Subject: Problems with TPC: dbgstream and PndTpcClustVis
Posted by StefanoSpataro on Tue, 05 Apr 2011 11:13:46 GMT
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Hi,
yesterday I have updated my trunk version, and I have seen (feb11 or trunk external packages) that the macros have a crash exiting. If i run macro/run/sim_complete_tpc.C (or stt), the macro seems executed properly but just at the end I have a segmentation violation:

Toggle Spoiler

```
 **** GTRIGI: IEVENT=     10 IDEVT=     10 Random Seeds =       4357          0
[INFO   ] FairPrimaryGenerator: 4  primary tracks from vertex (0.000000, 0.000000, 0.000000 )
 Event Time = 0.000000 (ns)
-I- PndStack: Filling MCTrack array...
-I- PndStack: Number of primaries        = 4
              Total number of particles  = 2231
              Number of tracks in output = 791
-I- PndStack: Updating track indizes.....stack and 14 collections updated.
 DIGI EXECUTION **********
RuntimeDb: write container PndEmcGeoPar
***  PndEmcGeoPar written to ROOT file   version: 2
RuntimeDb: write container PndSensorNamePar
***  PndSensorNamePar written to ROOT file   version: 2
RuntimeDb: write container PndEmcDigiPar
***  PndEmcDigiPar written to ROOT file   version: 2
RuntimeDb: write container PndEmcDigiNonuniformityPar
RuntimeDb: write container FairBaseParSet
***  FairBaseParSet written to ROOT file   version: 2
RuntimeDb: write container PndMultiFieldPar
***  PndMultiFieldPar written to ROOT file   version: 2
RuntimeDb: write container PndTransPar
RuntimeDb: write container PndDipole1Par
RuntimeDb: write container PndDipole2Par
RuntimeDb: write container PndSolenoid1Par
RuntimeDb: write container PndSolenoid2Par
RuntimeDb: write container PndSolenoid3Par
RuntimeDb: write container PndSolenoid4Par
RuntimeDb: write container PndGeoPassivePar
***  PndGeoPassivePar written to ROOT file   version: 2
RuntimeDb: write container PndTpcGeoPar
***  PndTpcGeoPar written to ROOT file   version: 1
RuntimeDb: write container PndGeoTofPar
***  PndGeoTofPar written to ROOT file   version: 2
RuntimeDb: write container PndGeoMdtPar
RealTime=44.980026 seconds, CpuTime=44.740000 seconds
 Test passed
 All ok
(int)0

 *** Break *** segmentation violation
```

```
==========================================================
There was a crash (#7 0x00a0b2ac in SigHandler ()).
This is the entire stack trace of all threads:
==========================================================
  from /lib/ld-linux.so.2
#0  0x008007a2 in _dl_sysinfo_int80 () from /lib/ld-linux.so.2
#1  0x010770f3 in __waitpid_nocancel () from /lib/tls/libc.so.6
#2  0x010207b9 in do_system () from /lib/tls/libc.so.6
#3  0x007f398d in system () from /lib/tls/libpthread.so.0
#4  0x00a089b3 in TUnixSystem::Exec ()
  from /data1/panda_software/fairsoft_feb11/tools/root/lib/libCore.so.5.28
#5  0x00a0ec31 in TUnixSystem::StackTrace ()
  from /data1/panda_software/fairsoft_feb11/tools/root/lib/libCore.so.5.28
#6  0x00a0b216 in TUnixSystem::DispatchSignals ()
  from /data1/panda_software/fairsoft_feb11/tools/root/lib/libCore.so.5.28
#7  0x00a0b2ac in SigHandler ()
  from /data1/panda_software/fairsoft_feb11/tools/root/lib/libCore.so.5.28
#8  0x00a0a47d in sighandler ()
  from /data1/panda_software/fairsoft_feb11/tools/root/lib/libCore.so.5.28
#9  <signal handler called>
#10 0x00000039 in ?? ()
#11 0x03028b83 in ~odbgstream (this=0x3041b20)
    at /data0/spataro/feb11/pandaroot/tpc/dbgstream.cxx:135
#12 0x03029734 in __tcf_1 ()
    at /data0/spataro/feb11/pandaroot/tpc/dbgstream.cxx:39
#13 0x010165a7 in exit () from /lib/tls/libc.so.6
#14 0x00a08aaf in TUnixSystem::Exit ()
  from /data1/panda_software/fairsoft_feb11/tools/root/lib/libCore.so.5.28
#15 0x0092097d in TApplication::Terminate ()
  from /data1/panda_software/fairsoft_feb11/tools/root/lib/libCore.so.5.28
#16 0x006c63e9 in TRint::Terminate ()
  from /data1/panda_software/fairsoft_feb11/tools/root/lib/libRint.so.5.28
#17 0x009c1645 in TCint::ProcessLine ()
  from /data1/panda_software/fairsoft_feb11/tools/root/lib/libCore.so.5.28
#18 0x009c16e4 in TCint::ProcessLineSynch ()
  from /data1/panda_software/fairsoft_feb11/tools/root/lib/libCore.so.5.28
#19 0x00921e96 in TApplication::ExecuteFile ()
  from /data1/panda_software/fairsoft_feb11/tools/root/lib/libCore.so.5.28
#20 0x00922207 in TApplication::ProcessFile ()
  from /data1/panda_software/fairsoft_feb11/tools/root/lib/libCore.so.5.28
#21 0x0092009f in TApplication::ProcessLine ()
  from /data1/panda_software/fairsoft_feb11/tools/root/lib/libCore.so.5.28
#22 0x006c488d in TRint::Run ()
  from /data1/panda_software/fairsoft_feb11/tools/root/lib/libRint.so.5.28
#23 0x08048d56 in main ()
==========================================================


The lines below might hint at the cause of the crash.
If they do not help you then please submit a bug report at
http://root.cern.ch/bugs. Please post the ENTIRE stack trace
```

from above as an attachment in addition to anything else
that might help us fixing this issue.
==========
#10 0x00000039 in ?? ()
#11 0x03028b83 in ~odbgstream (this=0x3041b20)
    at /data0/spataro/feb11/pandaroot/tpc/dbgstream.cxx:135
#12 0x03029734 in __tcf_1 ()
    at /data0/spataro/feb11/pandaroot/tpc/dbgstream.cxx:39
#13 0x010165a7 in exit () from /lib/tls/libc.so.6
#14 0x00a08aaf in TUnixSystem::Exit ()
   from /data1/panda_software/fairsoft_feb11/tools/root/lib/libCore.so.5.28
#15 0x0092097d in TApplication::Terminate ()
   from /data1/panda_software/fairsoft_feb11/tools/root/lib/libCore.so.5.28
#16 0x006c63e9 in TRint::Terminate ()
   from /data1/panda_software/fairsoft_feb11/tools/root/lib/libRint.so.5.28
==========

Root >

From gdb output it seems it comes from the destruction of dbgstream, the command delete rdbuf(). In theory nothing has changed in this file, therefore I suppose the violation is coming from something else (crash noticed on an Ubuntu10.10 and on a SL4.7).

Another problem that I have seen is the inclusion of some eventdisplay code inside the tpc/TestBench package. We are not compiling EVE on grid machines -> tpc code crashes there.
An "If" would help to solve this problem, such as in the global CMakeLists.txt:

```
FIND_PATH(TEvePath NAMES TEveEventManager.h PATHS
  ${SIMPATH}/tools/root/include
  NO_DEFAULT_PATH
)

If(TEvePath)
#find_package(OpenGL)
#If (OPENGL_FOUND AND OPENGL_GLU_FOUND)
  Message("Found TEve, so the eventdisplay will be compiled.")
  add_subdirectory(eventdisplay)
  add_subdirectory(PndEventdisplay)
#EndIf (OPENGL_FOUND AND OPENGL_GLU_FOUND)
EndIf(TEvePath)
```

I think something similar should be added also on the tpc CMakeLists/LinkDef, so that tpc can work also in the grid.