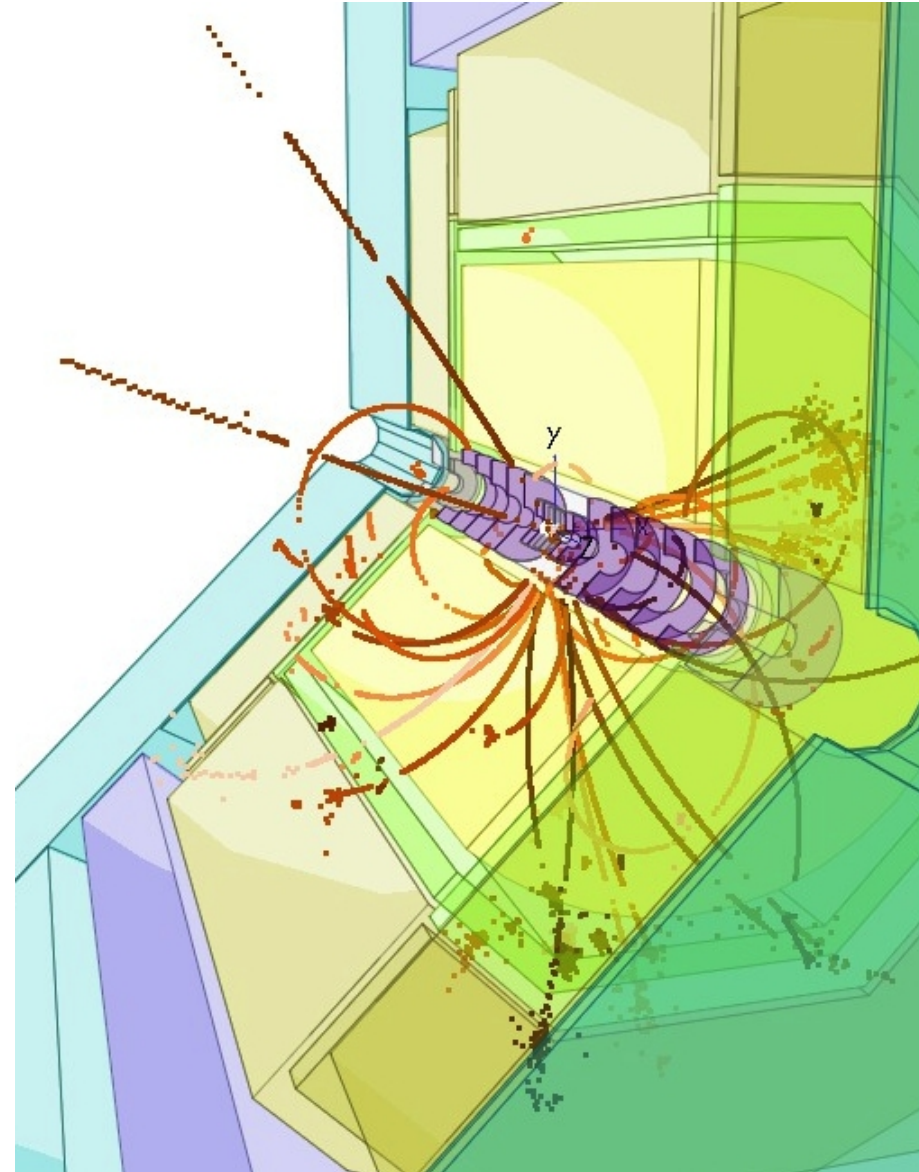


# Update on iLCSoft release v01-17-07

Frank Gaede  
ILD Software&Analysis Meeting  
June 24, 2015

# Outline

- overview
- compilers - c++11
- some highlights
- known issues
- status and timeline



# overview: release v01-17-07

- preparing next 'developers' release v01-17-07
- fully compatible w/ previous releases (i.e. Mokka)
- introduces first version of new simulation/reconstruction
- many packages changed (30 out of 59)
- aim to release this before HLR week @ DESY -> NOW
- have one patch release later this summer
  - => fix bugs and add new HLR tools
  - should become 'reference' release for physics & optimization studies until new tools are validated
- v01-18-00

# Packages changed in v01-17-07

- DDKalTest v00-01
- ILDPerformance v00-01
- AidaTT v00-01
- DD4hepExamples v00-01
- CEDViewer v01-09
- Clupatra v00-11
- DD4Hep v00-12
- ForwardTracking v01-08
- Garlic v3.0.3
- KalDet v01-13-02
- KalTest v02-00
- KiTrack v01-06
- KiTrackMarlin v01-06
- LCFIPlus v00-05-03
- Marlin: v01-06
- MarlinTrk v02-00
- MarlinTrkProcessors v02-00
- MarlinKinfit v00-01-05
- LCTuple v01-04
- MarlinPandora v02-00-00
- MarlinReco v01-11
- MarlinTPC v01-00
- MarlinUtil v01-08-01
- Mokka mokka-08-05
- PandoraAnanlysis v01-00-01
- PandoraPFANew v02-00-00
- PhysSim v00-02
- Gear v01-04-02
- lcgeo v00-04
- LCIO v02-06

\*new packages

# compilers for v01-17-07

- need/want to move to c++11 soon
  - improvements in PandoraPFA CPU performance
  - needed by ROOT 6 ( will have to switch soon)
  - benefit from language improvements
- requires non-system compiler on SL6 gcc 4.8
  - -> for **user convenience** will stay with gcc 4.4 as standard and only provide 'experimental' version in afs/cvmfs with '**-std=c++11**' gcc 4.8:

- standard compiler:
  - [/afs/desy.de/project/ilcsoft/sw/x86\\_64\\_gcc44\\_sl6/v01-17-07](/afs/desy.de/project/ilcsoft/sw/x86_64_gcc44_sl6/v01-17-07)
  - with gcc 4.8 and `-std=c++11`:
  - [/afs/desy.de/project/ilcsoft/sw/x86\\_64\\_gcc48\\_sl6/v01-17-07](/afs/desy.de/project/ilcsoft/sw/x86_64_gcc48_sl6/v01-17-07)

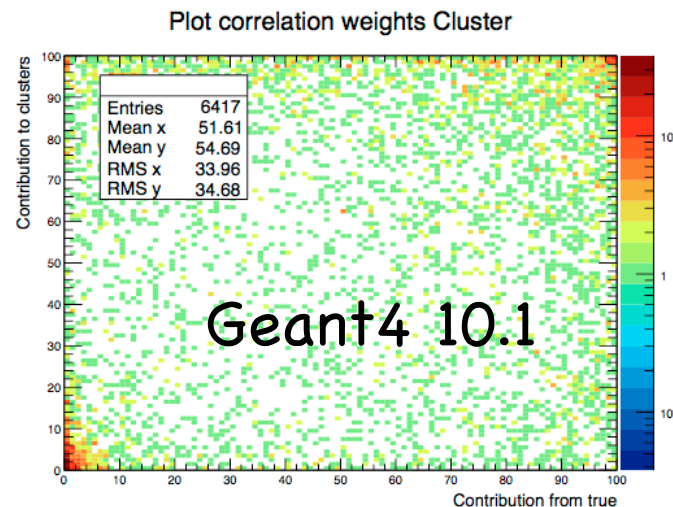
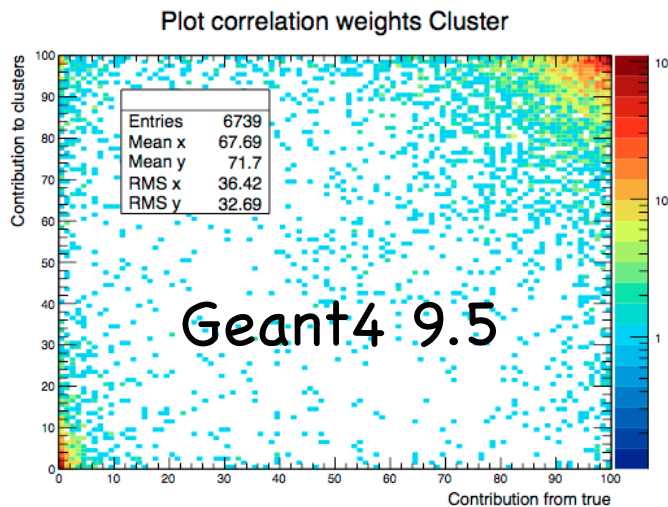
# some highlights in v01-17-07

- DD4hep/lcgeo:
  - first feature complete version
  - first 'complete' ILD\_o1\_v05
  - new simulation model for CLIC
  - can start validation procedure
- LCIO
  - added method for handling multiple PID objects (dE/dx)
- MarlinTrk et al
  - adapted all tracking code to DDRec surfaces ( new model)
- PandoraPFA
  - major improvements
  - automated calibration procedure
- MarlinReco
  - improved calo digitizers
  - new sub-packages: TruthVertexFinder, TrueJet, FourMomentumCovMat
  - PIDTools: dE/dx in TPC, shower profiles and PID likelihood
- MarlinKinfit
  - improved fitting algorithms
- MarlinTPC
  - complete restructuring
  - many new features
- Mokka
  - compatible with Geant4 10.1

for more details and authors see ilcintall release notes ...

# some known issues

- aidaTT
  - pull distributions w/ GBL slightly skewed
  - material effects (multiple scattering) need validation
- Mokka
  - observe issue w/ MC-Truth-Link in SimCalorimeter hits
  - (originally observed w/ Geant4 9.6 - was OK in Geant4 9.5)



E.Brianne

- single particles seem to be OK -> issue w/ multiple Edeps in one cell ?
- -> under investigation
- unless a very quick fix can be found this will have to be done in v01-18

# changes in ilcinstall

- adopted ilcinstall to allow for optionally using gcc 4.8/c++11
  - modify release-versions.cfg:
    - `use_gcc48_cpp11 = False/True`
- no longer provide release-scratch.cfg but rather require 2-step procedure (as done in afs/cvmfs ):
  - # install external base tools (root, geant4, GSL,...)
  - `./ilcsoft-install releases/v01-17-07/release-base.cfg -i`
  - # install actual ilcsoft release
  - `./ilcsoft-install releases/v01-17-07/release-ilcsoft.cfg -i`
  -
- check ./README for details on configuring the install scripts



# Status and Timeline

- have created final pre-release installations (Y.Voutsinas):
  - [/afs/desy.de/project/ilcsoft/sw/x86\\_64\\_gcc44\\_sl6/v01-17-07-pre05](/afs/desy.de/project/ilcsoft/sw/x86_64_gcc44_sl6/v01-17-07-pre05)
  - [/afs/desy.de/project/ilcsoft/sw/x86\\_64\\_gcc48\\_sl6/v01-17-07-pre05](/afs/desy.de/project/ilcsoft/sw/x86_64_gcc48_sl6/v01-17-07-pre05)
- will run some final tests later today

- if no show stoppers found:
- make final release tag **tomorrow**

- PS: have received no tags for slic, gdml, lcdd and slicPandora
- will not include these in v01-17-07