Comparitive Performance Report for cbt-7thJan-alexls13-4k vs cbt-21stDec-alexls12-32k vs cbt-23rdDec-main-3way

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Comparison summary for cbt-7thJan-alexls13-4k vs cbt-21stDec-alexls12-32k vs cbt-23rdDec-main-3way

Sequential Read	cbt_21stDec_alexls12_32k	cbt_23rdDec_main_3way	cbt_7thJan_alexls13_4k
4K	26256 IOps@7.3ms	14325 IOps@13.4ms	24765 IOps@7.7ms
8K	23463 IOps@8.2ms	11027 IOps@17.4ms	16476 IOps@11.6ms
16K	24998 IOps@7.7ms	12035 IOps@15.9ms	11084 IOps@17.3ms
32K	27040 IOps@7.1ms	13391 IOps@14.3ms	11215 IOps@17.1ms
64K	1389 MB/s@12.1ms	1028 MB/s@16.3ms	971 MB/s@17.3ms
256K	1545 MB/s@10.9ms	1384 MB/s@12.1ms	1474 MB/s@11.4ms
512K	1586 MB/s@10.6ms	1497 MB/s@16.8ms	1494 MB/s@11.2ms
1024K	1595 MB/s@13.1ms	1482 MB/s@17.0ms	1518 MB/s@13.8ms

Sequential Write	cbt_21stDec_alexls12_32k	cbt_23rdDec_main_3way	cbt_7thJan_alexls13_4k
4K	3947 IOps@64.8ms	9078 IOps@28.2ms	822 IOps@310.7ms
8K	4213 IOps@60.8ms	8827 IOps@21.7ms	1600 IOps@2.5ms
16K	3873 IOps@49.6ms	7173 IOps@26.8ms	4786 IOps@40.1ms
32K	4473 IOps@28.6ms	6893 IOps@3.5ms	5703 IOps@22.4ms
64K	153 MB/s@54.8ms	135 MB/s@31.0ms	189 MB/s@44.3ms
256K	585 MB/s@5.3ms	216 MB/s@2.4ms	467 MB/s@8.9ms
512K	450 MB/s@37.1ms	208 MB/s@80.5ms	417 MB/s@7.5ms
1024K	483 MB/s@43.1ms	184 MB/s@79.5ms	524 MB/s@31.7ms

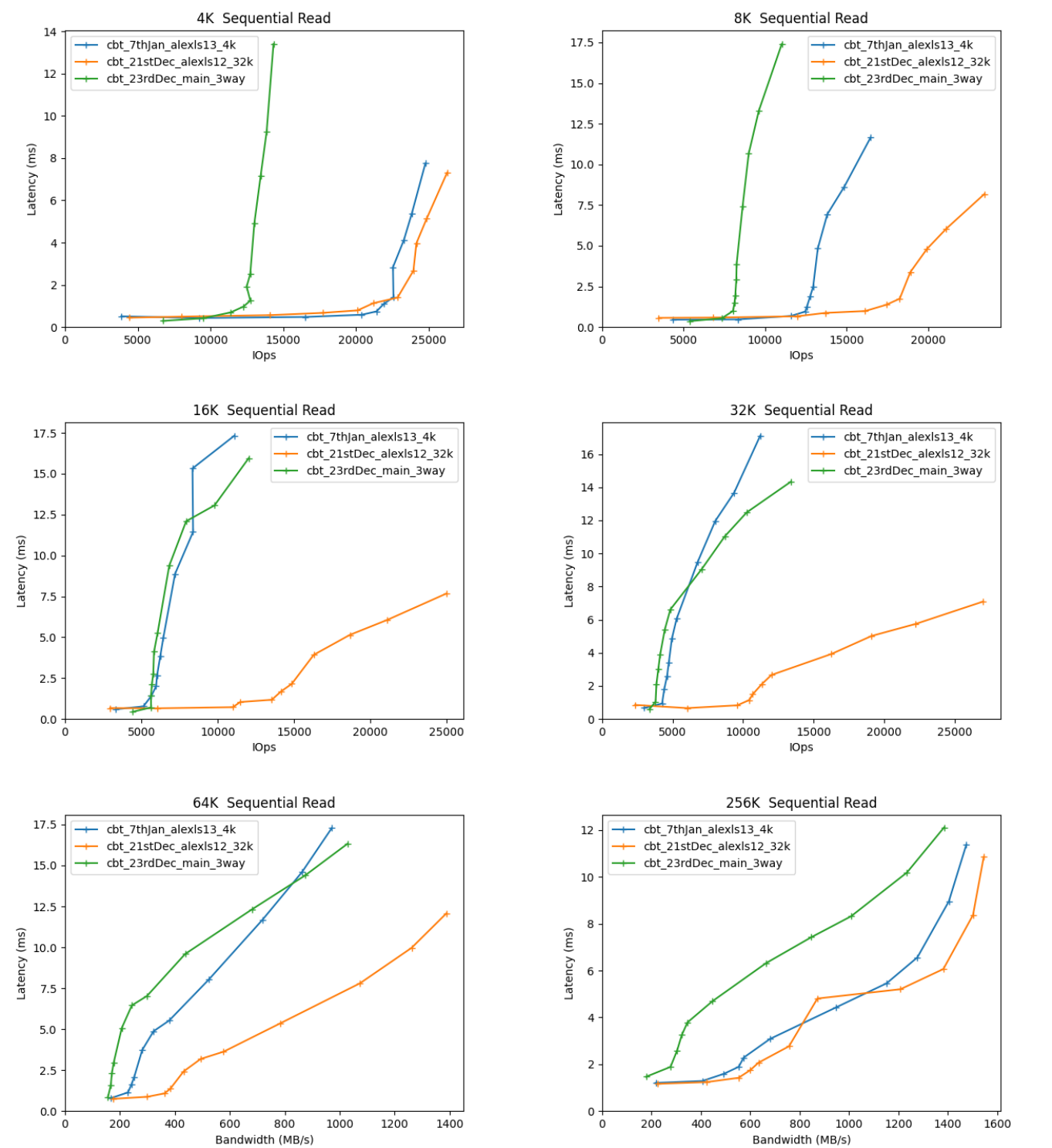| Random Read	cbt_21stDec_alexls12_32k	cbt_23rdDec_main_3way	cbt_7thJan_alexls13_4k
4K	96488 IOps@4.0ms	133119 IOps@2.9ms	92303 IOps@4.2ms
8K	88567 IOps@4.3ms	121487 IOps@3.2ms	56565 IOps@6.8ms
16K	81282 IOps@4.7ms	95513 IOps@2.7ms	31265 IOps@8.2ms
32K	53553 IOps@4.8ms	50671 IOps@5.1ms	29166 IOps@8.8ms
64K	1750 MB/s@9.6ms	1679 MB/s@10.0ms	1607 MB/s@10.4ms
256K	1746 MB/s@9.6ms	1689 MB/s@19.9ms	1697 MB/s@19.8ms
512K	1729 MB/s@19.4ms	1686 MB/s@19.9ms	1701 MB/s@19.7ms
1024K	1725 MB/s@19.5ms	1675 MB/s@20.0ms	1709 MB/s@19.6ms

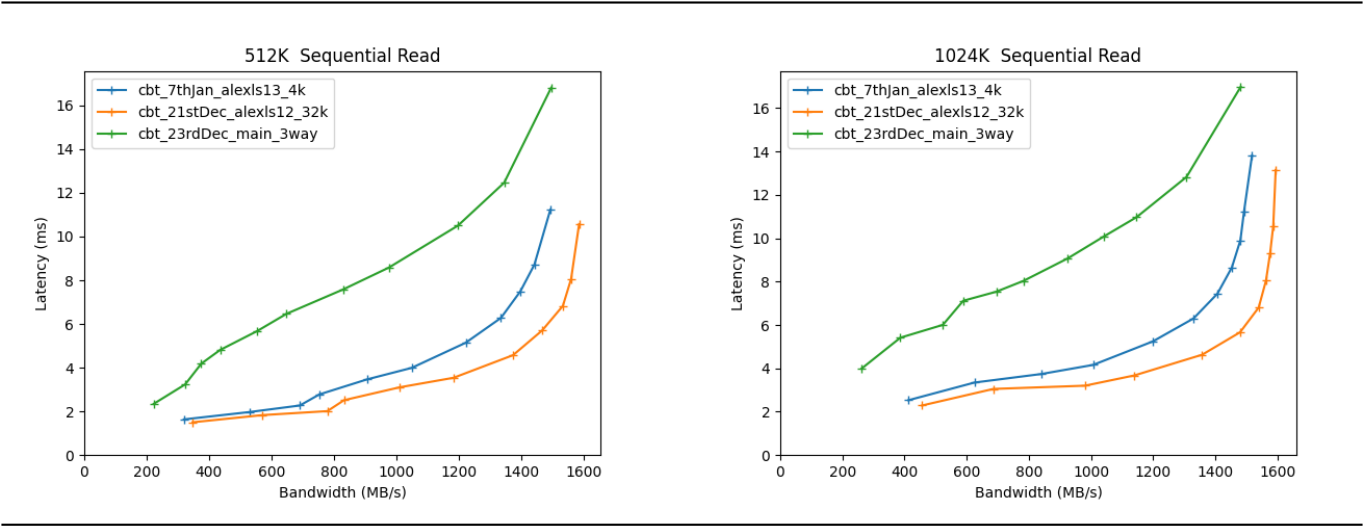| Random Write	cbt_21stDec_alexls12_32k	cbt_23rdDec_main_3way	cbt_7thJan_alexls13_4k
4K	5240 IOps@24.4ms	20280 IOps@9.5ms	5193 IOps@24.6ms
8K	4256 IOps@30.1ms	13196 IOps@9.7ms	5302 IOps@24.1ms
16K	3520 IOps@36.3ms	8244 IOps@7.8ms	4416 IOps@29.0ms
32K	2113 IOps@60.5ms	4410 IOps@29.0ms	3621 IOps@35.3ms
64K	128 MB/s@65.6ms	239 MB/s@35.1ms	185 MB/s@22.7ms
256K	393 MB/s@21.3ms	239 MB/s@17.5ms	374 MB/s@44.7ms

Comparison summary for cbt-7thJan-alexls13-4k vs cbt-21stDec-alexls12-32k vs cbt-23rdDec-main-3way

Random Write	cbt_21stDec_alexls12_32k	cbt_23rdDec_main_3way	cbt_7thJan_alexls13_4k
512K	469 MB/s@71.3ms	234 MB/s@44.7ms	484 MB/s@43.2ms
1024K	479 MB/s@69.8ms	209 MB/s@39.9ms	515 MB/s@24.0ms

| Random Read/Write	cbt_21stDec_alexls12_32k	cbt_23rdDec_main_3way	cbt_7thJan_alexls13_4k
16K_70/30	7997 IOps@16.0ms	11926 IOps@10.7ms	6413 IOps@19.9ms
64K_30/70	168 MB/s@50.0ms	295 MB/s@28.4ms	198 MB/s@21.2ms
64K_70/30	263 MB/s@31.9ms	420 MB/s@20.0ms	277 MB/s@30.3ms

Response Curves
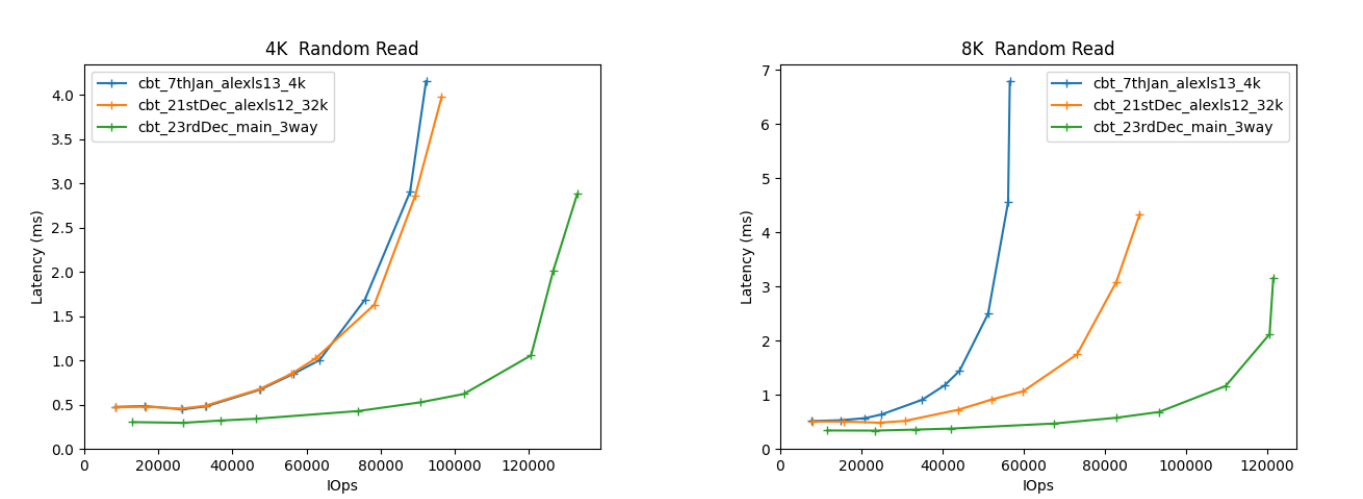
Sequential Read

512K Sequential Read

1024K Sequential Read

Sequential Write

4K Sequential Write

8K Sequential Write

16K Sequential Write

32K Sequential Write
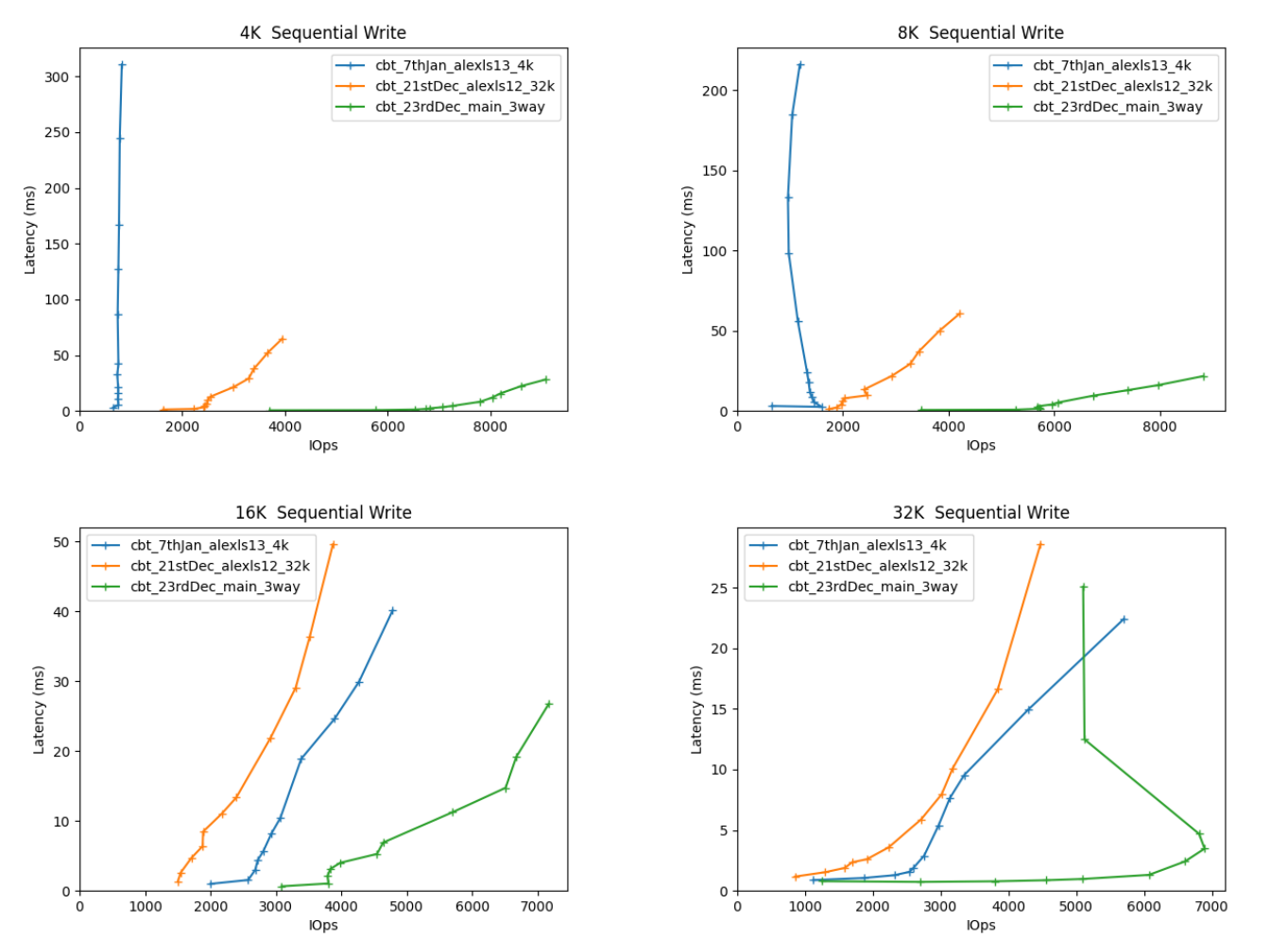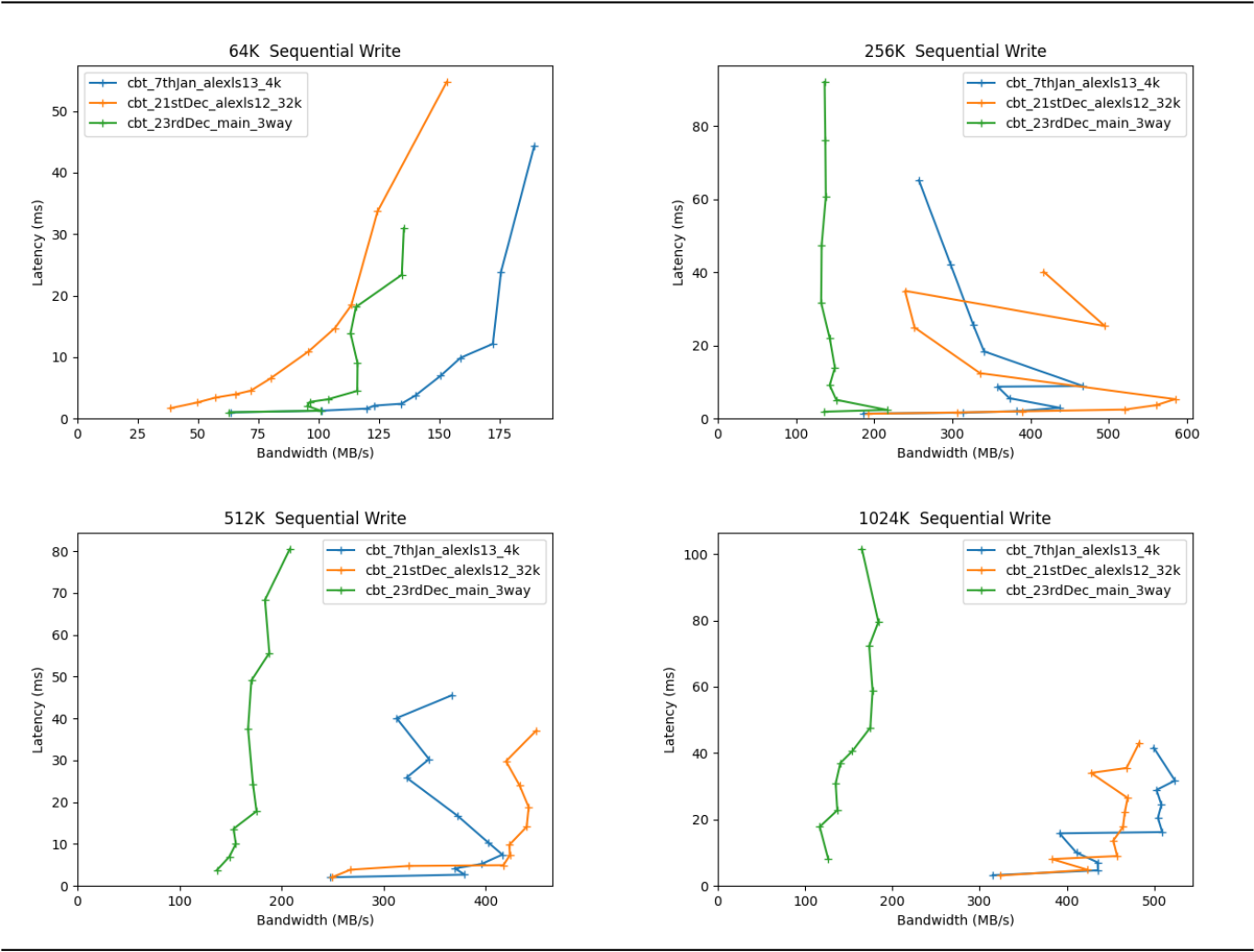
Random Read
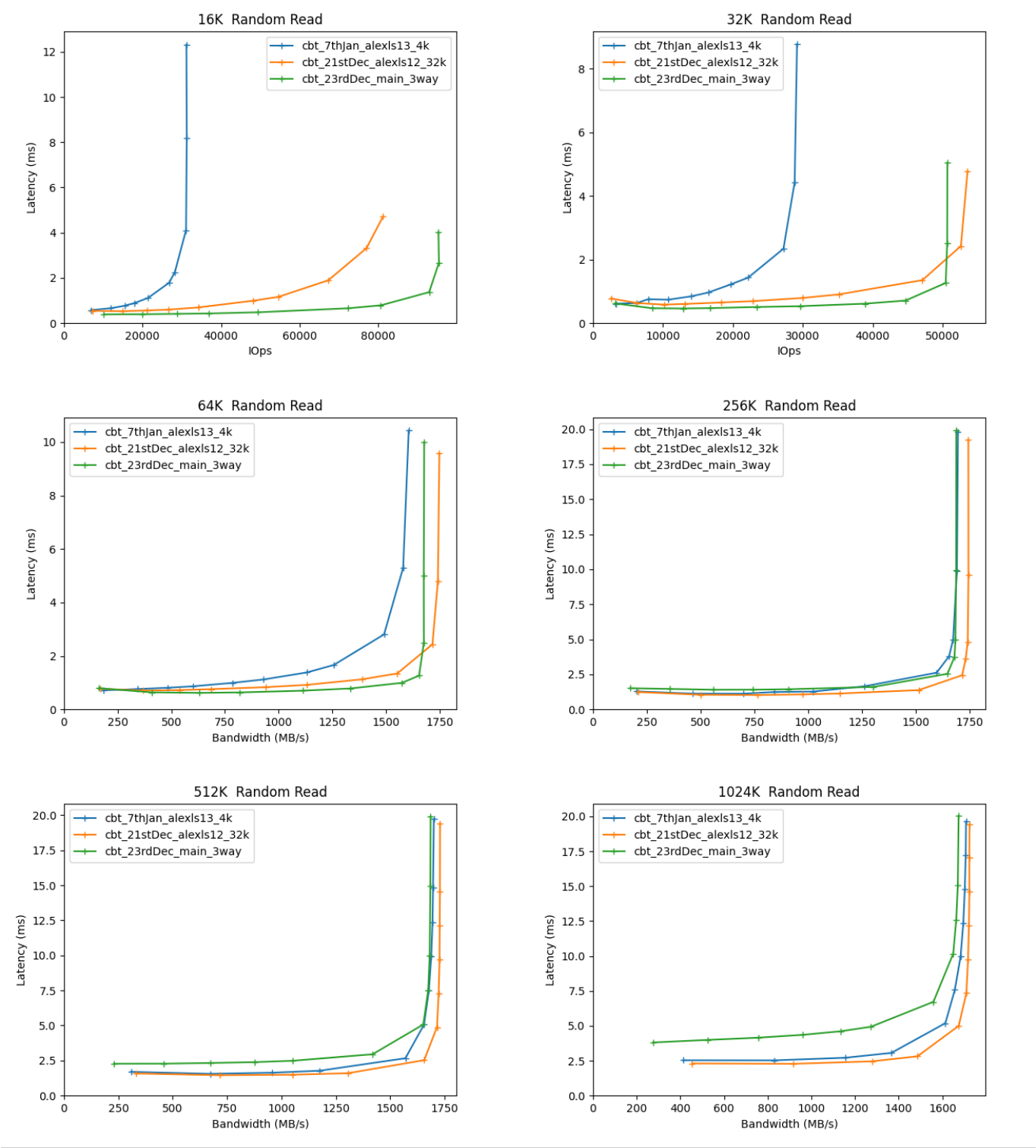
Random Write

Random Read/Write
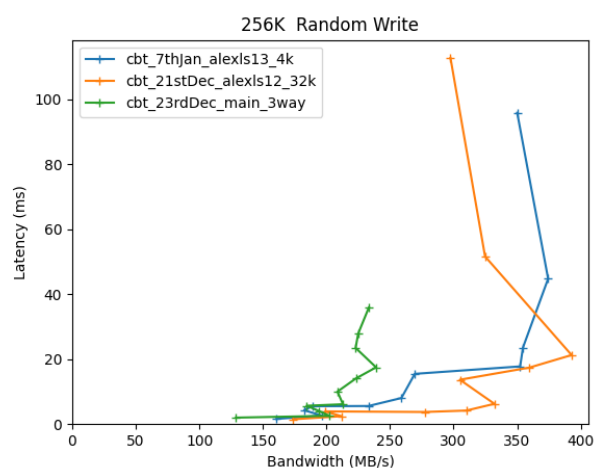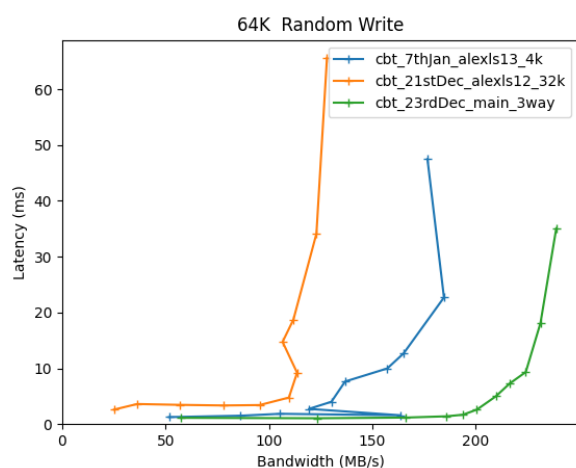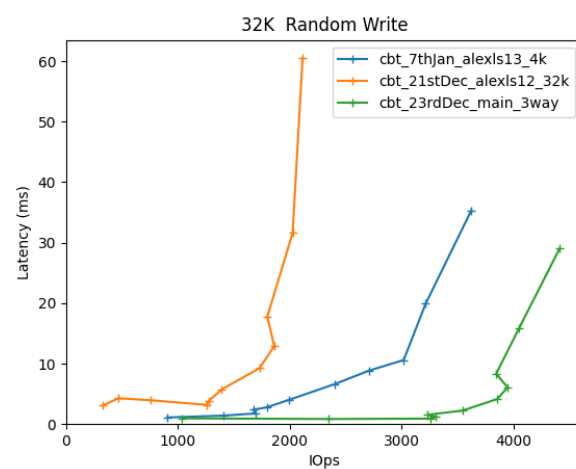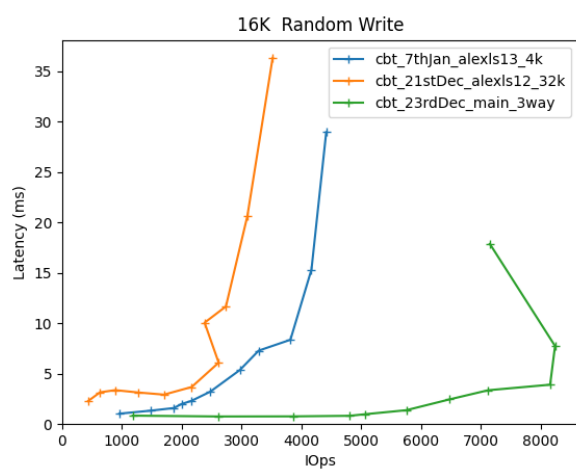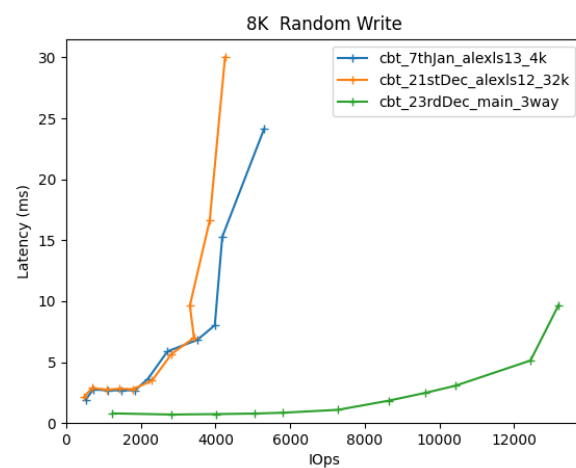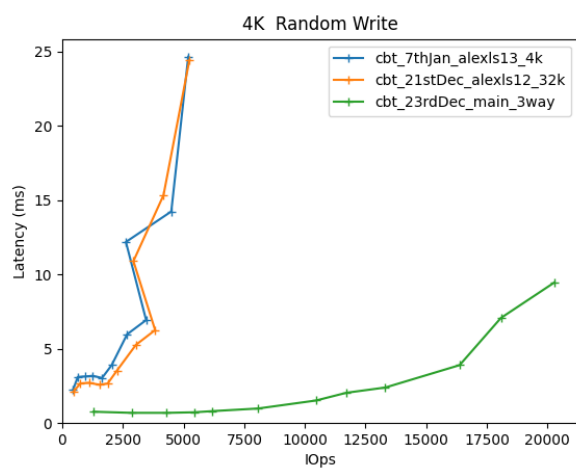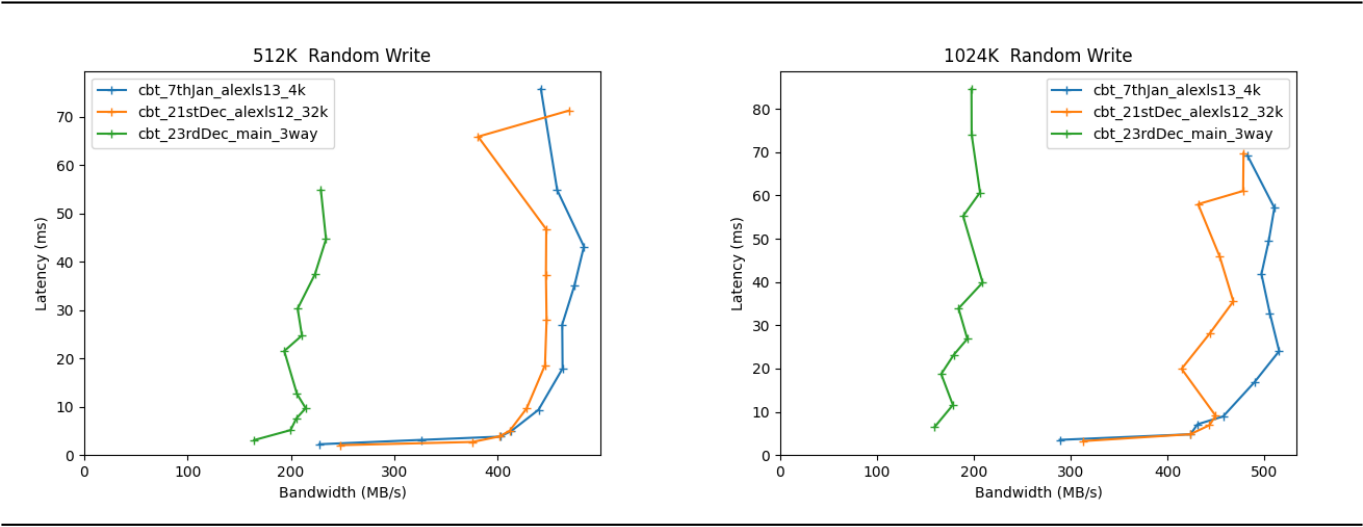
Configuration yaml files

results

```
librbdfio:
  cmd_path: /usr/local/bin/fio
  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
  precond_time: 600
  prefill:
    blocksize: 64k
    numjobs: 1
  procs_per_volume:
  - 1
  ramp: 30
  time: 60
  time_based: true
  use_existing_volumes: true
  vol_size: 420000
  volumes_per_client:
  - 1
  workloads:
    16k7030:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      jobname: randmix
      mode: randrw
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
```

```
      - 1
      - 1
      - 1
      op_size: 16384
      rwmixread: 70
    16krandomread:
      iodepth:
      - 4
      - 8
      - 12
      - 16
      - 24
      - 48
      - 64
      - 128
      - 256
      - 384
      jobname: randread
      mode: randread
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 16384
    16krandomwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 16384
    1Mrandomread:
      iodepth:
      - 1
```

```
      - 2
      - 3
      - 4
      - 8
      - 12
      - 16
      - 20
      - 24
      - 28
      - 32
      jobname: randread
      mode: randread
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 1048576
    1Mrandomwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 8
      - 12
      - 16
      - 20
      - 24
      - 28
      - 32
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 1048576
    1Mseqread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 6
      - 8
      - 10
      - 12
```

```
      - 14
      - 16
      - 20
      jobname: seqread
      mode: read
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 1048576
    1Mseqwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 6
      - 8
      - 10
      - 12
      - 14
      - 16
      - 20
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 1048576
    256krandomread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      jobname: randread
      mode: randread
      numjobs:
      - 1
```

```
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
    op_size: 262144
  256krandomwrite:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 24
    - 32
    - 64
    - 128
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 262144
  32krandomread:
    iodepth:
    - 2
    - 4
    - 6
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 128
    - 256
    jobname: randread
    mode: randread
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
```

```
      - 1
      - 1
      - 1
      op_size: 32768
    32krandomwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 32768
    4krandomread:
      iodepth:
      - 4
      - 8
      - 12
      - 16
      - 32
      - 48
      - 64
      - 128
      - 256
      - 384
      jobname: randread
      mode: randread
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 4096
    4krandomwrite:
      iodepth:
      - 1
      - 2
```

```
     - 3
     - 4
     - 5
     - 8
     - 16
     - 24
     - 32
     - 64
     - 128
     jobname: randwrite
     mode: randwrite
     numjobs:
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     op_size: 4096
   512krandomread:
     iodepth:
     - 1
     - 2
     - 3
     - 4
     - 8
     - 16
     - 24
     - 32
     - 40
     - 48
     - 64
     jobname: randread
     mode: randread
     numjobs:
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     op_size: 524288
   512krandomwrite:
     iodepth:
     - 1
     - 2
     - 3
     - 4
     - 8
     - 16
     - 24
     - 32
     - 40
```

```
        - 48
        - 64
        jobname: randwrite
        mode: randwrite
        numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        op_size: 524288
    512kseqread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 6
      - 8
      - 12
      - 16
      - 20
      - 24
      - 32
      jobname: seqread
      mode: read
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 524288
    512kseqwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 6
      - 8
      - 12
      - 16
      - 20
      - 24
      - 32
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      - 1
```

```
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
      op_size: 524288
    64k3070:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      jobname: randmix
      mode: randrw
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 65536
      rwmixread: 30
    64k7030:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      jobname: randmix
      mode: randrw
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
```

```
      - 1
      - 1
      - 1
    op_size: 65536
    rwmixread: 70
  64krandomread:
    iodepth:
    - 2
    - 4
    - 6
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 128
    - 256
    jobname: randread
    mode: randread
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 65536
  64krandomwrite:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 24
    - 32
    - 64
    - 128
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 65536
  64kseqread:
    iodepth:
```

```
        - 2
        - 4
        - 6
        - 8
        - 16
        - 24
        - 32
        - 64
        - 128
        - 192
        - 256
      jobname: read
      mode: read
      numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
      op_size: 65536
    64kseqwrite:
      iodepth:
        - 1
        - 2
        - 3
        - 4
        - 5
        - 8
        - 16
        - 24
        - 32
        - 64
        - 128
      jobname: write
      mode: write
      numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
      op_size: 65536
    8krandomread:
      iodepth:
        - 4
        - 8
        - 12
        - 16
        - 32
        - 48
        - 64
```

```
      - 128
      - 256
      - 384
      jobname: randread
      mode: randread
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 8192
    8krandomwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 8192
    precondition:
      iodepth:
      - 4
      jobname: precond1rw
      mode: randwrite
      monitor: false
      numjobs:
      - 1
      op_size: 65536
      precond: true
    seq16kread:
      iodepth:
      - 2
      - 4
      - 8
      - 12
      - 16
```

```
      - 24
      - 32
      - 64
      - 96
      - 128
      - 192
      jobname: seqread
      mode: read
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 16384
    seq16kwrite:
      iodepth:
      - 2
      - 4
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
      - 96
      - 128
      - 192
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 16384
    seq256kread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 48
      - 64
      jobname: seqread
```

```
      mode: read
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 262144
    seq256kwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 5
      - 8
      - 12
      - 16
      - 24
      - 32
      - 48
      - 64
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 262144
    seq32kread:
      iodepth:
      - 2
      - 4
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
      - 96
      - 128
      - 192
      jobname: seqread
      mode: read
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
```

```
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
      op_size: 32768
    seq32kwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 32768
    seq4kread:
      iodepth:
      - 2
      - 4
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
      - 96
      - 128
      - 192
      jobname: seqread
      mode: read
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 4096
```

```
seq4kwrite:
  iodepth:
  - 2
  - 4
  - 8
  - 12
  - 16
  - 24
  - 32
  - 64
  - 96
  - 128
  - 192
  - 256
  jobname: seqwrite
  mode: write
  numjobs:
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  op_size: 4096
seq8kread:
  iodepth:
  - 2
  - 4
  - 8
  - 12
  - 16
  - 24
  - 32
  - 64
  - 96
  - 128
  - 192
  jobname: seqread
  mode: read
  numjobs:
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  op_size: 8192
seq8kwrite:
  iodepth:
  - 2
  - 4
  - 8
```

```
                - 12
                - 16
                - 24
                - 32
                - 64
                - 96
                - 128
                - 192
                - 256
                jobname: seqwrite
                mode: write
                numjobs:
                - 1
                - 1
                - 1
                - 1
                - 1
                - 1
                - 1
                - 1
                - 1
                - 1
                - 1
                - 1
                op_size: 8192
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: 6
  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: root
monitoring_profiles:
  collectl:
    args: -c 18 -sCD -i 10 -P -oz -F0 --rawtoo --sep ";" -f {collectl_dir}
```

results

```
librbdfio:
  cmd_path: /usr/local/bin/fio
  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
  precond_time: 600
  prefill:
    blocksize: 64k
    numjobs: 1
  procs_per_volume:
  - 1
  ramp: 30
  time: 60
  time_based: true
  use_existing_volumes: true
  vol_size: 420000
  volumes_per_client:
  - 1
  workloads:
    16k7030:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      jobname: randmix
      mode: randrw
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 16384
      rwmixread: 70
    16krandomread:
      iodepth:
      - 4
      - 8
      - 12
      - 16
      - 24
```

```
        - 48
        - 64
        - 128
        - 256
        - 384
        jobname: randread
        mode: randread
        numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        op_size: 16384
    16krandomwrite:
        iodepth:
        - 1
        - 2
        - 3
        - 4
        - 5
        - 8
        - 16
        - 24
        - 32
        - 64
        - 128
        jobname: randwrite
        mode: randwrite
        numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        op_size: 16384
    1Mrandomread:
        iodepth:
        - 1
        - 2
        - 3
        - 4
        - 8
        - 12
        - 16
        - 20
        - 24
        - 28
        - 32
        jobname: randread
        mode: randread
```

```
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 1048576
  1Mrandomwrite:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 8
    - 12
    - 16
    - 20
    - 24
    - 28
    - 32
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 1048576
  1Mseqread:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 6
    - 8
    - 10
    - 12
    - 14
    - 16
    - 20
    jobname: seqread
    mode: read
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
```

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

```
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 24
    - 32
    - 64
    - 128
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 262144
  32krandomread:
    iodepth:
    - 2
    - 4
    - 6
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 128
    - 256
    jobname: randread
    mode: randread
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 32768
  32krandomwrite:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
```

```
     - 16
     - 24
     - 32
     - 64
     - 128
     jobname: randwrite
     mode: randwrite
     numjobs:
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     op_size: 32768
   4krandomread:
     iodepth:
     - 4
     - 8
     - 12
     - 16
     - 32
     - 48
     - 64
     - 128
     - 256
     - 384
     jobname: randread
     mode: randread
     numjobs:
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     op_size: 4096
   4krandomwrite:
     iodepth:
     - 1
     - 2
     - 3
     - 4
     - 5
     - 8
     - 16
     - 24
     - 32
     - 64
     - 128
     jobname: randwrite
     mode: randwrite
     numjobs:
```

```
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
      op_size: 4096
    512krandomread:
      iodepth:
        - 1
        - 2
        - 3
        - 4
        - 8
        - 16
        - 24
        - 32
        - 40
        - 48
        - 64
      jobname: randread
      mode: randread
      numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
      op_size: 524288
    512krandomwrite:
      iodepth:
        - 1
        - 2
        - 3
        - 4
        - 8
        - 16
        - 24
        - 32
        - 40
        - 48
        - 64
      jobname: randwrite
      mode: randwrite
      numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
```

```
        - 1
        - 1
        - 1
        - 1
      op_size: 524288
    512kseqread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 6
      - 8
      - 12
      - 16
      - 20
      - 24
      - 32
      jobname: seqread
      mode: read
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 524288
    512kseqwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 6
      - 8
      - 12
      - 16
      - 20
      - 24
      - 32
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 524288
    64k3070:
      iodepth:
```

```
          - 1
          - 2
          - 3
          - 4
          - 5
          - 8
          - 16
          - 24
          - 32
          - 64
          - 128
        jobname: randmix
        mode: randrw
        numjobs:
          - 1
          - 1
          - 1
          - 1
          - 1
          - 1
          - 1
          - 1
          - 1
          - 1
          - 1
        op_size: 65536
        rwmixread: 30
      64k7030:
        iodepth:
          - 1
          - 2
          - 3
          - 4
          - 5
          - 8
          - 16
          - 24
          - 32
          - 64
          - 128
        jobname: randmix
        mode: randrw
        numjobs:
          - 1
          - 1
          - 1
          - 1
          - 1
          - 1
          - 1
          - 1
          - 1
          - 1
          - 1
        op_size: 65536
        rwmixread: 70
      64krandomread:
        iodepth:
          - 2
          - 4
          - 6
          - 8
          - 12
```

```
      - 16
      - 24
      - 32
      - 64
      - 128
      - 256
      jobname: randread
      mode: randread
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 65536
    64krandomwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 65536
    64kseqread:
      iodepth:
      - 2
      - 4
      - 6
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      - 192
      - 256
      jobname: read
```

```
    mode: read
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 65536
  64kseqwrite:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 24
    - 32
    - 64
    - 128
    jobname: write
    mode: write
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 65536
  8krandomread:
    iodepth:
    - 4
    - 8
    - 12
    - 16
    - 32
    - 48
    - 64
    - 128
    - 256
    - 384
    jobname: randread
    mode: randread
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
```

```
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 8192
    8krandomwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 8192
    precondition:
      iodepth:
      - 4
      jobname: precond1rw
      mode: randwrite
      monitor: false
      numjobs:
      - 1
      op_size: 65536
      precond: true
    seq16kread:
      iodepth:
      - 2
      - 4
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
      - 96
      - 128
      - 192
      jobname: seqread
      mode: read
      numjobs:
      - 1
      - 1
      - 1
```

```
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        op_size: 16384
    seq16kwrite:
      iodepth:
      - 2
      - 4
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
      - 96
      - 128
      - 192
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 16384
    seq256kread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 48
      - 64
      jobname: seqread
      mode: read
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
```

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

```
     - 4
     - 5
     - 8
     - 16
     - 24
     - 32
     - 64
     - 128
     jobname: seqwrite
     mode: write
     numjobs:
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     op_size: 32768
   seq4kread:
     iodepth:
     - 2
     - 4
     - 8
     - 12
     - 16
     - 24
     - 32
     - 64
     - 96
     - 128
     - 192
     jobname: seqread
     mode: read
     numjobs:
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     - 1
     op_size: 4096
   seq4kwrite:
     iodepth:
     - 2
     - 4
     - 8
     - 12
     - 16
     - 24
     - 32
     - 64
     - 96
     - 128
```

```
        - 192
        - 256
        jobname: seqwrite
        mode: write
        numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        op_size: 4096
      seq8kread:
        iodepth:
        - 2
        - 4
        - 8
        - 12
        - 16
        - 24
        - 32
        - 64
        - 96
        - 128
        - 192
        jobname: seqread
        mode: read
        numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        op_size: 8192
      seq8kwrite:
        iodepth:
        - 2
        - 4
        - 8
        - 12
        - 16
        - 24
        - 32
        - 64
        - 96
        - 128
        - 192
        - 256
        jobname: seqwrite
        mode: write
        numjobs:
```

```
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        op_size: 8192
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: 6
  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: root
monitoring_profiles:
  collectl:
    args: -c 18 -sCD -i 10 -P -oz -F0 --rawtoo --sep ";" -f {collectl_dir}
```

results

```
librbdfio:
  cmd_path: /usr/local/bin/fio
  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
  precond_time: 600
  prefill:
    blocksize: 64k
    numjobs: 1
  procs_per_volume:
  - 1
  ramp: 30
  time: 60
  time_based: true
  use_existing_volumes: true
  vol_size: 210000
  volumes_per_client:
  - 1
  workloads:
    16k7030:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      jobname: randmix
      mode: randrw
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 16384
      rwmixread: 70
    16krandomread:
      iodepth:
      - 4
      - 8
      - 12
      - 16
      - 24
```

```
      - 48
      - 64
      - 128
      - 256
      - 384
      jobname: randread
      mode: randread
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 16384
    16krandomwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 16384
    1Mrandomread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 10
      - 16
      - 20
      - 24
      - 32
      jobname: randread
      mode: randread
```

```
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 1048576
1Mrandomwrite:
  iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 8
  - 10
  - 12
  - 14
  - 16
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  op_size: 1048576
1Mseqread:
  iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 8
  - 10
  - 12
  - 16
  - 24
  jobname: seqread
  mode: read
  numjobs:
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
```

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

```
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 12
    - 16
    - 20
    - 24
    - 32
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 262144
  32krandomread:
    iodepth:
    - 2
    - 4
    - 6
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 128
    - 256
    jobname: randread
    mode: randread
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 32768
  32krandomwrite:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
```

```
    - 16
    - 24
    - 32
    - 64
    - 128
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 32768
  4krandomread:
    iodepth:
    - 4
    - 8
    - 12
    - 16
    - 32
    - 48
    - 64
    - 128
    - 256
    - 384
    jobname: randread
    mode: randread
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 4096
  4krandomwrite:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 24
    - 32
    - 64
    - 128
    - 192
    jobname: randwrite
    mode: randwrite
```

```
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 4096
512krandomread:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 24
    - 32
    - 48
    - 64
    jobname: randread
    mode: randread
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 524288
512krandomwrite:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 10
    - 12
    - 16
    - 20
    - 24
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
```

```
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
    op_size: 524288
  64k3070:
    iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
    jobname: randmix
    mode: randrw
    numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
    op_size: 65536
    rwmixread: 30
  64k7030:
    iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
    jobname: randmix
    mode: randrw
    numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
```

```
      op_size: 65536
      rwmixread: 70
    64krandomread:
      iodepth:
      - 2
      - 4
      - 6
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
      - 128
      - 256
      jobname: randread
      mode: randread
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 65536
    64krandomwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 65536
    64kseqread:
      iodepth:
      - 2
      - 4
      - 6
```

```
    - 8
    - 16
    - 24
    - 32
    - 64
    - 128
    - 192
    - 256
  jobname: read
  mode: read
  numjobs:
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  op_size: 65536
64kseqwrite:
  iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 8
  - 16
  - 24
  - 32
  - 48
  - 64
  jobname: write
  mode: write
  numjobs:
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  - 1
  op_size: 65536
8krandomread:
  iodepth:
  - 4
  - 8
  - 12
  - 16
  - 32
  - 48
  - 64
  - 128
  - 256
  - 384
```

```
      jobname: randread
      mode: randread
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 8192
    8krandomwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 8192
    precondition:
      iodepth:
      - 4
      jobname: precond1rw
      mode: randwrite
      monitor: false
      numjobs:
      - 1
      op_size: 65536
      precond: true
    seq16kread:
      iodepth:
      - 2
      - 4
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
```

```
    - 96
    - 128
    - 192
    jobname: seqread
    mode: read
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 16384
  seq16kwrite:
    iodepth:
    - 2
    - 4
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
    - 192
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    - 1
    op_size: 16384
  seq256kread:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 24
    - 32
    - 48
    - 64
    jobname: seqread
    mode: read
    numjobs:
    - 1
```

```
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        op_size: 262144
      seq256kwrite:
        iodepth:
        - 1
        - 2
        - 3
        - 5
        - 8
        - 12
        - 16
        - 24
        - 32
        - 40
        - 48
        jobname: seqwrite
        mode: write
        numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        op_size: 262144
      seq32kread:
        iodepth:
        - 2
        - 4
        - 8
        - 12
        - 16
        - 24
        - 32
        - 64
        - 96
        - 128
        - 192
        jobname: seqread
        mode: read
        numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
```

```
        - 1
        - 1
        - 1
        op_size: 32768
    seq32kwrite:
      iodepth:
        - 1
        - 2
        - 3
        - 4
        - 5
        - 8
        - 16
        - 24
        - 32
        - 64
        - 128
      jobname: seqwrite
      mode: write
      numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
      op_size: 32768
    seq4kread:
      iodepth:
        - 2
        - 4
        - 8
        - 12
        - 16
        - 24
        - 32
        - 64
        - 96
        - 128
        - 192
      jobname: seqread
      mode: read
      numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
      op_size: 4096
    seq4kwrite:
      iodepth:
        - 2
```

```
      - 4
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
      - 96
      - 128
      - 192
      - 256
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 4096
    seq512kread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 6
      - 8
      - 12
      - 16
      - 24
      - 32
      - 48
      jobname: seqread
      mode: read
      numjobs:
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      - 1
      op_size: 524288
    seq512kwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 6
      - 8
```

```
        - 12
        - 16
        - 20
        - 24
        - 32
        jobname: seqwrite
        mode: write
        numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        op_size: 524288
    seq8kread:
        iodepth:
        - 2
        - 4
        - 8
        - 12
        - 16
        - 24
        - 32
        - 64
        - 96
        - 128
        - 192
        jobname: seqread
        mode: read
        numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        op_size: 8192
    seq8kwrite:
        iodepth:
        - 2
        - 4
        - 8
        - 12
        - 16
        - 24
        - 32
        - 64
        - 96
        - 128
        - 192
        jobname: seqwrite
        mode: write
```

```
        numjobs:
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        - 1
        op_size: 8192
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: 6
  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: root
monitoring_profiles:
  collectl:
    args: -c 18 -sCD -i 10 -P -oz -F0 --rawtoo --sep ";" -f {collectl_dir}
```