Interleaved Loaders Test:

- Load N classes into M groups of class loaders
- release each group of loaders and collect them
- observe Metaspace used and committed size

Original test sources:

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
- (A) We retain about 280M 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)
Stock VM, jcmd VM.metaspace output, after unloading 4/5 of all classes

27265:

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

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

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%)
Deallocation 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):

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.

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%)