

# LCG-LHCC Mini Review














M. Martinez

(for the LHCC-LCG referee team)

**Monday 16 February 2009**

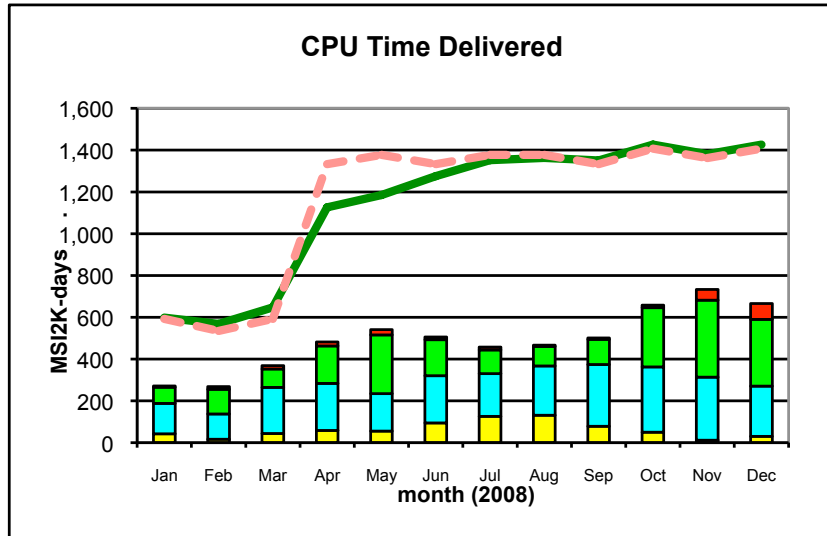
[top](#)↑

09:00->11:20 **Part 1** (Convener: Mario Martinez-Perez (*IFAE-Barcelona*))

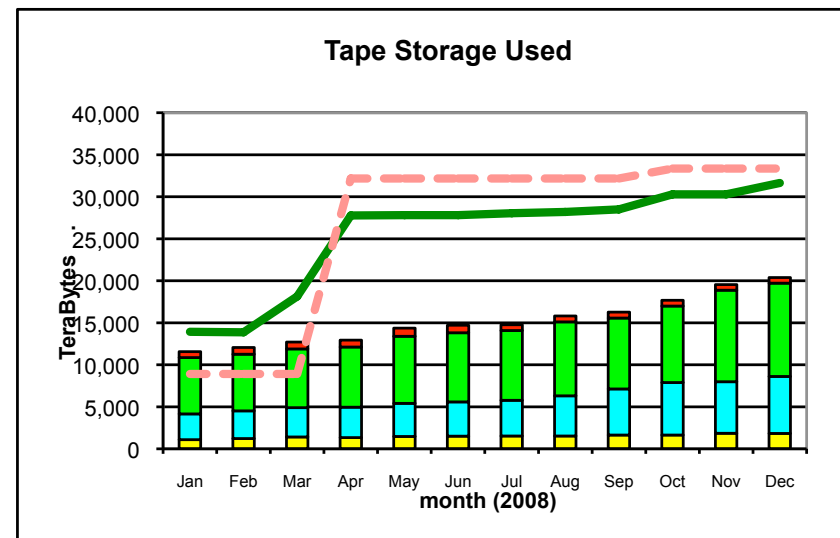
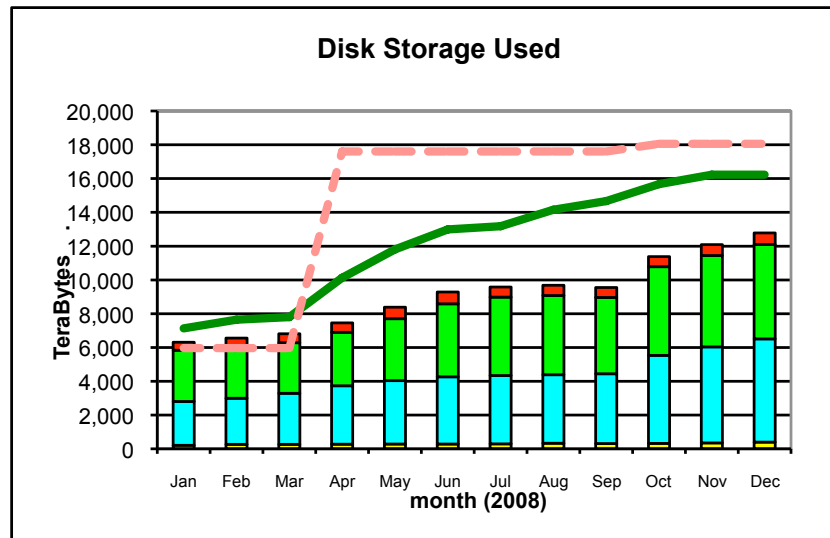
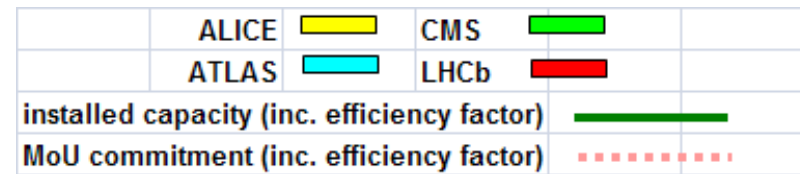
09:00	Project status (30')  Slides   )	Ian Bird ( <i>CERN</i> )
	2009 planning and resources	
09:30	Summary of 2008 LCG operation (20')  Slides   )	Jamie Shiers ( <i>CERN</i> )
	- Performance and experience	
09:50	Status of Application Area (30')  Slides   )	Pere Mato ( <i>CERN</i> )
10:20	break (20')	
10:40	Middleware (EGEE, OSG, NDGF) (30')  Slides   )	Ruth Pordes ( <i>FERMILAB</i> ) , Michael Gronager, Markus Schulz ( <i>CERN</i> )
11:10	Networking (10')  Slides   )	Edoardo Martelli ( <i>CERN</i> )

LHCC Meeting 19<sup>th</sup> February 2009, CERN

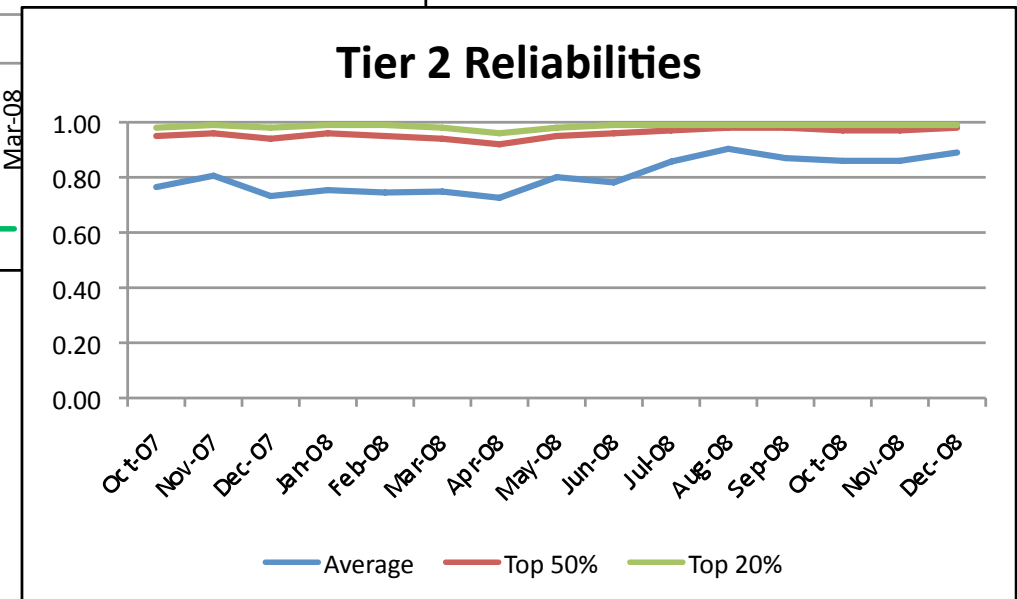
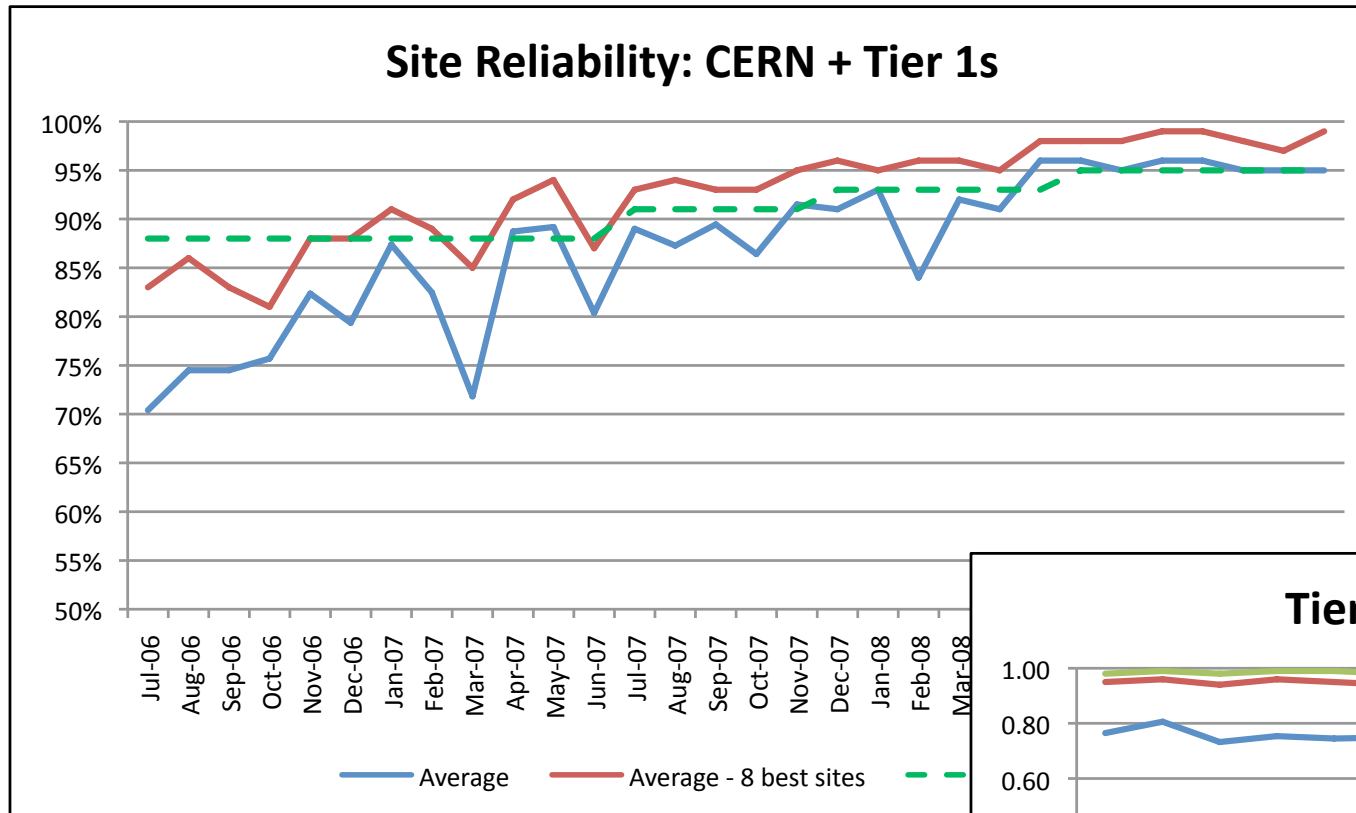
# Summary 2008 resources



From now on  
kSI2K → HEP-SPEC06



# Reliability in 2008



# Notes on 2008 LCG Operations

- Reasonable but better stability to be reached
  - Goal in 2009: No incident in  $\frac{3}{4}$  weeks (now still few incidents per week at T1s)
  - Better organization in T1s necessary with better schedules and plans for interventions
  - Many incidents related to DBs (Tier1s recommended to have at least 1FTE on DB Admin)
  - Plan to visit/review Tier1/Tier2 and focus on services and operations
- Some aspects on the model still are not totally validated/tested  
→ competition between experiments in data reprocessing at T1s and massive/chaotic user analysis
- **Important to consider a CCRC09 exercise (ATLAS+CMS)**

# Pledge resources 2009

	ALICE	ATLAS	CMS	LHCb	Sum 2009
T1 CPU	-49%	6%	-2%	2%	-12%
T1 Disk	-43%	-5%	-13%	-2%	-13%
T1 Tape	-50%	-7%	7%	6%	-13%
T2 CPU	-44%	0%	-8%	-40%	-12%
T2 Disk	-44%	-20%	35%	-	-2%

- Table as on 27/10/08 does not include few additional contributions
- Some funding agencies pushing back 1 year procurements (2009 as 2008 was planned to be)
- **Let's make sure we are not limited by resources when data comes..**
  - Not obvious you can just move the schedule by one year in terms of resources

# Resources & New schedule

- New schedule translates into same resources for 2009/2010 but with initial delay (might translate into better equipment in some cases if procurement done bit later)
  - 2009 must be ready by September
  - 2010 must be ready by April
- Request by ATLAS to double T0/CAF resources in 2009
  - Not included in the plan and available resources
  - ATLAS will need to come back with a revision in view of the new schedule for 2009
- LHCb claims a better share of T0/CAF resources is possible (aims to use resources from ATLAS/CMS when idle...use the valleys from others)
  - We understand resources are allocated and fixed via formal MoUs...
- **Need an official statement on 2009/2010 running time and LHC efficiency factor common for all experiments so they can provide a consistent/coherent estimation of resources needed in 2009/2010**

# New T0 Center

- Existing power capacity runs out in 2010
- A combination of measurements might allow still to survive thru 2010
  - More aggressive replacement of hardware
  - Increase from 2.5 → 2.9 MWs capacity
- CERN Management now supports new building at Prévessin (in 2-years time)
- Looking for solutions to fill the gap

# Middleware

- All 3 Middleware stacks (ARC, OSG, gLite) operational and interoperate with each other (still evolving but without interrupting service)
- New schedule allows to rescue a number of software projects on hold in 2008 in view of the imminent LHC start-up
  - SRM – agreed list of “short term” changes; available by end 2008
  - FTS on SL4 (+available for SL5?) – deployment was postponed
  - WN on SL5 to be available for deployment
  - glEXEC/SCAS to support pilot jobs with identity changing
  - CREAM CE – make available in parallel to existing CE which is known to have scaling issues when there are many different users;
- **Still experiments suffer from SRM v2.2 performance**
- Transition from EGEE → EGI and future support for gLite Middleware under study



# Planning : EGEE → Ends 2010

- Discussion on how countries (T1+T2) will contribute to maintain the WLCG services
- Few national labs will probably end up taking the load to maintain the core services
- No problem anticipated for Tier0  
(not supported by funds from EGEE)

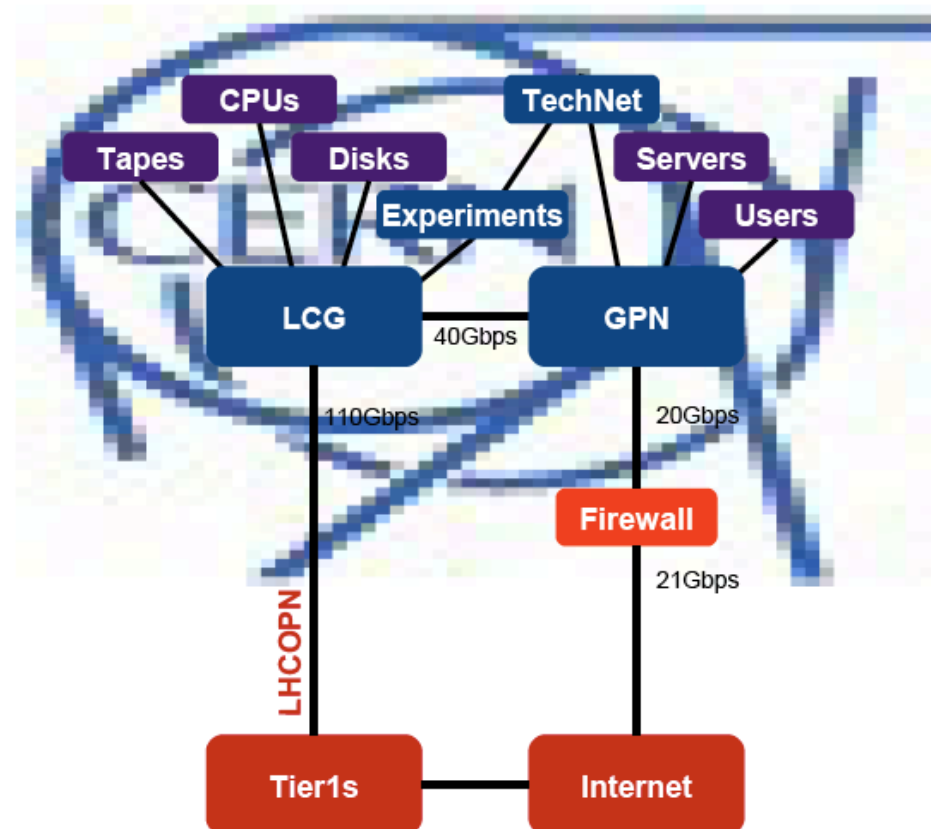
# Applications Area

- Very good progress in all fronts with very mature organization well managed giving results
- Just few remarks on particular items:
  - One/two major releases per year  
(complete AA package build over night every day)
  - Introducing new compilers and platforms
  - Consolidation of all aspects of ROOT project
  - Very relevant activities in GEANT4 hadronic physics
  - Very promising R&D activities
    - Multi core architecture
    - Development of a Portable Analysis Environment
- Level of manpower slightly lower than anticipated
  - Mainly affecting simulation-related activities



# Network

- The status the different networks were presented to us



- All looks well covered → no limitations identified over time