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xeon october

2 x Intel Xeon Platinum 8380 testing with a Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS) and ASPEED on AlmaLinux 8.4 via the Phoronix Test Suite.

Automated Executive Summary

C had the most wins, coming in first place for 38% of the tests.

Based on the geometric mean of all complete results, the fastest (C) was 1.01x the speed of the slowest (D). A was 0.999x the speed of C, B was 0.991x the speed of A, D was 1x the speed of B.

The results with the greatest spread from best to worst included:

Redis Memtier / Redis Benchmark (Test: LPUSH and LPOP: lpush) at 1.217x
Redis Memtier / Redis Benchmark (Test: LPUSH and LPOP: lpop) at 1.186x
OpenCV (Test: Features 2D) at 1.116x
Redis Memtier / Redis Benchmark (Test: MIX) at 1.107x
OpenCV (Test: Object Detection) at 1.104x
Zstd Compression (Compression Level: 19, Long Mode - Compression Speed) at 1.084x
Redis Memtier / Redis Benchmark (Test: GET) at 1.073x
Zstd Compression (Compression Level: 3, Long Mode - Compression Speed) at 1.07x
Zstd Compression (Compression Level: 8 - Compression Speed) at 1.062x

OpenCV (Test: DNN - Deep Neural Network) at 1.062x.

Test Systems:

A

B

C

D

Processor: 2 x Intel Xeon Platinum 8380 @ 3.40GHz (80 Cores / 160 Threads), Motherboard: Intel M50CYP2SB2U (SE5C6200.86B.0022.D08.2103221623 BIOS), Chipset: Intel Device 0998, Memory: 504GB, Disk: 7682GB INTEL SSDPF2KX076TZ, Graphics: ASPEED, Monitor: VE228, Network: 2 x Intel X710 for 10GBASE-T + 2 x Intel E810-C for QSFP

OS: AlmaLinux 8.4, Kernel: 4.18.0-305.19.1.el8_4.x86_64 (x86_64), Desktop: GNOME Shell 3.32.2, Display Server: X Server, Compiler: GCC 8.4.1 20200928, File-System: xfs, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --build=x86_64-redhat-linux --disable-libmpx --disable-libunwind-exceptions --enable-__cxa_atexit --enable-bootstrap --enable-cet --enable-checking=release --enable-gnu-indirect-function --enable-gnu-unique-object --enable-initfini-array --enable-languages=c,c++,fortran,lto --enable-multilib --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-arch_32=x86-64 --with-gcc-major-version-only --with-isl --with-linker-hash-style=gnu --with-tune=generic --without-cuda-driver
Processor Notes: Scaling Governor: intel_pstate performance - CPU Microcode: 0xd0002a0
Security Notes: SELinux + itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

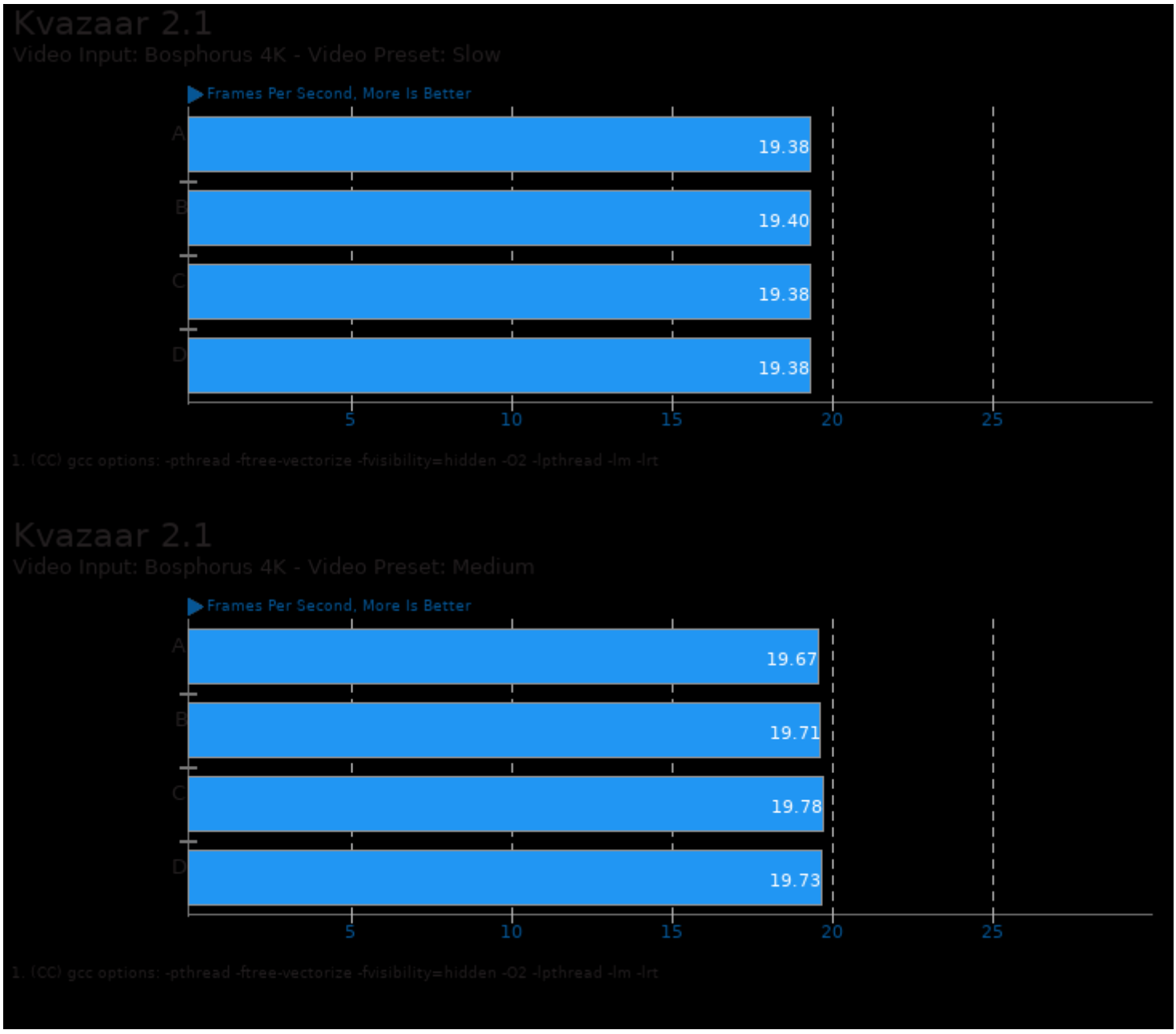
	A	B	C	D
Kvazaar - Bosphorus 4K - Slow (FPS)	**19.38**	**19.4**	**19.38**	**19.38**
Normalized	99.9%	100%	99.9%	99.9%
Kvazaar - Bosphorus 4K - Medium	**19.67**	19.71	**19.78**	19.73
Normalized	99.44%	99.65%	100%	99.75%
Kvazaar - Bosphorus 1080p - Slow (FPS)	79.75	79.58	**79.8**	**78.82**
Normalized	99.94%	99.72%	100%	98.77%
Kvazaar - Bosphorus 1080p - Medium (FPS)	**81.8**	**84.7**	82.79	82.4
Normalized	96.58%	100%	97.74%	97.28%
Kvazaar - Bosphorus 4K - Very Fast (FPS)	**39.95**	39.92	39.86	**39.81**
Normalized	100%	99.92%	99.77%	99.65%

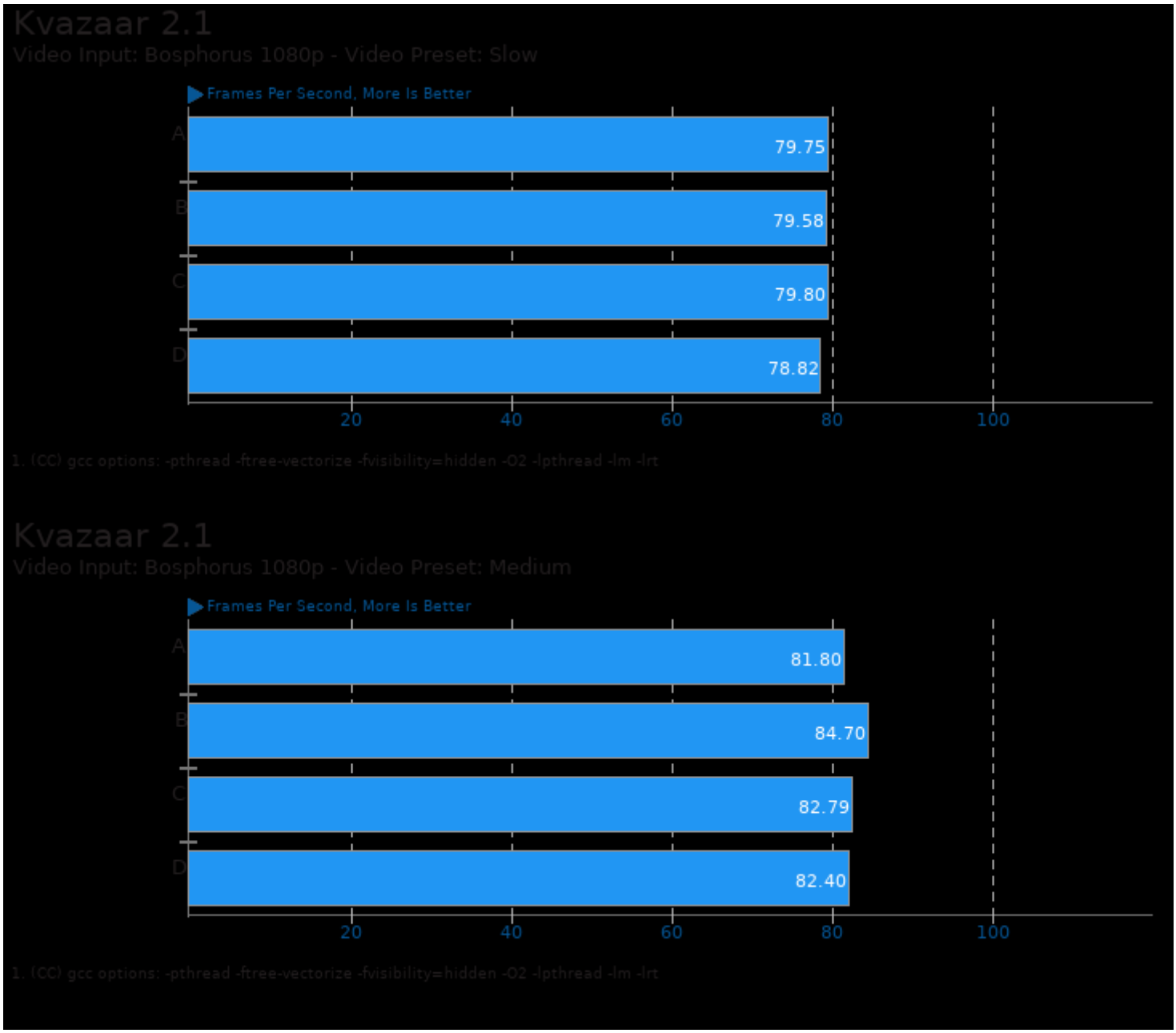
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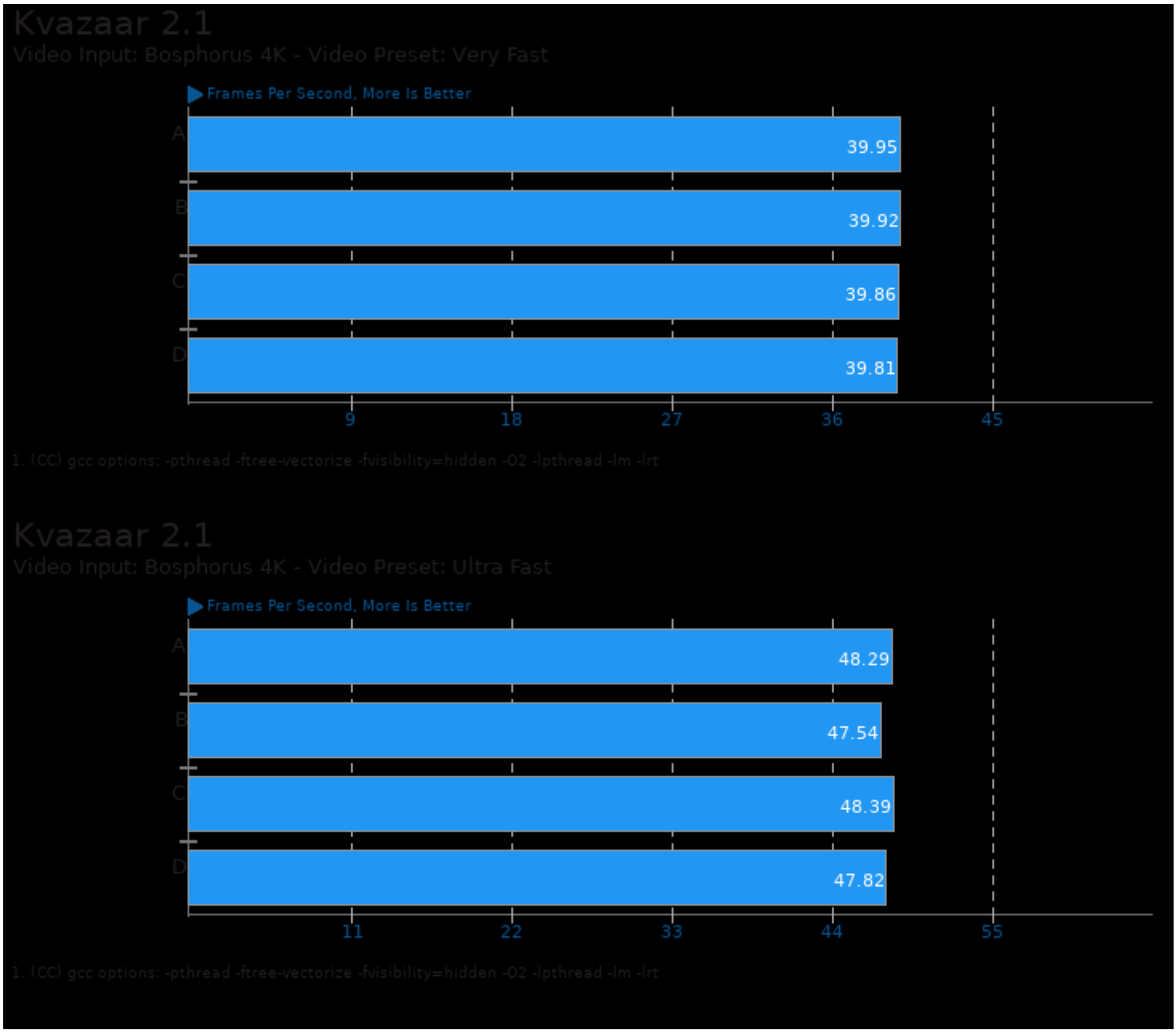
Kvazaar - Bosphorus 4K - Ultra Fast (FPS)	48.29	**47.54**	**48.39**	47.82
Normalized	99.79%	98.24%	100%	98.82%
Kvazaar - Bosphorus 1080p - Very Fast (FPS)	167.16	166.45	**167.39**	**165.66**
Normalized	99.86%	99.44%	100%	98.97%
Kvazaar - Bosphorus 1080p - Ultra Fast (FPS)	**186.65**	185.38	**181.55**	182.18
Normalized	100%	99.32%	97.27%	97.61%
Zstd Compression - 3 - Compression Speed (MB/s)	9038	9144	**9210**	**8934**
Normalized	98.13%	99.28%	100%	97%
Zstd Compression - 8 - Compression Speed (MB/s)	2217	**2283**	2193	**2149**
Normalized	97.1%	100%	96.06%	94.12%
Zstd Compression - 19 - Compression Speed (MB/s)	**66.9**	66.7	**65.4**	66
Normalized	100%	99.7%	97.76%	98.65%
Zstd Compression - 19 - D.S (MB/s)	2563	**2566**	2533	**2516**
Normalized	99.88%	100%	98.72%	98.05%
Zstd Compression - 3, Long Mode - Compression Speed (MB/s)	410.3	**415.3**	412	**388**
Normalized	98.8%	100%	99.21%	93.43%
Zstd Compression - 3, Long Mode - D.S (MB/s)	**3009**	3004	3000	**2996**
Normalized	100%	99.83%	99.69%	99.55%
Zstd Compression - 8, Long Mode - Compression Speed (MB/s)	**396.6**	**383.4**	**383.4**	384.9
Normalized	100%	96.67%	96.67%	97.05%
Zstd Compression - 8, Long Mode - D.S (MB/s)	3007	**2985**	**3040**	2998
Normalized	98.91%	98.17%	100%	98.61%
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	**18.1**	17	**18.1**	**16.7**
Normalized	100%	93.92%	100%	92.27%
Zstd Compression - 19, Long Mode - D.S (MB/s)	2619	2648	**2654**	**2619**
Normalized	98.69%	99.78%	100%	98.68%
Zstd Compression - 8 - D.S (MB/s)			2854	
Redis Memtier / Redis Benchmark - GET (Operations/sec)	847169	**839149**	**900484**	
Normalized	94.08%	93.19%	100%	
Redis Memtier / Redis Benchmark - MIX (Operations/sec)	**867186**	**783042**	814211	
Normalized	100%	90.3%	93.89%	
Redis Memtier / Redis Benchmark - SET (Operations/sec)	598446	**589408**	**605930**	
Normalized	98.76%	97.27%	100%	
Redis Memtier / Redis Benchmark - L.a.L.I (Reqs/sec)	534988	**532425**	**631672**	537953
Normalized	84.69%	84.29%	100%	85.16%

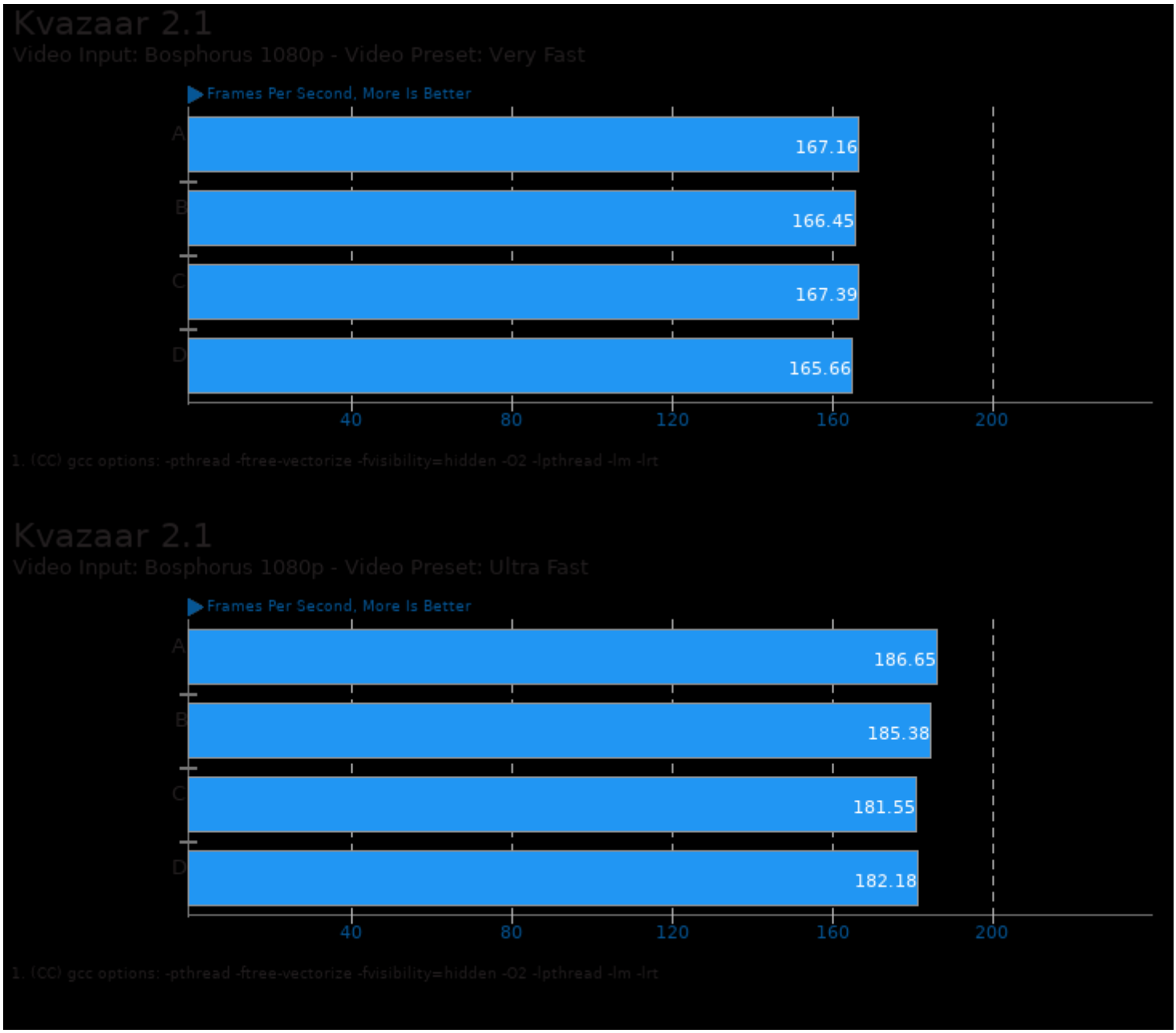
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Redis Memtier / Redis Benchmark - L.a.L.l (Reqs/sec)	1288660	**1068376**	1171783	**1300559**
Normalized	99.09%	82.15%	90.1%	100%
OpenSSL (sign/s)	**17967**	17885	**17698**	17756
Normalized	100%	99.55%	98.51%	98.83%
NAS Parallel Benchmarks - BT.C (Mop/s)	50156	**50020**	**50278**	50111
Normalized	99.76%	99.49%	100%	99.67%
NAS Parallel Benchmarks - CG.C (Mop/s)	**22467**	22473	**23357**	23028
Normalized	96.19%	96.22%	100%	98.59%
NAS Parallel Benchmarks - EP.C (Mop/s)	**2589**	**2538**	2585	2540
Normalized	100%	98%	99.84%	98.12%
NAS Parallel Benchmarks - EP.D (Mop/s)	2632	**2585**	**2632**	2631
Normalized	100%	98.21%	100%	99.98%
NAS Parallel Benchmarks - FT.C (Mop/s)	**38919**	38865	38841	**38789**
Normalized	100%	99.86%	99.8%	99.67%
NAS Parallel Benchmarks - IS.D	**2073**	**2084**	2076	2077
Normalized	99.5%	100%	99.61%	99.65%
NAS Parallel Benchmarks - LU.C (Mop/s)	39616	**39262**	**39765**	39697
Normalized	99.63%	98.74%	100%	99.83%
NAS Parallel Benchmarks - MG.C (Mop/s)	**45434**	**45043**	45305	45418
Normalized	100%	99.14%	99.72%	99.97%
NAS Parallel Benchmarks - SP.B (Mop/s)	**24490**	24441	24363	**24332**
Normalized	100%	99.8%	99.48%	99.36%
NAS Parallel Benchmarks - SP.C (Mop/s)	**24711**	24661	24656	**24530**
Normalized	100%	99.8%	99.78%	99.27%
OpenSSL (verify/s)	**1183424**	**1181770**	1182923	1182939
Normalized	100%	99.86%	99.96%	99.96%
OpenCV - Features 2D (ms)	**172500**	**154515**	165364	
Normalized	89.57%	100%	93.44%	
OpenCV - Object Detection (ms)	**77570**	**70292**	71894	
Normalized	90.62%	100%	97.77%	
OpenCV - DNN - D.N.N (ms)	**10974**	**10337**	10483	
Normalized	94.2%	100%	98.61%	
ASTC Encoder - Medium (sec)	5.345	5.3486	**5.3448**	**5.3608**
Normalized	100%	99.93%	100%	99.7%
ASTC Encoder - Thorough (sec)	7.0798	**7.104**	7.078	**7.0649**
Normalized	99.79%	99.45%	99.81%	100%
ASTC Encoder - Exhaustive (sec)	**8.6851**	**8.7594**	8.7052	8.7136
Normalized	100%	99.15%	99.77%	99.67%
RAR Compression - L.S.T.A.T.R (sec)	**78.836**	76.703	**74.524**	
Normalized	94.53%	97.16%	100%	

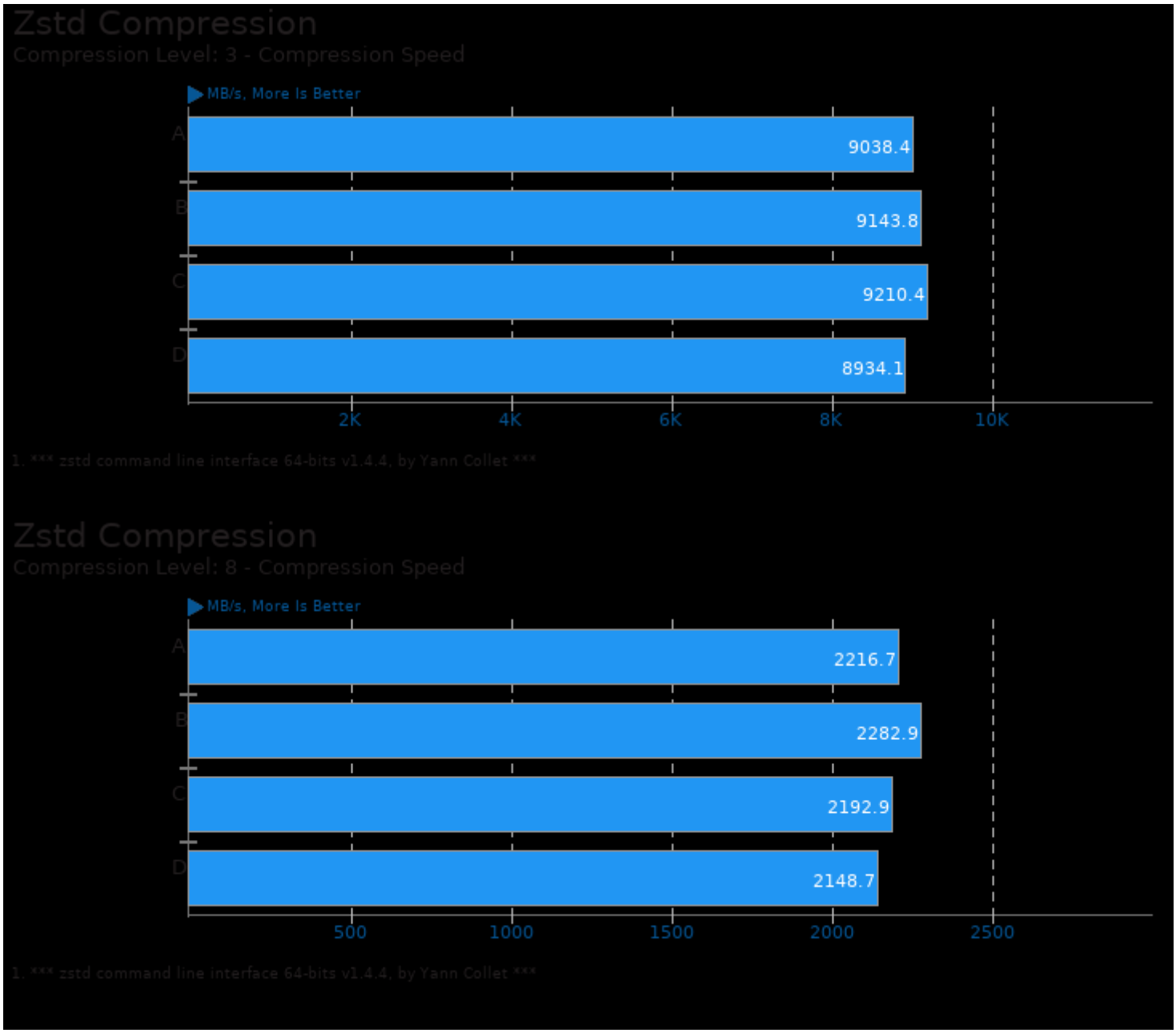

Kvazaar 2.1
Video Input: Bosphorus 4K - Video Preset: Slow
Frames Per Second, More Is Better
A
19.38
B
19.40
C
19.38
D
19.38
5
10
15
20
25
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt
Kvazaar 2.1
Video Input: Bosphorus 4K - Video Preset: Medium
Frames Per Second, More Is Better
A
19.67
B
19.71
C
19.78
D
19.73
5
10
15
20
25
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt


Kvazaar 2.1
Video Input: Bosphorus 1080p - Video Preset: Slow
Frames Per Second, More Is Better
A
79.75
B
79.58
C
79.80
D
78.82
20
40
60
80
100
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt
Kvazaar 2.1
Video Input: Bosphorus 1080p - Video Preset: Medium
Frames Per Second, More Is Better
A
81.80
B
84.70
C
82.79
D
82.40
20
40
60
80
100
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

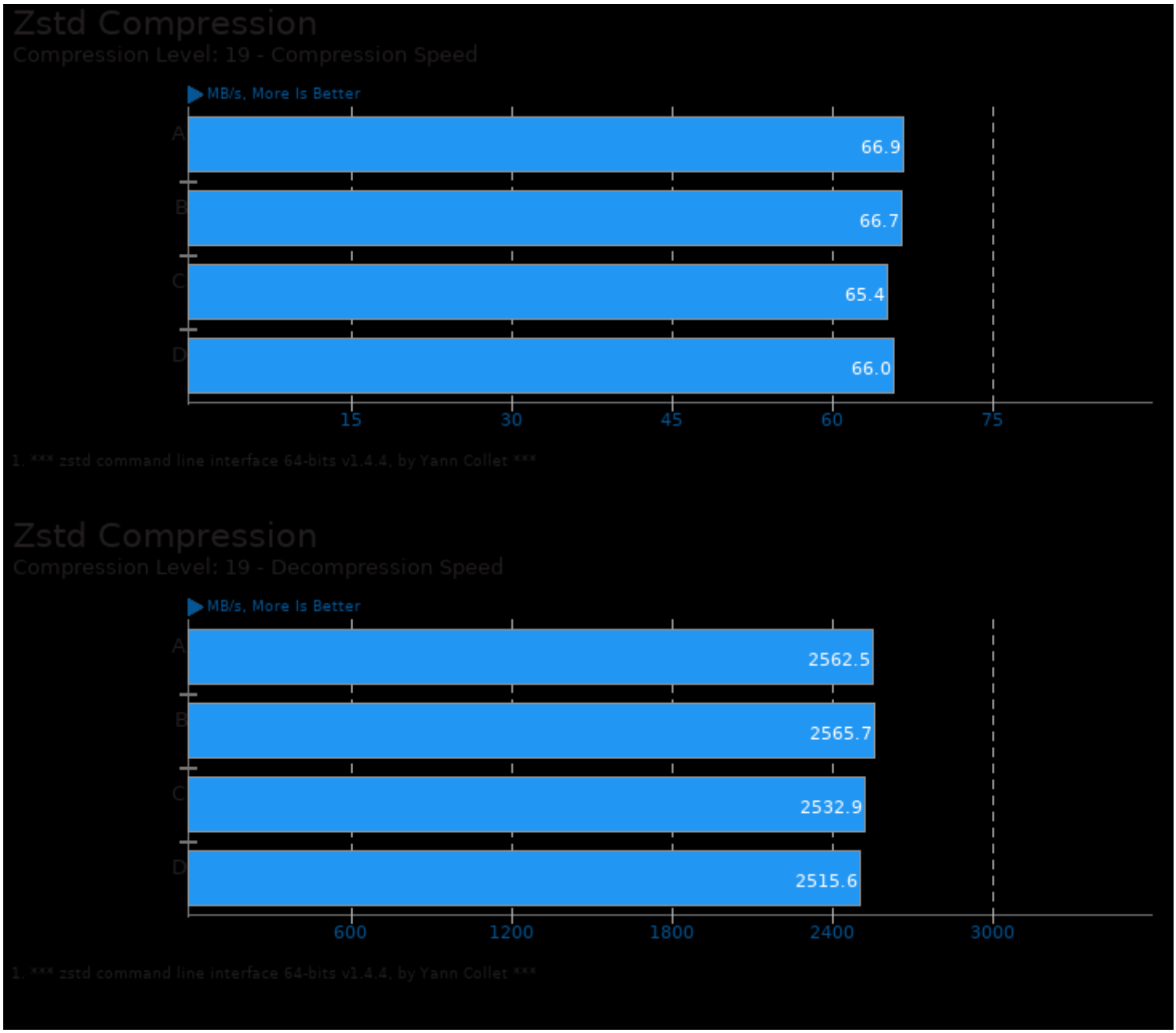

Kvazaar 2.1
Video Input: Bosphorus 4K - Video Preset: Very Fast
Frames Per Second, More Is Better
A
B
C
D
39.95
39.92
39.86
39.81
9
18
27
36
45
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt
Kvazaar 2.1
Video Input: Bosphorus 4K - Video Preset: Ultra Fast
Frames Per Second, More Is Better
A
B
C
D
48.29
47.54
48.39
47.82
11
22
33
44
55
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

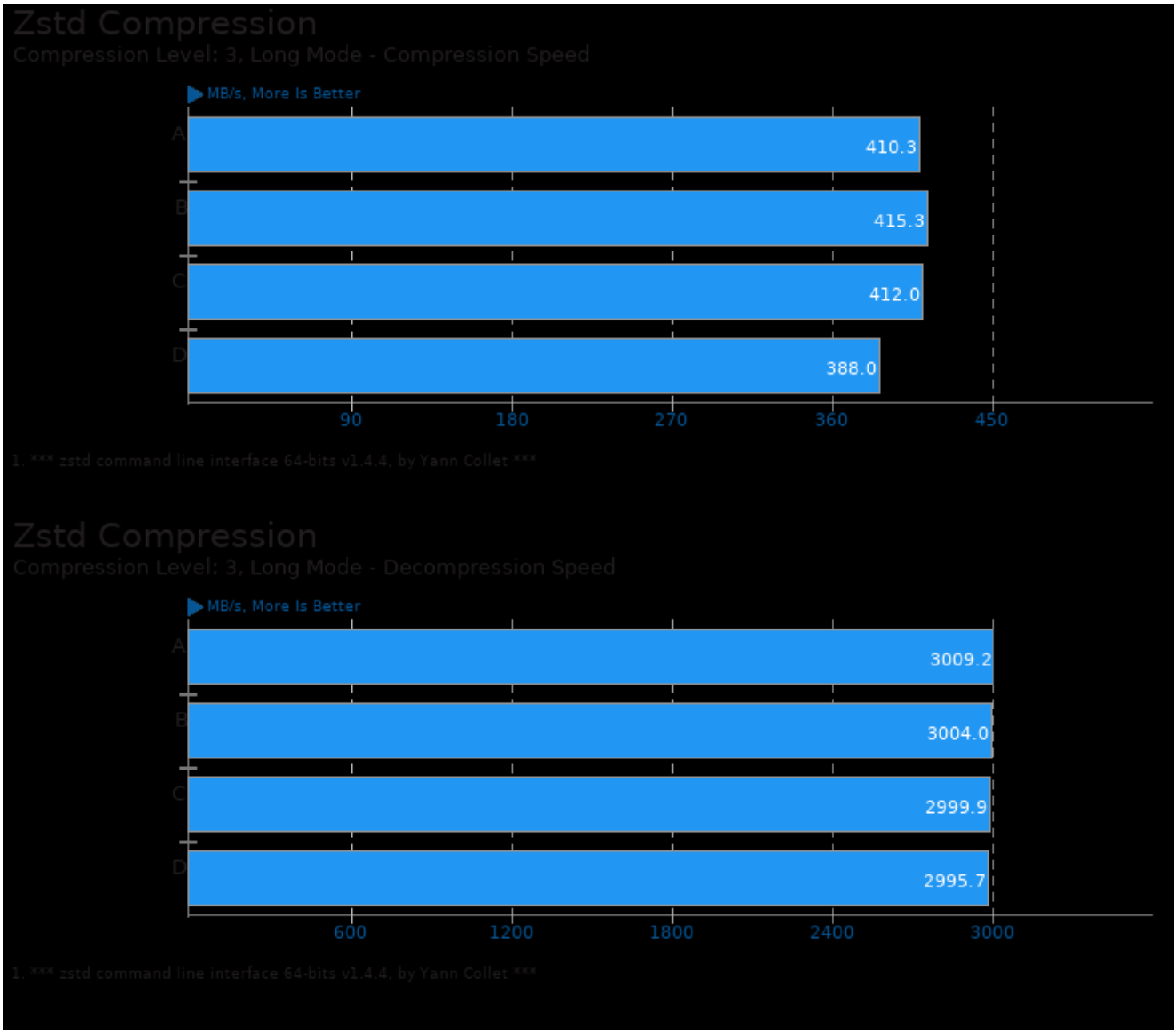

Kvazaar 2.1
Video Input: Bosphorus 1080p - Video Preset: Very Fast
Frames Per Second, More Is Better
A
167.16
B
166.45
C
167.39
D
165.66
40
80
120
160
200
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt
Kvazaar 2.1
Video Input: Bosphorus 1080p - Video Preset: Ultra Fast
Frames Per Second, More Is Better
A
186.65
B
185.38
C
181.55
D
182.18
40
80
120
160
200
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

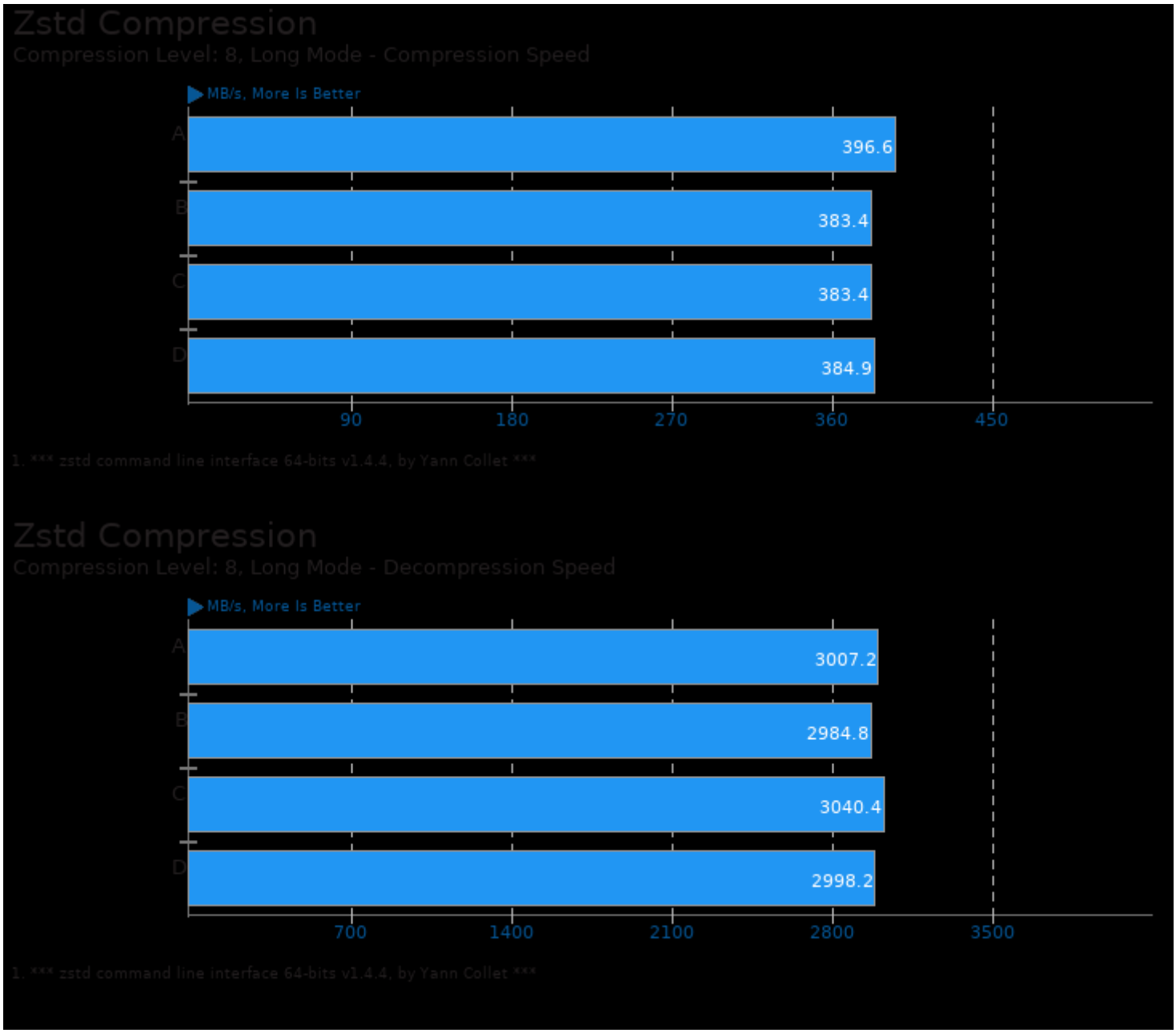
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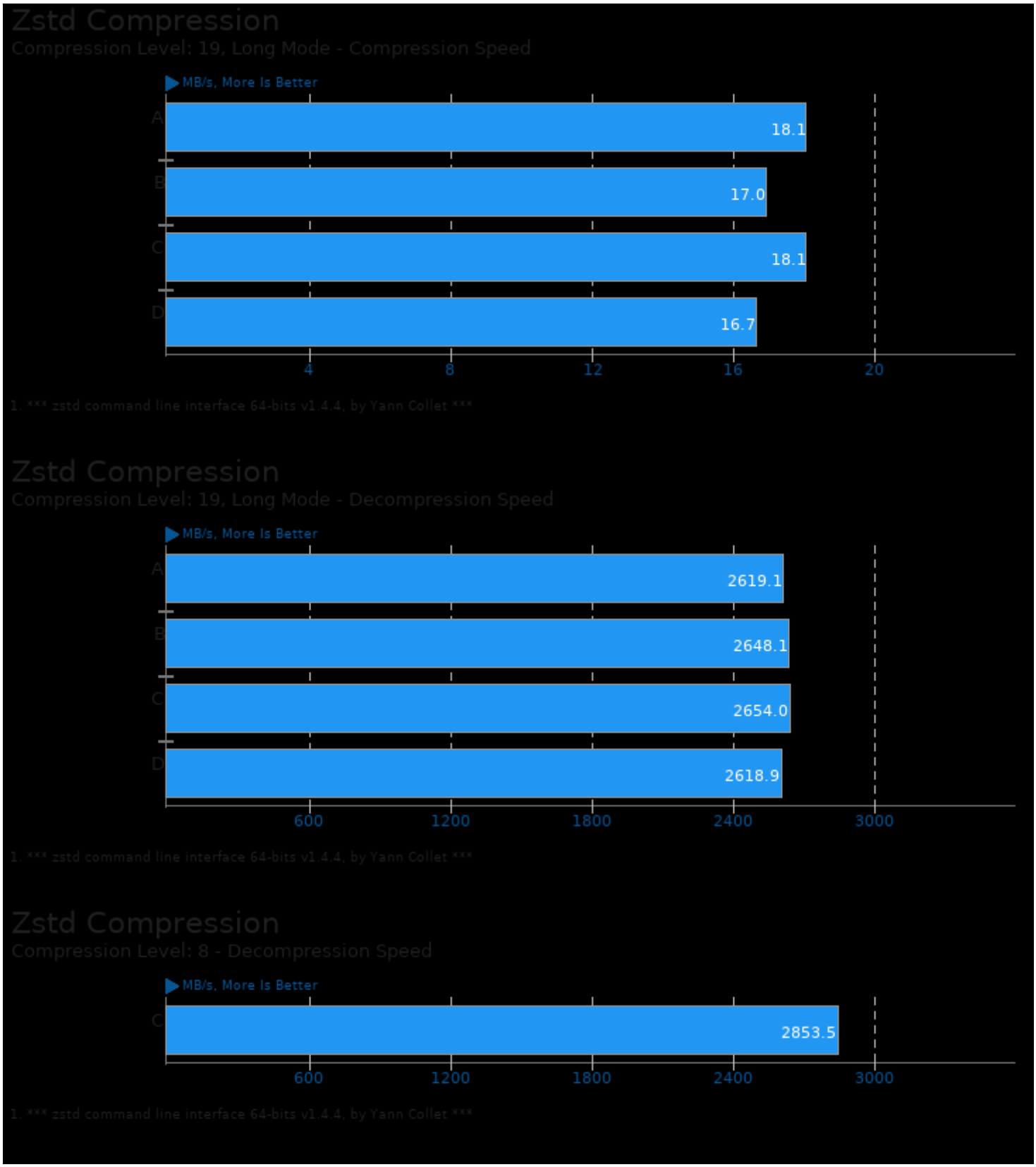


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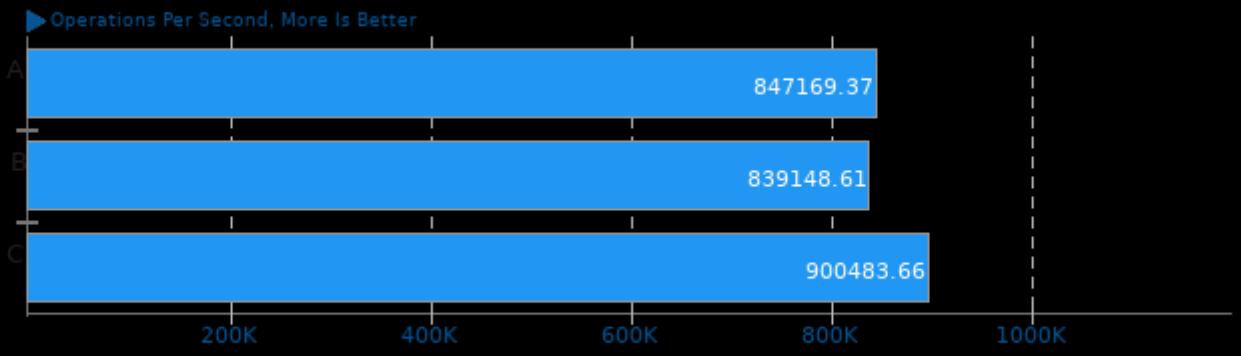

Zstd Compression
Compression Level: 3, Long Mode - Compression Speed
MB/s, More Is Better
A
B
C
D
410.3
415.3
412.0
388.0
90
180
270
360
450
1. *** zstd command line interface 64-bits v1.4.4, by Yann Collet ***
Zstd Compression
Compression Level: 3, Long Mode - Decompression Speed
MB/s, More Is Better
A
B
C
D
3009.2
3004.0
2999.9
2995.7
600
1200
1800
2400
3000
1. *** zstd command line interface 64-bits v1.4.4, by Yann Collet ***


Zstd Compression
Compression Level: 8, Long Mode - Compression Speed
MB/s, More Is Better
A
B
C
D
396.6
383.4
383.4
384.9
90
180
270
360
450
1. *** zstd command line interface 64-bits v1.4.4, by Yann Collet ***
Zstd Compression
Compression Level: 8, Long Mode - Decompression Speed
MB/s, More Is Better
A
B
C
D
3007.2
2984.8
3040.4
2998.2
700
1400
2100
2800
3500
1. *** zstd command line interface 64-bits v1.4.4, by Yann Collet ***


Zstd Compression
Compression Level: 19, Long Mode - Compression Speed
MB/s, More Is Better
A
B
C
D
18.1
17.0
18.1
16.7
4
8
12
16
20
1. *** zstd command line interface 64-bits v1.4.4, by Yann Collet ***
Zstd Compression
Compression Level: 19, Long Mode - Decompression Speed
MB/s, More Is Better
A
B
C
D
2619.1
2648.1
2654.0
2618.9
600
1200
1800
2400
3000
1. *** zstd command line interface 64-bits v1.4.4, by Yann Collet ***
Zstd Compression
Compression Level: 8 - Decompression Speed
MB/s, More Is Better
C
2853.5
600
1200
1800
2400
3000
1. *** zstd command line interface 64-bits v1.4.4, by Yann Collet ***

Redis Memtier / Redis Benchmark

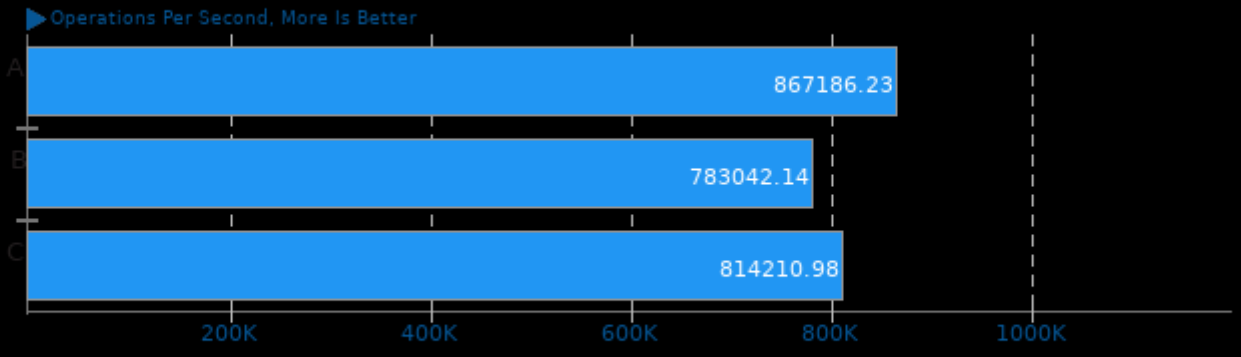
Test: GET



1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
2. Redis server v=5.0.3 sha=00000000:0 malloc=jemalloc-5.1.0 bits=64 build=14b81d825631ff0c

Redis Memtier / Redis Benchmark

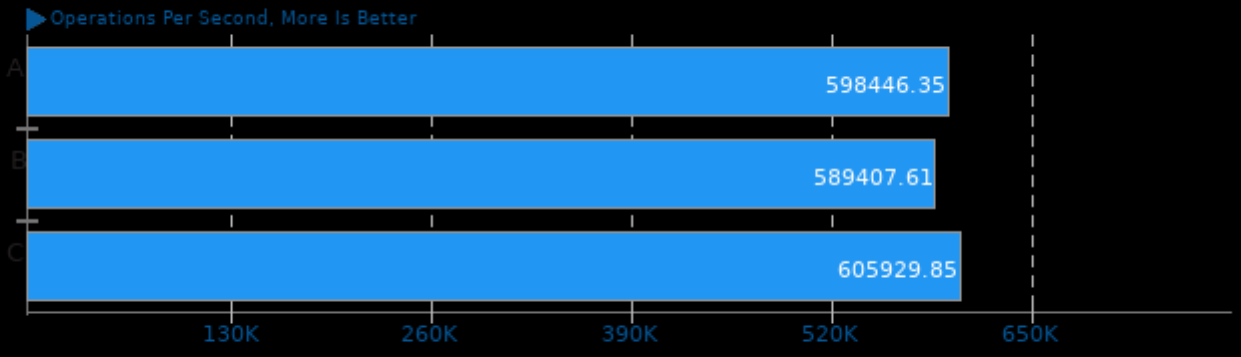
Test: MIX



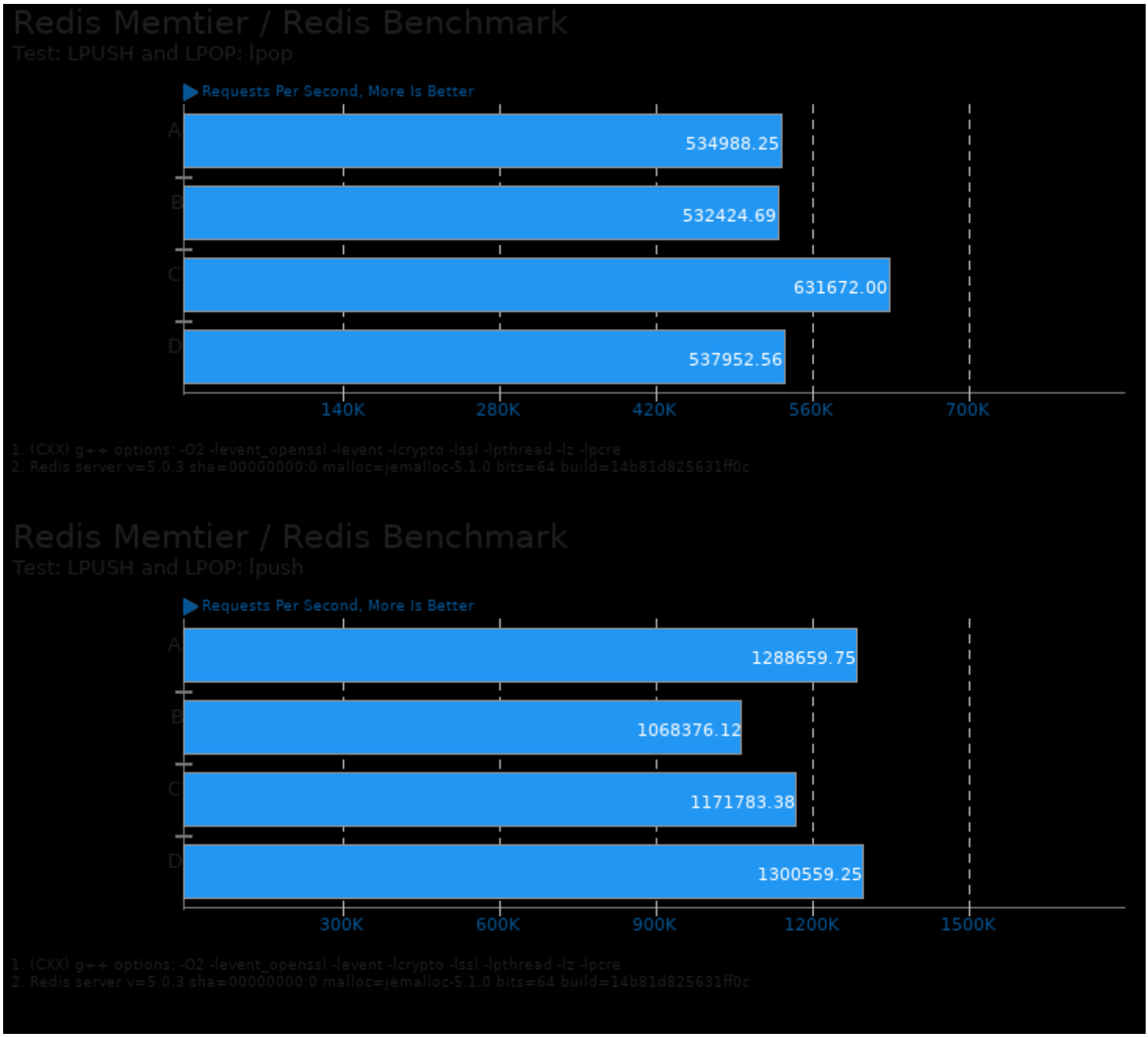
1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
2. Redis server v=5.0.3 sha=00000000:0 malloc=jemalloc-5.1.0 bits=64 build=14b81d825631ff0c

Redis Memtier / Redis Benchmark

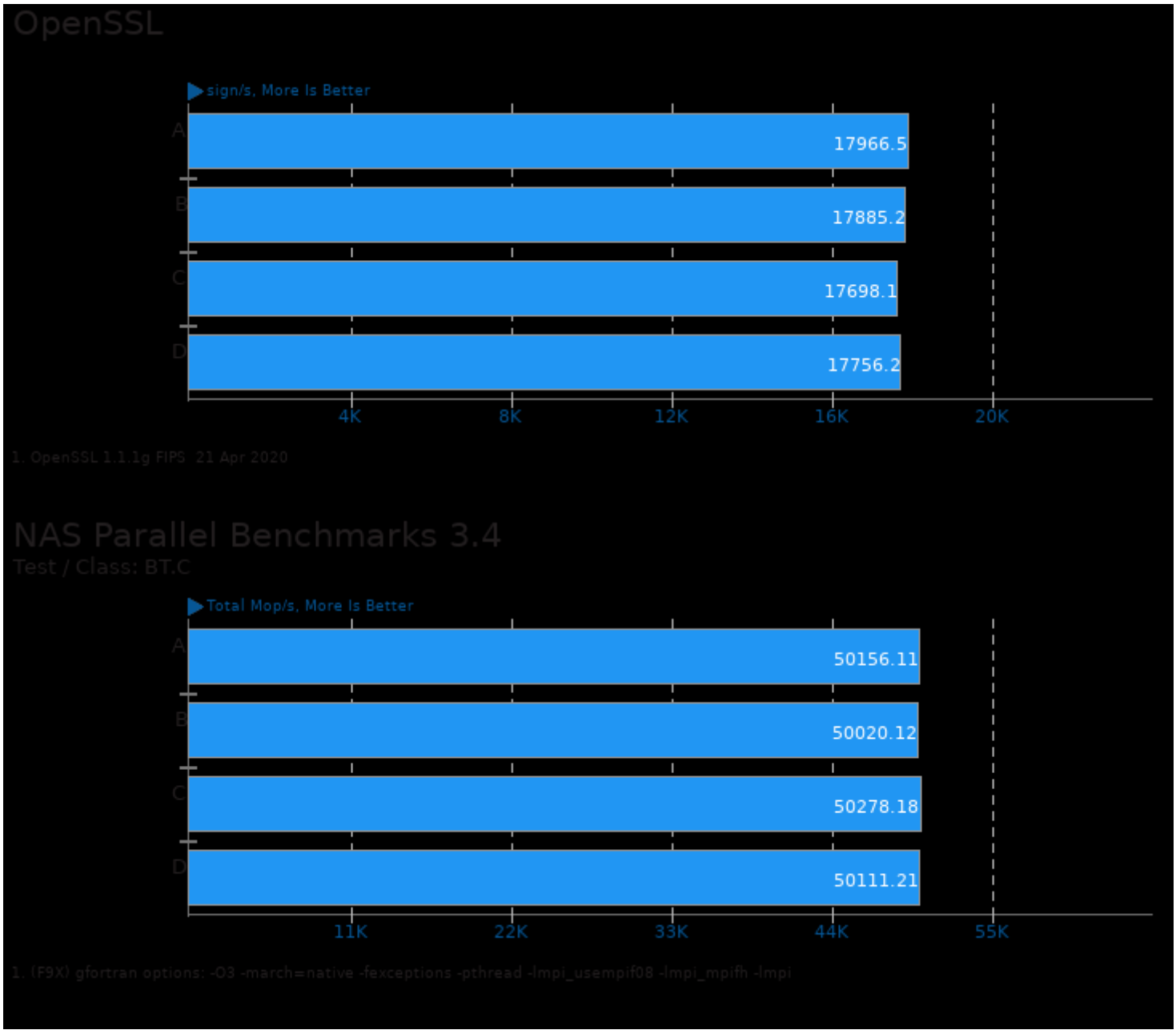
Test: SET

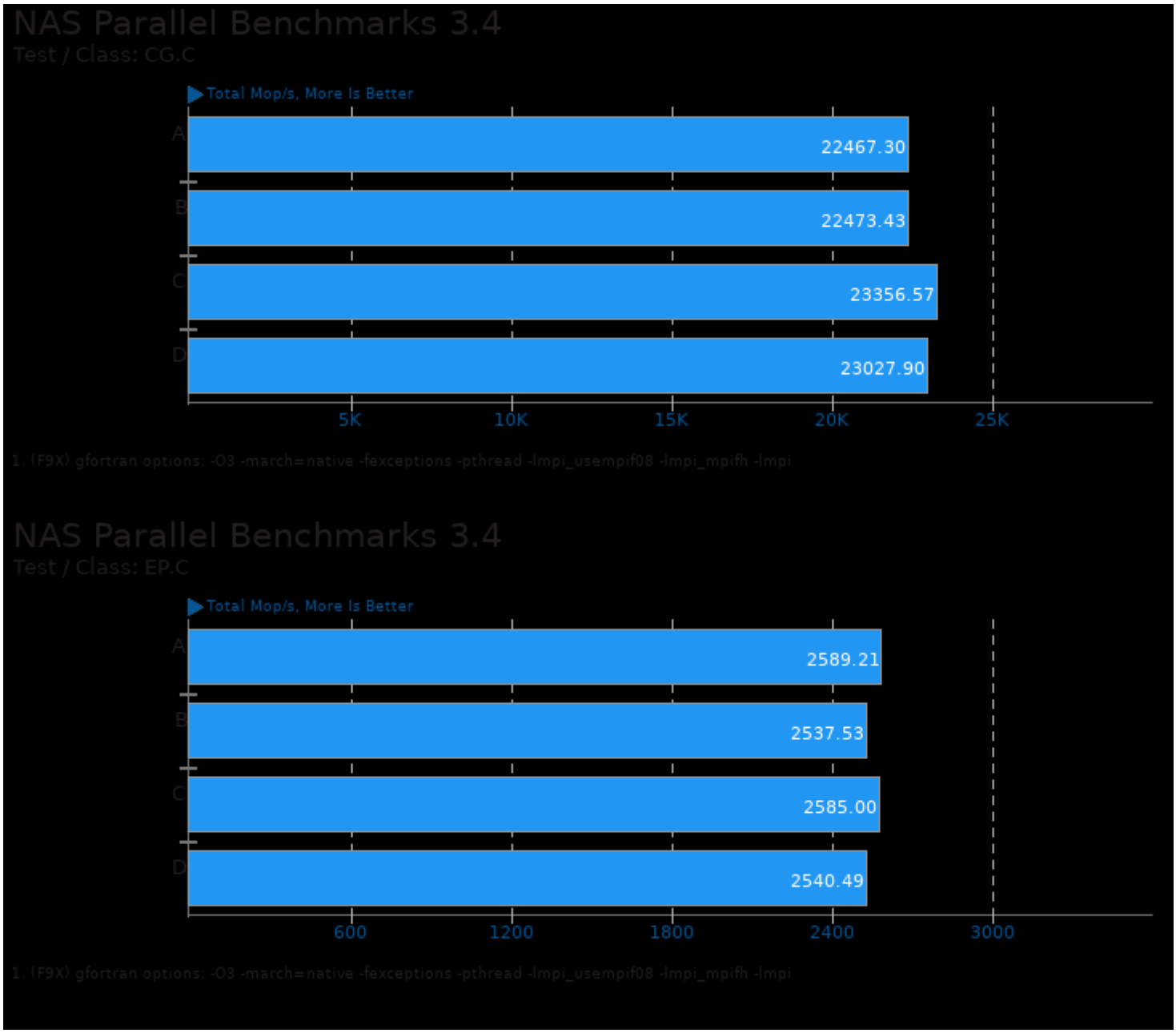


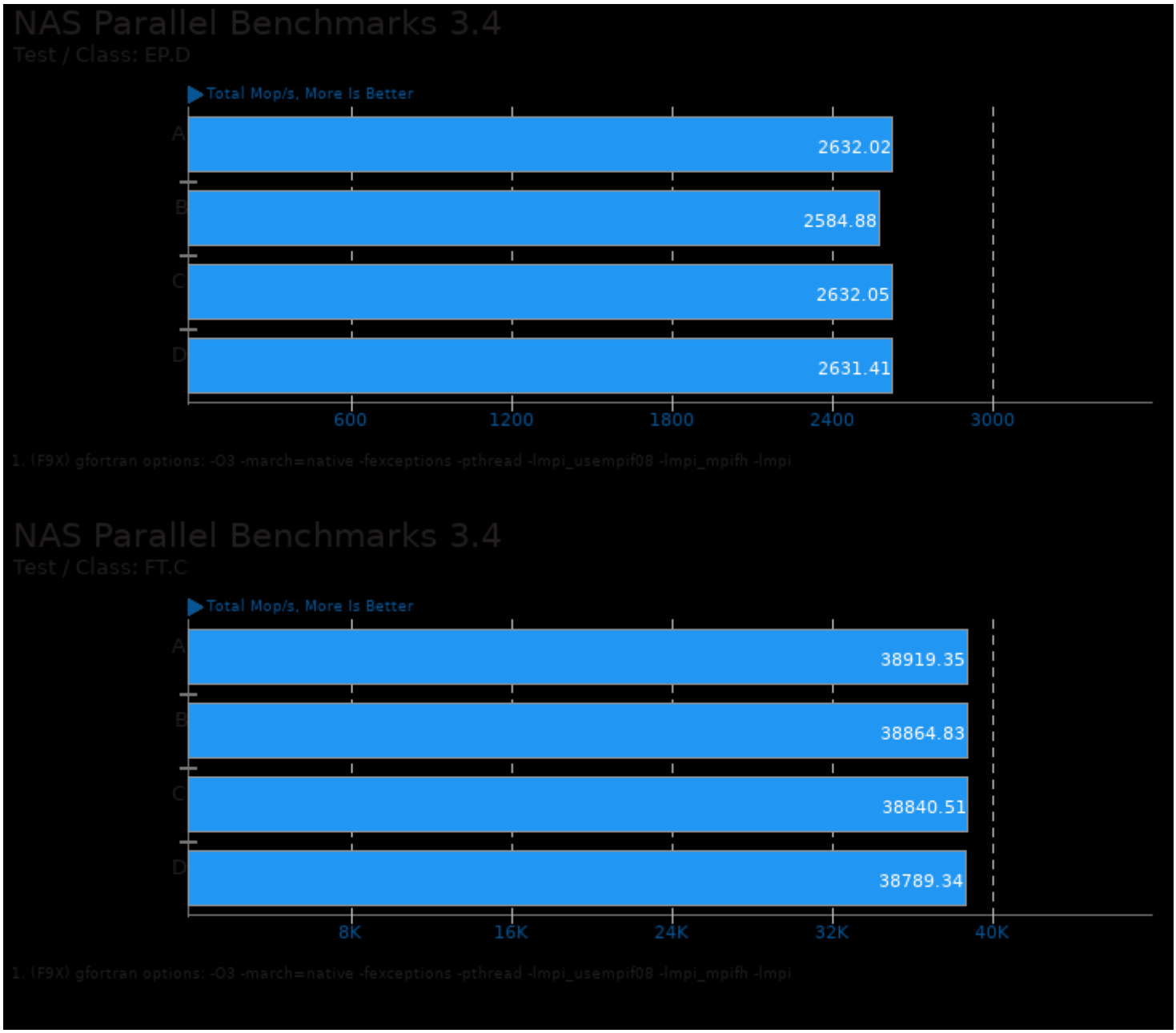
1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
2. Redis server v=5.0.3 sha=00000000:0 malloc=jemalloc-5.1.0 bits=64 build=14b81d825631ff0c

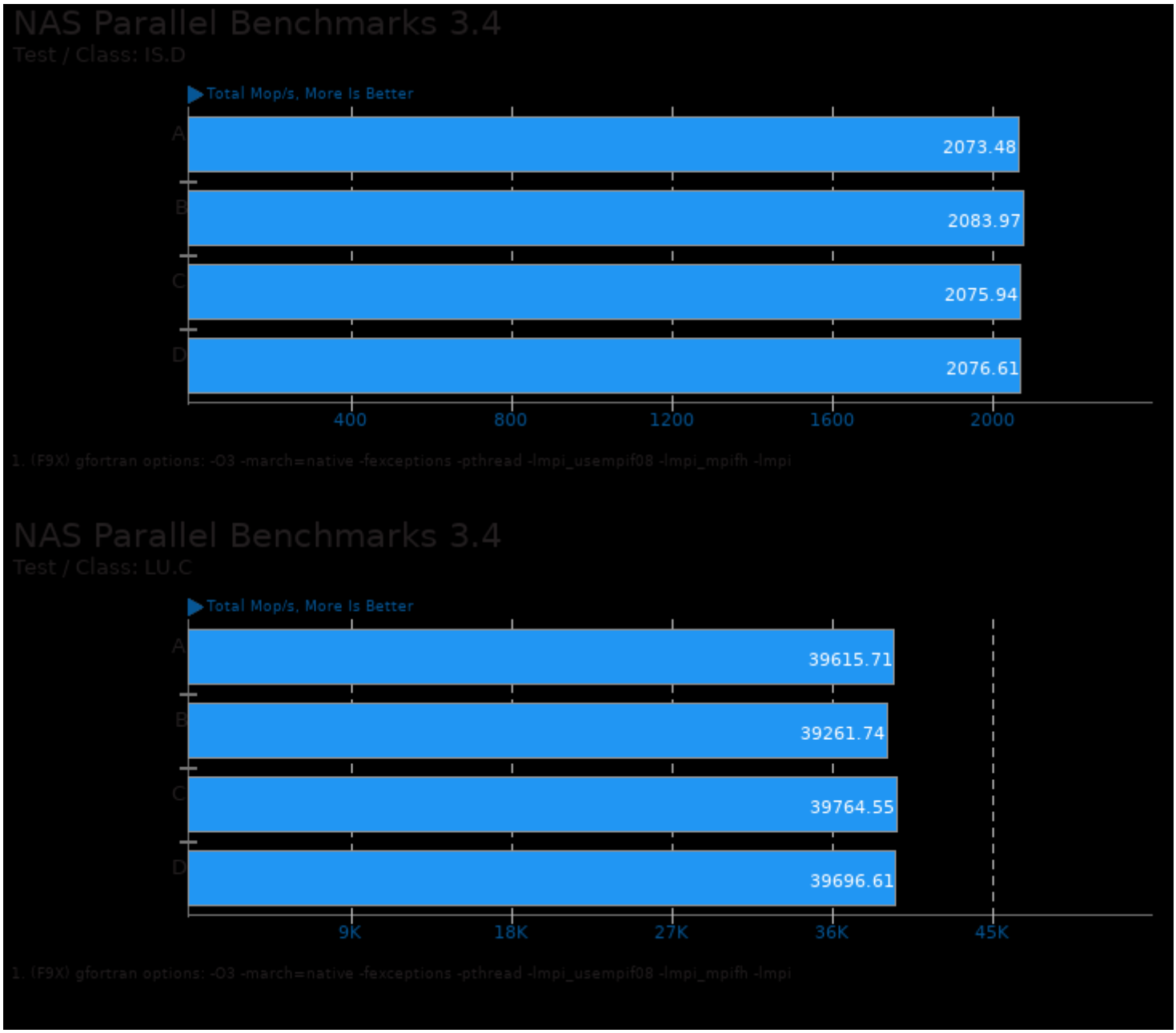

Redis Memtier / Redis Benchmark
Test: LPUSH and LPOP: lpop
Requests Per Second, More Is Better
A
534988.25
B
532424.69
C
631672.00
D
537952.56
140K
280K
420K
560K
700K
1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
2. Redis server v=5.0.3 sha=00000000:0 malloc=jemalloc-5.1.0 bits=64 build=14b81d825631ff0c
Redis Memtier / Redis Benchmark
Test: LPUSH and LPOP: lpush
Requests Per Second, More Is Better
A
1288659.75
B
1068376.12
C
1171783.38
D
1300559.25
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
2. Redis server v=5.0.3 sha=00000000:0 malloc=jemalloc-5.1.0 bits=64 build=14b81d825631ff0c

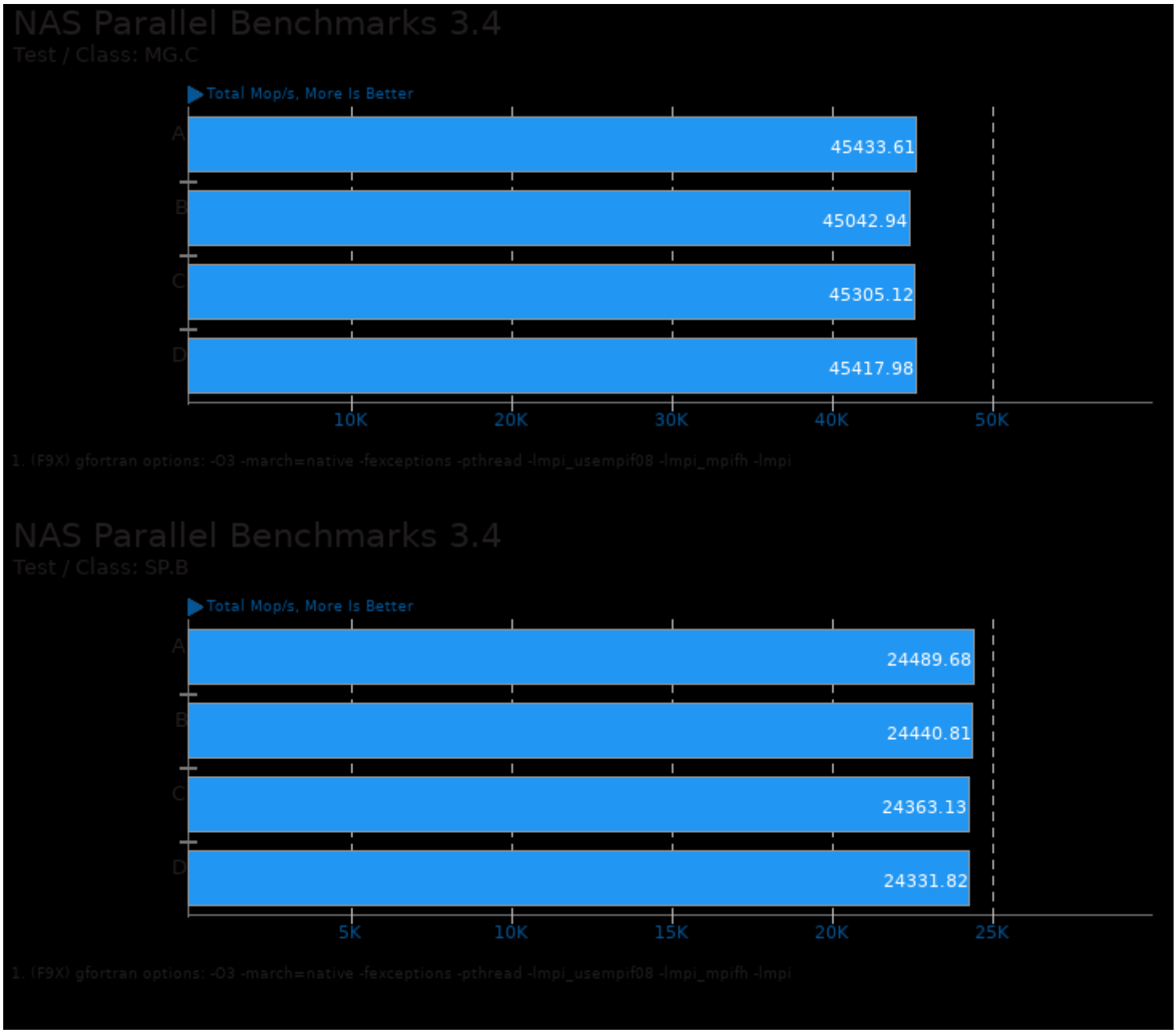
xeon october




NAS Parallel Benchmarks 3.4
Test / Class: CG.C
Total Mop/s, More Is Better
A
B
C
D
22467.30
22473.43
23356.57
23027.90
5K
10K
15K
20K
25K
1. (F9X) gfortran options: -O3 -march=native -fexceptions -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
NAS Parallel Benchmarks 3.4
Test / Class: EP.C
Total Mop/s, More Is Better
A
B
C
D
2589.21
2537.53
2585.00
2540.49
600
1200
1800
2400
3000
1. (F9X) gfortran options: -O3 -march=native -fexceptions -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi

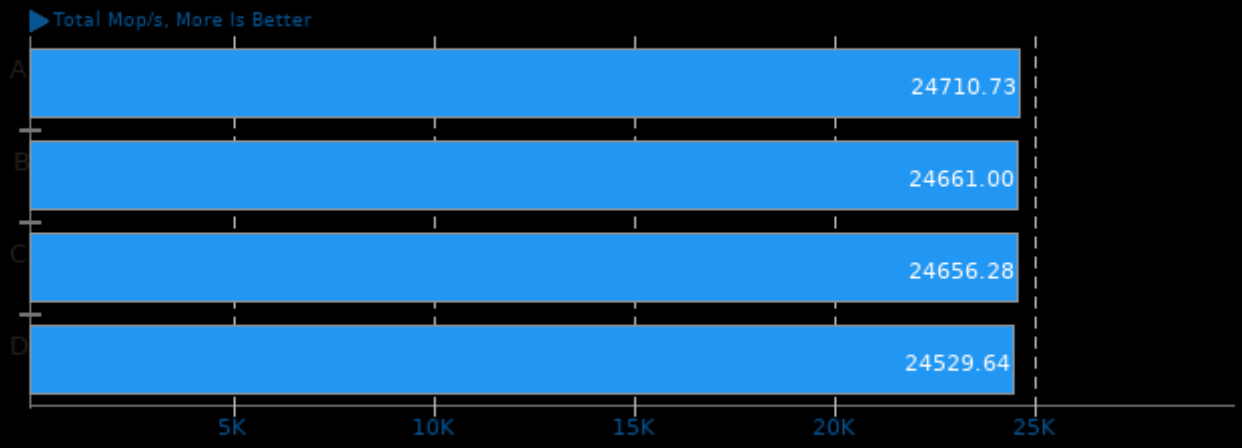

NAS Parallel Benchmarks 3.4
Test / Class: EP.D
Total Mop/s, More Is Better
A
B
C
D
2632.02
2584.88
2632.05
2631.41
600
1200
1800
2400
3000
1. (F9X) gfortran options: -O3 -march=native -fexceptions -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
NAS Parallel Benchmarks 3.4
Test / Class: FT.C
Total Mop/s, More Is Better
A
B
C
D
38919.35
38864.83
38840.51
38789.34
8K
16K
24K
32K
40K
1. (F9X) gfortran options: -O3 -march=native -fexceptions -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi


NAS Parallel Benchmarks 3.4
Test / Class: IS.D
Total Mop/s, More Is Better
A
2073.48
B
2083.97
C
2075.94
D
2076.61
400
800
1200
1600
2000
1. (F9X) gfortran options: -O3 -march=native -fexceptions -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
NAS Parallel Benchmarks 3.4
Test / Class: LU.C
Total Mop/s, More Is Better
A
39615.71
B
39261.74
C
39764.55
D
39696.61
9K
18K
27K
36K
45K
1. (F9X) gfortran options: -O3 -march=native -fexceptions -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi


NAS Parallel Benchmarks 3.4
Test / Class: MG.C
Total Mop/s, More Is Better
A
45433.61
B
45042.94
C
45305.12
D
45417.98
10K
20K
30K
40K
50K
1. (F9X) gfortran options: -O3 -march=native -fexceptions -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
NAS Parallel Benchmarks 3.4
Test / Class: SP.B
Total Mop/s, More Is Better
A
24489.68
B
24440.81
C
24363.13
D
24331.82
5K
10K
15K
20K
25K
1. (F9X) gfortran options: -O3 -march=native -fexceptions -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi

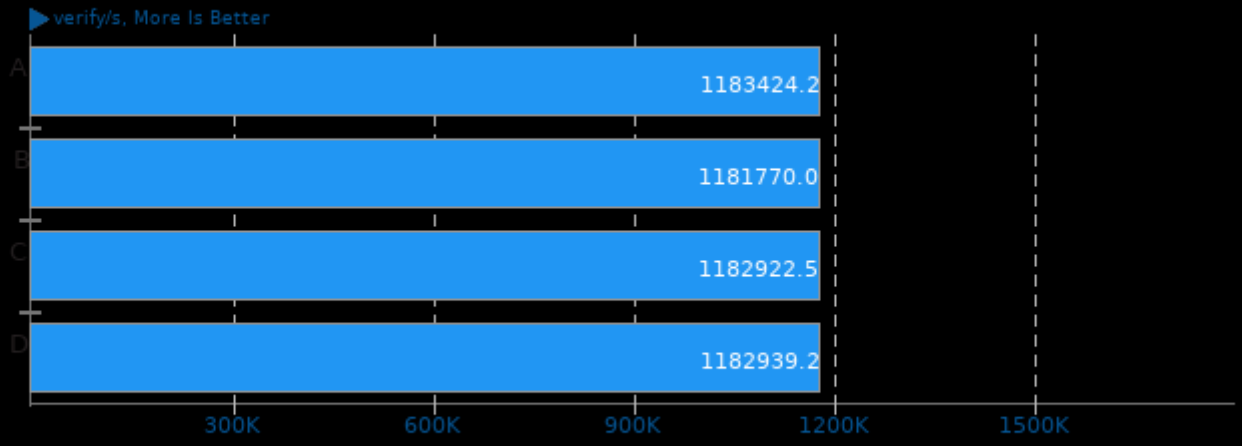
NAS Parallel Benchmarks 3.4

Test / Class: SP.C



1. (F9X) gfortran options: -O3 -march=native -fexceptions -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi

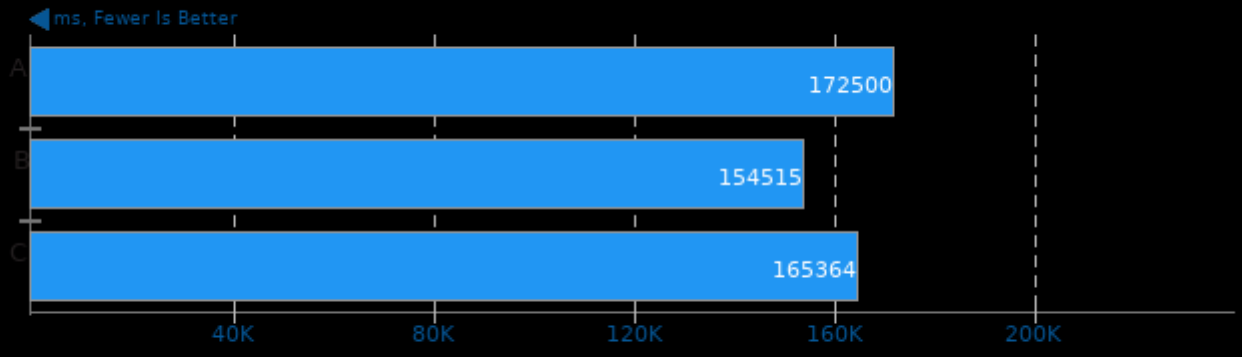
OpenSSL



1. OpenSSL 1.1.1g FIPS 21 Apr 2020

OpenCV 4.5.4

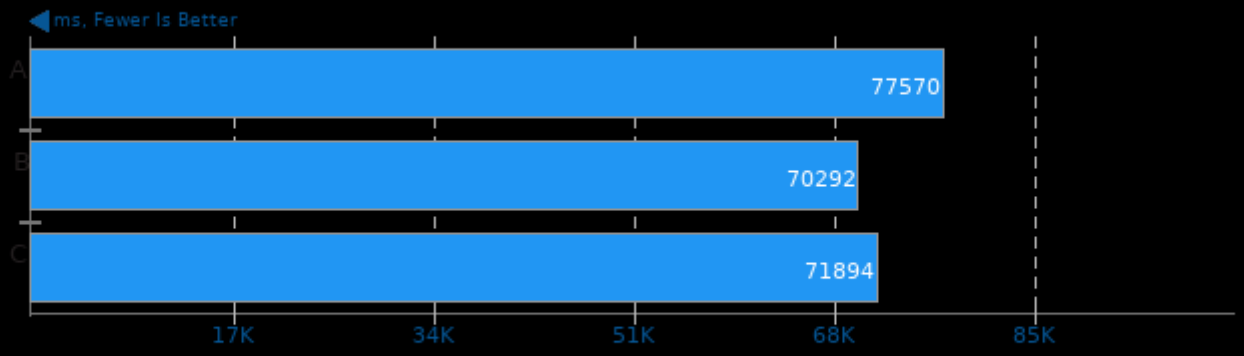
Test: Features 2D



1. (CXX) g++ options: -fsigned-char -pthread -fomit-frame-pointer -ffunction-sections -fdata-sections -msse -msse2 -msse3 -fvisibility=hidden -O2 -ldl -l

OpenCV 4.5.4

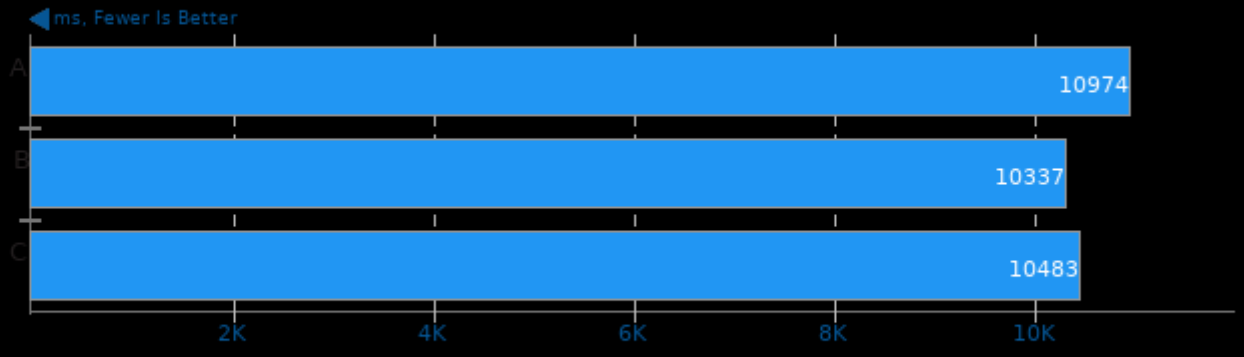
Test: Object Detection



1. (CXX) g++ options: -fsigned-char -pthread -fomit-frame-pointer -ffunction-sections -fdata-sections -msse -msse2 -msse3 -fvisibility=hidden -O2 -ldl -lr

OpenCV 4.5.4

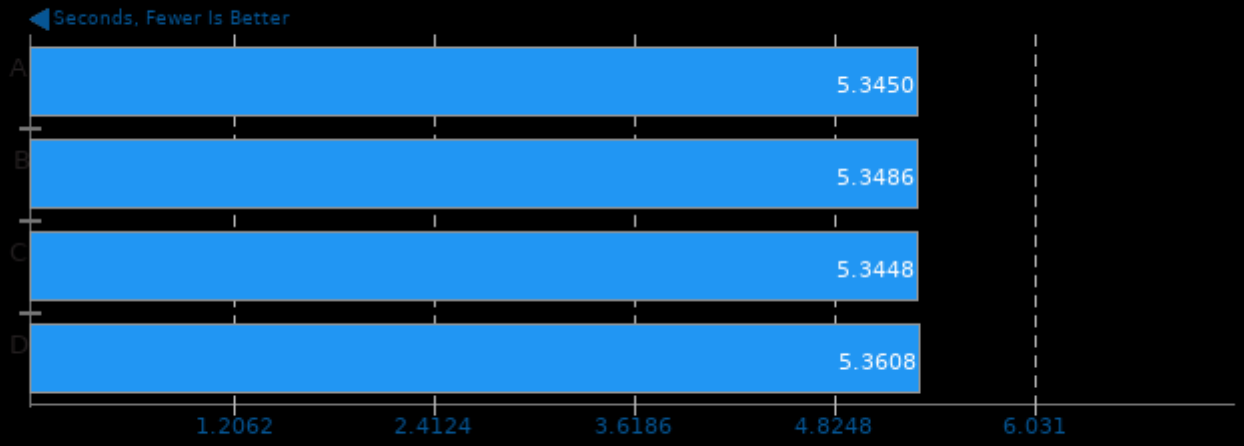
Test: DNN - Deep Neural Network



1. (CXX) g++ options: -fsigned-char -pthread -fomit-frame-pointer -ffunction-sections -fdata-sections -msse -msse2 -msse3 -fvisibility=hidden -O2 -ldl -lr

ASTC Encoder 3.2

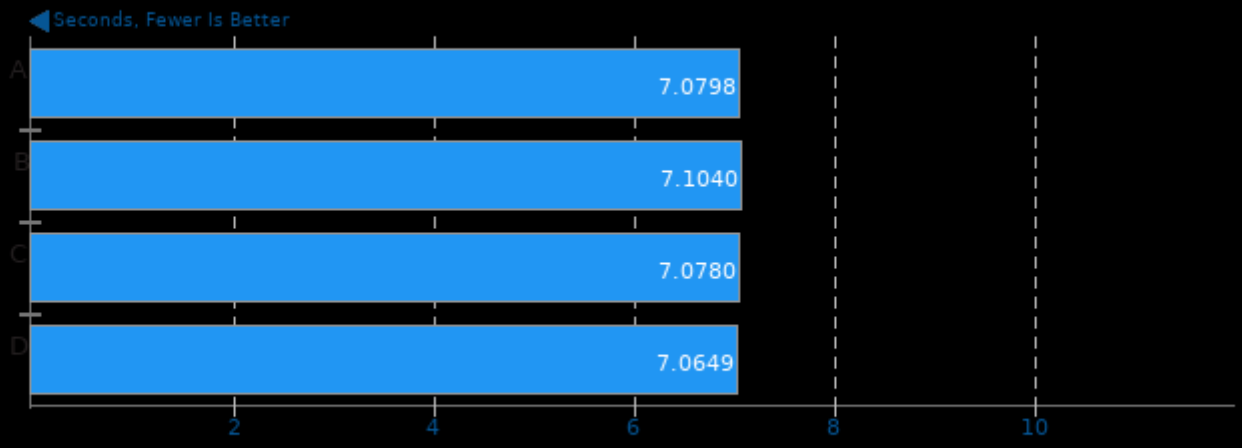
Preset: Medium



1. (CXX) g++ options: -O2 -flto -pthread

ASTC Encoder 3.2

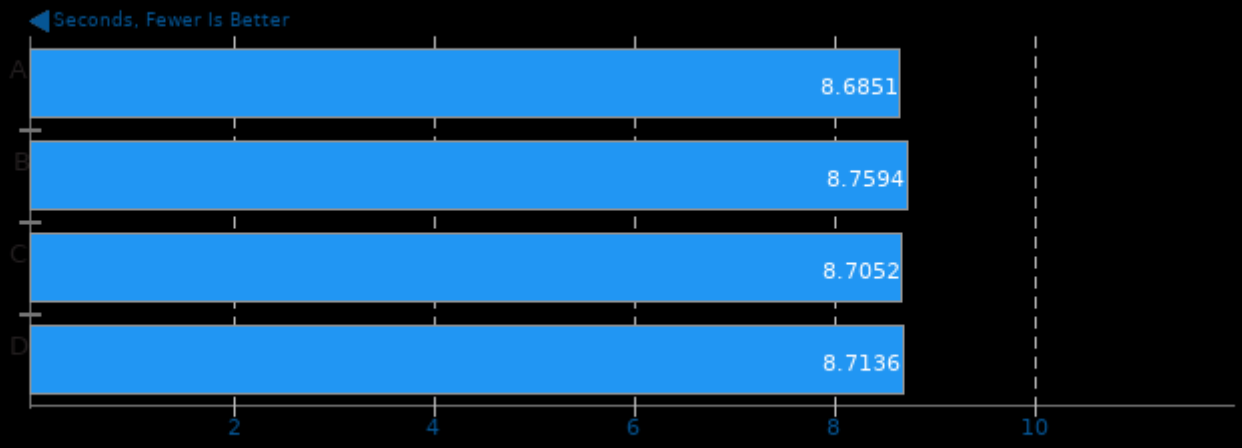
Preset: Thorough



1. (CXX) g++ options: -O2 -flto -pthread

ASTC Encoder 3.2

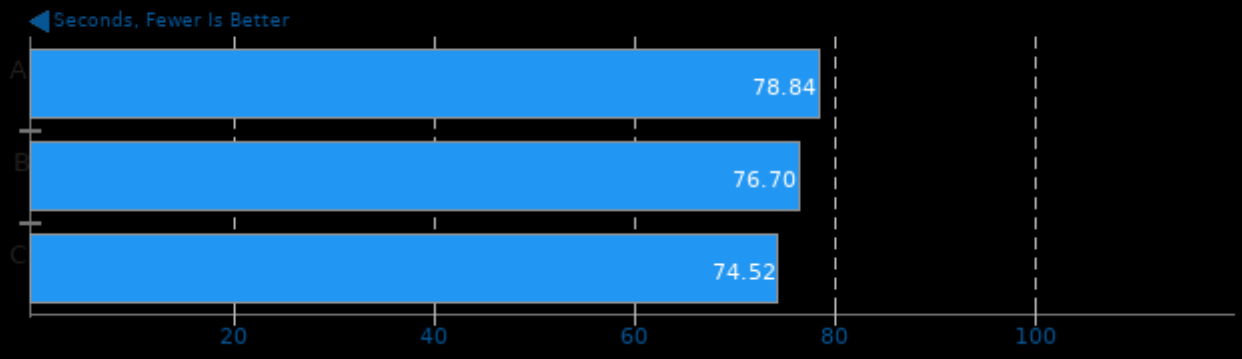
Preset: Exhaustive



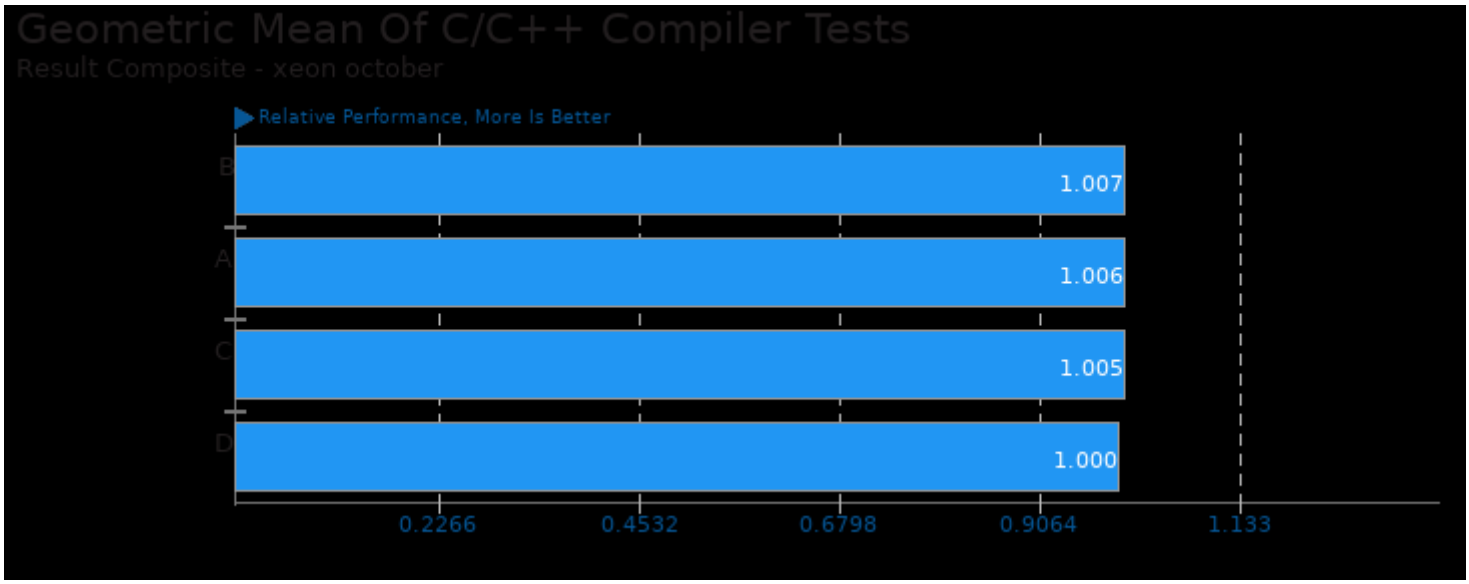
1. (CXX) g++ options: -O2 -flto -pthread

RAR Compression 6.0.2

Linux Source Tree Archiving To RAR



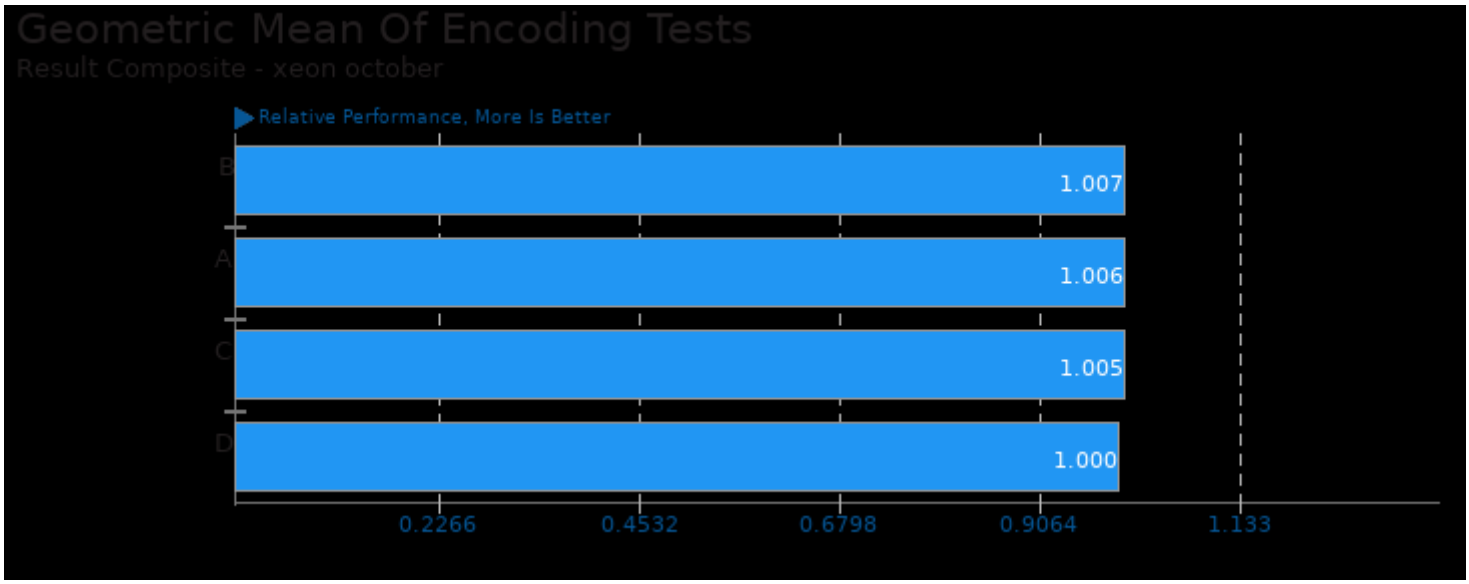
These geometric means are based upon test groupings / test suites for this result file.



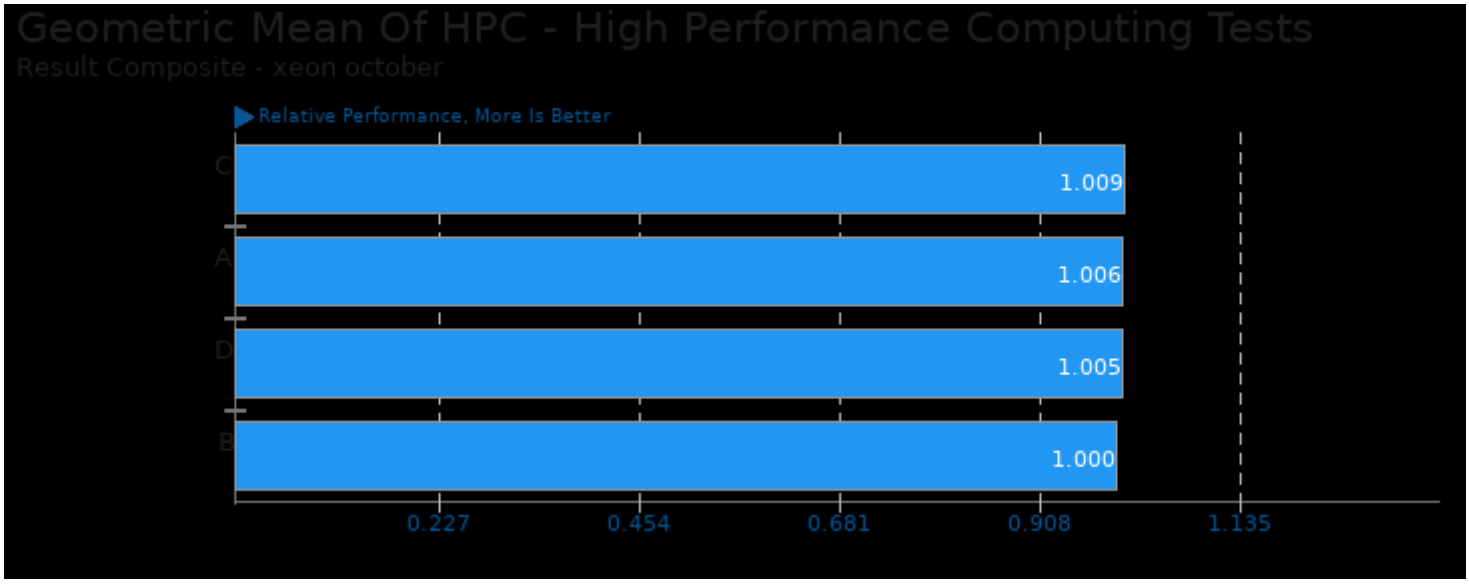
Geometric mean based upon tests: pts/kvazaar and pts/aom-av1



Geometric mean based upon tests: pts/kvazaar, pts/aom-av1 and pts/astcenc

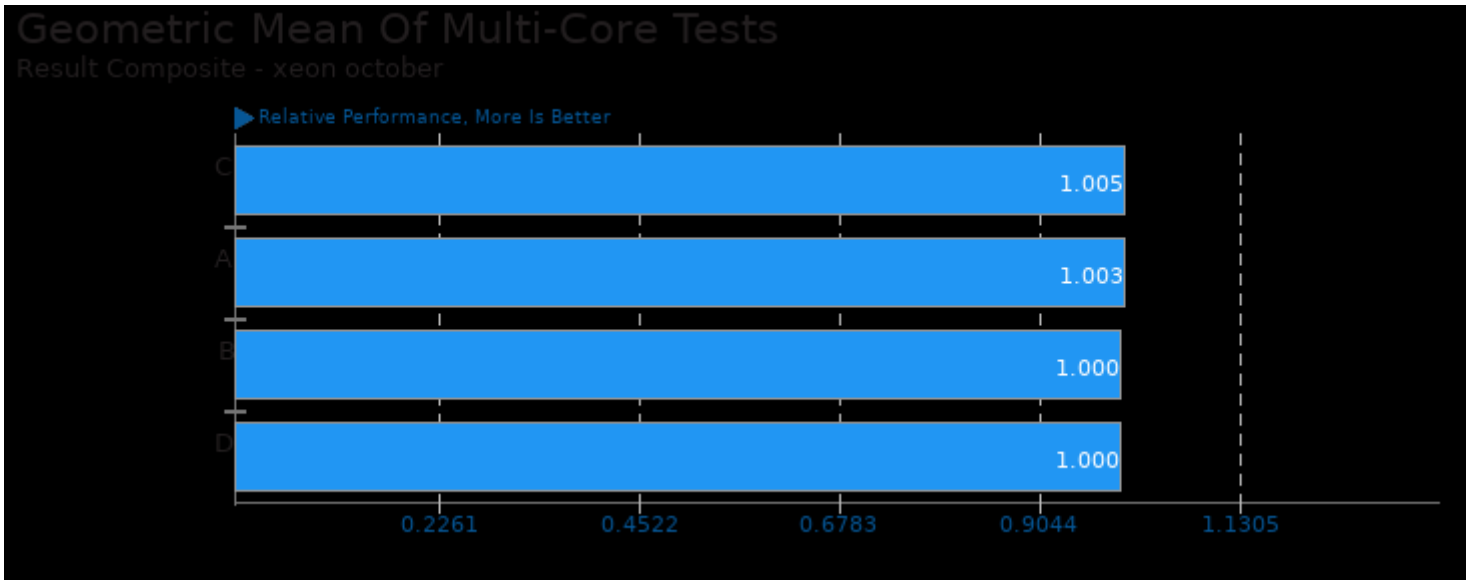


Geometric mean based upon tests: pts/kvazaar and pts/aom-av1

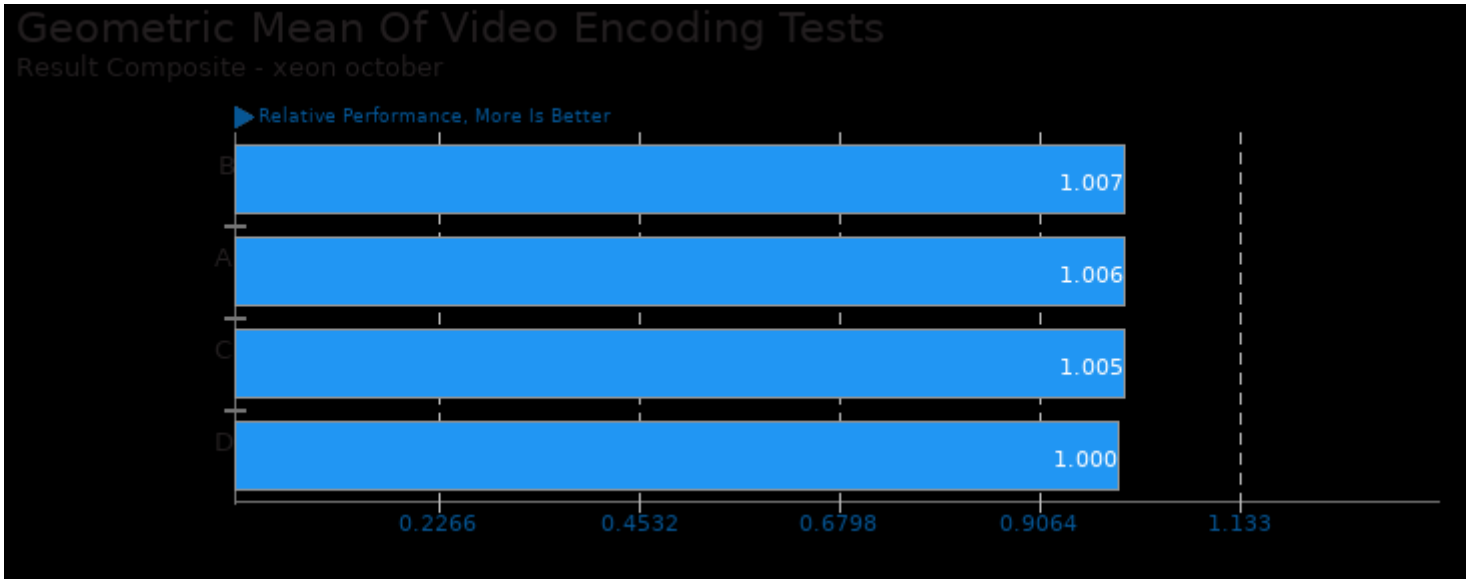


Geometric mean based upon tests: pts/npb, pts/opencv and pts/pyhpc

xeon october



Geometric mean based upon tests: pts/kvazaar, pts/aom-av1 and pts/npb



Geometric mean based upon tests: pts/kvazaar and pts/aom-av1

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 03:14.