Accounting Update

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Grid Deployment Board

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Introduction

- Tier1 Reporting
- Tier2 reporting
- Accounting Data from other grids
    - OSG
    - INFN
    - NorduGrid
- Accounting Portal
- User Level Accounting
- VOMS Roles
- Accounting non-grid jobs
- Future interfaces
- MSA1.9

Summary of MB Decisions – January 2007

1. **Accounting should move to automatically-generated reports as soon as possible.**
   a) The APEL repository will be the source of data
   b) The target is 1st March 2007 but sites should publish data back to 1/1/2007 if possible.
   c) Sites can send an additional manual report until the end of May
   d) If sites wish their non-Grid usage to be reported to CRRB then they should use the APEL publishing tools to add this data to the repository.

2. **Tier2 Accounting**
   1. Reports to C-RRB should include Tier2 data.
   2. The source of the data will be the APEL repository.
   3. Data will be reported from 1 April 07. All T2s should be publishing by 1 September to enable report to C-RRB in April 2008 with 6 months data..

3. **User Level Accounting**
   1. gLite 3.0.1u10 has encrypted DN included in UR but not published by default.
   2. Sites should install this release and configure it to publish encrypted user data. Target for T1s 1 June but everyone welcome to publish
   3. No DNs will be viewable until policy agreed.

T1 Reporting

- Since April 2006, Tier1 centres have been reporting cpu/disk/tape manually to the Management Board.

- Since March 2007, the cpu part of the report has been extracted from APEL and T1s given a chance to correct their data.

Tier1 APEL Success

Summary of Tier1 Accounting Status 2007

	AGSC	BNL	CERN	CNAF	FNAL	FZK	Lyon	NDGF	NIKHEF	PIC	RAL	Triumf
March												
April												
May												
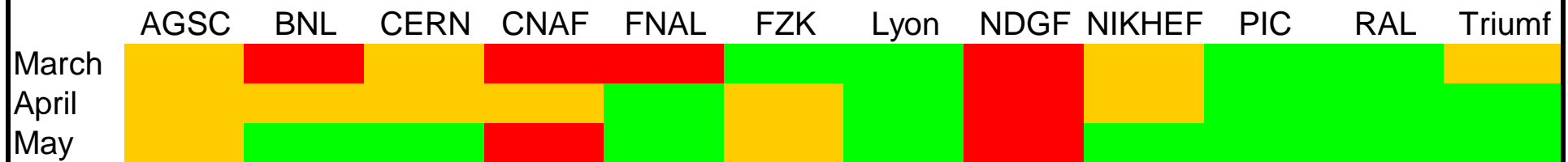
- AGSC have published successfully in the past, recent problem with logs
- CNAF were republishing when May report was extracted. Correct now.
- FZK had normalisation publishing problem
- 8/12 in May, expect 10/12 in June
- AGSC solvable,
- leaving NDGF implementing SGAS

T2

- MB would like to see Tier2s grouped according to Country/Federation
- Restrict to Tier2s which have signed the MoU (for CRRB)
  - VOs want to see all sites which support them.
- Technical development in portal is needed to record organisational structures
- Letter to CB to map sites to GOCDB and define federations
- CESGA have developed a worldwide report, one line per site.

A3

		alice			atlas			cms			lhcb	
COUNTRY	SITE	Alice NJob	Alice Norm	Alice Norm	atlas NJob	atlas Norm	atlas Norm	cms NJobs	cms Norm	cms Norm	lhcb NJobs	lhcb
Australia	Australia-UNIMELB-LCG2	0	0	0	31945	32529	50324	0	0	0	0	
Austria	GUP-JKU	0	0	0	0	0	0	0	0	0	0	
Austria	HEPHY-UIBK	0	0	0	10411	41833	55061	0	0	0	0	
Austria	Hephy-Vienna	0	0	0	0	0	0	20998	20481	29247	0	
Belgium	BEgrid-UGent	0	0	0	0	0	0	47	0	0	0	
Belgium	BEgrid-ULB-VUB	0	0	0	0	0	0	91897	78613	87017	0	
Bulgaria	BG-INRNE	0	0	0	0	0	0	1689	8423	10383	0	
Bulgaria	BG01-IPP	0	0	0	3611	1827	2206	818	2384	2787	0	
Bulgaria	BG02-IM	0	0	0	0	0	0	0	0	0	0	
Bulgaria	BG04-ACAD	1610	3	152	16407	30397	53123	508	0	21	4123	5
Bulgaria	BG05-SUGrid	0	0	0	16666	13882	24902	559	1408	1905	1512	
Canada	ALBERTA-LCG2	0	0	0	16916	15267	25043	0	0	0	0	
Canada	SFU-LCG2	0	0	0	13550	4457	12745	0	0	0	0	
Canada	TORONTO-LCG2	0	0	0	67841	188628	247840	0	0	0	0	
Canada	TRIUMF-LCG2	0	0	0	156303	457071	831731	0	0	0	0	
Canada	Umontreal-LCG2	197	1	24	17948	15257	22307	0	0	0	84	
Canada	VICTORIA-LCG2	0	0	0	539	3	48	0	0	0	0	
China	BEIJING-CNIC-LCG2-IA64	0	0	0	1387	5	65	1441	0	2	0	
China	BEIJING-LCG2	0	0	0	5586	7134	9714	5871	3405	3762	0	
China	HK-HKU-CC-01	0	0	0	0	0	0	0	0	0	0	
Croatia	egee.fesb.hr	2464	19	171	4167	107	495	621	2	23	3024	
Croatia	egee.irb.hr	1616	14	306	7448	21455	27677	58	0	9	11158	4
Croatia	egee.srce.hr	1957	271	139	4275	5647	6260	1334	667	273	1476	1
Cyprus	CY-01-KIMON	2522	10	310	9871	16309	43877	625	1	132	0	
Cyprus	CY-03-INTERCOLLEGE	0	0	0	0	0	0	0	0	0	0	
Czech Republic	praguelcg2	59020	102523	165676	16465	64028	78866	0	0	0	0	
Czech Republic	prague_cesnet_lcg2	788	4	20	2892	4711	5486	0	0	0	0	
Estonia	EENet	0	0	0	0	0	0	2955	2986	5743	456	
Estonia	T2_Estonia	0	0	0	0	0	0	46472	308730	360443	733	

◄ ►| ►|\ Chart1 / Sheet2 \ **repcountry_20071_20076** /

Total Normalised CPU
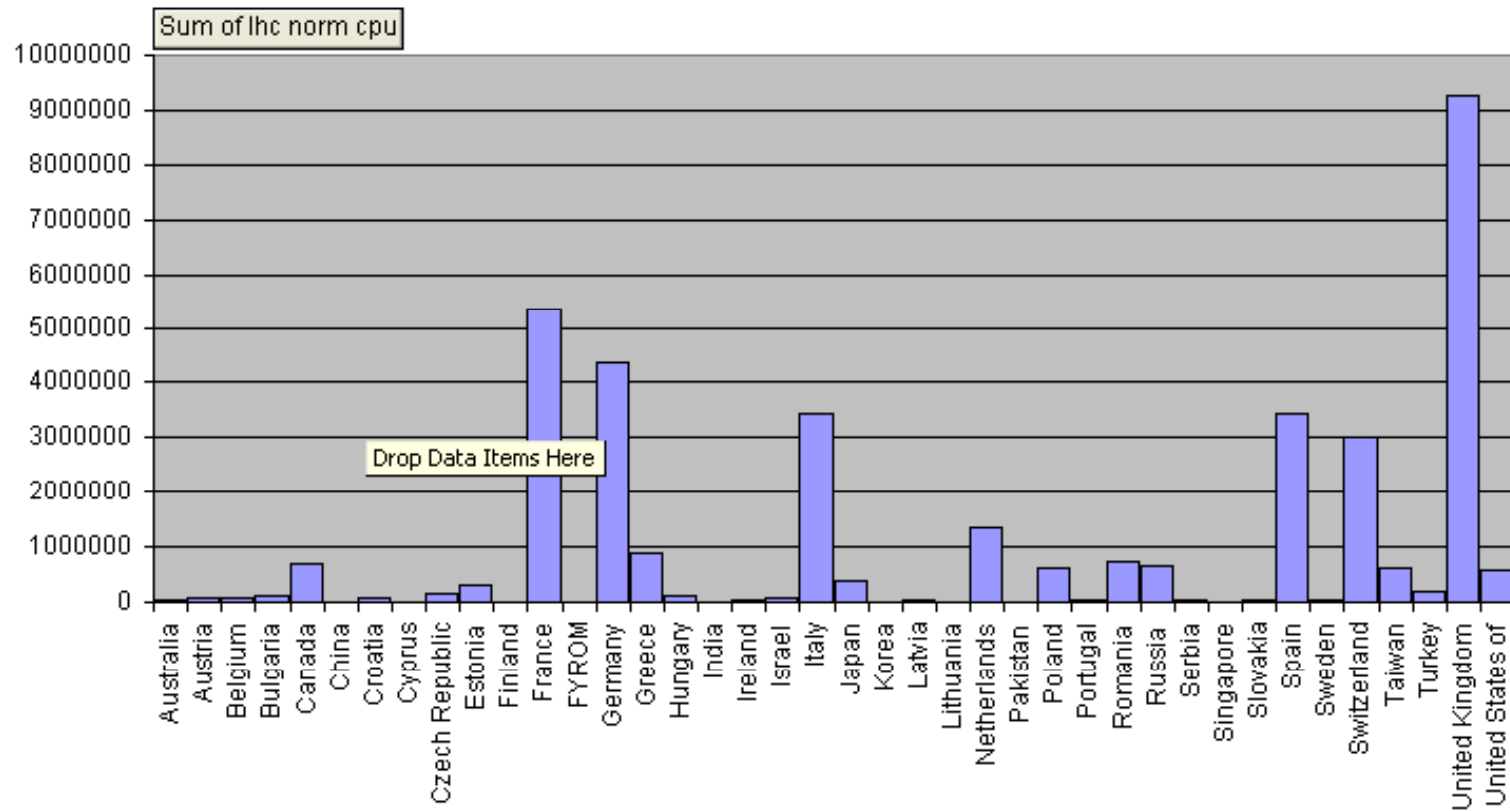
Data From Other Grids

- The APEL Repository takes WLCG data from other grids and acts as a single place to query the data for WLCG

- It does this by providing interfaces to other accounting systems which can collect accounting data use their own sensors and publish under their control
  - Eg only WLCG VOs

OSG

- OSG have implemented their own accounting system Gratia
- This publishes data for FNAL and BNL Tier1s
  - and Tier2s?
- These appear under an OSG Tree in the portal
- Integrated views (ie all Tier1s) under development.

INFN

- INFN uses DGAS for its accounting
- DGAS has site and VO repositories
- They developed DGAS2APEL to take DGAS data and publish to APEL using R-GMA.
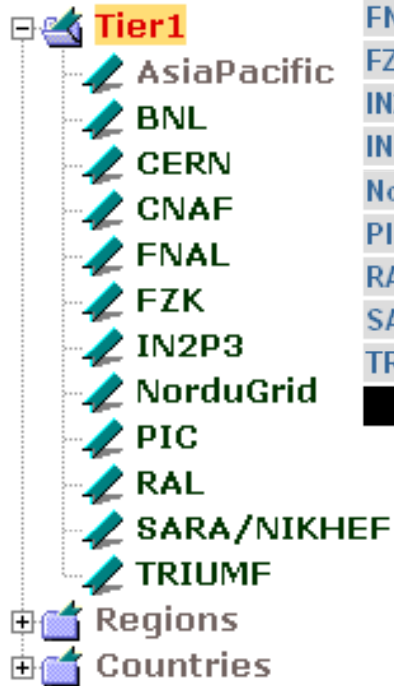- Now publishing

NDGF

- NDGF plan to use SGAS as their accounting tool
- SGAS developers demonstrated republishing their data in the APEL schema in the very first release of APEL.
  - Both based on GGF-UR
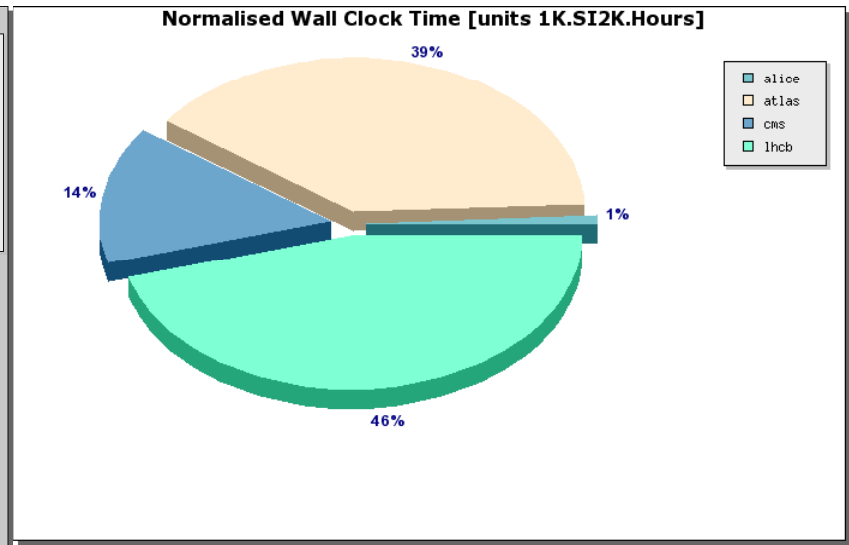- NDGF have a named person working on this
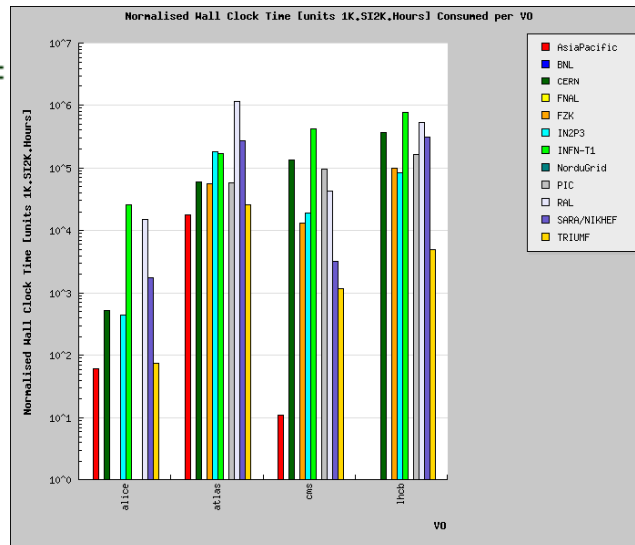 - No time estimate

Normalised Wall Clock Time [units 1K.SI2K.Hours]

Tier-1	Site	alice	atlas	cms	lhcb
AsiaPacific		62	17643	11	0
BNL		0	0	0	0
CERN		528	59438	134900	365990
FNAL		0	0	0	0
FZK		0	55167	13360	100432
IN2P3		439	183735	18787	83212
INFN-T1		25396	170752	424697	765625
NorduGrid		0	0	0	0
PIC		0	56900	94447	161707
RAL		15174	1165126	42936	535577
SARA/NIKHEF		1741	266563	3206	313196
TRIUMF		76	25401	1175	5035

Click here for a csv dump of this table

Normalised Wall Clock Time [units 1K.SI2K.Hours] Consumed per VO

Normalised Wall Clock Time [units 1K.SI2K.Hours]

Accounting Portal

- Portal to view APEL data

- Developed at RAL, taken over and developed further by CESGA

- Advisory Group (APG) run by Alistair Mills

  - Manages roadmap

  http://www3.egee.cesga.es/gridsite/accounting/CESGA/links/roadmap.pdf

  - Dario Barberis, Ian Bird and I represent WLCG

User Level

- User DN accounting has been installed and is collected (release 3.0.??u??) but needs switching on before userDNs get published centrally.

- 19 sites publishing DNs centrally

- Portal Group have developed mock-up views of the DN data for APG

- Requires Policy document before exposing

- Can we change the default to publish

- Table shows CPU, WCT and Job Eff. of the Top 10 Anonymised Users
- Breakdown of Usage: DN / VO / Group / Role

EGEE View	VO MANAGER View	VO MEMBER View	SITE ADMIN View	USER View

January 2006 - December 2006.

The following table shows the Usage of the Top 10 Users ordered by Normalised CPU time and the Total Usage of the Other Users. A detailed view can be obtained by selecting an individual user.

	Top 10 Users ordered by Normalised CPU time											
#	User	Jobs		CPU time		Norm. CPU time		WCT		Norm. WCT		CPU Efficiency	Avg. CPU time
#	ID	#	%	Hrs	%	Hrs	%	Hrs	%	Hrs	%	%	Hrs
1	2daf892f6a1f68d0	15,629	25.2%	120	24.3%	88	22.6%	1,314	16.5%	990	16.0%	9.1	0.01
2	671e5b277fa6d1ac	20	0.0%	98	19.8%	87	22.3%	103	1.3%	91	1.5%	95.1	4.90
3	4cd78d6b029f7050	7,773	12.5%	80	16.2%	55	14.1%	924	11.6%	765	12.4%	8.7	0.01
4	5d61bd2201bec5f9	7,816	12.6%	52	10.5%	41	10.5%	331	4.2%	250	4.0%	15.7	0.01
5	2a153e141e98f06a	1,950	3.1%	36	7.3%	36	9.2%	45	0.6%	46	0.7%	80.0	0.02
6	62d3866c3c8260d6	39	0.1%	27	5.5%	16	4.1%	31	0.4%	18	0.3%	87.1	0.69
7	2756dfcb65975a47	95	0.2%	19	3.8%	15	3.8%	22	0.3%	18	0.3%	86.4	0.20
8	748206ea352cce31	467	0.8%	12	2.4%	14	3.6%	15	0.2%	16	0.3%	80.0	0.03
9	2d04c1be5d64c1b8	3	0.0%	11	2.2%	13	3.3%	26	0.3%	21	0.3%	42.3	3.67
10	2d72edb26620a697	83	0.1%	9	1.8%	6	1.5%	125	1.6%	79	1.3%	7.2	0.11
	Others (DN known)	25,073	40.5%	18	3.6%	10	2.6%	4,695	58.9%	3,527	57.1%	0.4	0.00
	Others (DN unknown)	3,021	4.9%	12	2.4%	9	2.3%	343	4.3%	356	5.8%	3.5	0.00
	Total	61,969		494		390		7,974		6,177		6.2	0.01

Click here for a csv dump of this table

Key: 0% <= eff < 75%; 75% <= eff < 90%; 90% <= eff < 100%; eff >= 100% (parallel jobs)

Future Interfaces

- OGF has two relevant working groups defining grid standards for accounting. WLCG active in both
- Usage Record UR-WG
  - Everyone claims to use this but also extends it
  - Proposal by us for summary records, useful for bulk interchange
- Resource Usage Service RUS-WG
  - A webservice interface to accounting databases based on UR.
  - Post and query interfaces
  - Prototype developed on APEL database
  - Will provide standard method for publishing between grids

EGEE Milestone

- MSA1.9 is an EGEE milestone due around now
- To deploy a central accounting repository which will accept accounting data from a variety of different accounting tools and provide a central place to produce integrated reports.
- We believe we have demonstrated this by accepting data from EGEE, OSG, and INFN.
- Document describing this work out for review.

Summary

- Check your accounting regularly
- Did you publish continuously in the last month?
- Do the totals agree with your local accounting
- Are the SpecInt2000 values correct?
- Is your efficiency overall a concern?
- Are there particular VOs running at your site whose attention you want to bring to the efficiency of their jobs at your site?