Interleaved Loaders Test:

- Load 40000 classes

- release them randomly in 5 steps

- observe Metaspace used and committed size
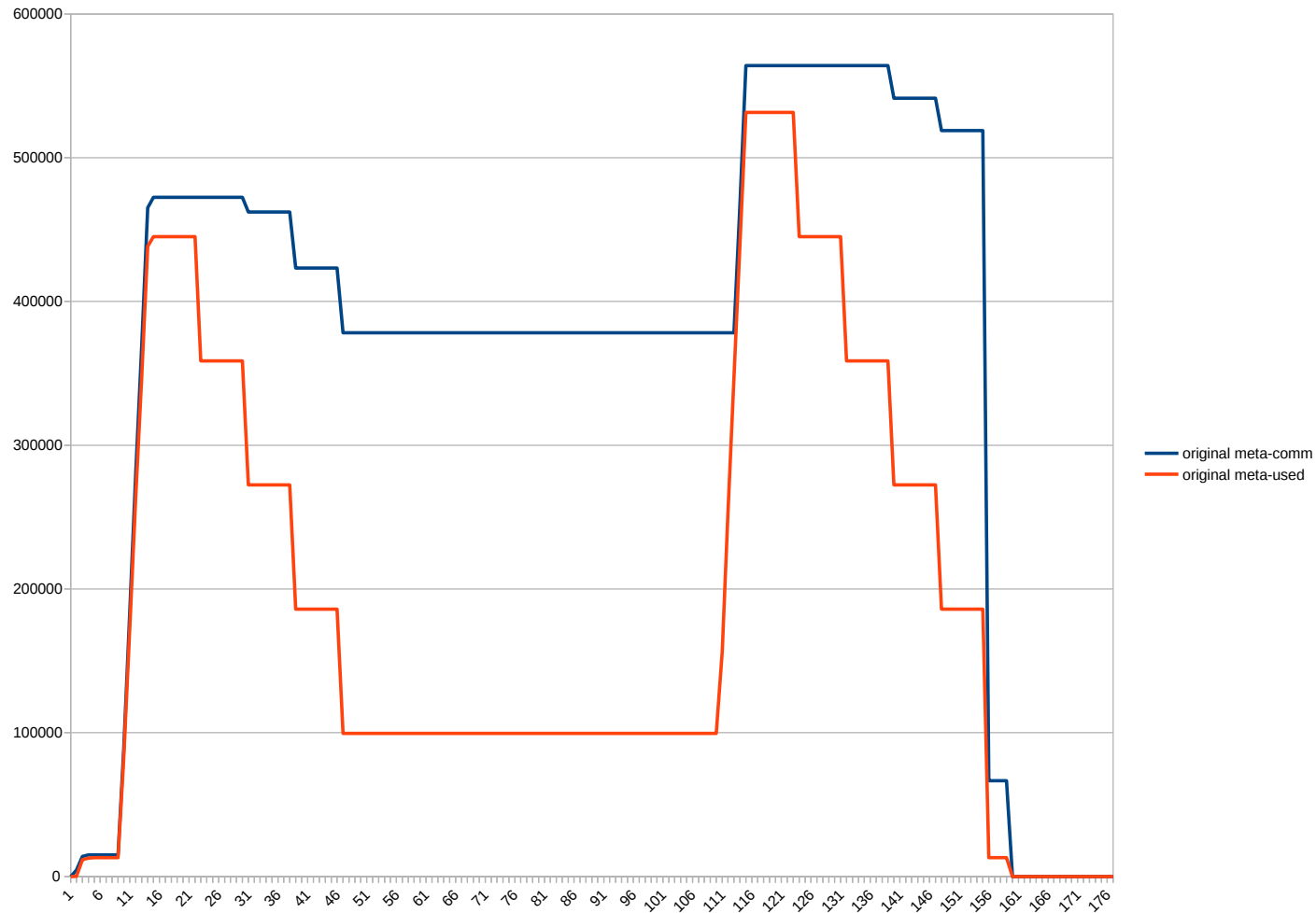

Original test sources:
https://github.com/tstuefe/ojdk-repros/blob/master/repros8/src/main/java/de/stuefe/repros/metaspace/InterleavedLoaders2.java
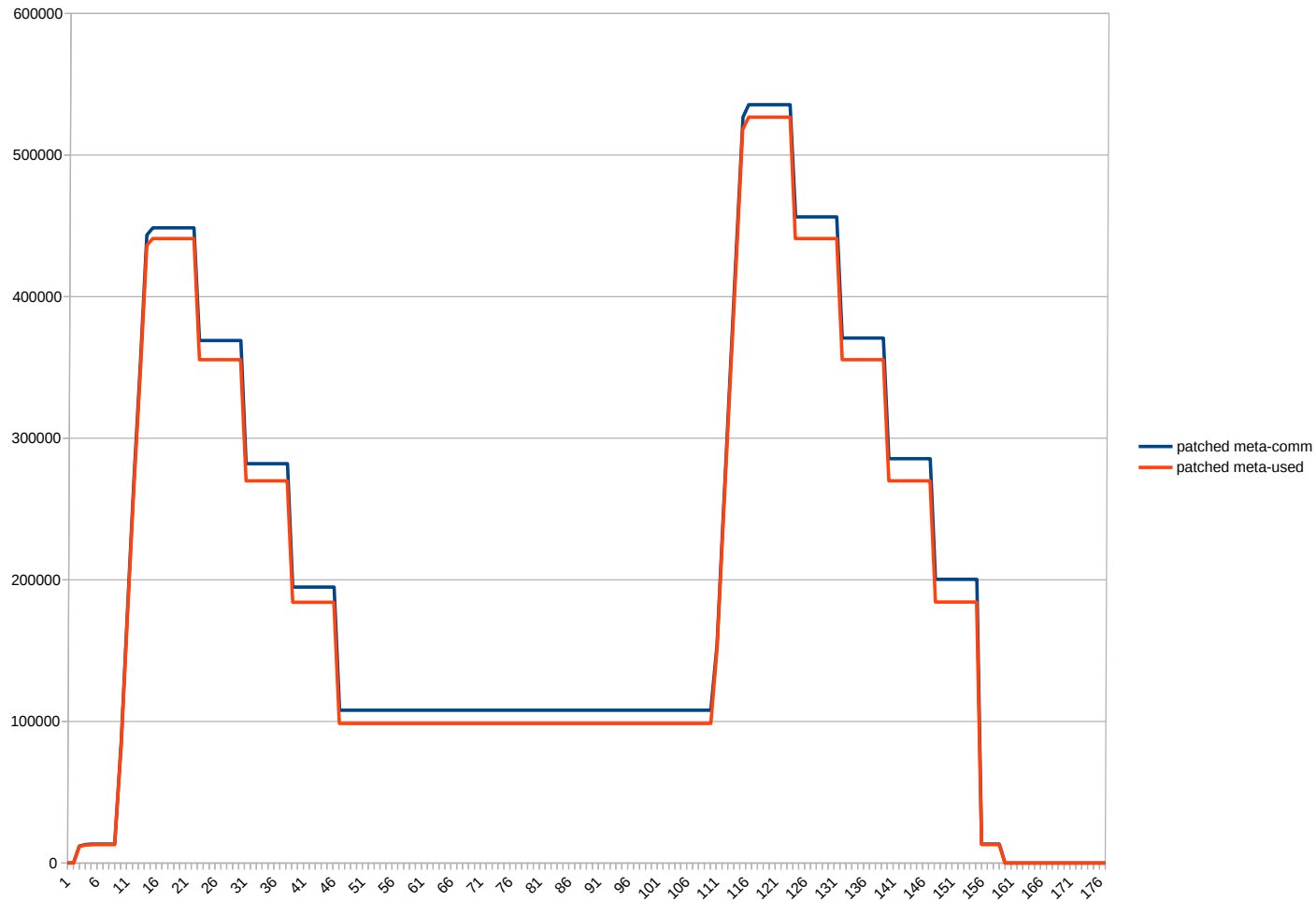
Raw test results:
https://github.com/tstuefe/JEP-Improve-Metaspace-Allocator/tree/master/test/test1

Stock VM (jdk 14), Metaspace used (red) vs committed (blue)
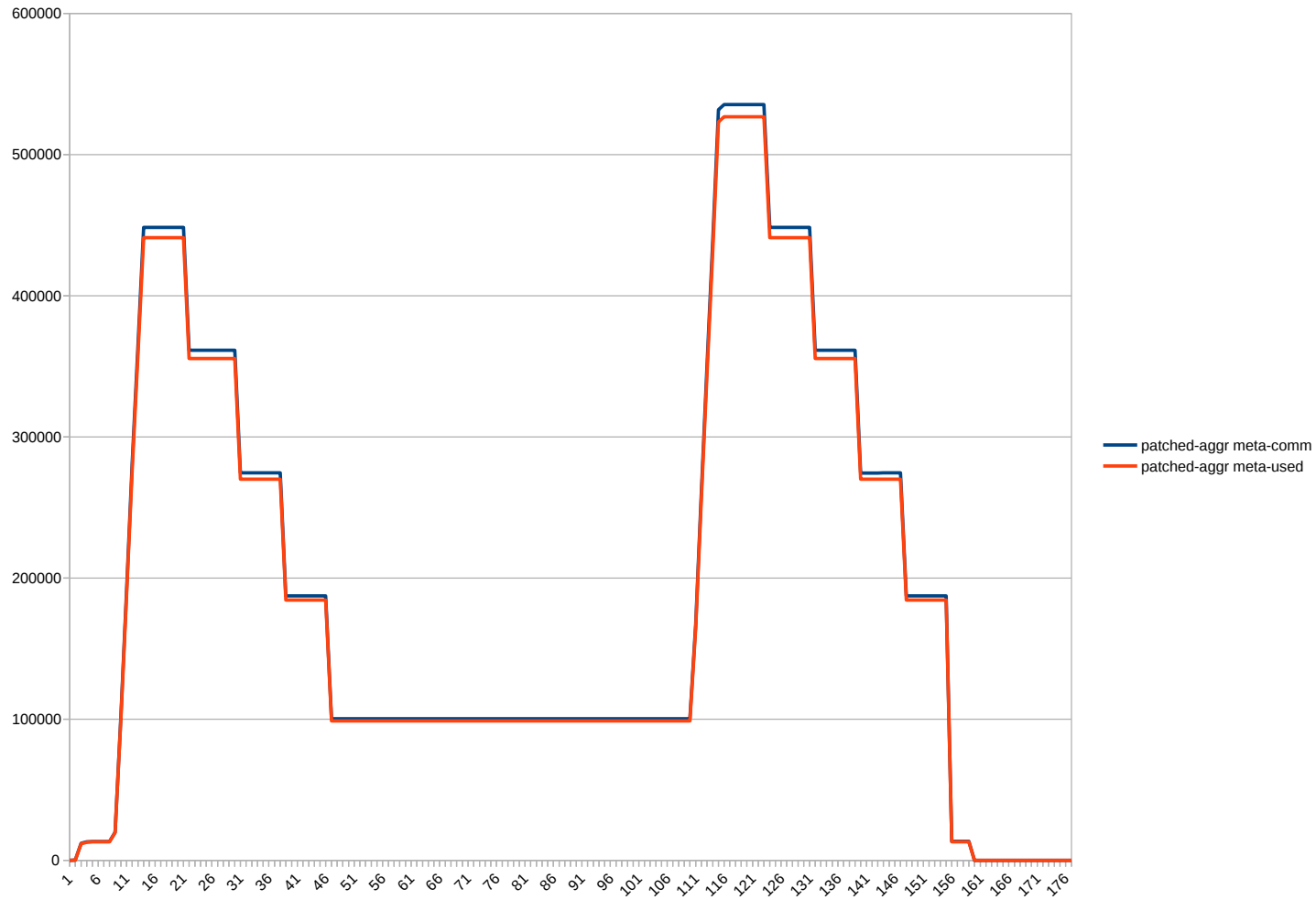

- Spikes in used metaspace carry over
- After the first spike, almost 300M of unused data retained

Patched VM (jdk 14), Metaspace used (red) vs committed (blue)
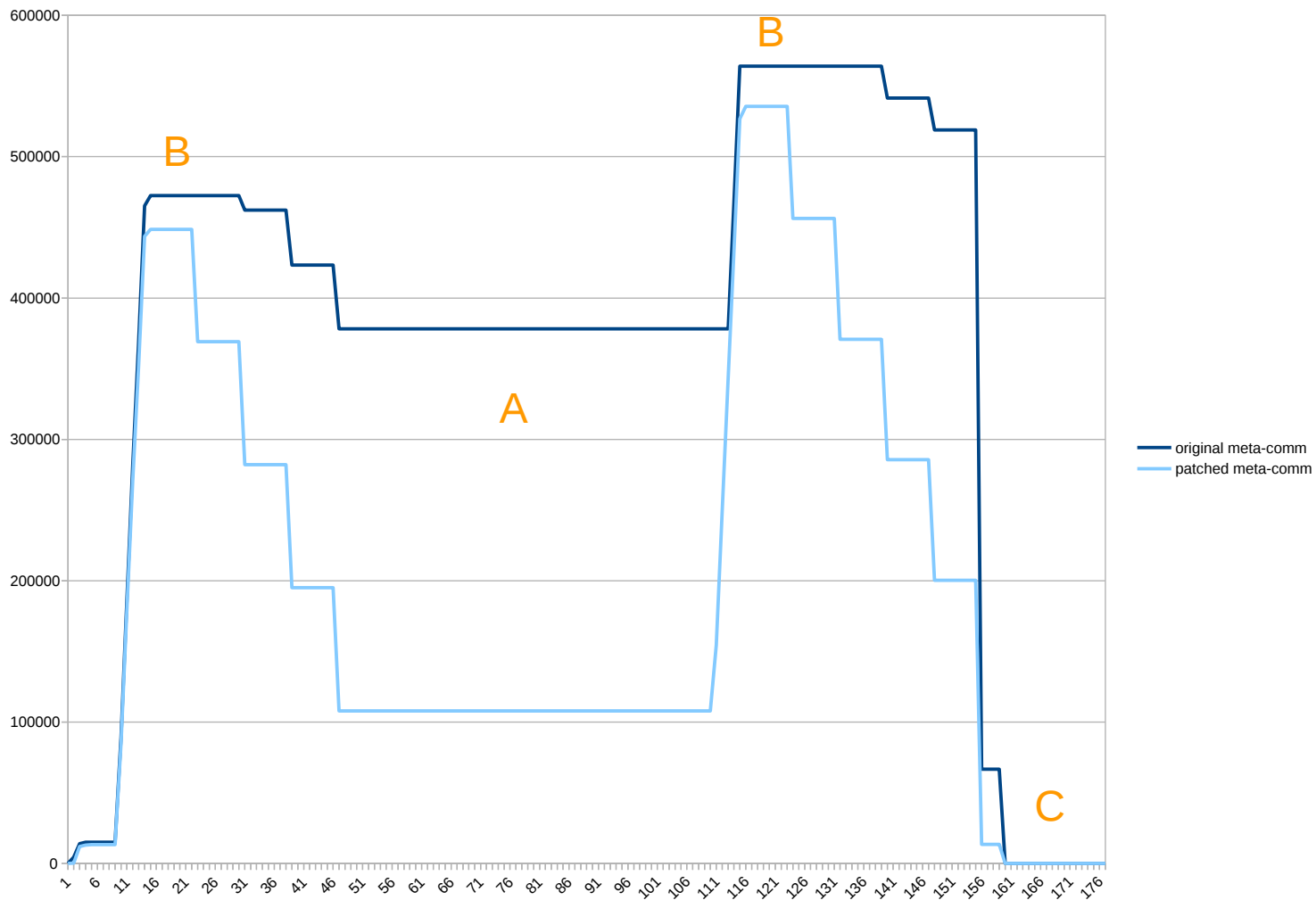*(default settings with 64K commit granule size)*

- We recover almost completely from the spikes

Patched VM (jdk 14), Metaspace used (red) vs committed (blue)
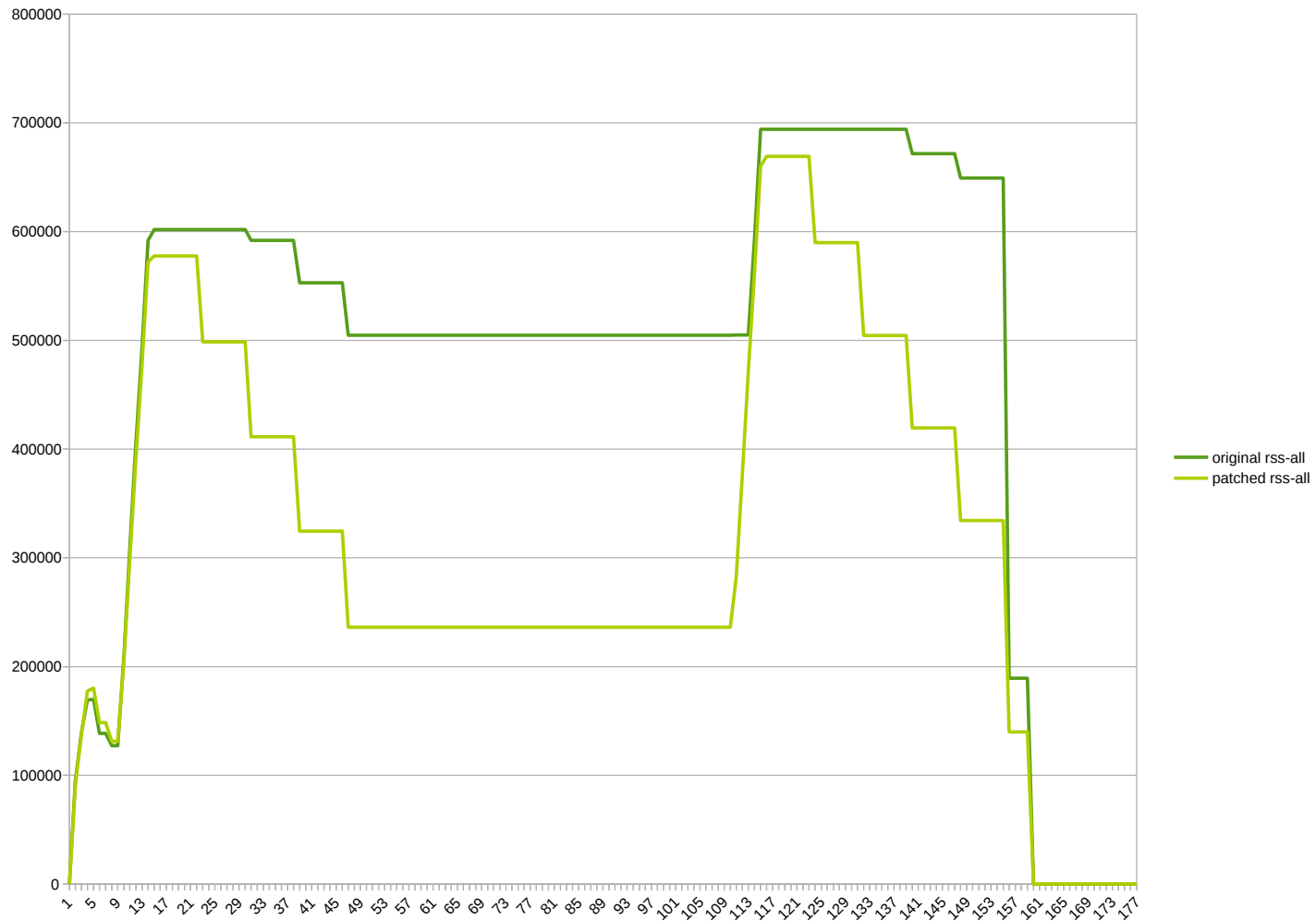*(aggressive settings with 16K commit granule size)*

- In this scenario, almost no discernable advantage over default settings

Metaspace committed – Stock VM (dark blue) vs Patched VM (light blue)

- (A) After releasing 4/5th of the test classes, we retain about 260M (~70%) less memory than the stock VM
- (B) Spikes are about 5% lower
- (C) After the test ran, we are back to base line, Stock VM is not.

RSS – Stock VM (dark green) vs Patched VM (light green)

- measured with AlwaysPreLoad
- RSS shows the same reduction by ~260M

Stock VM, jcmd VM.metaspace output, after unloading 4/5 of all classes

```
27265:

Total Usage - 291 loaders, 10982 classes (972 shared):
  <snip>

Virtual space:
  Non-class space:      332,00 MB reserved,      331,26 MB (>99%) committed
     Class space:        1,00 GB reserved,       42,22 MB (  4%) committed
           Both:        1,32 GB reserved,      373,48 MB ( 28%) committed

<snip>

Waste (percentages refer to total committed size 373,48 MB):
              Committed unused:    280,00 KB ( <1%)
         Waste in chunks in use:     2,45 KB ( <1%)
          Free in chunks in use:     6,34 MB (  2%)
      Overhead in chunks in use:   186,75 KB ( <1%)
                 In free chunks:   269,56 MB ( 72%)
  Deallocated from chunks in use:   998,98 KB ( <1%) (1763 blocks)
                        -total-:   277,33 MB ( 74%)
```

Patched VM, jcmd VM.metaspace output, after unloading 4/5 of all classes

```
27149:

Total Usage - 291 loaders, 10986 classes (980 shared):
<snip>

Virtual space:
  Non-class space:       408,00 MB reserved,      94,06 MB ( 23%) committed,  51 nodes.
      Class space:         1,00 GB reserved,      11,38 MB (  1%) committed,  1 nodes.
            Both:         1,40 GB reserved,      105,44 MB (  7%) committed.

<snip>

Waste (unused committed space):(percentages refer to total committed size 105,44 MB):
        Waste in chunks in use:      15,86 KB ( <1%)
         Free in chunks in use:       1,59 MB (  2%)
               In free chunks:      11,14 MB ( 11%)
Deallocated from chunks in use:     194,36 KB ( <1%) (2085 blocks)
                      -total-:      12,93 MB ( 12%)
```