

MAUS - Bug #1456

Run 4000 job on GRID failed with memory leak

16 April 2014 11:33 - Rogers, Chris

Status:	Closed	Start date:	16 April 2014
Priority:	Normal	Due date:	
Assignee:	Rogers, Chris	% Done:	100%
Category:	Data Structure	Estimated time:	0.00 hour
Target version:	MAUS-v0.8.4		
Workflow:	New Issue		
Description			
Tried to reconstruct run 4000 on GRID with release MAUS-v0.8.1, the job failed with a memory leak.			
Related issues:			
Related to MAUS - Bug #1431: Memory leaks in MAUS		Closed	12 March 2014

History

#1 - 17 April 2014 05:10 - Rajaram, Durga

- File `usage_offline.log` added
- File `analyze_do_nothing.py` added
- File `usage_offline_donothing.log` added
- File `analyze_data_offline_injson.py` added
- File `usage_offline_json-input.log` added

Hm this memory leak is interesting..

Some tests on my SLF 6.3, 64-bit, 4 GB memory, gcc 4.4.6, MAUS-v0.8.3

- running out-of-the-box `analyze_data_offline` on 04995.00, takes up ~14% of memory -- attached [usage_offline.log](#)
- the usage is the same even after turning off all mappers -- essentially just input-output which leads me to suspect something in the input part of the data structure -- attached [analyze_do_nothing.py](#) and corresponding log [usage_offline_donothing.log](#)
- ran `analyze_data_offline` -- with mappers on -- but with json input instead of `InputCppDAQ` -- and now the memory usage drops from 14% to 5% -- attached [analyze_data_offline_injson.py](#), and log [usage_offline_json-input.log](#)

Looks like this is related to the changes that were made to `InputCppDAQData` to take `MAUS::Data` as input -- [#1366](#) -- ~v0.7.6

#2 - 17 April 2014 08:56 - Rogers, Chris

Durga, do you want to take this tracker (welcome to it!)

#3 - 28 April 2014 12:40 - Rogers, Chris

- Status changed from *Open* to *Closed*
- % Done changed from 0 to 100

Looks like `InputCppDAQData` was allocating a `Json::Value` containing the spill structure and then not deleting it. Diff below.

```
=== modified file 'src/input/InputCppDAQData/InputCppDAQData.cc'
--- src/input/InputCppDAQData/InputCppDAQData.cc      2014-04-15 10:52:10 +0000
+++ src/input/InputCppDAQData/InputCppDAQData.cc      2014-04-28 11:31:40 +0000
@@ -225,11 +225,15 @@

    Json::Value* spill_json_out = MAUS::CppJsonSpillConverter().convert(data_cpp);
    // std::cerr << *spill_json_out << std::endl;
-   delete data_cpp;
+   _eventsCount++;

    Json::FastWriter xJSONWr;
-   return xJSONWr.write(*spill_json_out);
```

```
+ std::string output = xJSONWr.write(*spill_json_out);  
+  
+ delete spill_json_out;  
+ delete data_cpp;  
+  
+ return output;  
}
```

Committed as r710

#4 - 22 May 2014 02:27 - Rajaram, Durga

- Target version changed from Future MAUS release to MAUS-v0.8.4

Files

usage_offline.log	10.4 KB	17 April 2014	Rajaram, Durga
analyze_do_nothing.py	1.23 KB	17 April 2014	Rajaram, Durga
usage_offline_donothing.log	1.81 KB	17 April 2014	Rajaram, Durga
analyze_data_offline_injson.py	1.24 KB	17 April 2014	Rajaram, Durga
usage_offline_json-input.log	8.05 KB	17 April 2014	Rajaram, Durga