Comparitive Performance Report for 9th-Oct-Jerasure-4+2-OSD-down vs 10th-Oct-Clay-4+2+5-OSD-down

Table of contents

- $\bullet \ \ Comparison \ summary \ for \ 9th-Oct-Jerasure-4+2-OSD-down \ vs \ 10th-Oct-Clay-4+2+5-OSD-down$
- Response Curves
 - Sequential Read
 - Sequential Write
 - Random Read
 - Random Write
 - Random Read/Write
- Configuration yaml files
 - results

Comparison summary for 9th-Oct-Jerasure-4+2-OSD-down vs 10th-Oct-Clay-4+2+5-OSD-down

Sequential Read	9th_Oct_Jerasure_4+2 <u>10</u> 61 <u>SDOctov</u> 61lay_4+2+5 <u>%</u> 05620ngelownoughput			%change latency
$\overline{4K}$	86279 IOps@4.4ms	77823 IOps@4.9ms	-10%	11%
8K	71977 IOps@5.3ms	64407 IOps@6.0ms	-11%	13%
16K	54546 IOps@5.3ms	50059 IOps@5.7ms	-8%	8%
32K	49597 IOps@3.9ms	43847 IOps@4.4ms	-12%	13%
64K	2757 MB/s@3.0ms	2198 MB/s@3.8ms	-20%	27%
256K	6370 MB/s@21.1 ms	5293 MB/s@25.4ms	-17%	20%
512K	7061 MB/s@19.0 ms	5971 MB/s@22.5 ms	-15%	18%
1024K	7528 MB/s@35.7 ms	6579 MB/s@40.8 ms	-13%	14%

Sequential Write	9th_Oct_Jerasure_4+2 <u>10</u> 015 <u>DO</u> ct <u>ov</u> 61lay_4+2+5 <u>%</u> 0154Dngetovkrroughput			%change latency
4K	154904 IOps@9.9ms	141456 IOps@10.9ms	-9%	10%
8K	159837 IOps@9.6ms	135906 IOps@11.3ms	-15%	18%
16K	138893 IOps@7.4ms	106849 IOps@9.6ms	-23%	30%
32K	81494 IOps@9.4ms	62200 IOps@12.3ms	-24%	31%
64K	2818 MB/s @ 8.9 ms	2265 MB/s@14.8 ms	-20%	66%
256K	3714 MB/s@17.9 ms	2964 MB/s@22.5 ms	-20%	26%
512K	3805 MB/s@17.4 ms	3131 MB/s@21.2 ms	-18%	22%
1024K	4634 MB/s@35.7 ms	4006 MB/s@41.4ms	-14%	16%

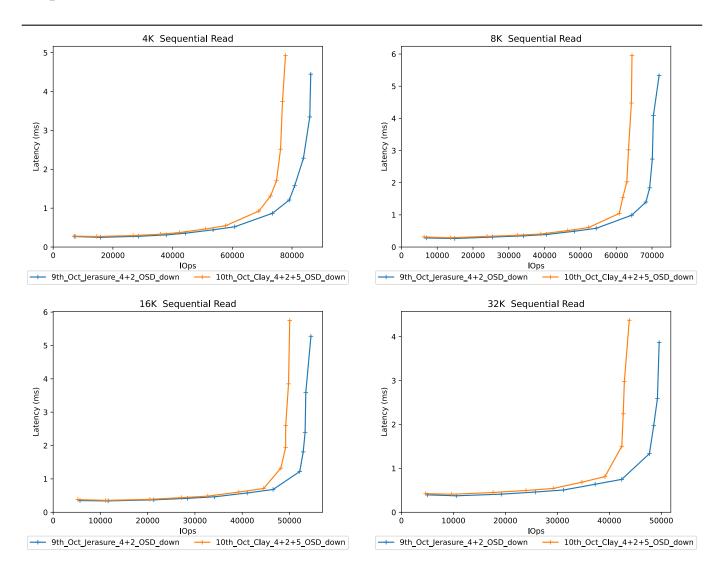
Random Read	9th_Oct_Jerasure_4+2 <u>10</u> ClSDO_cdo_vCl lay_4+2+5 _%OlSa hgelotwroughput			%change latency
4K	56798 IOps@13.5ms	52005 IOps@14.8ms	-8%	10%
8K	57036 IOps@13.5ms	54067 IOps@14.2ms	-5%	5%
16K	56520 IOps@10.4ms	53659 IOps@11.0ms	-5%	6%
32K	50856 IOps@7.5ms	47593 IOps@10.8ms	-6%	44%
64K	2909 MB/s@8.6ms	2548 MB/s@9.9ms	-12%	15%
256K	5741 MB/s@5.8ms	5313 MB/s@6.3ms	-7%	9%
512K	7162 MB/s@37.5 ms	6562 MB/s@40.9ms	-8%	9%
1024K	7443 MB/s@36.1 ms	$6848~\mathrm{MB/s@39.2ms}$	-8%	9%

Random Write	9th_Oct_Jerasure_4+2 <u>10</u> 005 <u>DOctov</u> 6day_4+2+5 <u>%</u> 055 <u>Dog</u> edownoughput			%change latency
4K	14933 IOps@17.1ms	14501 IOps@8.8ms	-3%	-49%
8K	14418 IOps@53.3 ms	13427 IOps@57.2ms	-7%	7%
16K	17735 IOps@28.9ms	17030 IOps@30.0ms	-4%	4%
32K	17104 IOps@22.4ms	16577 IOps@23.1ms	-3%	3%
64K	1115 MB/s = 15.0 ms	$1070 \; \text{MB/s}@23.5 \text{ms}$	-4%	57%
256K	3188 MB/s = 20.9 ms	2996 MB/s = 22.3 ms	-6%	7%
512K	3788 MB/s @ 8.6 ms	3433 MB/s@9.5 ms	-9%	10%
1024K	4430 MB/s@10.9 ms	3860 MB/s@12.6 ms	-13%	16%

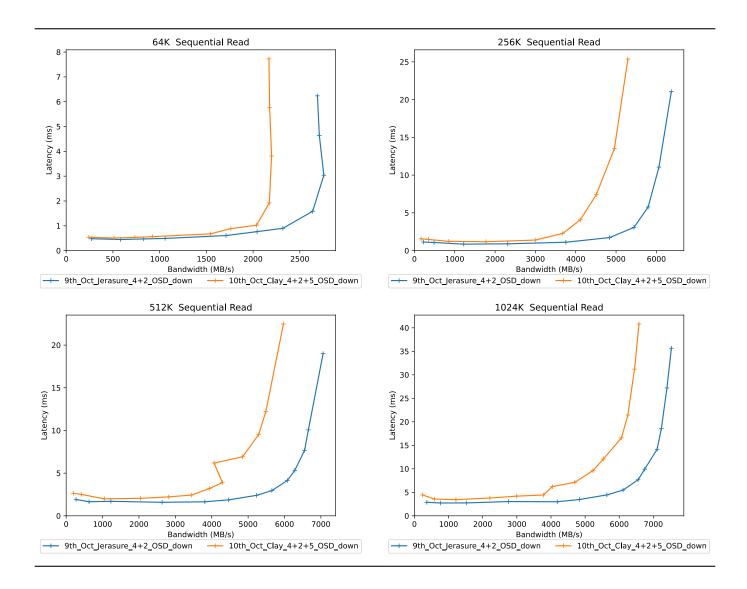
Random Read/Write	9th_Oct_Jerasure_4+	2 <u>10</u> 00SDO@tov6day_4+2+	5 <u>%</u> 05dDigelotkmoughput	%change latency
4K_70/30	25977 IOps@14.8ms	24728 IOps@15.5ms	-5%	5%
$16K_{70}/30$	28007 IOps@9.1ms	26630 IOps@4.8ms	-5%	-47%
$64K_30/70$	1291 MB/s@13.0 ms	1161 MB/s@14.4ms	-10%	11%
64K_70/30	$1688~\mathrm{MB/s@5.0ms}$	$1538~\mathrm{MB/s@4.1ms}$	-9%	-18%

Response Curves

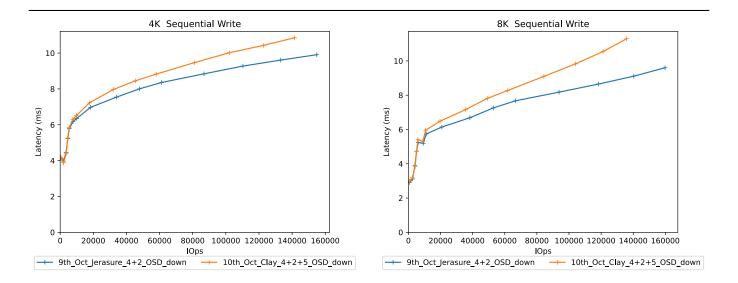
Sequential Read



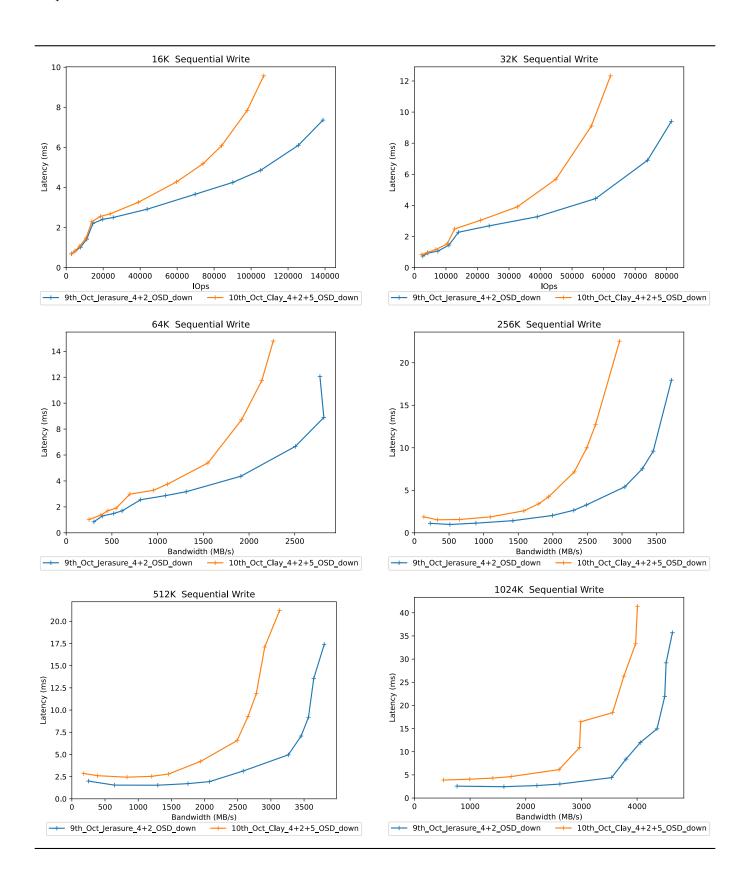
Response Curves Sequential Write



Sequential Write

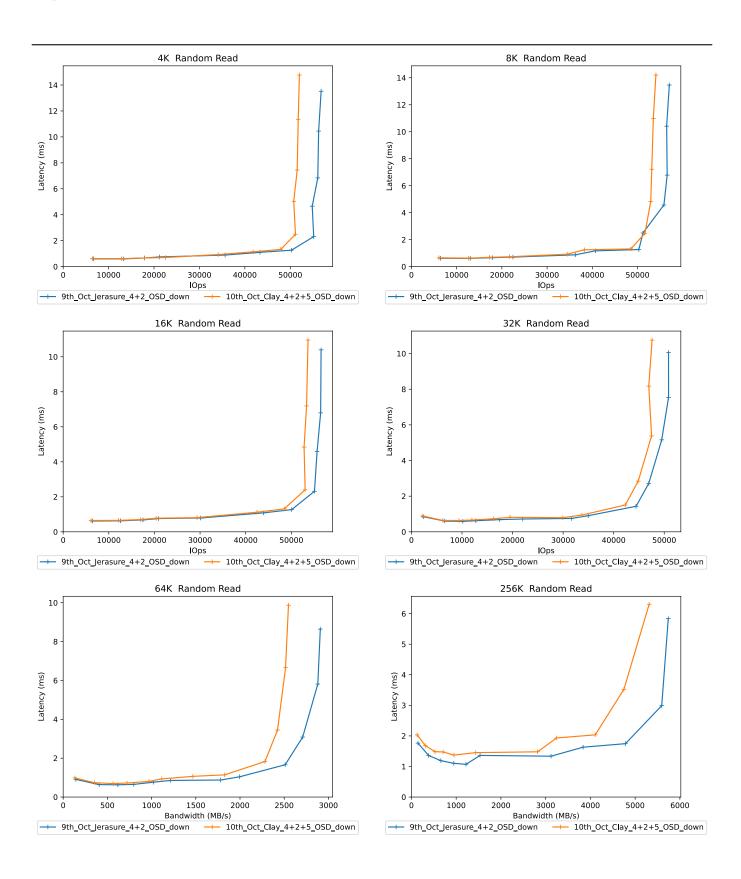


Response Curves Random Read

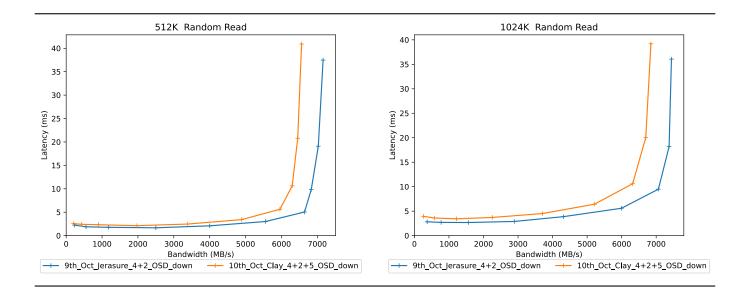


Random Read

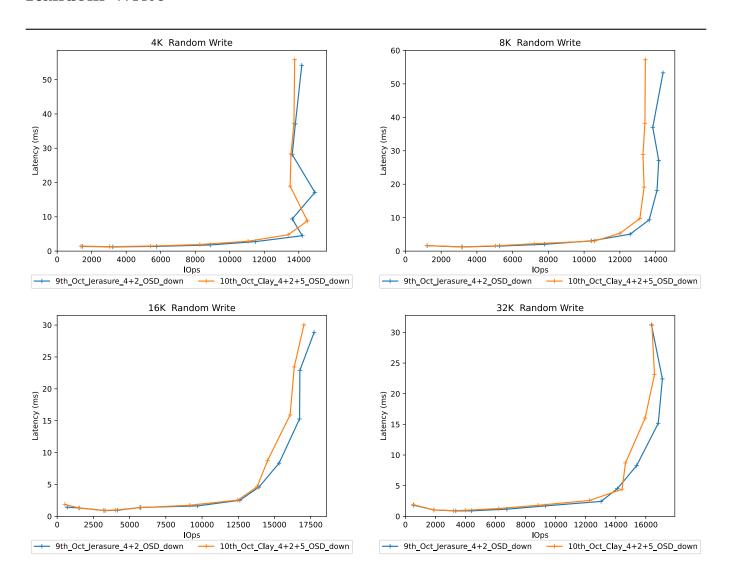
Response Curves Random Read



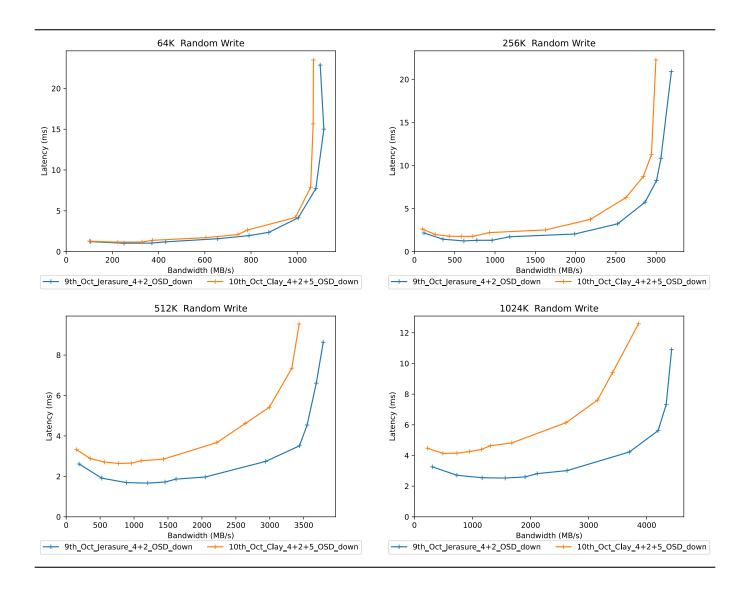
Response Curves Random Write



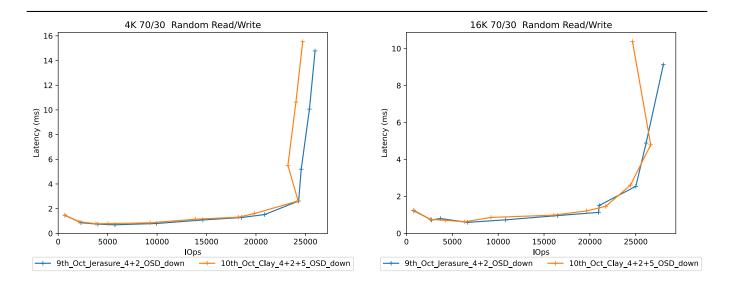
Random Write



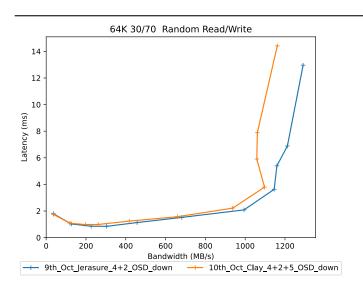
Response Curves Random Read/Write

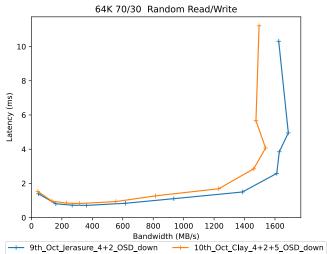


Random Read/Write



Response Curves 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
  rbdname: cbt-librbdfio
  time: 90
  time_based: true
  use_existing_volumes: true
  vol_size: 1204500
  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:
      - 8
      - 12
      - 16
      - 24
      - 48
      - 64
      - 128
      - 256
      - 384
```

```
- 588
16krandomwrite:
  jobname: randwrite
 mode: randwrite
 numjobs:
  - 1
 op_size: 16384
  total_iodepth:
  - 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
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
  - 256
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
```

- 4 - 8 - 12 - 16 - 24 - 32 - 48 - 64 - 96 - 128 - 192 - 256 1Mseqwrite: jobname: seqwrite mode: write numjobs: - 1 op_size: 1048576 total_iodepth: - 2 - 4 - 6 - 8 - 16 - 32 - 48 - 64 - 96 - 128 - 160 ${\tt 256krandomread:}$ 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: - 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 - 384 - 512 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
  - 588
  - 768
{\tt 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
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
 - 256
  - 512
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 - 4 - 8 - 12 - 16 - 24 - 32 - 48 - 64 - 96 - 128 - 256 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

- 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 - 384 64krandomwrite: jobname: randwrite mode: randwrite numjobs: - 1 op_size: 65536 total_iodepth: - 2 - 4 - 6 - 8 - 16 - 24 - 32 - 64 - 128 - 256 - 384 64 kseqread: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:
  - 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 - 4 - 8 - 16 - 32 - 64 - 128 - 256 - 512 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

```
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
  - --- server1 ---
  osds_per_node: 8
  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: 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: 1204500
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 - 4 - 8 - 16 - 32 - 64 - 128 - 256 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 - 4 - 8 - 12 - 16 - 24 - 32 - 48 - 64

- 128 - 192 - 256 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
  - 384
  - 512
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: - 4 - 8 - 16 - 32 - 64 - 128 - 256 - 384 - 512 - 768 512krandomread: jobname: randread mode: randread numjobs: - 1 op_size: 524288 total_iodepth: - 1 - 2 - 4 - 8 - 16 - 32 - 64 - 128 - 256 - 512 512krandomwrite: jobname: randwrite mode: randwrite numjobs: - 1 op_size: 524288 total_iodepth: - 1 - 2 - 3 - 4 - 5 - 6 - 8 - 16 - 24 - 32

```
- 64
512kseqread:
  jobname: seqread
 mode: read
 numjobs:
  - 1
 op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 4
  - 8
  - 12
  - 16
 - 24
  - 32
  - 48
  - 64
 - 96
 - 128
  - 256
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
  - 384
64 krandom write:
  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: - 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
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
```

```
- 512
seq256kwrite:
  jobname: seqwrite
 mode: write
 numjobs:
  - 1
 op_size: 262144
  total_iodepth:
  - 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 ${\tt total_iodepth:}$ - 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: - 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 -1%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}
```