Comparitive Performance Report for cbt-27thAug-o01-3way-tentacle-balanced vs cbt-31stAug-o01-3way-tentacle-balanced-reverse

Table of contents

Comparison summary for cbt-27thAug-o01-3way-tentacle-balanced vs cbt-31stAug-o01-3way-tentacle-balanced-reverse

Sequential Read	cbt_27thAug_o01_3way_tentacle_balanced	cbt_31stAug_o01_3way_tentacle_balanced_reverse	%change throughput	%change latency
4.0K	233243 IOps@1.6ms	225717 IOps@1.7ms	-3%	6%
8.0K	218186 IOps@1.8ms	217301 IOps@1.8ms	-0%	0%
16.0K	198882 IOps@1.4ms	198445 IOps@1.4ms	-0%	0%
32.0K	149566 IOps@1.3ms	136567 IOps@0.9ms	-9%	-31%
64.0K	7786 MB/s@2.1ms	7409 MB/s@1.7ms	-5%	-19%
256.0K	11159 MB/s@1.5ms	10699 MB/s@1.6ms	-4%	7%
512.0K	9144 MB/s@1.8ms	8837 MB/s@1.9ms	-3%	6%
1024.0K	7178 MB/s@2.9ms	6812 MB/s@3.1ms	-5%	7%

Sequential Write	cbt_27thAug_o01_3way_tentacle_balanced	cbt_31stAug_o01_3way_tentacle_balanced_reverse	%change throughput	%change latency
4.0K	510965 IOps@3.0ms	510907 IOps@3.0ms	-0%	0%
8.0K	334276 IOps@4.6ms	329313 IOps@4.7ms	-1%	2%
16.0K	184493 IOps@5.5ms	176988 IOps@4.3ms	-4%	-22%
32.0K	103026 IOps@7.4ms	101677 IOps@7.5ms	-1%	1%
64.0K	3534 MB/s@9.5ms	3329 MB/s@10.0ms	-6%	5%
256.0K	3949 MB/s@16.9ms	3905 MB/s@8.5ms	-1%	-50%
512.0K	4087 MB/s@8.0ms	4089 MB/s@3.9ms	0%	-51%
1024.0K	4020 MB/s@16.2ms	4139 MB/s@39.9ms	3%	146%

Random Read	cbt_27thAug_o01_3way_tentacle_balanced	cbt_31stAug_o01_3way_tentacle_balanced_reverse	%change throughput	%change latency
4.0K	216530 IOps@3.5ms	206811 IOps@1.2ms	-4%	-66%
8.0K	209775 IOps@3.7ms	196295 IOps@1.9ms	-6%	-49%
16.0K	193403 IOps@3.0ms	185939 IOps@1.4ms	-4%	-53%
32.0K	159835 IOps@3.2ms	154797 IOps@2.5ms	-3%	-22%
64.0K	8100 MB/s@3.1ms	7925 MB/s@2.1ms	-2%	-32%
256.0K	13168 MB/s@2.5ms	11899 MB/s@1.4ms	-10%	-44%
512.0K	12732 MB/s@2.6ms	11988 MB/s@2.1ms	-6%	-19%
1024.0K	10192 MB/s@3.3ms	9826 MB/s@3.4ms	-4%	3%

Random Write	cbt_27thAug_o01_3way_tentacle_balanced	cbt_31stAug_o01_3way_tentacle_balanced_reverse	%change throughput	%change latency
4.0K	51182 IOps@5.0ms	55352 IOps@9.2ms	8%	84%
8.0K	48579 IOps@10.5ms	52514 IOps@9.7ms	8%	-8%
16.0K	45875 IOps@11.1ms	47782 IOps@8.0ms	4%	-28%
32.0K	43891 IOps@8.7ms	44596 IOps@8.6ms	2%	-1%
64.0K	2428 MB/s@10.3ms	2375 MB/s@7.0ms	-2%	-32%
256.0K	4064 MB/s@4.0ms	4205 MB/s@7.8ms	3%	95%

Comparison summary for cbt-27thAug-o01-3way-tentacle-balanced vs cbt-31stAug-o01-3way-tentacle-balanced-reverse

Random Write	cbt__27thAug__o01__3way_tentacle_balanced	cbt__31stAug__o01__3way_tentacle_balanced_reverse	%change throughput	%change latency
512.0K	4501 MB/s@7.2ms	4414 MB/s@7.3ms	-2%	1%
1024.0K	4174 MB/s@5.6ms	4316 MB/s@11.1ms	3%	98%

Random Read/Write	cbt__27thAug__o01__3way_tentacle_balanced	cbt__31stAug__o01__3way_tentacle_balanced_reverse	%change throughput	%change latency
4.0K__70/30	94949 IOps@4.0ms	102063 IOps@3.8ms	7%	-5%
16.0K__70/30	87433 IOps@2.9ms	89246 IOps@2.9ms	2%	0%
64.0K__30/70	2901 MB/s@5.7ms	2971 MB/s@5.6ms	2%	-2%
64.0K__70/30	4287 MB/s@3.9ms	4110 MB/s@2.0ms	-4%	-49%

Response Curves

Sequential Read

512.0K Sequential Read

1024.0K Sequential Read

Sequential Write

4.0K Sequential Write

8.0K Sequential Write

16.0K Sequential Write

32.0K Sequential Write

64.0K Sequential Write

256.0K Sequential Write

512.0K Sequential Write
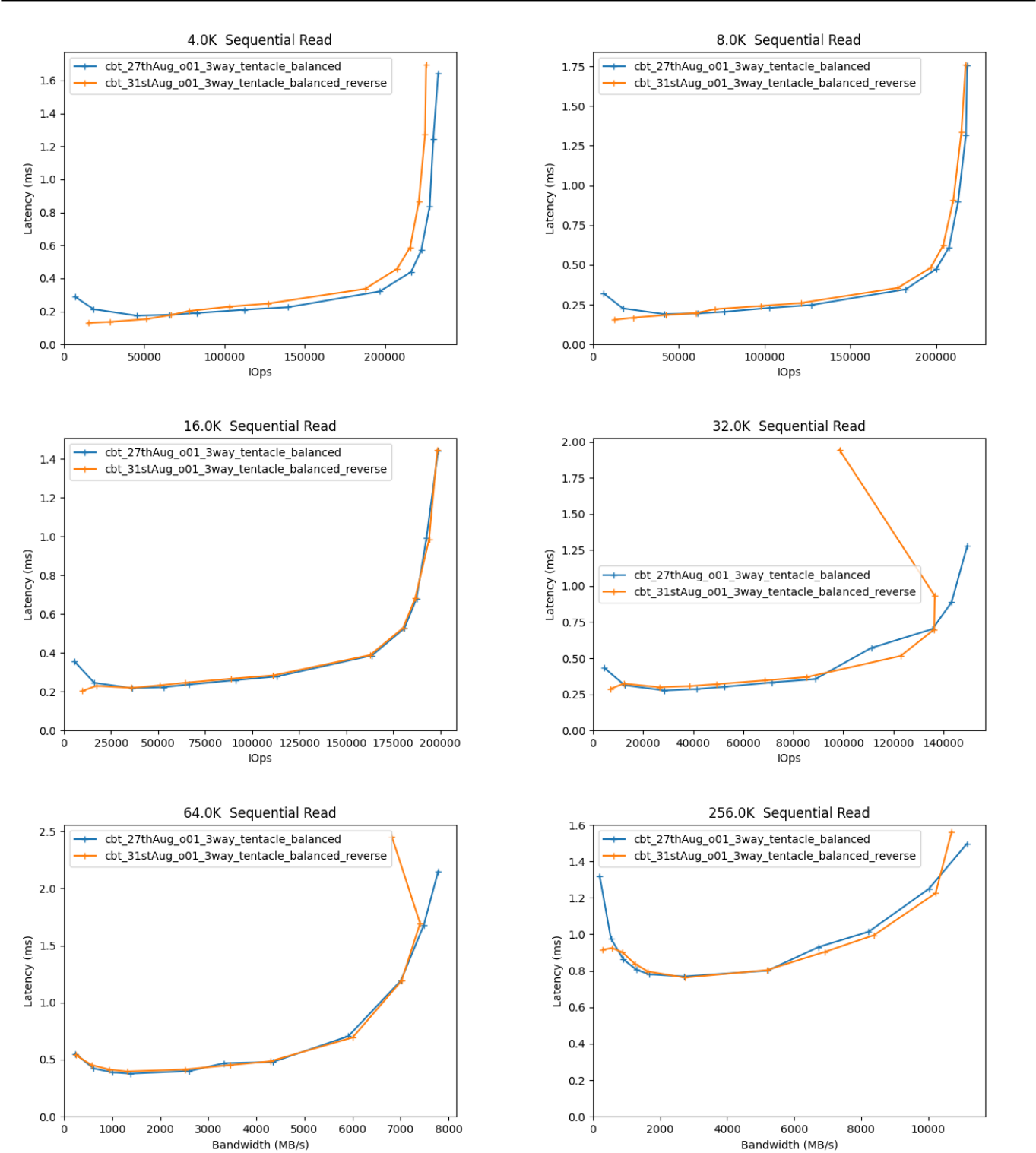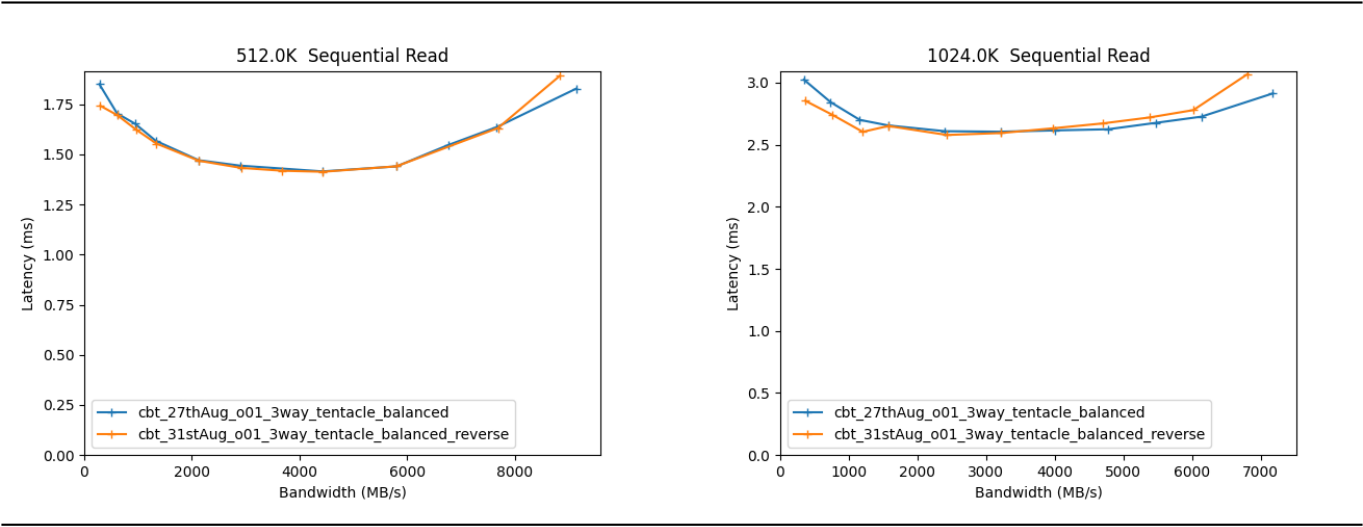
1024.0K Sequential Write

Random Read
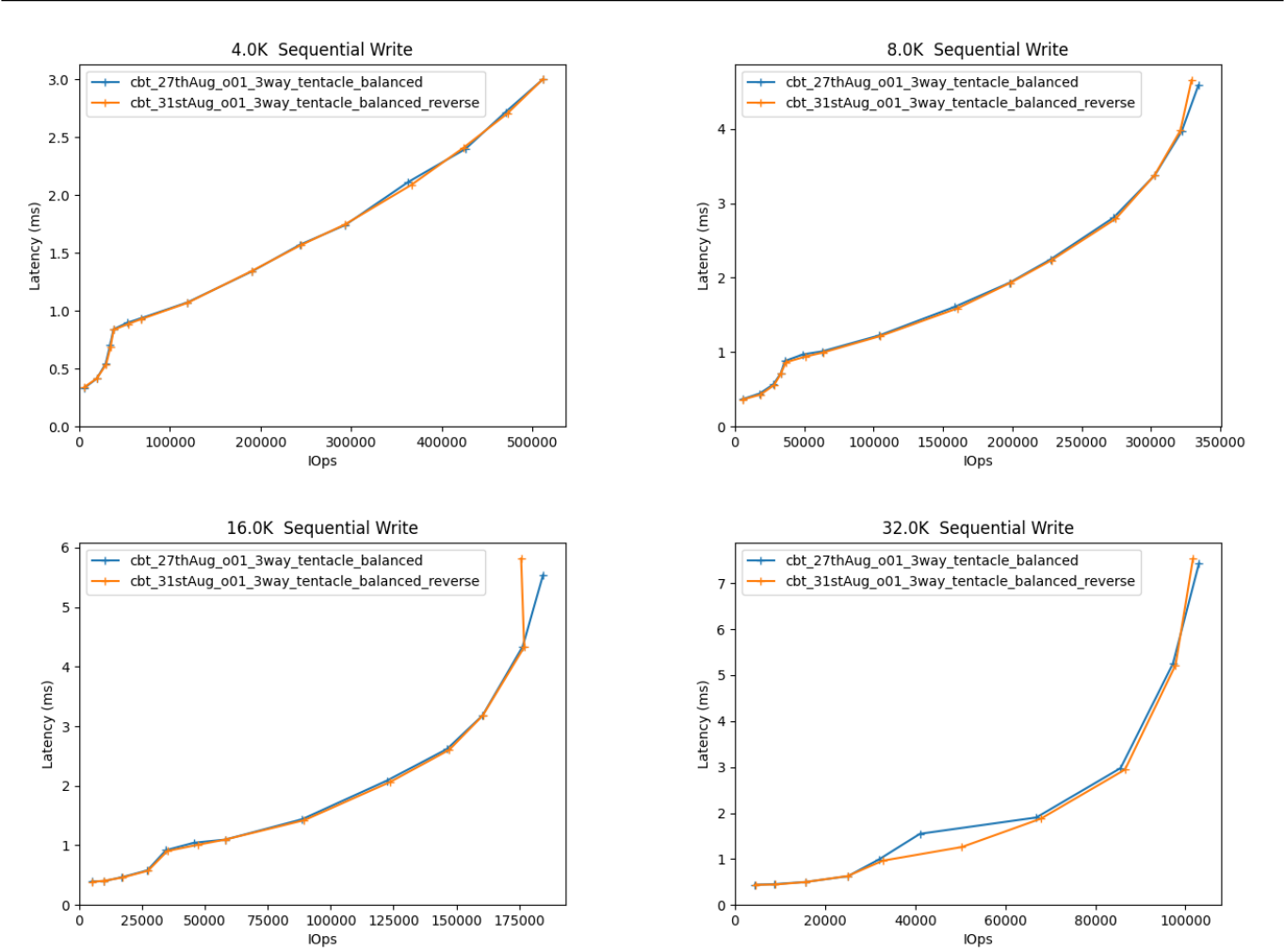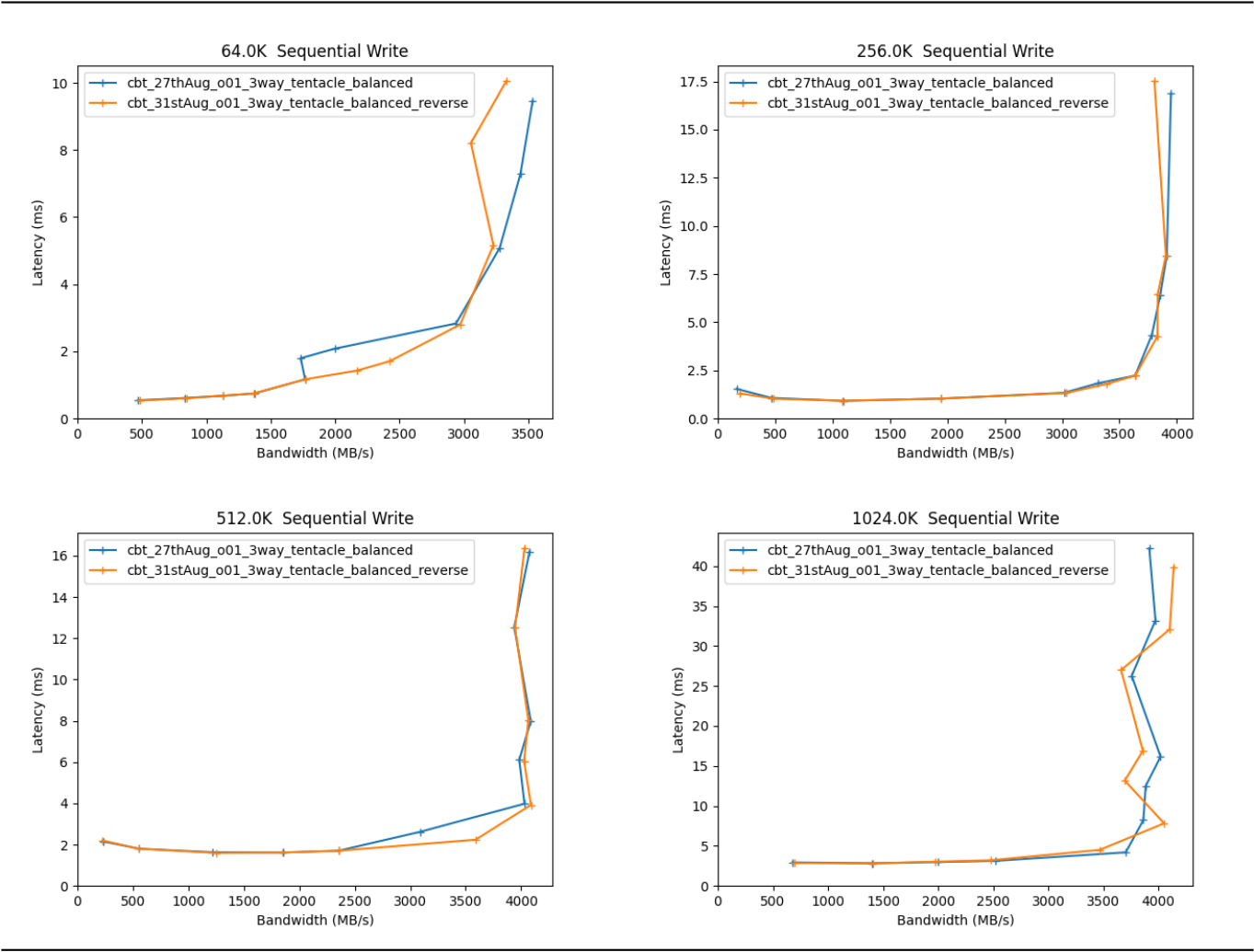
4.0K Random Read

8.0K Random Read

Random Write

512.0K Random Write
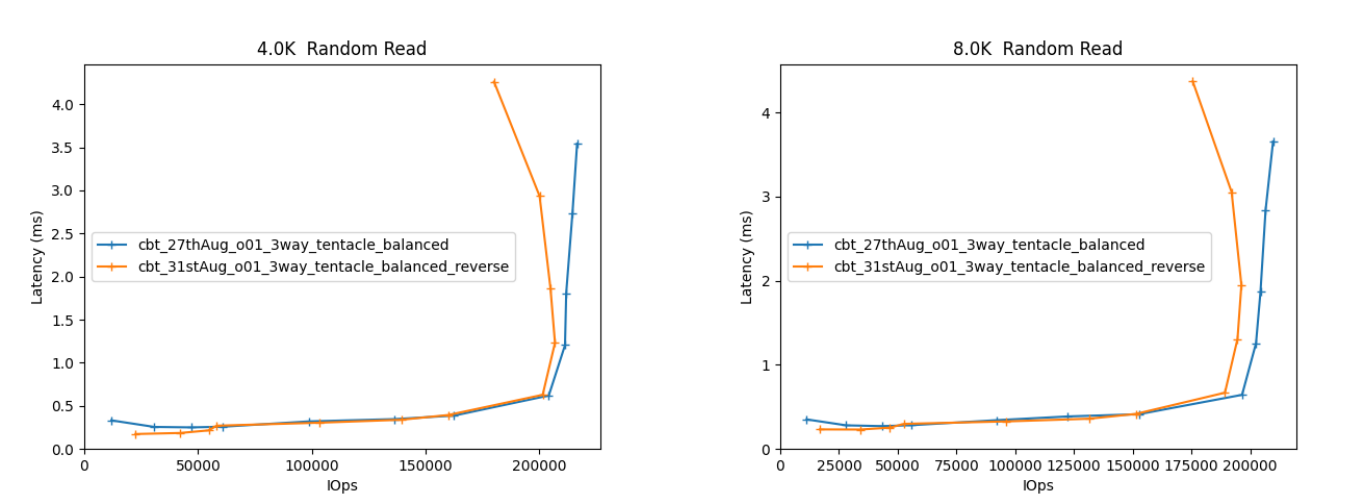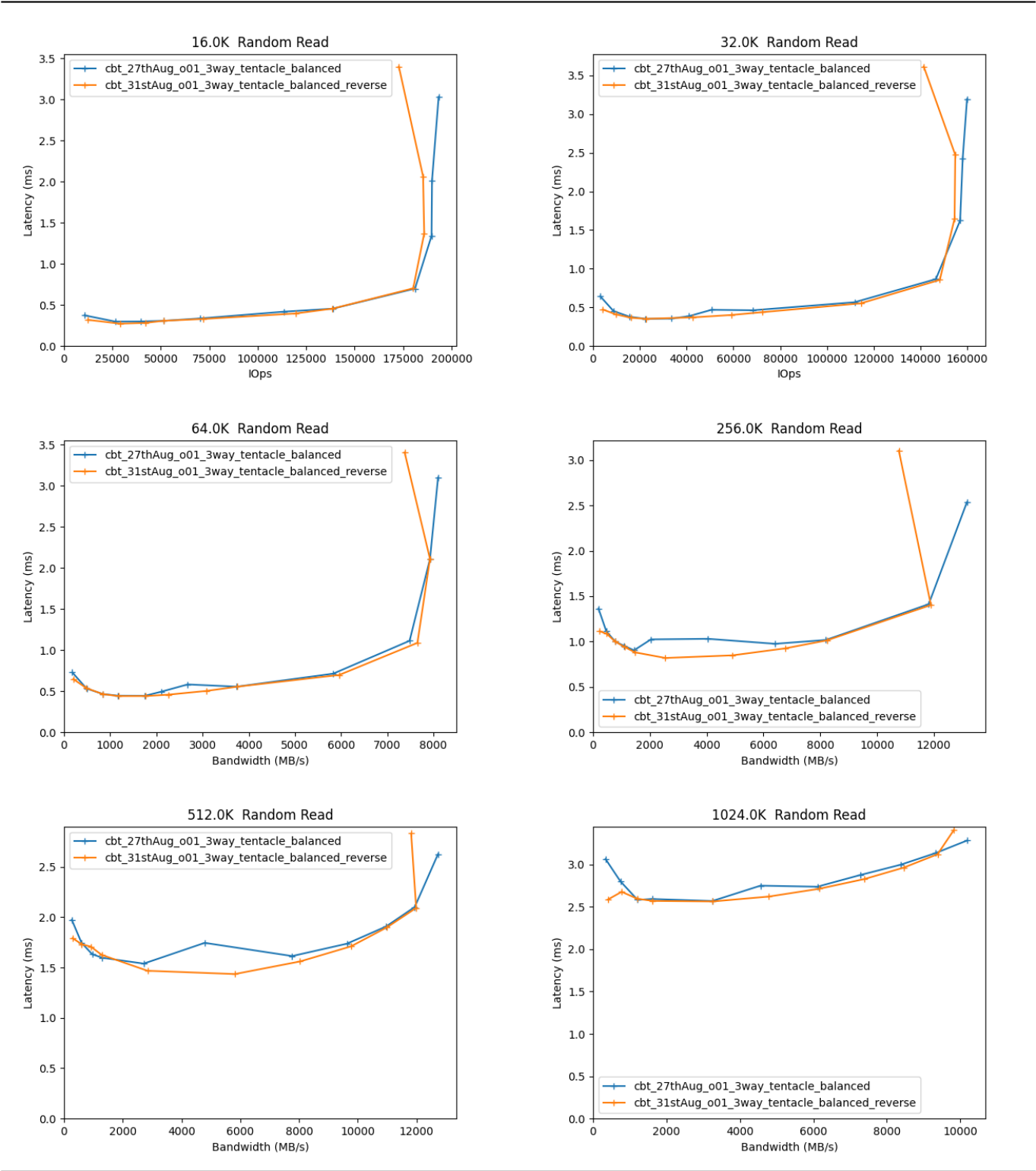
1024.0K Random Write

Random Read/Write

4.0K 70/30 Random Read/Write

16.0K 70/30 Random Read/Write

64.0K 30/70 Random Read/Write
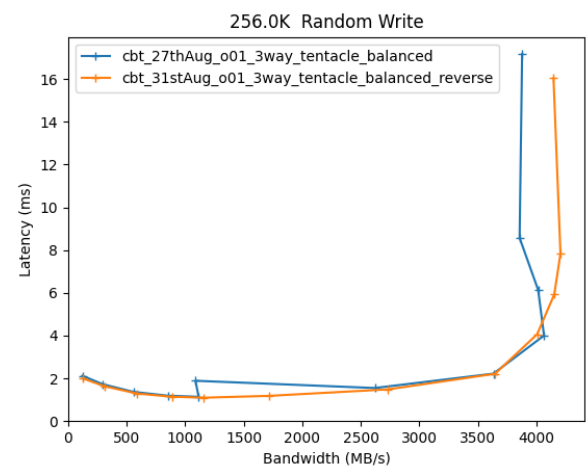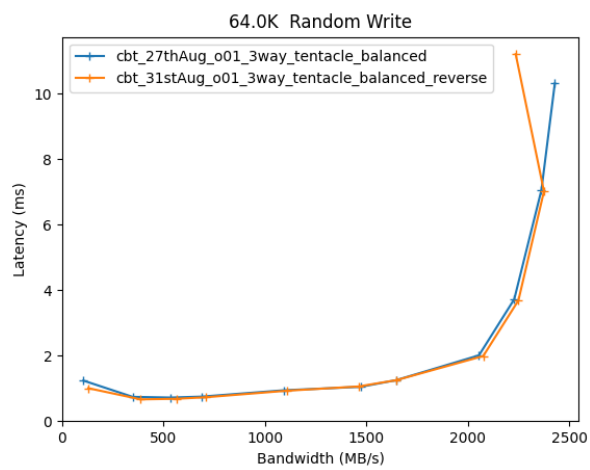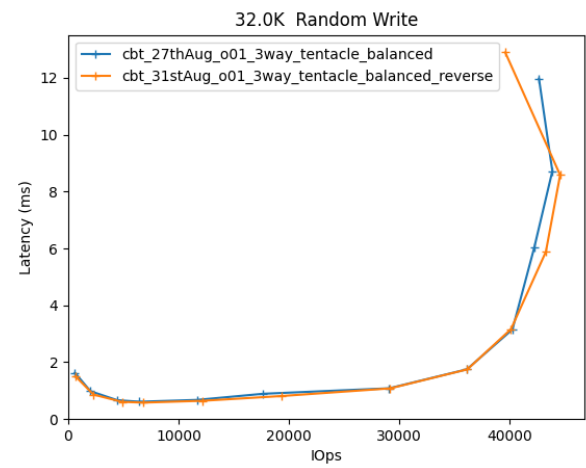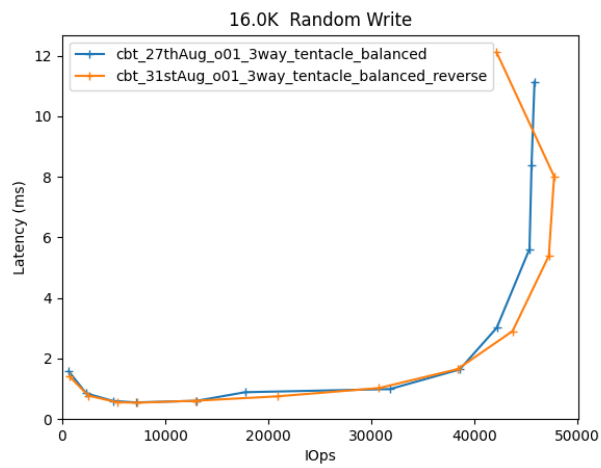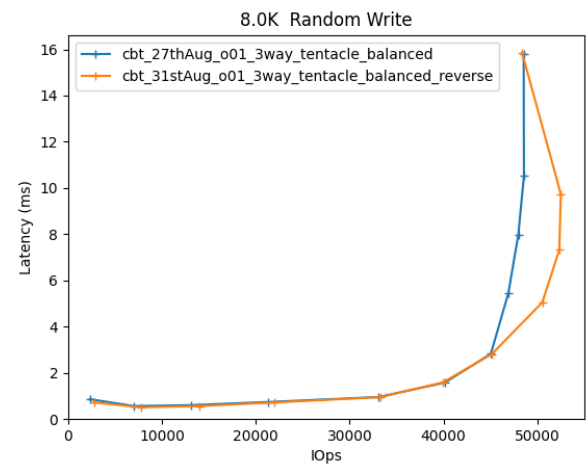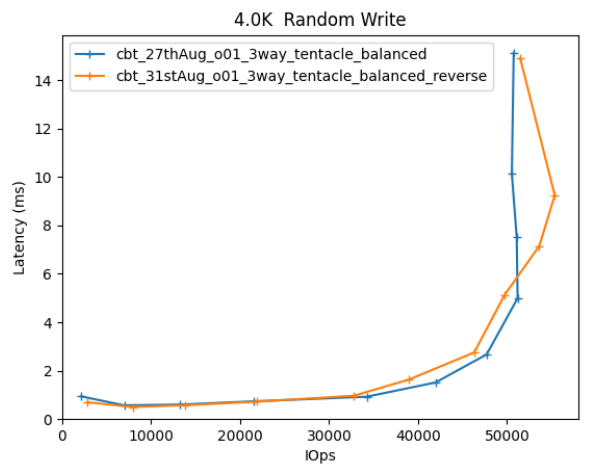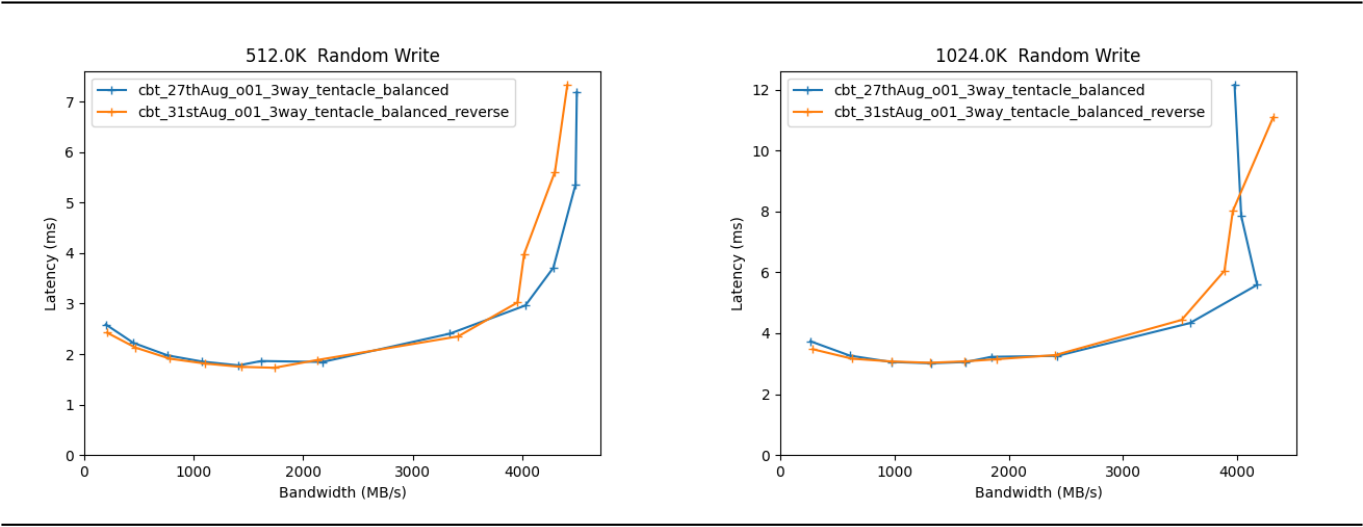
64.0K 70/30 Random Read/Write
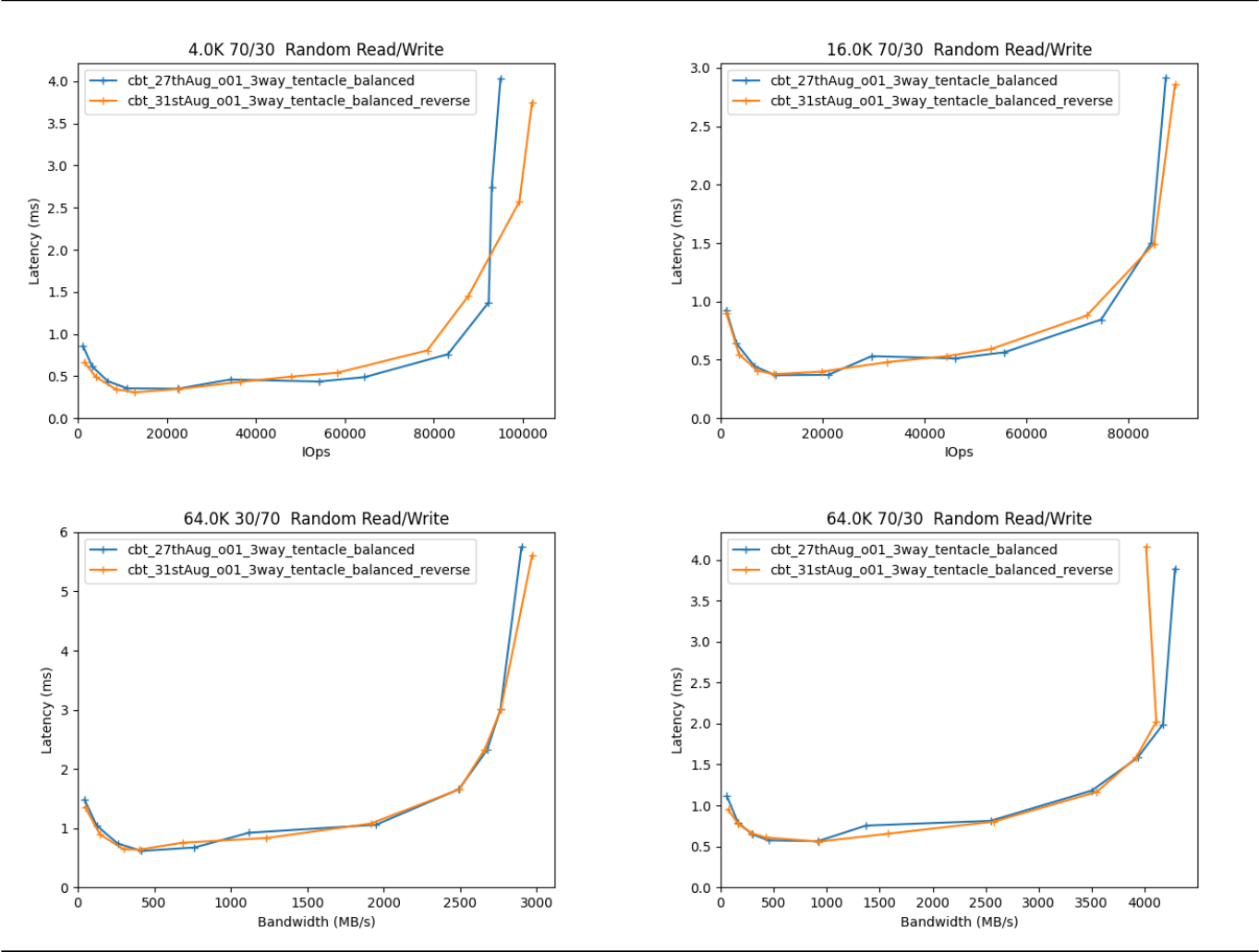
Configuration yaml files

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
```

```yaml
      - 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}
```

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:
      - 256
      - 128
      - 64
      - 32
      - 24
      - 16
      - 8
      - 4
      - 3
      - 2
      - 1
    16krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 16384
      total_iodepth:
      - 588
      - 384
      - 256
      - 128
      - 64
      - 48
      - 24
      - 16
      - 12
      - 8
```

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

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

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

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

```
            - 24
            - 16
            - 8
            - 6
            - 5
            - 4
            - 3
            - 2
            - 1
        512kseqread:
          jobname: seqread
          mode: read
          numjobs:
          - 1
          op_size: 524288
          total_iodepth:
          - 32
          - 24
          - 10
          - 16
          - 12
          - 8
          - 6
          - 4
          - 3
          - 2
          - 1
        512kseqwrite:
          jobname: seqwrite
          mode: write
          numjobs:
          - 1
          op_size: 524288
          total_iodepth:
          - 128
          - 96
          - 64
          - 48
          - 32
          - 16
          - 8
          - 6
          - 4
          - 2
          - 1
        64k3070:
          jobname: randmix
          mode: randrw
          numjobs:
          - 1
          op_size: 65536
          rwmixread: 30
          total_iodepth:
          - 256
          - 128
          - 96
          - 64
          - 32
          - 16
          - 8
          - 4
          - 3
          - 2
```

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

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

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

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

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

```yaml
      numjobs:
      - 1
      op_size: 8192
      total_iodepth:
      - 1536
      - 1280
      - 1024
      - 768
      - 512
      - 384
      - 256
      - 128
      - 64
      - 48
      - 32
      - 24
      - 16
      - 8
      - 2
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:
        - 256
        - 128
        - 64
        - 32
        - 24
        - 16
        - 8
        - 4
        - 3
        - 2
        - 1
      16krandomread:
        jobname: randread
        mode: randread
        numjobs:
        - 1
        op_size: 16384
        total_iodepth:
        - 588
        - 384
        - 256
        - 128
        - 64
        - 48
        - 24
        - 16
        - 12
        - 8
        - 4
      16krandomwrite:
        jobname: randwrite
        mode: randwrite
        numjobs:
        - 1
        op_size: 16384
        total_iodepth:
        - 512
        - 384
        - 256
```

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

```
    1Mseqwrite:
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      op_size: 1048576
      total_iodepth:
      - 160
      - 128
      - 96
      - 64
      - 48
      - 32
      - 16
      - 8
      - 6
      - 4
      - 2
    256krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 262144
      total_iodepth:
      - 128
      - 64
      - 32
      - 24
      - 16
      - 8
      - 5
      - 4
      - 3
      - 2
      - 1
    256krandomwrite:
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      op_size: 262144
      total_iodepth:
      - 256
      - 128
      - 96
      - 64
      - 32
      - 16
      - 8
      - 5
      - 4
      - 3
      - 2
      - 1
    32krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 32768
      total_iodepth:
      - 512
```

```
            - 384
            - 256
            - 128
            - 64
            - 32
            - 24
            - 16
            - 8
            - 6
            - 4
            - 2
        32krandomwrite:
          jobname: randwrite
          mode: randwrite
          numjobs:
          - 1
          op_size: 32768
          total_iodepth:
          - 512
          - 384
          - 256
          - 128
          - 64
          - 32
          - 16
          - 8
          - 4
          - 3
          - 2
          - 1
        4k7030:
          jobname: randmix
          mode: randrw
          numjobs:
          - 1
          op_size: 4096
          rwmixread: 70
          total_iodepth:
          - 384
          - 256
          - 128
          - 64
          - 32
          - 24
          - 16
          - 8
          - 4
          - 3
          - 2
          - 1
        4krandomread:
          jobname: randread
          mode: randread
          numjobs:
          - 1
          op_size: 4096
          total_iodepth:
          - 768
          - 588
          - 384
          - 256
          - 128
          - 64
```

```
        - 48
        - 32
        - 16
        - 12
        - 8
        - 4
    4krandomwrite:
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      op_size: 4096
      total_iodepth:
      - 768
      - 512
      - 384
      - 256
      - 128
      - 64
      - 32
      - 16
      - 8
      - 4
      - 2
    512krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 524288
      total_iodepth:
      - 64
      - 48
      - 40
      - 32
      - 24
      - 16
      - 8
      - 4
      - 3
      - 2
      - 1
    512krandomwrite:
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      op_size: 524288
      total_iodepth:
      - 64
      - 48
      - 32
      - 24
      - 16
      - 8
      - 6
      - 5
      - 4
      - 3
      - 2
      - 1
    512kseqread:
      jobname: seqread
```

```
        mode: read
        numjobs:
        - 1
        op_size: 524288
        total_iodepth:
        - 32
        - 24
        - 10
        - 16
        - 12
        - 8
        - 6
        - 4
        - 3
        - 2
        - 1
    512kseqwrite:
        jobname: seqwrite
        mode: write
        numjobs:
        - 1
        op_size: 524288
        total_iodepth:
        - 128
        - 96
        - 64
        - 48
        - 32
        - 16
        - 8
        - 6
        - 4
        - 2
        - 1
    64k3070:
        jobname: randmix
        mode: randrw
        numjobs:
        - 1
        op_size: 65536
        rwmixread: 30
        total_iodepth:
        - 256
        - 128
        - 96
        - 64
        - 32
        - 16
        - 8
        - 4
        - 3
        - 2
        - 1
    64k7030:
        jobname: randmix
        mode: randrw
        numjobs:
        - 1
        op_size: 65536
        rwmixread: 70
        total_iodepth:
        - 256
        - 128
```

```
      - 96
      - 64
      - 32
      - 16
      - 8
      - 4
      - 3
      - 2
      - 1
  64krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 65536
    total_iodepth:
    - 384
    - 256
    - 128
    - 64
    - 32
    - 24
    - 16
    - 12
    - 8
    - 6
    - 4
    - 2
  64krandomwrite:
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 65536
    total_iodepth:
    - 384
    - 256
    - 128
    - 64
    - 32
    - 24
    - 16
    - 8
    - 6
    - 4
    - 2
  64kseqread:
    jobname: read
    mode: read
    numjobs:
    - 1
    op_size: 65536
    total_iodepth:
    - 256
    - 192
    - 128
    - 64
    - 32
    - 24
    - 16
    - 8
    - 6
    - 4
```

```
      - 2
  64kseqwrite:
    jobname: write
    mode: write
    numjobs:
    - 1
    op_size: 65536
    total_iodepth:
    - 512
    - 384
    - 256
    - 128
    - 64
    - 48
    - 32
    - 16
    - 12
    - 8
    - 4
  8krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 8192
    total_iodepth:
    - 768
    - 588
    - 384
    - 256
    - 128
    - 64
    - 48
    - 32
    - 16
    - 12
    - 8
    - 4
  8krandomwrite:
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 8192
    total_iodepth:
    - 768
    - 512
    - 384
    - 256
    - 128
    - 64
    - 32
    - 16
    - 8
    - 4
    - 2
  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:
    - 288
    - 192
    - 128
    - 96
    - 64
    - 32
    - 24
    - 16
    - 12
    - 8
    - 4
    - 2
  seq16kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 16384
    total_iodepth:
    - 1024
    - 768
    - 512
    - 384
    - 256
    - 128
    - 64
    - 48
    - 32
    - 16
    - 8
    - 4
    - 2
  seq256kread:
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 262144
    total_iodepth:
    - 64
    - 48
    - 32
    - 24
    - 16
    - 8
    - 5
    - 4
    - 3
    - 2
    - 1
  seq256kwrite:
    jobname: seqwrite
    mode: write
```

```
    numjobs:
    - 1
    op_size: 262144
    total_iodepth:
    - 256
    - 128
    - 96
    - 64
    - 32
    - 24
    - 16
    - 8
    - 4
    - 2
    - 1
  seq32kread:
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 32768
    total_iodepth:
    - 192
    - 128
    - 96
    - 64
    - 32
    - 24
    - 16
    - 12
    - 8
    - 4
    - 2
  seq32kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 32768
    total_iodepth:
    - 768
    - 512
    - 256
    - 128
    - 64
    - 32
    - 16
    - 8
    - 4
    - 2
  seq4kread:
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 4096
    total_iodepth:
    - 384
    - 288
    - 192
    - 128
    - 96
    - 64
```

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

```
        - 128
        - 64
        - 48
        - 32
        - 24
        - 16
        - 8
        - 2
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}
```