
Subject: Re: Out of memory problem in EmcPoint - FairLink ?
Posted by [StefanoSpataro](#) on Thu, 05 Aug 2010 14:42:05 GMT
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Trying to understand what is making our memory explode, under suggestion of Ralf I have run only one event by valgrind.

This is the final log message, with all the "problems":

Toggle Spoiler

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RealTime=1391.664607 seconds, CpuTime=1312.570000 seconds
(int)58
root [1] .q
==27961==
==27961== ERROR SUMMARY: 32858 errors from 24 contexts (suppressed: 113902 from 4)
==27961== malloc/free: in use at exit: 123,231,441 bytes in 791,157 blocks.
==27961== malloc/free: 11,175,726 allocs, 10,384,569 frees, 1,307,048,594 bytes allocated.
==27961== For counts of detected errors, rerun with: -v
==27961== searching for pointers to 791,157 not-freed blocks.
==27961== checked 140,163,608 bytes.
==27961==
==27961==
==27961== 2 bytes in 1 blocks are definitely lost in loss record 5 of 401
==27961==   at 0x4004405: malloc (vg_replace_malloc.c:149)
==27961==   by 0x47A1685: G__memfunc_para_setup (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==   by 0x47A1DD1: G__parse_parameter_link (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==   by 0x47A9E22: G__memfunc_setup_imp (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==   by 0x47AA779: G__memfunc_setup (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==   by 0x4D859C4: G__cpp_setup_func3() (in
/home/spataro/jan10/tools/root/lib/libMathCore.so.5.26)
==27961==   by 0x4D85D99: G__cpp_setup_funcG__MathCore (in
/home/spataro/jan10/tools/root/lib/libMathCore.so.5.26)
==27961==   by 0x4D86D91: G__cpp_setupG__MathCore (in
/home/spataro/jan10/tools/root/lib/libMathCore.so.5.26)
==27961==   by 0x4782AE4: G__call_setup_funcs (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==   by 0x4782DE5: G__main (in /home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==   by 0x4784BE3: G__init_cint (in /home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==   by 0x41F5FD8: TCint::ResetAll() (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961==
==27961==
==27961== 18 bytes in 3 blocks are possibly lost in loss record 98 of 401
==27961==   at 0x4004BBE: operator new[](unsigned) (vg_replace_malloc.c:197)
==27961==   by 0x665C807: TGeoMatrix::SetDefaultName() (in
/home/spataro/jan10/tools/root/lib/libGeom.so.5.26)
==27961==   by 0x8FEF1AB: FairModule::ExpandNode(TGeoNode*) (FairModule.cxx:293)
==27961==   by 0x8FEF1D7: FairModule::ExpandNode(TGeoNode*) (FairModule.cxx:294)
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==27961== by 0x8FEF1D7: FairModule::ExpandNode(TGeoNode*) (FairModule.cxx:294)
==27961== by 0x8FEF1D7: FairModule::ExpandNode(TGeoNode*) (FairModule.cxx:294)
==27961== by 0x8FEEF86: FairModule::ConstructRootGeometry() (FairModule.cxx:267)
==27961== by 0xA743CE7: PndSdsDetector::ConstructGeometry()
(PndSdsDetector.cxx:306)
==27961== by 0x8FE89CE: FairMCApplication::ConstructGeometry()
(FairMCApplication.cxx:559)
==27961== by 0x12ADE92A: TGeant3::Init() (in
/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so)
==27961== by 0x8FE7246: FairMCApplication::InitMC(char const*, char const*)
(FairMCApplication.cxx:219)
==27961== by 0x900189E: FairRunSim::SetMCConfig() (FairRunSim.cxx:359)
==27961==
==27961==
==27961== 20 bytes in 1 blocks are definitely lost in loss record 101 of 401
==27961== at 0x4004790: operator new(unsigned) (vg_replace_malloc.c:164)
==27961== by 0x41BC073: TObjArray::MakeIterator(bool) const (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x8FE9B14: FairMCApplication::AddParticles() (FairMCApplication.cxx:767)
==27961== by 0x12ADE90E: TGeant3::Init() (in
/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so)
==27961== by 0x8FE7246: FairMCApplication::InitMC(char const*, char const*)
(FairMCApplication.cxx:219)
==27961== by 0x900189E: FairRunSim::SetMCConfig() (FairRunSim.cxx:359)
==27961== by 0x8FFF828: FairRunSim::Init() (FairRunSim.cxx:164)
==27961== by 0x903FD81: G__FairDict_739_0_4(G__value*, char const*, G__param*, int)
(FairDict.cxx:11061)
==27961== by 0x46FA1D2: Cint::G__ExceptionWrapper(int (*)(G__value*, char const*,
G__param*, int), G__value*, char*, G__param*, int) (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4792A9F: G__execute_call (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4792DB1: G__call_cppfunc (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x47748F2: G__interpret_func (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==
==27961==
==27961== 46 bytes in 1 blocks are definitely lost in loss record 130 of 401
==27961== at 0x4004405: malloc (vg_replace_malloc.c:149)
==27961== by 0x4787D7A: G__register_sharedlib (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4813684: G__RegisterLibrary (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4782953: G__add_setup_func (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4E373E0: G__cpp_setup_initG__Rint::G__cpp_setup_initG__Rint() (in
/home/spataro/jan10/tools/root/lib/libRint.so.5.26)
==27961== by 0x4E36CF6: __static_initialization_and_destruction_0(int, int) (in
/home/spataro/jan10/tools/root/lib/libRint.so.5.26)
==27961== by 0x4E36D58: _GLOBAL__I_ZN4ROOT20GenerateInitInstanceEPK5TRint (in
/home/spataro/jan10/tools/root/lib/libRint.so.5.26)

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==27961== by 0x4E37B08: (within /home/spataro/jan10/tools/root/lib/libRint.so.5.26)
==27961== by 0x4E2151C: (within /home/spataro/jan10/tools/root/lib/libRint.so.5.26)
==27961== by 0x76B897: _dl_init (in /lib/ld-2.3.4.so)
==27961== by 0x75F7FE: (within /lib/ld-2.3.4.so)
==27961==
==27961==
==27961== 60 (28 direct, 32 indirect) bytes in 1 blocks are definitely lost in loss record 131 of 401
==27961== at 0x4004405: malloc (vg_replace_malloc.c:149)
==27961== by 0x47AA09B: G__memfunc_setup_imp (in /home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x47AA779: G__memfunc_setup (in /home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4D859C4: G__cpp_setup_func3() (in /home/spataro/jan10/tools/root/lib/libMathCore.so.5.26)
==27961== by 0x4D85D99: G__cpp_setup_funcG__MathCore (in /home/spataro/jan10/tools/root/lib/libMathCore.so.5.26)
==27961== by 0x4D86D91: G__cpp_setupG__MathCore (in /home/spataro/jan10/tools/root/lib/libMathCore.so.5.26)
==27961== by 0x4782AE4: G__call_setup_funcs (in /home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4D8EBB8:
G__cpp_setup_initG__MathCore::G__cpp_setup_initG__MathCore() (in /home/spataro/jan10/tools/root/lib/libMathCore.so.5.26)
==27961== by 0x4D87478: __static_initialization_and_destruction_0(int, int) (in /home/spataro/jan10/tools/root/lib/libMathCore.so.5.26)
==27961== by 0x4D87504:
_GLOBAL_I__ZN4ROOT20GenerateInitInstanceEPK7TRandom (in /home/spataro/jan10/tools/root/lib/libMathCore.so.5.26)
==27961== by 0x4DBD630: (within /home/spataro/jan10/tools/root/lib/libMathCore.so.5.26)
==27961== by 0x4CC1BFC: (within /home/spataro/jan10/tools/root/lib/libMathCore.so.5.26)
==27961==
==27961==
==27961== 42 bytes in 1 blocks are possibly lost in loss record 147 of 401
==27961== at 0x4004BBE: operator new[](unsigned) (vg_replace_malloc.c:197)
==27961== by 0x4176EFE: StrDup(char const*) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x4186CF4: TSystem::Which(char const*, char const*, EAccessMode) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x420BC87: TUnixSystem::DynamicPathName(char const*, bool) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x4333642: G__G__Base2_237_0_118(G__value*, char const*, G__param*, int) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x46FA1D2: Cint::G__ExceptionWrapper(int (*)(G__value*, char const*, G__param*, int), G__value*, char*, G__param*, int) (in /home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4792A9F: G__execute_call (in /home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4792DB1: G__call_cppfunc (in /home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x47748F2: G__interpret_func (in /home/spataro/jan10/tools/root/lib/libCint.so.5.26)

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==27961== by 0x4760F27: G__getfunction (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x484A338: G__getstructmem (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4841F75: G__getvariable (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==
==27961==
==27961== 48 (16 direct, 32 indirect) bytes in 1 blocks are definitely lost in loss record 151 of
401
==27961== at 0x4004790: operator new(unsigned) (vg_replace_malloc.c:164)
==27961== by 0x41B81AD: TList::NewLink(TObject*, TObjLink*) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41B746C: TList::AddLast(TObject*) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x4162468: TList::Add(TObject*) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x7F3EC77: FairGeoNode::getTree() (FairGeoNode.cxx:219)
==27961== by 0xAC1ECDA: PndTof::ProcessHits(FairVolume*) (PndTof.cxx:200)
==27961== by 0x8FE7D0D: FairMCApplication::Stepping() (FairMCApplication.cxx:361)
==27961== by 0x12AE3282: gustep_ (in
/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so)
==27961== by 0x12ACD796: jump0_ (in
/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so)
==27961== by 0x129D8066: g3track_ (in
/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so)
==27961== by 0x12AE1F12: gutrak_ (in
/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so)
==27961== by 0x129D8DC0: gtreveroot_ (in
/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so)
==27961==
==27961==
==27961== 20 bytes in 1 blocks are definitely lost in loss record 152 of 401
==27961== at 0x4004790: operator new(unsigned) (vg_replace_malloc.c:164)
==27961== by 0x41C003B: TRefArray::MakeIterator(bool) const (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x9892120: PndStack::UpdateTrackIndex(TRefArray*) (PndStack.cxx:332)
==27961== by 0x8FE83B1: FairMCApplication::FinishEvent() (FairMCApplication.cxx:445)
==27961== by 0x12ADEAC8: TGeant3::ProcessRun(int) (in
/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so)
==27961== by 0x8FE7424: FairMCApplication::RunMC(int) (FairMCApplication.cxx:238)
==27961== by 0x9001A85: FairRunSim::Run(int, int) (FairRunSim.cxx:367)
==27961== by 0x903FEB4: G__FairDict_739_0_5(G__value*, char const*, G__param*, int)
(FairDict.cxx:11074)
==27961== by 0x46FA1D2: Cint::G__ExceptionWrapper(int (*)(G__value*, char const*,
G__param*, int), G__value*, char*, G__param*, int) (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4792A9F: G__execute_call (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4792DB1: G__call_cppfunc (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x47748F2: G__interpret_func (in

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/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==
==27961==
==27961== 60 bytes in 1 blocks are definitely lost in loss record 165 of 401
==27961==   at 0x4004405: malloc (vg_replace_malloc.c:149)
==27961==   by 0x4787D3C: G__register_sharedlib (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==   by 0x4813684: G__RegisterLibrary (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==   by 0x4782953: G__add_setup_func (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==   by 0x4E373E0: G__cpp_setup_initG__Rint::G__cpp_setup_initG__Rint() (in
/home/spataro/jan10/tools/root/lib/libRint.so.5.26)
==27961==   by 0x4E36CF6: __static_initialization_and_destruction_0(int, int) (in
/home/spataro/jan10/tools/root/lib/libRint.so.5.26)
==27961==   by 0x4E36D58: _GLOBAL__I__ZN4ROOT20GenerateInitInstanceEPK5TRint (in
/home/spataro/jan10/tools/root/lib/libRint.so.5.26)
==27961==   by 0x4E37B08: (within /home/spataro/jan10/tools/root/lib/libRint.so.5.26)
==27961==   by 0x4E2151C: (within /home/spataro/jan10/tools/root/lib/libRint.so.5.26)
==27961==   by 0x76B897: _dl_init (in /lib/ld-2.3.4.so)
==27961==   by 0x75F7FE: (within /lib/ld-2.3.4.so)
==27961==
==27961==
==27961== 200 bytes in 1 blocks are definitely lost in loss record 184 of 401
==27961==   at 0x4004BBE: operator new[](unsigned) (vg_replace_malloc.c:197)
==27961==   by 0x41A6792: TArrayl::Set(int) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961==   by 0x4136319: TColor::SetPalette(int, int*) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961==   by 0x417B5C1: TStyle::SetPalette(int, int*) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961==   by 0x417BB3B: TStyle::Reset(char const*) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961==   by 0x417C804: TStyle::TStyle(char const*, char const*) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961==   by 0x417D00B: TStyle::BuildStyles() (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961==   by 0x416EDCE: TROOT::TROOT(char const*, char const*, void (**)) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961==   by 0x416F0E1: ROOT::GetROOT() (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961==   by 0x4171FA4: _GLOBAL__I_gROOTMutex (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961==   by 0x44E265C: (within /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961==   by 0x41074AC: (within /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961==
==27961==
==27961== 846 (64 direct, 782 indirect) bytes in 1 blocks are definitely lost in loss record 208
of 401
==27961==   at 0x4004BBE: operator new[](unsigned) (vg_replace_malloc.c:197)
==27961==   by 0x417285B: TStorage::Alloc(unsigned) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)

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==27961== by 0x41BB30B: TObjArray::Init(int, int) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41BB918: TObjArray::TObjArray(int, int) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x4420EEE: ROOT::new_TObjArray(void*) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41CBA8C: TClass::New(TClass::ENewType) const (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x5FD69D7: TBufferFile::ReadObjectAny(TClass const*) (in
/home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x5FD5400: TBufferFile::ReadFastArray(void**, TClass const*, int, bool,
TMemberStreamer*, TClass const*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x608F480: int TStreamerInfo::ReadBuffer<char**>(TBuffer&, char** const&,
int, int, int, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x5FD8A92: TBufferFile::ReadClassBuffer(TClass const*, void*, TClass
const*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x66AF14C: TGeoVolume::Streamer(TBuffer&) (in
/home/spataro/jan10/tools/root/lib/libGeom.so.5.26)
==27961== by 0x60046D5: TKey::ReadObj() (in
/home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961==
==27961==
==27961== 284 bytes in 1 blocks are definitely lost in loss record 234 of 401
==27961== at 0x4004790: operator new(unsigned) (vg_replace_malloc.c:164)
==27961== by 0x7FE0CF9: FairParRootFileIo::open(char const*, char const*, char const*,
int) (FairParRootFileIo.cxx:103)
==27961== by 0x7FFE9F3: G__ParBaseDict_216_0_3(G__value*, char const*, G__param*,
int) (ParBaseDict.cxx:4970)
==27961== by 0x46FA1D2: Cint::G__ExceptionWrapper(int (*)(G__value*, char const*,
G__param*, int), G__value*, char*, G__param*, int) (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4792A9F: G__execute_call (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4792DB1: G__call_cppfunc (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x47748F2: G__interpret_func (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4760F27: G__getfunction (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x484A338: G__getstructmem (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4841F75: G__getvariable (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4743EE5: G__getitem (in /home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4748088: G__getexpr (in /home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==
==27961==
==27961== 404 bytes in 1 blocks are possibly lost in loss record 248 of 401
==27961== at 0x4004BBE: operator new[](unsigned) (vg_replace_malloc.c:197)
==27961== by 0x41B5E05: THashTable::THashTable(int, int) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41B5280: THashList::THashList(int, int) (in

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/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x5FDD9FE: TDirectoryFile::Build(TFile*, TDirectory*) (in
/home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x5FF1CA3: TFile::TFile(char const*, char const*, char const*, int) (in
/home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x99E3C04: PndFieldMap::ReadRootFile(char const*, char const*)
(PndFieldMap.cxx:511)
==27961== by 0x99E0EE8: PndFieldMap::Init() (PndFieldMap.cxx:114)
==27961== by 0x99F3791: PndMultiField::Init() (PndMultiField.cxx:137)
==27961== by 0x8FFF6C3: FairRunSim::Init() (FairRunSim.cxx:144)
==27961== by 0x903FD81: G__FairDict_739_0_4(G__value*, char const*, G__param*, int)
(FairDict.cxx:11061)
==27961== by 0x46FA1D2: Cint::G__ExceptionWrapper(int (*)(G__value*, char const*,
G__param*, int), G__value*, char*, G__param*, int) (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4792A9F: G__execute_call (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==
==27961==
==27961== 2,249 bytes in 52 blocks are definitely lost in loss record 297 of 401
==27961== at 0x4004BBE: operator new[](unsigned) (vg_replace_malloc.c:197)
==27961== by 0x4176EFE: StrDup(char const*) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x4186CF4: TSystem::Which(char const*, char const*, EAccessMode) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x420BC87: TUnixSystem::DynamicPathName(char const*, bool) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x4333642: G__G__Base2_237_0_118(G__value*, char const*, G__param*,
int) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x46FA1D2: Cint::G__ExceptionWrapper(int (*)(G__value*, char const*,
G__param*, int), G__value*, char*, G__param*, int) (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4792A9F: G__execute_call (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4792DB1: G__call_cppfunc (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x47748F2: G__interpret_func (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4760F27: G__getfunction (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x484A338: G__getstructmem (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4841F75: G__getvariable (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==
==27961==
==27961== 2,676 (2,580 direct, 96 indirect) bytes in 1 blocks are definitely lost in loss record
306 of 401
==27961== at 0x4004790: operator new(unsigned) (vg_replace_malloc.c:164)
==27961== by 0xACDA48E: PndDrc::Initialize() (PndDrc.cxx:146)
==27961== by 0x8FE8FB5: FairMCApplication::InitGeometry() (FairMCApplication.cxx:627)
==27961== by 0x12ADE951: TGeant3::Init() (in

```

```

/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so)
==27961== by 0x8FE7246: FairMCApplication::InitMC(char const*, char const*)
(FairMCApplication.cxx:219)
==27961== by 0x900189E: FairRunSim::SetMCConfig() (FairRunSim.cxx:359)
==27961== by 0x8FFF828: FairRunSim::Init() (FairRunSim.cxx:164)
==27961== by 0x903FD81: G__FairDict_739_0_4(G__value*, char const*, G__param*, int)
(FairDict.cxx:11061)
==27961== by 0x46FA1D2: Cint::G__ExceptionWrapper(int (*)(G__value*, char const*,
G__param*, int), G__value*, char*, G__param*, int) (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4792A9F: G__execute_call (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x4792DB1: G__call_cppfunc (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961== by 0x47748F2: G__interpret_func (in
/home/spataro/jan10/tools/root/lib/libCint.so.5.26)
==27961==
==27961==
==27961== 3,008 bytes in 47 blocks are possibly lost in loss record 308 of 401
==27961== at 0x4004BBE: operator new[](unsigned) (vg_replace_malloc.c:197)
==27961== by 0x417285B: TStorage::Alloc(unsigned) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41BB30B: TObjArray::Init(int, int) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41BB918: TObjArray::TObjArray(int, int) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x415819F: TPreRegexp::MatchS(TString const&, TString const&, int, int) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x9C98BA3: PndEmcStructure::crystal_name_analysis(TString, int&, int&,
int&, int&) (PndEmcStructure.cxx:230)
==27961== by 0x9C975E8: PndEmcStructure::PndEmcStructure(TGeoManager*)
(PndEmcStructure.cxx:97)
==27961== by 0x9C964D5: PndEmcStructure::Instance() (PndEmcStructure.cxx:70)
==27961== by 0x9C6F0EB: PndEmcHitProducer::Init() (PndEmcHitProducer.cxx:109)
==27961== by 0x90028D6: FairTask::InitTask() (FairTask.cxx:41)
==27961== by 0x9002C71: FairTask::InitTasks() (FairTask.cxx:111)
==27961== by 0x9002972: FairTask::InitTask() (FairTask.cxx:48)
==27961==
==27961==
==27961== 6,717 bytes in 267 blocks are possibly lost in loss record 330 of 401
==27961== at 0x4004790: operator new(unsigned) (vg_replace_malloc.c:164)
==27961== by 0xC17971: std::string::_Rep::_S_create(unsigned, unsigned,
std::allocator<char> const&) (in /usr/lib/libstdc++.so.6.0.3)
==27961== by 0xC19DF4: (within /usr/lib/libstdc++.so.6.0.3)
==27961== by 0xC19F01: std::string::string(char const*, std::allocator<char> const&) (in
/usr/lib/libstdc++.so.6.0.3)
==27961== by 0x41CEF5E: TClass::AddClass(TClass*) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41CF433: TClass::Init(char const*, short, std::type_info const*,
TVirtualsAProxy*, void (*)(void*, TMemberInspector&, char*), char const*, char const*, int, int,
bool) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41CFF8B: TClass::TClass(char const*, short, std::type_info const&,

```



```

TVirtualsAProxy*, void (*)(void*, TMemberInspector&, char*), char const*, char const*, int, int,
bool) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41D00C2: ROOT::CreateClass(char const*, short, std::type_info const&,
TVirtualsAProxy*, void (*)(void*, TMemberInspector&, char*), char const*, char const*, int, int)
(in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41E01A0: ROOT::TDefaultInitBehavior::CreateClass(char const*, short,
std::type_info const&, TVirtualsAProxy*, void (*)(void*, TMemberInspector&, char*), char
const*, char const*, int, int) const (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41DDBD8: ROOT::TGenericClassInfo::GetClass() (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x7C5EBC1: TGX11TTF::Dictionary() (in
/home/spataro/jan10/tools/root/lib/libGX11TTF.so.5.26)
==27961== by 0x41711FE: TROOT::LoadClass(char const*, bool) const (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961==
==27961==
==27961== 16,176 bytes in 134 blocks are possibly lost in loss record 345 of 401
==27961== at 0x4004BBE: operator new[](unsigned) (vg_replace_malloc.c:197)
==27961== by 0x600EA2F: TStreamerInfo::Compile() (in
/home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x6018FDF: TStreamerInfo::BuildOld() (in
/home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x5FD8CCD: TBufferFile::ReadClassBuffer(TClass const*, void*, TClass
const*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x66DD6F9: TGeoVolumeAssembly::Streamer(TBuffer&) (in
/home/spataro/jan10/tools/root/lib/libGeom.so.5.26)
==27961== by 0x41C9A1F: TClass::Streamer(void*, TBuffer&, TClass const*) const (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x5FD6A13: TBufferFile::ReadObjectAny(TClass const*) (in
/home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x5FD5400: TBufferFile::ReadFastArray(void**, TClass const*, int, bool,
TMemberStreamer*, TClass const*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x608F480: int TStreamerInfo::ReadBuffer<char**>(TBuffer&, char** const&,
int, int, int, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x5FD8A92: TBufferFile::ReadClassBuffer(TClass const*, void*, TClass
const*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x66DE165: TGeoNode::Streamer(TBuffer&) (in
/home/spataro/jan10/tools/root/lib/libGeom.so.5.26)
==27961== by 0x67957CC: TGeoNode::StreamerNVirtual(TBuffer&) (in
/home/spataro/jan10/tools/root/lib/libGeom.so.5.26)
==27961==
==27961==
==27961== 41,336 bytes in 435 blocks are possibly lost in loss record 360 of 401
==27961== at 0x4004790: operator new(unsigned) (vg_replace_malloc.c:164)
==27961== by 0x4172F35: TStorage::ObjectAlloc(unsigned) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x4205179: TObject::operator new(unsigned) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x42E5965: ROOT::TQObjectInitBehavior::CreateClass(char const*, short,
std::type_info const&, TVirtualsAProxy*, void (*)(void*, TMemberInspector&, char*), char
const*, char const*, int, int) const (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41DDBD8: ROOT::TGenericClassInfo::GetClass() (in

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/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x78E3372: TGClient::Class() (in
/home/spataro/jan10/tools/root/lib/libGui.so.5.26)
==27961== by 0x77CDCA1: TGClient::IsA() const (in
/home/spataro/jan10/tools/root/lib/libGui.so.5.26)
==27961== by 0x41655F5: TQObject::Emit(char const*, long) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x77CCB08: TGClient::RegisteredWindow(unsigned long) (in
/home/spataro/jan10/tools/root/lib/libGui.so.5.26)
==27961== by 0x77CCB48: TGClient::RegisterWindow(TGWindow*) (in
/home/spataro/jan10/tools/root/lib/libGui.so.5.26)
==27961== by 0x78B3975: TGWindow::TGWindow(TGClient*, unsigned long, TGWindow
const*) (in /home/spataro/jan10/tools/root/lib/libGui.so.5.26)
==27961== by 0x78008BA: TGFrame::TGFrame(TGClient*, unsigned long, TGWindow
const*) (in /home/spataro/jan10/tools/root/lib/libGui.so.5.26)
==27961==
==27961==
==27961== 95,408 bytes in 16,006 blocks are definitely lost in loss record 373 of 401
==27961== at 0x4004BBE: operator new[](unsigned) (vg_replace_malloc.c:197)
==27961== by 0x665C807: TGeoMatrix::SetDefaultName() (in
/home/spataro/jan10/tools/root/lib/libGeom.so.5.26)
==27961== by 0x8FEF1AB: FairModule::ExpandNode(TGeoNode*) (FairModule.cxx:293)
==27961== by 0x8FEF1D7: FairModule::ExpandNode(TGeoNode*) (FairModule.cxx:294)
==27961== by 0x8FEF1D7: FairModule::ExpandNode(TGeoNode*) (FairModule.cxx:294)
==27961== by 0x8FEF1D7: FairModule::ExpandNode(TGeoNode*) (FairModule.cxx:294)
==27961== by 0x8FEF1D7: FairModule::ExpandNode(TGeoNode*) (FairModule.cxx:294)
==27961== by 0x8FEEF86: FairModule::ConstructRootGeometry() (FairModule.cxx:267)
==27961== by 0xA743CE7: PndSdsDetector::ConstructGeometry()
(PndSdsDetector.cxx:306)
==27961== by 0x8FE89CE: FairMCApplication::ConstructGeometry()
(FairMCApplication.cxx:559)
==27961== by 0x12ADE92A: TGeant3::Init() (in
/home/spataro/jan10/transport/geant3/lib/tgt_linux/libgeant321.so)
==27961== by 0x8FE7246: FairMCApplication::InitMC(char const*, char const*)
(FairMCApplication.cxx:219)
==27961==
==27961==
==27961== 1,185,244 bytes in 27,827 blocks are possibly lost in loss record 392 of 401
==27961== at 0x4004BBE: operator new[](unsigned) (vg_replace_malloc.c:197)
==27961== by 0x417381B: TStringRef::GetRep(int, int) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x4173B13: TString::TString(char const*) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41AEDD7: TClassTable::Add(char const*, short, std::type_info const&, void
(*)(), int) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41AEE60: ROOT::AddClass(char const*, short, std::type_info const&, void
(*)(), int) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41E0144: ROOT::TDefaultInitBehavior::Register(char const*, short,
std::type_info const&, void (*)(), int) const (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x41DD2ED: ROOT::TGenericClassInfo::Init(int) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)

```

```

==27961== by 0x41DEE9D: ROOT::TGenericClassInfo::TGenericClassInfo(char const*, int,
char const*, int, std::type_info const&, ROOT::TInitBehavior const*, void (*)(),
TVirtualsAProxy*, int, int) (in /home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x4E30A89: ROOT::GenerateInitInstanceLocal(TRint const*) (in
/home/spataro/jan10/tools/root/lib/libRint.so.5.26)
==27961== by 0x4E36CAD: __static_initialization_and_destruction_0(int, int) (in
/home/spataro/jan10/tools/root/lib/libRint.so.5.26)
==27961== by 0x4E36D58: _GLOBAL__I_ZN4ROOT20GenerateInitInstanceEPK5TRint (in
/home/spataro/jan10/tools/root/lib/libRint.so.5.26)
==27961== by 0x4E37B08: (within /home/spataro/jan10/tools/root/lib/libRint.so.5.26)
==27961==
==27961==
==27961== 11,256,910 (5,551,936 direct, 5,704,974 indirect) bytes in 61,998 blocks are
definitely lost in loss record 398 of 401
==27961== at 0x4004790: operator new(unsigned) (vg_replace_malloc.c:164)
==27961== by 0x4172F35: TStorage::ObjectAlloc(unsigned) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x4205179: TObject::operator new(unsigned) (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x66D1DFD: ROOT::new_TGeoHMatrix(void*) (in
/home/spataro/jan10/tools/root/lib/libGeom.so.5.26)
==27961== by 0x41CBA8C: TClass::New(TClass::ENewType) const (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x5FD69D7: TBufferFile::ReadObjectAny(TClass const*) (in
/home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x5FD5400: TBufferFile::ReadFastArray(void**, TClass const*, int, bool,
TMemberStreamer*, TClass const*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x608F480: int TStreamerInfo::ReadBuffer<char**>(TBuffer&, char** const&,
int, int, int, int) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x5FD8A92: TBufferFile::ReadClassBuffer(TClass const*, void*, TClass
const*) (in /home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961== by 0x66DEDCD: TGeoNodeMatrix::Streamer(TBuffer&) (in
/home/spataro/jan10/tools/root/lib/libGeom.so.5.26)
==27961== by 0x41C9A1F: TClass::Streamer(void*, TBuffer&, TClass const*) const (in
/home/spataro/jan10/tools/root/lib/libCore.so.5.26)
==27961== by 0x5FD6A13: TBufferFile::ReadObjectAny(TClass const*) (in
/home/spataro/jan10/tools/root/lib/libRIO.so.5.26)
==27961==
==27961== LEAK SUMMARY:
==27961== definitely lost: 5,652,913 bytes in 78,067 blocks.
==27961== indirectly lost: 5,705,916 bytes in 212,768 blocks.
==27961== possibly lost: 1,252,945 bytes in 28,715 blocks.
==27961== still reachable: 110,619,667 bytes in 471,607 blocks.
==27961== suppressed: 0 bytes in 0 blocks.
==27961== Reachable blocks (those to which a pointer was found) are not shown.
==27961== To see them, rerun with: --show-reachable=yes

```

Here you are the errors we have found, and the fix committed in the code:

```

PndTof.cxx line 200:
TList* nodeList = node->getTree();

```

This information is not used, I have commented out this part.

```
PndStack::UpdateTrackIndex(TRefArray*) (PndStack.cxx:332)
TIterator* detIter = detList->MakeIterator();
???
```

```
FairParRootFilelo::open(char const*, char const*, char const*, int) (FairParRootFilelo.cxx:103)
-> fstream *f = new fstream(fname);
???
```

```
PndDrc::Initialize() (PndDrc.cxx:146)
->PndDrcOptDevManager* manager = new PndDrcOptDevManager();
```

Added in PndDrcOptDevmanager constructor: fgInstance = this;

```
PndEmcStructure::crystal_name_analysis(TString, int&, int&, int&, int&)
(PndEmcStructure.cxx:230)
-> TObjArray *subStrL =
TPRegexp("^cave/Emc\\d+_(\\d+)/EmcLayer\\d_0/emc(\\d+)r(\\d+)c(\\d+)_0$
").MatchS(node_path);
```

Is it possible to avoid to use TPRegexp? It seems very error prone, in particular for TObjArray.

```
FairModule::ExpandNode(TGeoNode*) (FairModule.cxx:293)
-> M->SetDefaultName();
```

This SetDefaultname is giving us a lot of troubles:

95,408 bytes in 16,006 blocks are definitely lost in loss record 373 of 401

in particular for the MVD geometry. Probably we should set each matrix name by hands, instead of using this default option.

These are just few of the messages in the log. Just doing the modifications in Dirc and Tof the simulation does not crash anymore at that event.. however also the other points should be checked and somehow fixed.