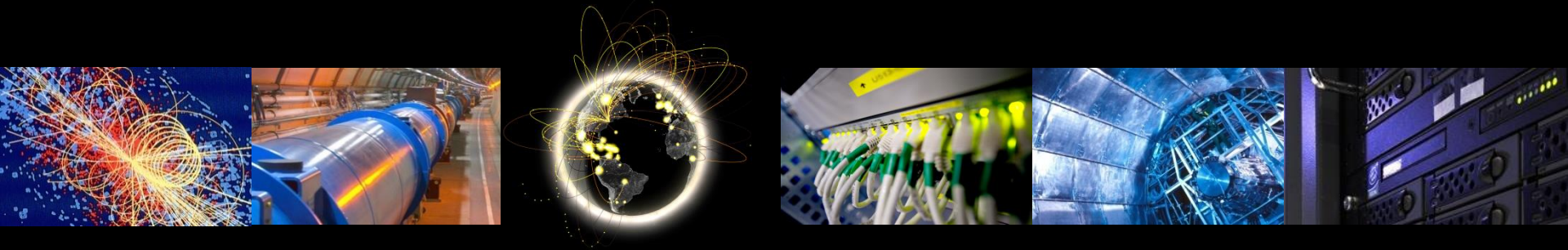


# Multicore Accounting

John Gordon, STFC-RAL

WLCG MB, July 2015



# Outline

- History
- Recent Progress
- Current Status
- Plan

# History

- I first raised the issue of sites publishing details of the cores used per job at the OMB last December with an update in January.
- There was some initial improvement but then progress flattened off.
- WLCG are now running many more multicore jobs and wish to see this reflected in accounting.
  - Knowing the number of cores used is important in calculating the effective wallclock time and thus the overall occupancy of a cluster.

# Recent Progress

- At the June meeting of the WLCG Grid Deployment Board I reported that 87% of LHC CPU use was now reported as coming from Sites/CEs which reported the number of cores per job.
- Since there were some obvious omissions from important sites and countries I was asked to address this.
- I raised tickets against all NGIs and gave them a link to the publishing of cores for June by their sites which run LHC work.
- This has mainly been successful. By the end of June we had 95% publishing
  - This excluded sites which didn't run any LHC work in June
- In July I extended the campaign to include EGI sites not running any LHC work.

# Current Status

- There are still about 60 sites who have published jobs without cores in the last few days but there is a long tail of failed jobs and rogue CEs that don't amount to significant CPU use.
- There is a smaller number of sites with some or all CEs not reporting cores.
- There are few with problems not under their control
- Many have never responded to tickets.

# In July 98% of LHC CPU reports cores. (Underestimate)

by REGION and NUMBER PROCESSORS.  
LHC VOs: July 2015 - July 2015.

The following table shows the distribution of grouped by REGION and NUMBER PROCESSORS (only information about LHC VOs is returned).

by REGION and NUMBER PROCESSORS														
REGION	0	1	2	3	4	6	8	10	12	16	24	32	Total	%
AsiaPacific	1,309,745	25,649,086	0	0	0	0	8,811,506	0	0	0	0	0	35,770,319	5.56%
CERN	0	48,248,251	0	0	0	0	11,065,773	0	0	0	0	0	59,314,024	9.22%
NGI_ARMGRID	0	53,510	0	0	0	0	0	0	0	0	0	0	53,510	0.01%
NGI_CH	0	5,910,753	0	0	0	0	4,115,902	0	0	0	0	0	10,026,655	1.56%
NGI_CHINA	0	2,660,154	0	0	0	0	295,304	0	0	0	0	0	2,955,458	0.46%
NGI_CZ	0	5,172,648	0	0	0	0	966,246	0	0	0	0	0	6,138,894	0.95%
NGI_DE	6,936,292	47,472,185	0	0	0	0	31,698,385	0	0	2,875,264	0	0	88,982,126	13.83%
NGI_FRANCE	0	69,254,739	0	0	0	0	25,826,600	0	0	0	0	0	95,081,339	14.79%
NGI_GRNET	0	338,594	0	0	0	0	0	0	0	0	0	0	338,594	0.05%
NGI_HR	16	0	0	0	0	0	0	0	0	0	0	0	16	0.00%
NGI_HU	0	2,442,091	0	0	0	0	0	0	0	0	0	0	2,442,091	0.38%
NGI_IBERGRID	1,224,472	15,264,432	0	0	0	1	11,186,871	39	0	0	0	0	27,675,815	4.30%
NGI_IL	0	3,884,932	0	0	0	0	2,017,133	0	0	0	0	0	5,902,064	0.92%
NGI_IT	1,126,214	42,680,928	38,934	0	18	0	17,036,541	0	0	0	0	0	60,882,636	9.46%
NGI_NDGF	0	7,744,690	112	0	0	0	5,324,414	0	981,644	0	0	0	14,050,860	2.18%
NGI_NL	0	22,576,033	0	0	6,383,744	0	0	0	0	0	0	0	28,959,777	4.50%
NGI_PL	0	711,272	0	0	0	0	0	0	0	0	0	0	711,272	0.11%
NGI_RO	5	1,761,925	0	0	0	0	1,305,229	0	0	0	0	348	3,067,507	0.48%
NGI_SI	0	626,291	0	0	0	0	710,836	0	0	0	0	0	1,337,128	0.21%
NGI_SK	0	3,424,796	0	0	0	0	1,702,709	0	0	0	0	0	5,127,505	0.80%
NGI_TR	0	1,515,857	0	0	0	0	3,294,177	0	0	0	0	0	4,810,034	0.75%
NGI_UA	41,427	1,164,438	0	0	0	0	0	0	0	0	0	0	1,205,864	0.19%
NGI_UK	39,691	63,692,871	0	0	1,443,571	0	36,729,260	0	0	0	0	0	101,905,393	15.84%
ROC_Canada	0	13,459,225	0	0	0	17,084,468	3,111,829	0	0	0	0	0	33,655,522	5.23%
ROC_LA	420,918	3,717,003	0	0	0	0	2,811	0	0	0	0	0	4,140,733	0.64%
Russia	2,204,420	33,290,011	0	0	0	0	9,547,598	0	3,817,645	0	0	0	48,859,674	7.59%
<b>Total</b>	<b>13,303,201</b>	<b>422,716,695</b>	<b>39,047</b>	<b>0</b>	<b>7,827,334</b>	<b>17,084,468</b>	<b>174,752,123</b>	<b>39</b>	<b>4,799,289</b>	<b>2,875,264</b>	<b>0</b>	<b>348</b>	<b>643,397,808</b>	
<b>Percentage</b>	<b>2.07%</b>	<b>65.70%</b>	<b>0.01%</b>	<b>0.00%</b>	<b>1.22%</b>	<b>2.66%</b>	<b>27.16%</b>	<b>0.00%</b>	<b>0.75%</b>	<b>0.45%</b>	<b>0.00%</b>	<b>0.00%</b>		

[Click here for a CSV dump of this table](#)

[Click here for an Extended CSV dump of this table](#)

[Click here for XML encoded data](#)

# Sites Publishing zero core jobs since 13/7/15

Site	Country	LHC?	Jobs	HS06Hours
Hephy-Vienna	Austria (NGI-IT)	CMS	49882	3,927,676
RWTH-Aachen	Germany	CMS	102303	3,113,916
MPPMU	Germany	ATLAS	84533	2,079,792
DESY-HH	Germany	CMS	37408	2,035,869
RRC-KI	Russia	Alice	62779	1,788,016
IN-DAE-VECC-02	India	Alice	23356	1,309,750
IFIC-LCG2	Spain	ATLAS	88972	1,176,147
ICN-UNAM	Mexico	Alice	2356	396,787
Ru-Troitsk-INR-LCG2	Russia	Alice, CMS, LHCb	12637	222,022
CBPF	Brazil	No	2114	52,991
Kharkov-KIPT-LCG2	Ukraine	CMS	7773	41,430
ru-Moscow-SINP-LCG2	Russia	CMS	11270	27,733
HEPHY-UIBK	Austria (NGI-IT)	ATLAS	6600	25,471


# Issues

- DESY-HH publish from CREAM but not ARC-CE.
  - Outstanding ticket with ARC team
  - Suspect MPPMU have the same issue although no response from them.
- RWTH-Aachen – no response
- Austrian sites are part of Italian NGI but were not alerted.
  - Acknowledged but no action in a week.
- Spanish site publishing from multicore queues but admitted they hadn't changed single core queue.
  - No further response in over two weeks.
- Russia (4), India, Mexico, Ukraine – no response



# Country View

accounting-devel.egi.eu/show.php?Path=1.23&query=sum\_normcpu&startYear=2015&startMonth=7&endYear=2015&endMonth=7&yrange=SITE&x

EGI ACCOUNTING PORTAL 

GLOBAL View | VO MANAGER View | VO MEMBER View | SITE ADMIN View | REPORTS | METRICS PORTAL | LINKS

[Refresh](#)

**NGI\_DE by SITE and NUMBER PROCESSORS.**  
ALL VOs. July 2015 - July 2015.

The following table shows the distribution of grouped by SITE and NUMBER PROCESSORS.

by SITE and NUMBER PROCESSORS									
SITE	0	1	2	6	8	16	Total	%	
BMRZ-FRANKFURT	705	1,535	0	0	0	0	2,240		0.00%
DESY-HH	2,035,884	39,503,835	0	0	0	0	41,539,718		37.00%
DESY-ZN	0	2,179,997	0	0	5,506,576	0	7,686,573		6.85%
FZK-LCG2	0	21,844,621	0	1,771	17,090,655	0	38,937,047		34.68%
GoeGrid	0	1,803,140	0	0	797,313	0	2,600,453		2.32%
LRZ-LMU	0	380,185	0	0	3,679,690	2,875,669	6,935,544		6.18%
mainzgrid	0	66	0	0	0	0	66		0.00%
MPPMU	2,079,792	3,333,610	0	0	0	0	5,413,402		4.82%
RWTH-Aachen	3,182,498	0	0	0	0	0	3,182,498		2.83%
SCAI	0	5,323	0	0	0	0	5,323		0.00%
TUDresden-ZIH	0	11,978	0	0	0	0	11,978		0.01%
UNI-FREIBURG	0	1,026,046	0	0	2,811,307	0	3,837,353		3.42%
UNI-SIEGEN-HEP	3	0	0	0	0	0	3		0.00%
wuppertalprod	0	298,129	0	0	1,812,844	0	2,110,974		1.88%
<b>Total</b>	<b>7,298,880</b>	<b>70,388,465</b>	<b>0</b>	<b>1,771</b>	<b>31,698,385</b>	<b>2,875,669</b>	<b>112,263,170</b>		
<b>Percentage</b>	<b>6.50%</b>	<b>62.70%</b>	<b>0.00%</b>	<b>0.00%</b>	<b>28.24%</b>	<b>2.56%</b>			

[Click here for a CSV dump of this table](#)  
[Click here for an Extended CSV dump of this table](#)  
[Click here for XML encoded data](#)

# Within a Site

Operations Management | EGI Accounting Portal

accounting-devel.egi.eu/show.php?ExecutingSite=DESY-HH&query=sum\_normcpu&startYear=2015&startMonth=6&endYear=2015&er

Apps | Recyclepedia - Val... | UK Proxy Server - U... | Garmin OSM | BBC | APEL | EGI 2015 | Gmail: | EGI | WLCG | Scotwork | Other bookmarks

## EGI ACCOUNTING PORTAL

CESGA

GLOBAL View | VO MANAGER View | VO MEMBER View | SITE ADMIN View | REPORTS | METRICS PORTAL | LINKS

**by SubmitHost and NUMBER PROCESSORS**

	SubmitHost	0	1	Total	%
UNI-SIE					
wuppert	grid-cr0.desy.de:8443/cream-pbs-atlas	0	2,448,475	2,448,475	7.03%
NGI_FI	grid-cr0.desy.de:8443/cream-pbs-cms	0	1,824,131	1,824,131	5.24%
NGI_FRANC	grid-cr0.desy.de:8443/cream-pbs-lhcb	0	31	31	0.00%
NGI_GE	grid-cr0.desy.de:8443/cream-pbs-mcore	0	3,971,982	3,971,982	11.41%
NGI_GRNET	grid-cr0.desy.de:8443/cream-pbs-operations	0	210	210	0.00%
NGI_HR	grid-cr1.desy.de:8443/cream-pbs-atlas	0	2,577,101	2,577,101	7.40%
NGI_HU	grid-cr1.desy.de:8443/cream-pbs-cms	0	1,939,046	1,939,046	5.57%
NGI_IBERG	grid-cr1.desy.de:8443/cream-pbs-lhcb	0	32	32	0.00%
NGI_IL	grid-cr1.desy.de:8443/cream-pbs-mcore	0	3,952,228	3,952,228	11.35%
NGI_IT	grid-cr1.desy.de:8443/cream-pbs-operations	0	206	206	0.00%
NGI_MARGI	grid-cr2.desy.de:8443/cream-pbs-atlas	0	1,967,942	1,967,942	5.65%
NGI_MD	grid-cr2.desy.de:8443/cream-pbs-cms	0	1,871,253	1,871,253	5.37%
NGI_ME	grid-cr2.desy.de:8443/cream-pbs-lhcb	0	35	35	0.00%
NGI_NDGF	grid-cr2.desy.de:8443/cream-pbs-mcore	0	3,781,024	3,781,024	10.86%
NGI_NL	grid-cr2.desy.de:8443/cream-pbs-operations	0	220	220	0.00%
NGI_PL	grid-cr3.desy.de:8443/cream-pbs-atlas	0	2,476,883	2,476,883	7.11%
NGI_RO	grid-cr3.desy.de:8443/cream-pbs-cms	0	1,835,956	1,835,956	5.27%
NGI_SI	grid-cr3.desy.de:8443/cream-pbs-lhcb	0	32	32	0.00%
NGI_SK	grid-cr3.desy.de:8443/cream-pbs-mcore	0	3,669,963	3,669,963	10.54%
NGI_TR	grid-cr3.desy.de:8443/cream-pbs-operations	0	192	192	0.00%
NGI_UA	grid-cr4.desy.de:8443/cream-pbs-mcore	0	0	0	0.00%
NGI_UK	grid-cr5.desy.de:8443/cream-pbs-mcore	0	1	1	0.00%
	gsiftp://grid-arc0.desy.de:2811/jobs	2,479,707	0	2,479,707	7.12%
	gsiftp://grid-arc4.desy.de:2811/jobs	26,097	0	26,097	0.07%
	<b>Total</b>	<b>2,505,804</b>	<b>32,316,942</b>	<b>34,822,746</b>	
	<b>Percentage</b>	<b>7.20%</b>	<b>92.80%</b>		

[Click here for a CSV dump of this table](#)

# Summary

- Solution for APEL is simple
  - Set `parallel=true` in `parser.cfg` for parsers parsing batch logs
- For other accounting systems, ask advice.
- Just start publishing from now, don't backdate.
- I need help with recalcitrant sites.