

22/03/2012

LCG-France Tier-1 & AF

Réunion mensuelle de coordination

Pierre Girard

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- Les rats quittent le navire...
- Nouvelles de LCG
 - CR du dernier CP de LCG-France
 - CR du dernier T1SCM
 - CR du dernier GDB
- Disponibilité du site
- Dossiers en cours
- Événements

Les rats quittent le navire...



- Mode “passage de main”
 - Responsable du projet LCG@CC.IN2P3.FR
 - Quoi
 - Représentation auprès de LCG France
 - Représentation auprès de WLCG
 - Activités WLCG au CCIN2P3
 - Comment transmettre les connaissances
 - Oralement (ok qd qq’un à qui parler)
 - Wiki ? EDMS ?
 - Administrateur grille (sysgrid)
 - Discuté avec le chef de l’équipe Infrastructure
 - Validation certificats GRID2-FR du CC
 - Fait
 - Nouveaux contacts
 - Jérôme Bernier (Primaire)
 - Benoît Delaunay (Secondaire)



Nouvelles de LCG

■ CP du 27 février 2012

- « *L'activité des sites en 2011 indique que l'infrastructure composée de 9 Tier-2 Tier-3 (en tenant compte de l'AF du CC) autour du Tier-1 répond avec efficacité aux besoins de calcul des expériences.* »
- « *Compte tenu des baisses continues des budgets alloués par les TGIIR pour le CCIN2P3 et LCG, et donc des notifications décroissantes aux T2/T3, il est décidé de préparer une **concertation sur l'avenir du calcul en général et celui du LHC en particulier avec tous les partenaires, expériences et directeurs des laboratoires hébergeant des sites LCG-France.** L'objectif est de décider une politique claire de l'IN2P3 avec priorités sur les 3-4 prochaines années au plus tard à la fin de l'été 2012.* »

■ T1 Service Coordination Meeting du 15 avril 2012

- <http://indico.cern.ch/conferenceDisplay.py?confId=181610>

LHC Machine Plans for 2012

Mike Lamont (CERN)



2012 LHC schedule Q1/Q2

	Jan			Feb			Mar					
Wk	1	2	3	4	5	6	7	8	9	10	11	12
Mo	2	9	16	23	30	6	13	20	27	5	12	19
Tu												
We					1-Feb							
Th	Technical stop								DSO tests			
Fr						Hardware commissioning						
Sa										Machine checkout		
Su												1

Start partial powering tests (Feb 6)

Start full powering tests (Mar 8)

Re-commissioning with beam (Mar 12)

	Apr			May			June					
Wk	14	15	16	17	18	19	20	21	22	23	24	25
Mo	2	Easter	9	16	23	30	7	14	21	Whit	28	4
Tu	2				1st May							
We												
Th								Ascension				
Fr	G. Friday											
Sa			MD									
Su												

Scrubbing run (date tbc) (Apr 14)

2, 3, 4 (blue circles)

Red double-headed arrow between June 23 and 24

11/3/2012

LHC status



22/03/2012

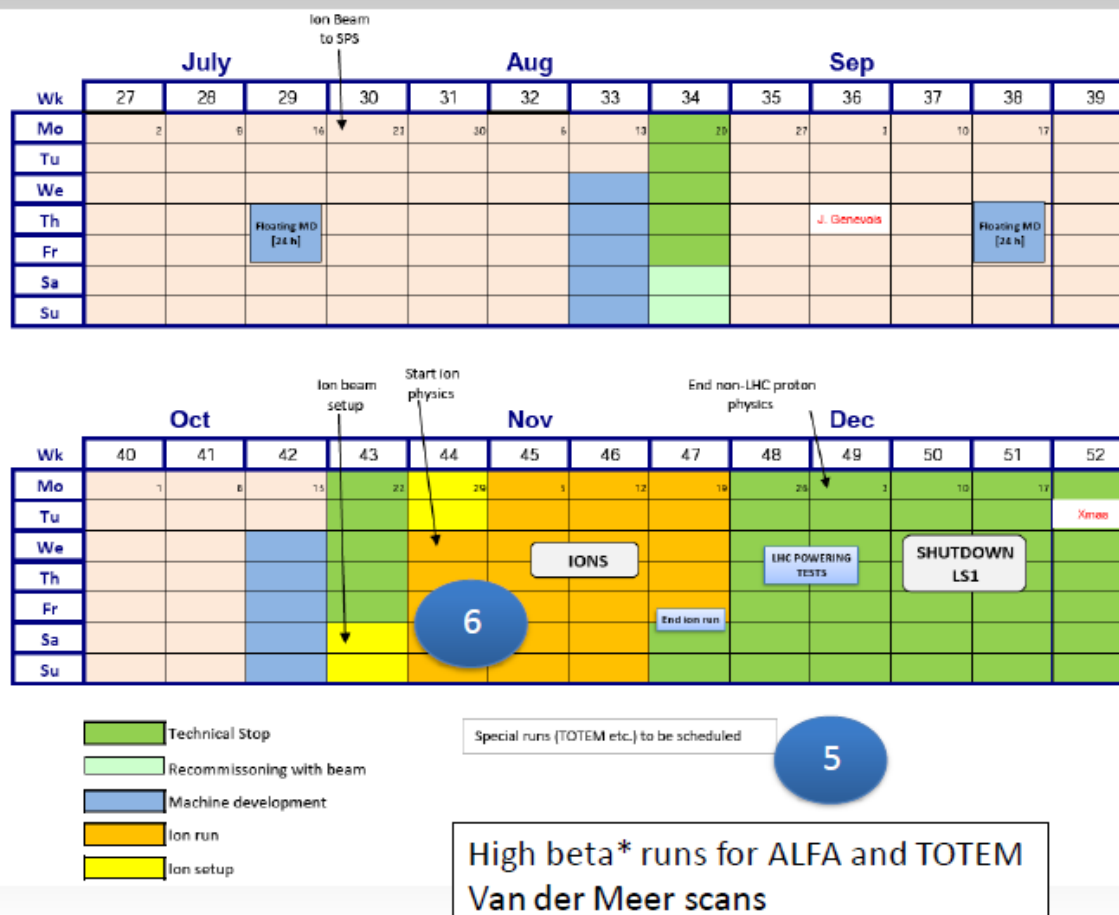
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LHC Machine Plans for 2012

Mike Lamont (CERN)



2012 LHC schedule Q3/Q4



11/3/2012

FTS 2.2.8 deployment at Tier1s

FTS Transfer Dashboard



- Migration vers FTS 2.2.8 poussée par ATLAS
 - Planning établi entre tous les T1s
 - <https://docs.google.com/spreadsheet/ccc?key=0AthhzXLQok7XdFpUeDBfLXE2S1RDZE4zcHp6QWVpUFE#gid=0>
 - CCIN2P3
 - Lundi 26 mars 2012
 - David ?
- Cette version intègre des sondes de monitoring
- Dashboard en préparation
 - Présentation:
 - <http://indico.cern.ch/getFile.py/access?contribId=10&resId=0&materialId=slides&confId=181610>
 - Démo
 - <http://dashb-wlcg-transfers.cern.ch/ui/>



■ GDB du 21 mars 2012

- <http://indico.cern.ch/conferenceDisplay.py?confId=155066>

Election du nouveau chairman du GDB



- And the winner is ...



**MICHEL
JOUVIN**

CR du dernier GDB

Today

- Vidyo
- CERN Infrastructure
- GE
- Experiment Operations
- Middleware



WLCG
Worldwide LHC Computing Grid



Science & Technology
Facilities Council

GDB

Modernisation of the CERN Computing Infrastructure (Ian Bird)



Milestones

 July 2012

 10% resources in CC managed by IaaS system (1000 nodes) including installation, configuration, etc.

 January 2013

 50 % resources managed (over 3 sites)

 July 2013

 95% resources managed

 Initial focus on service/server consolidation use cases

Modernisation of the CERN Computing Infrastructure (Ian Bird)



- **Agile Infrastructure project has 3 aspects**
 - Management tool chain
 - Use of virtualisation
 - Monitoring
 - Possible utilisation de Hadoop pour le stockage central et l'analyse
- **Cloud technology**
 - Choix d'Openstack
 - Participation du CERN à "Openstack Foundation"
- **Cloud investigations**
 - **Use of commercial clouds: issues of policy, overall feasibility, data management, cloud models, *cost***
 - Helix Nebula project is one step in this direction
 - ATLAS est un use case
 - Will consider other direct investigations with other providers
 - CERN Openlab

Role of Helix Nebula: The Science Cloud



ATLAS use case

- Simulations (~no input) with stage out to:
 - Traditional grid storage vs
 - Long term cloud storage
- Data processing (== "Tier 1")
 - This implies large scale data import and export to/from the cloud resource
- Distributed analysis (== "Tier 2")
 - Data accessed remotely (located at grid sites), or
 - Data located at the cloud resource (or another?)
- Bursting for urgent tasks
 - Centrally managed: urgent processing
 - Regionally managed: urgent local analysis needs
- All experiences immediately transferable to other LHC (& HEP) experiments

Extension of the Tier 0

- In 2006 we first recognised the need for an extension of the Tier 0
- Eventually it was decided that this should not be at CERN
- Several years of investigations and proposals
- Last year – call for proposals
 - Followed by detailed technical follow ups
 - Led to call for tender
- Results adjudicated last week in the Finance Committee (Council)
- Winner is Budapest, Hungary (Wigner Inst.)

Timescales

- Prototyping in 2012 hopefully
- Testing in 2013
- **Production in 2014**



Experiment Operations



■ ALICE (Latchezar Betev)

- <http://indico.cern.ch/materialDisplay.py?contribId=0&sessionId=5&materialId=slides&confId=155066>
- The LEGO Analysis Trains
 - Polling together many user analysis tasks (wagons) in a single set of Grid jobs (the train)
 - Managed through a web interface by a Physics Working Group conductor (ALICE has 8 PWGs)
- SLC6 notes
 - Many applications will see a large increase in virtual memory usage (but not resident memory) when running on RHEL 6 vs RHEL 5.
- Re-write of proxy-renewal service (IT/ES – M.Litmaath)
 - Etude d'un déploiement sur nos VO boxes (toutes VO)
 - Contact avec Maarten pour faisabilité

Experiment Operations



■ LHCb (Philippe Charpentier)

- <http://indico.cern.ch/getFile.py/access?contribId=1&sessionId=5&resId=0&materialId=slides&confId=155066>
- **Many non-pledged sites**
- **1.4 PB free on LHCb-Disk space tokens**
 - Parce que des sites ont déployé leurs pledges 2012 en avance
- **Tape recall and cache management:**
 - We need to know the actual size of the cache read buffers
 - Not available with SRM for dCache
- **4 GB virtual memory now OK**
 - Limit per process, not process group (5GB in this case!)
 - If possible only kill the offending process, not the job!
- **SL6 being certified, but not foreseen in production during 2012 data taking**
 - Requires MW python bindings for 2.7

■ CMS (Stephen Gowdy)

- <http://indico.cern.ch/materialDisplay.py?contribId=2&sessionId=5&materialId=slides&confId=155066>
- Intéressant organigramme des « computing operations » de CMS
- Software deployment
 - 2 solutions for sites: CVMFS or CRON installation
- Multi-Core CMSSW jobs
 - Cf. présentation
 - Clear memory gain (~20%) with multi-core processing
 - Lazy download produces a large startup overhead for multi-core jobs
 - Small overhead if Lazy download turned off
 - Tier-1 sites will not like to move parts of their resources to multi-core usage

Experiment Operations



■ ATLAS (Alessandro Di Girolamo)

- <http://indico.cern.ch/materialDisplay.py?contribId=3&sessionId=5&materialId=slides&confId=155066>
- Memory requirements (for high pileup MC12)
 - “there will be jobs which need vmem > 3.5GB”
 - “we ask sites to have limits on vmem of 4GB. SWAP should be set to 2*RAM size. Physical memory requirement not changed (2 GB).”
- LFC migration
 - Done for IN2P3-CC
 - Thanks to Emmanouil, David and Osman
- FTS 2.2.8 functionality
 - ~60% of FTS servers already upgraded, other Tier1s have planned/are planning
 - **Issue observed on Tier0 FTS Server**
 - Gridftp resume transfers in case of particular failures condition
 - Fix already provided in a nonEMI release, installed on CERN pilot and Tier0 FTS server. Will be included in the next EMI rel.
- CVMFS progress (90 / 150 sites)
- Helix nebula test
 - <https://indico.cern.ch/getFile.py/access?resId=0&materialId=slides&contribId=30&sessionId=3&subContId=3&confId=169695>
- Automation of Operations / Evaluation of sites
 - Site usability for analysis activity
 - could be injected in SAM/NAGIOS

■ CREAM

- BLAH, [v.1.16.5](#) (12 April 2012)
 - Fixes the job registry corruption caused by the purge of the registry under heavy load

■ UI/WN

- GFAL/lcg_util, [v. 1.12.0](#) – minor release
 - Glue 2.0 support in gLite data clients
 - Return estimatedWaitTime for files in an asynchronous SRM request in Python
 - Bug fixes:
 - checksum is case sensitive in lcg-get-checksum/lcg-rep
 - ...
 - lcg-rep segmentation fault with dcache endpoints

■ Extension of security support of gLite 3.2 glite-WN and glite-UI

- To September 30 2012
- Means that sites can keep gLite until EMI-2 !!!

■ UI/WN tarball support

- First testing version available
- Documentation: <https://twiki.cern.ch/twiki/bin/view/EMI/EMluiwnTar>
- Beta testing



Résultats du site

Résultats Janvier 2012

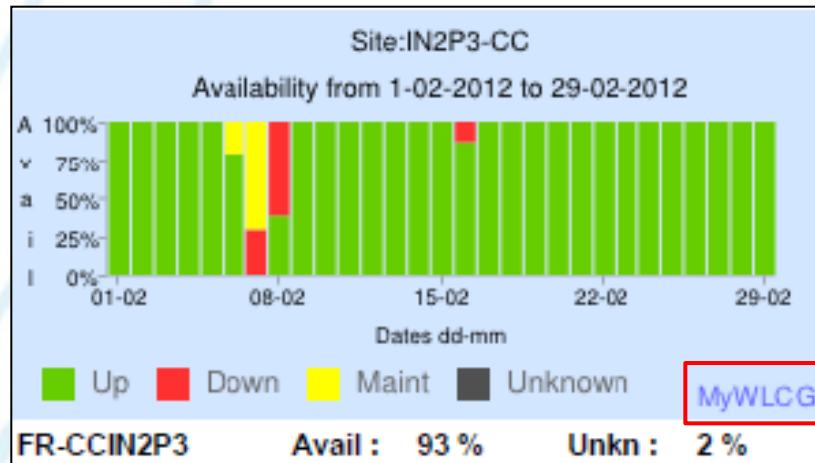


■ MyWLC IN2P3-CC

- <http://grid-monitoring.cern.ch/mywlcg/sa/?group=1&site=457&graph=1&profile=15>

■ LCG Office

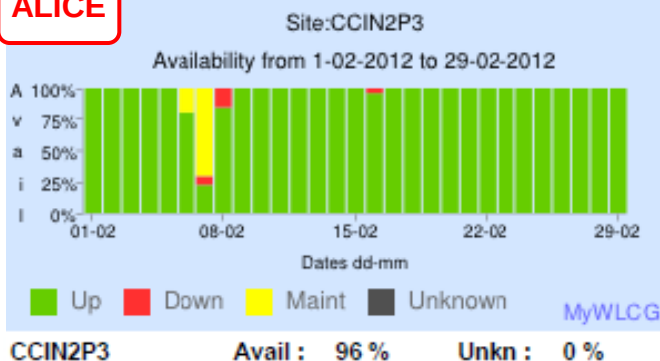
- https://espace.cern.ch/WLCG-document-repository/ReliabilityAvailability/Tier-1/2012/tier1_reliab_0212/Tier1_Summary_Feb2012.pdf



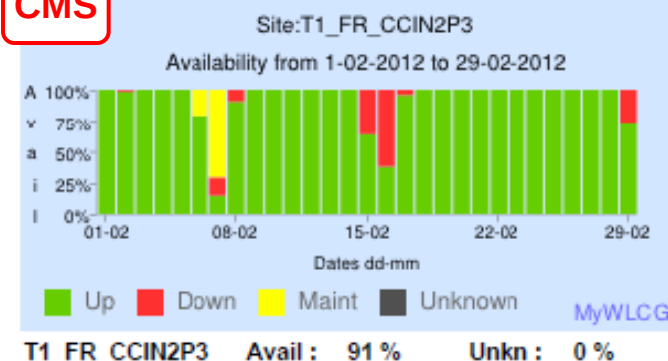
Disponibilités des VOs pour février 2012



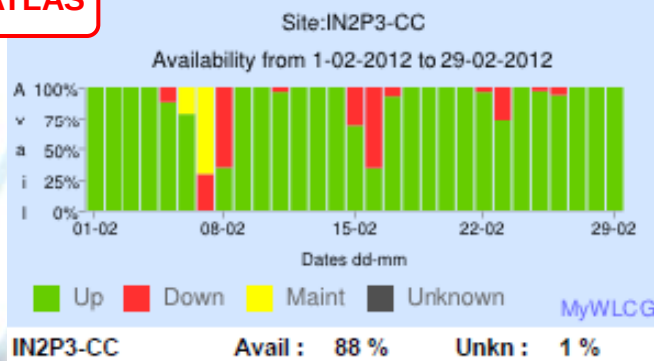
ALICE



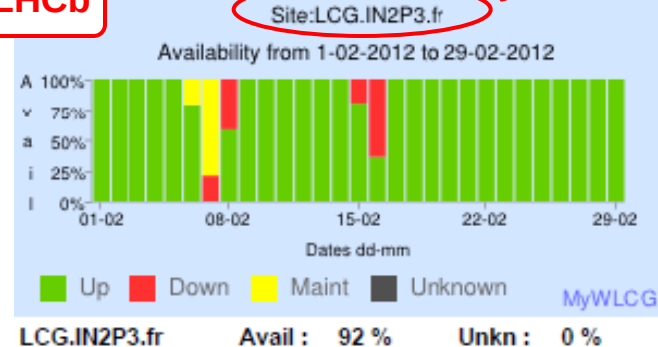
CMS



ATLAS



LHCb



?



- A venir (à mettre à jour)
 - EGI User Forum, Munich, 19-23 March
 - HEPiX Spring Meeting, Prague, 23-27 April 2012
 - EMI AHM, DESY, 8-10 May
 - WLCG Workshop, NYC, 19-20th May 2012
 - CHEP2012, NYC, 21-25th May 2012
 - LCG France, Nantes (SUBATECH), 6-7 June 2012
 - <http://indico.in2p3.fr/conferenceDisplay.py?confId=6455>
 - EGI Technical Forum, Prague, 17-21 September 2012
 - HEPiX Fall Meeting, IHEP, 15-19 October 2012
 - JI IN2P3/IRFU, La Londe les Maures, du 22 au 25 octobre 2012