Subject: TpcRecoTester segmentation when built with cmake
Posted by Sebastian Neubert on Tue, 26 Jun 2007 12:45:55 GMT
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Hi!
In the cmake build I get the following segmentation violation. The same test runs in the old build without problems. Both sources are at revision 1008.

Any idea what this could be?

Cheers! Sebastian.

```
root [0] TpcRecoTester::testConfFinder()
Radius r=69.9897
Radius r=36.2191
Radius r=37.473
Radius r=48.3678
Radius r=55.1847
TpcConfTrackFinder::buildTracks:: starting.

 *** Break *** floating point exception
Using host libthread_db library "/lib/tls/libthread_db.so.1".
Attaching to program: /proc/18787/exe, process 18787
`system-supplied DSO at 0xffffe000' has disappeared; keeping its symbols.
[Thread debugging using libthread_db enabled]
[New Thread -1235598144 (LWP 18787)]
0xb667c3ae in waitpid () from /lib/tls/libc.so.6
#1  0xb6611d12 in system () from /lib/tls/libc.so.6
#2  0xb67128af in system () from /lib/tls/libpthread.so.0
#3  0xb79ae2a5 in TUnixSystem::Exec () from
/afs/e18/panda/SIM/FAIRRoot/cbmsoft/tools/root/lib/libCore.so.5.14
#4  0xb79ae78a in TUnixSystem::StackTrace ()
   from /afs/e18/panda/SIM/FAIRRoot/cbmsoft/tools/root/lib/libCore.so.5.14
#5  0xb79ac507 in TUnixSystem::DispatchSignals ()
   from /afs/e18/panda/SIM/FAIRRoot/cbmsoft/tools/root/lib/libCore.so.5.14
#6  0xb79aa4cc in SigHandler () from
/afs/e18/panda/SIM/FAIRRoot/cbmsoft/tools/root/lib/libCore.so.5.14
#7  0xb79b1758 in sighandler () from
/afs/e18/panda/SIM/FAIRRoot/cbmsoft/tools/root/lib/libCore.so.5.14
#8  <signal handler called>
#9  0xb325fac6 in TpcConfMapFit::getR2 (this=0x8c20d18)
    at  /afs/e18/user/sneubert/scratch/PANDA/FAIRRoot/pandarootDev/tpc/tpcreco/T
pcConfMapFit.cxx:102
#10 0xb325fb91 in TpcConfMapFit::getR (this=0x8c20d18)
    at  /afs/e18/user/sneubert/scratch/PANDA/FAIRRoot/pandarootDev/tpc/tpcreco/T
pcConfMapFit.cxx:110
#11 0xb32655da in TpcConfTrackFinder::addHit2Track (this=0xbf8c4f90, hit=0x8d0dd98,
trk=0x8c223a0)
    at  /afs/e18/user/sneubert/scratch/PANDA/FAIRRoot/pandarootDev/tpc/tpcreco/T
pcConfTrackFinder.cxx:285
#12 0xb3264729 in TpcConfTrackFinder::buildTracks (this=0xbf8c4f90, cll=@0xbf8c4fe0,
candlist=@0xbf8c4fd0)
```

at /afs/e18/user/sneubert/scratch/PANDA/FAIRRoot/pandarootDev/tpc/tpcreco/TpcConfTrackFinder.cxx:118
#13 0xb326adf8 in TpcRecoTester::testConfFinder (this=0x0)
at /afs/e18/user/sneubert/scratch/PANDA/FAIRRoot/pandarootDev/tpc/tpcreco/test/TpcRecoTester.cxx:153
#14 0xb3272bf3 in G__tpcrecoDict_581_0_4 (result7=0xbf8d2710, funcname=0x8c10c18 "\001", libp=0xbf8cf160, hash=0)

Subject: Re: TpcRecoTester segmentation when built with cmake
Posted by Florian Uhlig on Tue, 26 Jun 2007 13:06:37 GMT
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Hi Sebastian

This feature (bug???) has to do that somehow the linking of the
libraries is a little different for cmake generated and automake
generated libraries. The difference is in the handling of undifined mathematical calculations. With automake the result of
a devision by zero is NaN (Not a Number). With this result the program goes on and does all his calculations. Any mathematical operation with a NaN gives as a result NaN.
With cmake the result of such an operation is a exeception and
the program crashes.
If you look in your code at TpcConfMapFit.cxx line 102 as given
in the error message you will find the following line

```
 double b=0.5/state[1][0];
```

If state[1][0] is 0 than this operation is not defined and you
crash. You should check the variable before the devision and decide what to do whenn the variable is zero.

In my opinion this is a problem and the program should stop at that point signaling an error.

I am looking for that difference between cmake and the autotools for some time, but up to now i didn't find where the difference comes in during the building process.

I hope this helps to understand the error message.

Ciao

Florian

Subject: Re: TpcRecoTester segmentation when built with cmake
Posted by Sebastian Neubert on Tue, 26 Jun 2007 14:12:53 GMT
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Hi!

Thanks for the quick reply. I have already fixed the division by zero error (will be in the next

checkin). I just wanted to know why there is a difference between the two build systems.

Cheers! Sebastian.

Subject: Re: TpcRecoTester segmentation when built with cmake
Posted by Florian Uhlig on Tue, 26 Jun 2007 15:26:17 GMT
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Hi Sebatian

This i don't know. In principle there should be no difference.
I am really looking into this problem but haven't found an answer.

Ciao

Florian
