

Comparitive Performance Report for
cbt-19thAug-o01-squid192-2+2-4k vs
cbt-18thAug-o01-2+2-16k-ecopt2 vs
cbt-5thAug-4k-o01-4+2-squid vs
cbt-4thAug-16k-o01-4+2-ecopt2 vs
cbt-3rdAug-4k-o01-6+2-squid vs
cbt-31stJul-16k-o01-6+2-ecopt2

Table of contents

- Comparison summary for cbt-19thAug-o01-squid192-2+2-4k vs cbt-18thAug-o01-2+2-16k-ecopt2 vs cbt-5thAug-4k-o01-4+2-squid vs cbt-4thAug-16k-o01-4+2-ecopt2 vs cbt-3rdAug-4k-o01-6+2-squid vs cbt-31stJul-16k-o01-6+2-ecopt2
- Response Curves
 - Sequential Read
 - Sequential Write
 - Random Read
 - Random Write
 - Random Read/Write
- Configuration yaml files
 - results

Comparison summary for cbt-19thAug-o01-squid192-2+2-4k vs cbt-18thAug-o01-2+2-16k-ecopt2 vs cbt-5thAug-4k-o01-4+2-squid vs cbt-4thAug-16k-o01-4+2-ecopt2 vs cbt-3rdAug-4k-o01-6+2-squid vs cbt-31stJul-16k-o01-6+2-ecopt2

Sequential										
Read	cbt_19thAug_o01-squid192-2+2-4k	cbt-18thAug-o01-2+2-16k-ecopt2	cbt-5thAug-4k-o01-4+2-squid	cbt-4thAug-16k-o01-4+2-ecopt2	cbt-3rdAug-4k-o01-6+2-squid	cbt-31stJul-16k-o01-6+2-ecopt2	cbt_19thAug_o01-squid192-2+2-4k	cbt-18thAug-o01-2+2-16k-ecopt2	cbt-5thAug-4k-o01-4+2-squid	cbt-4thAug-16k-o01-4+2-ecopt2
4.0K	94850@1.0h6011@1.7	22%	81908@4.7	-14%	143642@2.7	51%	58638@6.5	-38%	165897@2.3	75%
8.0K	69102@5.6h2092@3.4	62%	67577@5.7	-2%	140289@2.7	103%	53638@5.4	-22%	155175@2.5	125%
16.0K	65610@4.4h5755@2.7	61%	51153@5.6	-22%	126594@2.3	93%	46954@6.1	-28%	140148@2.0	114%
32.0K	60081@3.3h913@3.1	1%	48711@3.9	-19%	76709@2.5	28%	38463@5.0	-36%	71375@0.9	19%
64.0K	3326@5.0h375@5.0	1%	2675@6.3	-20%	2998@5.6	-10%	2255@7.4	-32%	3172@5.3	-5%
256.0K	6442@2.6h513@2.6	1%	5814@2.9	-10%	5947@2.8	-8%	4536@3.7	-30%	5330@3.1	-17%
512.0K	6621@2.5h826@2.5	3%	6157@2.7	-7%	6420@2.6	-3%	5135@3.3	-22%	6067@2.8	-8%
1024.0K	5820@3.6h171@3.4	6%	5832@3.6	0%	6346@3.3	9%	5217@4.0	-10%	6186@3.4	6%

Sequential										
Write	cbt_19thAug_o01-squid192-2+2-4k	cbt-18thAug-o01-2+2-16k-ecopt2	cbt-5thAug-4k-o01-4+2-squid	cbt-4thAug-16k-o01-4+2-ecopt2	cbt-3rdAug-4k-o01-6+2-squid	cbt-31stJul-16k-o01-6+2-ecopt2	cbt_19thAug_o01-squid192-2+2-4k	cbt-18thAug-o01-2+2-16k-ecopt2	cbt-5thAug-4k-o01-4+2-squid	cbt-4thAug-16k-o01-4+2-ecopt2
4.0K	199873@7.3h5708@5.0	54%	151417@10.1	124%	280184@5.5	40%	136232@11.3	32%	252680@6.1	26%
8.0K	232463@6.2h367@6.7	-2%	154665@9.9	-33%	217309@7.1	-7%	130892@11.7	44%	198909@7.7	-14%
16.0K	132920@7.3h5932@7.5	2%	131050@7.8	-1%	131110@7.8	-1%	86109@11.9	-35%	121584@8.4	-9%
32.0K	74942@10.8h891@9.5	7%	78224@9.8	4%	79346@9.7	6%	50412@15.2	-33%	73998@10.4	-1%
64.0K	2565@13.1h70@11.7	12%	2783@12.0	8%	2908@11.5	13%	2095@16.0	-18%	2668@12.5	4%
256.0K	3179@21.0h86@19.7	7%	3506@19.0	10%	3621@18.4	14%	2797@23.9	-12%	3346@19.9	5%
512.0K	3420@19.4h82@8.5	12%	3562@18.6	4%	3809@17.4	11%	2870@23.2	-16%	3453@19.2	1%
1024.0K	3793@34.9h99@31.4	11%	4308@30.7	14%	4645@35.6	22%	3689@45.0	-3%	4218@39.2	11%

Random										
Read	cbt_19thAug_o01-squid192-2+2-4k	cbt-18thAug-o01-2+2-16k-ecopt2	cbt-5thAug-4k-o01-4+2-squid	cbt-4thAug-16k-o01-4+2-ecopt2	cbt-3rdAug-4k-o01-6+2-squid	cbt-31stJul-16k-o01-6+2-ecopt2	cbt_19thAug_o01-squid192-2+2-4k	cbt-18thAug-o01-2+2-16k-ecopt2	cbt-5thAug-4k-o01-4+2-squid	cbt-4thAug-16k-o01-4+2-ecopt2
4.0K	82748@7.1h2583@3.0	55%	53372@14.4	-36%	125142@6.1	51%	36952@10.4	-55%	104960@7.3	27%
8.0K	81281@9.4h7727@5.0	45%	53802@14.3	-34%	118048@6.5	45%	36424@21.1	-55%	99102@7.7	22%
16.0K	77611@7.6h2346@5.2	45%	53274@11.0	-31%	110136@5.3	42%	35473@16.6	-54%	90721@4.2	17%
32.0K	70360@5.4h917@5.6	-2%	48583@2.6	-31%	70582@3.6	0%	32165@7.9	-54%	61724@4.1	-12%
64.0K	3807@4.4h627@6.9	-5%	2926@5.7	-23%	2749@6.1	-28%	1897@8.8	-50%	2610@6.4	-31%
256.0K	8382@4.0h952@4.2	-5%	6280@5.3	-25%	5778@5.8	-31%	4363@3.8	-48%	4839@6.9	-42%
512.0K	9275@3.6h8769@3.8	-5%	7318@4.6	-21%	7132@4.7	-23%	5493@4.6	-41%	6387@5.2	-31%

Comparison summary for cbt-19thAug-o01-squid192-2+2-4k vs cbt-18thAug-o01-2+2-16k-ecopt2 vs cbt-5thAug-4k-o01-4+2-squid vs cbt-4thAug-16k-o01-4+2-ecopt2 vs cbt-3rdAug-4k-o01-6+2-squid vs cbt-31stJul-16k-o01-6+2-ecopt2

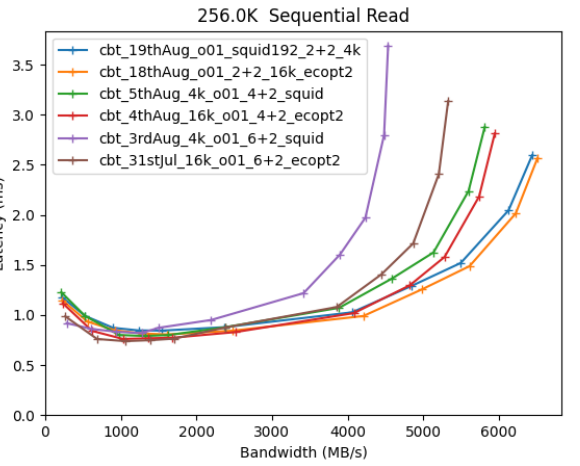
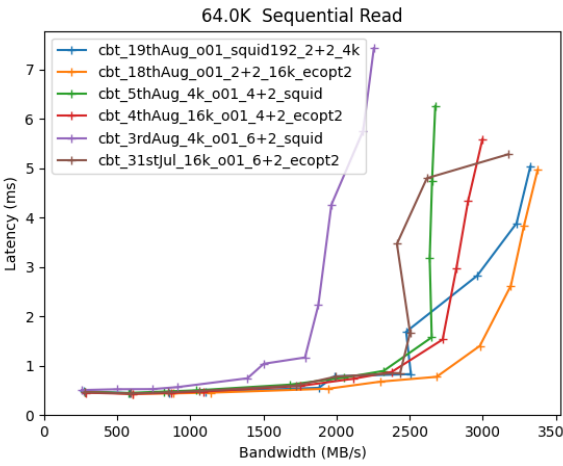
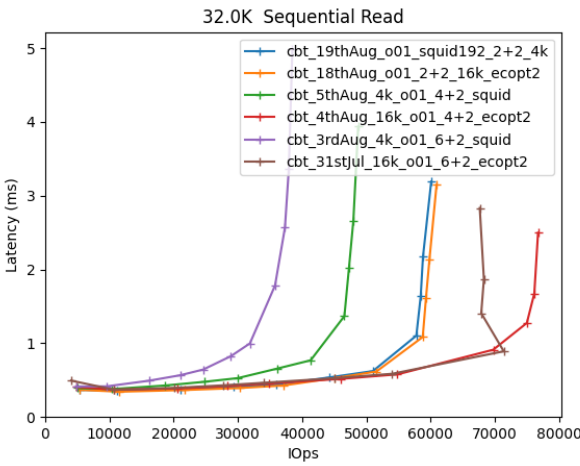
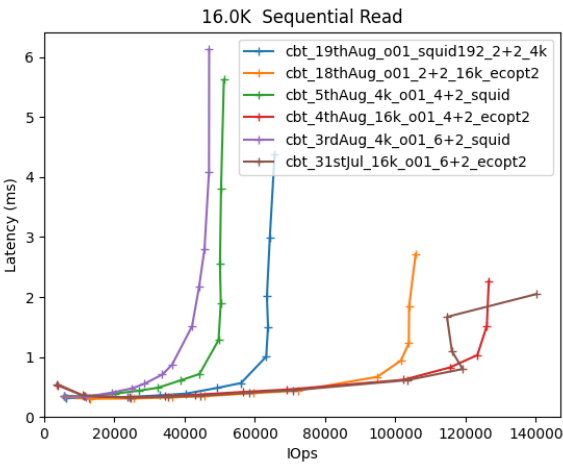
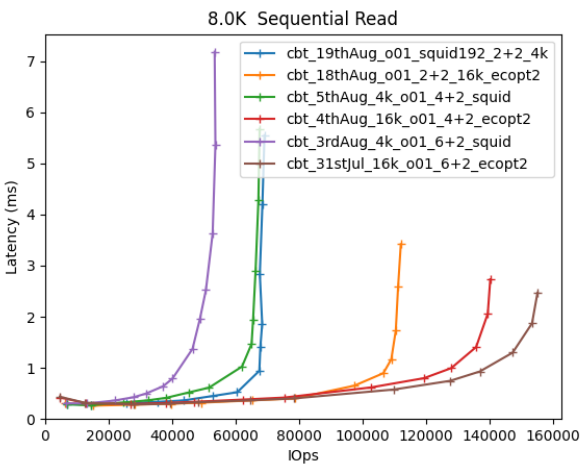
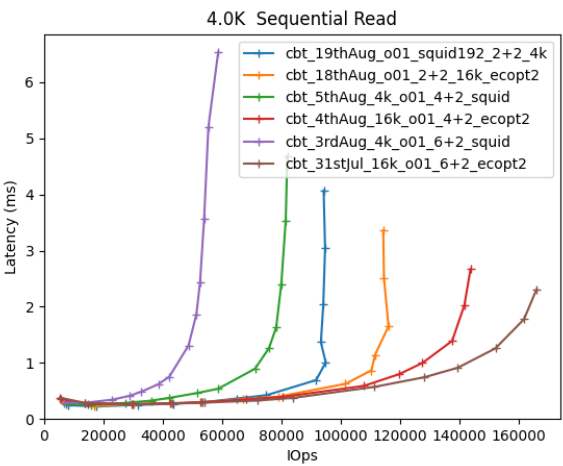
Random											
Read	cbt_19thAug	cbt_18thAug	cbt_5thAug	cbt_4thAug	cbt_3rdAug	cbt_31stJul	cbt_19thAug	cbt_18thAug	cbt_5thAug	cbt_4thAug	cbt_3rdAug
1024.0K	7708@4.3	7898@4.2	2%	7028@4.8	-9%	7381@4.5	-4%	5846@5.7	-24%	7048@4.7	-9%

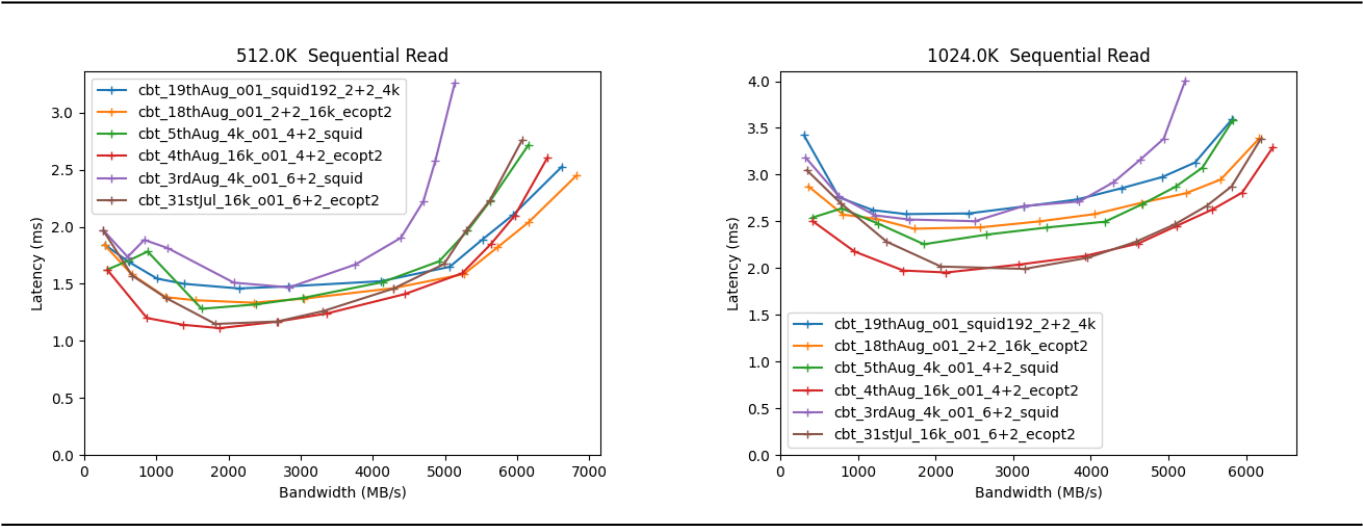
Random											
Write	cbt_19thAug	cbt_18thAug	cbt_5thAug	cbt_4thAug	cbt_3rdAug	cbt_31stJul	cbt_19thAug	cbt_18thAug	cbt_5thAug	cbt_4thAug	cbt_3rdAug
4.0K	15611@8.2	18757@40.9	20%	14381@8.9	-8%	18916@40.6	21%	10725@71.6	-31%	23646@21.6	51%
8.0K	18101@42.5	18829@40.8	4%	13490@28.4	-25%	17888@42.9	-1%	10706@71.7	-41%	22343@34.4	23%
16.0K	17949@21.1	17731@28.9	-1%	16340@31.3	-9%	17659@14.5	-2%	10123@50.5	-44%	20872@24.5	16%
32.0K	17281@22.2	17465@23.3	-5%	15972@32.0	-8%	15931@24.1	-8%	10117@50.6	-41%	15269@16.7	-12%
64.0K	1116@22.5	1120@24.6	-9%	1108@22.7	-1%	890@9.4	-20%	596@42.2	-47%	827@30.4	-26%
256.0K	3097@21.3	3161@22.5	-4%	2853@23.4	-8%	2623@25.5	-15%	1785@37.5	-42%	2105@31.7	-32%
512.0K	3587@9.1	3687@8.8	3%	3623@9.0	1%	3507@9.3	-2%	2534@9.7	-29%	2910@11.3	-19%
1024.0K	3858@12.6	4124@11.7	7%	4264@11.3	11%	4309@11.2	12%	3217@15.2	-17%	3905@12.4	1%

Random											
Read/Write	cbt_19thAug	cbt_18thAug	cbt_5thAug	cbt_4thAug	cbt_3rdAug	cbt_31stJul	cbt_19thAug	cbt_18thAug	cbt_5thAug	cbt_4thAug	cbt_3rdAug
4.0K_70/30	145@11.4	1025@6.2	23%	24698@15.5	-25%	39936@6.4	20%	21146@18.1	-36%	46650@8.2	41%
16.0K_70/30	1470@3.8	18687@6.6	16%	25335@2.5	-24%	36732@7.0	10%	19770@12.9	-41%	41239@6.2	23%
64.0K_70/30	106@4.1	1847@9.1	-9%	1621@5.2	-20%	1415@11.8	-30%	1147@14.6	-43%	1438@5.8	-29%
64.0K_30/70	1308@12.8	1252@13.4	-4%	1215@6.9	-7%	968@6.5	-26%	739@22.7	-44%	982@17.0	-25%

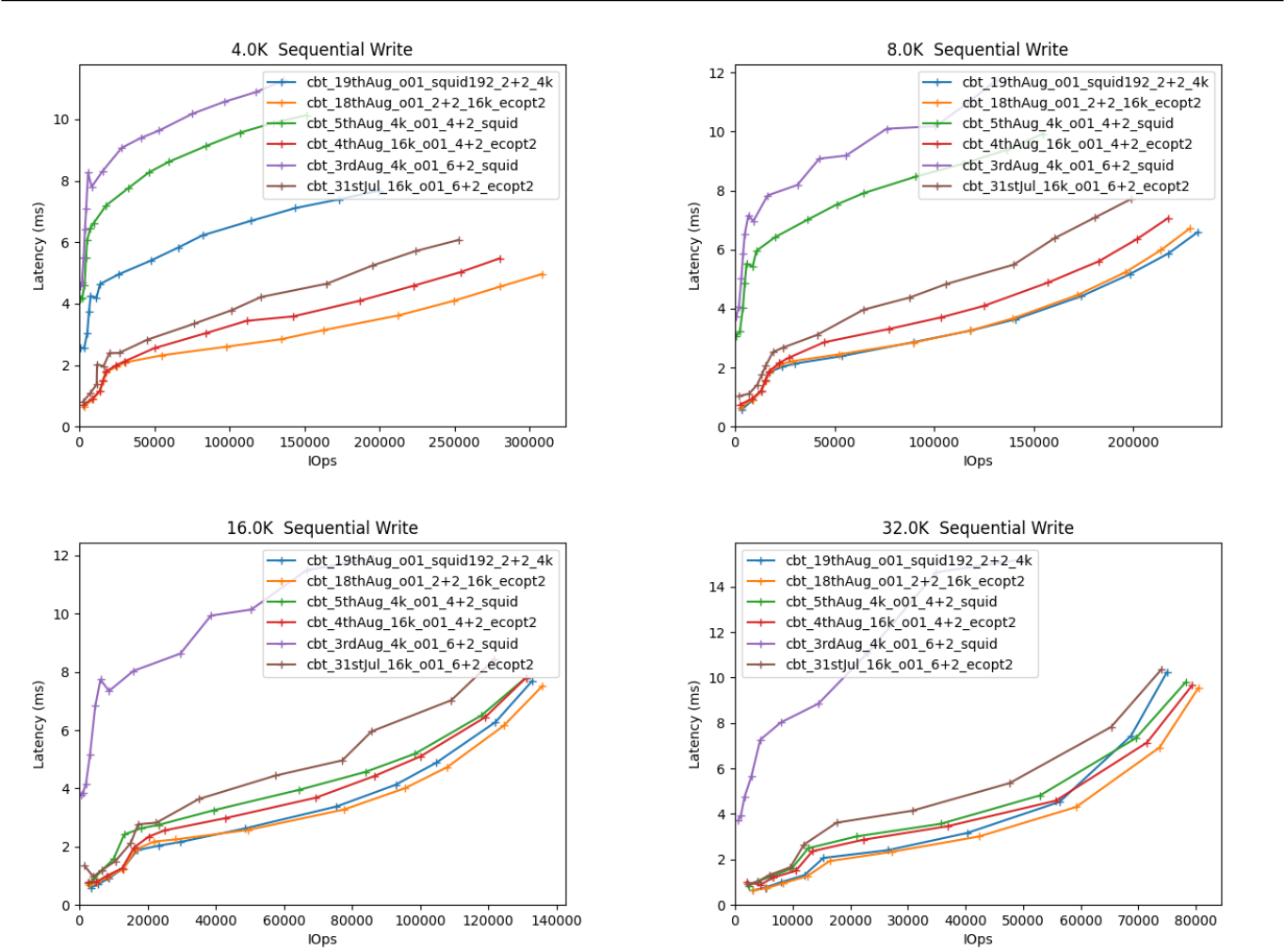
Response Curves

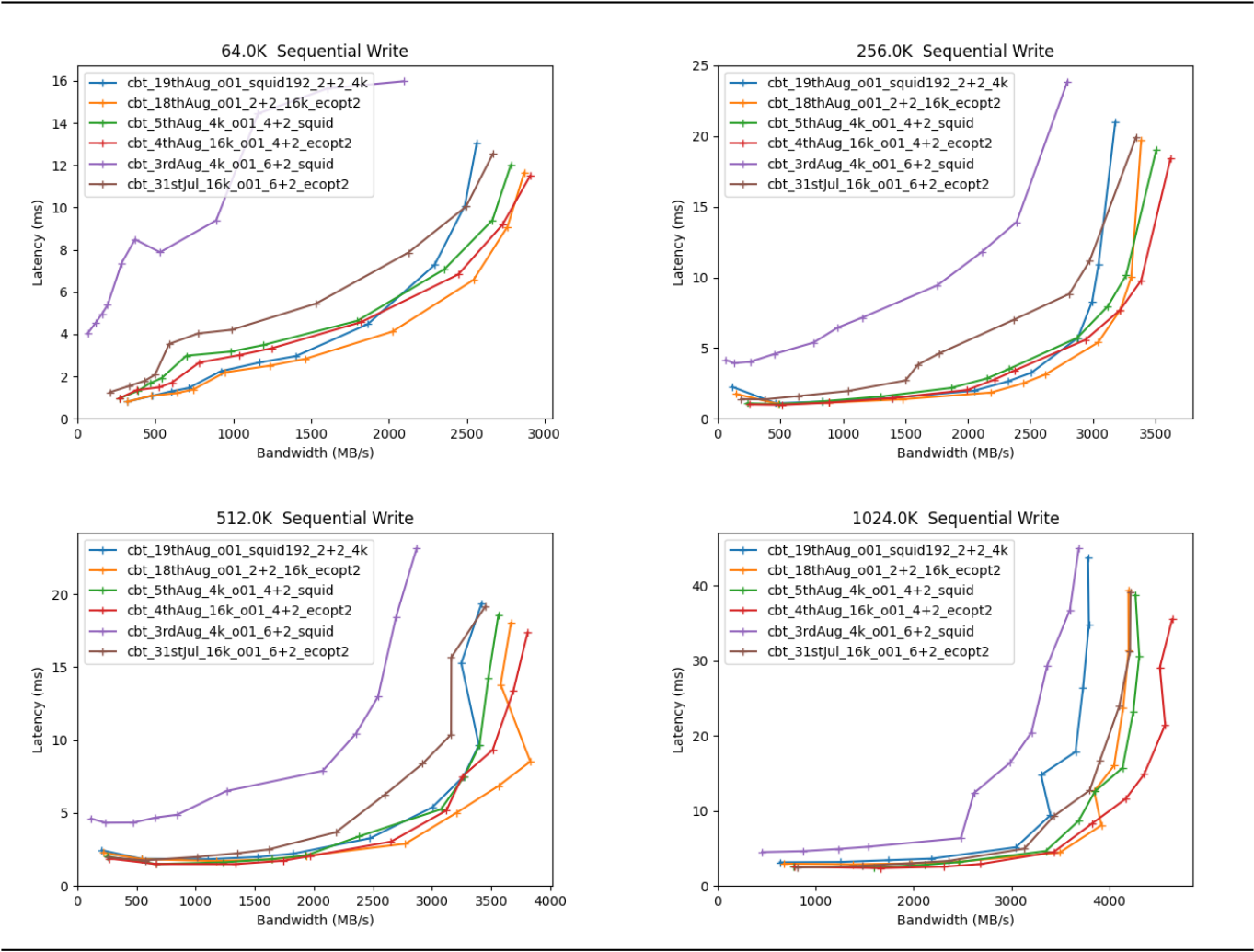
Sequential Read



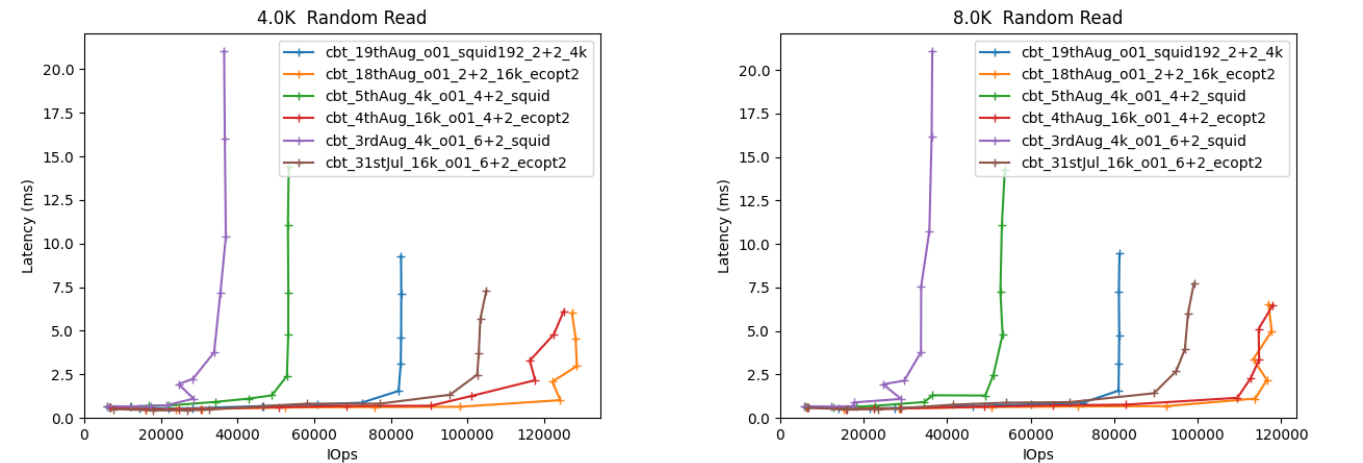


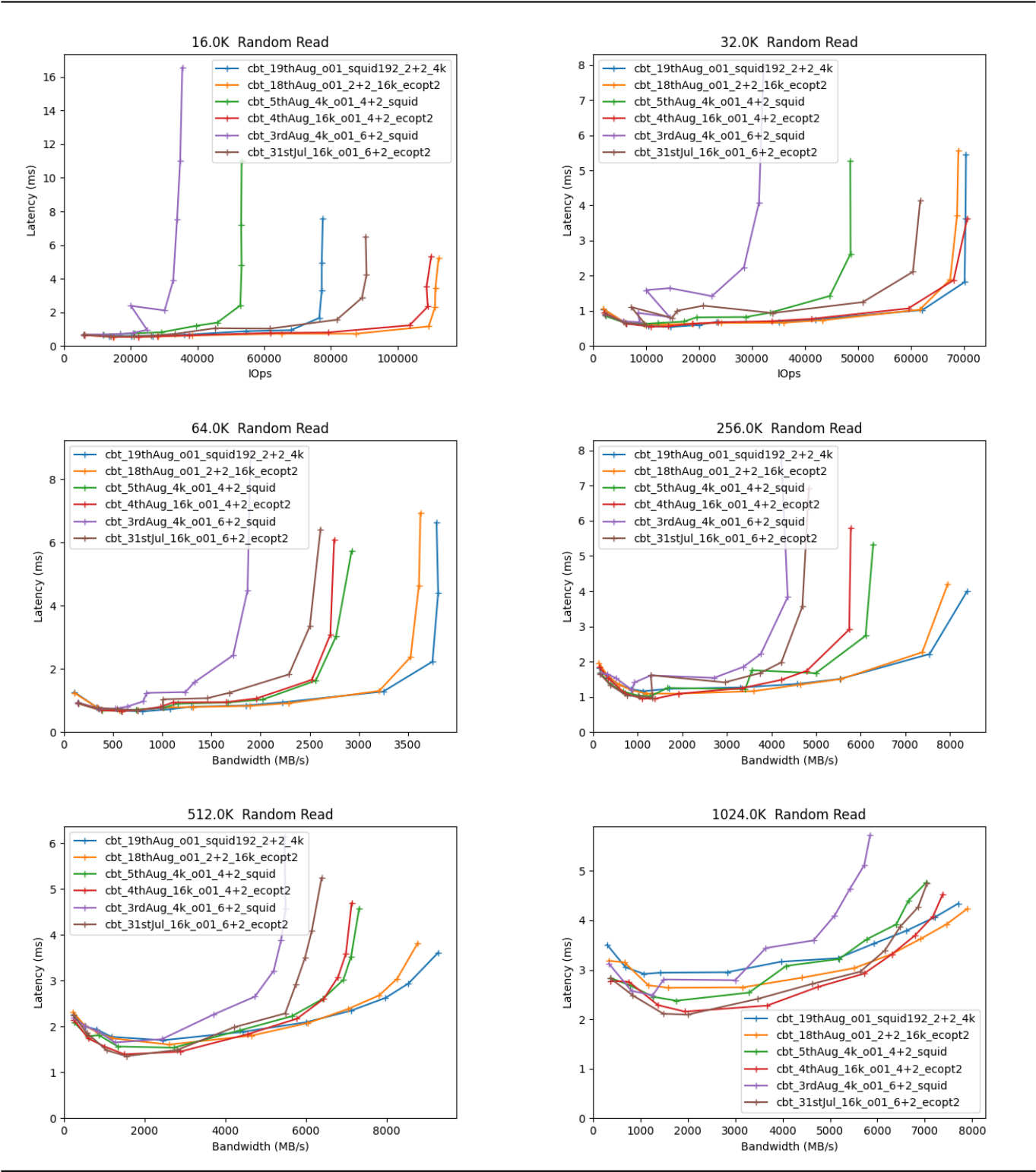
Sequential Write



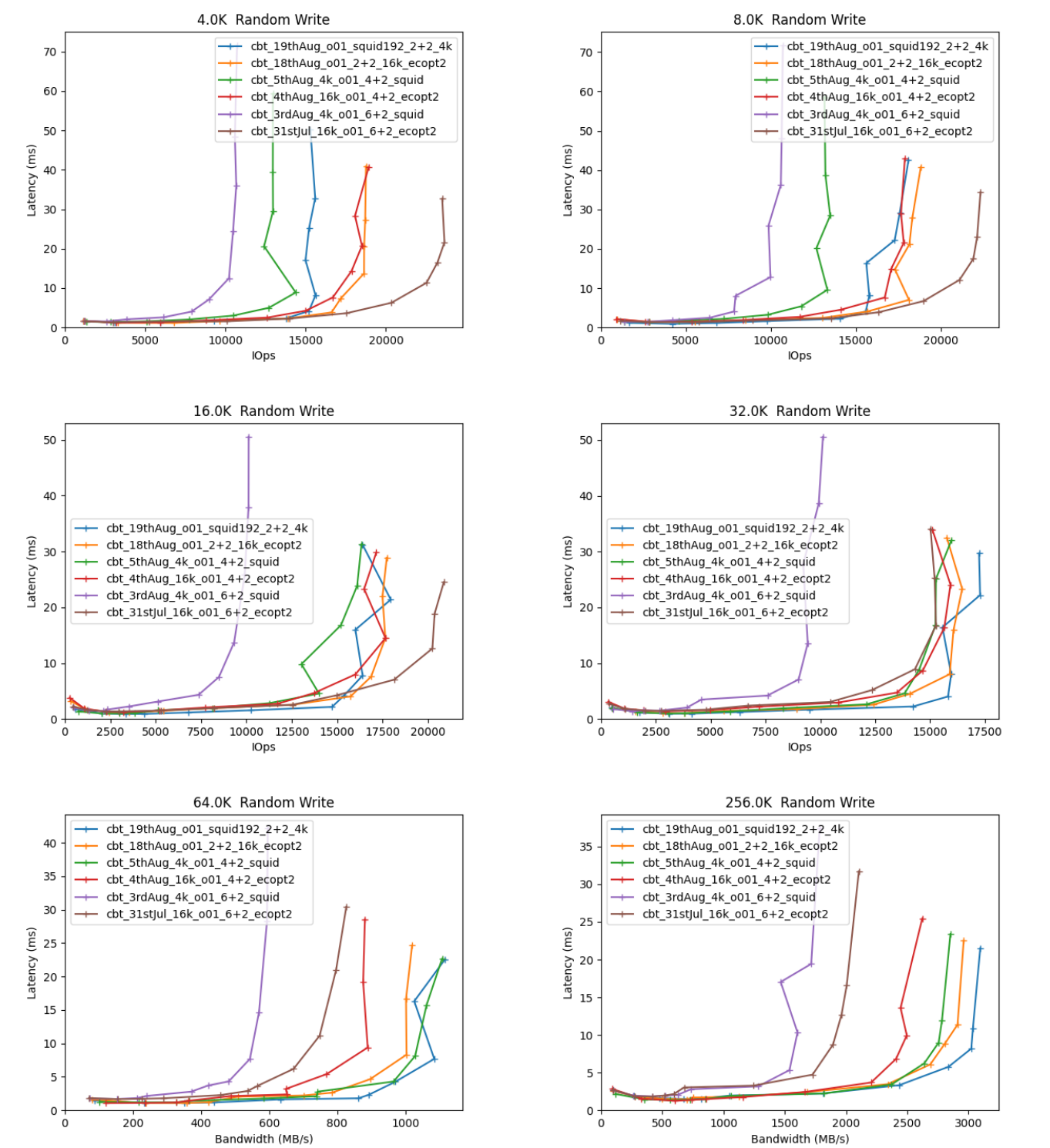


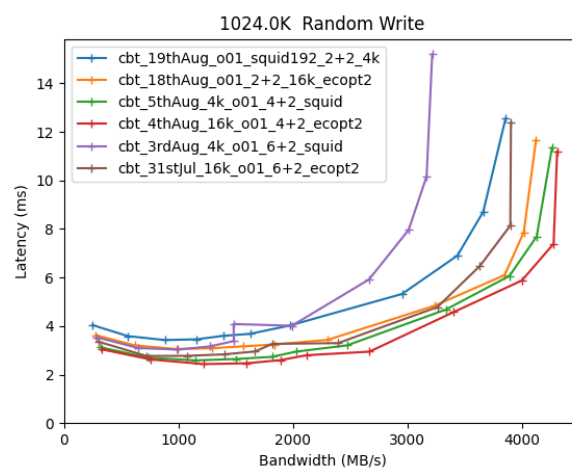
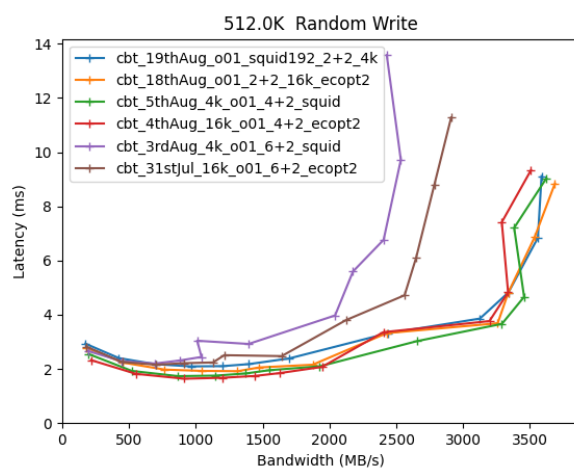
Random Read



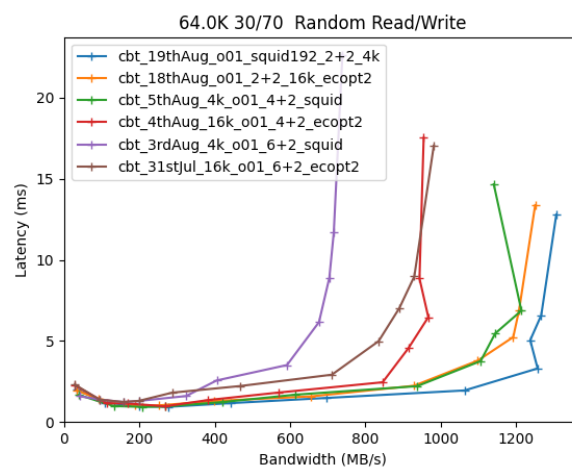
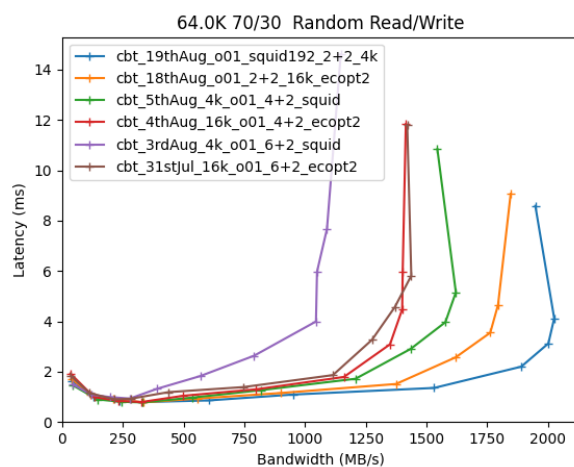
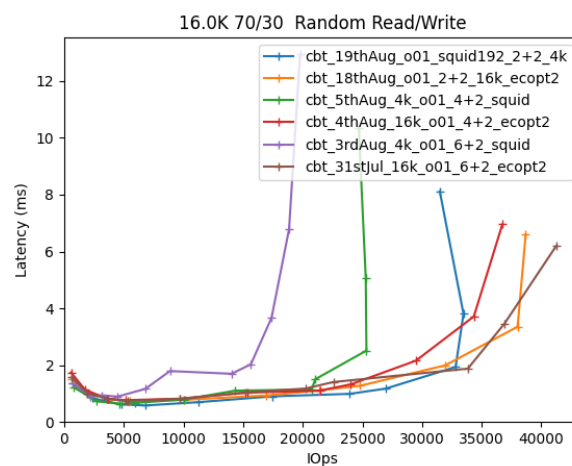
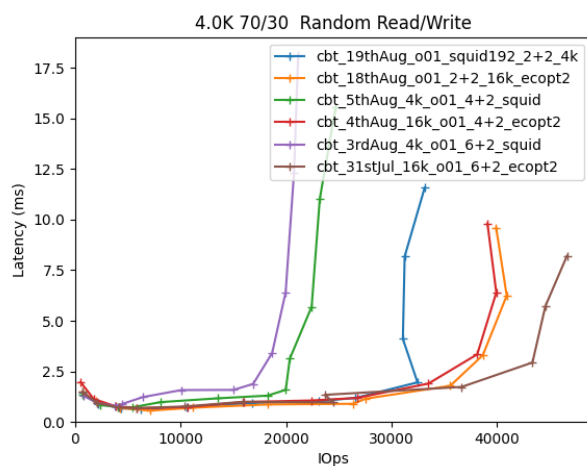


Random Write





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

```

librbd fio:
  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-librbd fio
  time: 90
  time_based: true
  use_existing_volumes: true
  vol_size: 912500
  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
    16k randomread:
      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
    - 384
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
    - 384
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: preconditionrw
  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 -FO --rawtoo --sep ";" -f {collectl_dir}
  librbd fio:
    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-librbd fio
time: 90
time_based: true
use_existing_volumes: true
vol_size: 912500
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
- 384
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
    - 384
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:
    collect1:
      args: -c 18 -sCD -i 10 -P -oz -F0 --rawtoo --sep ";" -f {collect1_dir}

```