128mb

```
1 java -XX:+UseConcMarkSweepGC -Xms128m -Xmx128m -XX:+PrintGCDetails -XX:+PrintGCDateStamps week_02.h
```

Cause	Count	Avg Time	Max Time	Total Time
Allocation Failure	12	20.8 ms	50.0 ms	250 ms
Concurrent Mode Failure	8	20.0 ms	50.0 ms	160 ms
Full GC - Allocation Failure	14	7.86 ms	50.0 ms	110 ms

Full GC	Young GC	Final Remark	Initial Mark	Concurrent Preclean	Concurrent Mark	Concurrent Abortable Preclean	Con
Total Time	210 ms	130 ms	60.0 ms	30.0 ms	20.0 ms	10.0 ms	
Avg Time	14.0 ms	11.8 ms	12.0 ms	2.73 ms	2.50 ms	0.909 ms	
Std Dev Time	12.5 ms	11.1 ms	19.4 ms	8.62 ms	6.61 ms	2.87 ms	
Min Time	0	0	0	0	0	0	
Max Time	50.0 ms	40.0 ms	50.0 ms	30.0 ms	20.0 ms	10.0 ms	
Interval Time	38.0 ms	44.0 ms	94.0 ms	50.0 ms	59.0 ms	53.0 ms	
Count	15	11	5	11	8	11	

256mb

```
1 java -XX:+UseConcMarkSweepGC -Xms256m -Xmx256m -XX:+PrintGCDetails -XX:+PrintGCDateStamps week_02.h
```

Cause	Count	Avg Time	Max Time	Tota
Allocation Failure	17	37.1 ms	60.0 ms	63
Full GC - Allocation Failure	3	43.3 ms	50.0 ms	13
Concurrent Mode Failure	2	40.0 ms	50.0 ms	80.
Promotion Failure	1	30.0 ms	30.0 ms	30.

	Young GC	Full GC	Final Remark	Concurrent Abortable Preclean	Concurrent Sweep	Concurrent Mark	Con...
Total Time	410 ms	210 ms	110 ms	90.0 ms	10.0 ms	0	
Avg Time	27.3 ms	42.0 ms	13.8 ms	9.00 ms	1.25 ms	0	
Std Dev Time	12.4 ms	7.48 ms	14.9 ms	19.2 ms	3.31 ms	0	
Min Time	10.0 ms	30.0 ms	0	0	0	0	
Max Time	40.0 ms	50.0 ms	40.0 ms	60.0 ms	10.0 ms	0	
Interval Time	65.0 ms	90.0 ms	76.0 ms	77.0 ms	76.0 ms	83.0 ms	8!
Count	15	5	8	10	8	10	

512mb

```
1  java -XX:+UseConcMarkSweepGC -Xms512m -Xmx512m -XX:+PrintGCDetails -XX:+PrintGCDateStamps week_02.hd
```

Cause	Count	Avg Time	Max Time	Total Time
Allocation Failure	17	32.4 ms	70.0 ms	550 ms

	Young GC	Concurrent Abortable Preclean	Concurrent Reset	Concurrent Mark	Initial Mark	Concur... Precle...
Total Time	550 ms	270 ms	30.0 ms	10.0 ms	10.0 ms	10.0 m
Avg Time	32.4 ms	45.0 ms	5.00 ms	1.67 ms	1.67 ms	1.67 m
Std Dev Time	17.7 ms	58.0 ms	5.00 ms	3.73 ms	3.73 ms	3.73 m
Min Time	10.0 ms	0	0	0	0	0
Max Time	70.0 ms	170 ms	10.0 ms	10.0 ms	10.0 ms	10.0 m
Interval Time	56.0 ms	90.0 ms	91.0 ms	124 ms	124 ms	124 m
Count	17	6	6	6	6	6

1024mb

```
1  java -XX:+UseConcMarkSweepGC -Xms1g -Xmx1g -XX:+PrintGCDetails -XX:+PrintGCDateStamps week_02.house
```

Cause	Count	Avg Time	Max Time	Total Time
Allocation Failure	9	67.8 ms	200 ms	610 ms

	Young GC	Concurrent Abortable Preclean	Concurrent Mark	Concurrent Reset	Final Remark	Initial
Total Time	410 ms	200 ms	10.0 ms	10.0 ms	10.0 ms	0
Avg Time	51.3 ms	200 ms	10.0 ms	10.0 ms	10.0 ms	0
Std Dev Time	12.7 ms	0	0	0	0	0
Min Time	30.0 ms	200 ms	10.0 ms	10.0 ms	10.0 ms	0
Max Time	70.0 ms	200 ms	10.0 ms	10.0 ms	10.0 ms	0
Interval Time	117 ms	n/a	n/a	n/a	n/a	n/
Count	8	1	1	1	1	1

总结

在内存较小的情况下,Concurrent Mode Failure 的次数很多,其中因为内存小,对象晋升失败.产生serial old串行回收.