Comparitive Performance Report for cbt-31stJul-16k-o01-6+2-ecopt2 vs cbt-26thAug-o01-16k-6+2-directreads-balanced-all vs cbt-25thAug-o01-32k-6+2-directreads-balanced-all2 vs cbt-21stAug-o01-3way-squid192 vs cbt-22ndAug-o01-3way-tentaclerc vs cbt-27thAug-o01-3way-tentacle-balanced

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Comparison summary for cbt-31stJul-16k-o01-6+2-ecopt2 vs cbt-26thAug-o01-16k-6+2-directreads-balanced-all vs cbt-25thAug-o01-32k-6+2-directreads-balanced-all2 vs cbt-21stAug-o01-3way-squid192 vs cbt-22ndAug-o01-3way-tentaclerc vs cbt-27thAug-o01-3way-tentacle-balanced

Sequential Read	cbt_31stJul_16k_o01_6+2_ecopt2	cbt_26thAug_16k_o01_6+2_directreads_balanced_all	%Δ	cbt_25thAug_32k_o01_6+2_directreads_balanced_all2	%Δ	cbt_21stAug_o01_3way_squid192	%Δ	cbt_22ndAug_o01_3way_tentaclerc	%Δ	cbt_27thAug_o01_3way_tentacle_balanced	%Δ
0K	165897@2.2ms	284943@1.3ms	72%	259704@1.5ms	57%	137725@0.7ms	-17%	139206@0.7ms	-16%	233243@1.6ms	41%
0K	155175@2.2ms	270982@1.4ms	80%	263572@1.5ms	70%	124810@1.0ms	-20%	126086@0.8ms	-19%	218186@1.8ms	41%
1K	140148@2.2ms	249329@1.1ms	78%	249852@1.1ms	78%	111555@2.6ms	-20%	112627@2.6ms	-20%	198882@1.4ms	42%
3K	71375@0.9ms	138535@1.4ms	87%	202500@0.9ms	184%	89107@2.2ms	25%	90377@2.1ms	27%	149566@1.3ms	110%
6K	3172@5.3ms	4651@3.6ms	47%	7311@2.3ms	130%	4535@3.7ms	43%	4561@3.7ms	44%	7786@2.1ms	145%
25K	5330@3.1ms	8309@2.0ms	56%	8446@2.0ms	58%	7785@2.2ms	46%	7908@2.1ms	48%	11159@1.5ms	109%
51K	6067@2.8ms	10794@1.5ms	78%	10860@1.5ms	79%	7950@2.1ms	31%	7991@2.1ms	32%	9144@1.8ms	51%
102K	6186@3.4ms	12045@1.7ms	95%	12176@1.7ms	97%	6753@3.1ms	9%	6651@3.1ms	8%	7178@2.9ms	16%

Sequential Write	cbt_31stJul_16k_o01_6+2_ecopt2	cbt_26thAug_16k_o01_6+2_directreads_balanced_all	%Δ	cbt_25thAug_32k_o01_6+2_directreads_balanced_all2	%Δ	cbt_21stAug_o01_3way_squid192	%Δ	cbt_22ndAug_o01_3way_tentaclerc	%Δ	cbt_27thAug_o01_3way_tentacle_balanced	%Δ
0K	252680@6.2ms	255638@6.0ms	1%	261911@5.9ms	4%	488188@3.1ms	93%	500105@3.1ms	98%	510965@3.0ms	102%
0K	198909@7.7ms	199584@7.7ms	0%	204948@7.5ms	3%	329799@4.6ms	66%	336933@4.6ms	69%	334276@4.6ms	68%
1K	121584@8.4ms	121302@8.4ms	-0%	122827@8.3ms	1%	182591@5.6ms	50%	185698@5.5ms	53%	184493@5.5ms	52%
3K	73998@10.7ms	74550@10.3ms	1%	76903@10.0ms	4%	100309@7.6ms	36%	103300@7.4ms	40%	103026@7.4ms	39%
6K	2668@12.5ms	2571@13.0ms	-4%	2797@12.0ms	5%	3079@5.4ms	15%	3436@9.7ms	29%	3534@9.5ms	32%
25K	3346@19.9ms	3258@20.5ms	-3%	3389@19.7ms	1%	3800@8.7ms	14%	3874@17.2ms	16%	3949@16.9ms	18%
51K	3453@19.2ms	3467@19.1ms	0%	3576@18.5ms	4%	3910@4.1ms	13%	3896@4.1ms	13%	4087@8.0ms	18%
102K	4218@39.2ms	4245@38.9ms	1%	4311@38.3ms	2%	3951@16.5ms	-6%	3674@4.2ms	-13%	4020@16.2ms	-5%

Random Read	cbt_31stJul_16k_o01_6+2_ecopt2	cbt_26thAug_16k_o01_6+2_directreads_balanced_all	%Δ	cbt_25thAug_32k_o01_6+2_directreads_balanced_all2	%Δ	cbt_21stAug_o01_3way_squid192	%Δ	cbt_22ndAug_o01_3way_tentaclerc	%Δ	cbt_27thAug_o01_3way_tentacle_balanced	%Δ
0K	104960@7.3ms	190240@3.1ms	81%	190064@4.0ms	81%	187305@4.1ms	78%	191467@4.0ms	82%	216530@3.5ms	106%
0K	99102@7.7ms	176827@4.3ms	78%	178473@4.3ms	80%	178532@4.3ms	80%	183567@4.2ms	85%	209775@3.7ms	112%
1K	90721@4.2ms	166120@2.3ms	83%	166788@3.5ms	84%	166006@3.5ms	83%	169312@3.5ms	87%	193403@3.0ms	113%

Comparison summary for cbt-31stJul-16k-o01-6+2-ecopt2 vs cbt-26thAug-o01-16k-6+2-directreads-balanced-all vs cbt-25thAug-o01-32k-6+2-directreads-balanced-all2 vs cbt-21stAug-o01-3way-squid192 vs cbt-22ndAug-o01-3way-tentaclerc vs cbt-27thAug-o01-3way-tentacle-balanced

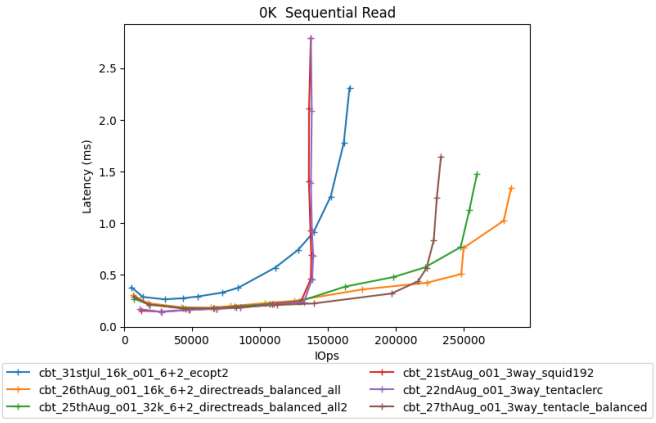
Random Read	cbt_31st_Jul_16k_o01_6+2_ecopt2	cbt_26th_Aug_o01_16k_6+2_directreads_balanced_all	% change	cbt_25th_Aug_o01_32k_6+2_directreads_balanced_all2	% change	cbt_21st_Aug_o01_3way_squid192	% change	cbt_22nd_Aug_o01_3way_tentaclerc	% change	cbt_27th_Aug_o01_3way_tentacle_balanced	% change
3K	61724@4.1ms	63252@4.4	40%	143697@3.6	133%	136151@3.8	121%	138987@3.7	125%	159835@3.2	159%
6K	2610@6.4ms	2971@5.6	14%	4984@5.0	91%	6974@3.6	167%	6946@3.6	166%	8100@3.1	210%
25K	4839@6.9ms	6331@5.3	31%	6446@2.6	33%	12427@2.7	157%	12882@2.6	166%	13168@2.5	172%
51K	6387@5.2ms	9526@3.5	49%	9849@3.4	54%	12483@2.7	95%	12426@2.7	95%	12732@2.6	99%
102K	7048@4.7ms	11826@2.5	68%	11860@2.5	68%	10031@3.3	42%	10000@3.3	42%	10192@3.3	45%

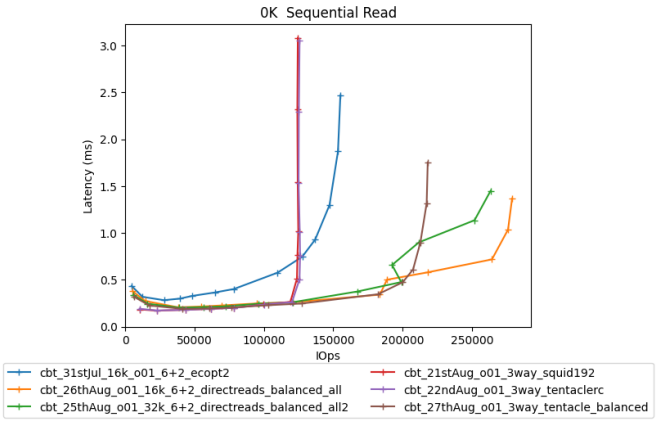
Random Write	cbt_31st_Jul_16k_o01_6+2_ecopt2	cbt_26th_Aug_o01_16k_6+2_directreads_balanced_all	% change	cbt_25th_Aug_o01_32k_6+2_directreads_balanced_all2	% change	cbt_21st_Aug_o01_3way_squid192	% change	cbt_22nd_Aug_o01_3way_tentaclerc	% change	cbt_27th_Aug_o01_3way_tentacle_balanced	% change
0K	23646@21.2ms	23679@21.6	0%	23925@21.4	1%	49015@5.2	107%	50963@7.5	116%	51182@5.0	116%
0K	22343@34.2ms	22616@33.9	1%	22481@34.2	1%	50058@5.1	124%	50946@5.0	128%	48579@10.5	117%
1K	20872@24.5ms	20764@24.6	-1%	20662@24.8	-1%	49288@10.4	136%	48329@5.3	132%	45875@11.1	120%
3K	15269@16.7ms	15280@25.1	0%	18522@20.7	21%	44622@8.6	192%	44974@8.5	195%	43891@8.7	187%
6K	827@30.4ms	843@29.8	2%	905@27.8	9%	2502@10.0	203%	2467@10.2	198%	2428@10.3	194%
25K	2105@31.7ms	2160@30.9	3%	2121@31.5	1%	3830@8.6	82%	4315@15.4	105%	4064@4.0	93%
51K	2910@11.3ms	2885@11.4	-1%	2861@11.5	-2%	4341@5.5	49%	3894@4.1	34%	4501@7.2	55%
102K	3905@12.4ms	3854@8.3	-1%	3891@12.4	-0%	3740@8.5	-4%	4301@7.3	10%	4174@5.6	7%

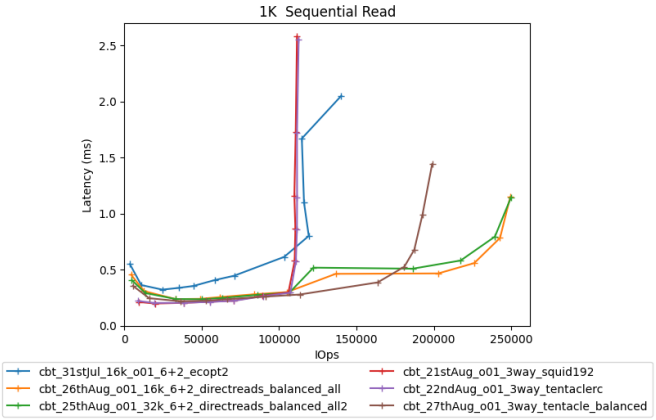
Random Read/Write	cbt_31st_Jul_16k_o01_6+2_ecopt2	cbt_26th_Aug_o01_16k_6+2_directreads_balanced_all	% change	cbt_25th_Aug_o01_32k_6+2_directreads_balanced_all2	% change	cbt_21st_Aug_o01_3way_squid192	% change	cbt_22nd_Aug_o01_3way_tentaclerc	% change	cbt_27th_Aug_o01_3way_tentacle_balanced	% change
0K_70/30	46650@8.2ms	57882@6.6	24%	57341@6.7	23%	101054@2.5	117%	100970@2.5	116%	94949@4.0	104%
1K_70/30	41239@6.2ms	48516@5.3	18%	48220@5.3	17%	91771@2.8	123%	92234@2.8	124%	87433@2.9	112%
6K_70/30	1438@5.8ms	1550@10.8	8%	1988@8.4	38%	4208@2.0	193%	4293@3.9	199%	4287@3.9	198%
6K_30/70	982@17.0ms	1019@16.4	4%	1156@14.5	18%	3022@5.5	208%	3016@5.5	207%	2901@5.7	195%

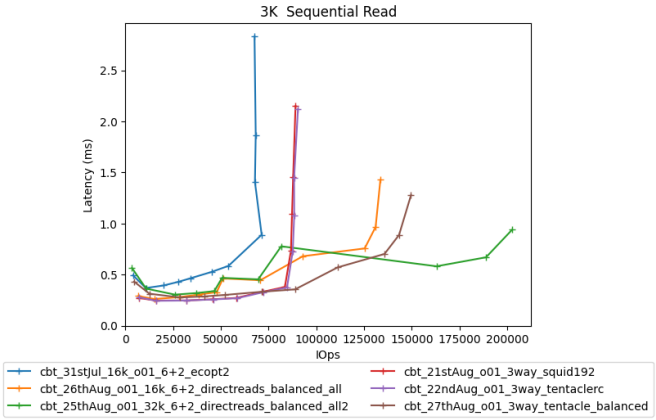
Response Curves

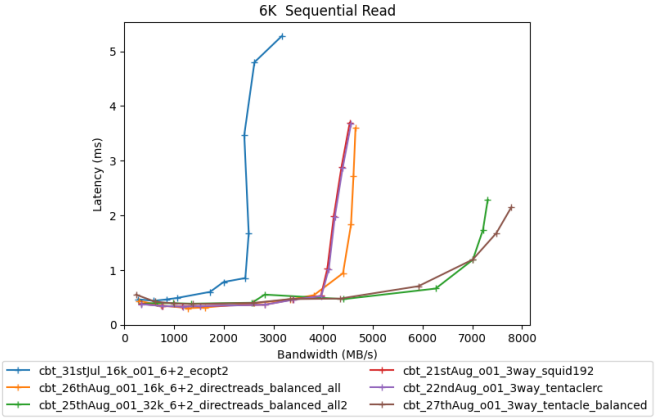
Sequential Read

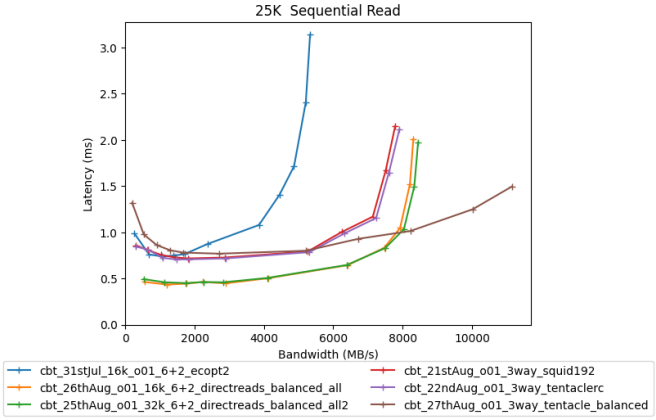


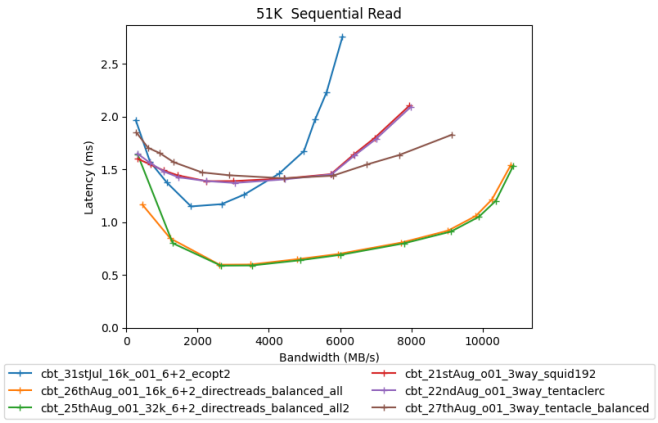


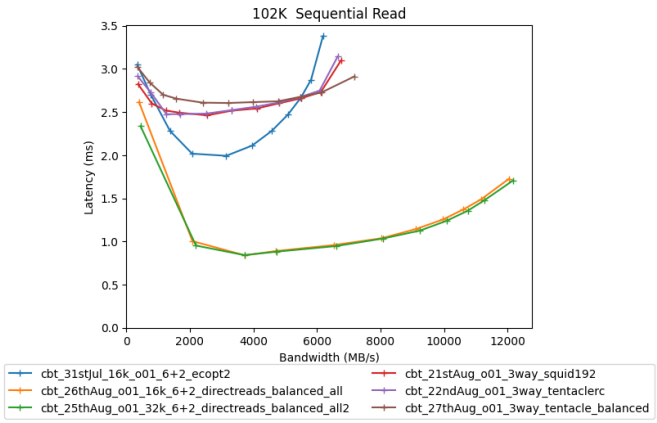




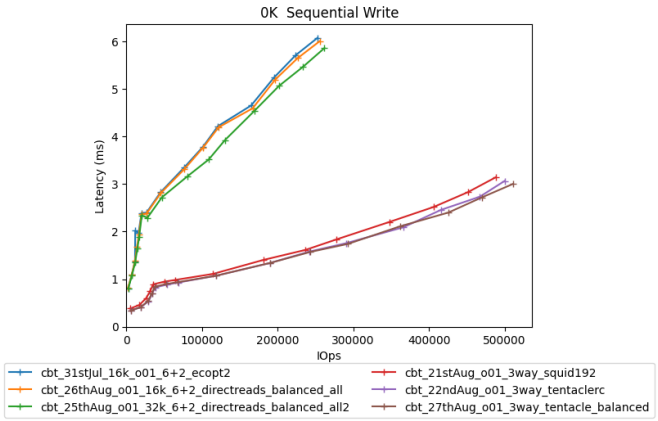


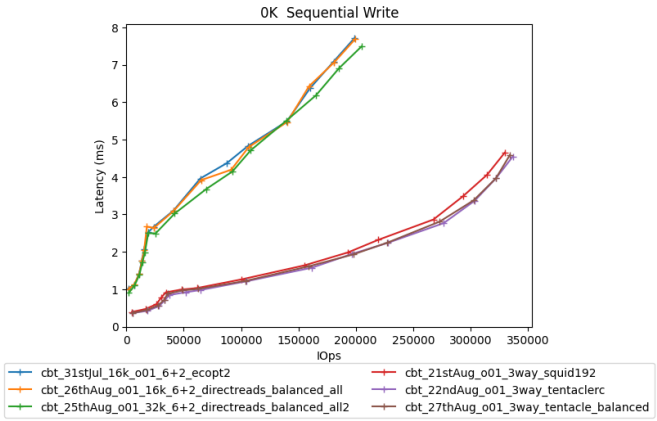


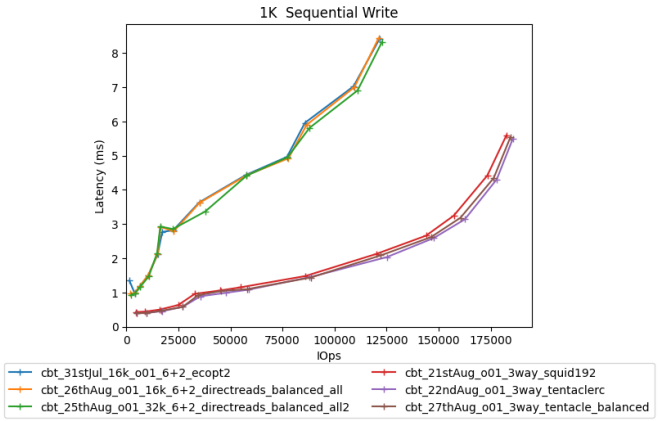


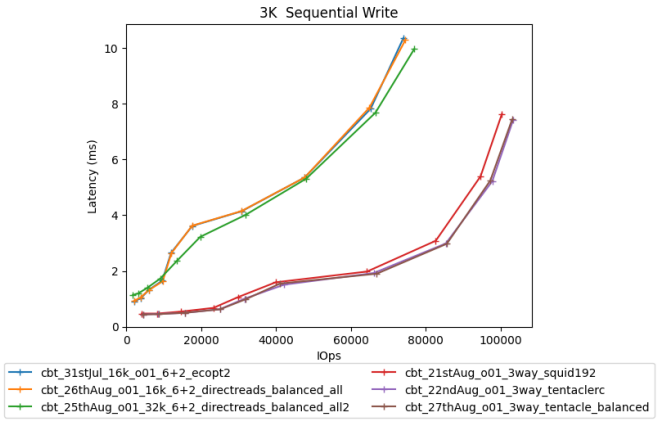


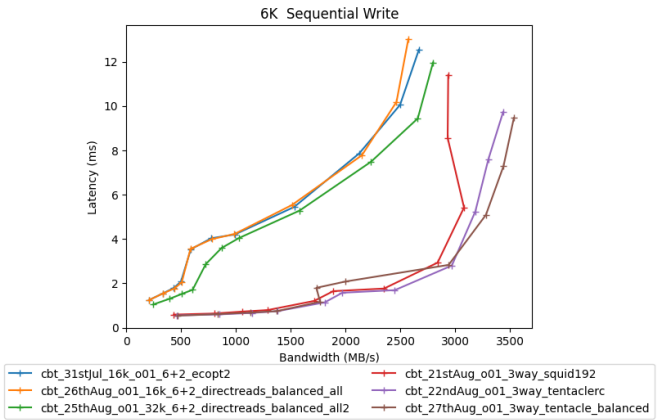
Sequential Write

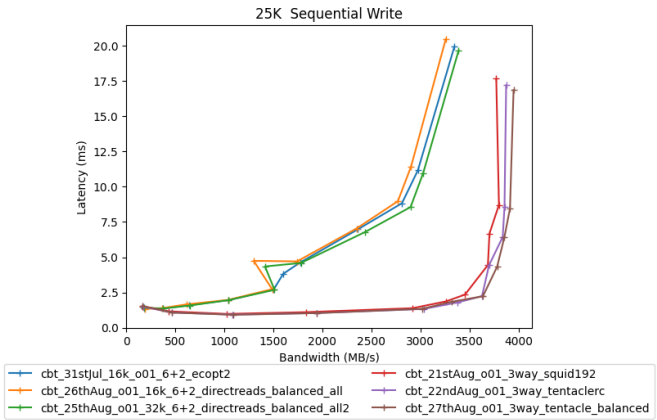


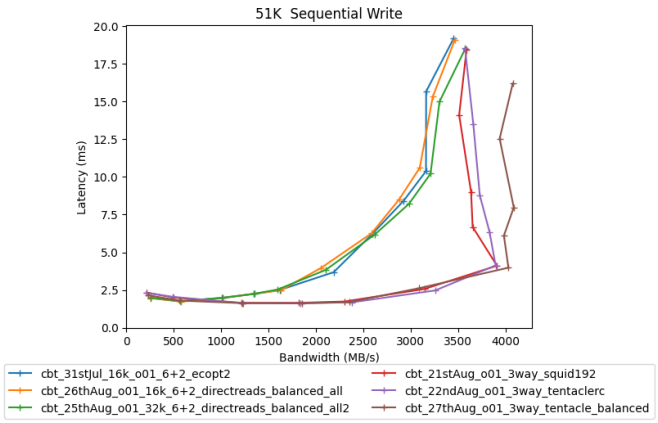


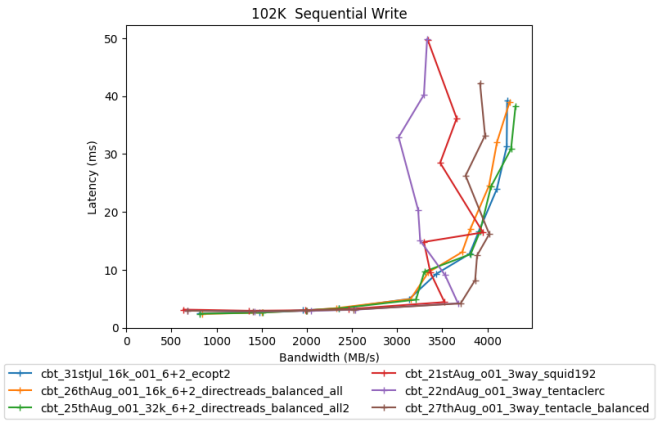




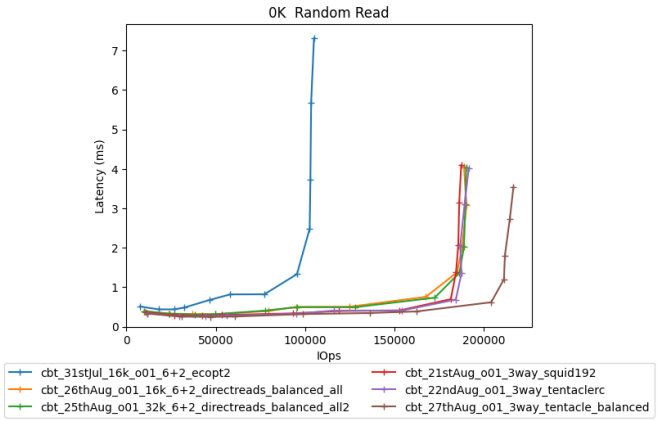


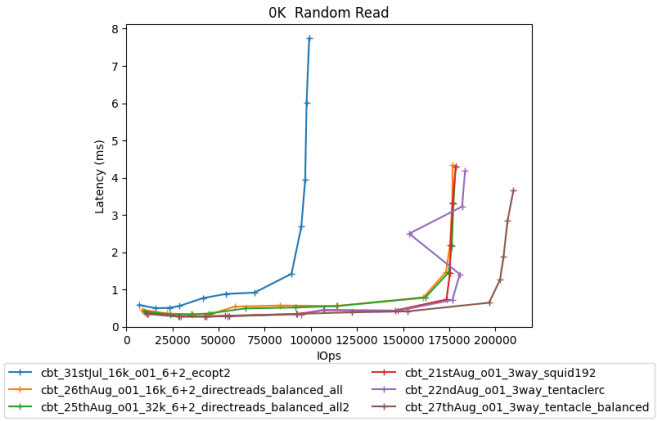


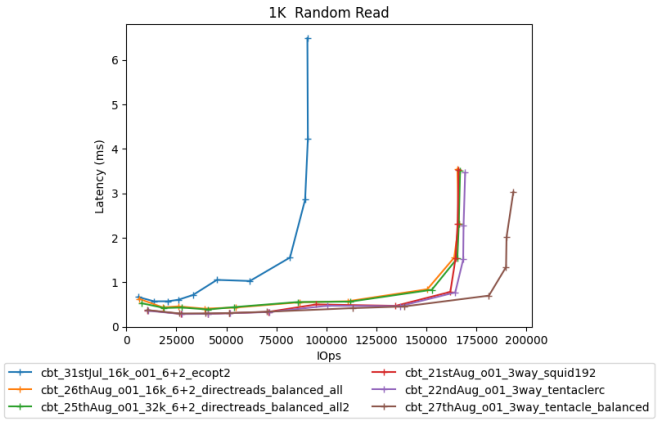

51K Sequential Write
Latency (ms)
Bandwidth (MB/s)
cbt_31stJul_16k_o01_6+2_ecopt2
cbt_26thAug_o01_16k_6+2_directreads_balanced_all
cbt_25thAug_o01_32k_6+2_directreads_balanced_all2
cbt_21stAug_o01_3way_squid192
cbt_22ndAug_o01_3way_tentaclerc
cbt_27thAug_o01_3way_tentacle_balanced

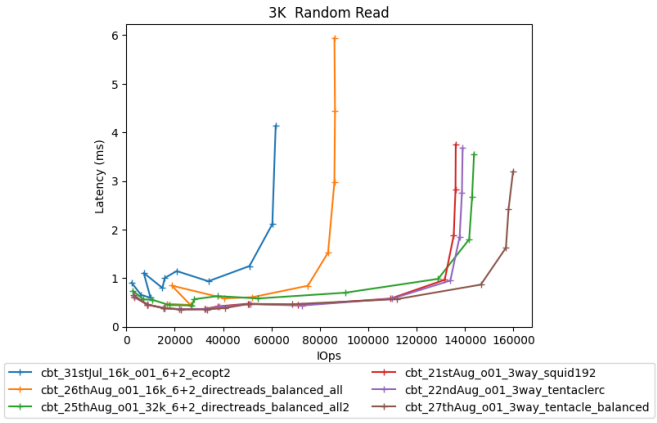

102K Sequential Write
Latency (ms)
Bandwidth (MB/s)
cbt_31stJul_16k_o01_6+2_ecopt2
cbt_26thAug_o01_16k_6+2_directreads_balanced_all
cbt_25thAug_o01_32k_6+2_directreads_balanced_all2
cbt_21stAug_o01_3way_squid192
cbt_22ndAug_o01_3way_tentaclerc
cbt_27thAug_o01_3way_tentacle_balanced

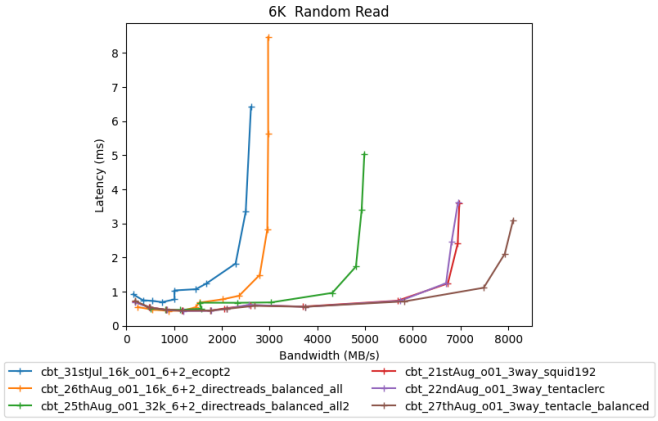
Random Read

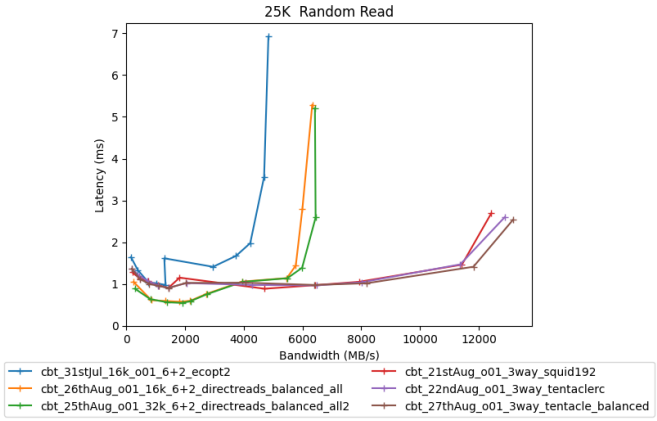

0K Random Read
Latency (ms)
IOps
cbt_31stJul_16k_o01_6+2_ecopt2
cbt_26thAug_o01_16k_6+2_directreads_balanced_all
cbt_25thAug_o01_32k_6+2_directreads_balanced_all2
cbt_21stAug_o01_3way_squid192
cbt_22ndAug_o01_3way_tentaclerc
cbt_27thAug_o01_3way_tentacle_balanced

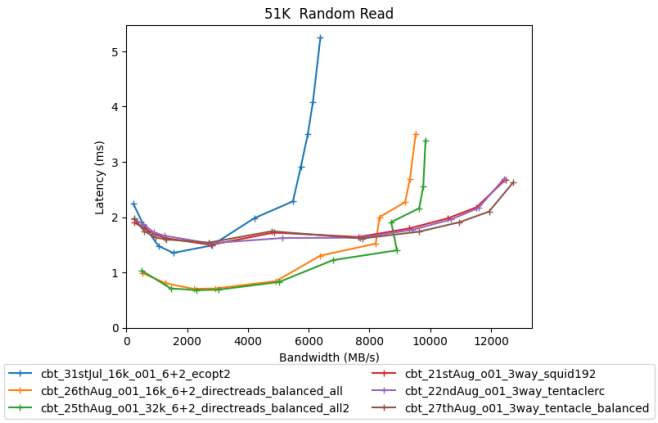

0K Random Read
Latency (ms)
IOps
cbt_31stJul_16k_o01_6+2_ecopt2
cbt_26thAug_o01_16k_6+2_directreads_balanced_all
cbt_25thAug_o01_32k_6+2_directreads_balanced_all2
cbt_21stAug_o01_3way_squid192
cbt_22ndAug_o01_3way_tentaclerc
cbt_27thAug_o01_3way_tentacle_balanced

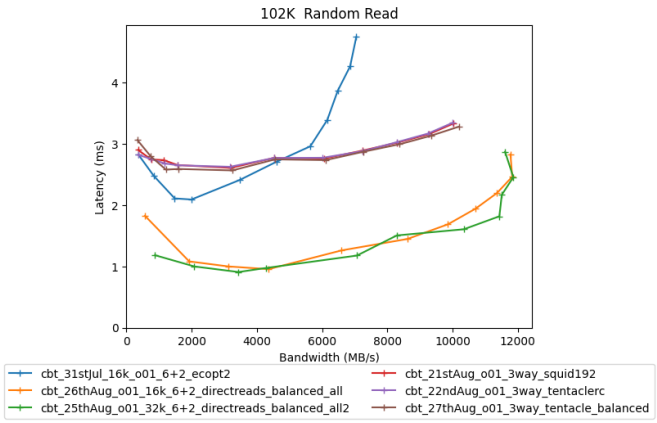

1K Random Read
Latency (ms)
IOps
cbt_31stJul_16k_o01_6+2_ecopt2
cbt_26thAug_o01_16k_6+2_directreads_balanced_all
cbt_25thAug_o01_32k_6+2_directreads_balanced_all2
cbt_21stAug_o01_3way_squid192
cbt_22ndAug_o01_3way_tentaclerc
cbt_27thAug_o01_3way_tentacle_balanced


3K Random Read
Latency (ms)
IOps
cbt_31stJul_16k_o01_6+2_ecopt2
cbt_26thAug_o01_16k_6+2_directreads_balanced_all
cbt_25thAug_o01_32k_6+2_directreads_balanced_all2
cbt_21stAug_o01_3way_squid192
cbt_22ndAug_o01_3way_tentaclerc
cbt_27thAug_o01_3way_tentacle_balanced

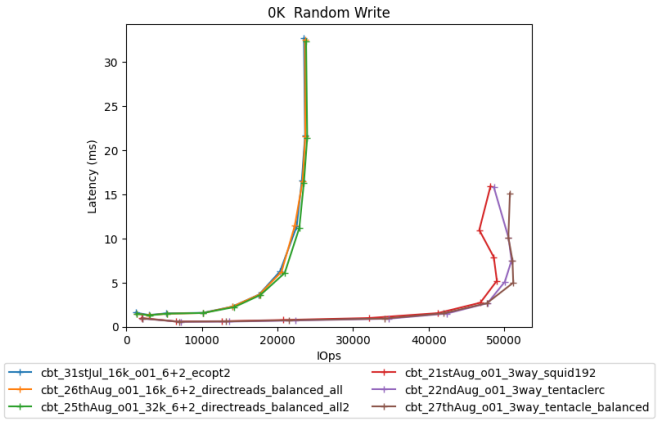

6K Random Read
Latency (ms)
Bandwidth (MB/s)
cbt_31stJul_16k_o01_6+2_ecopt2
cbt_26thAug_o01_16k_6+2_directreads_balanced_all
cbt_25thAug_o01_32k_6+2_directreads_balanced_all2
cbt_21stAug_o01_3way_squid192
cbt_22ndAug_o01_3way_tentaclerc
cbt_27thAug_o01_3way_tentacle_balanced

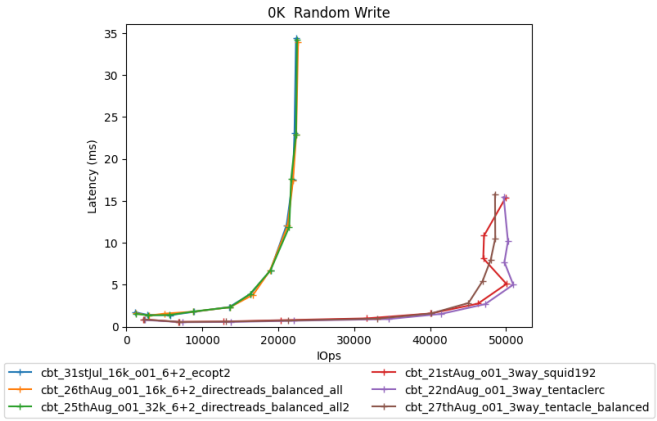

25K Random Read
Latency (ms)
Bandwidth (MB/s)
cbt_31stJul_16k_o01_6+2_ecopt2
cbt_26thAug_o01_16k_6+2_directreads_balanced_all
cbt_25thAug_o01_32k_6+2_directreads_balanced_all2
cbt_21stAug_o01_3way_squid192
cbt_22ndAug_o01_3way_tentaclerc
cbt_27thAug_o01_3way_tentacle_balanced

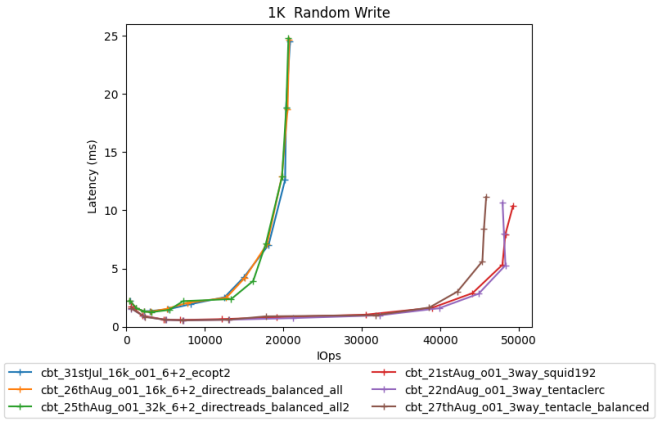


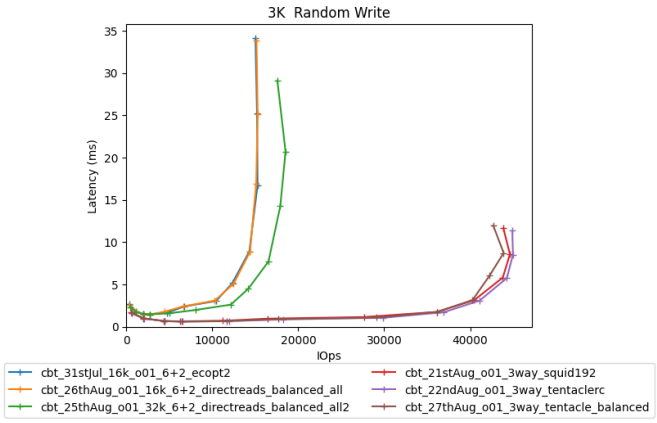


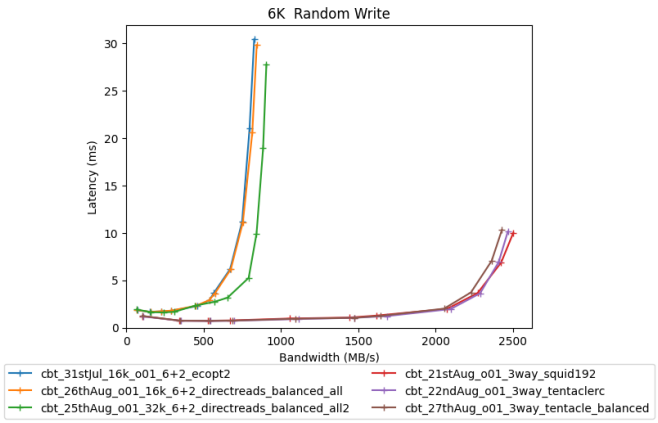
Random Write

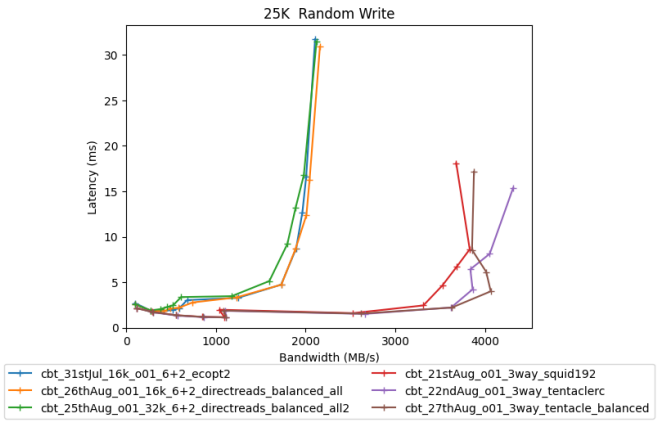


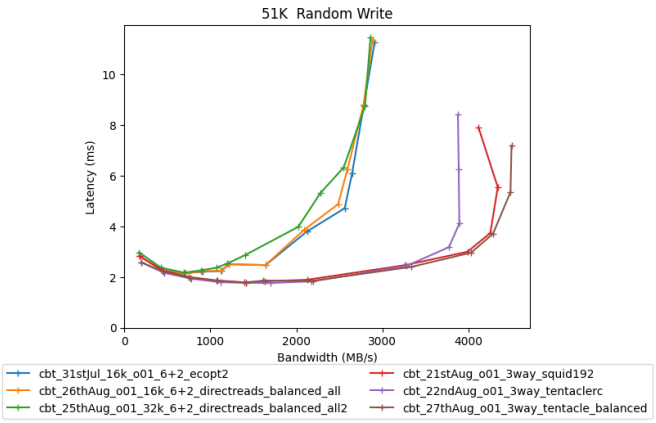


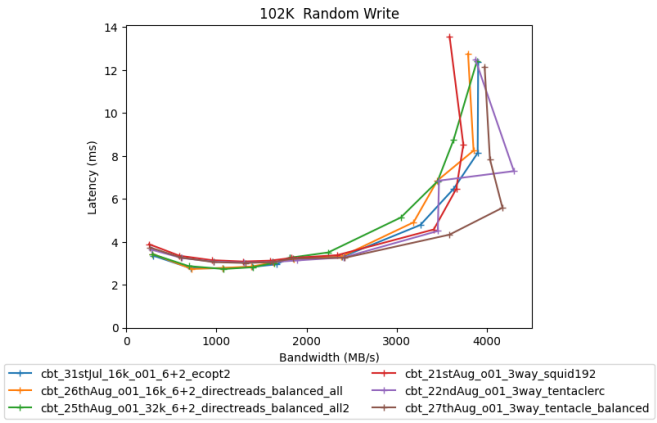




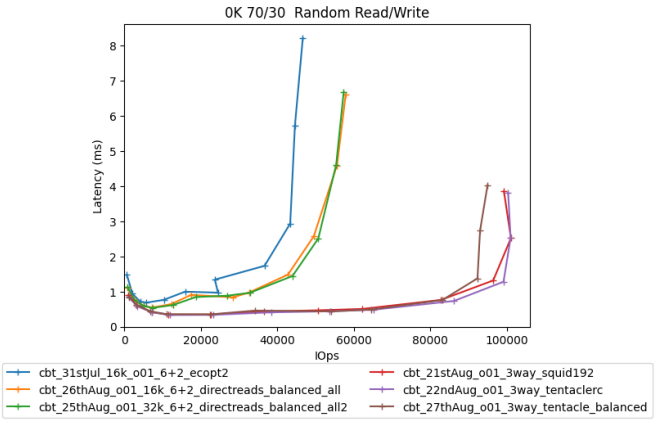


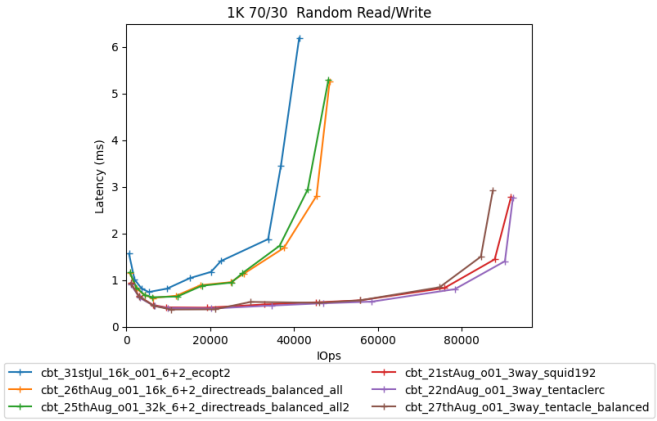


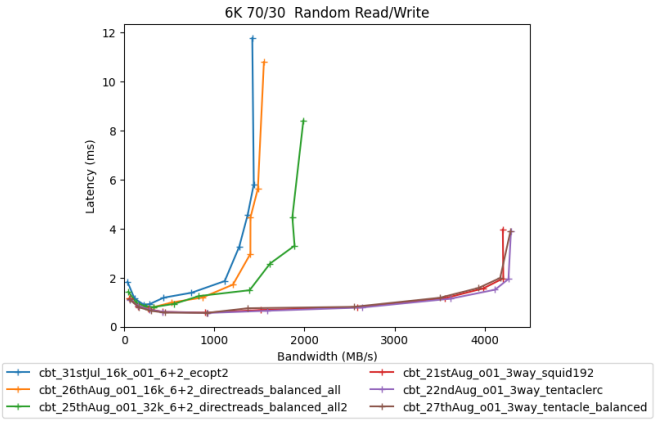


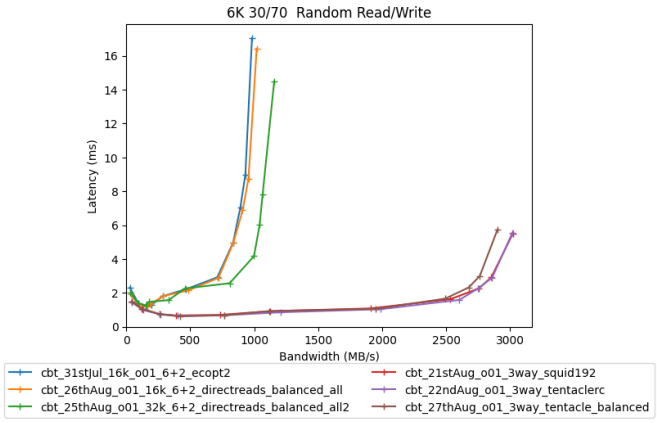


Random Read/Write









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
  rbdname: cbt-librbdfio
  time: 90
  time_based: true
  use_existing_volumes: true
  vol_size: 1368750
  volumes_per_client:
  - 16
  workloads:
    16k7030:
      jobname: randmix
      mode: randrw
      numjobs:
      - 1
      op_size: 16384
      rwmixread: 70
      total_iodepth:
      - 1
      - 2
      - 3
      - 4
      - 8
      - 16
      - 24
      - 32
      - 64
      - 128
      - 256
    16krandomread:
      jobname: randread
      mode: randread
      numjobs:
      - 1
      op_size: 16384
      total_iodepth:
      - 4
      - 8
      - 12
      - 16
      - 24
      - 48
      - 64
      - 128
      - 256
      - 384
```

```
  - 588
16krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 16384
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
  - 256
  - 384
  - 512
1Mrandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 1048576
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 12
  - 16
  - 20
  - 24
  - 28
  - 32
1Mrandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 1048576
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 8
  - 16
  - 24
  - 32
  - 48
1Mseqread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
  op_size: 1048576
  total_iodepth:
```

```
    - 1
    - 2
    - 3
    - 4
    - 6
    - 8
    - 10
    - 12
    - 14
    - 16
    - 20
  1Mseqwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 1048576
    total_iodepth:
    - 2
    - 4
    - 6
    - 8
    - 16
    - 32
    - 48
    - 64
    - 96
    - 128
    - 160
  256krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 262144
    total_iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 24
    - 32
    - 64
    - 128
  256krandomwrite:
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 262144
    total_iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 32
    - 64
```

```
  - 96
  - 128
  - 256
32krandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 32768
  total_iodepth:
  - 2
  - 4
  - 6
  - 8
  - 12
  - 16
  - 24
  - 32
  - 64
  - 128
  - 256
32krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 32768
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
  - 256
  - 384
  - 512
4k7030:
  jobname: randmix
  mode: randrw
  numjobs:
  - 1
  op_size: 4096
  rwmixread: 70
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 24
  - 32
  - 64
  - 128
  - 256
  - 384
4krandomread:
  jobname: randread
  mode: randread
```

```
  numjobs:
  - 1
  op_size: 4096
  total_iodepth:
  - 4
  - 8
  - 12
  - 16
  - 32
  - 48
  - 64
  - 128
  - 256
  - 384
  - 588
  - 768
4krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 4096
  total_iodepth:
  - 2
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
  - 256
  - 384
  - 512
  - 768
512krandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 24
  - 32
  - 40
  - 48
  - 64
512krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
```

```
  - 5
  - 6
  - 8
  - 16
  - 24
  - 32
  - 48
  - 64
512kseqread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 6
  - 8
  - 12
  - 16
  - 20
  - 24
  - 32
512kseqwrite:
  jobname: seqwrite
  mode: write
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 4
  - 6
  - 8
  - 16
  - 32
  - 48
  - 64
  - 96
  - 128
64k3070:
  jobname: randmix
  mode: randrw
  numjobs:
  - 1
  op_size: 65536
  rwmixread: 30
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 32
  - 64
  - 96
  - 128
  - 256
```

```
  64k7030:
    jobname: randmix
    mode: randrw
    numjobs:
    - 1
    op_size: 65536
    rwmixread: 70
    total_iodepth:
    - 1
    - 2
    - 3
    - 4
    - 8
    - 16
    - 32
    - 64
    - 96
    - 128
    - 256
  64krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 65536
    total_iodepth:
    - 2
    - 4
    - 6
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 128
    - 256
  64krandomwrite:
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 65536
    total_iodepth:
    - 2
    - 4
    - 6
    - 8
    - 16
    - 24
    - 32
    - 64
    - 128
    - 256
    - 384
  64kseqread:
    jobname: read
    mode: read
    numjobs:
    - 1
    op_size: 65536
    total_iodepth:
    - 2
```

```
    - 4
    - 6
    - 8
    - 16
    - 24
    - 32
    - 64
    - 128
    - 192
    - 256
  64kseqwrite:
    jobname: write
    mode: write
    numjobs:
    - 1
    op_size: 65536
    total_iodepth:
    - 4
    - 8
    - 12
    - 16
    - 32
    - 48
    - 64
    - 128
    - 256
    - 384
    - 512
  8krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 8192
    total_iodepth:
    - 4
    - 8
    - 12
    - 16
    - 32
    - 48
    - 64
    - 128
    - 256
    - 384
    - 588
    - 768
  8krandomwrite:
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 8192
    total_iodepth:
    - 2
    - 4
    - 8
    - 16
    - 32
    - 64
    - 128
    - 256
    - 384
```

```
  - 512
  - 768
precondition:
  jobname: precond1rw
  mode: randwrite
  monitor: false
  numjobs:
  - 1
  op_size: 65536
  time: 600
  total_iodepth:
  - 16
seq16kread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
  op_size: 16384
  total_iodepth:
  - 2
  - 4
  - 8
  - 12
  - 16
  - 24
  - 32
  - 64
  - 96
  - 128
  - 192
  - 288
seq16kwrite:
  jobname: seqwrite
  mode: write
  numjobs:
  - 1
  op_size: 16384
  total_iodepth:
  - 2
  - 4
  - 8
  - 16
  - 32
  - 48
  - 64
  - 128
  - 256
  - 384
  - 512
  - 768
  - 1024
seq256kread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
  op_size: 262144
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
```

```
    - 8
    - 16
    - 24
    - 32
    - 48
    - 64
  seq256kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 262144
    total_iodepth:
    - 1
    - 2
    - 4
    - 8
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
    - 256
  seq32kread:
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 32768
    total_iodepth:
    - 2
    - 4
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
    - 192
  seq32kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 32768
    total_iodepth:
    - 2
    - 4
    - 8
    - 16
    - 32
    - 64
    - 128
    - 256
    - 512
    - 768
  seq4kread:
    jobname: seqread
    mode: read
    numjobs:
```

```
    - 1
    op_size: 4096
    total_iodepth:
    - 2
    - 4
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
    - 192
    - 288
    - 384
  seq4kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 4096
    total_iodepth:
    - 2
    - 8
    - 16
    - 24
    - 32
    - 48
    - 64
    - 128
    - 256
    - 384
    - 512
    - 768
    - 1024
    - 1280
    - 1536
  seq8kread:
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 8192
    total_iodepth:
    - 2
    - 4
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
    - 192
    - 288
    - 384
  seq8kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
```

```
        op_size: 8192
        total_iodepth:
        - 2
        - 8
        - 16
        - 24
        - 32
        - 48
        - 64
        - 128
        - 256
        - 384
        - 512
        - 768
        - 1024
        - 1280
        - 1536
cluster:
  archive_dir: /tmp/cbt
  ceph-mgr_cmd: /usr/bin/ceph-mgr
  ceph-mon_cmd: /usr/bin/ceph-mon
  ceph-osd_cmd: /usr/bin/ceph-osd
  ceph-run_cmd: /usr/bin/ceph-run
  ceph_cmd: /usr/bin/ceph
  clients:
  - --- server1 ---
  clusterid: ceph
  conf_file: /cbt/ceph.conf.4x1x1.fs
  fs: xfs
  head: --- server1 ---
  iterations: 1
  mgrs:
    --- server1 ---:
      a: null
  mkfs_opts: -f -i size=2048
  mons:
    --- server1 ---:
      a: --- IP Address --:6789
  mount_opts: -o inode64,noatime,logbsize=256k
  osds:
  - --- server1 ---
  osds_per_node: 8
  pdsh_ssh_args: -a -x -l%u %h
  rados_cmd: /usr/bin/rados
  rbd_cmd: /usr/bin/rbd
  tmp_dir: /tmp/cbt
  use_existing: true
  user: ljsanders
monitoring_profiles:
  collectl:
    args: -c 18 -sCD -i 10 -P -oz -F0 --rawtoo --sep ";" -f {collectl_dir}
  librbdfio:
    cmd_path: /usr/local/bin/fio
    fio_out_format: json
    log_avg_msec: 100
    log_bw: true
    log_iops: true
    log_lat: true
    norandommap: true
    osd_ra:
    - 4096
    poolname: rbd_replicated
```

```
prefill:
  blocksize: 64k
  numjobs: 1
procs_per_volume:
- 1
ramp: 30
rbdname: cbt-librbdfio
time: 90
time_based: true
use_existing_volumes: true
vol_size: 1368750
volumes_per_client:
- 16
workloads:
  16k7030:
    jobname: randmix
    mode: randrw
    numjobs:
    - 1
    op_size: 16384
    rwmixread: 70
    total_iodepth:
    - 1
    - 2
    - 3
    - 4
    - 8
    - 16
    - 24
    - 32
    - 64
    - 128
    - 256
  16krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 16384
    total_iodepth:
    - 4
    - 8
    - 12
    - 16
    - 24
    - 48
    - 64
    - 128
    - 256
    - 384
    - 588
  16krandomwrite:
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 16384
    total_iodepth:
    - 1
    - 2
    - 3
    - 4
    - 8
```

```
    - 16
    - 32
    - 64
    - 128
    - 256
    - 384
    - 512
  1Mrandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 1048576
    total_iodepth:
    - 1
    - 2
    - 3
    - 4
    - 8
    - 12
    - 16
    - 20
    - 24
    - 28
    - 32
  1Mrandomwrite:
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 1048576
    total_iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 6
    - 8
    - 16
    - 24
    - 32
    - 48
  1Mseqread:
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 1048576
    total_iodepth:
    - 1
    - 2
    - 3
    - 4
    - 6
    - 8
    - 10
    - 12
    - 14
    - 16
    - 20
  1Mseqwrite:
    jobname: seqwrite
```

```
    mode: write
    numjobs:
    - 1
    op_size: 1048576
    total_iodepth:
    - 2
    - 4
    - 6
    - 8
    - 16
    - 32
    - 48
    - 64
    - 96
    - 128
    - 160
  256krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 262144
    total_iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 24
    - 32
    - 64
    - 128
  256krandomwrite:
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 262144
    total_iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 32
    - 64
    - 96
    - 128
    - 256
  32krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 32768
    total_iodepth:
    - 2
    - 4
    - 6
```

```
  - 8
  - 12
  - 16
  - 24
  - 32
  - 64
  - 128
  - 256
32krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 32768
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
  - 256
  - 384
  - 512
4k7030:
  jobname: randmix
  mode: randrw
  numjobs:
  - 1
  op_size: 4096
  rwmixread: 70
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 24
  - 32
  - 64
  - 128
  - 256
  - 384
4krandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 4096
  total_iodepth:
  - 4
  - 8
  - 12
  - 16
  - 32
  - 48
  - 64
  - 128
  - 256
```

```
  - 384
  - 588
  - 768
4krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 4096
  total_iodepth:
  - 2
  - 4
  - 8
  - 16
  - 32
  - 64
  - 128
  - 256
  - 384
  - 512
  - 768
512krandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 24
  - 32
  - 40
  - 48
  - 64
512krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 5
  - 6
  - 8
  - 16
  - 24
  - 32
  - 48
  - 64
512kseqread:
  jobname: seqread
  mode: read
  numjobs:
  - 1
```

```
  op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 6
  - 8
  - 12
  - 16
  - 20
  - 24
  - 32
512kseqwrite:
  jobname: seqwrite
  mode: write
  numjobs:
  - 1
  op_size: 524288
  total_iodepth:
  - 1
  - 2
  - 4
  - 6
  - 8
  - 16
  - 32
  - 48
  - 64
  - 96
  - 128
64k3070:
  jobname: randmix
  mode: randrw
  numjobs:
  - 1
  op_size: 65536
  rwmixread: 30
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
  - 16
  - 32
  - 64
  - 96
  - 128
  - 256
64k7030:
  jobname: randmix
  mode: randrw
  numjobs:
  - 1
  op_size: 65536
  rwmixread: 70
  total_iodepth:
  - 1
  - 2
  - 3
  - 4
  - 8
```

```
  - 16
  - 32
  - 64
  - 96
  - 128
  - 256
64krandomread:
  jobname: randread
  mode: randread
  numjobs:
  - 1
  op_size: 65536
  total_iodepth:
  - 2
  - 4
  - 6
  - 8
  - 12
  - 16
  - 24
  - 32
  - 64
  - 128
  - 256
64krandomwrite:
  jobname: randwrite
  mode: randwrite
  numjobs:
  - 1
  op_size: 65536
  total_iodepth:
  - 2
  - 4
  - 6
  - 8
  - 16
  - 24
  - 32
  - 64
  - 128
  - 256
  - 384
64kseqread:
  jobname: read
  mode: read
  numjobs:
  - 1
  op_size: 65536
  total_iodepth:
  - 2
  - 4
  - 6
  - 8
  - 16
  - 24
  - 32
  - 64
  - 128
  - 192
  - 256
64kseqwrite:
  jobname: write
  mode: write
```

```
    numjobs:
    - 1
    op_size: 65536
    total_iodepth:
    - 4
    - 8
    - 12
    - 16
    - 32
    - 48
    - 64
    - 128
    - 256
    - 384
    - 512
  8krandomread:
    jobname: randread
    mode: randread
    numjobs:
    - 1
    op_size: 8192
    total_iodepth:
    - 4
    - 8
    - 12
    - 16
    - 32
    - 48
    - 64
    - 128
    - 256
    - 384
    - 588
    - 768
  8krandomwrite:
    jobname: randwrite
    mode: randwrite
    numjobs:
    - 1
    op_size: 8192
    total_iodepth:
    - 2
    - 4
    - 8
    - 16
    - 32
    - 64
    - 128
    - 256
    - 384
    - 512
    - 768
  precondition:
    jobname: precond1rw
    mode: randwrite
    monitor: false
    numjobs:
    - 1
    op_size: 65536
    time: 600
    total_iodepth:
    - 16
  seq16kread:
```

```
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 16384
    total_iodepth:
    - 2
    - 4
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
    - 192
    - 288
  seq16kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 16384
    total_iodepth:
    - 2
    - 4
    - 8
    - 16
    - 32
    - 48
    - 64
    - 128
    - 256
    - 384
    - 512
    - 768
    - 1024
  seq256kread:
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 262144
    total_iodepth:
    - 1
    - 2
    - 3
    - 4
    - 5
    - 8
    - 16
    - 24
    - 32
    - 48
    - 64
  seq256kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 262144
    total_iodepth:
```

```
    - 1
    - 2
    - 4
    - 8
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
    - 256
  seq32kread:
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 32768
    total_iodepth:
    - 2
    - 4
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
    - 192
  seq32kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 32768
    total_iodepth:
    - 2
    - 4
    - 8
    - 16
    - 32
    - 64
    - 128
    - 256
    - 512
    - 768
  seq4kread:
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 4096
    total_iodepth:
    - 2
    - 4
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
```

```
    - 192
    - 288
    - 384
  seq4kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 4096
    total_iodepth:
    - 2
    - 8
    - 16
    - 24
    - 32
    - 48
    - 64
    - 128
    - 256
    - 384
    - 512
    - 768
    - 1024
    - 1280
    - 1536
  seq8kread:
    jobname: seqread
    mode: read
    numjobs:
    - 1
    op_size: 8192
    total_iodepth:
    - 2
    - 4
    - 8
    - 12
    - 16
    - 24
    - 32
    - 64
    - 96
    - 128
    - 192
    - 288
    - 384
  seq8kwrite:
    jobname: seqwrite
    mode: write
    numjobs:
    - 1
    op_size: 8192
    total_iodepth:
    - 2
    - 8
    - 16
    - 24
    - 32
    - 48
    - 64
    - 128
    - 256
    - 384
    - 512
```

```
        - 768
        - 1024
        - 1280
        - 1536
cluster:
  archive_dir: /tmp/cbt
  ceph-mgr_cmd: /usr/bin/ceph-mgr
  ceph-mon_cmd: /usr/bin/ceph-mon
  ceph-osd_cmd: /usr/bin/ceph-osd
  ceph-run_cmd: /usr/bin/ceph-run
  ceph_cmd: /usr/bin/ceph
  clients:
  - --- server1 ---
  clusterid: ceph
  conf_file: /cbt/ceph.conf.4x1x1.fs
  fs: xfs
  head: --- server1 ---
  iterations: 1
  mgrs:
    --- server1 ---:
      a: null
  mkfs_opts: -f -i size=2048
  mons:
    --- server1 ---:
      a: --- IP Address --:6789
  mount_opts: -o inode64,noatime,logbsize=256k
  osds:
  - --- server1 ---
  osds_per_node: 8
  pdsh_ssh_args: -a -x -l%u %h
  rados_cmd: /usr/bin/rados
  rbd_cmd: /usr/bin/rbd
  tmp_dir: /tmp/cbt
  use_existing: true
  user: ljsanders
monitoring_profiles:
  collectl:
    args: -c 18 -sCD -i 10 -P -oz -F0 --rawtoo --sep ";" -f {collectl_dir}
```