Comparitive Performance Report for cbt-24thFeb-main-8vol-finegrain-cacheon-rbdoff vs cbt-23rdFeb-ecoptmain-8vol-finegrain-cacheon-rbdoff

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Comparison summary for cbt-24thFeb-main-8vol-finegrain-cacheon-rbdoff vs cbt-23rdFeb-ecoptmain-8vol-finegrain-cacheon-rbdoff

Sequential Read	cbt_24thFeb_main_8v	od <u>btfin23rdFebc</u> ædopotum_ailud@	Adhalngenegrainghpautheon_	_rbachiange latency
4K	66376 IOps@2.9ms	63953 IOps@3.0ms	-4%	3%
8K	39913 IOps@4.8ms	38382 IOps@5.0ms	-4%	4%
16K	22272 IOps@8.6ms	21589 IOps@8.9ms	-3%	3%
32K	$19204~\mathrm{IOps@10.0ms}$	$18794 \; \mathrm{IOps@} 10.2\mathrm{ms}$	-2%	2%
64K	1168 MB/s@14.4 ms	1157 MB/s@14.5 ms	-1%	1%
256K	1571 MB/s@10.7ms	1563 MB/s@10.7ms	-1%	0%
512K	1568 MB/s@10.7ms	1562 MB/s@10.7ms	-0%	0%
1024K	1569 MB/s@13.4 ms	1569 MB/s@13.4ms	0%	0%

Sequential Write	cbt_24thFeb_main_8v	od <u>btfin23rdFiebc</u> ædopotumailnd	%Thalngfentlyrainghpaut heon_	_rb%dolffange latency
$\overline{4K}$	4532 IOps@113.3ms	8962 IOps@85.6ms	98%	-24%
8K	2985 IOps@172.0ms	7374 IOps@104.1ms	147%	-39%
16K	5842 IOps@87.6ms	6653 IOps@76.9ms	14%	-12%
32K	8781 IOps@58.3ms	8658 IOps@59.1ms	-1%	1%
64K	189 MB/s@88.9 ms	237 MB/s@70.9 ms	25%	-20%
256K	324 MB/s@51.7 ms	349 MB/s@48.0 ms	8%	-7%
512K	262 MB/s@127.8 ms	343 MB/s@97.5 ms	31%	-24%
1024K	339 MB/s@148.0 ms	399 MB/s@125.8 ms	18%	-15%

Random Read	$cbt_24thFeb_main_8v$	od <u>btfin@grdFebcaadoq</u> otm <u>n</u> ailnd	Kathal ng é n dgraing hpau theon_	_rb%dolfange latency
4K	69555 IOps@5.5ms	70068 IOps@5.5ms	1%	0%
8K	48118 IOps@8.0ms	47698 IOps@8.0ms	-1%	0%
16K	30852 IOps@12.4ms	30151 IOps@12.7ms	-2%	2%
32K	27038 IOps@9.5ms	26910 IOps@9.5ms	-0%	0%
64K	1518 MB/s@11.0 ms	1515 MB/s@11.1ms	-0%	1%
256K	1728 MB/s@4.8ms	1725 MB/s@19.5 ms	-0%	306%
512K	1778 MB/s@14.1 ms	1777 MB/s@14.2ms	-0%	1%
1024K	1775 MB/s@16.5 ms	$1774~\mathrm{MB/s@16.5ms}$	-0%	0%

Random Write	cbt_24thFeb_main_8ve	od <u>b tfin 23 rd Feb caadooptum a</u> il u (76	Chalngentegrainghpau theon_	rbachange latency
4K	1822 IOps@70.2ms	$2769 \; \mathrm{IOps@46.2ms}$	52%	-34%
8K	1754 IOps@72.9 ms	$2558 \; \mathrm{IOps@50.0ms}$	46%	-31%
16K	2222 i Ops@57.6 ms	2384 IOps@53.7ms	7%	-7%
32K	1856 IOps@68.9 ms	$2000~\rm IOps@63.9ms$	8%	-7%
64K	131 MB/s@64.1ms	106 MB/s@79.0ms	-19%	23%
256K	226 MB/s@148.1ms	226 MB/s@148.3ms	0%	0%

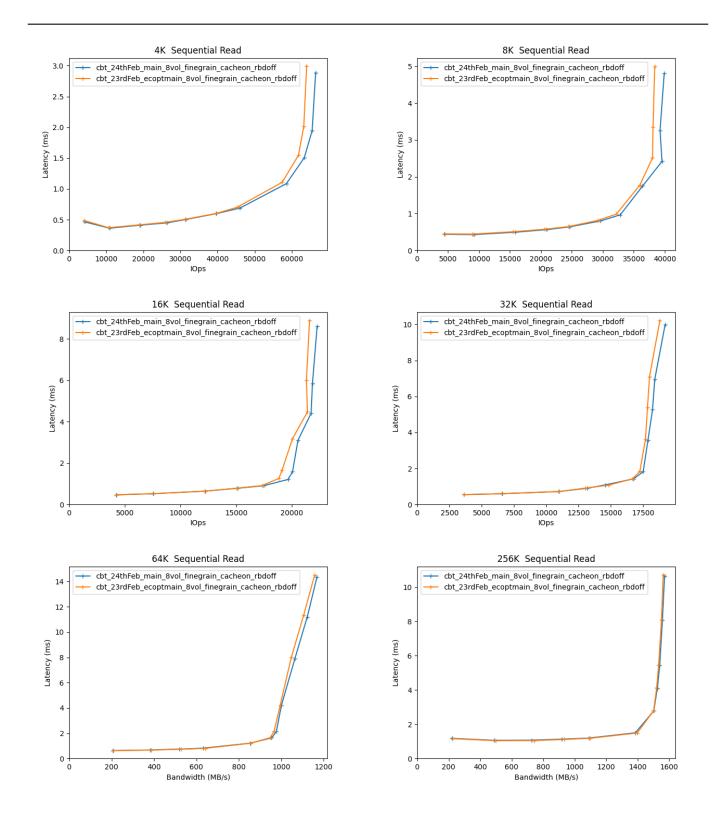
 $Comparison\ summary\ for\ cbt-24th Feb-main-8vol-fine grain-cache on-rbd of fvs\ cbt-23rd Feb-ecopt main-8vol-fine grain-cache on-rbd of f$

Random Write	cbt_24thFeb_main_8vo	d <u>btfin&3rdFebcaadoqotma</u> iln <u>d</u>	Athalngentegrainghpau theon	_rb%dcMange latency
512K 1024K	202 MB/s@103.5 ms 228 MB/s@91.3 ms	210 MB/s@99.4ms $273 MB/s@76.3ms$	$4\% \\ 20\%$	-4% -16%
	· · · · · · · · · · · · · · · · · · ·	<u>`</u>		

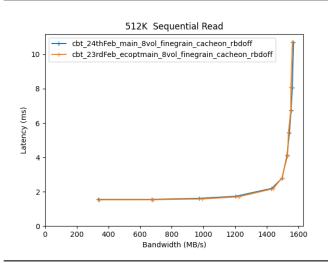
Random Read/Write	cbt_24thFeb_main_8vo	od <u>btfin23rdFebcædoqotnn</u> aib	nd/adhaln_genelgrainghpautheon_	_rb%domange latency
16K_70/30 64K_70/30	4338 IOps@29.5ms 239 MB/s@35.0ms	4447 IOps@28.8ms 208 MB/s@40.3ms	3% -13%	-2% 15%
$64K_30/70$	131 MB/s@64.0 ms	142 MB/s@59.1 ms	8%	-8%

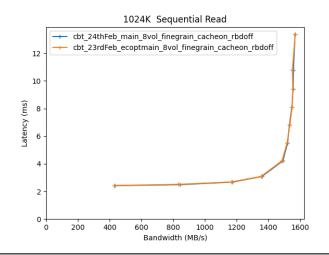
Response Curves

Sequential Read

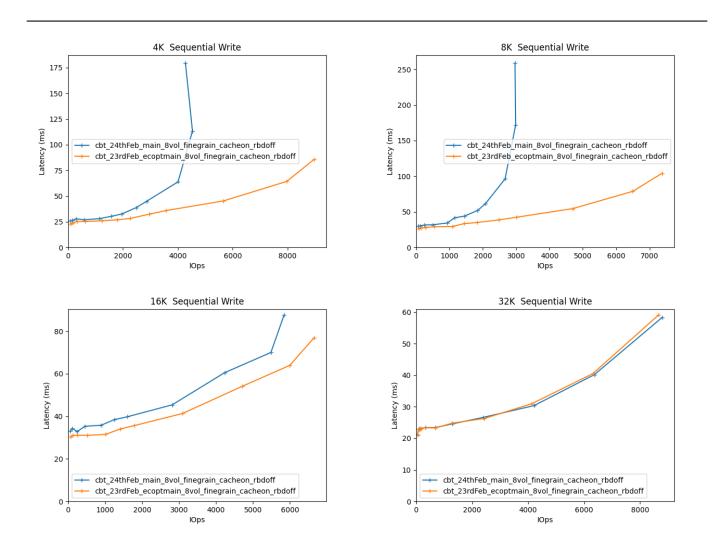


Response Curves Sequential Write

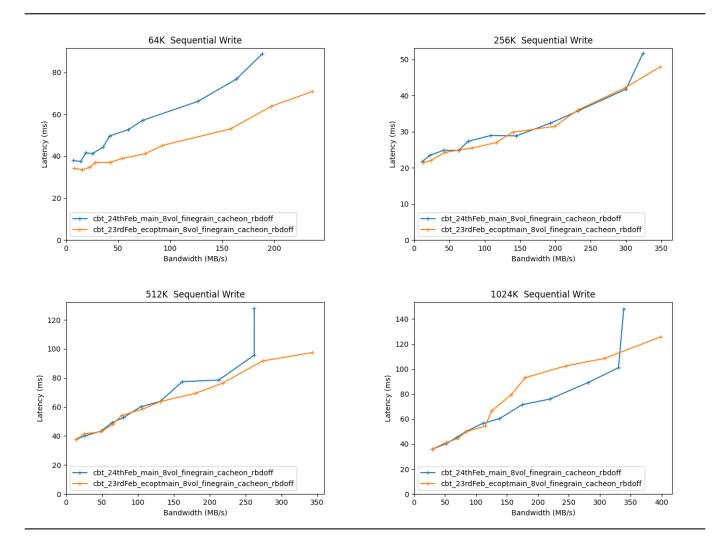




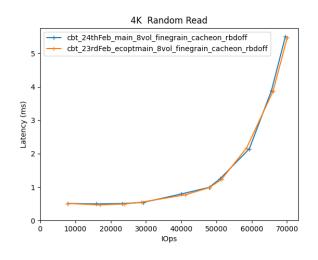
Sequential Write

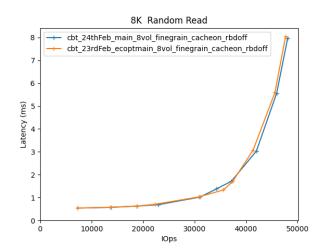


Response Curves Random Read

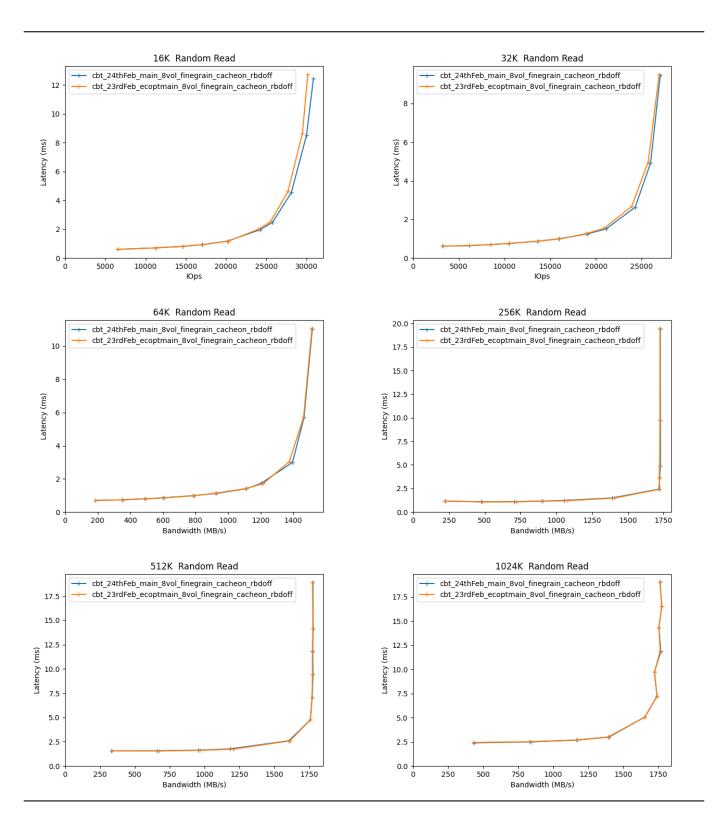


Random Read



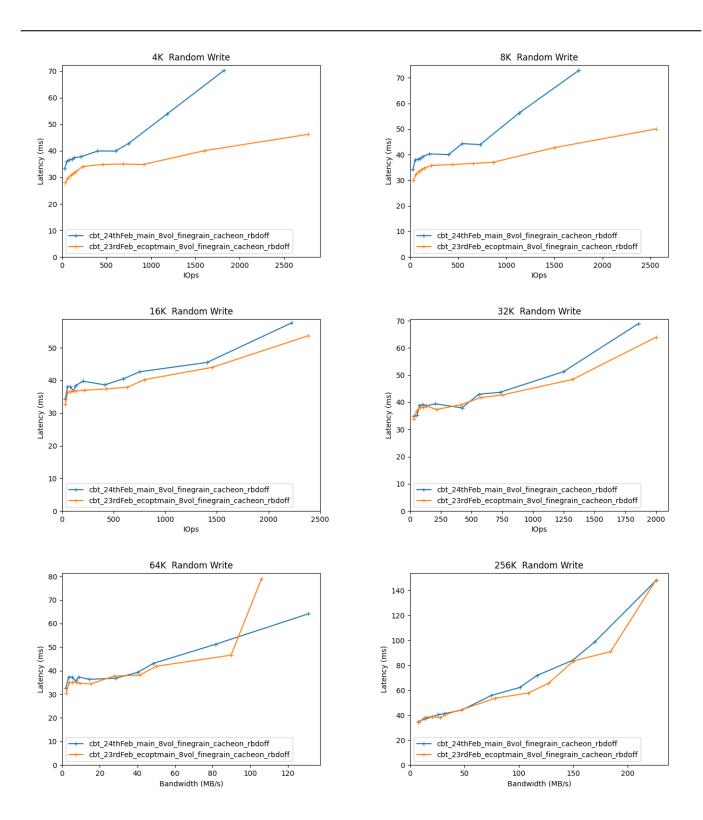


Response Curves Random Write

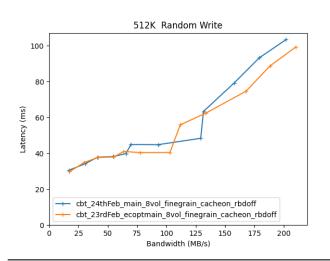


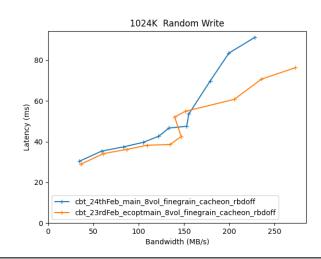
Random Write

Response Curves Random Write

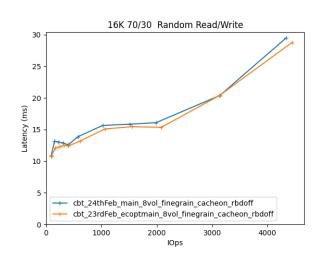


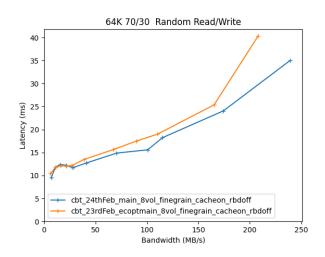
Response Curves Random Read/Write

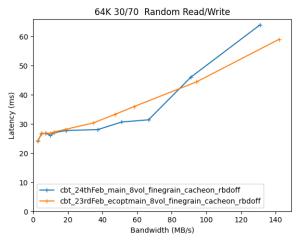




Random Read/Write







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
 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:
  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
  - 5
  - 6
  - 7
  - 8
  - 12
  - 16
  - 20
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
  - 12
  - 16
  - 24
  - 32
  - 48
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
  - 48
  - 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
32 krandom write:
  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 - 5 - 6 - 8 - 12 - 16 - 24 - 32 - 40 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
  - 12
  - 16
 - 24
  - 32
  - 48
  - 64
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 64 krandom write: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: - 4 - 8 - 12 - 16 - 24 - 32 - 48 - 64 - 128

- 192 - 256 8krandomread: jobname: randread mode: randread numjobs: - 1 op_size: 8192 total_iodepth: - 8 - 12 - 16 - 32 - 48 - 64 - 128 - 256 - 384 ${\tt 8krandomwrite:}$ 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 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
seq16kwrite:
  jobname: seqwrite
 mode: write
 numjobs:
  - 1
  op_size: 16384
  total_iodepth:
  - 4
  - 8
  - 16
  - 32
 - 48
 - 64
  - 128
  - 256
 - 384
  - 512
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
  - 6
  - 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 - 8 - 16 - 32 - 64 - 128 - 256 - 512 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 - 16 - 32 - 48 - 64 - 96

- 128

```
- 256
        - 512
        - 768
      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
        - 16
        - 32
        - 48
        - 64
        - 96
        - 128
        - 256
        - 512
        - 768
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 -1%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
    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 - 5 - 6 - 7 - 8 - 12 - 16

- 20

```
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
  - 12
  - 16
  - 24
  - 32
  - 48
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 - 48 - 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:
  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
  - 5
  - 6
  - 8
  - 12
  - 16
  - 24
 - 32
  - 40
512kseqread:
  jobname: seqread
 mode: read
 numjobs:
  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 - 12 - 16 - 24 - 32 - 48 - 64 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:
  - 4
  - 8
  - 12
  - 16
  - 24
  - 32
  - 48
  - 64
  - 128
  - 192
  - 256
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
  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
seq16kwrite:
  jobname: seqwrite
  mode: write
  numjobs:
  - 1
  op_size: 16384
  {\tt 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:
  - 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
  - 6
  - 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
  - 8
  - 16
  - 32
  - 64
  - 128
 - 256
  - 512
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
        - 16
        - 32
        - 48
        - 64
        - 96
        - 128
        - 256
        - 512
        - 768
      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
        - 16
        - 32
        - 48
        - 64
        - 96
        - 128
        - 256
        - 512
        - 768
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}
```