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Intel Core i5-10600K testing with a ASUS PRIME Z490M-PLUS (1001 BIOS) and ASUS Intel UHD 630 CML GT2 3GB on Ubuntu 20.10 via the Phoronix Test Suite.

Automated Executive Summary

A had the most wins, coming in first place for 53% of the tests.

Based on the geometric mean of all complete results, the fastest (A) was 1.021x the speed of the slowest (C). B was 0.983x the speed of A and C was 0.996x the speed of B.

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

Sockperf (Test: Latency Under Load) at 4.74x
Redis Memtier / Redis Benchmark (Test: GET) at 2.482x
OpenCV (Test: DNN - Deep Neural Network) at 2.474x
PyHPC Benchmarks (Device: CPU - Backend: PyTorch - Project Size: 65536 - Benchmark: Equation of State) at 2x
Redis Memtier / Redis Benchmark (Test: MIX) at 1.517x
PyHPC Benchmarks (Device: CPU - Backend: JAX - Project Size: 65536 - Benchmark: Isoneutral Mixing) at 1.154x
Sockperf (Test: Throughput) at 1.15x
PyHPC Benchmarks (Device: CPU - Backend: PyTorch - Project Size: 4194304 - Benchmark: Equation of State) at 1.133x

PyHPC Benchmarks (Device: CPU - Backend: PyTorch - Project Size: 1048576 - Benchmark: Equation of State) at 1.1x OpenCV (Test: Object Detection) at 1.089x.

Test Systems:

A

B

C

Processor: Intel Core i5-10600K @ 4.80GHz (6 Cores / 12 Threads), Motherboard: ASUS PRIME Z490M-PLUS (1001 BIOS), Chipset: Intel Comet Lake PCH, Memory: 32GB, Disk: Samsung SSD 970 EVO 250GB, Graphics: ASUS Intel UHD 630 CML GT2 3GB (1200MHz), Audio: Realtek ALC887-VD, Monitor: MX279, Network: Intel

OS: Ubuntu 20.10, Kernel: 5.11.0-051100rc2daily20210106-generic (x86_64) 20210105, Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 20.2.1, OpenCL: OpenCL 2.1, Vulkan: 1.2.145, Compiler: GCC 10.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-poYruo/gcc-10-10.3.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-poYruo/gcc-10-10.3.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave (EPP: balance_performance) - CPU Microcode: 0xec - Thermald 2.3
Python Notes: Python 3.8.10
Security Notes: itlb_multihit: KVM: Mitigation of VMX unsupported + 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
Sockperf - Throughput (Messages/sec)	**705689**	**613652**	668467
Normalized	100%	86.96%	94.73%
Sockperf - Latency Ping Pong (usec)	3.283	**3.377**	**3.282**
Normalized	99.97%	97.19%	100%
Sockperf - Latency Under Load (usec)	**4.051**	**19.202**	19.094
Normalized	100%	21.1%	21.22%
BLAKE2 (Cycles/Byte)	**4.92**	**4.93**	**4.93**
Normalized	100%	99.8%	99.8%
Zstd Compression - 3 - Compression Speed (MB/s)	**2298**	2228	**2221**
Normalized	100%	96.95%	96.64%
Zstd Compression - 3 - D.S (MB/s)	**4023**	**3862**	4013
Normalized	100%	95.99%	99.74%

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Zstd Compression - 8 - Compression Speed (MB/s)	**374**	369.5	**368.2**
Normalized	100%	98.8%	98.45%
Zstd Compression - 8 - D.S (MB/s)	4128	**4125**	**4128**
Normalized	99.99%	99.93%	100%
Zstd Compression - 19 - Compression Speed (MB/s)	**36.7**	**37.8**	**36.7**
Normalized	97.09%	100%	97.09%
Zstd Compression - 19 - D.S (MB/s)	**3687**	3747	**3760**
Normalized	98.07%	99.66%	100%
Zstd Compression - 3, Long Mode - Compression Speed (MB/s)	**449.6**	447.1	**445.1**
Normalized	100%	99.44%	99%
Zstd Compression - 3, Long Mode - D.S	4273	**4274**	**4267**
Normalized	99.98%	100%	99.83%
Zstd Compression - 8, Long Mode - Compression Speed (MB/s)	340.2	**335.4**	**341**
Normalized	99.77%	98.36%	100%
Zstd Compression - 8, Long Mode - D.S	**4403**	4410	**4412**
Normalized	99.78%	99.93%	100%
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	**15**	**15**	**15.1**
Normalized	99.34%	99.34%	100%
Zstd Compression - 19, Long Mode - D.S (MB/s)	**3784**	3812	**3815**
Normalized	99.19%	99.91%	100%
JPEG XL libjxl - PNG - 5 (MP/s)	**34.85**	**34.85**	**34.66**
Normalized	100%	100%	99.45%
JPEG XL libjxl - PNG - 7 (MP/s)	**8.13**	8.12	**8.03**
Normalized	100%	99.88%	98.77%
JPEG XL libjxl - PNG - 8 (MP/s)	0.86	0.86	0.86
JPEG XL libjxl - JPEG - 5 (MP/s)	77.94	**79.13**	**77.7**
Normalized	98.5%	100%	98.19%
JPEG XL libjxl - JPEG - 7 (MP/s)	**76.9**	**78.8**	77.52
Normalized	97.59%	100%	98.38%
JPEG XL libjxl - JPEG - 8 (MP/s)	**28.58**	**28.91**	**28.91**
Normalized	98.86%	100%	100%
JPEG XL Decoding libjxl - 1 (MP/s)	58.93	**59.62**	**58.04**
Normalized	98.84%	100%	97.35%
JPEG XL Decoding libjxl - All (MP/s)	**252.31**	**258.59**	254.33
Normalized	97.57%	100%	98.35%
dav1d - Chimera 1080p (FPS)	**569.88**	**579.6**	577.36
Normalized	98.32%	100%	99.61%
dav1d - Summer Nature 4K (FPS)	**146.41**	**151.45**	149.89
Normalized	96.67%	100%	98.97%
dav1d - S.N.1 (FPS)	**521.61**	**533.06**	532.01
Normalized	97.85%	100%	99.8%
dav1d - C.1.1.b (FPS)	**423.14**	**440.2**	435.62
Normalized	96.12%	100%	98.96%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 4K (FPS)	0.09	0.09	0.09

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AOM AV1 - Speed 4 Two-Pass - Bosphorus 4K (FPS)	**3.28**	3.29	**3.3**
Normalized	99.39%	99.7%	100%
AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)	**8.79**	**9.1**	9.01
Normalized	96.59%	100%	99.01%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 4K (FPS)	6.78	**6.73**	**6.8**
Normalized	99.71%	98.97%	100%
AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	33.09	**32.56**	**33.55**
Normalized	98.63%	97.05%	100%
AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	45.96	**45.08**	**46.54**
Normalized	98.75%	96.86%	100%
AOM AV1 - Speed 10 Realtime - Bosphorus 4K (FPS)	51.1	**50.15**	**51.5**
Normalized	99.22%	97.38%	100%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 1080p (FPS)	**0.22**	**0.21**	**0.22**
Normalized	100%	95.45%	100%
AOM AV1 - Speed 4 Two-Pass - Bosphorus 1080p (FPS)	**7.71**	7.73	**7.75**
Normalized	99.48%	99.74%	100%
AOM AV1 - Speed 6 Realtime - Bosphorus 1080p (FPS)	**8.16**	**8.33**	8.31
Normalized	97.96%	100%	99.76%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 1080p (FPS)	**20.39**	**20.52**	20.46
Normalized	99.37%	100%	99.71%
AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)	**107.36**	107.69	**107.78**
Normalized	99.61%	99.92%	100%
AOM AV1 - Speed 9 Realtime - Bosphorus 1080p (FPS)	**134.7**	134.72	**136.16**
Normalized	98.93%	98.94%	100%
AOM AV1 - Speed 10 Realtime - Bosphorus 1080p (FPS)	**148.97**	148.44	**147.44**
Normalized	100%	99.64%	98.97%
Kvazaar - Bosphorus 4K - Slow (FPS)	**5.25**	**5.25**	**5.26**
Normalized	99.81%	99.81%	100%
Kvazaar - Bosphorus 4K - Medium (FPS)	**5.37**	**5.35**	**5.35**
Normalized	100%	99.63%	99.63%
Kvazaar - Bosphorus 1080p - Slow (FPS)	**25.68**	**25.57**	25.63
Normalized	100%	99.57%	99.81%
Kvazaar - Bosphorus 1080p - Medium (FPS)	**26.51**	26.52	**26.57**
Normalized	99.77%	99.81%	100%
Kvazaar - Bosphorus 4K - Very Fast (FPS)	**12.34**	**12.41**	**12.41**
Normalized	99.44%	100%	100%
Kvazaar - Bosphorus 4K - Ultra Fast (FPS)	22.26	**22.24**	**22.27**
Normalized	99.96%	99.87%	100%

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Kvazaar - Bosphorus 1080p - Very Fast (FPS)	53.84	**53.73**	**54.05**
Normalized	99.61%	99.41%	100%
Kvazaar - Bosphorus 1080p - Ultra Fast	**94.97**	95.26	**95.7**
Normalized	99.24%	99.54%	100%
7-Zip Compression - Compression Rating (MIPS)	**52568**	**52225**	52501
Normalized	100%	99.35%	99.87%
7-Zip Compression - D.R (MIPS)	**40448**	**41038**	40541
Normalized	98.56%	100%	98.79%
Stargate Digital Audio Workstation - 44100 - 512 (Render Ratio)	2.347228	**2.346019**	**2.353757**
Normalized	99.72%	99.67%	100%
Stargate Digital Audio Workstation - 96000 - 512 (Render Ratio)	**1.722504**	**1.723167**	1.723116
Normalized	99.96%	100%	100%
Stargate Digital Audio Workstation - 192000 - 512 (Render Ratio)	**1.184241**	1.185378	**1.186936**
Normalized	99.77%	99.87%	100%
Stargate Digital Audio Workstation - 44100 - 1024 (Render Ratio)	**2.40988**	**2.414429**	2.411052
Normalized	99.81%	100%	99.86%
Stargate Digital Audio Workstation - 480000 - 512 (Render Ratio)	**2.252162**	2.25324	**2.257741**
Normalized	99.75%	99.8%	100%
Stargate Digital Audio Workstation - 96000 - 1024 (Render Ratio)	**1.770862**	**1.775685**	1.775666
Normalized	99.73%	100%	100%
Stargate Digital Audio Workstation - 192000 - 1024 (Render Ratio)	**1.222975**	**1.226237**	1.226089
Normalized	99.73%	100%	99.99%
Stargate Digital Audio Workstation - 480000 - 1024 (Render Ratio)	**2.310721**	2.312205	**2.313155**
Normalized	99.89%	99.96%	100%
Primesieve - 1.P.N.G (sec)	**32.279**	30.909	**30.662**
Normalized	94.99%	99.2%	100%
OpenSSL (sign/s)	2044	**2042**	**2049**
Normalized	99.74%	99.65%	100%
OpenSSL (verify/s)	134214	**134167**	**134300**
Normalized	99.94%	99.9%	100%
ASTC Encoder - Medium (sec)	**4.6743**	**4.7116**	4.7063
Normalized	100%	99.21%	99.32%
ASTC Encoder - Thorough (sec)	**8.6551**	8.6248	**8.6079**
Normalized	99.45%	99.8%	100%
ASTC Encoder - Exhaustive (sec)	**79.1914**	79.1525	**79.1295**
Normalized	99.92%	99.97%	100%
Redis Memtier / Redis Benchmark - L.a.L.l (Reqs/sec)	**1719132**	1702420	**1697230**
Normalized	100%	99.03%	98.73%
Redis Memtier / Redis Benchmark - L.a.L.l (Reqs/sec)	**1741553**	**1730109**	1732510
Normalized	100%	99.34%	99.48%

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Redis Memtier / Redis Benchmark - GET (Operations/sec)	**1463049**	614953	**589393**
Normalized	100%	42.03%	40.29%
Redis Memtier / Redis Benchmark - MIX (Operations/sec)	**841912**	564887	**554884**
Normalized	100%	67.1%	65.91%
Redis Memtier / Redis Benchmark - SET (Operations/sec)	**546288**	**538269**	538519
Normalized	100%	98.53%	98.58%
Blender - BMW27 - CPU-Only (sec)	**199.51**	197.87	**197.83**
Normalized	99.16%	99.98%	100%
Blender - Classroom - CPU-Only (sec)	**563.61**	**562.05**	562.78
Normalized	99.72%	100%	99.87%
Blender - Fishy Cat - CPU-Only (sec)	**276.25**	276.13	**275.83**
Normalized	99.85%	99.89%	100%
Blender - Barbershop - CPU-Only (sec)	**2244**	**2232**	2243
Normalized	99.47%	100%	99.54%
Blender - Pabellon Barcelona - CPU-Only	692.69	**689.69**	**692.7**
Normalized	99.57%	100%	99.57%
Nginx - Long Connection - 100 (Reqs/sec)	**132845**	133026	**133499**
Normalized	99.51%	99.65%	100%
Nginx - Long Connection - 500 (Reqs/sec)	**123261**	**122662**	123126
Normalized	100%	99.51%	99.89%
Nginx - Long Connection - 1000 (Reqs/sec)	**116328**	**115767**	116035
Normalized	100%	99.52%	99.75%
Nginx - Short Connection - 100 (Reqs/sec)	**88075**	**87851**	87925
Normalized	100%	99.75%	99.83%
Nginx - Short Connection - 500 (Reqs/sec)	**82450**	82183	**82141**
Normalized	100%	99.68%	99.62%
Nginx - Short Connection - 1000 (Reqs/sec)	**80437**	80266	**80086**
Normalized	100%	99.79%	99.56%
RAR Compression - L.S.T.A.T.R (sec)	**43.152**	44.885	**45.131**
Normalized	100%	96.14%	95.61%
PyHPC Benchmarks - CPU - JAX - 16384 - Isoneutral Mixing (sec)	0.003	0.003	0.003
PyHPC Benchmarks - CPU - JAX - 65536 - Equation of State (sec)	0.001	0.001	0.001
PyHPC Benchmarks - CPU - JAX - 65536 - Isoneutral Mixing (sec)	0.014	**0.015**	**0.013**
Normalized	92.86%	86.67%	100%
PyHPC Benchmarks - CPU - JAX - 262144 - Equation of State (sec)	0.002	0.002	0.002
PyHPC Benchmarks - CPU - JAX - 262144 - Isoneutral Mixing (sec)	**0.038**	**0.038**	**0.039**
Normalized	100%	100%	97.44%
PyHPC Benchmarks - CPU - JAX - 1048576 - Equation of State (sec)	0.009	0.009	0.009
PyHPC Benchmarks - CPU - JAX - 1048576 - Isoneutral Mixing (sec)	**0.164**	0.163	**0.161**
Normalized	98.17%	98.77%	100%

PyHPC Benchmarks - CPU - JAX - 4194304 - Equation of State (sec)	0.04	0.04	0.04
PyHPC Benchmarks - CPU - JAX - 4194304 - Isoneutral Mixing (sec)	0.785	0.789	0.794
Normalized	100%	99.49%	98.87%
PyHPC Benchmarks - CPU - Numba - 16384 - Equation of State (sec)	0.001	0.001	0.001
PyHPC Benchmarks - CPU - Numba - 16384 - Isoneutral Mixing (sec)	0.004	0.004	0.004
PyHPC Benchmarks - CPU - Numba - 65536 - Equation of State (sec)	0.004	0.004	0.004
PyHPC Benchmarks - CPU - Numba - 65536 - Isoneutral Mixing (sec)	0.018	0.018	0.018
PyHPC Benchmarks - CPU - Numpy - 16384 - Equation of State (sec)	0.003	0.003	0.003
PyHPC Benchmarks - CPU - Numpy - 16384 - Isoneutral Mixing (sec)	0.007	0.007	0.007
PyHPC Benchmarks - CPU - Numpy - 65536 - Equation of State (sec)	0.015	0.015	0.015
PyHPC Benchmarks - CPU - Numpy - 65536 - Isoneutral Mixing (sec)	0.029	0.03	0.03
Normalized	100%	96.67%	96.67%
PyHPC Benchmarks - CPU - Aesara - 16384 - Equation of State (sec)	0.001	0.001	0.001
PyHPC Benchmarks - CPU - Aesara - 16384 - Isoneutral Mixing (sec)	0.005	0.005	0.005
PyHPC Benchmarks - CPU - Aesara - 65536 - Equation of State (sec)	0.005	0.005	0.005
PyHPC Benchmarks - CPU - Aesara - 65536 - Isoneutral Mixing (sec)	0.021	0.021	0.021
PyHPC Benchmarks - CPU - Numba - 262144 - Equation of State (sec)	0.013	0.013	0.013
PyHPC Benchmarks - CPU - Numba - 262144 - Isoneutral Mixing (sec)	0.069	0.069	0.069
PyHPC Benchmarks - CPU - Numpy - 262144 - Equation of State (sec)	0.06	0.06	0.06
PyHPC Benchmarks - CPU - Numpy - 262144 - Isoneutral Mixing (sec)	0.122	0.121	0.124
Normalized	99.18%	100%	97.58%
PyHPC Benchmarks - CPU - Aesara - 262144 - Equation of State (sec)	0.018	0.018	0.019
Normalized	100%	100%	94.74%
PyHPC Benchmarks - CPU - Aesara - 262144 - Isoneutral Mixing (sec)	0.08	0.08	0.081
Normalized	100%	100%	98.77%
PyHPC Benchmarks - CPU - Numba - 1048576 - Equation of State (sec)	0.054	0.053	0.054
Normalized	98.15%	100%	98.15%

PyHPC Benchmarks - CPU - Numba - 1048576 - Isoneutral Mixing (sec)	0.31	0.31	0.31
PyHPC Benchmarks - CPU - Numba - 4194304 - Equation of State (sec)	0.213	0.213	0.215
Normalized	100%	100%	99.07%
PyHPC Benchmarks - CPU - Numba - 4194304 - Isoneutral Mixing (sec)	1.284	1.292	1.292
Normalized	100%	99.38%	99.38%
PyHPC Benchmarks - CPU - Numpy - 1048576 - Equation of State (sec)	0.26	0.263	0.265
Normalized	100%	98.86%	98.11%
PyHPC Benchmarks - CPU - Numpy - 1048576 - Isoneutral Mixing (sec)	0.556	0.556	0.556
PyHPC Benchmarks - CPU - Numpy - 4194304 - Equation of State (sec)	1.309	1.312	1.33
Normalized	100%	99.77%	98.42%
PyHPC Benchmarks - CPU - Numpy - 4194304 - Isoneutral Mixing (sec)	2.324	2.317	2.319
Normalized	99.7%	100%	99.91%
PyHPC Benchmarks - CPU - PyTorch - 16384 - Isoneutral Mixing (sec)	0.005	0.005	0.005
PyHPC Benchmarks - CPU - PyTorch - 65536 - Equation of State (sec)	0.001	0.001	0.002
Normalized	100%	100%	50%
PyHPC Benchmarks - CPU - PyTorch - 65536 - Isoneutral Mixing (sec)	0.018	0.018	0.018
PyHPC Benchmarks - CPU - Aesara - 1048576 - Equation of State (sec)	0.076	0.074	0.074
Normalized	97.37%	100%	100%
PyHPC Benchmarks - CPU - Aesara - 1048576 - Isoneutral Mixing (sec)	0.375	0.375	0.377
Normalized	100%	100%	99.47%
PyHPC Benchmarks - CPU - Aesara - 4194304 - Equation of State (sec)	0.295	0.298	0.3
Normalized	100%	98.99%	98.33%
PyHPC Benchmarks - CPU - Aesara - 4194304 - Isoneutral Mixing (sec)	1.591	1.593	1.596
Normalized	100%	99.87%	99.69%
PyHPC Benchmarks - CPU - PyTorch - 262144 - Equation of State (sec)	0.005	0.005	0.005
PyHPC Benchmarks - CPU - PyTorch - 262144 - Isoneutral Mixing (sec)	0.07	0.07	0.069
Normalized	98.57%	98.57%	100%
PyHPC Benchmarks - CPU - PyTorch - 1048576 - Equation of State (sec)	0.02	0.021	0.022
Normalized	100%	95.24%	90.91%
PyHPC Benchmarks - CPU - PyTorch - 1048576 - Isoneutral Mixing (sec)	0.354	0.357	0.359
Normalized	100%	99.16%	98.61%

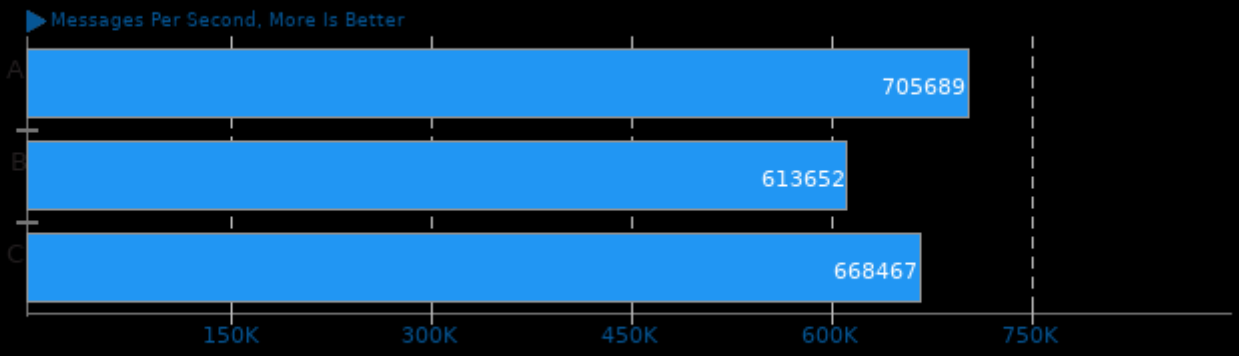
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PyHPC Benchmarks - CPU - PyTorch - 4194304 - Equation of State (sec)	**0.083**	**0.094**	0.084
Normalized	100%	88.3%	98.81%
PyHPC Benchmarks - CPU - PyTorch - 4194304 - Isoneutral Mixing (sec)	1.614	**1.555**	**1.668**
Normalized	96.34%	100%	93.23%
PyHPC Benchmarks - CPU - TensorFlow - 16384 - Equation of State (sec)	0.001	0.001	0.001
PyHPC Benchmarks - CPU - TensorFlow - 65536 - Equation of State (sec)	0.002	0.002	0.002
PyHPC Benchmarks - CPU - TensorFlow - 262144 - Equation of State (sec)	0.006	0.006	0.006
PyHPC Benchmarks - CPU - TensorFlow - 1048576 - Equation of State (sec)	0.028	0.028	0.028
PyHPC Benchmarks - CPU - TensorFlow - 4194304 - Equation of State (sec)	**0.126**	**0.129**	**0.129**
Normalized	100%	97.67%	97.67%
OpenCV - Features 2D (ms)	**117314**	**114485**	115475
Normalized	97.59%	100%	99.14%
OpenCV - Object Detection (ms)	**44945**	**48966**	45614
Normalized	100%	91.79%	98.53%
OpenCV - DNN - D.N.N (ms)	**166581**	69251	**67330**
Normalized	40.42%	97.23%	100%

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Sockperf 3.7

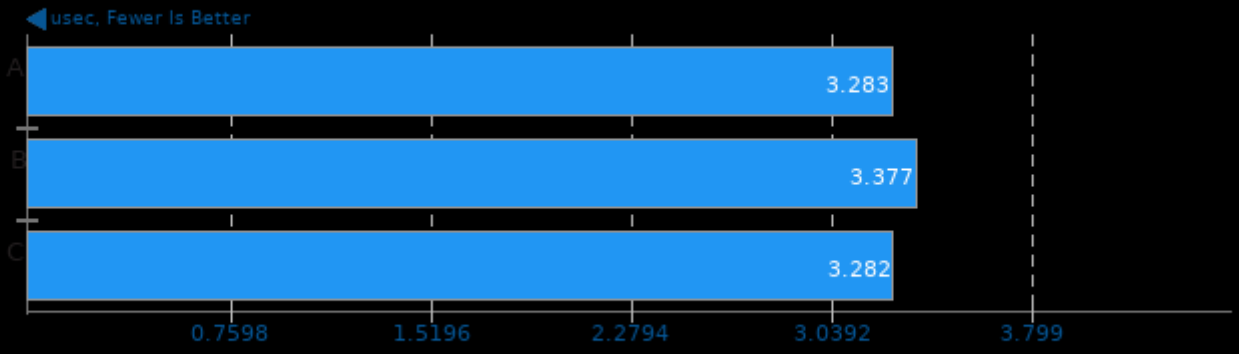
Test: Throughput



1. (CXX) g++ options: -param -O3 -rdynamic -ldl -lpthread

Sockperf 3.7

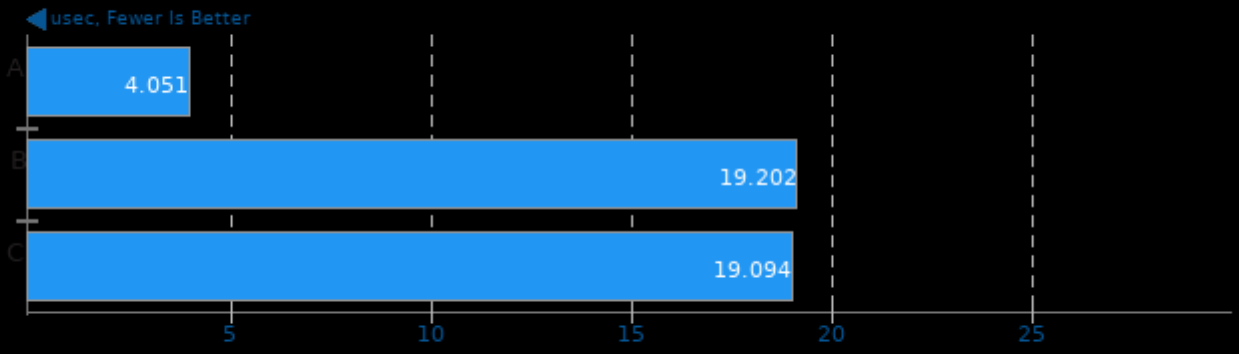
Test: Latency Ping Pong



1. (CXX) g++ options: -param -O3 -rdynamic -ldl -lpthread

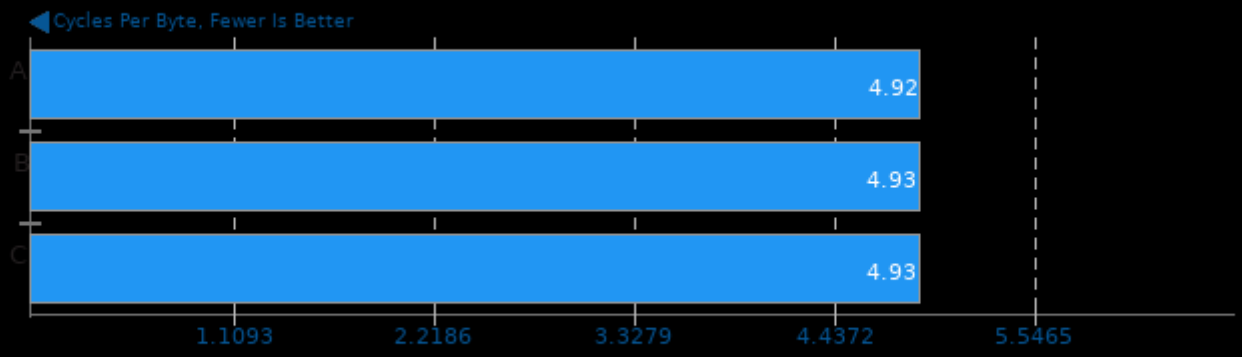
Sockperf 3.7

Test: Latency Under Load



1. (CXX) g++ options: -param -O3 -rdynamic -ldl -lpthread

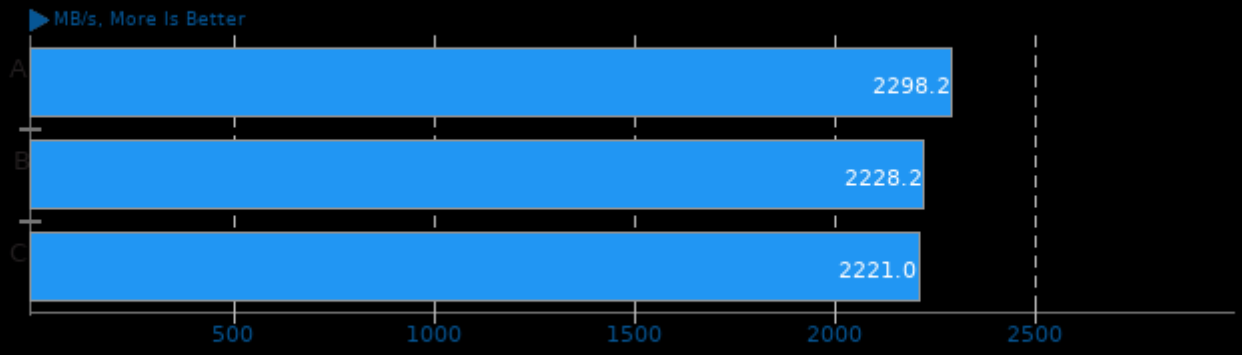
BLAKE2 20170307



1. (CC) gcc options: -O3 -march=native -lcrypto -lz

Zstd Compression

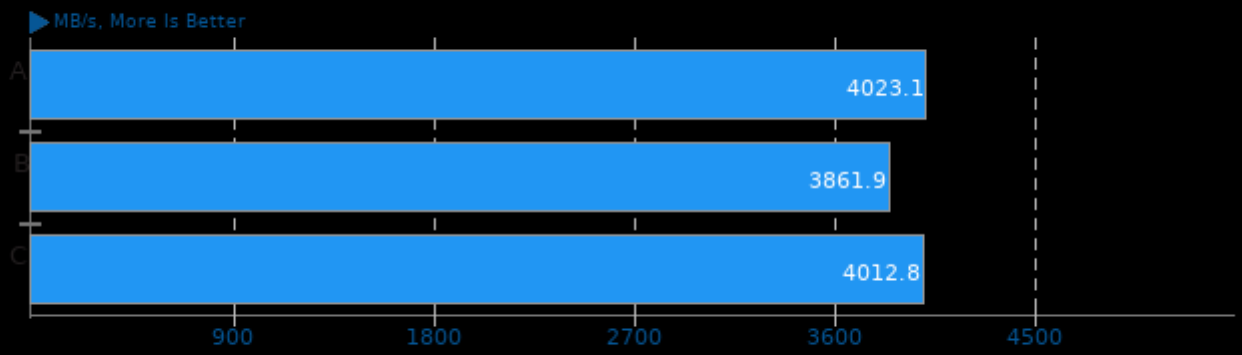
Compression Level: 3 - Compression Speed



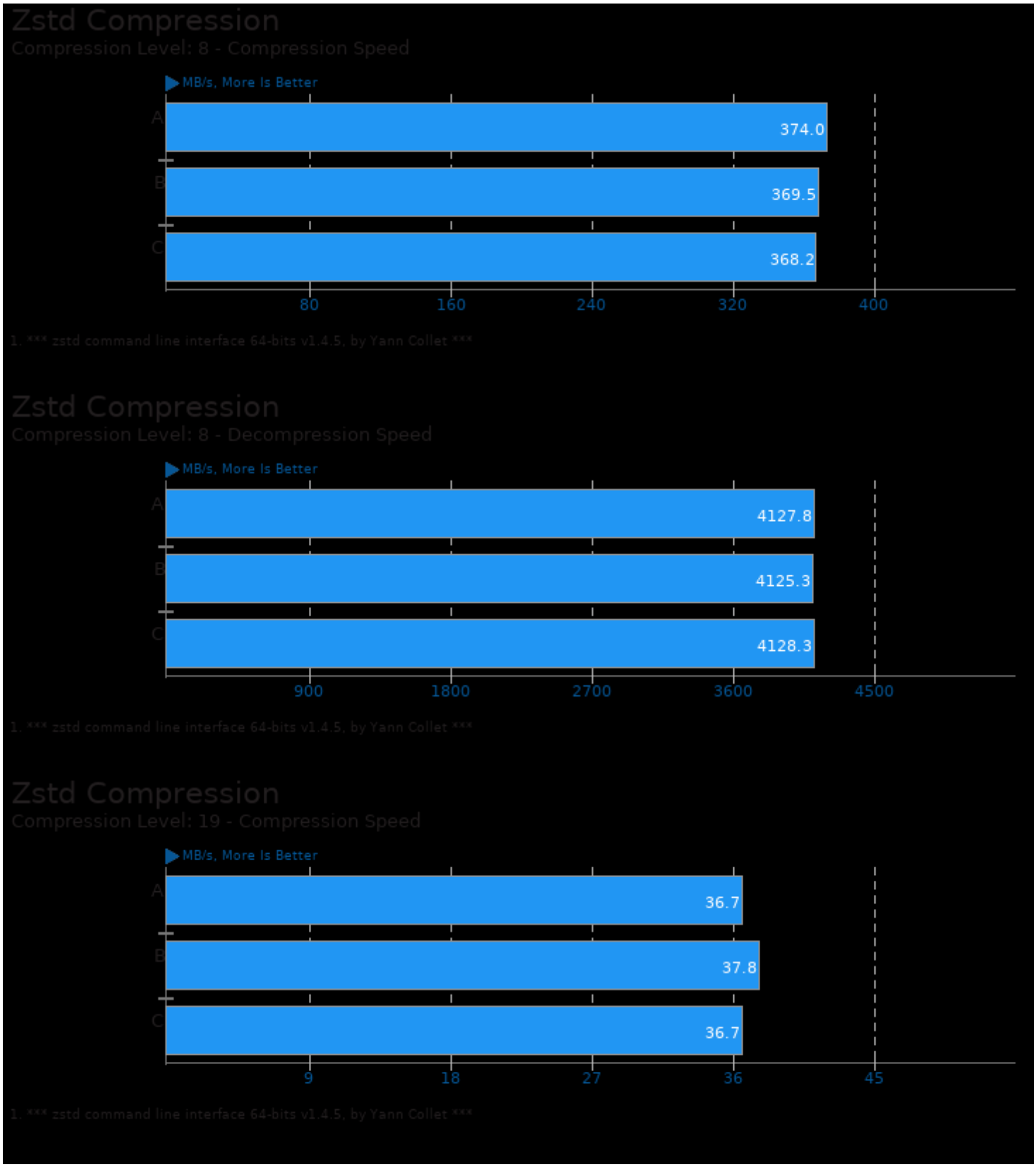
1. *** zstd command line interface 64-bits v1.4.5, by Yann Collet ***

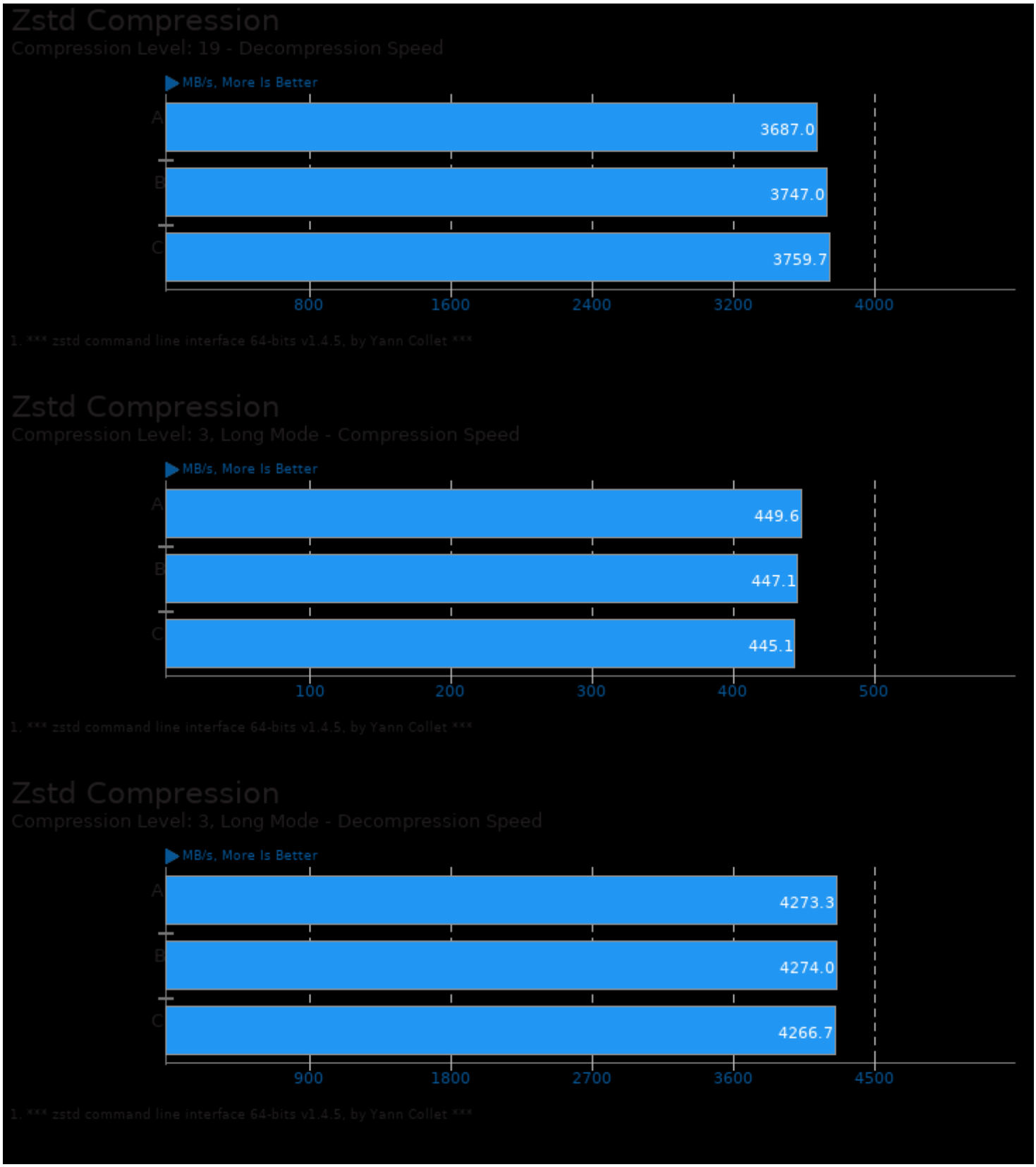
Zstd Compression

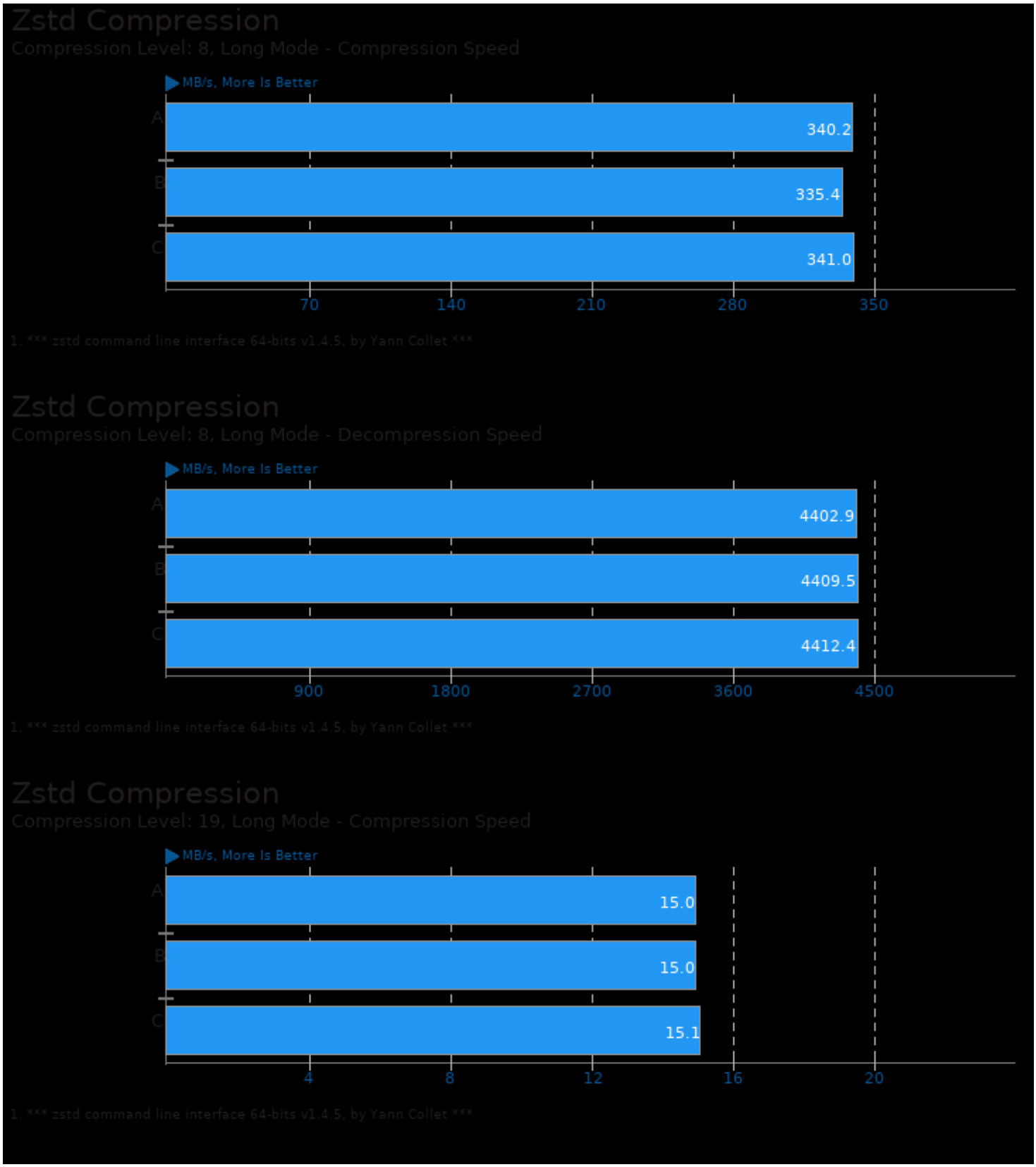
Compression Level: 3 - Decompression Speed



1. *** zstd command line interface 64-bits v1.4.5, by Yann Collet ***

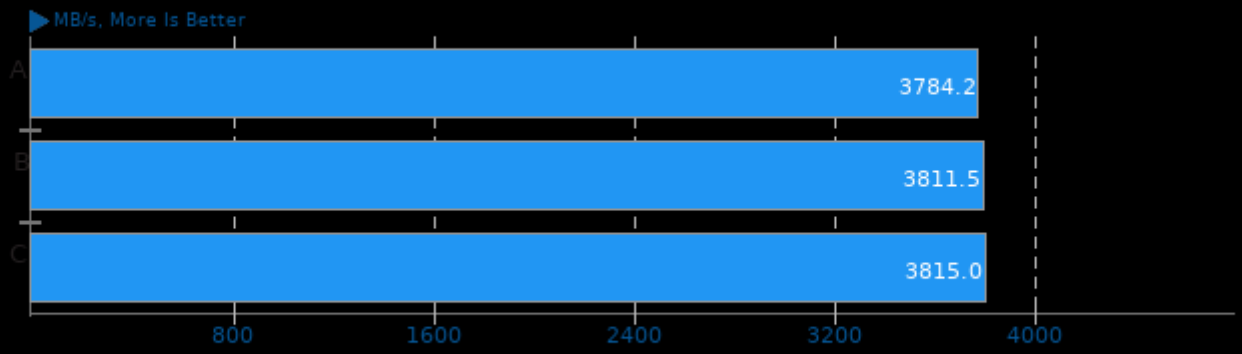

Zstd Compression
Compression Level: 8 - Compression Speed
MB/s, More Is Better
A
B
C
374.0
369.5
368.2
80
160
240
320
400
1. *** zstd command line interface 64-bits v1.4.5, by Yann Collet ***
Zstd Compression
Compression Level: 8 - Decompression Speed
MB/s, More Is Better
A
B
C
4127.8
4125.3
4128.3
900
1800
2700
3600
4500
1. *** zstd command line interface 64-bits v1.4.5, by Yann Collet ***
Zstd Compression
Compression Level: 19 - Compression Speed
MB/s, More Is Better
A
B
C
36.7
37.8
36.7
9
18
27
36
45
1. *** zstd command line interface 64-bits v1.4.5, by Yann Collet ***


Zstd Compression
Compression Level: 19 - Decompression Speed
MB/s, More Is Better
A
B
C
3687.0
3747.0
3759.7
800
1600
2400
3200
4000
1. *** zstd command line interface 64-bits v1.4.5, by Yann Collet ***
Zstd Compression
Compression Level: 3, Long Mode - Compression Speed
MB/s, More Is Better
A
B
C
449.6
447.1
445.1
100
200
300
400
500
1. *** zstd command line interface 64-bits v1.4.5, by Yann Collet ***
Zstd Compression
Compression Level: 3, Long Mode - Decompression Speed
MB/s, More Is Better
A
B
C
4273.3
4274.0
4266.7
900
1800
2700
3600
4500
1. *** zstd command line interface 64-bits v1.4.5, by Yann Collet ***


Zstd Compression
Compression Level: 8, Long Mode - Compression Speed
MB/s, More Is Better
A
B
C
340.2
335.4
341.0
70
140
210
280
350
1. *** zstd command line interface 64-bits v1.4.5, by Yann Collet ***
Zstd Compression
Compression Level: 8, Long Mode - Decompression Speed
MB/s, More Is Better
A
B
C
4402.9
4409.5
4412.4
900
1800
2700
3600
4500
1. *** zstd command line interface 64-bits v1.4.5, by Yann Collet ***
Zstd Compression
Compression Level: 19, Long Mode - Compression Speed
MB/s, More Is Better
A
B
C
15.0
15.0
15.1
4
8
12
16
20
1. *** zstd command line interface 64-bits v1.4.5, by Yann Collet ***

Zstd Compression

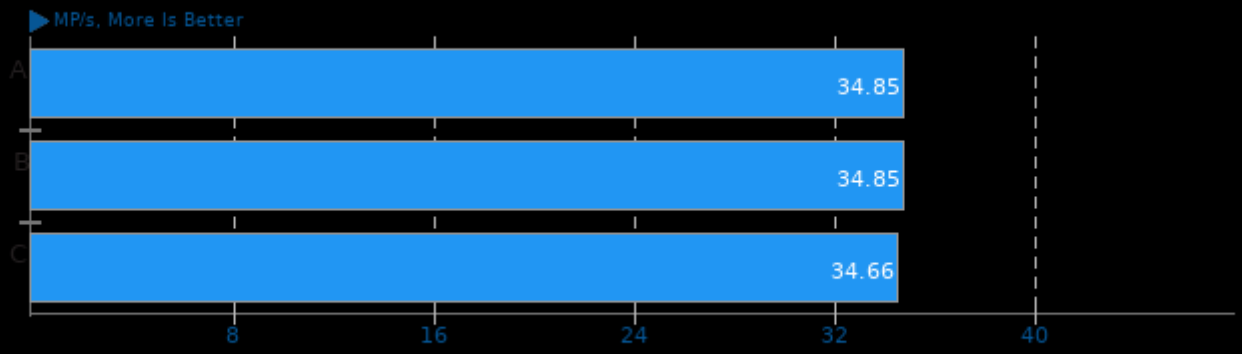
Compression Level: 19, Long Mode - Decompression Speed



1. *** zstd command line interface 64-bits v1.4.5, by Yann Collet ***

JPEG XL libjxl 0.6.1

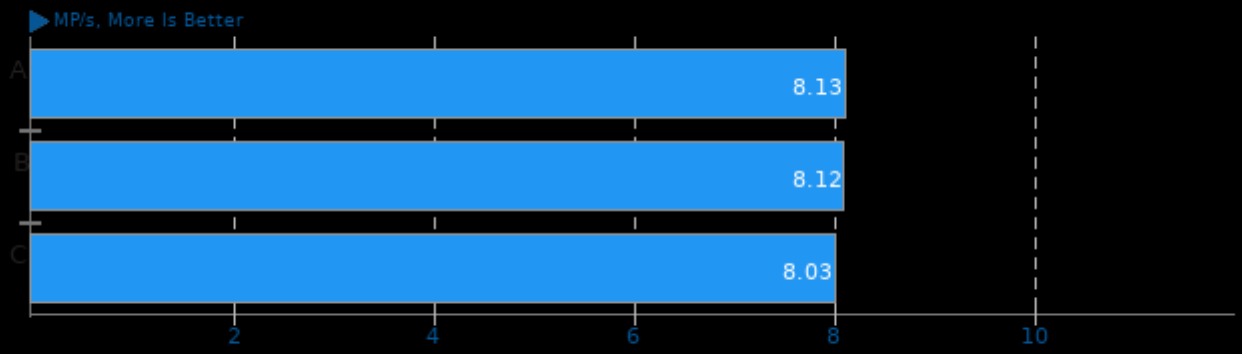
Input: PNG - Encode Speed: 5



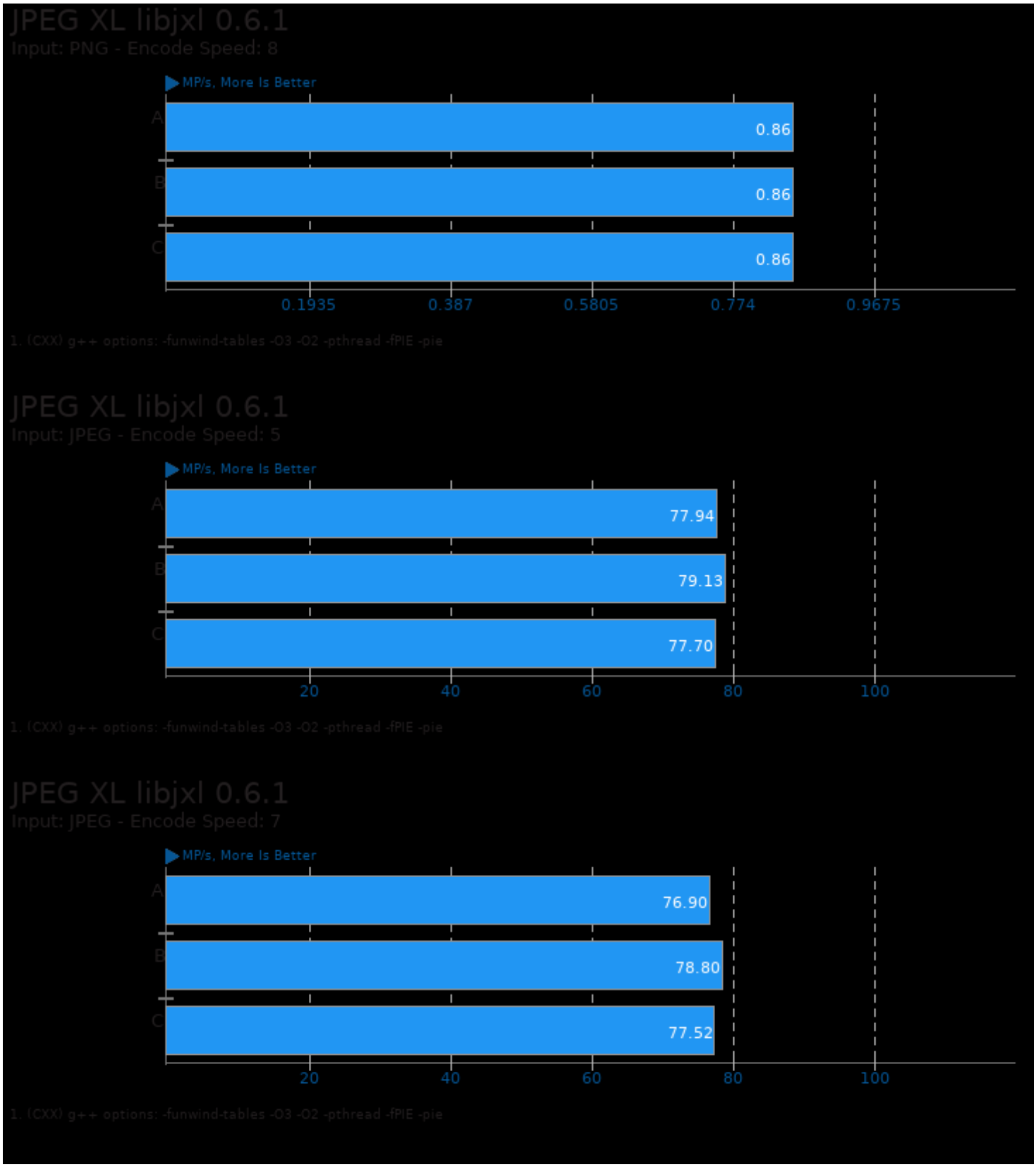
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie

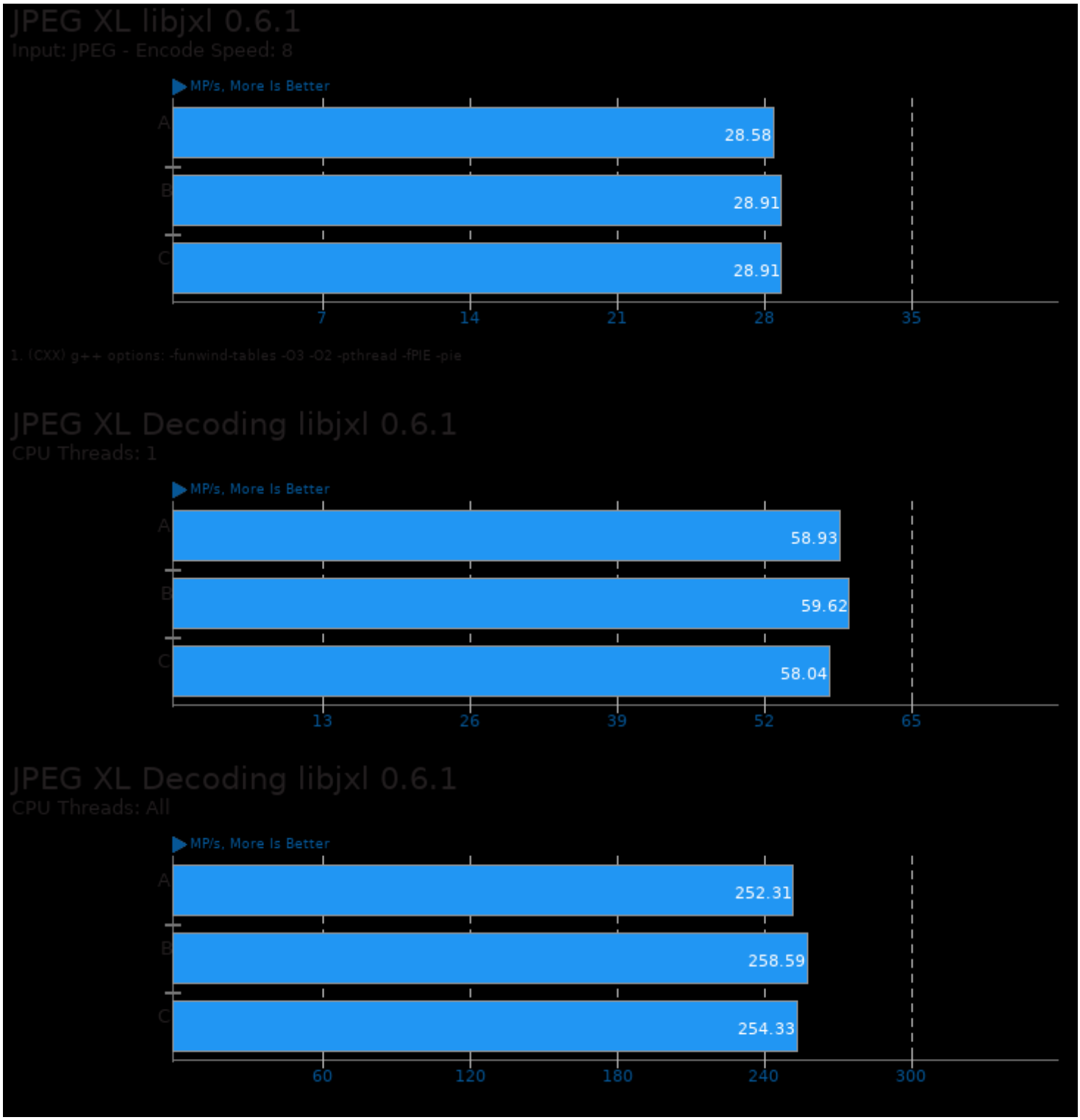
JPEG XL libjxl 0.6.1

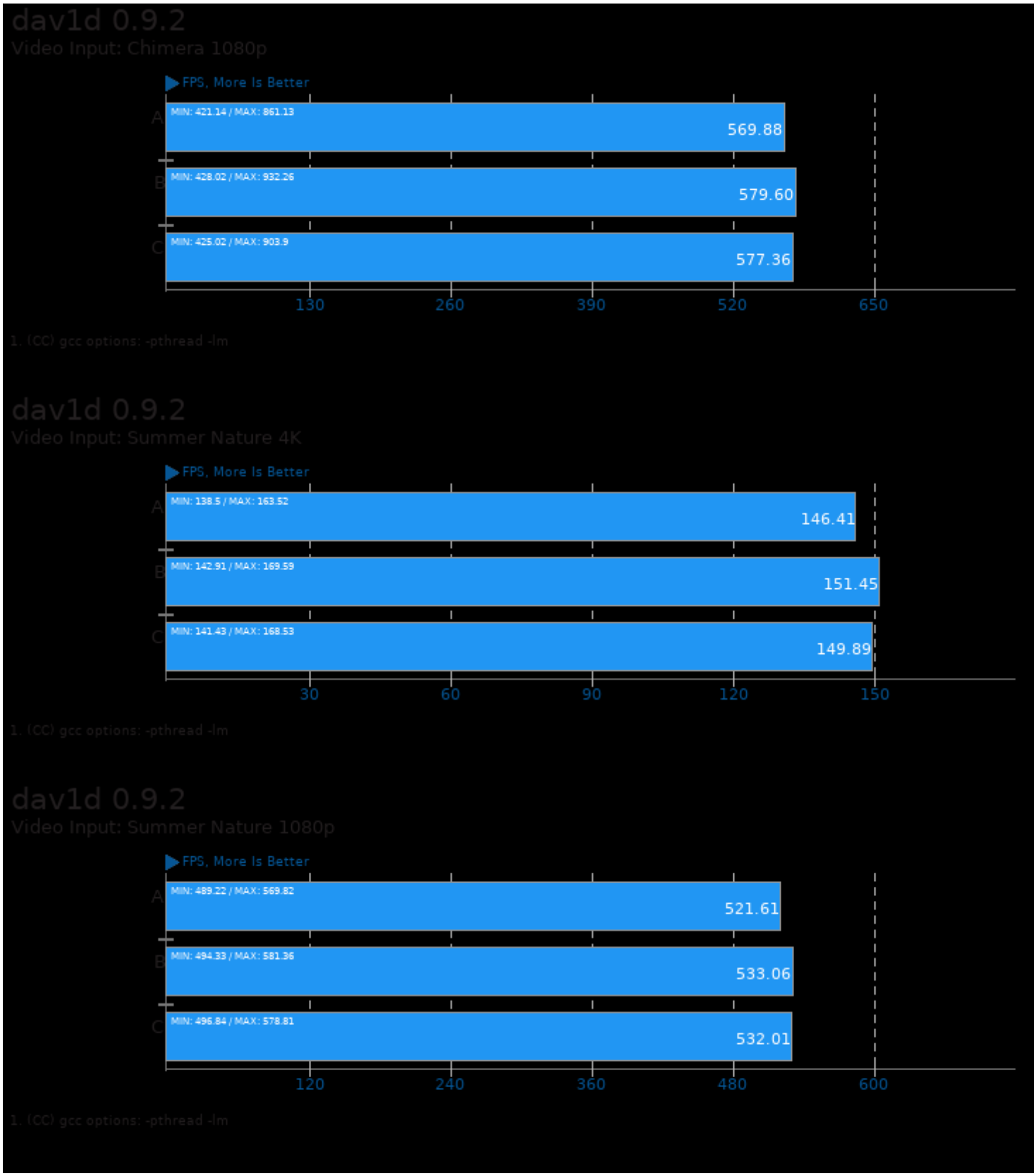
Input: PNG - Encode Speed: 7



1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie

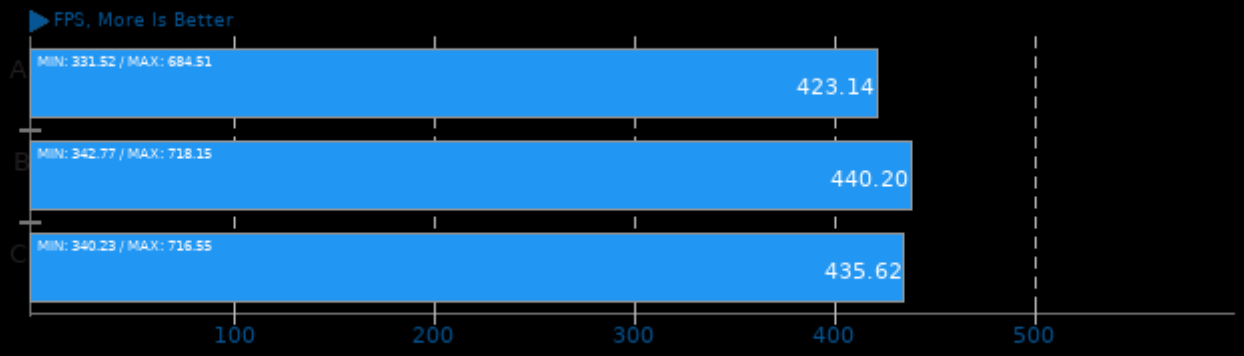

JPEG XL libjxl 0.6.1
Input: PNG - Encode Speed: 8
MP/s, More Is Better
A
B
C
0.86
0.86
0.86
0.1935
0.387
0.5805
0.774
0.9675
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie
JPEG XL libjxl 0.6.1
Input: JPEG - Encode Speed: 5
MP/s, More Is Better
A
B
C
77.94
79.13
77.70
20
40
60
80
100
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie
JPEG XL libjxl 0.6.1
Input: JPEG - Encode Speed: 7
MP/s, More Is Better
A
B
C
76.90
78.80
77.52
20
40
60
80
100
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie


JPEG XL libjxl 0.6.1
Input: JPEG - Encode Speed: 8
MP/s, More Is Better
A
B
C
28.58
28.91
28.91
7
14
21
28
35
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie
JPEG XL Decoding libjxl 0.6.1
CPU Threads: 1
MP/s, More Is Better
A
B
C
58.93
59.62
58.04
13
26
39
52
65
JPEG XL Decoding libjxl 0.6.1
CPU Threads: All
MP/s, More Is Better
A
B
C
252.31
258.59
254.33
60
120
180
240
300


dav1d 0.9.2
Video Input: Chimera 1080p
FPS, More Is Better
A
MIN: 421.14 / MAX: 861.13
569.88
B
MIN: 428.02 / MAX: 932.26
579.60
C
MIN: 425.02 / MAX: 903.9
577.36
130
260
390
520
650
1. (CC) gcc options: -pthread -lm
dav1d 0.9.2
Video Input: Summer Nature 4K
FPS, More Is Better
A
MIN: 138.5 / MAX: 163.52
146.41
B
MIN: 142.91 / MAX: 169.59
151.45
C
MIN: 141.43 / MAX: 168.53
149.89
30
60
90
120
150
1. (CC) gcc options: -pthread -lm
dav1d 0.9.2
Video Input: Summer Nature 1080p
FPS, More Is Better
A
MIN: 489.22 / MAX: 569.82
521.61
B
MIN: 494.33 / MAX: 581.36
533.06
C
MIN: 496.84 / MAX: 578.81
532.01
120
240
360
480
600
1. (CC) gcc options: -pthread -lm

dav1d 0.9.2

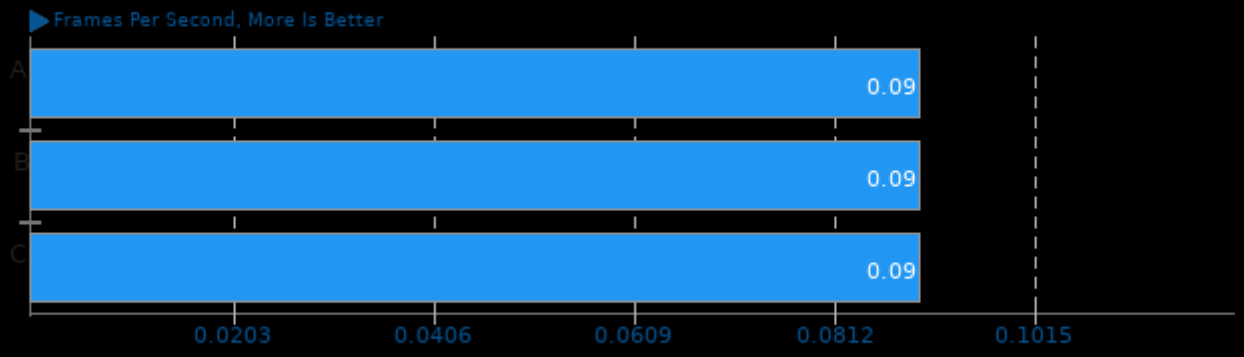
Video Input: Chimera 1080p 10-bit



1. (CC) gcc options: -pthread -lm

AOM AV1 3.2

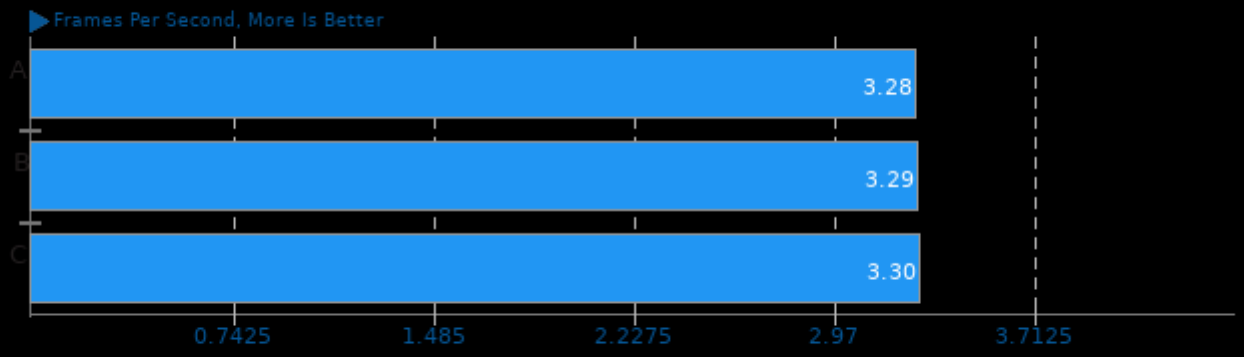
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 4K



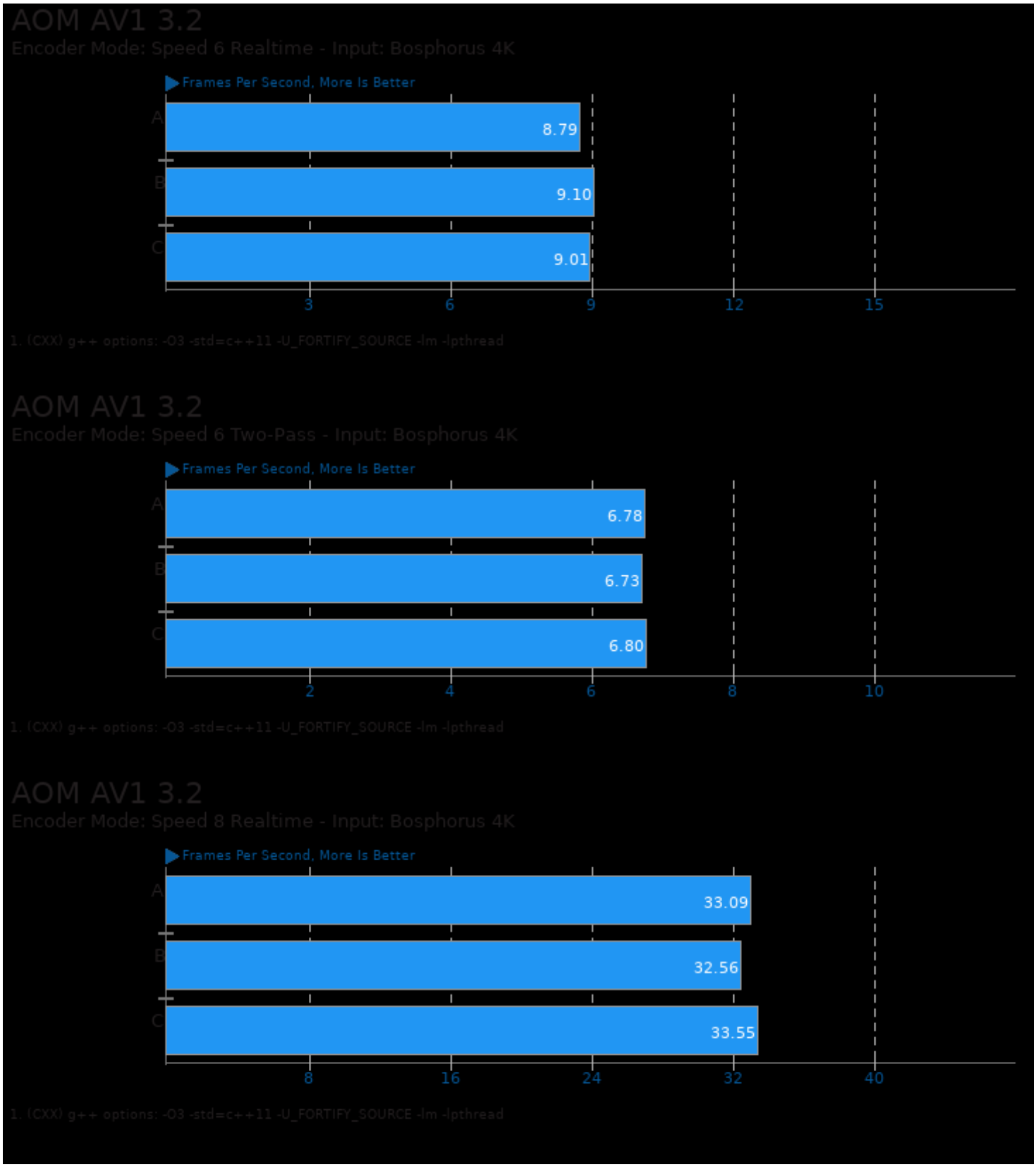
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

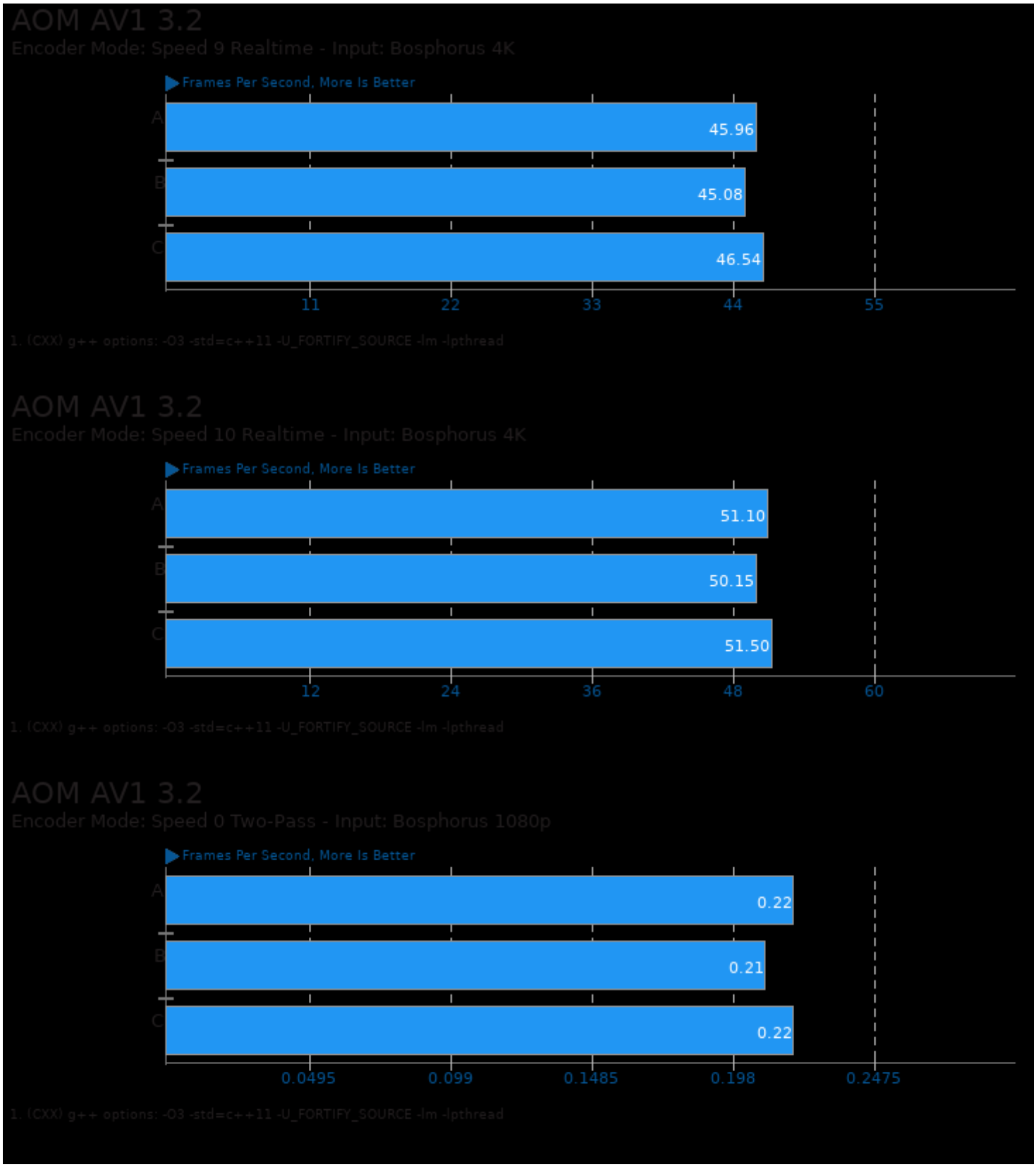
AOM AV1 3.2

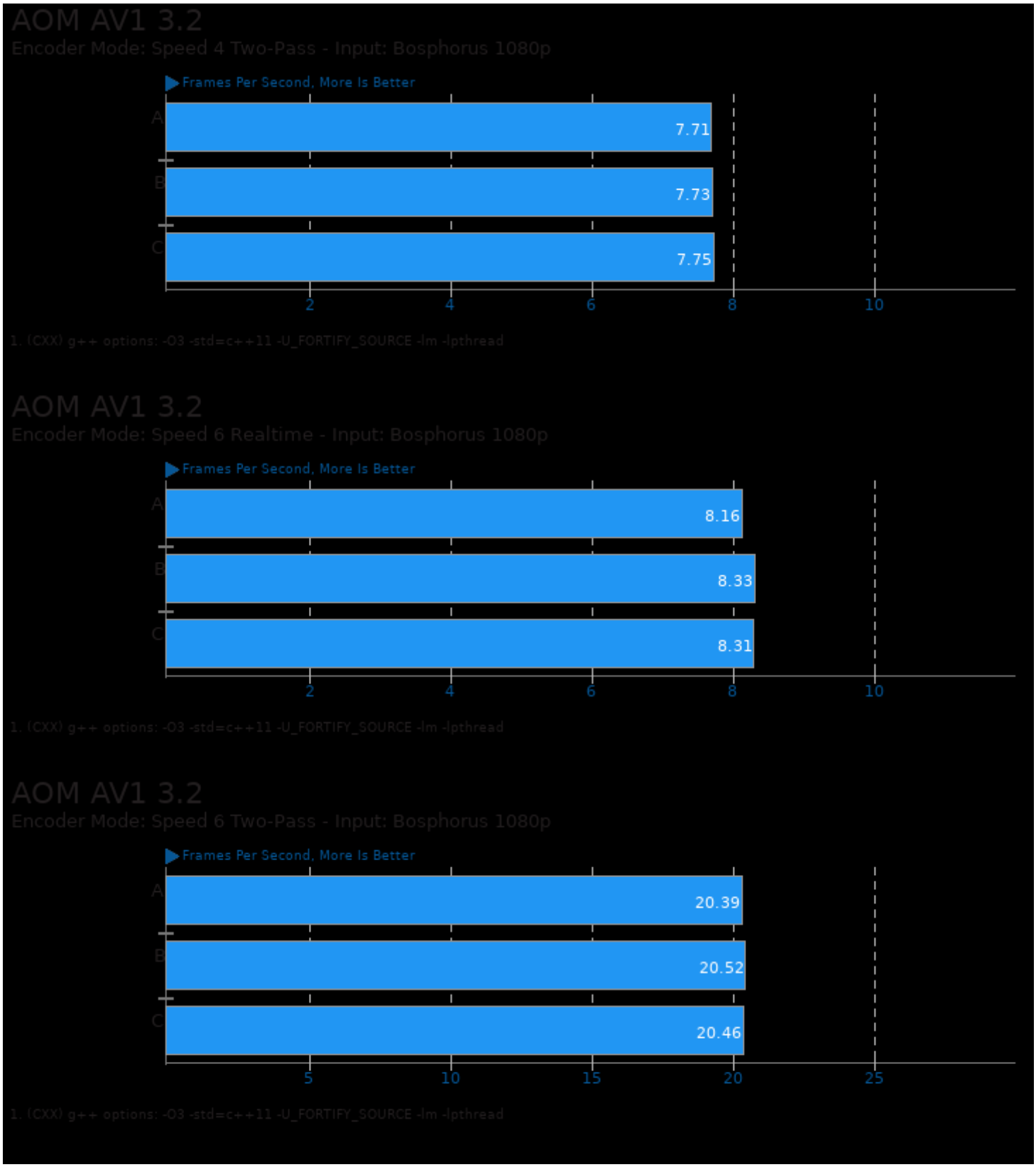
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 4K

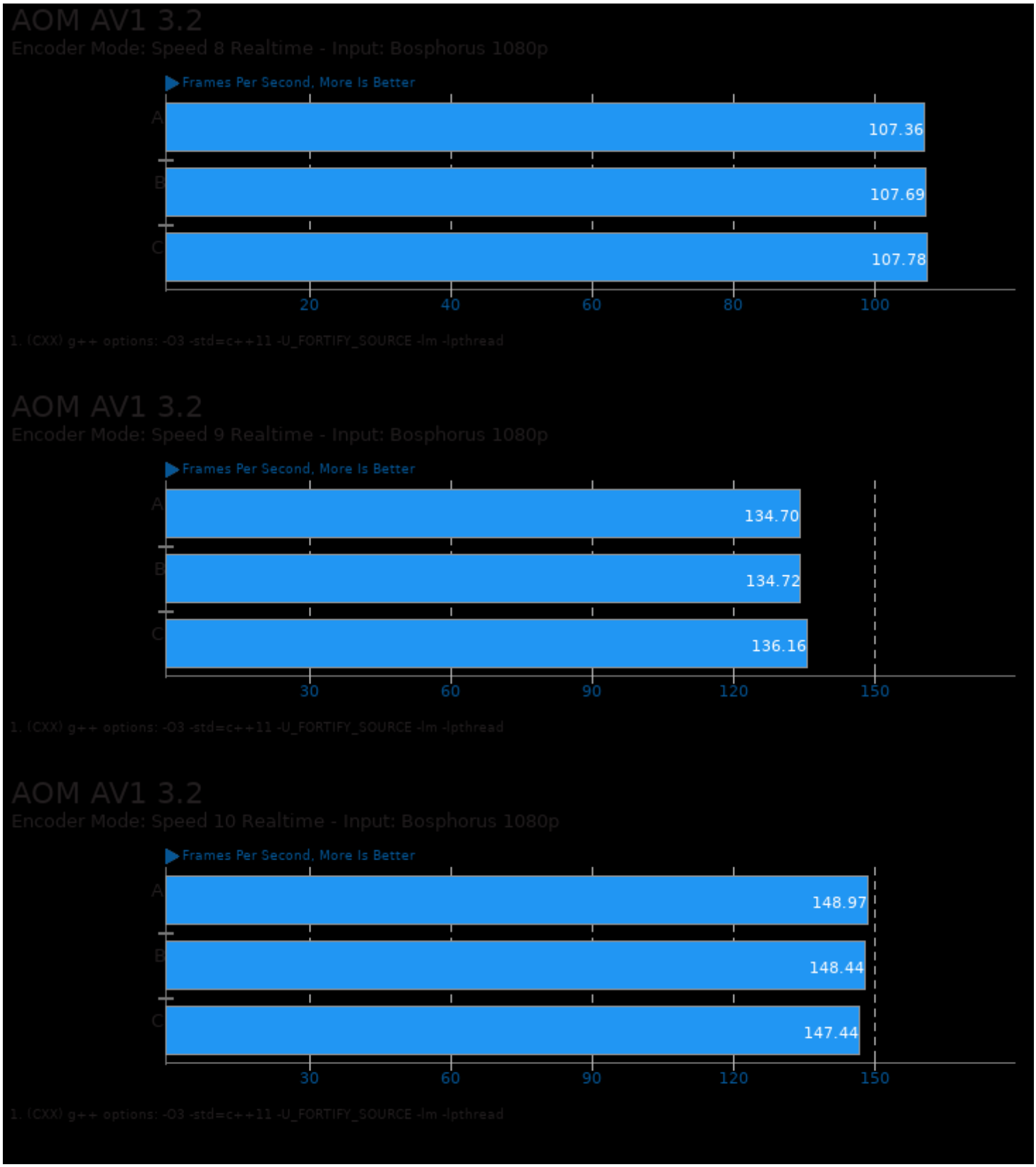


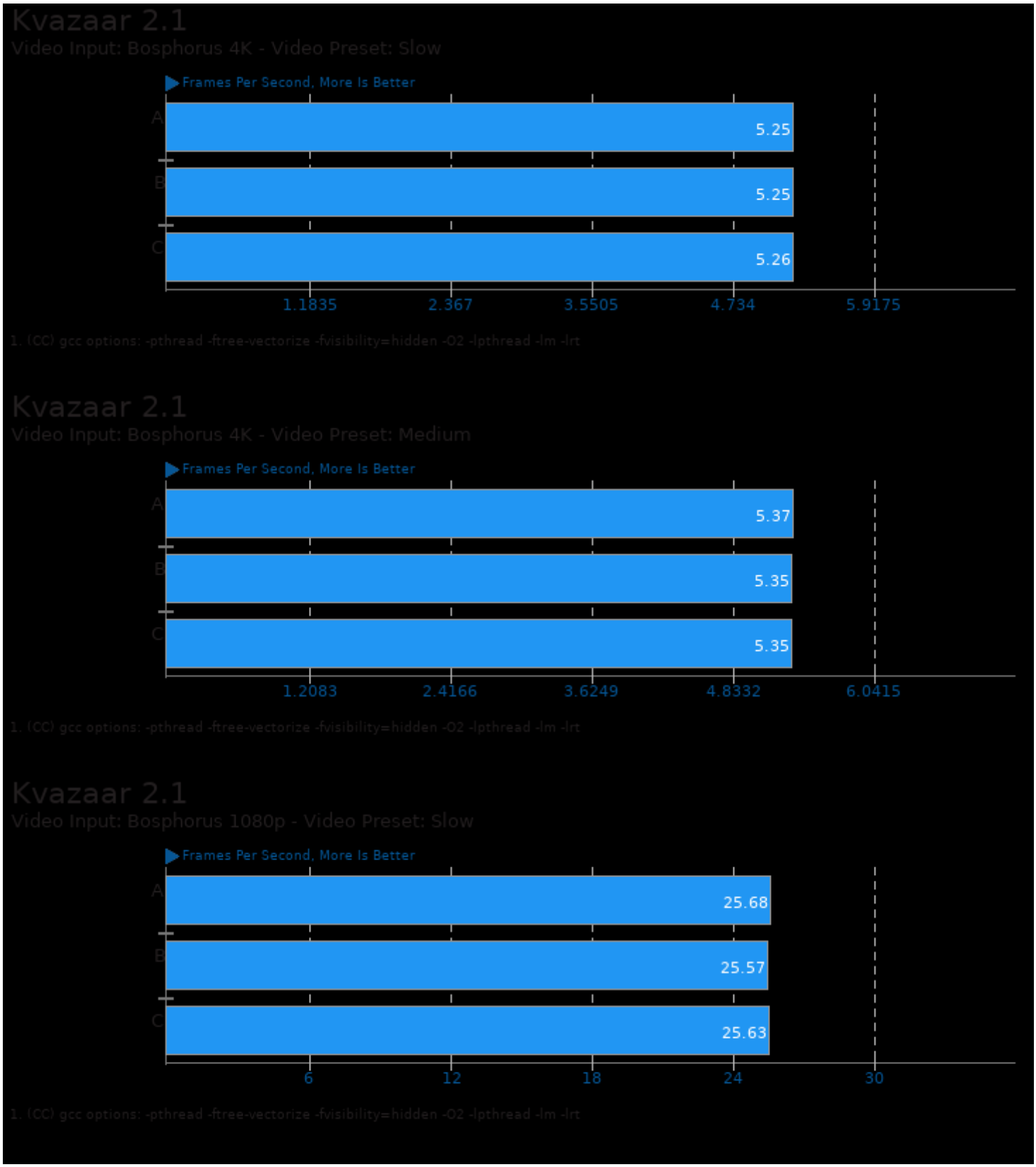
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread


AOM AV1 3.2
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
8.79
9.10
9.01
3
6
9
12
15
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
6.78
6.73
6.80
2
4
6
8
10
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
33.09
32.56
33.55
8
16
24
32
40
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread


AOM AV1 3.2
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
45.96
45.08
46.54
11
22
33
44
55
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
A
B
C
51.10
50.15
51.50
12
24
36
48
60
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
0.22
0.21
0.22
0.0495
0.099
0.1485
0.198
0.2475
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

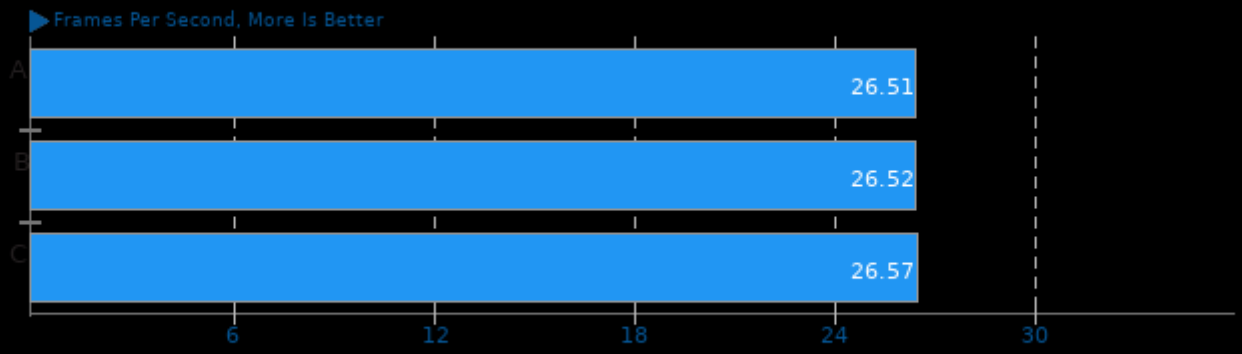

AOM AV1 3.2
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
7.71
7.73
7.75
2
4
6
8
10
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
8.16
8.33
8.31
2
4
6
8
10
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
20.39
20.52
20.46
5
10
15
20
25
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread


AOM AV1 3.2
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
107.36
107.69
107.78
20
40
60
80
100
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
134.70
134.72
136.16
30
60
90
120
150
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.2
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 1080p
Frames Per Second, More Is Better
A
B
C
148.97
148.44
147.44
30
60
90
120
150
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread


Kvazaar 2.1
Video Input: Bosphorus 4K - Video Preset: Slow
Frames Per Second, More Is Better
A
B
C
5.25
5.25
5.26
1.1835
2.367
3.5505
4.734
5.9175
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
B
C
5.37
5.35
5.35
1.2083
2.4166
3.6249
4.8332
6.0415
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
B
C
25.68
25.57
25.63
6
12
18
24
30
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

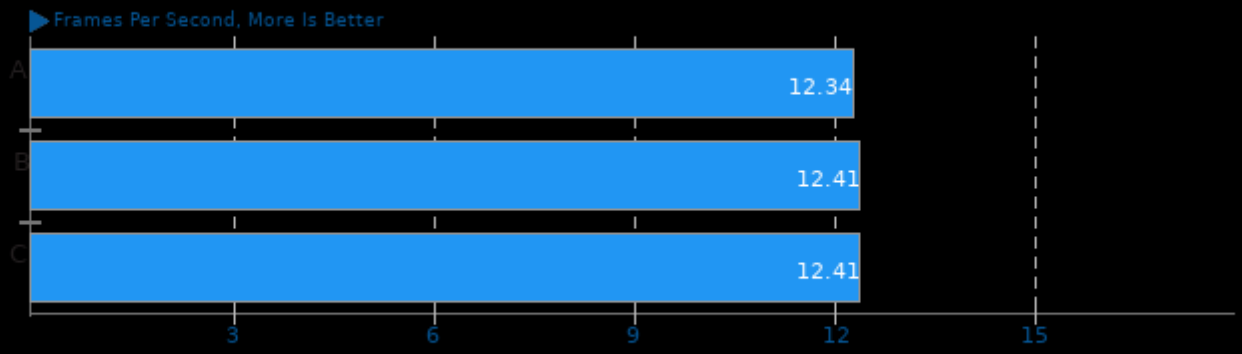
Video Input: Bosphorus 1080p - Video Preset: Medium



1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

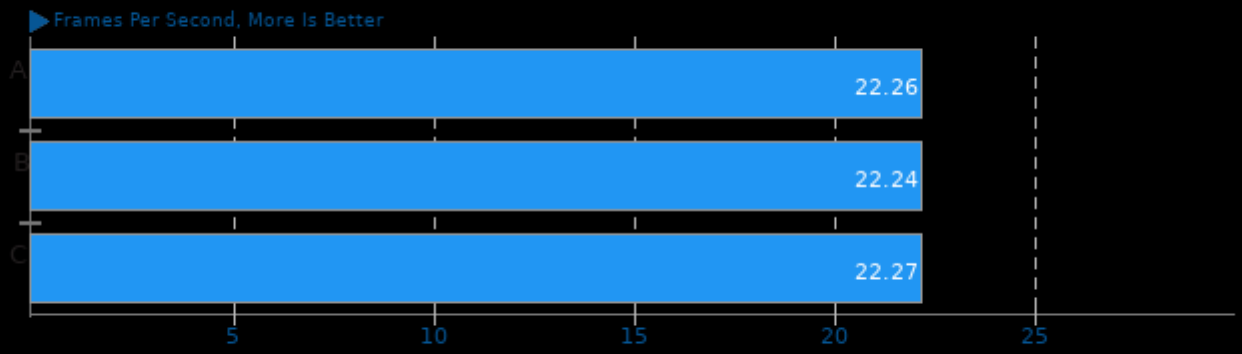
Video Input: Bosphorus 4K - Video Preset: Very Fast



1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

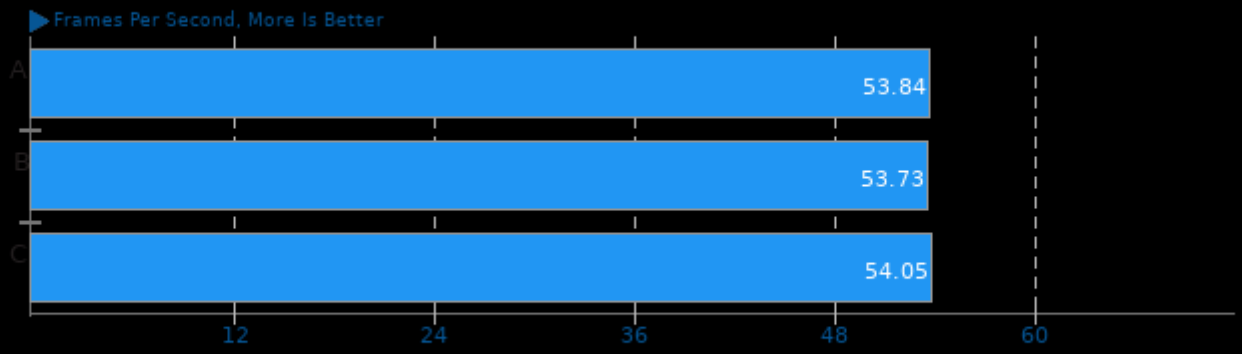
Video Input: Bosphorus 4K - Video Preset: Ultra Fast



1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

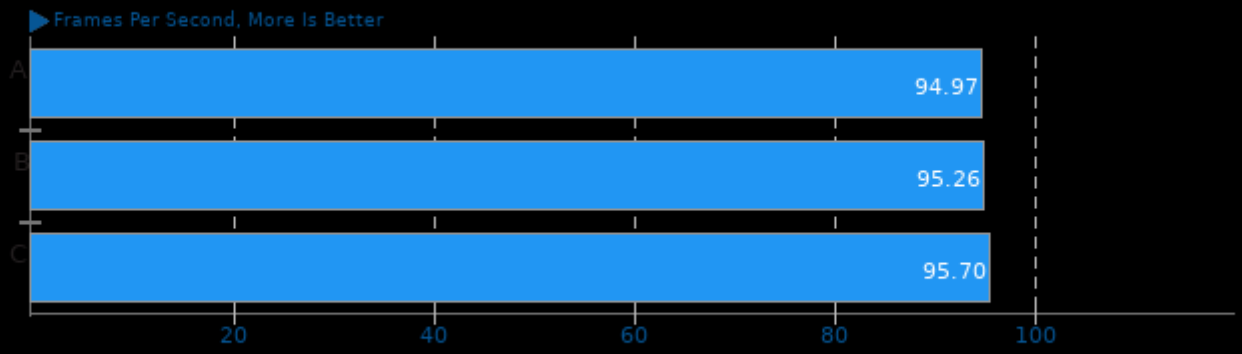
Video Input: Bosphorus 1080p - Video Preset: Very Fast



1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

Kvazaar 2.1

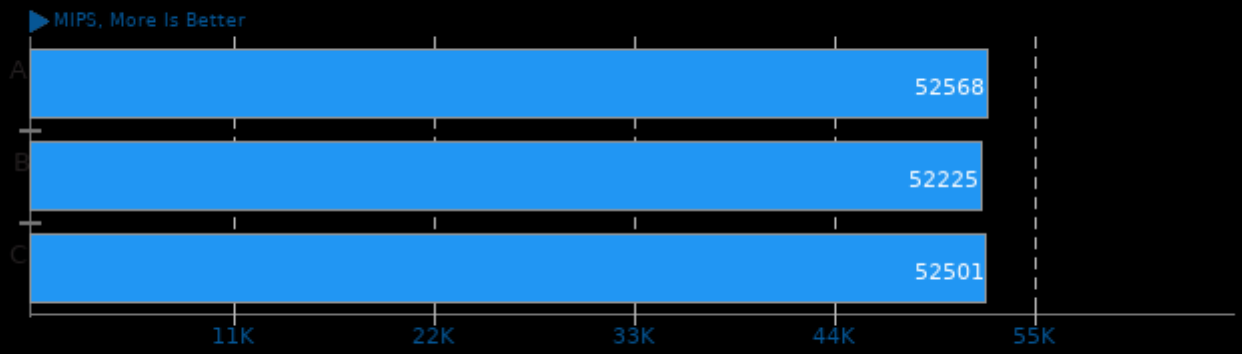
Video Input: Bosphorus 1080p - Video Preset: Ultra Fast



1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

7-Zip Compression 21.06

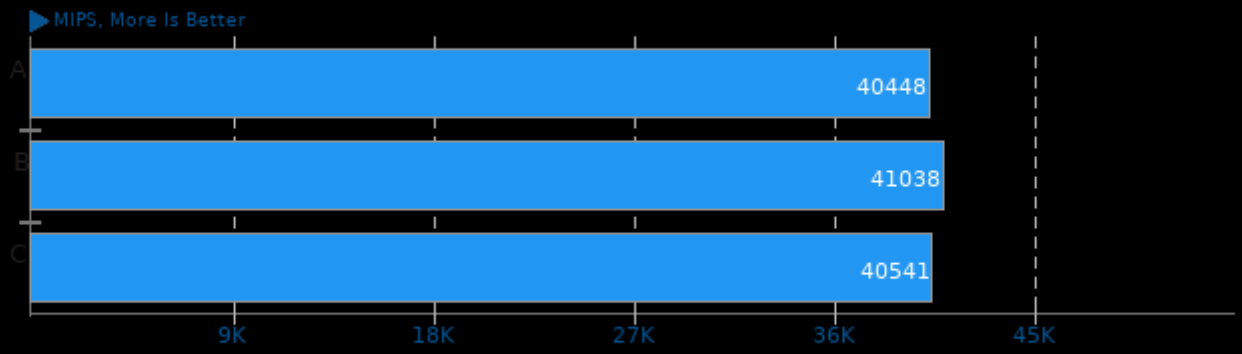
Test: Compression Rating



1. (CXX) g++ options: -lpthread -ldl -O2 -fPIC

7-Zip Compression 21.06

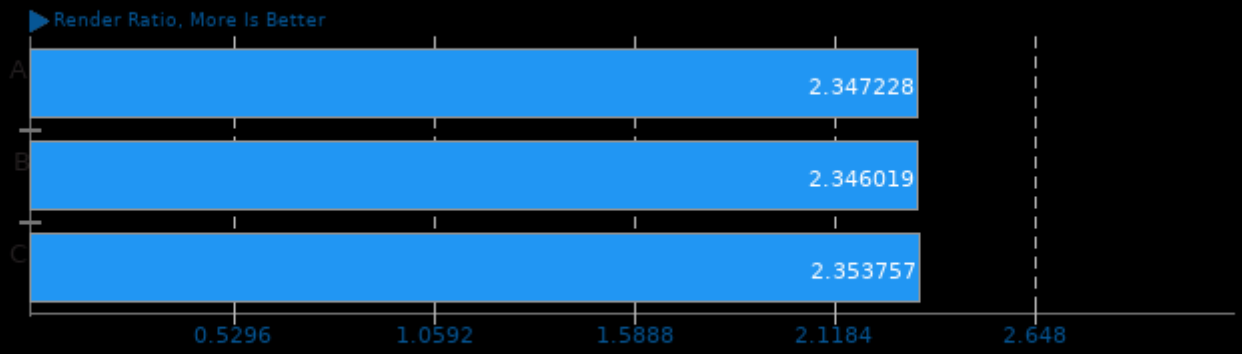
Test: Decompression Rating



1. (CXX) g++ options: -lpthread -ldl -O2 -fPIC

Stargate Digital Audio Workstation 21.10.9

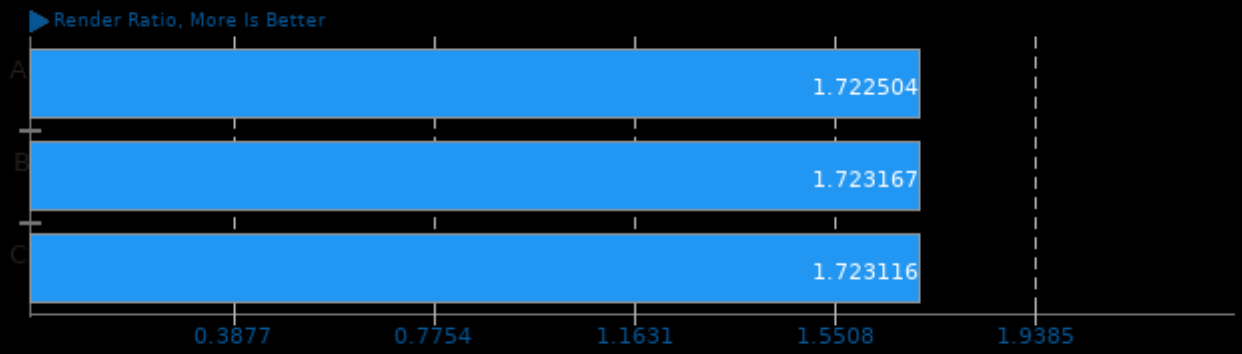
Sample Rate: 44100 - Buffer Size: 512



1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

Stargate Digital Audio Workstation 21.10.9

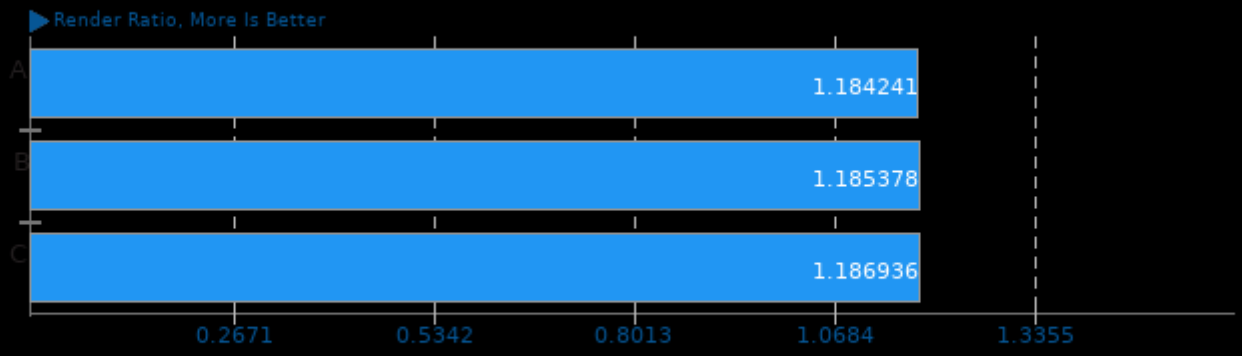
Sample Rate: 96000 - Buffer Size: 512



1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

Stargate Digital Audio Workstation 21.10.9

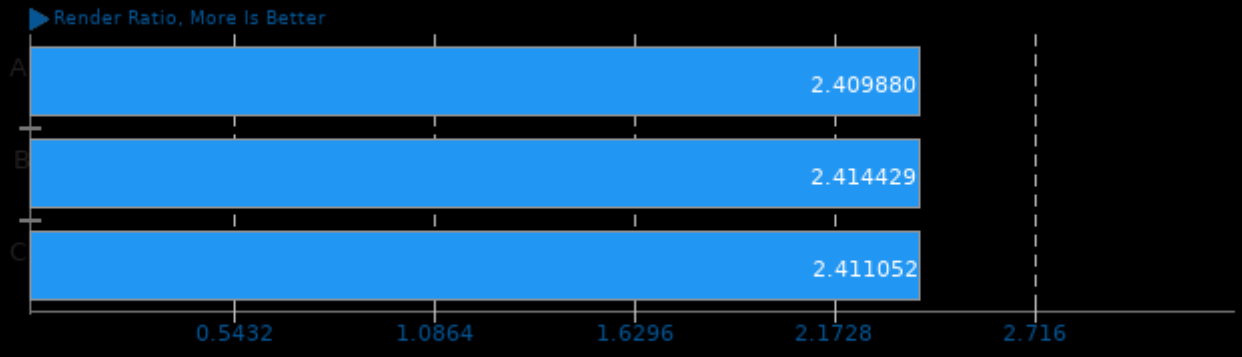
Sample Rate: 192000 - Buffer Size: 512



1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

Stargate Digital Audio Workstation 21.10.9

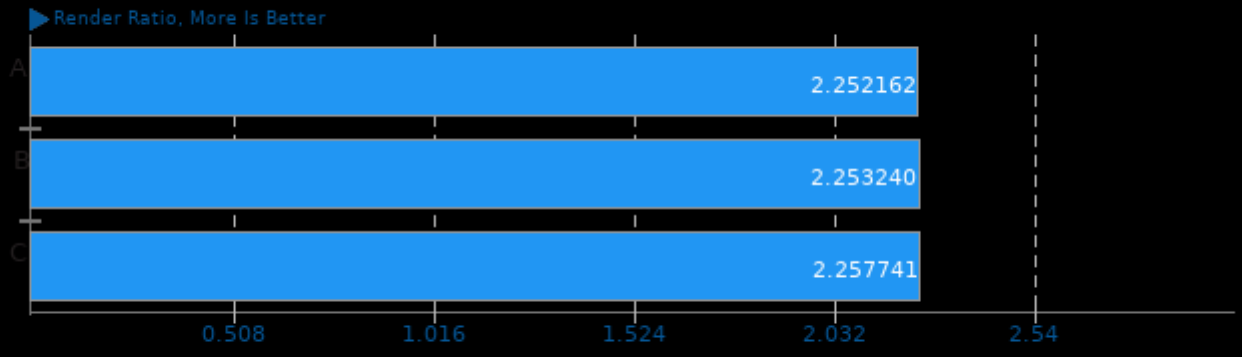
Sample Rate: 44100 - Buffer Size: 1024



1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

Stargate Digital Audio Workstation 21.10.9

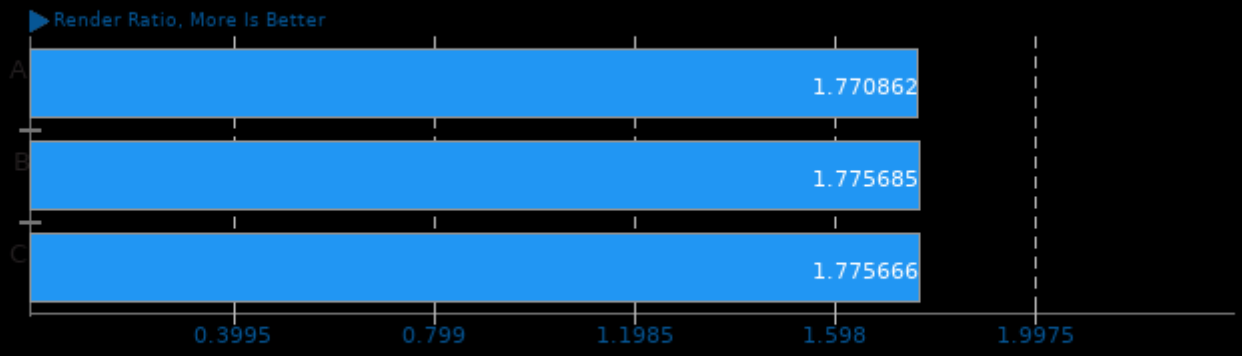
Sample Rate: 480000 - Buffer Size: 512



1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

Stargate Digital Audio Workstation 21.10.9

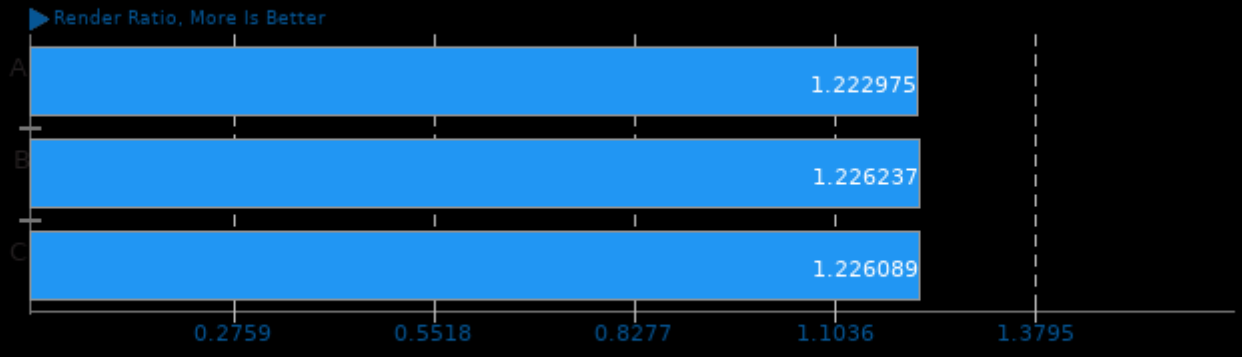
Sample Rate: 96000 - Buffer Size: 1024



1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

Stargate Digital Audio Workstation 21.10.9

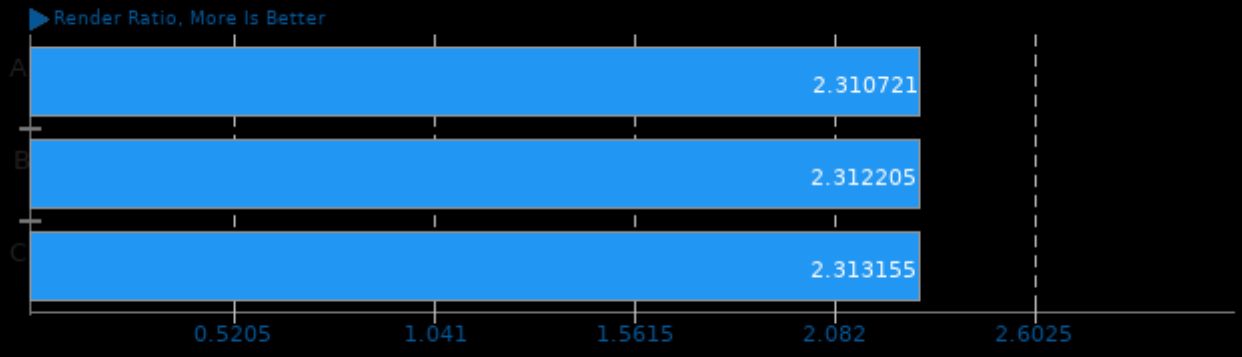
Sample Rate: 192000 - Buffer Size: 1024



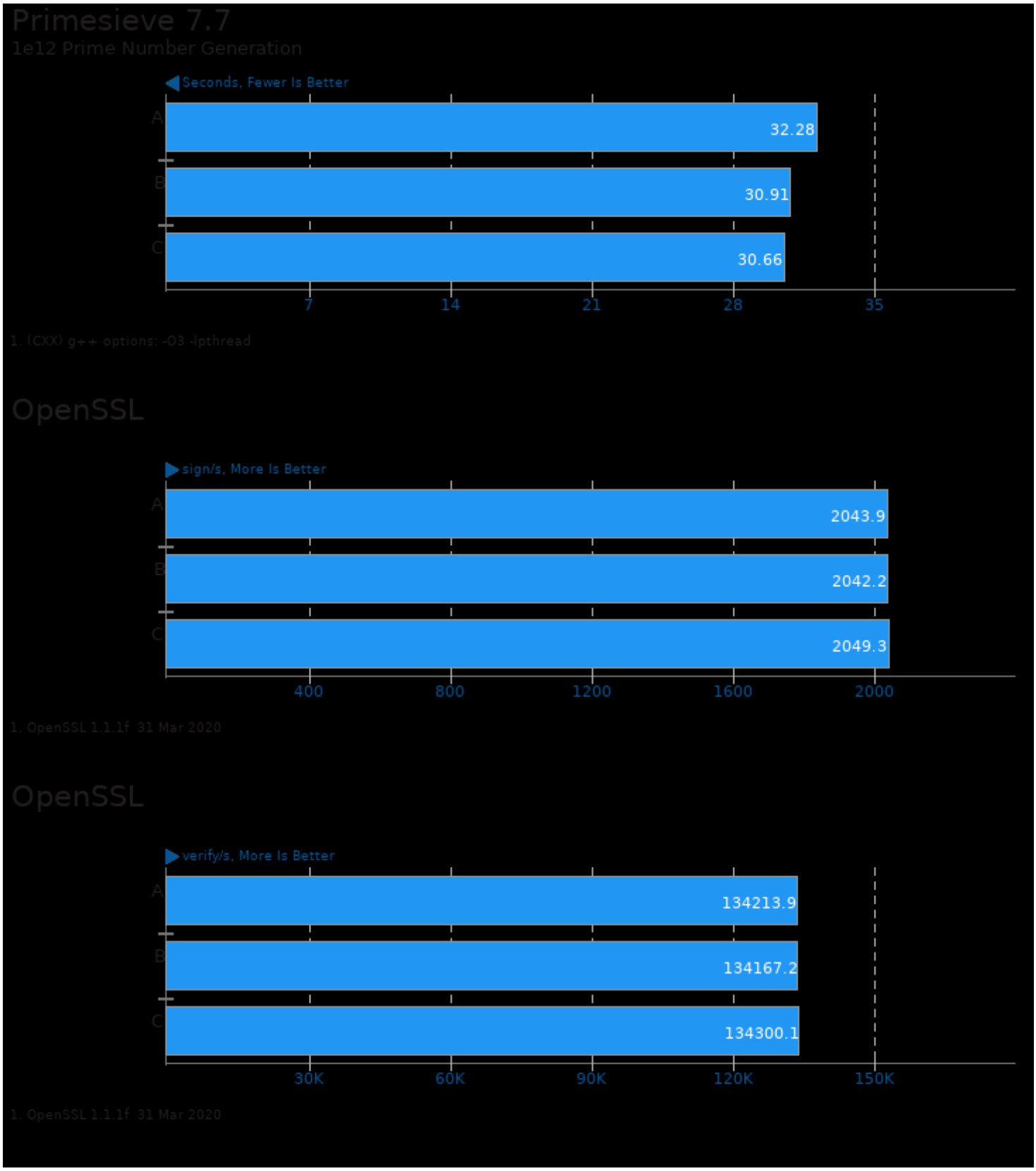
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

Stargate Digital Audio Workstation 21.10.9

Sample Rate: 480000 - Buffer Size: 1024

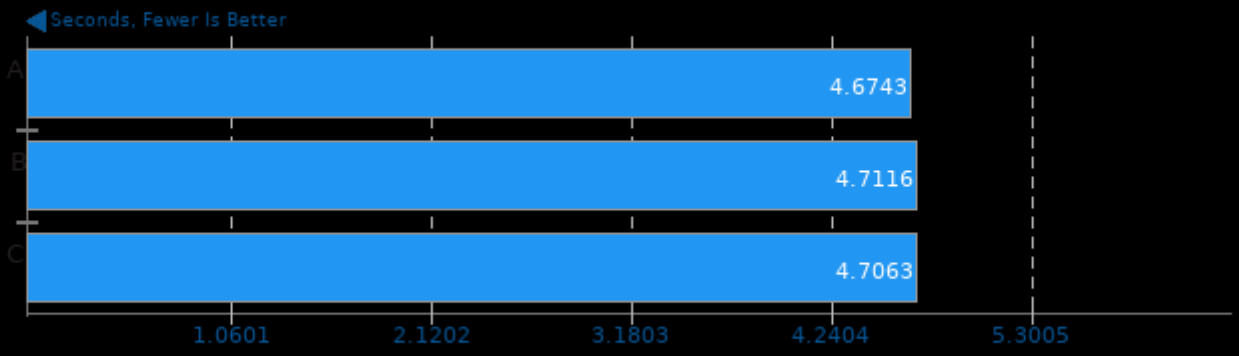


1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions


Primesieve 7.7
1e12 Prime Number Generation
Seconds, Fewer Is Better
A
32.28
B
30.91
C
30.66
7
14
21
28
35
1. (CXX) g++ options: -O3 -lpthread
OpenSSL
sign/s, More Is Better
A
2043.9
B
2042.2
C
2049.3
400
800
1200
1600
2000
1. OpenSSL 1.1.1f 31 Mar 2020
OpenSSL
verify/s, More Is Better
A
134213.9
B
134167.2
C
134300.1
30K
60K
90K
120K
150K
1. OpenSSL 1.1.1f 31 Mar 2020

ASTC Encoder 3.2

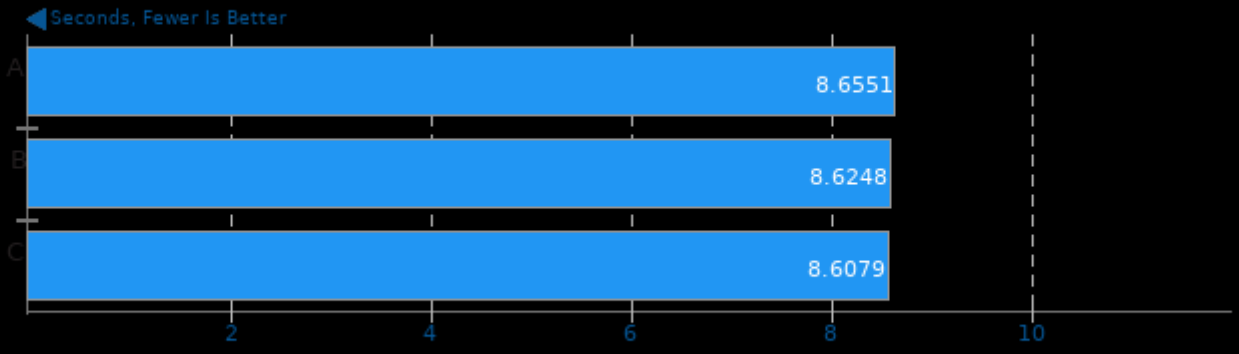
Preset: Medium



1. (CXX) g++ options: -O3 -flto -pthread

ASTC Encoder 3.2

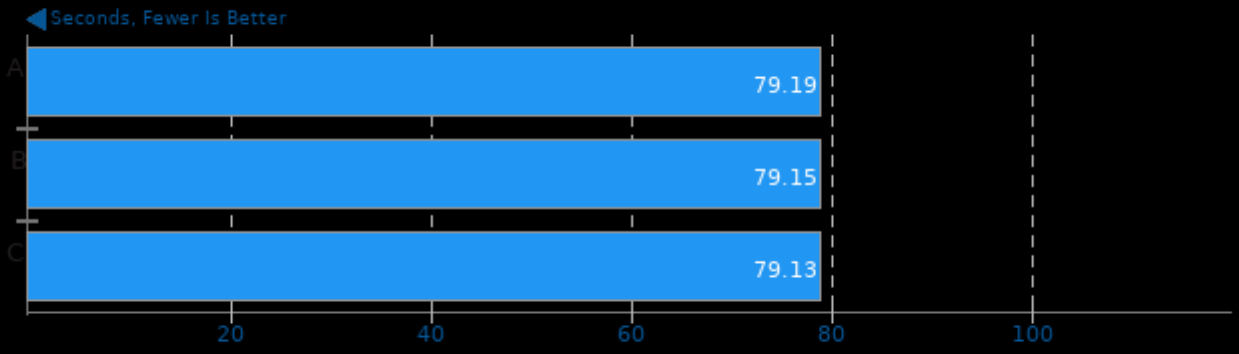
Preset: Thorough



1. (CXX) g++ options: -O3 -flto -pthread

ASTC Encoder 3.2

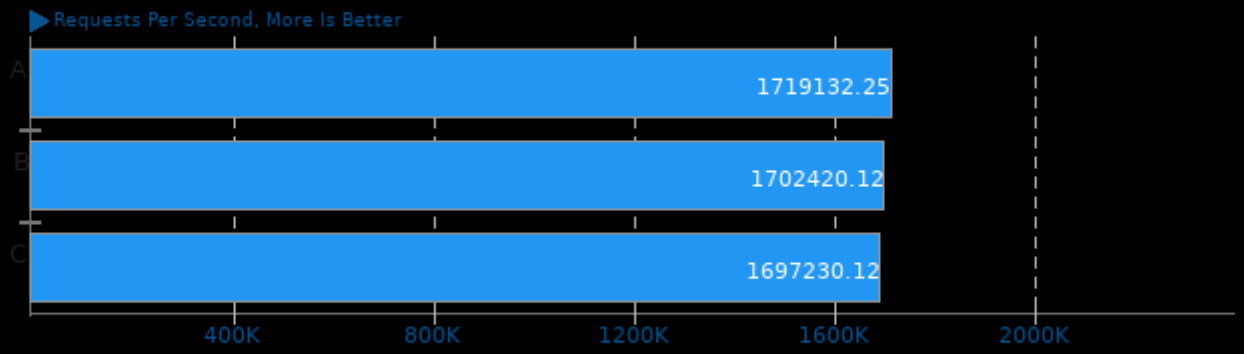
Preset: Exhaustive



1. (CXX) g++ options: -O3 -flto -pthread

Redis Memtier / Redis Benchmark

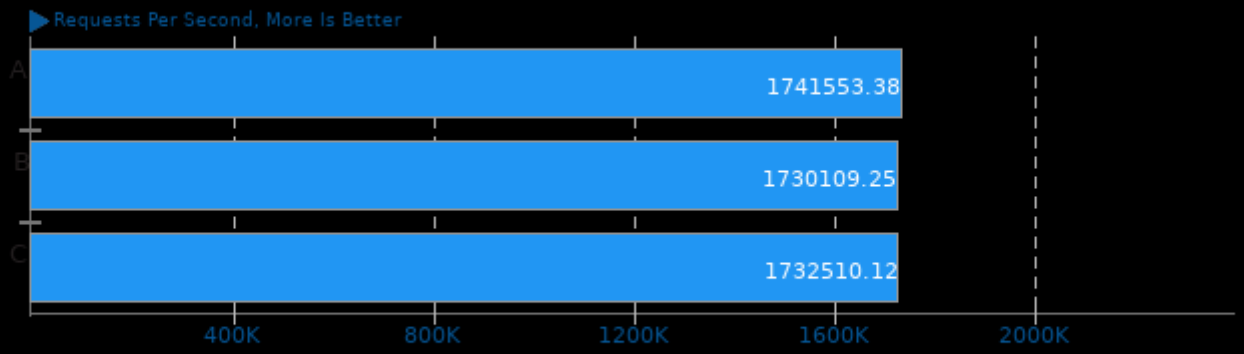
Test: LPUSH and LPOP: lpop



1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
2. Redis server v=6.0.6 sha=00000000:0 malloc=jemalloc-5.2.1 bits=64 build=ca474e00afe358bb

Redis Memtier / Redis Benchmark

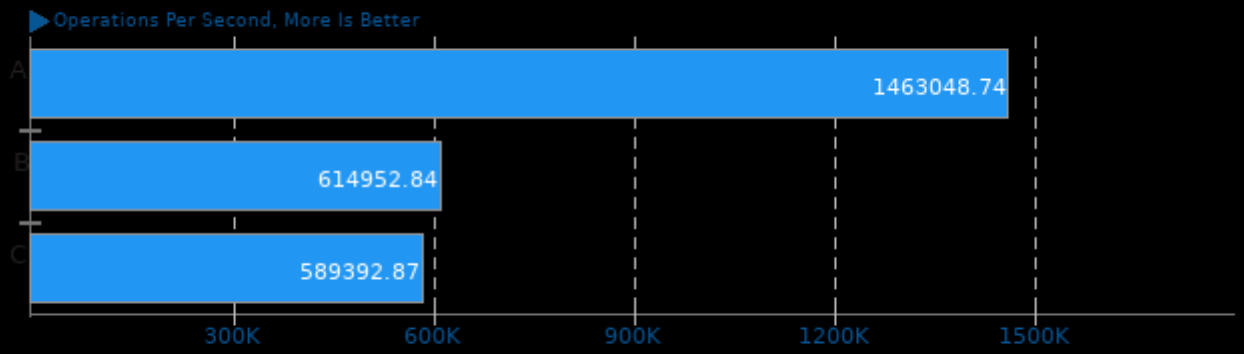
Test: LPUSH and LPOP: lpush



1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
2. Redis server v=6.0.6 sha=00000000:0 malloc=jemalloc-5.2.1 bits=64 build=ca474e00afe358bb

Redis Memtier / Redis Benchmark

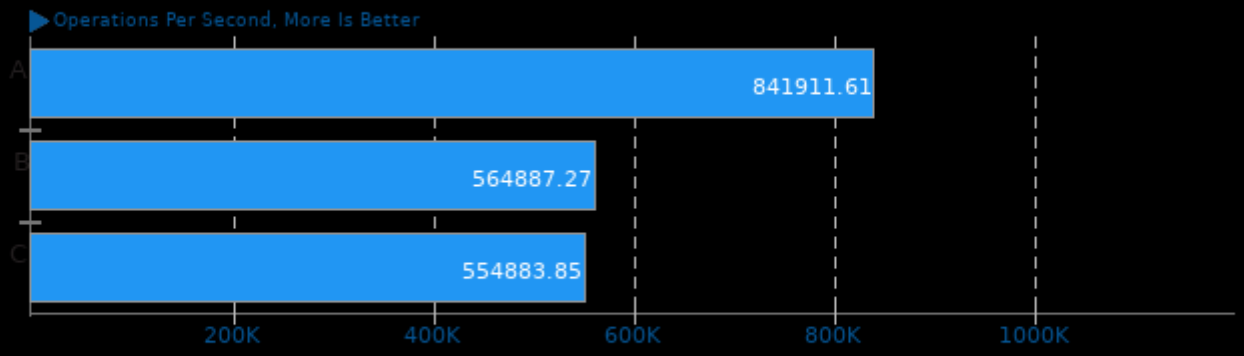
Test: GET



1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
2. Redis server v=6.0.6 sha=00000000:0 malloc=jemalloc-5.2.1 bits=64 build=ca474e00afe358bb

Redis Memtier / Redis Benchmark

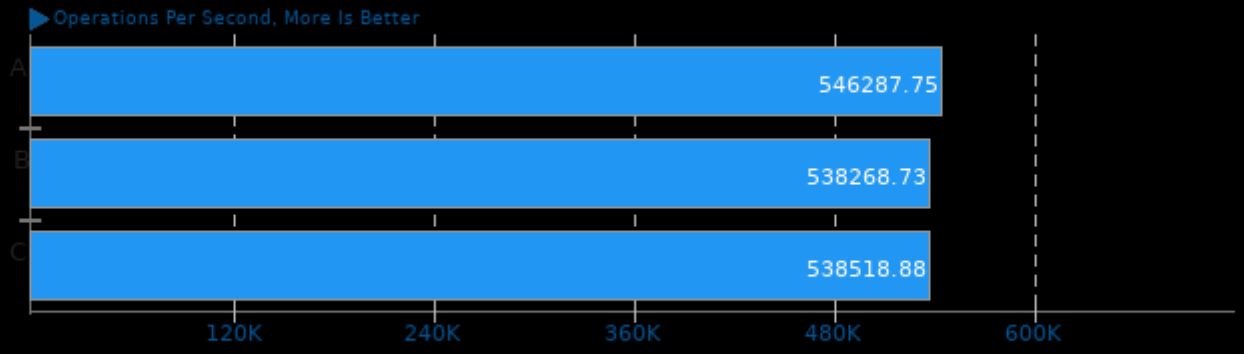
Test: MIX



1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
2. Redis server v=6.0.6 sha=00000000:0 malloc=jemalloc-5.2.1 bits=64 build=ca474e00afe358bb

Redis Memtier / Redis Benchmark

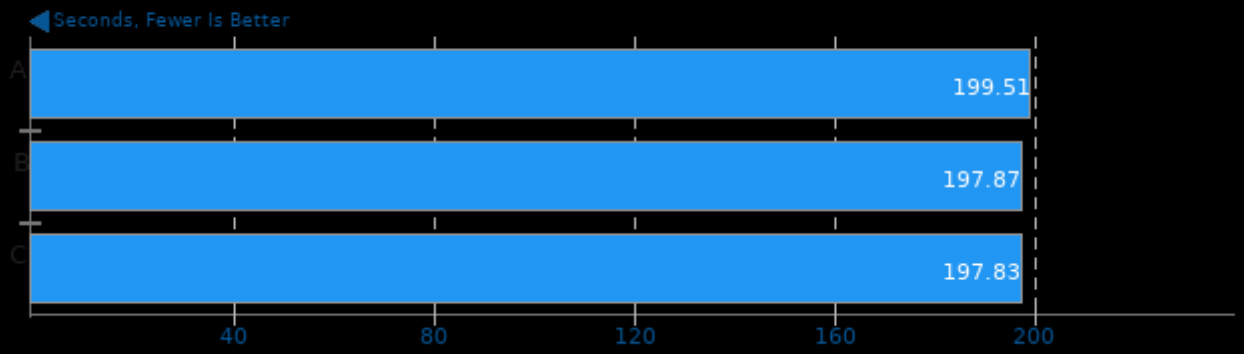
Test: SET



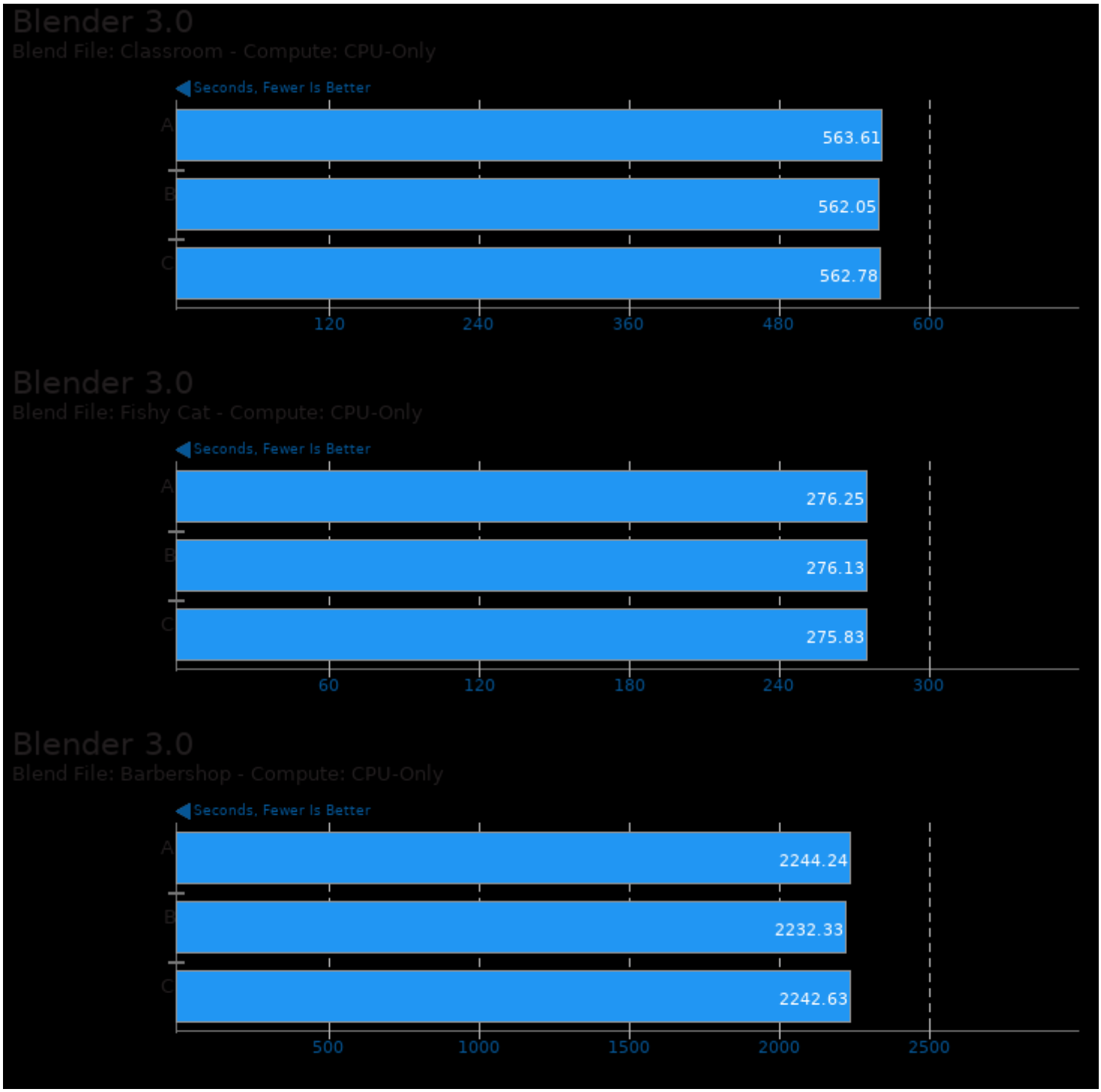
1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
2. Redis server v=6.0.6 sha=00000000:0 malloc=jemalloc-5.2.1 bits=64 build=ca474e00afe358bb

Blender 3.0

Blend File: BMW27 - Compute: CPU-Only

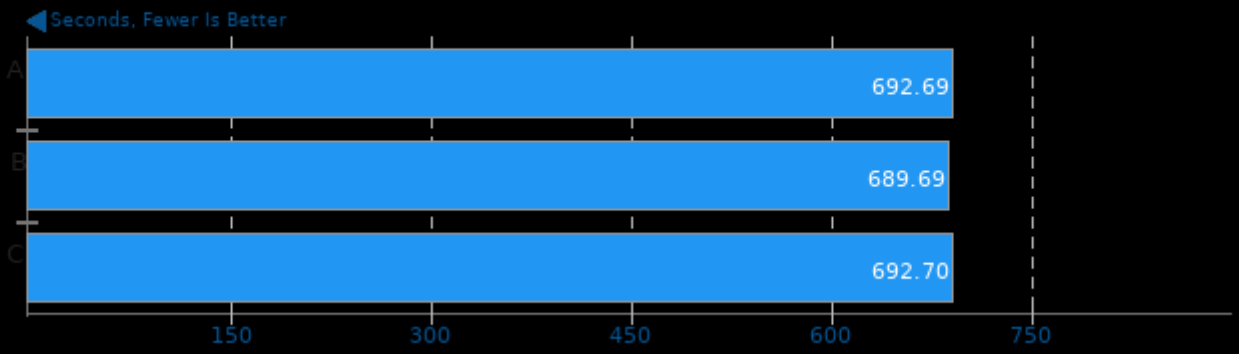


10600K Dec


Blender 3.0
Blend File: Classroom - Compute: CPU-Only
Seconds, Fewer Is Better
A
B
C
563.61
562.05
562.78
120
240
360
480
600
Blender 3.0
Blend File: Fishy Cat - Compute: CPU-Only
Seconds, Fewer Is Better
A
B
C
276.25
276.13
275.83
60
120
180
240
300
Blender 3.0
Blend File: Barbershop - Compute: CPU-Only
Seconds, Fewer Is Better
A
B
C
2244.24
2232.33
2242.63
500
1000
1500
2000
2500

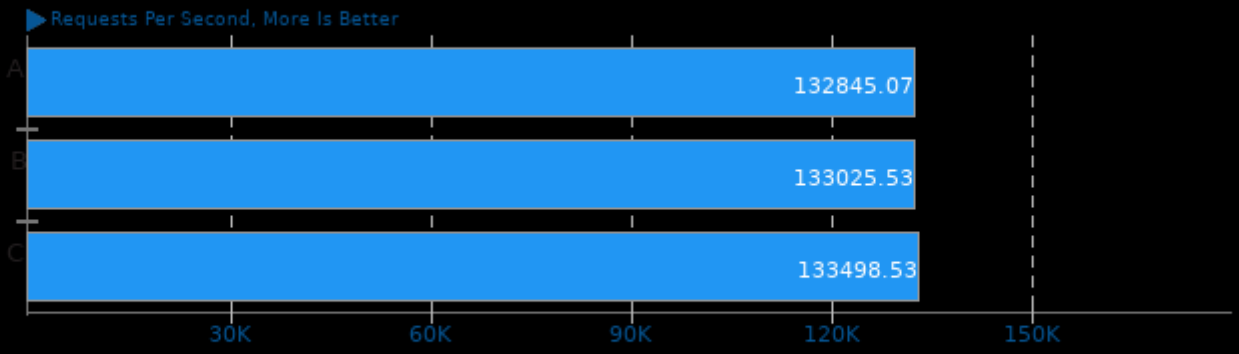
Blender 3.0

Blend File: Pabellon Barcelona - Compute: CPU-Only



Nginx

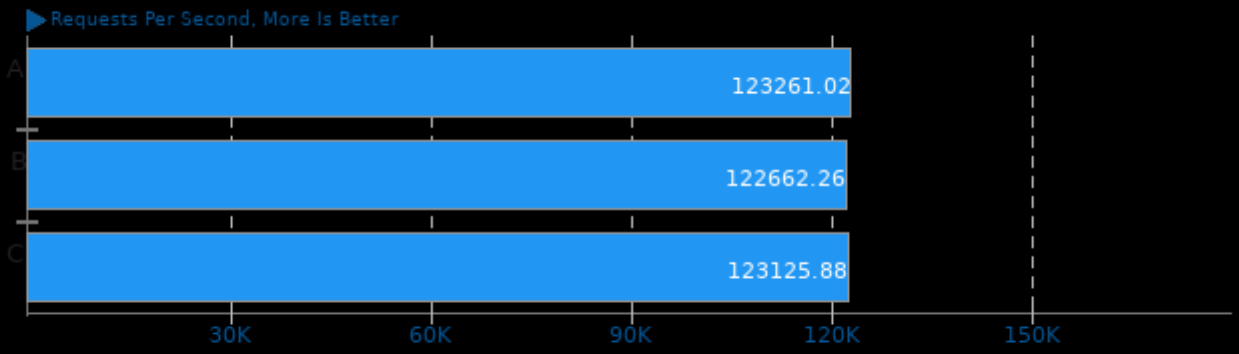
Test: Long Connection - Connections: 100



1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2
2. nginx version: nginx/1.18.0 (Ubuntu)

Nginx

Test: Long Connection - Connections: 500

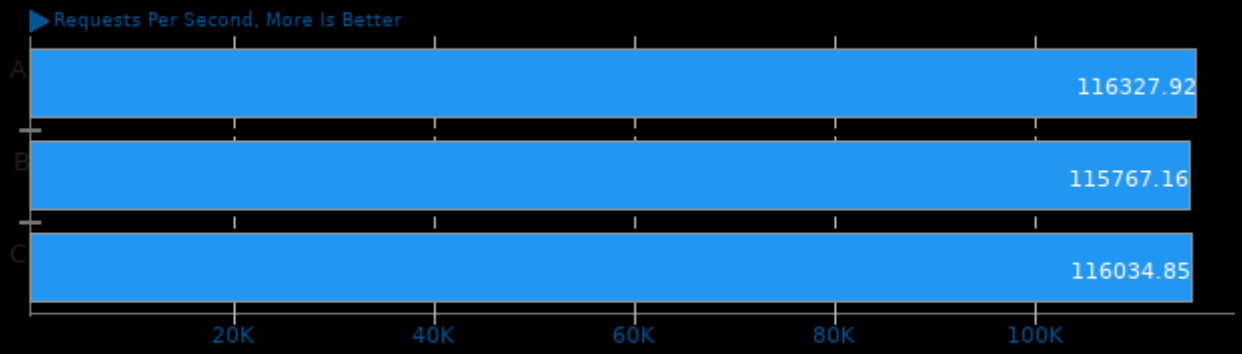


1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2
2. nginx version: nginx/1.18.0 (Ubuntu)

10600K Dec

Nginx

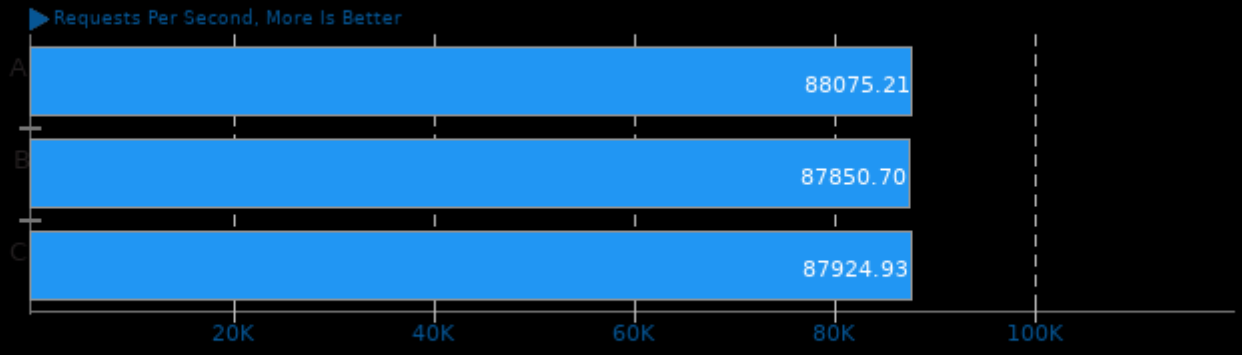
Test: Long Connection - Connections: 1000



1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2
2. nginx version: nginx/1.18.0 (Ubuntu)

Nginx

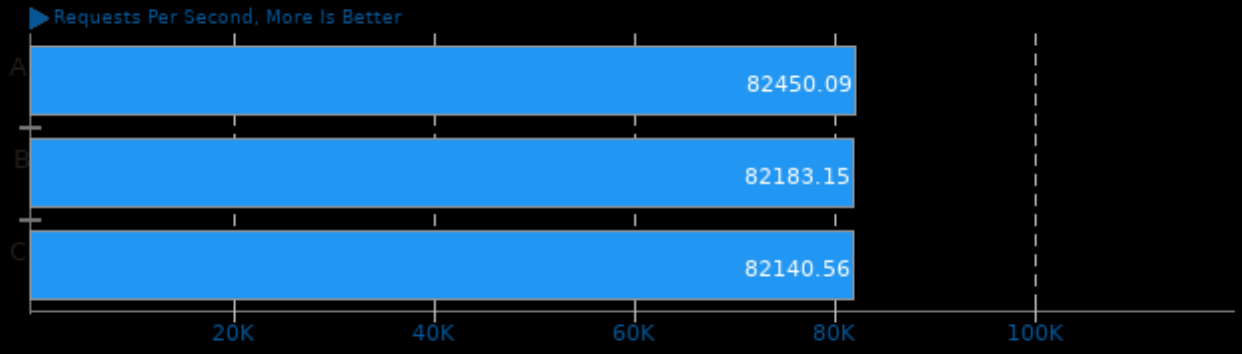
Test: Short Connection - Connections: 100



1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2
2. nginx version: nginx/1.18.0 (Ubuntu)

Nginx

Test: Short Connection - Connections: 500

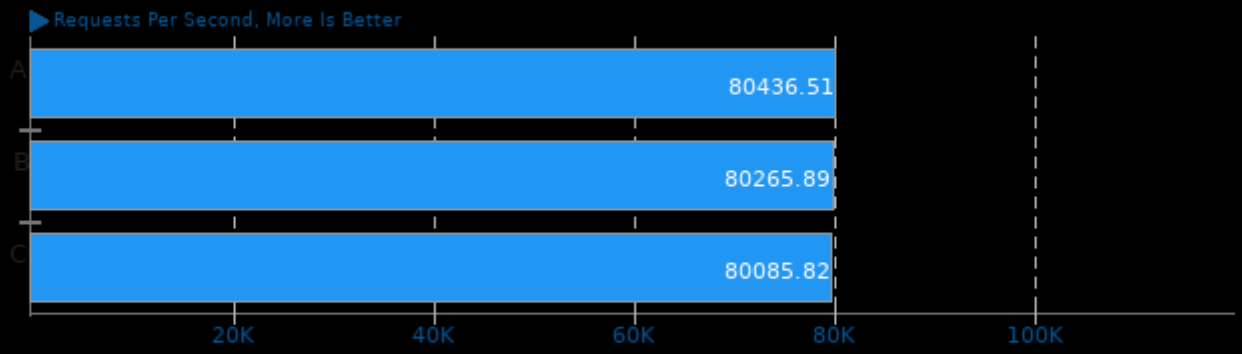


1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2
2. nginx version: nginx/1.18.0 (Ubuntu)

10600K Dec

Nginx

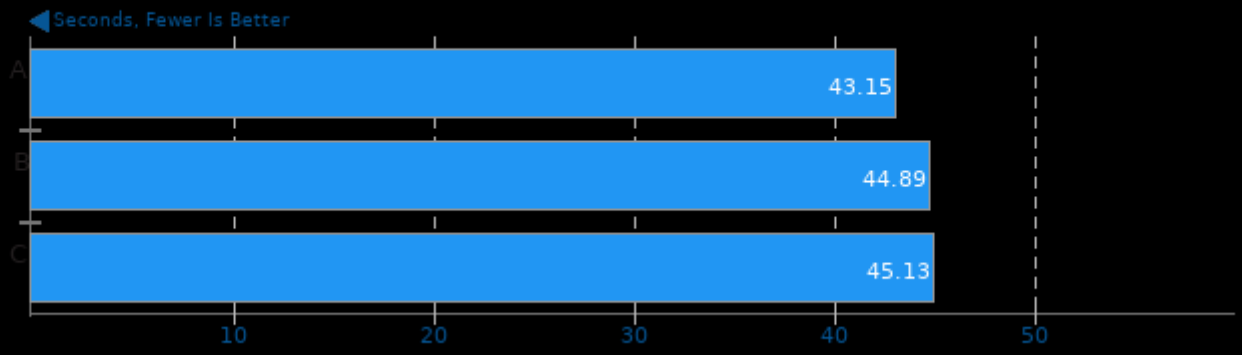
Test: Short Connection - Connections: 1000



1. (CC) gcc options: -lluajit-5.1 -lm -lssl -lcrypto -lpthread -ldl -std=c99 -O2
2. nginx version: nginx/1.18.0 (Ubuntu)

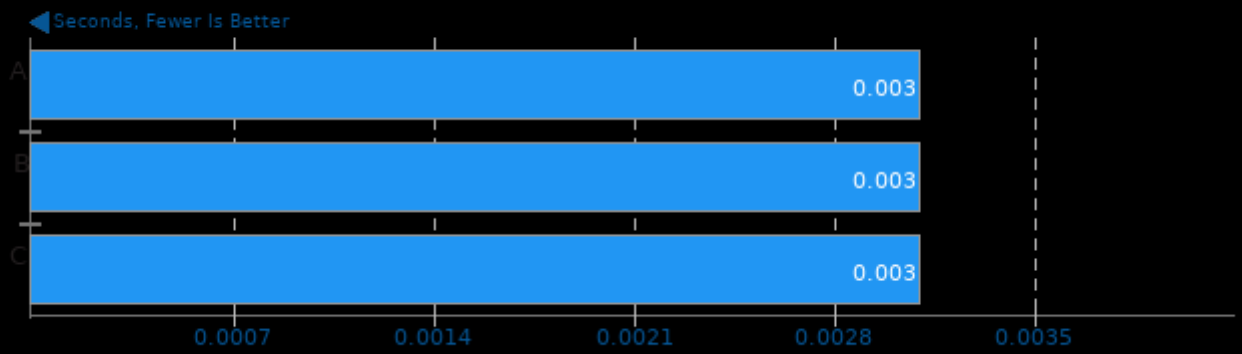
RAR Compression 6.0.2

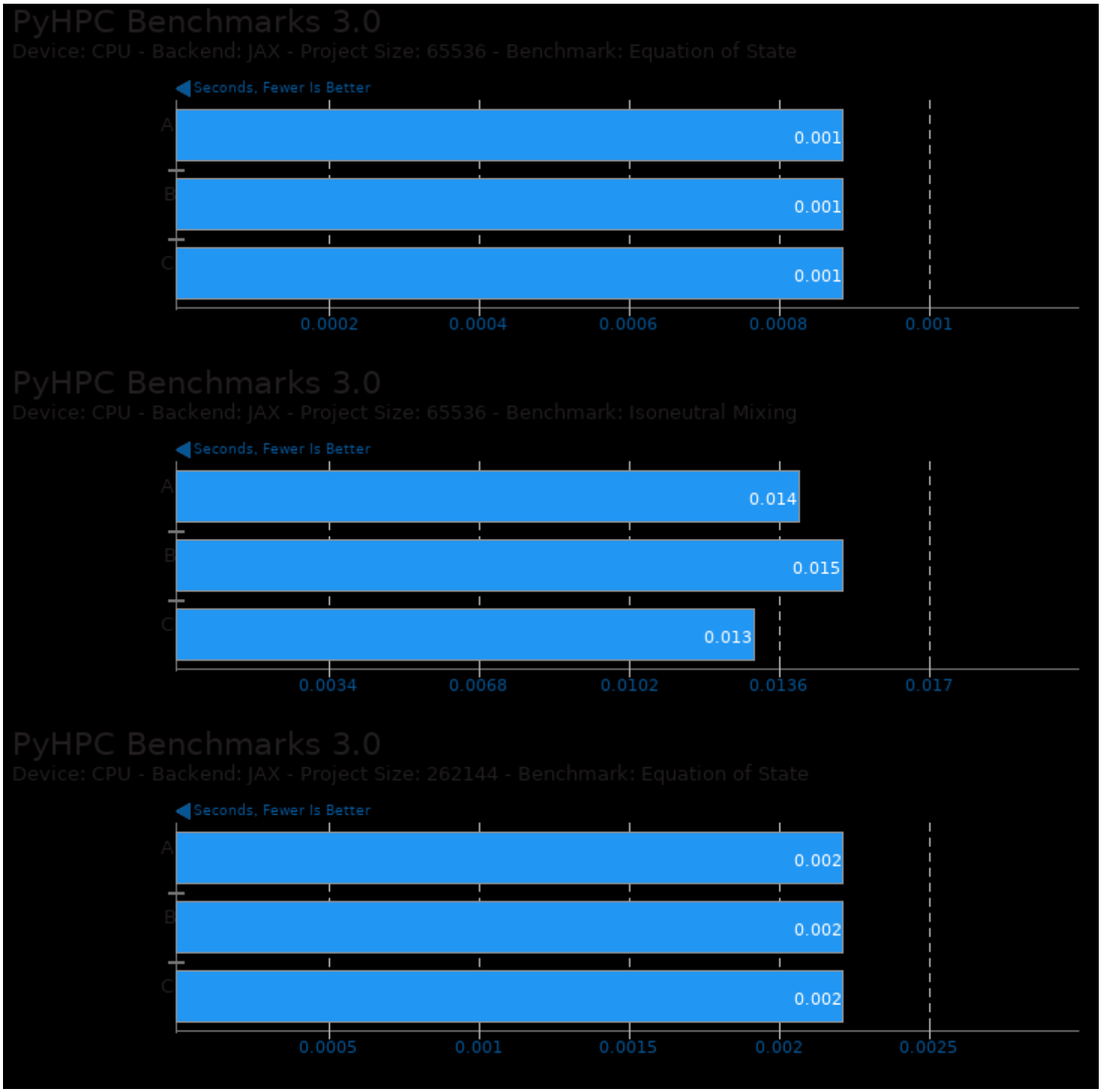
Linux Source Tree Archiving To RAR

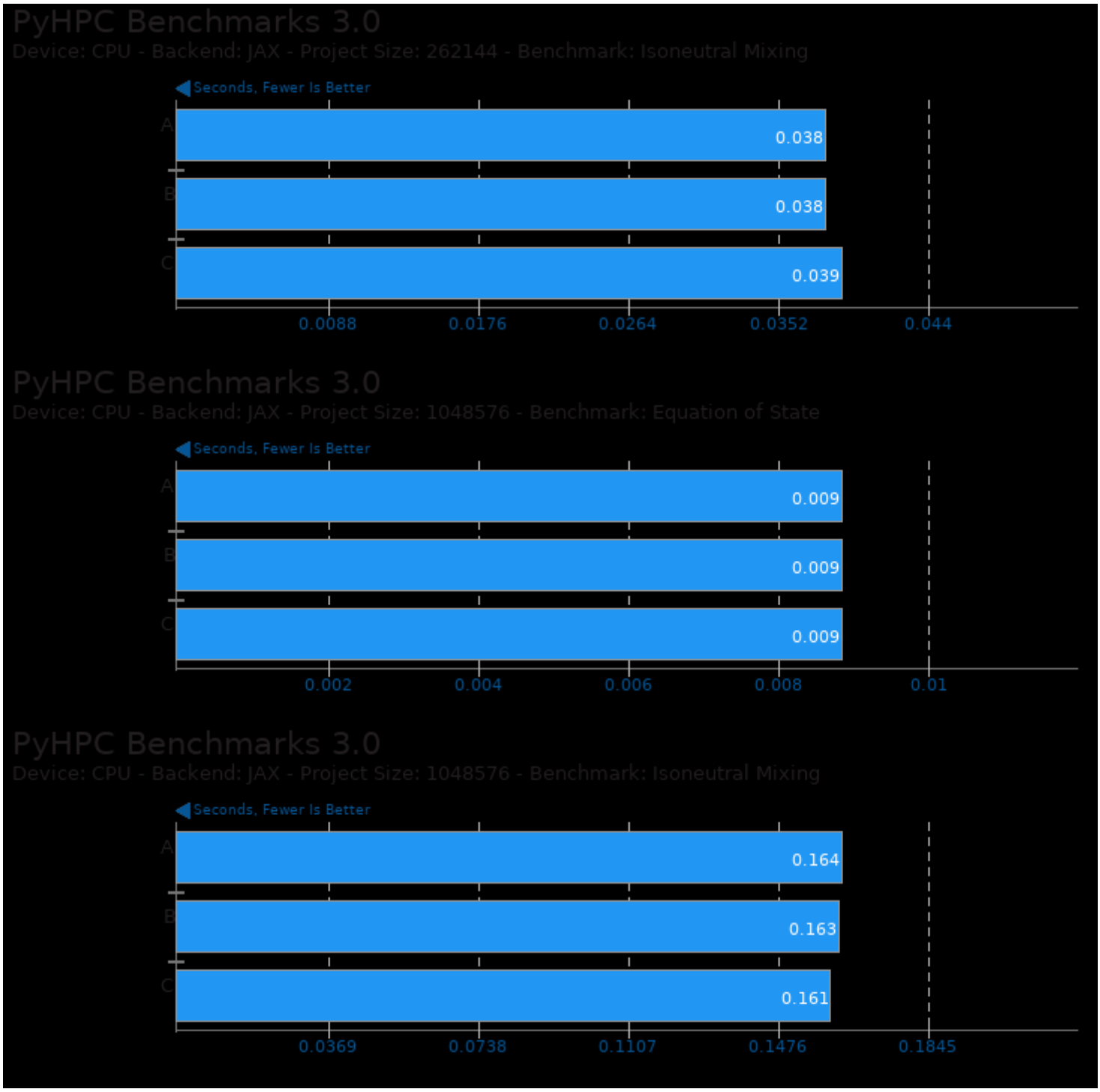


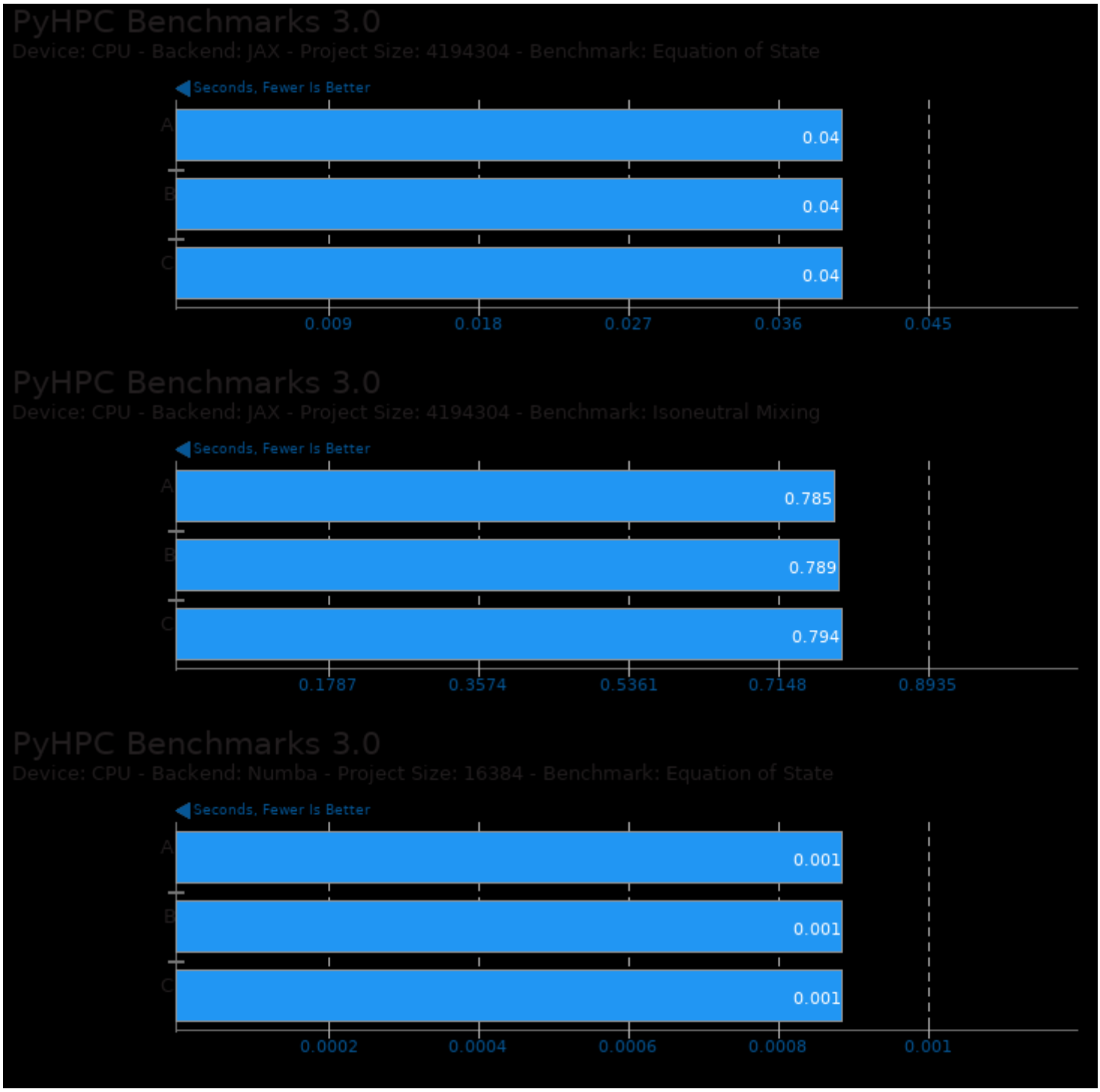
PyHPC Benchmarks 3.0

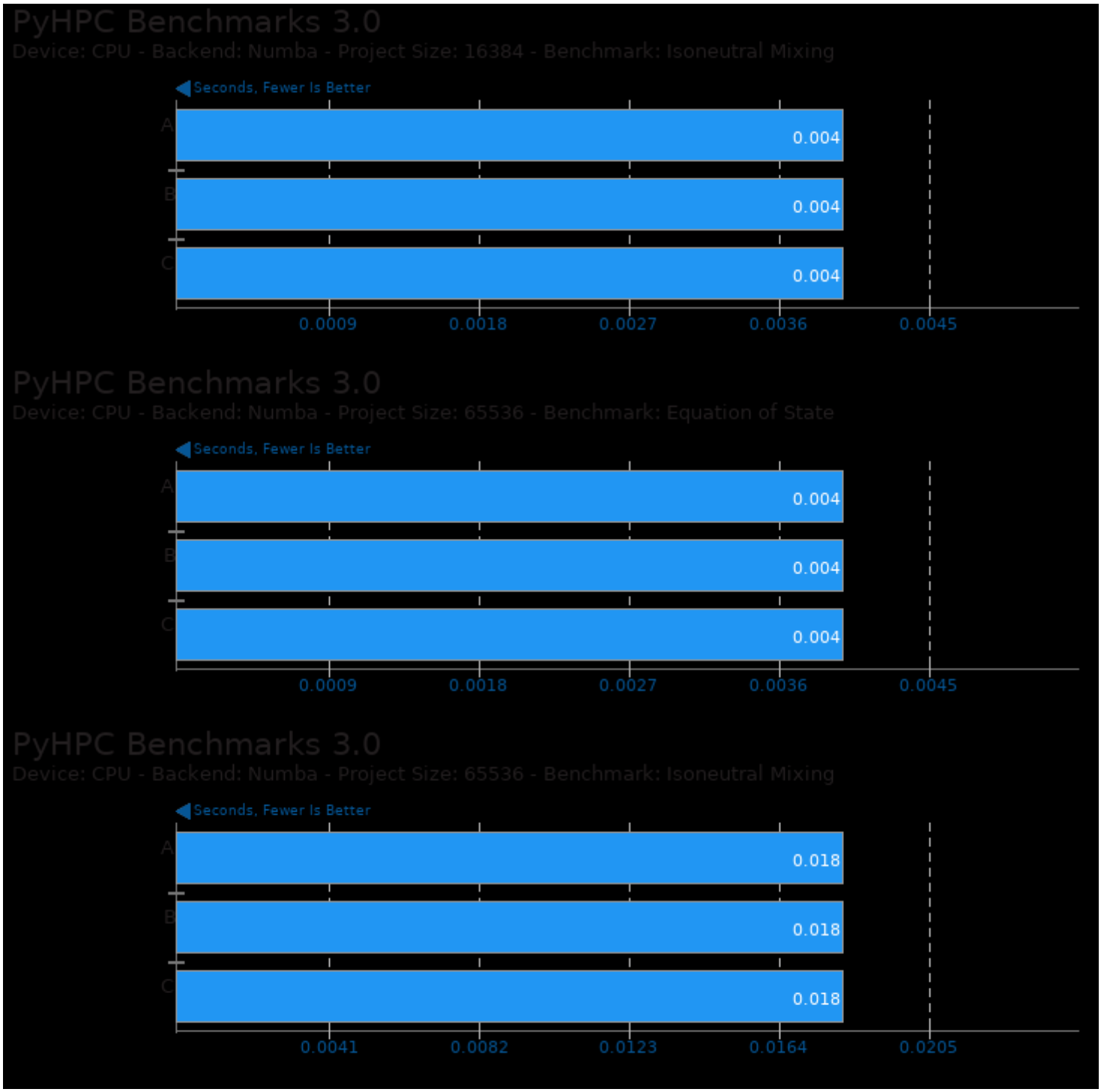
Device: CPU - Backend: JAX - Project Size: 16384 - Benchmark: Isoneutral Mixing

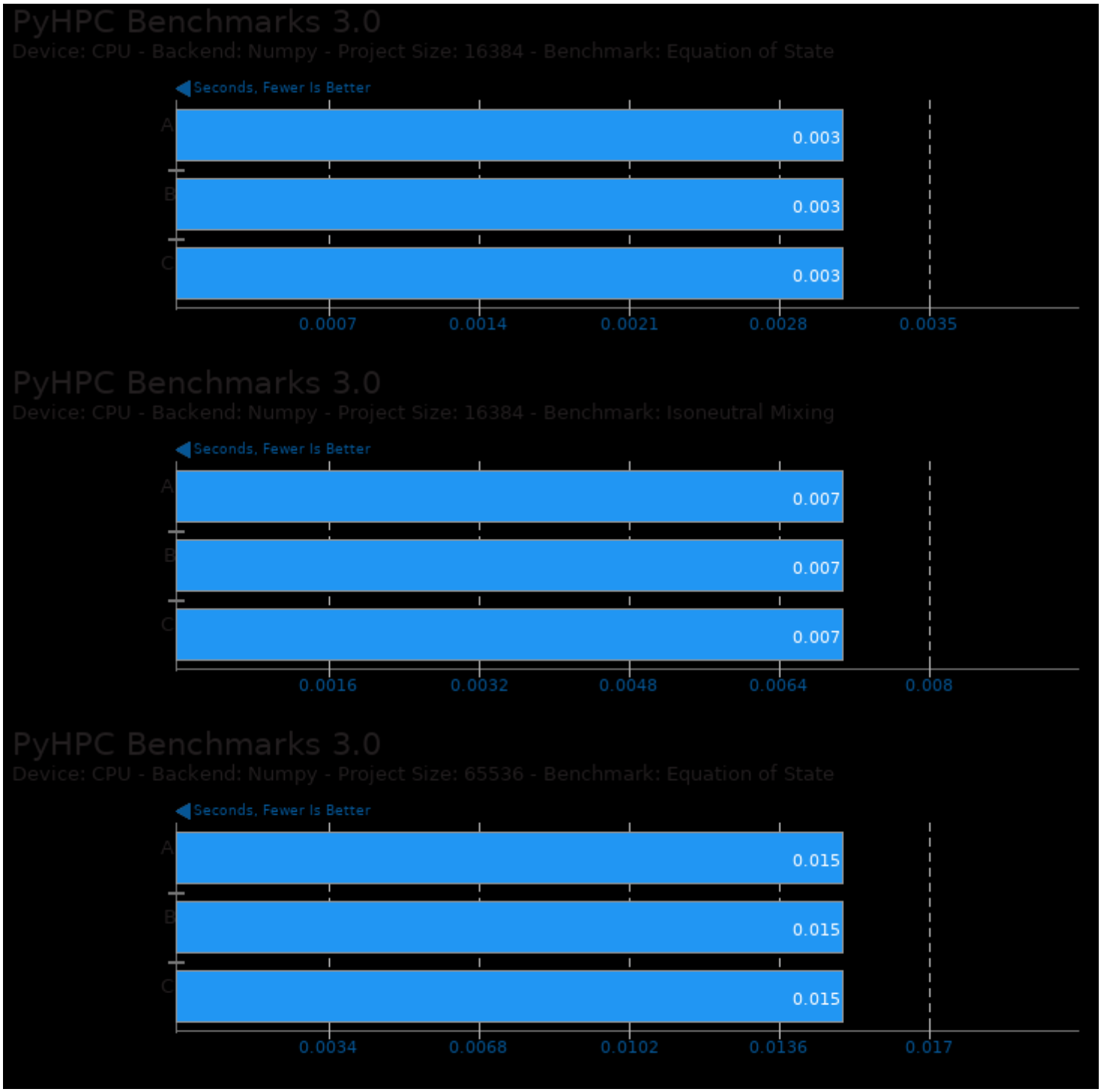


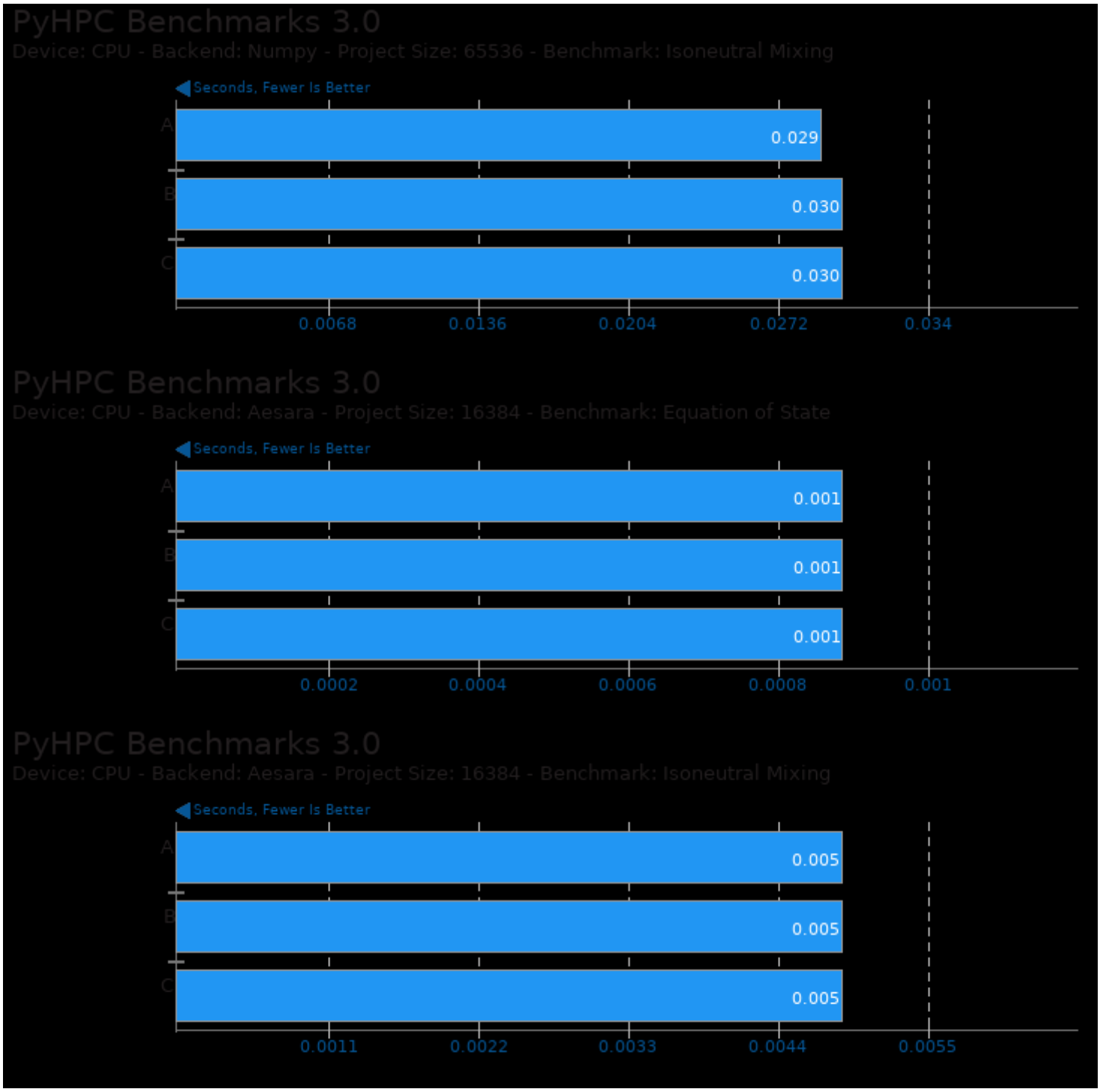

PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 65536 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.001
0.001
0.001
0.0002
0.0004
0.0006
0.0008
0.001
PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 65536 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.014
0.015
0.013
0.0034
0.0068
0.0102
0.0136
0.017
PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 262144 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.002
0.002
0.002
0.0005
0.001
0.0015
0.002
0.0025

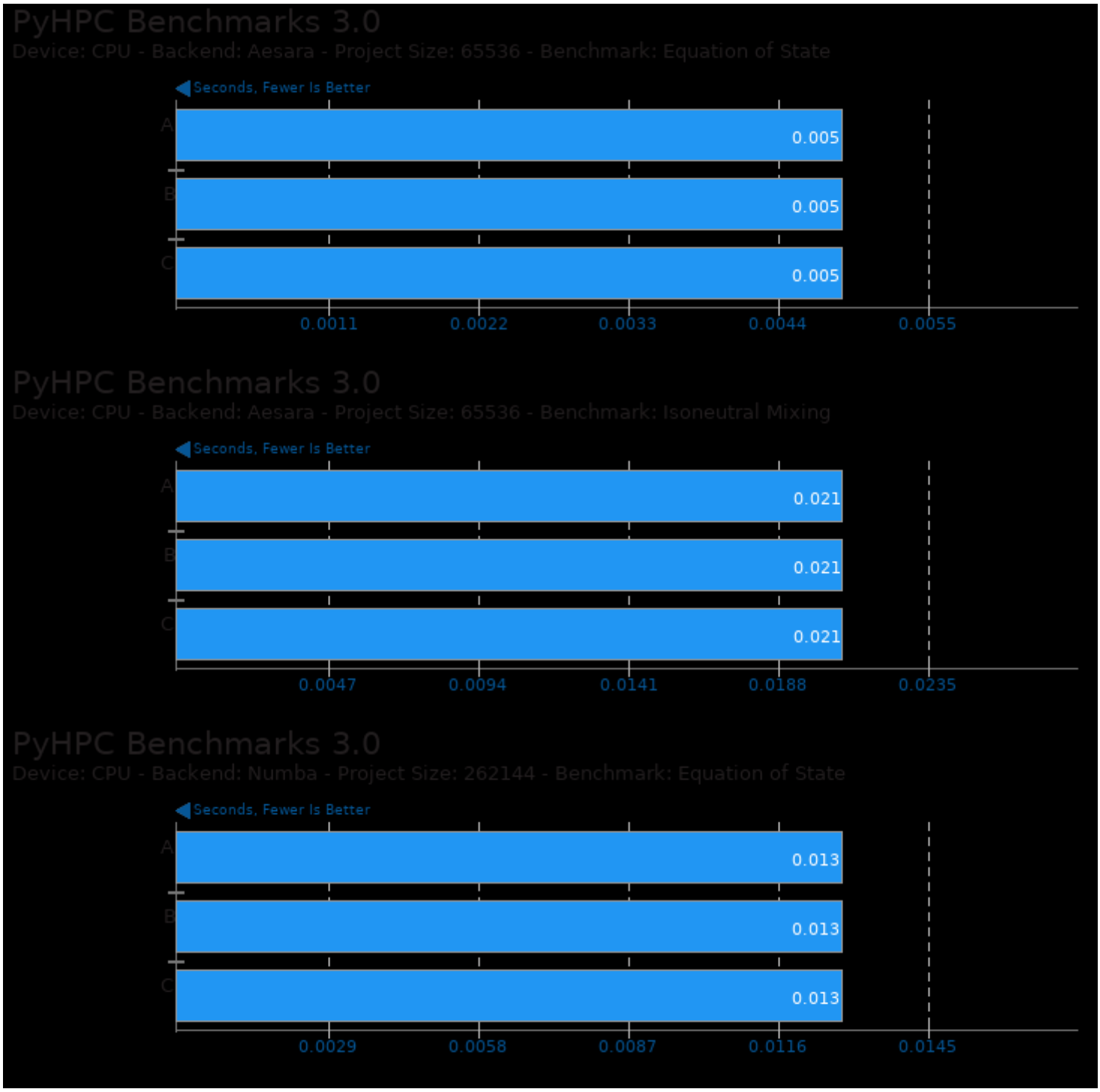

PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 262144 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.038
0.038
0.039
0.0088
0.0176
0.0264
0.0352
0.044
PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 1048576 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.009
0.009
0.009
0.002
0.004
0.006
0.008
0.01
PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 1048576 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.164
0.163
0.161
0.0369
0.0738
0.1107
0.1476
0.1845

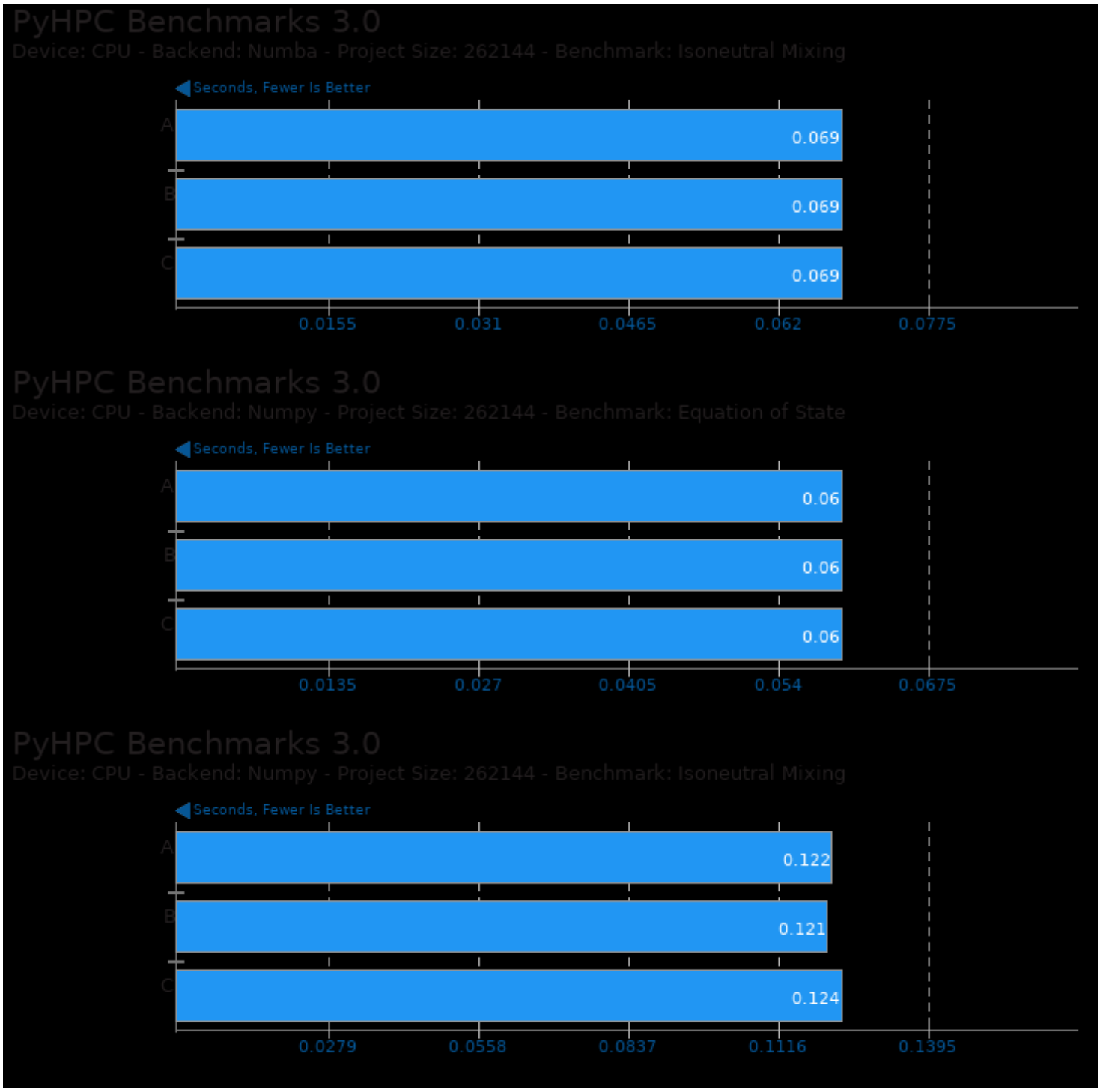

PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 4194304 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.04
0.04
0.04
0.009
0.018
0.027
0.036
0.045
PyHPC Benchmarks 3.0
Device: CPU - Backend: JAX - Project Size: 4194304 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.785
0.789
0.794
0.1787
0.3574
0.5361
0.7148
0.8935
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 16384 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.001
0.001
0.001
0.0002
0.0004
0.0006
0.0008
0.001

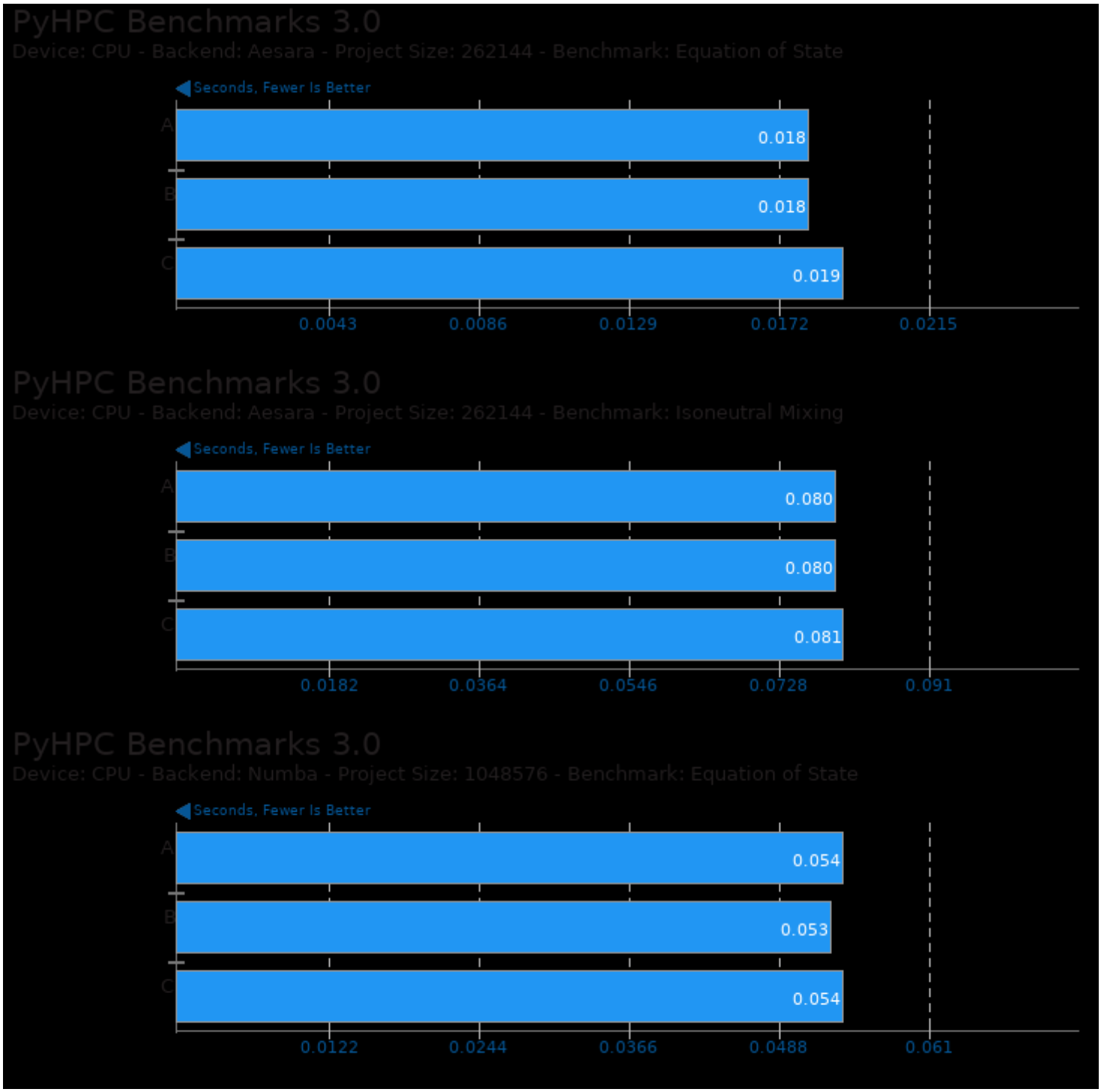

PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 16384 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.004
0.004
0.004
0.0009
0.0018
0.0027
0.0036
0.0045
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 65536 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.004
0.004
0.004
0.0009
0.0018
0.0027
0.0036
0.0045
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 65536 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.018
0.018
0.018
0.0041
0.0082
0.0123
0.0164
0.0205

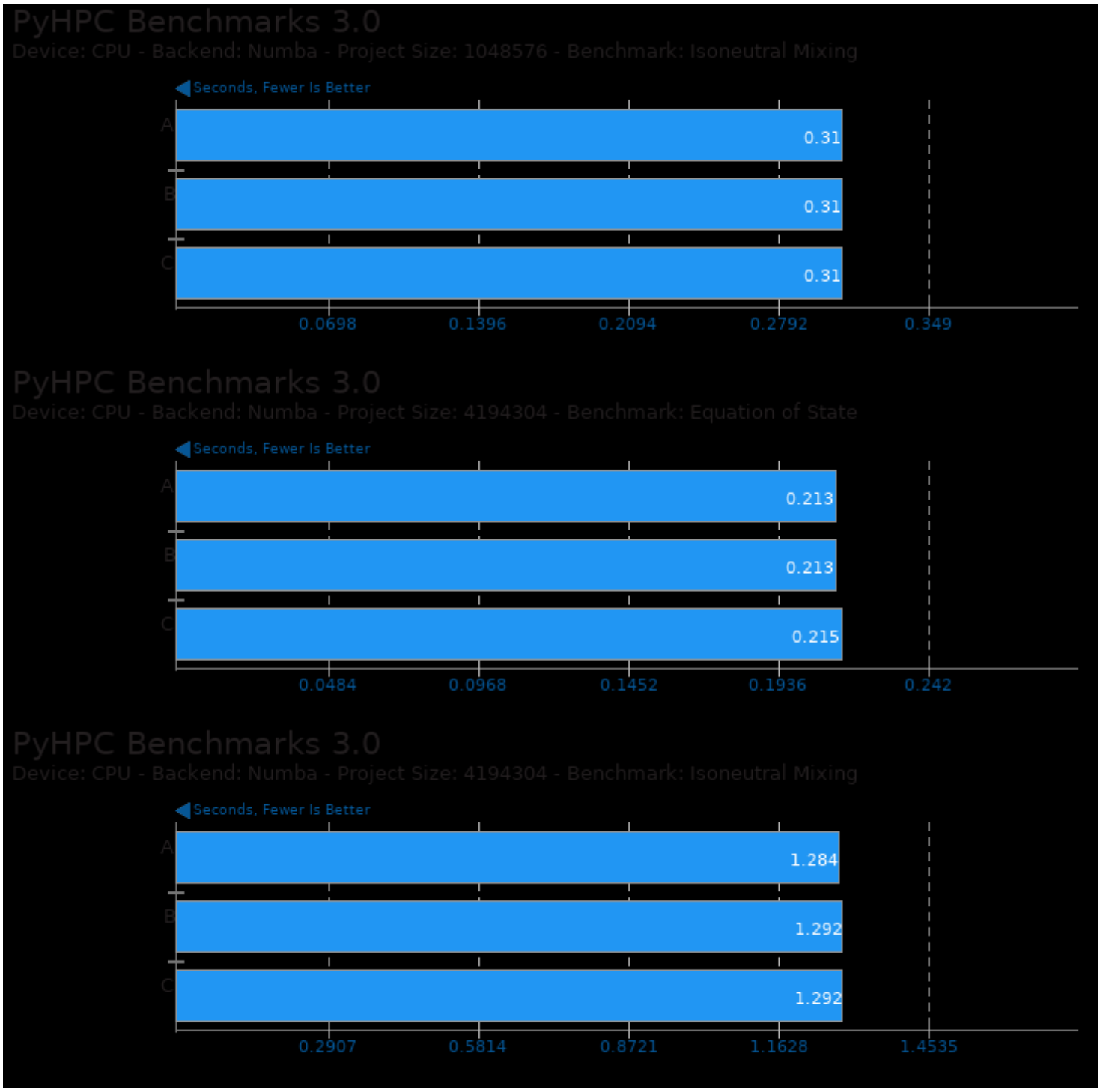

PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 16384 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.003
0.003
0.003
0.0007
0.0014
0.0021
0.0028
0.0035
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 16384 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.007
0.007
0.007
0.0016
0.0032
0.0048
0.0064
0.008
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 65536 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.015
0.015
0.015
0.0034
0.0068
0.0102
0.0136
0.017

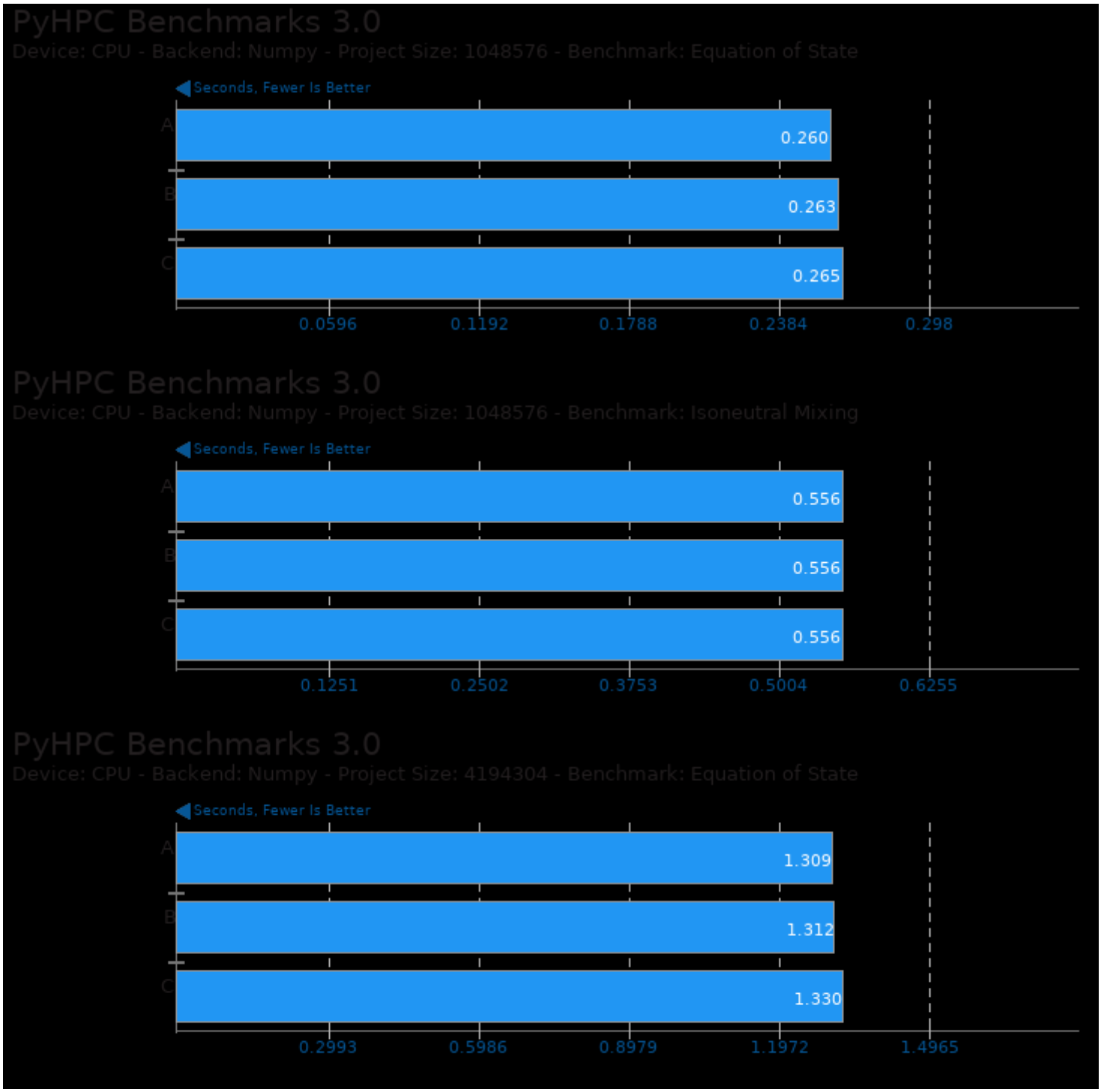

PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 65536 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.029
0.030
0.030
0.0068
0.0136
0.0204
0.0272
0.034
PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 16384 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.001
0.001
0.001
0.0002
0.0004
0.0006
0.0008
0.001
PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 16384 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.005
0.005
0.005
0.0011
0.0022
0.0033
0.0044
0.0055

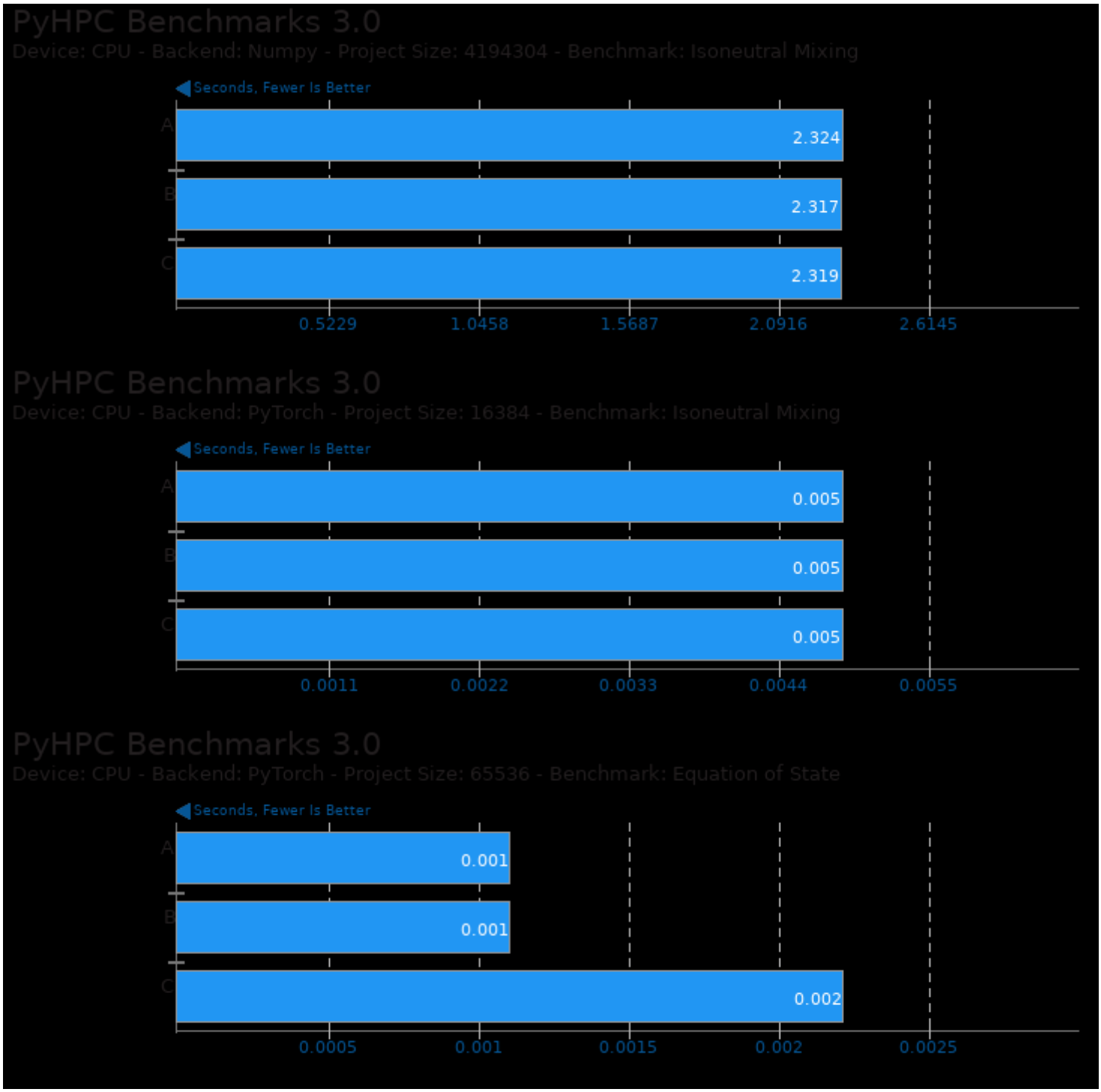

PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 65536 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.005
0.005
0.005
0.0011
0.0022
0.0033
0.0044
0.0055
PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 65536 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.021
0.021
0.021
0.0047
0.0094
0.0141
0.0188
0.0235
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 262144 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.013
0.013
0.013
0.0029
0.0058
0.0087
0.0116
0.0145

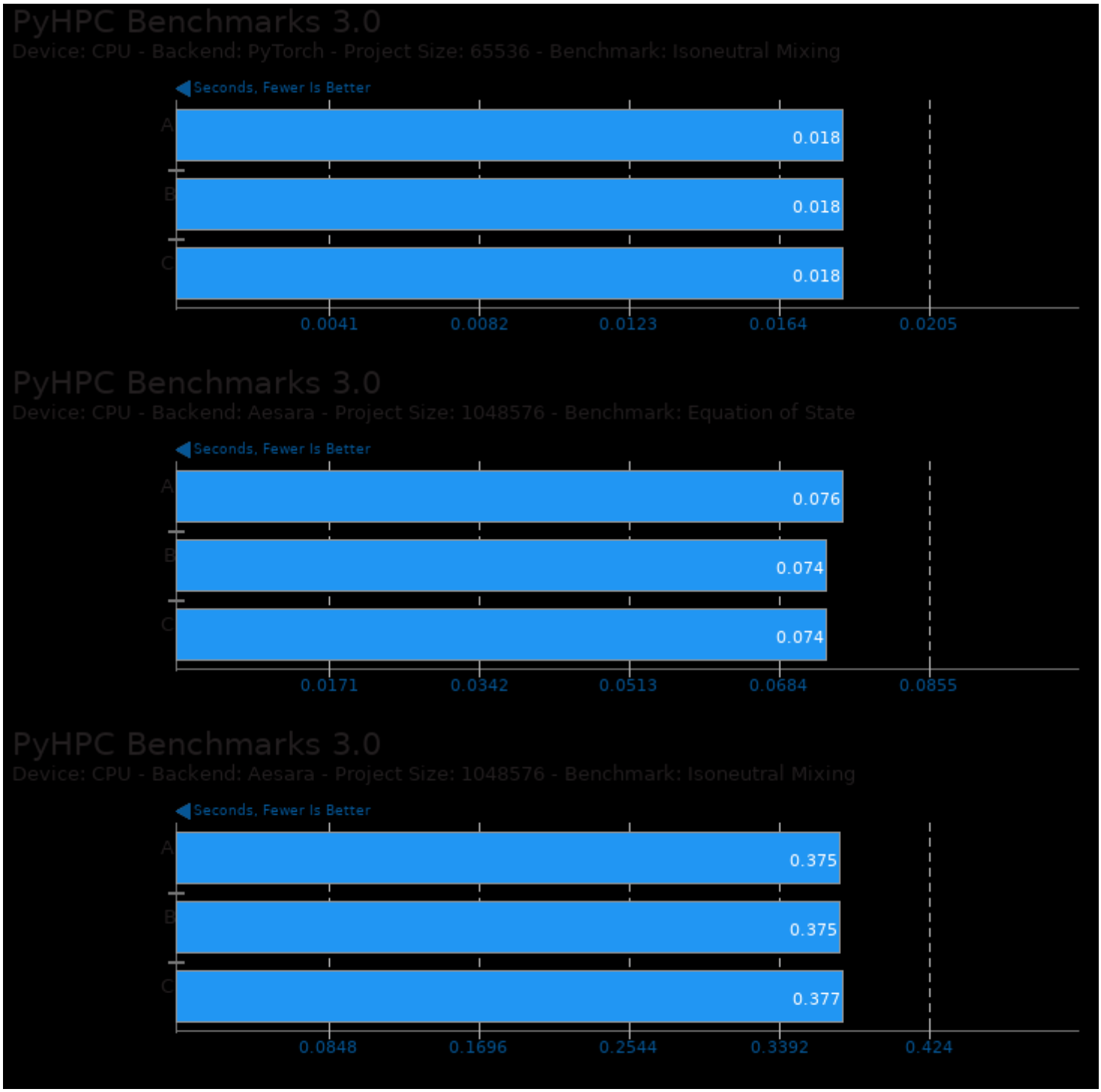

PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 262144 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.069
0.069
0.069
0.0155
0.031
0.0465
0.062
0.0775
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 262144 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.06
0.06
0.06
0.0135
0.027
0.0405
0.054
0.0675
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 262144 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.122
0.121
0.124
0.0279
0.0558
0.0837
0.1116
0.1395

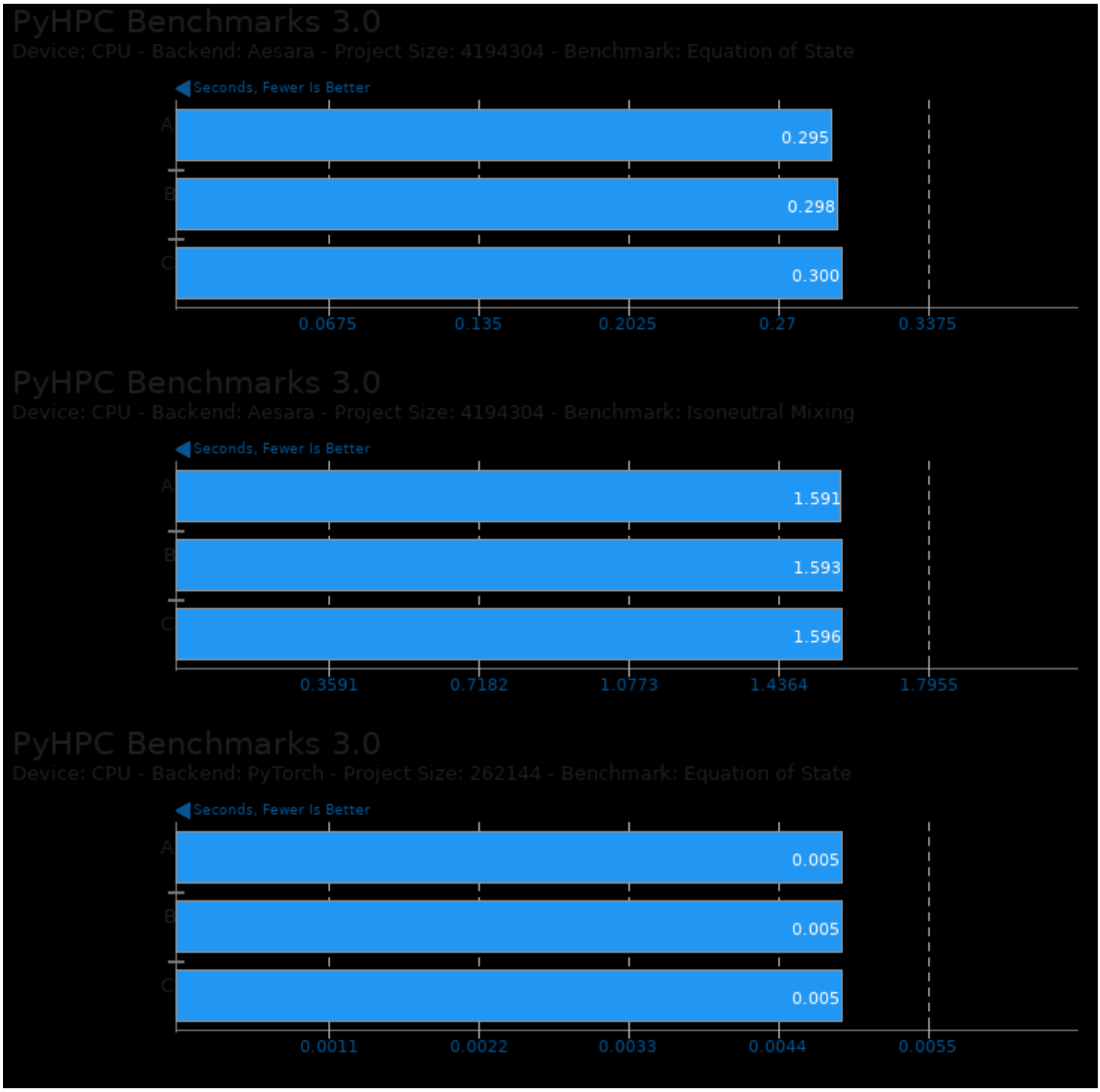

PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 262144 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.018
0.018
0.019
0.0043
0.0086
0.0129
0.0172
0.0215
PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 262144 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.080
0.080
0.081
0.0182
0.0364
0.0546
0.0728
0.091
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 1048576 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.054
0.053
0.054
0.0122
0.0244
0.0366
0.0488
0.061

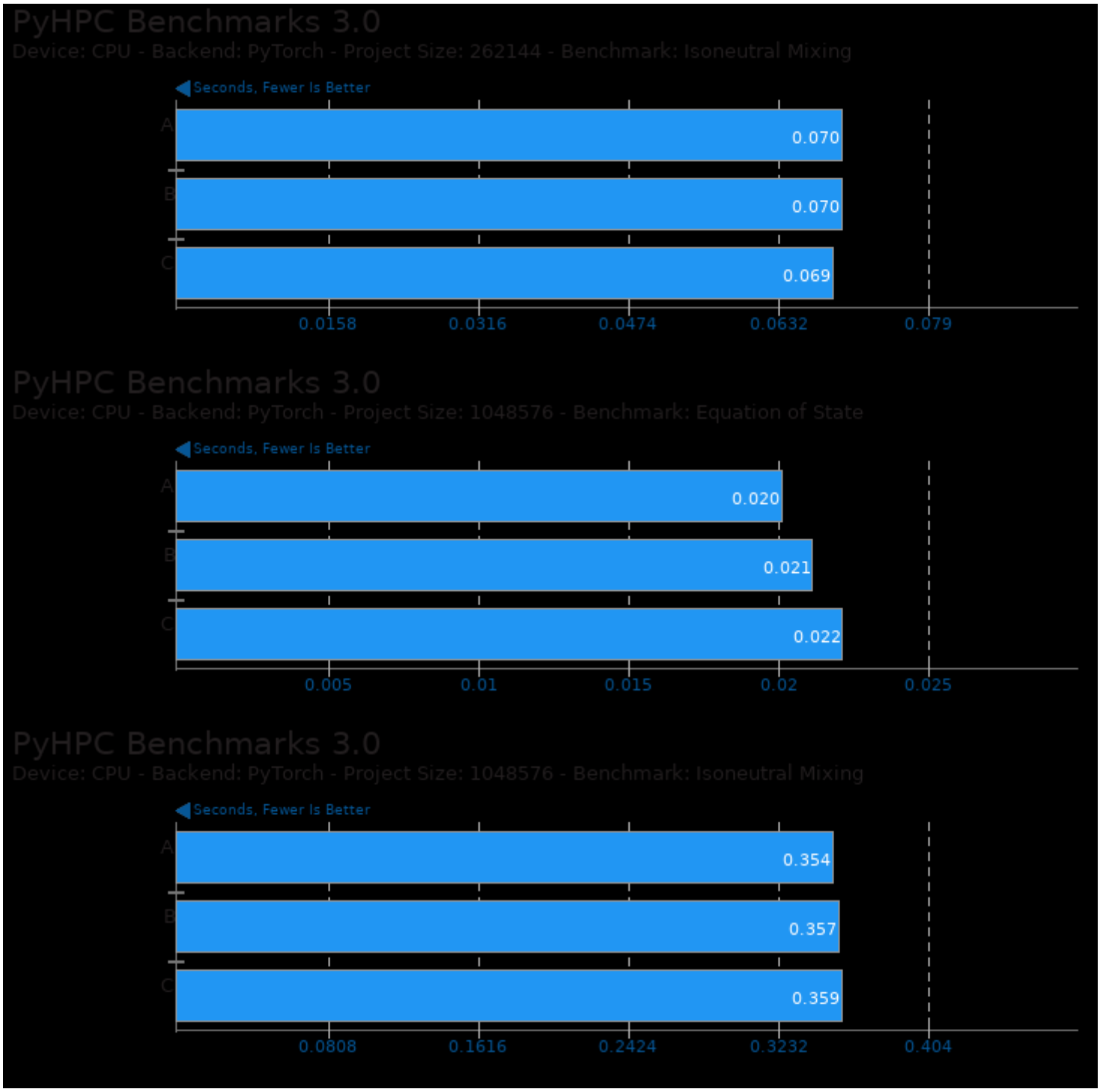

PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 1048576 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.31
0.31
0.31
0.0698
0.1396
0.2094
0.2792
0.349
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 4194304 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.213
0.213
0.215
0.0484
0.0968
0.1452
0.1936
0.242
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numba - Project Size: 4194304 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
1.284
1.292
1.292
0.2907
0.5814
0.8721
1.1628
1.4535

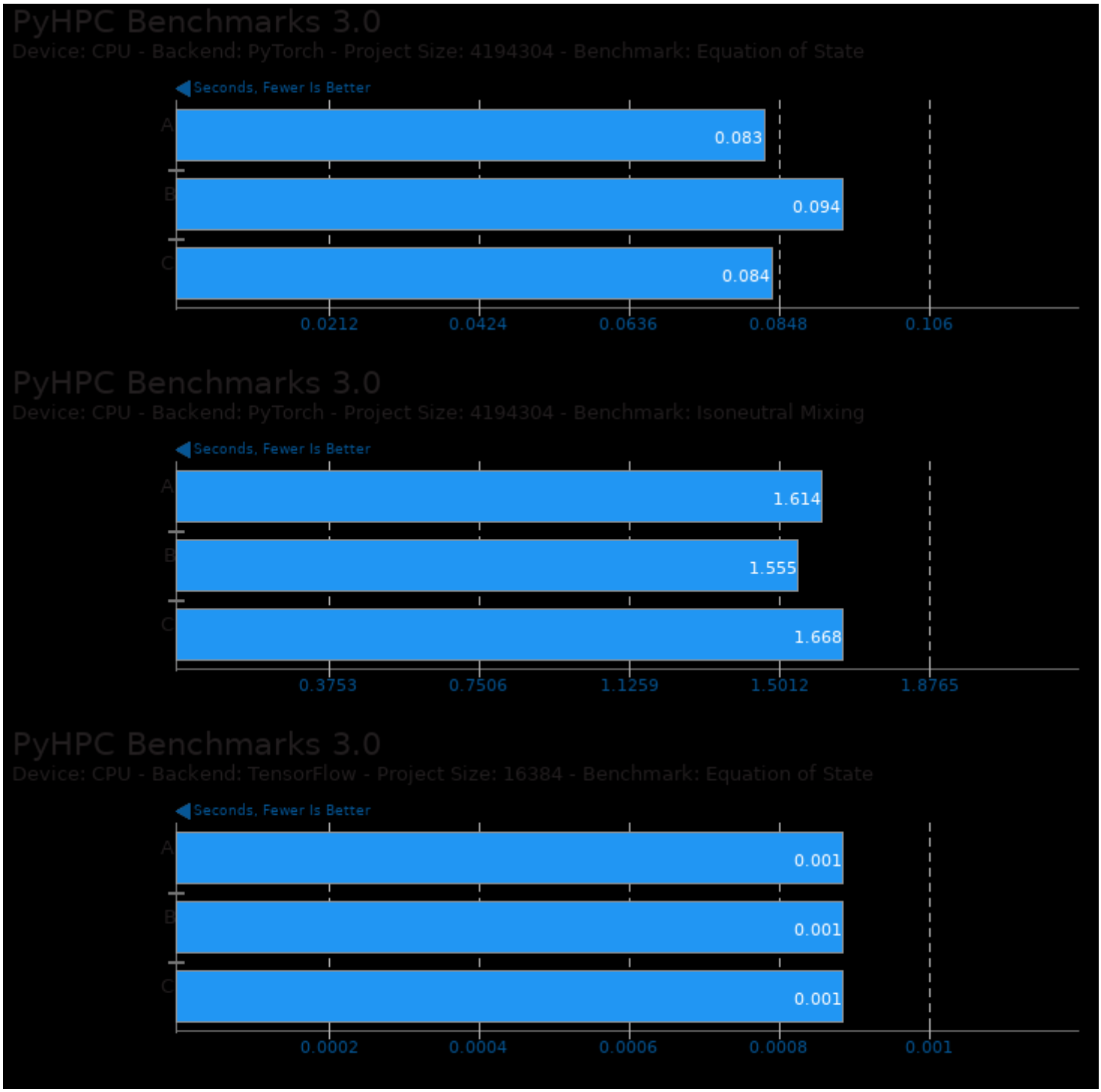

PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 1048576 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.260
0.263
0.265
0.0596
0.1192
0.1788
0.2384
0.298
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 1048576 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.556
0.556
0.556
0.1251
0.2502
0.3753
0.5004
0.6255
PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 4194304 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
1.309
1.312
1.330
0.2993
0.5986
0.8979
1.1972
1.4965

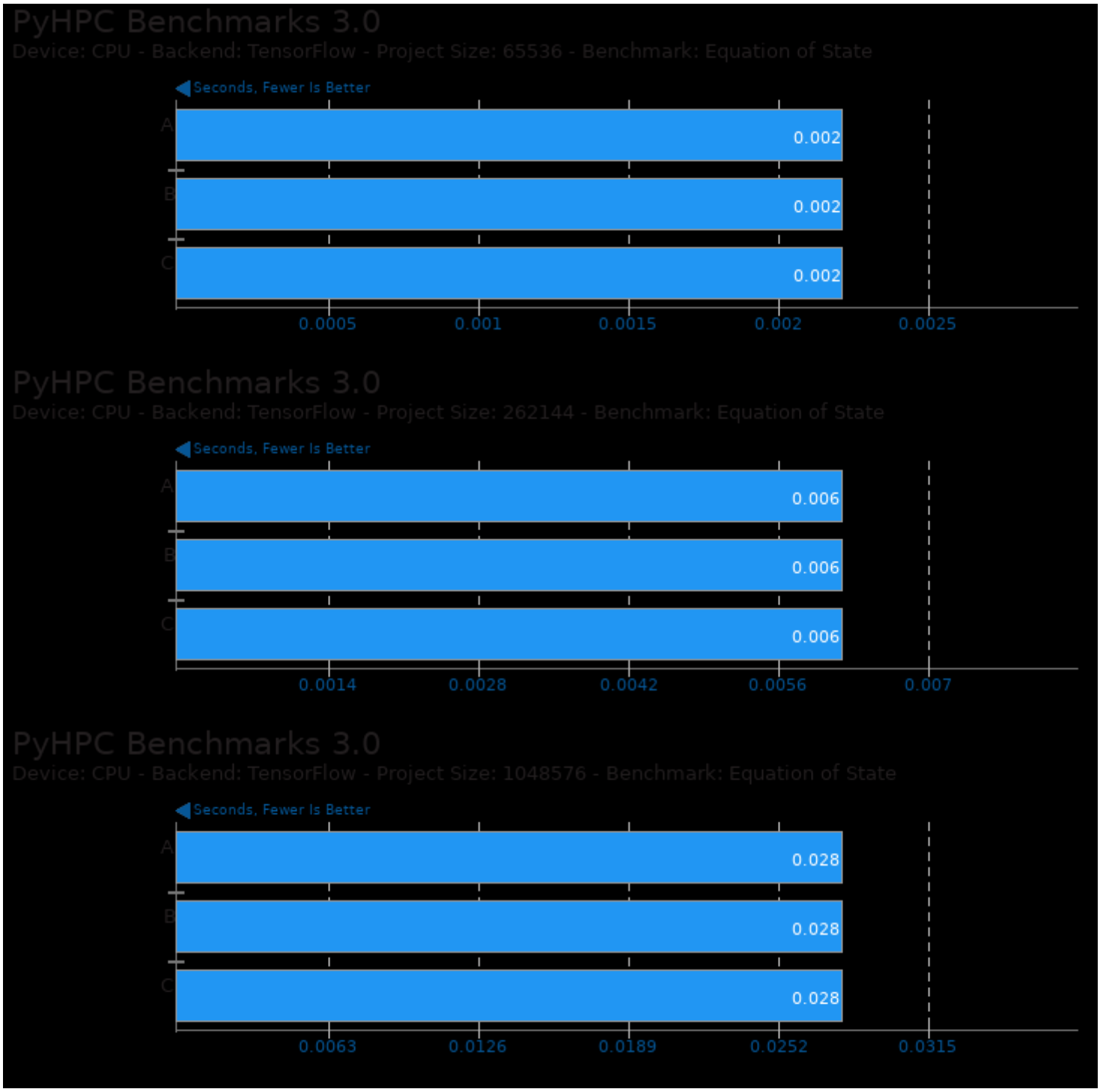

PyHPC Benchmarks 3.0
Device: CPU - Backend: Numpy - Project Size: 4194304 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
2.324
2.317
2.319
0.5229
1.0458
1.5687
2.0916
2.6145
PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 16384 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.005
0.005
0.005
0.0011
0.0022
0.0033
0.0044
0.0055
PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 65536 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.001
0.001
0.002
0.0005
0.001
0.0015
0.002
0.0025


PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 65536 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.018
0.018
0.018
0.0041
0.0082
0.0123
0.0164
0.0205
PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 1048576 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.076
0.074
0.074
0.0171
0.0342
0.0513
0.0684
0.0855
PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 1048576 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.375
0.375
0.377
0.0848
0.1696
0.2544
0.3392
0.424


PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 4194304 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.295
0.298
0.300
0.0675
0.135
0.2025
0.27
0.3375
PyHPC Benchmarks 3.0
Device: CPU - Backend: Aesara - Project Size: 4194304 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
1.591
1.593
1.596
0.3591
0.7182
1.0773
1.4364
1.7955
PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 262144 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.005
0.005
0.005
0.0011
0.0022
0.0033
0.0044
0.0055

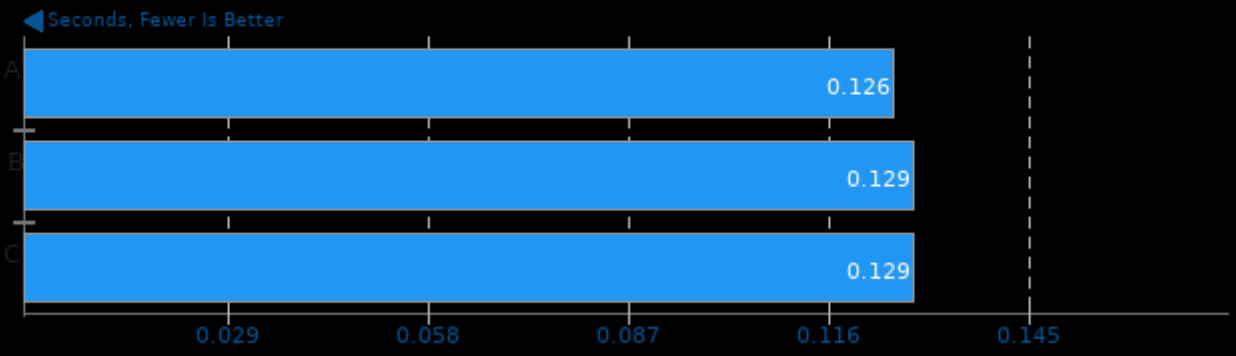

PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 262144 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.070
0.070
0.069
0.0158
0.0316
0.0474
0.0632
0.079
PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 1048576 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.020
0.021
0.022
0.005
0.01
0.015
0.02
0.025
PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 1048576 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
0.354
0.357
0.359
0.0808
0.1616
0.2424
0.3232
0.404


PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 4194304 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.083
0.094
0.084
0.0212
0.0424
0.0636
0.0848
0.106
PyHPC Benchmarks 3.0
Device: CPU - Backend: PyTorch - Project Size: 4194304 - Benchmark: Isoneutral Mixing
Seconds, Fewer Is Better
A
B
C
1.614
1.555
1.668
0.3753
0.7506
1.1259
1.5012
1.8765
PyHPC Benchmarks 3.0
Device: CPU - Backend: TensorFlow - Project Size: 16384 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.001
0.001
0.001
0.0002
0.0004
0.0006
0.0008
0.001


PyHPC Benchmarks 3.0
Device: CPU - Backend: TensorFlow - Project Size: 65536 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.002
0.002
0.002
0.0005
0.001
0.0015
0.002
0.0025
PyHPC Benchmarks 3.0
Device: CPU - Backend: TensorFlow - Project Size: 262144 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.006
0.006
0.006
0.0014
0.0028
0.0042
0.0056
0.007
PyHPC Benchmarks 3.0
Device: CPU - Backend: TensorFlow - Project Size: 1048576 - Benchmark: Equation of State
Seconds, Fewer Is Better
A
B
C
0.028
0.028
0.028
0.0063
0.0126
0.0189
0.0252
0.0315

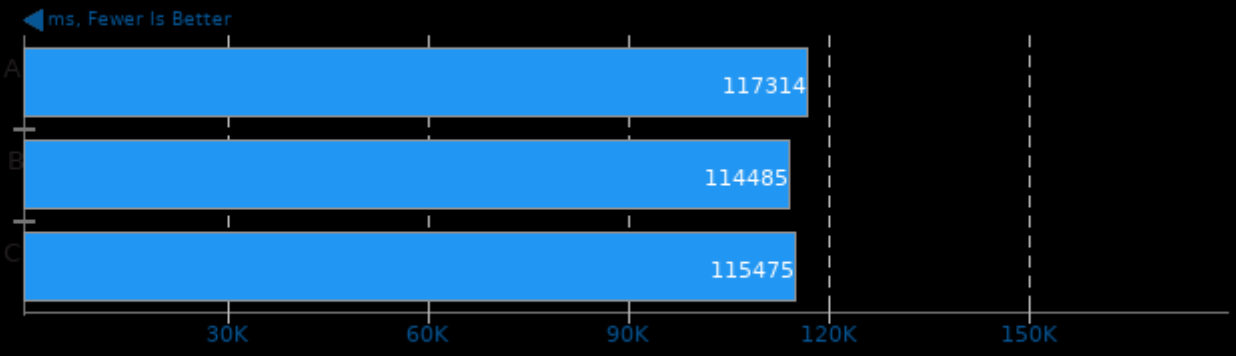
PyHPC Benchmarks 3.0

Device: CPU - Backend: TensorFlow - Project Size: 4194304 - Benchmark: Equation of State



OpenCV 4.5.4

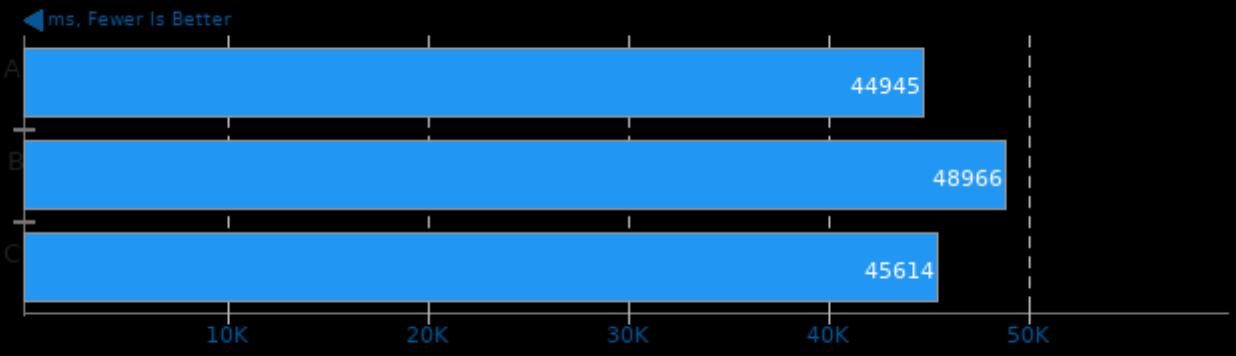
Test: Features 2D



1. (CXX) g++ options: -fPIC -fsigned-char -pthread -fomit-frame-pointer -ffunction-sections -fdata-sections -msse -msse2 -msse3 -fvisibility=hidden -O3

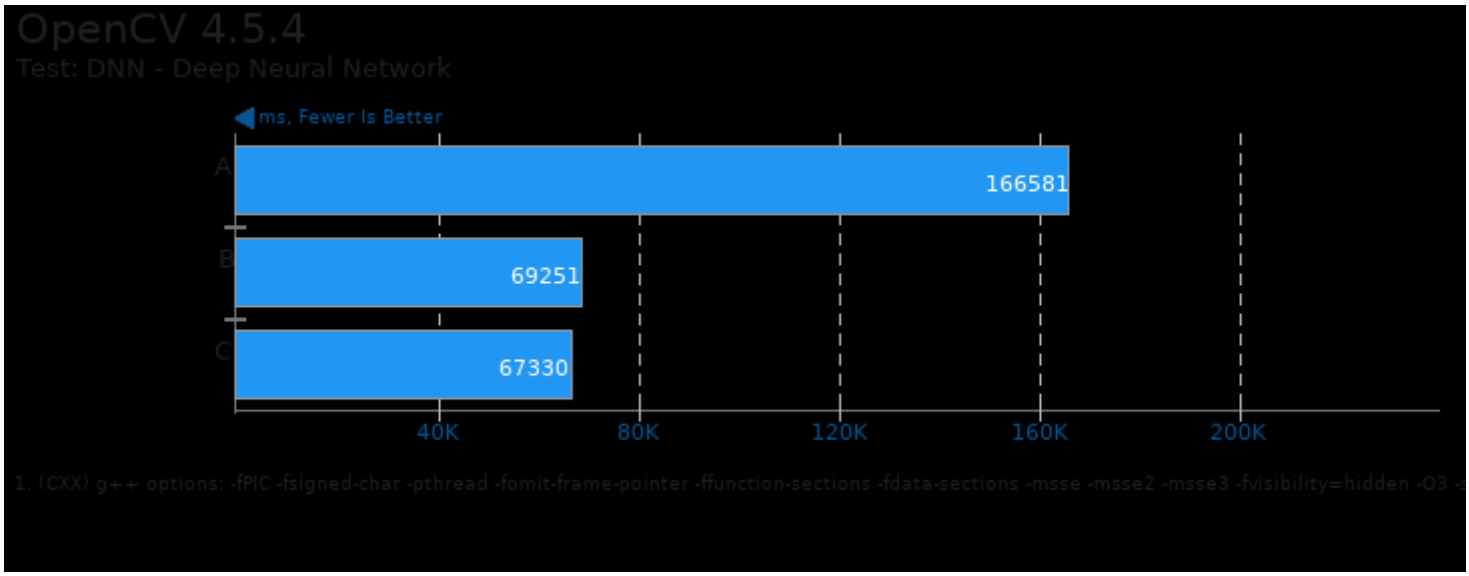
OpenCV 4.5.4

Test: Object Detection



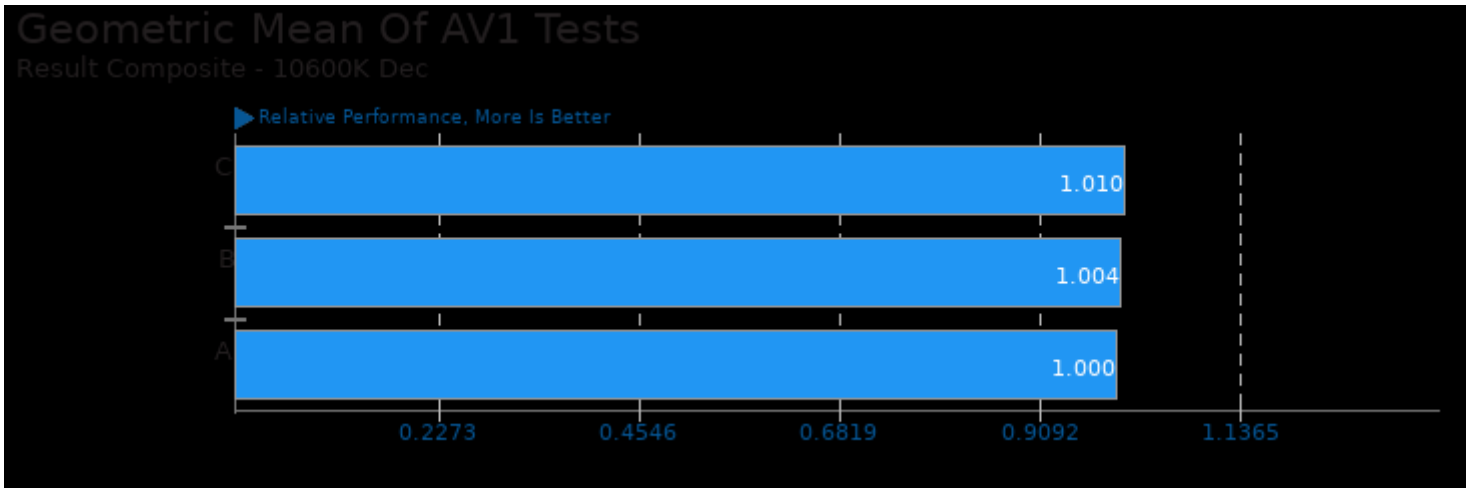
1. (CXX) g++ options: -fPIC -fsigned-char -pthread -fomit-frame-pointer -ffunction-sections -fdata-sections -msse -msse2 -msse3 -fvisibility=hidden -O3

10600K Dec

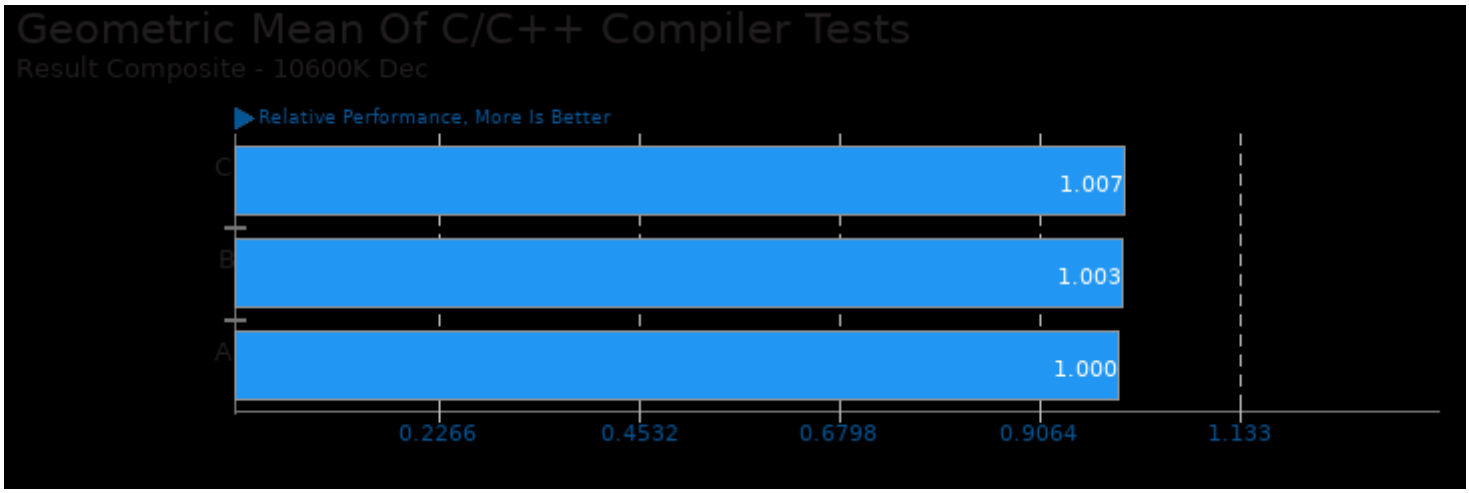

OpenCV 4.5.4
Test: DNN - Deep Neural Network
ms, Fewer Is Better
A
166581
B
69251
C
67330
40K
80K
120K
160K
200K
1. (CXX) g++ options: -fPIC -fsigned-char -pthread -fomit-frame-pointer -ffunction-sections -fdata-sections -msse -msse2 -msse3 -fvisibility=hidden -O3

10600K Dec

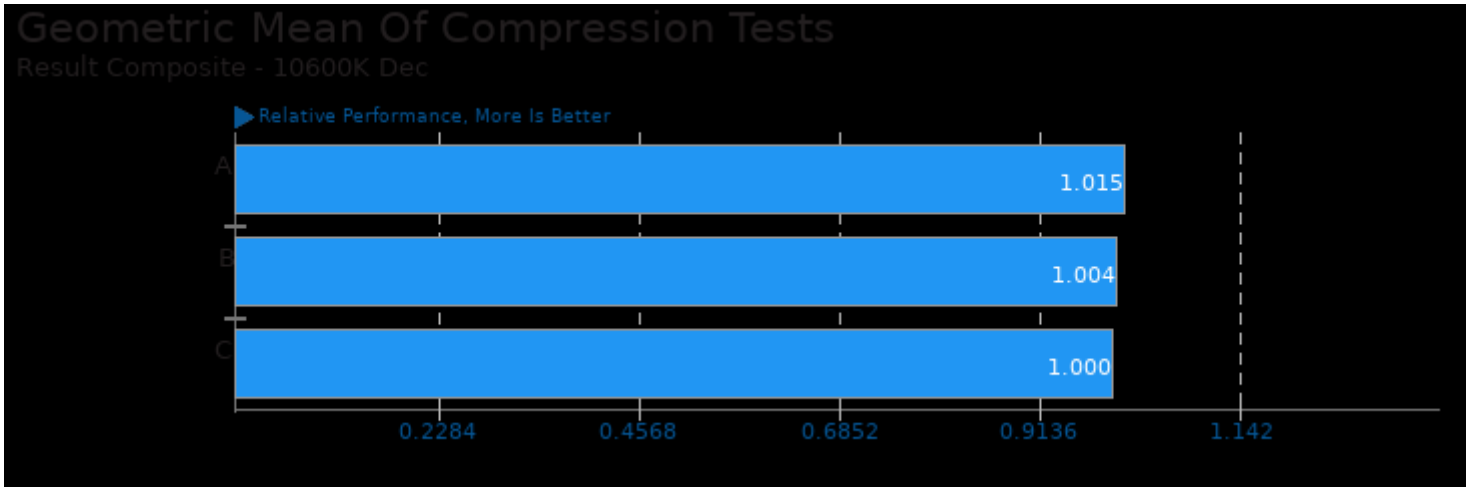
These geometric means are based upon test groupings / test suites for this result file.



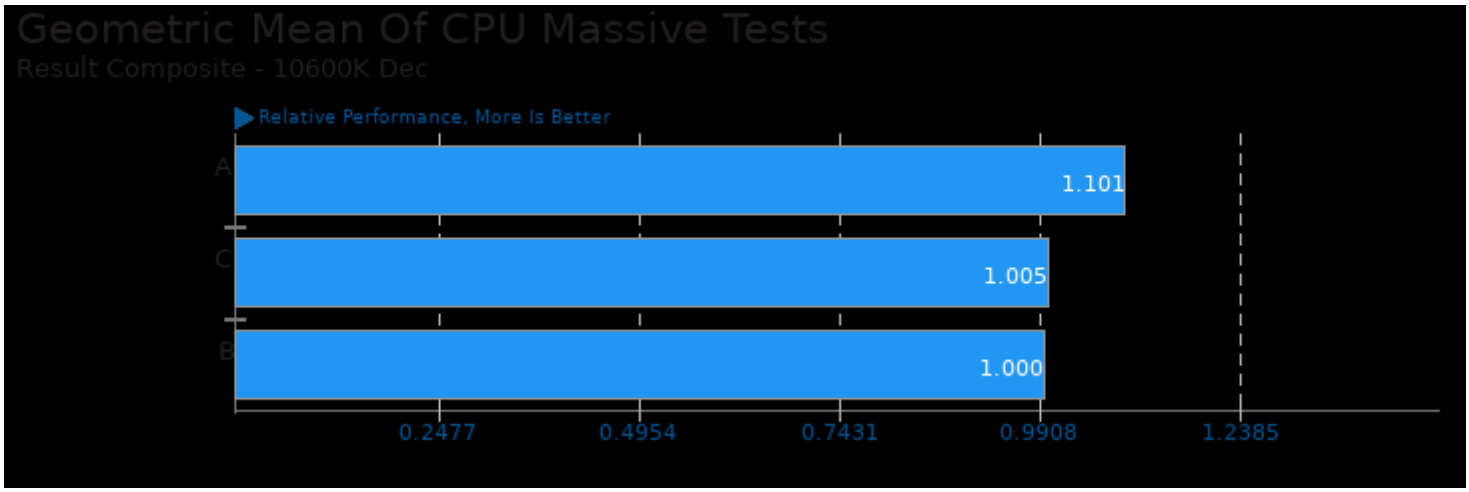
Geometric mean based upon tests: pts/dav1d and pts/aom-av1



Geometric mean based upon tests: pts/compress-7zip, pts/dav1d, pts/kvazaar and pts/aom-av1



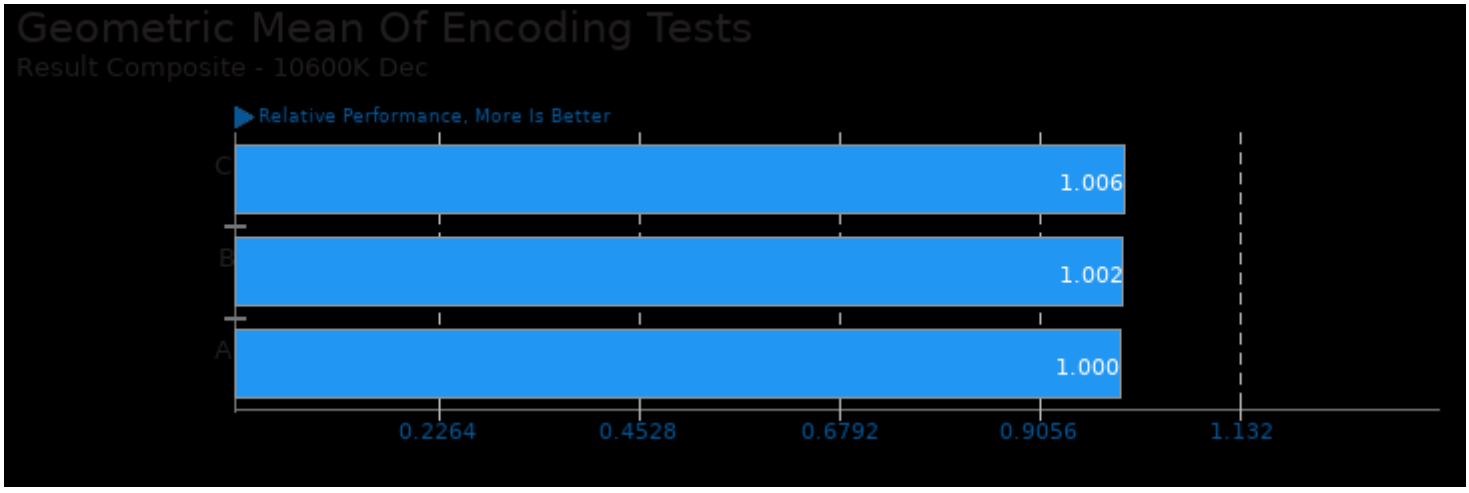
Geometric mean based upon tests: pts/compress-7zip and pts/compress-rar



Geometric mean based upon tests: pts/blake2, pts/compress-7zip, pts/dav1d, pts/primesieve, pts/sockperf and pts/blender

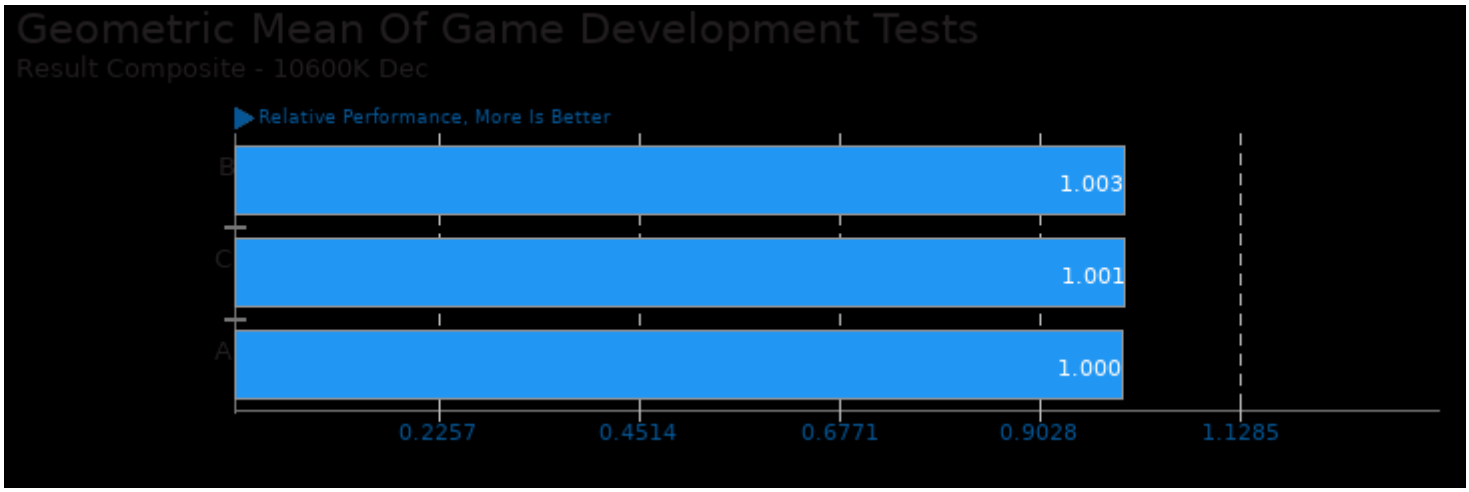


Geometric mean based upon tests: pts/blender, pts/kvazaar, pts/dav1d, pts/aom-av1, pts/stargate, pts/jpegxl, pts/jpegxl-decode and pts/astcenc

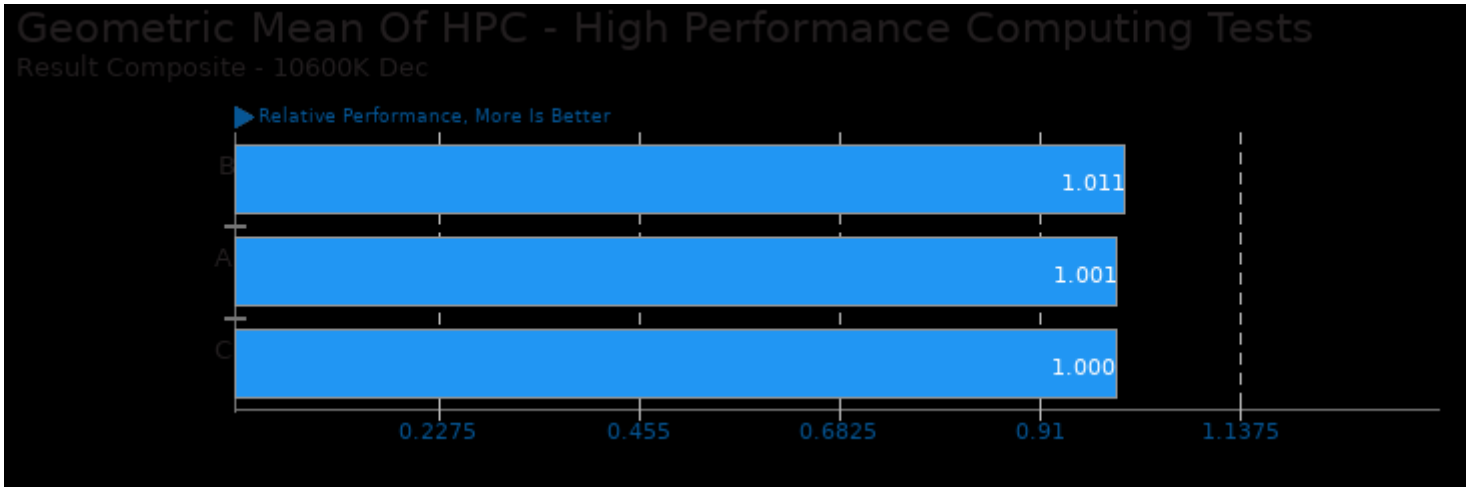


Geometric mean based upon tests: pts/stargate, pts/kvazaar, pts/dav1d and pts/aom-av1

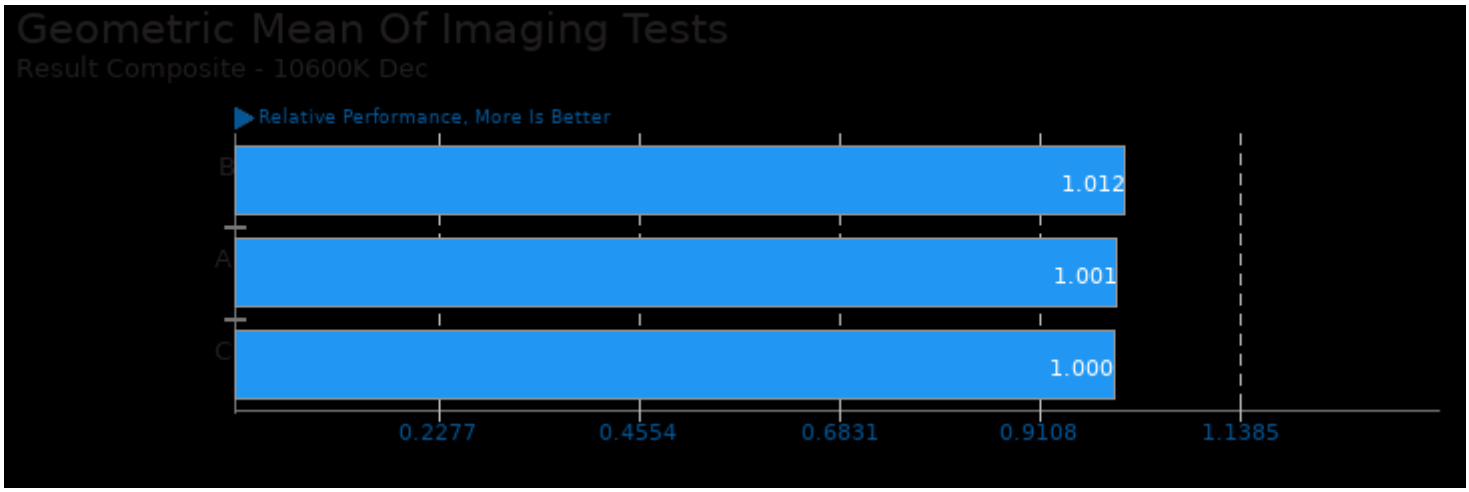
10600K Dec



Geometric mean based upon tests: pts/astcenc and pts/blender



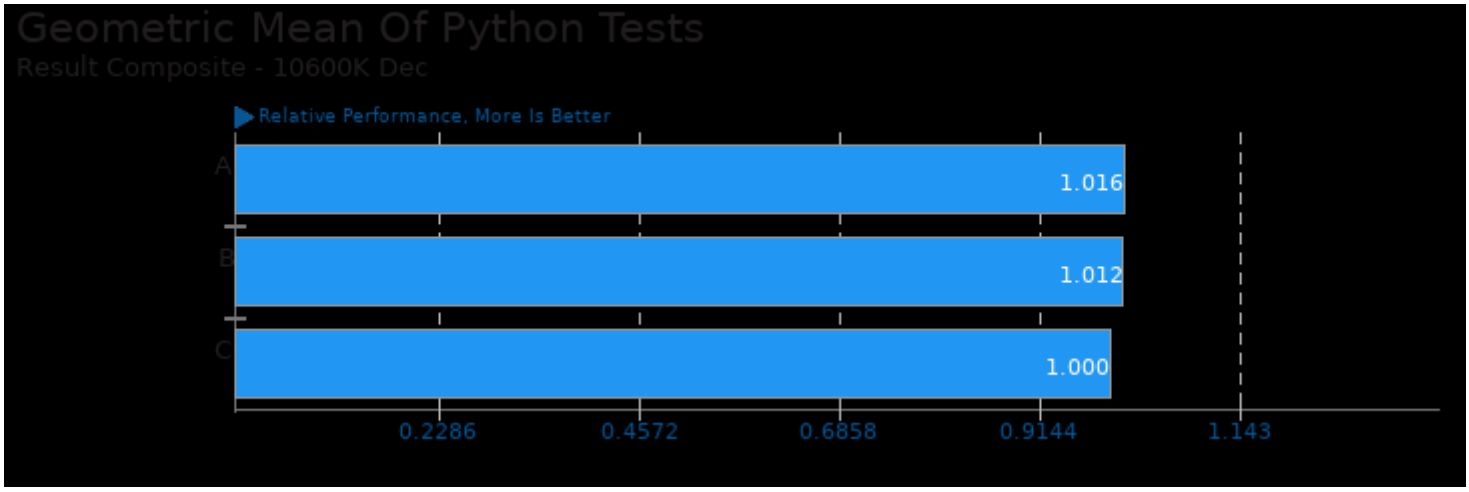
Geometric mean based upon tests: pts/opencv and pts/pyhpc



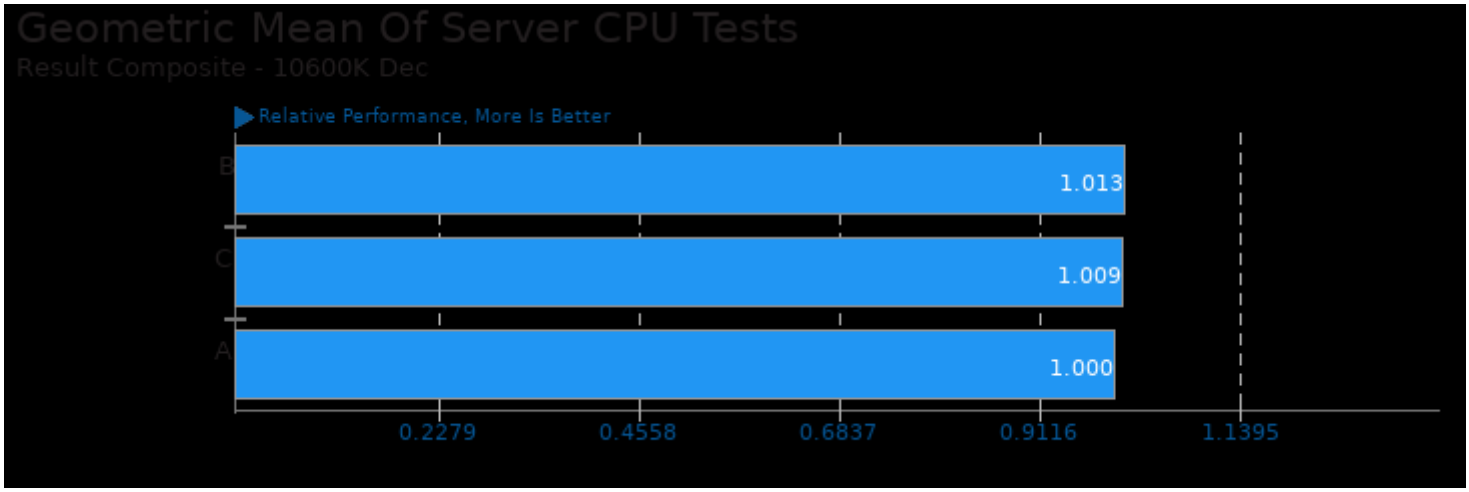
Geometric mean based upon tests: pts/jpegxl and pts/jpegxl-decode



Geometric mean based upon tests: pts/blender, pts/kvazaar, pts/dav1d, pts/aom-av1, pts/primesieve and pts/compress-7zip

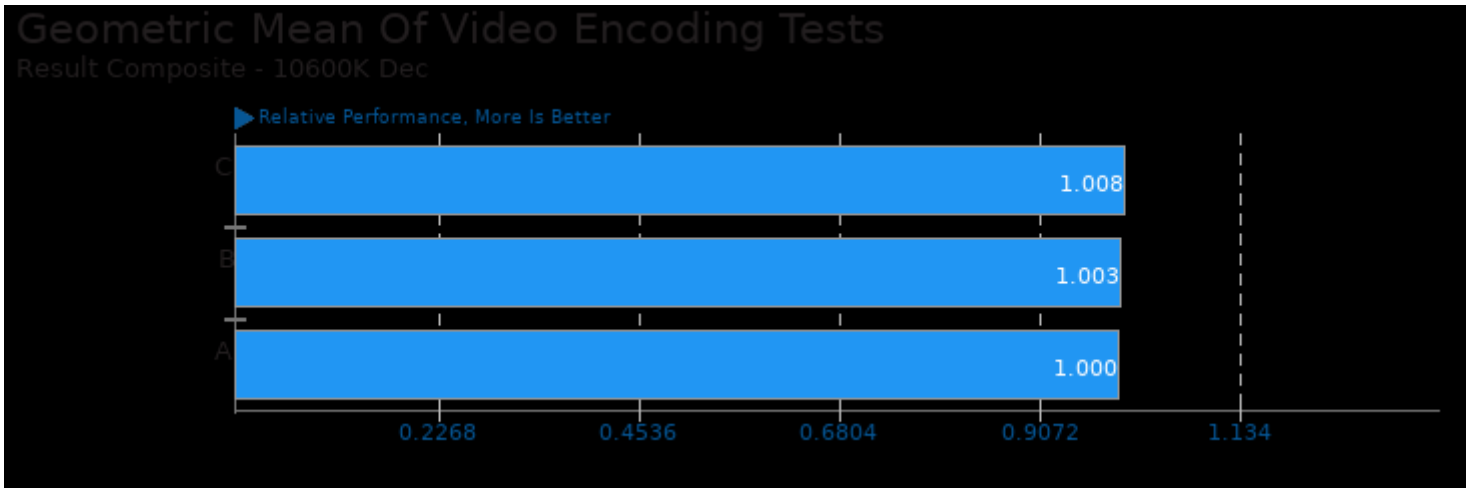


Geometric mean based upon tests: pts/stargate and pts/pyhpc



Geometric mean based upon tests: pts/dav1d, pts/compress-7zip and pts/blender

10600K Dec



Geometric mean based upon tests: pts/kvazaar, pts/dav1d and pts/aom-av1

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