Comparitive Performance Report for cbt-4thFeb-main-4k-8vol vs cbt-6thFeb-alexls22-econ-4k-8vol vs cbt-7thFeb-alexls22-econ-4k-8vol-finegrain

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Comparison summary for cbt-4thFeb-main-4k-8vol vs cbt-6thFeb-alexls22-econ-4k-8vol vs cbt-7thFeb-alexls22-econ-4k-8vol-finegrain

Sequential Read	cbt_4thFeb_main_4k_8vol	cbt_6thFeb_alexls22_econ_4k_8vol	% change	cbt_7thFeb_alexls22_econ_4k_8vol_finegrain	% change
4K	68314@2.3ms	65503@2.4	-4%	63795@3.0	-7%
8K	40450@2.4ms	39256@3.3	-3%	38680@5.0	-4%
16K	22810@5.6ms	22265@5.7	-2%	22041@8.7	-3%
32K	18772@6.8ms	18793@6.8	0%	19329@9.9	3%
64K	1095@9.6ms	1107@9.5	1%	1181@14.2	8%
256K	1536@15.0ms	1568@14.7	2%	1591@10.5	4%
512K	1566@29.5ms	1584@29.1	1%	1593@10.5	2%
1024K	1574@53.4ms	1591@58.0	1%	1597@13.1	1%

Sequential Write	cbt_4thFeb_main_4k_8vol	cbt_6thFeb_alexls22_econ_4k_8vol	% change	cbt_7thFeb_alexls22_econ_4k_8vol_finegrain	% change
4K	3074@52.0ms	4864@32.9	58%	7018@27.3	128%
8K	2707@47.4ms	4744@33.7	75%	5326@48.1	97%
16K	7408@17.3ms	6434@19.9	-13%	5985@21.4	-19%
32K	9111@14.0ms	8868@9.0	-3%	9777@13.1	7%
64K	245@12.8ms	284@12.9	16%	204@41.2	-17%
256K	568@7.2ms	419@45.0	-26%	398@20.9	-30%
512K	479@87.4ms	480@95.8	0%	482@34.6	1%
1024K	495@84.3ms	487@102.9	-2%	509@24.2	3%

Random Read	cbt_4thFeb_main_4k_8vol	cbt_6thFeb_alexls22_econ_4k_8vol	% change	cbt_7thFeb_alexls22_econ_4k_8vol_finegrain	% change
4K	81023@4.7ms	80995@4.7	-0%	80041@4.8	-1%
8K	52986@7.2ms	51850@7.4	-2%	51367@5.0	-3%
16K	31191@12.3ms	31522@8.1	1%	31203@12.3	0%
32K	28234@9.1ms	29188@7.7	3%	29215@8.7	3%
64K	1559@5.4ms	1608@6.5	3%	1606@5.2	3%
256K	1695@14.8ms	1706@19.7	1%	1751@9.6	3%
512K	1697@27.2ms	1707@27.0	1%	1774@11.8	5%
1024K	1706@54.1ms	1714@49.0	0%	1778@16.5	4%

Random Write	cbt_4thFeb_main_4k_8vol	cbt_6thFeb_alexls22_econ_4k_8vol	% change	cbt_7thFeb_alexls22_econ_4k_8vol_finegrain	% change
4K	2746@46.6ms	5649@11.3	106%	4398@29.1	60%
8K	2917@43.8ms	5724@22.3	96%	5056@25.3	73%
16K	5957@16.1ms	5175@24.7	-13%	4928@26.0	-17%
32K	3629@35.2ms	3387@37.8	-7%	3751@34.1	3%
64K	191@32.9ms	182@46.1	-5%	169@49.5	-12%
256K	421@39.7ms	363@34.6	-14%	350@17.8	-17%

Comparison summary for cbt-4thFeb-main-4k-8vol vs cbt-6thFeb-alexls22-econ-4k-8vol vs cbt-7thFeb-alexls22-econ-4k-8vol-finegrain

Random Write	cbt__4thFeb__main__4k_8vol	cbt__6thFeb_alexls22__econ__4k_8vol	% change	cbt__7thFeb_alexls22__econ__4k_8vol_finegrain	% change
512K	472@61.9ms	467@89.7	-1%	531@63.0	12%
1024K	478@52.1ms	489@171.5	2%	498@58.4	4%

Random Read/Write	cbt__4thFeb__main__4k_8vol	cbt__6thFeb_alexls22__econ__4k_8vol	% change	cbt__7thFeb_alexls22__econ__4k_8vol_finegrain	% change
16K__70/30	7501@8.5ms	7205@8.9	-4%	6600@19.4	-12%
64K__30/70	277@13.2ms	257@22.4	-7%	191@43.8	-31%

Response Curves

Sequential Read

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cbt-4thFeb-main-4k-8vol vs cbt-6thFeb-alexls22-econ-4k-8vol vs cbt-7thFeb-alexls22-econ-4k-8vol-finegrain   February 7, 2025

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
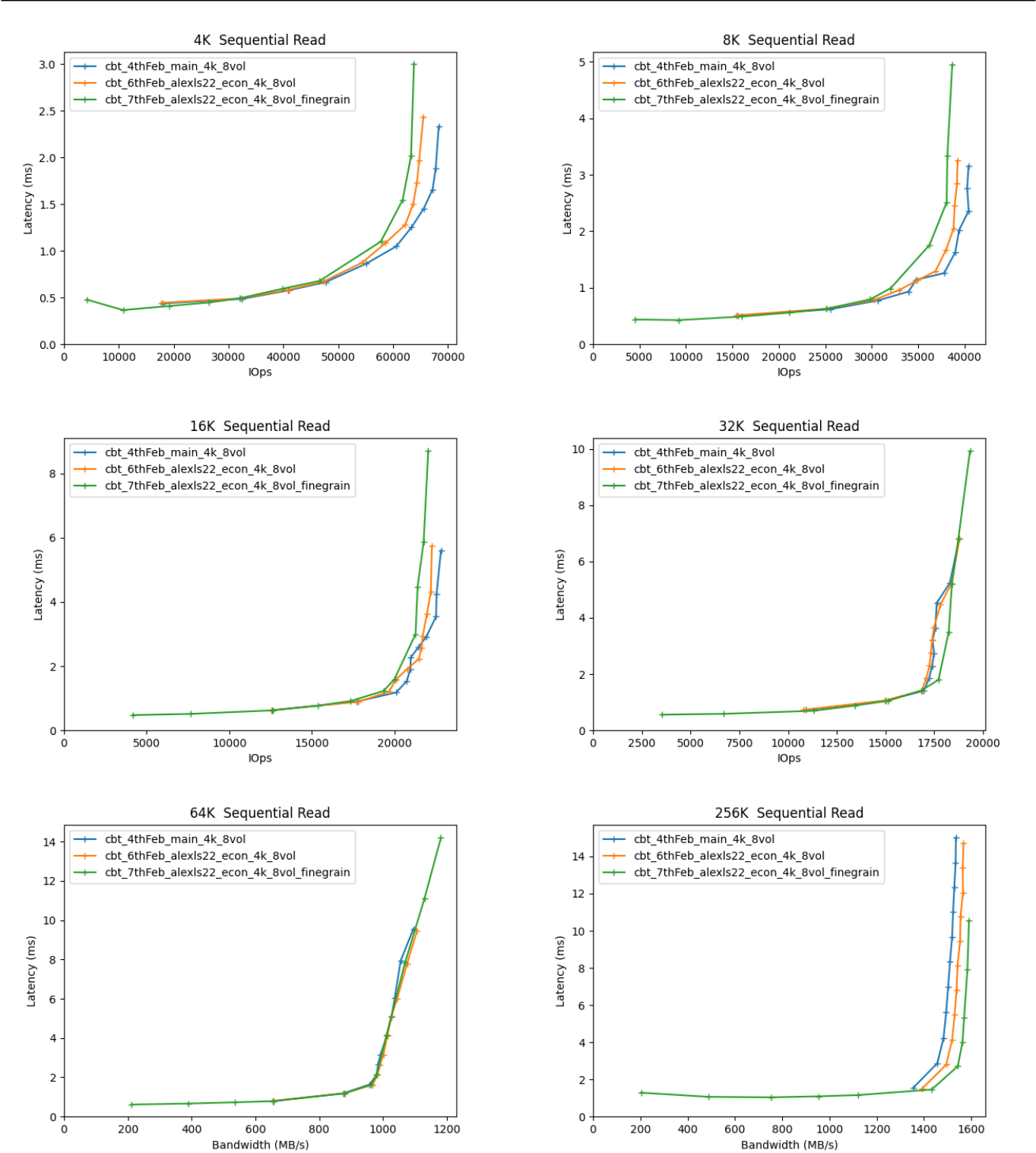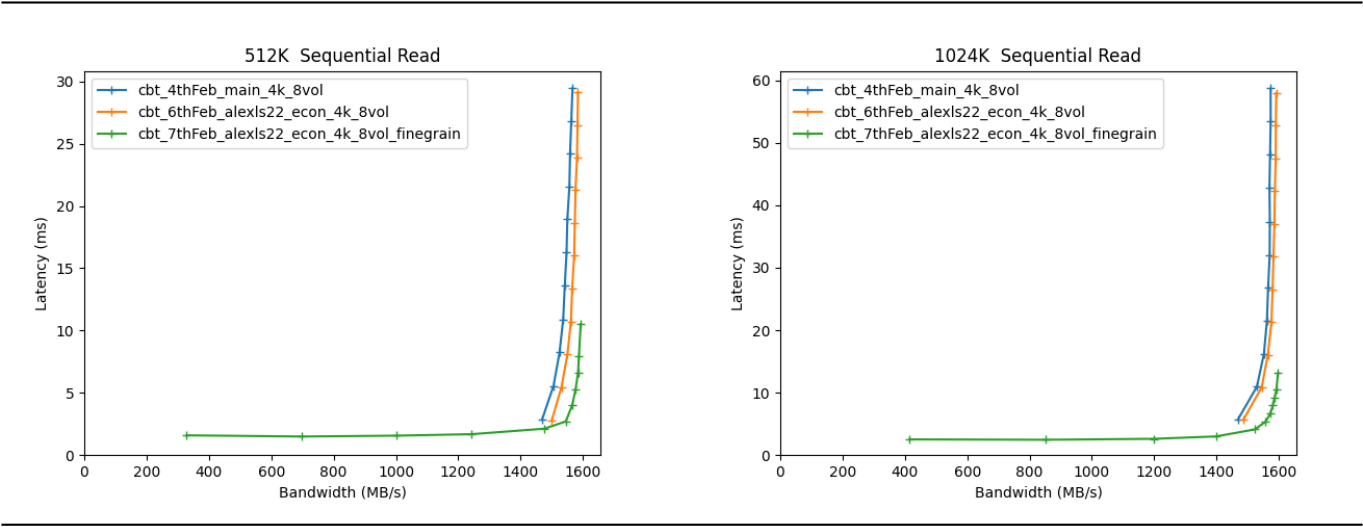
1024K Sequential Write

Random Read

4K Random Read

8K Random Read

16K Random Read

32K Random Read

64K Random Read

256K Random Read

512K Random Read
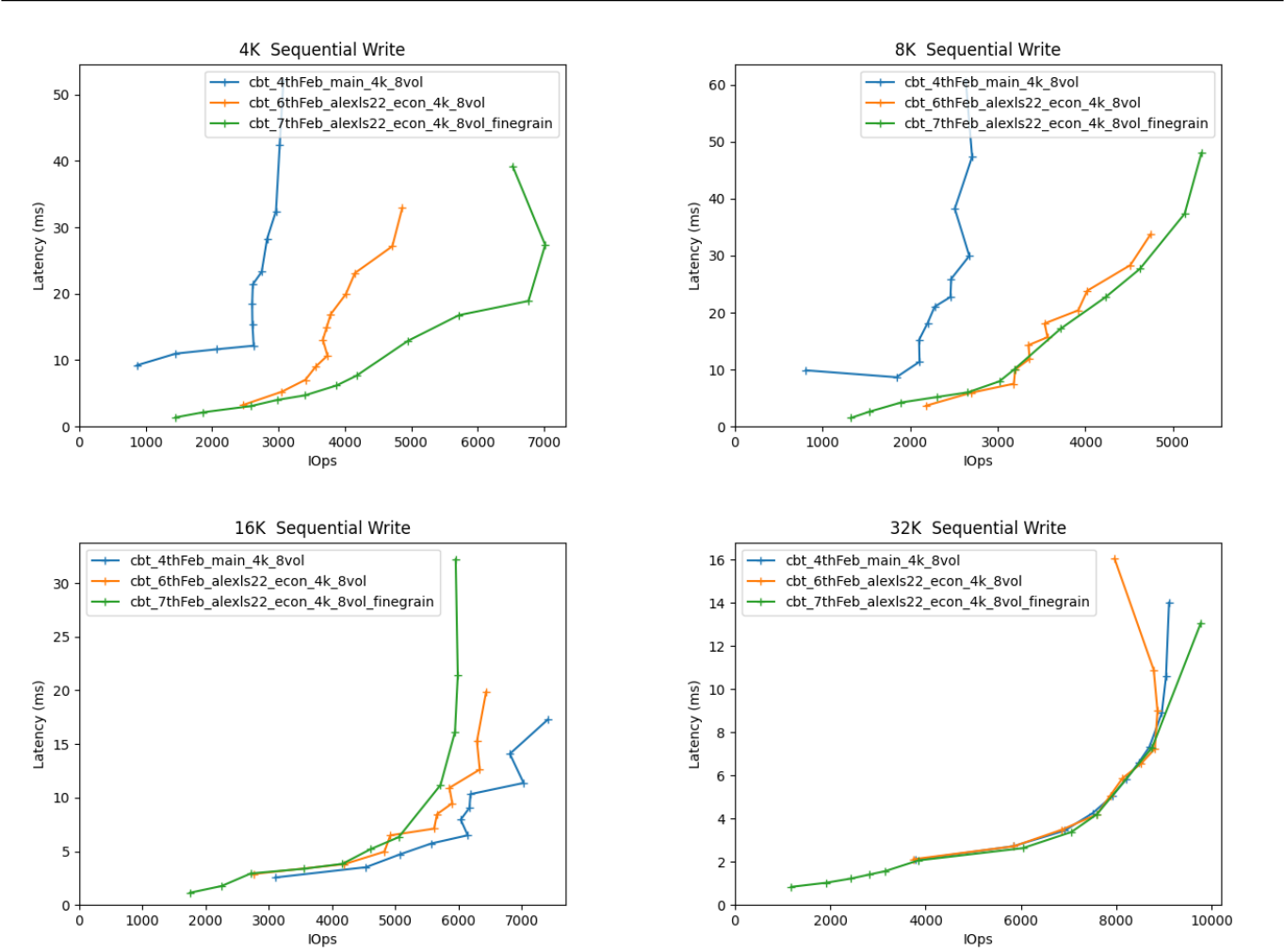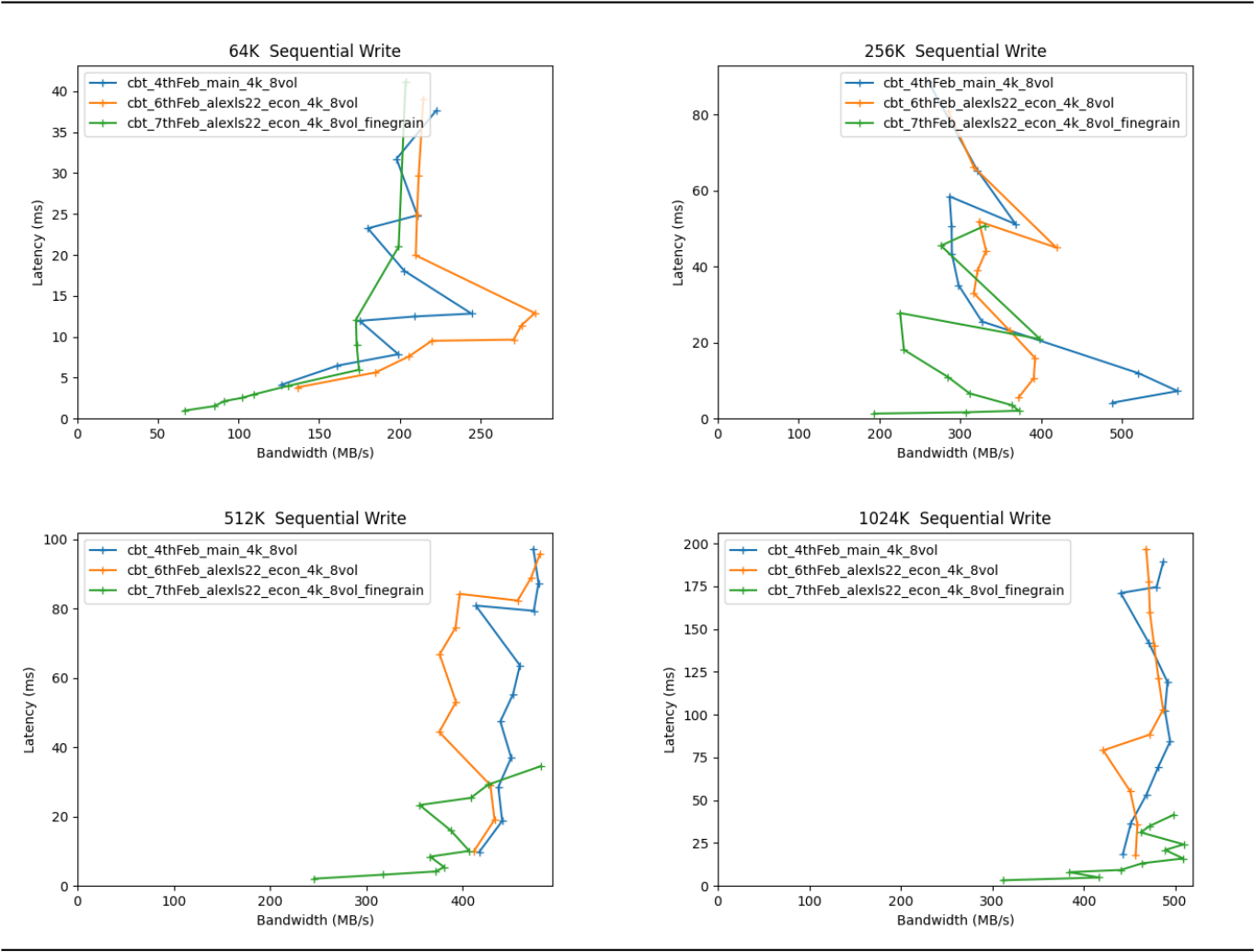
1024K Random Read

Random Write

4K Random Write

- cbt_4thFeb_main_4k_8vol
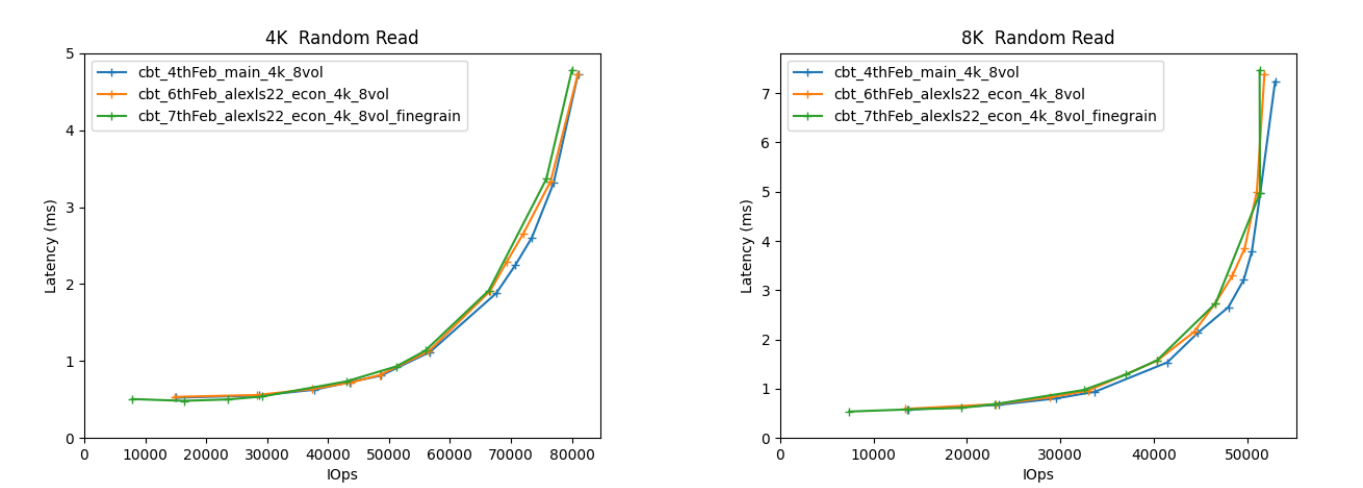- cbt_6thFeb_alexls22_econ_4k_8vol
- cbt_7thFeb_alexls22_econ_4k_8vol_finegrain

8K Random Write

- cbt_4thFeb_main_4k_8vol
- cbt_6thFeb_alexls22_econ_4k_8vol
- cbt_7thFeb_alexls22_econ_4k_8vol_finegrain

16K Random Write

- cbt_4thFeb_main_4k_8vol
- cbt_6thFeb_alexls22_econ_4k_8vol
- cbt_7thFeb_alexls22_econ_4k_8vol_finegrain

32K Random Write

- cbt_4thFeb_main_4k_8vol
- cbt_6thFeb_alexls22_econ_4k_8vol
- cbt_7thFeb_alexls22_econ_4k_8vol_finegrain

64K Random Write

- cbt_4thFeb_main_4k_8vol
- cbt_6thFeb_alexls22_econ_4k_8vol
- cbt_7thFeb_alexls22_econ_4k_8vol_finegrain

256K Random Write

- cbt_4thFeb_main_4k_8vol
- cbt_6thFeb_alexls22_econ_4k_8vol
- cbt_7thFeb_alexls22_econ_4k_8vol_finegrain

512K Random Write

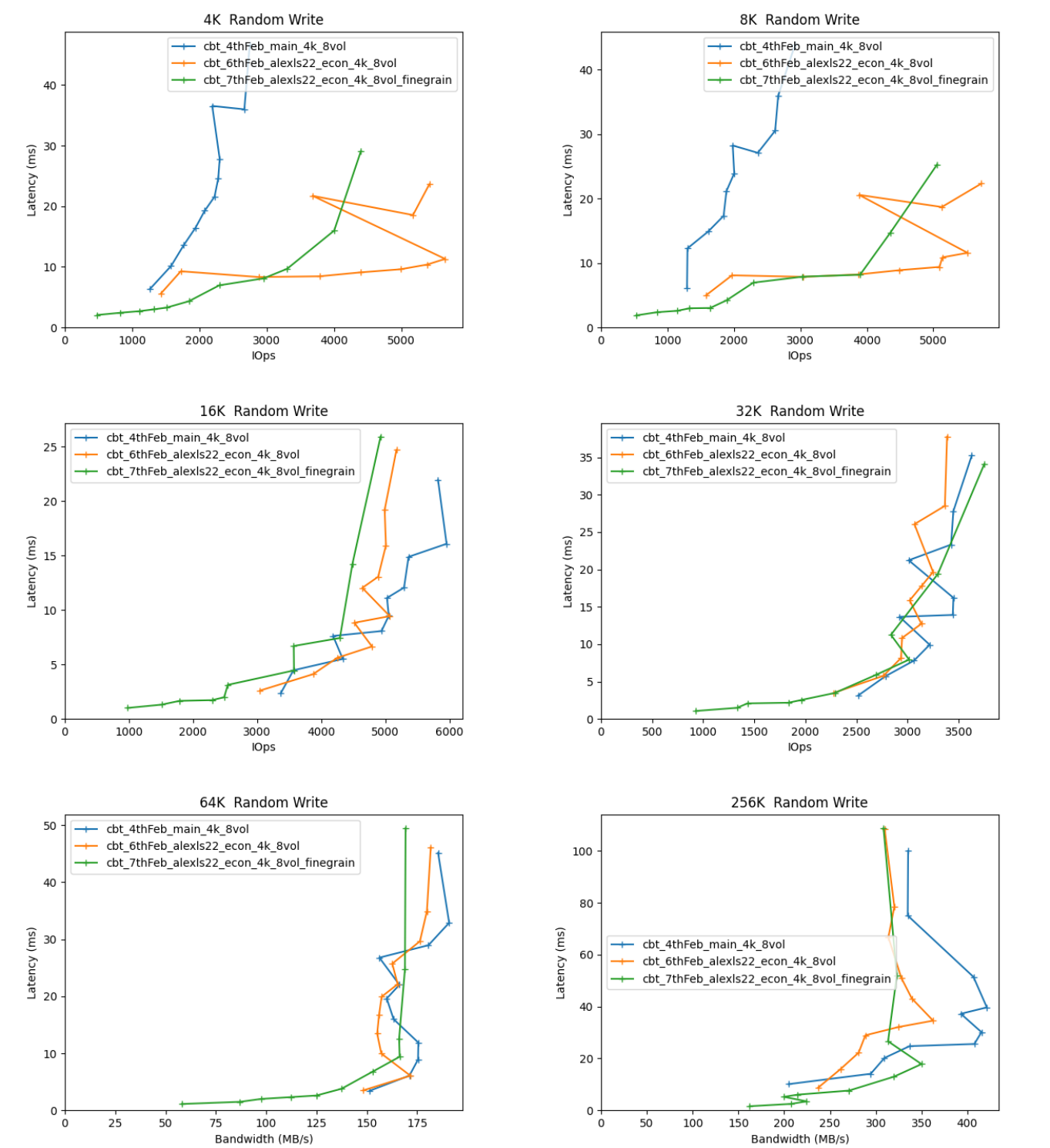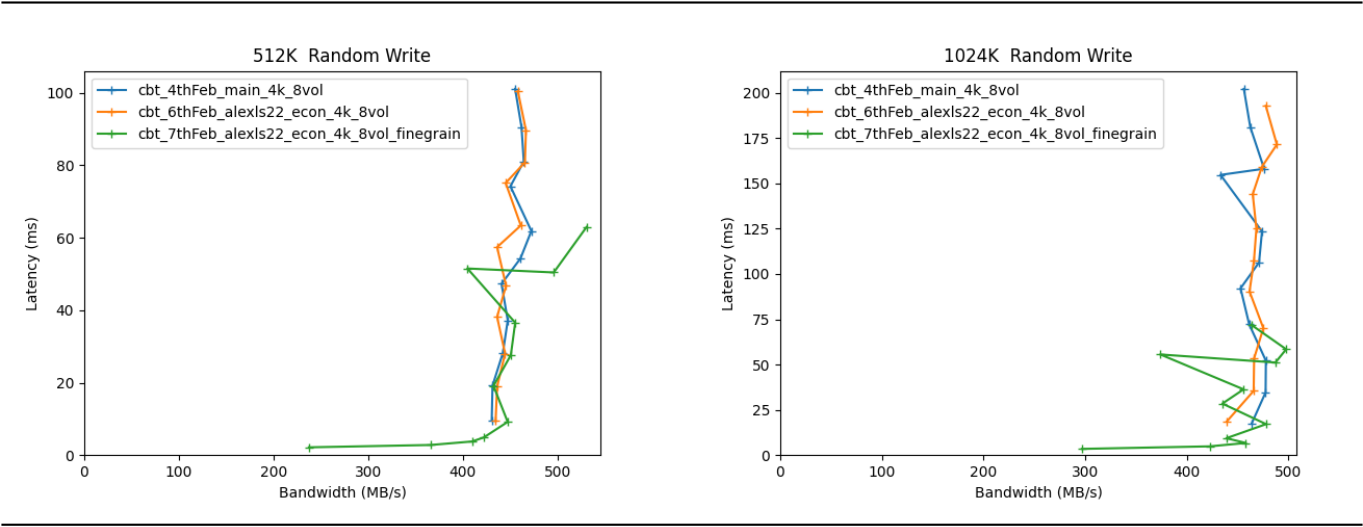1024K Random Write
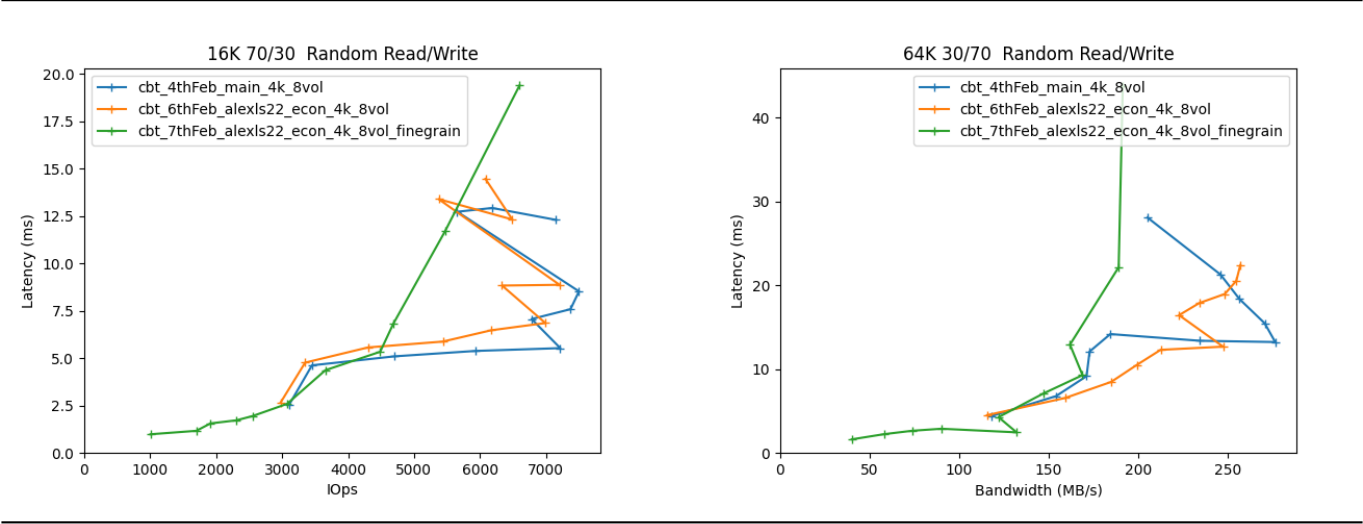
Random Read/Write

16K 70/30 Random Read/Write

64K 30/70 Random Read/Write

Configuration yaml files

Only yaml files that differ by more than 20 lines from the yaml file for the baseline directory will be added here in addition to the baseline yaml

results

```
librbdfio:
  cmd_path: /usr/local/bin/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: 52500
  volumes_per_client:
  - 8
  workloads:
    16k7030:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 9
      - 10
      - 11
      jobname: randmix
      mode: randrw
      numjobs:
      - 1
      op_size: 16384
      rwmixread: 70
    16krandomread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 8
      - 12
      - 16
      - 20
      - 24
      - 32
      - 48
      jobname: randread
      mode: randread
      numjobs:
      - 1
```

```
      op_size: 16384
    16krandomwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 10
      - 12
      - 16
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      op_size: 16384
    1Mrandomread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 9
      - 10
      - 11
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 1048576
    1Mrandomwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 9
      - 10
      - 11
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      op_size: 1048576
    1Mseqread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
```

```
      - 7
      - 8
      - 9
      - 10
      - 11
      jobname: seqread
      mode: read
      numjobs:
      - 1
      op_size: 1048576
    1Mseqwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 9
      - 10
      - 11
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      op_size: 1048576
    256krandomread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 10
      - 12
      - 16
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 262144
    256krandomwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 10
      - 12
      - 16
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
```

```yaml
      op_size: 262144
    32krandomread:
      iodepth:
      - 1
      - 2
      - 4
      - 6
      - 8
      - 10
      - 12
      - 16
      - 20
      - 28
      - 32
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 32768
    32krandomwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 10
      - 12
      - 16
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      op_size: 32768
    4krandomread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 8
      - 16
      - 20
      - 24
      - 32
      - 48
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 4096
    4krandomwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
```

```
      - 7
      - 8
      - 10
      - 12
      - 16
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 4096
  512krandomread:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - 10
    - 11
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 524288
  512krandomwrite:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - 10
    - 11
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 524288
  512kseqread:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - 10
    - 11
    jobname: seqread
    mode: read
    numjobs:
    - 1
```

```
      op_size: 524288
    512kseqwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 9
      - 10
      - 11
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      op_size: 524288
    64k3070:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 9
      - 10
      - 11
      jobname: randmix
      mode: randrw
      numjobs:
      - 1
      op_size: 65536
      rwmixread: 30
    64k7030:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 9
      - 10
      - 11
      jobname: randmix
      mode: randrw
      numjobs:
      - 1
      op_size: 65536
      rwmixread: 70
    64krandomread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
```

```
  - 6
  - 8
  - 10
  - 12
  - 16
  - 20
  - 28
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 65536
64krandomwrite:
  iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 10
  - 12
  - 16
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 65536
64kseqread:
  iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 8
  - 10
  - 12
  - 16
  - 20
  jobname: read
  mode: read
  numjobs:
  - 1
  op_size: 65536
64kseqwrite:
  iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 10
  - 12
  - 16
  jobname: write
  mode: write
```

```
      numjobs:
      - 1
      op_size: 65536
    8krandomread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 8
      - 12
      - 16
      - 20
      - 24
      - 32
      - 48
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 8192
    8krandomwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 10
      - 12
      - 16
      jobname: randwrite
      mode: randwrite
      numjobs:
      - 1
      op_size: 8192
    precondition:
      iodepth:
      - 2
      jobname: precond1rw
      mode: randwrite
      monitor: false
      numjobs:
      - 1
      op_size: 65536
      precond: true
    seq16kread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 10
      - 12
      - 16
      jobname: seqread
```

```
      mode: read
      numjobs:
      - 1
      op_size: 16384
    seq16kwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 10
      - 12
      - 16
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      op_size: 16384
    seq256kread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 9
      - 10
      - 11
      jobname: seqread
      mode: read
      numjobs:
      - 1
      op_size: 262144
    seq256kwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 9
      - 10
      - 11
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      op_size: 262144
    seq32kread:
      iodepth:
      - 1
      - 2
      - 3
```

```yaml
      - 4
      - 5
      - 6
      - 7
      - 8
      - 10
      - 12
      - 16
      jobname: seqread
      mode: read
      numjobs:
      - 1
      op_size: 32768
    seq32kwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 10
      - 12
      - 16
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      op_size: 32768
    seq4kread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 6
      - 8
      - 10
      - 12
      - 14
      - 16
      - 20
      jobname: seqread
      mode: read
      numjobs:
      - 1
      op_size: 4096
    seq4kwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 10
      - 12
      - 16
      - 20
```

```
        jobname: seqwrite
        mode: write
        numjobs:
        - 1
        op_size: 4096
      seq8kread:
        iodepth:
        - 1
        - 2
        - 3
        - 4
        - 5
        - 6
        - 8
        - 10
        - 12
        - 14
        - 16
        jobname: seqread
        mode: read
        numjobs:
        - 1
        op_size: 8192
      seq8kwrite:
        iodepth:
        - 1
        - 2
        - 3
        - 4
        - 5
        - 6
        - 7
        - 8
        - 10
        - 12
        - 16
        - 20
        jobname: seqwrite
        mode: write
        numjobs:
        - 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}

  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: 52500
    volumes_per_client:
    - 8
    workloads:
      16k7030:
        iodepth:
        - 1
        - 2
        - 3
        - 4
        - 5
        - 6
        - 7
        - 8
        - 9
        - 10
        - 11
        jobname: randmix
        mode: randrw
        numjobs:
        - 1
        op_size: 16384
        rwmixread: 70
      16krandomread:
        iodepth:
        - 1
        - 2
        - 3
```

```
          - 4
          - 8
          - 12
          - 16
          - 20
          - 24
          - 32
          - 48
          jobname: randread
          mode: randread
          numjobs:
          - 1
          op_size: 16384
        16krandomwrite:
          iodepth:
          - 1
          - 2
          - 3
          - 4
          - 5
          - 6
          - 7
          - 8
          - 10
          - 12
          - 16
          jobname: randwrite
          mode: randwrite
          numjobs:
          - 1
          op_size: 16384
        1Mrandomread:
          iodepth:
          - 1
          - 2
          - 3
          - 4
          - 5
          - 6
          - 7
          - 8
          - 9
          - 10
          - 11
          jobname: randread
          mode: randread
          numjobs:
          - 1
          op_size: 1048576
        1Mrandomwrite:
          iodepth:
          - 1
          - 2
          - 3
          - 4
          - 5
          - 6
          - 7
          - 8
          - 9
          - 10
          - 11
          jobname: randwrite
```

```
      mode: randwrite
      numjobs:
      - 1
      op_size: 1048576
    1Mseqread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 9
      - 10
      - 11
      jobname: seqread
      mode: read
      numjobs:
      - 1
      op_size: 1048576
    1Mseqwrite:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 9
      - 10
      - 11
      jobname: seqwrite
      mode: write
      numjobs:
      - 1
      op_size: 1048576
    256krandomread:
      iodepth:
      - 1
      - 2
      - 3
      - 4
      - 5
      - 6
      - 7
      - 8
      - 10
      - 12
      - 16
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 262144
    256krandomwrite:
      iodepth:
      - 1
      - 2
      - 3
```

```
    - 4
    - 5
    - 6
    - 7
    - 8
    - 10
    - 12
    - 16
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 262144
  32krandomread:
    iodepth:
    - 1
    - 2
    - 4
    - 6
    - 8
    - 10
    - 12
    - 16
    - 20
    - 28
    - 32
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 32768
  32krandomwrite:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 10
    - 12
    - 16
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 32768
  4krandomread:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 20
    - 24
    - 32
    - 48
    jobname: randread
```

```
    mode: randread
    numjobs:
    - 1
    op_size: 4096
4krandomwrite:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 10
    - 12
    - 16
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 4096
512krandomread:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - 10
    - 11
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 524288
512krandomwrite:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - 10
    - 11
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 524288
512kseqread:
    iodepth:
    - 1
    - 2
    - 3
```

```
    - 4
    - 5
    - 6
    - 7
    - 8
    - 9
    - 10
    - 11
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 524288
512kseqwrite:
  iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - 11
  jobname: seqwrite
  mode: write
  numjobs:
  - 1
  op_size: 524288
64k3070:
  iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - 11
  jobname: randmix
  mode: randrw
  numjobs:
  - 1
  op_size: 65536
  rwmixread: 30
64k7030:
  iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 7
  - 8
  - 9
  - 10
  - 11
```

```
    jobname: randmix
    mode: randrw
    numjobs:
    - 1
    op_size: 65536
    rwmixread: 70
64krandomread:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 6
    - 8
    - 10
    - 12
    - 16
    - 20
    - 28
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 65536
64krandomwrite:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 10
    - 12
    - 16
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 65536
64kseqread:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 8
    - 10
    - 12
    - 16
    - 20
    jobname: read
    mode: read
    numjobs:
    - 1
    op_size: 65536
64kseqwrite:
    iodepth:
    - 1
```

```
            - 2
            - 3
            - 4
            - 5
            - 6
            - 7
            - 8
            - 10
            - 12
            - 16
          jobname: write
          mode: write
          numjobs:
            - 1
          op_size: 65536
        8krandomread:
          iodepth:
            - 1
            - 2
            - 3
            - 4
            - 8
            - 12
            - 16
            - 20
            - 24
            - 32
            - 48
          jobname: randread
          mode: randread
          numjobs:
            - 1
          op_size: 8192
        8krandomwrite:
          iodepth:
            - 1
            - 2
            - 3
            - 4
            - 5
            - 6
            - 7
            - 8
            - 10
            - 12
            - 16
          jobname: randwrite
          mode: randwrite
          numjobs:
            - 1
          op_size: 8192
        precondition:
          iodepth:
            - 2
          jobname: precond1rw
          mode: randwrite
          monitor: false
          numjobs:
            - 1
          op_size: 65536
          precond: true
        seq16kread:
          iodepth:
```

```
                        - 1
                        - 2
                        - 3
                        - 4
                        - 5
                        - 6
                        - 7
                        - 8
                        - 10
                        - 12
                        - 16
                      jobname: seqread
                      mode: read
                      numjobs:
                        - 1
                      op_size: 16384
                    seq16kwrite:
                      iodepth:
                        - 1
                        - 2
                        - 3
                        - 4
                        - 5
                        - 6
                        - 7
                        - 8
                        - 10
                        - 12
                        - 16
                      jobname: seqwrite
                      mode: write
                      numjobs:
                        - 1
                      op_size: 16384
                    seq256kread:
                      iodepth:
                        - 1
                        - 2
                        - 3
                        - 4
                        - 5
                        - 6
                        - 7
                        - 8
                        - 9
                        - 10
                        - 11
                      jobname: seqread
                      mode: read
                      numjobs:
                        - 1
                      op_size: 262144
                    seq256kwrite:
                      iodepth:
                        - 1
                        - 2
                        - 3
                        - 4
                        - 5
                        - 6
                        - 7
                        - 8
                        - 9
```

```
    - 10
    - 11
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 262144
  seq32kread:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 10
    - 12
    - 16
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 32768
  seq32kwrite:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 7
    - 8
    - 10
    - 12
    - 16
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 32768
  seq4kread:
    iodepth:
    - 1
    - 2
    - 3
    - 4
    - 6
    - 8
    - 10
    - 12
    - 14
    - 16
    - 20
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 4096
  seq4kwrite:
    iodepth:
```

```
          - 1
          - 2
          - 3
          - 4
          - 5
          - 6
          - 7
          - 8
          - 10
          - 12
          - 16
          - 20
        jobname: seqwrite
        mode: write
        numjobs:
        - 1
        op_size: 4096
      seq8kread:
        iodepth:
        - 1
        - 2
        - 3
        - 4
        - 5
        - 6
        - 8
        - 10
        - 12
        - 14
        - 16
        jobname: seqread
        mode: read
        numjobs:
        - 1
        op_size: 8192
      seq8kwrite:
        iodepth:
        - 1
        - 2
        - 3
        - 4
        - 5
        - 6
        - 7
        - 8
        - 10
        - 12
        - 16
        - 20
        jobname: seqwrite
        mode: write
        numjobs:
        - 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

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

```yaml
    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
    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
    - 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
        - 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:
        - 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:
      - 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
  - 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:
      - 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
  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}

  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:
        - 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
      - 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
  - 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
        4krandomwrite:
```

```yaml
      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
      - 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
      - 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:
      - 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:
      - 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
  - 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:
      - 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
  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}
```