Performance Report for cbt-7thFeb-alexls22-econ-4k-8vol-finegrain

Table of contents
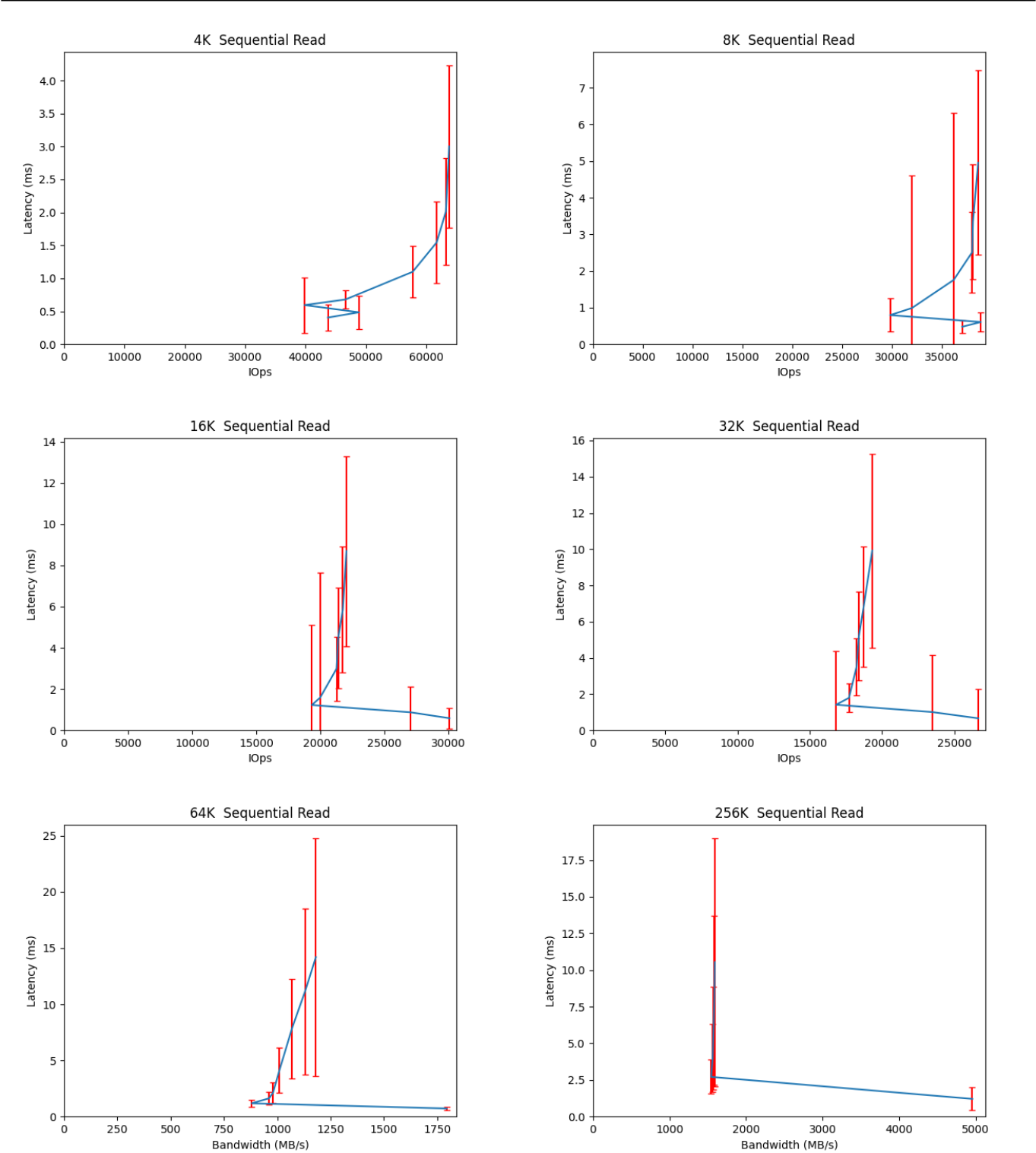
Summary of results for cbt-7thFeb-alexls22-econ-4k-8vol-finegrain

Workload Name	Maximum Throughput	Latency (ms)
4096B_read	63795 IOps	3.0
8192B_read	38951 IOps	0.6
16384B_read	30087 IOps	0.6
32768B_read	26670 IOps	0.7
65536B_read	1795 MB/s	0.7
262144B_read	4956 MB/s	1.2
524288B_read	6903 MB/s	2.1
1048576B_read	8766 MB/s	4.3
4096B_write	7072 IOps	2.5
8192B_write	5670 IOps	3.2
16384B_write	7934 IOps	2.3
32768B_write	15345 IOps	1.5
65536B_write	585 MB/s	2.6
262144B_write	1643 MB/s	3.6
524288B_write	2220 MB/s	6.5
1048576B_write	3057 MB/s	12.0
4096B_randread	80041 IOps	4.8
8192B_randread	51367 IOps	5.0
16384B_randread	31203 IOps	12.3
32768B_randread	32382 IOps	0.7
65536B_randread	1871 MB/s	0.8
262144B_randread	4773 MB/s	1.3
524288B_randread	4924 MB/s	1.9
1048576B_randread	6186 MB/s	3.7
4096B_randwrite	7087 IOps	3.2
8192B_randwrite	7378 IOps	3.1
16384B_randwrite	11607 IOps	2.0
32768B_randwrite	9772 IOps	2.3
65536B_randwrite	617 MB/s	2.4
262144B_randwrite	1280 MB/s	4.6
524288B_randwrite	1883 MB/s	4.9
1048576B_randwrite	2239 MB/s	10.1
16384B_70_30_randrw	12552 IOps	1.8
65536B_30_70_randrw	516 MB/s	2.9

Response Curves

Sequential Read

512K Sequential Read

1024K Sequential Read

Sequential Write

4K Sequential Write

8K Sequential Write

16K Sequential Write

32K Sequential Write

64K Sequential Write

256K Sequential Write

512K Sequential Write
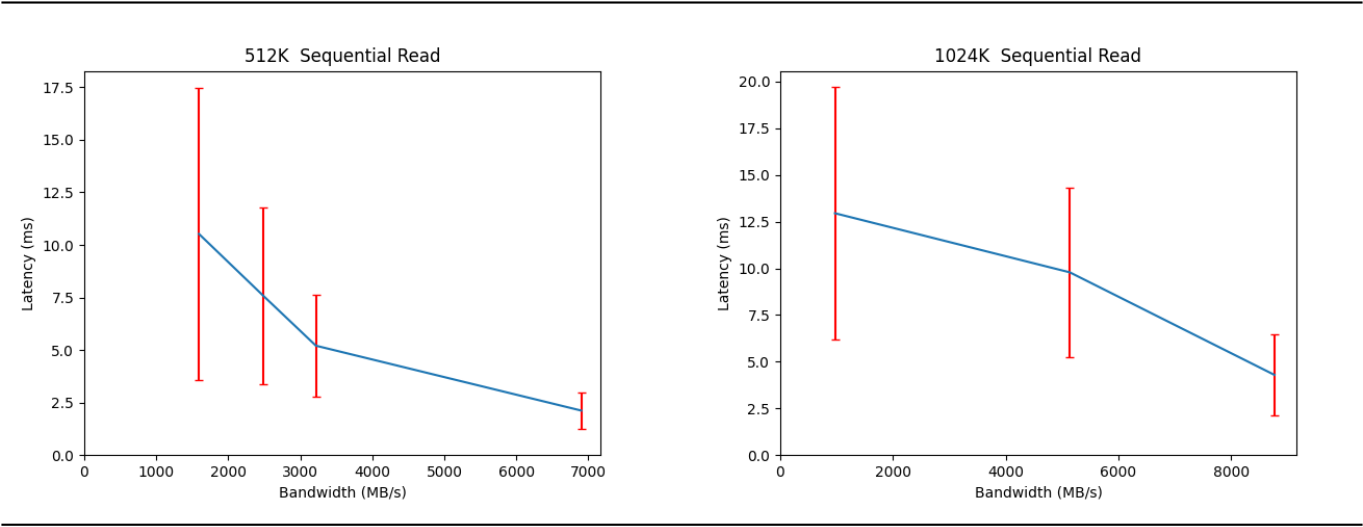
1024K Sequential Write

Random Read
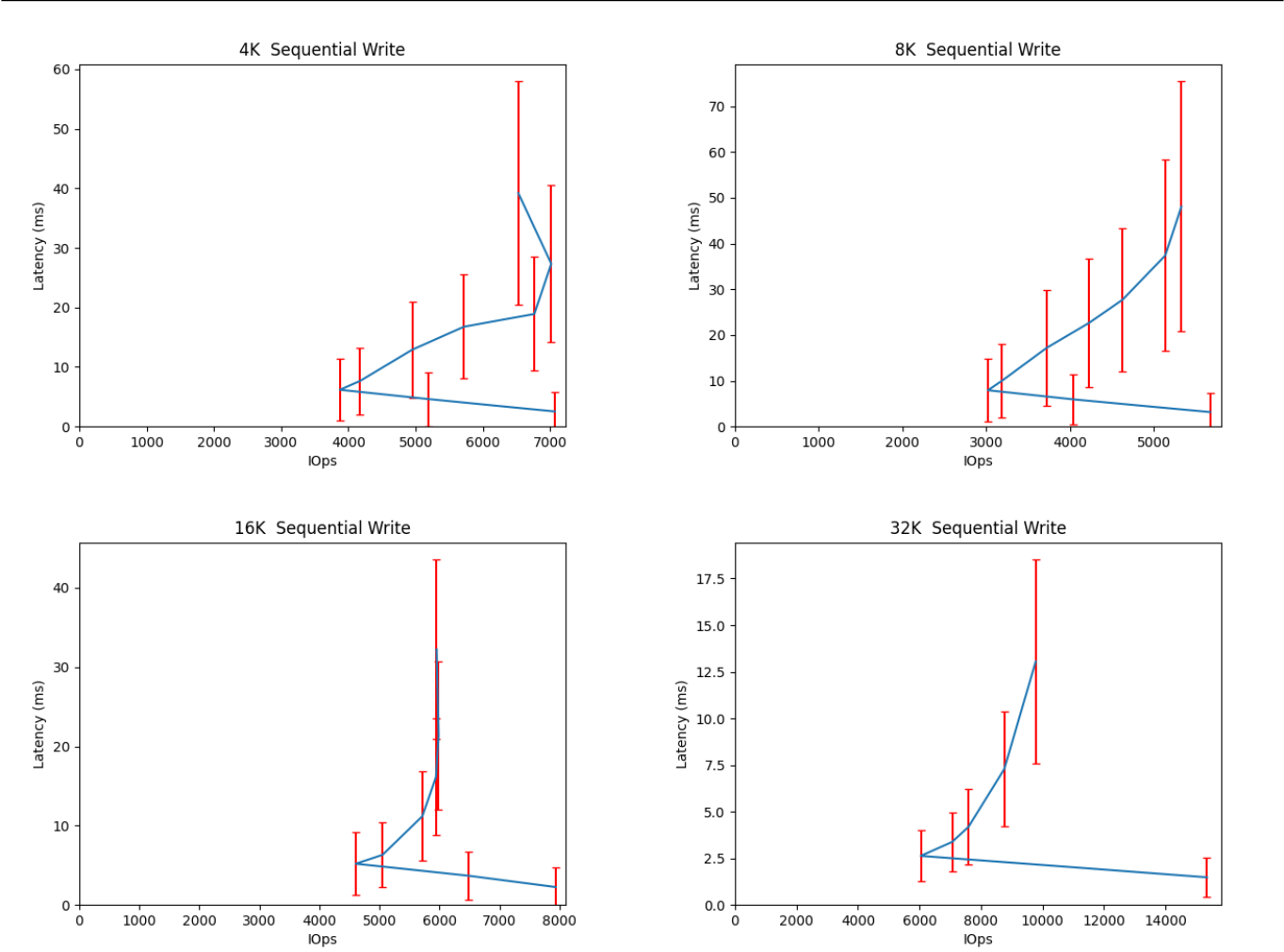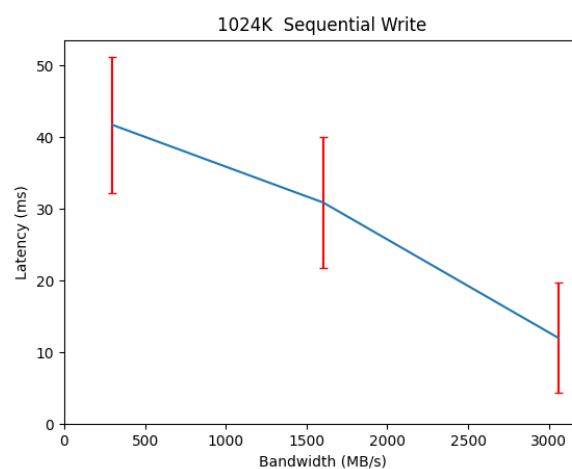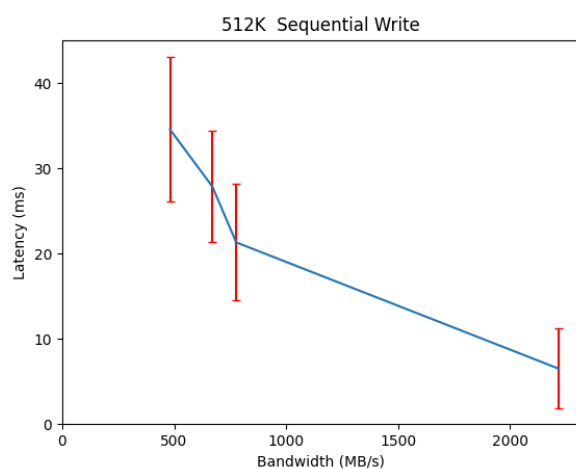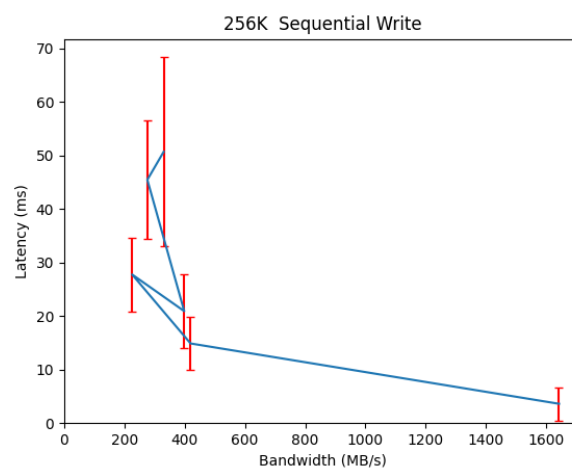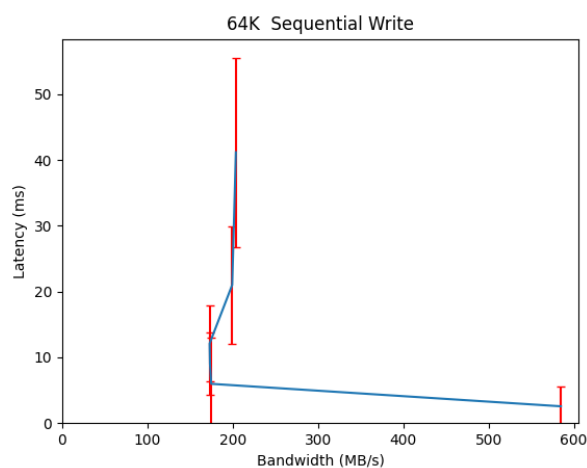
4K Random Read

8K Random Read

Random Write

4K Random Write

8K Random Write

16K Random Write

32K Random Write

64K Random Write

256K Random Write

512K Random Write
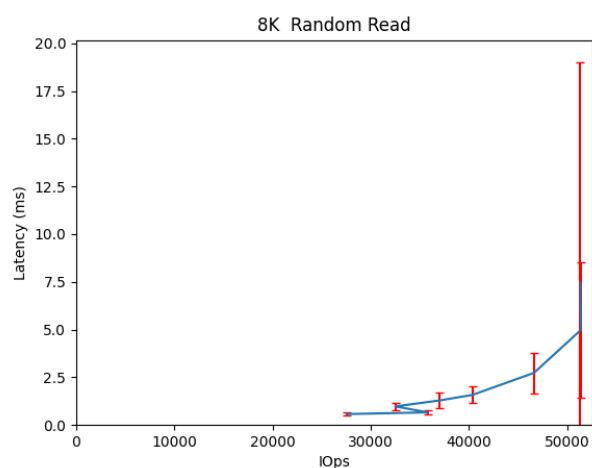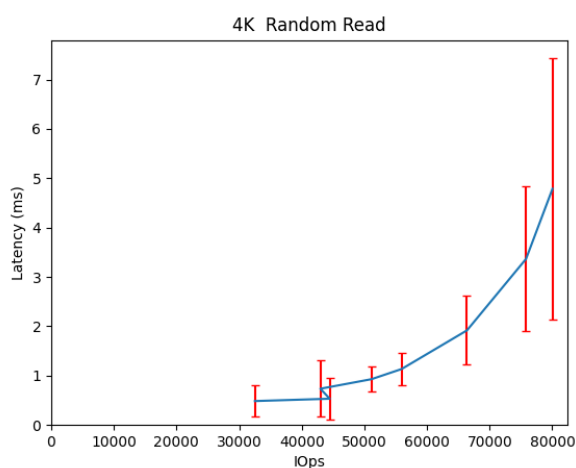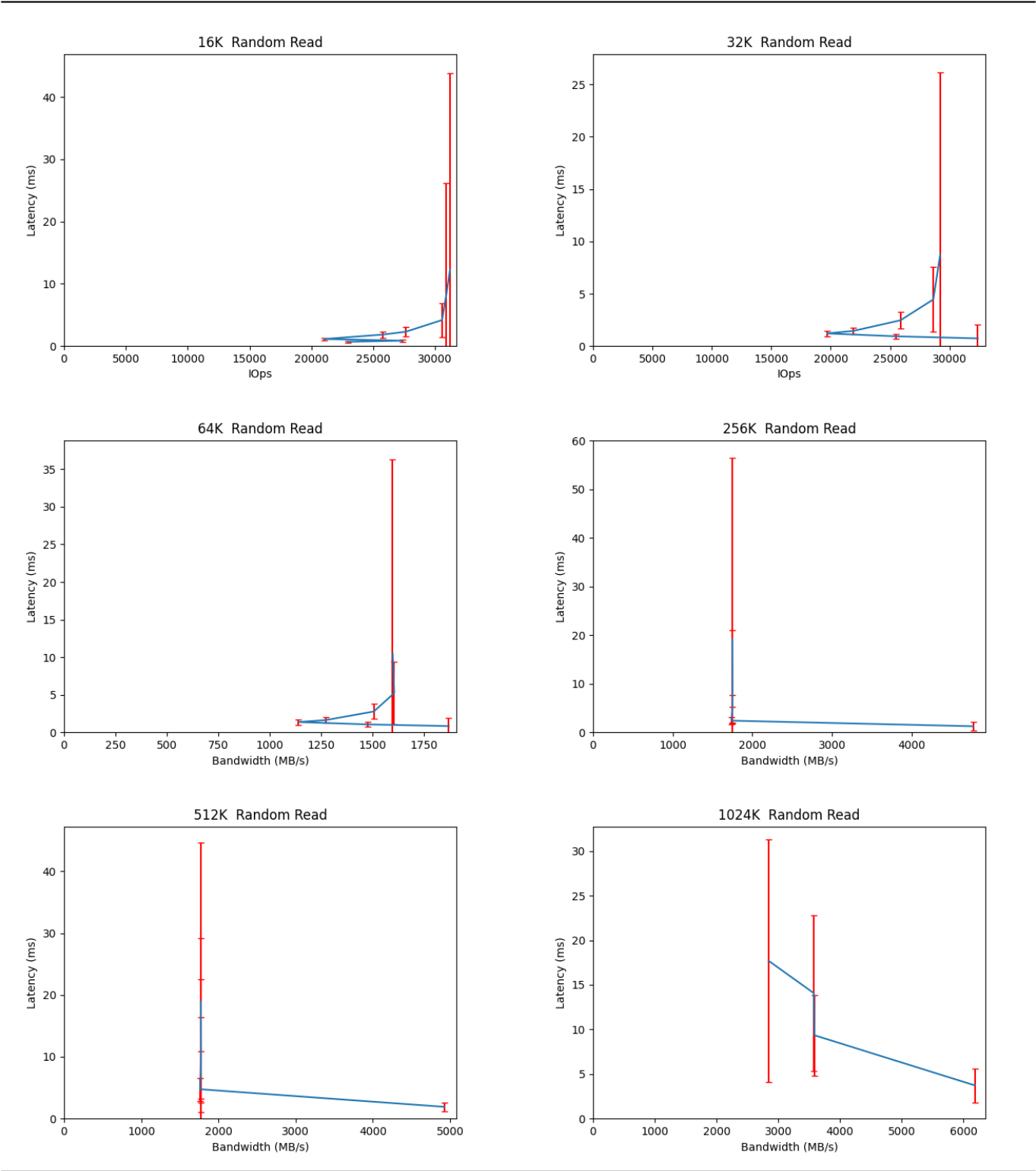
1024K Random Write

Random Read/Write

16K 70/30 Random Read/Write
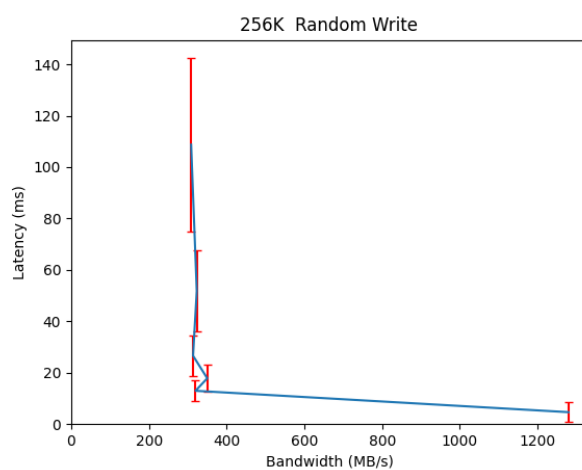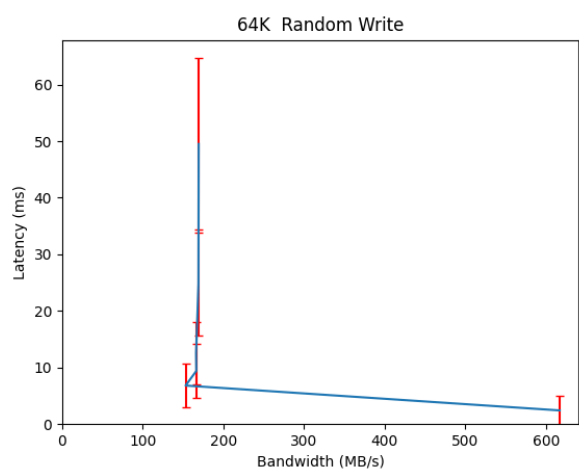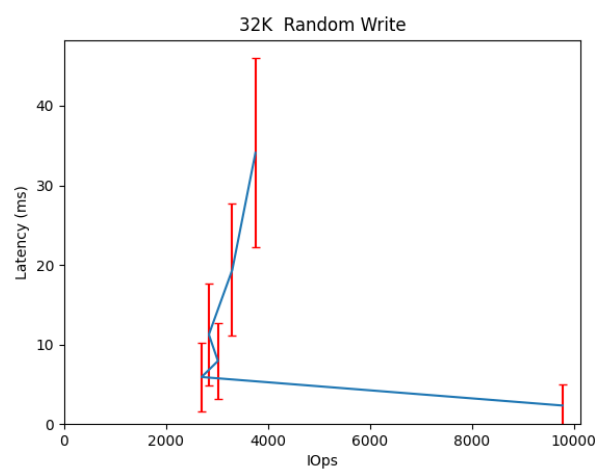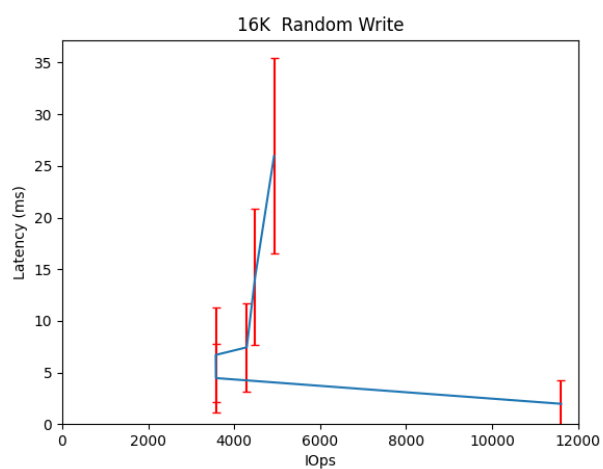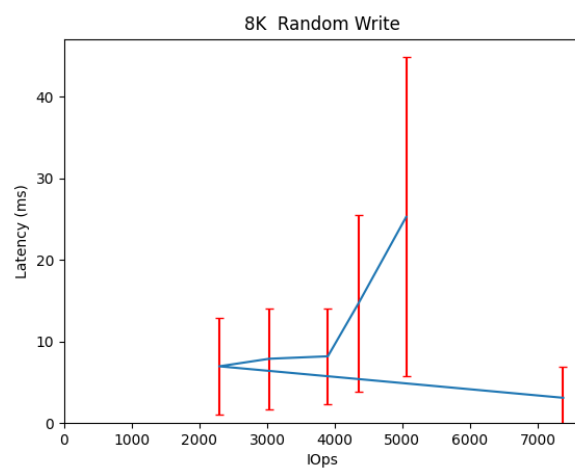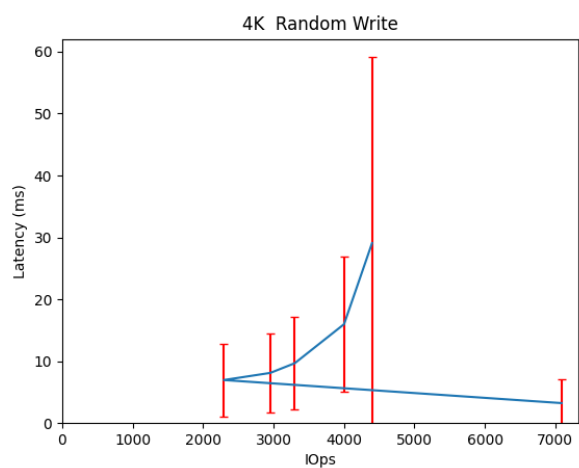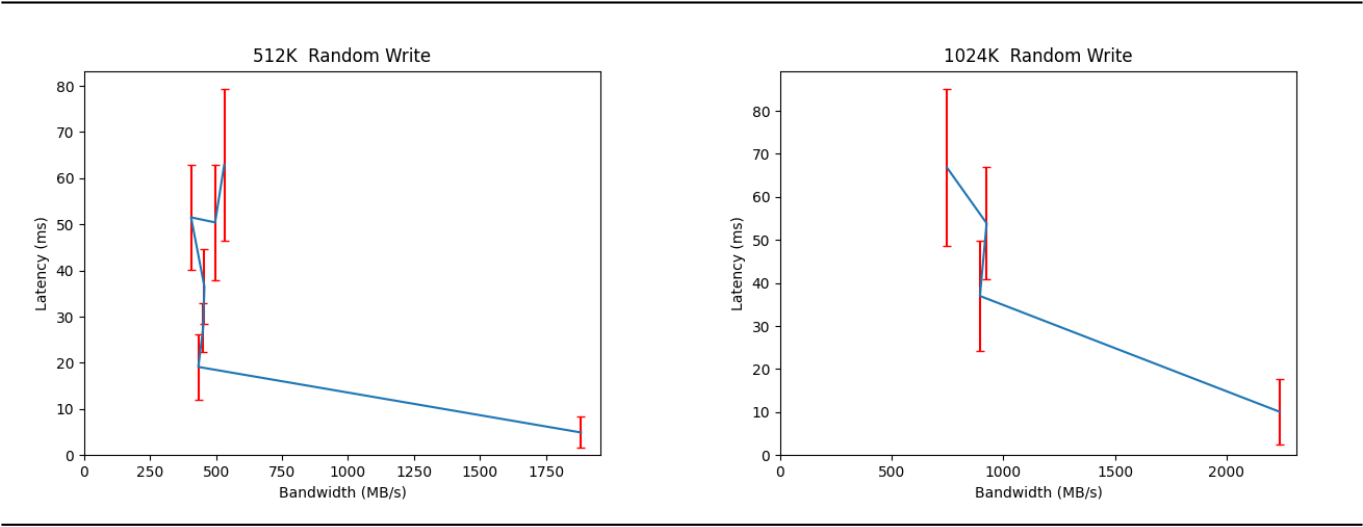
64K 30/70 Random Read/Write
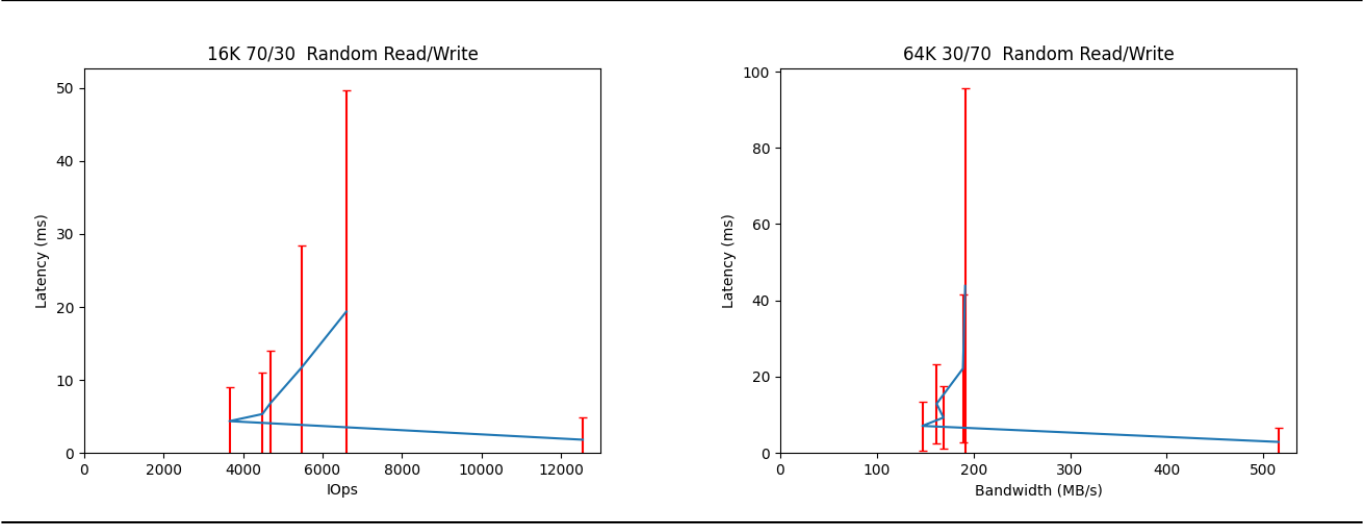
Configuration yaml

```
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: rbd_replicated
  precond_time: 600
  prefill:
    blocksize: 64k
    numjobs: 1
  procs_per_volume:
  - 1
  ramp: 30
  time: 90
  time_based: true
  use_existing_volumes: true
  vol_size: 52500
  volumes_per_client:
  - 8
  workloads:
    16k7030:
      jobname: randmix
      mode: randrw
      numjobs:
      - 1
      op_size: 16384
      rwmixread: 70
      total_iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
    16krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 16384
      total_iodepth:
```

Configuration yaml

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

Configuration yaml

```
        - 32
    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:
      - 1
      - 2
      - 3
      - 4
      - 6
      - 8
      - 10
      - 12
      - 14
      - 16
      - 20
    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
```

Configuration yaml

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

Configuration yaml

```
4krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 4096
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 8
  - 16
  - 24
  - 32
  - 64
  - 128
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
  - 8
  - 16
  - 24
  - 32
  - 40
  - 48
  - 64
512kseqread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
```

Configuration yaml

```yaml
      - 3
      - 4
      - 6
      - 8
      - 12
      - 16
      - 20
      - 24
      - 32
    512kseqwrite:
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      op_size: 524288
      total_iodepth:
      - 1
      - 2
      - 3
      - 4
      - 6
      - 8
      - 12
      - 16
      - 20
      - 24
      - 32
    64k3070:
      jobname: randmix
      mode: randrw
      numjobs:
      - 1
      op_size: 65536
      rwmixread: 30
      total_iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
    64k7030:
      jobname: randmix
      mode: randrw
      numjobs:
      - 1
      op_size: 65536
      rwmixread: 70
      total_iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
```

Configuration yaml

```yaml
      - 64
      - 128
  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:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 24
    - 32
    - 64
    - 128
  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:
```

Configuration yaml

```yaml
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
    8krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 8192
      total_iodepth:
      - 4
      - 8
      - 12
      - 16
      - 32
      - 48
      - 64
      - 128
      - 256
      - 384
    8krandomwrite:
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      op_size: 8192
      total_iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
    precondition:
      jobname: precond1rw
      mode: randwrite
      monitor: false
      numjobs:
      - 1
      op_size: 65536
      precond: true
      total_iodepth:
      - 16
    seq16kread:
      jobname: seqread
      mode: read
      numjobs:
      - 1
      op_size: 16384
      total_iodepth:
```

Configuration yaml

```yaml
        - 2
        - 4
        - 8
        - 12
        - 16
        - 24
        - 32
        - 64
        - 96
        - 128
        - 192
    seq16kwrite:
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      op_size: 16384
      total_iodepth:
      - 2
      - 4
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
      - 96
      - 128
      - 192
    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
      - 3
      - 5
      - 8
      - 12
      - 16
      - 24
      - 32
```

Configuration yaml

```yaml
      - 48
      - 64
    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:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
    seq4kread:
      jobname: seqread
      mode: read
      numjobs:
      - 1
      op_size: 4096
      total_iodepth:
      - 2
      - 4
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
      - 96
      - 128
      - 192
    seq4kwrite:
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      op_size: 4096
      total_iodepth:
```

Configuration yaml

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

Configuration yaml

```
  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}
```