# Comparitive Performance Report for cbt-27thAug-o01-3way-tentacle-balanced vs cbt-2ndSep-o01-3way-tentacle-balanced-pg256 vs cbt-3rdSep-o01-3way-tentacle-balance-pg256-retry vs cbt-4thSep-o01-3way-tentacle-balanced-pg512

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# Comparison summary for cbt-27thAug-o01-3way-tentacle-balanced vs cbt-2ndSep-o01-3way-tentacle-balanced-pg256 vs cbt-3rdSep-o01-3way-tentacle-balance-pg256-retry vs cbt-4thSep-o01-3way-tentacle-balanced-pg512

| Sequential Read | cbt__27thAug_o01_3way_tentacle_balanced | cbt__2ndSep_o01_3way_tentacle_balanced_pg256 | % change | cbt__3rdSep_o01_3way_tentacle_balance_pg256_retry | % change | cbt__4thSep_o01_3way_tentacle_balanced_pg512 | % change |
|---|---|---|---|---|---|---|---|
| 4.0K | 233243@1.6ms | 253175@1.5 | 9% | 253827@1.5 | 9% | 272176@1.4 | 17% |
| 8.0K | 218186@1.8ms | 233032@1.6 | 7% | 232979@1.6 | 7% | 244648@1.6 | 12% |
| 16.0K | 198882@1.4ms | 206508@1.4 | 4% | 205609@1.4 | 3% | 206791@1.4 | 4% |
| 32.0K | 149566@1.3ms | 151108@1.3 | 1% | 150844@1.3 | 1% | 148385@1.3 | -1% |
| 64.0K | 7786@2.1ms | 7553@2.2 | -3% | 7521@2.2 | -3% | 6976@2.4 | -10% |
| 256.0K | 11159@1.5ms | 10253@1.6 | -8% | 10277@1.6 | -8% | 9230@1.8 | -17% |
| 512.0K | 9144@1.8ms | 8614@1.9 | -6% | 8604@1.9 | -6% | 8064@2.1 | -12% |
| 1024.0K | 7178@2.9ms | 6951@3.0 | -3% | 6967@3.0 | -3% | 6749@3.1 | -6% |

| Sequential Write | cbt__27thAug_o01_3way_tentacle_balanced | cbt__2ndSep_o01_3way_tentacle_balanced_pg256 | % change | cbt__3rdSep_o01_3way_tentacle_balance_pg256_retry | % change | cbt__4thSep_o01_3way_tentacle_balanced_pg512 | % change |
|---|---|---|---|---|---|---|---|
| 4.0K | 510965@3.0ms | 510595@3.0 | -0% | 509023@3.0 | -0% | 504361@3.0 | -1% |
| 8.0K | 334276@4.6ms | 334850@4.6 | 0% | 334229@4.6 | -0% | 335498@4.6 | 0% |
| 16.0K | 184493@5.5ms | 183265@5.6 | -1% | 182063@5.6 | -1% | 183536@5.6 | -1% |
| 32.0K | 103026@7.4ms | 103442@7.4 | 0% | 102748@7.5 | -0% | 103694@7.4 | 1% |
| 64.0K | 3534@9.5ms | 3499@9.6 | -1% | 3481@9.6 | -1% | 3537@9.5 | 0% |
| 256.0K | 3949@16.9ms | 3905@17.1 | -1% | 3885@8.5 | -2% | 3921@8.4 | -1% |
| 512.0K | 4087@8.0ms | 4038@8.1 | -1% | 4074@3.9 | -0% | 4082@3.9 | -0% |
| 1024.0K | 4020@16.2ms | 4172@15.5 | 4% | 4196@15.4 | 4% | 4121@31.9 | 3% |

| Random Read | cbt__27thAug_o01_3way_tentacle_balanced | cbt__2ndSep_o01_3way_tentacle_balanced_pg256 | % change | cbt__3rdSep_o01_3way_tentacle_balance_pg256_retry | % change | cbt__4thSep_o01_3way_tentacle_balanced_pg512 | % change |
|---|---|---|---|---|---|---|---|
| 4.0K | 216530@3.5ms | 231635@3.3 | 7% | 229700@3.3 | 6% | 233019@3.3 | 8% |
| 8.0K | 209775@3.7ms | 193076@4.0 | -8% | 193317@4.0 | -8% | 183845@2.1 | -12% |
| 16.0K | 193403@3.0ms | 160853@3.6 | -17% | 160276@1.6 | -17% | 142808@1.8 | -26% |
| 32.0K | 159835@3.2ms | 118872@1.1 | -26% | 124532@1.0 | -22% | 107071@4.8 | -33% |
| 64.0K | 8100@3.1ms | 5927@2.8 | -27% | 6015@4.2 | -26% | 4909@5.1 | -39% |

Comparison summary for cbt-27thAug-o01-3way-tentacle-balanced vs cbt-2ndSep-o01-3way-tentacle-balanced-pg256 vs cbt-3rdSep-o01-3way-tentacle-balance-pg256-retry vs cbt-4thSep-o01-3way-tentacle-balanced-pg512

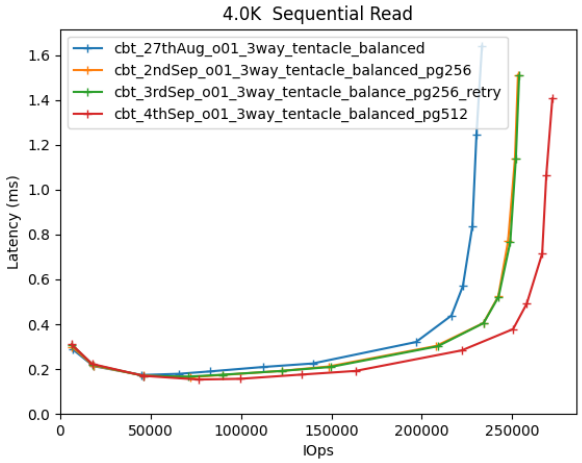
| Random Read | cbt_27thAug_o01_3way_tentacle_balanced | cbt_2ndSep_o01_3way_tentacle_balanced_pg256 | cbt_2ndSep_o01_3way_tentacle_balanced_pg256 % | cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry | cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry % | cbt_4thSep_o01_3way_tentacle_balanced_pg512 | cbt_4thSep_o01_3way_tentacle_balanced_pg512 % |
|---|---|---|---|---|---|---|---|
| 256.0K | 13168@2.5ms | 9902@3.4 | -25% | 9603@3.5 | -27% | 7725@2.2 | -41% |
| 512.0K | 12732@2.6ms | 10856@3.1 | -15% | 10763@3.1 | -15% | 9601@3.5 | -25% |
| 1024.0K | 10192@3.3ms | 9634@3.5 | -5% | 9561@3.5 | -6% | 8796@3.8 | -14% |

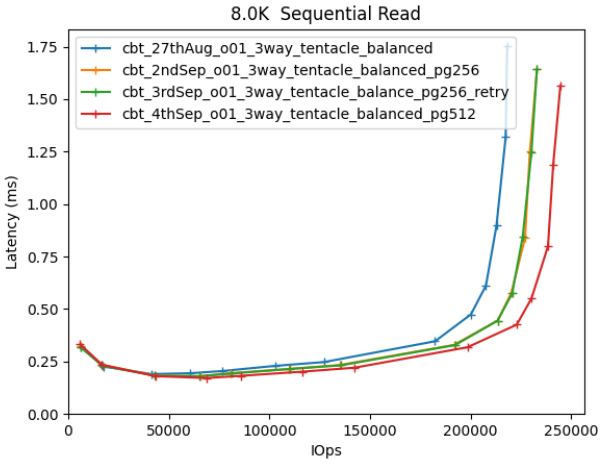
| Random Write | cbt_27thAug_o01_3way_tentacle_balanced | cbt_2ndSep_o01_3way_tentacle_balanced_pg256 | cbt_2ndSep_o01_3way_tentacle_balanced_pg256 % | cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry | cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry % | cbt_4thSep_o01_3way_tentacle_balanced_pg512 | cbt_4thSep_o01_3way_tentacle_balanced_pg512 % |
|---|---|---|---|---|---|---|---|
| 4.0K | 51182@5.0ms | 57083@13.5 | 12% | 57054@13.4 | 11% | 62843@12.2 | 23% |
| 8.0K | 48579@10.5ms | 51427@9.9 | 6% | 50875@10.0 | 5% | 55520@13.8 | 14% |
| 16.0K | 45875@11.1ms | 49772@10.3 | 8% | 50841@10.1 | 11% | 51934@9.8 | 13% |
| 32.0K | 43891@8.7ms | 46477@11.0 | 6% | 45459@11.2 | 4% | 47851@10.7 | 9% |
| 64.0K | 2428@10.3ms | 2466@10.2 | 2% | 2338@10.7 | -4% | 2524@9.9 | 4% |
| 256.0K | 4064@4.0ms | 4078@6.0 | 0% | 3986@6.2 | -2% | 4248@5.8 | 5% |
| 512.0K | 4501@7.2ms | 4544@7.1 | 1% | 4508@7.2 | 0% | 4562@7.1 | 1% |
| 1024.0K | 4174@5.6ms | 4049@7.8 | -3% | 4152@5.6 | -1% | 4337@7.2 | 4% |

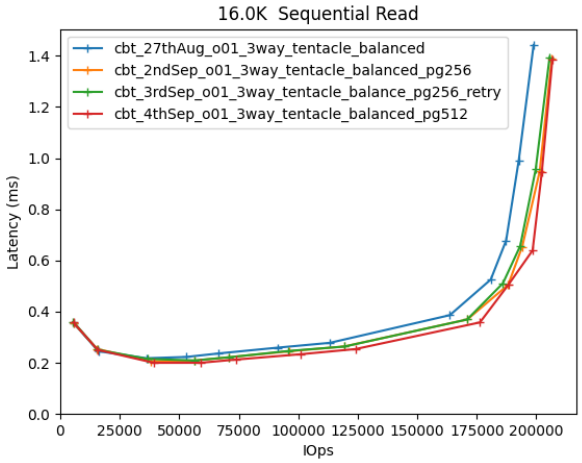
| Random Read/Write | cbt_27thAug_o01_3way_tentacle_balanced | cbt_2ndSep_o01_3way_tentacle_balanced_pg256 | cbt_2ndSep_o01_3way_tentacle_balanced_pg256 % | cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry | cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry % | cbt_4thSep_o01_3way_tentacle_balanced_pg512 | cbt_4thSep_o01_3way_tentacle_balanced_pg512 % |
|---|---|---|---|---|---|---|---|
| 4.0K_70/30 | 94949@4.0ms | 103021@2.5 | 9% | 104665@2.4 | 10% | 112295@2.3 | 18% |
| 16.0K_70/30 | 87433@2.9ms | 88588@2.9 | 1% | 85847@3.0 | -2% | 85836@3.0 | -2% |
| 64.0K_70/30 | 4287@3.9ms | 3974@4.2 | -7% | 3858@4.3 | -10% | 3466@4.8 | -19% |
| 64.0K_30/70 | 2901@5.7ms | 2919@5.7 | 1% | 2926@5.7 | 1% | 3061@5.4 | 6% |

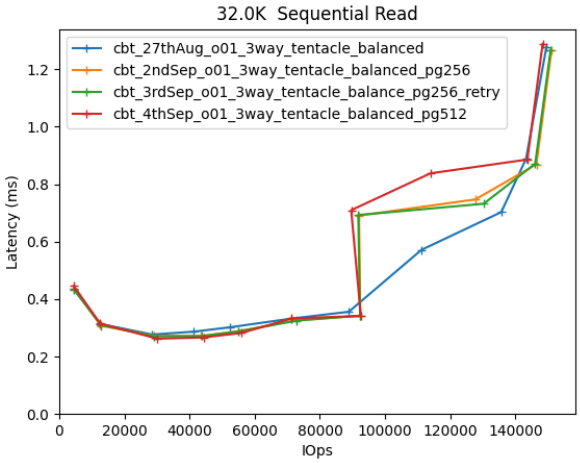
# Response Curves

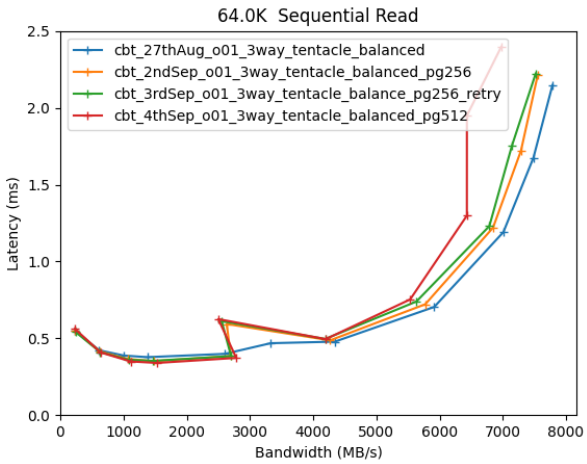
## Sequential Read

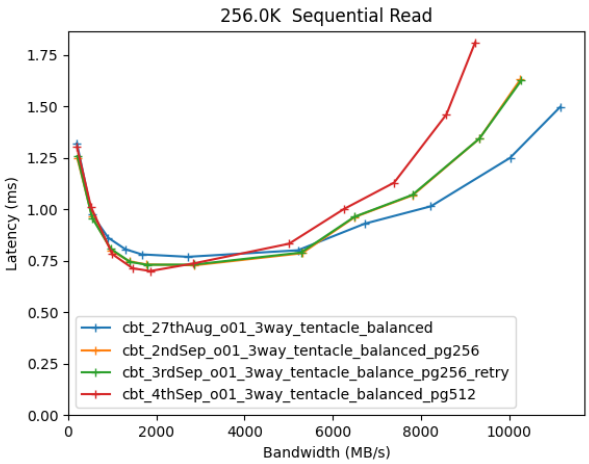


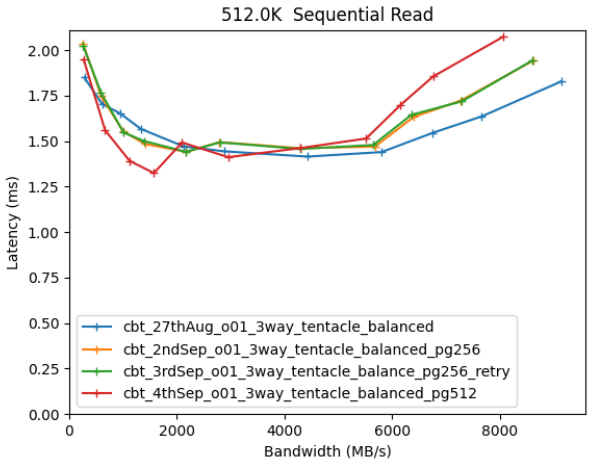



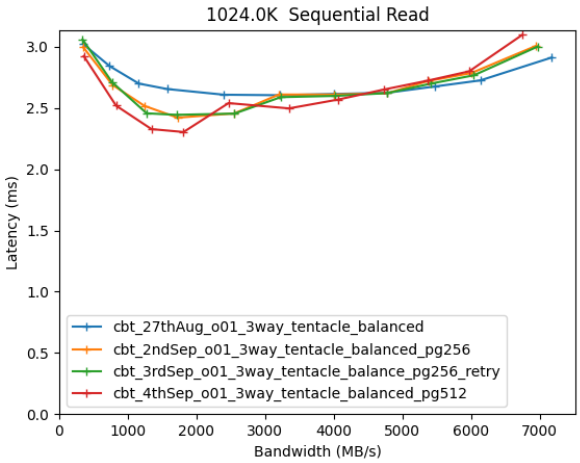



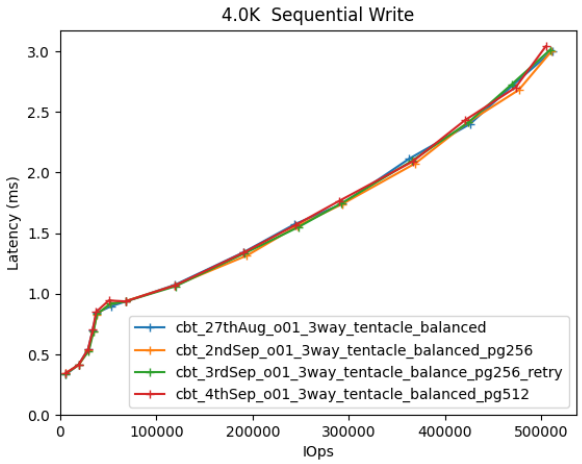



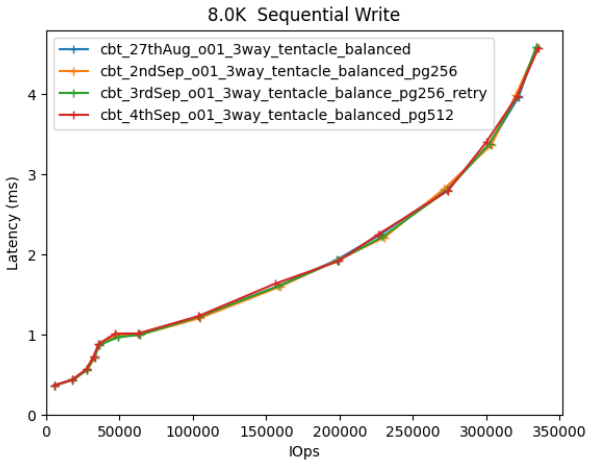



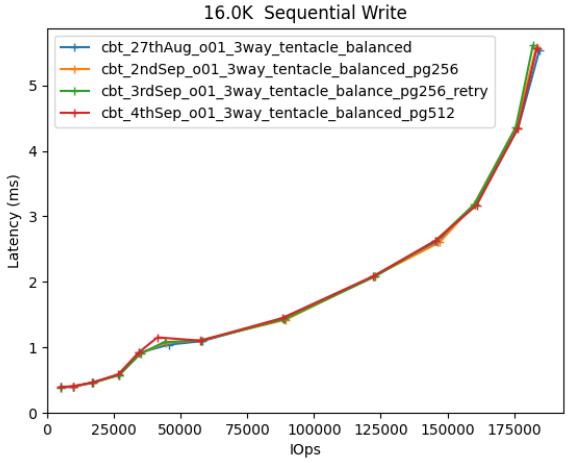


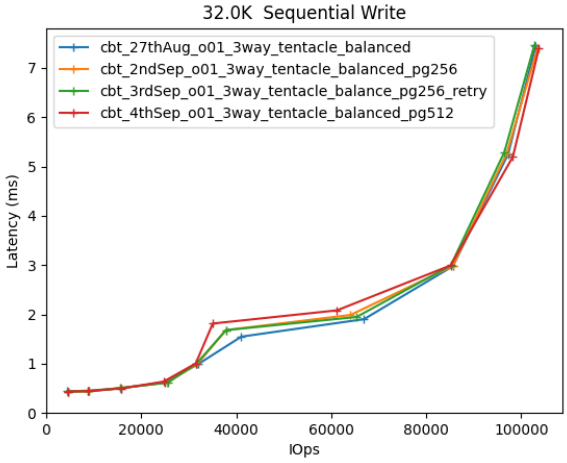



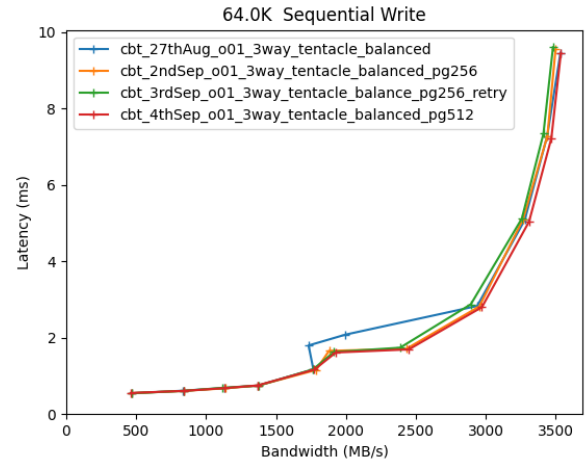

# Sequential Write

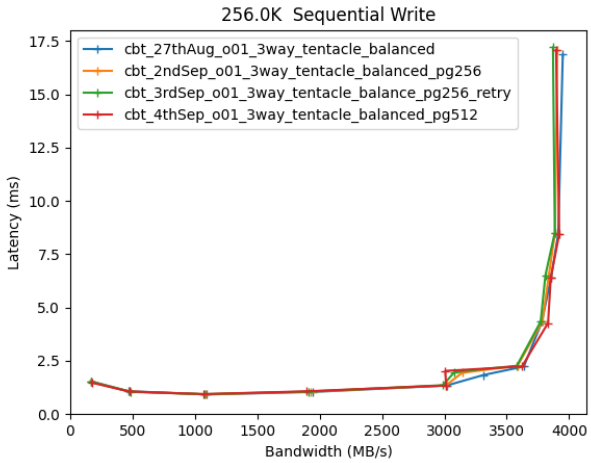


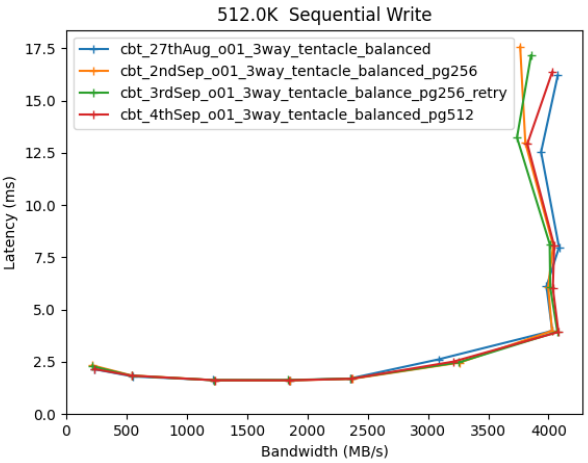



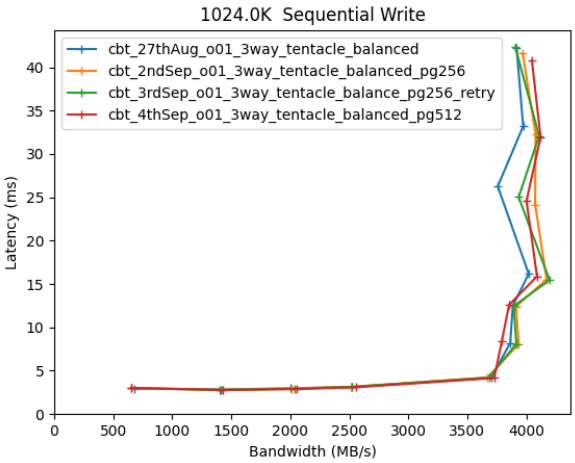




64.0K Sequential Write
cbt_27thAug_o01_3way_tentacle_balanced
cbt_2ndSep_o01_3way_tentacle_balanced_pg256
cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry
cbt_4thSep_o01_3way_tentacle_balanced_pg512
Latency (ms)
Bandwidth (MB/s)


256.0K Sequential Write
cbt_27thAug_o01_3way_tentacle_balanced
cbt_2ndSep_o01_3way_tentacle_balanced_pg256
cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry
cbt_4thSep_o01_3way_tentacle_balanced_pg512
Latency (ms)
Bandwidth (MB/s)


512.0K Sequential Write
cbt_27thAug_o01_3way_tentacle_balanced
cbt_2ndSep_o01_3way_tentacle_balanced_pg256
cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry
cbt_4thSep_o01_3way_tentacle_balanced_pg512
Latency (ms)
Bandwidth (MB/s)


1024.0K Sequential Write
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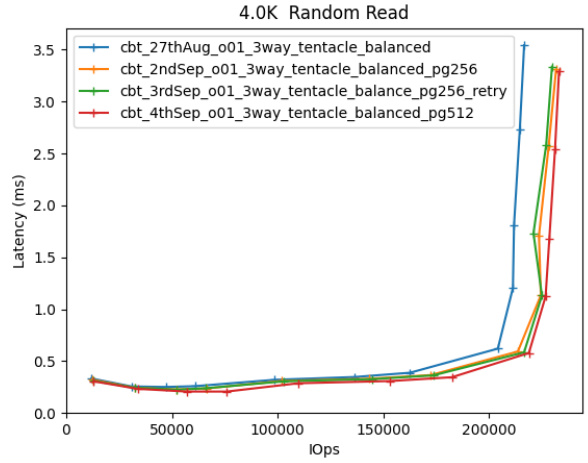
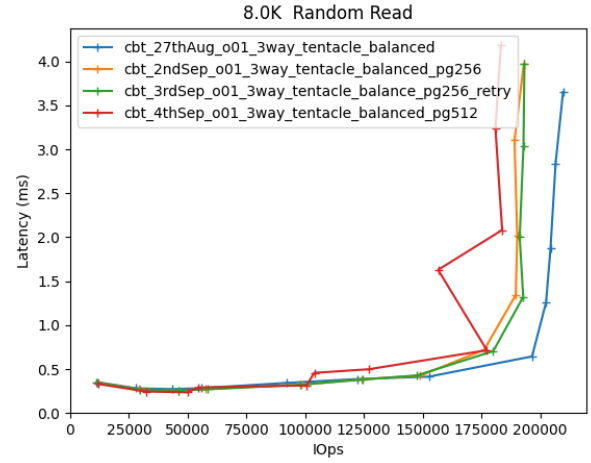
cbt_2ndSep_o01_3way_tentacle_balanced_pg256
cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry
cbt_4thSep_o01_3way_tentacle_balanced_pg512
Latency (ms)
Bandwidth (MB/s)

# Random Read


4.0K Random Read
cbt_27thAug_o01_3way_tentacle_balanced
cbt_2ndSep_o01_3way_tentacle_balanced_pg256
cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry
cbt_4thSep_o01_3way_tentacle_balanced_pg512
Latency (ms)
IOps


8.0K Random Read
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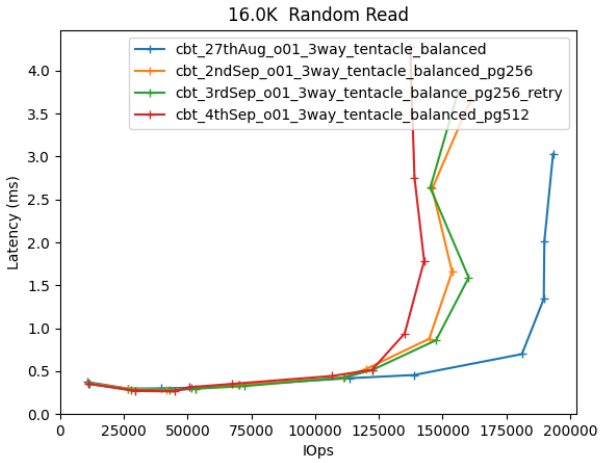
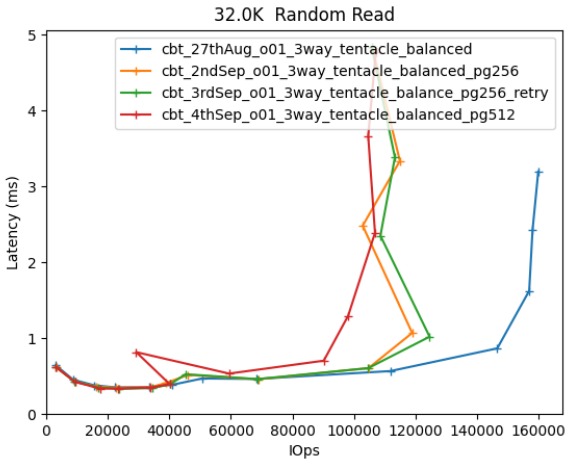
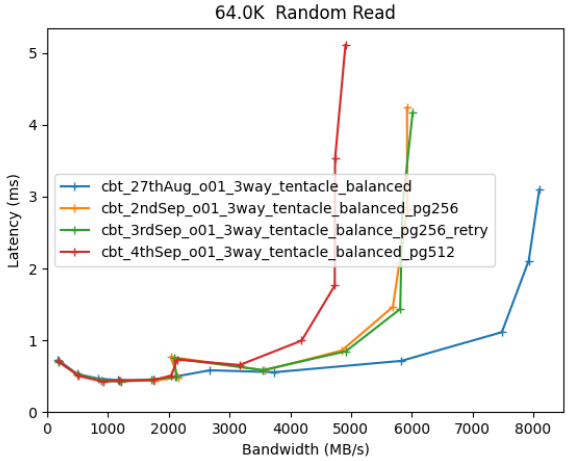
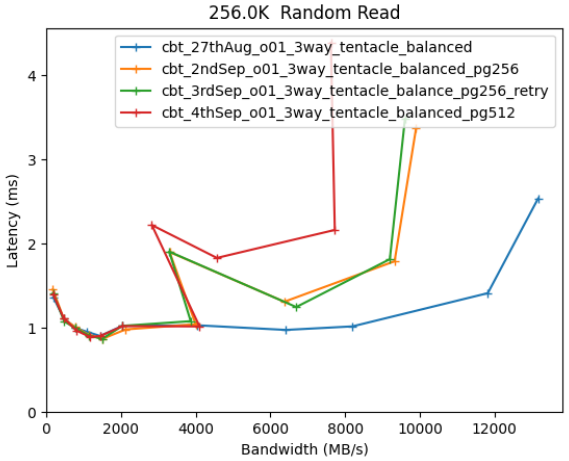
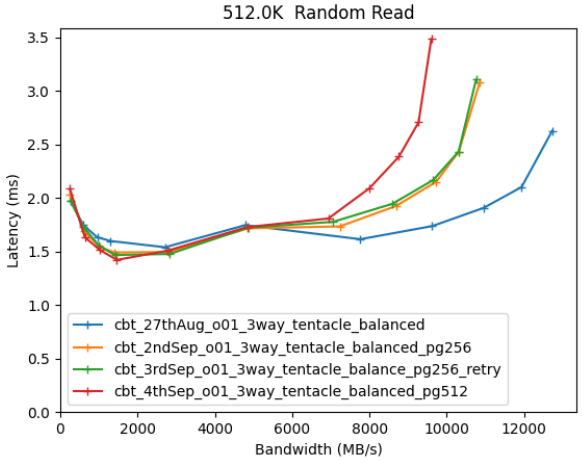
cbt_2ndSep_o01_3way_tentacle_balanced_pg256
cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry
cbt_4thSep_o01_3way_tentacle_balanced_pg512
Latency (ms)
IOps

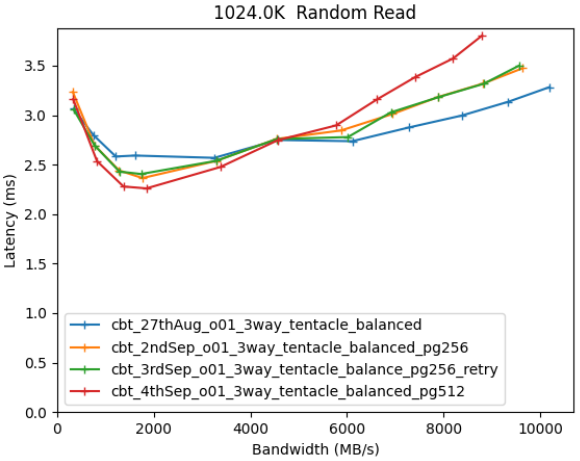


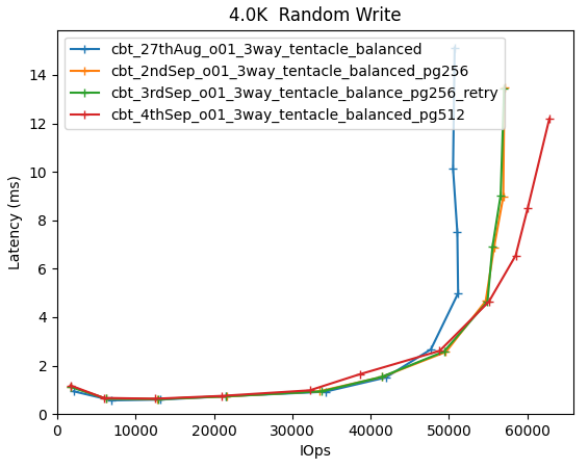



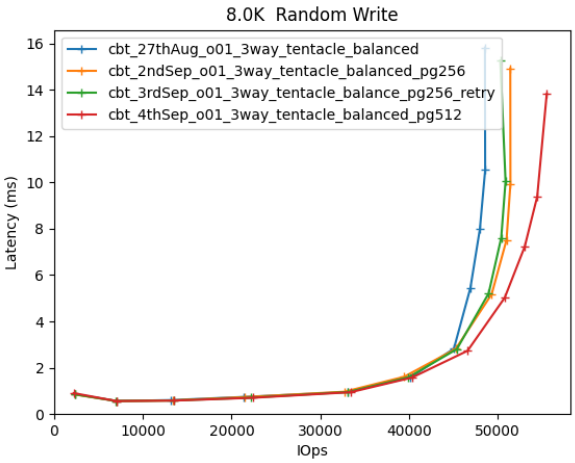



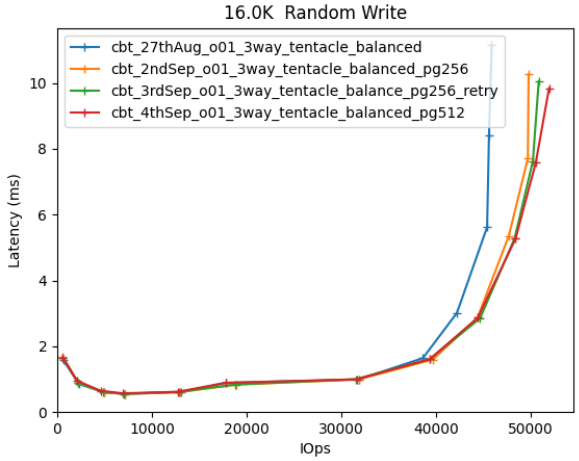



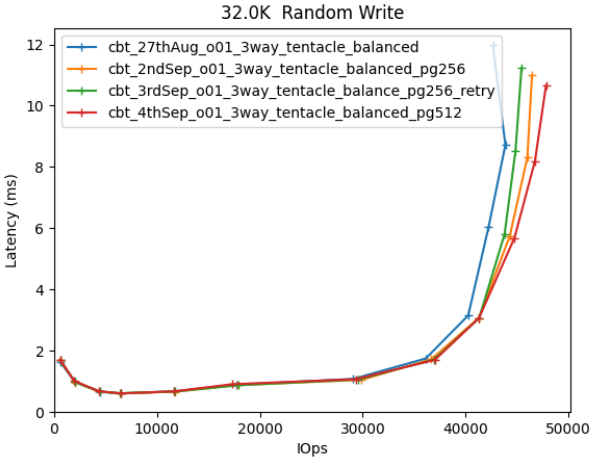



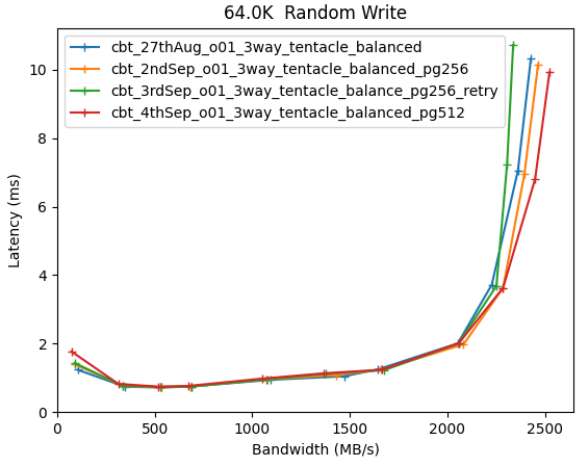

# Random Write

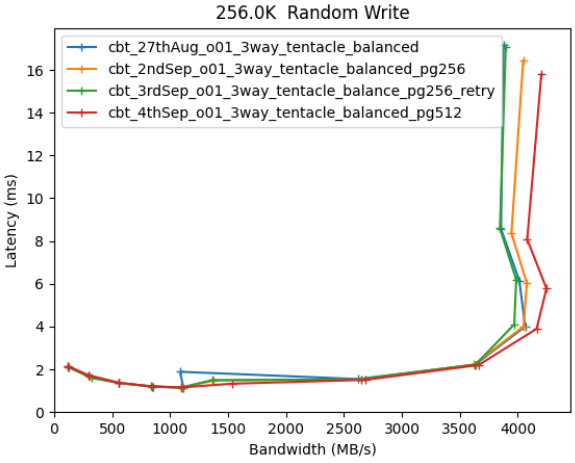

4.0K Random Write
cbt_27thAug_o01_3way_tentacle_balanced
cbt_2ndSep_o01_3way_tentacle_balanced_pg256
cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry
cbt_4thSep_o01_3way_tentacle_balanced_pg512
Latency (ms)
IOps

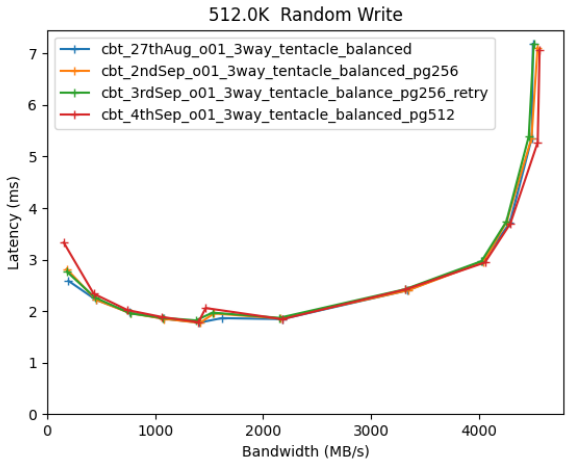

8.0K Random Write
cbt_27thAug_o01_3way_tentacle_balanced
cbt_2ndSep_o01_3way_tentacle_balanced_pg256
cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry
cbt_4thSep_o01_3way_tentacle_balanced_pg512
Latency (ms)
IOps

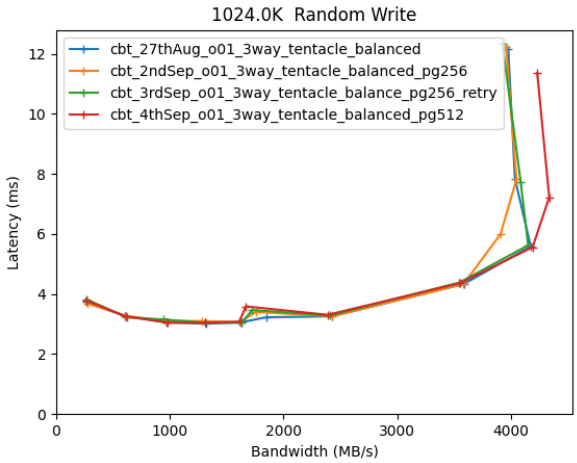

16.0K Random Write
cbt_27thAug_o01_3way_tentacle_balanced
cbt_2ndSep_o01_3way_tentacle_balanced_pg256
cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry
cbt_4thSep_o01_3way_tentacle_balanced_pg512
Latency (ms)
IOps


32.0K Random Write
cbt_27thAug_o01_3way_tentacle_balanced
cbt_2ndSep_o01_3way_tentacle_balanced_pg256
cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry
cbt_4thSep_o01_3way_tentacle_balanced_pg512
Latency (ms)
IOps

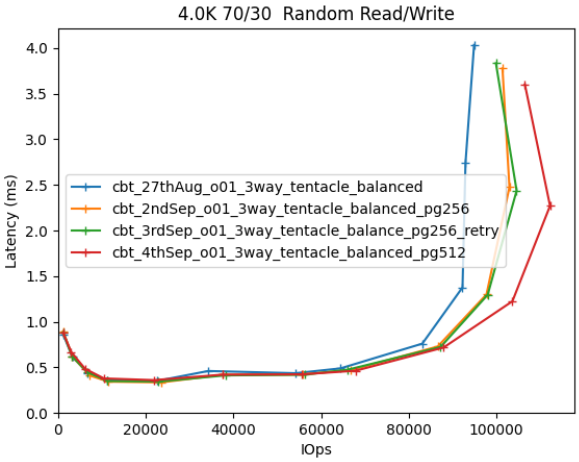

64.0K Random Write
cbt_27thAug_o01_3way_tentacle_balanced
cbt_2ndSep_o01_3way_tentacle_balanced_pg256
cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry
cbt_4thSep_o01_3way_tentacle_balanced_pg512
Latency (ms)
Bandwidth (MB/s)

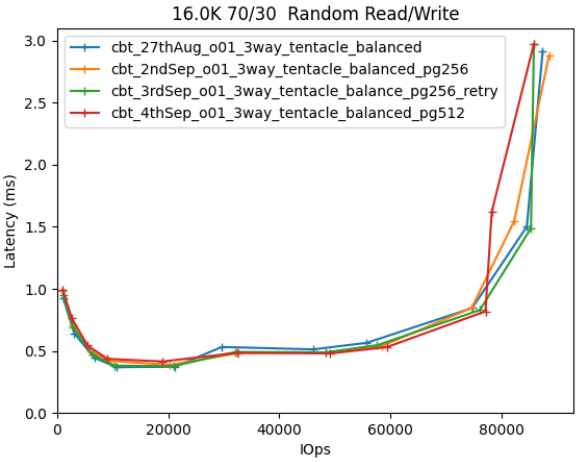

256.0K Random Write
cbt_27thAug_o01_3way_tentacle_balanced
cbt_2ndSep_o01_3way_tentacle_balanced_pg256
cbt_3rdSep_o01_3way_tentacle_balance_pg256_retry
cbt_4thSep_o01_3way_tentacle_balanced_pg512
Latency (ms)
Bandwidth (MB/s)

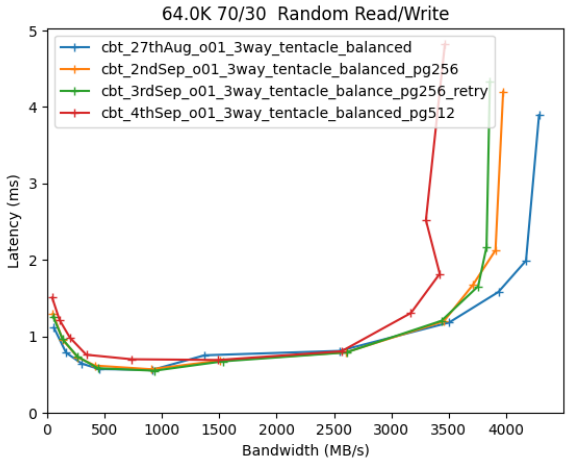


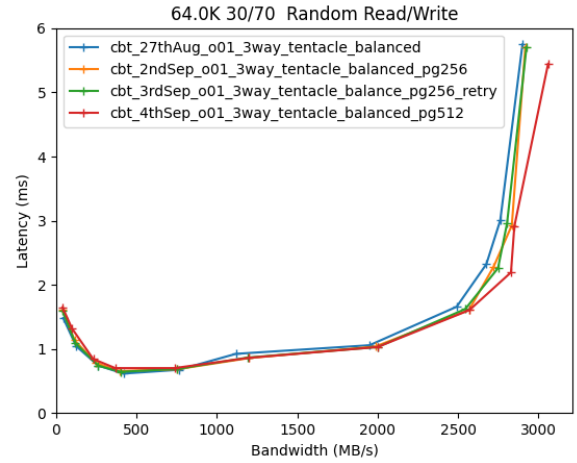




# Random Read/Write



# Configuration yaml files

Only yaml files that differ by more than 20 lines from the yaml file for the baseline directory will be added here in addition to the baseline yaml

## results

```
librbdfio:
  cmd_path: /usr/local/bin/fio2
  fio_out_format: json
  log_avg_msec: 100
  log_bw: true
  log_iops: true
  log_lat: true
  norandommap: true
  osd_ra:
  - 4096
  poolname: rbd_replicated
  prefill:
    blocksize: 64k
    numjobs: 1
  procs_per_volume:
  - 1
  ramp: 30
  rbdname: cbt-librbdfio
  time: 90
  time_based: true
  use_existing_volumes: true
  vol_size: 608333
  volumes_per_client:
  - 16
  workloads:
    16k7030:
      jobname: randmix
      mode: randrw
      numjobs:
      - 1
      op_size: 16384
      rwmixread: 70
      total_iodepth:
      - 1
      - 2
      - 3
      - 4
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      - 256
    16krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 16384
      total_iodepth:
      - 4
      - 8
      - 12
      - 16
      - 24
      - 48
      - 64
      - 128
      - 256
      - 384
```

```
  - 588
16krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 16384
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
  - 256
  - 384
  - 512
1Mrandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 1048576
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 12
  - 16
  - 20
  - 24
  - 28
  - 32
1Mrandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 1048576
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 8
  - 16
  - 24
  - 32
  - 48
1Mseqread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
  op_size: 1048576
  total_iodepth:
```

```
    - 1
    - 2
    - 3
    - 4
    - 6
    - 8
    - 10
    - 12
    - 14
    - 16
    - 20
  1Mseqwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 1048576
    total_iodepth:
    - 2
    - 4
    - 6
    - 8
    - 16
    - 32
    - 48
    - 64
    - 96
    - 128
    - 160
  256krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 262144
    total_iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 24
    - 32
    - 64
    - 128
  256krandomwrite:
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 262144
    total_iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 32
    - 64
```

```
  - 96
  - 128
  - 256
32krandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 32768
  total_iodepth:
  - 2
  - 4
  - 6
  - 8
  - 12
  - 16
  - 24
  - 32
  - 64
  - 128
  - 256
  - 384
  - 512
32krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 32768
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
  - 256
  - 384
  - 512
4k7030:
  jobname: randmix
  mode: randrw
  numjobs:
  - 1
  op_size: 4096
  rwmixread: 70
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 24
  - 32
  - 64
  - 128
  - 256
  - 384
4krandomread:
```

```
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 4096
  total_iodepth:
  - 4
  - 8
  - 12
  - 16
  - 32
  - 48
  - 64
  - 128
  - 256
  - 384
  - 588
  - 768
4krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 4096
  total_iodepth:
  - 2
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
  - 256
  - 384
  - 512
  - 768
512krandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 24
  - 32
  - 40
  - 48
  - 64
512krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
```

```
  - 3
  - 4
  - 5
  - 6
  - 8
  - 16
  - 24
  - 32
  - 48
  - 64
512kseqread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 6
  - 8
  - 12
  - 16
  - 20
  - 24
  - 32
512kseqwrite:
  jobname: seqwrite
  mode: write
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 4
  - 6
  - 8
  - 16
  - 32
  - 48
  - 64
  - 96
  - 128
64k3070:
  jobname: randmix
  mode: randrw
  numjobs:
  - 1
  op_size: 65536
  rwmixread: 30
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 32
  - 64
  - 96
```

```
  - 128
  - 256
64k7030:
  jobname: randmix
  mode: randrw
  numjobs:
  - 1
  op_size: 65536
  rwmixread: 70
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 32
  - 64
  - 96
  - 128
  - 256
64krandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 65536
  total_iodepth:
  - 2
  - 4
  - 6
  - 8
  - 12
  - 16
  - 24
  - 32
  - 64
  - 128
  - 256
  - 384
64krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 65536
  total_iodepth:
  - 2
  - 4
  - 6
  - 8
  - 16
  - 24
  - 32
  - 64
  - 128
  - 256
  - 384
64kseqread:
  jobname: read
  mode: read
  numjobs:
  - 1
```

```
  op_size: 65536
  total_iodepth:
  - 2
  - 4
  - 6
  - 8
  - 16
  - 24
  - 32
  - 64
  - 128
  - 192
  - 256
64kseqwrite:
  jobname: write
  mode: write
  numjobs:
  - 1
  op_size: 65536
  total_iodepth:
  - 4
  - 8
  - 12
  - 16
  - 32
  - 48
  - 64
  - 128
  - 256
  - 384
  - 512
8krandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 8192
  total_iodepth:
  - 4
  - 8
  - 12
  - 16
  - 32
  - 48
  - 64
  - 128
  - 256
  - 384
  - 588
  - 768
8krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 8192
  total_iodepth:
  - 2
  - 4
  - 8
  - 16
  - 32
  - 64
```

```
  - 128
  - 256
  - 384
  - 512
  - 768
precondition:
  jobname: precond1rw
  mode: randwrite
  monitor: false
  numjobs:
  - 1
  op_size: 65536
  time: 600
  total_iodepth:
  - 16
seq16kread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
  op_size: 16384
  total_iodepth:
  - 2
  - 4
  - 8
  - 12
  - 16
  - 24
  - 32
  - 64
  - 96
  - 128
  - 192
  - 288
seq16kwrite:
  jobname: seqwrite
  mode: write
  numjobs:
  - 1
  op_size: 16384
  total_iodepth:
  - 2
  - 4
  - 8
  - 16
  - 32
  - 48
  - 64
  - 128
  - 256
  - 384
  - 512
  - 768
  - 1024
seq256kread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
  op_size: 262144
  total_iodepth:
  - 1
  - 2
```

```
    - 3
    - 4
    - 5
    - 8
    - 16
    - 24
    - 32
    - 48
    - 64
  seq256kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 262144
    total_iodepth:
    - 1
    - 2
    - 4
    - 8
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
    - 256
  seq32kread:
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 32768
    total_iodepth:
    - 2
    - 4
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
    - 192
  seq32kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 32768
    total_iodepth:
    - 2
    - 4
    - 8
    - 16
    - 32
    - 64
    - 128
    - 256
    - 512
    - 768
  seq4kread:
```

```
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 4096
    total_iodepth:
    - 2
    - 4
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
    - 192
    - 288
    - 384
  seq4kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 4096
    total_iodepth:
    - 2
    - 8
    - 16
    - 24
    - 32
    - 48
    - 64
    - 128
    - 256
    - 384
    - 512
    - 768
    - 1024
    - 1280
    - 1536
  seq8kread:
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 8192
    total_iodepth:
    - 2
    - 4
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
    - 192
    - 288
    - 384
  seq8kwrite:
    jobname: seqwrite
```

```
        mode: write
        numjobs:
        - 1
        op_size: 8192
        total_iodepth:
        - 2
        - 8
        - 16
        - 24
        - 32
        - 48
        - 64
        - 128
        - 256
        - 384
        - 512
        - 768
        - 1024
        - 1280
        - 1536
cluster:
  archive_dir: /tmp/cbt
  ceph-mgr_cmd: /usr/bin/ceph-mgr
  ceph-mon_cmd: /usr/bin/ceph-mon
  ceph-osd_cmd: /usr/bin/ceph-osd
  ceph-run_cmd: /usr/bin/ceph-run
  ceph_cmd: /usr/bin/ceph
  clients:
  - --- server1 ---
  clusterid: ceph
  conf_file: /cbt/ceph.conf.4x1x1.fs
  fs: xfs
  head: --- server1 ---
  iterations: 1
  mgrs:
    --- server1 ---:
      a: null
  mkfs_opts: -f -i size=2048
  mons:
    --- server1 ---:
      a: --- IP Address --:6789
  mount_opts: -o inode64,noatime,logbsize=256k
  osds:
  - --- server1 ---
  osds_per_node: 8
  pdsh_ssh_args: -a -x -l%u %h
  rados_cmd: /usr/bin/rados
  rbd_cmd: /usr/bin/rbd
  tmp_dir: /tmp/cbt
  use_existing: true
  user: ljsanders
monitoring_profiles:
  collectl:
    args: -c 18 -sCD -i 10 -P -oz -F0 --rawtoo --sep ";" -f {collectl_dir}
  librbdfio:
    cmd_path: /usr/local/bin/fio2
    fio_out_format: json
    log_avg_msec: 100
    log_bw: true
    log_iops: true
    log_lat: true
    norandommap: true
```

```
osd_ra:
- 4096
poolname: rbd_replicated
prefill:
  blocksize: 64k
  numjobs: 1
procs_per_volume:
- 1
ramp: 30
rbdname: cbt-librbdfio
time: 90
time_based: true
use_existing_volumes: true
vol_size: 608333
volumes_per_client:
- 16
workloads:
  16k7030:
    jobname: randmix
    mode: randrw
    numjobs:
    - 1
    op_size: 16384
    rwmixread: 70
    total_iodepth:
    - 1
    - 2
    - 3
    - 4
    - 8
    - 16
    - 24
    - 32
    - 64
    - 128
    - 256
  16krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 16384
    total_iodepth:
    - 4
    - 8
    - 12
    - 16
    - 24
    - 48
    - 64
    - 128
    - 256
    - 384
    - 588
  16krandomwrite:
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 16384
    total_iodepth:
    - 1
    - 2
```

```
  - 3
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
  - 256
  - 384
  - 512
1Mrandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 1048576
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 12
  - 16
  - 20
  - 24
  - 28
  - 32
1Mrandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 1048576
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 8
  - 16
  - 24
  - 32
  - 48
1Mseqread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
  op_size: 1048576
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 6
  - 8
  - 10
  - 12
  - 14
  - 16
```

```
  - 20
1Mseqwrite:
  jobname: seqwrite
  mode: write
  numjobs:
  - 1
  op_size: 1048576
  total_iodepth:
  - 2
  - 4
  - 6
  - 8
  - 16
  - 32
  - 48
  - 64
  - 96
  - 128
  - 160
256krandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 262144
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 8
  - 16
  - 24
  - 32
  - 64
  - 128
256krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 262144
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 8
  - 16
  - 32
  - 64
  - 96
  - 128
  - 256
32krandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 32768
  total_iodepth:
```

```
  - 2
  - 4
  - 6
  - 8
  - 12
  - 16
  - 24
  - 32
  - 64
  - 128
  - 256
  - 384
  - 512
32krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 32768
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
  - 256
  - 384
  - 512
4k7030:
  jobname: randmix
  mode: randrw
  numjobs:
  - 1
  op_size: 4096
  rwmixread: 70
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 24
  - 32
  - 64
  - 128
  - 256
  - 384
4krandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 4096
  total_iodepth:
  - 4
  - 8
  - 12
  - 16
```

```
  - 32
  - 48
  - 64
  - 128
  - 256
  - 384
  - 588
  - 768
4krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 4096
  total_iodepth:
  - 2
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
  - 256
  - 384
  - 512
  - 768
512krandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 24
  - 32
  - 40
  - 48
  - 64
512krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 8
  - 16
  - 24
  - 32
  - 48
  - 64
```

```
512kseqread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 6
  - 8
  - 12
  - 16
  - 20
  - 24
  - 32
512kseqwrite:
  jobname: seqwrite
  mode: write
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 4
  - 6
  - 8
  - 16
  - 32
  - 48
  - 64
  - 96
  - 128
64k3070:
  jobname: randmix
  mode: randrw
  numjobs:
  - 1
  op_size: 65536
  rwmixread: 30
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 32
  - 64
  - 96
  - 128
  - 256
64k7030:
  jobname: randmix
  mode: randrw
  numjobs:
  - 1
  op_size: 65536
  rwmixread: 70
  total_iodepth:
```

```
    - 1
    - 2
    - 3
    - 4
    - 8
    - 16
    - 32
    - 64
    - 96
    - 128
    - 256
  64krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 65536
    total_iodepth:
    - 2
    - 4
    - 6
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 128
    - 256
    - 384
  64krandomwrite:
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 65536
    total_iodepth:
    - 2
    - 4
    - 6
    - 8
    - 16
    - 24
    - 32
    - 64
    - 128
    - 256
    - 384
  64kseqread:
    jobname: read
    mode: read
    numjobs:
    - 1
    op_size: 65536
    total_iodepth:
    - 2
    - 4
    - 6
    - 8
    - 16
    - 24
    - 32
    - 64
```

```
  - 128
  - 192
  - 256
64kseqwrite:
  jobname: write
  mode: write
  numjobs:
  - 1
  op_size: 65536
  total_iodepth:
  - 4
  - 8
  - 12
  - 16
  - 32
  - 48
  - 64
  - 128
  - 256
  - 384
  - 512
8krandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 8192
  total_iodepth:
  - 4
  - 8
  - 12
  - 16
  - 32
  - 48
  - 64
  - 128
  - 256
  - 384
  - 588
  - 768
8krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 8192
  total_iodepth:
  - 2
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
  - 256
  - 384
  - 512
  - 768
precondition:
  jobname: precond1rw
  mode: randwrite
  monitor: false
  numjobs:
```

```
  - 1
  op_size: 65536
  time: 600
  total_iodepth:
  - 16
seq16kread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
  op_size: 16384
  total_iodepth:
  - 2
  - 4
  - 8
  - 12
  - 16
  - 24
  - 32
  - 64
  - 96
  - 128
  - 192
  - 288
seq16kwrite:
  jobname: seqwrite
  mode: write
  numjobs:
  - 1
  op_size: 16384
  total_iodepth:
  - 2
  - 4
  - 8
  - 16
  - 32
  - 48
  - 64
  - 128
  - 256
  - 384
  - 512
  - 768
  - 1024
seq256kread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
  op_size: 262144
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 8
  - 16
  - 24
  - 32
  - 48
  - 64
seq256kwrite:
```

```
  jobname: seqwrite
  mode: write
  numjobs:
  - 1
  op_size: 262144
  total_iodepth:
  - 1
  - 2
  - 4
  - 8
  - 16
  - 24
  - 32
  - 64
  - 96
  - 128
  - 256
seq32kread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
  op_size: 32768
  total_iodepth:
  - 2
  - 4
  - 8
  - 12
  - 16
  - 24
  - 32
  - 64
  - 96
  - 128
  - 192
seq32kwrite:
  jobname: seqwrite
  mode: write
  numjobs:
  - 1
  op_size: 32768
  total_iodepth:
  - 2
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
  - 256
  - 512
  - 768
seq4kread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
  op_size: 4096
  total_iodepth:
  - 2
  - 4
  - 8
  - 12
```

```
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
    - 192
    - 288
    - 384
  seq4kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 4096
    total_iodepth:
    - 2
    - 8
    - 16
    - 24
    - 32
    - 48
    - 64
    - 128
    - 256
    - 384
    - 512
    - 768
    - 1024
    - 1280
    - 1536
  seq8kread:
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 8192
    total_iodepth:
    - 2
    - 4
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
    - 192
    - 288
    - 384
  seq8kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 8192
    total_iodepth:
    - 2
    - 8
    - 16
    - 24
    - 32
```

```
        - 48
        - 64
        - 128
        - 256
        - 384
        - 512
        - 768
        - 1024
        - 1280
        - 1536
cluster:
  archive_dir: /tmp/cbt
  ceph-mgr_cmd: /usr/bin/ceph-mgr
  ceph-mon_cmd: /usr/bin/ceph-mon
  ceph-osd_cmd: /usr/bin/ceph-osd
  ceph-run_cmd: /usr/bin/ceph-run
  ceph_cmd: /usr/bin/ceph
  clients:
  - --- server1 ---
  clusterid: ceph
  conf_file: /cbt/ceph.conf.4x1x1.fs
  fs: xfs
  head: --- server1 ---
  iterations: 1
  mgrs:
    --- server1 ---:
      a: null
  mkfs_opts: -f -i size=2048
  mons:
    --- server1 ---:
      a: --- IP Address --:6789
  mount_opts: -o inode64,noatime,logbsize=256k
  osds:
  - --- server1 ---
  osds_per_node: 8
  pdsh_ssh_args: -a -x -l%u %h
  rados_cmd: /usr/bin/rados
  rbd_cmd: /usr/bin/rbd
  tmp_dir: /tmp/cbt
  use_existing: true
  user: ljsanders
monitoring_profiles:
  collectl:
    args: -c 18 -sCD -i 10 -P -oz -F0 --rawtoo --sep ";" -f {collectl_dir}
```