Grid Coordination Meeting

Eileen Berman

Scope of Grid in CD

- CMS data grid (includes USCMS grid)
- CDF & D0 (SAMGrid, CAF, use of OSG)
- SDSS, DES
- OSG at FNAL (contributions and project funded)
- Focus of Grid Facility Support is in the **Grid Facilities Department**

GRID Facilities Department Mission

- To establish and maintain Fermilab as a high performance, robust, highly available, expertly supported and documented Premier Grid Facility which supports the scientific program based on Computing Division and Laboratory priorities. The department provides production infrastructure and software, together with leading edge and innovative computing solutions, to meet the needs of the Fermilab Grid community and takes a strong leadership role in the development and operation of the global computing infrastructure of the Open Science Grid.

- FY07 WBSs exist & are being followed
- Stakeholders & Managers can track

VO Services	Accounting	FermiGrid	WMS
Improve Health Status Reporting for Key Servers	Improve Robustness and Data Quality	Operations Move to 24x7 Model	Deploy the D0 WMS System on OSG
Improve Software Validation	Authentication, Authorization, Privacy and Role Checking	FermiGrid-HA Upgrades	Evaluate WMS solutions for CMS
Improve GUMS Integration with MonALISA	Server Development	Computer Security	Deploy the CMS WMS on OSG
Improve Robustness of GUMS	Reports	Development jobmanager-cemon WS-GRAM FermiGrid-HA OSG Resource Broker SAZ bug fixes etc Metrics & Service Monitors Problem Diagnosis Tools MPI, Kerberos, Fair Share	Collaborate with OSG, EGEE, NGDF and peer grids on Information System activities.
Support and Deployment	Deployment	Support	Evaluate if a common WMS solution is feasible
Improve GUMS Usability	Write/Test Storage Probe	Storage – VDT, volatile dCache,gPLAZMA	Deploy a common WMS for the Fermilab VOs on OSG
gPLAZMA Integration with dCache and deployment	Interoperability	Open Science Grid Testing Integration & Release Process	
Integration of gLexec with PDP	Write/Test Network Probe	Outreach	
VOMRS implementation of “vital” features for stakeholders	Metrics		
Roadmap for long term			

CD Effort Activities

GRID

Coordination

FermiGrid

Grid Services / Accounting

Grid Services / Accounting - CMS

Grid Services / Monitoring / CMS Data Grid

Grid Services / VO Services

Grid Services / WMS

Open Science Grid / Communication

Open Science Grid / Coordination

Open Science Grid / Outreach

Open Science Grid / Security

Open Science Grid / User Support

SAMGrid

Security

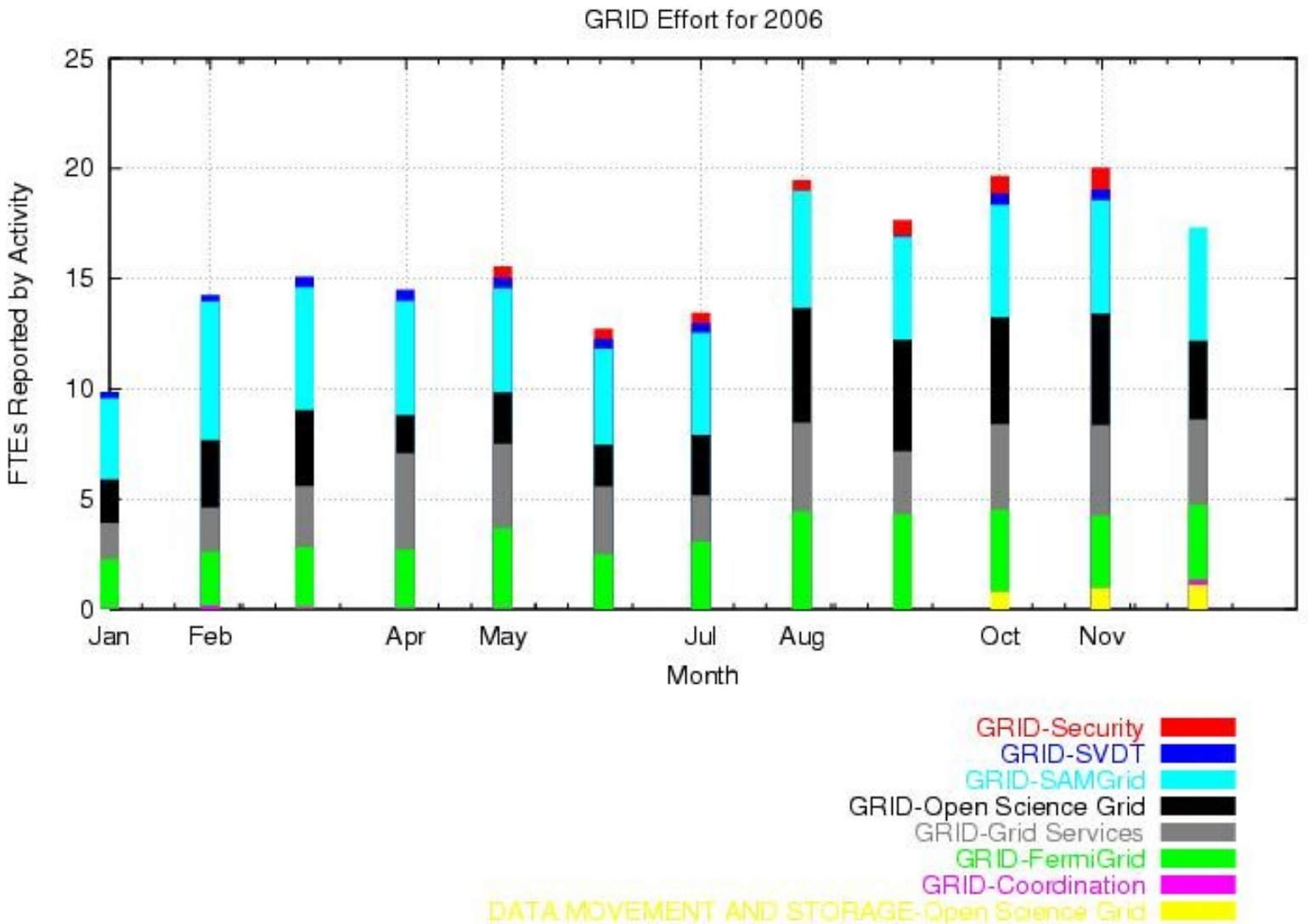
DATA MOVEMENT & STORAGE

Open Science Grid / Extensio

Open Science Grid / VDT

CD Base funded
CMS Funding Contributions

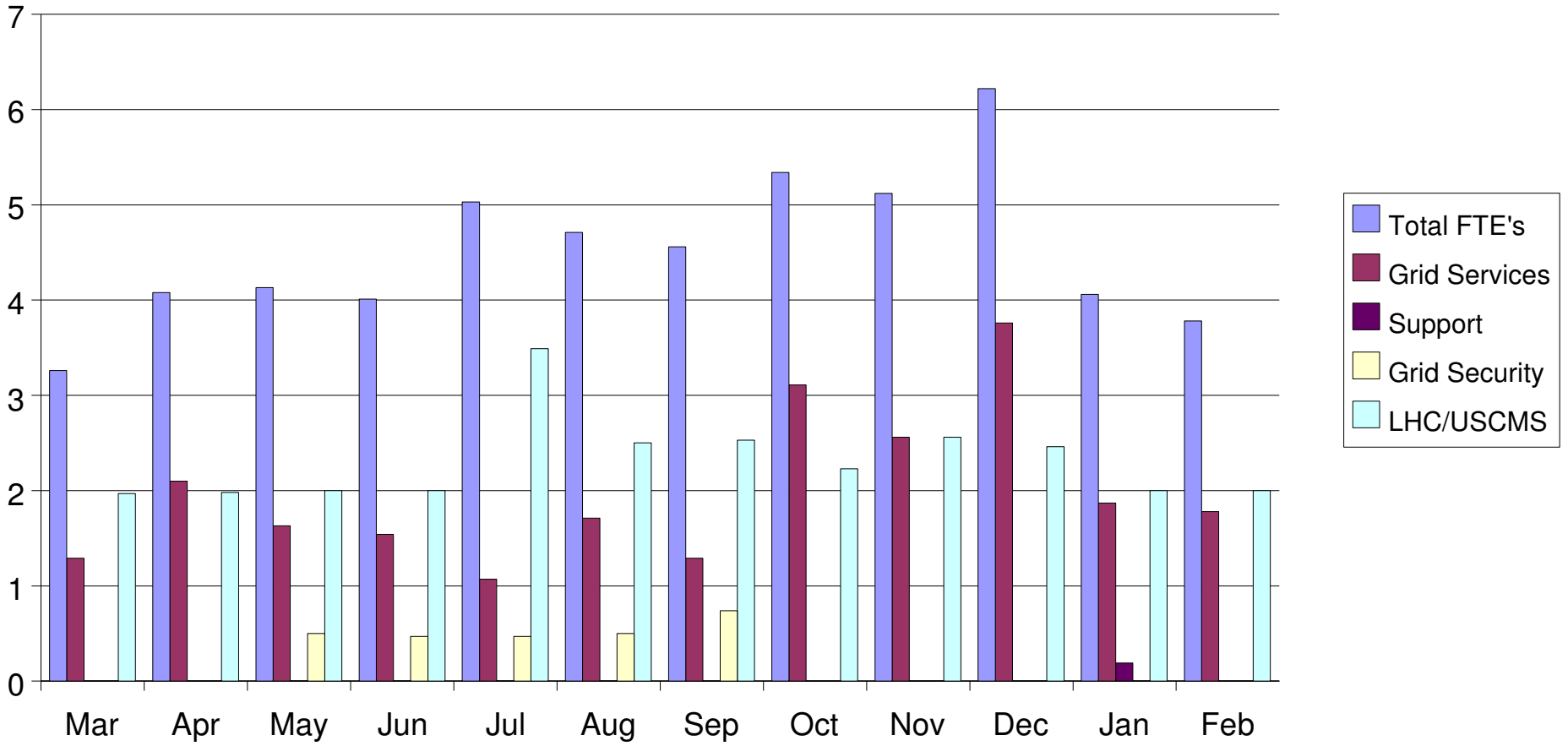
GRID Effort Last Year



(Data Movement And Storage/Open Science Grid)

Total : 54.3 FTE Months

CMS Funded Effort



Stakeholder Requirements

Category	CD	CMS	Run II	Astro	Minos, MiniBoone	ILC, LQCD	OSG
General		Make efficient use of the CMS dedicated and opportunistic resources through the OSG common grid infrastructure	Support processing and analysis of final data	Use Grid Infrastructure	Use Grid Infrastructure (MINOS – production)	GRID support for ILC	
		CERN-> tape 100 MB/s (6/07) (200 MB/s -6 /08)	Migrate appropriate computing to grid solutions (Monte Carlo, data reconstruction)				
		To Tier 2s – 40-400 MB/s (6/07) (100-1000 MB/s 6/08)	Identify effort for legacy systems				
		Interoperation with EGEE, OSG	Interoperation with EGEE, OSG				
							Develop Incident Response Process
Category	**CD**	**CMS**	**Run II**	**Astro**	**Minos, MiniBoone**	**ILC, LQCD**	**OSG**

							Develop Incident Response Process
Category	**CD**	**CMS**	**Run II**	**Astro**	**Minos, MiniBoone**	**ILC, LQCD**	**OSG**
							Develop Security Policies
							Develop Security Training
							Develop Security Auditing
VO Services		Support doubling of current scale					
Gratia							Accounting reports available for users (9/07)
SAMGrid	Maintenance node in June 07		Continued support		Interface MINOS Offline database tables into SAM		
			SRM interface to SAMGrid				
FermiGrid	Define & implement metrics	Execute 5000 jobs/day at FNAL (6/07) (10000 – 6/08)	Supports analysis				
			All CDF analysis				
OSG		Execute 10000 analysis jobs/day local and remote (6/07) (20000 – 6/08)	Accomplish reprocessing using OSG resources				

Job Submission and Brokering Metrics

		Minos	D0	CMS	CDF	LQCD	O
Number of Simultaneous (CDF, D0) Jobs per day(CMS, prod jobs run >1 day)							
2006	Total	500	5,000	12,500	5,000		
	Offsite /Grid Fraction		50%	100%	50%		
	Offsite Applications:		MC, Prod	MC, Prod, Analysis	MC Analysis [1]		
	Number of jobs from single submit site						
2007	Total		6500	25,000	6500		
	Offsite/Grid Fraction		50%	100%	50%		
	Offsite Applications:		MC, Prod	MC, Prod, Analysis	MC, Analysis		
	Number of jobs from single submit site						
2008			8450	50,000	8450		
	Offsite Fraction		50%	100%	50%		
	Offsite Applications:		MC, Prod	MC, Prod, Analysis	MC, Analysis		
	Number of jobs from single submit site						
2009			10985	?	10985		
	Offsite Fraction		50%		50%		
	Offsite Applications:		MC, Analysis	MC, Prod, Analysis	MC, Analysis		
	Number of jobs from single submit site						

Grid Security

- Effort - backfill for open position (.7FTE)
  - Keith C., Eileen B., Igor S., Stu F.
- Organize & Implement controls in OSG Core Security Plan

Questions???

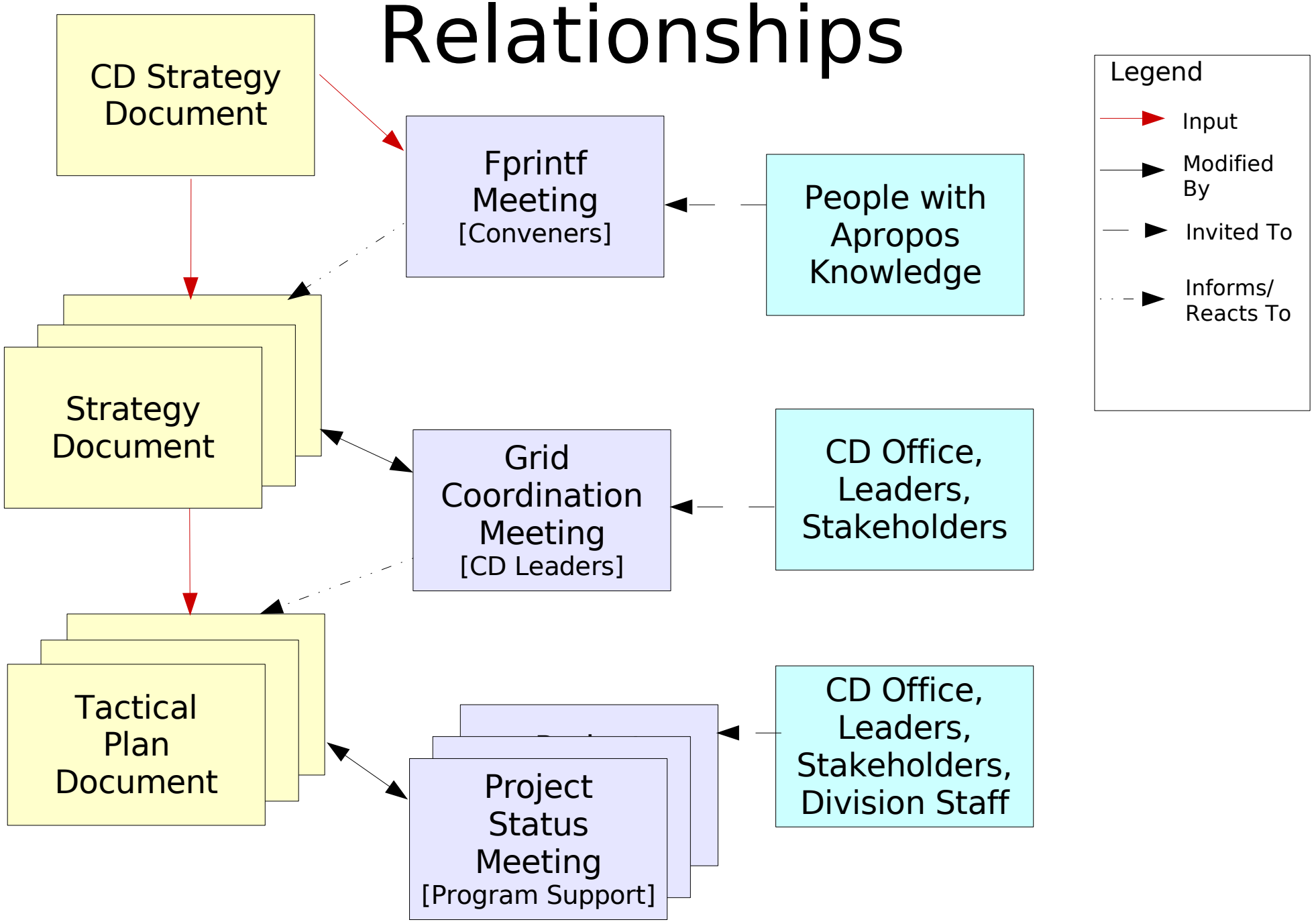
Concerns & Issues

- From talking to Office of Project Management
  - Dependencies
    - Start and Finish
  - Priorities
  - Gross concept of a schedule (dependencies and priorities)
  - Release Schedule of Products
    - How do you know when you are done?

Descriptions

Meeting	Who Attends	What Discussed	When Held	Why
Fprintf	Conveners, Computer Analysts & Architects	Architectural issues, directions, agreement, political & economic issues	Follows OSG Blueprint Meetings	Develop a technical roadmap for grid work at Fermi. Feed planning for technical work. Feed into Strategy documents.
Grid Coordination	CDO, Managers, Stakeholders	Projects, interfaces, scope, goals, needs, constraints. Plan across projects. Discuss Strategy changes, feedback on them.	3 times/year??? (may not be periodic)	High level discussion of grid programs of work/projects in the division. How do projects fit together. Feed into Strategic and Tactical plans, effort, budget. Checkpoint with Strategic plan.
Project Status	CDO, Managers, Stakeholders, Division Staff	Present detailed status of project. Milestones Effort Roadblocks	Quarterly, per project	Informs people as to what is happening, any hurdles, checkpoint with tactical plan.

Relationships



Homework from Last GDM

- Reduce operational load by a factor of ~2
- Table of stakeholder requirements metrics