Subject: The problem when accessing FairLinks in PndEmcPoints
Posted by Dong Liu on Wed, 26 Sep 2018 11:21:10 GMT
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Dear colleagues,

I am trying to do some simulation on the PndEMC. When I try to access the related MCTrack information of a EmcPoint, there are some problem!

When I use the code:

```
PndEmcPoint* point = (PndEmcPoint*)fPointArray->At(i);
std::set<FairLink> links = point->GetLinks();
```

where, "i" is the index of the EmcPoint in the related TCloneArray, "ioman" is the FairRooManager.
The script works fine. However, when I use

```
point->GetLinksWithType(ioman->GetBranchId("MCTrack"));
```

The script corrupts. The crash information can be found below. I also attached the full code and the root file.

Any ideas on the crash?

Thank you!

Dong

crash information

```
Processing ReadLink.C...
[INFO   ] The input consists out of the following trees and files:
[INFO   ]  - cbmsim
[INFO   ]     - sim_ScanMom3.root
[INFO   ] Object EmcPoint describing the branch in the folder structure was found
[INFO   ] Object MCTrack describing the branch in the folder structure was found
maxEvtNo 100
points is 4367
branch id 0

 *** Break *** segmentation violation
[/usr/lib/system/libsystem_platform.dylib] _sigtramp (no debug info)
[<unknown binary>] (no debug info)
[/Users/danny/software/panda/FairRootInstall/lib/libBase.17.10.2.dylib]
FairMultiLinkedData::GetLinksWithType(int) const (no debug info)
[/Users/danny/software/panda/FairRootInstall/lib/libBase.17.10.2.dylib]
FairMultiLinkedData_Interface::GetLinksWithType(int) const (no debug info)
[<unknown binary>] (no debug info)
[<unknown binary>] (no debug info)
[/Users/danny/software/panda/external/lib/root/libCling.so]
cling::Interpreter::RunFunction(clang::FunctionDecl const*, cling::Value*) (no debug info)
```

[/Users/danny/software/panda/external/lib/root/libCling.so]
cling::Interpreter::EvaluateInternal(std::__1::basic_string<char, std::__1::char_traits<char>,
std::__1::allocator<char> > const&, cling::CompilationOptions, cling::Value*,
cling::Transaction**, unsigned long) (no debug info)
[/Users/danny/software/panda/external/lib/root/libCling.so]
cling::MetaSema::actOnxCommand(llvm::StringRef, llvm::StringRef, cling::Value*) (no debug
info)
[/Users/danny/software/panda/external/lib/root/libCling.so]
cling::MetaParser::isXCommand(cling::MetaSema::ActionResult&, cling::Value*) (no debug
info)
[/Users/danny/software/panda/external/lib/root/libCling.so]
cling::MetaParser::isCommand(cling::MetaSema::ActionResult&, cling::Value*) (no debug info)
[/Users/danny/software/panda/external/lib/root/libCling.so]
cling::MetaParser::isMetaCommand(cling::MetaSema::ActionResult&, cling::Value*) (no debug
info)
[/Users/danny/software/panda/external/lib/root/libCling.so] cling::MetaProcessor::process(char
const*, cling::Interpreter::CompilationResult&, cling::Value*, bool) (no debug info)
[/Users/danny/software/panda/external/lib/root/libCling.so]
HandleInterpreterException(cling::MetaProcessor*, char const*,
cling::Interpreter::CompilationResult&, cling::Value*) (no debug info)
[/Users/danny/software/panda/external/lib/root/libCling.so] TCling::ProcessLine(char const*,
TInterpreter::EErrorCode*) (no debug info)
[/Users/danny/software/panda/external/lib/root/libCling.so] TCling::ProcessLineSynch(char
const*, TInterpreter::EErrorCode*) (no debug info)
[/Users/danny/software/panda/external/lib/root/libCore.6.10.so] TApplication::ExecuteFile(char
const*, int*, bool) (no debug info)
[/Users/danny/software/panda/external/lib/root/libRint.6.10.so] TRint::ProcessLineNr(char
const*, char const*, int*) (no debug info)
[/Users/danny/software/panda/external/lib/root/libRint.6.10.so] TRint::Run(bool) (no debug info)
[/Users/danny/software/panda/external/bin/root.exe] main (no debug info)
[/usr/lib/system/libdyld.dylib] start (no debug info)

File Attachments

1) ReadLinkTest.C, downloaded 611 times
2) sim_ScanMom3.root, downloaded 613 times

Subject: Re: The problem when accessing FairLinks in PndEmcPoints
Posted by Tobias Stockmanns on Thu, 27 Sep 2018 09:25:29 GMT
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Dear Dong,

please try to replace ioman->GetBranchId("MCTrack") with 0 as it is done in the next line of your code. I guess that it does not crash in that case.

The reason for the crash is, that the FairRootManager has not loaded the list of generated branches. Therefore no Id for "MCTrack" is returned.

Only if you use FairRunAna the branch list is populated in the FairRootManager.

Cheers,

Tobias

Subject: Re: The problem when accessing FairLinks in PndEmcPoints
Posted by Dong Liu on Thu, 27 Sep 2018 09:48:58 GMT
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Dear Tobias,

I also tried to replace ioman->GetBranchId("MCTrack") with 0, it also corrupts.
And I try to output the "ioman->GetBranchId("MCTrack")", It is 0 as expected.

Maybe there is other reason for the crash.

Thank you all the same!

Best regards,

Dong

Subject: Re: The problem when accessing FairLinks in PndEmcPoints
Posted by Dong Liu on Wed, 03 Oct 2018 07:20:37 GMT
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Dear Tobias,

I check my code again, and read the source code of FairMultiLinkedData.
I find the reason is that there is no instance of FairLinkManager in my code.
When I create a FairRunAna in my code, the instance of FairLinkManager is created automatically.
Then, the crash disappears.

Best regards,
Dong
