Subject: Toward new geant4, new new root and new vmc: compilation
Posted by StefanoSpataro on Fri, 10 Aug 2007 17:45:33 GMT
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Hello,
I started to study what is going on with the next external packages, so I will report on the errors and the fixes that will be needed.

I installed geant4 v9.0, root v5.16 and vmc from cvs (developement version - some jobs are still going on).

No problems at all with g4, but for root the rootconfig.sh needs an update: the option --enable-thread is not exiting anymore, so it should be eliminated.

About PandaRoot, it seems with the new root many includes are now mandatory, such as TROOT and TMath, and something changed in TBuffer -> it should be now TBufferFile.
I write you the list of all the changes that are required, the class name and the corresponding missing include. When something is required inside the code, I put the line number:

geobase/CbmGeoMedium.cxx TMath
geobase/CbmGeoNode.cxx TList
geobase/CbmGeoSet.h TList

parbase/CbmParamList.cxx TBuffer->TBufferFile

base/CbmDetector.cxx TROOT
base/CbmPrimaryGenerator.cxx TMath
base/CbmRunAna.cxx TROOT
base/CbmRootManager.cxx TROOT
base/CbmRunSim.cxx TROOT TSystem
base/CbmTrackParam.cxx TMath
base/CbmTrajFilter.cxx (310) return new(clref[tsize]) TGeoTrack(T->GetId(), T->GetPDG(), T->GetMother(), T->GetParticle()); instead of return new(clref[tsize]) TGeoTrack(*T);

passive/CbmGeoPassivePar.cxx TObjArray

field/CbmFieldMap.cxx TMath

generators/CbmBoxGenerator.cxx TMath

pgenerators/PndBoxGenerator.cxx TMath

stt2/CbmSttMinuitTrackFitter.h TList
stt2/CbmGeoSttPar.cxx TObjArray
stt2/CbmSttFitTracksQa.cxx (201) view = TView::CreateView(1); instead of view = new TView(1);
stt2/CbmSttHit.cxx TMath

tpc/TpcGeoPar.cxx TObjArray
tpc/LinearInterpolPolicy.cxx TMath
tpc/TpcPRLookupTable.cxx TMath

tpc/TpcSpaceChargeTask.h <vector>
tpc/TpcEFieldCyl.cxx TMath
tpc/TpcDevmapCyl.cxx TMath
tpc/TpcPSAplot.cxx TAxis
tpc/tpcreco/TpcZSFit.h TMath
tpc/tpcreco/TpcConfMapFit.cxx TMath
tpc/tpcreco/test/TpcRecoTester.cxx TMath
tpc/tpcreco/StdDiscriminantFcn.cxx TMath
tpc/tpcreco/TpcRiemannHit.cxx TMath
tpc/tpcreco/TpcRiemannTrack.cxx TMath
tpc/tpcreco/TpcRiemannHTCorrelator.cxx TMath

mvd/MvdMC/MvdGeoPar.cxx TObjArray
mvd/MvdReco/MvdHitMaker.h <vector>
mvd/MvdReco/MvdSimpleHitMaker.cxx TMath.h

emc/CbmEmcHit.h <vector>
emc/CbmEmcHitProducer.cxx TROOT
emc/EmcHitsToWaveform.cxx TROOT
emc/EmcMakeCluster.cxx TROOT
emc/EmcCluster.h <vector>
emc/EmcMakeDigi.cxx TROOT

genfit/Kalman.cxx TMath
genfit/LSLEQM.cxx TMath
genfit/LSLTrackRep.cxx TMath
genfit/Nystrom.cxx TMath

dch/PndDchDrifter.cxx TMath

lhetrack/TpcLheCMPoint.cxx TMath

trackbase/CbmGeaneUtil.cxx TMath

The changes for blue lines are already put in svn, while I did not touch the others because:
a) I cannot (base, parbase, geobase, generators)
b) I do not know if people are working on the files (tpc, dch, genfit)
c) I am not so sure if the changes are compatible with our root 5.14
(stt2/CbmSttFitTracksQa.cxx)

If you could update the missing stuff, we will save a lot of time and work when we will move to new external packages.

Regards

Subject: Re: Toward new geant4, new new root and new vmc: compilation

After installing here in Gießen these external packages and PandaRoot with all the fixes, here the status:

Simulation does not work with geant3, but I have to investigate on the reason. Maybe some options in the g3Config.C that need an update, I do not know. It seems it is not able to close the geometry (FinishGeometry)
Help is well accepted... in each case read even after the log message...

Info in <TGeoManager::CloseGeometry>: ----------modeler ready----------

*** Break *** segmentation violation
Using host libthread_db library "/lib/libthread_db.so.1".
Attaching to program: /proc/5369/exe, process 5369
`system-supplied DSO at 0xffffe000' has disappeared; keeping its symbols.
[Thread debugging using libthread_db enabled]
[New Thread -1224095552 (LWP 5369)]
0xffffe410 in __kernel_vsyscall ()
#1 0xb7156a03 in waitpid () from /lib/libc.so.6
#2 0xb7101569 in strtold_l () from /lib/libc.so.6
#3 0xb71f736d in system () from /lib/libpthread.so.0
#4 0xb7ab5d2d in TUnixSystem::Exec () from
/d/c0/cbmsoft/newcbmsoft/tools/root/lib/libCore.so.5.16
#5 0xb7aba467 in TUnixSystem::StackTrace () from
/d/c0/cbmsoft/newcbmsoft/tools/root/lib/libCore.so.5.16
#6 0xb7ab9dff in TUnixSystem::DispatchSignals () from
/d/c0/cbmsoft/newcbmsoft/tools/root/lib/libCore.so.5.16
#7 0xb7ab9f2d in SigHandler () from /d/c0/cbmsoft/newcbmsoft/tools/root/lib/libCore.so.5.16
#8 0xb7ab30b0 in sighandler () from /d/c0/cbmsoft/newcbmsoft/tools/root/lib/libCore.so.5.16
#9 <signal handler called>
#10 0xb39b2456 in TGeant3TGeo::FinishGeometry (this=0x8617b08) at
TGeant3TGeo.cxx:2068
#11 0xb39adc9e in TGeant3::Init (this=0x8617b08) at TGeant3.cxx:5862
#12 0xb35dfe0f in CbmMCApplication::InitMC (this=0x85c55a0, setup=0x85d1300
"/home/spataro/newbuild/pandaroot/gconfig/g3Config.C")
at /home/spataro/newbuild/pandaroot/base/CbmMCApplication.cxx:211
#13 0xb35efb18 in CbmRunSim::Init (this=0x855f060) at
/home/spataro/newbuild/pandaroot/base/CbmRunSim.cxx:117
#14 0xb361f607 in G__CbmDict_641_0_4 (result7=0xbffaf21c, funcname=0x855cab0 "\001",
libp=0xbffa8e54, hash=0) at /home/spataro/newbuild/cbuild/base/CbmDict.cxx:8192

Simulation seems to work with Geant4.
In particular the computation for EMC (photons) is now fast and it seems we have an improvement in reconstructed energy (plots the next week, hopefully)

Subject: Re: Toward new geant4, new new root and new vmc: compilation
Posted by StefanoSpataro on Mon, 13 Aug 2007 14:40:38 GMT
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Hello,
I fixed the error. It was related to the changes in TGeant3 made by Andrea & Co., that required an update of the gconfig/g3Config.C file.

Here you are the comparison between cluster reconstructed energy for 1 GeV photons, for g3, g4 old and new:

About the computation time:

G3: 148.66 s
G4 old: 27245.13 s
G4 new: 286.67 s

A good improvement, even if there are still strong differences.
Bye

File Attachments

1) comp.gif, downloaded 1673 times