



GridPP
UK Computing for Particle Physics

Quarterly report

London Tier-2

Quarter 2 2005

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Site	Service nodes	Worker nodes	Local network connectivity	Site connectivity	SRM	Days SFT failed	Days in scheduled maintenance
Brunel	RH7.3 LCG2.4.0	RH7.3 LCG2.4.0	1Gb	100Mb	No	21	16
Imperial	RHEL3 LCG2.5.0	RHEL3 LCG2.5.0	1Gb	1Gb	dCache	26	28
QMUL	SL3 LCG2.4.0	SL3 LCG2.4.0	1Gb	100Mb	No	45	12
RHUL	RHEL3 LCG2.4.0	RHEL3 LCG2.4.0	1Gb	1Gb	No	22	29
UCL (HEP)	SL3 LCG2.4.0	SL3 2.4.0	1Gb	1Gb	No	9	30
UCL (CCC)	SL3 LCG2.4.0	SL3 LCG2.4.0	1Gb	1Gb	No	12	9

- 1) Local network connectivity is that to the site SE
- 2) It is understood that SFT failures do not always result from site problems, but it is the best measure currently available.



Site	Promised			Actual		
	Integrated kSI2K days until this quarter	CPU (kSI2K)	Storage (TB)	Integrated kSI2K days until this quarter	CPU (kSI2K)	Storage (TB)
Brunel	32,100	158	1	1,200	4	0.4
Imperial	138,486	618	16	47,523	384	3
QMUL	88,957	298	13.5	74,654	247	0.1
RHUL	59,210	199	3.2	50,506	167	7.7
UCL	18,265	60	0.8	32,737	108	2
Total	337,019	1,333	34.5	206,621	911	13.2

- 1) The GridPP-Tier-2 MoUs made reference to integrated CPU over the 3 years of GridPP2. Under the “Promised - integrated kSI2K hours until this quarter” an estimate is provided of what the Tier-2 would have expected to provide to this quarter on the basis of planned installations. “Static kSI2K” shows what would currently be expected if all purchases planned to this quarter had been made and implemented. The actual columns show what has been delivered.



Site	Estimated for LCG			Currently delivering to LCG		
	Total job slots	CPU (kSI2K)	Storage (TB)	Total jobs slots	CPU (kSI2K)	Storage (TB)
Brunel	60	60	1	4	4	0.4
IC	66	33	16	52	26	3
QMUL	572	247	13.5	464	200	0.1
RHUL	142	167	3.2	148	167	7.7
UCL	204	108	0.8	186	98	2
Total	1044	615	34.5	854	495	13.2

1) The estimated figures are those that were projected for LCG planning purposes:

http://lcg-computing-fabric.web.cern.ch/LCG-Computing-Fabric/GDB_resource_infos/Summary_Institutes_2004_2005_v11.htm

2) Current total job slots are those reported by EGEE/LCG gstat page.



VOs supported by site

Site	ALICE	ATLAS	BABAR	CDF	CMS	ILC	LHCB	SIXT	ZEUS	Total
Brunel	1	1	0	0	1	0	1	0	0	4
Imperial	1	1	0	0	1	0	1	1	1	6
QMUL	1	1	0	0	1	1	1	0	0	5
RHUL	1	1	0	0	1	1	1	0	0	5
UCL	1	1	0	1	1	0	1	0	1	6
Total	5	5	0	1	5	2	5	1	2	

0 => not supported 1 => supported



CPU used per VO over quarter (KSI2K hours)

Site CPU	ALICE	ATLAS	BABAR	CMS	LHCB	ZEUS	Total
Brunel				6	149		155
Imperial	19	848		420	4,863	51	6,201
QMUL		42		256	82,699		82,997
RHUL	1,124	1,921		79	42,218		45,342
UCL		6,983		126	14,115	6,157	27,381
Total	1,143	9,794		887	144,042	6,208	162,076

1) Information currently available from APEL

http://goc.grid-support.ac.uk/gridsite/accounting/tree/gridpp_view.php - please note these pages are still under development!

Nb. This could be automated with an SQL/R-GMA query

NB2: couldn't get these to agree with the normalised CPU hours on the next slide!!!

30th June 2005

Quarterly report: London Tier 2



Usage by VO for Tier-2

Jobs	April 2005	May 2005	June 2005	CPU (kSI2k)	April 2005	May 2005	June 2005
alice	0	0	536	alice	0	0	1,143
atlas	1,401	2,916	1,357	atlas	2,022	5,561	290
cdf	0	0	2	cdf	0	0	0
cms	0	23	548	cms	0	39	842
dteam	855	4,717	3,717	dteam	0	1,164	12
ilc	0	0	1	ilc	0	0	0
lhcb	1,458	12,175	6,211	lhcb	602	86,050	57,243
zeus	4,392	9,809	1,877	zeus	874	3,198	2,136

<http://goc.grid-support.ac.uk/gridsite/accounting/custom.php?startYear=2005&startMonth=4&endYear=2005&endMonth=6&range=NormSumCPU&yRange=VO&xRange=DATE&type=TAB&voList%5B%5D=alice&voList%5B%5D=atlas&voList%5B%5D=babar&voList%5B%5D=cdf&voList%5B%5D=cms&voList%5B%5D=dteam&voList%5B%5D=ilc&voList%5B%5D=lhcb&voList%5B%5D=sixt&voList%5B%5D=zeus&path=1.3.3&Submit=Refresh>

30th June 2005

Quarterly report: London Tier 2



Storage resources in use per VO (GB)

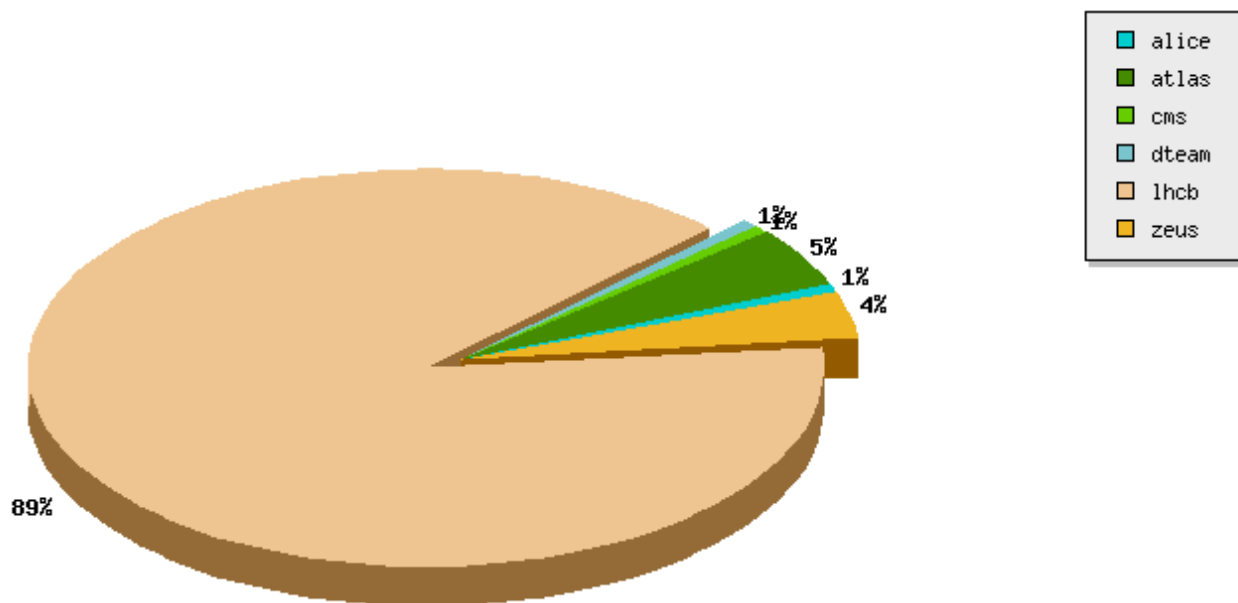
Site Storage	ALICE	ATLAS	BABAR	CMS	LHCB	ILC	SIXT	ZEUS	DTEAM	CDF	Total
Brunel	0	0.405		0	0				0.024		0.4
Imperial	0	22		0	0		0	0.559	0.143		22.7
QMUL											
RHUL	0.062	59		0	0.013	0.011	0		1.5		60.5
UCL	47	162		0	0		0	0.276	0.043	0	209.3
Total											

*Difficult to provide this for the period but we can at least show *current* usage. Numbers need to be provided by site Admins (> du - sh) but this will change under dCache.*



CPU Usage by VO (KSI2K hours)

Plot for LondonT2 (Apr 2005 to Jun 2005)

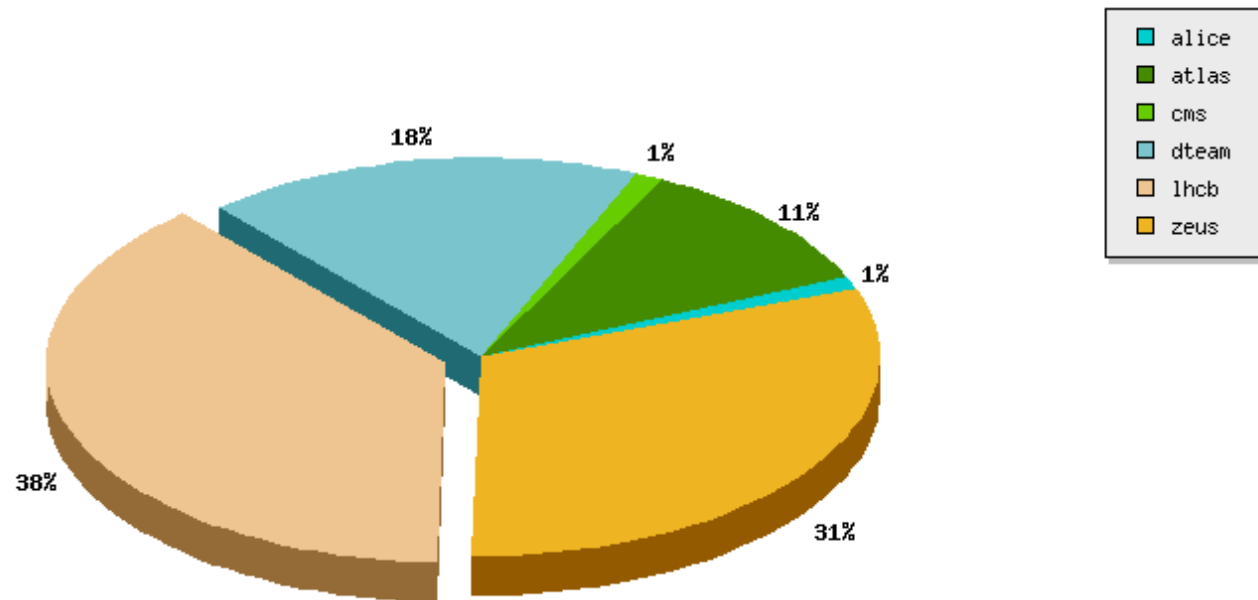


<http://goc.grid-support.ac.uk/gridsite/accounting/custom.php>



Usage by VO (jobs)

Plot for LondonT2 (Apr 2005 to Jun 2005)





Site	Successes	Problems/Issues
Brunel	<ul style="list-style-type: none">•Installation of WN on private network	<ul style="list-style-type: none">•Still need to put WN into production•Need to install 2 separate CEs as single site
Imperial	Installation of dCache SRM for Service Challenge	-LeSC SGE resources still not on LCG
QMUL	Installation of RGMA/APEL	
RHUL	-Installation of APEL	
UCL		UCL-HEP farm in large amount of downtime due to manpower issues.



<p>General risks</p> <ul style="list-style-type: none">•No long term planning from Tier 2 sites make it unclear if shortfalls in resources will be compensated for later.•Management Board fails to develop Tier 2 long term plans or develop strategies for dealing with risks.•Absence of Tier 2 Co-ordinator results in SFT not being followed up.	<p>Mitigating actions</p> <p>Management Board brings pressure on Tier 2s to consider their long term plans.</p> <p>Raise problem with higher level boards.</p> <p>LT2 Chair to oversee some roles; GridPP Support posts to co-ordinate as a team to assist each other.</p>
<p>Institute specific risks:</p> <ul style="list-style-type: none">-Lack of co-ordination with Tier 1 prevents IC meeting SC3 targets.-Delays in SGE integration prevent LeSC resources coming on line.	<p>Mitigating actions</p> <p>Improve email communications; encourage more phone conferences.</p> <p>Pressure from LT2 MB to LeSC to fulfil commitments.</p>

- 1) Here “risk” is any significant event (which has a reasonable chance of occurring) that could potentially prevent the Tier-2 from meeting its project commitments. For example, not getting expected funding to fund equipment/infrastructure is a reasonable risk whereas loss of all staff is not.



- Service Challenge 3 for Imperial College
 - Throughput testing in July
 - CMS software testing in August
 - “Full chain” starts in September.
- Installation of LCG-2_6_0 at RHUL, QMUL, Brunel, UCL
 - Delay in release caused much concern.
 - Manpower/downtime etc. had been scheduled
 - Official announcement of the postponement unnecessarily delayed
 - New support post at QMUL for 2_6_0 release
 - Needs training, will interact with support post at IC
 - Shared support post at Brunel/RHUL appointed but unlikely to start in time
- New Tier 2 Co-ordinator

Objectives and deliverables for last quarter

Objective/deliverable	Due date	Metric/Output	Status
Upgrade to LCG-2_4_0 in a timely manner	3 weeks after release date	% of sites publishing tag	100%
No Sites running RH7.3 or LCFG	After LCG-2_4_0 release	% of sites not running RH7.3	84%
IC-HEP to install dCache	1 June	Yes/No	Yes
All sites running APEL	1 July	% of sites running APEL	100%
SGE to move into production at IC	1 July	Yes/No	No
Network connectivity upgrades to each site planned and agreed with GridPP network support	15 th June	Agreed upgrade plan	No plan. 2 sites only have 100Mb connectivity
Tier-2 hardware support posts all filled	30 th July	Tier-2 hardware support posts all filled	All posts appointed but one not started yet.
Testing of disk-to-disk transfers for Service Challenge 3	25 th May	10 MB/s transfer sustained for 5 hours with Tier-1	No testing took place until late June. No sustained tests yet taken place.
IC-HEP to participate in SC3	1 July	Yes/No	Yes

Objectives and deliverables for next quarter

Objective/deliverable	Due date	Metric/output
Tier-2 hardware support posts all in place	1 September	% of 2.5 FTEs in place
Tier 2 Co-ordinator in place	1 October	Yes/No
All sites (except IC) upgrade to LCG-2_6_0 in a timely manner	1 September	% (non-IC) sites at 2_6_0
All sites to install SRM SE	1 October	% sites running SRM SE
IC to meet initial SC3 throughput tests >200Mb/s	1 August	Peak throughput to RAL
IC to meet SC3 sustained tests, 100Mb/s average for 1 day	15 August	Maximum average rate per day.
IC to install CMS software for SC3	1 September	Yes/No
IC to meet SC3 requirements	1 October	% of CMS defined throughput actually achieved.
SGE to move into production at IC	1 October	Yes/No



For Tier-2 coordinator:

Area	Description
Talks	None
Workshops	None
Conferences	None
Publications	None

Tier-2 coordinator effort	Comments
3 months	Significant hiatus in next quarter



Summary & outlook

- Manpower problems at QMUL caused significant downtime and particular problems installing RGMA and APEL
 - However, QMUL still supplied more than half the actual utilisation of LT2 resources this quarter
- Installation of APEL delayed at several sites (QMUL, RHUL, UCL-HEP) as default installation makes assumptions that are often false (CE=batch server)
 - Straightforward to fix, but no simple recipe actually provided for what is a very common configuration.
- dCache installation at IC took significant amounts of manpower
 - This was to be expected as still at beta testing stage
 - Hope that lessons have been learned to make installation easier at other sites!
 - Deployment scripts seem to have been written for developers, not to meet actual deployment needs.
 - Unclear that dCache is the right solution: DPM does need evaluating.
- All sites liked having scheduled upgrade to 2_4_0
 - Upgrades took place in a more timely manner
 - Great concern that LCG appear to be abandoning the idea
- Appointment of Hardware Support posts expected to improve situation
- SGE-LCG integration at IC does not seem to be making progress