eggee

CREAM deployment status

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e-infrastructure

Enabling Grids for E-sciencE

- **Status of the acceptance criteria**
- **CREAM in the production system**
- **Plans**

Good morning!

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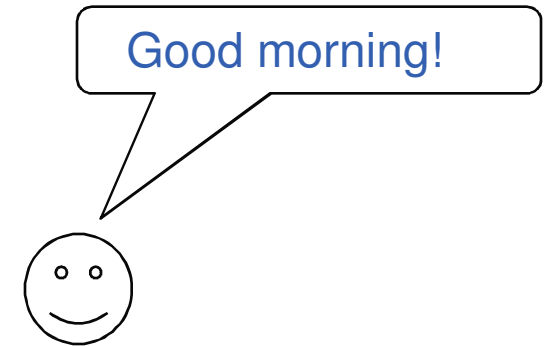
- **List of criteria available at**
  - https://twiki.cern.ch/twiki/bin/view/LCG/LCGCEtoCREAMCETransition

- **Positive updates after the 10th of Jun**
  - WMS-ICE in production (24th Aug, gLite 3.1 Update 53)
    - Criteria C, Di
  - Performance testing on CREAM done by SA3
    - http://gridctb.uoa.gr/cream-performance-notes/report.html
    - Criteria Dii, J, K, L, M, O

- **Experience-based criterion (N)**
  - CREAM validated for Alice use cases months ago
  - No significant user experiences on WMS submission chain from any VOs

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- **WMS-ICE in production**
  - Criteria C, Di

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- **WMS → CREAM supported (on SL4) since 24th Aug**
- **Newer versions of CREAM and ICE (SL4) now in PPS**
- **CREAM 1.11.1-11 (PATCH:2666)**
  - Fixes ~40 non-functional issues observed during the pilot and production operations CERN e.g.
    - Problem with purge (not deleting the job sandbox dir in some cases)
    - At most 32000 active jobs per user
    - Accounting logs (used by APEL and DGAS) not properly filled if the CREAM CE is not on the same node as the Torque server
- **ICE 3.1.42-0 (PATCH:2862)**
  - Improvements in performance and scalability
    - fix for BUG:47911 not tested in certification
  - Improved use of memory
- **To be released in production ~ next week**

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- **Performance testing on CREAM**
  - Criteria Dii, J, K, L, M, O

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- **Performance tests on CREAM done during June/July 09 at GRNET on SA3 budget, coordinated within PPS pilot**
  - Nikos Voutsinas, Dimitrios Apostolou, Konstantinos Koukopoulos, Gianni Pucciani

- **Main objective: validation of Cream CE under the load of 5000 running/queued jobs.**

- **Accurate and detailed report available**
  - http://gridctb.uoa.gr/cream-performance-notes/report.html
  - http://gridctb.uoa.gr/cream-performance-notes/report.pdf

- **Much appreciated by the developers**
  - several bugs found and discussed
  - report includes observations and suggestions to improve robustness and performance

	Criterion	Coverage	Result
D.ii	The ICE-WMS must deal gracefully with large peaks in the rate of jobs submitted to it.	Not covered	N/A
J	At least 5000 simultaneous jobs per CE node	Covered	Satisfied
K	Unlimited number of user/role/submission node combinations from many VO's (at least 50)	Not covered	N/A
L	Job failure rates in normal operations due to the CE < 0.1%	Covered	Satisfied
M	Job failures due to restart of CE services or reboot < 0.1%	Partially covered	No job failures noticed during reboot
O	Graceful failure or self-limiting behavior when the CE load reaches its maximum	Partially covered	Room for improvement

- **User and operational experience with CREAM**
  - Criterion N

- **Feedback from Alice on CREAM: OK**
- **CMS hardly exercised submission WMS →CREAM**
  - Due to many good reasons
  - Full chain not available for a long time (even in the PPS pilot)
  - CREAM deployed mostly at T1's (users of CRAB use T2's)
  - Broken submission chain in production stopped the PPS pilot works as well

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- **34 cream hosts running in production (16T1+18T2)**

- **CMS : 18 queues**
- **Alice : 32 queues - 13 usable (VOBOX)**
- **LHCb: 25 queues**
- **Atlas: 25 queues**

- **Ops: 40 queues**

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- 1000.gridpp.rl.ac.uk
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- 3000.gridpp.rl.ac.uk
- 500.gridpp.rl.ac.uk
- 700.gridpp.rl.ac.uk
- agh5.atlas.unimelb.edu.au
- alice16.spbu.ru
- ce0004.m45.ihep.su
- ce01-lcg.cr.cnaf.infn.it
- ce01.sdfarm.kr
- ce02-lcg.cr.cnaf.infn.it
- ce201.cern.ch
- ce202.cern.ch
- ce-cream-iep-grid.saske.sk
- ce-test.pic.es
- cream1.farm.particle.cz
- cream-1-fzk.gridka.de

- cream-2-fzk.gridka.de
- cream-ce01.marie.hellasgrid.gr
- creamce.gina.sara.nl
- cream-ce.pdc.kth.se
- creamce.reef.man.poznan.pl
- grcreamce.inr.troitsk.ru
- grid-ce02.esrf.eu
- gridce02.tier2-kol.res.in
- gw02.seegrid.grid.pub.ro
- nanlcg04.in2p3.fr
- ppsce02.pic.es
- ppsce03.pic.es
- prod-ce-01.pd.infn.it
- svr030.gla.scotgrid.ac.uk
- t2-ce-02.to.infn.it
- tbit03.nipne.ro
- test-lcgCE.uibk.ac.at

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- **June 1st:**
  - All European T1 + TRIUMF and CERN; at least 1 CREAM CE each.
  - 5 T2s supporting ALICE with 1 CREAM CE each

- **August 1st:**
  - At least 2 T2s for <u>each</u> experiment providing 1 CREAM CE each

- **October 1st:**
  - 50 sites providing CREAM CEs <u>in addition to the ones above</u>

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- **ASGC T1 – running in PPS now. In production by end September**
- **T2 In production by end September**
- **BNL**
  - U.S. ATLAS has currently no plans to deploy the CREAM CE..
- **CNAF**
  - CREAM CEs have been installed and configured at the T1 (for all VOs) and in nearly all T2s supporting Alice
- **FNAL**
  - No plans to install CREAM at FNAL or T2s so far
  - Waiting on a request from CMS to install the infrastructure and a target version in the VDT

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- **TRIUMF A CREAM CE was deployed at the T1 a while ago but it is not in production these days (it's a VM instance).**

- **There are still issues with condorg submission to CREAM CE with a high failure rate. ATLAS production system is condorg based. For WMS, only the very recent 3.2 WMS, which was released about two weeks ago, supports the submission to CREAM CE.**

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- **We don't see the install of CREAM CE as a priority at the T2s until it is validated and ready for use by ATLAS.**

- **UK T1 CREAM in production at T1 but only Alice using.**

- **UK T2 a few testing**

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- **IN2P3 T1 a CREAM-CE integrated with BQS is being deployed for internal testing with the help of ALICE. Our goal is to make it available for production by mid-November.**

- **T2s:**
- **IN2P3-GRIF: CREAM-CE not deployed. Quattor templates not ready. This affects all Quattor-based sites.**
- **IN2P3-SUBATECH: CREAM CE in operation. They would like to stop operating the LCG CE, but there is no SAM test yet for a CREAM CE.**
- **IN2P3-LAPP: no CREAM CE. The supported experiments (ATLAS and LHCb) do not seem very much interested in it.**
- **IN2P3-LPC: no CREAM CE at this site. Evaluation to be done. Concerns about how to split the worker nodes between LCG CE and CREAM CE.**
- **TOKYO: no plans. Could be deployed in November or later.**

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- **KIT T1 - FZK has 2 Cream-CEs in production.**
- **From the Tier-2s, only GSI, PSNC Poznan and Prague have a Cream installed.**
- **NL-T1**
  - An experimental CREAM service is available for the Sara partition of the NL-T1. At this point in time no CREAM access to the Nikhef partition of the NL-T1 is foreseen.
  - T2 – no report

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- **Break the deadlock**
  - "we don't say that it works because you don't test because we don't say that it works"
- **Preliminary contacts with CMS responsible for T1s (Claudio Grandi) – In progress**
  - Request of cooperation for structured tests in production moved to CMS (now under discussion internally)
  - CMS encourages however the deployment in production of patches #2666 (CREAM) and #2862(ICE)
  - No program of work defined yet with the experiment
- **Prepare the ground**
  - Sites running CREAM must be "commissioned for CMS"
    - CMS software dir and afs on WNs --> to be verified (SA1)