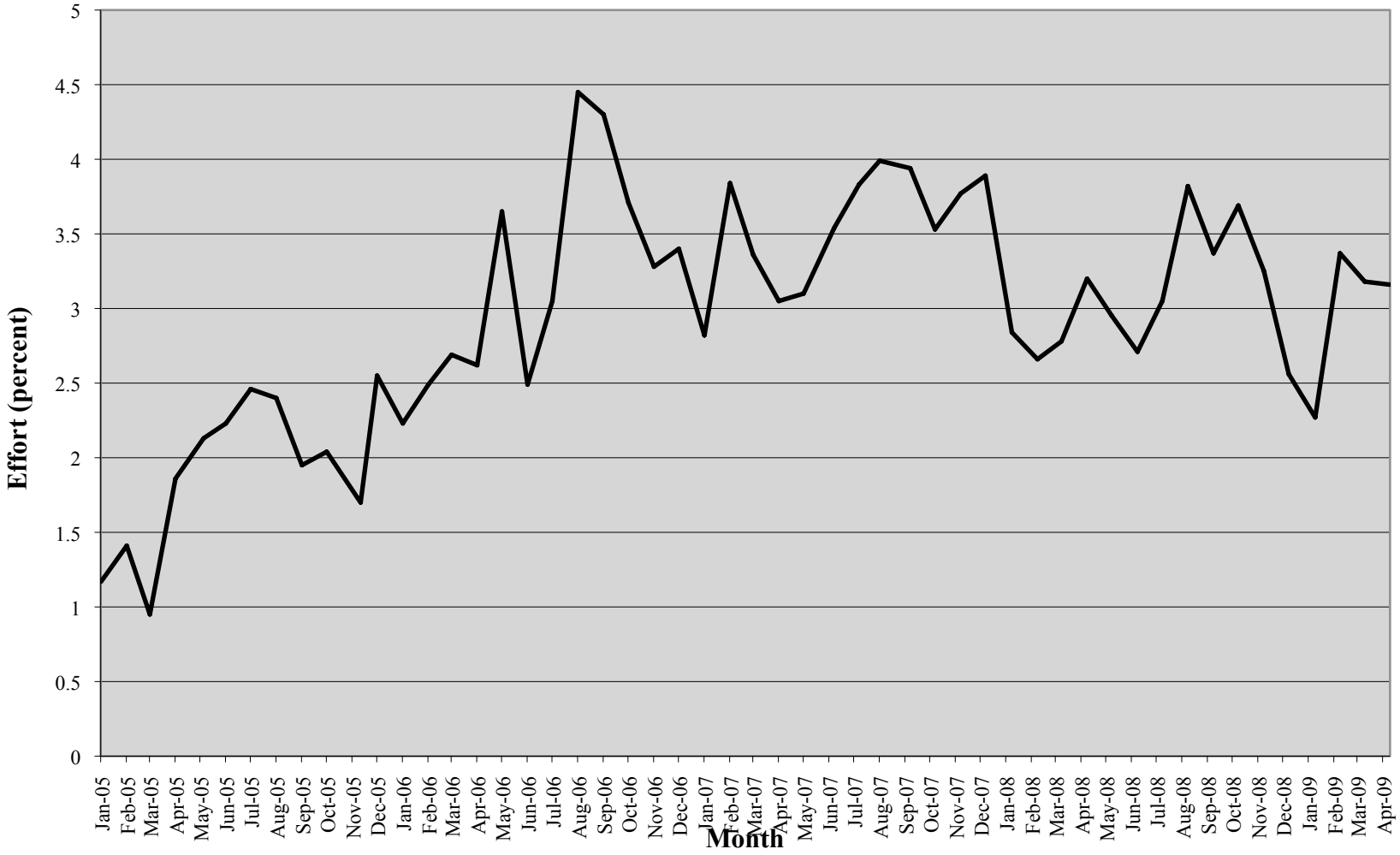
	This Week	Past Week	Month	Quarter	"10-May-08"
CDF (merged)	81.7%	97.3%	86.5%	91.1%	79.7%
CMS	89.2%	68.4%	75.4%	76.7%	84.3%
D0 (merged)	62.3%	82.2%	82.5%	83.6%	74.0%
GP Grid	56.1%	86.4%	66.3%	72.3%	57.3%
FermiGrid Overall	76.7%	82.8%	80.7%	83.2%	78.0%

Effective Slot Utilization

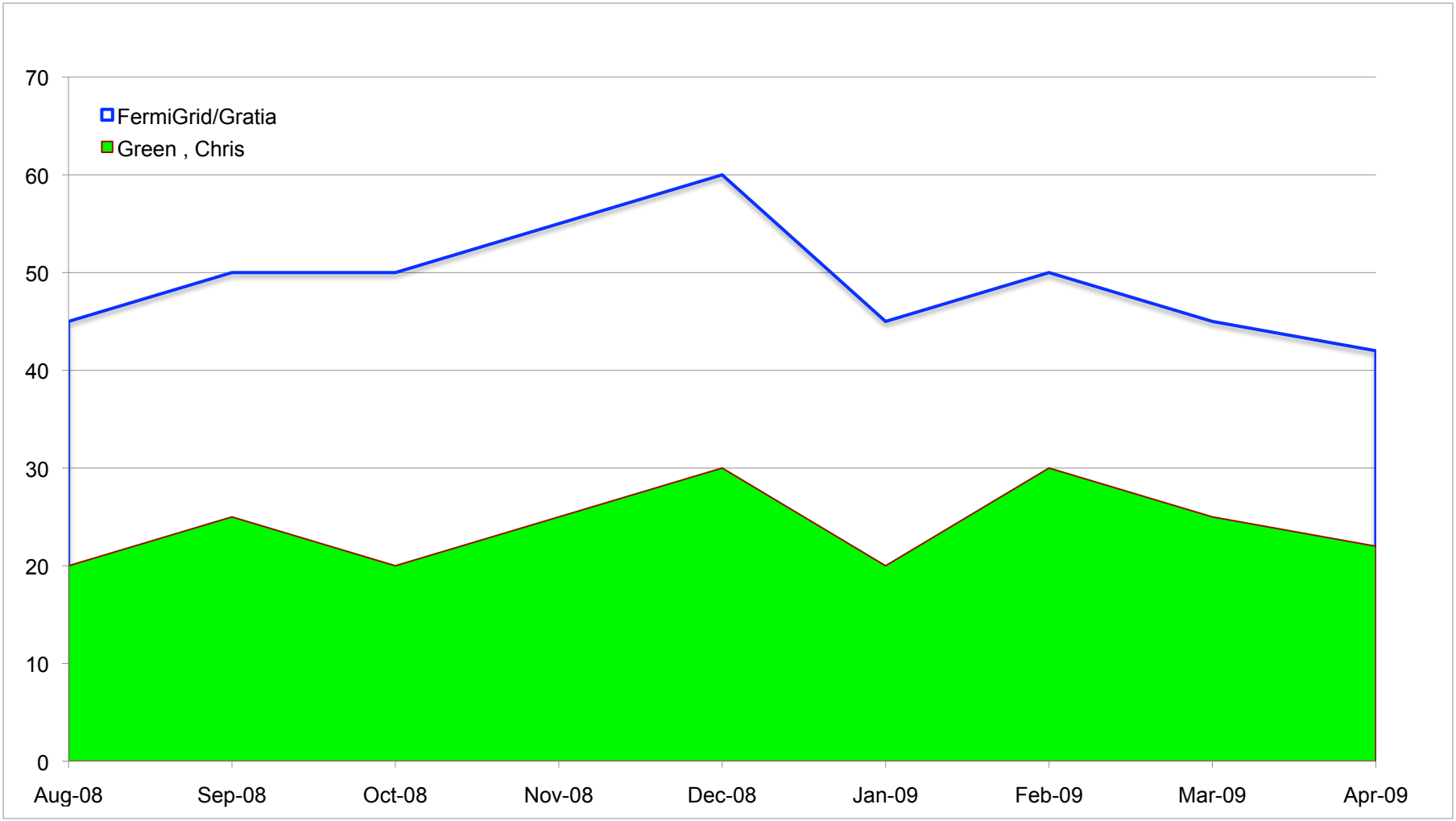
(# of running jobs times average load average / total job slots)

	This Week	Past Week	Month	Quarter	"10-Jul-08"
CDF (merged)	42.2%	78.0%	61.5%	66.5%	59.0%
CMS	85.3%	63.1%	66.8%	68.6%	71.9%
D0 (merged)	30.3%	57.2%	64.4%	67.5%	53.4%
GP Grid	52.9%	83.3%	59.7%	67.3%	52.2%
FermiGrid Overall	53.2%	67.3%	64.4%	67.7%	62.0%

FermiGrid Effort Profile



FermiGrid Gratia Operations Effort Profile



OSG@FNAL: Summary of Service Performance

(for the period 01-Oct-2008 through 05-May-2009)

Service Activity		Target date	Complete 3/1/09
Roadmap for OSG after the current funding period	Planning process for outline of plan by end of '09	12/4/08	21%
Bi-weekly Monthly written reports to Council	Hiatus after review in Jan, need to restart.	9/30/09	20%
External relations	Annual, quarterly stakeholder meetings seem to be an effective way of gathering changing needs from stakeholders and partners.	9/30/09	75%
Track Value	Completed document defining value of OSG. Document list of scientific publications by OSG VOs that resulted from substantial use of OSG Remains difficul t without sustained effort to collect. >5 publications from nonphysics groups	5/29/09	5%
OSG Communications	Communication/PR Plan for OSG year3 ready for sign off by Executive Board. Transition of Cmmunications Coordinator to Dave Ritchie is complete Completed irst videos made for the external review and training – well received.	5/20/09	50%
iSGTW	Additional 0.5 FTE of funds from NSF and DOE being used to hire full time editor together with OSG. Will be in FNAL Office of Communications.	5/1/09	54%
Project Management	Completed baselineFWPs and WBS for Year 3. Being adapted as needed through the year. Track progress through area coordinator WBS updates. Work with the agencies. Completed DOE annual report.	9/30/09	52%

OSG@FNAL: Summary of Service Performance

(for the period 01-Oct-2008 through 05-May-2009)

Service Activity	Performance Metric	Actual Results
Coordination of the Open Science Grid Project	Response to these contributions from Fermilab users, OSG Council and Executive Board members. Response to OSG review in January 2009, and interactions with the funding agencies and Worldwide LHC Computing Grid (WLCG). Successful completion of Project Management tasks.	OSG Review went well. Encouraged to plan for the future and engage new communities. Cause for concern: Not all US LHC S&C management list of needs from OSG being met to agreed upon milestones.
Communication	Feedback to iSGTW and increased membership. Good response to web site and communication materials;	nearly a 32% increase (31.8%) in the number of readers since April ’08. April 22 feature, “Embrace Failure,” was in HPCWire's top 10 headlines this week. Would be useful to note statistics of access to web site.
User support	DOE Engagement Integration of HTC and HPC: Running prototype of Accelerator Modelling and Simulation code across multiple HPC resources using OSG middleware components.	Work focusing on Geant4 regression testing; PNNL and NREL interest has not been sustained. Integration of HTC and HPC: dropped for higher priority tasks.

OSG@FNAL: Service Performance Highlights, Issues, Concerns

- Project Management load continues to increase with support for new (last minute) proposals. Financial support from Remains difficult to get buy in for reporting and planning. Working on getting more help from UW, new production coordinator.
- User Support/engagement remains a challenge.
  - Work on support for MPI jobs in collaboration with Purdue going slowly but forward.
  - Geant 4 regression testing is a large, complex application. Chris going to CERN to sit next to the developers to try and get the whole think working for the May testing run. Once this works Geant4 will have a request for production running every few months.
  - Grid Facility department collaborating on help for ITER

- iSGTW effort and funding
  - new ISGTW editor being interviewed. Anne Heavey transitioning to other work, including SC09.
  - Need to address need sustained funding soon. Possible OSG - FNAL, UFlorida, TeraGrid – ANL, NCSA joint proposal.

- Future of OSG great cause for concern: Need for continued support to US LHC and contributions to WLCG. How do agencies regard advent of commercial cloud offerings? How do OSG and TeraGrid co-exist?

OSG@FNAL Storage: Summary of Service Performance

(for the period 01-Oct-2008 through 05-May 2009)

Service Activity	Performance Metric	Performance Target	Actual Results
Package BeStMan-gateway/Xrootd for VDT release.	Number of BeStMan installation installed from VDT	December, 2008	Released in VDT in December,2008 Released in OSG 1.0.1; Installed by several Tier-2 and ITB sites
Package new version of dCache/SRM, Gratia dCache probes	Timeliness of storage related VDT releases	1 release per 3 months	1 release in 6 months
Implement Gratia GridFTP probe and package it for VDT	Accurate and reliable accounting of transferred data. Number of sites that install the package	April, 2009	Released in VDT in March,2009 and OSG 1.0.1 Installed by multiple sites
Provide validation and benchmark test suites for OSG supported storage and data movement software	Successful deployment of the new releases	Validate the software before every release	Each release is certified. New tests are being added to test suite. We do not have benchmark tests yet.
Acquire and maintain test stand for BeStMan , Maintain test stand for dCache	Be able to perform validation and benchmark tests Be able to use for troubleshooting	Installed by --- January, 2009 Perform periodical certification test	5 server nodes were configured by April 1st 2009. Installed BeStMan/Xrootd. Teststands are in use for software certification

OSG@FNAL Storage: Summary of Service Performance

(for the period 01-Oct-2008 through 05-May-2009)

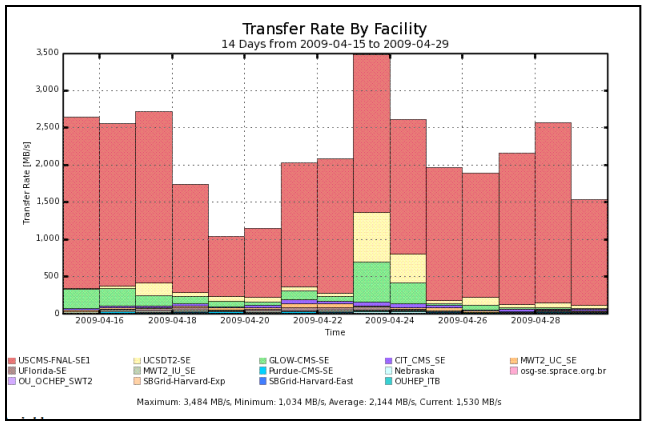
Service Activity	Performance Metric	Performance Target	Actual Results
Maintain storage installation, configuration and validation documentation	Provide useful set of storage related documentation. Ease of navigation. Reduce number of complain related to misleading or invalid information in Installation Guides	Organize OSG Storage twiki pages by December 2008. Provide documentation for BeStMan, Xrootd, Gratia Probes	Documentation clean up has been finished in December. All Installation Guides are part of OSG 1.0.1 release
Provide and coordinate effective operation and user support for OSG supported storage and data movement software.	Responsiveness and completeness of closure of OSG Grid Operations Center tickets related to storage	Respond to the ticket with a day, monitor ticket resolution weekly	Close to the performance target after Neha returns

OSG@FNAL Storage: Service Performance Highlights, Issues, Concerns

- Effort:
  - Currently the amount of effort dedicated to support is about 25% of an FTE. Recently, with the inclusion of BeStMan-gateway/Xrootd and gratia transfer probes into VDT, the amount of questions about installation, configuration and usage has increased two fold.
  - We are anticipating a massive influx of ATLAS and CMS Tier-3 sites that will install BeStMan and would expect some level of storage support as well as an increase of requests for dCache support with the beginning of the LHC run. We have a serious concern about adequacy of current support efforts for future needs.
  - We are getting new requests to accepting new storage software (e.g Hadoop) under OSG Storage. This also will require additional effort.
  - Assessed the effort shortfall for storage support and am still waiting for another opportunity to talk this through with OSG management.
- Timely releases:
  - The schedules and deliverables of dcache/SRM are not under the control of the OSG Storage.
  - Community tool kit releases are not under control of OSG Storage so the integration of them with vdt-dCache package could be delayed

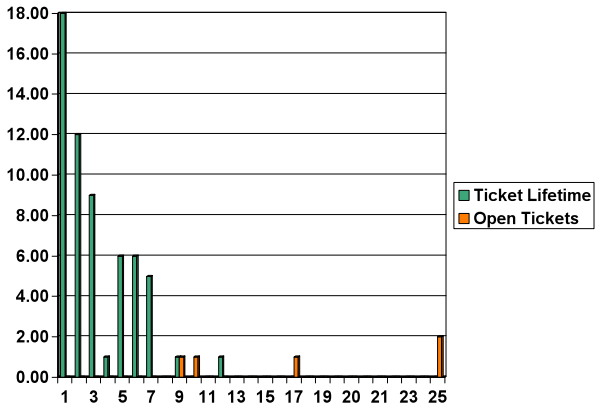
OSG@FNAL Storage: Service Performance Highlights, Issues, Concerns

- Storage Installations on OSG Tier-2:
  - BeStMan – 10 sites
  - dCache - 16 sites



- Gratia dCache and GridFTP transfer probes:
  - Installed on 14 OSG sites
  - Collects information about more then 19 VOs

- GOC tickets:
  - Number of open tickets: 65
  - Number of closed tickets: 60



OSG Security: Summary of Service Performance

(for the period 01-Oct-2008 through 05-May-2009)

Service Activity	Performance Metric	Performance Target	Actual Results
Provide OSG Security Officer	% effort	85%	85%
Operational security– ST&E audits	Time	4 months	6 months
Build acumen at FNAL and OSG, participate in OSE and CSExec, reflect OSE concerns at OSG vice-a-versa	% effort	7.5%	7.5%
Build acumen at DOE R&D security group regarding open science security	% effort	10%	10%

OSG Security: Service Performance Highlights, Issues, Concerns

- Time and effort spent on ST&E controls
  - Ron helps with 15% of his time.

OSG Security: Summary of Project Performance

(for the period 01-Oct-2008 through 05-May-09)

Project Deliverable / Milestone	Initial Completion Target	% Complete (0,25,50,75,100)	Current Completion Target
Using Gratia logs for grid security	12/08	75%	6/09
Security Tools: CA management and banning tools	12/08	100%	In the current release
Evaluation of OSG authN infrastructure	2/09	100%	2/09

OSG@FNAL Outreach: Summary of Service Performance

(for the period 01-Oct-2008 through 30-Apr-2009)

Service Activity	Performance Metric	Performance Target	Actual Results
Outreach to DOE communities.	Not specified	N/A	2
Improve use of DOE facilities	Not specified	N/A	Ongoing
Outreach to low-use VOs	Not specified	N/A	1

- Geant4 OSG outreach: technical issues with VO Infrastructure necessitate personal visit. Almost everything in place pending, “roadblock removal.”
- Iter MPI: initial proof-of-concept successful: OSG submission to NERSC platforms already familiar to Iter, minor technical issue with new platform at Purdue-CAESAR. Plans to move ahead with automated multi-site software installation / management.
- NREL (National Renewable Energy Lab): initial outreach ran into security concerns. High level discussions continuing.
- PNNL (Pacific Northwest National Lab): initial contacts unsuccessful, more leads being pursued at higher level (John McGee).
- Teragrid integration: working on technical issues.

Grid Services: Summary of Service Performance

(for the period 01-Oct-2008 through 30-Apr-2009)

Service Activity	Performance Metric	Performance Target	Actual Results
ReSS Support and Deployment	Timely resolution of problem tickets	100%	100% (on 9 GOC tickets)
Grid Security	Number of reviews performed	2	1 (SAZ) + participated to DMS SRM review
Accounting Maintenance	Number of issues and turn around time	-	~25 issues resolved in 2 days average
WMS Deployment and Support	Number of concurrently running jobs	10k	6k

Grid Services: Service Performance Highlights, Issues, Concerns

- VO Services project is closing down. Moving actively developed components to related projects.
- Gratia: the number of new requests has increased more than expected due to the users / OSG needing more reports. A significant portion of the reports was due to unannounced changes of the upstream data provider (OIM/MyOSG). The underlying lack of communication is being actively (and satisfactorily so far) worked on by the OSG GOC.

Grid Services: Summary of Project Performance

(for the period 01-Oct-2008 through 30-Apr-2009)

Project Deliverable / Milestone	Initial Completion Target	% Complete	Current Completion Target
VO Services: AuthZ Interop	Oct 08 (devel. only)	95%	May09 w/ deployment
ReSS: Development activities	Jul 2009	40%	Dec 2009 w/ ext. scope and reduced effort
WMS Development and Maintenance	v1.6: 3/31/09 v2.0: 6/30/09	v1.6: 90% v2.0: 50%	v1.6: 5/16/09 v2.0: 8/15/09
MCAS Development	v0.1: 04/01/09 v0.2: 06/01/09	v0.1: 95% v0.2: 25%	v0.1: 04/30/09 v0.2: 06/01/09

Grid Services: Project Highlights, Issues, and Concerns

- Authorization Interoperability waiting for confirmation of successful deployment before closing the project.
  - Project met goals overall (development, integration, testing…)
- Increased effort of Parag on WMS activities assumes ramping down on SAM-Grid (currently on track).
- GlideIn WMS v1.6: feature complete; working on documentation. The v2.0 is still in the software development cycle.
  - Effort issues discussed in context of USCMS Grid Services
- MCAS has provided the investigation demo for CMS facility operations (v0.1). Reevaluating and understanding requirements, stakeholders, deployment and support models (v0.2). Understaffed due to effort redirection to higher priority activities.

CEDPS: Summary of Project Performance

(for the period 01-Oct-2008 through 30-Apr-2009)

Project Deliverable / Milestone	Initial Completion Target	% Complete (0,25,50,75,100)	Current Completion Target
common event logging specification/common id support	Oct 2009	75	Oct 2009
pluggable event and logging info. Collection	Oct 2009	0	Moot
TeraPath, setup integration platform for dCache / globus gridftp based network reservation services	Oct 2009	0	Moot
Pool to pool cost optimization	Oct 2009	25	Oct 2009

CEDPS: Project Highlights, Issues, and Concerns

- Changes in dCache and SRM were implementation of common context reported in each dCache/SRM log message
- pluggable event and logging info Collection has already been implemented through log4j
- There has been no interest in continuing TeraPath and network reservation work from CEDPS teams.
- Pool to pool cost optimization is the NEW item – formalize dCache cost optimization based on existing CMS storage facility operations scripts.

Financial Performance: FTE Usage

Level 0 Activity: **LHC** **% of FY Complete:** **50%**

Personnel Usage (FTEs)

Tactical Plan Level 1 Activity	Allocation FTE-yrs	Allocation FTE-mos	Actual YTD FTE-yrs (Ave/mo.)	Actual YTD FTE-mos	% Consumed YTD	Current FY09 Forecast
USCMS Grid Services						
Grid Services	3.05	36.60	3.05	18.30	50%	100%
Total	3.05	36.60	3.05	18.30	50%	

CD FY09 Tactical Plan Status 43

Financial Performance: FTE Usage

Level 0 Activity: **GRID** **% of FY Complete:** **50%**

Personnel Usage (FTEs)

Tactical Plan Level 1 Activity	Allocation FTE-yrs	Allocation FTE-mos	Actual YTD FTE-yrs (Ave/mo.)	Actual YTD FTE-mos	% Consumed YTD	Current FY09 Forecast
FermiGrid						
FermiGrid	3.86	46.32	3.95	23.72	51%	100%
Total	3.86	46.32	3.95	23.72	51%	
Open Science Grid						
Open Science Grid	7.10	85.20	6.70	40.20	47%	97%
Total	7.10	85.20	6.70	40.20	47%	

	Budget	**Spent**	**%**	**Projected**	**Projected %**
DOE Funding	$797,500	$341,272	43%	$761,272	95%
NSF Funding [1]	$708,200	$308,713	44%	$578,713	82%

-[1] Must last till next round of funding expected in Dec 2009

Does not include new hire

Financial Performance: FTE Usage

Level 0 Activity: **GRID** **% of FY Complete:** **50%**

Personnel Usage (FTEs)

Tactical Plan Level 1 Activity	Allocation FTE-yrs	Allocation FTE-mos	Actual YTD FTE-yrs (Ave/mo.)	Actual YTD FTE-mos	% Consumed YTD	Current FY09 Forecast
Grid Services						
MCAS	1.22	14.64	0.62	3.70	25%	70%
VO Services	1.17	14.04	1.42	8.50	61%	80%
Accounting	0.94	11.28	1.12	6.70	59%	109%
WMS / glidein	0.68	8.16	1.27	7.60	93%	154%
WMS / ReSS	0.57	6.84	0.40	2.40	35%	70%
Security	0.19	2.28	0.27	1.60	70%	100%
Total	4.77	57.24	5.08	30.50	53%	

Slow ramp up

Ramp up in use, more support/development necessary than planned.

Knowledge transfer on glidein means reduced effort on ReSS and MCAS. Increase in requirements from outside CMS.

Ramp up on security process

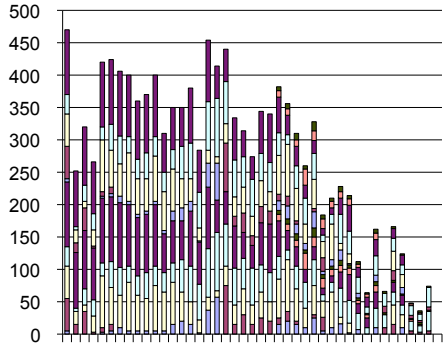
Financial Performance: FTE Usage

Level 0 Activity: **GRID** **% of FY Complete:** **50%**

Personnel Usage (FTEs)

Tactical Plan Level 1 Activity	Allocation FTE-yrs	Allocation FTE-mos	Actual YTD FTE-yrs (Ave/mo.)	Actual YTD FTE-mos	% Consumed YTD	Current FY09 Forecast
REX/Ops						
SamGrid	0.26	3.12	0.36	2.14	69%	100%
Total	0.26	3.12	0.36	2.14	69%	
CEDPS						
SciDAC2 / CEDPS	0.60	7.20	0.73	4.40	61%	100%
Total	0.60	7.20	0.73	4.40	61%	

SAMGrid Effort



Ramping down during the year

Assumes minimal additional development requests from last phase of initiative

CD FY09 Tactical Plan Status 46

Financial Performance: FTE Usage

Level 0 Activity: **GRID + LHC** **% of FY Complete:** **50%**

Personnel Usage (FTEs)

Tactical Plan Level 1 Activity	Allocation FTE-yrs	Allocation FTE-mos	Actual YTD FTE-yrs (Ave/mo.)	Actual YTD FTE-mos	% Consumed YTD	Current FY09 Forecast
FermiGrid	3.86	46.32	3.95	23.72	51%	100%
Open Science Grid	7.1	85.2	6.7	40.2	47%	97%
Grid Services	4.77	57.24	5.08	30.5	53%	
SAMGrid	0.26	3.12	0.36	2.14	69%	100%
CEDPS	0.6	7.2	0.73	4.4	61%	100%
USCMS Grid Services	3.05	36.6	3.05	18.3	50%	100%
Total	19.64	235.68	19.87	119.26	51%	

CD FY09 Tactical Plan Status 47

Financial Performance: M&S (Internal Funding)

Level 0 Activity: **GRID/LHC** **% of FY Complete:** **50%**

Operating & Equipment M&S ***CD Internal Funding***

Tactical Plan Level 1 Activity	Operations M&S FY Obligation Budget	Operations M&S YTD Obligations + RIPS	Operations M&S % Spent	Operations M&S Current FY08 Forecast	Equipment M&S FY Obligation Budget	Equipment M&S YTD Obligations + RIPS	Equipment M&S % Spent	Equipment M&S Current FY08 Forecast
USCMS Grid Services								
Grid Services & Interfaces	120	0	0%	100%	0	0	---	
Total	120	0	0%		0	0	0%	
FermiGrid								
FermiGrid	131.8	36.495	28%	100%	0	0	---	
Total	131.8	36.495	28%		0	0	0%	
Open Science Grid								
Open Science Grid	38.5	24.78	64%	75%	0	0	0%	
Total	38.5	24.78	64%		0	0	0%	
Grid Services								
Grid Services	45.55	12.88	28%	75%	0	0	0%	
Total	45.55	12.88	28%		0	0	0%	

Contractor salary – investigating why 0% spent

-10-12K travel charges need investigation
-Planning gratia upgrade (30-40K)
-Potential hardware-need repurposing possible

-Less base-funded travel
-Budget lateness

FermiGrid – M&S Detail

Description	TotalCost (budgeted)	Spent (obligation)
Gratia Systems Enhancements	42000	0
Domestic Travel	13500	??
Foreign Travel	9450	??
New desktops	5850	0
Miscellaneous operating expenditures	5000	
FermiGrid Hardware Maintenance	5000	
Training and documentation	5000	
New systems for OSG RESS	20000	15000
GP MPI	Off Budget	----
FermiGrid Cloud Cluster	Off Budget	----
Catalyst 6509 48 port 10/100/1000 blade	10000	0
fnpcsrv1 replacement	16000	0

Activities Financials: M&S (External Funding)

Level 0 Activity: **GRID** **% of FY Complete:** **50%**

Operating & Equipment M&S ***CD External Funding***

Tactical Plan Level 1 Activity	Operations M&S FY Obligation Budget	Operations M&S YTD Obligations + RIPS	Operations M&S % Spent	Operations M&S Current FY08 Forecast	Equipment M&S FY Obligation Budget	Equipment M&S YTD Obligations + RIPS	Equipment M&S % Spent	Equipment M&S Current FY08 Forecast
Open Science Grid								
R4W202	18	22	122%	222%	0	0	---	
540	23	46	200%	256%	0	0	---	
Total	41	68	166%	241%	0	0	0%	
CEDPS								
SciDac2/CEDPS	1.6	0	0%	100%	0	0	---	
Total	1.6	0	0%		0	0	0%	

	Budget	**Spent**	**%**	**Projected**	**Projected %**
DOE Funding	$797,500	$341,272	43%	$761,272	95%
NSF Funding [1]	$708,200	$308,713	44%	$578,713	82%

-[1] Must last till next round of funding expected in Dec 2009

Trip in preparation

Tactical Plan Status Summary

- FermiGrid
  - Despite recent troubles, FermiGrid has been providing excellent service support to the user community.
  - We are preparing to deploy hardware upgrades.
  - We may need to reallocate funds to alleviate BlueArc performance issues.
    - (Free-form, but be brief to fit in time allotment)
    - (Can review highlights, issues, and risks at highest level)
- OSG@FNAL
  - Critical that we create momentum for planning "future OSG" beyond 2011;need commitment and work from the OSG leaders, major stakeholders, and agencies.

Tactical Plan Status Summary

- Grid Services
  - VO Services Project transitioning to Maintenance Mode
  - Accounting Project effort planned to be reduced in next few months, need to watch this.
  - WMS: Loosing direct control of expert resource; need to understand if further collaboration is possible.
- CEDPS
  - Maintaining presence in the CEDPS team
  - Work with dCache team to help with some of the low priority issues
  - An important issue is finding use for features developed under the CEDPS umbrella.
    - Many startup ideas do not pass the threshold of applicability to immediate infrastructure needed.