

## EDIT - task #9268

### Check cdm for GC G1 humongous objects problem

11/02/2020 01:16 PM - Andreas Kohlbecker

<b>Status:</b>	New	<b>Start date:</b>	
<b>Priority:</b>	New	<b>Due date:</b>	
<b>Assignee:</b>	Andreas Müller	<b>% Done:</b>	10%
<b>Category:</b>	cdmlib	<b>Estimated time:</b>	0:00 hour
<b>Target version:</b>	Release 5.33		
<b>Severity:</b>	normal		
<b>Description</b>			
problems of the G1 when there are Objects >= 1MB in the heap: <a href="https://dzone.com/articles/whats-wrong-with-big-objects-in-java">https://dzone.com/articles/whats-wrong-with-big-objects-in-java</a> bei Exporten oder Importen betreffen, oder beim Indizieren. If it turns out that the cdm is affected it might be a good idea to upgrade to java 11 I found this page on diagnosing humongous object allocation which seems to be of great help: <a href="https://plumbr.io/handbook/gc-tuning-in-practice/other-examples/humongous-allocations">https://plumbr.io/handbook/gc-tuning-in-practice/other-examples/humongous-allocations</a>			
<b>Related issues:</b>			
Related to EDIT - task #6981: Migrate to Java 9 (to 11?)		<b>New</b>	<b>05/04/2022</b> <b>05/13/2022</b>

#### History

##### #1 - 11/02/2020 01:17 PM - Andreas Kohlbecker

- Related to task #6981: Migrate to Java 9 (to 11?) added

##### #2 - 11/02/2020 01:19 PM - Andreas Kohlbecker

- Tags changed from performance to performance, java

- Description updated

##### #4 - 11/02/2020 01:36 PM - Andreas Müller

I can't see that we have objects of size in CDM real data

##### #5 - 11/03/2020 06:22 PM - Andreas Kohlbecker

- Description updated

##### #6 - 11/03/2020 06:30 PM - Andreas Kohlbecker

I enabled G1 GC logging as described in <https://plumbr.io/handbook/gc-tuning-in-practice/other-examples/humongous-allocations> the to search for humongous object allocations on the test server. A couple of minutes after rebooting, the server still is starting instances, *G1 Humongous Allocation* are being reported:

```
213.066: [G1Ergonomics (Concurrent Cycles) request concurrent cycle initiation, reason: requested by GC cause
, GC cause: G1 Humongous Allocation]
213.067: [GC pause (G1 Humongous Allocation) (young) (initial-mark) 213.067: [G1Ergonomics (CSet Construction)
start choosing CSet, _pending_cards: 31247, predicted base time: 83.62 ms, remaining time: 116.38 ms, target
pause time: 200.00 ms]
220.232: [G1Ergonomics (Concurrent Cycles) request concurrent cycle initiation, reason: requested by GC cause
, GC cause: G1 Humongous Allocation]
220.416: [G1Ergonomics (Concurrent Cycles) do not request concurrent cycle initiation, reason: concurrent cyc
le already in progress, GC cause: G1 Humongous Allocation]
374.271: [G1Ergonomics (Concurrent Cycles) request concurrent cycle initiation, reason: requested by GC cause
, GC cause: G1 Humongous Allocation]
374.324: [G1Ergonomics (Concurrent Cycles) do not request concurrent cycle initiation, reason: concurrent cyc
le already in progress, GC cause: G1 Humongous Allocation]
385.183: [G1Ergonomics (Concurrent Cycles) request concurrent cycle initiation, reason: requested by GC cause
, GC cause: G1 Humongous Allocation]
```

```
385.183: [G1Ergonomics (Concurrent Cycles) request concurrent cycle initiation, reason: requested by GC cause
, GC cause: G1 Humongous Allocation]
385.183: [GC pause (G1 Humongous Allocation) (young) (initial-mark) 385.183: [G1Ergonomics (CSet Construction)
start choosing CSet, _pending_cards: 40507, predicted base time: 76.38 ms, remaining time: 123.62 ms, target
pause time: 200.00 ms]
392.099: [G1Ergonomics (Concurrent Cycles) request concurrent cycle initiation, reason: requested by GC cause
, GC cause: G1 Humongous Allocation]
392.219: [G1Ergonomics (Concurrent Cycles) do not request concurrent cycle initiation, reason: concurrent cyc
le already in progress, GC cause: G1 Humongous Allocation]
```

so there is strong evidence that we in deed have big sized objects!

#### **#7 - 11/03/2020 06:30 PM - Andreas Kohlbecker**

- Assignee changed from Andreas Müller to Andreas Kohlbecker
- Target version changed from Unassigned CDM tickets to Release 5.19
- % Done changed from 0 to 10

#### **#8 - 11/03/2020 06:30 PM - Andreas Kohlbecker**

- Status changed from New to In Progress

#### **#9 - 11/04/2020 11:29 AM - Andreas Kohlbecker**

- File *g1-humongous-allocations.txt* added
- % Done changed from 10 to 20

further results from the test server after startup and running the Data Portal Cacher for E+M by 8,5% ([g1-humongous-allocations.txt](#)). 176 G1 Humongous Allocations have been reported.

These big objects may be result sets from database queries, but other cases are also possible.

#### **#10 - 11/04/2020 12:00 PM - Andreas Kohlbecker**

- Status changed from In Progress to Feedback
- Assignee changed from Andreas Kohlbecker to Andreas Müller
- % Done changed from 20 to 10

this finding can be especially relevant for imports and exports, therefore we should examine I/O functionalities which have been reported to cause problems in the near past. Isn't it that Walter had Problems a couple of weeks ago?

Do you remember anything like this Andreas & Katja?

#### **#11 - 11/04/2020 12:08 PM - Katja Luther**

Andreas Kohlbecker wrote:

this finding can be especially relevant for imports and exports, therefore we should examine I/O functionalities which have been reported to cause problems in the near past. Isn't it that Walter had Problems a couple of weeks ago?

Do you remember anything like this Andreas & Katja?

Yes the cdmlight export for larger subtrees or a whole classification can cause memory problems.

#### **#12 - 01/27/2021 04:50 PM - Andreas Müller**

- Target version changed from Release 5.19 to Release 5.21

#### **#13 - 03/02/2021 09:41 PM - Andreas Müller**

- Target version changed from Release 5.21 to Release 5.22

#### **#14 - 04/20/2021 05:17 PM - Andreas Müller**

- Status changed from Feedback to New
- Target version changed from Release 5.22 to Release 5.35

#### **#15 - 07/05/2021 07:16 PM - Andreas Müller**

- Tracker changed from report to task

#16 - 03/23/2022 10:59 AM - Andreas Müller

- Target version changed from Release 5.35 to Release 5.33

## Files

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g1-humongous-allocations.txt	33.6 KB	11/04/2020	Andreas Kohlbecker
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