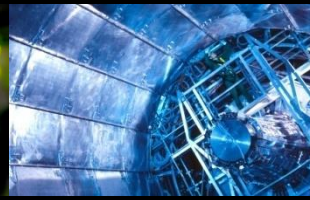
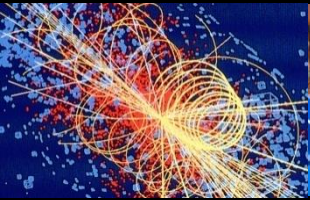


Multicore Accounting Update

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WLCG MB
December 2015



MultiCore Usage

- The campaigns to encourage sites to start publishing accounting information on the number of cores used were successful.
- >99% of LHC usage reports #cores.
- Of the remaining <1%, 90%+ is due to ARC CEs at DESY-HH
 - Intractable interaction between ARC CE and PBS
 - Should be fixable as CREAM was fixed.
- Very low level of failed jobs on ARC CEs still report 0 cores with little or no cpu and small wall.

Refresh

by REGION and NUMBER PROCESSORS.
LHC VOs. November 2015 - December 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 | 5 | 6 | 8 | 9 | 10 | 12 | 16 | 20 | 40 | Total | % |
| AfricaArabia | 0 | 1,792,407 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,792,407 | 0.09% |
| AsiaPacific | 1,676 | 67,091,786 | 0 | 0 | 0 | 0 | 0 | 22,402,563 | 0 | 0 | 0 | 0 | 0 | 0 | 89,496,025 | 4.66% |
| CERN | 0 | 135,486,076 | 20,458,562 | 0 | 0 | 0 | 0 | 19,636,403 | 0 | 0 | 0 | 0 | 0 | 0 | 175,581,042 | 9.14% |
| NGI_ARMGRID | 0 | 79,443 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 79,443 | 0.00% |
| NGI_BG | 119 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 119 | 0.00% |
| NGI_CH | 0 | 12,117,361 | 11,386 | 0 | 0 | 1 | 0 | 7,362,142 | 0 | 0 | 0 | 0 | 0 | 0 | 19,490,890 | 1.01% |
| NGI_CHINA | 0 | 10,192,040 | 0 | 0 | 0 | 0 | 0 | 995,886 | 0 | 0 | 0 | 0 | 0 | 0 | 11,187,926 | 0.58% |
| NGI_CZ | 0 | 16,045,577 | 0 | 0 | 0 | 0 | 0 | 3,727,645 | 0 | 0 | 0 | 0 | 0 | 0 | 19,773,222 | 1.03% |
| NGI_DE | 13,007,515 | 151,311,170 | 0 | 0 | 0 | 0 | 0 | 69,465,655 | 0 | 0 | 0 | 0 | 0 | 1,824,103 | 235,608,444 | 12.26% |
| NGI_FRANCE | 0 | 205,412,337 | 31,975 | 11 | 0 | 0 | 0 | 58,149,866 | 0 | 0 | 0 | 0 | 0 | 0 | 263,594,188 | 13.72% |
| NGI_GRNET | 0 | 2,824,233 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2,824,233 | 0.15% |
| NGI_HR | 0 | 54 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 54 | 0.00% |
| NGI_HU | 0 | 6,801,615 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 6,801,615 | 0.35% |
| NGI_IGBERGRID | 0 | 46,946,320 | 0 | 0 | 2 | 0 | 0 | 35,283,958 | 0 | 2 | 0 | 0 | 0 | 0 | 82,230,282 | 4.28% |
| NGI_IL | 0 | 8,409,990 | 0 | 0 | 0 | 0 | 0 | 6,031,630 | 0 | 0 | 0 | 0 | 0 | 0 | 14,441,619 | 0.75% |
| NGI_IT | 0 | 167,204,915 | 426,358 | 0 | 45 | 0 | 0 | 50,251,191 | 0 | 0 | 0 | 0 | 0 | 0 | 217,882,509 | 11.34% |
| NGI_NDGF | 0 | 26,403,787 | 166,728 | 0 | 0 | 0 | 0 | 8,080,953 | 0 | 0 | 1,869,987 | 323,447 | 0 | 0 | 36,844,901 | 1.92% |
| NGI_NL | 0 | 75,857,308 | 0 | 0 | 14,700,898 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 90,558,206 | 4.71% |
| NGI_PL | 0 | 30,231,011 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 840,084 | 0 | 0 | 31,071,095 | 1.62% |
| NGI_RO | 214,082 | 12,291,241 | 0 | 0 | 0 | 0 | 0 | 3,680,949 | 0 | 0 | 0 | 0 | 0 | 0 | 16,186,271 | 0.84% |
| NGI_SI | 0 | 16,350,582 | 0 | 0 | 0 | 0 | 0 | 9,809,879 | 0 | 0 | 0 | 0 | 0 | 0 | 26,160,461 | 1.36% |
| NGI_SK | 0 | 10,126,611 | 0 | 0 | 0 | 0 | 0 | 2,879,847 | 0 | 0 | 0 | 0 | 0 | 0 | 13,006,458 | 0.68% |
| NGI_TR | 0 | 458,145 | 0 | 0 | 0 | 0 | 0 | 19,137 | 0 | 0 | 0 | 0 | 0 | 0 | 477,281 | 0.02% |
| NGI_UA | 1,328,965 | 619,548 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1,948,513 | 0.10% |
| NGI_UK | 3,359 | 244,113,110 | 0 | 0 | 1,629,325 | 0 | 0 | 68,407,525 | 0 | 0 | 0 | 0 | 0 | 0 | 314,153,319 | 16.35% |
| ROC_Canada | 0 | 53,229,091 | 0 | 0 | 0 | 0 | 31,760,607 | 1,787,627 | 0 | 0 | 0 | 0 | 0 | 0 | 86,777,325 | 4.52% |
| ROC_LA | 0 | 20,577,529 | 0 | 0 | 0 | 0 | 0 | 1,220,470 | 0 | 0 | 0 | 0 | 0 | 0 | 21,797,999 | 1.13% |
| Russia | 0 | 105,797,719 | 0 | 0 | 0 | 0 | 0 | 22,437,007 | 0 | 0 | 13,316,652 | 0 | 0 | 0 | 141,551,378 | 7.37% |
| Total | 14,555,717 | 1,427,771,002 | 21,095,010 | 11 | 16,330,270 | 1 | 31,760,607 | 391,630,333 | 0 | 2 | 15,186,639 | 1,163,531 | 0 | 1,824,103 | 1,921,317,227 | |
| Percentage | 0.76% | 74.31% | 1.10% | 0.00% | 0.85% | 0.00% | 1.65% | 20.38% | 0.00% | 0.00% | 0.79% | 0.06% | 0.00% | 0.09% | | |

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Monthly Reports

- While waiting for APEL to migrate, the monthly WLCG Reports were adapted to take their data from the development portal with its information on cores used.
- The November report, available now for checking by sites uses $\text{wallclock} * \text{ncores}$

Final checking of REBUS logic

Viewing in production portal

- The Accounting Portal is in the middle of a major rewrite and they are loath to make major changes (lack of effort, etc)
- They have added a new tree EMI3 alongside the EGI one and the former contains the data visible today on the development portal which now has historical data going back 18 months. (Earlier data will follow shortly)
- The Tier1 and Tier2 trees (and reports?) are from the latest data and include SubmitHost, Number of Processors(cores) and Number of CPUs. Wallclock time is viewable as raw, normalised and normalised*ncores. The last number is used to calculate efficiency.
- Please let us know of any discrepancies you see either with what is visible in the original production view (EGI) or with what you expect to see for your site.

LHC VOs. January 2015 - December 2015.

The following table shows the distribution of CPU Efficiency grouped by SITE and DATE (only information about LHC VOs is returned).

| CPU Efficiency (%) by SITE and DATE | | | | | | | | | | | | | |
|-------------------------------------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|----------|-------|
| SITE | Jan 2015 | Feb 2015 | Mar 2015 | Apr 2015 | May 2015 | Jun 2015 | Jul 2015 | Aug 2015 | Sep 2015 | Oct 2015 | Nov 2015 | Dec 2015 | Total |
| EFDA-JET | 59.7 | 48.1 | 82.3 | 30.2 | 1.5 | 0.9 | 2.0 | 1.9 | 2.2 | 2.7 | 2.2 | | 21.3 |
| RAL-LCG2 | 86.4 | 82.9 | 84.3 | 83.0 | 81.5 | 84.0 | 83.2 | 81.5 | 88.2 | 88.8 | 90.7 | 89.3 | 85.3 |
| UKI-LT2-Brunel | 136.9 | 62.2 | 70.8 | 66.9 | 63.4 | 61.5 | 59.0 | 63.2 | 61.5 | 55.5 | 60.0 | 60.2 | 68.4 |
| UKI-LT2-IC-HEP | 304.2 | 271.5 | 110.9 | 88.8 | 86.9 | 88.3 | 82.4 | 88.3 | 88.4 | 92.1 | 91.3 | 84.0 | 123.1 |
| UKI-LT2-QMUL | 62.8 | 78.9 | 84.1 | 81.2 | 77.8 | 73.8 | 87.5 | 84.9 | 87.0 | 86.4 | 92.3 | 87.4 | 82.0 |
| UKI-LT2-RHUL | 379.7 | 86.6 | 87.5 | 87.6 | 86.9 | 80.4 | 88.1 | 77.1 | 88.0 | 87.1 | 87.4 | 85.0 | 110.1 |
| UKI-NORTHGRID-LANCS-HEP | 90.5 | 89.0 | 91.1 | 91.4 | 77.5 | 66.3 | 89.6 | 94.0 | 92.7 | 93.1 | 92.4 | 91.7 | 88.3 |

Refresh

RAL-LCG2 CPU Efficiency by VO and DATE.
LHC VOs. January 2015 - December 2015.

The following table shows the distribution of CPU Efficiency grouped by VO and DATE (only information about LHC VOs is returned).

| CPU Efficiency (%) by VO and DATE | | | | | | | | | | | | | |
|-----------------------------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| VO | Jan 2015 | Feb 2015 | Mar 2015 | Apr 2015 | May 2015 | Jun 2015 | Jul 2015 | Aug 2015 | Sep 2015 | Oct 2015 | Nov 2015 | Dec 2015 | Total |
| alice | 91.5 | 86.0 | 93.1 | 92.0 | 93.3 | 90.8 | 80.8 | 76.3 | 76.9 | 89.1 | 83.8 | 45.4 | 83.3 |
| atlas | 87.4 | 76.6 | 87.9 | 91.2 | 89.8 | 87.6 | 89.3 | 90.3 | 91.6 | 89.6 | 90.9 | 92.6 | 88.7 |
| cms | 73.2 | 81.7 | 63.1 | 44.6 | 37.4 | 55.6 | 53.5 | 39.7 | 68.2 | 72.7 | 85.7 | 92.2 | 64.0 |
| lhcb | 86.1 | 90.5 | 92.0 | 94.4 | 96.2 | 90.3 | 91.8 | 94.9 | 95.5 | 94.8 | 96.1 | 96.8 | 93.3 |
| Total | 84.6 | 82.9 | 77.5 | 94.4 | 79.2 | 81.1 | 78.9 | 75.3 | 83.1 | 86.5 | 89.1 | 81.8 | 82.9 |

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Key: 0% <= eff < 50%; 50% <= eff < 60%; 60% <= eff < 75%; 75% <= eff < 90%; 90% <= eff < 100%; eff >= 100% (parallel jobs)