ALICE Quarterly Report

2008Q2

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Production

- Fast First Physics MC production – different scenarios of LHC energies and detector conditions
  - Rapid changes in the code and conditions reflected immediately
  - Grid production of statistical samples equivalent to the expected RAW data in the first hours of LHC
  - Analysis of data on Grid and CAF by dedicated Physics Working groups
- To come next
  - Proceed/repeat with the production of first physics including the LHC and detectors conditions of Spring 2009
  - Start with productions for a standard year of data taking including pp@14 TeV and AA
  - Stay aware of the limited storage resources available for raw and MC data (might need to revise the MC production strategy)

Storage

- Output data carefully tuned to save storage
- Most of the data is available on T2 SEs for end users analysis
  - Specific samples replicated to CAF@CERN
- Not all SE are suitable for data analysis (low efficiency, high lattency,…)
  - Being followed up with site admins on case-by-case basis

Analysis

- End user analysis
  - Primary copy is at T2s SE and jobs run at the T2 holding the required data
  - Single user analysis jobs yield low CPU/Wall efficiency (I/O bound)
- Analysis Train (organized analysis)
  - Many tasks processing a single data stream
  - Yields nominal CPU/Wall efficiency
- CAF analysis (PROOF and data local)
  - Data imported from Grid, stored locally on CAF nodes (non-volatile)
  - Performed on PWG choice data sets

December-February Cosmics run

RAW DATA

Data taking

- On line data replication to T1s OK
- On line condition parameters calculation (DAQ, HLT, DCS) OK
  - The conditions framework is fully operational
  - Condition data are collected for each run
- On line reconstruction OK
- Monitoring and QA partly OK
  - Framework operational
  - Detector implementation in progress

Processing and Storage

- Data reconstructed offline after data taking
  - Pass 1 reconstruction processed at T0
    - Automatic trigger of reconstruction based on quality flags
    - Only a fraction of the data during cosmic run and beam runs are worth being reconstructed
    - Data replicated to 2xT1s (reconstructed ESDs) and T2s on demand
  - Fast reconstruction line of selected datasets at CAF under development
  - End user analysis performed by detector experts (Grid and CAF)
- RAW Data replication to T1s: storage saving time
  - suspended
  - Pass 2 reconstruction at T1s suspended

ALIROOT

Status

- Strict release policy implemented
  - Current version for MC production for first physics
    - pp@0.9/10 TeV, w/wo B field
    - Detectors as installed
    - Store minimum needed for analysis
    - Size of ESD/AOD within Computing Model values
  - Open issues:
    - Raw data format not yet final
- To come in preparation of Spring 2009
  - Code evaluation
  - Some refactoring

Organized analysis

ANALYSIS TRAIN

Status

- Provides access to all analysis platforms with the same code
  - Usage: local, AliEn(Grid), CAF(PROOF)
  - Wagons (user code) provided by the PWGs
- Tested with large scale analysis of PDC08 data

CAF

Status

- Routine operation
  - 130 active users
  - RAW calibration and alignment
  - ESDs from MC and RAW data production
  - Framework for parallel reconstruction implemented and under test
- Two fully operational clusters at CERN and GSI

SERVICES

Status

- New version of AliEn routinely deployed on the sites
- Job management in all its forms (RB, WMS, CREAM) is well under control
- xrootd-enabled SEs are working fine
  - What is the future of DPM?
- Implementation in production and testing of the CREAM CE system
  - Full test setup provided by GridKA (very efficient!)
  - The system has been tested in the last 3 months with remarkable stability
  - More than 75000 jobs passed through the CREAM CE
  - Once officially available in gLite release, ALICE is very much in favour for a quick distribution at the sites

Accounting

- Data from WLCG when available from ALICE accounting when not (data from January to August)
  - CPU
    - Used (6M SI2K) 40% of pledged: downtime of AliEn services for new services deployment, sites downtime, cpu pledged but not installed
    - Used 53% of the required resources
  - Storage
    - SE operational in 30 sites, remainder being installed
    - 27% of the pledged storage is operational
    - 64% of the operational storage is used
- Improve the WLCG T1 and T2 accounting reports
- Homogenize the CPU factors used by the sites

RESOURCES

2008/2009

- The resources required for 2008/2009 were reevaluated to take into account the LHC/ALICE running scenario … before the incident
  - 2008: Substantial reduction of the requirements with respect to the C-TDR requirements
  - 2009: requirements only slightly lower
- The requirements for 2009 have to be reevaluated once the LHC running scenario for 2009 is known
  - We do not anticipate a reduction in the requirements as compared to the C-TDR
  - Plans to cope with a possible deficit in 2009 are investigated to stay within 10% of the allocated global computing budget.

Milestones

- MS-125 Apr 08: Start of FDR Phase III & CCRC08
  - Done
- New milestones
  - MS-128 Jul 08: ready for data taking
    - READY in September 2008