Performance Report for cbt-3rdApr-4k-squid192-6+2-o01-rbdsimple-isal

Table of contents
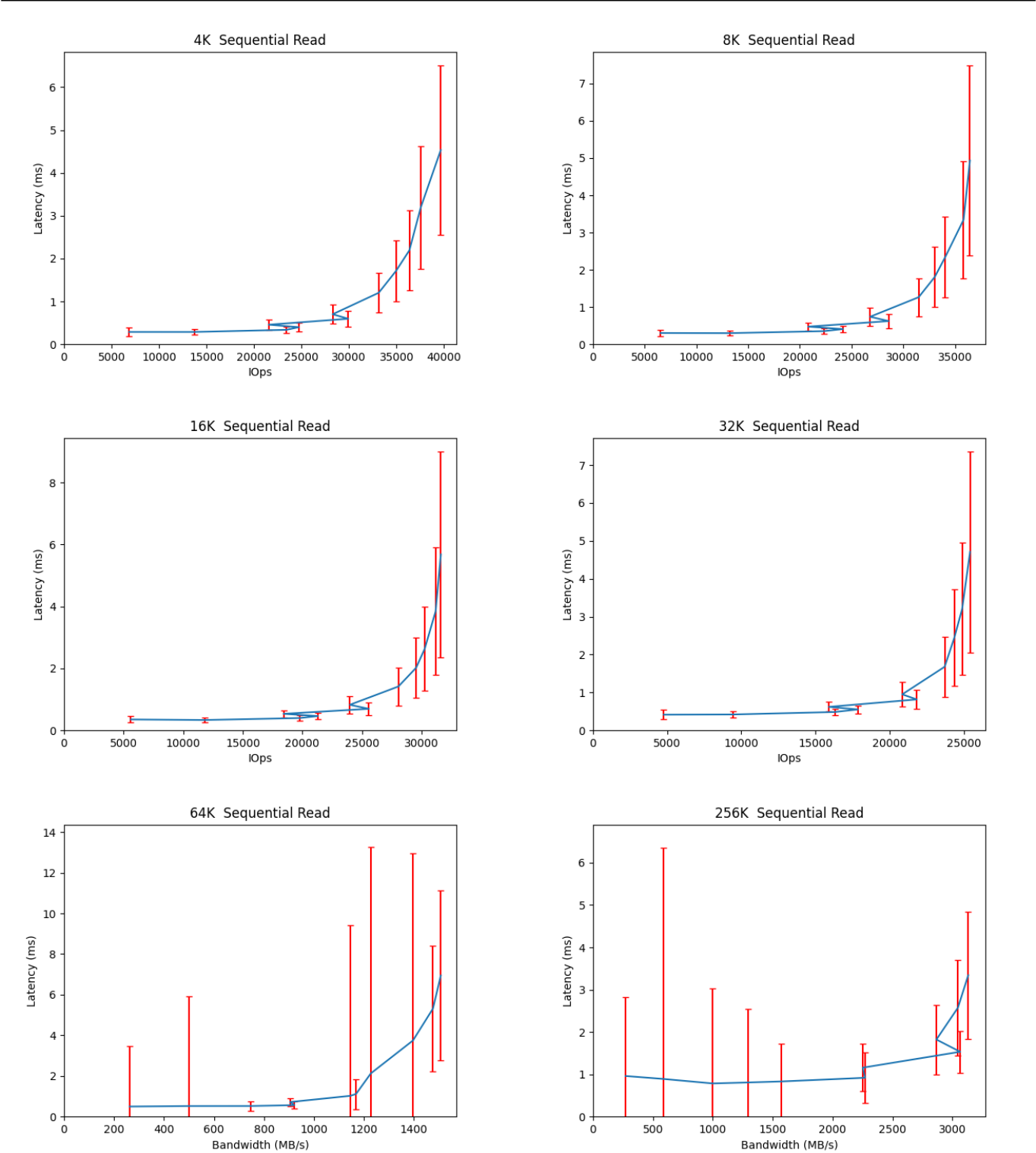
Summary of results for cbt-3rdApr-4k-squid192-6+2-o01-rbdsimple-isal

Workload Name	Maximum Throughput	Latency (ms)
4096B_read	39660 IOps	4.5
8192B_read	36440 IOps	4.9
16384B_read	31632 IOps	5.7
32768B_read	25426 IOps	4.7
65536B_read	1508 MB/s	6.9
262144B_read	3131 MB/s	3.3
524288B_read	3773 MB/s	2.5
1048576B_read	4032 MB/s	2.6
4096B_write	60783 IOps	10.5
8192B_write	73313 IOps	10.9
16384B_write	31663 IOps	10.1
32768B_write	30857 IOps	15.5
65536B_write	1346 MB/s	15.5
262144B_write	1830 MB/s	22.8
524288B_write	1911 MB/s	21.7
1048576B_write	2475 MB/s	41.9
4096B_randread	24443 IOps	15.1
8192B_randread	23197 IOps	15.9
16384B_randread	23161 IOps	16.0
32768B_randread	21703 IOps	7.4
65536B_randread	1337 MB/s	7.8
262144B_randread	2907 MB/s	7.2
524288B_randread	4167 MB/s	3.5
1048576B_randread	4377 MB/s	4.8
4096B_randwrite	8127 IOps	59.0
8192B_randwrite	7923 IOps	60.6
16384B_randwrite	7438 IOps	43.0
32768B_randwrite	7212 IOps	44.3
65536B_randwrite	431 MB/s	36.4
262144B_randwrite	1250 MB/s	33.4
524288B_randwrite	1730 MB/s	5.3
1048576B_randwrite	2404 MB/s	7.4
4096B_70_30_randrw	15414 IOps	15.6
16384B_70_30_randrw	14187 IOps	11.3
65536B_70_30_randrw	825 MB/s	12.7
65536B_30_70_randrw	517 MB/s	20.3

Response Curves

Sequential Read

4K Sequential Read

8K Sequential Read

16K Sequential Read

32K Sequential Read

64K Sequential Read

256K 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
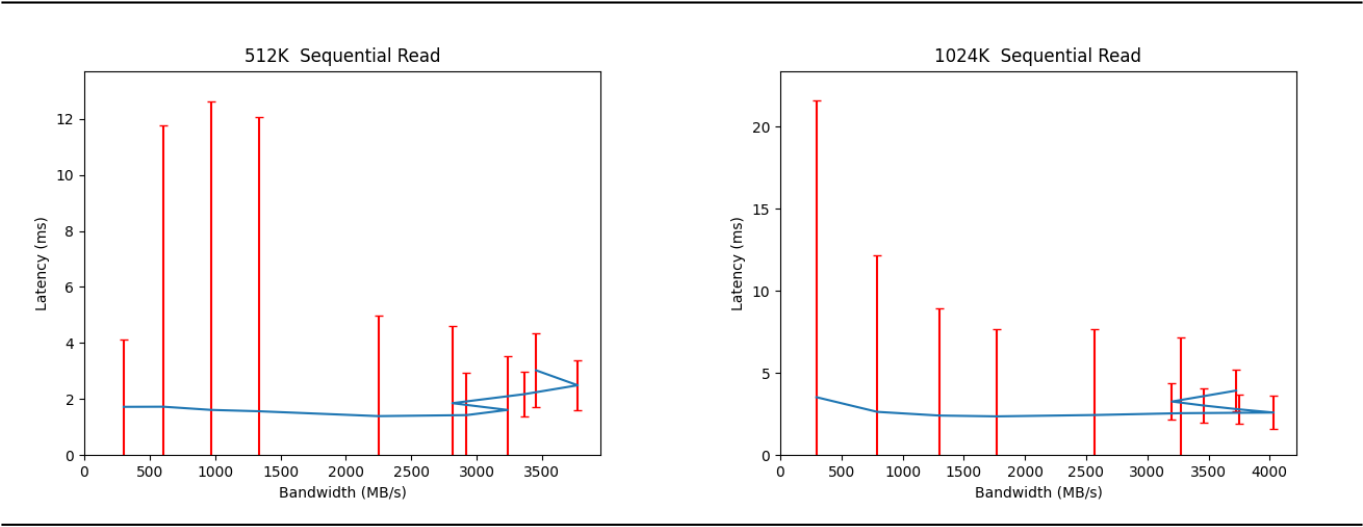
1024K Sequential Write

Random Read
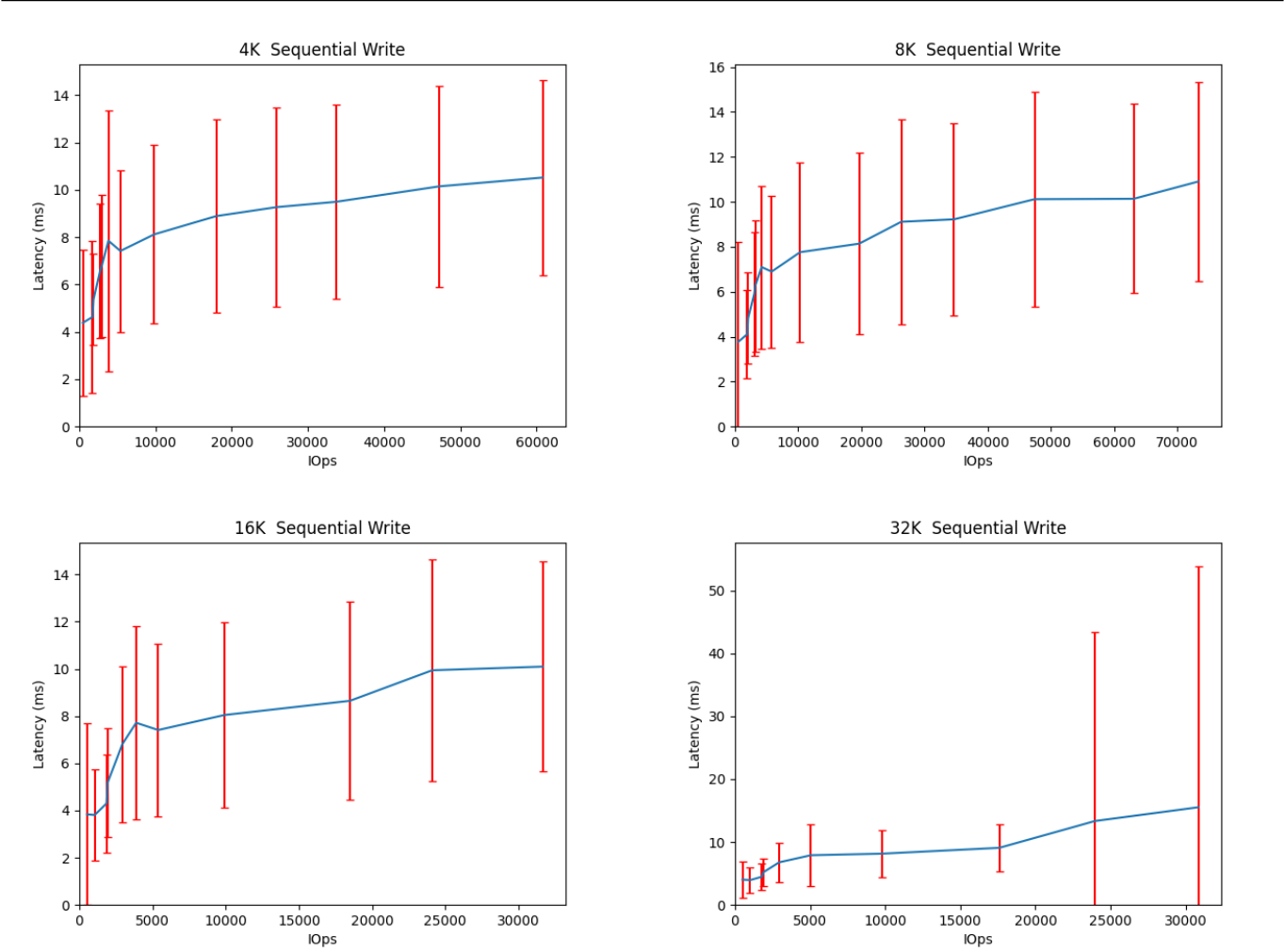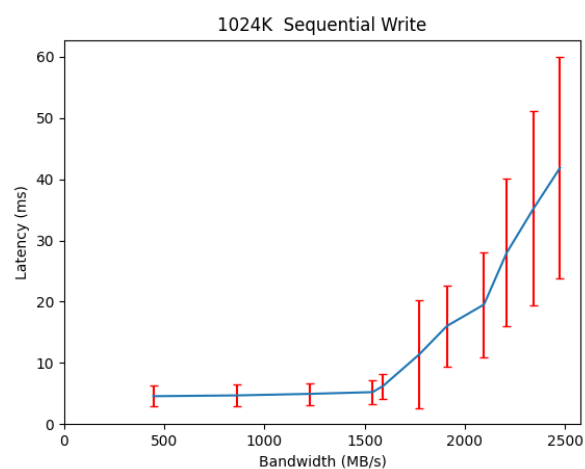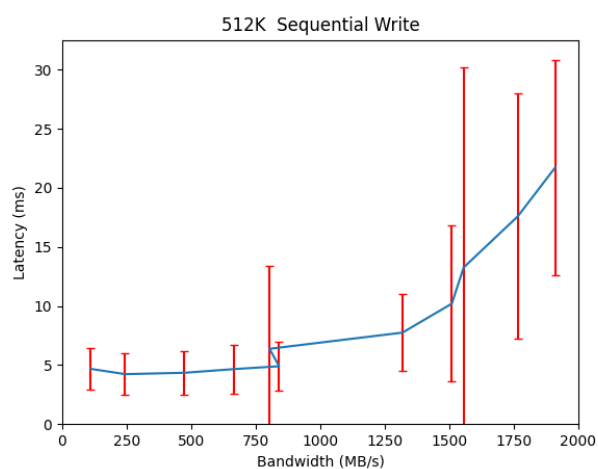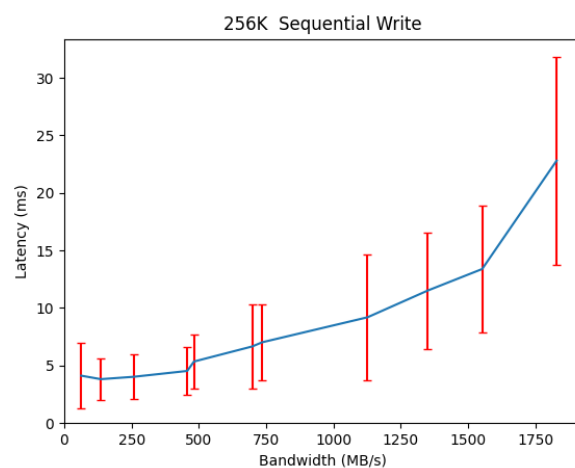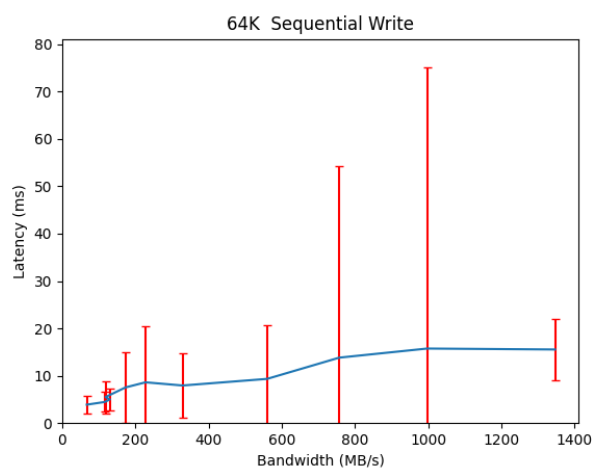
4K Random Read

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
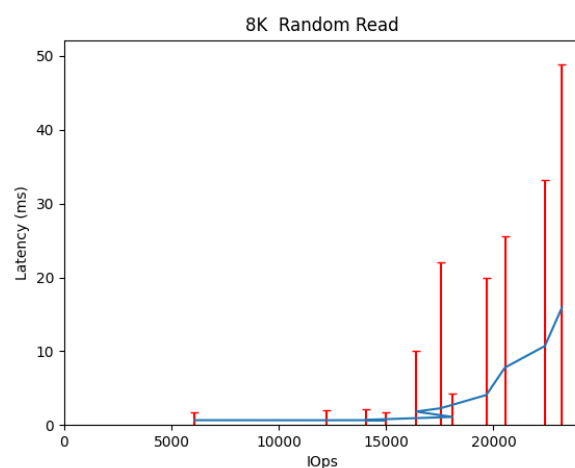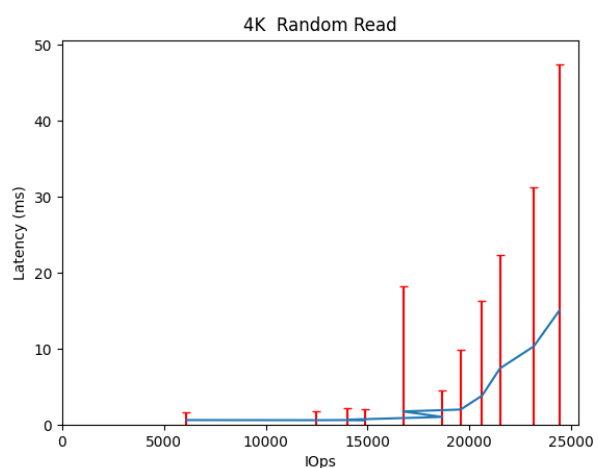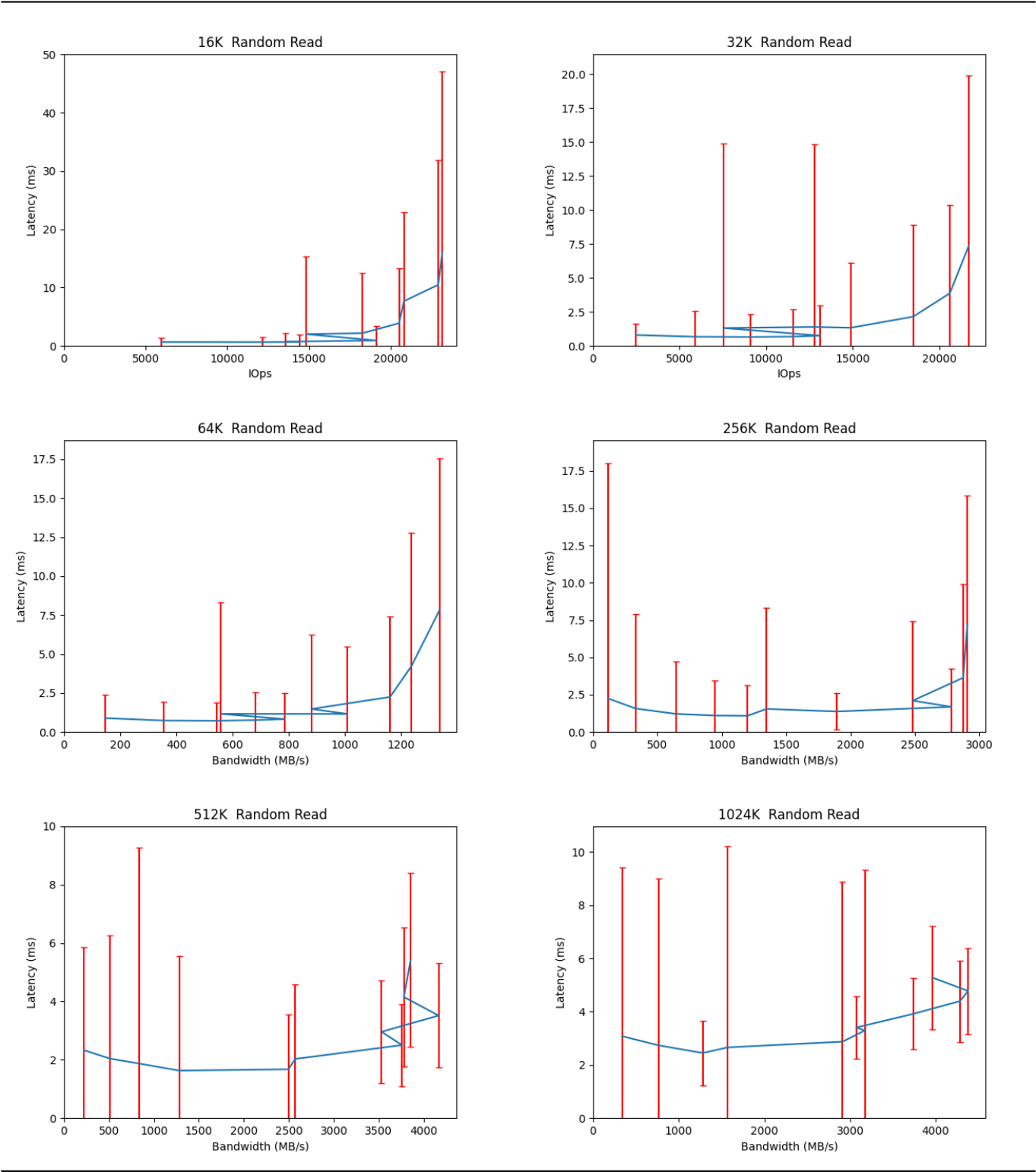
1024K Random Write

Random Read/Write

4K 70/30 Random Read/Write

16K 70/30 Random Read/Write

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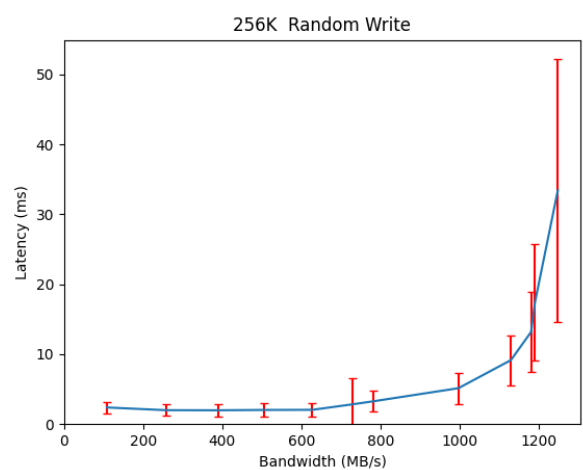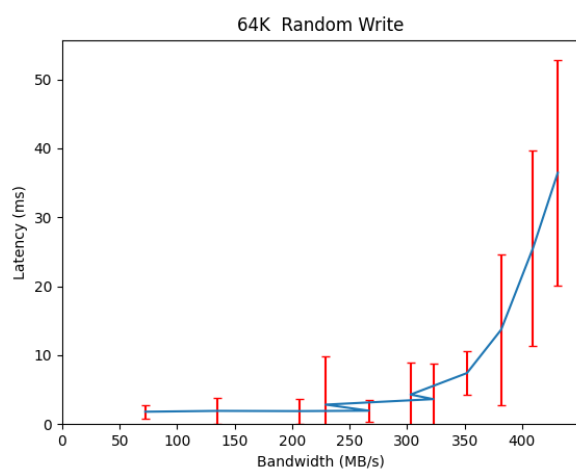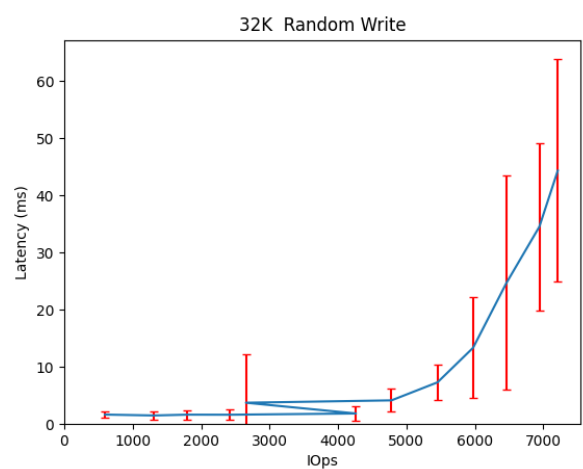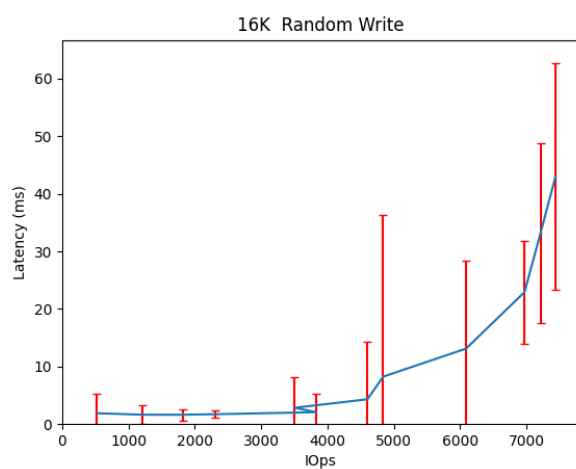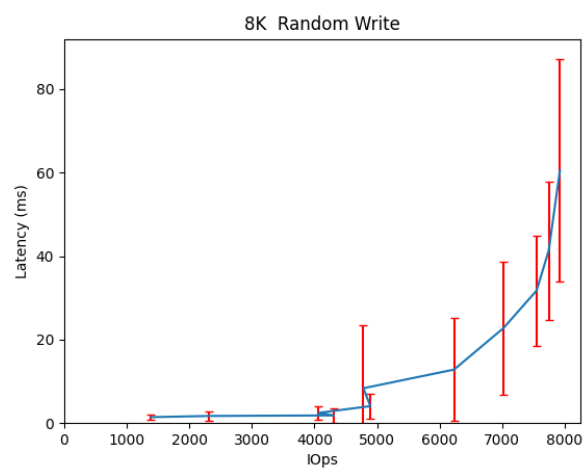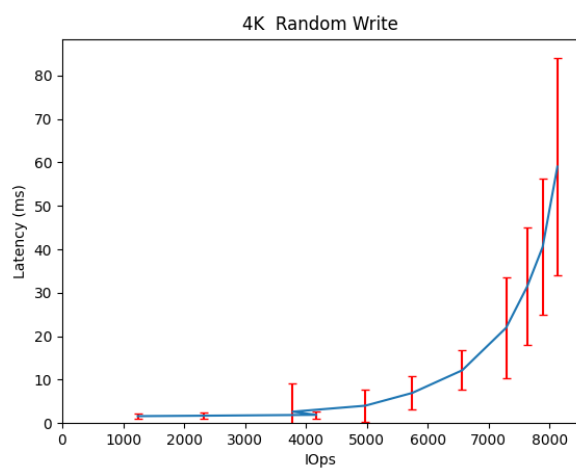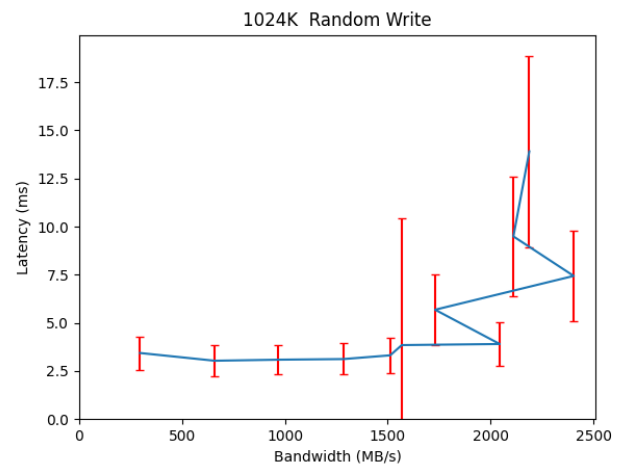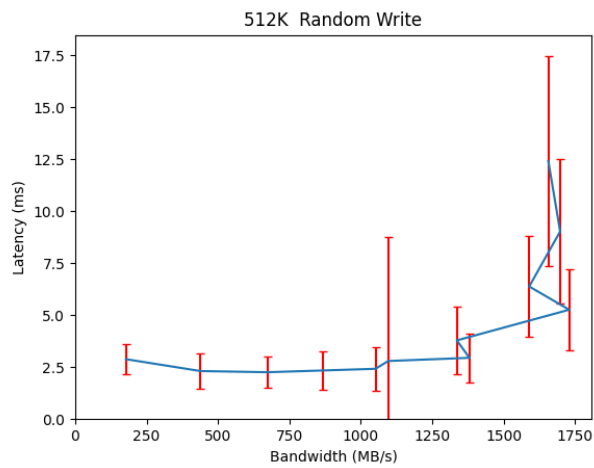
64K 30/70 Random Read/Write
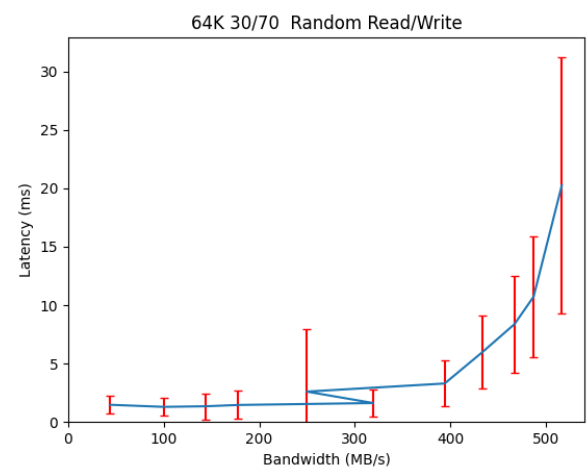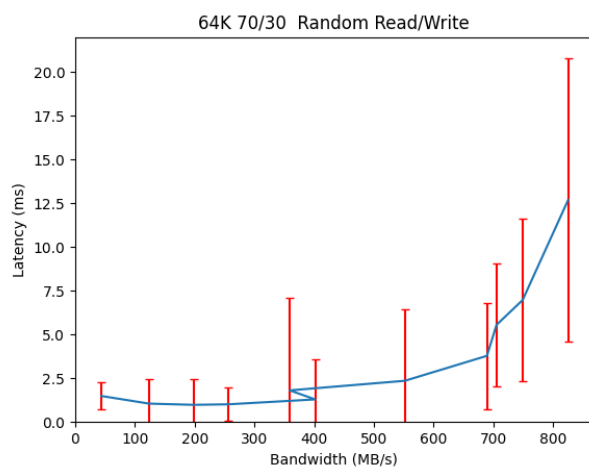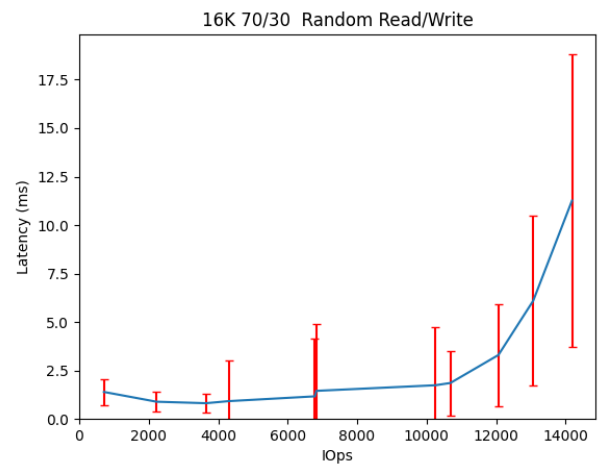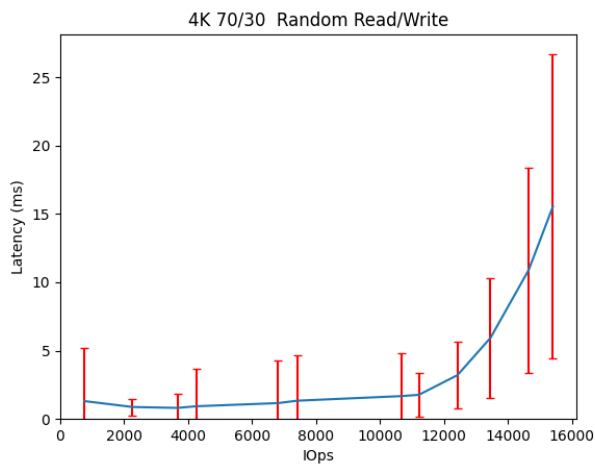
Configuration yaml

```
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
  prefill:
    blocksize: 64k
    numjobs: 1
  procs_per_volume:
  - 1
  ramp: 30
  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:
      - 4
```

Configuration yaml

```yaml
      - 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
```

Configuration yaml

```yaml
        - 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:
```

Configuration yaml

```yaml
      - 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
    - 16
```

```yaml
        - 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
    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
```

Configuration yaml

```
            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
```

Configuration yaml

```
          - 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
        - 256
        - 384
```

Configuration yaml

```yaml
    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
    8krandomwrite:
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      op_size: 8192
      total_iodepth:
      - 2
      - 4
```

Configuration yaml

```
          - 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
        seq256kread:
          jobname: seqread
          mode: read
          numjobs:
          - 1
          op_size: 262144
          total_iodepth:
```

Configuration yaml

```yaml
      - 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
```

Configuration yaml

```
      - 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
    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
    seq8kread:
      jobname: seqread
      mode: read
      numjobs:
      - 1
      op_size: 8192
      total_iodepth:
      - 2
      - 4
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
      - 96
      - 128
      - 192
      - 288
    seq8kwrite:
      jobname: seqwrite
      mode: write
      numjobs:
```

Configuration yaml

```yaml
        - 1
        op_size: 8192
        total_iodepth:
        - 2
        - 8
        - 16
        - 24
        - 32
        - 48
        - 64
        - 128
        - 256
        - 384
        - 512
        - 768
        - 1024
        - 1280
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: ljsanders
monitoring_profiles:
  collectl:
    args: -c 18 -sCD -i 10 -P -oz -F0 --rawtoo --sep ";" -f {collectl_dir}
```