

1. Introduction

The following report summarises

- Current signature status of the Worldwide LHC Computing Grid (WLCG) Memorandum of Understanding (MoU) and Tier definition
- Funding and expenditure status for WLCG at CERN
- Resource accounting for Tier-0,1 and 2 sites
- Status of experiment requirements and resource pledges

Complementary information can be found on the WLCG website <http://lcg.web.cern.ch/LCG/>

2. WLCG Memorandum of Understanding Signature Status

Since the last C-RRB meeting, no further signatures have been obtained however 2 MoU's are currently in the signature circuit: Greece as a CMS Tier-2 and US LBNL as an ALICE Tier-2. Expressions of interest from other countries or existing collaborators to change their tier status are also being examined and followed up on. Progress will be reported at the next meeting.

Following the request at the last meeting to update the official definition of the Tier-1 and Tier-2s as reflected in the MoU annex 1 & 2, certain changes were made either to site names, acronyms or WLCG collaboration representative names. Changes are reflected in Table 1 which shows the current definition of the Tier-1 sites, and Table 2 for the Tier-2 sites. Any incorrect information or future changes should continue to be signalled to lcg.office@cern.ch to ensure that the MoU information available at <http://lcg.web.cern.ch/LCG/mou.htm> is constantly maintained up to date and accurate.

Centre	Experiments served with priority				Representative to WLCG Collaboration	Funding Agencies
	ALICE	ATLAS	CMS	LHCb		
Canada, TRIUMF		X			M. Vetterli	CFI
France, CC-IN2P3	X	X	X	X	F. Malek (deputy: F. Chollet)	CNRS/IN2P3 and CEA/DSM/IRFU
Germany, KIT	X	X	X	X	W. Juling (deputy: A. Streit)	BMBF/KIT
Italy, CNAF	X	X	X	X	M. Morandin (deputy: L. Dell'Agello)	INFN
Netherlands LHC/Tier1	X	X		X	J. Templon	NIKHEF
Nordic Data Grid Facility (NDGF)	X	X	¹		L. Fischer	NSRC/HIP/RCN/SRC
Spain, PIC		X	X	X	M. Delfino (deputy: G. Merino)	MEC
Taipei, ASGC		X	X		S. Lin	Academia Sinica
UK, RAL	X	X	X	X	N. Geddes	STFC
USA, BNL		X			M. Ernst (alt.: R. Popescu)	DOE
USA, FNAL			X		V. White	DOE

¹ NDGF serves as a CMS Tier-2 resource

Table 1: Tier-1 sites as defined in Annex 1 of the WLCG MoU
(last updated 1st September 2010)

Institution	Experiments served with priority				Representative to WLCG Collaboration	Funding Agencies
	ALICE	ATLAS	CMS	LHCb		
Austria, Austrian Tier-2 Federation - Institute for High Energy Physics, Vienna - University of Innsbruck		X	X		Alternates: C. E. Wulz D. Kuhn	BMWF
Australia, University of Melbourne		X			G. Taylor, T. Dyce	AusHEP
Brazil, SPRACE, São Paulo			X		S. F. Novaes, Unesp (alt: E. de M. Gregores)	FAPESP
Belgium, Belgian Tier-2 Federation - UA, Antwerpen - UCL, Louvain-la-Neuve - ULB, Brussels - UMH, Mons - VUB, Brussels			X		Alternates: G. Bruno, UCL P. Vanlaer, ULB O. Devroede, VUB	FNRS (UCL, ULB, UMH) and FWO (UA, VUB)
Canada, Canada-East Federation - University of Toronto		X			P. Savard (alt.: S. Robertson)	CFI
Canada, Canada-West Federation - University of Alberta - Simon Fraser University - University of Victoria		X			M. Vetterli (alt.: R. Sobie)	CFI
China, IHEP, Beijing		X	X		Gang Chen	MoST NSFC
Czech Rep., FZU AS, Prague	X	X			M. Lokajicek	MSMT CR
Estonia, NICPB			X		M. Kadastik	Estonian Ministry of Education and Research
Finland, NDGF/HIP Tier2			X		D.O. Riska	HIP
France, CC-IN2P3 AF	X	X	X	X	F. Malek (deputy: F. Chollet)	CNRS/IN2P3 and CEA/DSM/IRFU
France, CPPM, Marseille		X		X	F. Touchard	CNRS/IN2P3

<i>Institution</i>	<i>Experiments served with priority</i>				<i>Representative to WLCG Collaboration</i>	<i>Funding Agencies</i>
	<i>ALICE</i>	<i>ATLAS</i>	<i>CMS</i>	<i>LHCb</i>		
France, GRIF, Paris - IRFU, Saclay - IPN, Orsay - LAL, Orsay - LLR, Plaiseau - LPNHE, Paris	X	X	X	X	J.P. Meyer	CNRS/IN2P3 and CEA/DSM/IRFU
France, IPHC, Strasbourg	X		X		D. Bloch	CNRS/IN2P3
France, LAPP, Annecy		X		X	S. Jézéquel	CNRS/IN2P3
France, LPC, Clermont-Ferrand	X	X		X	D. Pallin	CNRS/IN2P3
France, SUBATECH, Nantes	X				L. Ahecetche	CNRS/IN2P3
Germany, GSI, Darmstadt	X				P. Malzacher	BMBF/GSI
Germany, ATLAS Federation FR/W - Albert-Ludwigs-Universität, Freiburg - Bergische Universität, Wuppertal		X			Alternates: J. E. Sundermann T. Harenberg	ALU/BUW/DESY
Germany, ATLAS Federation, Munich - MPI für Physik - Ludwig Maximilian Universität - Leibniz Rechenzentrum - Rechenzentrum Garching der MPG		X			S. Bethke	LMU/LRZ/MPG
Germany, ATLAS Federation, HH/Goe - DESY - University of Goettingen		X			V. Gülzow (alternate: A. Quadt - Univ.Goettingen)	BMBF/DESY/UGOE
Germany, CMS Federation - DESY - RWTH, Aachen			X		V. Gülzow (alternate: T. Kress - RWTH Aachen)	BMBF/DESY/RWTH
Germany, LHCb Federation, DESY				X	V. Gülzow	BMBF/DESY
Hungary, HGCC Federation - KFKI-RMKI, Budapest - SzTAKI, Budapest - ELUB, Budapest - DU, Debrecen	X		X		Alternates: G. Vesztergombi D. Horvath C. Hajdu	NKTH
India, TIFR, Mumbai			X		A. Gurtu	DAE
India, VECC/SINP, Kolkata	X				Y.P. Viyogi	DAE
Israel, HEP-IL Tier-2 Federation		X			L. Levinson	ICHEP
Italy, INFN ALICE Federation	X				M. Masera	INFN
Italy, INFN ATLAS Federation		X			G. Carlino (deputy: L. Perini)	INFN
Italy, INFN CMS Federation			X		M. Paganoni	INFN
Italy, INFN LHCb Federation				X	U. Marconi	INFN
Japan, ICEPP, Tokyo		X			H. Sakamoto	University of Tokyo
Republic of Korea, KISTI, Daejeon	X				S. Hwang	KICOS
Republic of Korea, CHEP of KNU, Daegu			X		D. Son G. N. Kim	KICOS
Norway, UNINETT SIGMA Tier-2		X			J. Koster	RCN
Pakistan, Pakistan Tier-2 Federation - NCP - PAEC			X		H. Hoorani	PAEC/NCP
Poland, Polish Tier-2 Federation - Krakow - Poznan - Warszawa	X	X	X	X	R. Gokieli, Warszawa	The Minister of Science & Higher Education
Portugal, LIP Tier-2 Federation - LIP, Lisbon - LIP, Coimbra		X	X		J. Gomes, Lisboa (deputy: M. David)	GRICES/FCT/UMIC

<i>Institution</i>	<i>Experiments served with priority</i>				<i>Representative to WLCG Collaboration</i>	<i>Funding Agencies</i>
	<i>ALICE</i>	<i>ATLAS</i>	<i>CMS</i>	<i>LHCb</i>		
Romania, Romanian Tier-2 Federation - NIPNE - PUB - ISS - UAIC - ITIM	X	X		X	M. Dulea, NIPNE	National Authority for Scientific Research
Russian Fed., Russian Data-Intensive GRID (RDIG) ²	X	X	X	X	V. Ilyin (alt.: V. Korenkov)	Federal Agency for Science and Innovation/JINR
Slovenia, SiNET, Jozef Stefan Institute		X			B. Kersevan	Ministry of Higher Education, Science and Technology
Spain, ATLAS Federation - IFAE, Barcelona - IFIC, Valencia - UAM, Madrid		X			J. Salt (alt: A. Pacheco Pages, J. del Peso)	MEC
Spain, CMS Federation - CIEMAT, Madrid - IFCA, Santander			X		F. Matorras (alt.: N. Colino)	MEC
Spain, LHCb Federation - UB, Barcelona - USC, Santiago				X	R. Graziani Diaz (alt.: J.J. Saborido Silva)	MEC
Sweden, SNIC Tier-2	X	X			S. Holmgren	VR
Switzerland, CHIPP		X	X	X	C. Grab	SER/SNF/ETH/CSCS
Taipei, Taiwan Analysis Facility Federation - Academia Sinica - National Taiwan University - National Central University		X	X		S. Lin	Academia Sinica
Turkey, Turkish Tier-2 Federation - TAEK - ULAKBIM		X	X		Alternates: I. Turk Cakir (TAEK) L. Baskus (TAEK) B. Ortakaya (ULAKBIM)	Turkish Atomic Energy Authority (TAEK)
UK, London Tier 2 - Brunel - ICL - QMUL - RHUL - UCL		X	X	X	D. Colling, ICL	STFC
UK, NorthGrid - Daresbury Lab. - Lancaster - Liverpool - Manchester - Sheffield		X		X	R. Jones, Lancaster	STFC
UK, ScotGrid - Durham - Edinburgh - Glasgow		X		X	P. Clark (Edinburgh)	STFC
UK, SouthGrid - Birmingham - Bristol - Cambridge - Oxford - RAL - Sussex - Swansea - Warwick	X	X	X	X	P. Watkins, Birmingham	STFC

² The Russian (distributed/advanced) Tier2 Cluster

<i>Institution</i>	<i>Experiments served with priority</i>			<i>Representative to WLCG Collaboration</i>	<i>Funding Agencies</i>
	<i>ALICE</i>	<i>ATLAS</i>	<i>CMS</i>		
Ukraine, Ukrainian Tier-2 Federation - Kiev - BITP, KNU, KPI - Kharkov – ISMA, KhIPT	X		X		G. Zinovjev, Kiev National Academy of Sciences
USA, Great Lakes ATLAS T2 -University of Michigan -Michigan State University		X			S. McKee (alt.: B. Ball) NSF
USA, Northeast ATLAS T2 - Boston Univ. - Harvard Univ.		X			J. Shank, BU (alt.: S. Youssef) NSF
USA, Midwest ATLAS T2 - University of Chicago - Indiana University		X			R. Gardner, U. Chicago (alt.: F. Luehring) NSF
USA, Southwest ATLAS T2 - Langston University - Univ. of New Mexico - Oklahoma University - University of Texas, Arlington		X			K. De, UTA (alt.: H. Severini) NSF
USA, SLAC ATLAS T2		X			W. Yang (alt.: R. Mount) NSF
USA, Caltech CMS T2			X		H. Newman, Caltech (alt.: J. Bunn) NSF
USA, Florida CMS T2			X		P. Avery, U. Florida (atl.: R. Cavanaugh) NSF
USA, MIT CMS T2			X		C. Paus, MIT NSF
USA, Nebraska CMS T2			X		K. Bloom, U. Nebraska (alt.: D. Swanson) NSF
USA, Purdue CMS T2			X		N. Neumeister, U. Purdue NSF
USA, UC San Diego CMS T2			X		F. Wuerthwein, UCSD (alt.: J. Branson) NSF
USA, U. Wisconsin CMS T2			X		S. Dasu, U. Wisconsin (alt.: W. Smith) NSF

Table 2: Tier-2 sites as defined in Annex 2 of the WLCG MoU
(last updated 14th March 2011)

3. Funding and Expenditure for WLCG at CERN

Exceptionally, and with the agreement of the C-RRB Chair, no funding and expenditure information was shown at the last meeting. This was due to many changes impacting the planning including the 2010 CERN materials budget summer cuts, and unknown information about the LHC accelerator schedule and the Computer Centre upgrade and future strategy at the time of the last C-RRB preparation. As explained at the meeting the absence of information presented was not to hide problems, but rather to avoid presenting inaccurate information.

As mentioned in CERN-RRB-2011-018 page 2, the end of year book-closed situation in 2010 concerning WLCG resulted in the following final figures:

- Personnel: 13,578 kCHF
- Material: 20,770 kCHF

In view of the materials summer 2010 budget cuts, which for WLCG impacted 2011-2013 inclusive, the strategy was revised including under spending in 2010 in order to carry forward to 2011 and complement the reduced budget. Following the book-closing exercise 5.9 MCHF was carried over from 2010 to 2011 for the project.

Table 3 shows current and future estimated expenditure for the years 2011-2016 inclusive based on CERNs Medium Term Plan and the current WLCG Personnel and Material planning.

LHC Future Computing Funding and Expenditure Estimates (all figures in MCHF)							
	2011	2012	2013	2014	2015	2016	TOTAL
Funding							
From CERN Budget							
- Personnel	14.6	14.9	15.7	15.9	16.0	16.0	93.1
- Materials *	27.9	21.3	23.9	23.7	21.6	21.6	139.8
Contributions via Team Accounts**							
- Personnel	1.1						1.1
- Materials							
Total							
- Personnel	15.7	14.9	15.7	15.9	16.0	16.0	94.1
- Materials	27.9	21.3	23.9	23.7	21.6	21.6	139.8
Total Funding	43.5	36.1	39.6	39.6	37.5	37.5	234.0
Expenditure							
- Personnel ***	16.0	15.0	15.3	15.8	15.8	15.9	93.8
- Materials	26.0	29.9	19.4	23.4	23.0	20.6	142.3
Total Planned Expenditure	42.0	44.9	34.6	39.2	38.8	36.5	236.1
Balance Personnel	-0.3	-0.2	0.4	0.1	0.2	0.1	0.4
Balance Materials	1.9	-8.6	4.5	0.2	-1.5	0.9	-2.5
Balance	1.6	-8.8	4.9	0.4	-1.3	1.0	-2.1
* Includes 5.9 MCHF carry-forward from 2010 to 2011							
** As planned to be pledged in the WLCG MoU (Annex 6.6)							
*** Excluding EGI/EMI funded personnel and Computer Centre Operators							

Table 3: LHC Computing budget estimates for 2011-2016

For personnel costs, nominative details continue to be entered in CERN's planning tool APT including current personnel commitments, planned replacements and the impact of EU projects EGI and EMI on CERNs personnel budget. Table 3 shows small deviations from year to year with respect to the budget which in reality will be compensated by events such as early departures or later recruitment start dates.

Materials estimated expenditure shows more significant discrepancy with respect to the budget. Expenditure is based on the current LCG Resource planning. Attention should be drawn to the following points:

- WLCG resource planning is based on provisional requirements information obtained from the experiments not validated by official bodies (LHCC, RSG)

- Planning is based on the LHC accelerator schedule communicated after the Chamonix 2011 event and the associated financial implications for running in 2011, 2012, 2014, 2015, i.e. not running in 2013 and 2016
- Tier-0 strategy and cost planning remains approximate during the current Call for Proposals phase. Once this phase is complete (summer 2011) and the tender for the remote centre has been adjudicated (end 2011/early 2012), the cost planning implications can be finalised
- In order to continue to cope with the predicted future materials budget v's expenditure fluctuations, it is essential that the WLCG project continues to benefit from the flexibility of carrying forward unspent project budget from year n to year n+1 as was the case between 2010 and 2011.

Globally over this 6 year time period the personnel situation is manageable however the materials budget will not be sufficient in some years and globally there is an estimated 2MCHF shortfall. Once the validated experiment resource requests have been processed and more detailed information about the future Tier-0 strategy is known the planning will be revised and presented at future meetings.

4. Resource Accounting

4.1 CERN and External Tier-1 Accounting

Accounting data for CERN and External Tier-1 sites has continued to be reported to the C-RRB meetings, and full accounting reports from 2006 are available on the LCG website Accounting page <http://lcg.web.cern.ch/LCG/accounts.htm>.

Figure 1 illustrates the CPU delivered, Disk and Tape used at CERN and the external Tier-1s for the period January 2010 to February 2011 inclusive. The impact of the 2011 pledges to be installed is also included. Exceptionally in 2010, deployment of resources was accepted up to June 2010 however the usual resource deployment by April schedule has been resumed for 2011.

The monthly reports including detailed information and graphs per site are distributed to the Overview Board Members and are available from the accounting page on the WLCG web as referenced above.

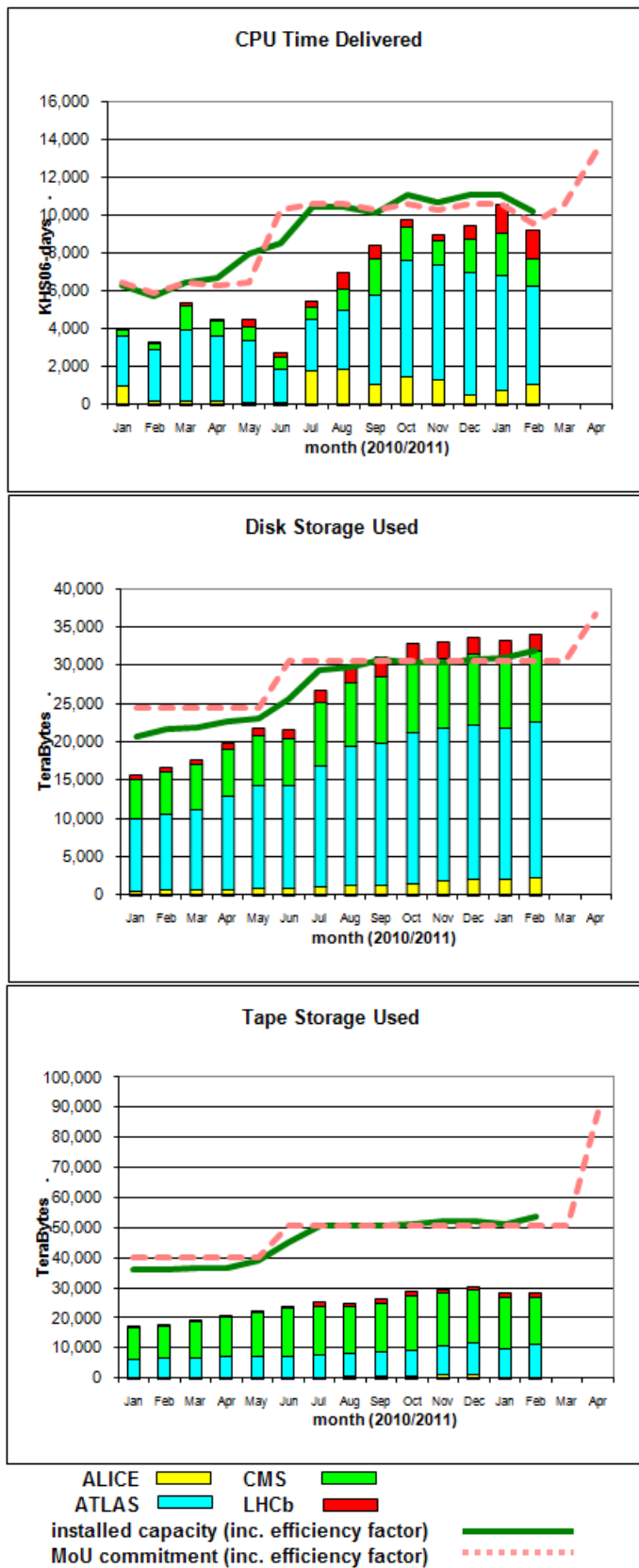


Figure 1: Accounting for CERN and External Tier-1s January 2010 – February 2011

4.2 Tier-2 Accounting

Tier-2 accounting began in September 2007 and as for Tier-1 accounting, past reports can be found on the above referenced LCG website Accounting page.

Figure 2 shows the Federations with 2010 pledge values above 7000 HS06 and Figure 3 all those with 2010 pledge values below 7000 HS06, in both cases ordered by pledge and showing CPU used by federation from November 2010 to February 2011 inclusive.

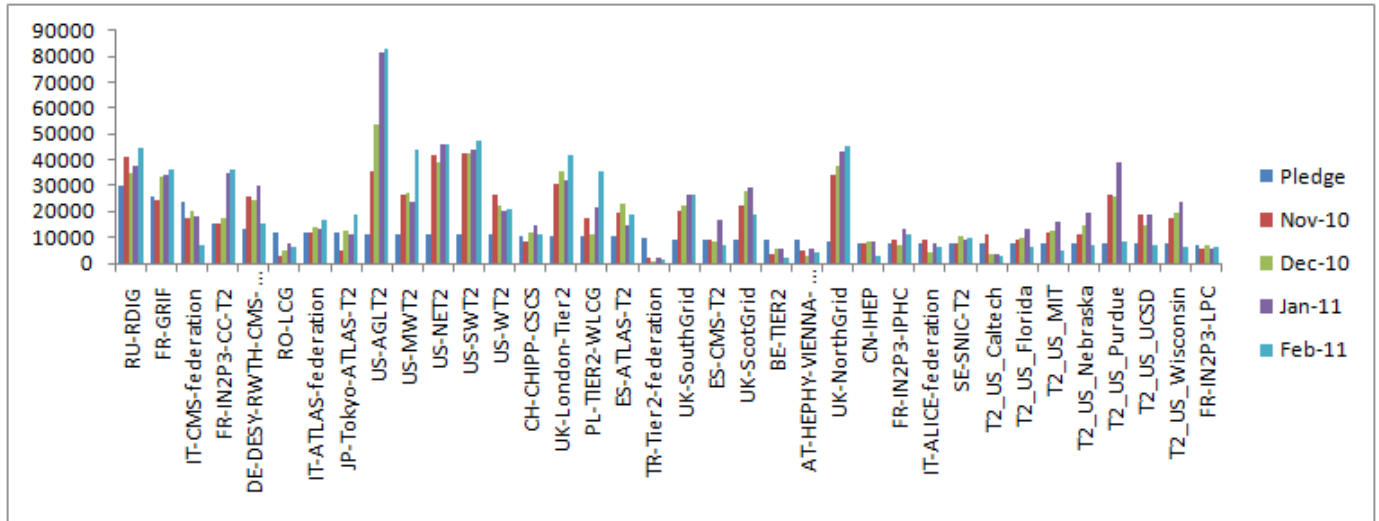


Figure 2: Accounting for Federations with 2010 CPU pledge > 7000 HS06 November 2010-February 2011

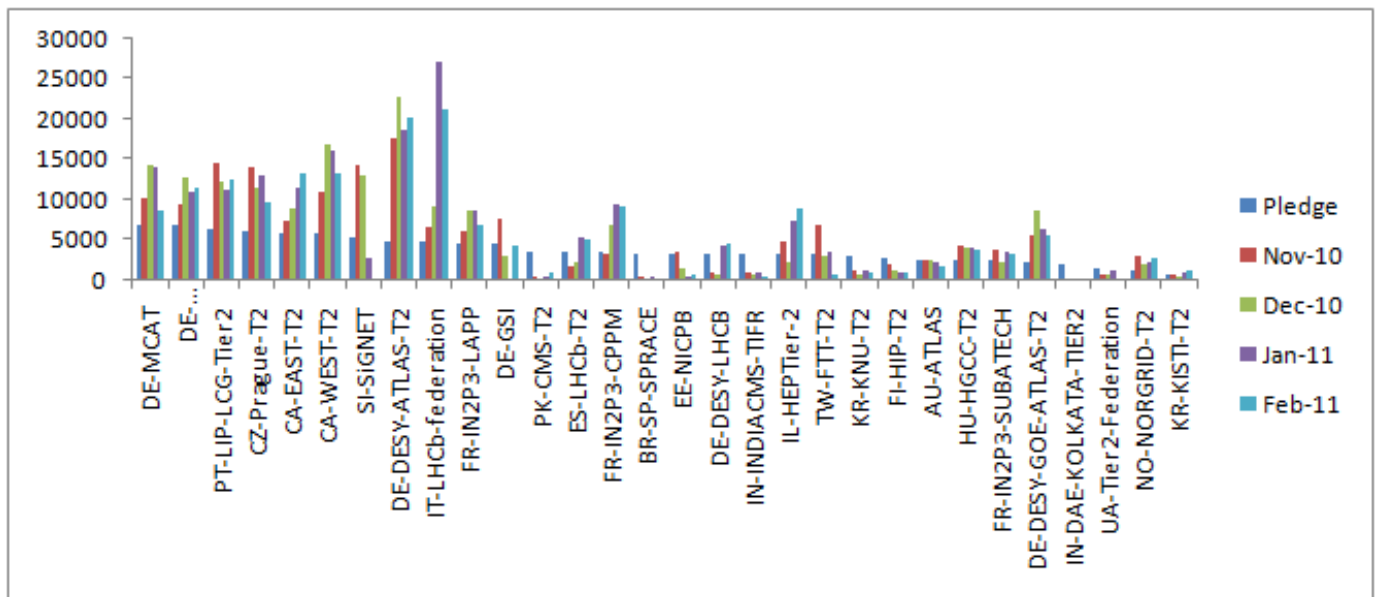


Figure 3: Accounting for Federations with 2010 CPU pledge < 7000 HS06 November 2010-February 2011

Encouraging results from many of the Tier-2 sites continue to be demonstrated. Following the observation at the last meeting about the sites not reporting, progress has been made with Germany-GSI and India-TIFR as illustrated in figure 3. Although Ukraine does not feature in figure 3, accounting reporting started in March 2011 and will show up in the next report to the C-RRB meeting. Therefore the only remaining Tier-2 site which is not reporting is India-DAE-Kolkata. Follow-up with the site is on-going to understand the problem and re-establish their accounting activity which ceased in August 2010.

5. Status of experiment requirements and resource pledges

5.1 2011 Resource pledge evolution sine the last C-RRB meeting

At the last C-RRB meeting delegates were given a status report dated 4th October of the experiment requirements and pledge input for 2011 and 2012. Full details were included in the written report. Table 4 shows a summary of the information for all Tiers presented at the meeting.

Tier	Pledge Type	ALICE	Required	Balance	ATLAS	Required	Balance	CMS	Required	Balance	LHCb	Required	Balance	SUM	Required	Balance
Tier 0	CPU (HEP-SPEC06)	62,000	62,000	0%	75,000	75,000	0%	106,100	106,100	0%	21,000	21,000	0%	264,100	264,100	0%
Tier 0	Disk (Tbytes)	6,100	6,100	0%	7,000	7,000	0%	4,500	4,500	0%	1,500	1,500	0%	19,100	19,100	0%
Tier 0	Tape (Tbytes)	6,800	6,800	0%	12,200	12,200	0%	21,600	21,600	0%	2,500	2,500	0%	43,100	43,100	0%
Tier 1	CPU (HEP-SPEC06)	71,471	117,000	-39%	250,208	226,000	11%	132,173	150,700	-12%	70,432	65,000	8%	524,284	558,700	-6%
Tier 1	Disk (Tbytes)	5,527	7,900	-30%	26,869	24,800	8%	16,254	19,500	-17%	3,817	3,500	9%	52,467	55,700	-6%
Tier 1	Tape (Tbytes)	8,013	13,000	-38%	31,959	30,100	6%	44,392	52,400	-15%	3,933	3,470	13%	88,297	98,970	-11%
Tier 2	CPU (HEP-SPEC06)	81,574	121,000	-33%	281,228	278,000	1%	315,363	319,500	-1%	47,962	36,000	33%	726,127	754,500	-4%
Tier 2	Disk (Tbytes)	5,878	6,600	-11%	34,202	37,600	-9%	20,392	19,900	2%	295	20	1375%	60,767	64,120	-5%

Table 4: screen-shot of pledge summary data for 2011 shown at October 2010 C-RRB (status 04/10/10)

It was noted that certain Tier-2 sites had 2011 pledges lower than their 2010 pledge and the C-RRB Chairman requested follow-up and explanations for this. It was also noted that the information for certain countries: France, Sweden, Ukraine was incomplete. A revised set of pledge tables was published on 15/12/2010 and sent to all C-RRB delegates containing as much new information since the meeting as possible.

Concerning the 5 Tier-2 sites whose CPU and/or Disk pledge for 2011 was lower than the 2010 confirmed pledge, the following explanations were provided:

- Austrian Tier-2 Federation: The pledge for 2011 had to be reduced due to infrastructure limitations which will be addressed by relocating the computing facility at a new site

- Brazil, SPRACE, Sao Paulo: The HEP-SPEC06 value of the processors was over-estimated therefore the 2010 CPU pledge was not met. The 2011 pledge reflects resources deployed end 2010 while waiting for budget request approval and subsequent pledge revision for 2012
- France, LPC, Clermont: Local resource funding was lower than expected in 2010 therefore the 2011 pledge was adjusted accordingly
- Republic of Korea, KISTI, Daejeon: The 2010 disk pledge was not met therefore the 2011 disk pledge was reduced to match disk resources deployed in 2010. At the end of January 2011 this site confirmed the addition of extra disk resources therefore the deployed disk resources now matches the planned 2012 pledge.
- Spain, LHCb Federation: The 2011 pledge was based on the decreased 2011 CPU requirement from LHCb for which this site provides 6.5%. The 2011 pledge was therefore the result of the revised calculation.

Since the last meeting the Swedish Research Council confirmed the 2011 pledges, pledge data was obtained from Ukraine and in March 2011 the revised French Tier-1 and Tier-2 pledges were made available following the 2011 budget allocation. The impact on the Tier-1 is a ~6% reduction on pledged CPU, disk and tape and 3 of the 7 French Tier-2's (Lyon, Paris and Annecy) are impacted with reductions on pledged CPU (ranging from a 7 to 21% reduction) and disk (ranging from a 5 to 12% reduction).

As announced at the last meeting all pledge information including these recent changes to the 2011 pledges are available in the gstat tool now renamed to REBUS for REsource Balance and USage. Table 5 shows a summary screen shot taking the above mentioned pledge changes into account. Comparing Tables 4 & 5 gives the global pledge evolution since the last meeting. The 2011 experiment requirements used to calculate the balance are those officially approved in 2010 by the Resources Scrutiny Group.

Tier	Pledge Type	ALICE	Required	Balance	ATLAS	Required	Balance	CMS	Required	Balance	LHCb	Required	Balance	SUM	Required	Balance
Tier 0	CPU (HEP-SPEC06)	62,000	62,000	0%	75,000	75,000	0%	106,100	106,100	0%	21,000	21,000	0%	264,100	264,100	0%
Tier 0	Disk (Tbytes)	6,100	6,100	0%	7,000	7,000	0%	4,500	4,500	0%	1,500	1,500	0%	19,100	19,100	0%
Tier 0	Tape (Tbytes)	6,800	6,800	0%	12,200	12,200	0%	21,600	21,600	0%	2,500	2,500	0%	43,100	43,100	0%
Tier 1	CPU (HEP-SPEC06)	70,980	117,000	-39%	248,310	226,000	10%	131,358	150,700	-13%	69,418	65,000	7%	520,066	558,700	-7%
Tier 1	Disk (Tbytes)	5,527	7,900	-30%	26,660	24,800	8%	16,149	19,500	-17%	3,762	3,500	7%	52,098	55,700	-6%
Tier 1	Tape (Tbytes)	8,013	13,000	-38%	31,706	30,100	5%	44,108	52,400	-16%	3,878	3,470	12%	87,705	98,970	-11%
Tier 2	CPU (HEP-SPEC06)	80,775	121,000	-33%	278,964	278,000	0%	314,434	319,500	-2%	40,629	36,000	13%	714,802	754,500	-5%
Tier 2	Disk (Tbytes)	5,758	6,600	-13%	33,898	37,600	-10%	20,168	19,900	1%	211	20	955%	60,035	64,120	-6%

Table 5: screen-shot of pledge summary data for 2011 (status 30/03/11)

5.2 2011 Resource installation status

As the timetable for pledge deployment has now resumed the regular April timescale, in principle by now most of the 2011 pledges should be fully deployed. In order to check this for presentation to the C-RRB, the WLCG Management Board Tier-1 representatives were recently asked to give the status of pledge deployment. Table 6 gives the Tier 0 and Tier-1 resource

installation status in March 2011. The information for the Tier-2's is still being compiled therefore not available for this report, however it will be presented at the C-RRB meeting.

Site	CPU	Disk	Tape
CERN	Installed	Installed	OK
Canada, TRIUMF	Installed	Installed	Installed
France, CC-IN2P3	6% cut; 50% by April, all by June	6% cut; 30% by 15 April, all by June	6% cut; OK
Germany, KIT	Installed, in production	Installed	OK
Italy, CNAF	June	March	OK
Netherlands, LHC/Tier 1	Process started, funding go-ahead received (Not before summer for all)	Summer	Summer
Nordic Data Grid Facility (NDGF)	In production	In production	In production
Spain, PIC	In production	In production	In production
Tapei, ASGC	90% online, rest by end April	95% online, rest by end Mar	In production
UK, RAL	Installed	Installed	OK
USA, BNL	Installed	Installed	Installed
USA, FNAL	April	April	OK

Table 6: Tier-0 and Tier-1 2011 resource installation summary (status March 2011)

5.3 2012 and 2013 resource pledge data

As preparation for the Autumn C-RRB meeting during which the confirmed 2012 pledges and planned 2013 pledges should be presented and approved, C-RRB delegates will be notified with the confirmed experiment requirements for 2012 and 2013 as agreed by the resources Scrutiny Group. Once these numbers have been published all sites and federations will be requested to provide their input, and for the first time it should be entered directly in the REBUS tool. More information will be made available via email to guide this process, however delegates should already note the deadline date for submission of pledge data which is 30/09/2011.

6. Conclusion

Two WLCG MoU signatures are in the signature chain of approval for new Tier-2 Federations: one with Greece for a CMS Tier-2 and the other with US LBNL for an ALICE Tier-2. Delegates

are reminded to check their Tier definition and associated information as defined in the MoU annex 1&2 and signal corrections and changes as they occur.

The WLCG Project planning continues to be revised frequently as a consequence of the various influencing factors including budget cuts, accelerator schedule and revised resource requirements. Carry forward of unspent project budget from one budget year to the next should continue to help compensate the currently estimated materials budget shortfall in certain years. The project planning will continue to be revised particularly as a function of the approved experiment resource requirements for 2012 & 2013 and the adjudication of the Call for Tender for the remote Tier-0 centre.

Tier-1 and Tier-2 accounting continues to be closely monitored and monthly reports are published on the WLCG website and distributed to the Overview Board. The one Tier-2 site not reporting is being investigated.

Follow-up took place after the last meeting to complete and publish the 2011 pledge information and more recently to assess the 2011 resource deployment status. The 2012 and 2013 official experiment requirements will be communicated to enable sites and federations to compile their 2012 confirmed and 2013 estimated pledge data before 30/09/2011 for presentation and approval at the Autumn C-RRB meeting.