Subject: Emc digi crashes
Posted by Ralf Kliemt on Mon, 19 Jan 2009 16:29:39 GMT
View Forum Message <> Reply to Message

Hi everyone,

I took the snapshot of the emc codes from rev.4383 to find it broken.

the gdb output gives:
Toggle Spoiler
PndEmcMakeCluster, event: 27
EMC header: fired crystals= 58, digi= 46, Total energy= 1.69417 [GeV], Reconstructed clusters= 15, Total energy in clusters= 1.69653 [GeV]
********** PndEmcMakeBump, event: 27 **********
Digi at (52, 134) was a local max. Energy = 0.210923
Digi at (69, 33) was a local max. Energy = 0.157716
Digi at (71, 32) was a local max. Energy = 0.087623

Program received signal SIGSEGV, Segmentation fault.
[Switching to Thread -1229224240 (LWP 27606)]
0x00000000 in ?? ()
(gdb) bt
#0 0x00000000 in ?? ()
#1 0xb3c83b06 in PndEmcExpClusterSplitter::splitCluster (this=0x10485dc0, theMaximaDigis=@0xbff276f4, theCluster=0x10ad6800, clusterIndex=8,
theBumpList=@0xbff2770c) at /home/ralfk/Pandaroot/pandaroot/emc/EmcReco/PndEmcExpClusterSplitter.cxx :286
#2 0xb3c8037e in PndEmcMakeBump::Exec (this=0x89f74d8, opt=0xb407bff4 "")
at /home/ralfk/Pandaroot/pandaroot/emc/EmcReco/PndEmcMakeBump.cxx:183
#3 0xb79326d7 in TTask::ExecuteTasks (this=0x86c5820, option=0xb407bff4 "") at core/base/src/TTask.cxx:298
#4 0xb7932953 in TTask::ExecuteTask (this=0x86c5820, option=0xb407bff4 "") at core/base/src/TTask.cxx:261
#5 0xb3ffee22 in CbmRunAna::Run (this=0x86c5788, Ev_start=0, Ev_end=1000) at /home/ralfk/Pandaroot/pandaroot/base/CbmRunAna.cxx:195
#6 0xb4043ad6 in G__CbmDict_531_0_5 (result7=0xbff2f148, funcname=0x86c3988 "\001", libp=0xbff28d04, hash=0)
at /home/ralfk/Pandaroot/build/base/CbmDict.cxx:9268
#7 0xb7082dd3 in Cint::G__ExceptionWrapper (funcp=0xb40439de <G__CbmDict_531_0_5>, result7=0xbff2f148, funcname=0x86c3988 "\001",
libp=0xbff28d04, hash=0) at cint/cint/src/Api.cxx:364
#8 0xb7163cb7 in G__execute_call (result7=0xbff2f148, libp=0xbff28d04, ifunc=0x86c3988, ifn=0) at cint/cint/src/newlink.cxx:2305
#9 0xb7169382 in G__call_cppfunc (result7=0xbff2f148, libp=0xbff28d04, ifunc=0x86c3988, ifn=0) at cint/cint/src/newlink.cxx:2471
#10 0xb71282b9 in G__interpret_func (result7=0xbff2f148, funcname=0xbff2eb48 "Run", libp=0xbff28d04, hash=309, p_ifunc=0x86c3988,
funcmatch=1, memfunc_flag=1) at cint/cint/src/ifunc.cxx:5245
#11 0xb7116b52 in G__getfunction (item=0xbff339d6 "Run(0,nEvents)", known3=0xbff31e0c, memfunc_flag=1) at cint/cint/src/func.cxx:2534
#12 0xb7210836 in G__getstructmem (store_var_type=112, varname=0xbff3102c "timer", membername=0xbff339d6 "Run(0,nEvents)",

tagname=0xbff3122c "fRun", known2=0xbff31e0c, varglobal=0xb72d4d00, objptr=2) at cint/cint/src/var.cxx:6623
#13 0xb7201088 in G__getvariable (item=0xbff339d0 "fRun->Run(0,nEvents)", known=0xbff31e0c, varglobal=0xb72d4d00, varlocal=0x0)
at cint/cint/src/var.cxx:5252
#14 0xb70e264c in G__getitem (item=0xbff339d0 "fRun->Run(0,nEvents)") at cint/cint/src/expr.cxx:1884
#15 0xb70f64d8 in G__getexpr (expression=0xbff34078 "fRun->Run(0,nEvents)") at cint/cint/src/expr.cxx:1470
#16 0xb717bbdb in G__exec_function (statement=0xbff34078 "fRun->Run(0,nEvents)", pc=0xbff3476c, piout=0xbff34768, plargestep=0xbff34760,
presult=0xbff34718) at cint/cint/src/parse.cxx:601
#17 0xb7183166 in G__exec_statement (mparen=0xbff3ba28) at cint/cint/src/parse.cxx:6972
#18 0xb70caf0b in G__exec_tempfile_core (file=0xbff3db24 "/home/ralfk/Pandaroot/pandaroot/macro/Ralf/PhiPhi/./digireco.C", fp=0x0)
at cint/cint/src/debug.cxx:251
#19 0xb70cb26f in G__exec_tempfile (file=0xbff3db24 "/home/ralfk/Pandaroot/pandaroot/macro/Ralf/PhiPhi/./digireco.C")
at cint/cint/src/debug.cxx:798
#20 0xb7195ceb in G__process_cmd (line=0xb7e9c0af "", prompt=0x80e23a4 "", more=0x80e239c, err=0xbff3ea08, rslt=0xbff3e9d4)
at cint/cint/src/pause.cxx:3074
#21 0xb79a8445 in TCint::ProcessLine (this=0x80e2380, line=0xb7e9c0af "", error=0xbff4119c) at core/meta/src/TCint.cxx:339
#22 0xb799fdff in TCint::ProcessLineSynch (this=0x80e2380, line=0xb7e9c0af "", error=0xbff4119c) at core/meta/src/TCint.cxx:406
#23 0xb78b1616 in TApplication::ExecuteFile (file=0xbff3f161 "digireco.C", error=0xbff4119c) at core/base/src/TApplication.cxx:936
#24 0xb78b17e8 in TApplication::ProcessFile (this=0x81035b0, file=0xbff3f161 "digireco.C", error=0xbff4119c)
at core/base/src/TApplication.cxx:825
#25 0xb78b3def in TApplication::ProcessLine (this=0x81035b0, line=0xbff3f15e ".x digireco.C", sync=false, err=0xbff4119c)
at core/base/src/TApplication.cxx:798
#26 0xb6e86848 in TRint::Run (this=0x81035b0, retrn=false) at core/rint/src/TRint.cxx:355
#27 0x08048e69 in main (argc=1, argv=0xbff412b4) at main/src/rmain.cxx:29

As it turns out the "cosmetic" changes removed some skin...
Although I went to rev. 4314, which does contain the last change on PndEmcExpClusterSplitter, it seems to work (like for Dima and his post). So I think something is deleted outside of the PndEmcExpClusterSplitter class.

Kind greetings from the flu-infected Dresden,
Ralf.

Subject: Re: Emc digi crashes
Posted by mpeliz on Mon, 19 Jan 2009 22:40:55 GMT
View Forum Message <> Reply to Message

Hi Ralf,

thanks for reporting this error. How can I exactly reproduce this
to have a look to it, e.g. which events should be used and which reco macro should be runned? Is the error observed on all platforms or just at Dresden?

One question for my understanding: Is rev.4383 used for the emc packages only or for all other packages?

Cheers,
Marc

Subject: Re: Emc digi crashes
Posted by M.Babai on Tue, 20 Jan 2009 10:30:08 GMT
View Forum Message <> Reply to Message

Hi,

I'm running rev. 4383. And the following macro's work fine for me:

full_emc.C
digi_emc.C

They both finish with no error.

Cheers.

Subject: Re: Emc digi crashes
Posted by Bertram Kopf on Tue, 20 Jan 2009 19:29:00 GMT
View Forum Message <> Reply to Message

Dear all,
indeed, by running 1000 events with the macro

full_emc.C

the application crashes with a same/similar error. I fixed the bug and tried to check in the new code. But it seems that I am not allowed to commit anything. What is the reason?
In addition I would like to get back to Marc's question. It's also not clear to me how one can exactly reproduce the same bug. Which tools are available for this? Is it possible to start the application directly with the event where the crash has been observed? This would help to debug the code in an very easy way.

Thanks in advance for your help and best regards,
Bertram.

Subject: Re: Emc digi crashes

Posted by Florian Uhlig on Wed, 21 Jan 2009 07:37:17 GMT
View Forum Message <> Reply to Message

Hi

Maybe you have never applied for an account. Only with an account and the correct rights you're able to commit to the repository. Please have a look at
http://fairroot.gsi.de/General/SVN%20account.htm

Ciao

Florian

Subject: Re: Emc digi crashes
Posted by Ralf Kliemt on Wed, 21 Jan 2009 10:05:53 GMT
View Forum Message <> Reply to Message

Hi all,

Just to clarify one thing.
You can start a run at a certain interesting (buggy) event. Just use CbmRunAna::Run(Int_t Ev_start, Int_t Ev_end)
(i.e. fRun->Run(26,28);).

However there are no additional fancy tools for simulation steering or bug condition reproduction there, as some people are used to. Until now it worked well trough communications on the forum here.

Kind greetings from Dresden,

Ralf.

Subject: Re: Emc digi crashes
Posted by Florian Uhlig on Wed, 21 Jan 2009 10:15:08 GMT
View Forum Message <> Reply to Message

Hi Ralf

You can start the event at the interesting event, but if the bug is due to a problem connected to random numbers it must not occor in this event. If the eroor occurs independend of the seed of the random number generator then starting with the interesting event will probably help.

Ciao

Florian

Subject: Re: Emc digi crashes

Posted by StefanoSpataro on Wed, 21 Jan 2009 10:20:34 GMT
View Forum Message <> Reply to Message

But of course one could set the same seed number...

Subject: Re: Emc digi crashes
Posted by Florian Uhlig on Wed, 21 Jan 2009 10:34:33 GMT
View Forum Message <> Reply to Message

Hi Stefano

But you will have a different number. Think of a table of 100 numbers. If you start with event 1 you crash becaus you take number 99 from the list. If you start with event 26 you will maybe not crash because you take number 2 from the list.
To reproduce errors if random numbers come into play is sometimes a big problem. Normaly you reproduce the error with the same executable taking the same seed. If your crash happens in event 123456 then youhave bad luck.

Ciao

Florian

Subject: Re: Emc digi crashes
Posted by StefanoSpataro on Wed, 21 Jan 2009 10:58:09 GMT
View Forum Message <> Reply to Message

Ok,
understood, you are right

Subject: Re: Emc digi crashes
Posted by Bertram Kopf on Wed, 21 Jan 2009 11:02:07 GMT
View Forum Message <> Reply to Message

Dear Florian and Ralf,

thank a lot for your prompt help.
Concerning the random number issue I would like to ask you again to read the documentation which I posted already few days ago:

http://hepunx.rl.ac.uk/BFROOT/dist/releases/newest/RandControl/doc/Rando ms.ps

In particular section 5.0 "Reproducing single stages" is focused on this problem.

Best regards,
Bertram.

Subject: Re: Emc digi crashes
Posted by StefanoSpataro on Thu, 22 Jan 2009 09:45:03 GMT
View Forum Message <> Reply to Message

Which was exactly the bug?

Subject: Re: Emc digi crashes
Posted by Bertram Kopf on Thu, 22 Jan 2009 10:46:01 GMT
View Forum Message <> Reply to Message

Hi Stefano,
in the destructor of EmcData/PndEmcSharedDigi.ccx the pointer "(PndEmcDigi*) fDigi" will be deleted. This pointer is not owned by this class. Once the pointer has been deleted there and will be still used at another place, the application will crash. Therefore one has to remove this line there. The object "EmcData/PndEmcCluster.*" instead takes care of the deletion of these pointers.
Unfortunately, I did't get write permissions for the PandaRoot repository yet. Therefore it is right now not possible for me to commit this small bug fix.

Cheers,
Bertram.

Subject: Re: Emc digi crashes
Posted by Bertram Kopf on Thu, 22 Jan 2009 10:52:40 GMT
View Forum Message <> Reply to Message

Hi,
I got just now the write permissions and checked in the changes already. Please test revision 4398 (trunk) whether everything is working fine now.

Cheers,
Bertram.

Subject: Re: Emc digi crashes
Posted by StefanoSpataro on Thu, 22 Jan 2009 11:49:36 GMT
View Forum Message <> Reply to Message

Hi,
I have just tried the new code with an event sample that had the crash, and now it runs till the end.
Therefore, it seems this bug is solved. Probably it was introduced in one of the latest changes, considering that last year I was able to run thousand of events without any problem.
Thanks for the fix.