Performance Report for cbt-17thJul-16k-ecopt2-oo1-6+2

Table of contents
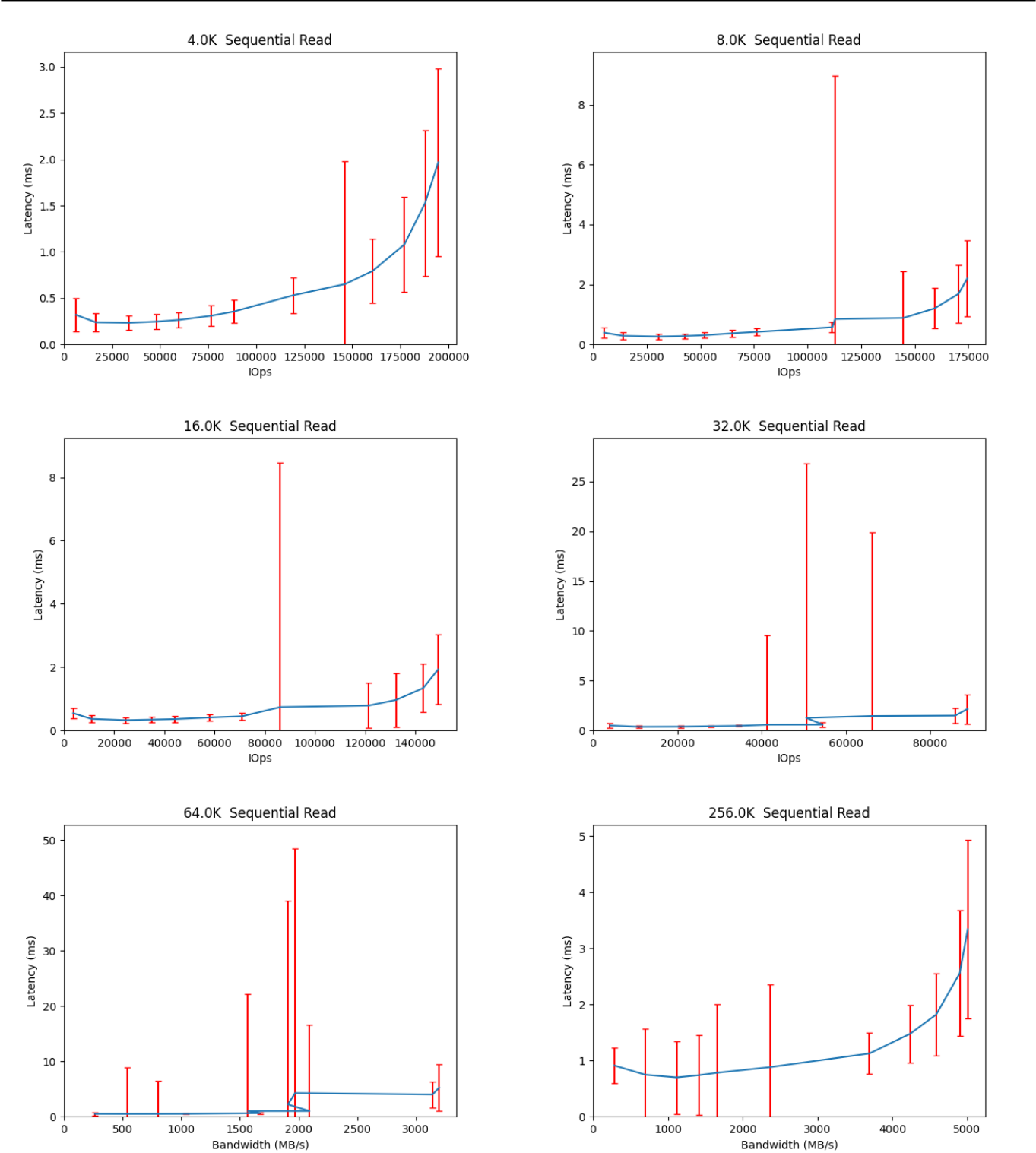
Summary of results for cbt-17thJul-16k-ecopt2-o01-6+2

Workload Name	Maximum Throughput	Latency (ms)
4096_read	194740 IOps	2.0
8192_read	174519 IOps	2.2
16384_read	149107 IOps	1.9
32768_read	88901 IOps	2.2
65536_read	3199 MB/s	5.2
262144_read	5008 MB/s	3.3
524288_read	5814 MB/s	2.9
1048576_read	6107 MB/s	3.4
4096_write	126278 IOps	12.2
8192_write	119795 IOps	12.8
16384_write	81407 IOps	12.6
32768_write	57782 IOps	13.3
65536_write	2213 MB/s	15.1
262144_write	2990 MB/s	22.3
524288_write	3159 MB/s	21.0
1048576_write	4168 MB/s	39.7
4096_randread	108702 IOps	7.1
8192_randread	106380 IOps	7.2
16384_randread	104229 IOps	5.6
32768_randread	72778 IOps	3.5
65536_randread	2794 MB/s	6.0
262144_randread	4649 MB/s	7.2
524288_randread	6161 MB/s	5.4
1048576_randread	6733 MB/s	5.0
4096_randwrite	10663 IOps	72.0
8192_randwrite	10689 IOps	71.8
16384_randwrite	10246 IOps	37.4
32768_randwrite	10180 IOps	50.3
65536_randwrite	616 MB/s	40.8
262144_randwrite	1863 MB/s	35.9
524288_randwrite	2708 MB/s	9.1
1048576_randwrite	3664 MB/s	13.3
4096_70_30_randrw	29310 IOps	13.1
16384_70_30_randrw	27418 IOps	9.3
65536_70_30_randrw	1323 MB/s	12.7
65536_30_70_randrw	782 MB/s	21.4

Response Curves

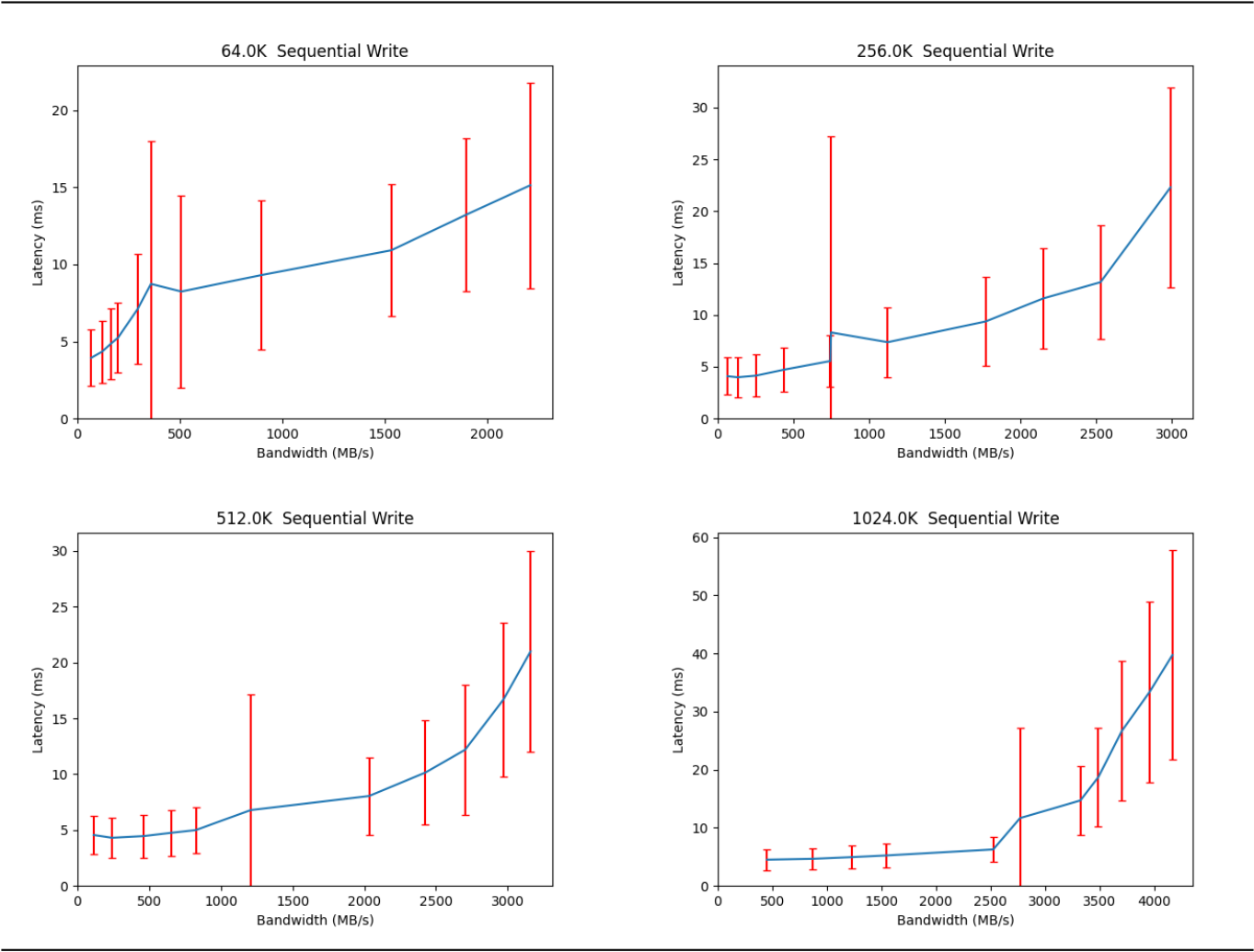## Sequential Read

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
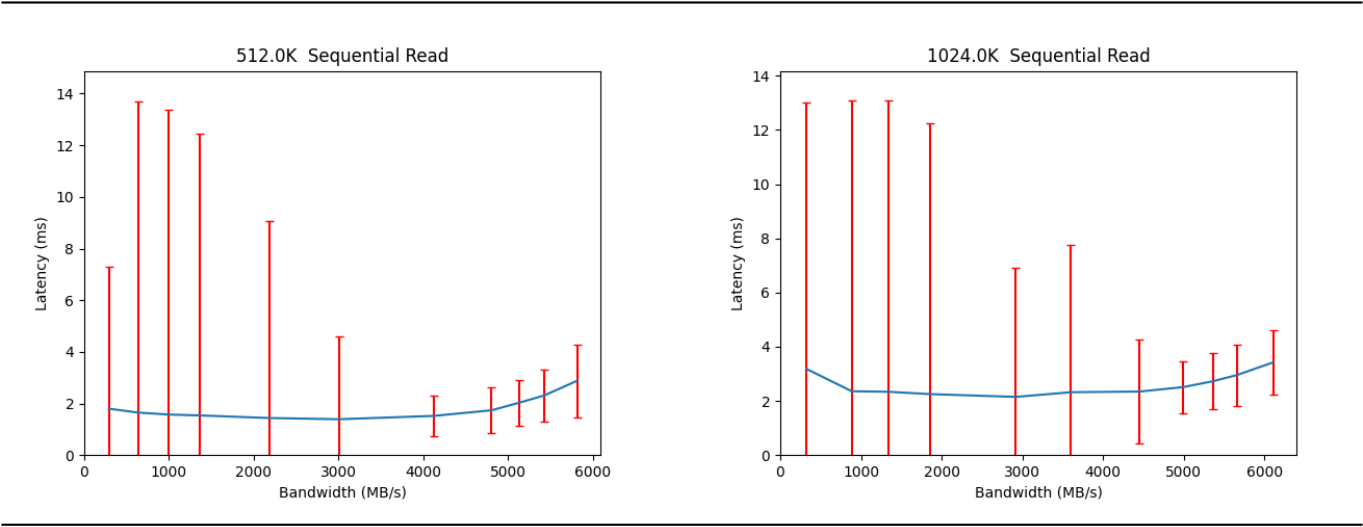
1024.0K Sequential Write

Random Read
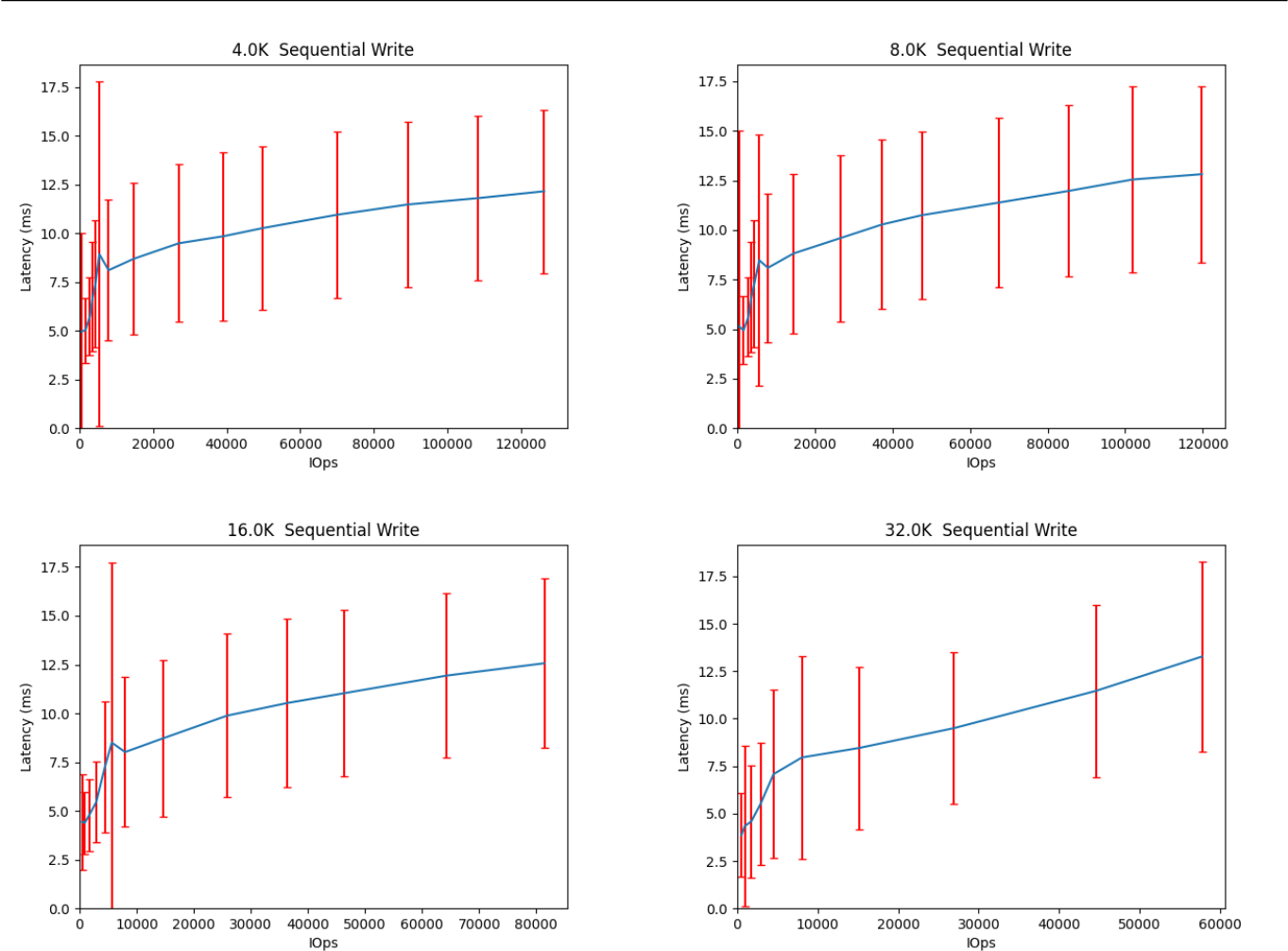
4.0K Random Read

8.0K Random Read

Random Write

4.0K Random Write

8.0K Random Write

16.0K Random Write

32.0K Random Write

64.0K Random Write

256.0K Random Write

512.0K Random Write
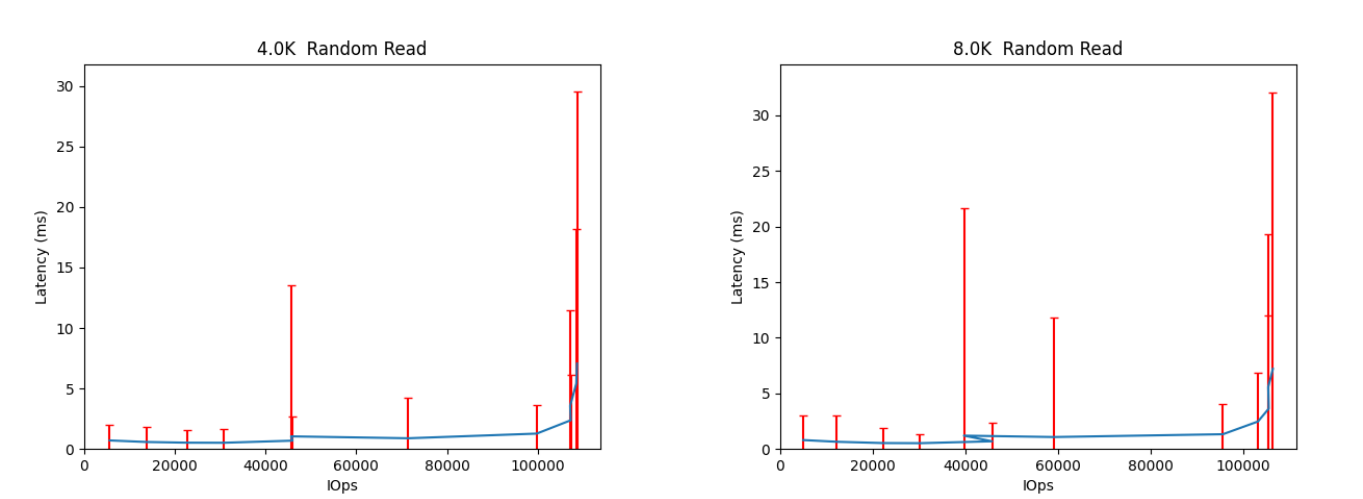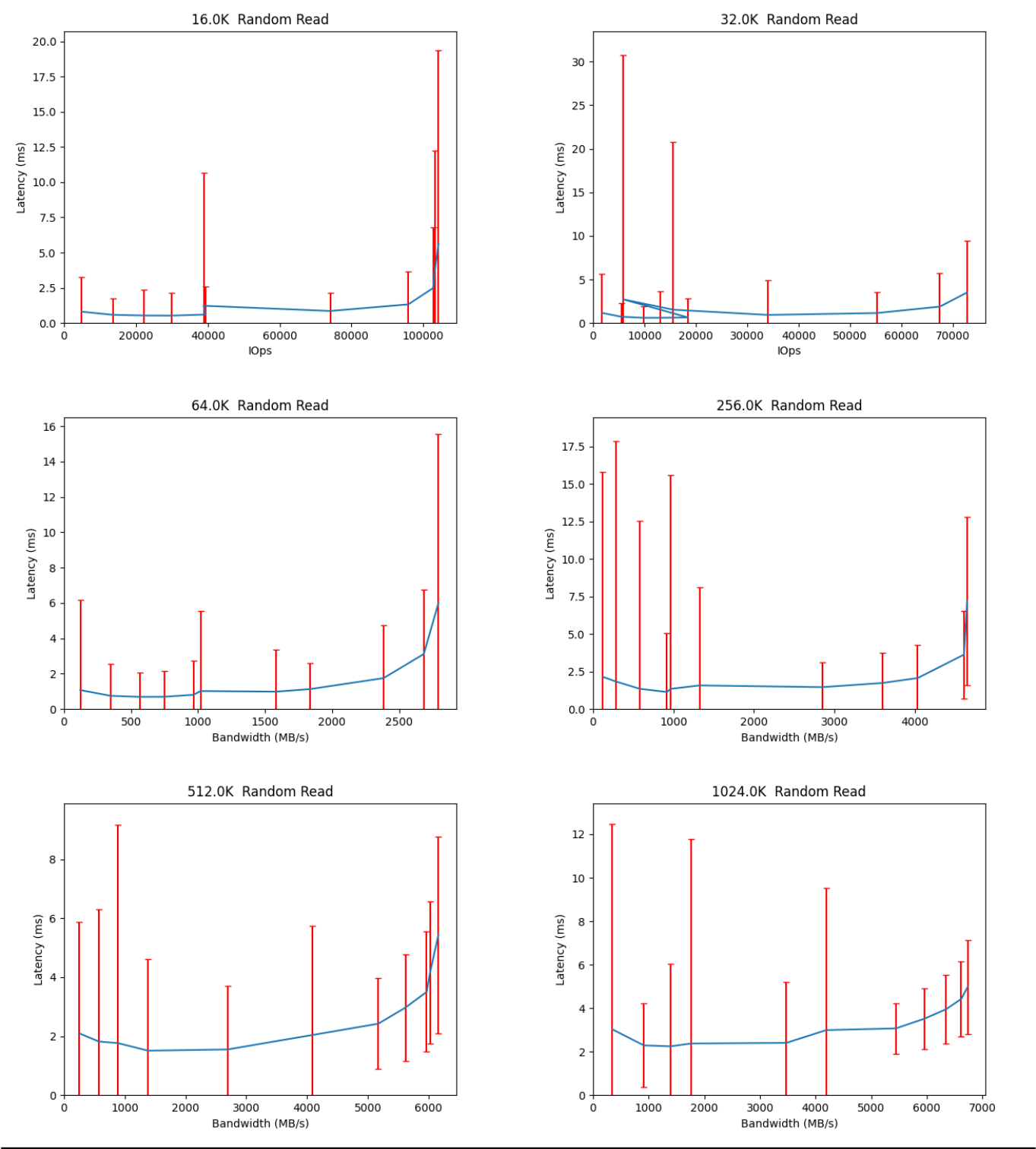
1024.0K Random Write

Random Read/Write

4.0K 70/30 Random Read/Write

16.0K 70/30 Random Read/Write

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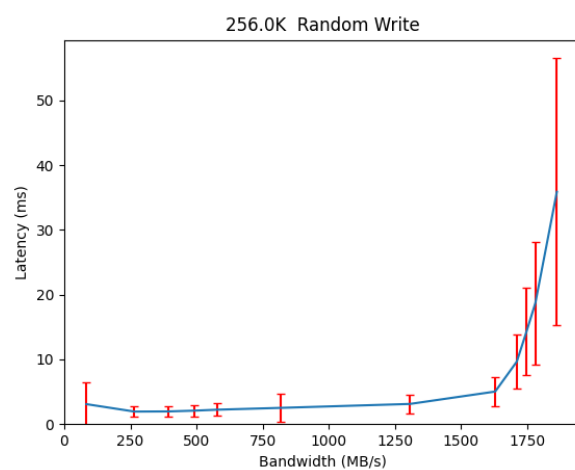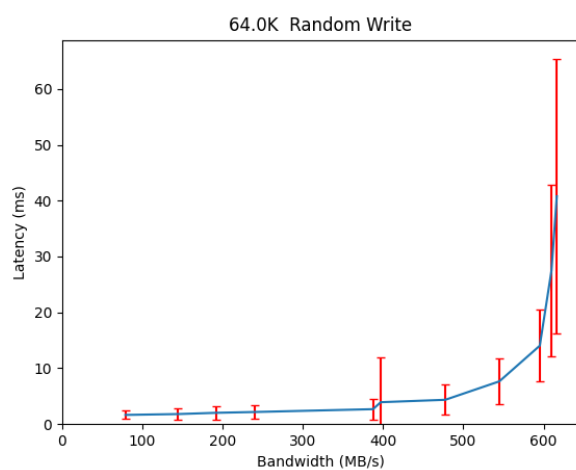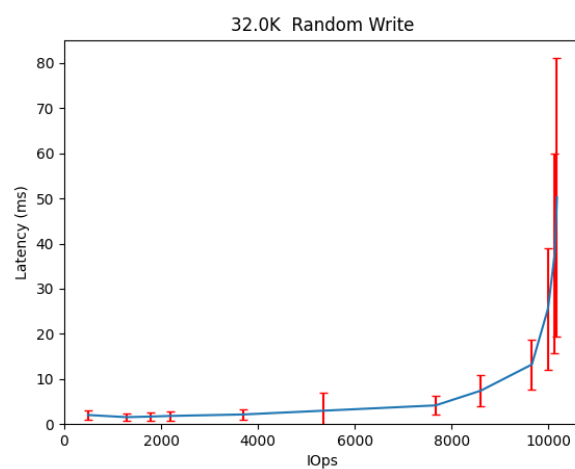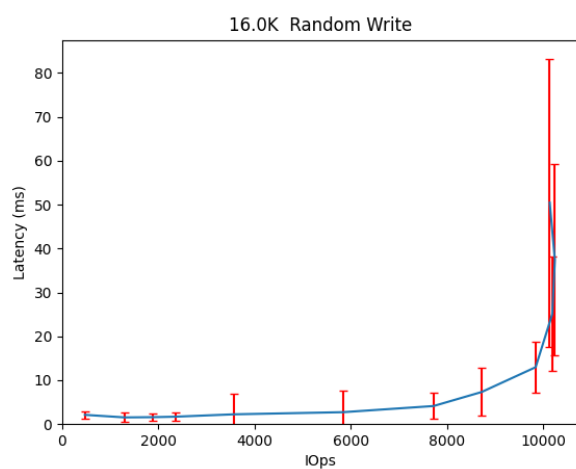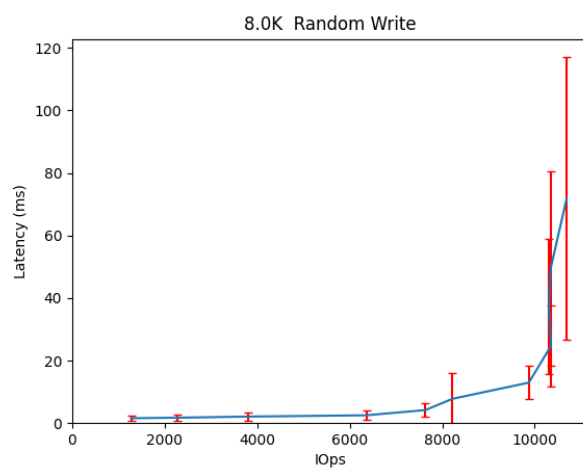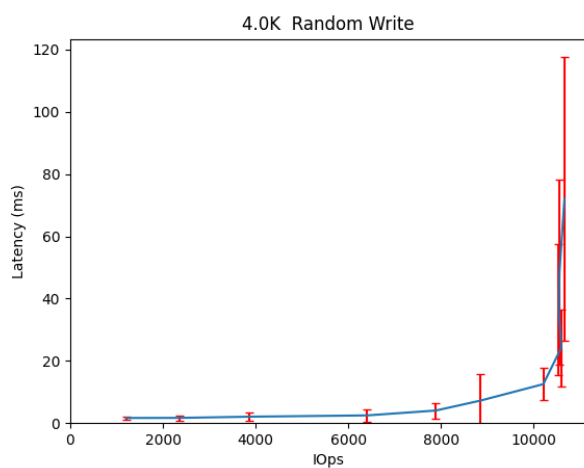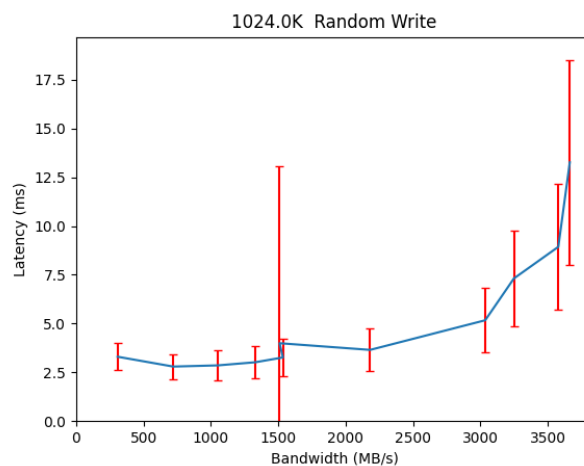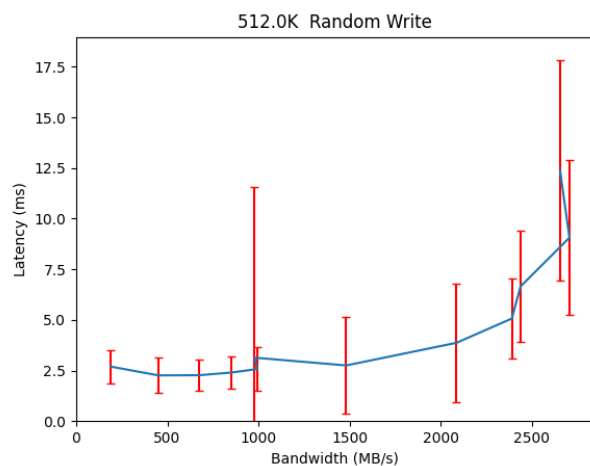
64.0K 30/70 Random Read/Write
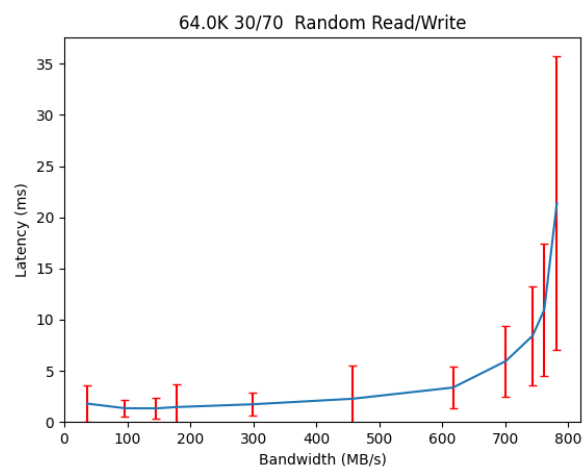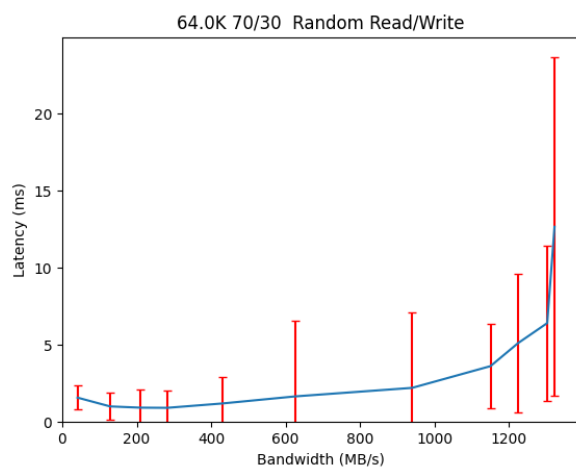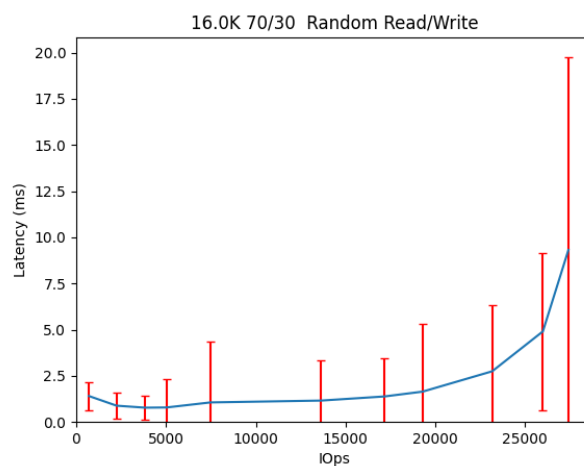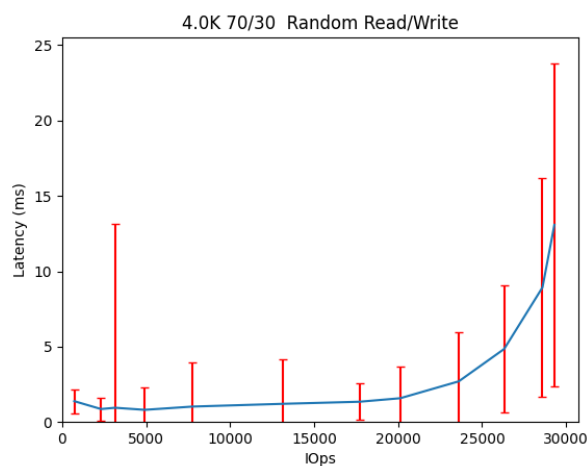
Configuration yaml

```
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: config_ceph_replicated
  prefill:
    blocksize: 64k
    numjobs: 1
  procs_per_volume:
  - 1
  ramp: 30
  rbdname: config-ceph
  time: 90
  time_based: true
  use_existing_volumes: true
  vol_size: 1368750
  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:
```

Configuration yaml

```
          - 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
```

Configuration yaml

```yaml
      - 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
```

Configuration yaml

```
            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
        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
```

Configuration yaml

```yaml
      - 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:
```

Configuration yaml

```
      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
```

Configuration yaml

```
            - 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
        64krandomwrite:
          jobname: randwrite
          mode: randwrite
          numjobs:
          - 1
          op_size: 65536
          total_iodepth:
          - 2
          - 4
          - 6
          - 8
          - 16
          - 24
          - 32
          - 64
          - 128
```

Configuration yaml

```
      - 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
```

```yaml
          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
```

Configuration yaml

```
        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
```

Configuration yaml

```
        - 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
```

Configuration yaml

```
            - 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}
```