ALICE QUARTERLY REPORT
2009Q1

Summary

- Data Taking
    - Not yet resumed
- Data Processing
    - Cosmics data being continuously processed
- STEP 09
- MC Data Production
    - On demand productions in preparation of 2009/2010 data taking
- Software: AliRoot
- Services
    - New AliEn version to be released mid-july
- Analysis
    - CAF (fast), analysis train (organized) and end user analysis (chaotic) operational
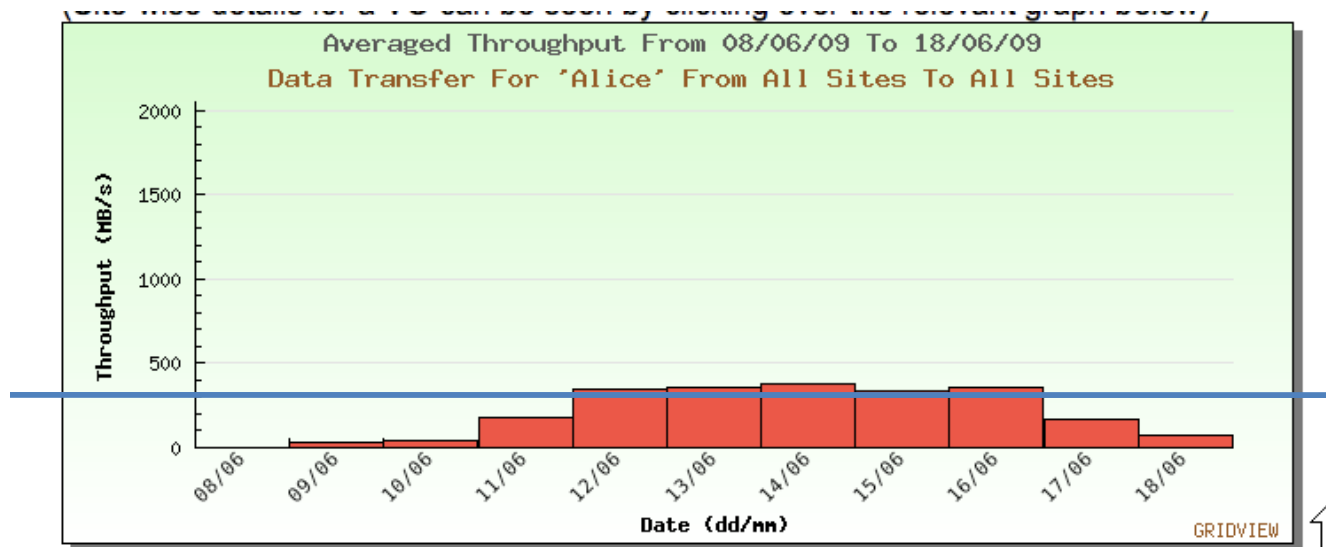
- Milestones

Data taking

- Because of planned intervention on the experiment (cabling modification, installation of additional detectors), data taking stopped in October 2008
  - Total data volume acquired during Q4: 100TB
  - All Tier0 tasks were continuously (except export to T1s, for the sake of saving storage) run
  - On line condition parameters calculation (DAQ, HLT, DCS) performed routinely
  - On line reconstruction of a sampled set of data is run synchronously with data taking
  - On line Monitoring and QA is partly ready
    - Framework operational
    - Detector implementation in progress
- Data taking (cosmic) with complete detector will resume in August 2009

Data processing

- Cosmic data have been all reconstructed in a first pass
- Additional reconstruction passes of a selected sample of cosmic data
  - done with updated reconstruction algorithm and condition parameters
  - In Tier0 and Tier1
- Reconstructed data analyzed on the 2 AF (CERN & GSI) and on the GRID
- Data processing (cosmic) with complete detector will resume in August 2009

STEP 09

- Data replication T0-> 6 T1s:
  - Sustained 300 MB/s (ALICE requirements for HI data transfert)
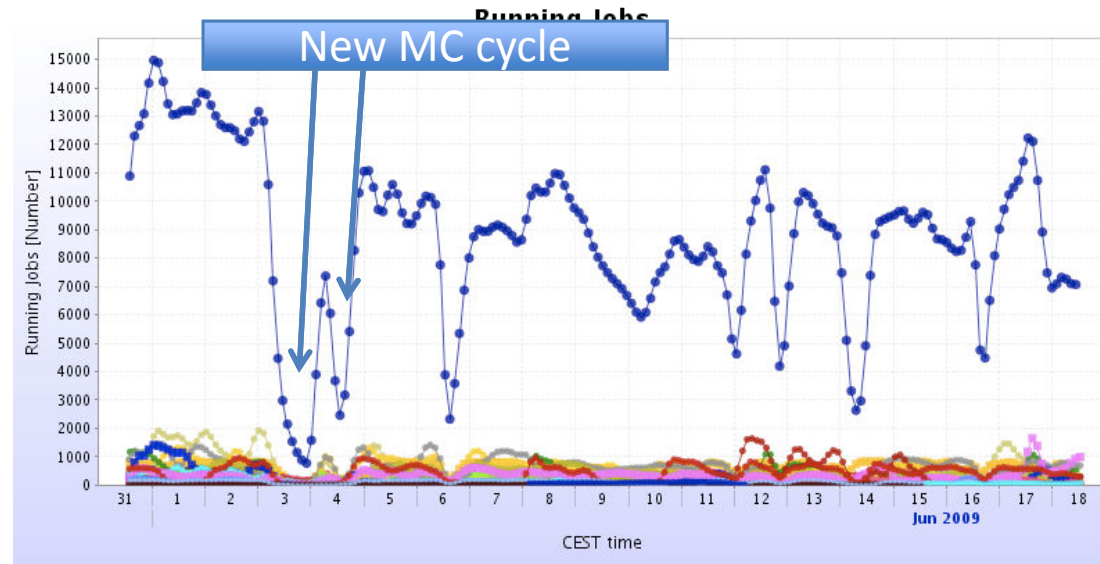
STEP 09

- Data transfer P2-> T0:
  - Sustained xrootd copy @ 1.25 GB/s P2->CASTOR T0D1 : finished
  - Sustained 1.25GB/s CASTOR T0D1 -> CASTOR T1D0
    - Test at 500 GB/s ongoing, compatible with presently deployed disk pool resources
- Data processing:
  - First pass reconstruction @ T0 : pending until cosmic data become available
  - Additional passes reconstruction @ T1 : pending until cosmic data become available

MC Production

- Only run if needed (no "keeping processors warm" strategy)
- Large production for EMCAL PPR in progress
- End user analysis
  - Studies of various type of SE performance: tuning of SE parameters per site
  - Ever increasing number of users, at the end of 2008 , about 80 users regularly running on GRID

- To be continued over the whole year
  - Large pp Min Bias productions to be started
  - Several smaller first physics productions
  - AA productions depending on 2009/2010 LHC plans

Software: AliRoot

- New design and implementation of the raw data format
- Design of the offline calibration and alignment framework
- Finalization of the online-offline QA framework
- MC data validation strategy put in place
- Finalization of PROOF based parallel reconstruction
- New implementation of the realistic trigger simulation
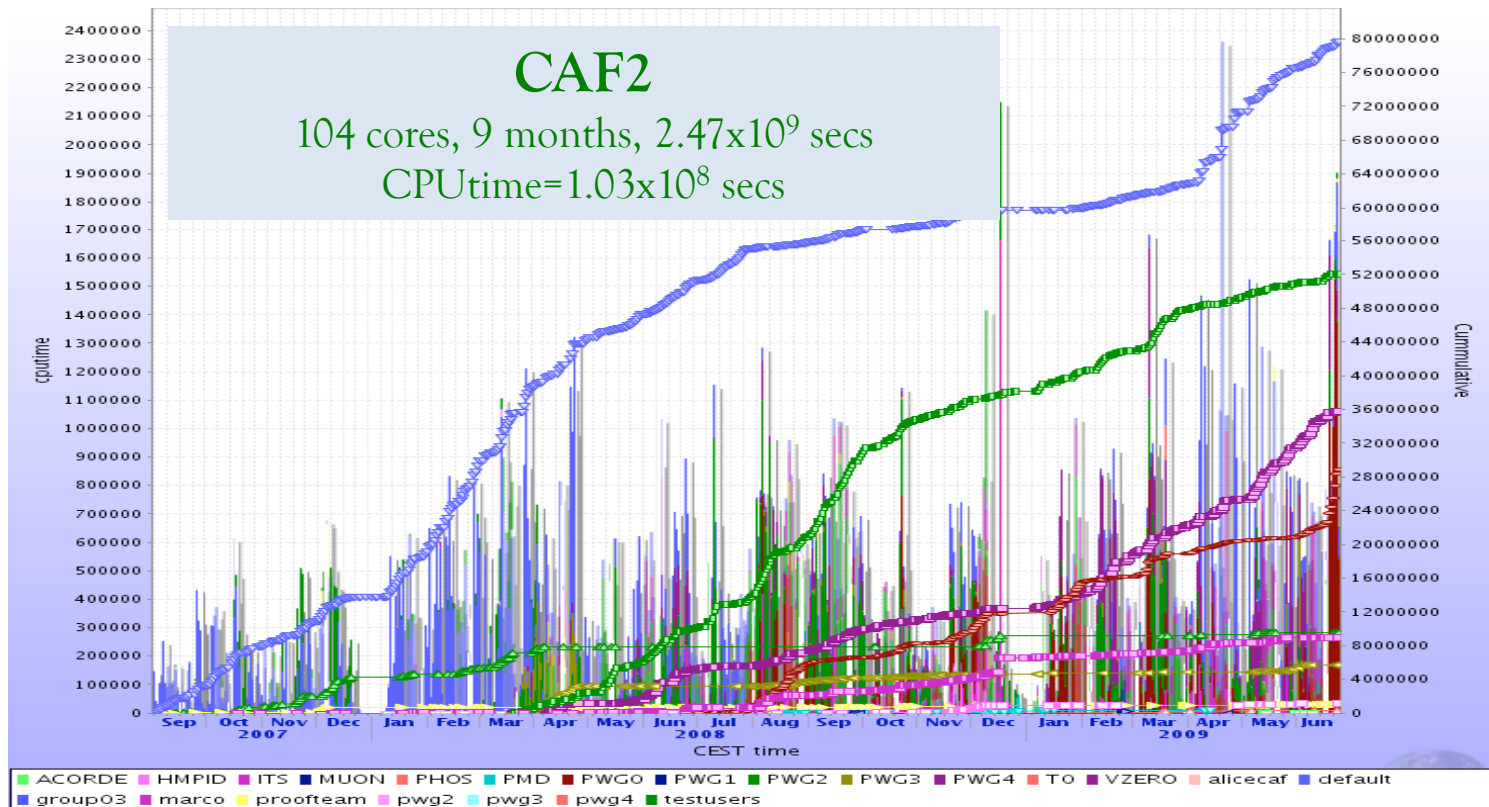- Simulation and reconstruction of pile-up events

Services

- New version (v2.17) of AliEn in preparation to be deployed mid-July
  - Xrd3cp: data replica between CASTOR pools, critical for ALICE CASTOR2 operation
  - xrootd: improvements in the server and client; improved resilience of connection over WAN
  - Streamlined CREAM-CE submission
  - Simplified transfer mechanism exercised successfully during STEP09
  - Improved catalogue structure with faster access and increased capacity
  - Introduce quotas per user for jobs and storage space
- Job submission using only WMS
  - Submission status has become stable
- CREAM CE deployment is ongoing, but slow.. Progress still slow
  - CREAM CE in 50% of the ALICE sites

Analysis

- ## Analysis framework
  - – Several improvements and new end-users functionalities for grid and PROOF analysis; extended merging options; new submission policy

- ## Analysis train
  - – Simplified method to add wagons
  - – Wagons from PWGs adopt a uniform style
  - – Configuration saved in svn for replay
  - – Higher tag frequency for analysis software
  - – 55M events processed on one single trip, producing 2750 AODs (~ 1TB)
  - – Success rate 50-80% without re-submission, requires better stability of SE

Analysis

- CAF (PROOF based reconstruction and analysis)
  - In production state, adopted by many (121) users; > 20 concurrent users; datasets 200 – 1000 GB (up to 2M events per data set)

CAF2
104 cores, 9 months, 2.47×10^9 secs
CPUtime=1.03×10^8 secs

Milestones

- New milestones
  - MS-129 Mar 09: Analysis train operational ← done
  - MS-130 Jun 09: CREAM CE deployed at all sites ← 50%
  - MS-131 26 Jun 09: AliRoot release ready for data taking ← postpned to July
  - MS-132 14 July 09: release of AliEn v2-17
  - MS-133 30 July 09: deployment of AliEn v2-17