
Subject: Memory leak during EMC clustering

Posted by [Johan Messchendorp](#) on Thu, 24 May 2007 19:07:42 GMT

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Dear EMCers,

I noticed that during the clustering task for the EMC (reco_emc.C), root is eating up memory rapidly. In case of many events, I am able to hang-up the system. The funny thing is that even an empty task (i.e. empty EmcMakeCluster::Exec() function), memory is consumed as fast. So I guess it is related to reading the digi information from the root tree. PS I am running revision 782 of PandaRoot.

Does someone has similar experience or has an idea what it could be?

Kind wishes,

Johan.

Subject: Re: Memory leak during EMC clustering

Posted by [Stefano Spataro](#) on Thu, 24 May 2007 20:09:16 GMT

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Hi,

the problem is already known since several months... but not so much the reason.

I have the fear that it is connected to the stl code (push_back of Hits with oush_back of many many many Points), but this is only a guess.

The code sooner or later should be revised, to make it faster and lighter, but this will require some time.

Of course testing and ideas meanwhile are always welcome...

Subject: Re: Memory leak during EMC clustering

Posted by [Anonymous Poster](#) on Thu, 24 May 2007 23:08:49 GMT

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Hi there,

reading this I get the suspicion that this might be something similar to a problem I fixed in the tpc and genfit code some time ago. OK, maybe I am wrong and missing the problem, but let's give it a shot:

When you put stuff into TClonesArrays you use the overloaded new operator stuff of ROOT (black magic to me). Then you go to the next event, and you do a Clear() on the TClonesArray first of all. However, that just clears the pointers, but it does not delete the objects on the heap. If you do Delete() on the TClonesArray instead, you call the destructors of all the objects referenced in the TClonesArray.

Reading that this problem you have even persists when you have an empty Exec() makes me believe I could be missing the problem, but maybe it was not really completely empty after all.

CU, Christian

Subject: Re: Memory leak during EMC clustering
Posted by [Dima Melnychuk](#) on Fri, 25 May 2007 08:48:05 GMT
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Hi all,
I made a correction in EmcMakeCluster.cxx, i.e replaced fClusterArray->Clear() by fClusterArray->Delete().
After that I do not observe memory leak.

I made also small correction in CbmEmcHitProducer.cxx, .hh

All the changes are in svn now.

Best regards,

Dima

Subject: Re: Memory leak during EMC clustering
Posted by [Johan Messchendorp](#) on Fri, 25 May 2007 10:40:28 GMT
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Indeed solved. Thanks! I am impressed how fast you guys can operate..... my compliments!

Johan.
