Analysis Report

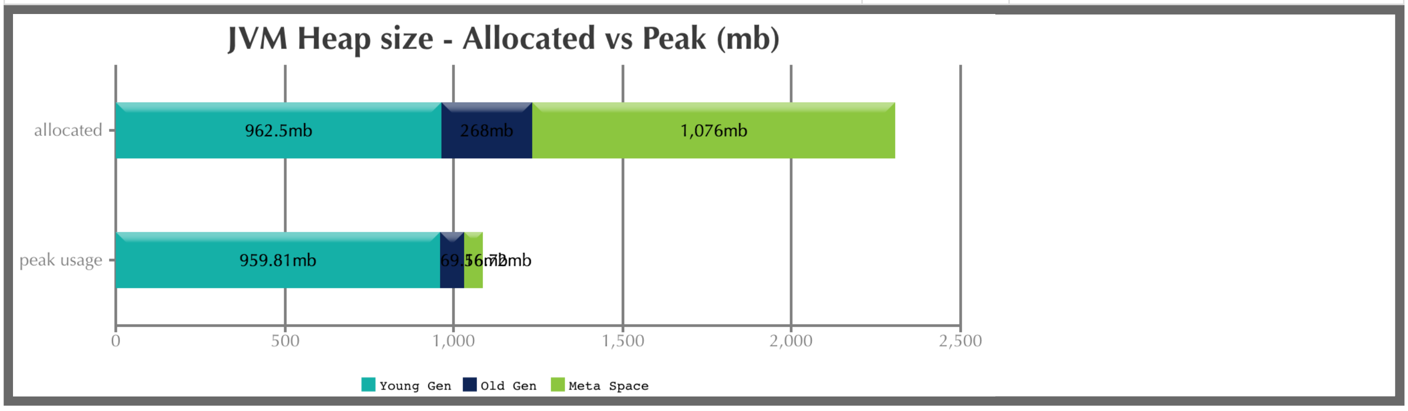
Tips to reduce GC Time

(**CAUTION:** Please do thorough testing before implementing out the recommendations. These are generic recommendations & may not be applicable for your application.)

✓ **49.47%** of GC time (i.e 930 ms) is caused by **'Metadata GC Threshold'**. This GC is triggered when metaspace got filled up and JVM wants to create new objects in this space..
Solution:
If this GC repeatedly happens, increase the metaspace size in your application with the command line option '-XX:MetaspaceSize'.

JVM Heap Size

Generation	Allocated	Peak
Young Generation	962.5 mb	959.81 mb
Old Generation	268 mb	69.16 mb
Meta Space	1.05 gb	56.72 mb
Young + Old + Meta space	3.98 gb	1.03 gb



Key Performance Indicators

(Important section of the report. To learn more about KPIs, click here (https://blog.gceasy.io/2016/10/01/garbage-collection-kpi/))

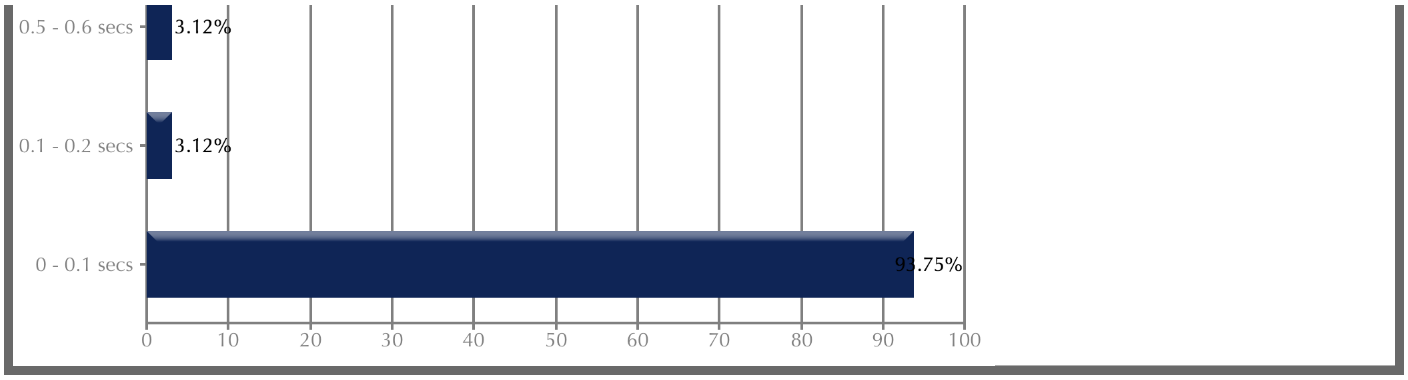
1 **Throughput : 96.759%**

2 **Latency:**

Avg Pause GC Time	**55 ms**
Max Pause GC Time	**570 ms**

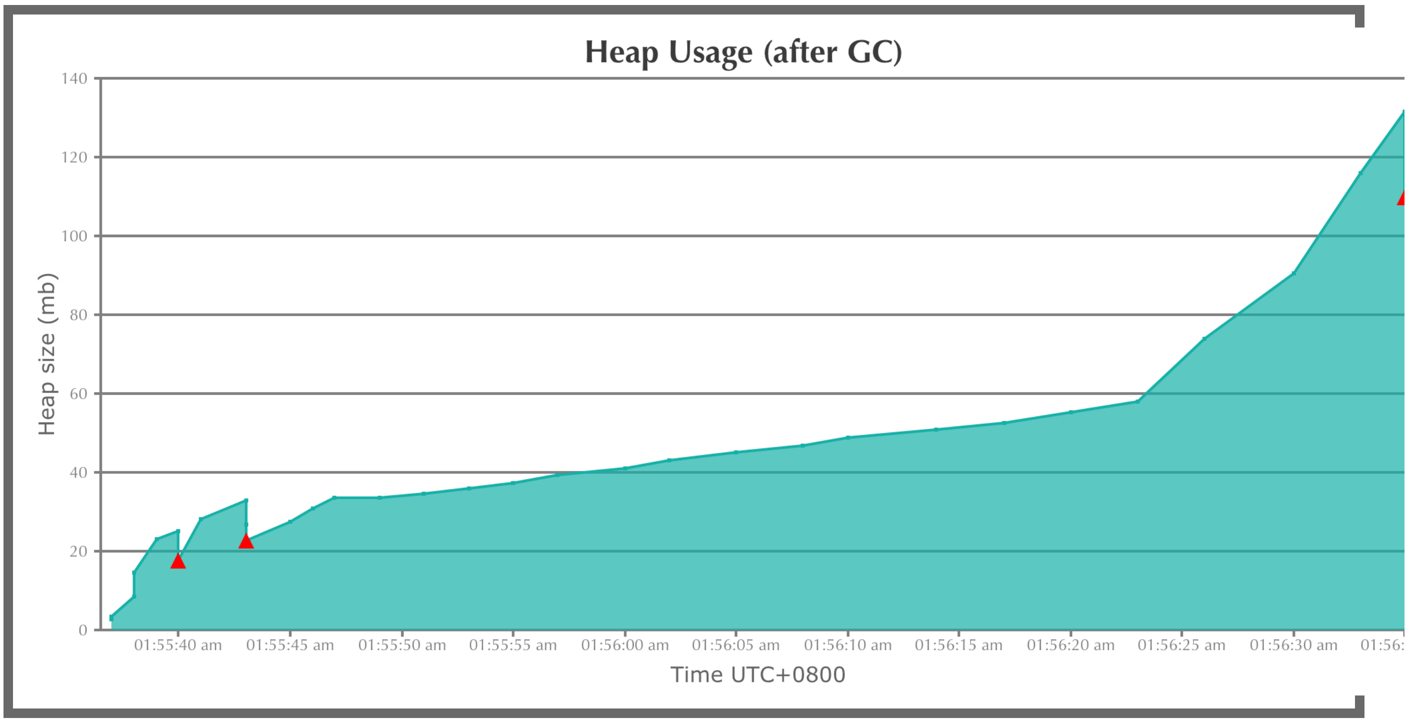
GC **Pause** Duration Time Range :

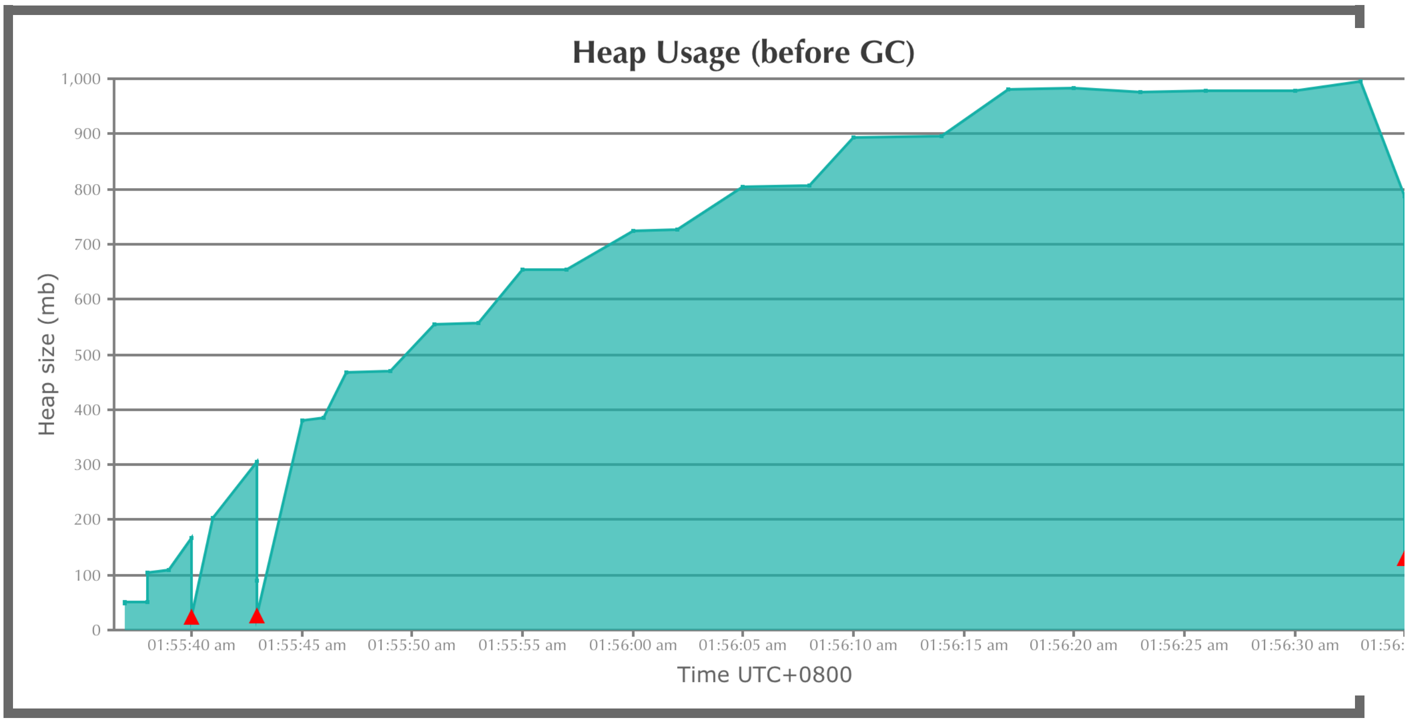
Duration (secs)	No. of GCs	Percentage
0 - 0.1	30	93.75%
0.1 - 0.2	1	96.875%
0.5 - 0.6	1	100.0%

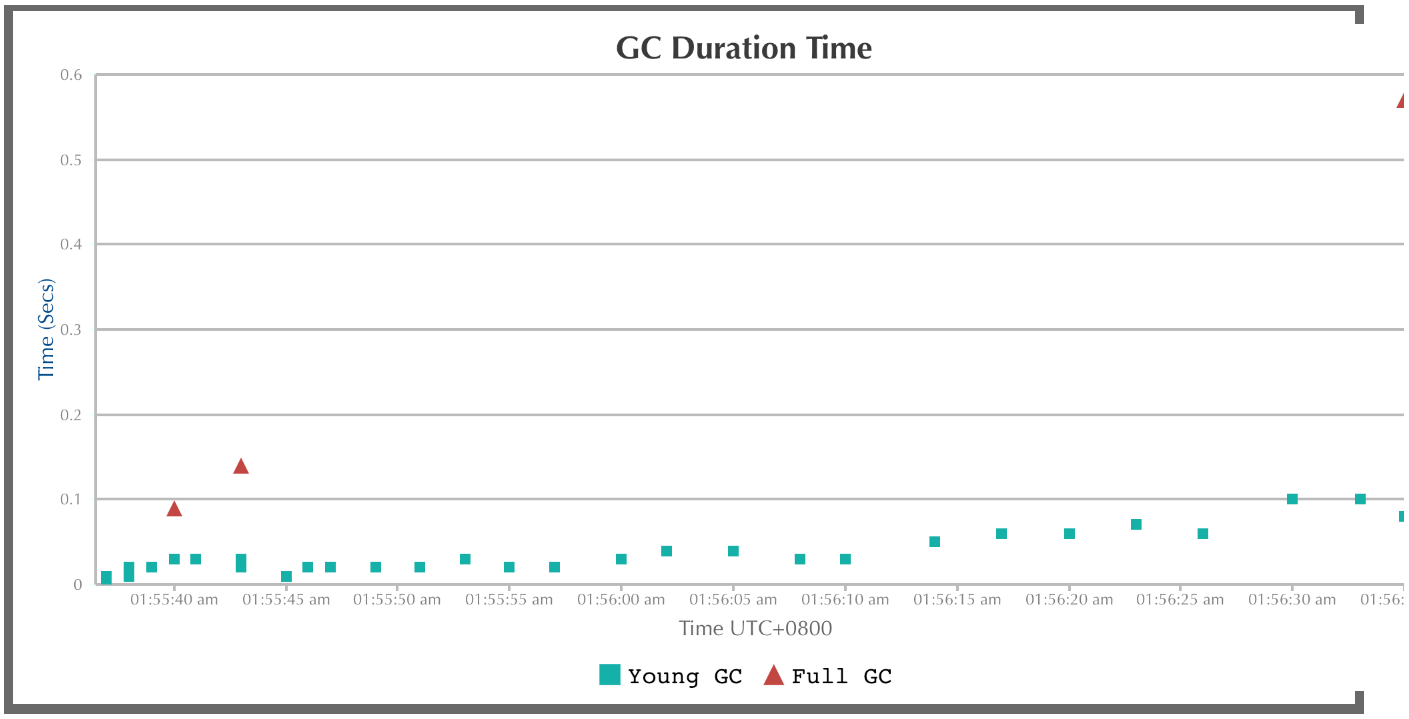


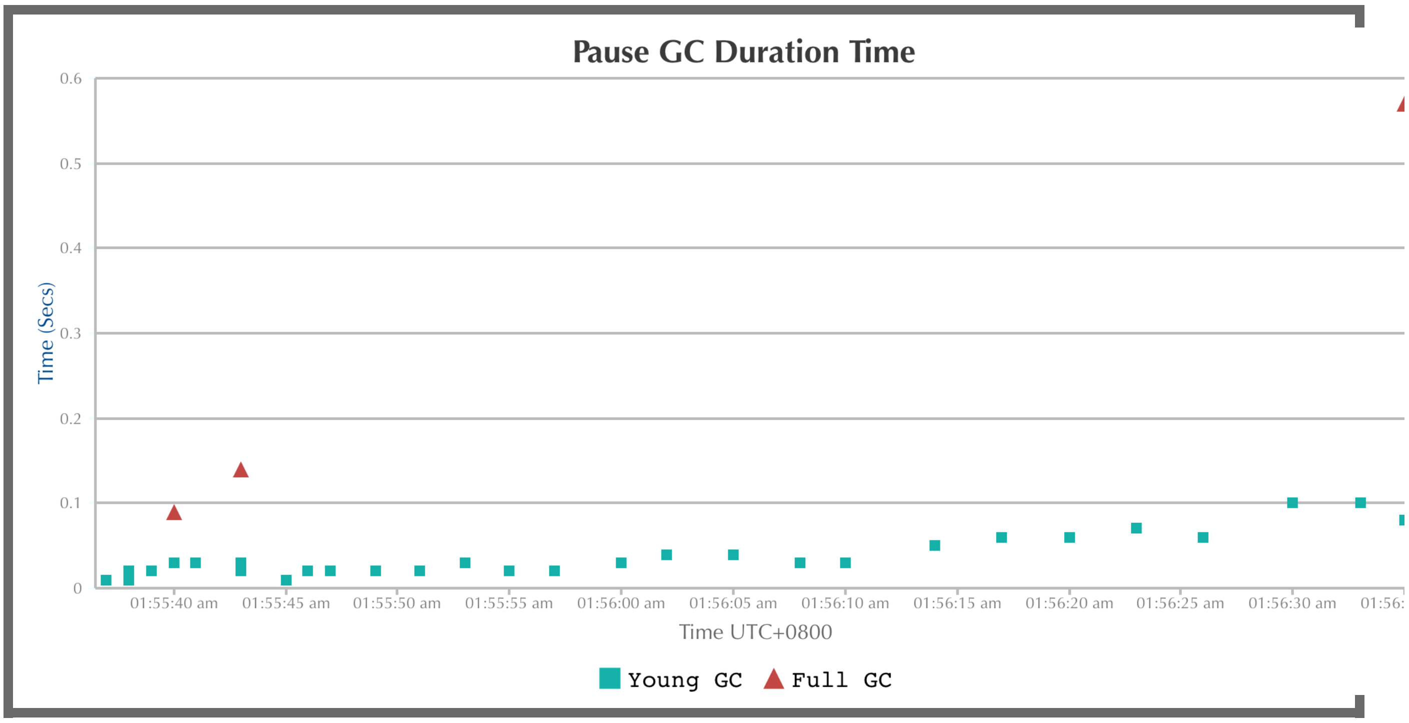
Interactive Graphs

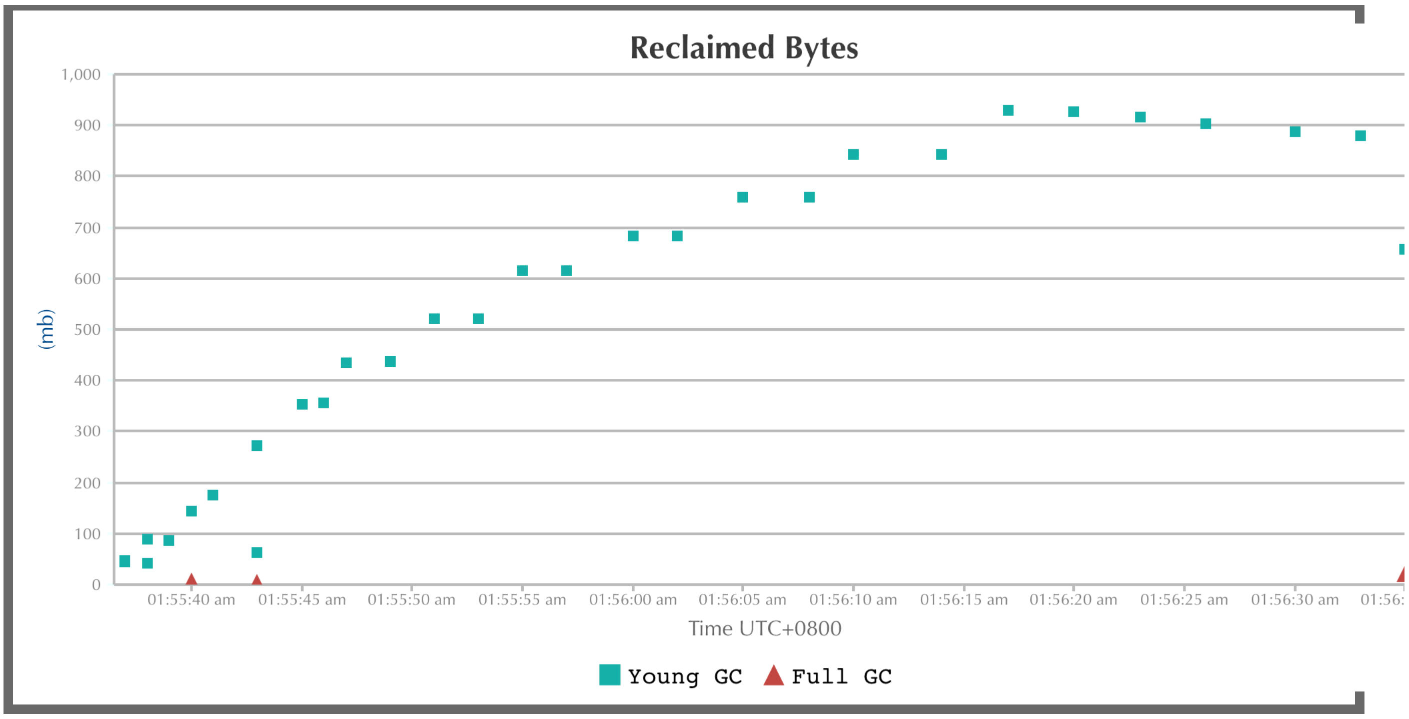
(All graphs are zoomable)

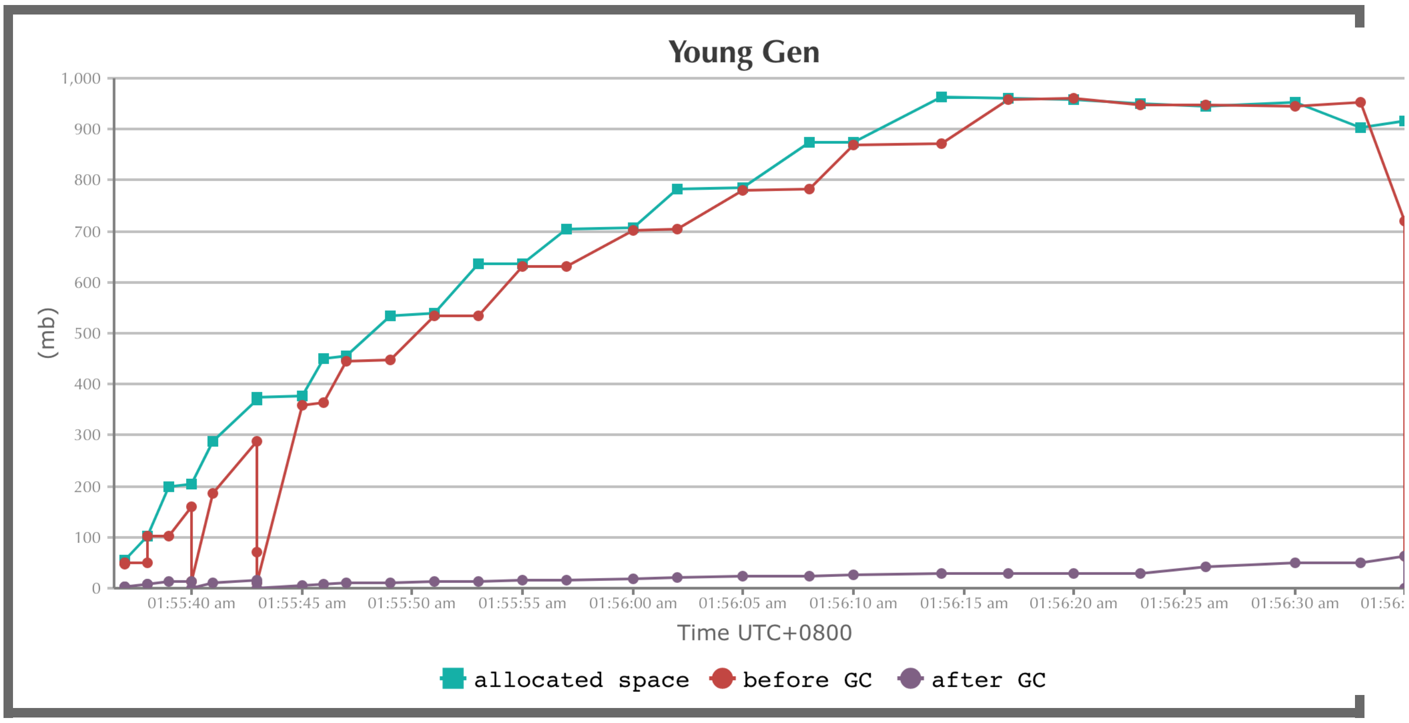


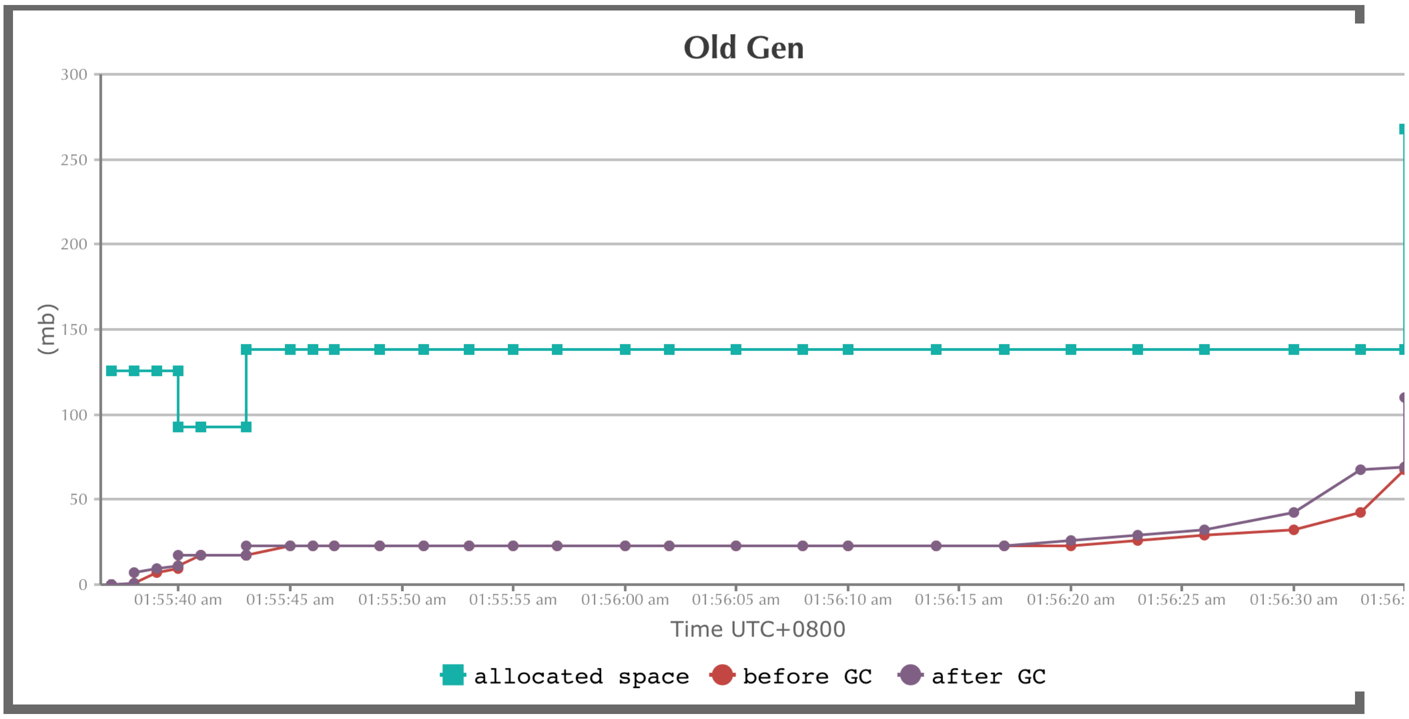


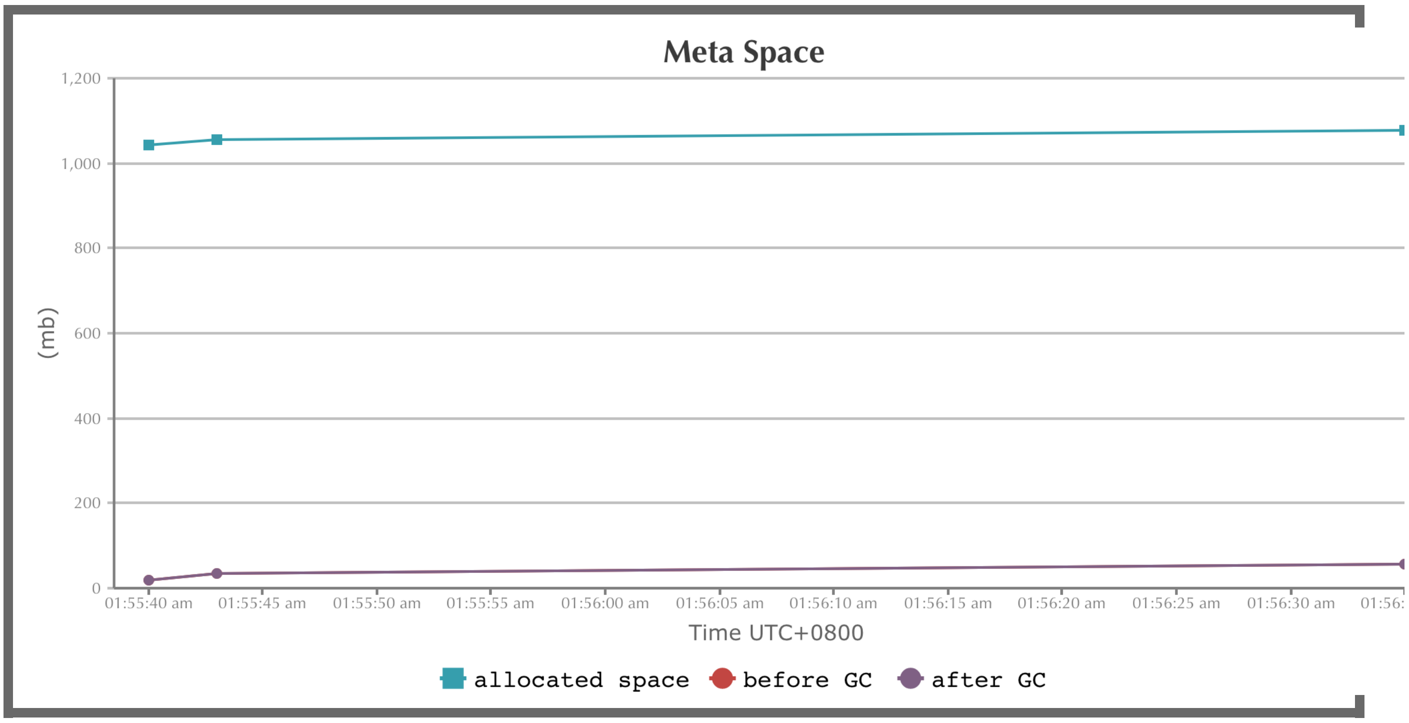

GC Duration Time
Time (Secs)
0.6
0.5
0.4
0.3
0.2
0.1
0
01:55:40 am
01:55:45 am
01:55:50 am
01:55:55 am
01:56:00 am
01:56:05 am
01:56:10 am
01:56:15 am
01:56:20 am
01:56:25 am
01:56:30 am
01:56:
Time UTC+0800
Young GC
Full GC

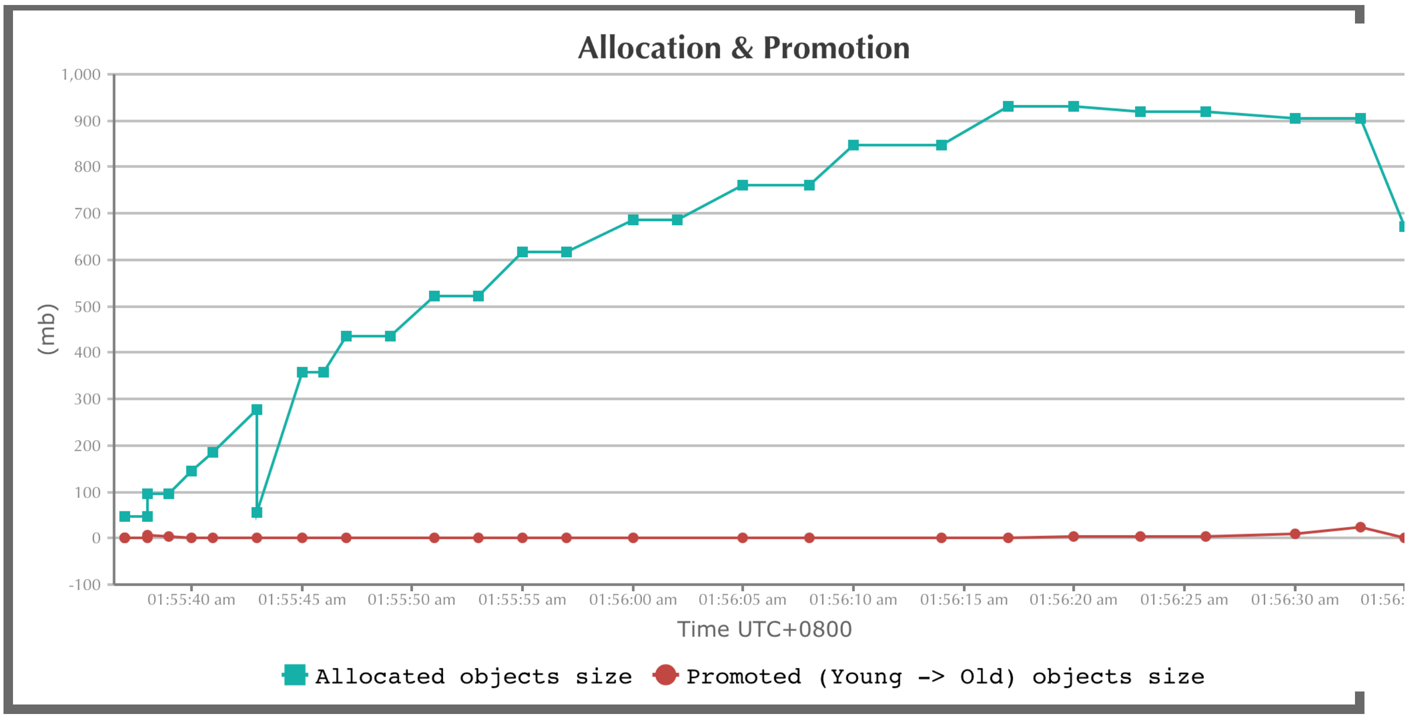

Pause GC Duration Time
Time (Secs)
0.6
0.5
0.4
0.3
0.2
0.1
0
01:55:40 am
01:55:45 am
01:55:50 am
01:55:55 am
01:56:00 am
01:56:05 am
01:56:10 am
01:56:15 am
01:56:20 am
01:56:25 am
01:56:30 am
01:56:
Time UTC+0800
Young GC
Full GC

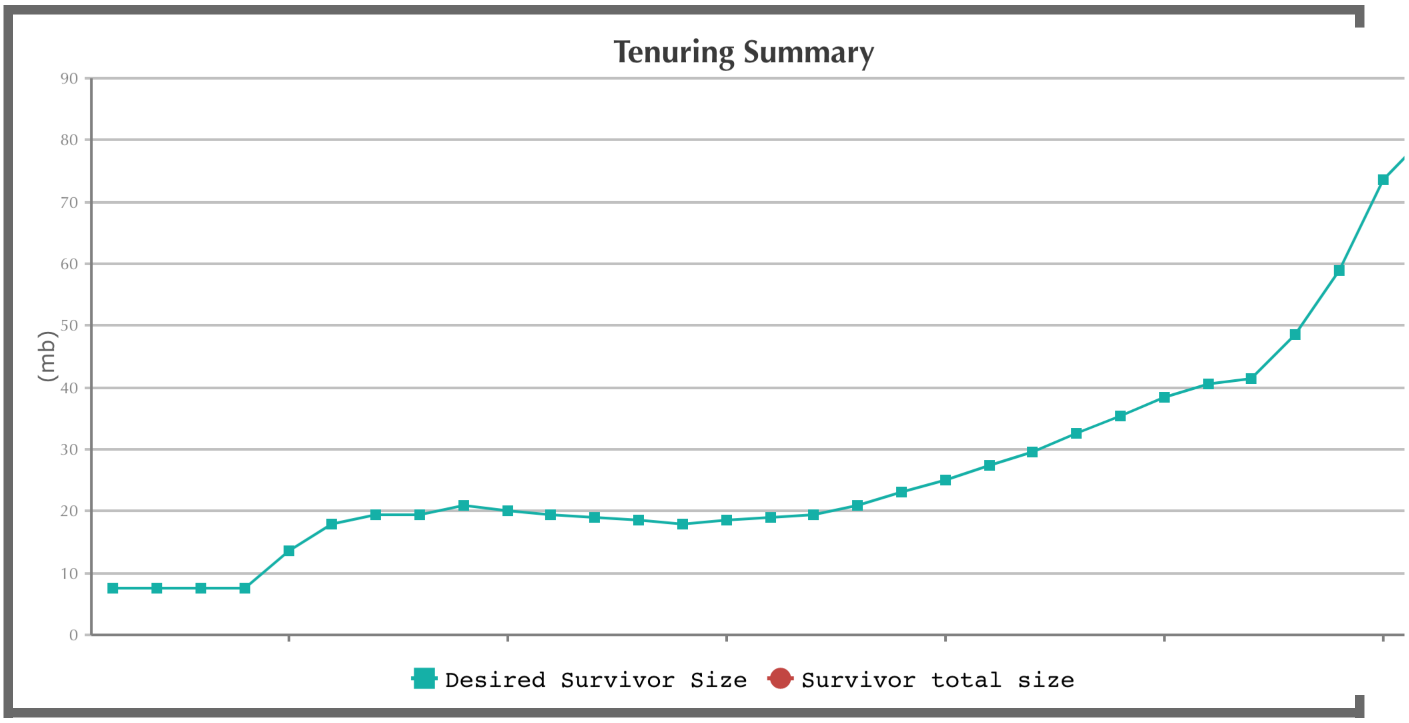

Reclaimed Bytes
1,000
900
800
700
600
500
400
300
200
100
0
(mb)
01:55:40 am
01:55:45 am
01:55:50 am
01:55:55 am
01:56:00 am
01:56:05 am
01:56:10 am
01:56:15 am
01:56:20 am
01:56:25 am
01:56:30 am
01:56:
Time UTC+0800
Young GC
Full GC


Young Gen
1,000
900
800
700
600
500
400
300
200
100
0
(mb)
01:55:40 am
01:55:45 am
01:55:50 am
01:55:55 am
01:56:00 am
01:56:05 am
01:56:10 am
01:56:15 am
01:56:20 am
01:56:25 am
01:56:30 am
01:56:
Time UTC+0800
allocated space
before GC
after GC

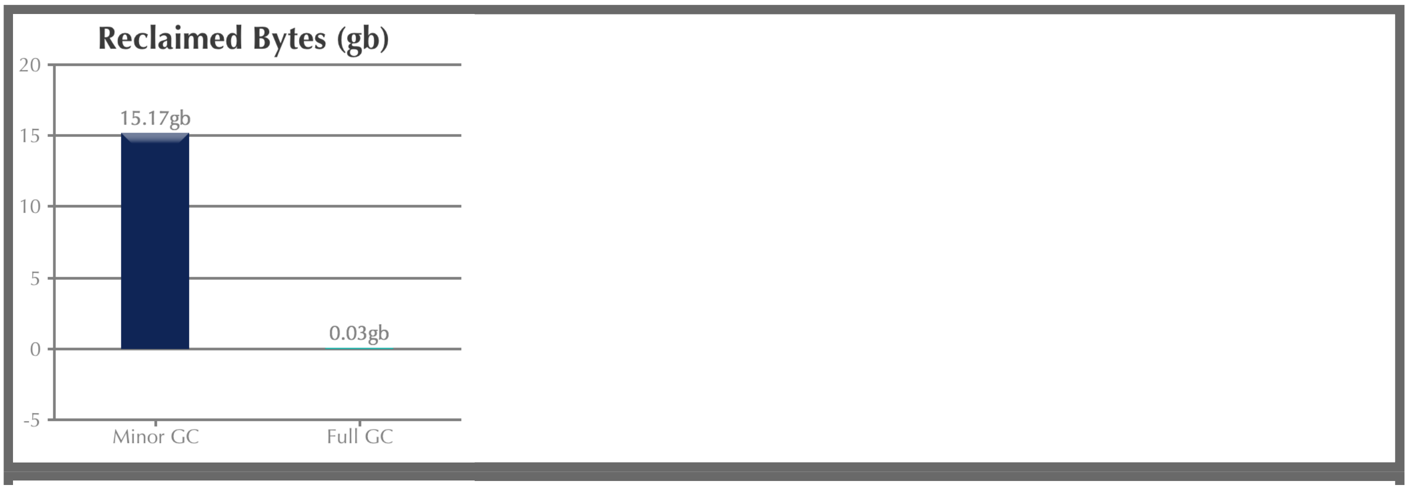

Old Gen
300
250
200
150
100
50
0
(mb)
01:55:40 am
01:55:45 am
01:55:50 am
01:55:55 am
01:56:00 am
01:56:05 am
01:56:10 am
01:56:15 am
01:56:20 am
01:56:25 am
01:56:30 am
01:56:
Time UTC+0800
allocated space
before GC
after GC

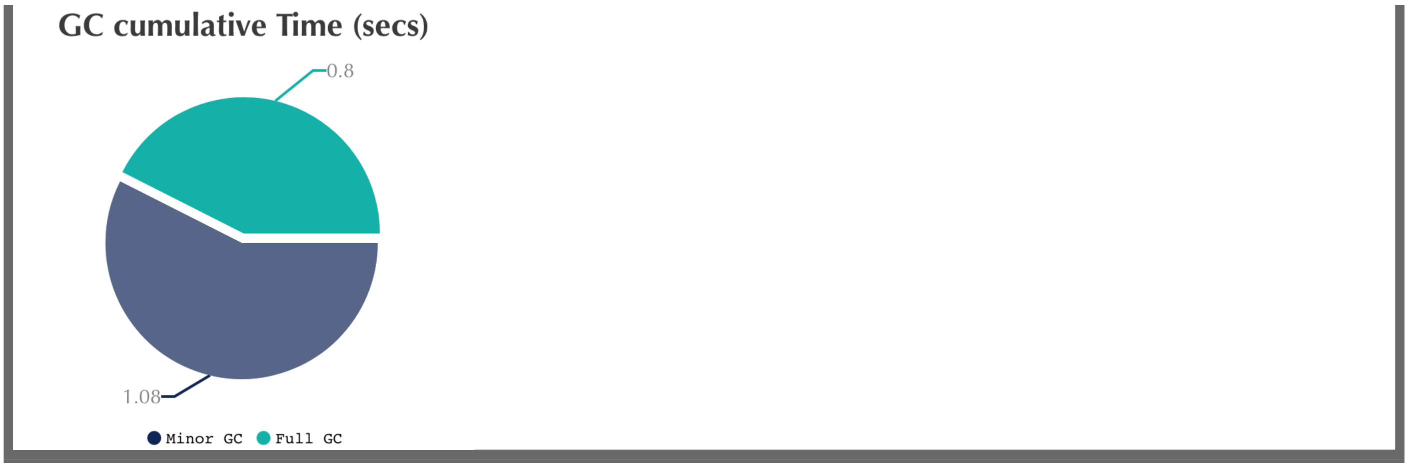

Meta Space
1,200
1,000
800
600
400
200
0
(mb)
01:55:40 am
01:55:45 am
01:55:50 am
01:55:55 am
01:56:00 am
01:56:05 am
01:56:10 am
01:56:15 am
01:56:20 am
01:56:25 am
01:56:30 am
01:56:
Time UTC+0800
allocated space
before GC
after GC

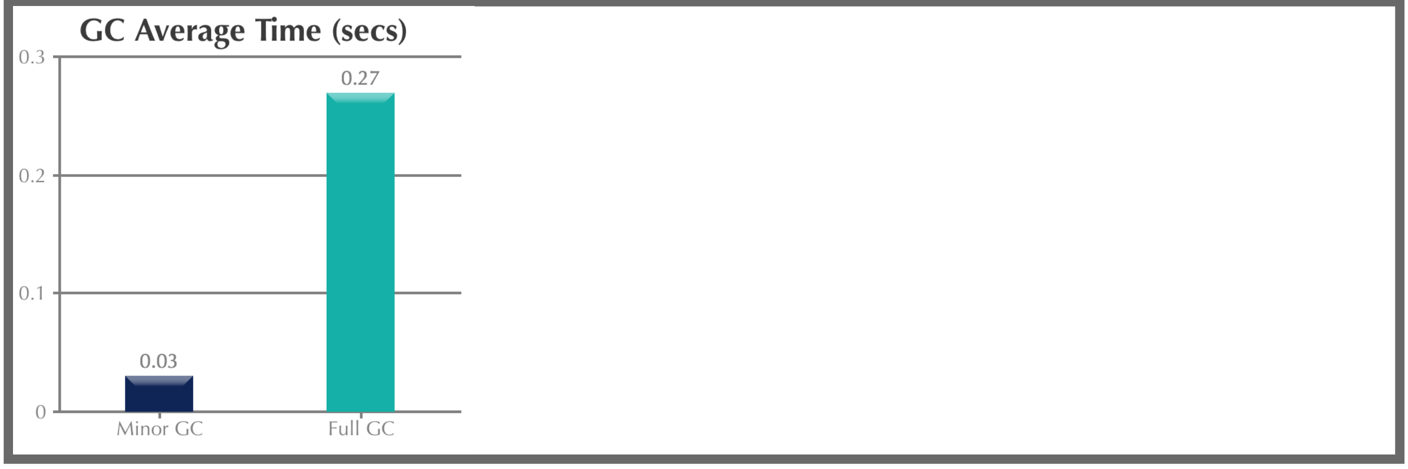




GC Statistics







Total GC stats

Total GC count	34
Total reclaimed bytes	15.2 gb
Total GC time	1 sec 880 ms
Avg GC time	55 ms
GC avg time std dev	95 ms
GC min/max time	0 / 570 ms
GC Interval avg time	1 sec 757 ms

Minor GC stats

Minor GC count	31
Minor GC reclaimed	15.17 gb
Minor GC total time	1 sec 80 ms
Minor GC avg time	35 ms
Minor GC avg time std dev	26 ms
Minor GC min/max time	0 / 100 ms
Minor GC Interval avg	1 sec 931 ms

Full GC stats

Full GC Count	3

Full GC reclaimed	33.47 mb
Full GC total time	800 ms
Full GC avg time	267 ms
Full GC avg time std dev	215 ms
Full GC min/max time	90 ms / 570 ms
Full GC Interval avg	27 sec 584 ms

GC Pause Statistics

Pause Count	34
Pause total time	1 sec 880 ms
Pause avg time	55 ms
Pause avg time std dev	0.0
Pause min/max time	0 / 570 ms

Object Stats

(These are perfect micro-metrics (https://blog.gceasy.io/2017/05/30/improving-your-performance-reports/) to include in your performance reports)

Total created bytes	15.31 gb
Total promoted bytes	57.53 mb
Avg creation rate	270.17 mb/sec
Avg promotion rate	1,015 kb/sec

Memory Leak

No major memory leaks.

(**Note:** there are 8 flavours of OutOfMemoryErrors (https://tier1app.files.wordpress.com/2014/12/outofmemoryerror2.pdf). With GC Logs you can diagnose only 5 flavours of them(Java heap space, GC overhead limit exceeded, Requested array size exceeds VM limit, Permgen space, Metaspace). So in other words, your application could be still suffering from memory leaks, but need other tools to diagnose them, not just GC Logs.)

Consecutive Full GC

None.

Long Pause

None.

Safe Point Duration

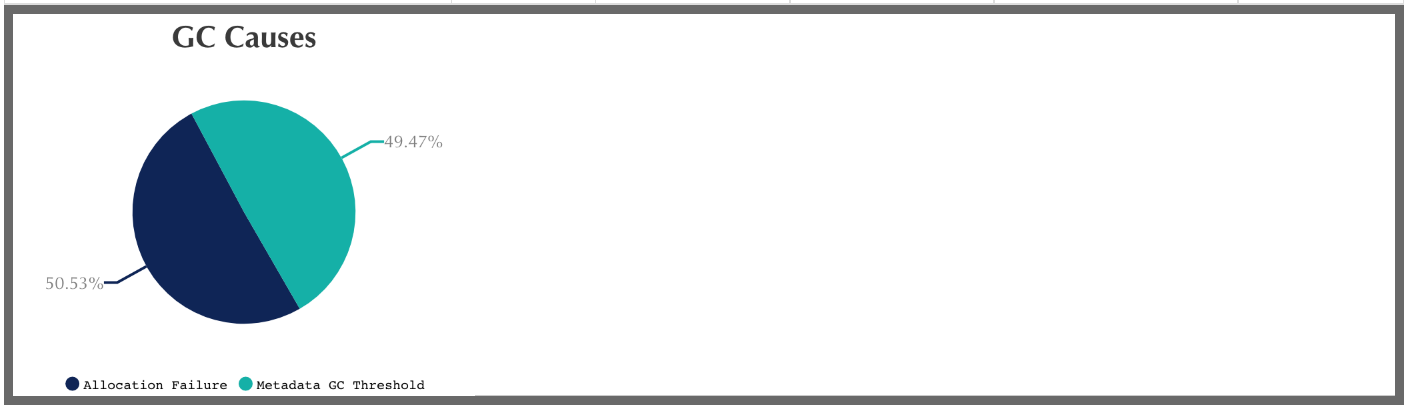
(To learn more about SafePoint duration, click here (https://blog.gceasy.io/2016/12/22/total-time-for-which-application-threads-were-stopped/))

	Total Time	Avg Time	% of total duration
Total time for which app threads were stopped	2.076 secs	0.004 secs	3.579 %
Time taken to stop app threads	0.094 secs	0.0 secs	0.162 %

GC Causes

(What events caused the GCs, how much time it consumed?)

Cause	Count	Avg Time	Max Time	Total Time	Time %
Allocation Failure	28	34 ms	100 ms	950 ms	50.53%
Metadata GC Threshold	6	155 ms	570 ms	930 ms	49.47%
Total	34	n/a	n/a	1 sec 880 ms	100.0%



Tenuring Summary

Desired Survivor Size: **81.0 mb**,

Max Threshold: **15**

Command Line Flags

-XX:InitialHeapSize=196861504 -XX:MaxHeapSize=3149784064 -XX:+PrintGC -XX:+PrintGCApplicationStoppedTime -XX:+PrintGCDateStamps -XX:+PrintGCDetails -XX:+PrintGCTimeStamps -XX:+PrintHeapAtGC -XX:+PrintTenuringDistribution -XX:+UseCompressedClassPointers -XX:+UseCompressedOops -XX:+UseParallelGC