Comparitive Performance Report for cbt-5thMar-ecoptmain-8vol-finegrain-cacheon-rbdoff vs cbt-4thMar-ecoptmain-4k-8vol-cacheon-rbdoff-isalplugin

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# Comparison summary for cbt-5thMar-ecoptmain-8vol-finegrain-cacheon-rbdoff vs cbt-4thMar-ecoptmain-4k-8vol-cacheon-rbdoff-isalplugin

Sequential Read	cbt_5thMar_ecoptmain	n <u>cl&amp;wo4tlfiMegraënoptaclaën</u> d	<b>Adhahadd thachgoput</b> bdoff	_i <b>%ahhangin</b> latency
4K	63570  IOps@3.0ms	63334  IOps@3.0ms	-0%	0%
8K	38094  IOps@5.0ms	38240  IOps@5.0ms	0%	0%
16K	21819  IOps@8.8ms	21835  IOps@8.8ms	0%	0%
32K	$18805 \; \mathrm{IOps@} 10.2 \mathrm{ms}$	18646  IOps@10.3ms	-1%	1%
64K	1151  MB/s@14.6 ms	1147  MB/s@14.6 ms	-0%	0%
256K	1553  MB/s@10.8 ms	1554  MB/s@10.8 ms	0%	0%
512K	1562  MB/s@10.7ms	1560  MB/s@10.7ms	-0%	0%
1024K	1579  MB/s@13.3 ms	1569  MB/s@13.4 ms	-1%	1%

Sequential Write	cbt_5thMar_ecoptmain	n <u>cbtvo4tthiMægraiecop</u> etardæion£	<u>#####################################</u>	_i <b>%achlangin</b> latency
4K	6961 IOps@110.3ms	7294 IOps@140.4ms	5%	27%
8K	5655  IOps@226.6ms	5578 IOps@183.8ms	-1%	-19%
16K	5496  IOps@93.1 ms	5336  IOps@95.9 ms	-3%	3%
32K	9589  IOps@80.0ms	9529  IOps@80.5ms	-1%	1%
64K	248  MB/s@135.2 ms	249  MB/s@135.0 ms	0%	-0%
256K	443  MB/s@75.6 ms	452  MB/s@74.1ms	2%	-2%
512K	303  MB/s@222.0 ms	302  MB/s@222.2 ms	-0%	0%
1024K	$446~\mathrm{MB/s@376.4ms}$	$442~\mathrm{MB/s@381.1ms}$	-1%	1%

Random Read	cbt_5thMar_ecoptmain	n <u>cl&amp;vo4tlfiMegraënoptanlaënn%</u>	Adhahadid thaohghputbdoff	_i <b>sahhangin</b> latency
4K	69539 IOps@5.5ms	68677 IOps@5.6ms	-1%	2%
8K	46475  IOps@8.3ms	46743  IOps@8.2ms	1%	-1%
16K	29638  IOps@12.9ms	28860  IOps@8.9ms	-3%	-31%
32K	19457  IOps@13.2ms	26116  IOps@9.8ms	34%	-26%
64K	$1486 \; MB/s@11.3ms$	1473  MB/s@5.7ms	-1%	-50%
256K	1716  MB/s@9.8 ms	1709  MB/s@9.8ms	-0%	0%
512K	1780  MB/s@14.1ms	1777  MB/s@14.2ms	-0%	1%
1024K	$1781~\mathrm{MB/s@16.5ms}$	$1771~\mathrm{MB/s@16.6ms}$	-1%	1%

Random Write	cbt_5thMar_ecoptmain	n <u>cl&amp;vo4tlfilvlægraëncoptanlaënnf/4ddba</u>	<b>Magental Lanchgomut</b> bdoff	_i <b>%alphargin</b> latency
4K	4677 IOps@164.8ms	4775 IOps@161.2ms	2%	-2%
8K	4573  IOps@168.8ms	4417  IOps@173.6ms	-3%	3%
16K	4722  IOps@108.3ms	4564  IOps@112.1ms	-3%	4%
32K	3505  IOps@109.5ms	3930  IOps@130.2ms	12%	19%
64K	228  MB/s@110.4 ms	213  MB/s@118.3ms	-7%	7%
256K	267  MB/s@251.7 ms	293  MB/s@229.4ms	10%	-9%

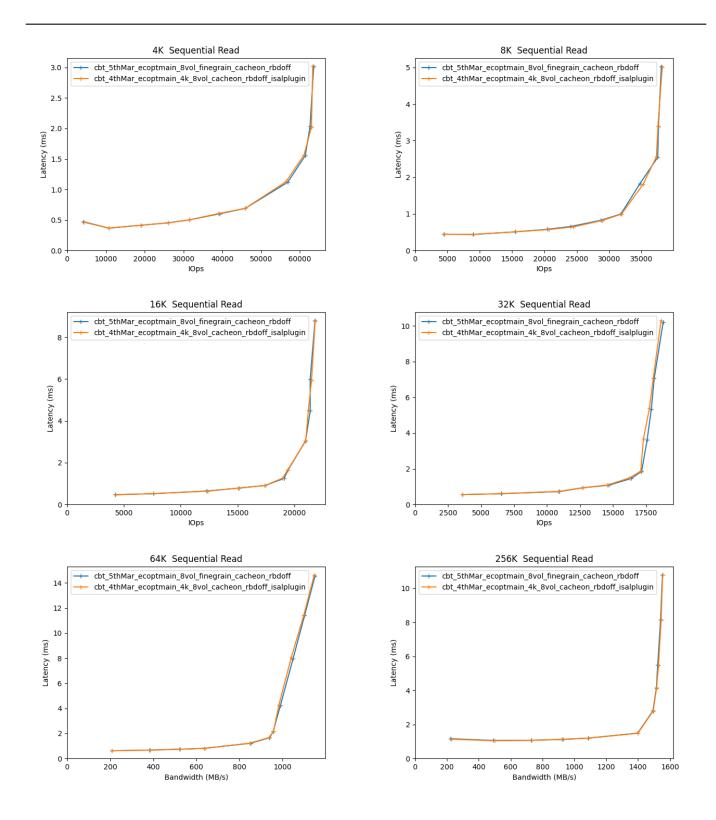
 $Comparison\ summary\ for\ cbt-5th Mar-ecopt main-8 vol-fine grain-cache on-rbd of fvs\ cbt-4th Mar-ecopt main-4k-8 vol-cache on-rbd of f-is alplugin$ 

Random Write	cbt_5thMar_ecoptmain	n <u>clatvo4ttlfiMægra en optanla en 174</u> ds	<u>haangal_tkachgonpu</u> tbdoff_	_i <b>%achlangin</b> latency
512K 1024K	$231 \text{ MB/s}@72.2\text{ms} \\ 350 \text{ MB/s}@143.4\text{ms}$	268  MB/s@125.0 ms  371  MB/s@135.2 ms	$\frac{16\%}{6\%}$	73% -6%

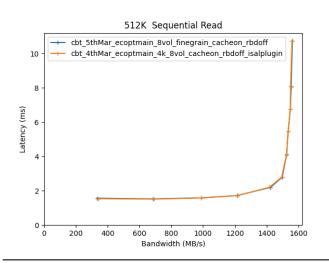
Random Read/Write	cbt_5thMar_ecoptmain	<u>cl&amp;vo4tlfiMægraiecoptaclaieof</u>	<b>Addraingid <u>t</u> knoh ginp ut</b> bdoff	_is <b>alphangin</b> latency
$4K_{20}/30$	6990  IOps@36.6ms	$7123~\mathrm{IOps@35.9ms}$	2%	-2%
$16K_{-70/30}$	4904  IOps@52.3ms	4692  IOps@54.5ms	-4%	4%
$64K_{30}/70$	174  MB/s@96.4 ms	165  MB/s@101.9 ms	-5%	6%
$64 \text{K}_{-}70/30$	$214~\mathrm{MB/s@78.6ms}$	$209~\mathrm{MB/s@80.3ms}$	-2%	2%

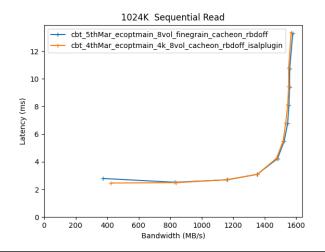
# Response Curves

## Sequential Read

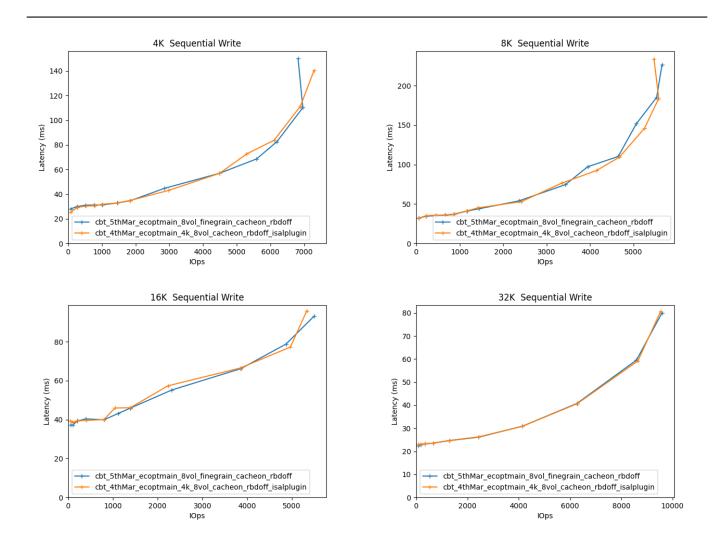


Response Curves Sequential Write

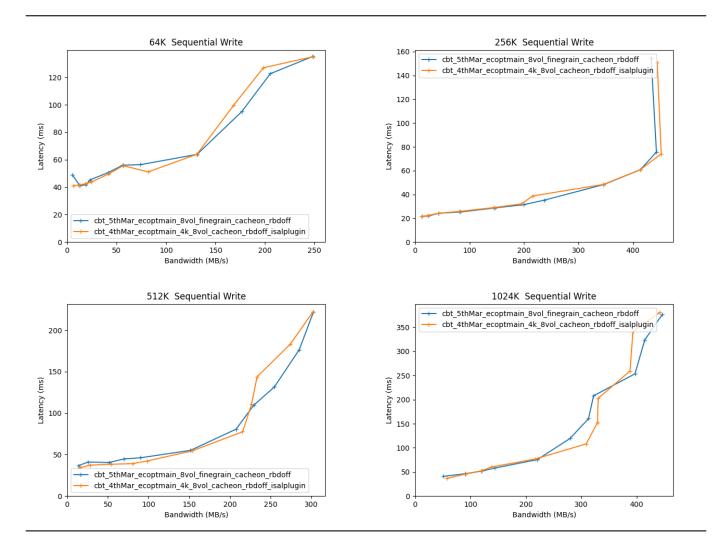




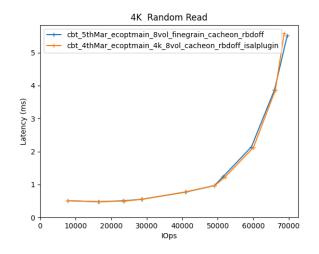
## Sequential Write

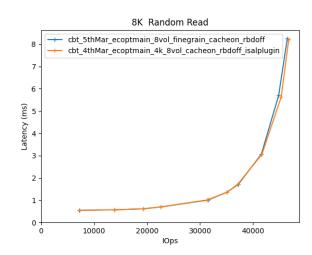


Response Curves Random Read

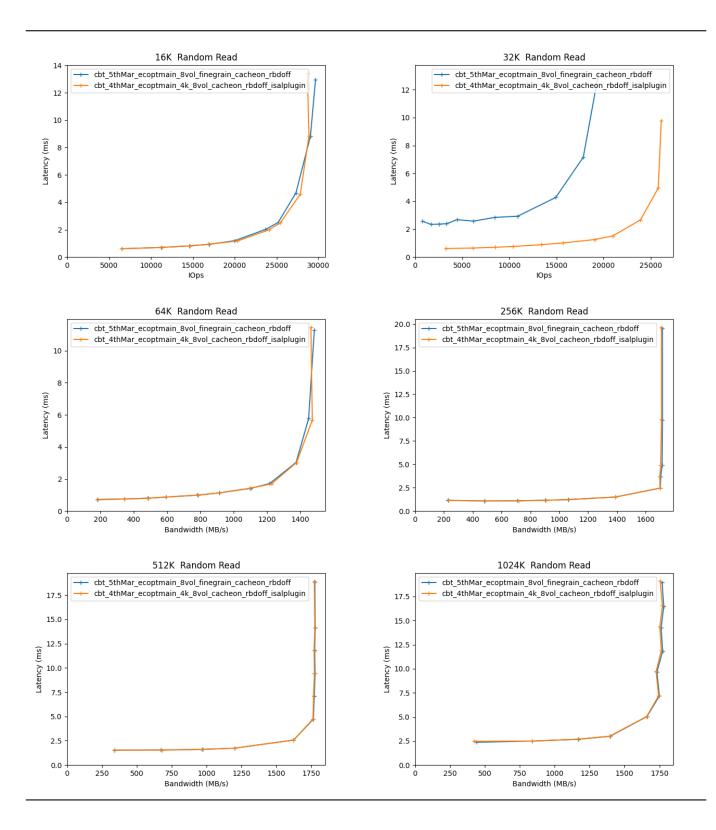


### Random Read



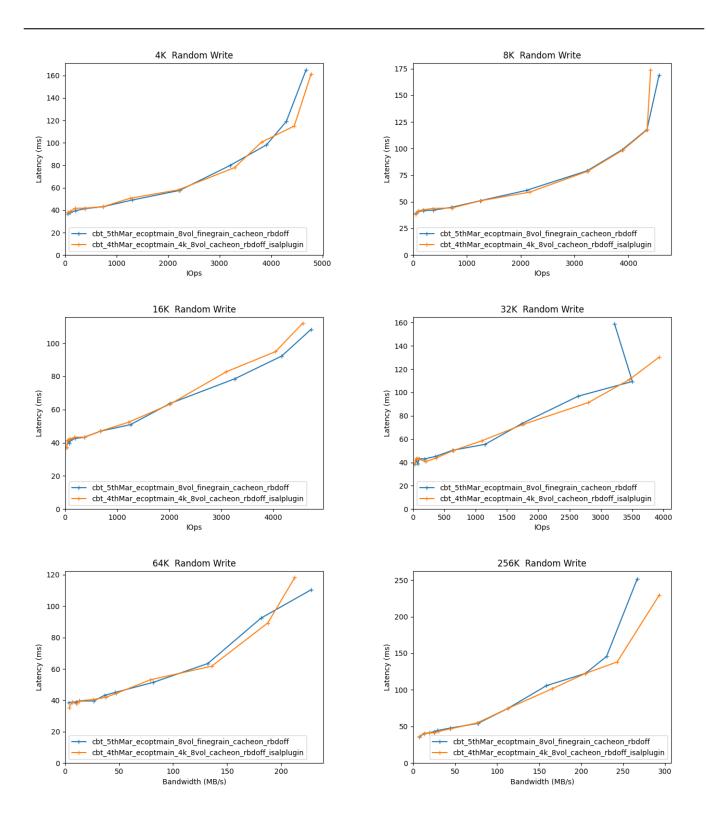


Response Curves Random Write

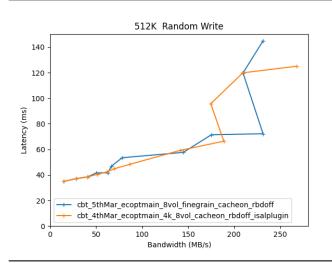


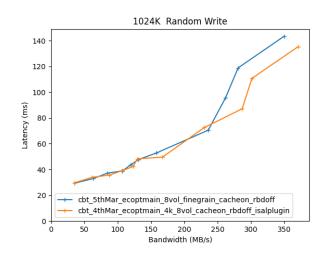
### Random Write

Response Curves Random Write

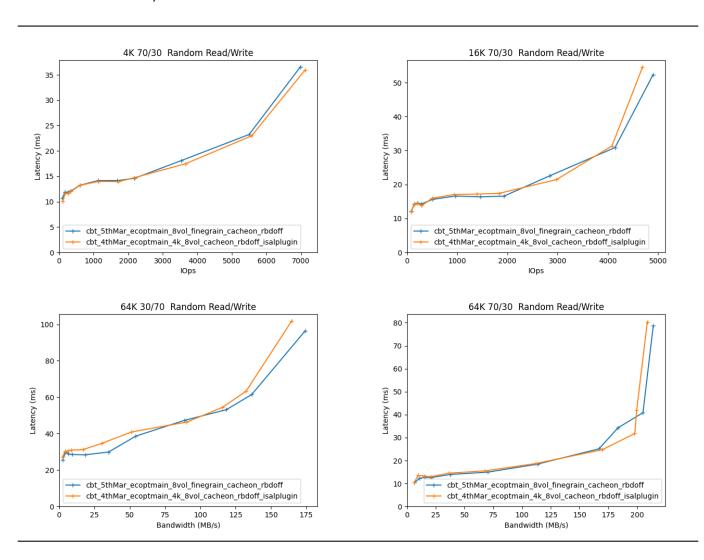


Response Curves Random Read/Write





## 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
      - 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
    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

```
- 256
32krandomread:
  jobname: randread
 mode: randread
 numjobs:
  - 1
 op_size: 32768
  total_iodepth:
  - 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
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:
  - 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
```

```
- 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:
```

```
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 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
seq16kwrite:
  jobname: seqwrite
 mode: write
 numjobs:
  - 1
  op_size: 16384
  total_iodepth:
  - 2
 - 4
  - 8
  - 16
  - 32
  - 48
 - 64
 - 128
 - 256
  - 384
  - 512
{\tt 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
{\tt 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
  - 8
  - 16
  - 24
  - 32
  - 48
  - 64
  - 128
  - 256
  - 384
  - 512
 - 768
  - 1024
seq8kread:
  jobname: seqread
 mode: read
 numjobs:
  - 1
  op_size: 8192
  total_iodepth:
  - 2
  - 4
  - 8
  - 12
  - 16
  - 24
  - 32
  - 64
  - 96
  - 128
  - 192
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
```

```
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
 - 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
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
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:
  - 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:
  - 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
{\tt 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
seq16kwrite:
  jobname: seqwrite
 mode: write
 numjobs:
  - 1
  op_size: 16384
  total_iodepth:
```

```
- 2
  - 4
  - 8
  - 16
  - 32
  - 48
  - 64
 - 128
  - 256
  - 384
  - 512
seq256kread:
  jobname: seqread
 mode: read
 numjobs:
  - 1
  op_size: 262144
  total_iodepth:
  - 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
```

```
- 128
  - 192
seq32kwrite:
  jobname: seqwrite
 mode: write
 numjobs:
  - 1
  op_size: 32768
  total_iodepth:
  - 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
seq4kwrite:
  jobname: seqwrite
 mode: write
 numjobs:
  - 1
 op_size: 4096
  total_iodepth:
  - 2
  - 8
  - 16
  - 24
  - 32
  - 48
 - 64
  - 128
 - 256
 - 384
 - 512
  - 768
  - 1024
seq8kread:
  jobname: seqread
 mode: read
 numjobs:
  - 1
  op_size: 8192
```

```
total_iodepth:
        - 8
        - 12
        - 16
        - 24
        - 32
        - 64
        - 96
        - 128
        - 192
      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
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}
```