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Subject: TMemStat

Posted by [StefanoSpataro](#) on Wed, 09 Feb 2011 10:42:04 GMT

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Dear all,

I am trying to investigate the memory usage of our code by using the new TMemStat tool from ROOT.

I have added to my sim macro the following line just at the beginning:

```
TMemStat mm("gnubuiltin");
```

and I have processed 10k DPM events.

First of all, I have seen our famous common error:

```
**** GTRIGI: IEvent= 2214 IDEVT= 2214 Random Seeds = 4357 0
-I FairPrimaryGenerator: 3 primary tracks from vertex (0, 0, 0)Event Time = 0(ns)
-I- PndStack: Filling MCTrack array...
-I- PndStack: Number of primaries = 3
      Total number of particles = 397
      Number of tracks in output = 138
Error: Symbol #include is not defined in current scope run_sim_tpccombi_dpm.C:131:
Error: Symbol exception is not defined in current scope run_sim_tpccombi_dpm.C:131:
Syntax Error: #include <exception> run_sim_tpccombi_dpm.C:131:
Error: Symbol G__exception is not defined in current scope run_sim_tpccombi_dpm.C:131:
Error: type G__exception not defined
FILE:/home/spataro/trunk/pandaroot/macro/pid/mtest/./run_sim_tpccombi_dpm.C LINE:131
```

```
*** Break *** segmentation violation
-I- PndStack: Updating track indices...Root > Function run_sim_tpccombi_dpm() busy flag
cleared
```

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

and the macro has crashed.

After, if I have understood correctly, I open a new ROOT session and type:

```
spataro@briareos:~/trunk/pandaroot/macro/pid/mtest$ rt
root [0] TMemStat::Show()
Analyzing file: memstat_7796.root
Warning in <TFile::Init>: file memstat_7796.root probably not closed, trying to recover
Info in <TFile::Recover>: memstat_7796.root, recovered key TTree:T at address 332050543
Warning in <TFile::Init>: successfully recovered 1 keys
TMemStat::Show info: you are running on a machine with 4625 free MBytes of memory
TMemStatShow::Show will analyze only 947982432 bytes in its first pass
sel: ivmin=22982432, ivmax=947982432, nentries=28906250
==>The data Tree contains 10831340 entries with addresses in range[22982000,888605000]
root [1] .ls
TFile** memstat_7796.root
TFile* memstat_7796.root
  OBJ: TTree T Memory Statistics : 0 at: 0x237dcc0
  OBJ: TH3F htemp pos:nbytes:time:btid {pos>2.29824e+07 && pos<9.47982e+08} : 1 at:
```

0x87fb5fb0

OBJ: TH1D h memstat\_7796.root : 0 at: 0x89e4c7d0

OBJ: TH1D fgHalloc memstat\_7796.root : 0 at: 0x89e4ccb0

OBJ: TH1D fgHfree memstat\_7796.root : 0 at: 0x89e4d290

OBJ: TH1I fgHdiff : 0 at: 0x89e4d860

OBJ: TH1I fgHentry leak entry index : 0 at: 0x8873a1e0

OBJ: TH1I fgHleaks leaks : 0 at: 0x8871c9d0

OBJ: TH1I htotleaks main leaks sorted by btids : 0 at: 0x887913b0

KEY: TTree T;5 Memory Statistics

root [2]

Ok, the file has crashed then he needs to be recovered, no problems.  
At the end I have three canvas:

I admit that I am not able to find in these plots what is going wrong. The file contains also a Tree which I can explore, but it does not tell me no many new informations.

Would the experts please suggest me what to plot and to show, in order to find what is making our simulation faulty?

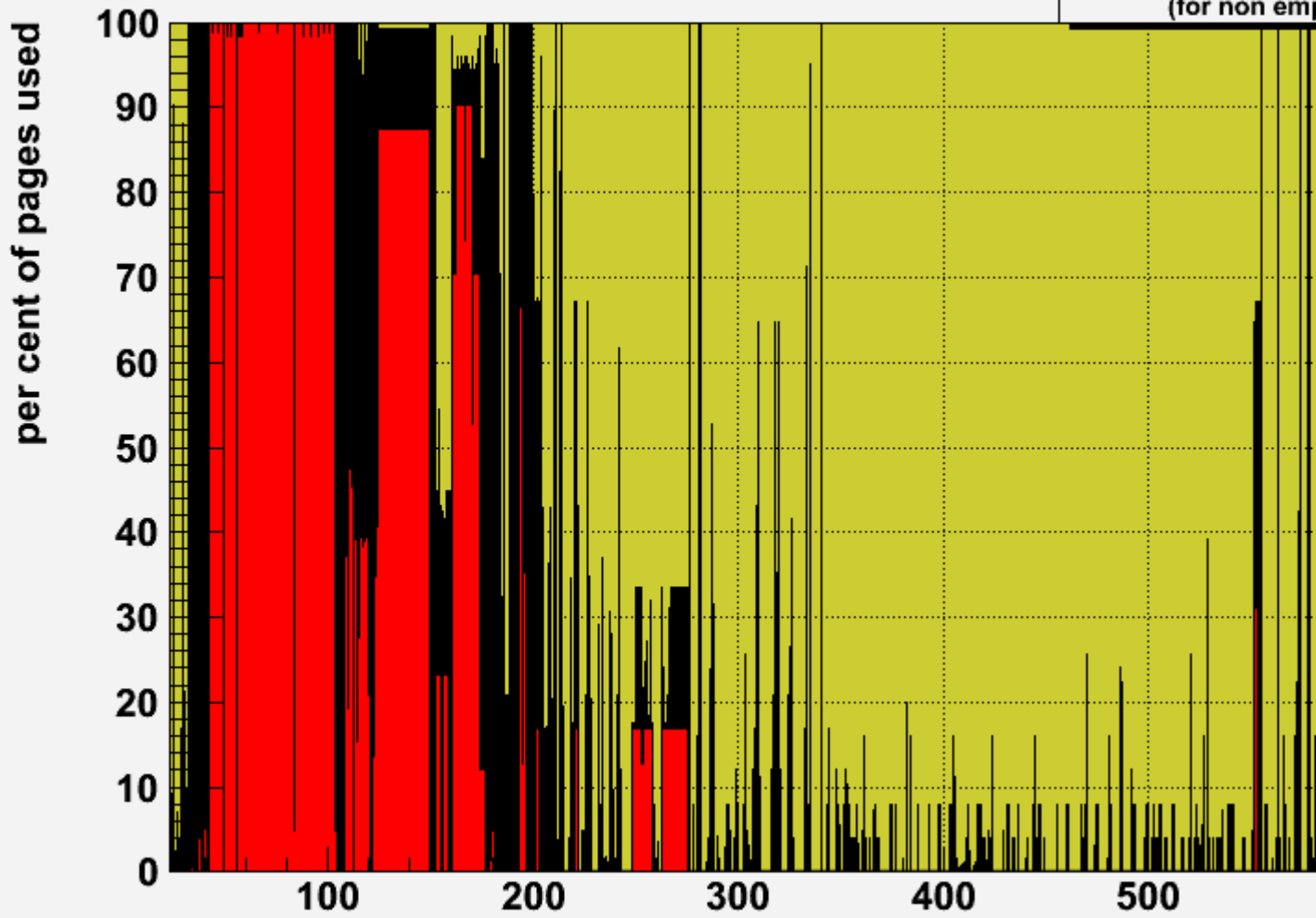
Thanks in advance

## File Attachments

1) [fgC1.gif](#), downloaded 1411 times

memstat\_7796.root

memory used  
page occupancy  
(for non em

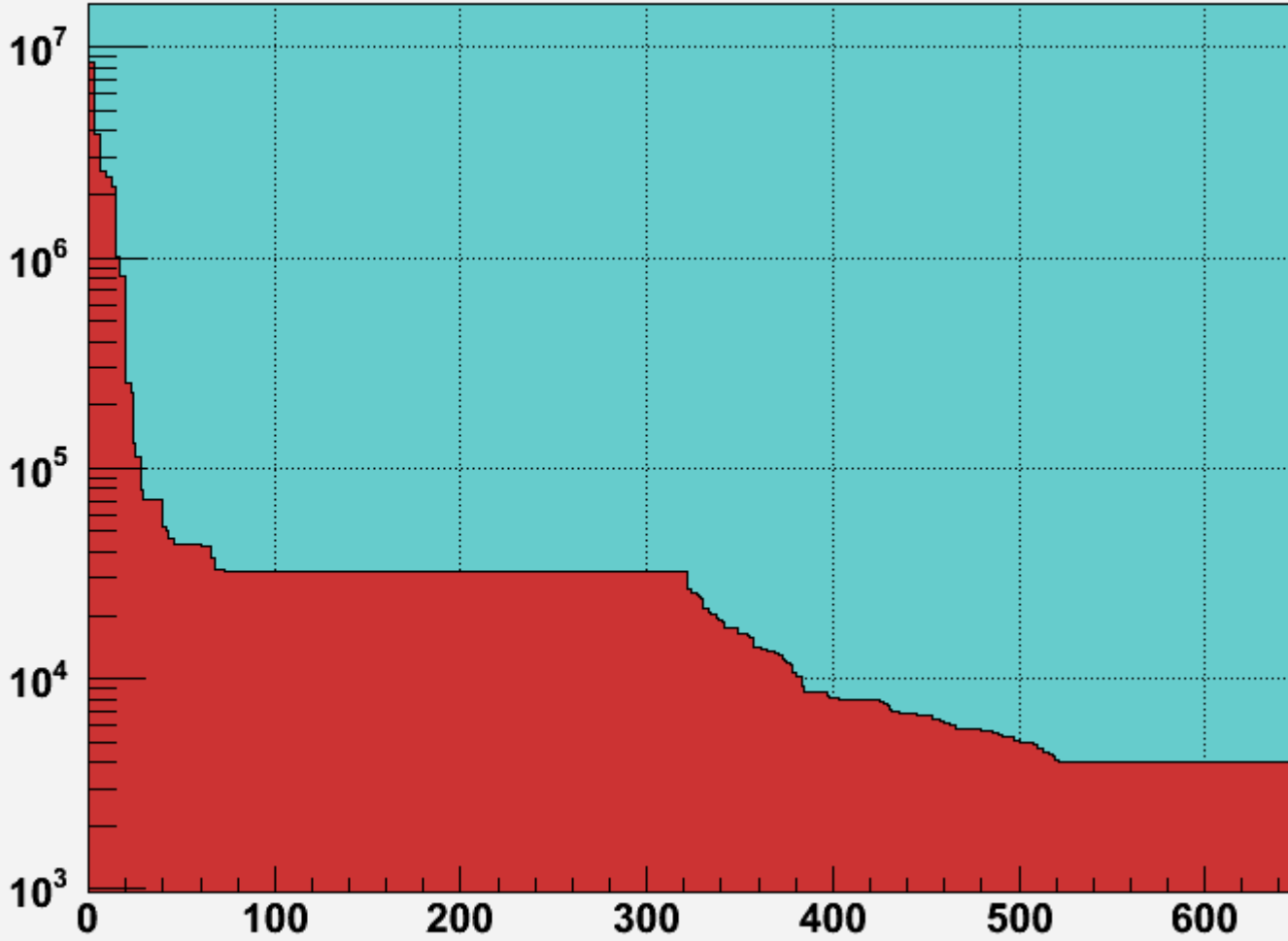


Linux briareos 2.6.35-22-generic #33-Ubuntu SMP Sun Sep 19 20:32:27 UTC 2010 x86\_64 GNU/Linux | gcc445 | -g -O2

2) [fgC2.gif](#), downloaded 1422 times

## leaks

nbytes in leak

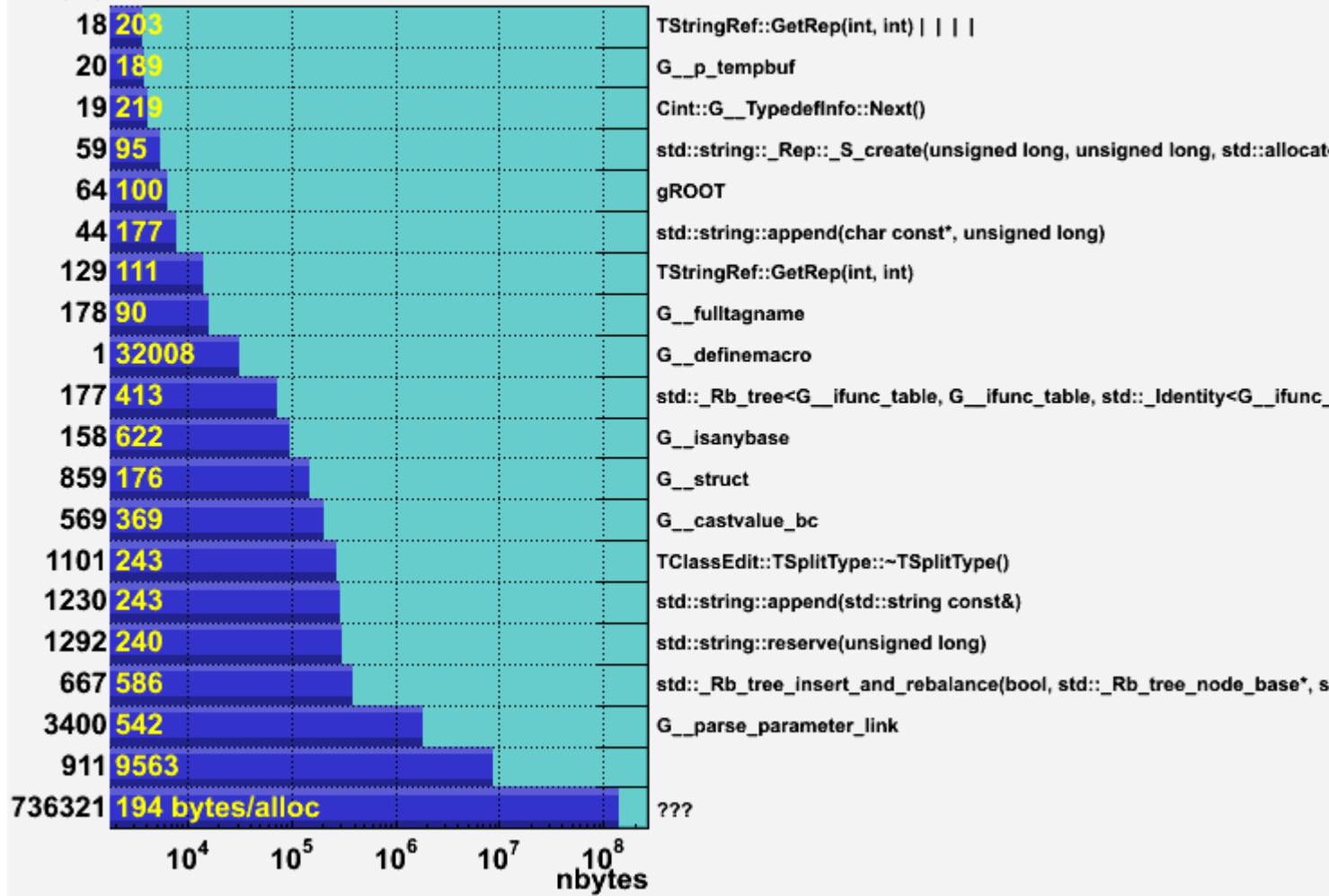


Linux briareos 2.6.35-22-generic #33-Ubuntu SMP Sun Sep 19 20:32:27 UTC 2010 x86\_64 GNU/Linux | gcc445 | -g -O2

3) [fgC3.gif](#), downloaded 1349 times

## main leaks sorted by btids

nallocs



Linux briareos 2.6.35-22-generic #33-Ubuntu SMP Sun Sep 19 20:32:27 UTC 2010 x86\_64 GNU/Linux | gcc445 | -g -O2