

SiW Ecal Software++



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- Review on last mass processing
- Ecal Software
- Converter and userlib for Fermilab Datataking
- Transition to cmake
- Computing for Fermilab Datataking
- Summary and Outlook



Review on last Mass Processing and Preview for MC

- Reco version v04-06-02 and userlib version v04-10
- Complete Set of 2006 data have been processed
 - Cern data in November 2006
 - (SiW Ecal) Desy data in January 2006 (after manual update of database)
 - Same software versions for desy and cern data
 - Three Calorimeters and Tracking
- 2006 data finished (modulo maybe a few missing runs)
- Reconstruction software in debugging phase for 2006 MC Reconstruction
 - Highest Priority for s/w development
- Software versions used for preliminary processing of 2007 Cern data
 - Processing on Request
 - O(100) runs available for 2007
 - 2006 Calibration applied, no tracking (crashing)
 - (Still) No dedicated treatment of cern beam parameter (mess)
- No reconstruction software for 2007 Desy ScintEcal available
 - Small scale test

Ecal Software Status

- No code changes since reco v04-06/userlib v04-10
Changes to Ecal Simulation -> see talk by Gabriel
- Debugging phase mentioned above might lead to changes for the MC branch
No clear picture yet
- Plans to change reco software such that bias of Pedestal Subtraction can be verified for MC
- Ecal physically complete since Dec. 2007

No problems to integrate last six layers into software chain
Reconstruction of full Ecal for a few runs taken in Dec. 2007
-> see talk by Marcel on Tuesday
- Responsible for Ecal Software needed
R.P. Will maintain the software until new Ecal s/w responsible found

Converter and userlib for Fermilab datataking I

Converter:

- Integration of (extended) Ahcal stage position data
z-position and Angle
Testdata taken at DESY, Integration in Converter beginning of April
Consequences for userlib see below
- Integration of new set of beamparameters
To be implemented at FNAL after integration into DAQ software
Consequences for Userlib see below
- Richer Cerenkov information
- These and other potentially necessary changes will lead to
[new converter version v04-02 -> v04-03](#)
- Should be also be ready for ScintEcal Datataking
Successful conversion of 2007 ScintEcal Data
- **No ideas for conversion of DHCAL data**
Testfiles?

Converter and userlib for Fermilab datataking II

Userlib:

- Update of Ahc Slow control data class (for angle and z position)
- New set of beamparameters – Third beamline during calice data taking effort

Proposal to introduce BeamLineHandler

Details of beamline hidden from user

To be Initialized with correct beamline at runtime

Embed functionality now covered by RunTimeProcessor (which in turn will use it)

Can be queried for for general information

- beam energy (getBeamEnergy Method)
- beam spread (getBeamSpread Method)

Open Questions:

- What to put in Magnet and Cerenkov information?
- How to provide access to 'individual' Beamlines parameters for dedicated studies or parameters not covered by generalized interface

Existence of class (in principle) irrelevant for end user since information will be packed to Run/Event Header

Cleaner treatment of information inside e.g. reconstruction

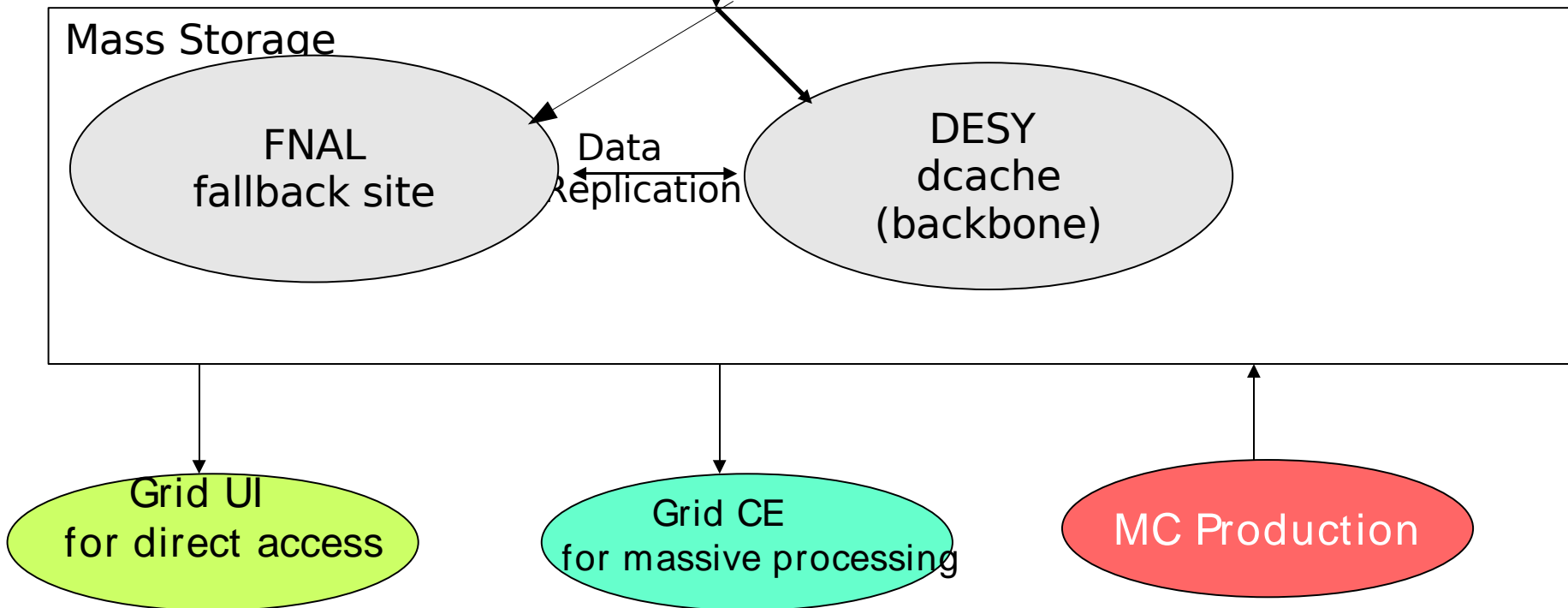
Data Handling and Processing

Established Procedure will be followed

Experimental Site e.g. CERN, DESY, **FNAL**
Local Storage for online monitoring and fast checks

Data Transfer using **Grid Infrastructure**

Sustained transfer rate between control room and DESY agreed in MOU



- 40 Tbyte provided by FNAL (MOU agreement) – Transferred data can be purged w/o further notice!!!
- 'Immediate' replication DESY -> cc Lyon in2p3

The Virtual Organisation - vo calice

Hosted by DESY:

Page for registration is <https://grid-voms.desy.de:8443/voms/calice>

Virtual Organization Membership Service

The calice VO Administration » Users » List of users

There are 28 users in /calice :

/C=UK/O=eScience/OU=Birmingham/L=ParticlePhysics/CN=nigel watson	edit	remove
/C=UK/O=eScience/OU=Cambridge/L=UCS/CN=david ward	edit	remove
/O=GermanGrid/OU=DESY/CN=Roman Poeschl	edit	remove
/C=UK/O=eScience/OU=Imperial/L=Physics/CN=anne-marie magnan	edit	remove
/DC=org/DC=doegrids/OU=People/CN=Guilherme Lima 269451	edit	remove
/C=UK/O=eScience/OU=RoyalHollowayLondon/L=Physics/CN=pasquale-fabrizio salvatore	edit	remove
/C=UK/O=eScience/OU=RoyalHollowayLondon/L=Physics/CN=michele faucci qiannelli	edit	remove
/O=GRID-FR/C=FR/O=CNRS/OU=LLR/CN=Goetz Gaycken	edit	remove
/DC=cz/DC=cesnet-ca/O=Institute of Physics of the Academy of Sciences of the CR/CN=Petr Mikes	edit	remove
/DC=cz/DC=cesnet-ca/O=Institute of Physics of the Academy of Sciences of the CR/CN=Jaroslav Zalesak	edit	remove
/O=GermanGrid/OU=DESY/CN=Vladislav Balagura	edit	remove
/C=UK/O=eScience/OU=Manchester/L=HEP/CN=david bailey	edit	remove
/O=GRID-FR/C=FR/O=CNRS/OU=LPSC/CN=Jean-Yves Hostachy	edit	remove
/O=GermanGrid/OU=DESY/CN=Marius Groll	edit	remove
/O=GermanGrid/OU=DESY/CN=Erika Garutti	edit	remove
/O=GRID-FR/C=FR/O=CNRS/OU=LPSC/CN=Laurent Morin	edit	remove
/O=Grid/O=NorduGrid/OU=ift.uib.no/CN=Trygve Buanes	edit	remove
/O=GRID-FR/C=FR/O=CNRS/OU=LAL/CN=Hengne Li	edit	remove
/O=GRID-FR/C=FR/O=CNRS/OU=LAL/CN=Manqi Ruan	edit	remove

64 Members
and
counting ..

VO Manager: R.P./ LAL, Deputy: A. Gellrich/ DESY

Institutes which provide Grid support for Calice

Supported by: DESY Hamburg	Hosting, Computing and Storage
LAL	Computing and Storage
LLR	Computing and Storage
DESY Zeuthen	Computing and Storage
Imperial College	Computing and Storage
Birmingham	Computing and Storage
cc in2p3 Lyon	Computing and Storage
Cambridge	Computing and Storage
Institute of Physics	Computing and Storage
Prague	(in preparation)
University College	Computing and Storage
KEK	Computing and Storage
Manchester	Computing and Storage
CIEMAT Madrid	Computing and Storage
Fermilab	Computing and Storage
	Exploit started between Fermilab and NIU Colleagues
Univ. Liverpool	Resources Provided (not yet exploited)
Univ. Regina	Offer Received

- Most of the sites have been involved in recent data and MC processing
Smaller Problems at Manchester and KEK (about to be solved)

Code version and Transition to cmake

- cvs is the code management system for calice
- Cmake built system used for ILC (LDC) software
- Will be adapted by calice
Advanced effort by DESY group -> will be included in next s/w releases
- Next release will comprise
 - Possibility to build calice software using cmake
 - Old built system has to be maintained since it allows to create 32 bit libraries/binaries on 64 bit machines (New machines often 64 bit, Grid turns 32 bit SL4)

Outlook

- CALICE will continue data taking with fully equipped detector at Fermilab
20000 cells in r/o again w/o zero suppression
- Data Taking of ScEcal and DHCAL(s)
- Mass Production of MC not yet started

Do have 30 Tbyte of data in stock !!!!!

raw, converted and reconstructed data
MC files
Will grow beyond 2007!!!!

Need ~100 TByte until the end of 2008

Data Management

Need to have good network communications between 'major' sites

**Investigations on bottlenecks between desy and cc in2p3 lyon are ongoing
(~ 2 Mbyte/s second transfer rate, therefore no mass replication so far)**

**Connectivity to KEK are under investigation
Tests with Fermilab should start soon
I see Manchester as another major site**

Summary and Outlook

- 2006 reconstruction completed
- 2006 MC reconstruction in debugging phase
- 2007 data will follow immediately
Missing items: Calibration
Tracking
Handling of Beam Parameters
- Frame Conditions for Fermilab Datataking settled

I will step back from my position as CALICE s/w Coordinator
(Items above will be last action(s))

Thanks for your collaboration and

All the best to my successor
Niels Meyer (DESY)