



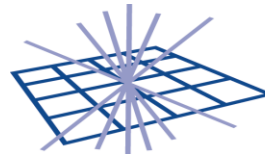
Installed Capacity Reports

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GridPP
UK Computing for Particle Physics



Installed Capacity

- Need to present installed capacity of T2s to RRB in April
- Gstat-wlcg gathers information about sites from BDII.
 - It knows T2 structure so can produce data per Federation
- At first sight publication is almost universal
 - 134 sites make up T2 federations
 - Only 13 do not publish (or publish incorrectly)



Sites not publishing CPU

- CSC (Finland)
- HEPHY-UIBK (Austria)
- IL-TAU-HEP (Israel)
- NO-NORGRID-T2 (Norway)
- Purdue-Rossmann (USA)
- Purdue-Steele (USA)
- RO-11-NIPNE (Romania)
- RU-Protvino-IHEP (Russia)
- RU-SPbSU (Russia)
- TECHNION-HEP (Israel)
- UFlorida-HPC (USA)
- WARSAW-EGEE (Poland)
- PragueLCG2 (Czech Republic)



Shares

- The total installed capacity at a site doesn't give enough information.
- RRB is only interested in the capacity installed for LHC experiments and its correspondence to the pledges.
- Many fewer sites have published SHARES
 - 59 not publishing for LHC
- See attached spreadsheet gstat-site-capacities downloaded 3/ 3/ 11

Site	Installed	Shares					Capacity						
	ISO6	Alice	ATLAS	CMS	LHCb	LHC	Alice	ATLAS	CMS	LHCb	LHC	LHC%	
AGLT2	36430	0	0	0	0	0	0	0	0	0	0	0	0.00%
Australia-ATLAS	2538	0	25	0	0	0	25	0	634.5	0	0	634.5	25.00%
BEIJING-LCG2	8885	0	50	50	0	0	100	0	4442.5	4442.5	0	8885	100.00%
BEgrid-ULB-VUB	3654	0	0	0	0	0	0	0	0	0	0	0	0.00%
BNL-ATLAS	58000	0	0	0	0	0	0	0	0	0	0	0	0.00%
BUDAPEST	5350	23	0	70	0	0	93	1230.5	0	3745	0	4975.5	93.00%
BU_ATLAS_Tier2	5520	0	0	0	0	0	0	0	0	0	0	0	0.00%
CA-ALBERTA-WESTGRID-T2	3628	0	40	0	0	0	40	0	1451.2	0	0	1451.2	40.00%
CA-SCINET-T2	13400	0	40	0	0	0	40	0	5360	0	0	5360	40.00%
CA-VICTORIA-WESTGRID-T2	4539	0	40	0	0	0	40	0	1815.6	0	0	1815.6	40.00%
CERN-PROD	310956	0	40	0	0	0	40	0	124382.4	0	0	124382.4	40.00%
CIEMAT-LCG2	9581	0	0	76	0	0	76	0	0	7281.56	0	7281.56	76.00%
CIT_CMS_T2	7760	0	0	0	0	0	0	0	0	0	0	0	0.00%
CSC	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!
CSCS-LCG2	11520	0	40	40	20	0	100	0	4608	4608	2304	11520	100.00%
CYFRONET-LCG2	52571	0	0	0	0	0	0	0	0	0	0	0	0.00%
DESY-HH	33941	0	0	0	0	0	0	0	0	0	0	0	0.00%
DESY-ZN	8663	0	25	0	25	50	0	2165.75	0	2165.75	0	4331.5	50.00%
EFDA-JET	1714	0	0	0	0	0	0	0	0	0	0	0	0.00%
ELTE	175	0	0	0	0	0	0	0	0	0	0	0	0.00%
FZK-LCG2	106847	0	0	0	0	0	0	0	0	0	0	0	0.00%
GLOW	7760	0	0	0	0	0	0	0	0	0	0	0	0.00%
GRIF	60815	0	0	0	0	0	0	0	0	0	0	0	0.00%
GoeGrid	9616	0	64	0	0	0	64	0	6154.24	0	0	6154.24	64.00%
GridUNESP_CENTRAL	18171	0	0	0	0	0	0	0	0	0	0	0	0.00%
HEPHY-UIBK	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!
HU_ATLAS_Tier2	13515	0	0	0	0	0	0	0	0	0	0	0	0.00%
Hephy-Vienna	2944	0	0	85	0	0	85	0	0	2502.4	0	2502.4	85.00%
IFCA-LCG2	14146	0	0	60	0	0	60	0	0	8487.6	0	8487.6	60.00%
IFIC-LCG2	8471	0	99	0	0	0	99	0	8386.29	0	0	8386.29	99.00%
IL-TAU-HEP	0	0	0	0	0	0	0	0	0	0	0	0	#DIV/0!
IN2P3-CC	77985	0	0	0	0	0	0	0	0	0	0	0	0.00%
IN2P3-CC-T2	21792	0	0	0	0	0	0	0	0	0	0	0	0.00%
IN2P3-CPPM	7293	0	0	0	0	0	0	0	0	0	0	0	0.00%
IN2P3-IRES	13536	10	0	50	0	0	60	1353.6	0	6768	0	8121.6	60.00%
IN2P3-LAPP	7198	0	80	0	20	0	100	0	5758.4	0	1439.6	7198	100.00%
IN2P3-LPC	7372	35	45	0	15	0	95	2580.2	3317.4	0	1105.8	7003.4	95.00%
IN2P3-SUBATECH	3618	100	0	0	0	0	100	3618	0	0	0	3618	100.00%
INDIA-CMS-TIER	32640	0	0	90	0	0	90	0	0	29376	0	29376	90.00%



Extended T2 report.

- I downloaded the uncorrected T2 report for February from the Accounting Portal
- I merged it with gstat data from 3/ 3 and 2010 Pledge.
- Spreadsheet on agenda.
- This report has the usual usage per site aggregated over a T2 federation and compared with the pledge for the federation (no information on pledge/ site)
- Two worksheets in the spreadsheet
 - Installed vs Pledge
 - Compare HS06
 - Usage vs Installed
 - Compare HS06 hours with HS06 hours installed.

COUNTRY	FEDERATION	2010 CPU Pledge (KSI2K-Hrs)	pledge inc. efficiency (KSI2K-Hrs)	SITE	Installed H506					Installed as % of Pledge
					alice	atlas	cms	lhcb	Total	
Australia	AU-ATLAS	2500	1008000	Australia-ATLAS	0	634.5	0	0	634.5	25.38%
				Total WallClock	0	634.5	0	0	634.5	
Austria	AT-HEPHY-VIENNA-UIBK			HEPHY-UIBK	0	0	0	0	0	
Austria	AT-HEPHY-VIENNA-UIBK	8850	3568320	Hephy-Vienna	0	0	2502.4	0	2502.4	
				Total WallClock	0	0	2502.4	0	2502.4	28.28%
Canada	CA-EAST-T2	5760	2322432	CA-SCINET-T2	0	5360	0	0	5360	
				Total WallClock	0	5360	0	0	5360	93.06%
Canada	CA-WEST-T2			CA-ALBERTA-WESTGRID-T2	0	1451.2	0	0	1451.2	
Canada	CA-WEST-T2			CA-VICTORIA-WESTGRID-T2	0	1815.6	0	0	1815.6	
Canada	CA-WEST-T2	5760	2322432	SFU-LCG2	0	1989.9	0	0	1989.9	
				Total WallClock	0	5256.7	0	0	5256.7	91.26%
France	FR-IN2P3-IPHC	8000	3225600	IN2P3-IRES	1353.6	0	6768	0	8121.6	
				Total WallClock	1353.6	0	6768	0	8121.6	101.52%
France	FR-IN2P3-LAPP	4400	1774080	IN2P3-LAPP	0	5758.4	0	1439.6	7198	
				Total WallClock	0	5758.4	0	1439.6	7198	163.59%
France	FR-IN2P3-IPHC			IN2P3-IPHC	2580.2	3317.4	0	1105.8	7003.4	



Installed vs Pledge

- *Look at the spreadsheet on agenda*
- This is the view required by RRB
- Hidden all T2s who don't publish any shares
- Results look good but:-
 - Some sites appear lower because some sites don't publish SHARE
 - Probably many sites already have 2011 Pledges in place.
 - Many sites have resources above the pledge for local use. Measurements include this.

2010 CPU Pledge (KSI2K)	pledge inc. efficiency (KSI2K-Hrs)	SITE	Usage (norm HS06 Hours)					delivered as % of pledge	Installed (HS06 Hours in Feb)					delivered as % of Installed
			alice	atlas	cms	lhcb	Total		alice	atlas	cms	lhcb	Total	
2500	1008000	Australia-ATLAS	0	656684	0	0	656684	65	0	426384	0	0	426384	154%
		Total	0	656684	0	0	656684		0	426384	0	0	426384	154%
		WallClock		742148			742148							174%
		HEPHY-UIBK	0	429008	0	0	429008		0	0	0	0	0	#DIV/0!
8850	3568320	Hephy-Vienna	0	0	1332660	0	1332660	49	0	0	1681613	0	1681613	79%
		Total	0	429008	1332660	0	1761668		0	0	1681613	0	1681613	105%
		WallClock		460576	1544976		2005552							119%
		BEgrid-ULB-VUB	0	0	909168	0	909168		0	0	0	0	0	#DIV/0!
9000	3628800	BelGrid-UCL	0	0	18656	0	18656	26	0	0	0	0	0	#DIV/0!
		Total	0	0	927824	0	927824		0	0	0	0	0	#DIV/0!
		WallClock			1345888		1345888							#DIV/0!
		GridUNESP_CENTRAL	0	0	0	0	0		0	0	0	0	0	#DIV/0!
3200	1290240	SPRACE	0	0	100804	0	100804	8	0	0	0	0	0	#DIV/0!
		Total	0	0	100804	0	100804		0	0	0	0	0	#DIV/0!
		WallClock	1576	1680	487036		490292							#DIV/0!
		CA-SCINET-T2	0	4972144	0	0	4972144		0	3601920	0	0	3601920	138%
5760	2322432	Total	0	4972144	0	0	4972144	214	0	3601920	0	0	3601920	138%
		WallClock		6238228			6238228							173%
		CA-ALBERTA-WESTGRID-T2	0	1322064	0	0	1322064		0	975206.4	0	0	975206.4	136%
		CA-VICTORIA-WESTGRID-T2	0	2284596	0	0	2284596		0	1220083	0	0	1220083	187%
5760	2322432	SFU-LCG2	0	1553568	0	0	1553568	222	0	1337213	0	0	1337213	116%
		Total	0	5160228	0	0	5160228		0	3532502	0	0	3532502	146%
		WallClock		5654372			5654372							160%
		BEIJING-LCG2	0	773972	409628	0	1183600		0	0	0	0	0	#DIV/0!
8000	3225600	Total	0	773972	409628	0	1183600	37	0	0	0	0	0	#DIV/0!



Usage vs Installed

- The existing T2 report shows usage as % of pledge.
- This is independent of actual installed cpu, so for 2 sites who show usage of 50% of pledge.
 - One has 50% installed – 100% efficiency
 - Another has 200% installed – 25% efficiency
- This report shows (column furthest to right) usage as a percentage of installed CPU. Independent of pledge
- Also shows wallclock
- Significant number of sites $>100\%$
 - Suggests LHC VOs are making use of SHARE not assigned to LHC
 - Or SHARES are wrong



What next?

- Ticket sites who don't publish cpu installed at all (JCG)
- Chase T2 who do not publish SHARE for LHC VOs (T1 and NGIs?)
- Decide on T2 report to be prepared for RRB
 - I have probably added too many new columns
 - One suggestion is an extra row per federation below wallclock showing the installed capacity per VO
 - And an extra column showing total installed CPU for LHC VOs as a percentage of Total Pledge.