Batch Production and Monte Carlo
+ CDB work status

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MICE CM37 Analysis, Software and Reconstruction

MICE Data Handling on the Grid

- Raw Data Mover – upload raw data files onto safe tape storage as soon as the data have been written out by the DAQ,

- MAUS reconstruction:

   - offline reconstruction (triggered by raw data upload to RAL Castor),

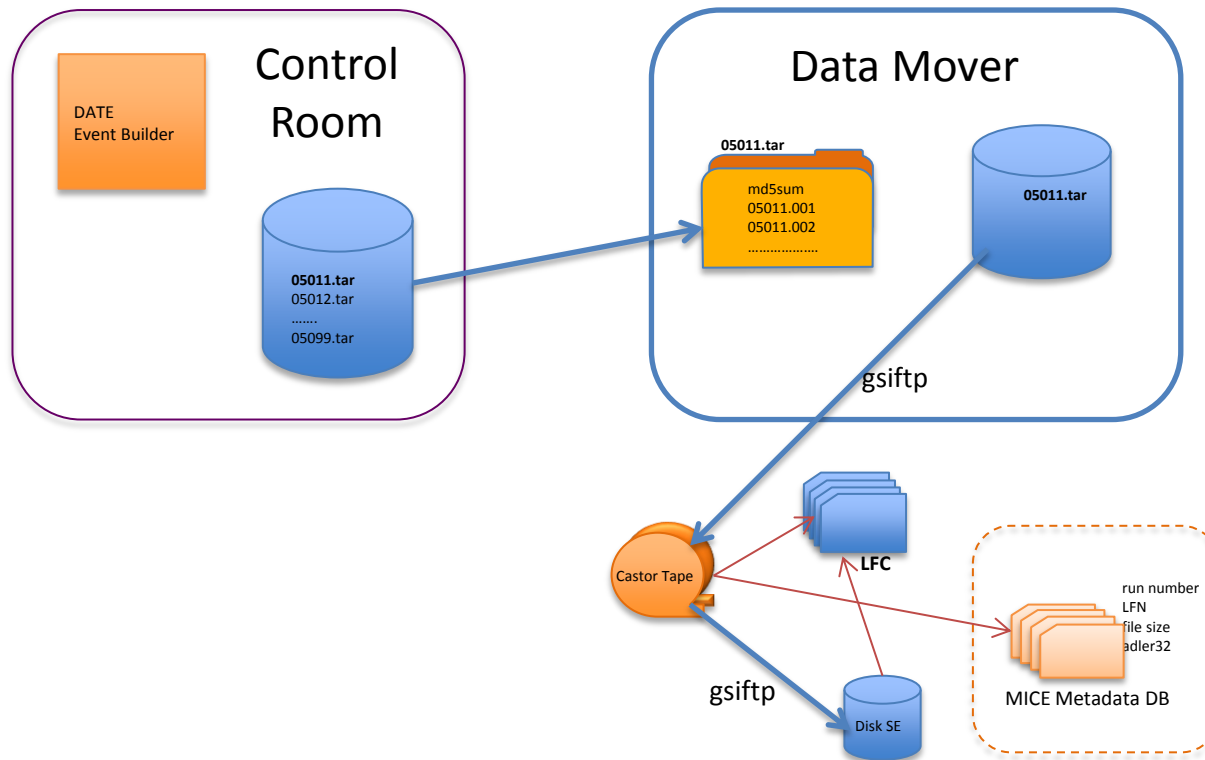   - batch reconstruction (reprocessing).

Raw Data Mover

- No major changes since the last run
- In order to simplify the data moving workflow a copy to the PPD SE will not longer be done
- there is a special program written at IC – the Grid Distribution Agent (GDA, aka Ray's tool) which may be used to automatically download files from RAL Castor as soon as they appear there.
- Also works for the reco data. Used at IC.

Raw Data Mover (1)

- Plan to move to SL6 – waiting for a box.

- Have to test the new grid UI on SL6, since the python APIs used by the mover stopped working on SL5, we had to downgrade the UI.

- If the APIs turn out to be unusable, we have to modify the mover to use grid command line tools.

Raw Data Mover Workflow

(as a reminder)

Control Room

DATE Event Builder

05011.tar
05012.tar
....
05099.tar

Data Mover

05011.tar

md5sum
05011.001
05011.002
....

05011.tar

gsiftp

Castor Tape

LFC

gsiftp

Disk SE

MICE Metadata DB

run number
LFN
file size
adler32

Raw Data Mover
Summary

- Developed in summer 2011, run since Oct 2011,

- Successfully used to store data on Castor to date,

- Uses Python API which requires rather old gLite UI. Newer UI broke the APIs, never fixed to my knowledge,

- Have to test a new SL6 UI,

- Move the code to a new SL6 hardware,

- Use robot certificate, currently my personal,

MAUS Reconstruction on the Grid

- GRID MAUS installation via CVMFS at RAL,

- Propagated to Brunel and Imperial,

- Build and compiles on SL6, last build used is MAUS_v0.6.0,

- All data reprocessed with this version using 2 sites within 2 weeks.

- No major changes to the framework (see my talk for CM37)

MAUS Grid Reconstruction - Reprocessing

- MAUS 0.8.1 – build and tested on an SL6 node at IC.

- Problem with installation on the Grid.

- The installation procedure requires a Grid job submission to RAL T1

- The s/w, once installed automatically propagates to the client sites (Brunel, Imperial)

- RAL made some changes to the CVMFS and….

MAUS Grid Reprocessing (1)

- My installation jobs never finish…

- Can't look at the output …

- Investigation at RAL shows that the file permissions within MAUS are not set properly (this should be done by the installation job)

- In this situation we have corrected this manually and will test the propagated MAUS software at IC and Brunel.

- We will further investigate the problem with the installation job using a different MAUS distro location while running the reprocessing in parallel.

Configuration Database
project takeover status

To make it easier to work on this complex project a fully functional version of the system was installed from scratch on a laptop:

- Postgres DBMS installed and configured

- Tomcat installed and configured

- MICE CDB (java) compiled form source and deployed on Tomcat as a WS

- Java and Python clients tested.

Configuration Database (contd.)

- The portable version allows potential users to test their software against a "private" DB, even with no Internet connection
- Allows me and others to write and test the code w/o interacting with the preprod DB
- Helps to resolving CDB related issues locally.
- The installation turned out to be a simple process so I can help anyone willing to get one on his/her own computer (Mac, Linux)

Configuration DB
work in the near future

Request from Pierrick to provide API to store/retrieve data for the cooling channel.

- Relevant table exists in the DB, might need some tweaking

- The Web Service interface is deployed, Python API exists.

- Requires to create a façade to interface the data format provided by Pierrick to the existing Python API.

Configuration DB (contd.)

Create a new table to store a relation between a batch iteration number used by the Grid reconstruction system and MAUS. This will allow to reprocess the data to allow for any changes not related to the MAUS version itself.

The batch reconstruction number will determine the datacards which used by MAUS.

The datacards will be stored in the DB.

See: http://micewww.pp.rl.ac.uk/issues/1285