
Subject: crash in TrackConverter / FairLink

Posted by [Felix Boehmer](#) on Wed, 29 Jun 2011 09:49:54 GMT

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Hi all,

when trying to run Dima's reconstruction macro I get the following reproducible crash after several events:

```
#9 <signal handler called>
#10 0xb7245a23 in TObject::TObject(TObject const&) ()
    from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#11 0xb370adc8 in FairLink (this=0x181b3fd0)
    at /nfs/hicran/project/panda/SIM/fboehmer/clean/base/FairLink.h:18
#12 0xb370bae8 in __gnu_cxx::new_allocator<FairLink>::construct (
    this=0xbffc57fb, __p=0x181b3fd0, __val=...)
    at /usr/include/c++/4.4/ext/new_allocator.h:105
#13 0xb370b9b1 in std::_Rb_tree<FairLink, FairLink, std::_Identity<FairLink>,
std::less<FairLink>, std::allocator<FairLink> >::_M_create_node (
    this=0xbffc59b0, __x=...) at /usr/include/c++/4.4/bits/stl_tree.h:371
#14 0xb370ed8b in std::_Rb_tree<FairLink, FairLink, std::_Identity<FairLink>,
std::less<FairLink>, std::allocator<FairLink> >::_M_clone_node (this=0xbffc59b0,
    __x=0x5ac23814) at /usr/include/c++/4.4/bits/stl_tree.h:416
#15 0xb370e96e in std::_Rb_tree<FairLink, FairLink, std::_Identity<FairLink>,
std::less<FairLink>, std::allocator<FairLink> >::_M_copy (this=0xbffc59b0,
    __x=0x5ac23814, __p=0xbffc59b4) at /usr/include/c++/4.4/bits/stl_tree.h:932
#16 0xb370e27d in _Rb_tree (this=0xbffc59b0, __x=...)
    at /usr/include/c++/4.4/bits/stl_tree.h:602
#17 0xb370de16 in set (this=0xbffc59b0, __x=...)
    at /usr/include/c++/4.4/bits/stl_set.h:189
#18 0xb370d55c in FairMultiLinkedData (this=0xbffc59a0)
    at /nfs/hicran/project/panda/SIM/fboehmer/clean/base/FairMultiLinkedData.h:18
#19 0xb370dcef in FairMultiLinkedData::AddLink (this=0xb272c18, link=...,
    bypass=true, mult=1)
    at /nfs/hicran/project/panda/SIM/fboehmer/clean/base/FairMultiLinkedData.cxx:136
#20 0xb2e56b0a in PndTrackCand::AddHit (this=0xb272c18, detId=24, hitId=10,
    rho=0)
    at /nfs/hicran/project/panda/SIM/fboehmer/clean/pnddata/TrackData/PndTrackCand.cxx:37
#21 0xb4832dce in GenfitTrackCand2PndTrackCand (cand=0xbffc6864)
    at
/nfs/hicran/project/panda/SIM/fboehmer/clean/GenfitTools/adapters/PndGenfitAdapters.cxx:23
#22 0xb4833cf5 in GenfitTrack2PndTrack (tr=0x13b5f990)
    at
/nfs/hicran/project/panda/SIM/fboehmer/clean/GenfitTools/adapters/PndGenfitAdapters.cxx:92
#23 0xb0096be6 in PndGFTrackToPndTrackConvertorTask::Exec (this=0x95582f8,
    opt=0xb37f4fd8 "")
    at
/nfs/hicran/project/panda/SIM/fboehmer/clean/GenfitTools/recotasks/PndGFTrackToPndTrack
ConvertorTask.cxx:85
#24 0xb728be78 in TTask::ExecuteTasks(char const*) ()
```

```
from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#25 0xb728b15e in TTask::ExecuteTask(char const*) ()
  from
/nfs/hicran/project/panda/SIM/FAIRRoot/fairsoft_release_may11/tools/root_5.28d_qt_custom_
TH2Poly/lib/libCore.so
#26 0xb373e8ac in FairRunAna::Run (this=0x8e9a120, Ev_start=0, Ev_end=101)
  at /nfs/hicran/project/panda/SIM/fboehmer/clean/base/FairRunAna.cxx:353
#27 0xb3799e42 in G__FairDict_894_0_5 (result7=0xbffd2ac8,
  funcname=0x926b7c0 "", libp=0xbffc8484, hash=0)
  at /nfs/hicran/project/panda/SIM/fboehmer/clean/build/base/FairDict.cxx:13767
```

Is anyone aware of what's going wrong there? I can see this is connected to the FairLinks somehow, but for the tpc code we disabled all usage of the links due to persistent problems in the past...

Thanks in advance

Felix

Subject: Re: crash in TrackConverter / FairLink
Posted by [Stefano Spataro](#) on Wed, 29 Jun 2011 09:58:01 GMT
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Which trunk are you using? Yesterday I was able to run 500 evt with tpc/eta_c w/o problems.

Subject: Re: crash in TrackConverter / FairLink
Posted by [Felix Boehmer](#) on Wed, 29 Jun 2011 10:03:35 GMT
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Hi Stefano,

I'm using revision 12501. Should I downgrade? To which revision?

Cheers

Felix

Subject: Re: crash in TrackConverter / FairLink
Posted by [Stefano Spataro](#) on Wed, 29 Jun 2011 11:29:18 GMT
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In reality I have just tried with the latest trunk and it seems to work, in my case.

However, maybe I have understood the problem.
In PndTrackCand, links are set in the AddHit functions:

```
AddLink(FairLink(detId, hitId));
```

The problem I can see here is that you are using the old detId definition, based on the PndDetectorList enum, and not the current one:

```
UInt_t detId = ioman->GetBranchId(branchName);
```

Maybe in FairLink the code is trying to find a branch defined by a "mispaced" detId -> crash.

In your local case, you could comment out the lines with AddLink of PndTrackCand.cxx.
I repeat, if you want I can spend some time on your tracking tasks to be compatible with the branch id definition. Just tell me, so that you can work on other tracking points.

Subject: Re: crash in TrackConverter / FairLink
Posted by [Felix Boehmer](#) on Wed, 29 Jun 2011 11:38:38 GMT
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Hi Stefano,

thanks for your help!

Quote: I repeat, if you want I can spend some time on your tracking tasks to be compatible with the branch id definition. Just tell me, so that you can work on other tracking points.
Actually, I would appreciate this very much! Thanks!

Cheers

Felix

Subject: Re: crash in TrackConverter / FairLink
Posted by [Stefano Spataro](#) on Wed, 29 Jun 2011 16:26:02 GMT
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Hi,

I have modified (in svn) the code in tpc/tpcreco and recotasks, so now it is compatible with the branch id.

In order to check the code, I have run Dima analysis with the old code and the new one, and the eta_c histograms are exactly the same.

The followings are the modified files:

```
M tpc/tpcreco/PndTpcRiemannTrackingTask.cxx
M tpc/tpcreco/PndTpcGEMCorrelatorTask.cxx
M tpc/tpcreco/PndTpcdEdxTask.cxx
M tpc/tpcreco/PndTpcMVDCorrelatorTask.cxx
M recotasks/KalmanTask.cxx
```

I have also modified the DEBUG flag. Now the "debug" couts are called setting the verbose level in the task !=0 ->

```
tpcriemantask->SetVerbose(1);
```

To reduce a bit the log messages, even if the ones from low momenta tracks are still many.

Now it should be possible to use the normal MCTrackAssociator and also the mvd de/dx.. but the latter I have to check.

Please let me know if it crashes again.