Comparitive Performance Report for cbt-7thApr-4k-ecopt2-o01-pdwauto-6+2 vs cbt-15thApr-3rdApr-4k-ecopt2-pdwauto-o01

Table of contents

Comparison summary for cbt-7thApr-4k-ecopt2-o01-pdwauto-6+2 vs cbt-15thApr-3rdApr-4k-ecopt2-pdwauto-o01

Sequential Read	cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2	cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01	%change throughput	%change latency
4K	108873 IOps@2.2ms	106507 IOps@2.2ms	-2%	0%
8K	66391 IOps@3.6ms	65612 IOps@3.7ms	-1%	3%
16K	38092 IOps@4.7ms	37863 IOps@4.7ms	-1%	0%
32K	26035 IOps@4.6ms	26339 IOps@4.5ms	1%	-2%
64K	1482 MB/s@5.3ms	1505 MB/s@3.5ms	2%	-34%
256K	3312 MB/s@3.2ms	3431 MB/s@3.0ms	4%	-6%
512K	3890 MB/s@2.4ms	3988 MB/s@2.4ms	3%	0%
1024K	4240 MB/s@2.5ms	4189 MB/s@2.5ms	-1%	0%

Sequential Write	cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2	cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01	%change throughput	%change latency
4K	120742 IOps@5.3ms	156166 IOps@6.1ms	29%	15%
8K	112090 IOps@7.1ms	125688 IOps@7.6ms	12%	7%
16K	52930 IOps@6.0ms	73361 IOps@8.7ms	39%	45%
32K	40842 IOps@11.7ms	41799 IOps@11.5ms	2%	-2%
64K	1532 MB/s@13.7ms	1578 MB/s@13.3ms	3%	-3%
256K	1999 MB/s@20.9ms	1764 MB/s@11.8ms	-12%	-44%
512K	2090 MB/s@19.8ms	2093 MB/s@19.8ms	0%	0%
1024K	2659 MB/s@38.9ms	2646 MB/s@39.1ms	-0%	1%

Random Read	cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2	cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01	%change throughput	%change latency
4K	76373 IOps@6.3ms	72581 IOps@3.3ms	-5%	-48%
8K	47236 IOps@10.2ms	45075 IOps@10.6ms	-5%	4%
16K	29980 IOps@12.3ms	27952 IOps@13.2ms	-7%	7%
32K	21400 IOps@7.5ms	20467 IOps@7.8ms	-4%	4%
64K	1277 MB/s@8.2ms	1391 MB/s@7.5ms	9%	-9%
256K	3004 MB/s@7.0ms	3173 MB/s@3.3ms	6%	-53%
512K	4137 MB/s@3.5ms	4385 MB/s@3.3ms	6%	-6%
1024K	4537 MB/s@4.1ms	4540 MB/s@4.6ms	0%	12%

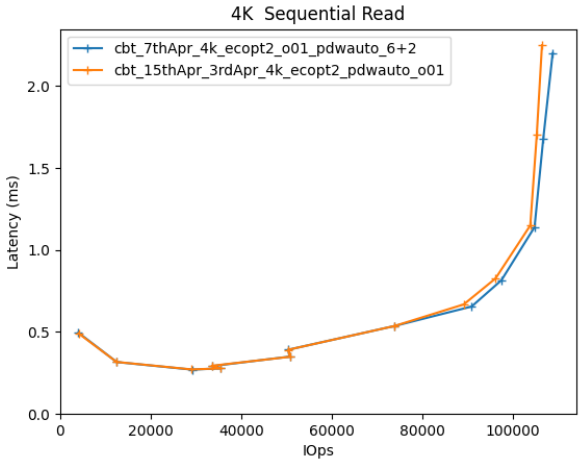
Random Write	cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2	cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01	%change throughput	%change latency
4K	15288 IOps@31.4ms	14525 IOps@33.1ms	-5%	5%
8K	13160 IOps@36.5ms	12748 IOps@37.7ms	-3%	3%
16K	10539 IOps@30.3ms	10144 IOps@31.5ms	-4%	4%
32K	8324 IOps@38.4ms	8097 IOps@39.5ms	-3%	3%
64K	510 MB/s@30.8ms	515 MB/s@30.5ms	1%	-1%
256K	1370 MB/s@30.5ms	1476 MB/s@28.3ms	8%	-7%

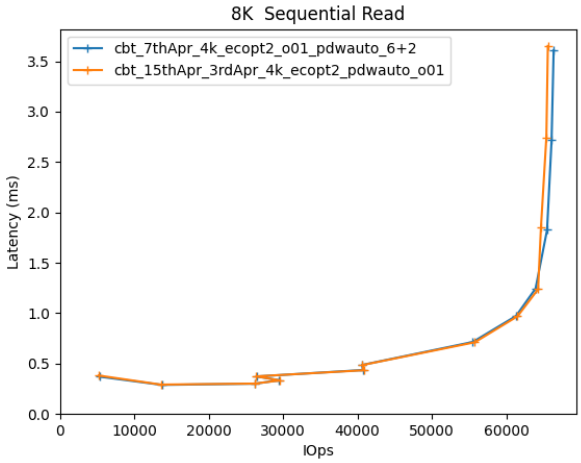
Random Write	cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2	cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01	%change throughput	%change latency
512K	1887 MB/s@4.8ms	1953 MB/s@10.5ms	3%	119%
1024K	2697 MB/s@6.6ms	2731 MB/s@6.5ms	1%	-2%

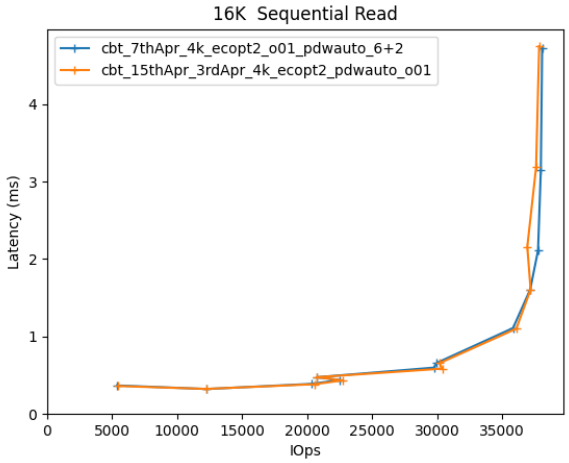
Random Read/Write	cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2	cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01	%change throughput	%change latency
4K_70/30	32801 IOps@7.3ms	30971 IOps@7.7ms	-6%	5%
16K_70/30	19070 IOps@8.4ms	18769 IOps@8.5ms	-2%	1%
64K_30/70	596 MB/s@17.5ms	584 MB/s@17.9ms	-2%	2%
64K_70/30	884 MB/s@11.8ms	896 MB/s@11.7ms	1%	-1%

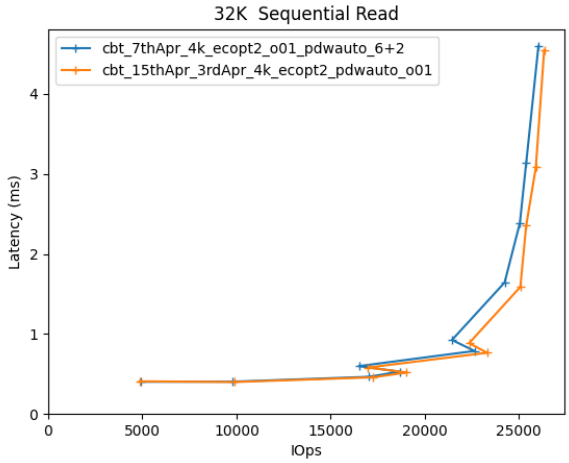
Response Curves

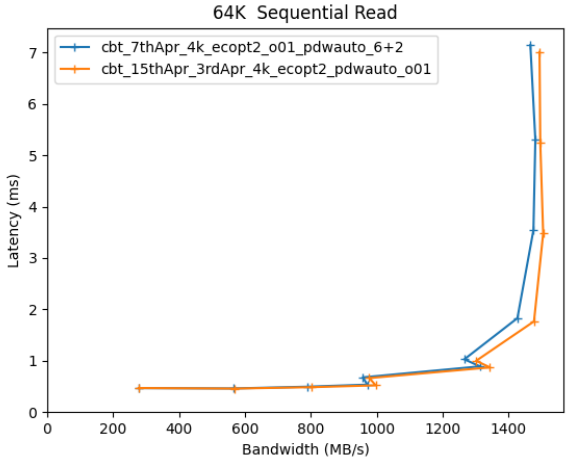
Sequential Read

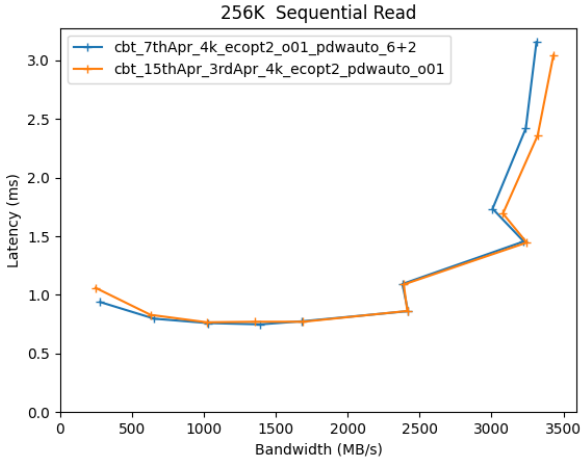


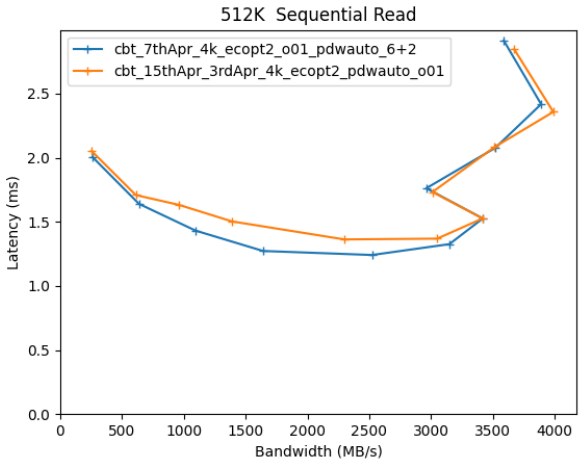


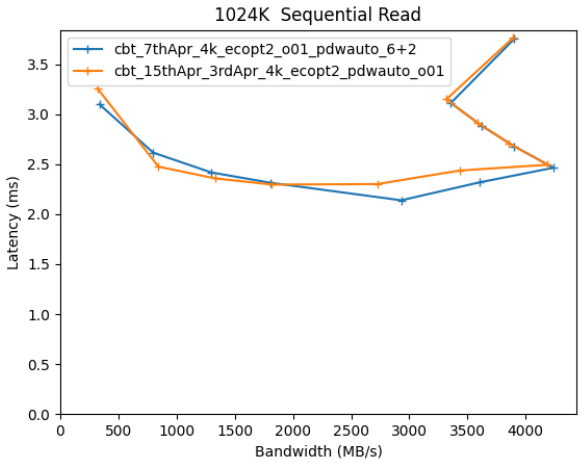




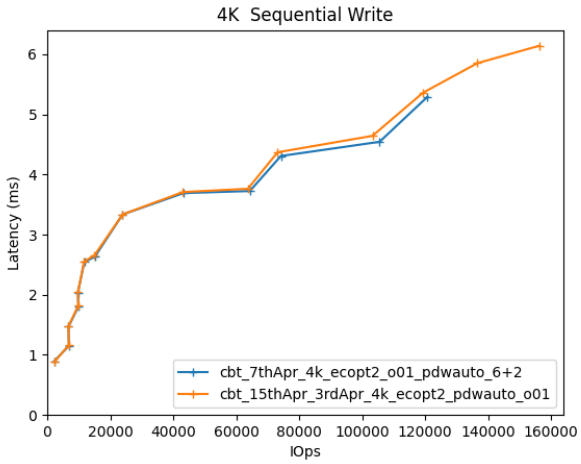


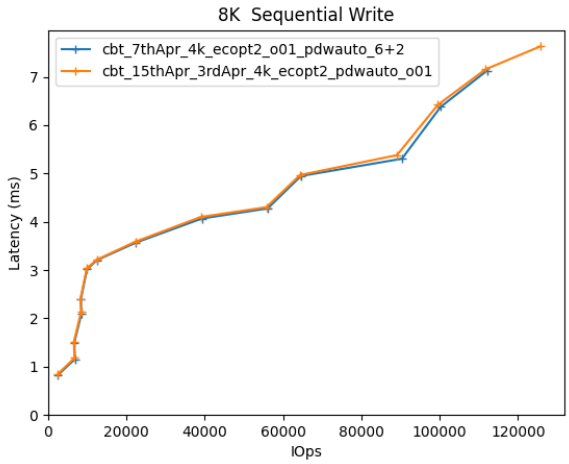


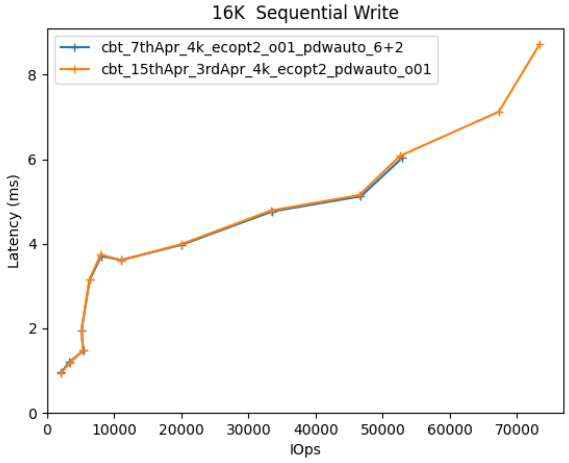


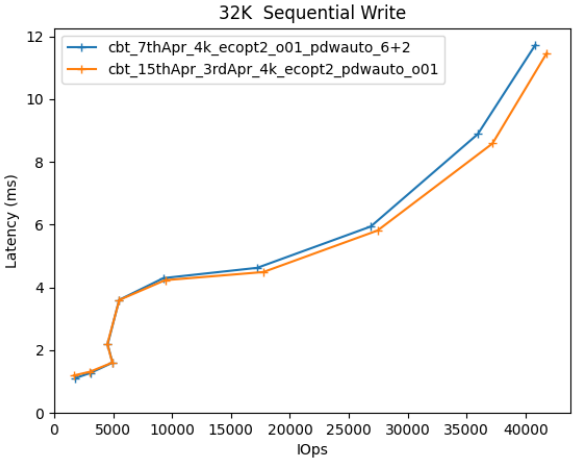


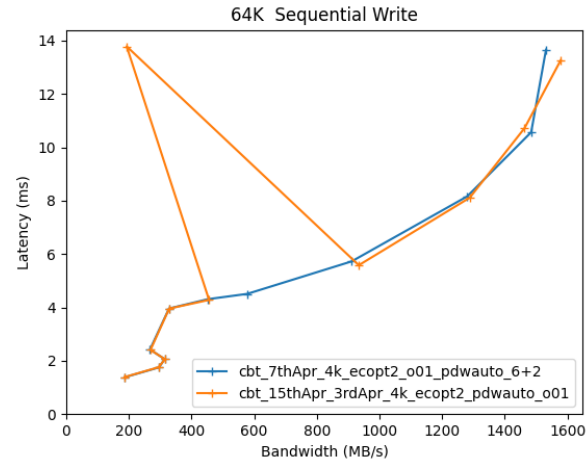
Sequential Write

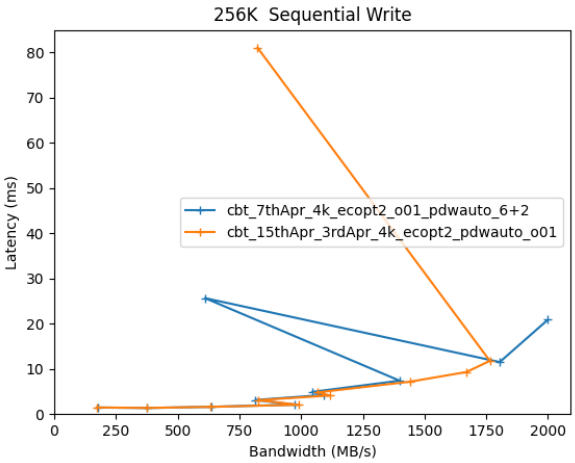


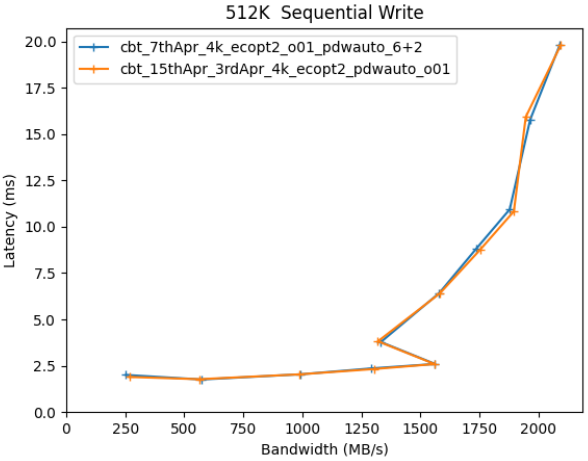


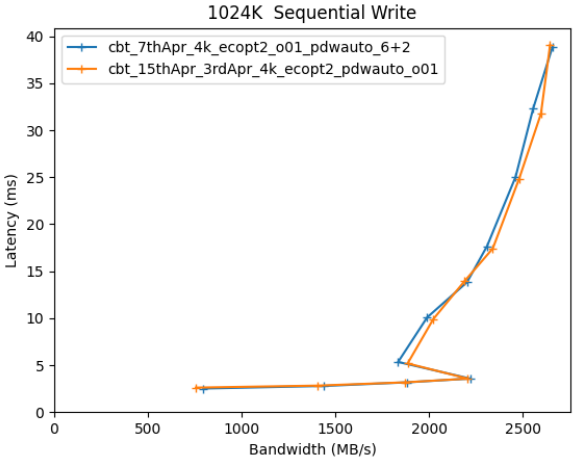




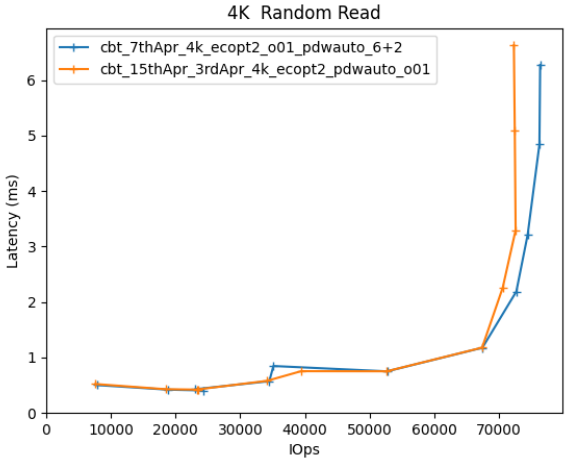

64K Sequential Write
Latency (ms)
Bandwidth (MB/s)
cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2
cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01

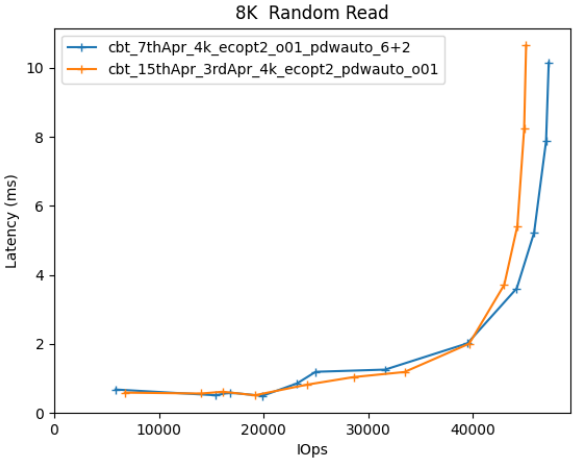

256K Sequential Write
Latency (ms)
Bandwidth (MB/s)
cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2
cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01

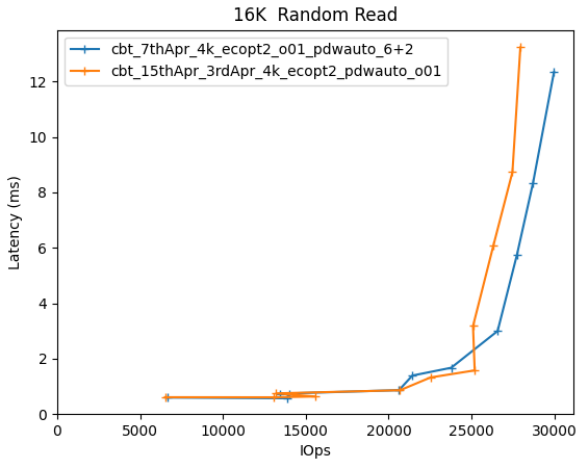

512K Sequential Write
Latency (ms)
Bandwidth (MB/s)
cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2
cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01

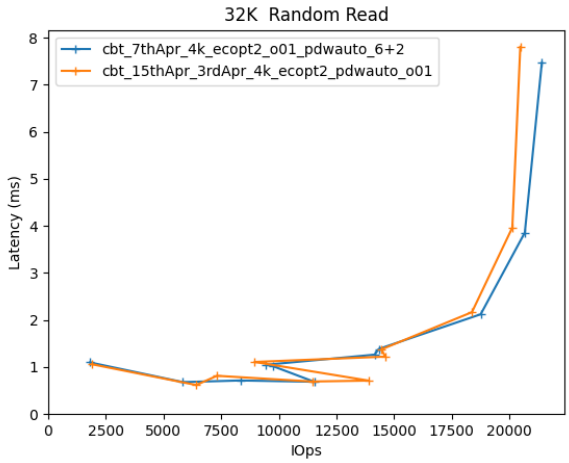

1024K Sequential Write
Latency (ms)
Bandwidth (MB/s)
cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2
cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01

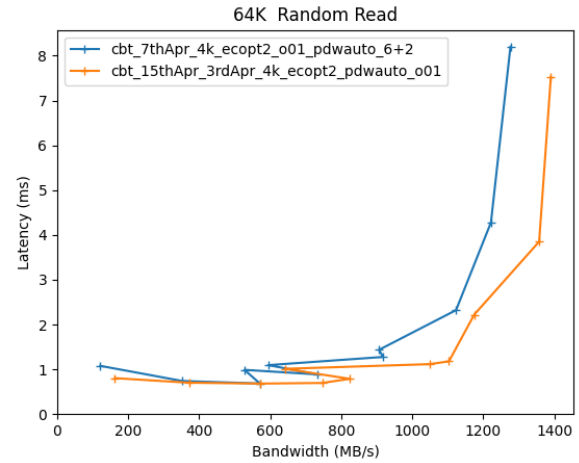
Random Read

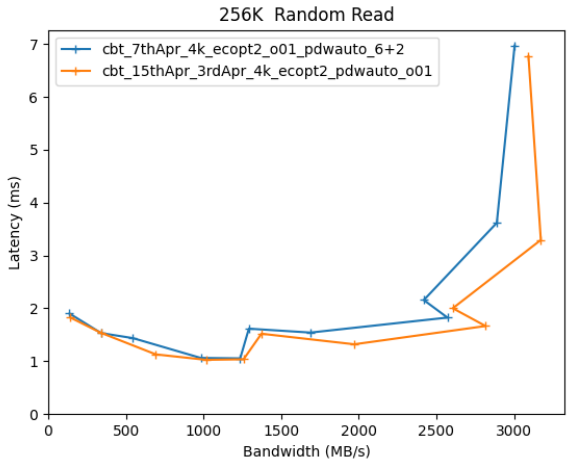

4K Random Read
Latency (ms)
IOps
cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2
cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01

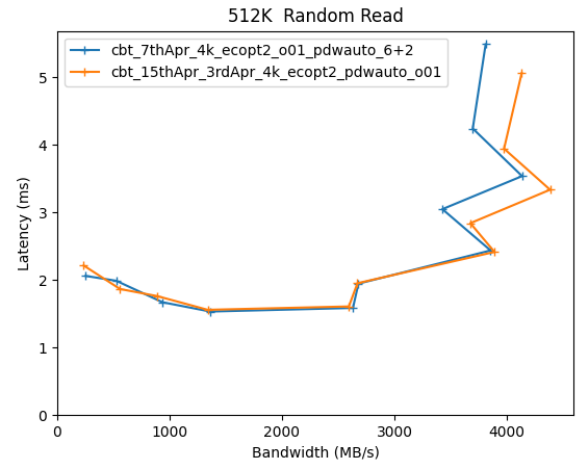

8K Random Read
Latency (ms)
IOps
cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2
cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01

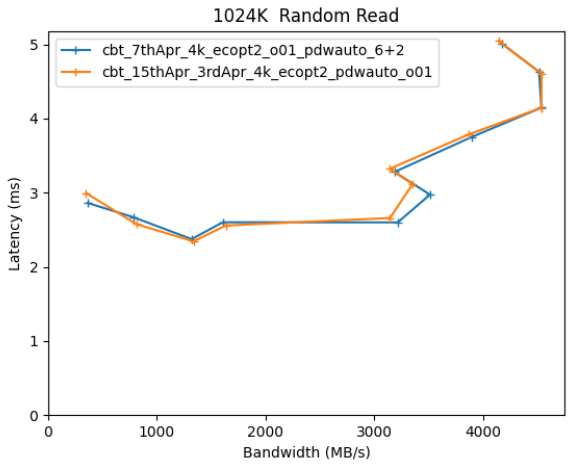




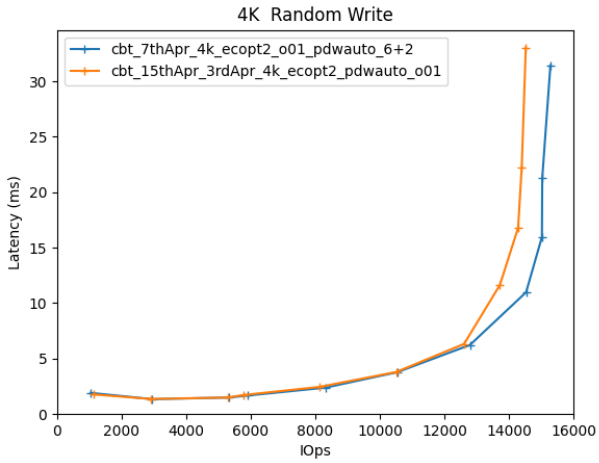


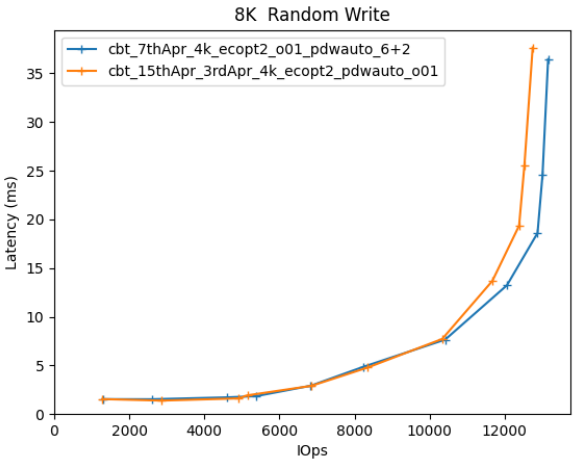


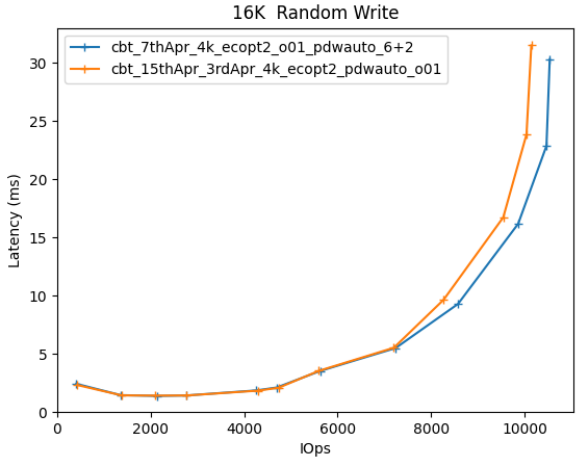


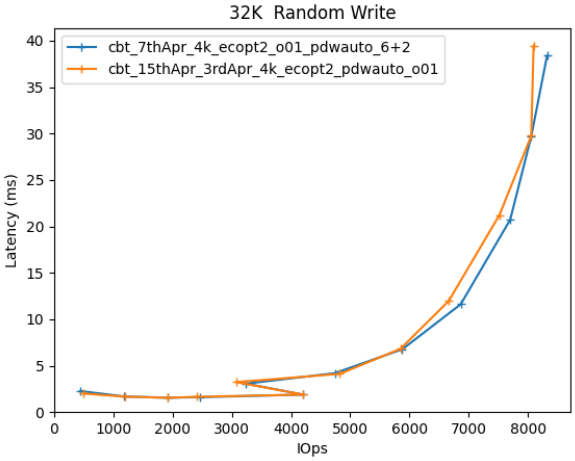


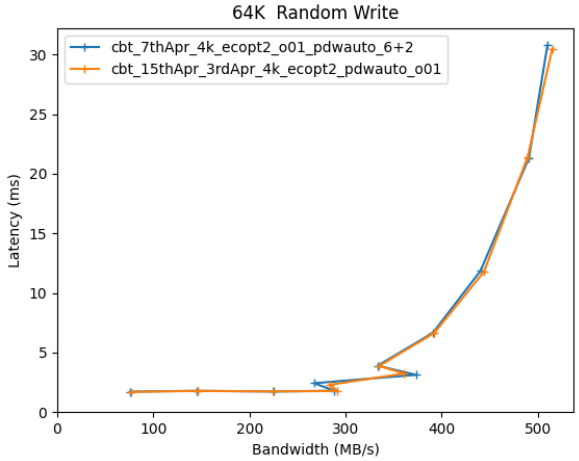
Random Write

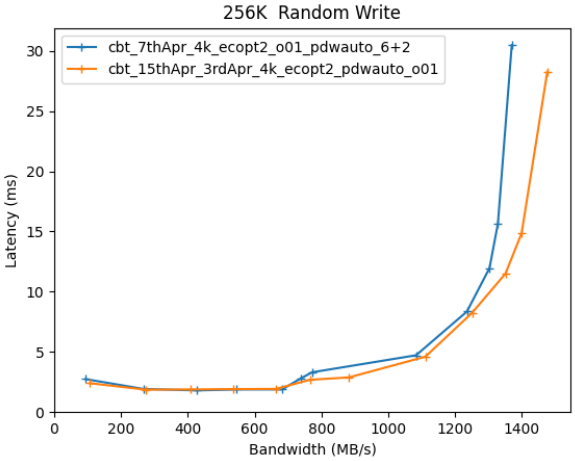

4K Random Write
cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2
cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01
Latency (ms)
IOps

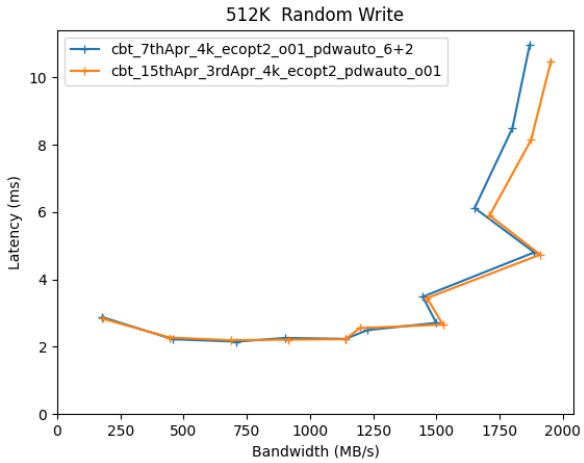

8K Random Write
cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2
cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01
Latency (ms)
IOps

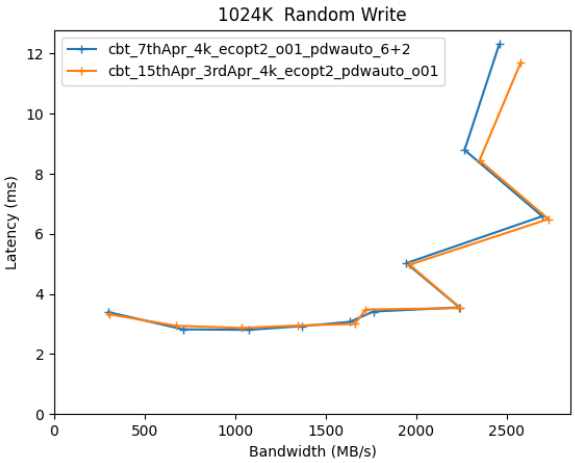

16K Random Write
cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2
cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01
Latency (ms)
IOps


32K Random Write
cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2
cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01
Latency (ms)
IOps

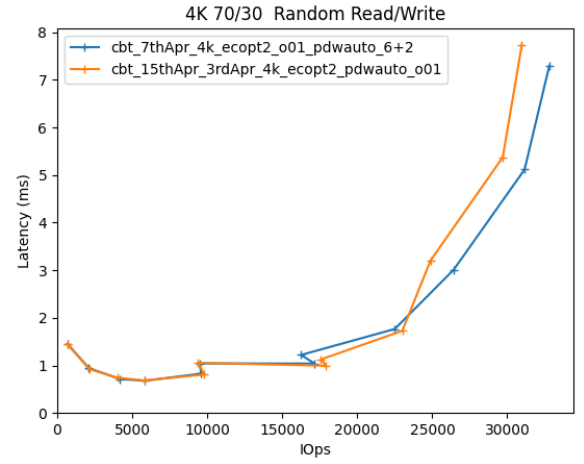

64K Random Write
cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2
cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01
Latency (ms)
Bandwidth (MB/s)

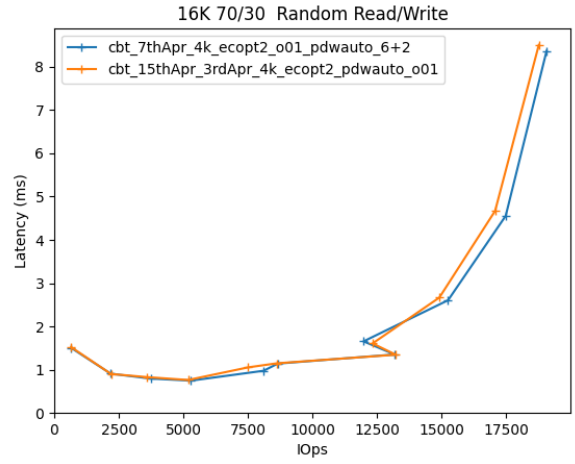

256K Random Write
cbt_7thApr_4k_ecopt2_o01_pdwauto_6+2
cbt_15thApr_3rdApr_4k_ecopt2_pdwauto_o01
Latency (ms)
Bandwidth (MB/s)

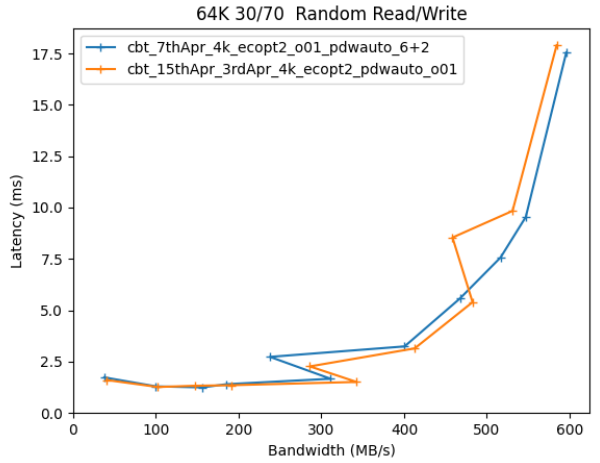


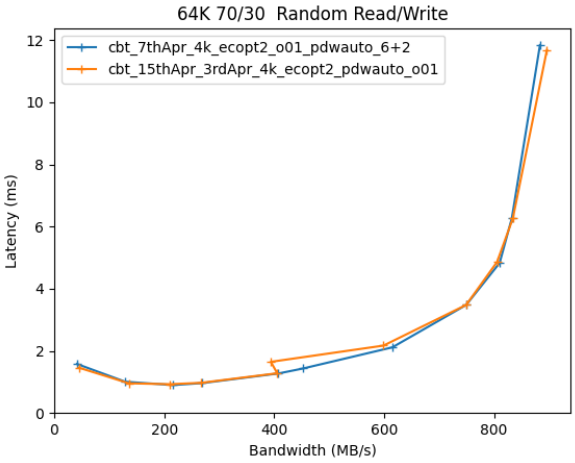


Random Read/Write









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: 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
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
  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
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: 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
```

```
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
  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
      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
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: ljsanders
monitoring_profiles:
  collectl:
    args: -c 18 -sCD -i 10 -P -oz -F0 --rawtoo --sep ";" -f {collectl_dir}
```