
# CREAM
# Status and plans

Massimo Sgaravatto – INFN Padova

On behalf of the gLite job management PT

# CREAM in EMI-1

- Support for ARGUS
  - At configuration time it is possible to decide if ARGUS or the old mechanisms (gJAF) should be used to manage authorization
  - If ARGUS is chosen, also gridftpd is configured to use it
  - Using ARGUS there is a single authorization system in the CREAM CE
    - No more inconsistent authorization decisions (because of misconfigurations or bugs) are possible
- Support for description and allocation of resources in multicore environments
  - Whether whole nodes should be used, how many nodes should be used, how cores should be distributed over the cluster
  - → Support for new JDL attributes: WholeNodes, HostNumber, SMPGranularity
  - Requested in particular by MPI users

# CREAM in EMI-1 (cont.ed)

- Support for Glue2
  - Still to be finalized
  - What is missing
    - Batch system dynamic information
      - See other talk
    - Management of ApplicationEnvironment
      - We should publish an objectclass for each ApplicationSoftware RTE, but this would produce a huge data volume
      - In Glue1 we had the same issue:
        - » We had one Location object for each RTE
        - » Now deprecated (causing problems because of huge data volume): now using only GlueHostApplicationSoftware objectclass
      - → Some solution/hack needed
        - » E.g. a single ApplicationEnvironment objectclass per VO, with the RTEs published as OtherInfo attributes ?

# CREAM in EMI-1 (cont.ed)

- Support for gLite-CLUSTER
  - gLite-CLUSTER: node that publishes info about resources (clusters and subclusters) in the site, referenced by the CEs available in that site
  - Different deployment models possible
    - CREAM in cluster mode, in no cluster mode, cluster deployed in the same or different node wrt the CREAM CE
  - Not originally foreseen
    - Considered initially out of scope in EMI by the PTB
    - Last minute request by management to support it
      - Full support for Glue2 considered with less priority wrt gLite-CLUSTER
- Support for OutputData JDL attribute
  - For automatic upload of output data and registration in Replica Catalog
- Several bug fixes
- Documentation
  - All required documentation for EMI-1 is in place
    - Major update of existing documentation
    - Actually not fully compliant yet with EMI rules (e.g. missing EMI logo)
  - New wiki (http://wiki.italiangrid.org/CREAM) for CREAM related documentation (for CREAM v >= EMI-1)

# Some activities for year-2

- Finalization of Glue 2 support (A1.1)
- Implementation of the agreed EMI-ES interface in CREAM (A3.2)
- Implementation of EMI-ES in CREAM client (A4.3)
- Investigate on ways to improve interactive access for CREAM (A.5.1)
- Implement EMI Usage Record in CREAM (A7.2)
- Full support for EMI-blessed batch systems in CREAM (A8.2)
- Consolidation/harmonization of clients: implementation of common client APIs in C (A9.2)
- Increase performance (C12.2)

# Finalization of Glue2 support

- Address ApplicationEnvironment issue
  - I guess we will all have to use the same approach
  - Issue to be raised and discussed within PTB ?
- LRMS dynamic information providers issue
  - See other talk
  - Trying to use ARC info providers ?

# Implementation of EMI-ES

- Just started in CREAM
- To be released in EMI-2 or before ?
  - There is a milestone in DoW at PM18
    - PM19 in DJRA1.1.2
- For client, as far as I understand still to be discussed and decided (in the PTB) if we will have a single EMI client or if we will have to do the work for each existing client

# Interactive access

- Job perusal already implemented
  - Allows inspecting the files produced by the job in the worker node, while the job is running
  - Chunk of files are sent to a remote location at regular time intervals
  - For jobs submitted to CREAM through WMS or any other client
- To investigate if something better can be integrated

# EMI Usage Record in CREAM

- According to gLite architecture, Usage Records are something APEL/DGAS specific
  - Not something “managed” by CREAM
- CREAM (BLAH) just provides a file that contains for each job some info such as UserDN, batchjobid, etc
  - This file has nothing to do with UR !
- This file is then processed by DGAS and/or APEL sensor
- So we expect at most to be asked to modify the file used as input by DGAS/APEL

# Support for batch systems

- In gLite support for batch systems means
  1. Support in the BLAH component of the CREAM CE
  2. Info providers
  3. Configuration module (yaim)
  4. Support in the accounting systems (DGAS, APEL)
- For 4 the responsibility is clearly in the APEL and DGAS PTs
- Issue with 1, 2, 3
  - In the EGEE* projects this was responsibility of specific teams not part of the CREAM PT
  - E.g. INFN/NIKHEF for Torque, CESGA/LIP for SGE, PIC for Condor, etc
  - This was “forgotten” in EMI
  - Now work done by several people on best effort basis, without full commitments (e.g. only developments, no deadlines, no ETICS conf., no certification. etc. etc.)
  - Issue raised at all possible levels but still not addressed
- Still to understand which are the batch systems that will have to be supported, so still to understand how serious is the issue
- As gLite Product Team we can't support all existing batch systems of the world !
  - Manpower issue (this stuff was not considered as part of our work)
  - Knowledge (and availability) of these batch systems needed

# Common client API in C

- I assume this is for EMI-ES
- Already decided or still to be approved by PTB ?

# Increase performance

- CREAM High Availability
  - Pool of CREAM machines seen as a single CREAM CE
  - Requested in particular by Cern
    - See Savannah task # 20329 and GGUS #66603
  - On going discussions between CREAM and BLAH developers
  - Going to summarize the whole stuff in a short document
- Support for bulk submission in client
  - Asked in particular by Alice
  - Already available in the server side


# Thank you!

**EMI is partially funded by the European Commission under Grant Agreement RI-261611**