Subject: Re: Out of memory problem in EmcPoint - FairLink ?
Posted by Dima Melnychuk on Wed, 03 Nov 2010 12:45:51 GMT
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Hi all,

Following the discussion started by Tobias today on EVO meeting concerning memory allocation by TClonesArray I want to propose an idea to use TClonesArray::Compress() (which remove empty slots) if TClonesArray::Capacity() (i.e. number of allocated slots) is above certain threshold, and this threshold can be subsystem and data level dependent. The threshold can be needed not to loose the performance by frequent TClonesArray compression.

I.e. for example it could look like in PndEmcMakeCluster::Exec()

```
fClusterArray->Delete();
if (fClusterArray->Capacity()>100)
fClusterArray->Compress();
```

However in case of EMC FairLinks created most problems at the simulation stage and here I do not know precisely where to compress TClonesArray.

In PndEmc there is a method Reset() and I can guess it clear the memory at each event, but I am not 100% sure.

```
void PndEmc::Reset() {
  fEmcCollection->Clear();
  fPosIndex = 0;
}
```

So it could be modified like

```
void PndEmc::Reset() {
  fEmcCollection->Clear();
  if (fEmcCollection->Capacity()>100)
  fEmcCollection->Compress();
  fPosIndex = 0;
}
```

Here I put for check of capacity 100 as an arbitrary number which should be optimized.

I have complication to check it by myself since search for memory leaks requires rather powerful computer and mine is not.

May be this will not help to solve the problem with FairLink but it can be checked.

Dima