Comparitive Performance Report for cbt-31stJul-16k-o01-6+2-ecopt2 vs cbt-23rdAug-o01-6+2-16k-directreads-balanced vs cbt-23rdAug-o01-6+2-32k-directreads-balancedreads vs cbt-21stAug-o01-3way-squid192 vs cbt-22ndAug-o01-3way-tentaclerc vs cbt-27thAug-o01-3way-tentacle-balanced
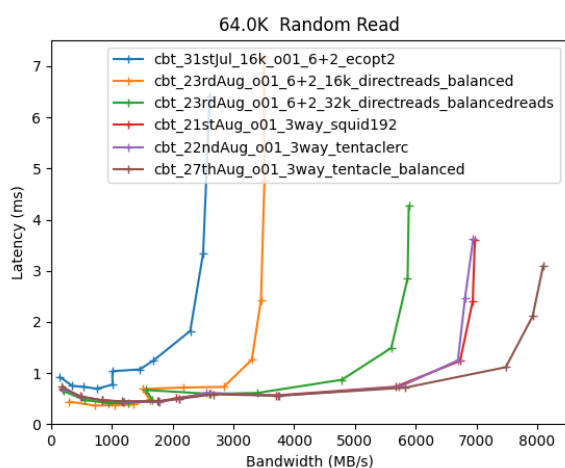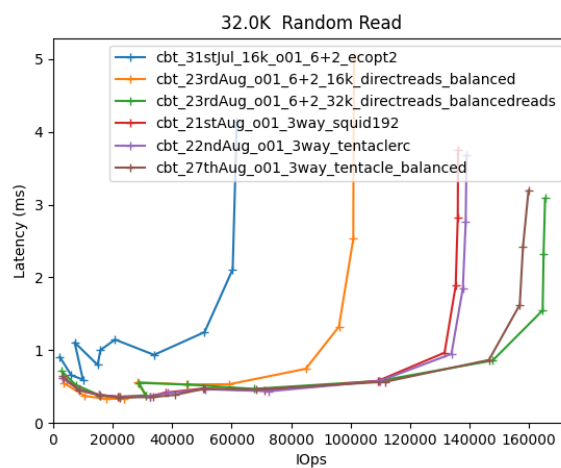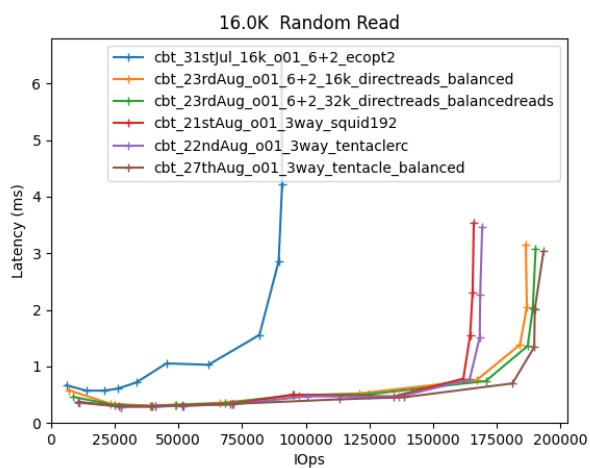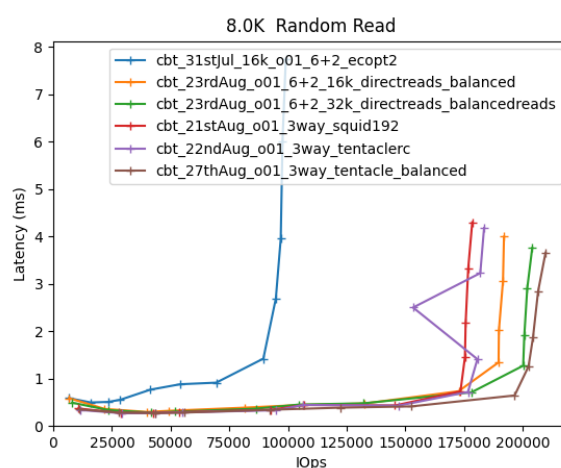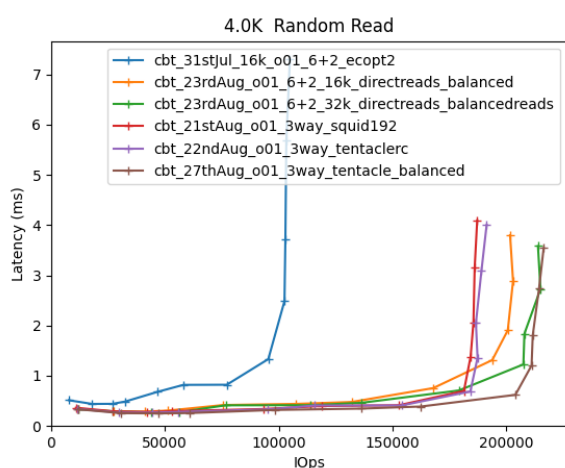
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Comparison summary for cbt-31stJul-16k-o01-6+2-ecopt2 vs cbt-23rdAug-o01-6+2-16k-directreads-balanced vs cbt-23rdAug-o01-6+2-32k-directreads-balancedreads vs cbt-21stAug-o01-3way-squid192 vs cbt-22ndAug-o01-3way-tentaclerc vs cbt-27thAug-o01-3way-tentacle-balanced

Random Read	cbt_31stJul_16k_o01_6+2_ecopt2	cbt_23rdAug_o01_6+2_16k_directreads_balanced	%change	cbt_23rdAug_o01_6+2_32k_directreads_balancedreads	%change	cbt_21stAug_o01_3way_squid192	%change	cbt_22ndAug_o01_3way_tentaclerc	%change	cbt_27thAug_o01_3way_tentacle_balanced	%change
4.0K	104960@7.2	203078@2.9	93%	215141@2.7	105%	187305@4.1	78%	191467@4.0	82%	216530@3.5	106%
8.0K	99102@7.7	192045@4.0	94%	204090@3.8	106%	178532@4.3	80%	183567@4.2	85%	209775@3.7	112%
16.0K	90721@4.2	186836@2.0	106%	190303@3.1	110%	166006@3.5	83%	169312@3.5	87%	193403@3.0	113%
32.0K	61724@4.1	101172@5.1	64%	165419@3.1	168%	136151@3.8	121%	138987@3.7	125%	159835@3.2	159%
64.0K	2610@6.4	3510@4.8	34%	5886@4.3	126%	6974@3.6	167%	6946@3.6	166%	8100@3.1	210%

cbt-31stJul-16k-o01-6+2-ecopt2 vs cbt-23rdAug-o01-6+2-16k-directreads-balanced vs cbt-23rdAug-o01-6+2-32k-directreads-balancedreads vs cbt-21stAug-o01-3way-squid192 vs

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August 27, 2025

Response Curves

Random Read

4.0K Random Read

8.0K Random Read

16.0K Random Read

32.0K Random Read

64.0K Random Read

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
  prefill:
    blocksize: 64k
    numjobs: 1
  procs_per_volume:
  - 1
  ramp: 30
  rbdname: cbt-librbdfio
  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
      - 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
        - 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:
  - 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
      - 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:
          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
          - 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
        - 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
          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
            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
            - 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
      - 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}

  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
    rbdname: cbt-librbdfio
    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
        - 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
          - 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:
        - 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
```

cbt-31stJul-16k-o01-6+2-ecopt2 vs cbt-23rdAug-o01-6+2-16k-directreads-balanced vs   August 27, 2025
cbt-23rdAug-o01-6+2-32k-directreads-balancedreads vs cbt-21stAug-o01-3way-squid192 vs

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

results

```
librbdfio:
  cmd_path: /usr/local/bin/fio2
  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
  rbdname: cbt-librbdfio
  time: 90
  time_based: true
  use_existing_volumes: true
  vol_size: 1368750
  volumes_per_client:
  - 16
  workloads:
    16krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 16384
      total_iodepth:
      - 4
      - 8
      - 12
      - 16
      - 24
      - 48
      - 64
      - 128
      - 256
      - 384
      - 588
    32krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 32768
      total_iodepth:
      - 2
      - 4
      - 6
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
      - 128
      - 256
```

```
        - 384
        - 512
    4krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 4096
      total_iodepth:
      - 4
      - 8
      - 12
      - 16
      - 32
      - 48
      - 64
      - 128
      - 256
      - 384
      - 588
      - 768
    64krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 65536
      total_iodepth:
      - 2
      - 4
      - 6
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
      - 128
      - 256
      - 384
    8krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 8192
      total_iodepth:
      - 4
      - 8
      - 12
      - 16
      - 32
      - 48
      - 64
      - 128
      - 256
      - 384
      - 588
      - 768
    precondition:
      jobname: precond1rw
      mode: randwrite
      monitor: false
```

```
      numjobs:
      - 1
      op_size: 65536
      time: 600
      total_iodepth:
      - 16
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}

  librbdfio:
    cmd_path: /usr/local/bin/fio2
    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
    rbdname: cbt-librbdfio
    time: 90
    time_based: true
    use_existing_volumes: true
    vol_size: 1368750
```

```
volumes_per_client:
- 16
workloads:
  16krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 16384
    total_iodepth:
    - 4
    - 8
    - 12
    - 16
    - 24
    - 48
    - 64
    - 128
    - 256
    - 384
    - 588
  32krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 32768
    total_iodepth:
    - 2
    - 4
    - 6
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 128
    - 256
    - 384
    - 512
  4krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 4096
    total_iodepth:
    - 4
    - 8
    - 12
    - 16
    - 32
    - 48
    - 64
    - 128
    - 256
    - 384
    - 588
    - 768
  64krandomread:
    jobname: randread
    mode: randread
```

```
      numjobs:
      - 1
      op_size: 65536
      total_iodepth:
      - 2
      - 4
      - 6
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
      - 128
      - 256
      - 384
    8krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 8192
      total_iodepth:
      - 4
      - 8
      - 12
      - 16
      - 32
      - 48
      - 64
      - 128
      - 256
      - 384
      - 588
      - 768
    precondition:
      jobname: precond1rw
      mode: randwrite
      monitor: false
      numjobs:
      - 1
      op_size: 65536
      time: 600
      total_iodepth:
      - 16
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}
```

results

```
librbdfio:
  cmd_path: /usr/local/bin/fio2
  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
  rbdname: cbt-librbdfio
  time: 90
  time_based: true
  use_existing_volumes: true
  vol_size: 1368750
  volumes_per_client:
  - 16
  workloads:
    16krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 16384
      total_iodepth:
      - 4
      - 8
      - 12
      - 16
      - 24
      - 48
      - 64
      - 128
      - 256
      - 384
      - 588
    32krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 32768
      total_iodepth:
      - 2
      - 4
      - 6
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
      - 128
      - 256
```

```
        - 384
        - 512
    4krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 4096
      total_iodepth:
      - 4
      - 8
      - 12
      - 16
      - 32
      - 48
      - 64
      - 128
      - 256
      - 384
      - 588
      - 768
    64krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 65536
      total_iodepth:
      - 2
      - 4
      - 6
      - 8
      - 12
      - 16
      - 24
      - 32
      - 64
      - 128
      - 256
      - 384
    8krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 8192
      total_iodepth:
      - 4
      - 8
      - 12
      - 16
      - 32
      - 48
      - 64
      - 128
      - 256
      - 384
      - 588
      - 768
    precondition:
      jobname: precond1rw
      mode: randwrite
      monitor: false
```

```
        numjobs:
        - 1
        op_size: 65536
        time: 600
        total_iodepth:
        - 16
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}

  librbdfio:
    cmd_path: /usr/local/bin/fio2
    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
    rbdname: cbt-librbdfio
    time: 90
    time_based: true
    use_existing_volumes: true
    vol_size: 1368750
```

```
volumes_per_client:
- 16
workloads:
  16krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 16384
    total_iodepth:
    - 4
    - 8
    - 12
    - 16
    - 24
    - 48
    - 64
    - 128
    - 256
    - 384
    - 588
  32krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 32768
    total_iodepth:
    - 2
    - 4
    - 6
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 128
    - 256
    - 384
    - 512
  4krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 4096
    total_iodepth:
    - 4
    - 8
    - 12
    - 16
    - 32
    - 48
    - 64
    - 128
    - 256
    - 384
    - 588
    - 768
  64krandomread:
    jobname: randread
    mode: randread
```

```
            numjobs:
            - 1
            op_size: 65536
            total_iodepth:
            - 2
            - 4
            - 6
            - 8
            - 12
            - 16
            - 24
            - 32
            - 64
            - 128
            - 256
            - 384
        8krandomread:
          jobname: randread
          mode: randread
          numjobs:
          - 1
          op_size: 8192
          total_iodepth:
          - 4
          - 8
          - 12
          - 16
          - 32
          - 48
          - 64
          - 128
          - 256
          - 384
          - 588
          - 768
      precondition:
        jobname: precond1rw
        mode: randwrite
        monitor: false
        numjobs:
        - 1
        op_size: 65536
        time: 600
        total_iodepth:
        - 16
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}
```