JRA3 Software Status

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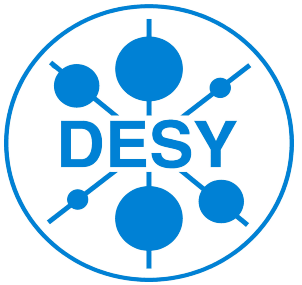
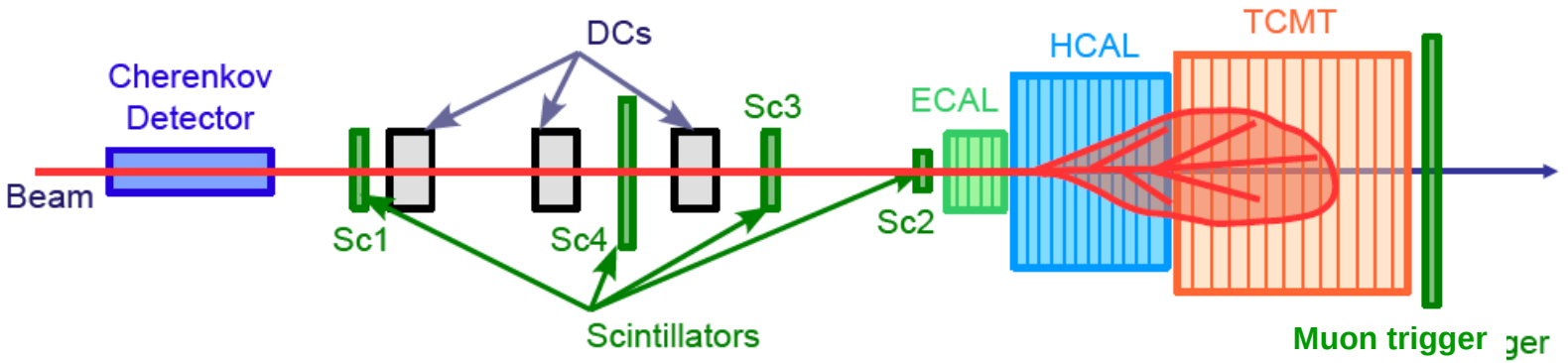
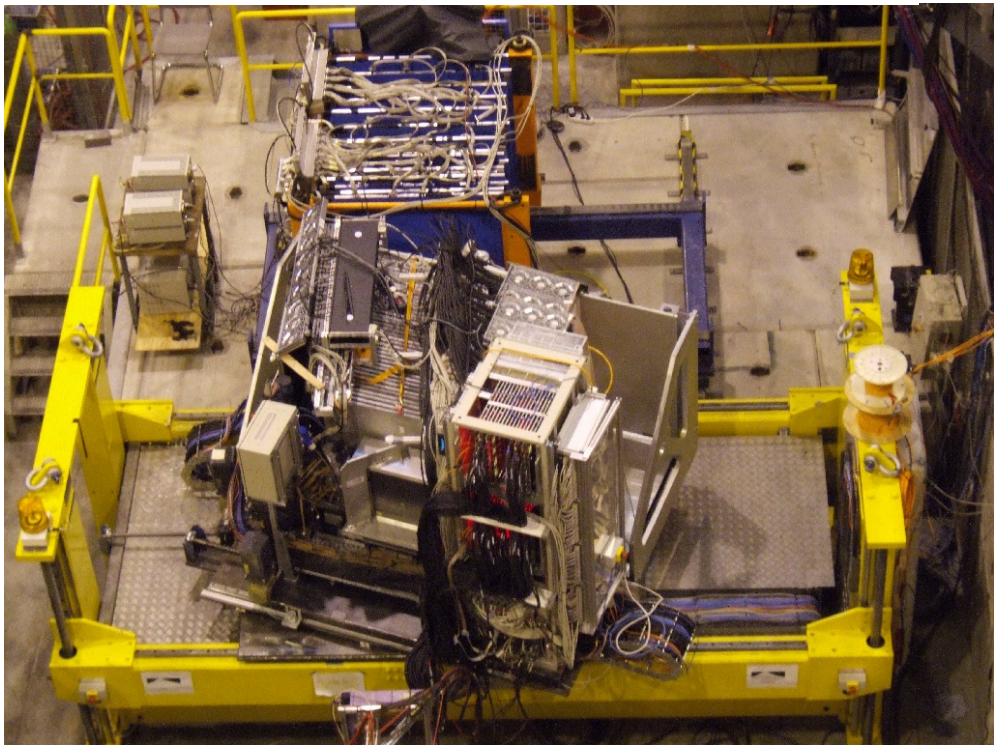


Test Beam Data

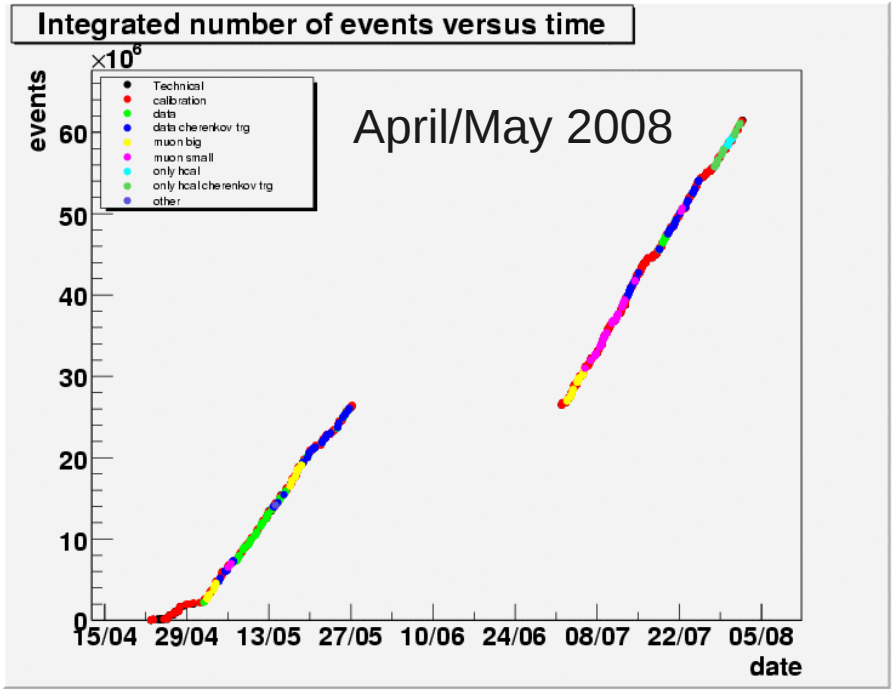


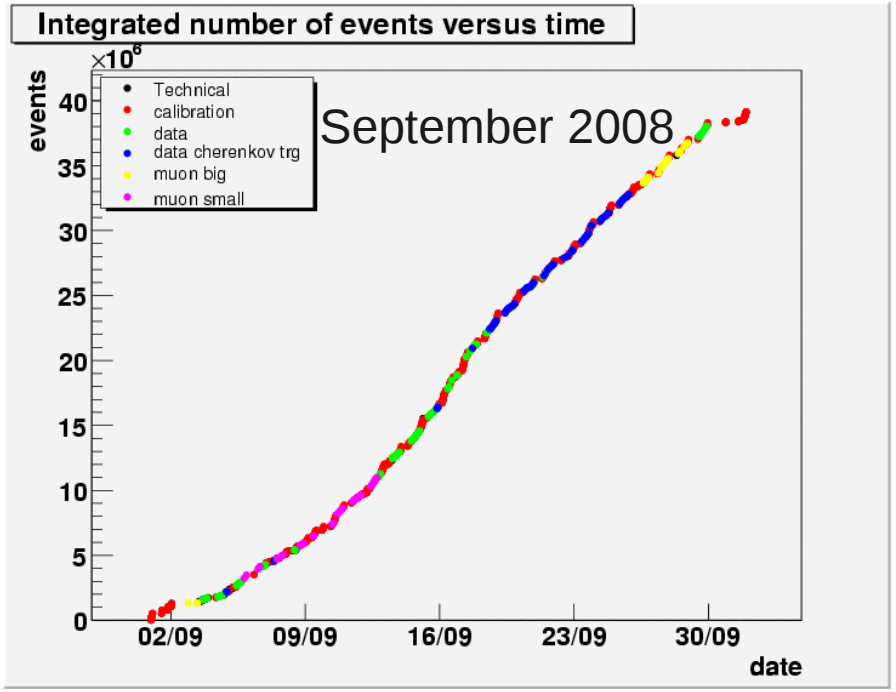
Data recorded:

- 2006 – DESY/CERN
- 2007 - CERN
- **2008 – Fermilab MTBF**
- Si-W/Sci-W ECAL, HCAL, TCMT
- $e^{\pm}$ 1-50 GeV
- $\mu^{\pm}$ (mainly for calibration)
- $\pi^{\pm}$ 2-180 GeV
- Various impact points
- Angles of incidence:
  $0^{\pm}$, $20^{\pm}$, $30^{\pm}$, $45^{\pm}$
- Typically ~200K events per configuration.



Data Set 2008

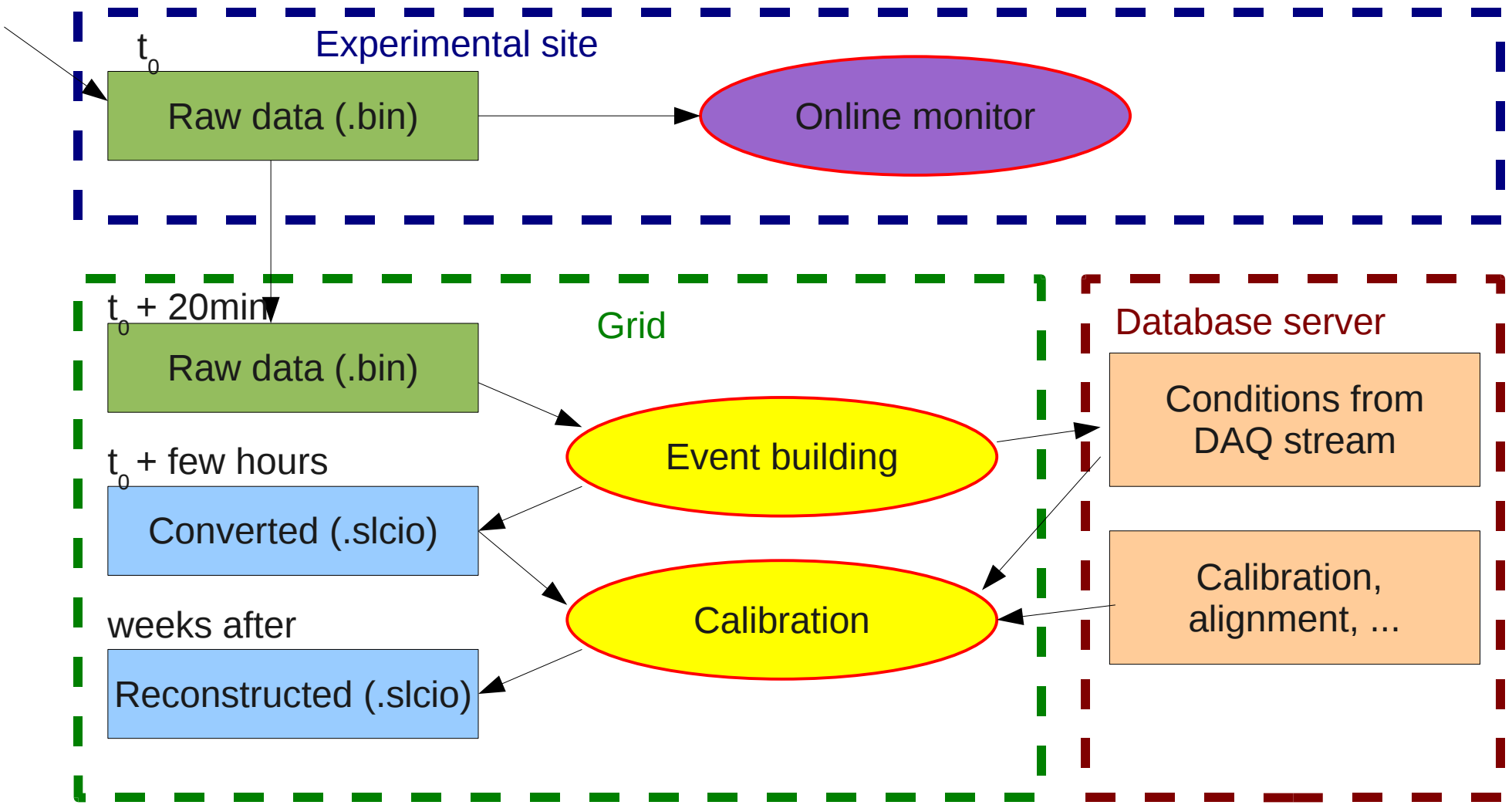




SiW ECal, tile HCal, TCMT
1290 runs
3.3 TB of data

S**c**iW ECal, tile HCal, TCMT
908 runs
1.7 TB of data

Data Flow

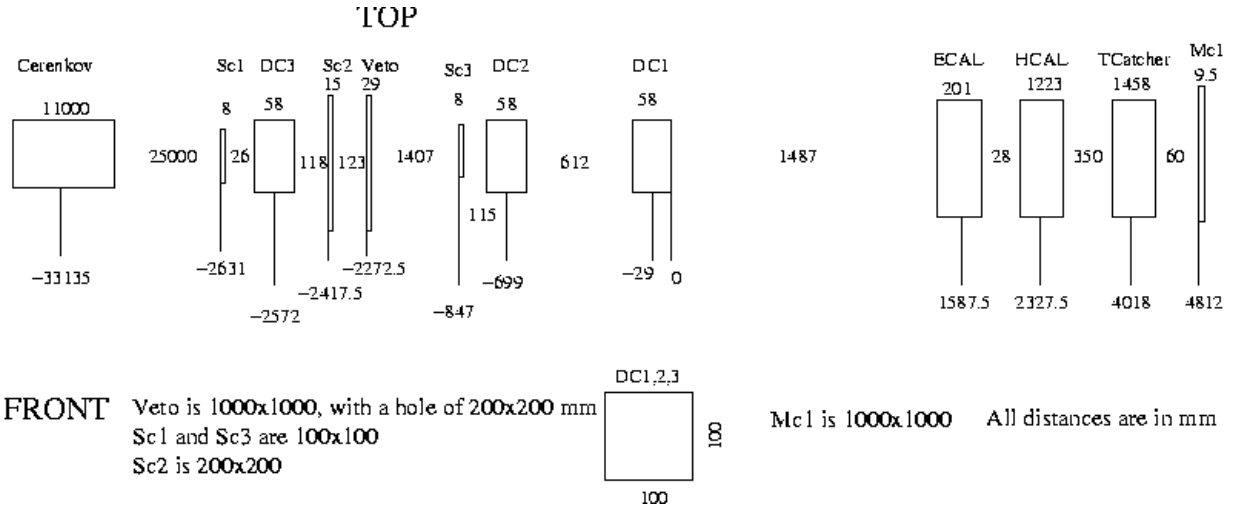

Experimental site
t0
Raw data (.bin)
Online monitor
Grid
t0 + 20min
Raw data (.bin)
Database server
Conditions from DAQ stream
Event building
t0 + few hours
Converted (.slcio)
Calibration, alignment, ...
Calibration
weeks after
Reconstructed (.slcio)

Common Tools

- Most data treatment uses common software tools:
  - Data storage: LCIO
  - Data processing: Marlin
  - Conditions handling: LCCD
  - Grid computing to handle large data volume and intense computing needs
- Few aspects implemented 'CALICE-only'
  - Online data format
  - Tracking
  - Geometry

Simulation

- Detailed shower simulation including beam instrumentation using MOKKA/Geant 4



- Hot topic: Independent geometry description in data (LCCD-based conditions) and MOKKA (special database for free parameters)
- Digitization using LCIO/Marlin/LCCD, partially identical reconstruction for data and MC

Conclusions

- Main software tools in place, large parts based on ILC core software
- Data handling only feasible using GRID tools - CALICE is first HEP collaboration using the GRID for central data handling
- Close collaboration with central development on new geometry description usable for reconstruction, simulation, and analysis