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cascade lake refresh

2 x Intel Xeon Gold 5220R testing with a TYAN S7106 (V2.01.B40 BIOS) and ASPEED on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

a had the most wins, coming in first place for 66% of the tests.

Based on the geometric mean of all complete results, the fastest (a) was 1.018x the speed of the slowest (b).

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

PostgreSQL (Scaling Factor: 100 - Clients: 1 - Mode: Read Write) at 2.058x
PostgreSQL (Scaling Factor: 100 - Clients: 1 - Mode: Read Write - Average Latency) at 2.056x
PostgreSQL (Scaling Factor: 1 - Clients: 250 - Mode: Read Write - Average Latency) at 1.742x
PostgreSQL (Scaling Factor: 1 - Clients: 250 - Mode: Read Write) at 1.74x
Apache Spark (Row Count: 1000000 - Partitions: 100 - Broadcast Inner Join Test Time) at 1.623x
Apache Spark (Row Count: 1000000 - Partitions: 100 - Repartition Test Time) at 1.555x
PostgreSQL (Scaling Factor: 1 - Clients: 500 - Mode: Read Write) at 1.478x
PostgreSQL (Scaling Factor: 1 - Clients: 500 - Mode: Read Write - Average Latency) at 1.475x
Apache Spark (Row Count: 1000000 - Partitions: 2000 - Broadcast Inner Join Test Time) at 1.46x
PostgreSQL (Scaling Factor: 1 - Clients: 100 - Mode: Read Write) at 1.445x.

Test Systems:

a

b

Processor: 2 x Intel Xeon Gold 5220R @ 3.90GHz (36 Cores / 72 Threads), Motherboard: TYAN S7106 (V2.01.B40 BIOS), Chipset: Intel Sky Lake-E DMI3 Registers, Memory: 94GB, Disk: 500GB Samsung SSD 860, Graphics: ASPEED, Monitor: VE228, Network: 2 x Intel I210 + 2 x QLogic cLOM8214 1/10GbE

OS: Ubuntu 20.04, Kernel: 5.9.0-050900rc6-generic (x86_64) 20200920, Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.13, Compiler: GCC 9.4.0, 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-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-9-Av3uEd/gcc-9-9.4.0/debian/tmp-nvptx/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-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
Disk Notes: MQ-DEADLINE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: Scaling Governor: intel_pstate powersave (EPP: balance_performance) - CPU Microcode: 0x5003102
Java Notes: OpenJDK Runtime Environment (build 11.0.17+8-post-Ubuntu-1ubuntu220.04)
Python Notes: Python 2.7.18 + Python 3.8.10
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + 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: Mitigation of TSX disabled

	a	b
Unpacking The Linux Kernel - linux-5.19.tar.xz (sec)	**8.579**	**8.584**
Normalized	100%	99.94%
miniBUDE - OpenMP - BM1 (GFInst/s)	**735.749**	**756.807**
Normalized	97.22%	100%
miniBUDE - OpenMP - BM1 (Billion Interactions/s)	**29.43**	**30.272**
Normalized	97.22%	100%
miniBUDE - OpenMP - BM2 (GFInst/s)	**776.346**	**787.503**
Normalized	98.58%	100%
miniBUDE - OpenMP - BM2 (Billion Interactions/s)	**31.054**	**31.5**
Normalized	98.58%	100%
nekRS - TurboPipe Periodic (FLOP/s)	**124608000000**	**124198000000**
Normalized	100%	99.67%
OpenFOAM - d.S.M.S - Mesh Time (sec)	**34.008239**	**33.881804**
Normalized	99.63%	100%
OpenFOAM - d.S.M.S - Execution Time (sec)	**96.025607**	**95.549133**
Normalized	99.5%	100%
OpenFOAM - d.M.M.S - Mesh Time (sec)	**187.21756**	**187.19525**
Normalized	99.99%	100%
OpenFOAM - d.M.M.S - Execution Time (sec)	**899.70168**	**898.33703**
Normalized	99.85%	100%
OpenRadioss - Bumper Beam (sec)	**125.04**	**124.78**
Normalized	99.79%	100%
OpenRadioss - C.P.D.T (sec)	**57.28**	**57.26**
Normalized	99.97%	100%

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OpenRadioss - B.S.o.W (sec)	205.44	201.72
Normalized	98.19%	100%
OpenRadioss - R.O.R.S.I (sec)	114.39	114.9
Normalized	100%	99.56%
OpenRadioss - I.a.F.S.I.D.C (sec)	275.47	275.88
Normalized	100%	99.85%
LAMMPS Molecular Dynamics Simulator - 20k Atoms (ns/day)	15.746	15.683
Normalized	100%	99.6%
LAMMPS Molecular Dynamics Simulator - Rhodopsin Protein (ns/day)	17.951	13.085
Normalized	100%	72.89%
Xmrig - Monero - 1M (H/s)	9938	10412
Normalized	95.45%	100%
Xmrig - Wownero - 1M (H/s)	16897	16579
Normalized	100%	98.12%
JPEG XL libjxl - PNG - 80 (MP/s)	8.15	7.93
Normalized	100%	97.3%
JPEG XL libjxl - PNG - 90 (MP/s)	8.03	7.89
Normalized	100%	98.26%
JPEG XL libjxl - JPEG - 80 (MP/s)	7.78	7.68
Normalized	100%	98.71%
JPEG XL libjxl - JPEG - 90 (MP/s)	7.69	7.56
Normalized	100%	98.31%
JPEG XL libjxl - PNG - 100 (MP/s)	0.49	0.48
Normalized	100%	97.96%
JPEG XL libjxl - JPEG - 100 (MP/s)	0.49	0.46
Normalized	100%	93.88%
JPEG XL Decoding libjxl - 1 (MP/s)	33.54	32.92
Normalized	100%	98.15%
JPEG XL Decoding libjxl - All (MP/s)	80.94	80.26
Normalized	100%	99.16%
WebP Image Encode - Default (MP/s)	13.83	13.92
Normalized	99.35%	100%
WebP Image Encode - Quality 100 (MP/s)	8.92	8.91
Normalized	100%	99.89%
WebP Image Encode - Q.1.L (MP/s)	1.25	1.24
Normalized	100%	99.2%
WebP Image Encode - Q.1.H.C (MP/s)	3.03	3.03
WebP Image Encode - Q.1.L.H.C (MP/s)	0.44	0.44
WebP2 Image Encode - Default (MP/s)	6.59	6.76
Normalized	97.49%	100%
WebP2 Image Encode - Q.7.C.E.7 (MP/s)	0.28	0.27
Normalized	100%	96.43%
WebP2 Image Encode - Q.9.C.E.7 (MP/s)	0.13	0.13
WebP2 Image Encode - Q.1.C.E.5 (MP/s)	7.27	7.45
Normalized	97.58%	100%
WebP2 Image Encode - Q.1.L.C (MP/s)	0.03	0.03
srsRAN - OFDM_Test (Samples / Second)	119900000	120000000
Normalized	99.92%	100%
srsRAN - 4.P.1.P.M.6.Q (eNb Mb/s)	294	291.4
Normalized	100%	99.12%

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srsRAN - 4.P.1.P.M.6.Q (UE Mb/s)	118.9	117.9
Normalized	100%	99.16%
srsRAN - 4.P.1.P.S.6.Q (eNb Mb/s)	293.3	289.2
Normalized	100%	98.6%
srsRAN - 4.P.1.P.S.6.Q (UE Mb/s)	126.1	124.8
Normalized	100%	98.97%
srsRAN - 4.P.1.P.M.2.Q (eNb Mb/s)	324.2	321.2
Normalized	100%	99.07%
srsRAN - 4.P.1.P.M.2.Q (UE Mb/s)	130.9	129.2
Normalized	100%	98.7%
srsRAN - 4.P.1.P.S.2.Q (eNb Mb/s)	320.8	318.8
Normalized	100%	99.38%
srsRAN - 4.P.1.P.S.2.Q (UE Mb/s)	136.3	134.7
Normalized	100%	98.83%
srsRAN - 5.P.T.5.P.S.6.Q (eNb Mb/s)	100.3	99.9
Normalized	100%	99.6%
srsRAN - 5.P.T.5.P.S.6.Q (UE Mb/s)	65.7	65.5
Normalized	100%	99.7%
GraphicsMagick - Swirl (Iterations/min)	816	798
Normalized	100%	97.79%
GraphicsMagick - Rotate (Iterations/min)	594	575
Normalized	100%	96.8%
GraphicsMagick - Sharpen (Iterations/min)	220	218
Normalized	100%	99.09%
GraphicsMagick - Enhanced (Iterations/min)	506	502
Normalized	100%	99.21%
GraphicsMagick - Resizing (Iterations/min)	1092	1098
Normalized	99.45%	100%
GraphicsMagick - Noise-Gaussian (Iterations/min)	392	391
Normalized	100%	99.74%
GraphicsMagick - HWB Color Space (Iterations/min)	735	719
Normalized	100%	97.82%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 4K (FPS)	0.27	0.27
AOM AV1 - Speed 4 Two-Pass - Bosphorus 4K (FPS)	5.62	5.94
Normalized	94.61%	100%
AOM AV1 - Speed 6 Realtime - Bosphorus 4K (FPS)	13.58	13.24
Normalized	100%	97.5%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 4K (FPS)	9.12	9.08
Normalized	100%	99.56%
AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	16.04	16.23
Normalized	98.83%	100%
AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	22.76	22.59
Normalized	100%	99.25%
AOM AV1 - Speed 10 Realtime - Bosphorus 4K (FPS)	22.89	22.75
Normalized	100%	99.39%
AOM AV1 - Speed 0 Two-Pass - Bosphorus 1080p	0.72	0.73
Normalized	98.63%	100%
AOM AV1 - Speed 4 Two-Pass - Bosphorus 1080p	10.53	10.53
AOM AV1 - Speed 6 Realtime - Bosphorus 1080p	23.87	26.43
Normalized	90.31%	100%
AOM AV1 - Speed 6 Two-Pass - Bosphorus 1080p	19.6	20.13
Normalized	97.37%	100%
AOM AV1 - Speed 8 Realtime - Bosphorus 1080p (FPS)	38.05	37.75

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Normalized	100%	99.21%
AOM AV1 - Speed 9 Realtime - Bosphorus 1080p	46.5	46.38
Normalized	100%	99.74%
AOM AV1 - Speed 10 Realtime - Bosphorus 1080p	48.3	46.73
Normalized	100%	96.75%
SVT-AV1 - Preset 4 - Bosphorus 4K (FPS)	2.631	2.524
Normalized	100%	95.93%
SVT-AV1 - Preset 8 - Bosphorus 4K (FPS)	36.589	36.387
Normalized	100%	99.45%
SVT-AV1 - Preset 12 - Bosphorus 4K (FPS)	120.584	118.267
Normalized	100%	98.08%
SVT-AV1 - Preset 13 - Bosphorus 4K (FPS)	106.678	110.562
Normalized	96.49%	100%
SVT-AV1 - Preset 4 - Bosphorus 1080p (FPS)	6.245	6.385
Normalized	97.81%	100%
SVT-AV1 - Preset 8 - Bosphorus 1080p (FPS)	85.018	86.178
Normalized	98.65%	100%
SVT-AV1 - Preset 12 - Bosphorus 1080p (FPS)	227.23	227.064
Normalized	100%	99.93%
SVT-AV1 - Preset 13 - Bosphorus 1080p (FPS)	201.865	199.966
Normalized	100%	99.06%
OpenVKL - vklBenchmark ISPC (Items / Sec)	362	353
Normalized	100%	97.51%
OpenVKL - v.S (Items / Sec)	176	171
Normalized	100%	97.16%
7-Zip Compression - Compression Rating (MIPS)	171677	169842
Normalized	100%	98.93%
7-Zip Compression - D.R (MIPS)	158350	157899
Normalized	100%	99.72%
Stargate Digital Audio Workstation - 44100 - 512 (Render Ratio)	3.281164	2.979784
Normalized	100%	90.81%
Stargate Digital Audio Workstation - 96000 - 512 (Render Ratio)	1.840618	1.765949
Normalized	100%	95.94%
Stargate Digital Audio Workstation - 192000 - 512 (Render Ratio)	1.044224	1.093912
Normalized	95.46%	100%
Stargate Digital Audio Workstation - 44100 - 1024 (Render Ratio)	3.634671	3.584121
Normalized	100%	98.61%
Stargate Digital Audio Workstation - 480000 - 512 (Render Ratio)	3.394244	2.559217
Normalized	100%	75.4%
Stargate Digital Audio Workstation - 96000 - 1024 (Render Ratio)	2.61702	2.019155
Normalized	100%	77.15%
Stargate Digital Audio Workstation - 192000 - 1024 (Render Ratio)	1.601382	1.650224
Normalized	97.04%	100%

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Stargate Digital Audio Workstation - 480000 - 1024 (Render Ratio)	2.90554	3.23369
Normalized	89.85%	100%
libavif avifenc - 0 (sec)	115.421	111.684
Normalized	96.76%	100%
libavif avifenc - 2 (sec)	59.901	58.227
Normalized	97.21%	100%
libavif avifenc - 6 (sec)	5.298	5.28
Normalized	99.66%	100%
libavif avifenc - 6, Lossless (sec)	10.043	9.978
Normalized	99.35%	100%
libavif avifenc - 10, Lossless (sec)	7.053	7.052
Normalized	99.99%	100%
Timed Linux Kernel Compilation - defconfig (sec)	52.645	52.687
Normalized	100%	99.92%
Timed Linux Kernel Compilation - allmodconfig (sec)	543.75	545.447
Normalized	100%	99.69%
Timed Node.js Compilation - Time To Compile (sec)	275.436	276.403
Normalized	100%	99.65%
Timed PHP Compilation - Time To Compile (sec)	57.282	59.274
Normalized	100%	96.64%
Timed CPython Compilation - Default (sec)	19.743	19.835
Normalized	100%	99.54%
Timed CPython Compilation - R.B.P.L.O (sec)	382.188	382.303
Normalized	100%	99.97%
Y-Cruncher - 1B (sec)	22.389	22.426
Normalized	100%	99.84%
Y-Cruncher - 500M (sec)	11.12	11.319
Normalized	100%	98.24%
oneDNN - IP Shapes 1D - f32 - CPU (ms)	1.72077	1.71954
Normalized	99.93%	100%
oneDNN - IP Shapes 3D - f32 - CPU (ms)	3.79612	3.80003
Normalized	100%	99.9%
oneDNN - IP Shapes 1D - u8s8f32 - CPU (ms)	1.37489	1.38109
Normalized	100%	99.55%
oneDNN - IP Shapes 3D - u8s8f32 - CPU (ms)	1.25783	1.25446
Normalized	99.73%	100%
oneDNN - IP Shapes 1D - bf16bf16bf16 - CPU (ms)	5.70137	5.71409
Normalized	100%	99.78%
oneDNN - IP Shapes 3D - bf16bf16bf16 - CPU (ms)	3.40068	3.31851
Normalized	97.58%	100%
oneDNN - C.B.S.A - f32 - CPU (ms)	7.47846	7.48562
Normalized	100%	99.9%
oneDNN - D.B.s - f32 - CPU (ms)	11.4783	11.5556
Normalized	100%	99.33%
oneDNN - D.B.s - f32 - CPU (ms)	2.80983	2.81784
Normalized	100%	99.72%
oneDNN - C.B.S.A - u8s8f32 - CPU (ms)	6.94903	6.94611
Normalized	99.96%	100%
oneDNN - D.B.s - u8s8f32 - CPU (ms)	0.568809	0.567734
Normalized	99.81%	100%
oneDNN - D.B.s - u8s8f32 - CPU (ms)	0.693146	0.694553
Normalized	100%	99.8%

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oneDNN - R.N.N.T - f32 - CPU (ms)	**1381**	**1380**
Normalized	99.93%	100%
oneDNN - R.N.N.I - f32 - CPU (ms)	**784.125**	**892.232**
Normalized	100%	87.88%
oneDNN - R.N.N.T - u8s8f32 - CPU (ms)	**1380**	**1380**
Normalized	100%	99.97%
oneDNN - C.B.S.A - bf16bf16bf16 - CPU (ms)	**6.35819**	**6.4127**
Normalized	100%	99.15%
oneDNN - D.B.s - bf16bf16bf16 - CPU (ms)	**9.8543**	**9.81832**
Normalized	99.63%	100%
oneDNN - D.B.s - bf16bf16bf16 - CPU (ms)	**9.61455**	**9.6345**
Normalized	100%	99.79%
oneDNN - R.N.N.I - u8s8f32 - CPU (ms)	**781.001**	**789.364**
Normalized	100%	98.94%
oneDNN - M.M.B.S.T - f32 - CPU (ms)	**0.477096**	**0.481461**
Normalized	100%	99.09%
oneDNN - R.N.N.T - bf16bf16bf16 - CPU (ms)	**1409**	**1382**
Normalized	98.04%	100%
oneDNN - R.N.N.I - bf16bf16bf16 - CPU (ms)	**786.583**	**801.797**
Normalized	100%	98.1%
oneDNN - M.M.B.S.T - u8s8f32 - CPU (ms)	**0.235557**	**0.235658**
Normalized	100%	99.96%
oneDNN - M.M.B.S.T - bf16bf16bf16 - CPU (ms)	**2.55381**	**2.59337**
Normalized	100%	98.47%
OSPRay Studio - 1 - 4K - 1 - Path Tracer (ms)	**3528**	**3529**
Normalized	100%	99.97%
OSPRay Studio - 2 - 4K - 1 - Path Tracer (ms)	**3617**	**3624**
Normalized	100%	99.81%
OSPRay Studio - 3 - 4K - 1 - Path Tracer (ms)	**4309**	**4311**
Normalized	100%	99.95%
OSPRay Studio - 1 - 4K - 16 - Path Tracer (ms)	**65864**	**66209**
Normalized	100%	99.48%
OSPRay Studio - 1 - 4K - 32 - Path Tracer (ms)	**122216**	**122843**
Normalized	100%	99.49%
OSPRay Studio - 2 - 4K - 16 - Path Tracer (ms)	**67352**	**67325**
Normalized	99.96%	100%
OSPRay Studio - 2 - 4K - 32 - Path Tracer (ms)	**125037**	**125174**
Normalized	100%	99.89%
OSPRay Studio - 3 - 4K - 16 - Path Tracer (ms)	**78464**	**78883**
Normalized	100%	99.47%
OSPRay Studio - 3 - 4K - 32 - Path Tracer (ms)	**146883**	**147053**
Normalized	100%	99.88%
OSPRay Studio - 1 - 1080p - 1 - Path Tracer (ms)	**888**	**890**
Normalized	100%	99.78%
OSPRay Studio - 2 - 1080p - 1 - Path Tracer (ms)	**914**	**915**
Normalized	100%	99.89%
OSPRay Studio - 3 - 1080p - 1 - Path Tracer (ms)	1085	1085
OSPRay Studio - 1 - 1080p - 16 - Path Tracer (ms)	**14186**	**14166**
Normalized	99.86%	100%
OSPRay Studio - 1 - 1080p - 32 - Path Tracer (ms)	**28318**	**28332**
Normalized	100%	99.95%
OSPRay Studio - 2 - 1080p - 16 - Path Tracer (ms)	**14608**	**14535**
Normalized	99.5%	100%

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OSPRay Studio - 2 - 1080p - 32 - Path Tracer (ms)	29041	29061
Normalized	100%	99.93%
OSPRay Studio - 3 - 1080p - 16 - Path Tracer (ms)	17367	17342
Normalized	99.86%	100%
OSPRay Studio - 3 - 1080p - 32 - Path Tracer (ms)	34647	34637
Normalized	99.97%	100%
Timed Erlang/OTP Compilation - Time To Compile	121.466	122.707
Normalized	100%	98.99%
FLAC Audio Encoding - WAV To FLAC (sec)	22.41	22.58
Normalized	100%	99.25%
Aircrack-ng (k/s)	99754	98830
Normalized	100%	99.07%
Cpuminer-Opt - Magi (kH/s)	701.91	703.92
Normalized	99.71%	100%
Cpuminer-Opt - x25x (kH/s)	1252	1253
Normalized	99.92%	100%
Cpuminer-Opt - scrypt (kH/s)	951.15	946.1
Normalized	100%	99.47%
Cpuminer-Opt - Deepcoin (kH/s)	28150	28140
Normalized	100%	99.96%
Cpuminer-Opt - Ringcoin (kH/s)	3293	3326
Normalized	99.01%	100%
Cpuminer-Opt - Blake-2 S (kH/s)	2216930	2239380
Normalized	99%	100%
Cpuminer-Opt - Garlicoin (kH/s)	12910	12940
Normalized	99.77%	100%
Cpuminer-Opt - Skeincoin (kH/s)	253670	253330
Normalized	100%	99.87%
Cpuminer-Opt - Myriad-Groestl (kH/s)	11570	12000
Normalized	96.42%	100%
Cpuminer-Opt - LBC, LBRY Credits (kH/s)	182930	183720
Normalized	99.57%	100%
Cpuminer-Opt - Q.S.2.P (kH/s)	401450	403630
Normalized	99.46%	100%
Cpuminer-Opt - T.S.2.O (kH/s)	598720	598300
Normalized	100%	99.93%
Node.js V8 Web Tooling Benchmark (runs/s)	9.93	10.14
Normalized	97.93%	100%
ClickHouse - 1.R.W.A.D.F.R.C.C (Queries/min, Geo Mean)	142.18	205.30
Normalized	69.25%	100%
ClickHouse - 1.R.W.A.D.S.R (Queries/min, Geo Mean)	205.73	213.89
Normalized	96.18%	100%
ClickHouse - 1.R.W.A.D.T.R (Queries/min, Geo Mean)	198.59	220.22
Normalized	90.18%	100%
Apache Spark - 1000000 - 100 - S.5.B.T (sec)	5.07	5.07
Apache Spark - 1000000 - 100 - C.P.B (sec)	66.06	65.95
Normalized	99.83%	100%
Apache Spark - 1000000 - 100 - C.P.B.U.D (sec)	4.69	4.71
Normalized	100%	99.58%

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Apache Spark - 1000000 - 100 - Group By Test Time (sec)	6.47	6.24
Normalized	96.45%	100%
Apache Spark - 1000000 - 100 - R.T.T (sec)	2.63	4.09
Normalized	100%	64.3%
Apache Spark - 1000000 - 100 - I.J.T.T (sec)	3.23	2.84
Normalized	87.93%	100%
Apache Spark - 1000000 - 100 - B.I.J.T.T (sec)	2.50	1.54
Normalized	61.6%	100%
Apache Spark - 1000000 - 2000 - S.5.B.T (sec)	5.48	5.71
Normalized	100%	95.97%
Apache Spark - 1000000 - 2000 - C.P.B (sec)	64.825399416	65.80
Normalized	100%	98.52%
Apache Spark - 1000000 - 2000 - C.P.B.U.D (sec)	4.78	4.85
Normalized	100%	98.56%
Apache Spark - 1000000 - 2000 - Group By Test Time (sec)	8.24	7.68
Normalized	93.2%	100%
Apache Spark - 1000000 - 2000 - R.T.T (sec)	5.61	5.16
Normalized	91.98%	100%
Apache Spark - 1000000 - 2000 - I.J.T.T (sec)	4.67	5.81
Normalized	100%	80.38%
Apache Spark - 1000000 - 2000 - B.I.J.T.T (sec)	4.26	6.22
Normalized	100%	68.49%
Dragonflydb - 50 - 1:1 (Ops/sec)	707625	930058
Normalized	76.08%	100%
Dragonflydb - 50 - 1:5 (Ops/sec)	989119	1038762
Normalized	95.22%	100%
Dragonflydb - 50 - 5:1 (Ops/sec)	959934	962501
Normalized	99.73%	100%
Dragonflydb - 200 - 1:1 (Ops/sec)	994294	890721
Normalized	100%	89.58%
Dragonflydb - 200 - 1:5 (Ops/sec)	1044459	937647
Normalized	100%	89.77%
Dragonflydb - 200 - 5:1 (Ops/sec)	942135	839631
Normalized	100%	89.12%
Redis - GET - 50 (Reqs/sec)	2617818	2404467
Normalized	100%	91.85%
Redis - SET - 50 (Reqs/sec)	2242796	2244609
Normalized	99.92%	100%
Redis - GET - 500 (Reqs/sec)	2908382	2700562
Normalized	100%	92.85%
Redis - SET - 500 (Reqs/sec)	2217236	2232582
Normalized	99.31%	100%
Redis - GET - 1000 (Reqs/sec)	2852956	2805581
Normalized	100%	98.34%
Redis - SET - 1000 (Reqs/sec)	2202581	2204248
Normalized	99.92%	100%
ASTC Encoder - Fast (MT/s)	364.5543	364.3485
Normalized	100%	99.94%
ASTC Encoder - Medium (MT/s)	138.0913	136.6876
Normalized	100%	98.98%
ASTC Encoder - Thorough (MT/s)	18.0603	18.0936

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Normalized	99.82%	100%
ASTC Encoder - Exhaustive (MT/s)	1.8422	1.8432
Normalized	99.95%	100%
PostgreSQL - 1 - 1 - Read Only (TPS)	23407	22579
Normalized	100%	96.46%
PostgreSQL - 1 - 1 - Read Only - Average Latency (ms)	0.043	0.044
Normalized	100%	97.73%
PostgreSQL - 1 - 1 - Read Write (TPS)	812	718
Normalized	100%	88.42%
PostgreSQL - 1 - 1 - Read Write - Average Latency	1.231	1.392
Normalized	100%	88.43%
PostgreSQL - 1 - 50 - Read Only (TPS)	675675	672851
Normalized	100%	99.58%
PostgreSQL - 1 - 50 - Read Only - Average Latency	0.074	0.074
PostgreSQL - 1 - 100 - Read Only (TPS)	968554	971447
Normalized	99.7%	100%
PostgreSQL - 1 - 100 - Read Only - Average Latency	0.103	0.103
PostgreSQL - 1 - 250 - Read Only (TPS)	979407	976093
Normalized	100%	99.66%
PostgreSQL - 1 - 250 - Read Only - Average Latency	0.255	0.256
Normalized	100%	99.61%
PostgreSQL - 1 - 50 - Read Write (TPS)	716	709
Normalized	100%	99.02%
PostgreSQL - 1 - 50 - Read Write - Average Latency	69.874	70.482
Normalized	100%	99.14%
PostgreSQL - 1 - 500 - Read Only (TPS)	930850	925569
Normalized	100%	99.43%
PostgreSQL - 1 - 500 - Read Only - Average Latency	0.537	0.54
Normalized	100%	99.44%
PostgreSQL - 100 - 1 - Read Only (TPS)	21981	21860
Normalized	100%	99.45%
PostgreSQL - 100 - 1 - Read Only - Average Latency	0.045	0.046
Normalized	100%	97.83%
PostgreSQL - 1 - 100 - Read Write (TPS)	623	431
Normalized	100%	69.18%
PostgreSQL - 1 - 100 - Read Write - Average Latency (ms)	160.474	231.892
Normalized	100%	69.2%
PostgreSQL - 1 - 250 - Read Write (TPS)	442	254
Normalized	100%	57.47%
PostgreSQL - 1 - 250 - Read Write - Average Latency (ms)	565.864	985.483
Normalized	100%	57.42%
PostgreSQL - 1 - 500 - Read Write (TPS)	297	201
Normalized	100%	67.68%
PostgreSQL - 1 - 500 - Read Write - Average Latency (ms)	1683	2482
Normalized	100%	67.8%
PostgreSQL - 100 - 1 - Read Write (TPS)	671	326
Normalized	100%	48.58%

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PostgreSQL - 100 - 1 - Read Write - Average Latency (ms)	1.491	3.065
Normalized	100%	48.65%
PostgreSQL - 100 - 50 - Read Only (TPS)	652544	652647
Normalized	99.98%	100%
PostgreSQL - 100 - 50 - Read Only - Average Latency (ms)	0.077	0.077
PostgreSQL - 100 - 100 - Read Only (TPS)	882773	899014
Normalized	98.19%	100%
PostgreSQL - 100 - 100 - Read Only - Average Latency (ms)	0.113	0.111
Normalized	98.23%	100%
PostgreSQL - 100 - 250 - Read Only (TPS)	922066	915519
Normalized	100%	99.29%
PostgreSQL - 100 - 250 - Read Only - Average Latency (ms)	0.271	0.273
Normalized	100%	99.27%
PostgreSQL - 100 - 50 - Read Write (TPS)	5131	4415
Normalized	100%	86.05%
PostgreSQL - 100 - 50 - Read Write - Average Latency (ms)	9.744	11.326
Normalized	100%	86.03%
PostgreSQL - 100 - 500 - Read Only (TPS)	869450	866030
Normalized	100%	99.61%
PostgreSQL - 100 - 500 - Read Only - Average Latency (ms)	0.575	0.577
Normalized	100%	99.65%
PostgreSQL - 100 - 100 - Read Write (TPS)	6045	5890
Normalized	100%	97.44%
PostgreSQL - 100 - 100 - Read Write - Average Latency (ms)	16.541	16.977
Normalized	100%	97.43%
PostgreSQL - 100 - 250 - Read Write (TPS)	7170	7046
Normalized	100%	98.27%
PostgreSQL - 100 - 250 - Read Write - Average Latency (ms)	34.869	35.484
Normalized	100%	98.27%
PostgreSQL - 100 - 500 - Read Write (TPS)	7613	7475
Normalized	100%	98.19%
PostgreSQL - 100 - 500 - Read Write - Average Latency (ms)	65.68	66.891
Normalized	100%	98.19%
TensorFlow - CPU - 16 - VGG-16 (images/sec)	9.16	9.15
Normalized	100%	99.89%
TensorFlow - CPU - 32 - VGG-16 (images/sec)	10.22	10.18
Normalized	100%	99.61%
TensorFlow - CPU - 64 - VGG-16 (images/sec)	10.85	10.96
Normalized	99%	100%
TensorFlow - CPU - 16 - AlexNet (images/sec)	79.17	79.09
Normalized	100%	99.9%
TensorFlow - CPU - 32 - AlexNet (images/sec)	106.64	105.78
Normalized	100%	99.19%

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TensorFlow - CPU - 64 - AlexNet (images/sec)	143.41	142.07
Normalized	100%	99.07%
TensorFlow - CPU - 16 - GoogLeNet (images/sec)	46.37	46.18
Normalized	100%	99.59%
TensorFlow - CPU - 16 - ResNet-50 (images/sec)	14.77	14.74
Normalized	100%	99.8%
TensorFlow - CPU - 32 - GoogLeNet (images/sec)	61.69	61.82
Normalized	99.79%	100%
TensorFlow - CPU - 32 - ResNet-50 (images/sec)	17.9	17.97
Normalized	99.61%	100%
TensorFlow - CPU - 64 - GoogLeNet (images/sec)	77.03	76.16
Normalized	100%	98.87%
TensorFlow - CPU - 64 - ResNet-50 (images/sec)	19.21	22.42
Normalized	85.68%	100%
Neural Magic DeepSparse - N.D.C.o.b.u.o.I - A.M.S (items/sec)	18.6511	18.3638
Normalized	100%	98.46%
Neural Magic DeepSparse - N.D.C.o.b.u.o.I - A.M.S (ms/batch)	963.8114	966.403
Normalized	100%	99.73%
Neural Magic DeepSparse - N.D.C.o.b.u.o.I - S.S.S (items/sec)	8.7441	8.6568
Normalized	100%	99%
Neural Magic DeepSparse - N.D.C.o.b.u.o.I - S.S.S (ms/batch)	114.3502	115.5038
Normalized	100%	99%
Neural Magic DeepSparse - N.Q.A.B.b.u.S.1.P - A.M.S (items/sec)	99.481	98.7664
Normalized	100%	99.28%
Neural Magic DeepSparse - N.Q.A.B.b.u.S.1.P - A.M.S (ms/batch)	180.5419	181.7991
Normalized	100%	99.31%
Neural Magic DeepSparse - N.Q.A.B.b.u.S.1.P - S.S.S (items/sec)	41.8085	41.7245
Normalized	100%	99.8%
Neural Magic DeepSparse - N.Q.A.B.b.u.S.1.P - S.S.S (ms/batch)	23.9046	23.9542
Normalized	100%	99.79%
Neural Magic DeepSparse - C.D.Y.C - A.M.S	132.4405	131.593
Normalized	100%	99.36%
Neural Magic DeepSparse - C.D.Y.C - A.M.S	135.7515	136.6781
Normalized	100%	99.32%
Neural Magic DeepSparse - C.D.Y.C - S.S.S (items/sec)	54.2553	54.452
Normalized	99.64%	100%
Neural Magic DeepSparse - C.D.Y.C - S.S.S (ms/batch)	18.4136	18.3466
Normalized	99.64%	100%
Neural Magic DeepSparse - C.C.R.5.I - A.M.S	352.856	352.6274
Normalized	100%	99.94%
Neural Magic DeepSparse - C.C.R.5.I - A.M.S	50.9512	51.0098
Normalized	100%	99.89%
Neural Magic DeepSparse - C.C.R.5.I - S.S.S	113.7454	113.8925
Normalized	99.87%	100%

Neural Magic DeepSparse - C.C.R.5.I - S.S.S	8.7764	8.7659
Normalized	99.88%	100%
Neural Magic DeepSparse - N.T.C.D.m - A.M.S (items/sec)	180.9023	180.1226
Normalized	100%	99.57%
Neural Magic DeepSparse - N.T.C.D.m - A.M.S (ms/batch)	99.329	99.8308
Normalized	100%	99.5%
Neural Magic DeepSparse - N.T.C.D.m - S.S.S (items/sec)	67.0883	66.9674
Normalized	100%	99.82%
Neural Magic DeepSparse - N.T.C.D.m - S.S.S	14.8943	14.9224
Normalized	100%	99.81%
Neural Magic DeepSparse - N.T.C.B.b.u.S - A.M.S (items/sec)	91.1877	91.2096
Normalized	99.98%	100%
Neural Magic DeepSparse - N.T.C.B.b.u.S - A.M.S (ms/batch)	197.132	196.7007
Normalized	99.78%	100%
Neural Magic DeepSparse - N.T.C.B.b.u.S - S.S.S (items/sec)	33.8154	34.9917
Normalized	96.64%	100%
Neural Magic DeepSparse - N.T.C.B.b.u.S - S.S.S (ms/batch)	29.5607	28.5675
Normalized	96.64%	100%
Neural Magic DeepSparse - N.T.C.B.b.u.c - A.M.S (items/sec)	18.6156	18.6722
Normalized	99.7%	100%
Neural Magic DeepSparse - N.T.C.B.b.u.c - A.M.S (ms/batch)	963.5663	963.9121
Normalized	100%	99.96%
Neural Magic DeepSparse - N.T.C.B.b.u.c - S.S.S (items/sec)	8.7499	8.6682
Normalized	100%	99.07%
Neural Magic DeepSparse - N.T.C.B.b.u.c - S.S.S (ms/batch)	114.2741	115.3522
Normalized	100%	99.07%
memtier_benchmark - Redis - 50 - 10:1 (Ops/sec)	1501801	1504676
Normalized	99.81%	100%
Stress-NG - MMAP (Bogo Ops/s)	564.44	561.69
Normalized	100%	99.51%
Stress-NG - NUMA (Bogo Ops/s)	577.5	572.28
Normalized	100%	99.1%
Stress-NG - Futex (Bogo Ops/s)	1051826	1152674
Normalized	91.25%	100%
Stress-NG - MEMFD (Bogo Ops/s)	1021	1017
Normalized	100%	99.57%
Stress-NG - Mutex (Bogo Ops/s)	17168754	17219956
Normalized	99.7%	100%
Stress-NG - Atomic (Bogo Ops/s)	126894	116358
Normalized	100%	91.7%
Stress-NG - Crypto (Bogo Ops/s)	34685	34690

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Normalized	99.99%	100%
Stress-NG - Malloc (Bogo Ops/s)	109293721	109184164
Normalized	100%	99.9%
Stress-NG - Forking (Bogo Ops/s)	41988	42163
Normalized	99.58%	100%
Stress-NG - SENDFILE (Bogo Ops/s)	437832	444590
Normalized	98.48%	100%
Stress-NG - CPU Cache (Bogo Ops/s)	89.3	76.5
Normalized	100%	85.67%
Stress-NG - CPU Stress (Bogo Ops/s)	59048	58316
Normalized	100%	98.76%
Stress-NG - Semaphores (Bogo Ops/s)	4585187	4572788
Normalized	100%	99.73%
Stress-NG - Matrix Math (Bogo Ops/s)	124052	123275
Normalized	100%	99.37%
Stress-NG - Vector Math (Bogo Ops/s)	103157	103020
Normalized	100%	99.87%
Stress-NG - x86_64 RdRand (Bogo Ops/s)	503508	503603
Normalized	99.98%	100%
Stress-NG - Memory Copying (Bogo Ops/s)	4644	4691
Normalized	98.99%	100%
Stress-NG - Socket Activity (Bogo Ops/s)	26883	20197
Normalized	100%	75.13%
Stress-NG - Context Switching (Bogo Ops/s)	6260590	7049324
Normalized	88.81%	100%
Stress-NG - G.C.S.F (Bogo Ops/s)	1715303	1703194
Normalized	100%	99.29%
Stress-NG - G.Q.D.S (Bogo Ops/s)	417	424.2
Normalized	98.3%	100%
Stress-NG - S.V.M.P (Bogo Ops/s)	3795442	3677321
Normalized	100%	96.89%
spaCy - en_core_web_lg (tokens/sec)	10874	10838
Normalized	100%	99.67%
spaCy - en_core_web_trf (tokens/sec)	2007	1950
Normalized	100%	97.16%
Mobile Neural Network - nasnet (ms)	22.53	22.37
Normalized	99.29%	100%
Mobile Neural Network - mobilenetV3 (ms)	3.386	3.334
Normalized	98.46%	100%
Mobile Neural Network - squeezenetv1.1 (ms)	4.677	4.686
Normalized	100%	99.81%
Mobile Neural Network - resnet-v2-50 (ms)	15.236	14.662
Normalized	96.23%	100%
Mobile Neural Network - SqueezeNetV1.0 (ms)	7.533	7.588
Normalized	100%	99.28%
Mobile Neural Network - MobileNetV2_224 (ms)	5.143	5.221
Normalized	100%	98.51%
Mobile Neural Network - mobilenet-v1-1.0 (ms)	3.695	3.487
Normalized	94.37%	100%
Mobile Neural Network - inception-v3 (ms)	36.76	36.166
Normalized	98.38%	100%
NCNN - CPU - mobilenet (ms)	23.38	22.93
Normalized	98.08%	100%

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NCNN - CPU-v2-v2 - mobilenet-v2 (ms)	11.44	12.46
Normalized	100%	91.81%
NCNN - CPU-v3-v3 - mobilenet-v3 (ms)	10.44	11.24
Normalized	100%	92.88%
NCNN - CPU - shufflenet-v2 (ms)	11.83	12.81
Normalized	100%	92.35%
NCNN - CPU - mnasnet (ms)	10.43	11.03
Normalized	100%	94.56%
NCNN - CPU - efficientnet-b0 (ms)	15	16.3
Normalized	100%	92.02%
NCNN - CPU - blazeface (ms)	5.7	5.94
Normalized	100%	95.96%
NCNN - CPU - googlenet (ms)	21.6	23.01
Normalized	100%	93.87%
NCNN - CPU - vgg16 (ms)	35.89	39.21
Normalized	100%	91.53%
NCNN - CPU - resnet18 (ms)	13.35	13.82
Normalized	100%	96.6%
NCNN - CPU - alexnet (ms)	8.45	9.25
Normalized	100%	91.35%
NCNN - CPU - resnet50 (ms)	26.1	26.12
Normalized	100%	99.92%
NCNN - CPU - yolov4-tiny (ms)	31.71	32.91
Normalized	100%	96.35%
NCNN - CPU - squeezenet_ssd (ms)	29.15	27.75
Normalized	95.2%	100%
NCNN - CPU - regnety_400m (ms)	48.89	51.14
Normalized	100%	95.6%
NCNN - CPU - vision_transformer (ms)	173.64	172.93
Normalized	99.59%	100%
NCNN - CPU - FastestDet (ms)	15.69	14.43
Normalized	91.97%	100%
Blender - BMW27 - CPU-Only (sec)	55.54	55.56
Normalized	100%	99.96%
Blender - Classroom - CPU-Only (sec)	164.77	162.95
Normalized	98.9%	100%
Blender - Fishy Cat - CPU-Only (sec)	75.8	75.59
Normalized	99.72%	100%
Blender - Barbershop - CPU-Only (sec)	592.36	591.97
Normalized	99.93%	100%
Blender - Pabellon Barcelona - CPU-Only (sec)	192.12	191.19
Normalized	99.52%	100%
OpenVINO - F.D.F - CPU (FPS)	6.94	6.94
OpenVINO - F.D.F - CPU (ms)	1283	1284
Normalized	100%	99.96%
OpenVINO - P.D.F - CPU (FPS)	4.04	4.03
Normalized	100%	99.75%
OpenVINO - P.D.F - CPU (ms)	2193	2194
Normalized	100%	99.97%
OpenVINO - P.D.F - CPU (FPS)	4.03	4.01
Normalized	100%	99.5%
OpenVINO - P.D.F - CPU (ms)	2200	2206
Normalized	100%	99.72%

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OpenVINO - V.D.F - CPU (FPS)	421.71	412.75
Normalized	100%	97.88%
OpenVINO - V.D.F - CPU (ms)	21.3	21.76
Normalized	100%	97.89%
OpenVINO - F.D.F.I - CPU (FPS)	25.83	25.82
Normalized	100%	99.96%
OpenVINO - F.D.F.I - CPU (ms)	347.32	347.82
Normalized	100%	99.86%
OpenVINO - V.D.F.I - CPU (FPS)	1396	1389
Normalized	100%	99.52%
OpenVINO - V.D.F.I - CPU (ms)	6.42	6.45
Normalized	100%	99.53%
OpenVINO - W.P.D.F - CPU (FPS)	704.6	706.42
Normalized	99.74%	100%
OpenVINO - W.P.D.F - CPU (ms)	51	50.86
Normalized	99.73%	100%
OpenVINO - M.T.E.T.D.F - CPU (FPS)	78.04	77.53
Normalized	100%	99.35%
OpenVINO - M.T.E.T.D.F - CPU (ms)	115.2	115.95
Normalized	100%	99.35%
OpenVINO - W.P.D.F.I - CPU (FPS)	2717	2715
Normalized	100%	99.9%
OpenVINO - W.P.D.F.I - CPU (ms)	13.17	13.19
Normalized	100%	99.85%
OpenVINO - P.V.B.D.F - CPU (FPS)	687.33	674.84
Normalized	100%	98.18%
OpenVINO - P.V.B.D.F - CPU (ms)	13.06	13.3
Normalized	100%	98.2%
OpenVINO - A.G.R.R.0.F - CPU (FPS)	21846	21783
Normalized	100%	99.71%
OpenVINO - A.G.R.R.0.F - CPU (ms)	1.64	1.64
OpenVINO - A.G.R.R.0.F.I - CPU (FPS)	36342	30254
Normalized	100%	83.25%
OpenVINO - A.G.R.R.0.F.I - CPU (ms)	0.98	1.18
Normalized	100%	83.05%
Facebook RocksDB - Rand Read (Op/s)	107719684	120010661
Normalized	89.76%	100%
Facebook RocksDB - Update Rand (Op/s)	174193	172766
Normalized	100%	99.18%
Facebook RocksDB - Read While Writing (Op/s)	5155074	5254605
Normalized	98.11%	100%
Facebook RocksDB - R.R.W.R (Op/s)	2545133	2534266
Normalized	100%	99.57%
Numenta Anomaly Benchmark - KNN CAD (sec)	135.463	147.747
Normalized	100%	91.69%
Numenta Anomaly Benchmark - Relative Entropy	13.363	13.364
Normalized	100%	99.99%
Numenta Anomaly Benchmark - Windowed Gaussian (sec)	7.529	7.476
Normalized	99.3%	100%
Numenta Anomaly Benchmark - Earthgecko Skyline	99.192	95.428
Normalized	96.21%	100%
Numenta Anomaly Benchmark - B.C (sec)	34.988	35.734

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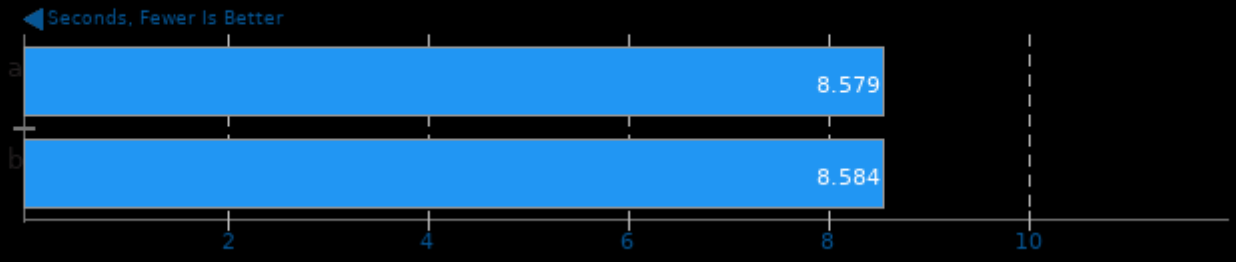
Normalized	100%	97.91%
Numenta Anomaly Benchmark - C.A.D.O (sec)	50.619	50.914
Normalized	100%	99.42%
Natron - Spaceship (FPS)	3.7	3.7
EnCodec - 3 kbps (sec)	40.408	35.115
Normalized	86.9%	100%
EnCodec - 6 kbps (sec)	40.508	39.852
Normalized	98.38%	100%
EnCodec - 24 kbps (sec)	48.814	53.474
Normalized	100%	91.29%
EnCodec - 1.5 kbps (sec)	41.892	44.754
Normalized	100%	93.61%
BRL-CAD - V.P.M (VGR Performance Metric)	257085	251911
Normalized	100%	97.99%
CockroachDB - MoVR - 128 (ops/s)	226.3	226.4
Normalized	99.96%	100%
CockroachDB - MoVR - 256 (ops/s)	202.9	228.8
Normalized	88.68%	100%
CockroachDB - MoVR - 512 (ops/s)	111.5	108.1
Normalized	100%	96.95%
CockroachDB - MoVR - 1024 (ops/s)	111.1	109.2
Normalized	100%	98.29%
CockroachDB - KV, 10% Reads - 128 (ops/s)	6941	6717
Normalized	100%	96.78%
CockroachDB - KV, 10% Reads - 256 (ops/s)	13760	17243
Normalized	79.8%	100%
CockroachDB - KV, 10% Reads - 512 (ops/s)	29267	34086
Normalized	85.86%	100%
CockroachDB - KV, 50% Reads - 128 (ops/s)	12434	10946
Normalized	100%	88.03%
CockroachDB - KV, 50% Reads - 256 (ops/s)	24395	23024
Normalized	100%	94.38%
CockroachDB - KV, 50% Reads - 512 (ops/s)	49425	46805
Normalized	100%	94.7%
CockroachDB - KV, 60% Reads - 128 (ops/s)	15412	14192
Normalized	100%	92.08%
CockroachDB - KV, 60% Reads - 256 (ops/s)	30111	27413
Normalized	100%	91.04%
CockroachDB - KV, 60% Reads - 512 (ops/s)	58375	66869
Normalized	87.3%	100%
CockroachDB - KV, 95% Reads - 128 (ops/s)	89867	86633
Normalized	100%	96.4%
CockroachDB - KV, 95% Reads - 256 (ops/s)	98924	99986
Normalized	98.94%	100%
CockroachDB - KV, 95% Reads - 512 (ops/s)	96570	96578
Normalized	99.99%	100%
CockroachDB - KV, 10% Reads - 1024 (ops/s)	38341	39591
Normalized	96.84%	100%
CockroachDB - KV, 50% Reads - 1024 (ops/s)	61797	63999
Normalized	96.56%	100%
CockroachDB - KV, 60% Reads - 1024 (ops/s)	67899	70300
Normalized	96.59%	100%
CockroachDB - KV, 95% Reads - 1024 (ops/s)	94379	92939

cascade lake refresh

Normalized	100%	98.47%

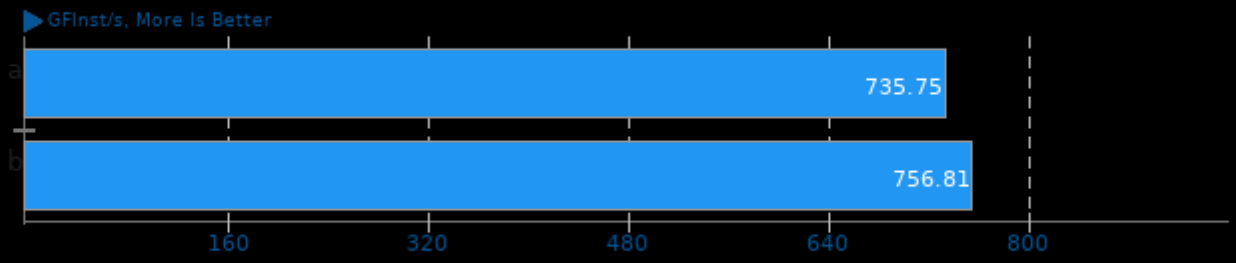
Unpacking The Linux Kernel 5.19

linux-5.19.tar.xz



miniBUDE 20210901

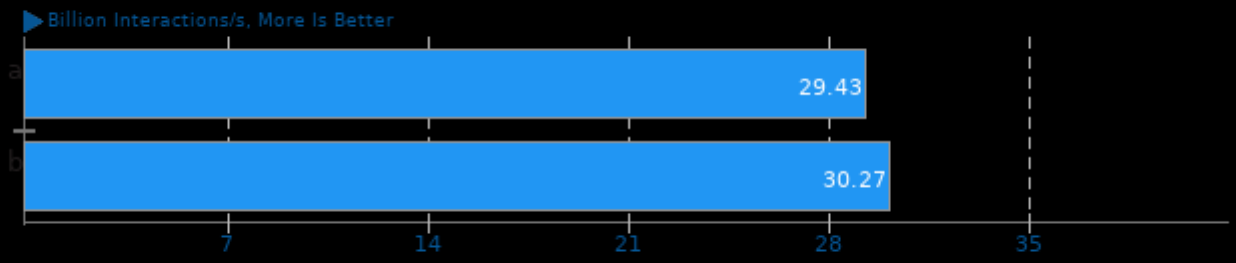
Implementation: OpenMP - Input Deck: BM1



1. (CC) gcc options: -std=c99 -Ofast -ffast-math -fopenmp -march=native -lm

miniBUDE 20210901

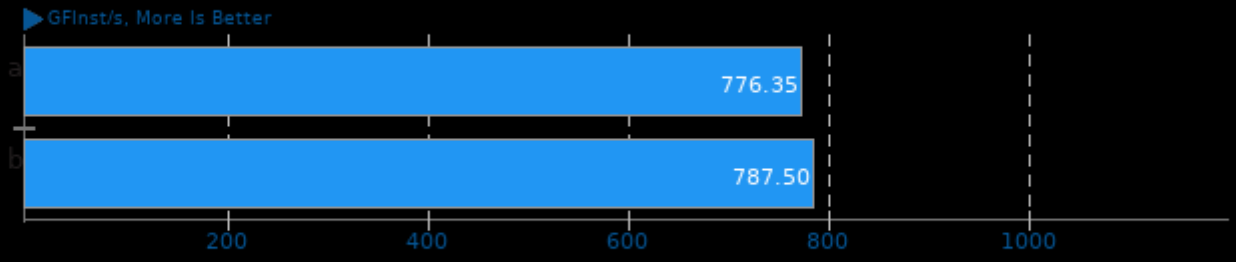
Implementation: OpenMP - Input Deck: BM1



1. (CC) gcc options: -std=c99 -Ofast -ffast-math -fopenmp -march=native -lm

miniBUDE 20210901

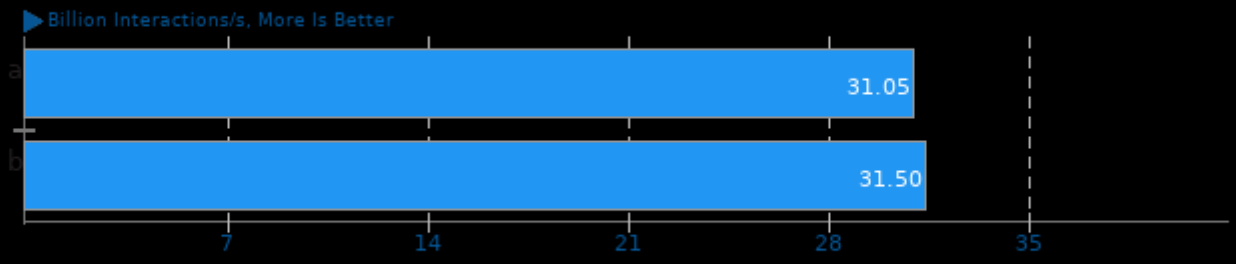
Implementation: OpenMP - Input Deck: BM2



1. (CC) gcc options: -std=c99 -Ofast -ffast-math -fopenmp -march=native -lm

miniBUDE 20210901

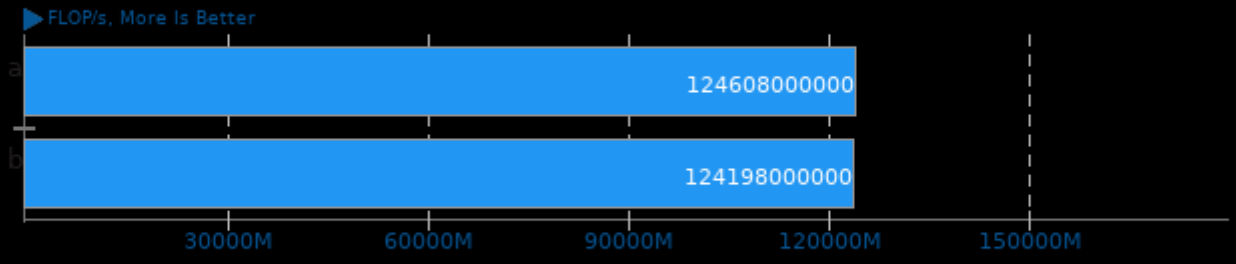
Implementation: OpenMP - Input Deck: BM2



1. (CC) gcc options: -std=c99 -Ofast -ffast-math -fopenmp -march=native -lm

nekRS 22.0

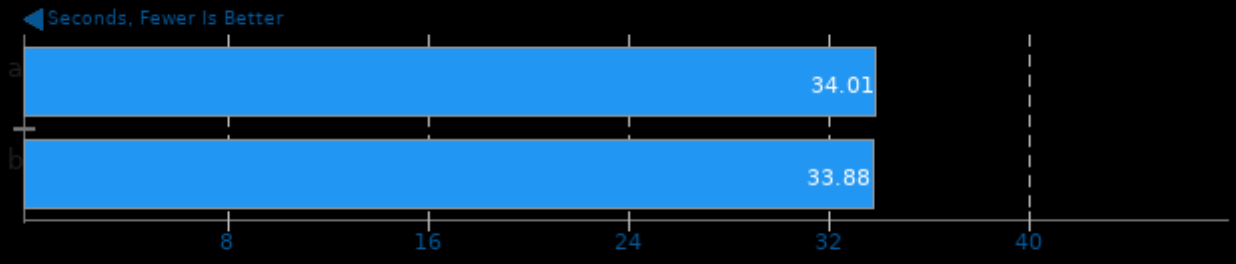
Input: TurboPipe Periodic



1. (CXX) g++ options: -fopenmp -O2 -march=native -mtune=native -ftree-vectorize -pthread -lmpi_cxx -lmpi

OpenFOAM 10

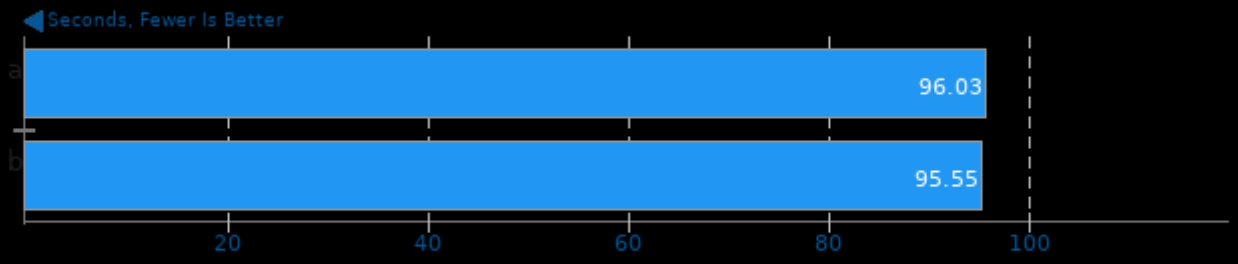
Input: drivaerFastback, Small Mesh Size - Mesh Time



1. (CXX) g++ options: -std=c++14 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-ld=bfd -Xlinker --add-needed --no-as-needed -lfoamToVTK -ldynamicMesh

OpenFOAM 10

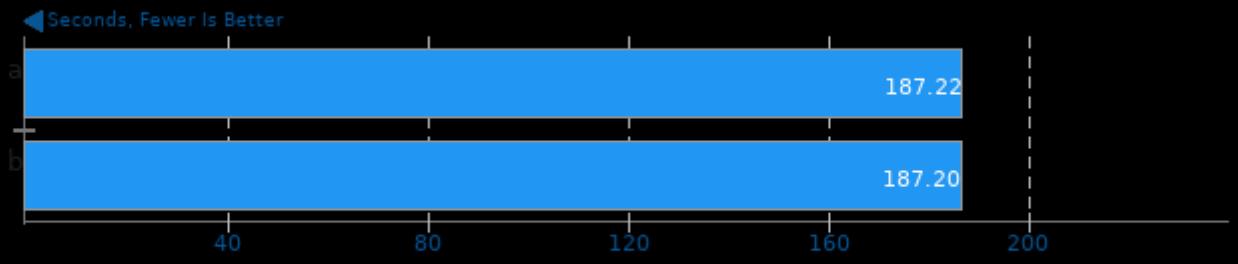
Input: drivaerFastback, Small Mesh Size - Execution Time



1. (CXX) g++ options: -std=c++14 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-ld=bfd -Xlinker --add-needed --no-as-needed -lfoamToVTK -ldynamicMesh -

OpenFOAM 10

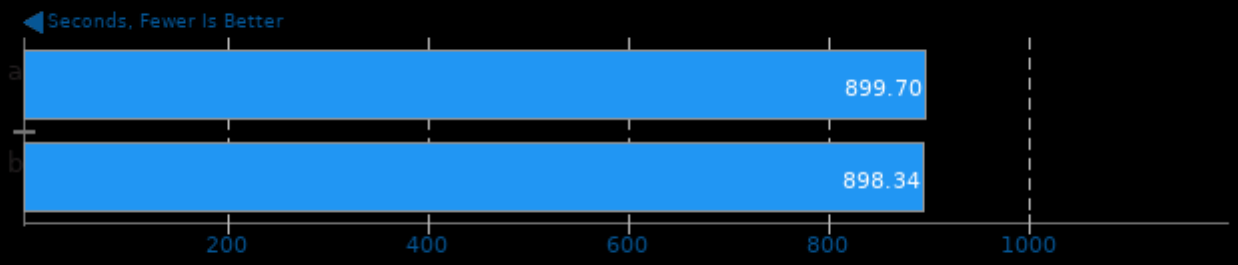
Input: drivaerFastback, Medium Mesh Size - Mesh Time



1. (CXX) g++ options: -std=c++14 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-ld=bfd -Xlinker --add-needed --no-as-needed -lfoamToVTK -ldynamicMesh -

OpenFOAM 10

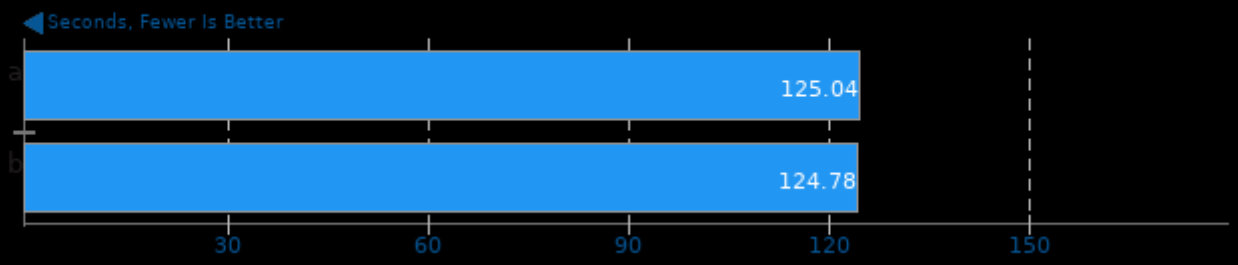
Input: drivaerFastback, Medium Mesh Size - Execution Time

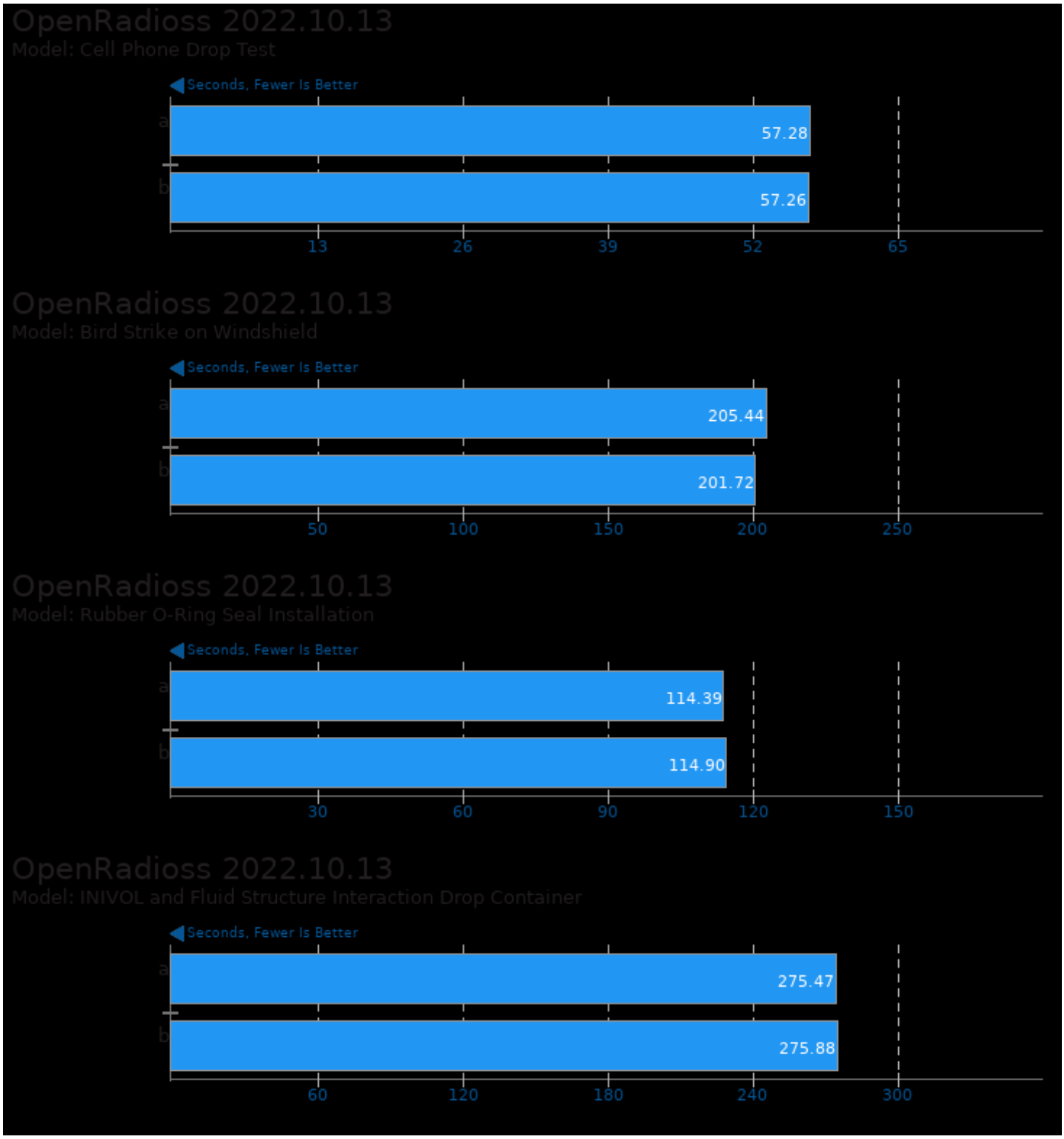


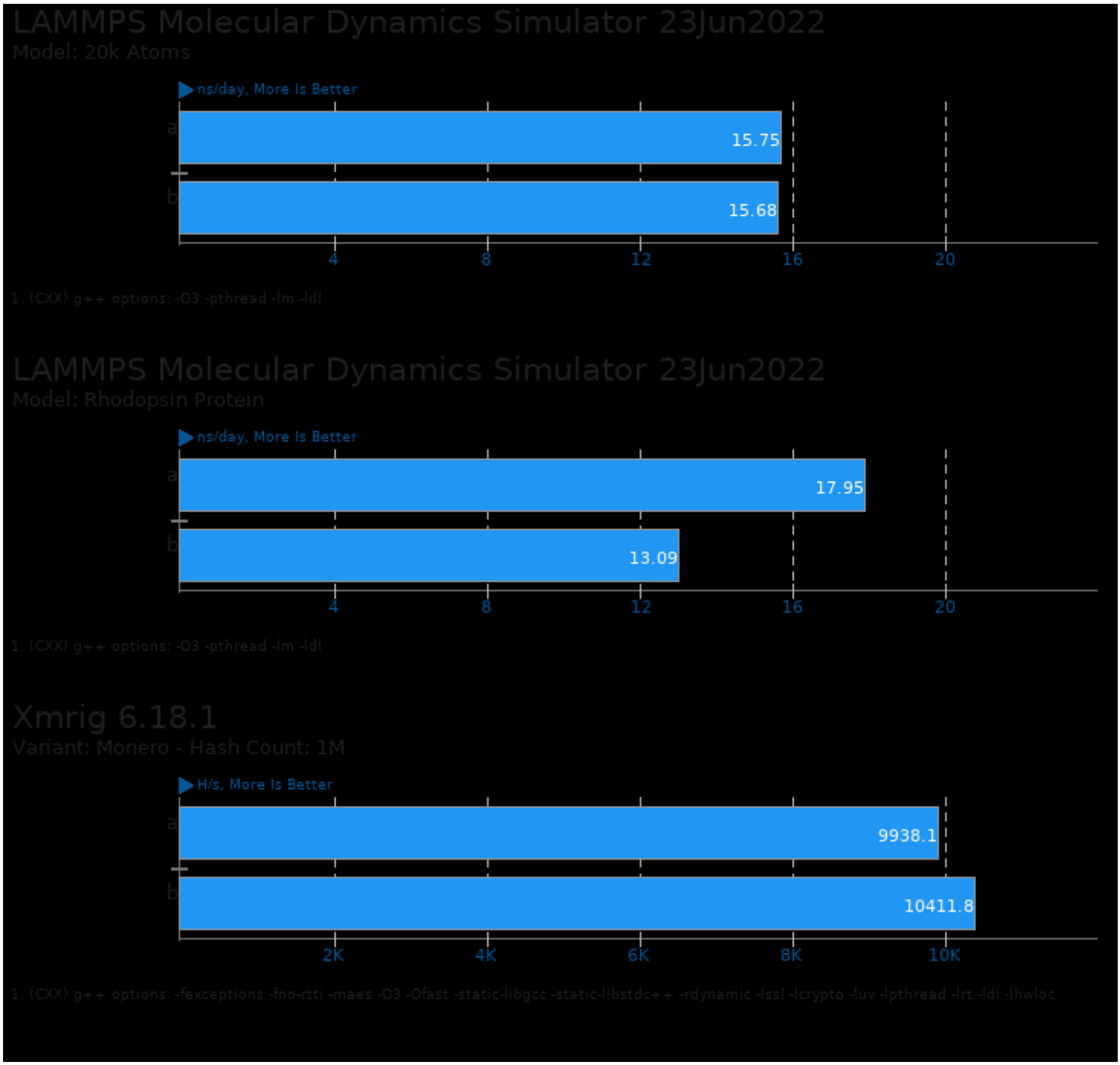
1. (CXX) g++ options: -std=c++14 -m64 -O3 -ftemplate-depth-100 -fPIC -fuse-ld=bfd -Xlinker --add-needed --no-as-needed -lfoamToVTK -ldynamicMesh -

OpenRadioss 2022.10.13

Model: Bumper Beam

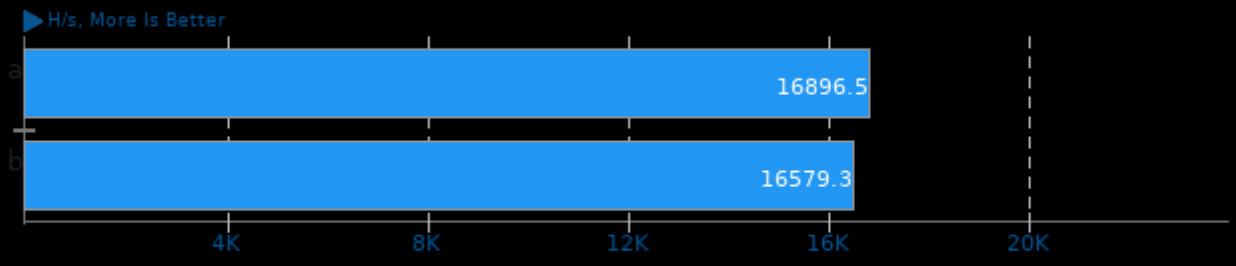



OpenRadioss 2022.10.13
Model: Cell Phone Drop Test
Seconds, Fewer Is Better
a
57.28
b
57.26
13
26
39
52
65
OpenRadioss 2022.10.13
Model: Bird Strike on Windshield
Seconds, Fewer Is Better
a
205.44
b
201.72
50
100
150
200
250
OpenRadioss 2022.10.13
Model: Rubber O-Ring Seal Installation
Seconds, Fewer Is Better
a
114.39
b
114.90
30
60
90
120
150
OpenRadioss 2022.10.13
Model: INIVOL and Fluid Structure Interaction Drop Container
Seconds, Fewer Is Better
a
275.47
b
275.88
60
120
180
240
300


LAMMPS Molecular Dynamics Simulator 23Jun2022
Model: 20k Atoms
ns/day, More Is Better
a
15.75
b
15.68
4
8
12
16
20
1. (CXX) g++ options: -O3 -pthread -lm -ldl
LAMMPS Molecular Dynamics Simulator 23Jun2022
Model: Rhodopsin Protein
ns/day, More Is Better
a
17.95
b
13.09
4
8
12
16
20
1. (CXX) g++ options: -O3 -pthread -lm -ldl
Xmrig 6.18.1
Variant: Monero - Hash Count: 1M
H/s, More Is Better
a
9938.1
b
10411.8
2K
4K
6K
8K
10K
1. (CXX) g++ options: -fexceptions -fno-rtti -maes -O3 -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl -lhwloc

Xmrig 6.18.1

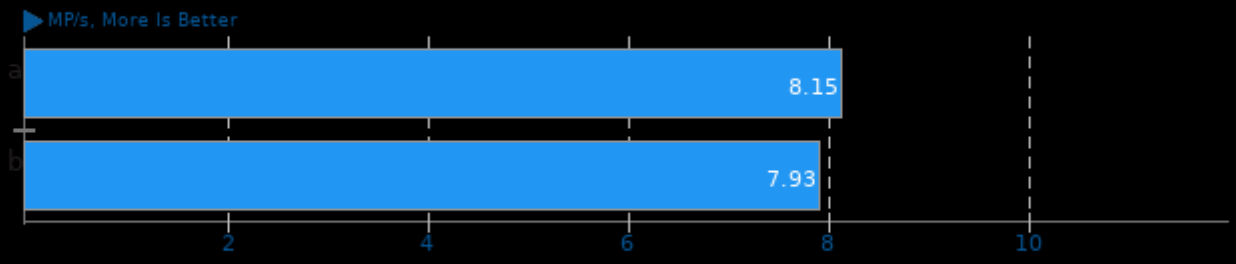
Variant: Wownero - Hash Count: 1M



1. (CXX) g++ options: -fexceptions -fno-rtti -maes -O3 -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl -lhwloc

JPEG XL libjxl 0.7

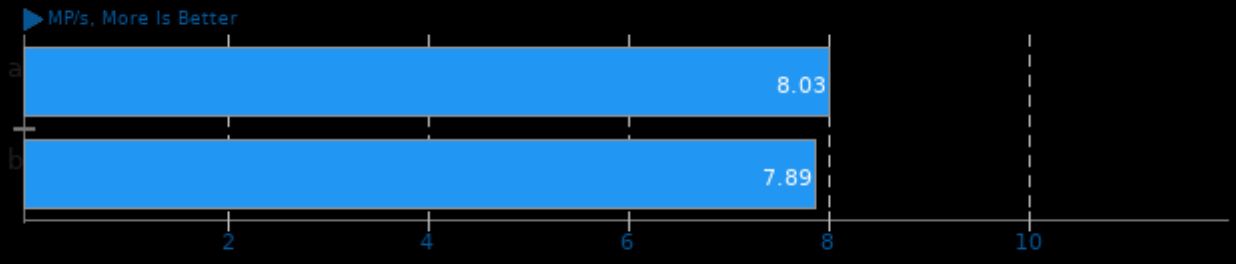
Input: PNG - Quality: 80



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

JPEG XL libjxl 0.7

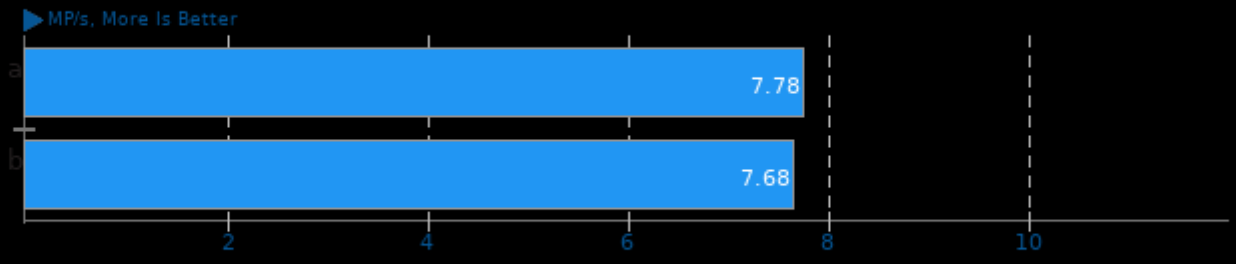
Input: PNG - Quality: 90



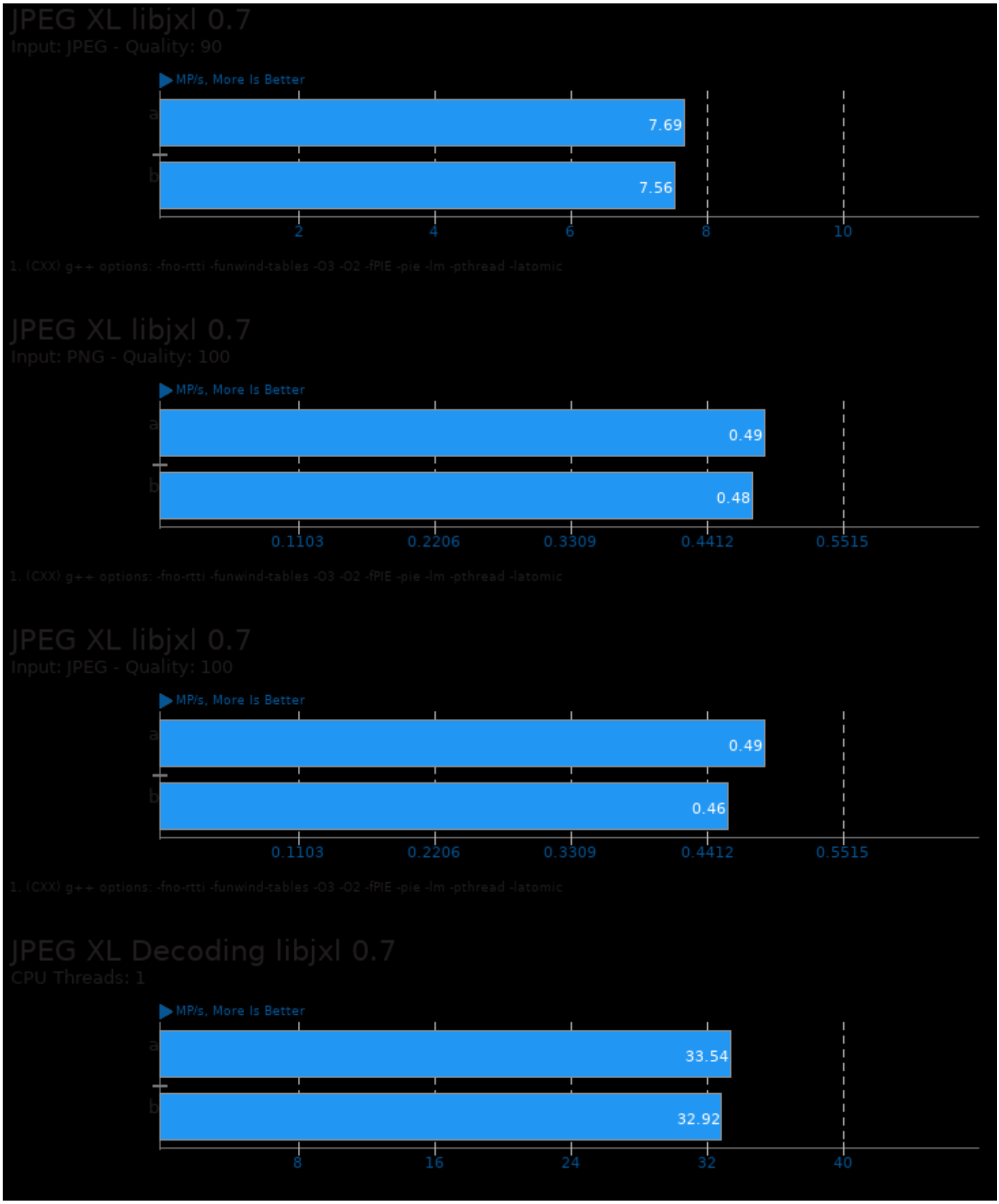
1. (CXX) g++ options: -fno-rtti -funwind-tables -O3 -O2 -fPIE -pie -lm -pthread -latomic

JPEG XL libjxl 0.7

Input: JPEG - Quality: 80

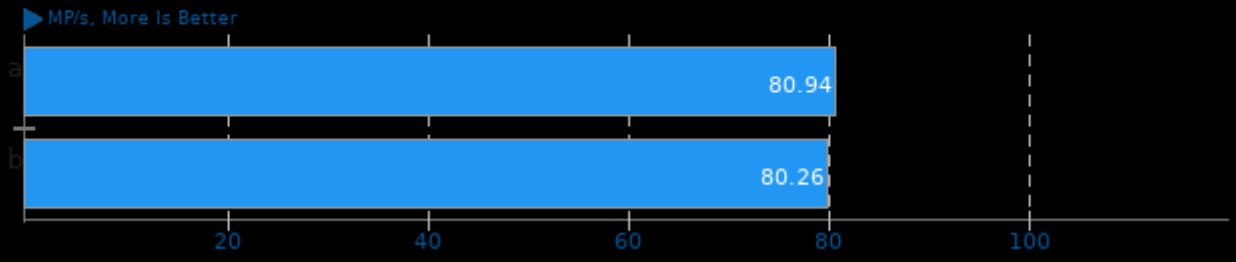


1. (CXX) g++ options: -fno-rtti -funwind-tables -O3 -O2 -fPIE -pie -lm -pthread -latomic


JPEG XL libjxl 0.7
Input: JPEG - Quality: 90
MP/s, More Is Better
a
7.69
b
7.56
2
4
6
8
10
1. (CXX) g++ options: -fno-rtti -funwind-tables -O3 -O2 -fPIE -pie -lm -pthread -latomic
JPEG XL libjxl 0.7
Input: PNG - Quality: 100
MP/s, More Is Better
a
0.49
b
0.48
0.1103
0.2206
0.3309
0.4412
0.5515
1. (CXX) g++ options: -fno-rtti -funwind-tables -O3 -O2 -fPIE -pie -lm -pthread -latomic
JPEG XL libjxl 0.7
Input: JPEG - Quality: 100
MP/s, More Is Better
a
0.49
b
0.46
0.1103
0.2206
0.3309
0.4412
0.5515
1. (CXX) g++ options: -fno-rtti -funwind-tables -O3 -O2 -fPIE -pie -lm -pthread -latomic
JPEG XL Decoding libjxl 0.7
CPU Threads: 1
MP/s, More Is Better
a
33.54
b
32.92
8
16
24
32
40

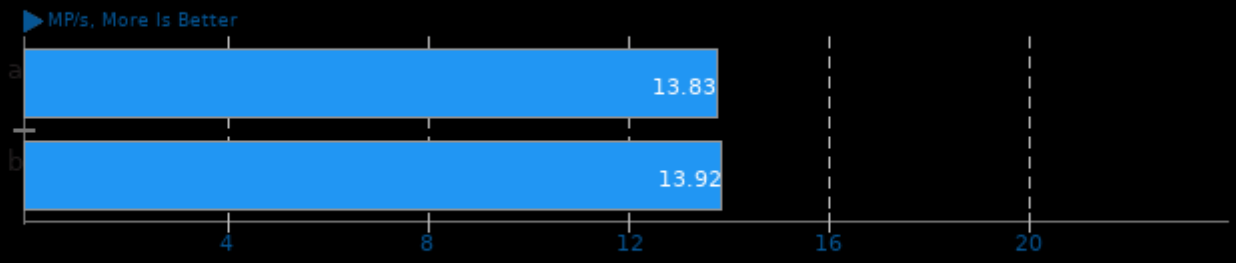
JPEG XL Decoding libjxl 0.7

CPU Threads: All



WebP Image Encode 1.2.4

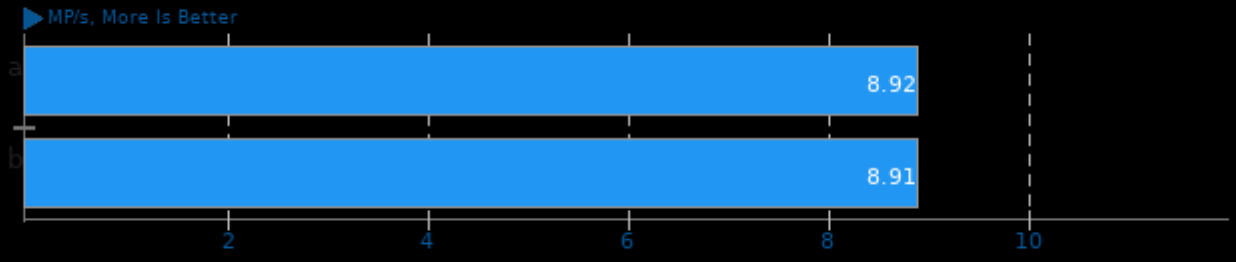
Encode Settings: Default



1. (CC) gcc options: -fvisibility=hidden -O2 -lm -pthread

WebP Image Encode 1.2.4

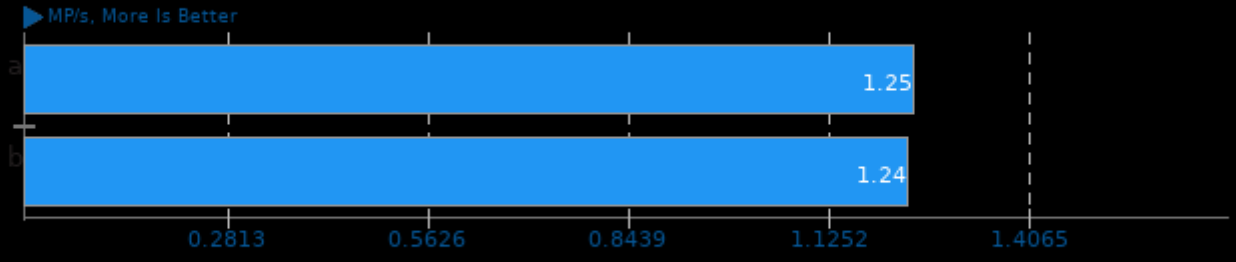
Encode Settings: Quality 100



1. (CC) gcc options: -fvisibility=hidden -O2 -lm -pthread

WebP Image Encode 1.2.4

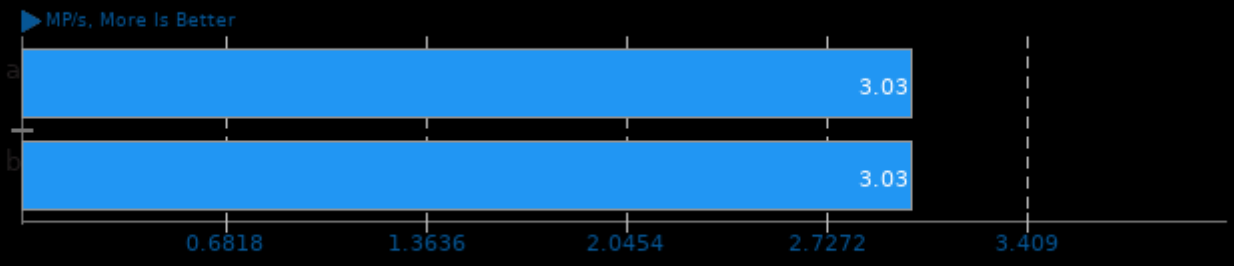
Encode Settings: Quality 100, Lossless



1. (CC) gcc options: -fvisibility=hidden -O2 -lm -pthread

WebP Image Encode 1.2.4

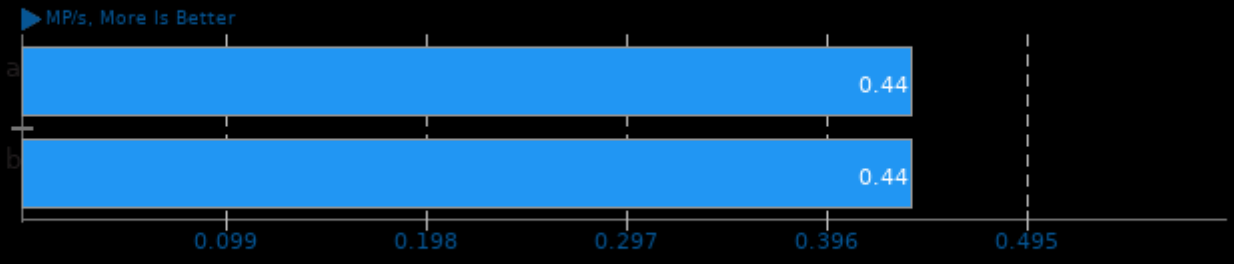
Encode Settings: Quality 100, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O2 -lm -pthread

WebP Image Encode 1.2.4

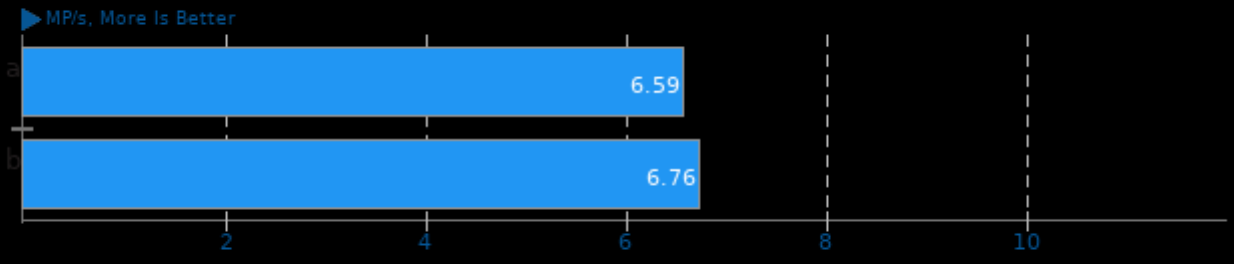
Encode Settings: Quality 100, Lossless, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O2 -lm -pthread

WebP2 Image Encode 20220823

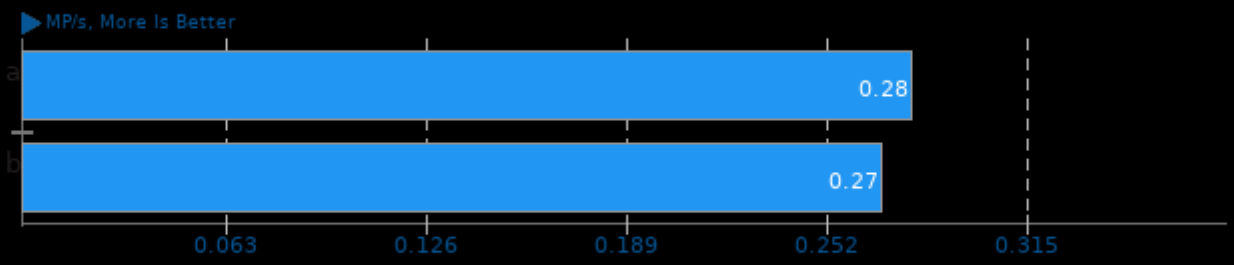
Encode Settings: Default



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl -lpthread

WebP2 Image Encode 20220823

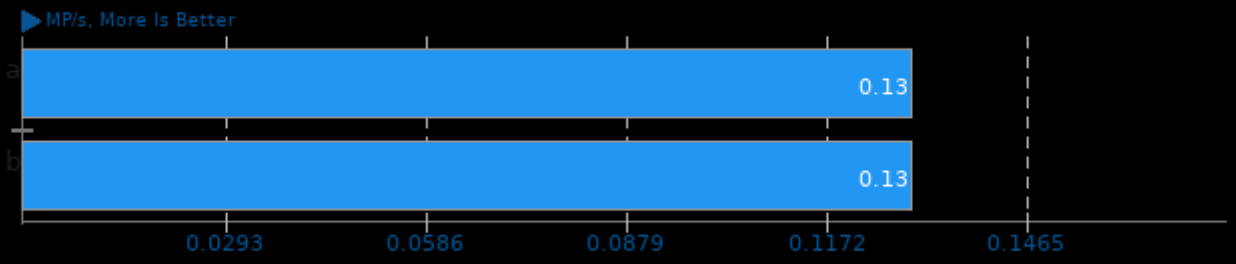
Encode Settings: Quality 75, Compression Effort 7



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl -lpthread

WebP2 Image Encode 20220823

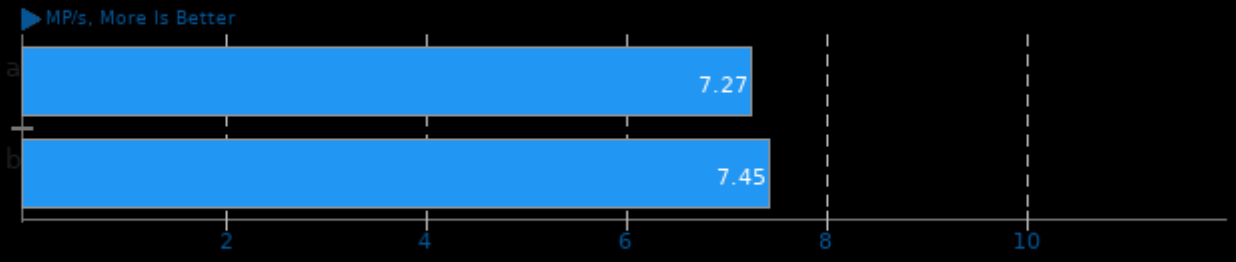
Encode Settings: Quality 95, Compression Effort 7



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl -lpthread

WebP2 Image Encode 20220823

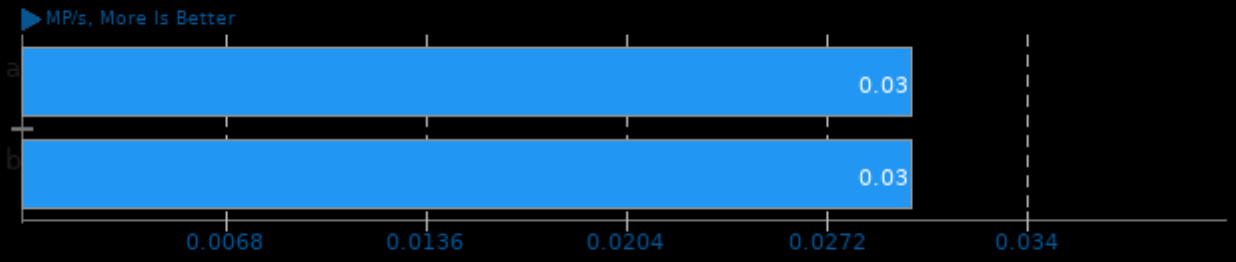
Encode Settings: Quality 100, Compression Effort 5



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl -lpthread

WebP2 Image Encode 20220823

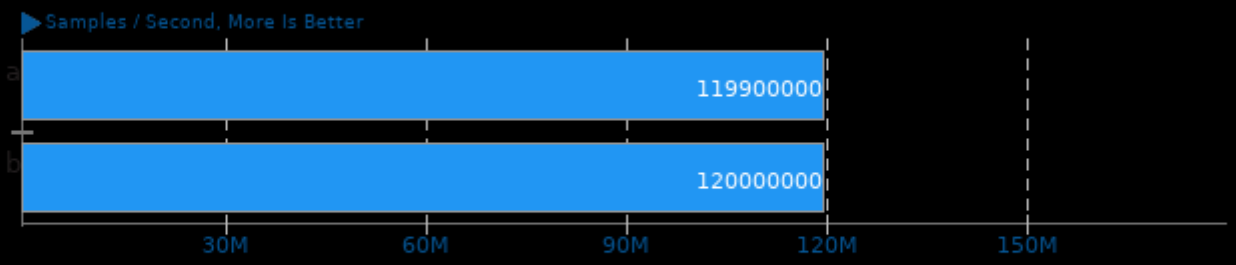
Encode Settings: Quality 100, Lossless Compression



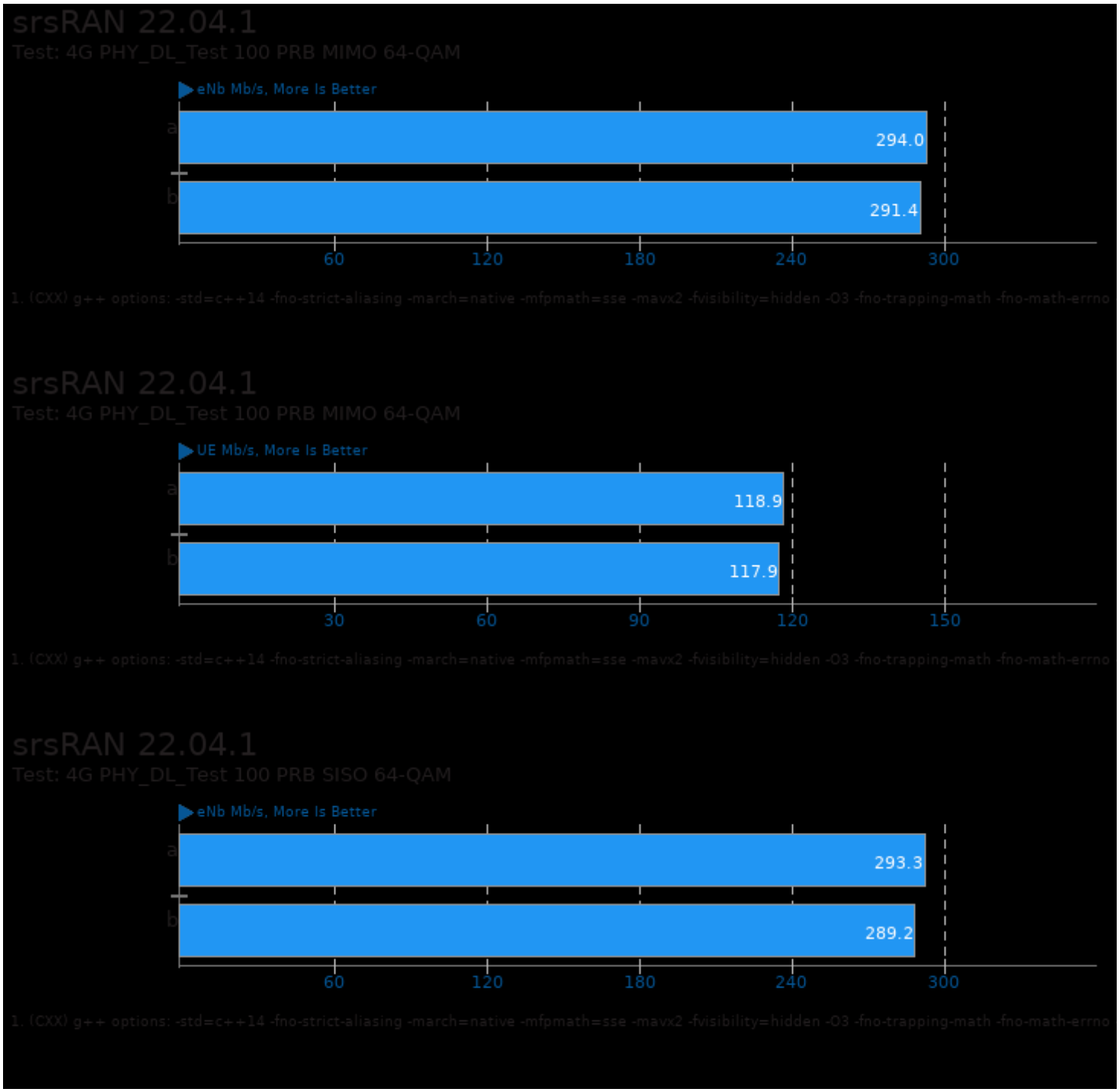
1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl -lpthread

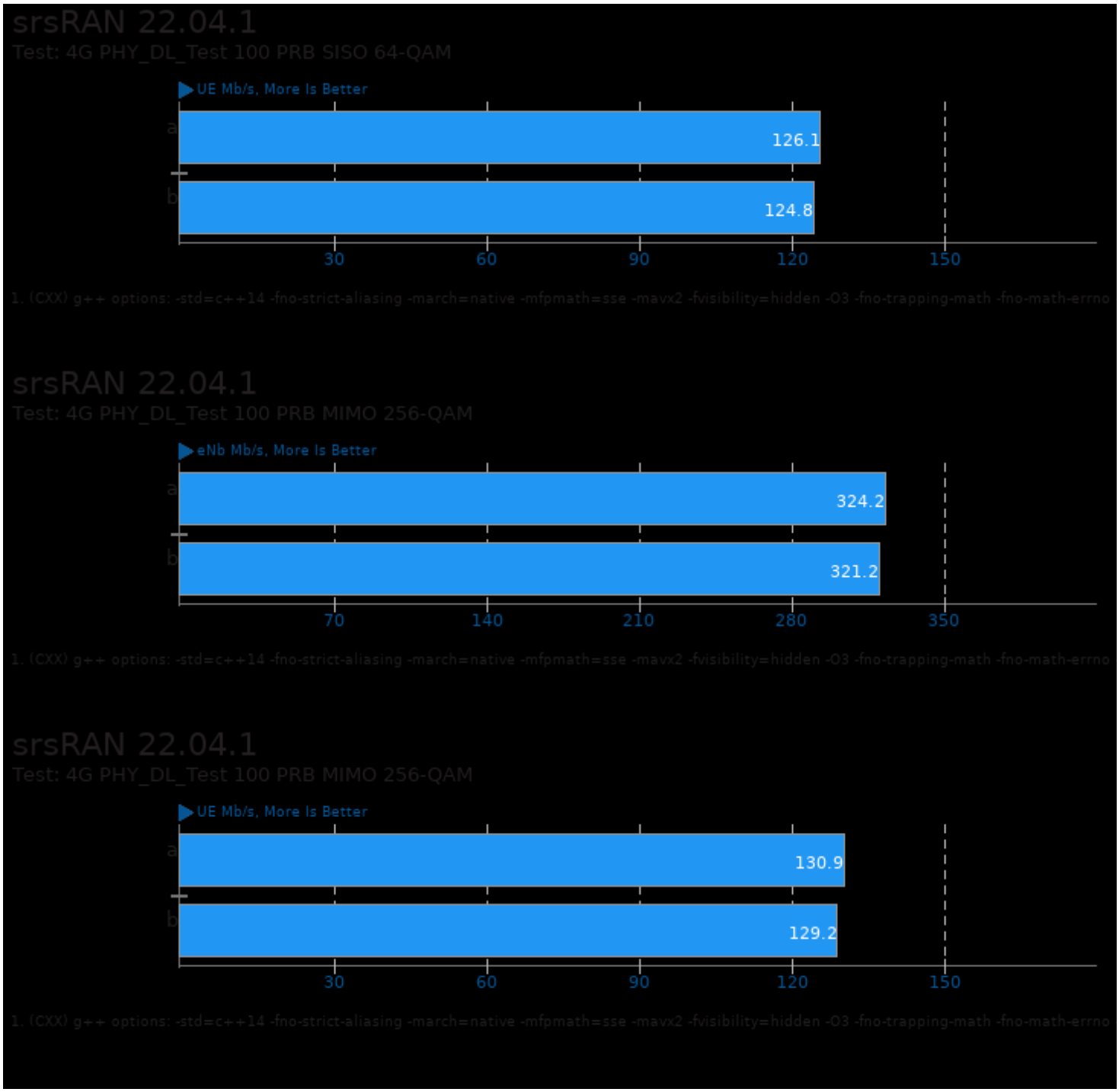
srsRAN 22.04.1

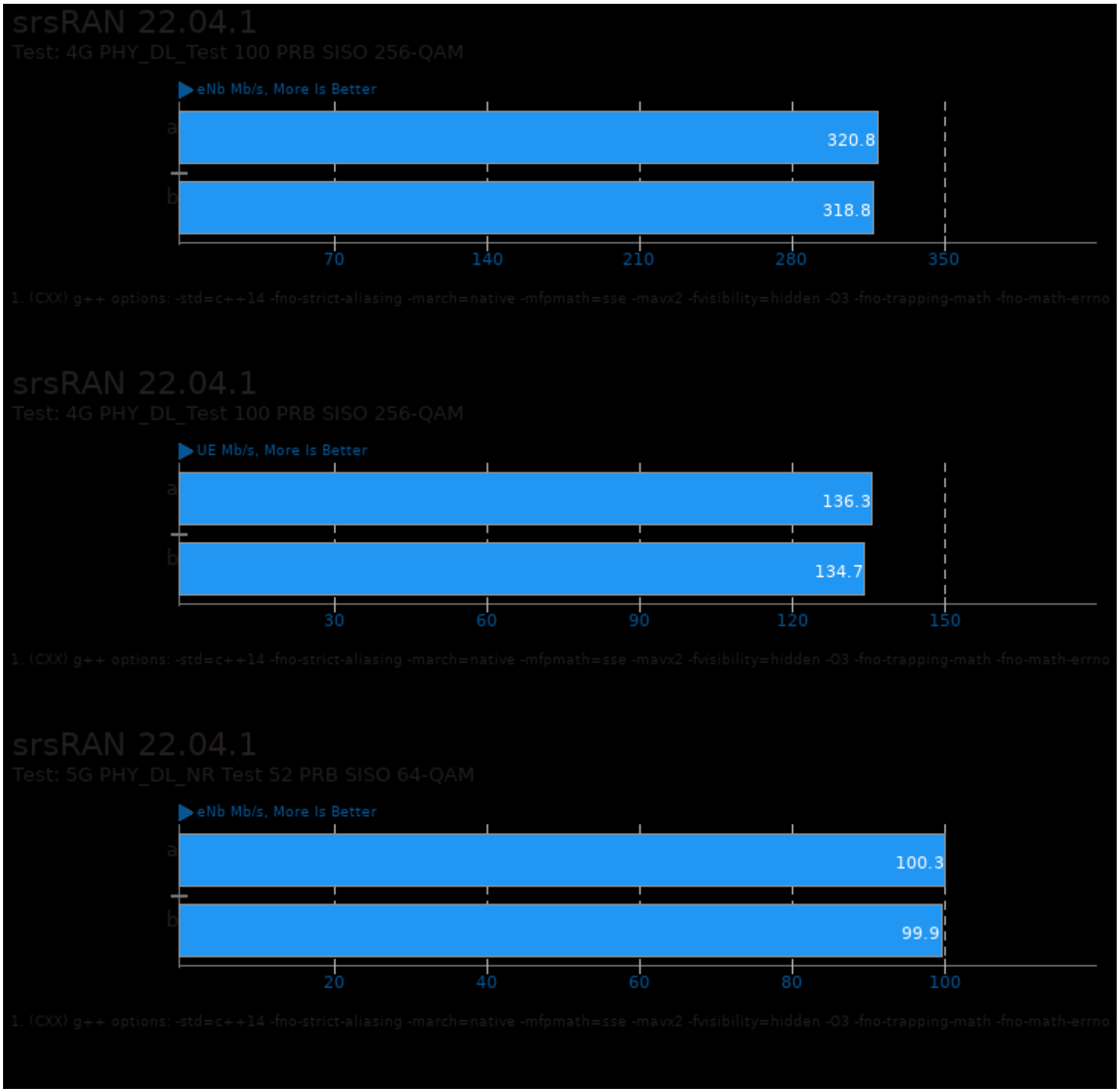
Test: OFDM_Test



1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

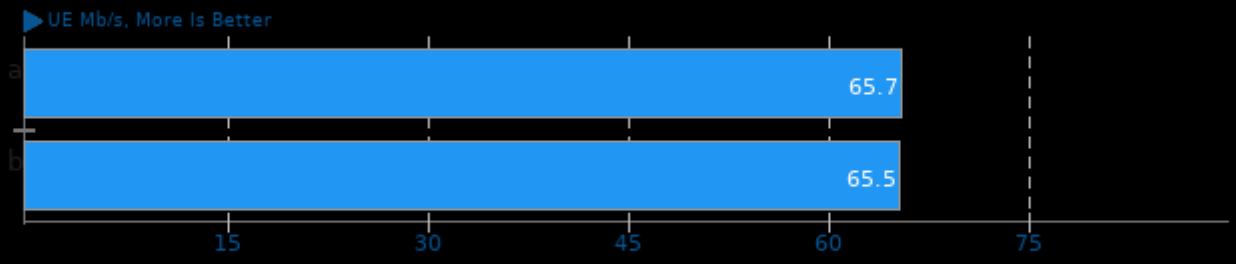

srsRAN 22.04.1
Test: 4G PHY_DL_Test 100 PRB MIMO 64-QAM
eNb Mb/s, More Is Better
a
294.0
b
291.4
60
120
180
240
300
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 22.04.1
Test: 4G PHY_DL_Test 100 PRB MIMO 64-QAM
UE Mb/s, More Is Better
a
118.9
b
117.9
30
60
90
120
150
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 22.04.1
Test: 4G PHY_DL_Test 100 PRB SISO 64-QAM
eNb Mb/s, More Is Better
a
293.3
b
289.2
60
120
180
240
300
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno


srsRAN 22.04.1
Test: 4G PHY_DL_Test 100 PRB SISO 64-QAM
UE Mb/s, More Is Better
a
126.1
b
124.8
30
60
90
120
150
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 22.04.1
Test: 4G PHY_DL_Test 100 PRB MIMO 256-QAM
eNb Mb/s, More Is Better
a
324.2
b
321.2
70
140
210
280
350
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 22.04.1
Test: 4G PHY_DL_Test 100 PRB MIMO 256-QAM
UE Mb/s, More Is Better
a
130.9
b
129.2
30
60
90
120
150
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno


srsRAN 22.04.1
Test: 4G PHY_DL_Test 100 PRB SISO 256-QAM
eNb Mb/s, More Is Better
a
320.8
b
318.8
70
140
210
280
350
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 22.04.1
Test: 4G PHY_DL_Test 100 PRB SISO 256-QAM
UE Mb/s, More Is Better
a
136.3
b
134.7
30
60
90
120
150
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 22.04.1
Test: 5G PHY_DL_NR Test 52 PRB SISO 64-QAM
eNb Mb/s, More Is Better
a
100.3
b
99.9
20
40
60
80
100
1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

srsRAN 22.04.1

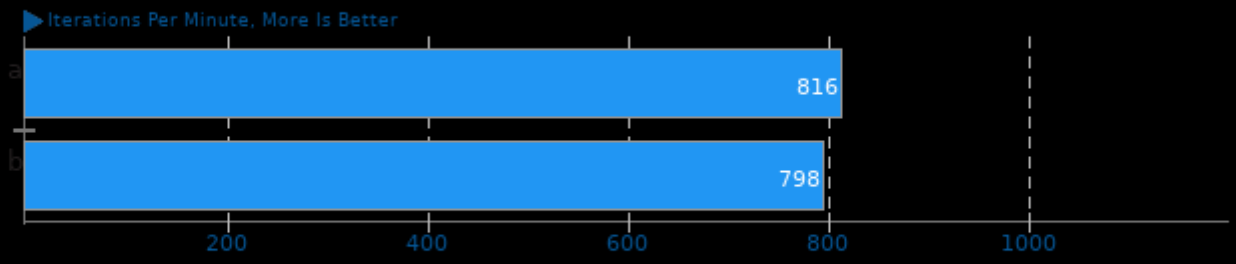
Test: 5G PHY_DL_NR Test 52 PRB SISO 64-QAM



1. (CXX) g++ options: -std=c++14 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

GraphicsMagick 1.3.38

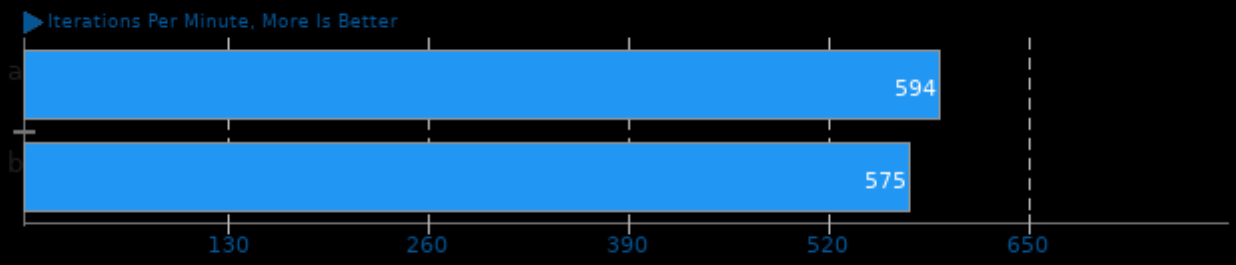
Operation: Swirl



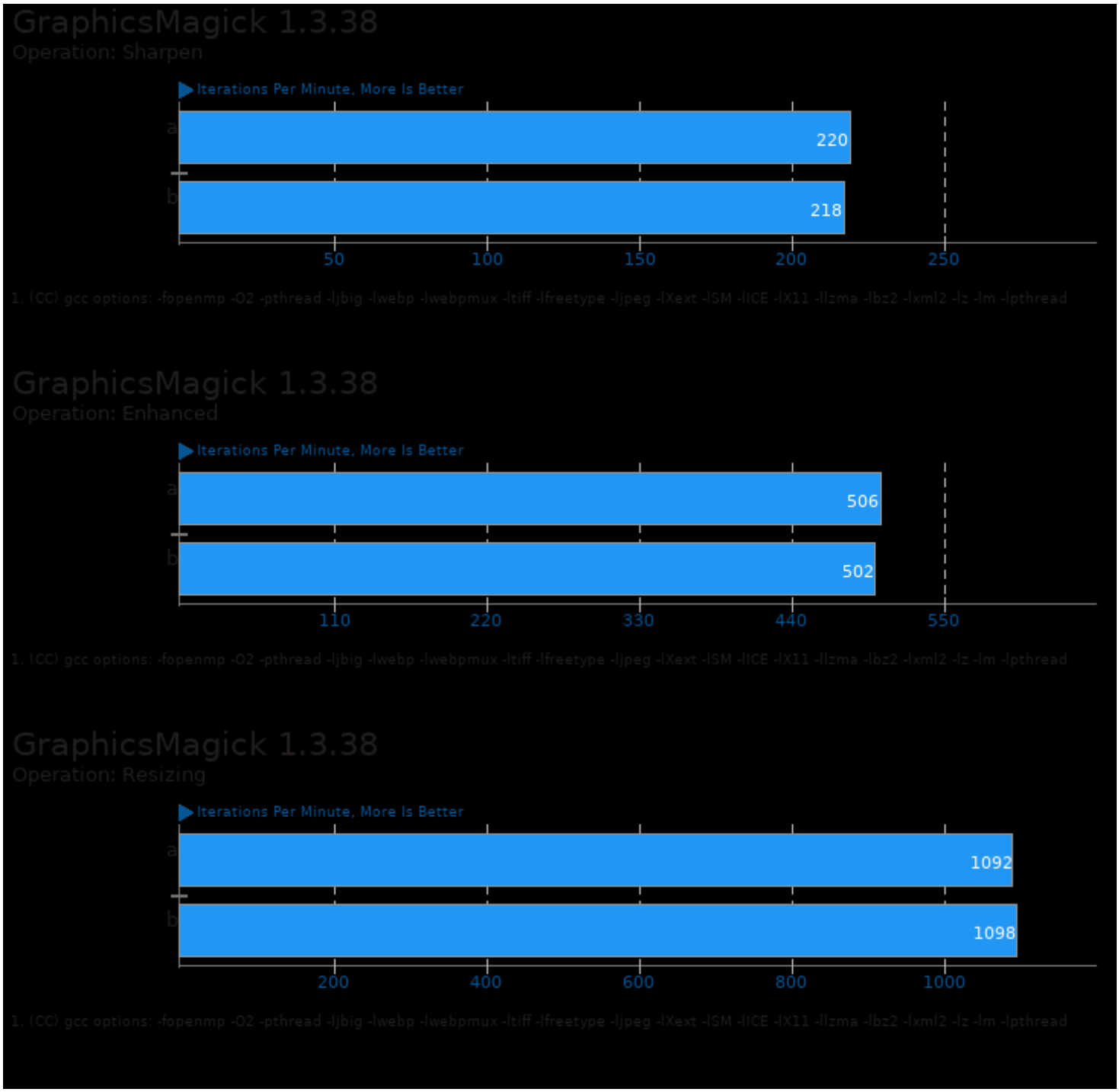
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread

GraphicsMagick 1.3.38

Operation: Rotate

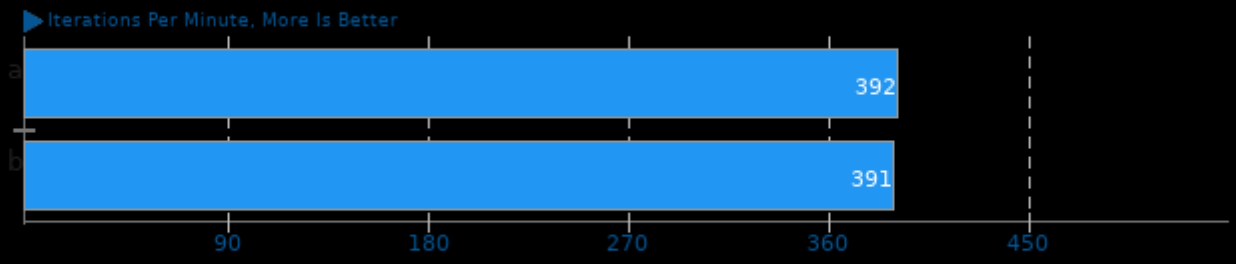


1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread


GraphicsMagick 1.3.38
Operation: Sharpen
Iterations Per Minute, More Is Better
a
b
220
218
50
100
150
200
250
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread
GraphicsMagick 1.3.38
Operation: Enhanced
Iterations Per Minute, More Is Better
a
b
506
502
110
220
330
440
550
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread
GraphicsMagick 1.3.38
Operation: Resizing
Iterations Per Minute, More Is Better
a
b
1092
1098
200
400
600
800
1000
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread

GraphicsMagick 1.3.38

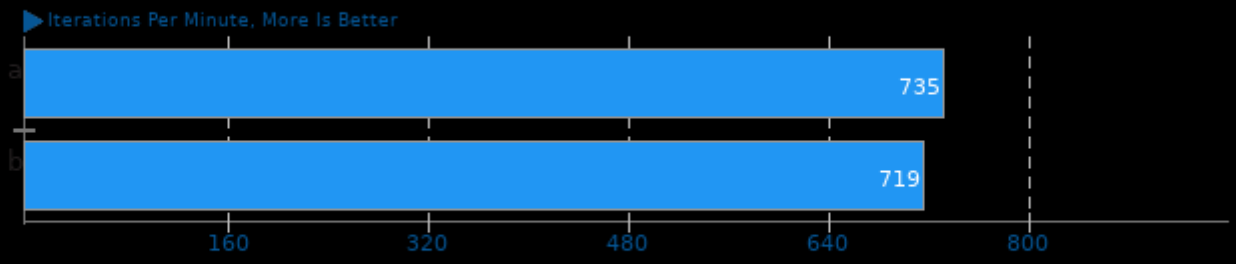
Operation: Noise-Gaussian



1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread

GraphicsMagick 1.3.38

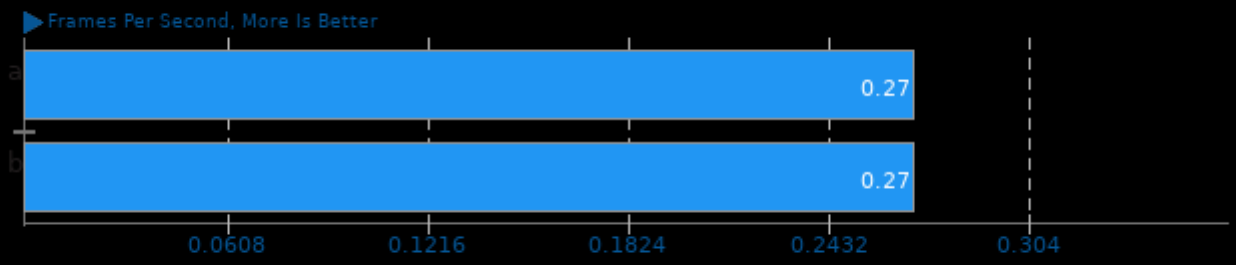
Operation: HWB Color Space



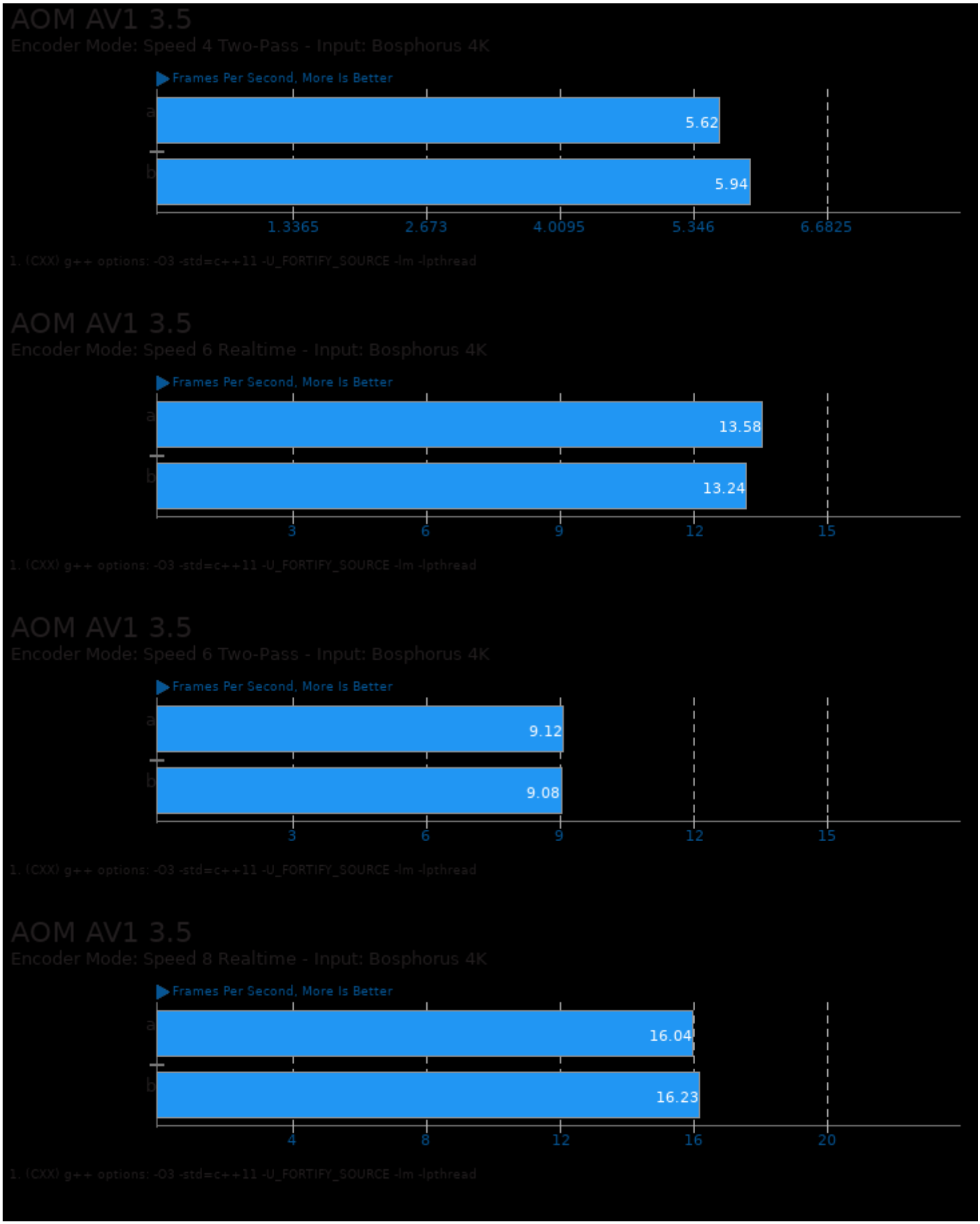
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread

AOM AV1 3.5

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

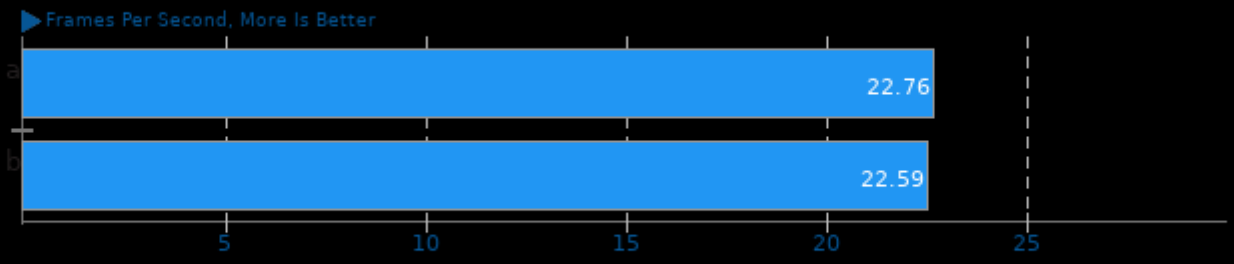


1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread


AOM AV1 3.5
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
a
5.62
b
5.94
1.3365
2.673
4.0095
5.346
6.6825
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.5
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
a
13.58
b
13.24
3
6
9
12
15
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.5
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K
Frames Per Second, More Is Better
a
9.12
b
9.08
3
6
9
12
15
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
AOM AV1 3.5
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
a
16.04
b
16.23
4
8
12
16
20
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.5

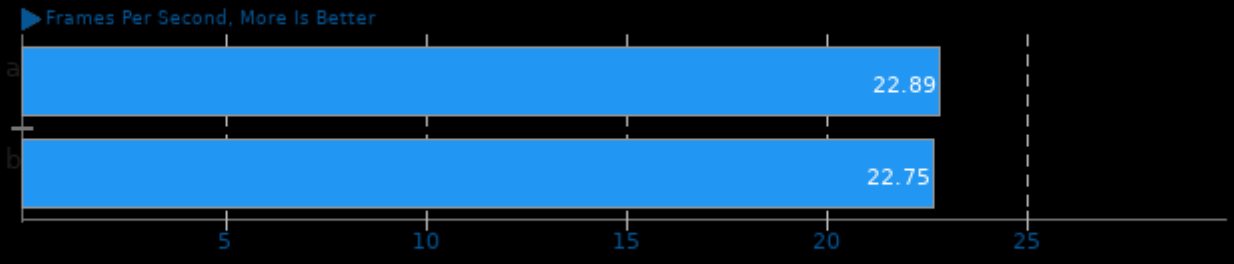
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K



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

AOM AV1 3.5

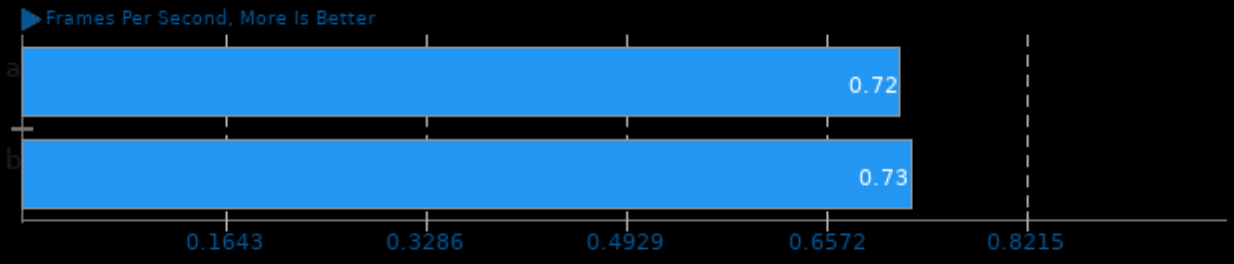
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 4K



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

AOM AV1 3.5

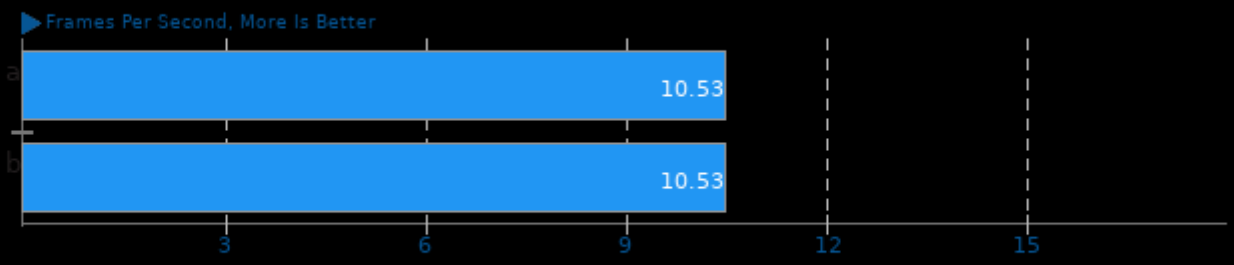
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 1080p



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

AOM AV1 3.5

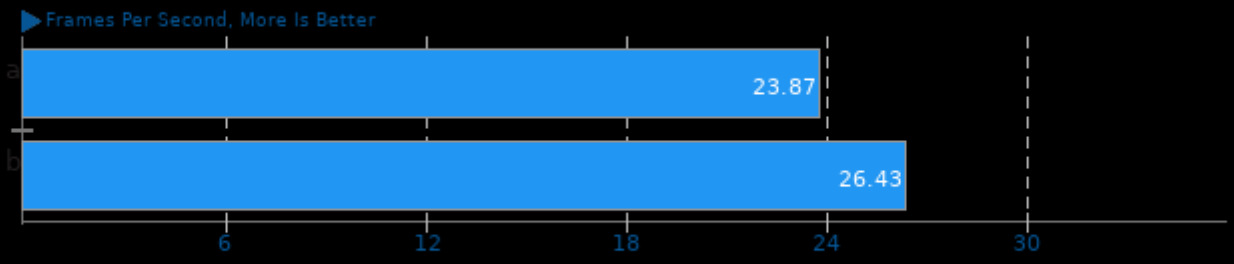
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 1080p



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

AOM AV1 3.5

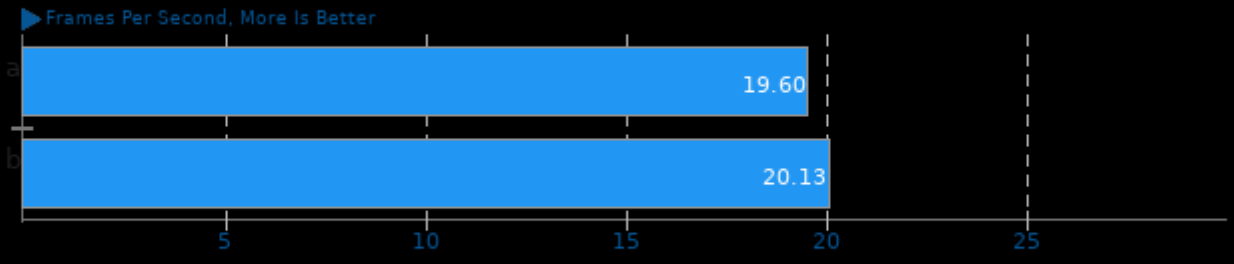
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p



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

AOM AV1 3.5

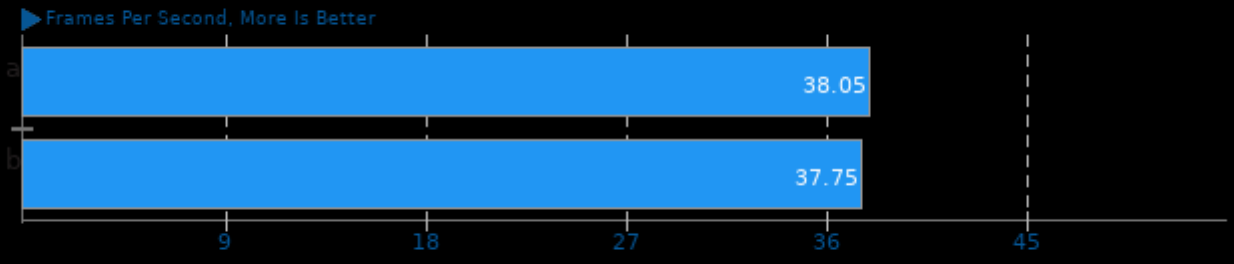
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 1080p



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

AOM AV1 3.5

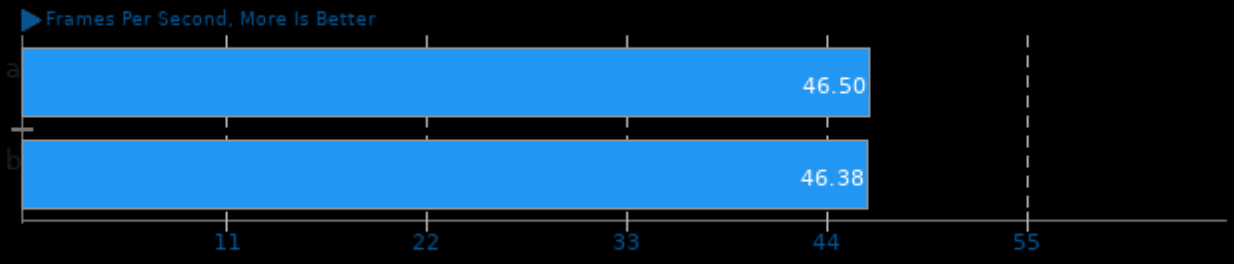
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p



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

AOM AV1 3.5

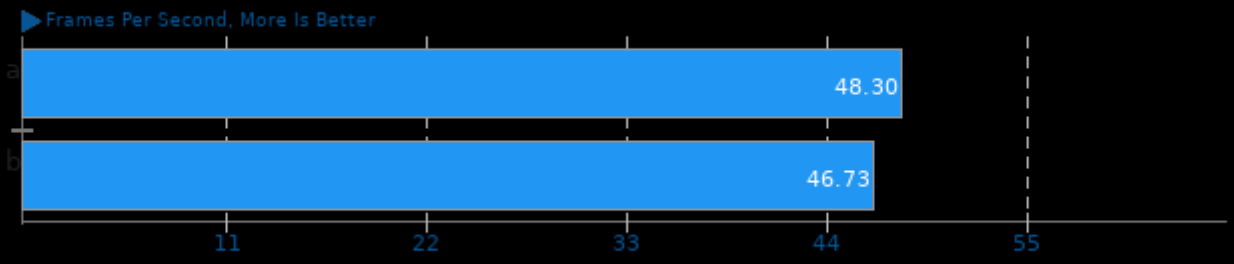
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p



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

AOM AV1 3.5

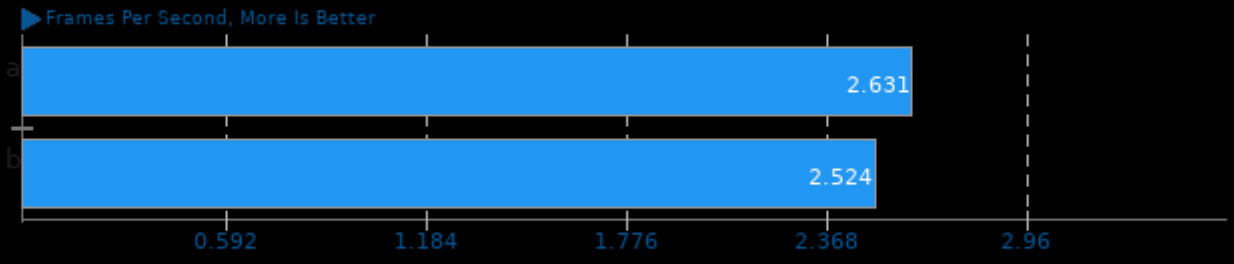
Encoder Mode: Speed 10 Realtime - Input: Bosphorus 1080p



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

SVT-AV1 1.4

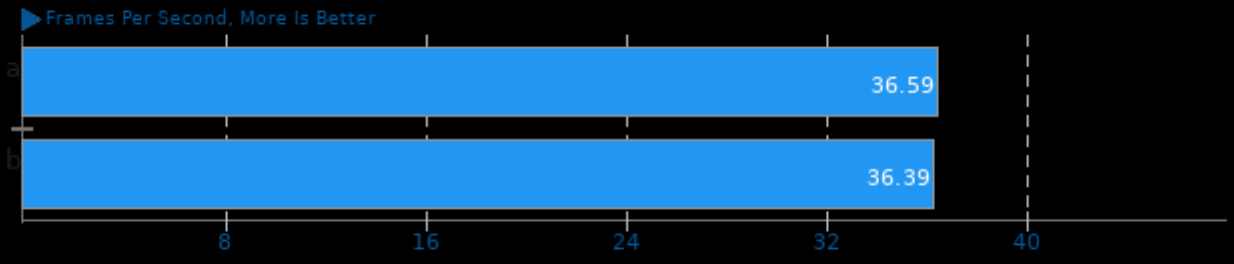
Encoder Mode: Preset 4 - Input: Bosphorus 4K



1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

SVT-AV1 1.4

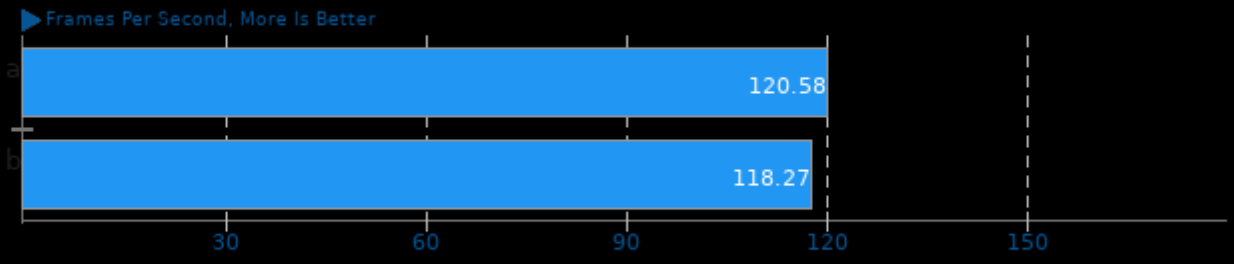
Encoder Mode: Preset 8 - Input: Bosphorus 4K



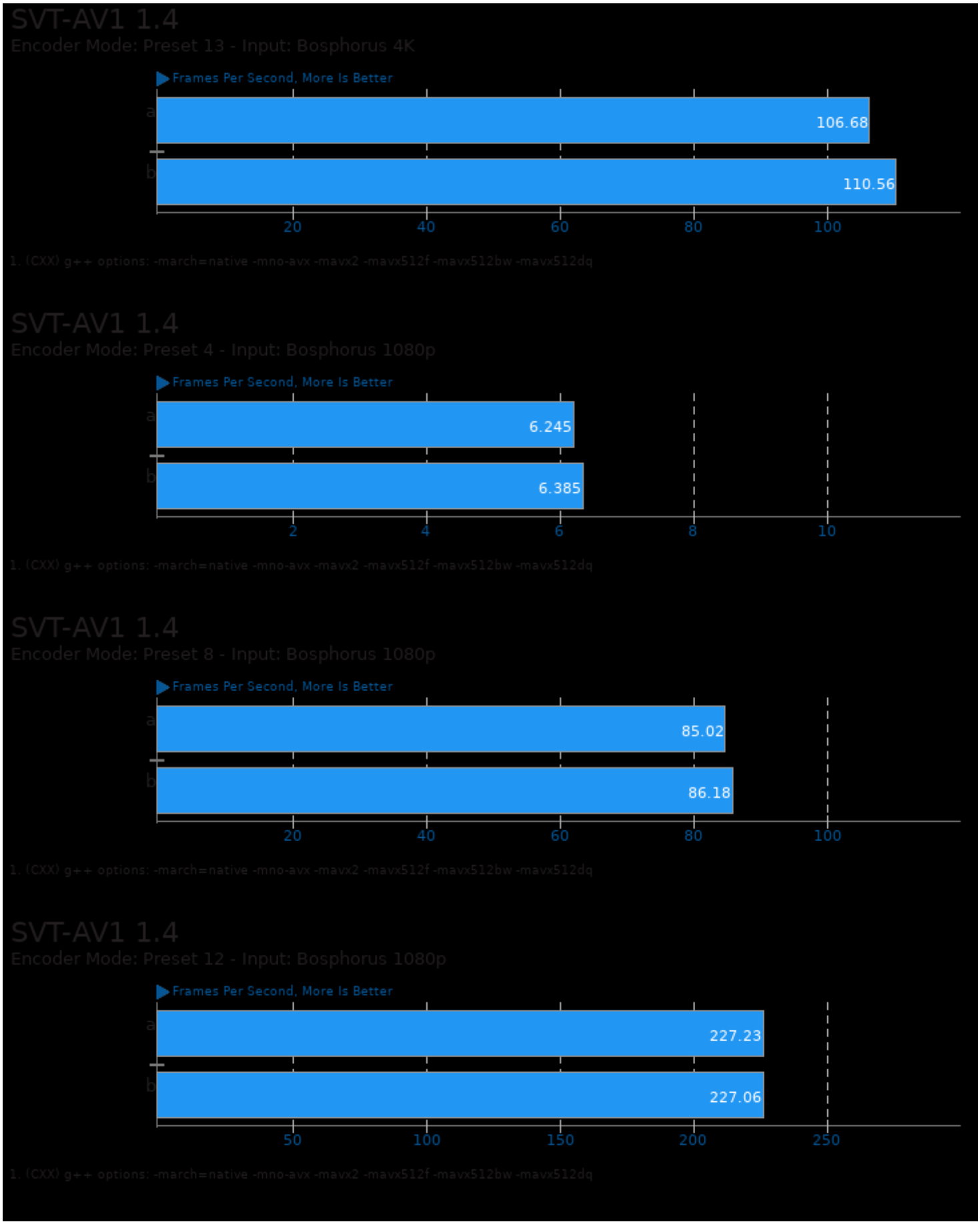
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

SVT-AV1 1.4

Encoder Mode: Preset 12 - Input: Bosphorus 4K

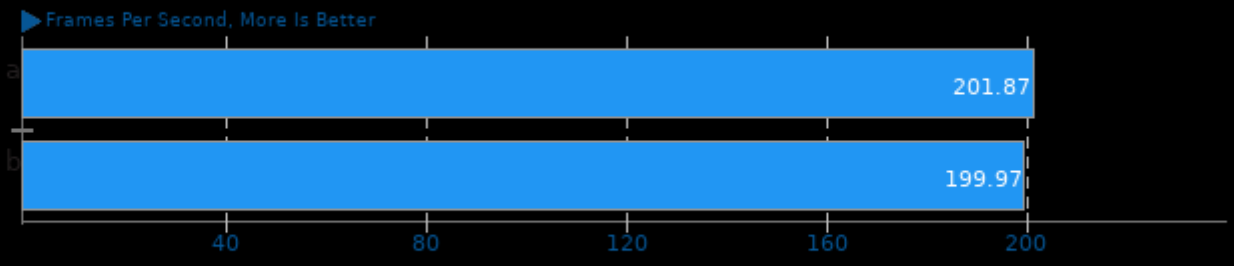


1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq


SVT-AV1 1.4
Encoder Mode: Preset 13 - Input: Bosphorus 4K
Frames Per Second, More Is Better
a
106.68
b
110.56
20
40
60
80
100
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq
SVT-AV1 1.4
Encoder Mode: Preset 4 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
a
6.245
b
6.385
2
4
6
8
10
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq
SVT-AV1 1.4
Encoder Mode: Preset 8 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
a
85.02
b
86.18
20
40
60
80
100
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq
SVT-AV1 1.4
Encoder Mode: Preset 12 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
a
227.23
b
227.06
50
100
150
200
250
1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

SVT-AV1 1.4

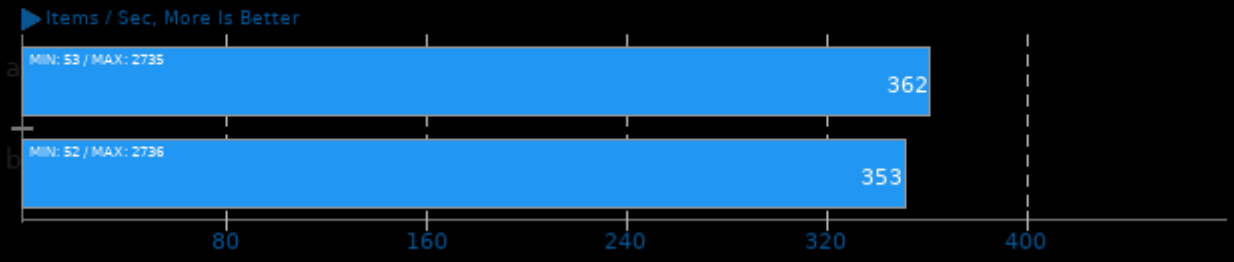
Encoder Mode: Preset 13 - Input: Bosphorus 1080p



1. (CXX) g++ options: -march=native -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq

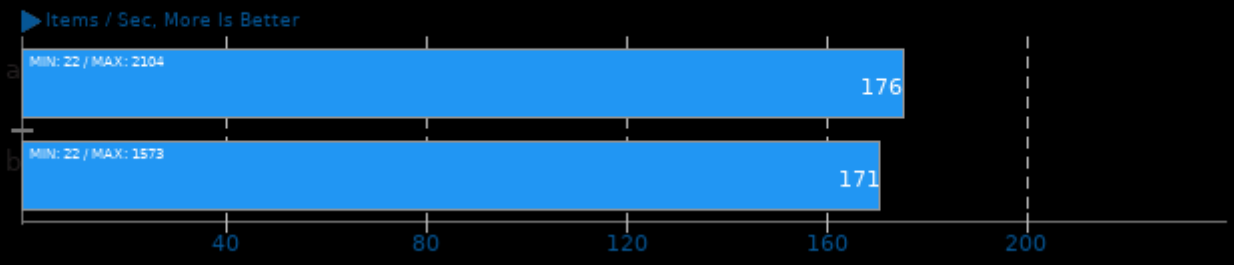
OpenVKL 1.3.1

Benchmark: vklBenchmark ISPC



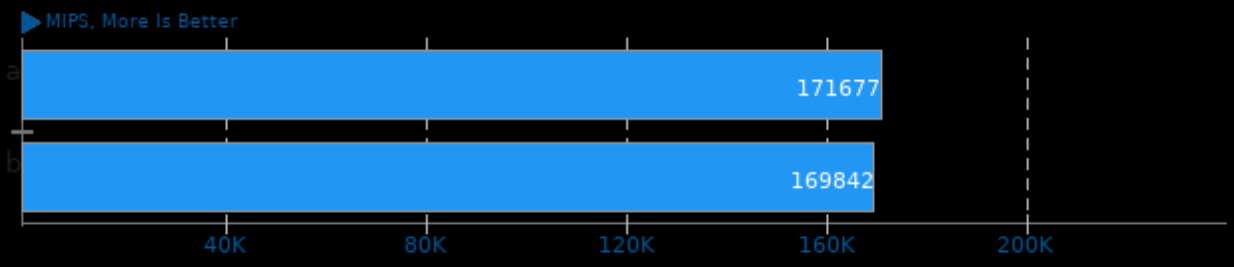
OpenVKL 1.3.1

Benchmark: vklBenchmark Scalar

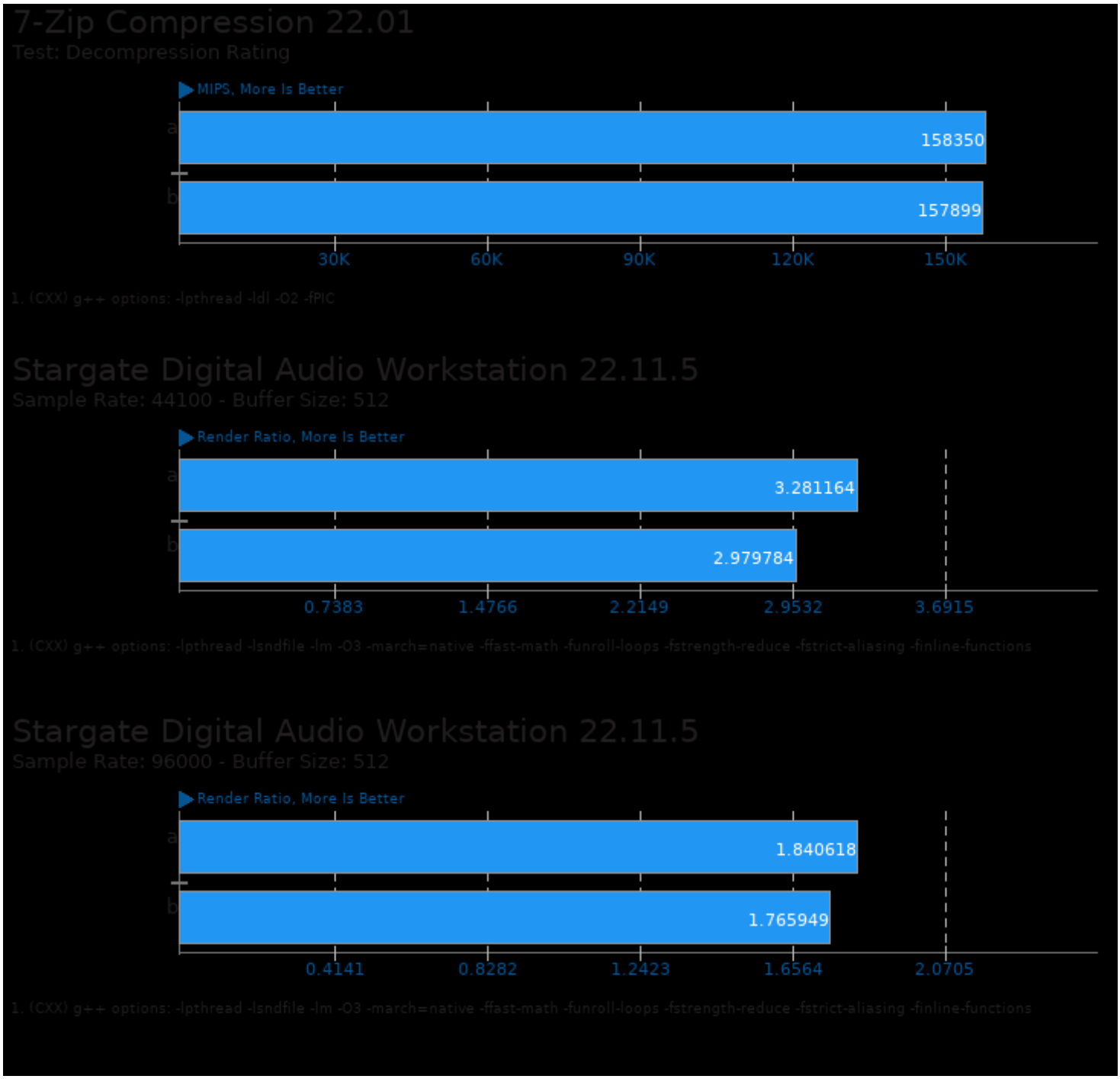


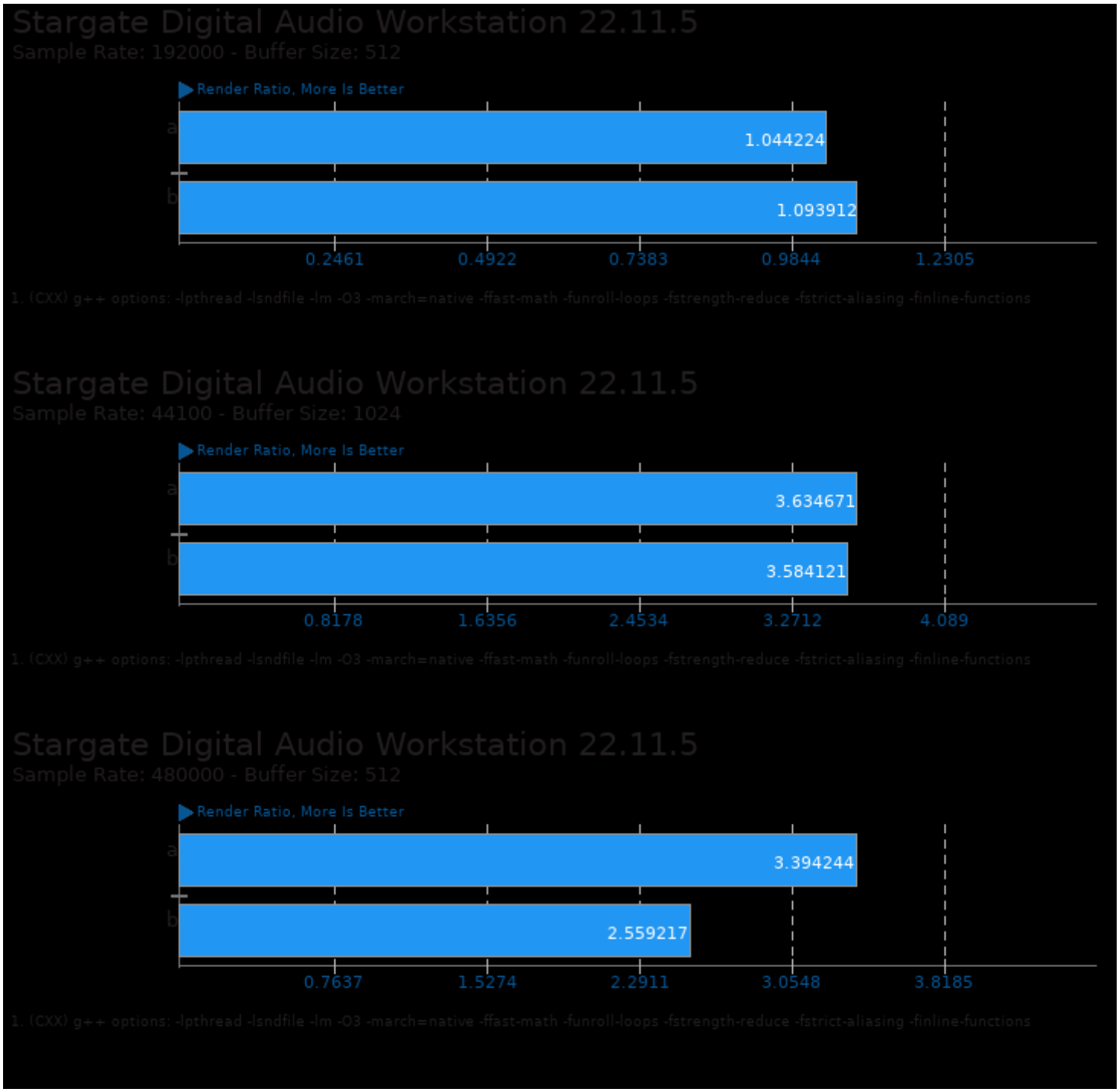
7-Zip Compression 22.01

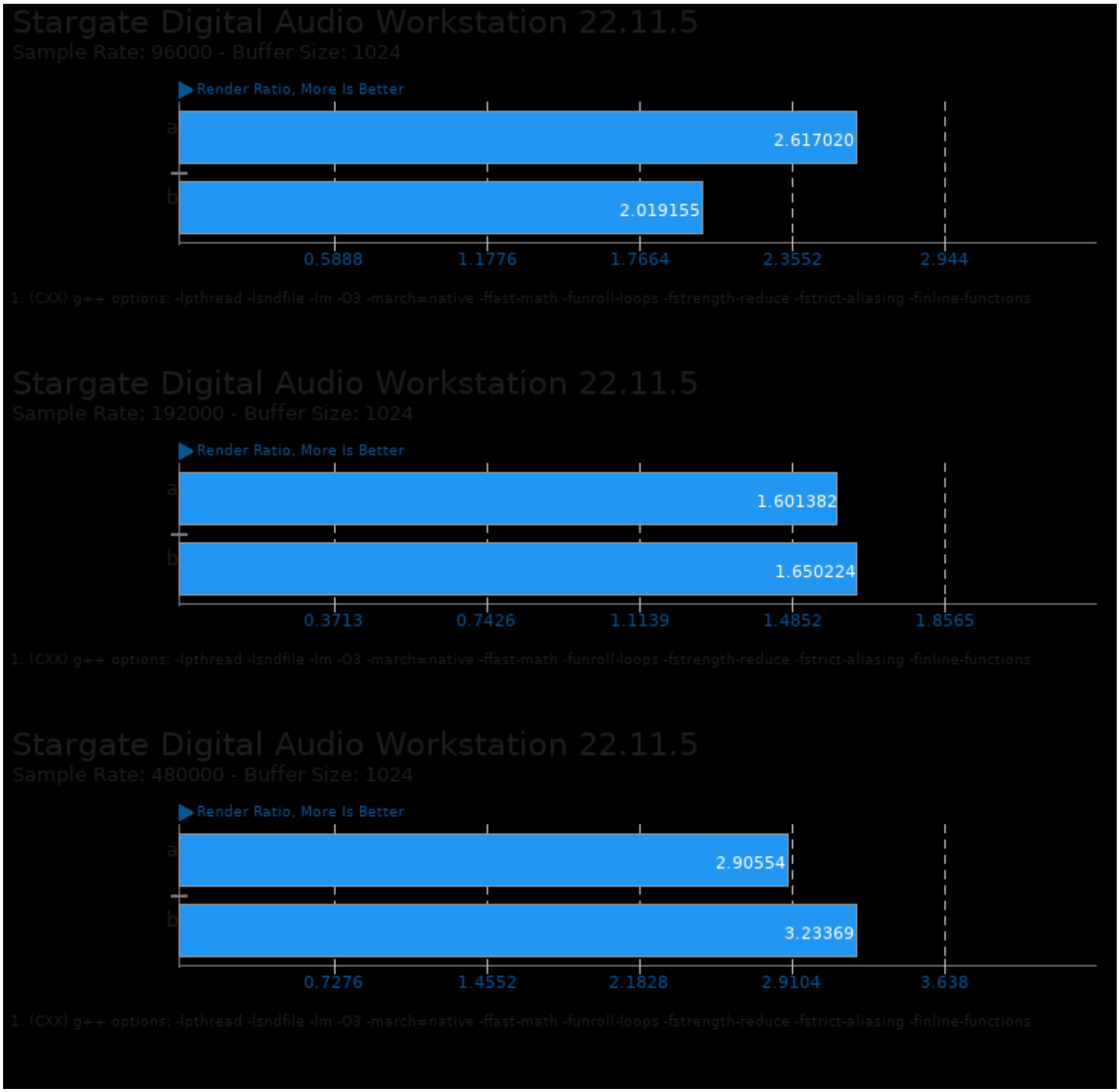
Test: Compression Rating



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

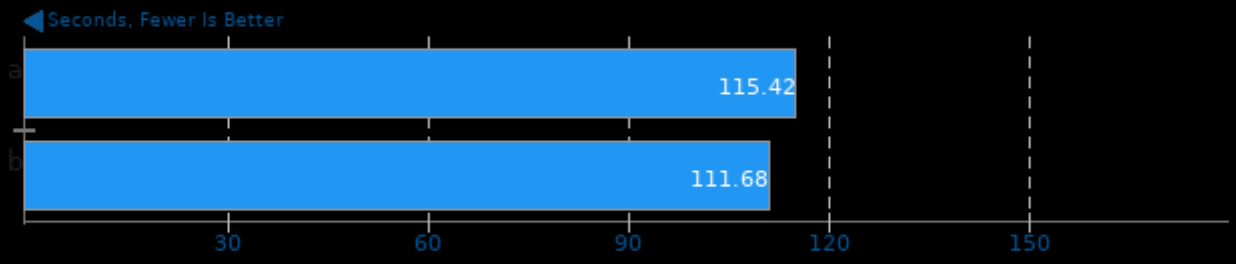

7-Zip Compression 22.01
Test: Decompression Rating
MIPS, More Is Better
a
158350
b
157899
30K
60K
90K
120K
150K
1. (CXX) g++ options: -lpthread -ldl -O2 -fPIC
Stargate Digital Audio Workstation 22.11.5
Sample Rate: 44100 - Buffer Size: 512
Render Ratio, More Is Better
a
3.281164
b
2.979784
0.7383
1.4766
2.2149
2.9532
3.6915
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions
Stargate Digital Audio Workstation 22.11.5
Sample Rate: 96000 - Buffer Size: 512
Render Ratio, More Is Better
a
1.840618
b
1.765949
0.4141
0.8282
1.2423
1.6564
2.0705
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions


Stargate Digital Audio Workstation 22.11.5
Sample Rate: 192000 - Buffer Size: 512
Render Ratio, More Is Better
a
b
1.044224
1.093912
0.2461
0.4922
0.7383
0.9844
1.2305
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions
Stargate Digital Audio Workstation 22.11.5
Sample Rate: 44100 - Buffer Size: 1024
Render Ratio, More Is Better
a
b
3.634671
3.584121
0.8178
1.6356
2.4534
3.2712
4.089
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions
Stargate Digital Audio Workstation 22.11.5
Sample Rate: 480000 - Buffer Size: 512
Render Ratio, More Is Better
a
b
3.394244
2.559217
0.7637
1.5274
2.2911
3.0548
3.8185
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions


Stargate Digital Audio Workstation 22.11.5
Sample Rate: 96000 - Buffer Size: 1024
Render Ratio, More Is Better
a
2.617020
b
2.019155
0.5888
1.1776
1.7664
2.3552
2.944
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions
Stargate Digital Audio Workstation 22.11.5
Sample Rate: 192000 - Buffer Size: 1024
Render Ratio, More Is Better
a
1.601382
b
1.650224
0.3713
0.7426
1.1139
1.4852
1.8565
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions
Stargate Digital Audio Workstation 22.11.5
Sample Rate: 480000 - Buffer Size: 1024
Render Ratio, More Is Better
a
2.90554
b
3.23369
0.7276
1.4552
2.1828
2.9104
3.638
1. (CXX) g++ options: -lpthread -lsndfile -lm -O3 -march=native -ffast-math -funroll-loops -fstrength-reduce -fstrict-aliasing -finline-functions

libavif avifenc 0.11

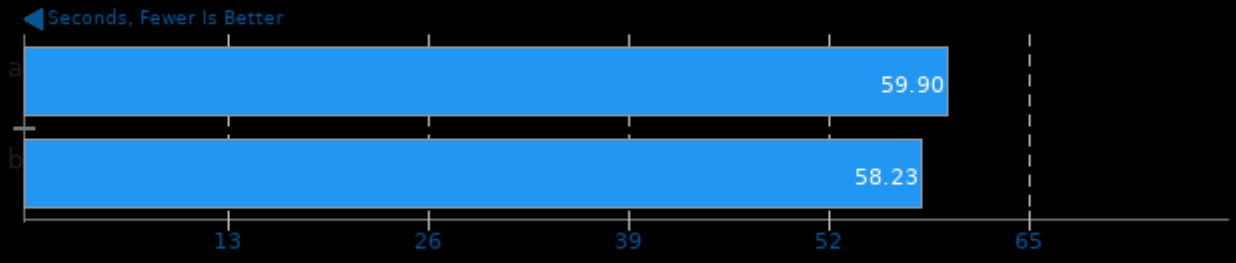
Encoder Speed: 0



1. (CXX) g++ options: -O3 -fPIC -lm

libavif avifenc 0.11

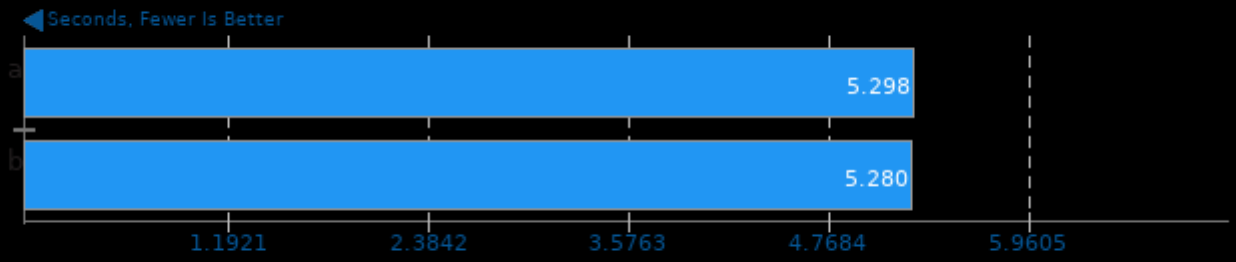
Encoder Speed: 2



1. (CXX) g++ options: -O3 -fPIC -lm

libavif avifenc 0.11

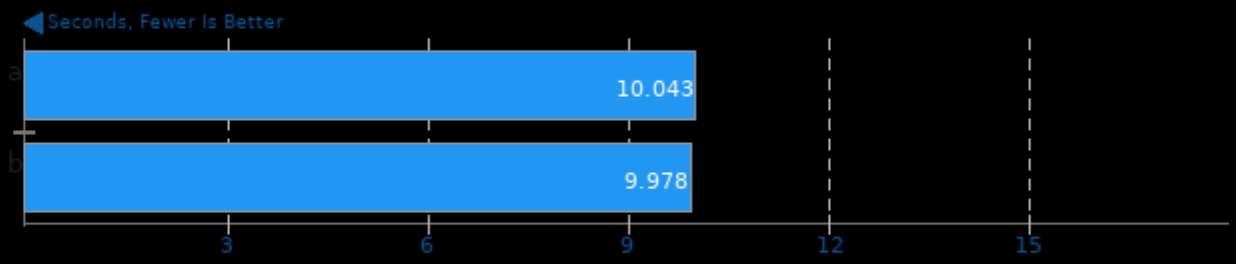
Encoder Speed: 6



1. (CXX) g++ options: -O3 -fPIC -lm

libavif avifenc 0.11

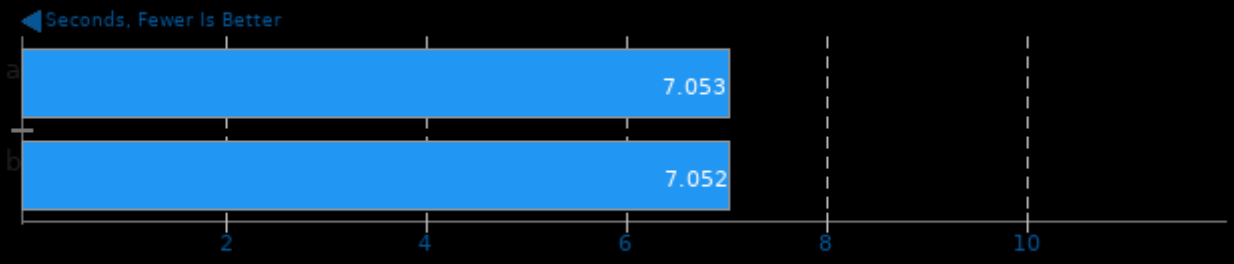
Encoder Speed: 6, Lossless



1. (CXX) g++ options: -O3 -fPIC -lm

libavif avifenc 0.11

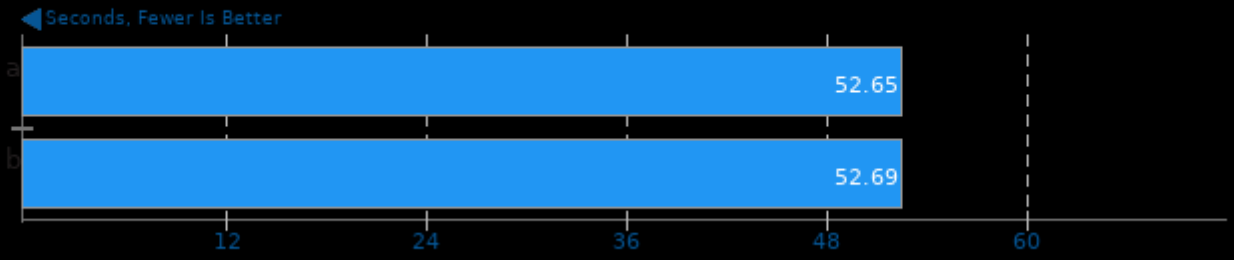
Encoder Speed: 10, Lossless



1. (CXX) g++ options: -O3 -fPIC -lm

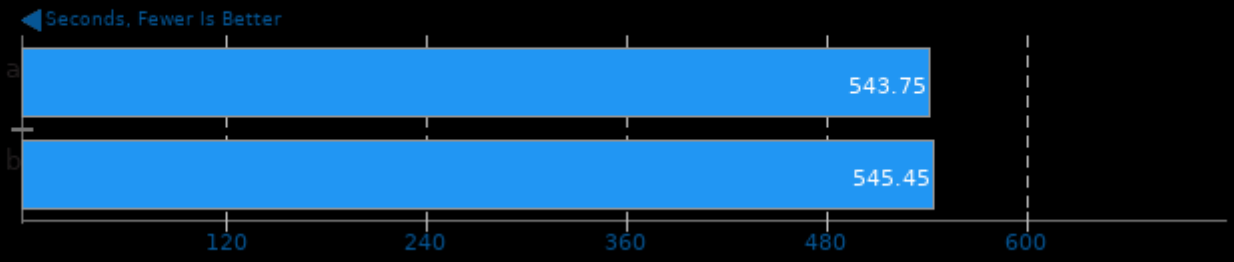
Timed Linux Kernel Compilation 6.1

Build: defconfig



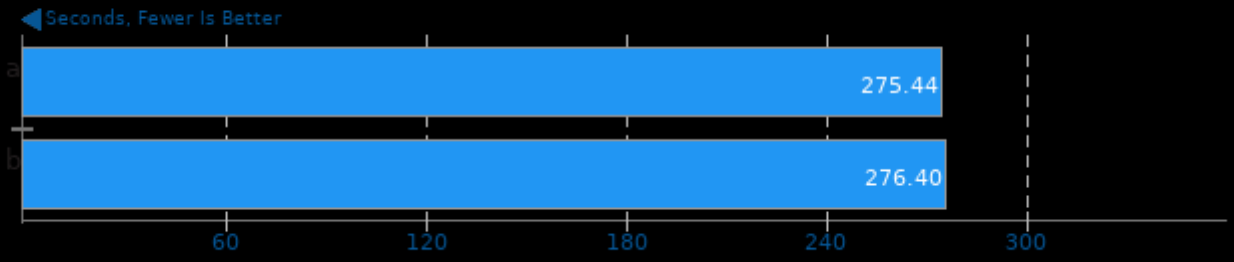
Timed Linux Kernel Compilation 6.1

Build: allmodconfig



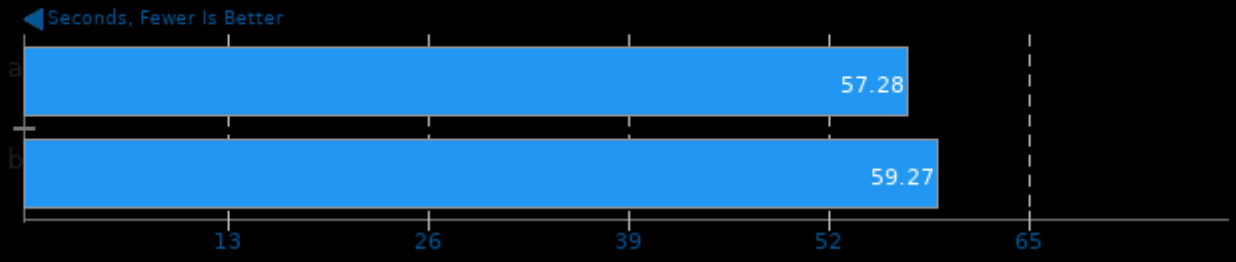
Timed Node.js Compilation 18.8

Time To Compile



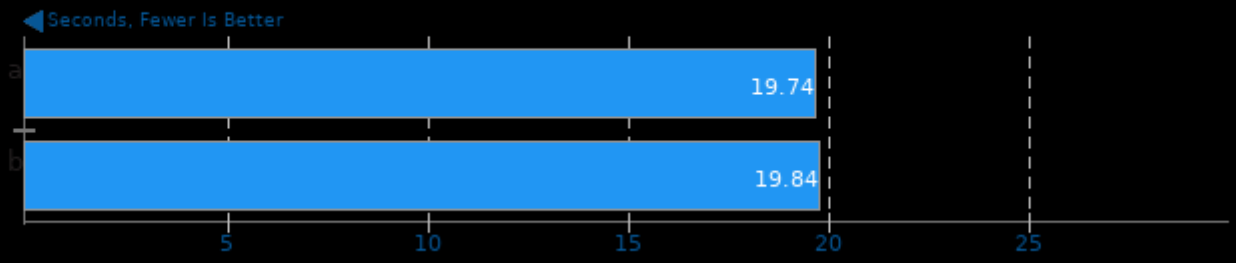
Timed PHP Compilation 8.1.9

Time To Compile



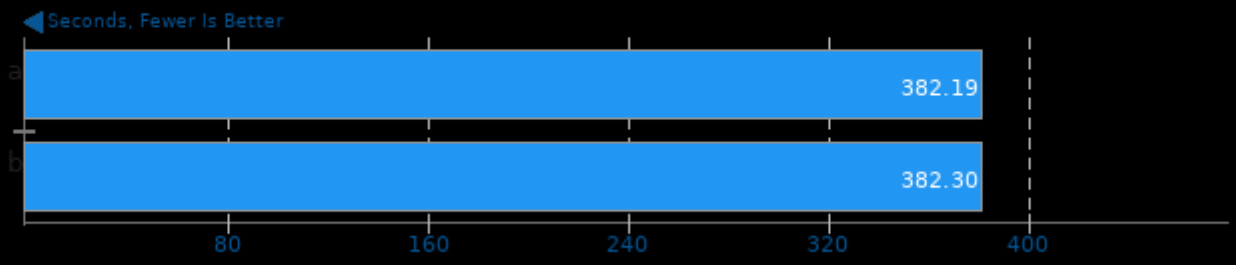
Timed CPython Compilation 3.10.6

Build Configuration: Default



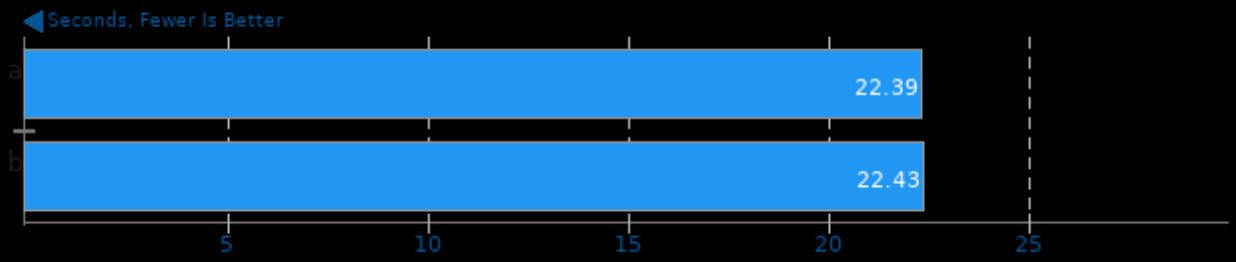
Timed CPython Compilation 3.10.6

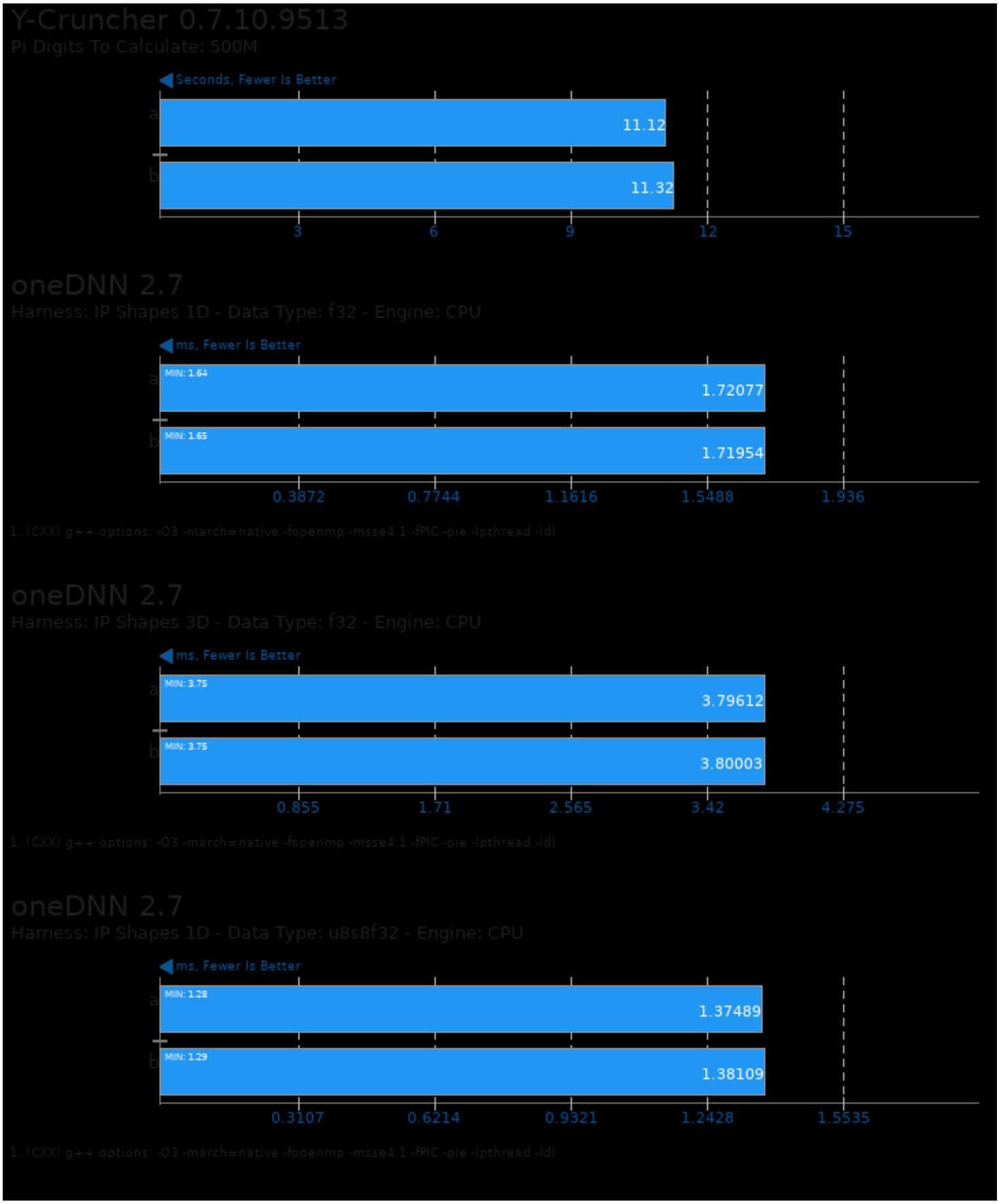
Build Configuration: Released Build, PGO + LTO Optimized

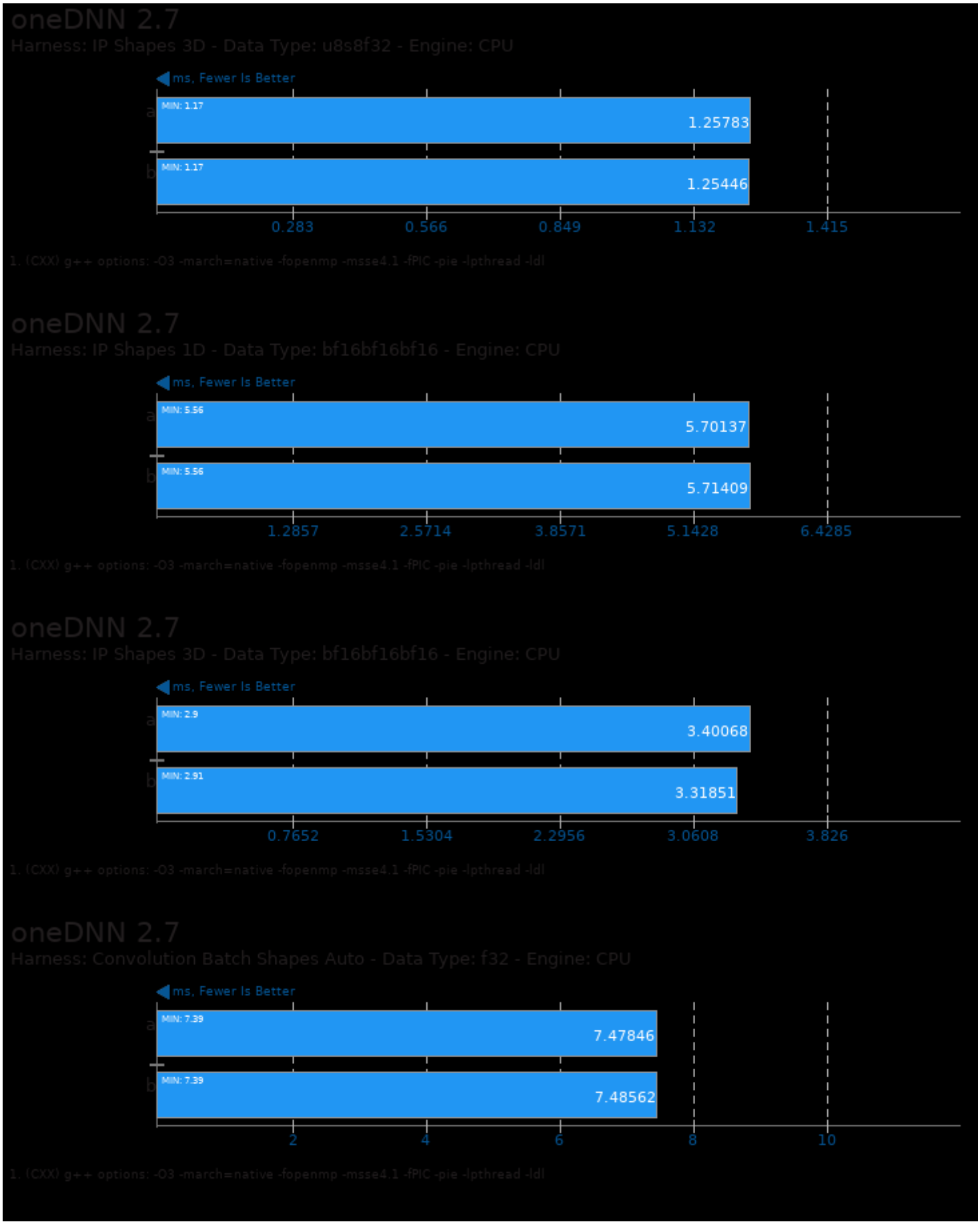


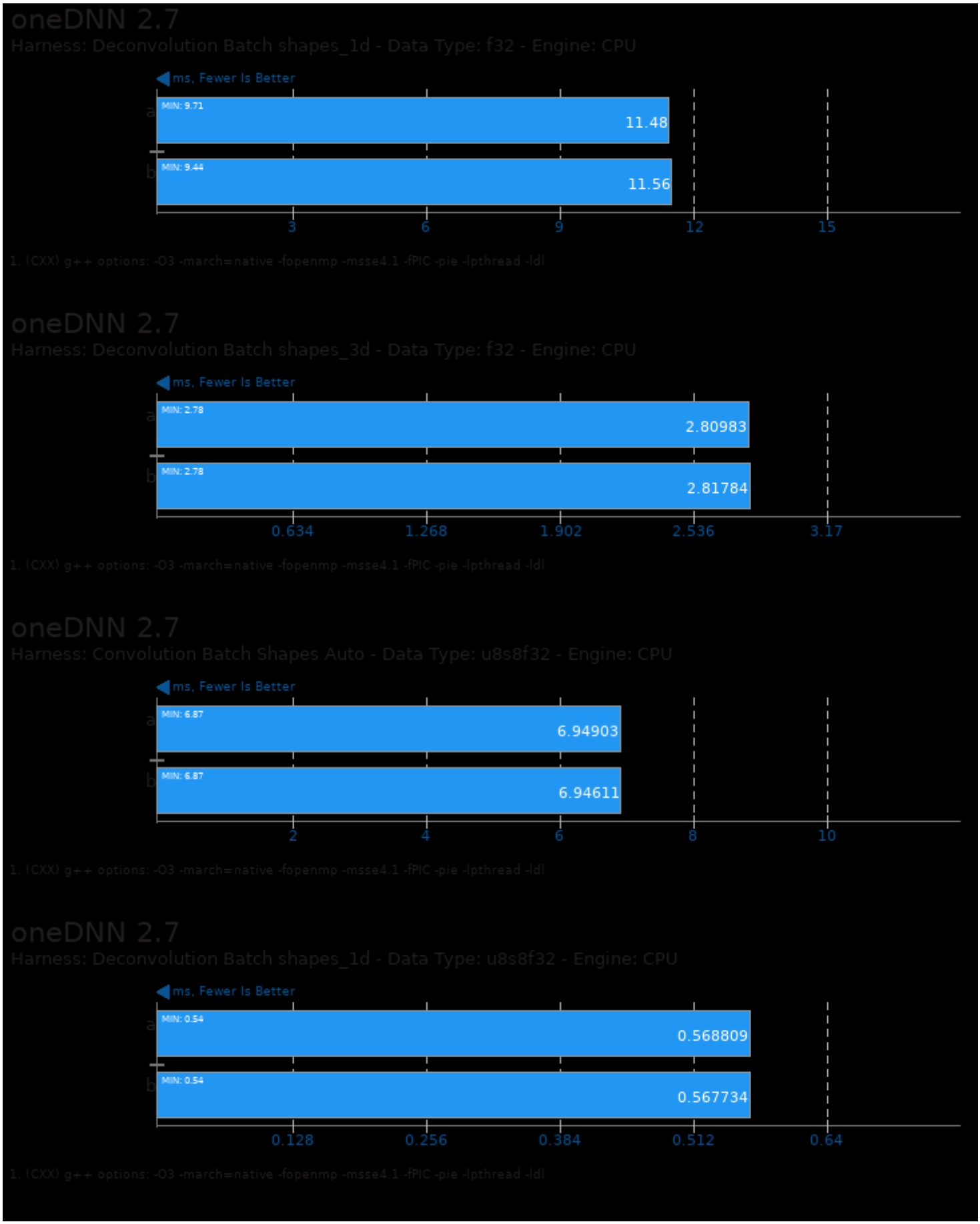
Y-Cruncher 0.7.10.9513

Pi Digits To Calculate: 1B



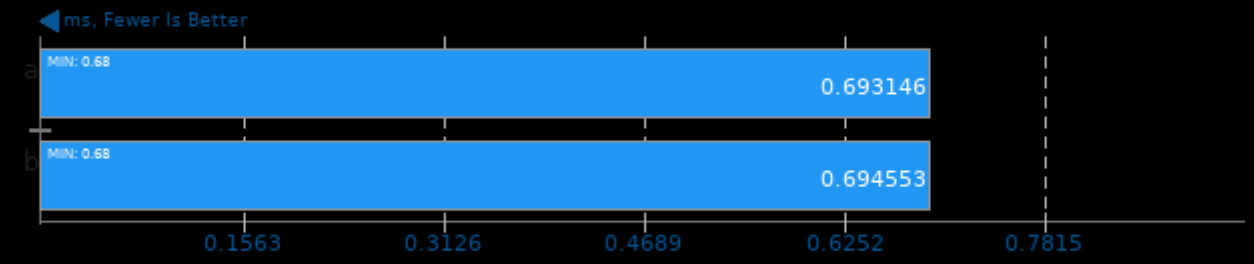

Y-Cruncher 0.7.10.9513
Pi Digits To Calculate: 500M
Seconds, Fewer Is Better
a
11.12
b
11.32
3
6
9
12
15
oneDNN 2.7
Harness: IP Shapes 1D - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
a
MIN: 1.64
1.72077
b
MIN: 1.65
1.71954
0.3872
0.7744
1.1616
1.5488
1.936
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: IP Shapes 3D - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
a
MIN: 3.75
3.79612
b
MIN: 3.75
3.80003
0.855
1.71
2.565
3.42
4.275
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: IP Shapes 1D - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
a
MIN: 1.28
1.37489
b
MIN: 1.29
1.38109
0.3107
0.6214
0.9321
1.2428
1.5535
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl


oneDNN 2.7
Harness: IP Shapes 3D - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
a
MIN: 1.17
1.25783
b
MIN: 1.17
1.25446
0.283
0.566
0.849
1.132
1.415
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: IP Shapes 1D - Data Type: bf16bf16bf16 - Engine: CPU
ms, Fewer Is Better
a
MIN: 5.56
5.70137
b
MIN: 5.56
5.71409
1.2857
2.5714
3.8571
5.1428
6.4285
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: IP Shapes 3D - Data Type: bf16bf16bf16 - Engine: CPU
ms, Fewer Is Better
a
MIN: 2.9
3.40068
b
MIN: 2.91
3.31851
0.7652
1.5304
2.2956
3.0608
3.826
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
a
MIN: 7.39
7.47846
b
MIN: 7.39
7.48562
2
4
6
8
10
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl


oneDNN 2.7
Harness: Deconvolution Batch shapes_1d - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
a
MIN: 9.71
11.48
b
MIN: 9.44
11.56
3
6
9
12
15
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: Deconvolution Batch shapes_3d - Data Type: f32 - Engine: CPU
ms, Fewer Is Better
a
MIN: 2.78
2.80983
b
MIN: 2.78
2.81784
0.634
1.268
1.902
2.536
3.17
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: Convolution Batch Shapes Auto - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
a
MIN: 6.87
6.94903
b
MIN: 6.87
6.94611
2
4
6
8
10
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl
oneDNN 2.7
Harness: Deconvolution Batch shapes_1d - Data Type: u8s8f32 - Engine: CPU
ms, Fewer Is Better
a
MIN: 0.54
0.568809
b
MIN: 0.54
0.567734
0.128
0.256
0.384
0.512
0.64
1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.7

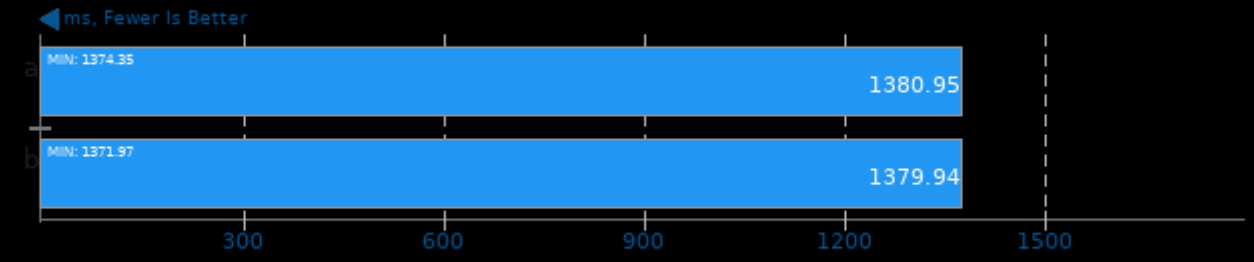
Harness: Deconvolution Batch shapes_3d - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.7

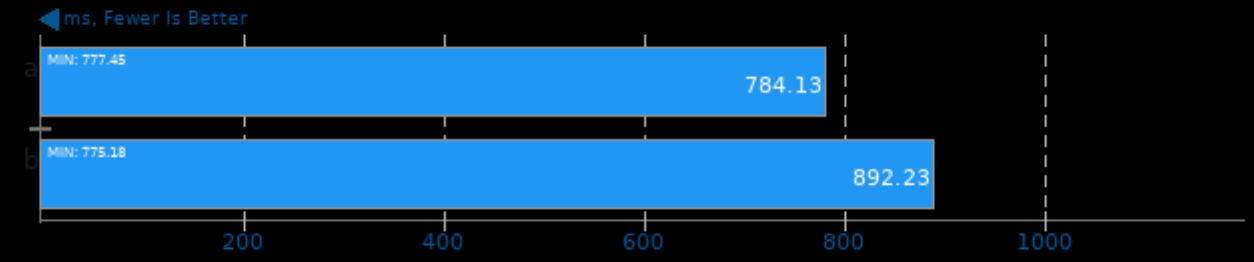
Harness: Recurrent Neural Network Training - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.7

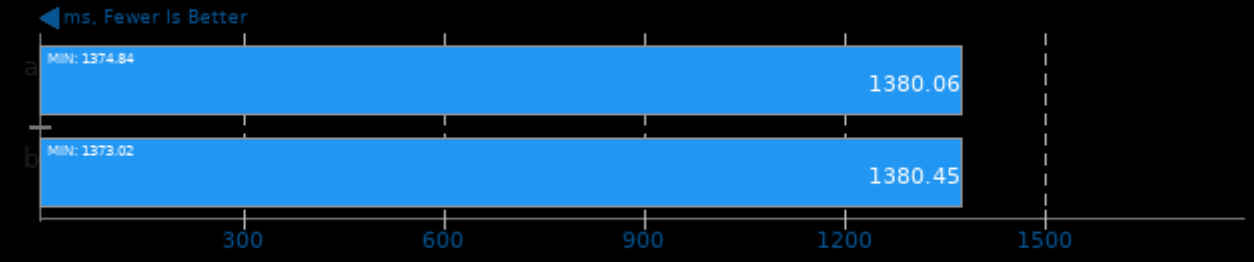
Harness: Recurrent Neural Network Inference - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.7

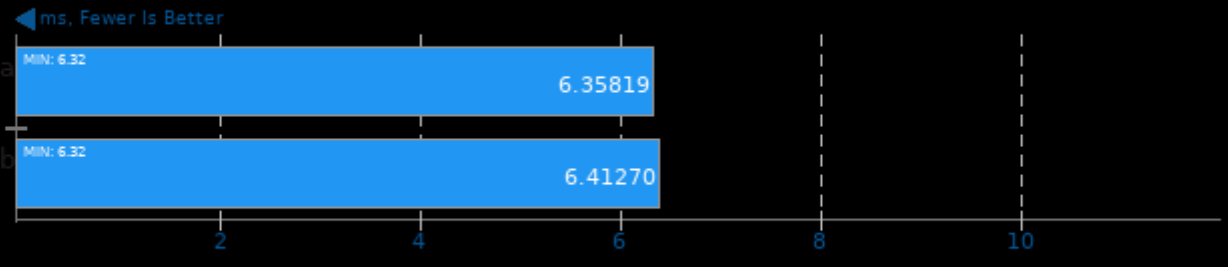
Harness: Recurrent Neural Network Training - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.7

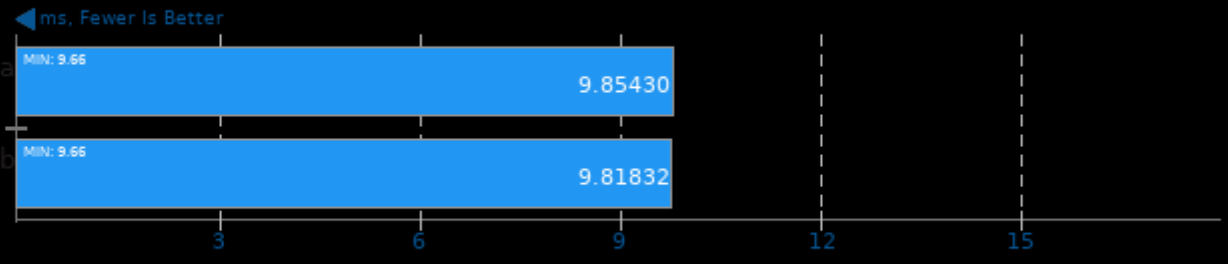
Harness: Convolution Batch Shapes Auto - Data Type: bf16bf16bf16 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.7

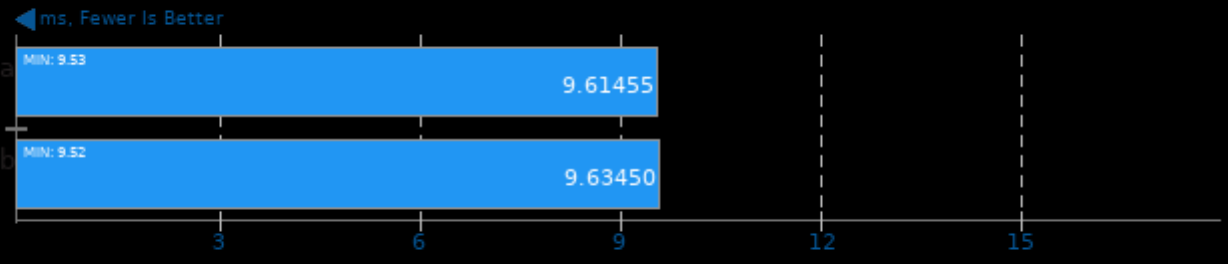
Harness: Deconvolution Batch shapes_1d - Data Type: bf16bf16bf16 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.7

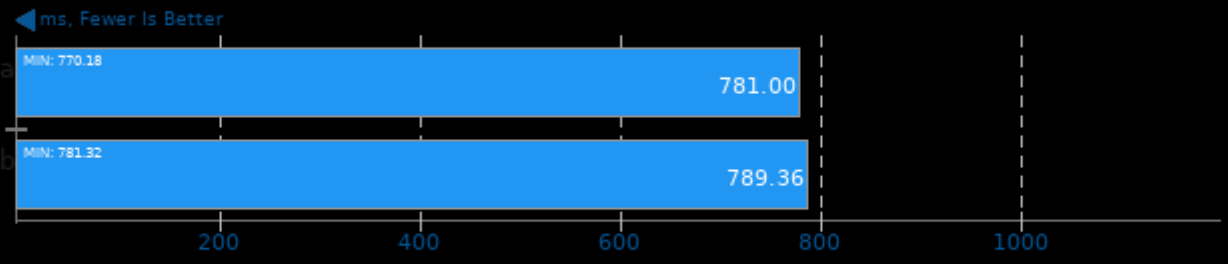
Harness: Deconvolution Batch shapes_3d - Data Type: bf16bf16bf16 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.7

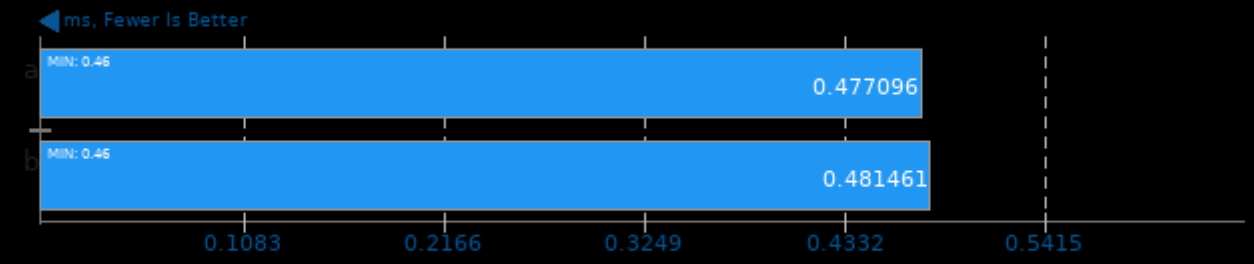
Harness: Recurrent Neural Network Inference - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.7

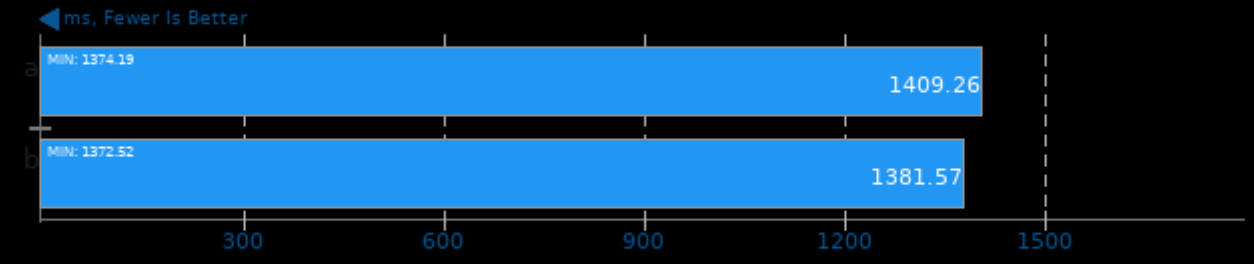
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.7

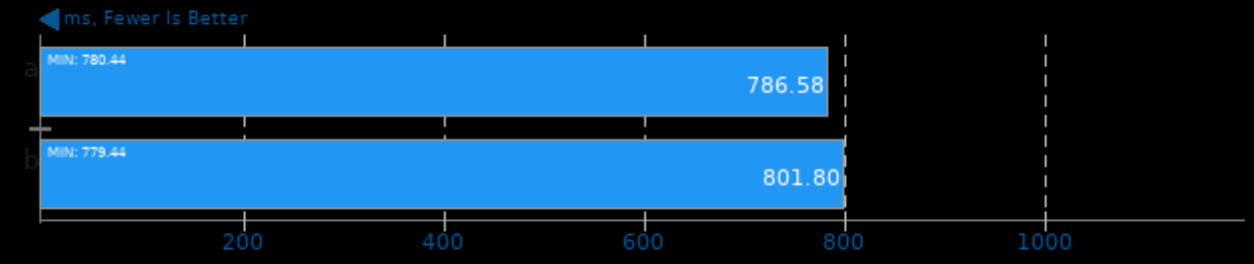
Harness: Recurrent Neural Network Training - Data Type: bf16bf16bf16 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.7

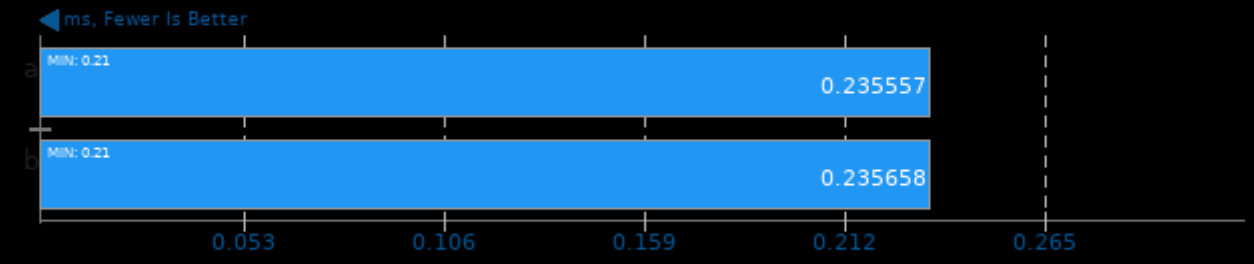
Harness: Recurrent Neural Network Inference - Data Type: bf16bf16bf16 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.7

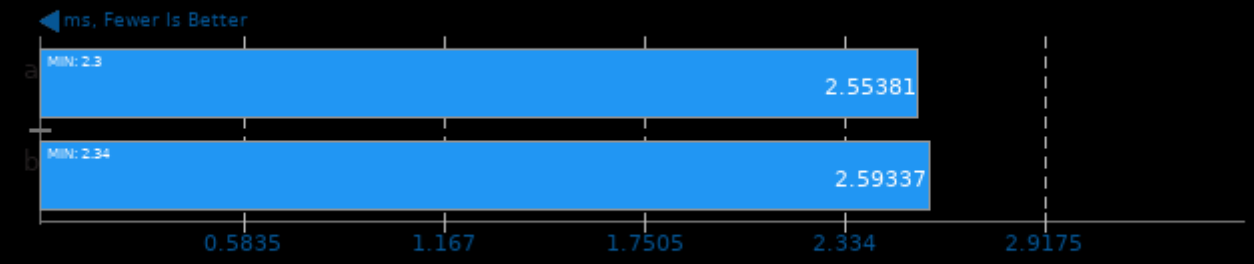
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.7

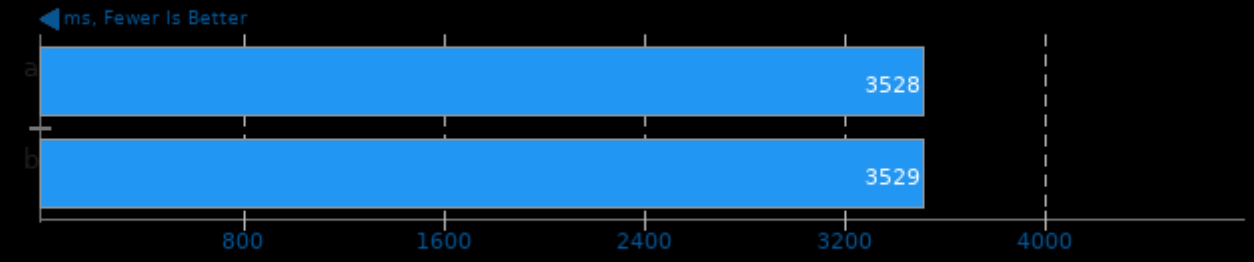
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: bf16bf16bf16 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp -msse4.1 -fPIC -pie -lpthread -ldl

OSPRay Studio 0.11

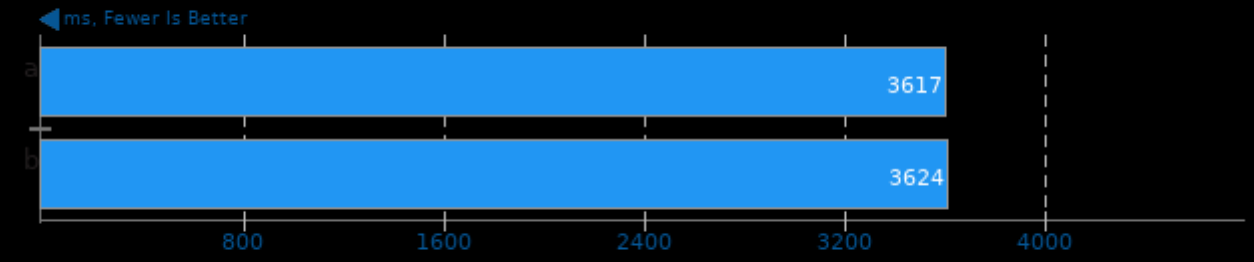
Camera: 1 - Resolution: 4K - Samples Per Pixel: 1 - Renderer: Path Tracer



1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread

OSPRay Studio 0.11

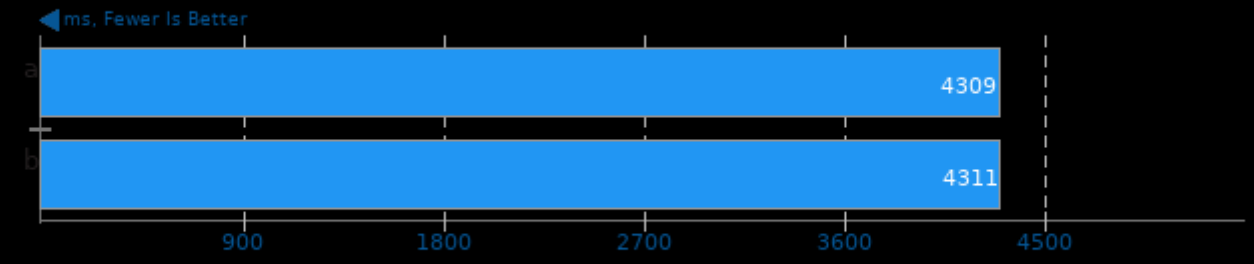
Camera: 2 - Resolution: 4K - Samples Per Pixel: 1 - Renderer: Path Tracer



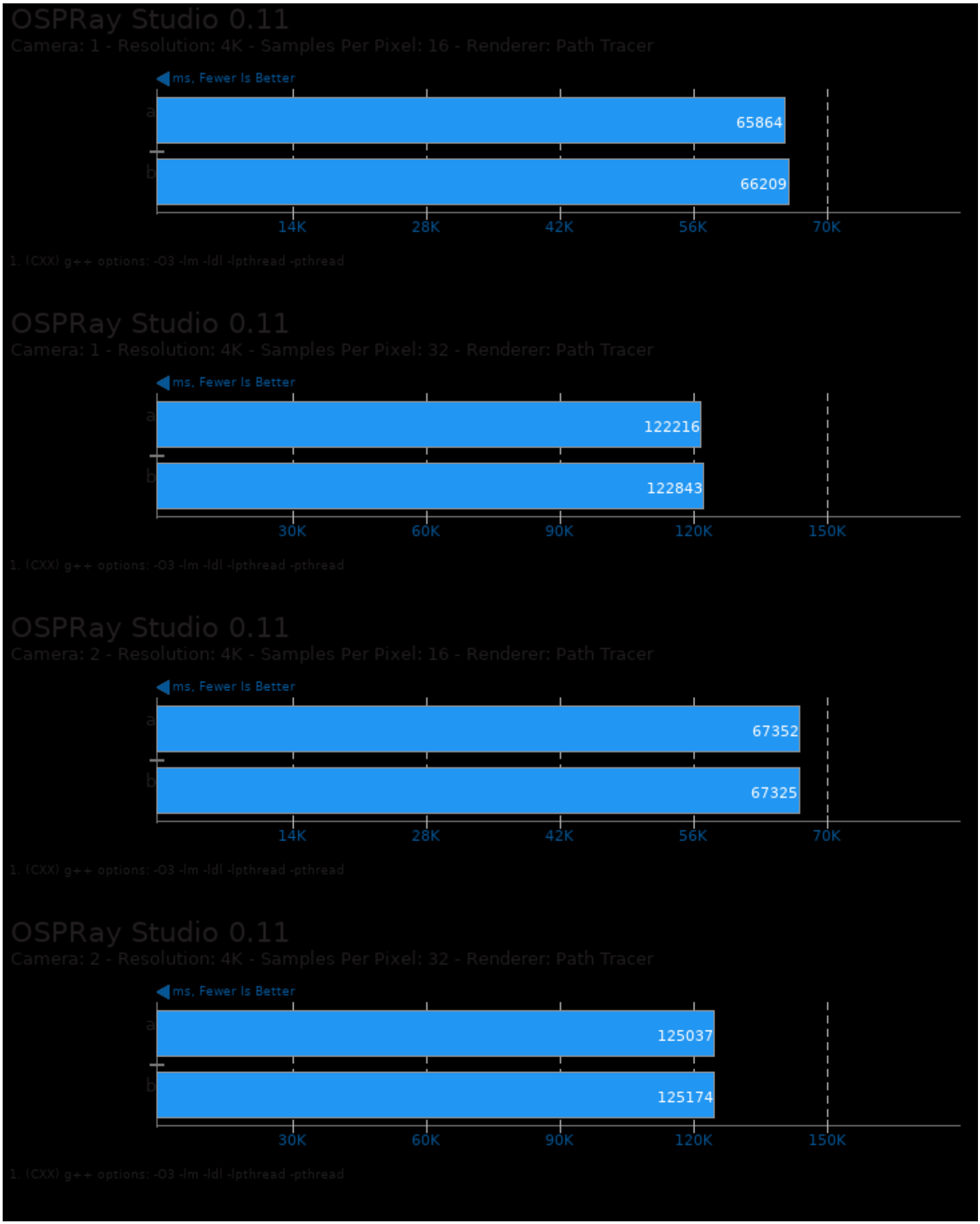
1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread

OSPRay Studio 0.11

Camera: 3 - Resolution: 4K - Samples Per Pixel: 1 - Renderer: Path Tracer

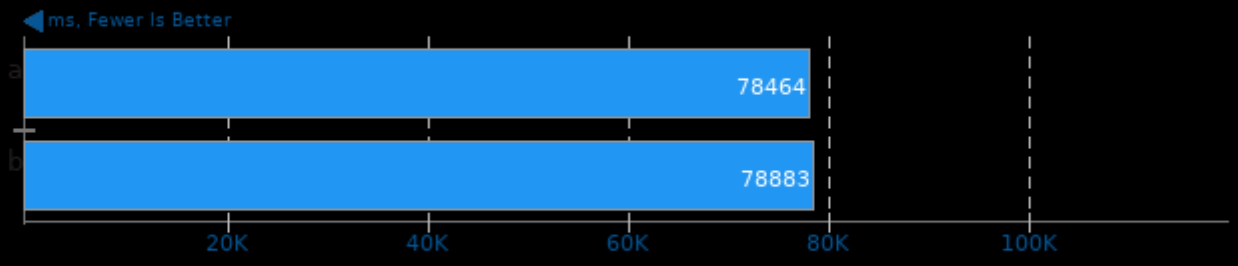


1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread


OSPRay Studio 0.11
Camera: 1 - Resolution: 4K - Samples Per Pixel: 16 - Renderer: Path Tracer
ms, Fewer Is Better
a
65864
b
66209
14K
28K
42K
56K
70K
1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread
OSPRay Studio 0.11
Camera: 1 - Resolution: 4K - Samples Per Pixel: 32 - Renderer: Path Tracer
ms, Fewer Is Better
a
122216
b
122843
30K
60K
90K
120K
150K
1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread
OSPRay Studio 0.11
Camera: 2 - Resolution: 4K - Samples Per Pixel: 16 - Renderer: Path Tracer
ms, Fewer Is Better
a
67352
b
67325
14K
28K
42K
56K
70K
1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread
OSPRay Studio 0.11
Camera: 2 - Resolution: 4K - Samples Per Pixel: 32 - Renderer: Path Tracer
ms, Fewer Is Better
a
125037
b
125174
30K
60K
90K
120K
150K
1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread

OSPRay Studio 0.11

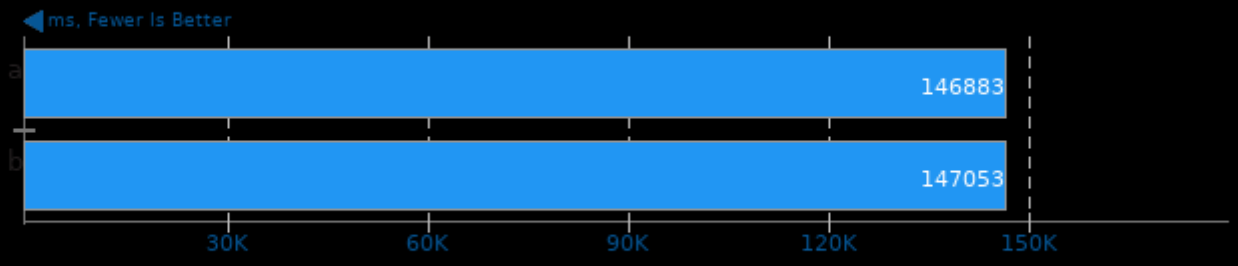
Camera: 3 - Resolution: 4K - Samples Per Pixel: 16 - Renderer: Path Tracer



1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread

OSPRay Studio 0.11

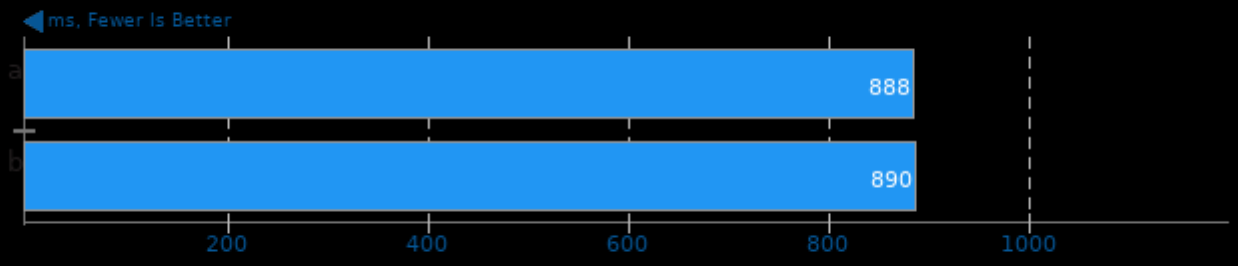
Camera: 3 - Resolution: 4K - Samples Per Pixel: 32 - Renderer: Path Tracer



1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread

OSPRay Studio 0.11

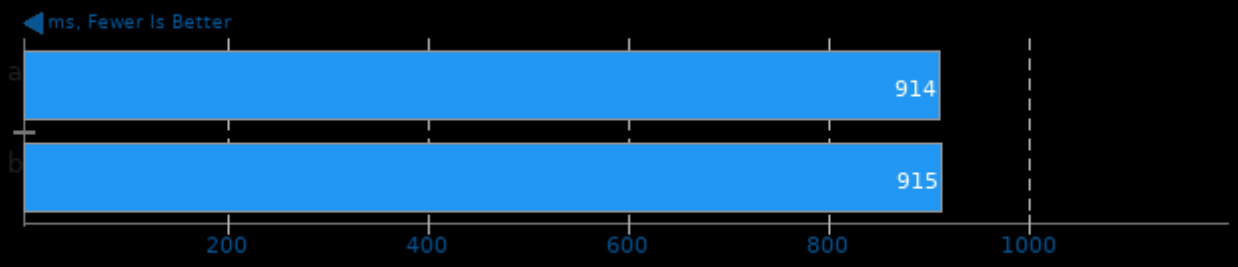
Camera: 1 - Resolution: 1080p - Samples Per Pixel: 1 - Renderer: Path Tracer



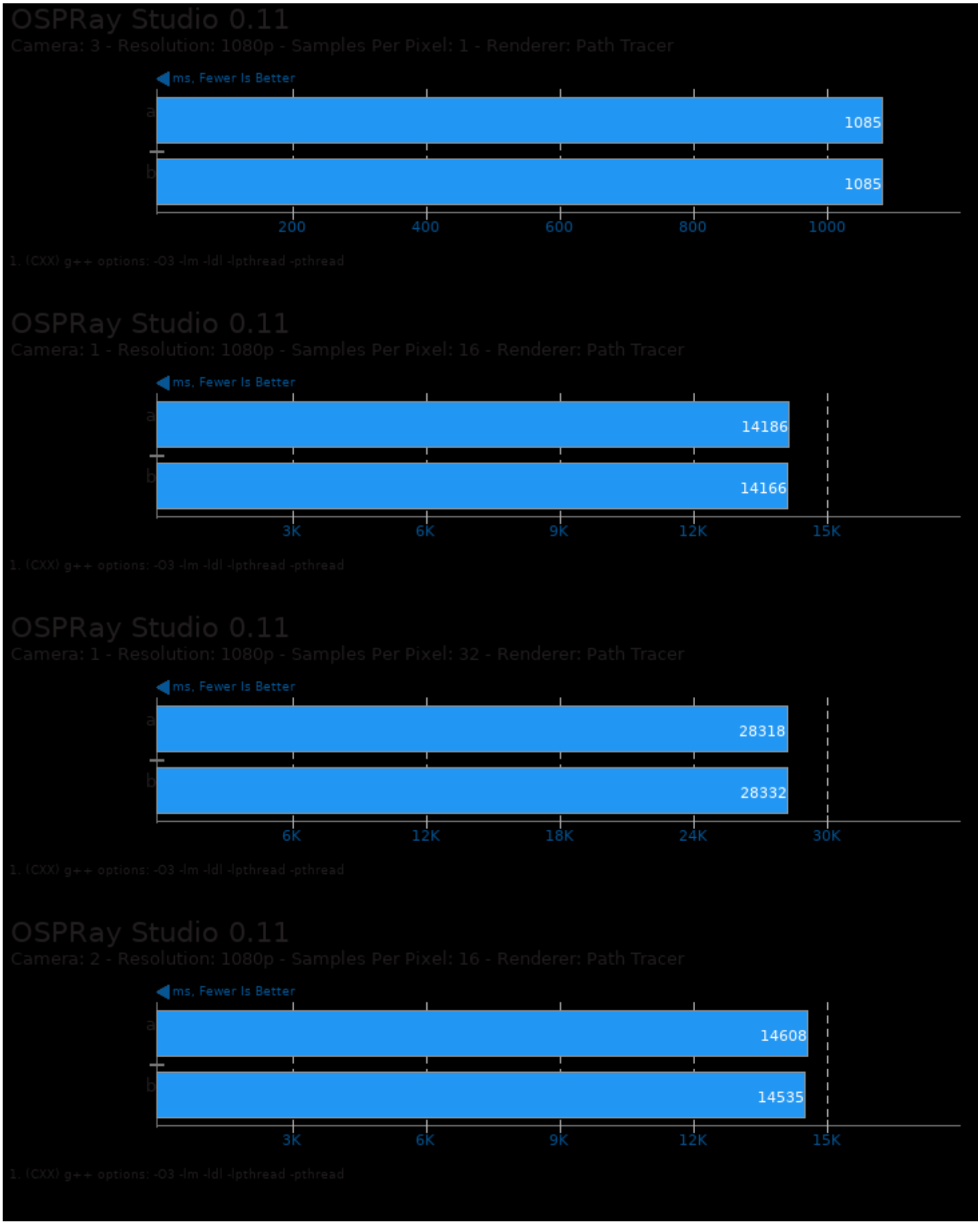
1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread

OSPRay Studio 0.11

Camera: 2 - Resolution: 1080p - Samples Per Pixel: 1 - Renderer: Path Tracer

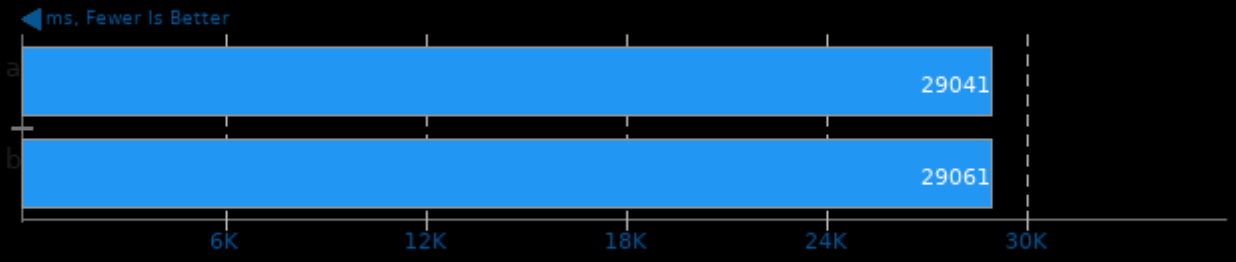


1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread


OSPRay Studio 0.11
Camera: 3 - Resolution: 1080p - Samples Per Pixel: 1 - Renderer: Path Tracer
ms, Fewer Is Better
a
1085
b
1085
200
400
600
800
1000
1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread
OSPRay Studio 0.11
Camera: 1 - Resolution: 1080p - Samples Per Pixel: 16 - Renderer: Path Tracer
ms, Fewer Is Better
a
14186
b
14166
3K
6K
9K
12K
15K
1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread
OSPRay Studio 0.11
Camera: 1 - Resolution: 1080p - Samples Per Pixel: 32 - Renderer: Path Tracer
ms, Fewer Is Better
a
28318
b
28332
6K
12K
18K
24K
30K
1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread
OSPRay Studio 0.11
Camera: 2 - Resolution: 1080p - Samples Per Pixel: 16 - Renderer: Path Tracer
ms, Fewer Is Better
a
14608
b
14535
3K
6K
9K
12K
15K
1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread

OSPRay Studio 0.11

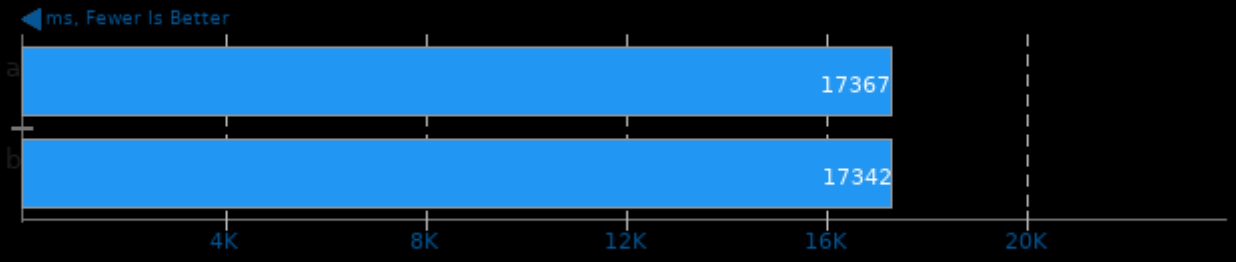
Camera: 2 - Resolution: 1080p - Samples Per Pixel: 32 - Renderer: Path Tracer



1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread

OSPRay Studio 0.11

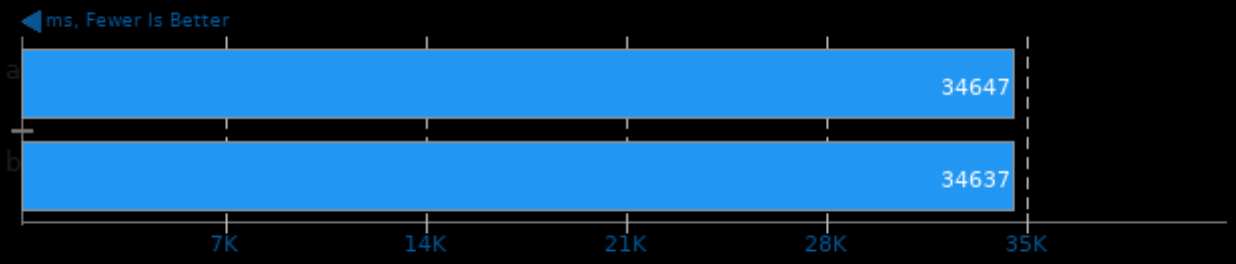
Camera: 3 - Resolution: 1080p - Samples Per Pixel: 16 - Renderer: Path Tracer



1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread

OSPRay Studio 0.11

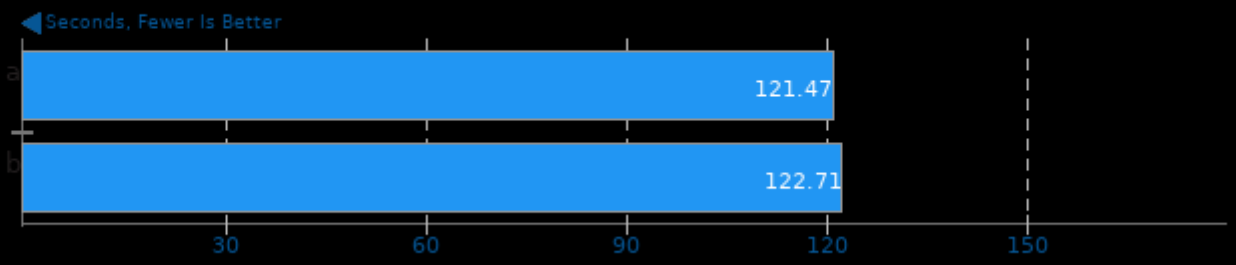
Camera: 3 - Resolution: 1080p - Samples Per Pixel: 32 - Renderer: Path Tracer



1. (CXX) g++ options: -O3 -lm -ldl -lpthread -pthread

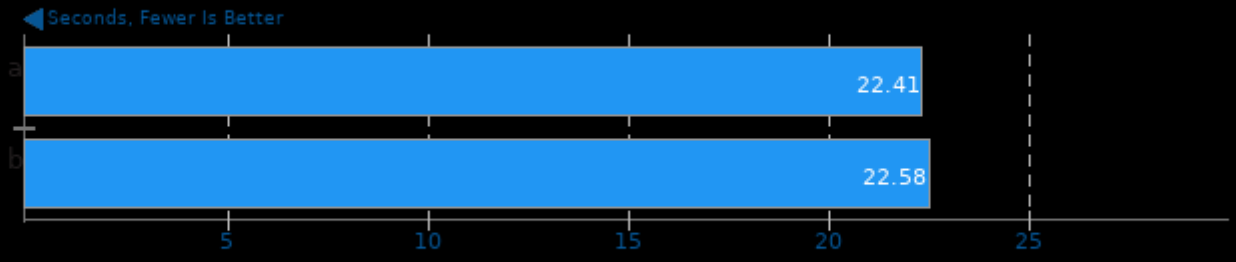
Timed Erlang/OTP Compilation 25.0

Time To Compile



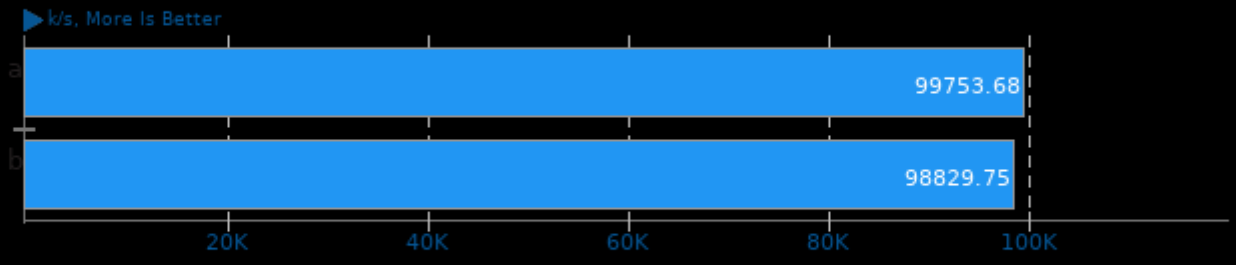
FLAC Audio Encoding 1.4

WAV To FLAC



1. (CXX) g++ options: -O3 -fvisibility=hidden -logg -lm

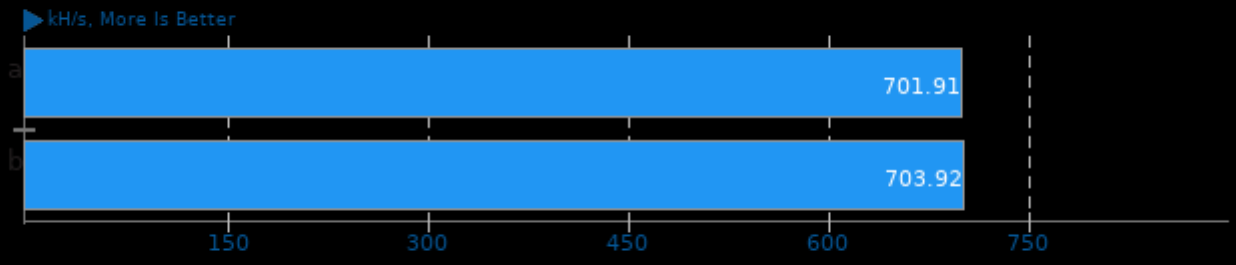
Aircrack-ng 1.7



1. (CXX) g++ options: -std=gnu++17 -O3 -fvisibility=hidden -fcommon -rdynamic -lnl-3 -lnl-genl-3 -lpcre -lpthread -lz -lssl -lcrypto -lhwloc -ldl -lm -lbsd

Cpuminer-Opt 3.20.3

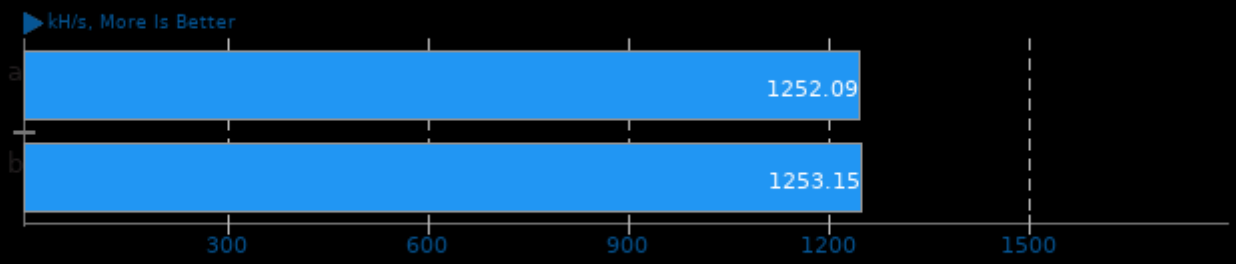
Algorithm: Magi



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.20.3

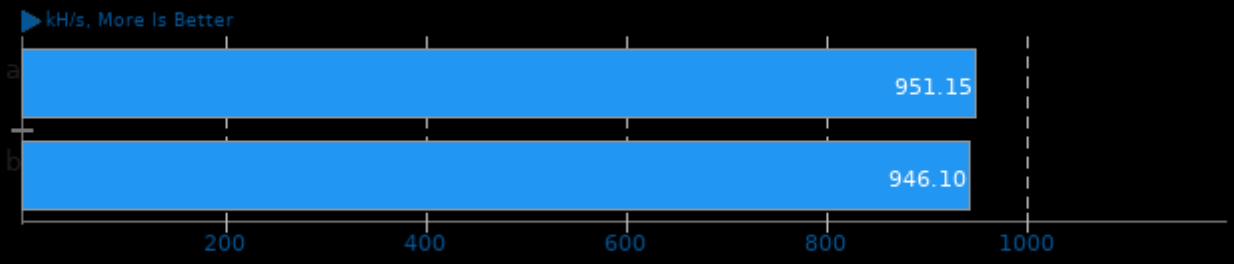
Algorithm: x25x



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.20.3

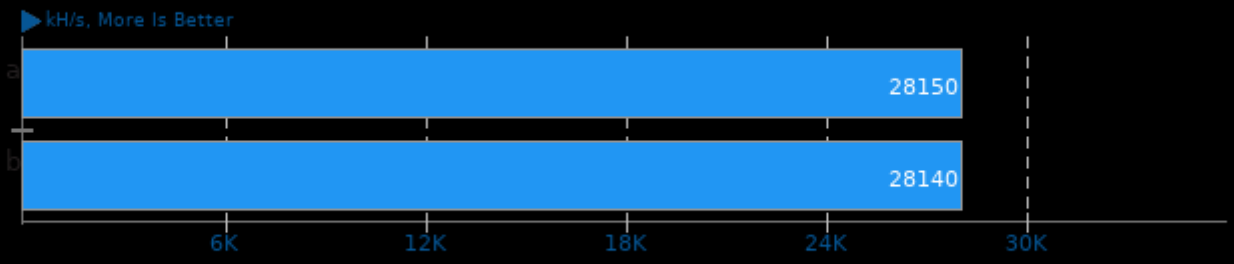
Algorithm: scrypt



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrocrypto -lgmp

Cpuminer-Opt 3.20.3

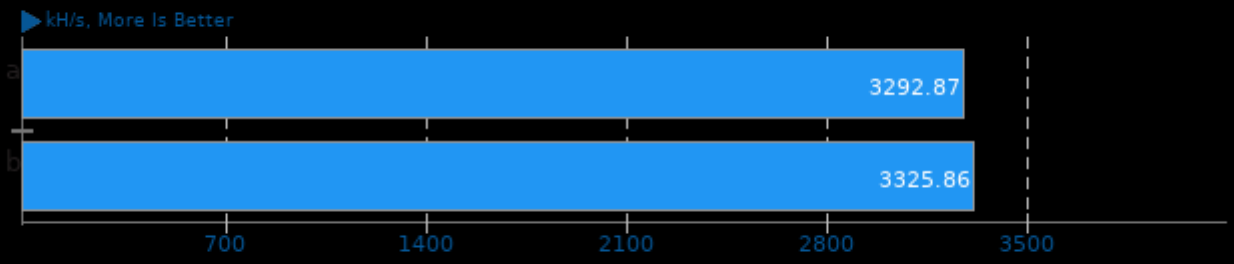
Algorithm: Deepcoin



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrocrypto -lgmp

Cpuminer-Opt 3.20.3

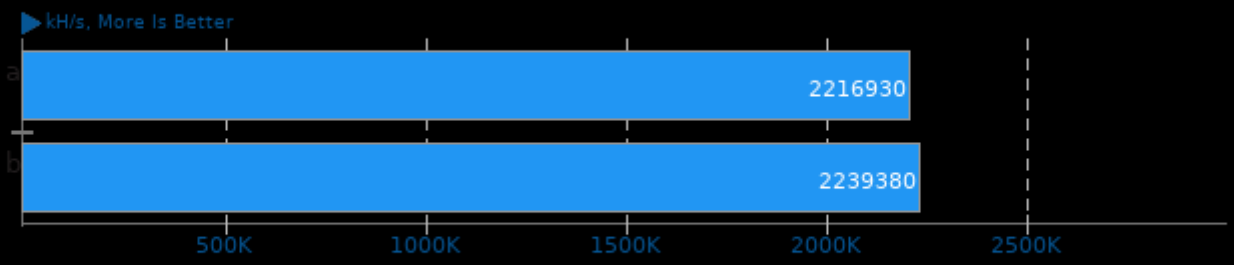
Algorithm: Ringcoin



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrocrypto -lgmp

Cpuminer-Opt 3.20.3

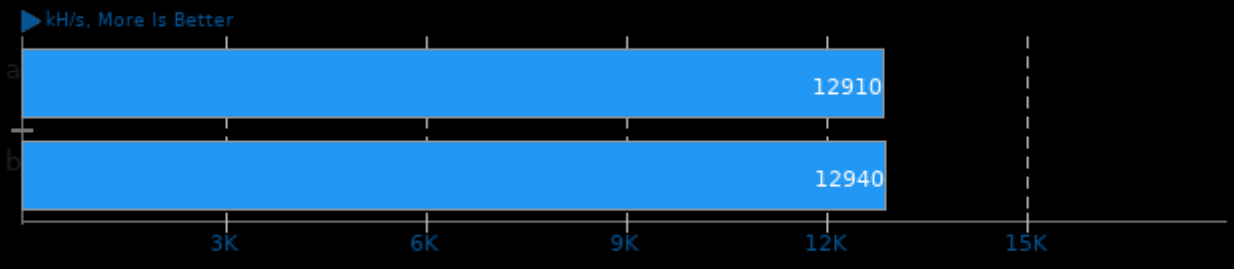
Algorithm: Blake-2 S



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrocrypto -lgmp

Cpuminer-Opt 3.20.3

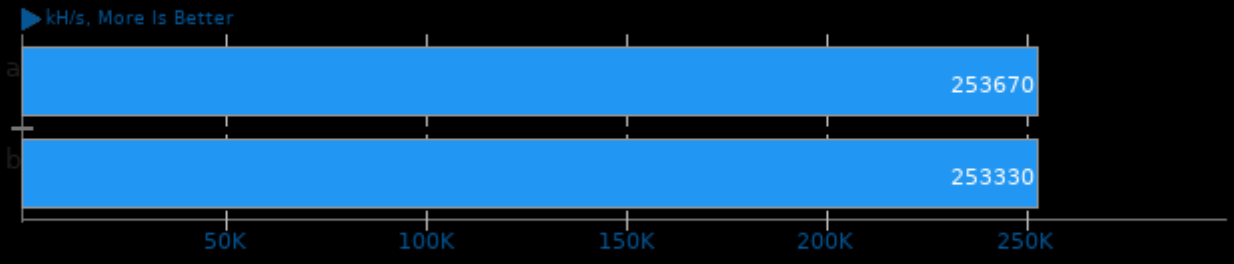
Algorithm: Garlicoin



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.20.3

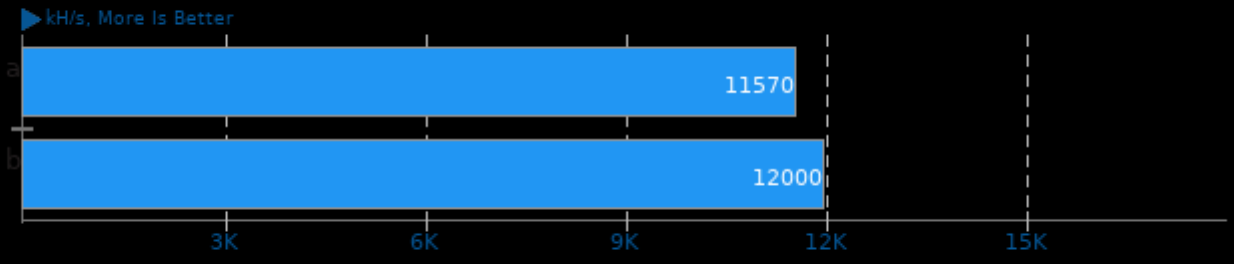
Algorithm: Skeincoin



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.20.3

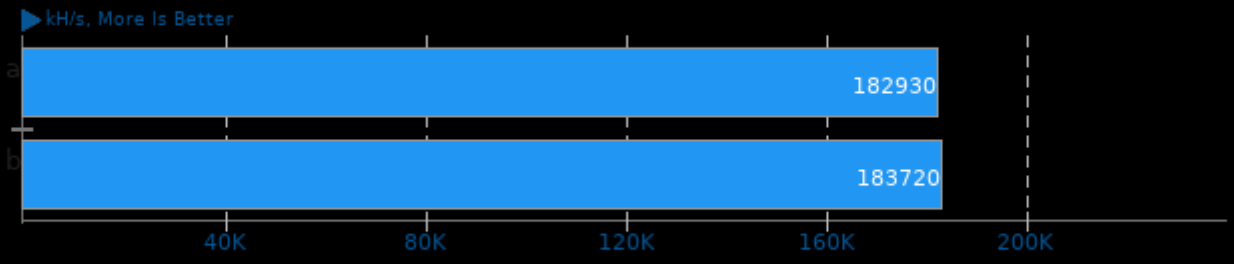
Algorithm: Myriad-Groestl



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.20.3

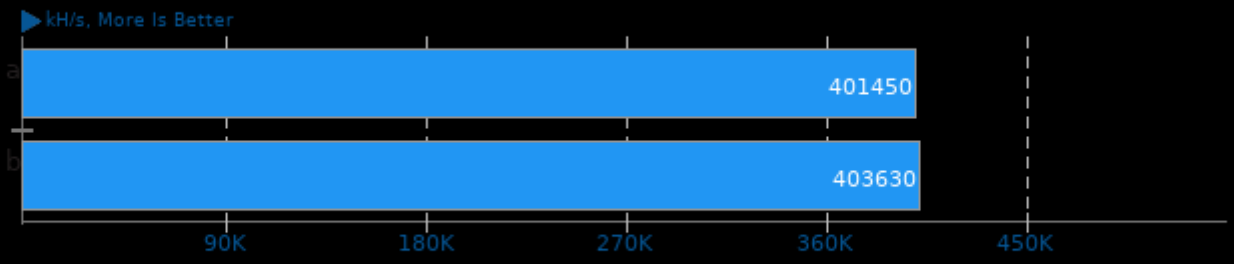
Algorithm: LBC, LBRY Credits



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Cpuminer-Opt 3.20.3

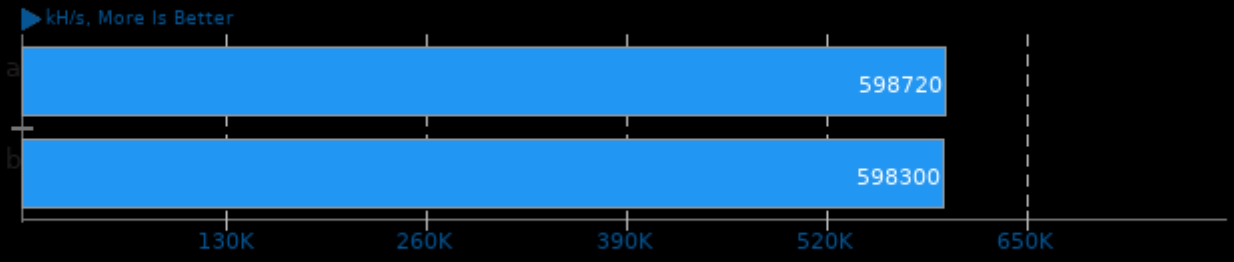
Algorithm: Quad SHA-256, Pyrite



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

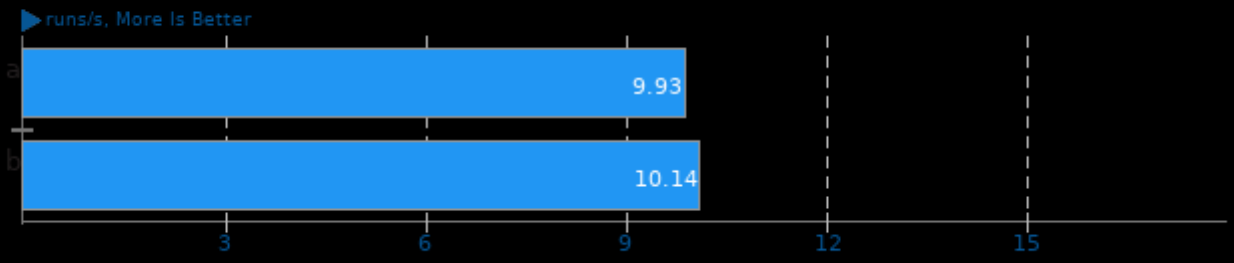
Cpuminer-Opt 3.20.3

Algorithm: Triple SHA-256, Onecoin



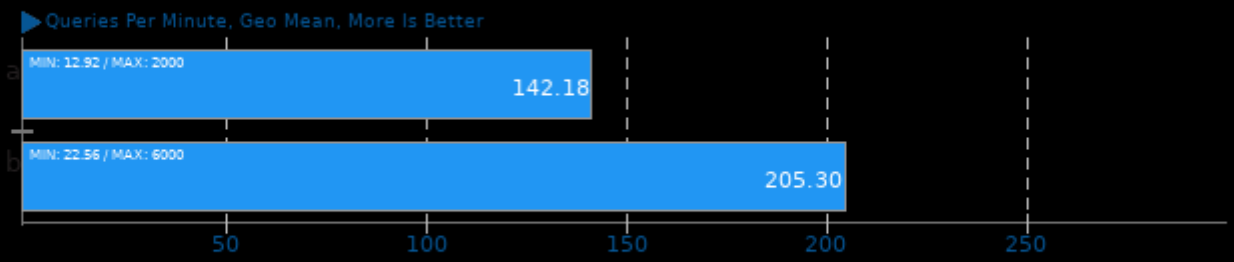
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Node.js V8 Web Tooling Benchmark

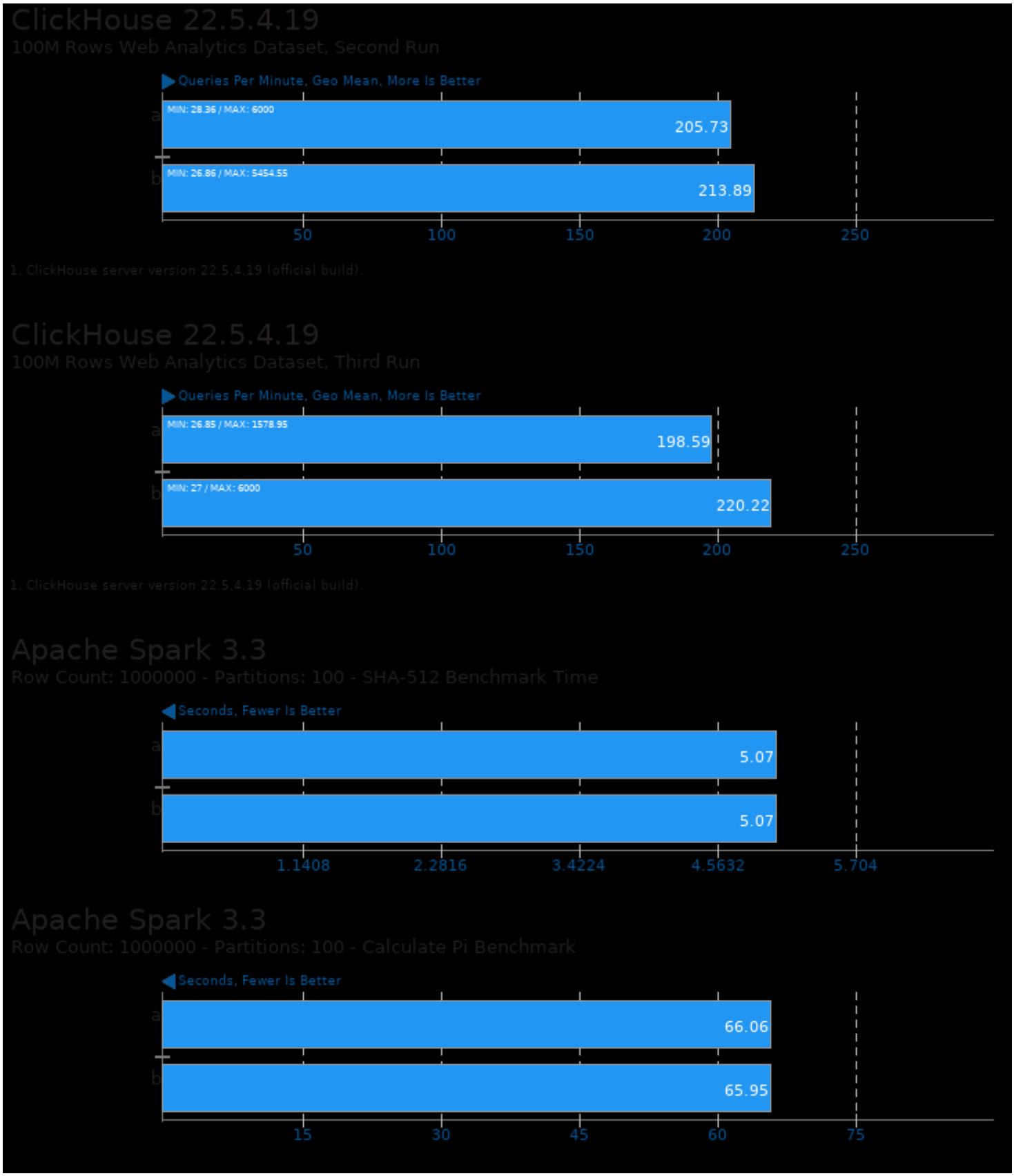


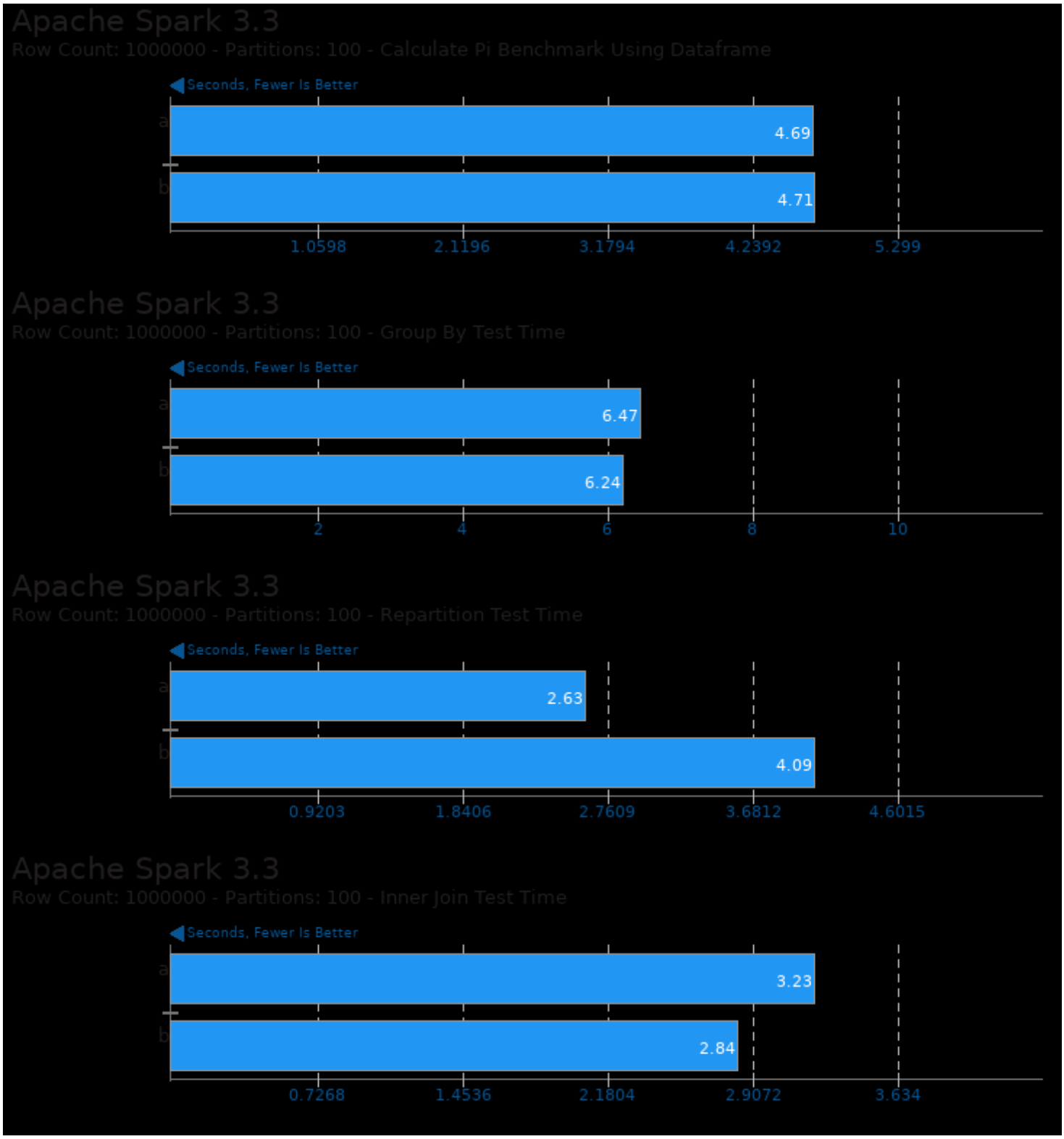
ClickHouse 22.5.4.19

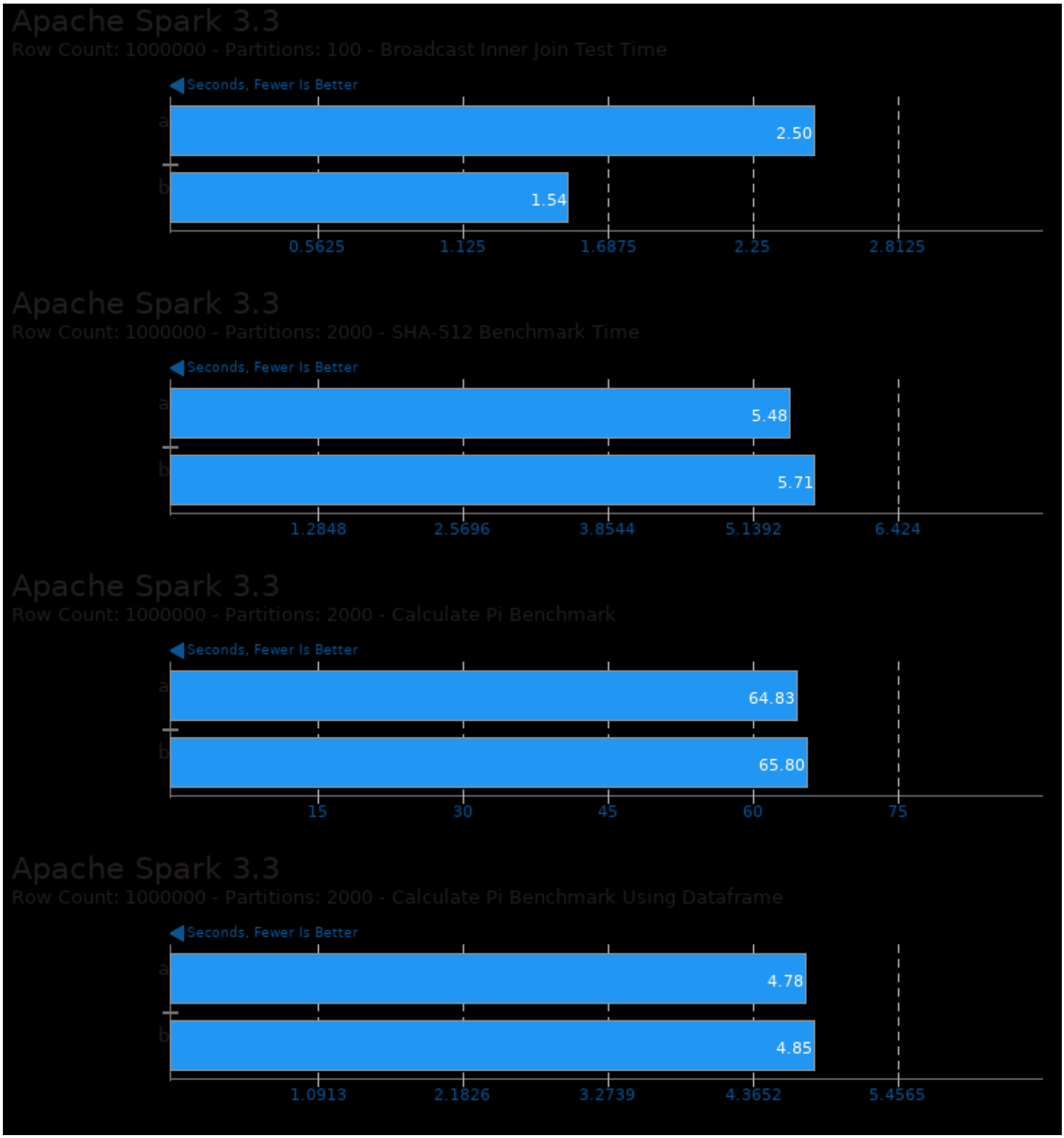
100M Rows Web Analytics Dataset, First Run / Cold Cache

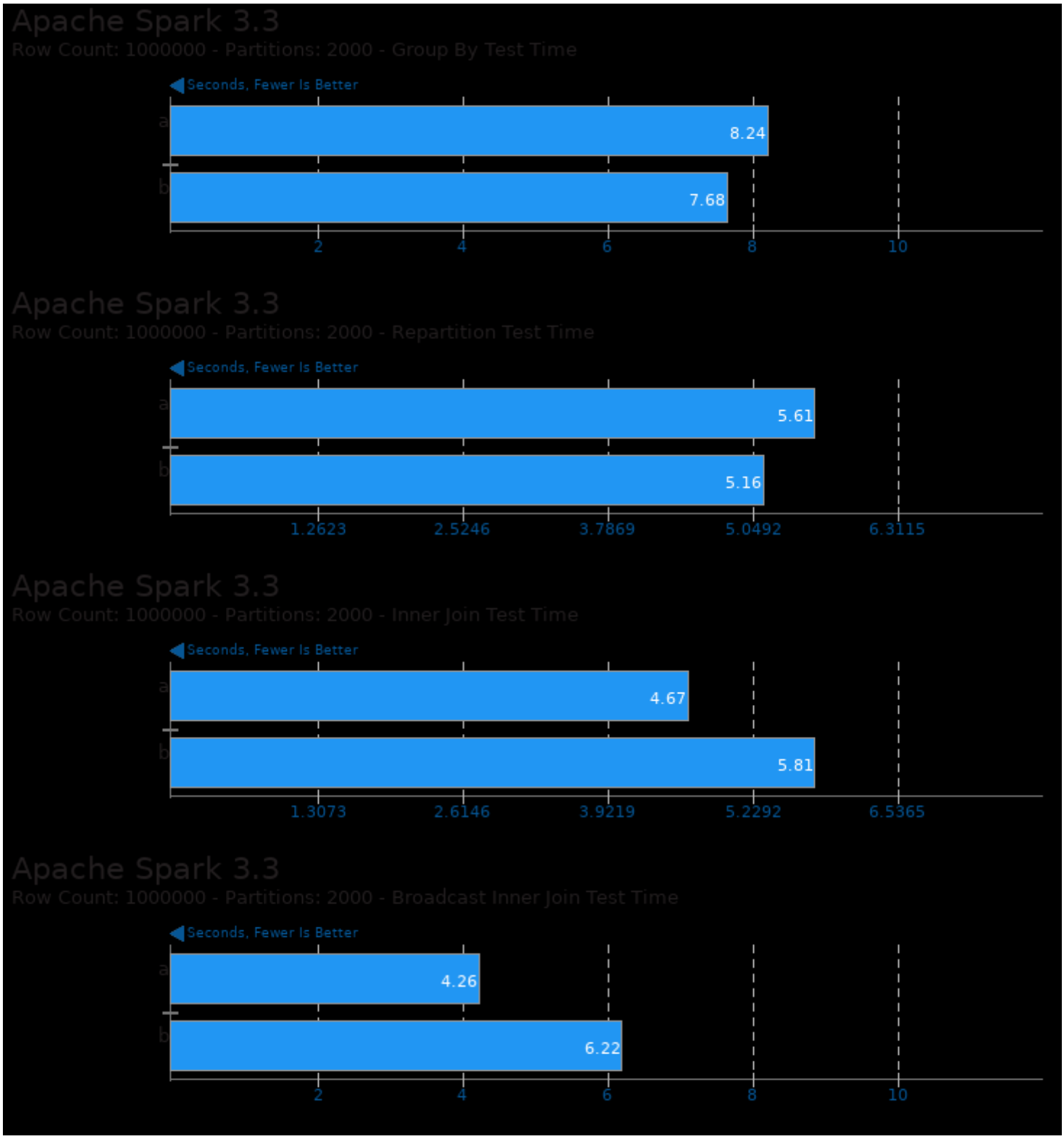


1. ClickHouse server version 22.5.4.19 (official build).


ClickHouse 22.5.4.19
100M Rows Web Analytics Dataset, Second Run
Queries Per Minute, Geo Mean, More Is Better
a
MIN: 28.36 / MAX: 6000
205.73
b
MIN: 26.86 / MAX: 5454.55
213.89
50
100
150
200
250
1. ClickHouse server version 22.5.4.19 (official build).
ClickHouse 22.5.4.19
100M Rows Web Analytics Dataset, Third Run
Queries Per Minute, Geo Mean, More Is Better
a
MIN: 26.85 / MAX: 1578.95
198.59
b
MIN: 27 / MAX: 6000
220.22
50
100
150
200
250
1. ClickHouse server version 22.5.4.19 (official build).
Apache Spark 3.3
Row Count: 1000000 - Partitions: 100 - SHA-512 Benchmark Time
Seconds, Fewer Is Better
a
5.07
b
5.07
1.1408
2.2816
3.4224
4.5632
5.704
Apache Spark 3.3
Row Count: 1000000 - Partitions: 100 - Calculate Pi Benchmark
Seconds, Fewer Is Better
a
66.06
b
65.95
15
30
45
60
75

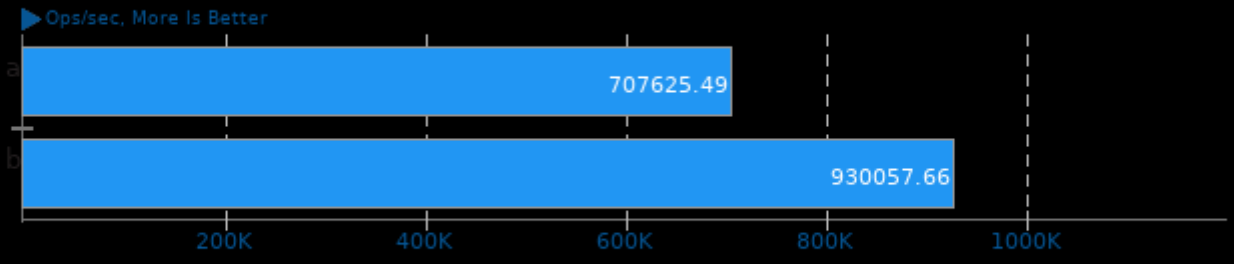

Apache Spark 3.3
Row Count: 1000000 - Partitions: 100 - Calculate Pi Benchmark Using Dataframe
Seconds, Fewer Is Better
a
b
4.69
4.71
1.0598
2.1196
3.1794
4.2392
5.299
Apache Spark 3.3
Row Count: 1000000 - Partitions: 100 - Group By Test Time
Seconds, Fewer Is Better
a
b
6.47
6.24
2
4
6
8
10
Apache Spark 3.3
Row Count: 1000000 - Partitions: 100 - Repartition Test Time
Seconds, Fewer Is Better
a
b
2.63
4.09
0.9203
1.8406
2.7609
3.6812
4.6015
Apache Spark 3.3
Row Count: 1000000 - Partitions: 100 - Inner Join Test Time
Seconds, Fewer Is Better
a
b
3.23
2.84
0.7268
1.4536
2.1804
2.9072
3.634


Apache Spark 3.3
Row Count: 1000000 - Partitions: 100 - Broadcast Inner Join Test Time
Seconds, Fewer Is Better
a
b
2.50
1.54
0.5625
1.125
1.6875
2.25
2.8125
Apache Spark 3.3
Row Count: 1000000 - Partitions: 2000 - SHA-512 Benchmark Time
Seconds, Fewer Is Better
a
b
5.48
5.71
1.2848
2.5696
3.8544
5.1392
6.424
Apache Spark 3.3
Row Count: 1000000 - Partitions: 2000 - Calculate Pi Benchmark
Seconds, Fewer Is Better
a
b
64.83
65.80
15
30
45
60
75
Apache Spark 3.3
Row Count: 1000000 - Partitions: 2000 - Calculate Pi Benchmark Using Dataframe
Seconds, Fewer Is Better
a
b
4.78
4.85
1.0913
2.1826
3.2739
4.3652
5.4565


Apache Spark 3.3
Row Count: 1000000 - Partitions: 2000 - Group By Test Time
Seconds, Fewer Is Better
a
b
8.24
7.68
2
4
6
8
10
Apache Spark 3.3
Row Count: 1000000 - Partitions: 2000 - Repartition Test Time
Seconds, Fewer Is Better
a
b
5.61
5.16
1.2623
2.5246
3.7869
5.0492
6.3115
Apache Spark 3.3
Row Count: 1000000 - Partitions: 2000 - Inner Join Test Time
Seconds, Fewer Is Better
a
b
4.67
5.81
1.3073
2.6146
3.9219
5.2292
6.5365
Apache Spark 3.3
Row Count: 1000000 - Partitions: 2000 - Broadcast Inner Join Test Time
Seconds, Fewer Is Better
a
b
4.26
6.22
2
4
6
8
10

Dragonflydb 0.6

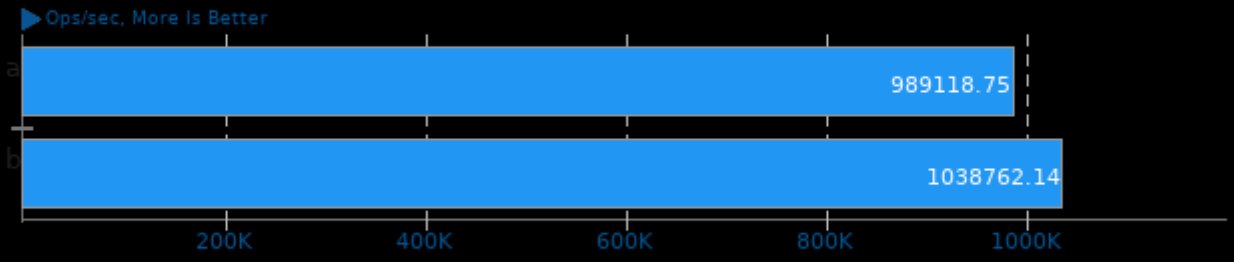
Clients: 50 - Set To Get Ratio: 1:1



1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre

Dragonflydb 0.6

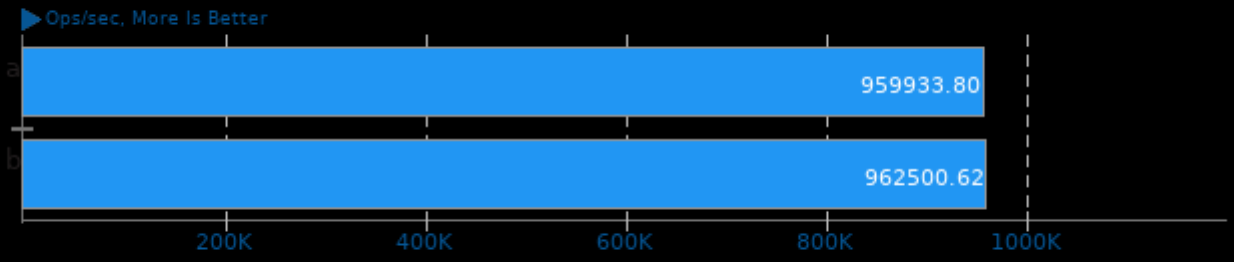
Clients: 50 - Set To Get Ratio: 1:5



1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre

Dragonflydb 0.6

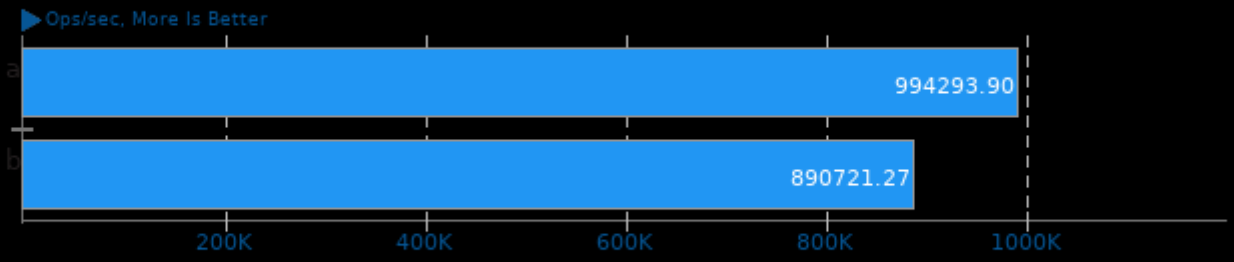
Clients: 50 - Set To Get Ratio: 5:1



1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre

Dragonflydb 0.6

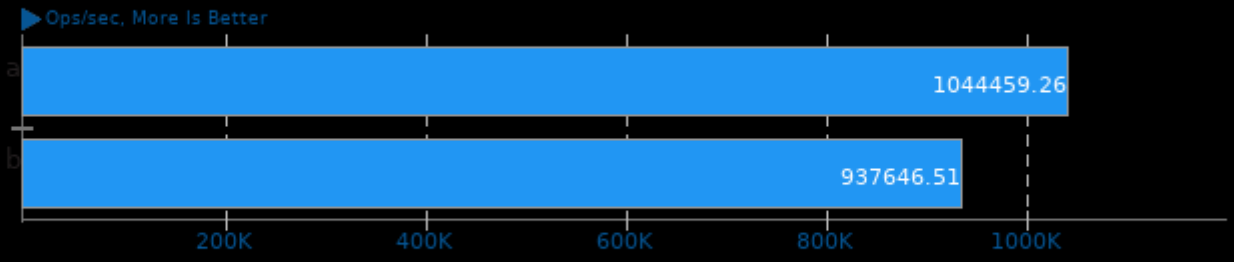
Clients: 200 - Set To Get Ratio: 1:1



1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre

Dragonflydb 0.6

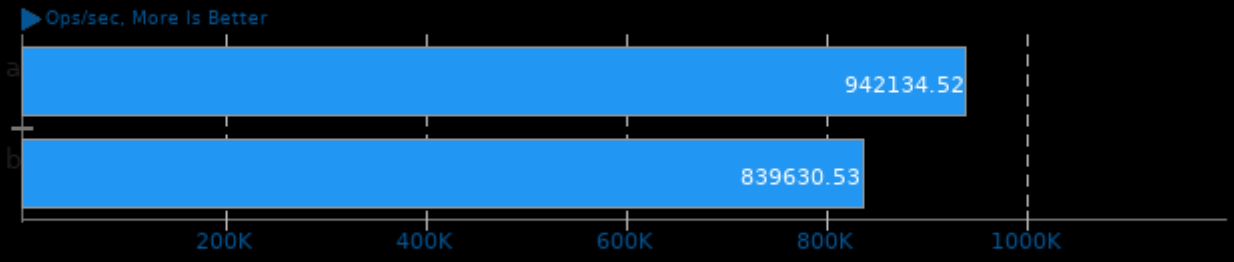
Clients: 200 - Set To Get Ratio: 1:5



1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre

Dragonflydb 0.6

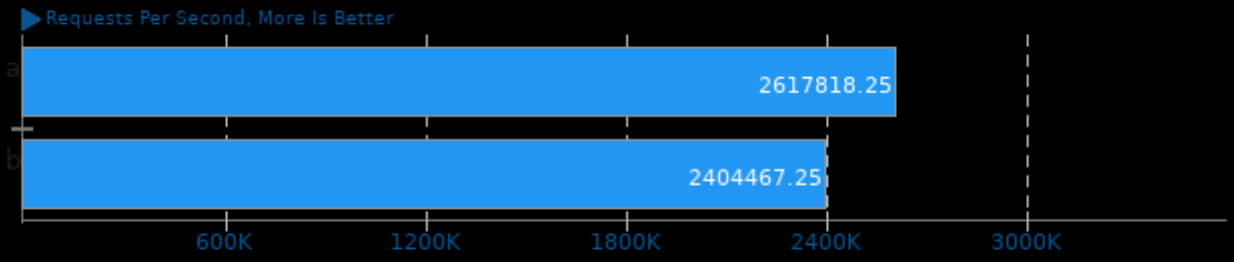
Clients: 200 - Set To Get Ratio: 5:1



1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre

Redis 7.0.4

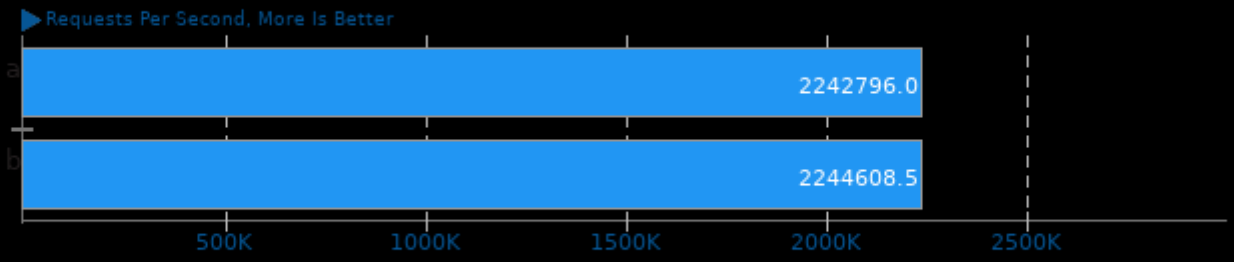
Test: GET - Parallel Connections: 50



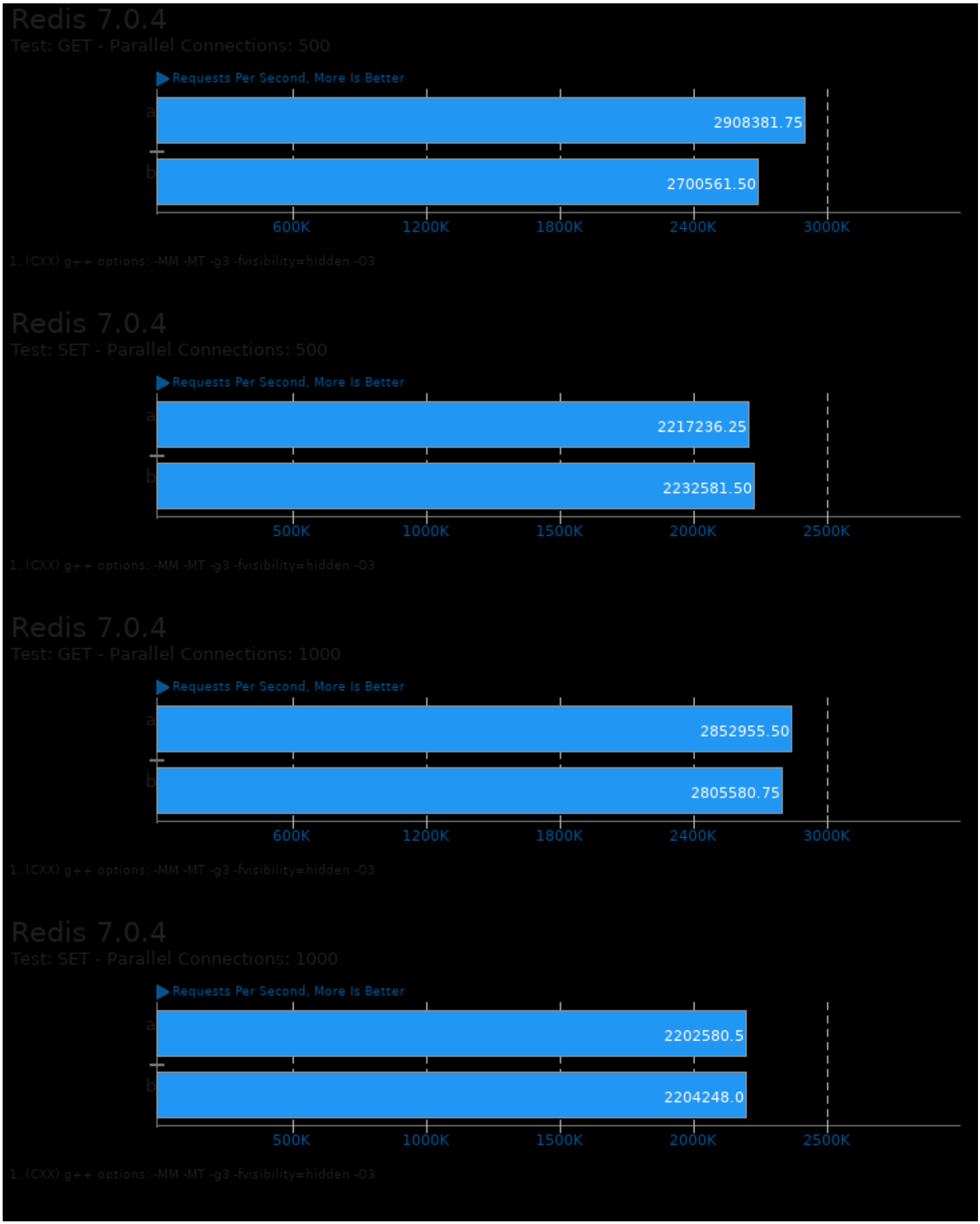
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

Redis 7.0.4

Test: SET - Parallel Connections: 50

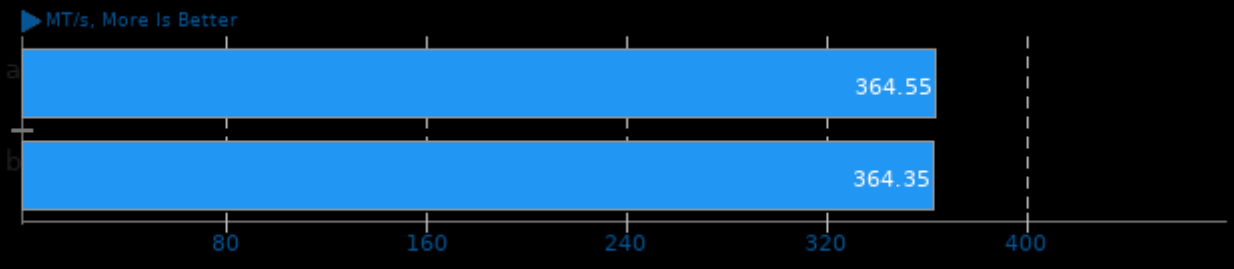


1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3


Redis 7.0.4
Test: GET - Parallel Connections: 500
Requests Per Second, More Is Better
a
2908381.75
b
2700561.50
600K
1200K
1800K
2400K
3000K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3
Redis 7.0.4
Test: SET - Parallel Connections: 500
Requests Per Second, More Is Better
a
2217236.25
b
2232581.50
500K
1000K
1500K
2000K
2500K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3
Redis 7.0.4
Test: GET - Parallel Connections: 1000
Requests Per Second, More Is Better
a
2852955.50
b
2805580.75
600K
1200K
1800K
2400K
3000K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3
Redis 7.0.4
Test: SET - Parallel Connections: 1000
Requests Per Second, More Is Better
a
2202580.5
b
2204248.0
500K
1000K
1500K
2000K
2500K
1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

ASTC Encoder 4.0

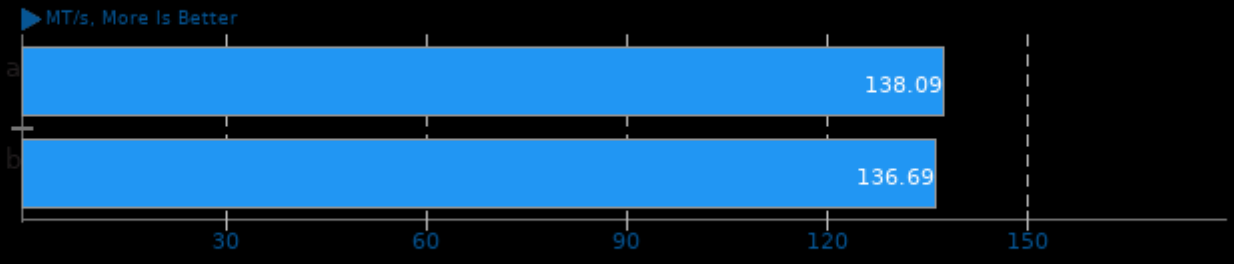
Preset: Fast



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

ASTC Encoder 4.0

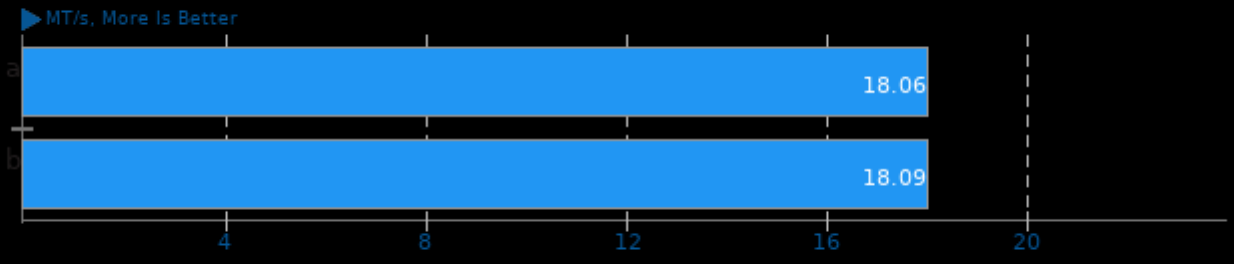
Preset: Medium



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

ASTC Encoder 4.0

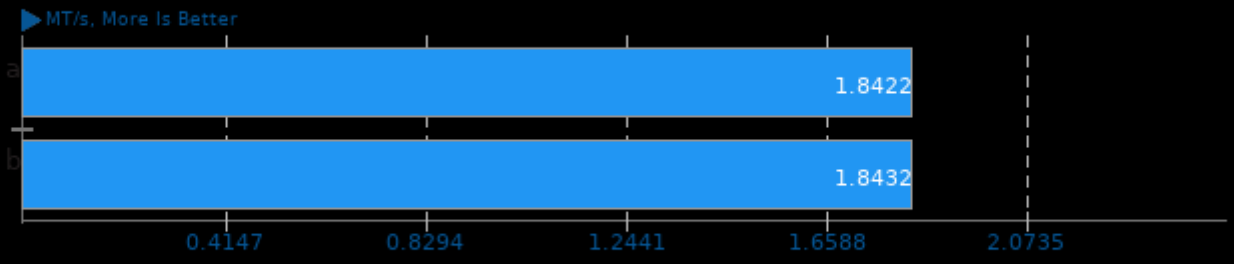
Preset: Thorough



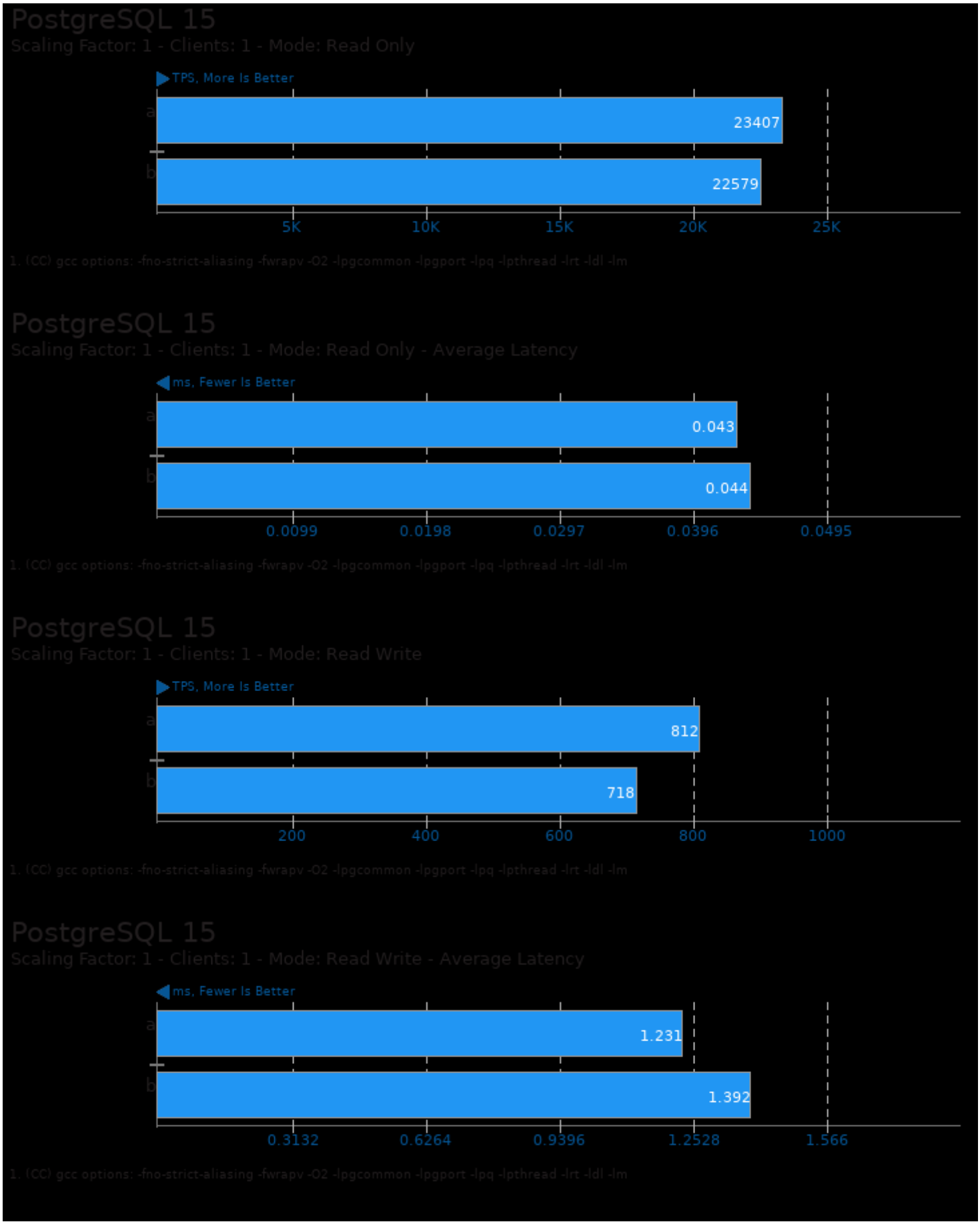
1. (CXX) g++ options: -O3 -flto -pthread

ASTC Encoder 4.0

Preset: Exhaustive

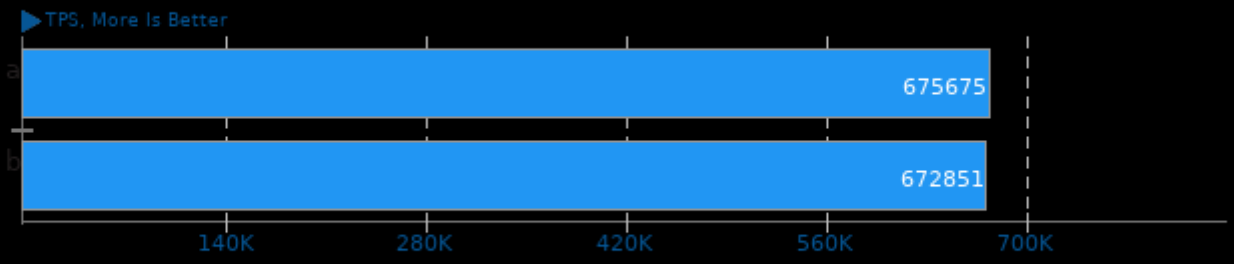


1. (CXX) g++ options: -O3 -flto -pthread


PostgreSQL 15
Scaling Factor: 1 - Clients: 1 - Mode: Read Only
TPS, More Is Better
a
23407
b
22579
5K
10K
15K
20K
25K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL 15
Scaling Factor: 1 - Clients: 1 - Mode: Read Only - Average Latency
ms, Fewer Is Better
a
0.043
b
0.044
0.0099
0.0198
0.0297
0.0396
0.0495
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL 15
Scaling Factor: 1 - Clients: 1 - Mode: Read Write
TPS, More Is Better
a
812
b
718
200
400
600
800
1000
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL 15
Scaling Factor: 1 - Clients: 1 - Mode: Read Write - Average Latency
ms, Fewer Is Better
a
1.231
b
1.392
0.3132
0.6264
0.9396
1.2528
1.566
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

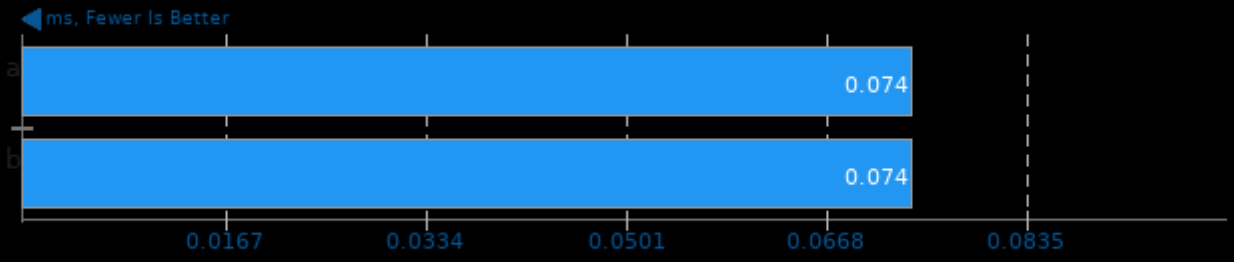
Scaling Factor: 1 - Clients: 50 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

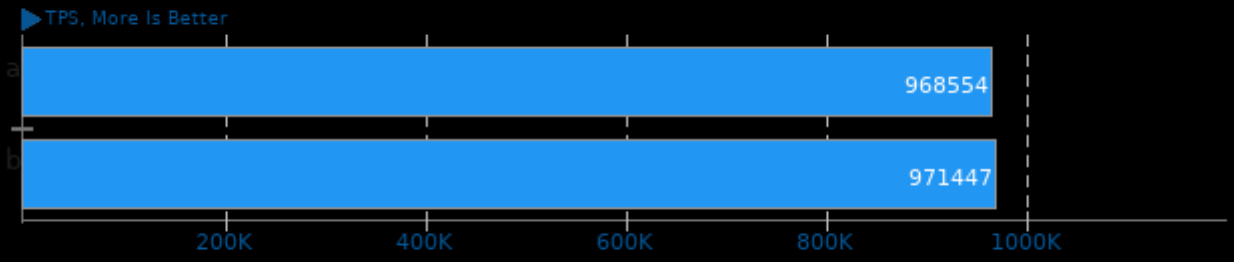
Scaling Factor: 1 - Clients: 50 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

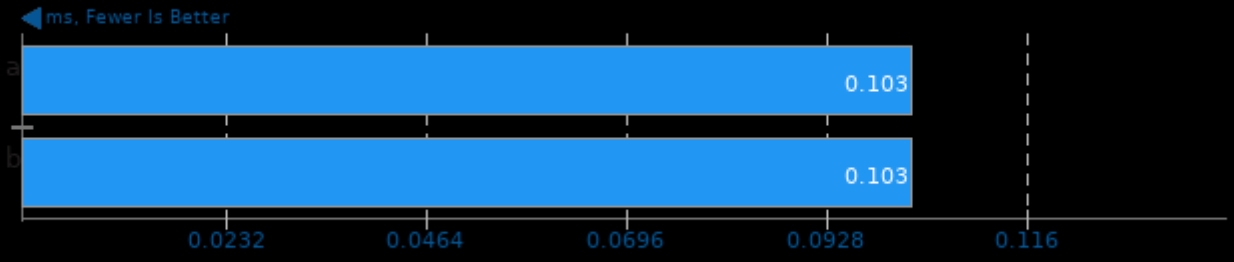
Scaling Factor: 1 - Clients: 100 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

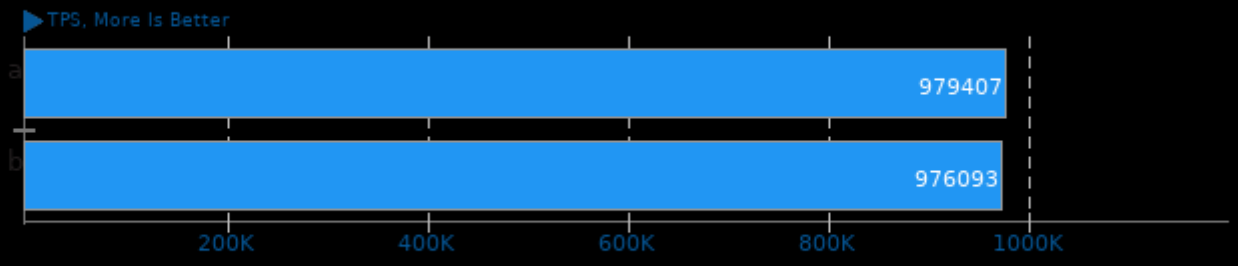
Scaling Factor: 1 - Clients: 100 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

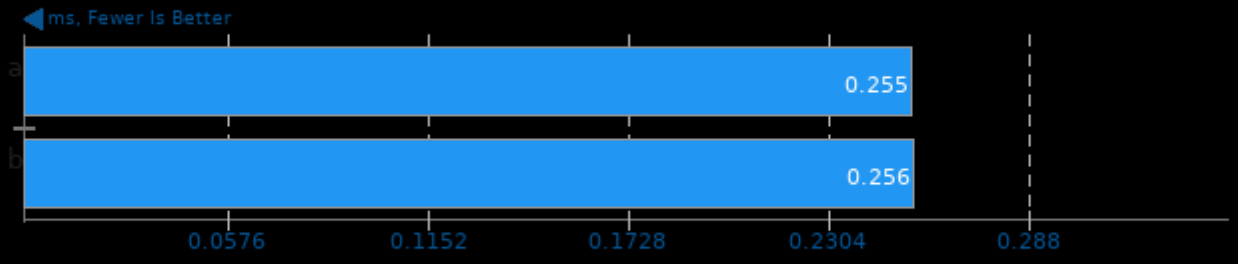
Scaling Factor: 1 - Clients: 250 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

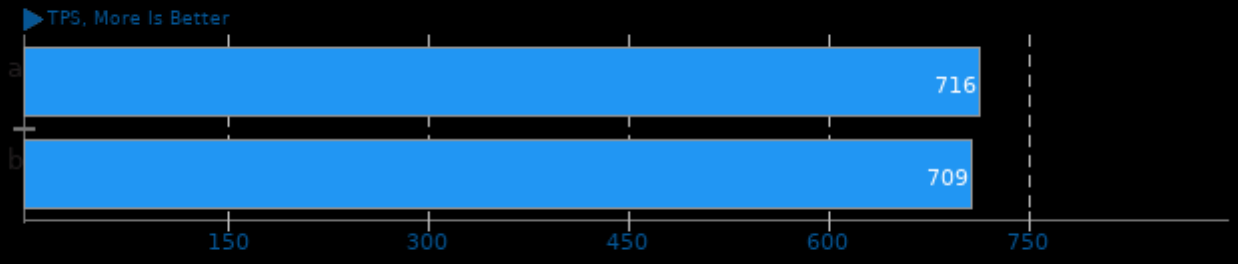
Scaling Factor: 1 - Clients: 250 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

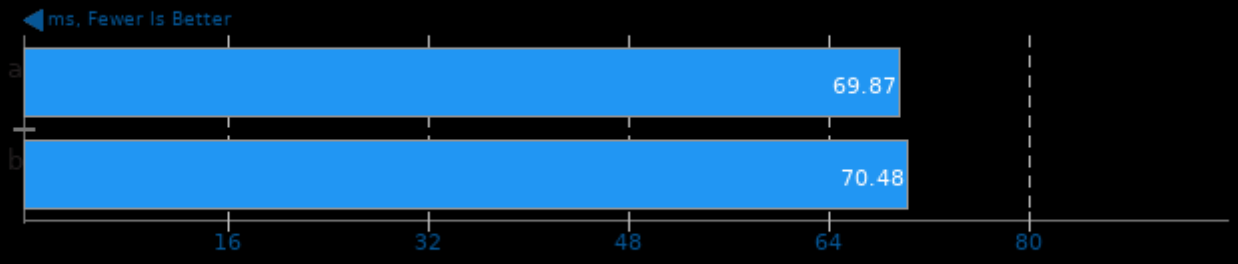
Scaling Factor: 1 - Clients: 50 - Mode: Read Write



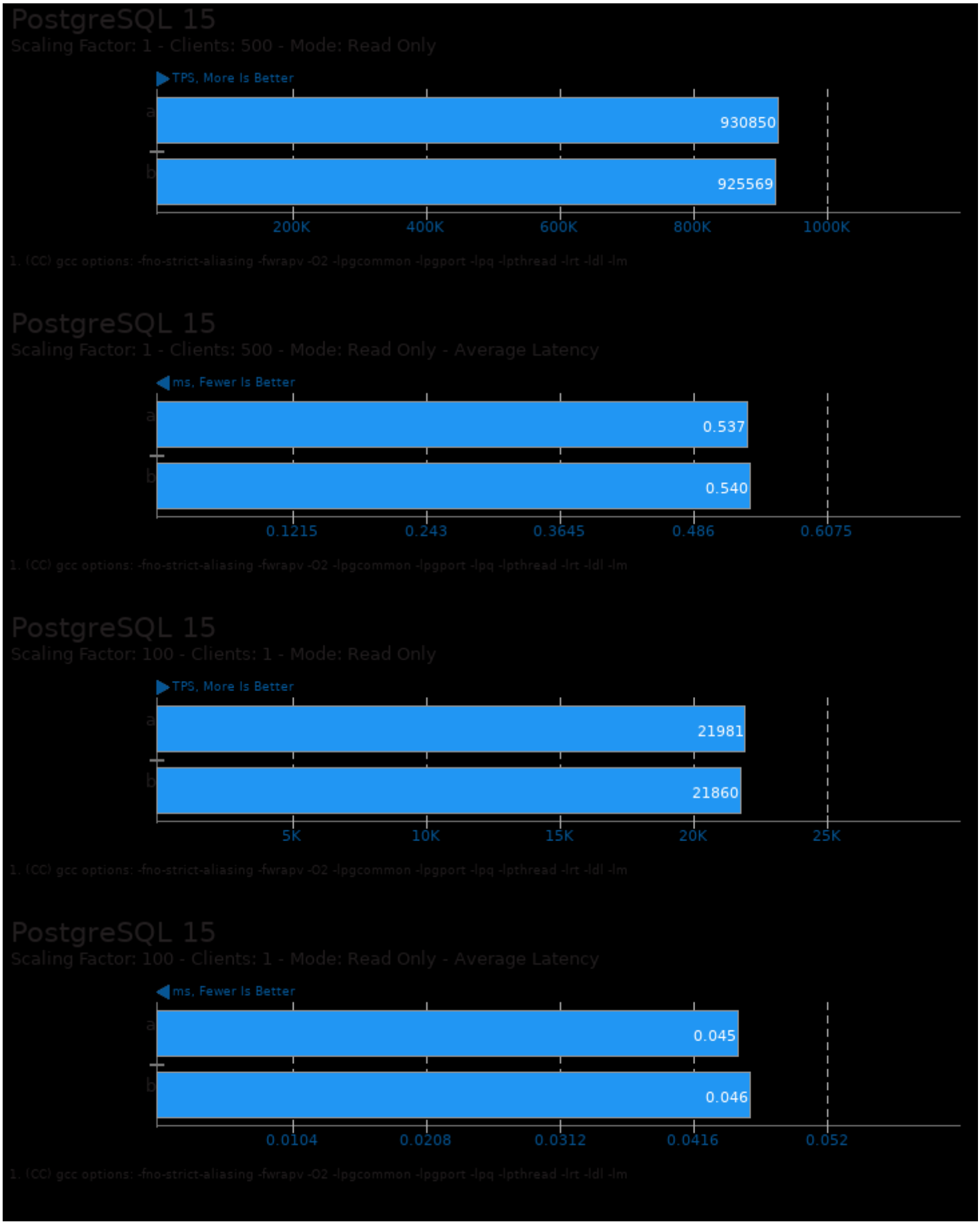
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

Scaling Factor: 1 - Clients: 50 - Mode: Read Write - Average Latency

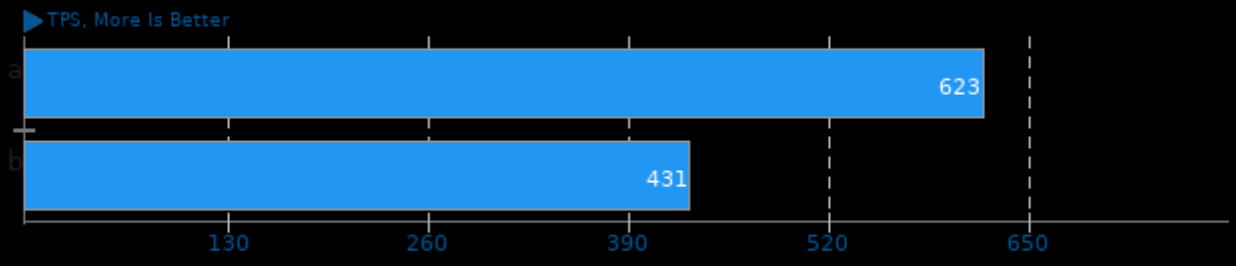


1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm


PostgreSQL 15
Scaling Factor: 1 - Clients: 500 - Mode: Read Only
TPS, More Is Better
a
930850
b
925569
200K
400K
600K
800K
1000K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL 15
Scaling Factor: 1 - Clients: 500 - Mode: Read Only - Average Latency
ms, Fewer Is Better
a
0.537
b
0.540
0.1215
0.243
0.3645
0.486
0.6075
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL 15
Scaling Factor: 100 - Clients: 1 - Mode: Read Only
TPS, More Is Better
a
21981
b
21860
5K
10K
15K
20K
25K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL 15
Scaling Factor: 100 - Clients: 1 - Mode: Read Only - Average Latency
ms, Fewer Is Better
a
0.045
b
0.046
0.0104
0.0208
0.0312
0.0416
0.052
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

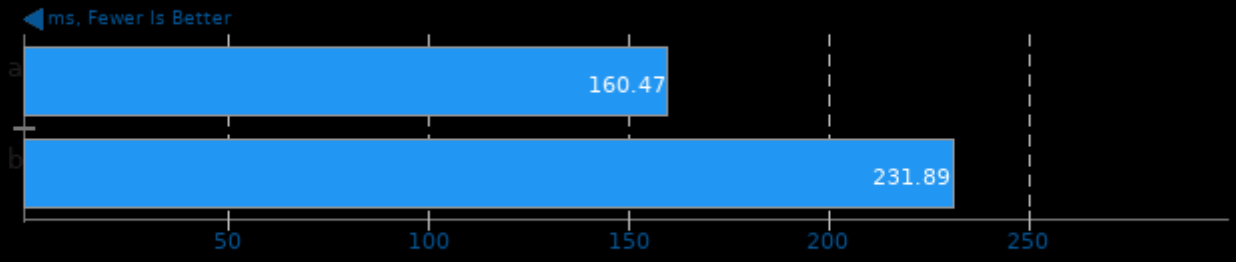
Scaling Factor: 1 - Clients: 100 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

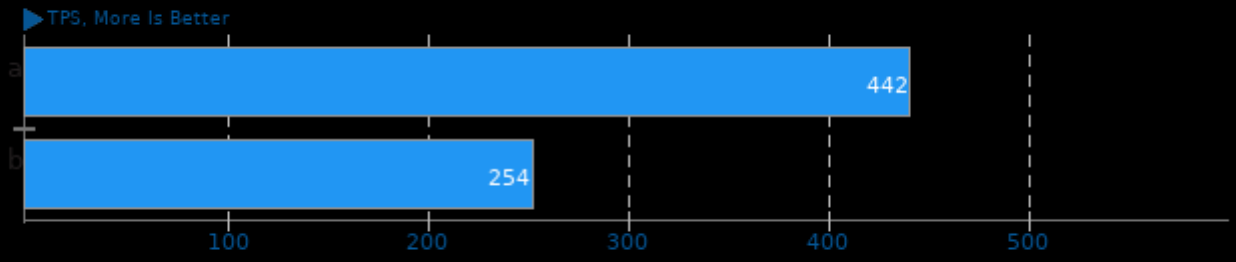
Scaling Factor: 1 - Clients: 100 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

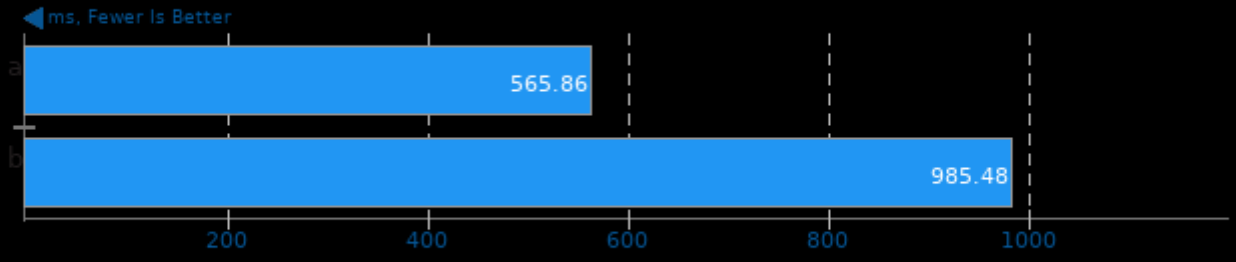
Scaling Factor: 1 - Clients: 250 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

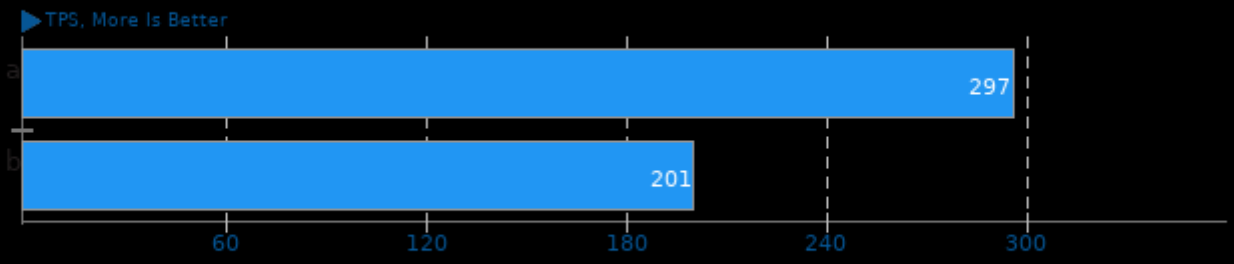
Scaling Factor: 1 - Clients: 250 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

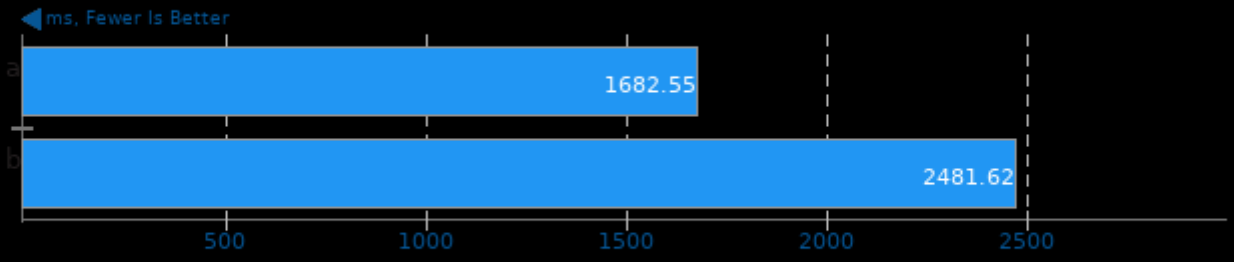
Scaling Factor: 1 - Clients: 500 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

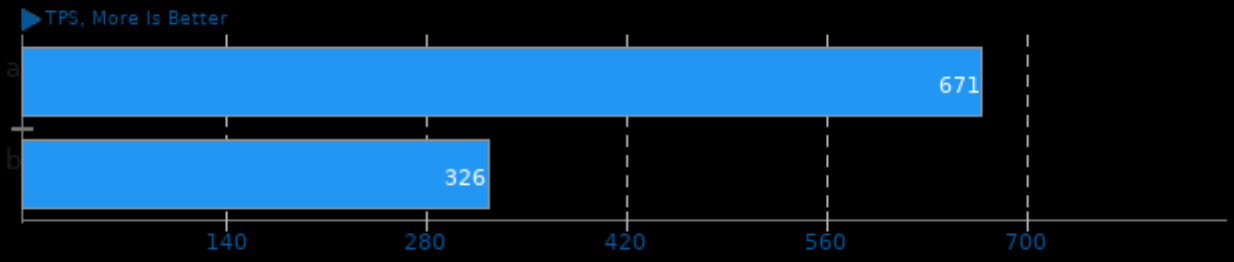
Scaling Factor: 1 - Clients: 500 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

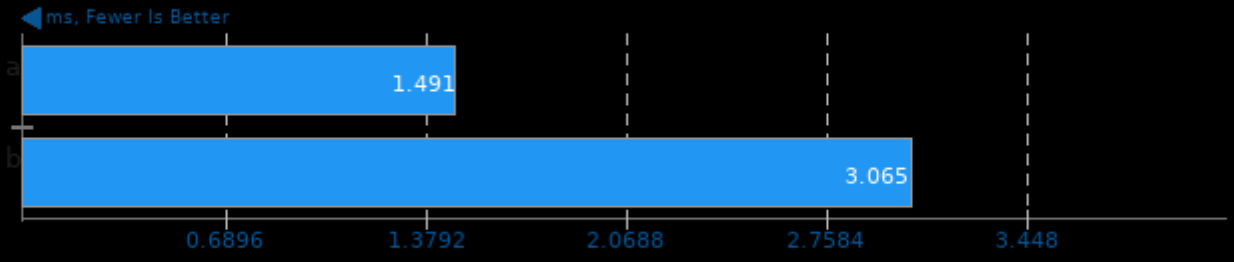
Scaling Factor: 100 - Clients: 1 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

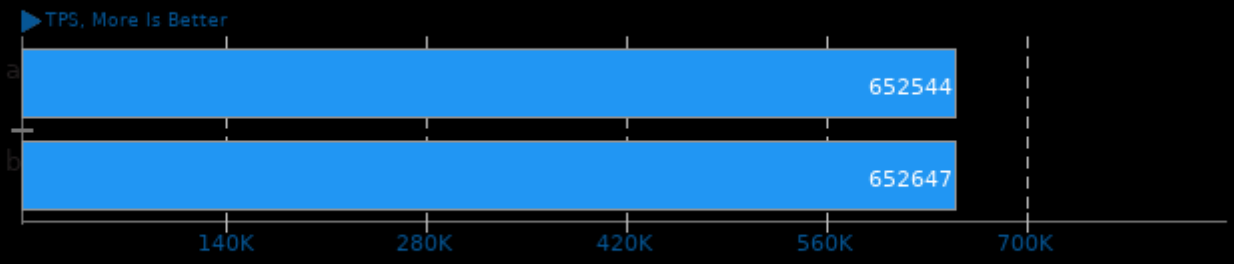
Scaling Factor: 100 - Clients: 1 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

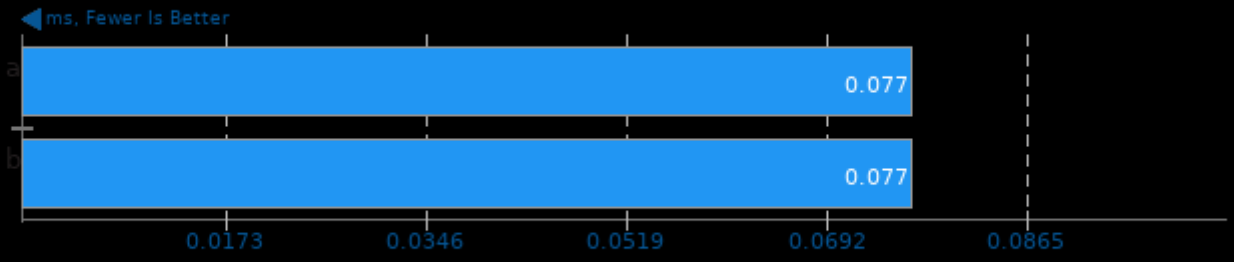
Scaling Factor: 100 - Clients: 50 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

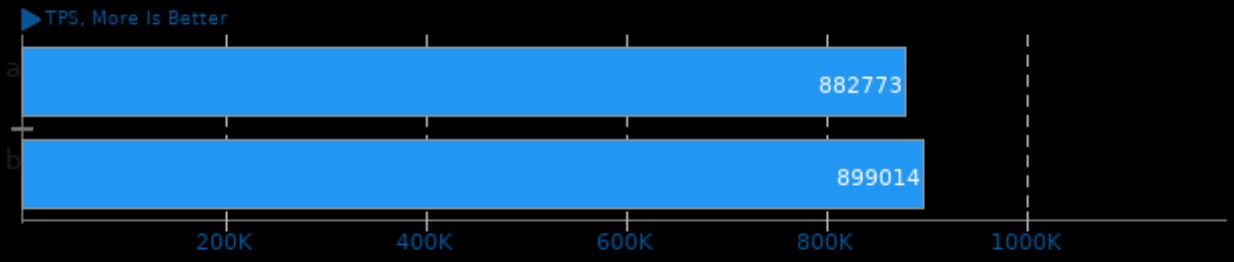
Scaling Factor: 100 - Clients: 50 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

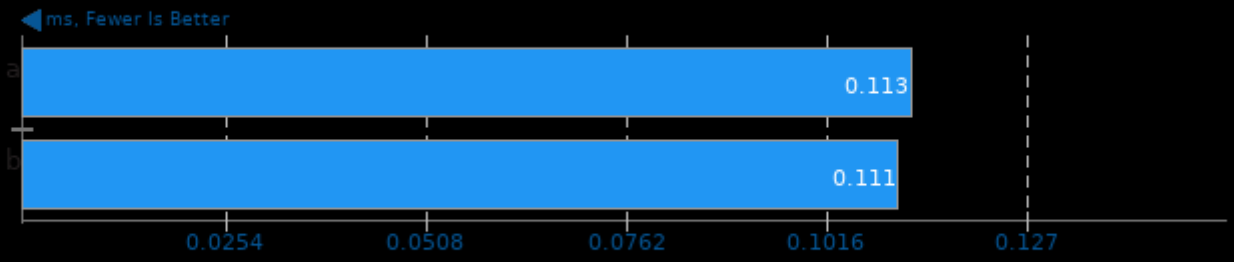
Scaling Factor: 100 - Clients: 100 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

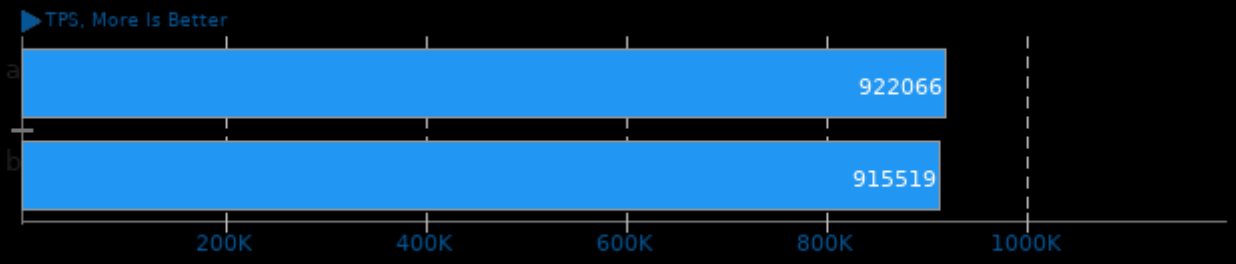
Scaling Factor: 100 - Clients: 100 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

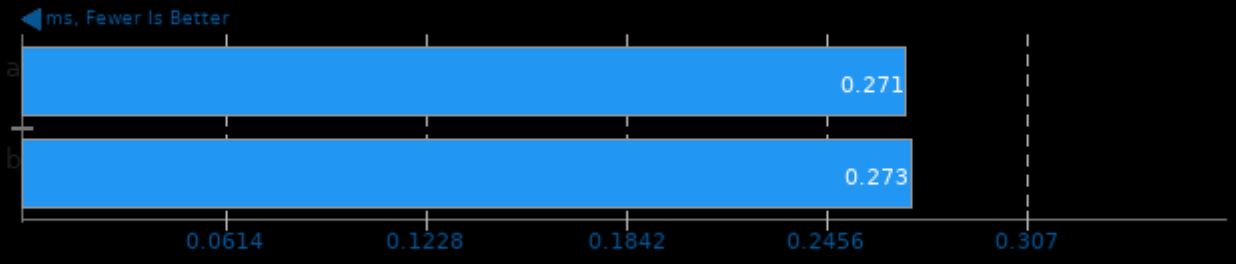
Scaling Factor: 100 - Clients: 250 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

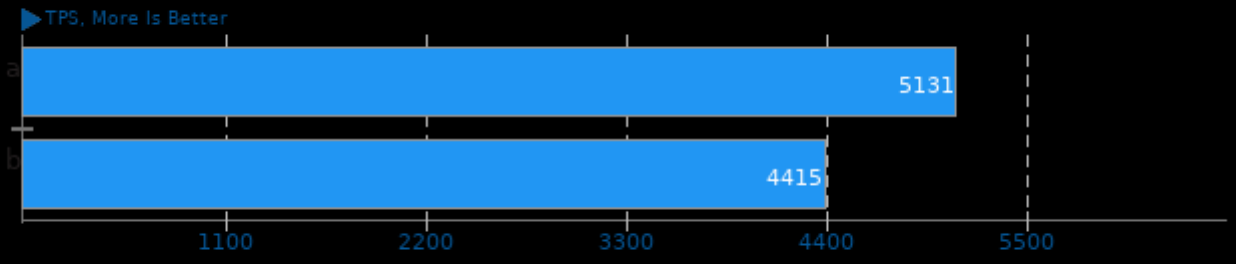
Scaling Factor: 100 - Clients: 250 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

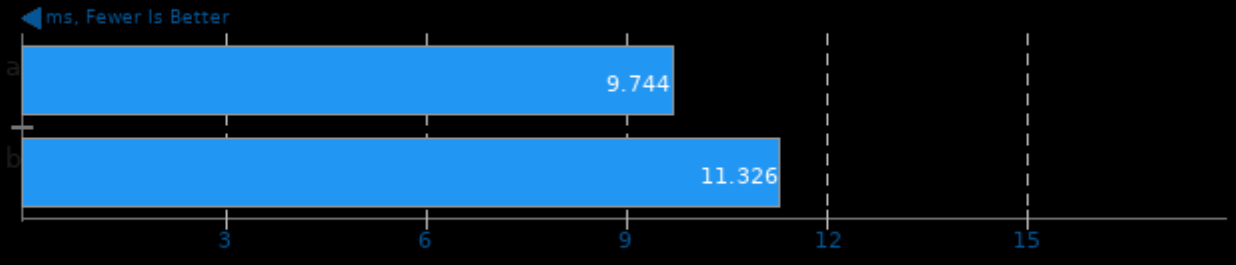
Scaling Factor: 100 - Clients: 50 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

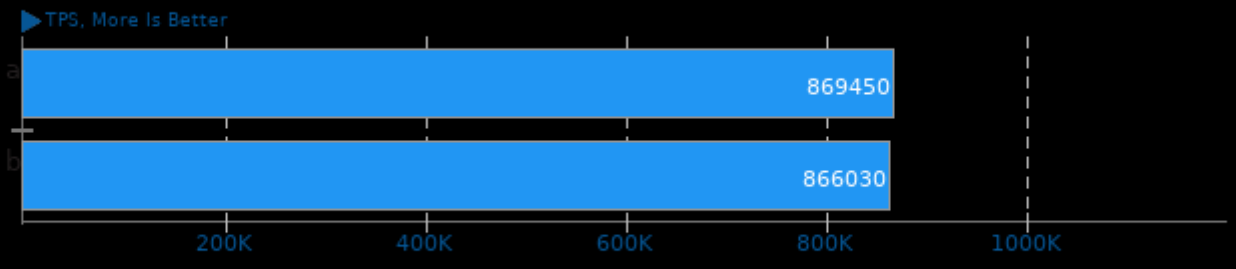
Scaling Factor: 100 - Clients: 50 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

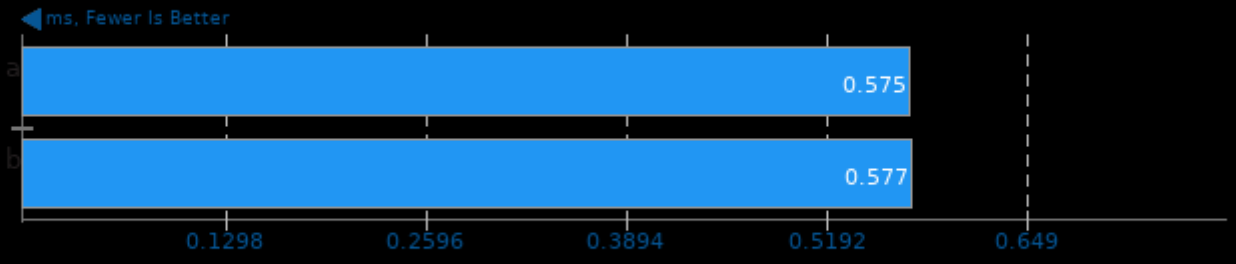
Scaling Factor: 100 - Clients: 500 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

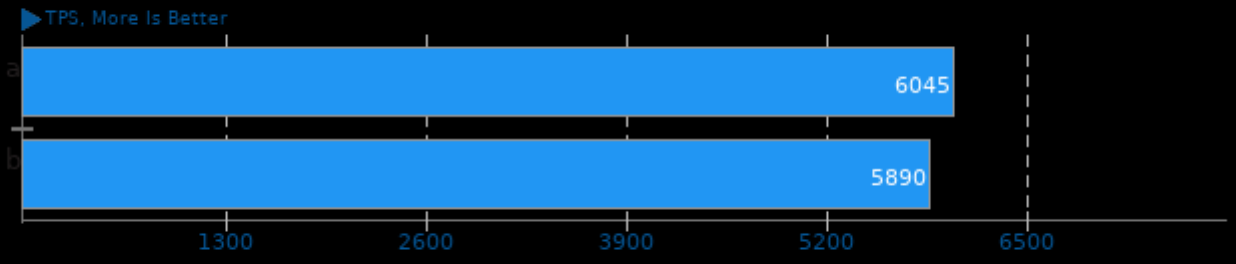
Scaling Factor: 100 - Clients: 500 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

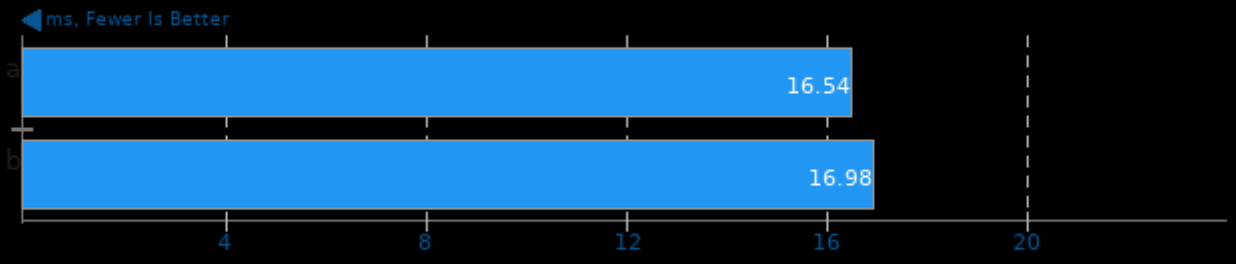
Scaling Factor: 100 - Clients: 100 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

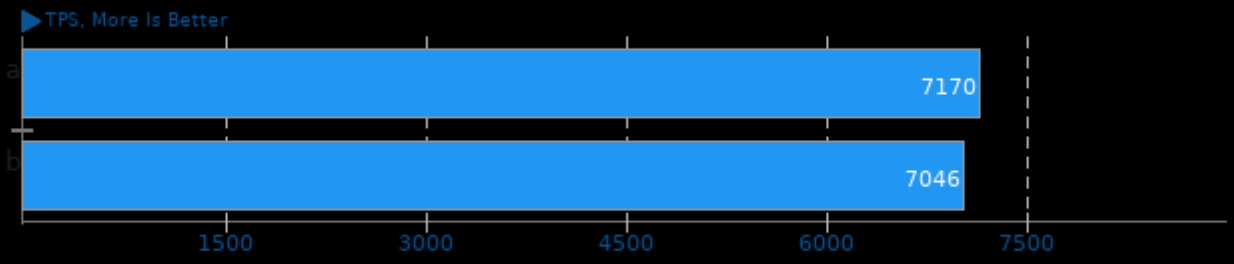
Scaling Factor: 100 - Clients: 100 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

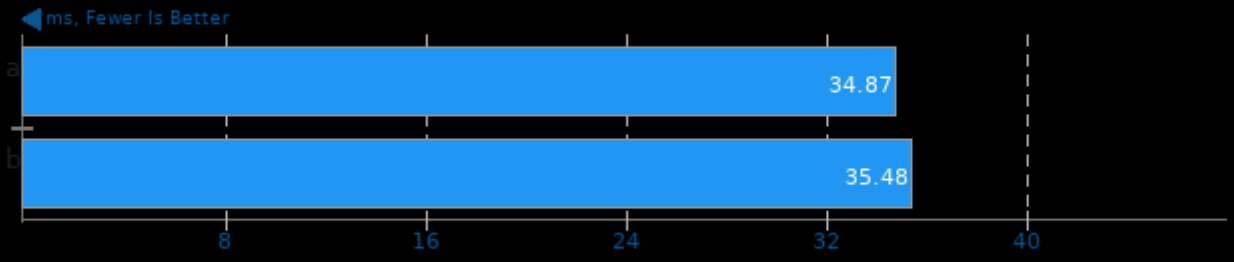
Scaling Factor: 100 - Clients: 250 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

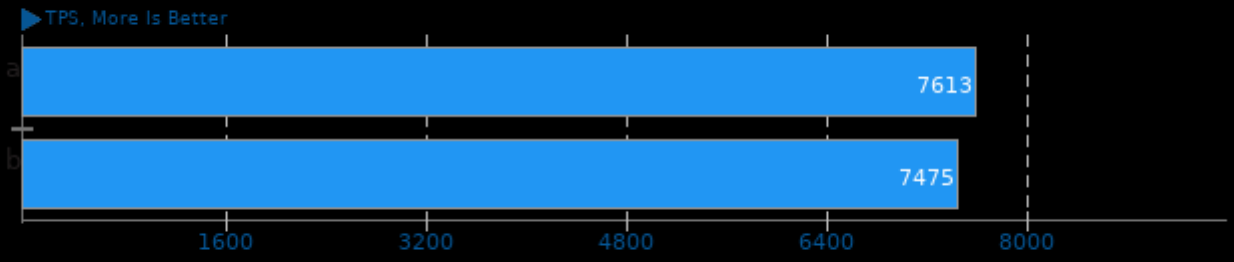
Scaling Factor: 100 - Clients: 250 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

PostgreSQL 15

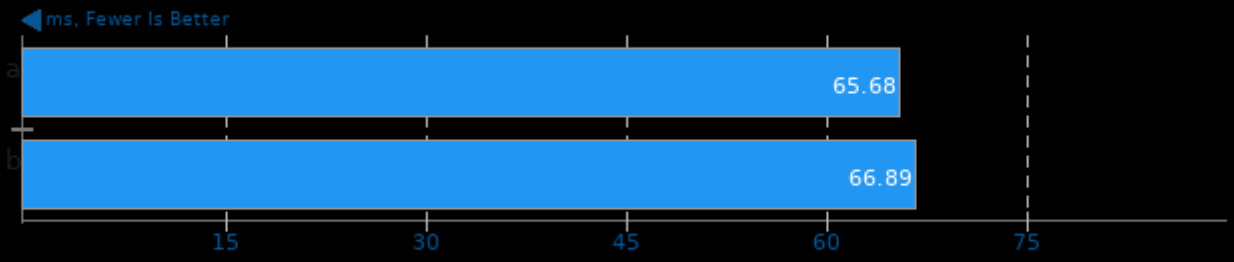
Scaling Factor: 100 - Clients: 500 - Mode: Read Write



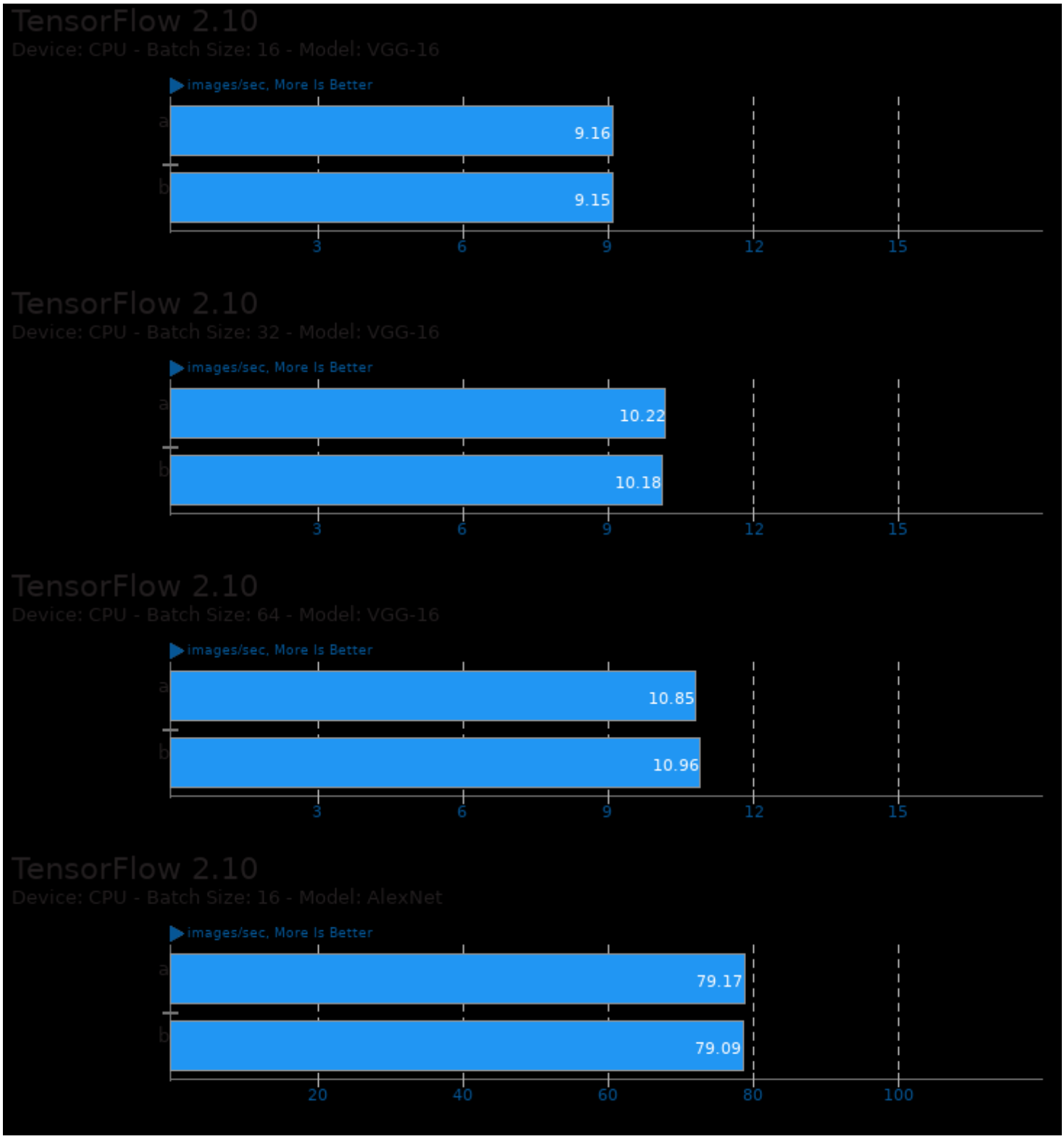
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

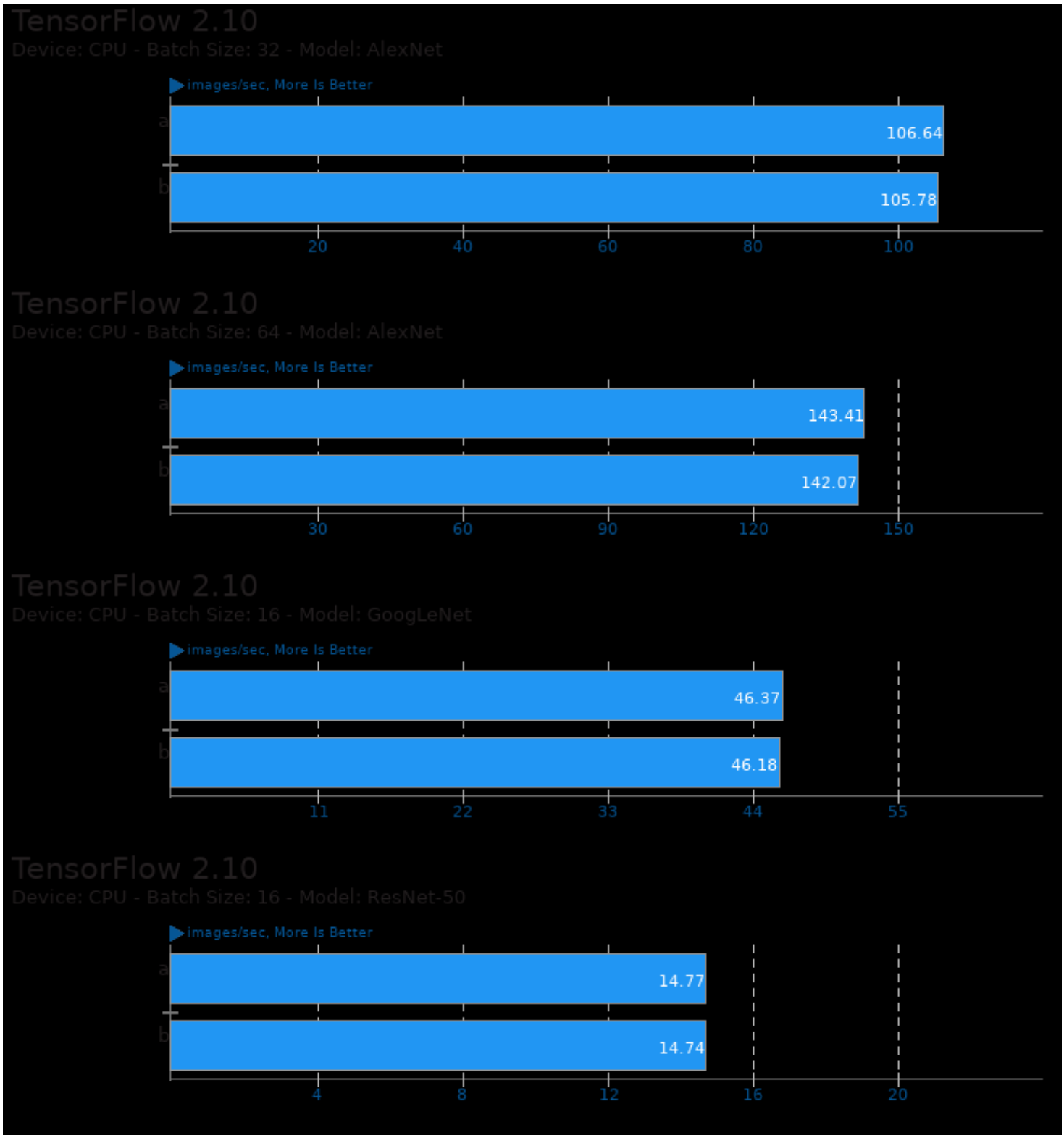
PostgreSQL 15

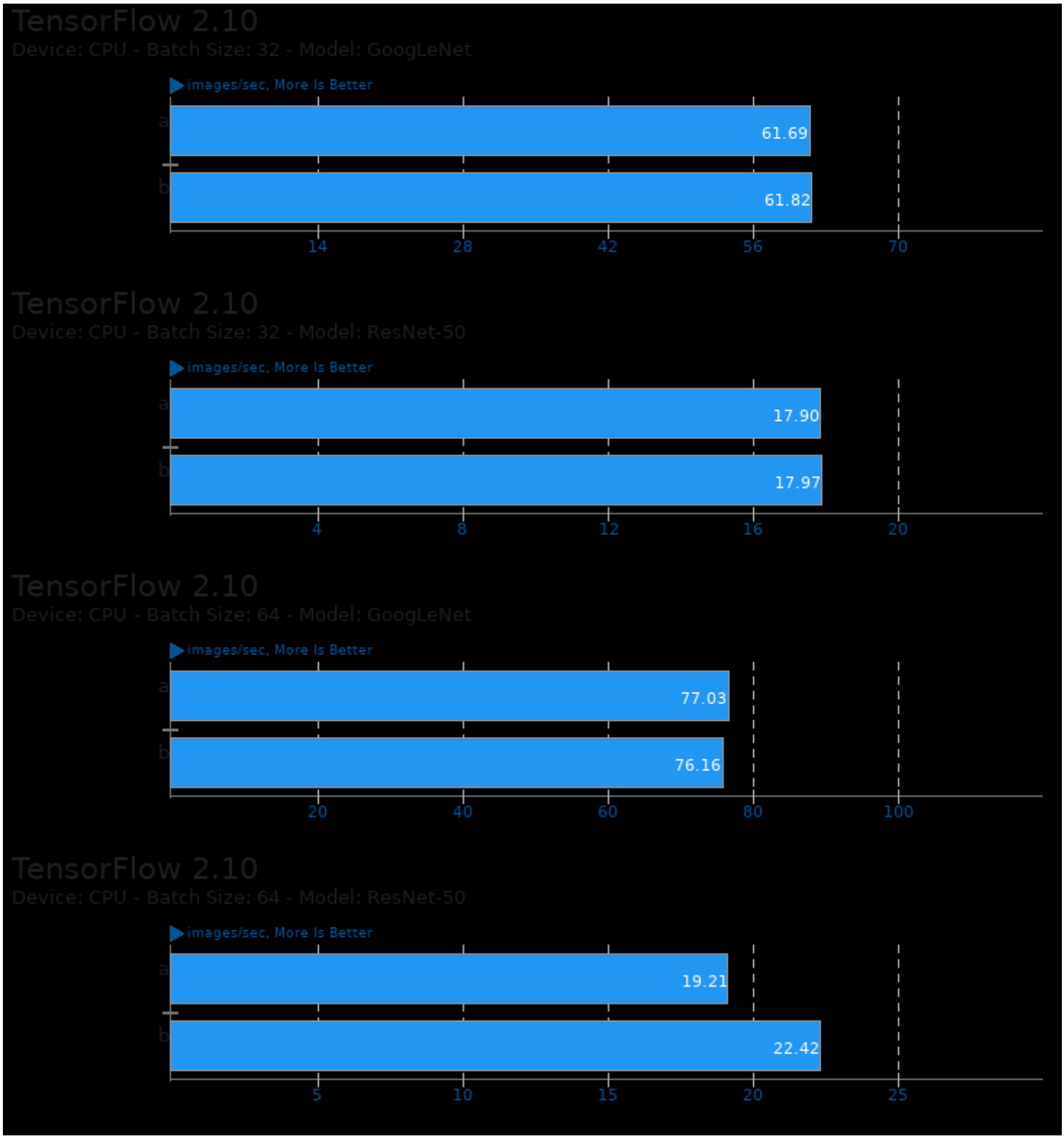
Scaling Factor: 100 - Clients: 500 - Mode: Read Write - Average Latency

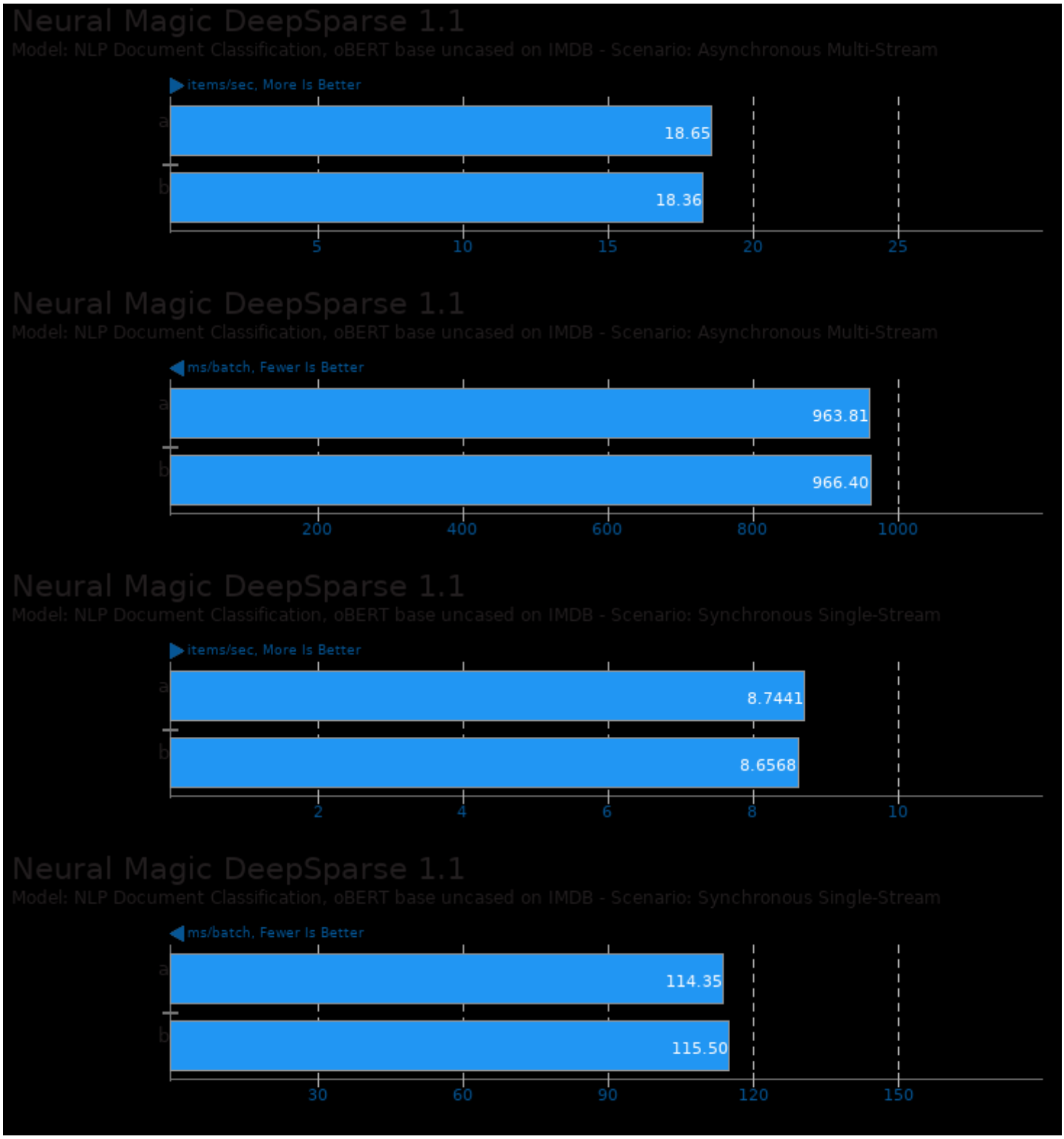


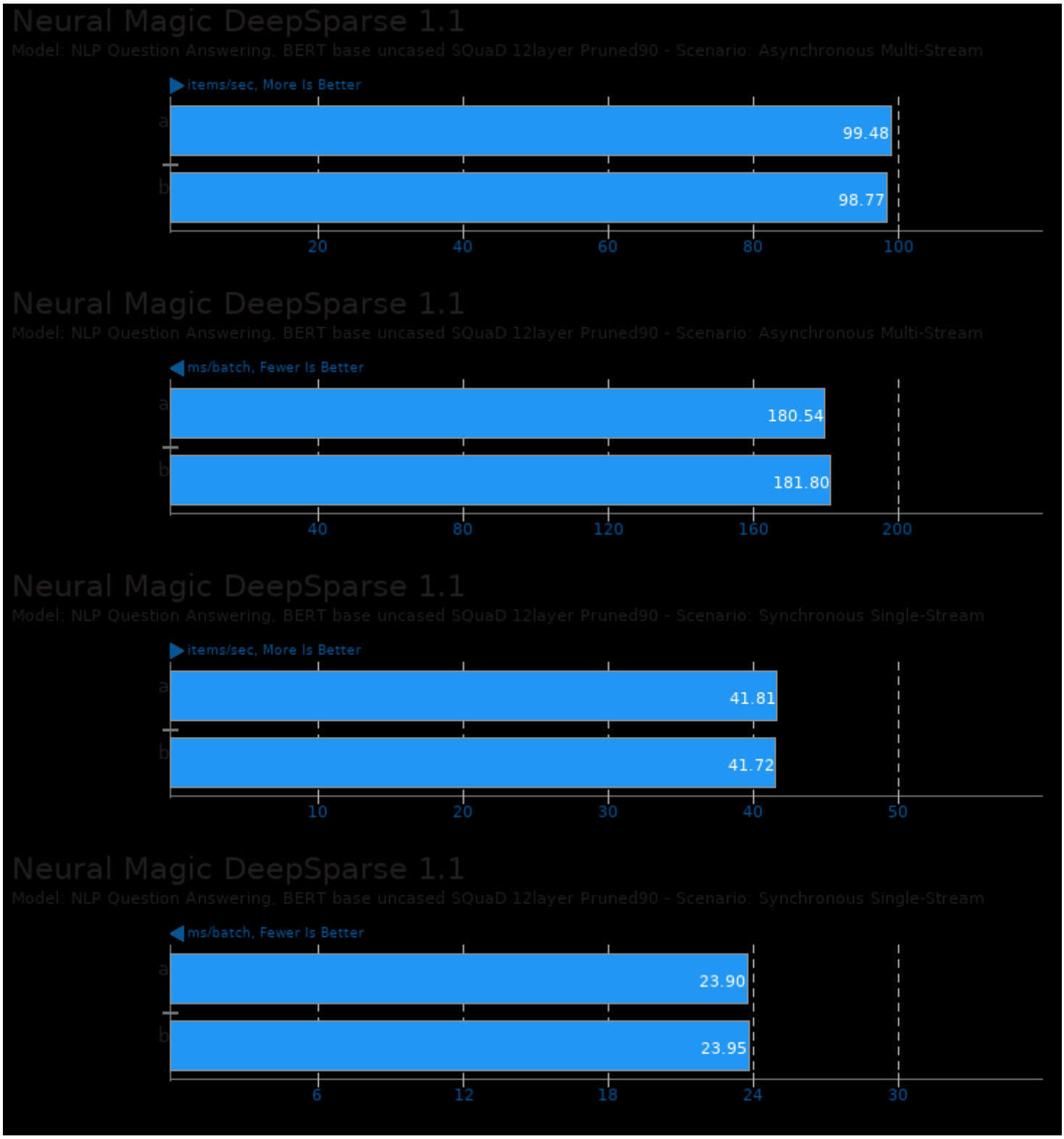
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

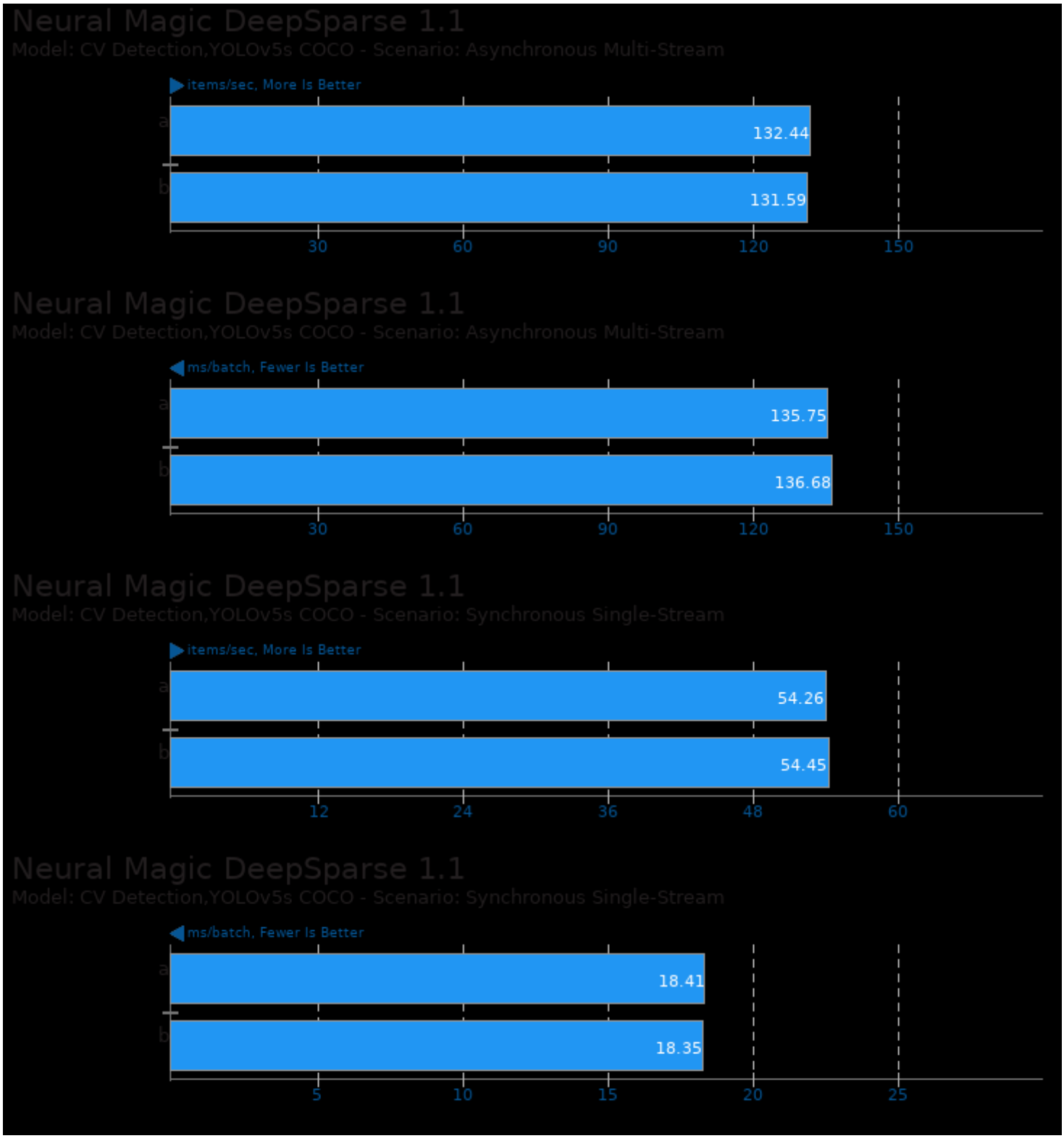

TensorFlow 2.10
Device: CPU - Batch Size: 16 - Model: VGG-16
images/sec, More Is Better
a
9.16
b
9.15
3
6
9
12
15
TensorFlow 2.10
Device: CPU - Batch Size: 32 - Model: VGG-16
images/sec, More Is Better
a
10.22
b
10.18
3
6
9
12
15
TensorFlow 2.10
Device: CPU - Batch Size: 64 - Model: VGG-16
images/sec, More Is Better
a
10.85
b
10.96
3
6
9
12
15
TensorFlow 2.10
Device: CPU - Batch Size: 16 - Model: AlexNet
images/sec, More Is Better
a
79.17
b
79.09
20
40
60
80
100

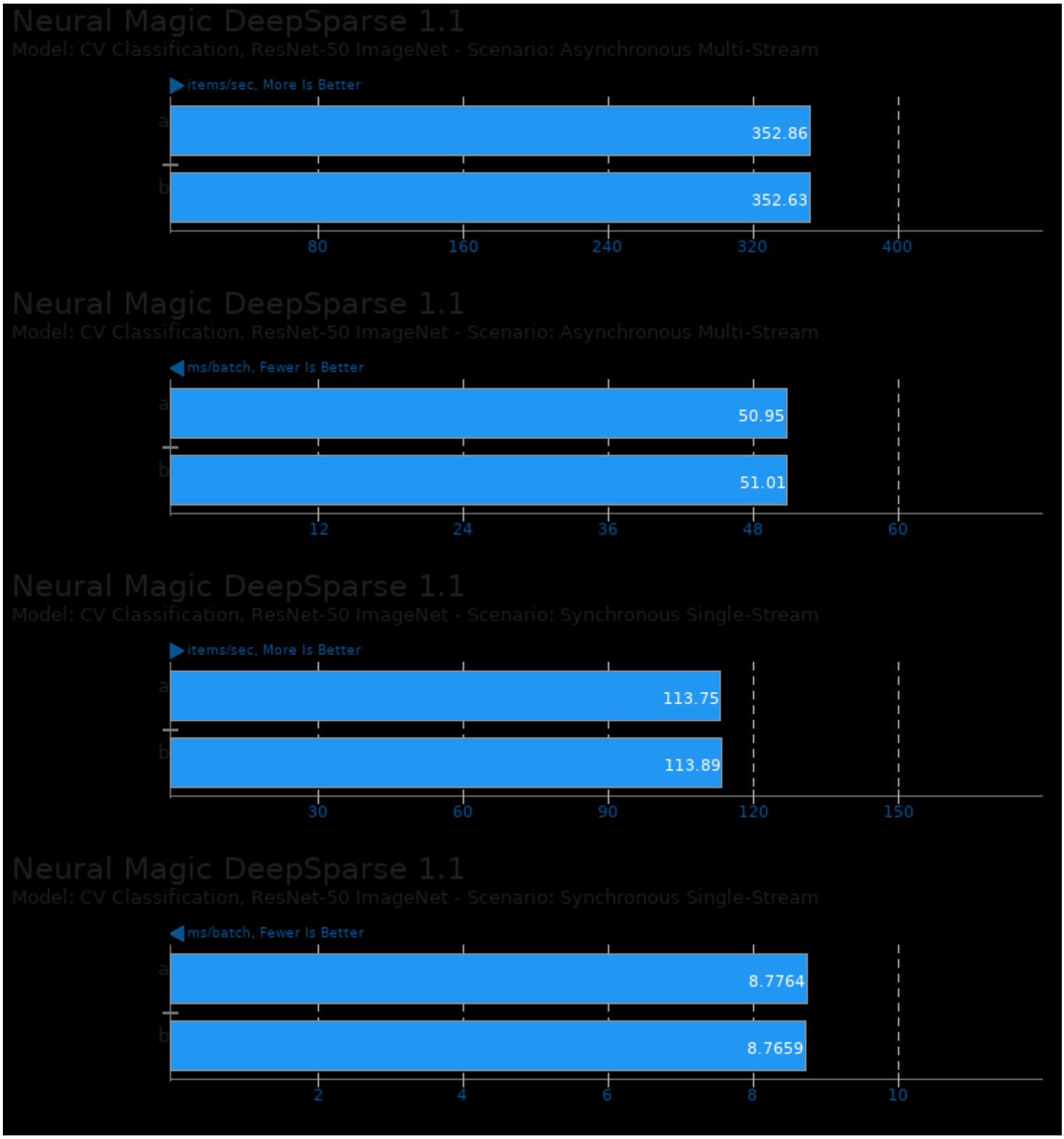

TensorFlow 2.10
Device: CPU - Batch Size: 32 - Model: AlexNet
images/sec, More Is Better
a
106.64
b
105.78
20
40
60
80
100
TensorFlow 2.10
Device: CPU - Batch Size: 64 - Model: AlexNet
images/sec, More Is Better
a
143.41
b
142.07
30
60
90
120
150
TensorFlow 2.10
Device: CPU - Batch Size: 16 - Model: GoogLeNet
images/sec, More Is Better
a
46.37
b
46.18
11
22
33
44
55
TensorFlow 2.10
Device: CPU - Batch Size: 16 - Model: ResNet-50
images/sec, More Is Better
a
14.77
b
14.74
4
8
12
16
20

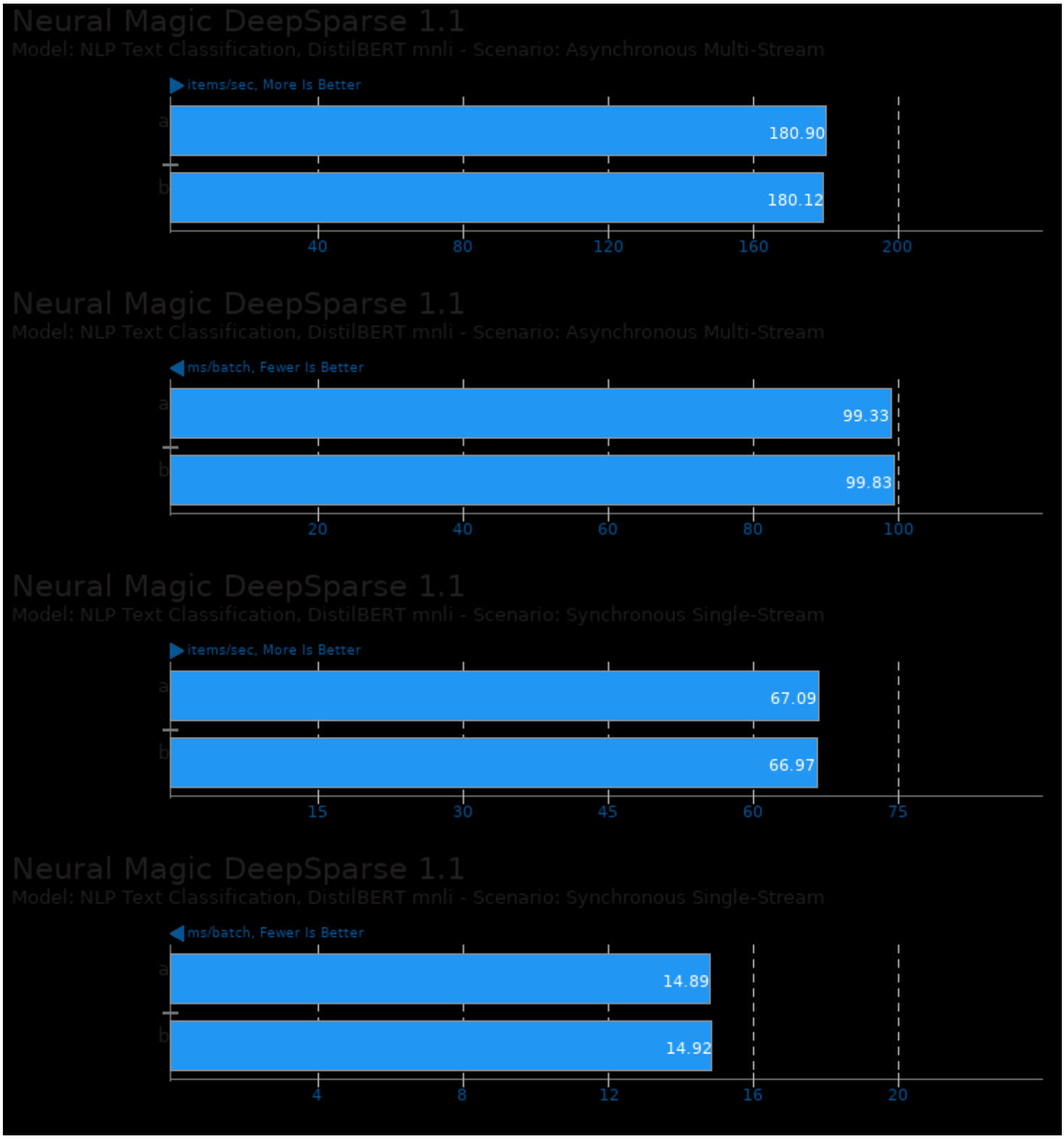

TensorFlow 2.10
Device: CPU - Batch Size: 32 - Model: GoogLeNet
images/sec, More Is Better
a
61.69
b
61.82
14
28
42
56
70
TensorFlow 2.10
Device: CPU - Batch Size: 32 - Model: ResNet-50
images/sec, More Is Better
a
17.90
b
17.97
4
8
12
16
20
TensorFlow 2.10
Device: CPU - Batch Size: 64 - Model: GoogLeNet
images/sec, More Is Better
a
77.03
b
76.16
20
40
60
80
100
TensorFlow 2.10
Device: CPU - Batch Size: 64 - Model: ResNet-50
images/sec, More Is Better
a
19.21
b
22.42
5
10
15
20
25

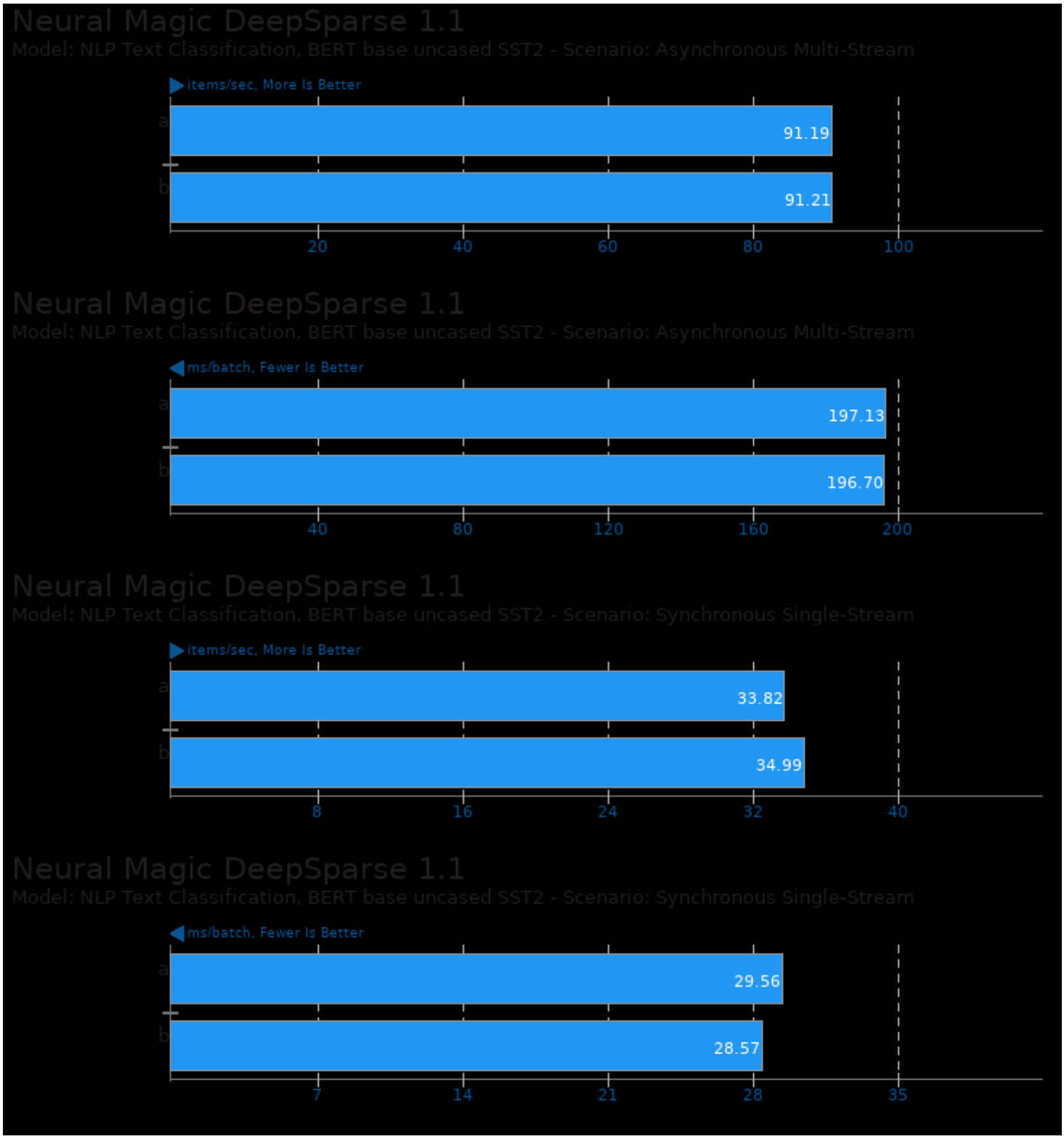

Neural Magic DeepSparse 1.1
Model: NLP Document Classification, oBERT base uncased on IMDB - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
a
b
18.65
18.36
5
10
15
20
25
Neural Magic DeepSparse 1.1
Model: NLP Document Classification, oBERT base uncased on IMDB - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
a
b
963.81
966.40
200
400
600
800
1000
Neural Magic DeepSparse 1.1
Model: NLP Document Classification, oBERT base uncased on IMDB - Scenario: Synchronous Single-Stream
items/sec, More Is Better
a
b
8.7441
8.6568
2
4
6
8
10
Neural Magic DeepSparse 1.1
Model: NLP Document Classification, oBERT base uncased on IMDB - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
a
b
114.35
115.50
30
60
90
120
150

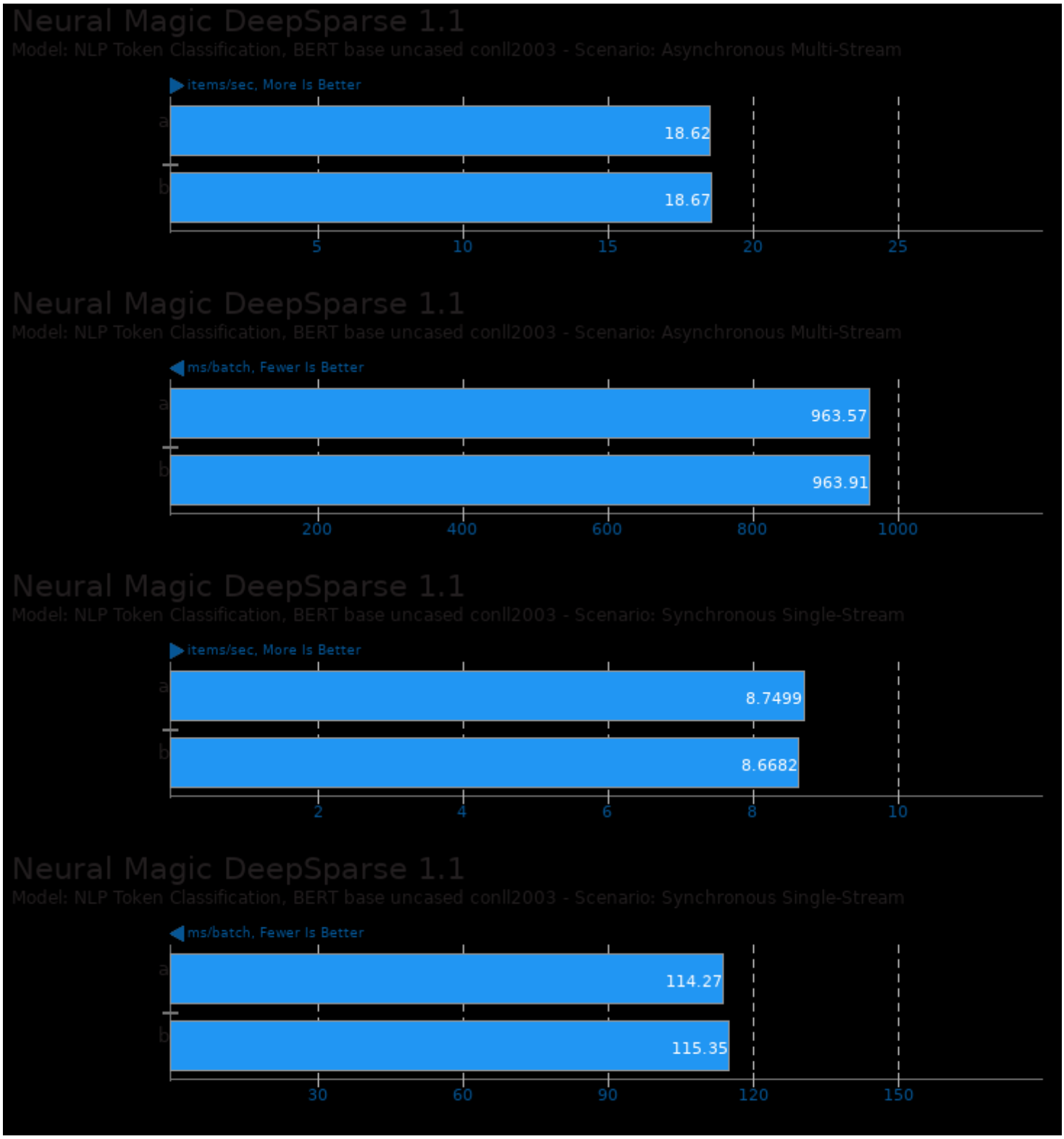

Neural Magic DeepSparse 1.1
Model: NLP Question Answering, BERT base uncased SQuaD 12layer Pruned90 - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
a
b
99.48
98.77
20
40
60
80
100
Neural Magic DeepSparse 1.1
Model: NLP Question Answering, BERT base uncased SQuaD 12layer Pruned90 - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
a
b
180.54
181.80
40
80
120
160
200
Neural Magic DeepSparse 1.1
Model: NLP Question Answering, BERT base uncased SQuaD 12layer Pruned90 - Scenario: Synchronous Single-Stream
items/sec, More Is Better
a
b
41.81
41.72
10
20
30
40
50
Neural Magic DeepSparse 1.1
Model: NLP Question Answering, BERT base uncased SQuaD 12layer Pruned90 - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
a
b
23.90
23.95
6
12
18
24
30

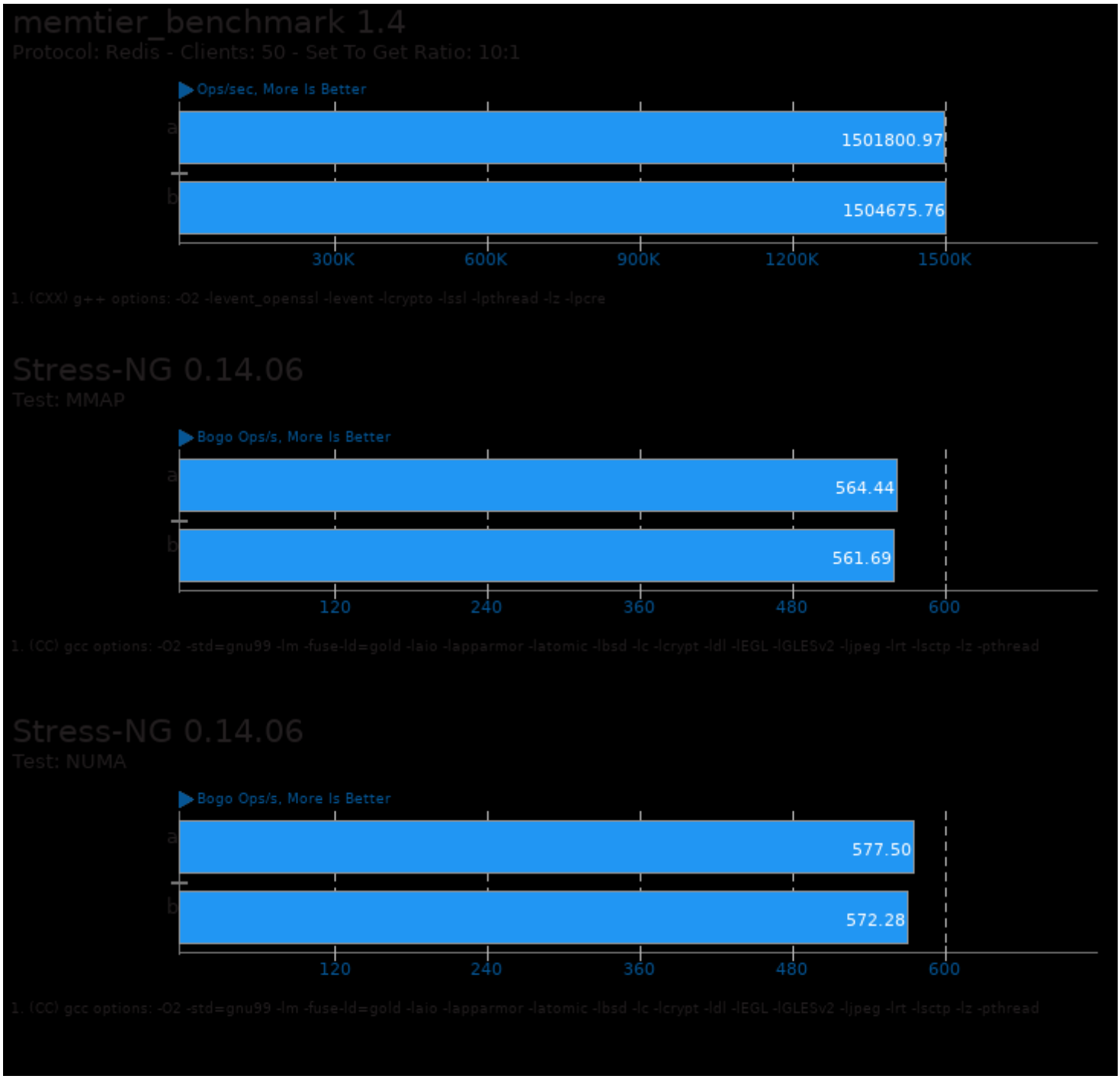

Neural Magic DeepSparse 1.1
Model: CV Detection,YOLOv5s COCO - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
a
132.44
b
131.59
30
60
90
120
150
Neural Magic DeepSparse 1.1
Model: CV Detection,YOLOv5s COCO - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
a
135.75
b
136.68
30
60
90
120
150
Neural Magic DeepSparse 1.1
Model: CV Detection,YOLOv5s COCO - Scenario: Synchronous Single-Stream
items/sec, More Is Better
a
54.26
b
54.45
12
24
36
48
60
Neural Magic DeepSparse 1.1
Model: CV Detection,YOLOv5s COCO - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
a
18.41
b
18.35
5
10
15
20
25

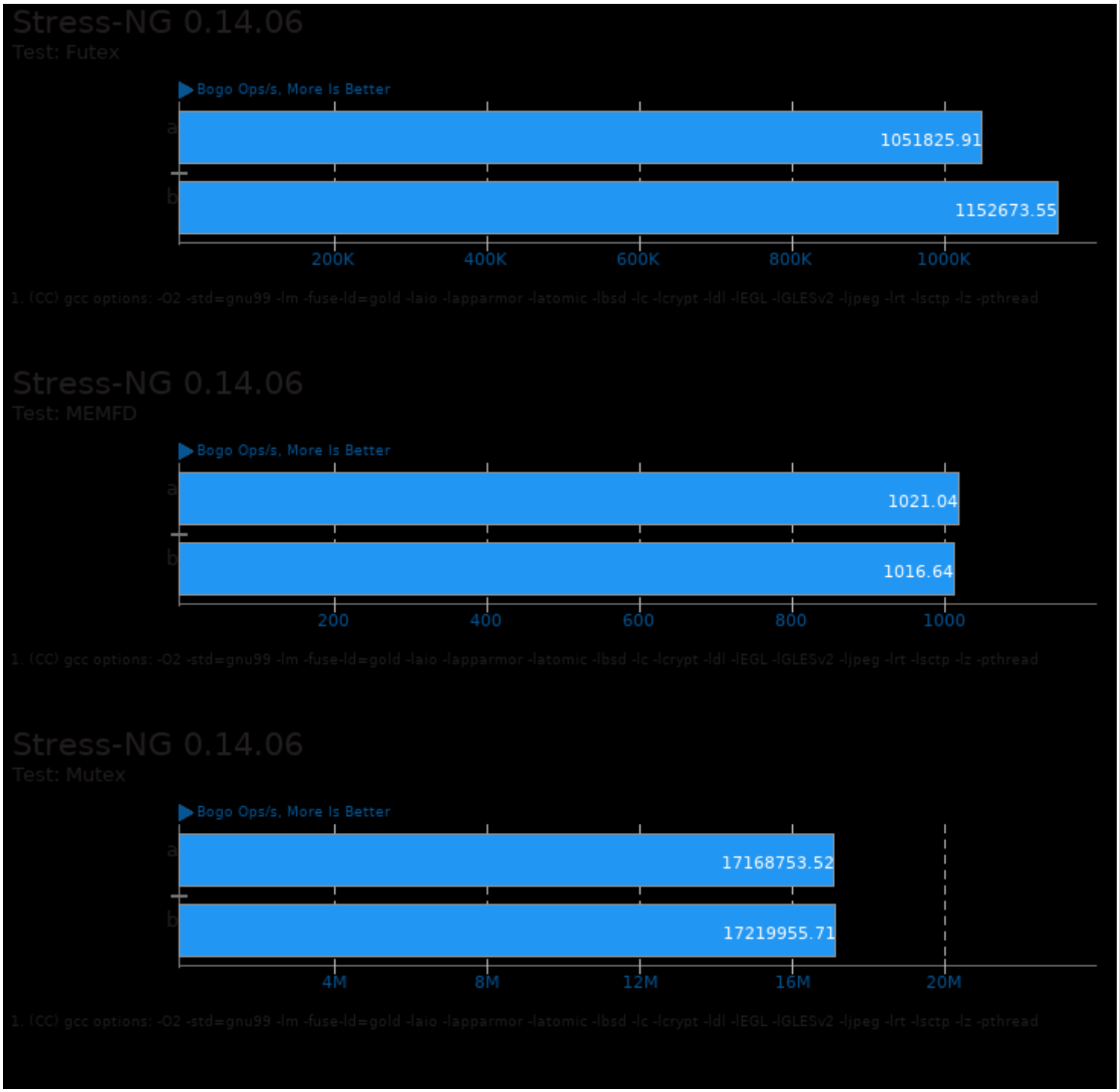

Neural Magic DeepSparse 1.1
Model: CV Classification, ResNet-50 ImageNet - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
a
352.86
b
352.63
80
160
240
320
400
Neural Magic DeepSparse 1.1
Model: CV Classification, ResNet-50 ImageNet - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
a
50.95
b
51.01
12
24
36
48
60
Neural Magic DeepSparse 1.1
Model: CV Classification, ResNet-50 ImageNet - Scenario: Synchronous Single-Stream
items/sec, More Is Better
a
113.75
b
113.89
30
60
90
120
150
Neural Magic DeepSparse 1.1
Model: CV Classification, ResNet-50 ImageNet - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
a
8.7764
b
8.7659
2
4
6
8
10

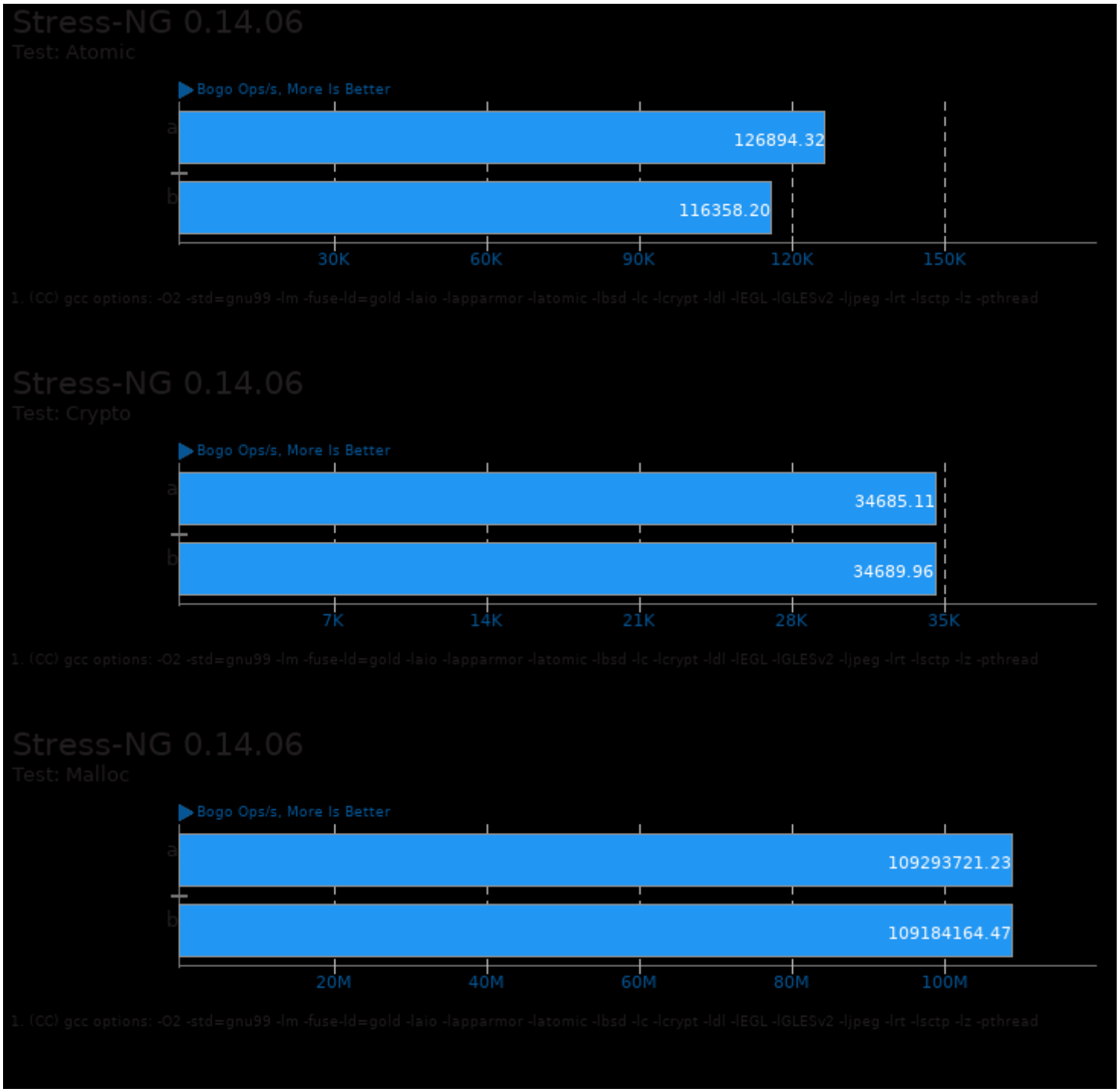

Neural Magic DeepSparse 1.1
Model: NLP Text Classification, DistilBERT mnli - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
a
180.90
b
180.12
40
80
120
160
200
Neural Magic DeepSparse 1.1
Model: NLP Text Classification, DistilBERT mnli - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
a
99.33
b
99.83
20
40
60
80
100
Neural Magic DeepSparse 1.1
Model: NLP Text Classification, DistilBERT mnli - Scenario: Synchronous Single-Stream
items/sec, More Is Better
a
67.09
b
66.97
15
30
45
60
75
Neural Magic DeepSparse 1.1
Model: NLP Text Classification, DistilBERT mnli - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
a
14.89
b
14.92
4
8
12
16
20

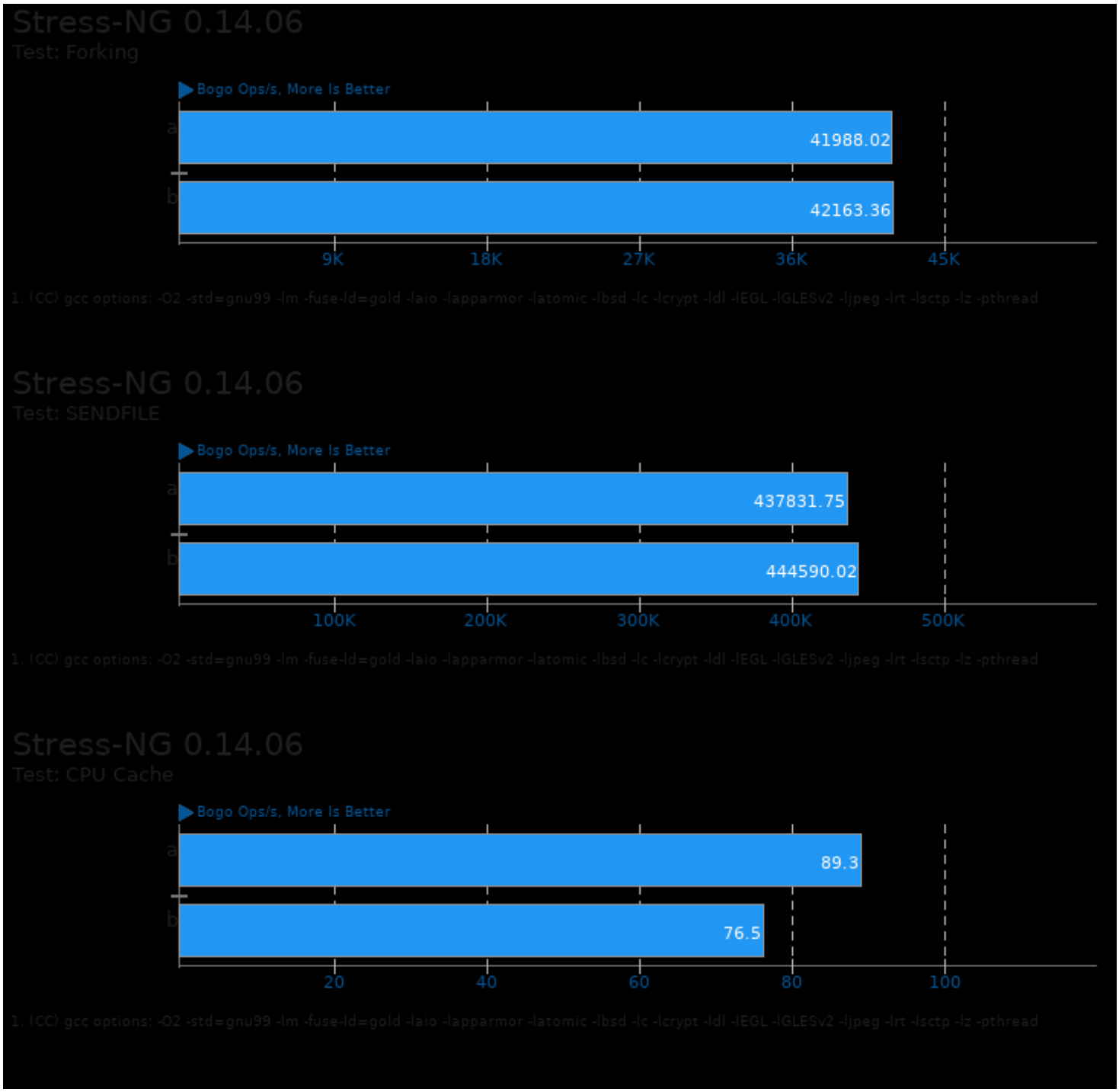

Neural Magic DeepSparse 1.1
Model: NLP Text Classification, BERT base uncased SST2 - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
a
b
91.19
91.21
20
40
60
80
100
Neural Magic DeepSparse 1.1
Model: NLP Text Classification, BERT base uncased SST2 - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
a
b
197.13
196.70
40
80
120
160
200
Neural Magic DeepSparse 1.1
Model: NLP Text Classification, BERT base uncased SST2 - Scenario: Synchronous Single-Stream
items/sec, More Is Better
a
b
33.82
34.99
8
16
24
32
40
Neural Magic DeepSparse 1.1
Model: NLP Text Classification, BERT base uncased SST2 - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
a
b
29.56
28.57
7
14
21
28
35

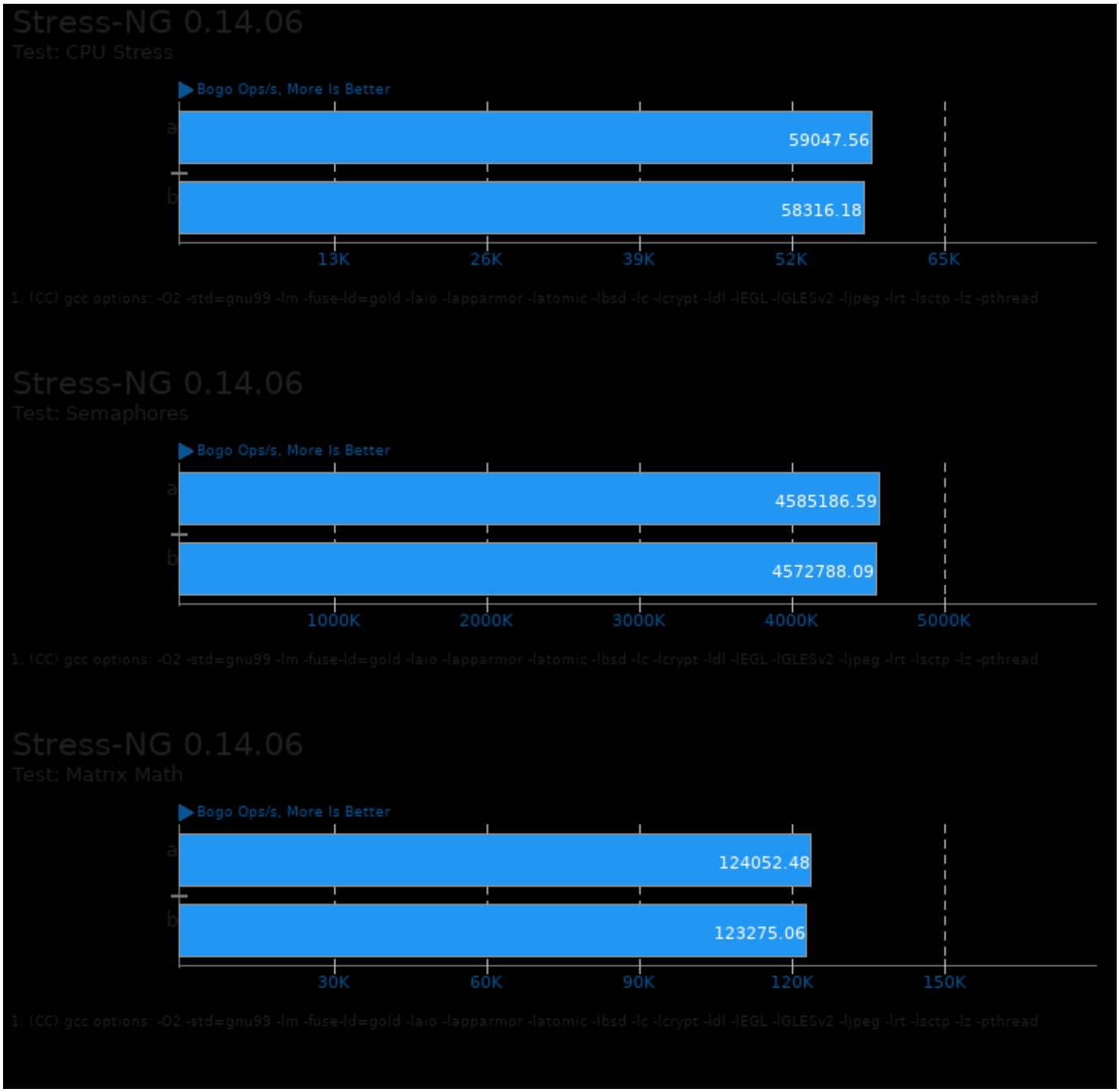

Neural Magic DeepSparse 1.1
Model: NLP Token Classification, BERT base uncased conll2003 - Scenario: Asynchronous Multi-Stream
items/sec, More Is Better
a
18.62
b
18.67
5
10
15
20
25
Neural Magic DeepSparse 1.1
Model: NLP Token Classification, BERT base uncased conll2003 - Scenario: Asynchronous Multi-Stream
ms/batch, Fewer Is Better
a
963.57
b
963.91
200
400
600
800
1000
Neural Magic DeepSparse 1.1
Model: NLP Token Classification, BERT base uncased conll2003 - Scenario: Synchronous Single-Stream
items/sec, More Is Better
a
8.7499
b
8.6682
2
4
6
8
10
Neural Magic DeepSparse 1.1
Model: NLP Token Classification, BERT base uncased conll2003 - Scenario: Synchronous Single-Stream
ms/batch, Fewer Is Better
a
114.27
b
115.35
30
60
90
120
150

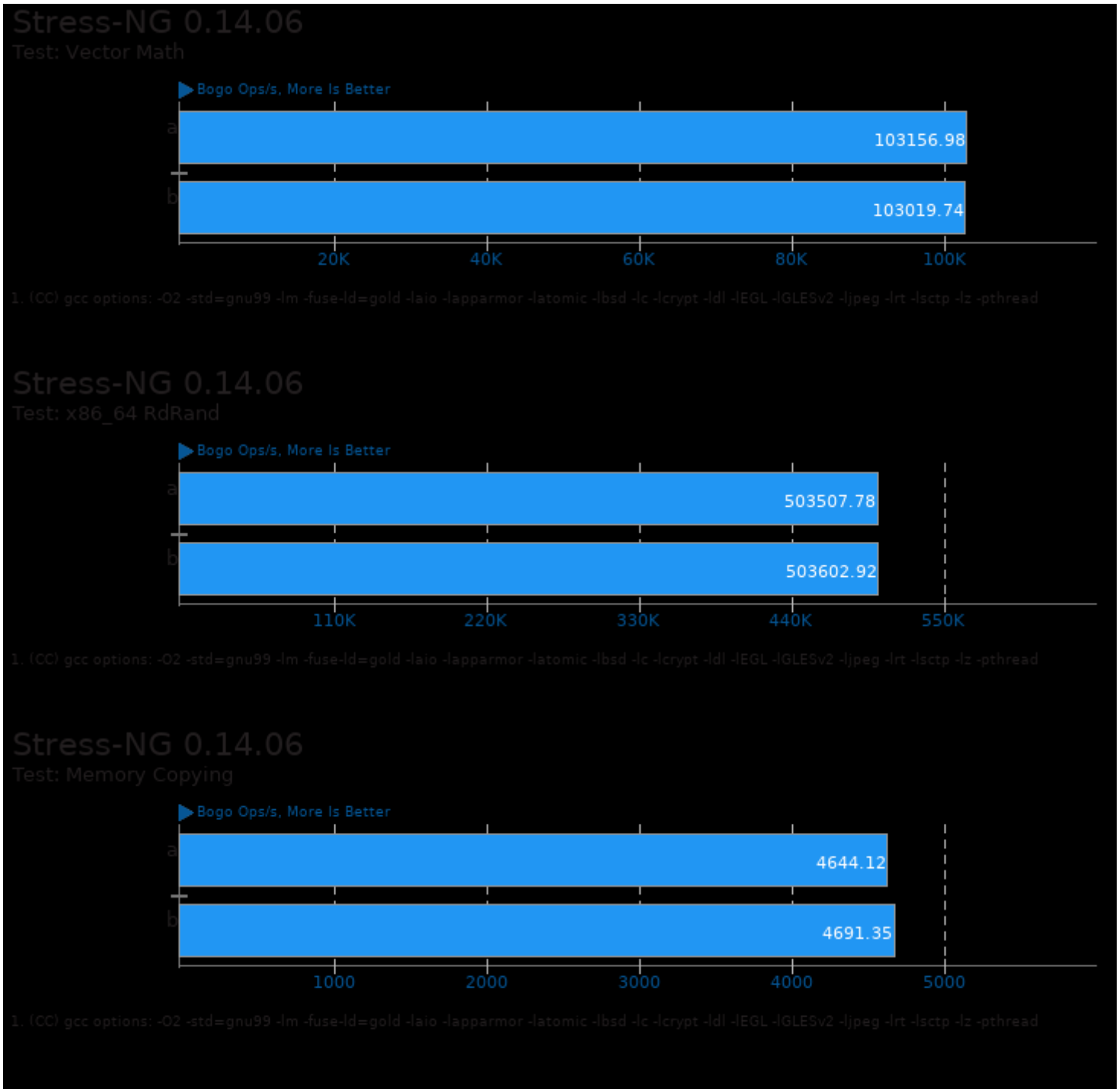

memtier_benchmark 1.4
Protocol: Redis - Clients: 50 - Set To Get Ratio: 10:1
Ops/sec, More Is Better
a
1501800.97
b
1504675.76
300K
600K
900K
1200K
1500K
1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
Stress-NG 0.14.06
Test: MMAP
Bogo Ops/s, More Is Better
a
564.44
b
561.69
120
240
360
480
600
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: NUMA
Bogo Ops/s, More Is Better
a
577.50
b
572.28
120
240
360
480
600
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread

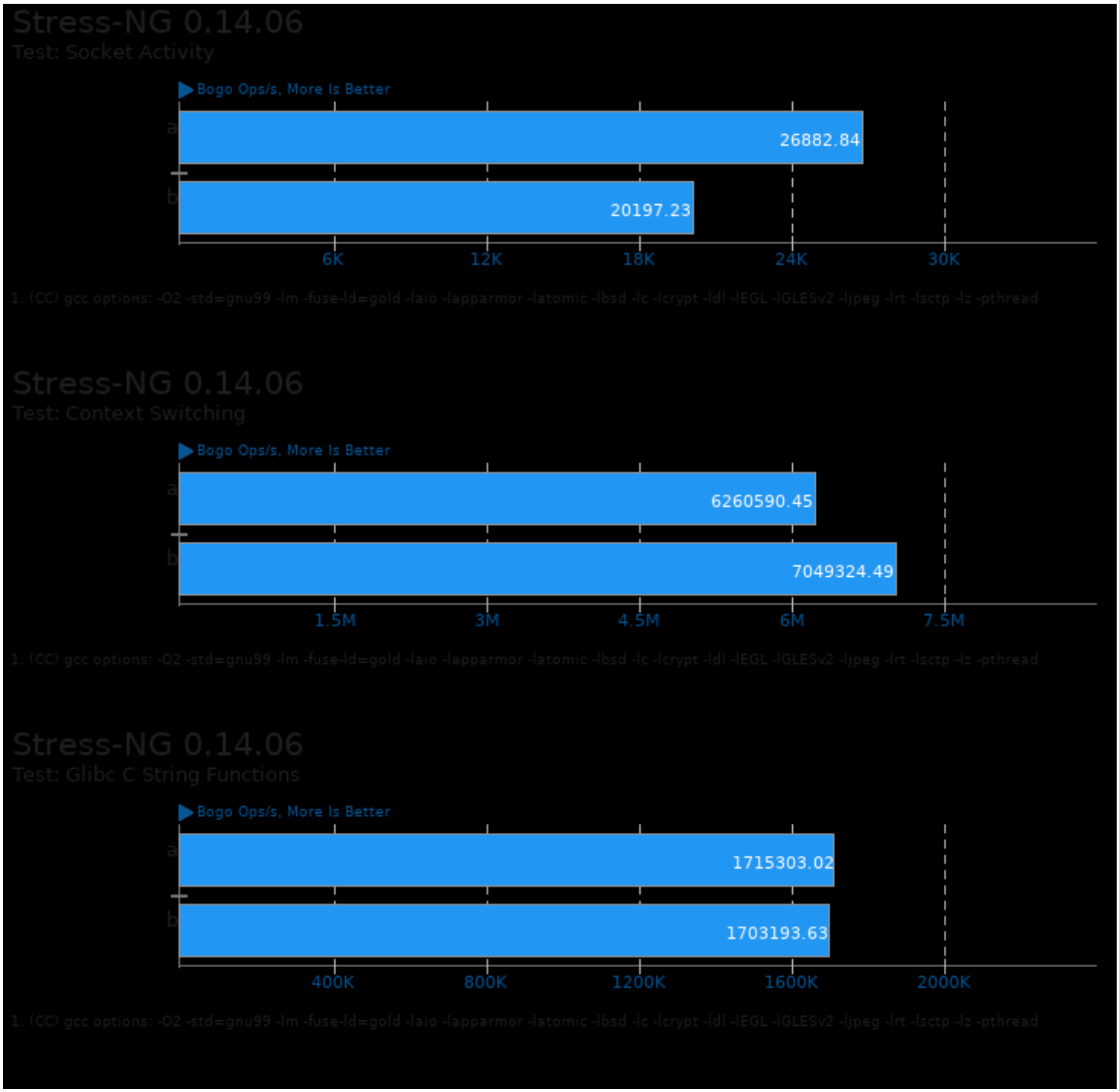

Stress-NG 0.14.06
Test: Futex
Bogo Ops/s, More Is Better
a
1051825.91
b
1152673.55
200K
400K
600K
800K
1000K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: MEMFD
Bogo Ops/s, More Is Better
a
1021.04
b
1016.64
200
400
600
800
1000
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Mutex
Bogo Ops/s, More Is Better
a
17168753.52
b
17219955.71
4M
8M
12M
16M
20M
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread


Stress-NG 0.14.06
Test: Atomic
Bogo Ops/s, More Is Better
a
126894.32
b
116358.20
30K
60K
90K
120K
150K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Crypto
Bogo Ops/s, More Is Better
a
34685.11
b
34689.96
7K
14K
21K
28K
35K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Malloc
Bogo Ops/s, More Is Better
a
109293721.23
b
109184164.47
20M
40M
60M
80M
100M
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread


Stress-NG 0.14.06
Test: Forking
Bogo Ops/s, More Is Better
a
41988.02
b
42163.36
9K
18K
27K
36K
45K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: SENDFILE
Bogo Ops/s, More Is Better
a
437831.75
b
444590.02
100K
200K
300K
400K
500K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: CPU Cache
Bogo Ops/s, More Is Better
a
89.3
b
76.5
20
40
60
80
100
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread

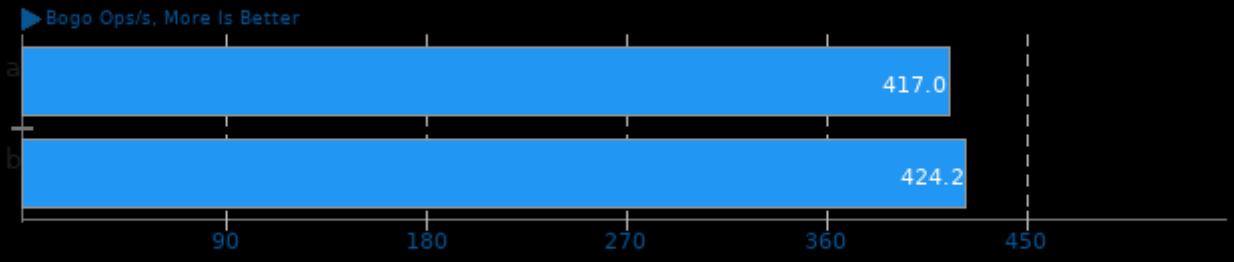

Stress-NG 0.14.06
Test: CPU Stress
Bogo Ops/s, More Is Better
a
59047.56
b
58316.18
13K
26K
39K
52K
65K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Semaphores
Bogo Ops/s, More Is Better
a
4585186.59
b
4572788.09
1000K
2000K
3000K
4000K
5000K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Matrix Math
Bogo Ops/s, More Is Better
a
124052.48
b
123275.06
30K
60K
90K
120K
150K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread


Stress-NG 0.14.06
Test: Vector Math
Bogo Ops/s, More Is Better
a
b
103156.98
103019.74
20K
40K
60K
80K
100K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: x86_64 RdRand
Bogo Ops/s, More Is Better
a
b
503507.78
503602.92
110K
220K
330K
440K
550K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Memory Copying
Bogo Ops/s, More Is Better
a
b
4644.12
4691.35
1000
2000
3000
4000
5000
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread


Stress-NG 0.14.06
Test: Socket Activity
Bogo Ops/s, More Is Better
a
26882.84
b
20197.23
6K
12K
18K
24K
30K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Context Switching
Bogo Ops/s, More Is Better
a
6260590.45
b
7049324.49
1.5M
3M
4.5M
6M
7.5M
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread
Stress-NG 0.14.06
Test: Glibc C String Functions
Bogo Ops/s, More Is Better
a
1715303.02
b
1703193.63
400K
800K
1200K
1600K
2000K
1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread

Stress-NG 0.14.06

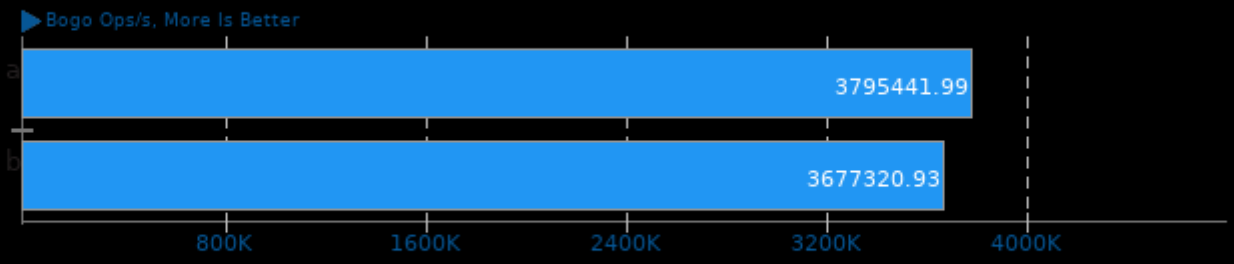
Test: Glibc Qsort Data Sorting



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread

Stress-NG 0.14.06

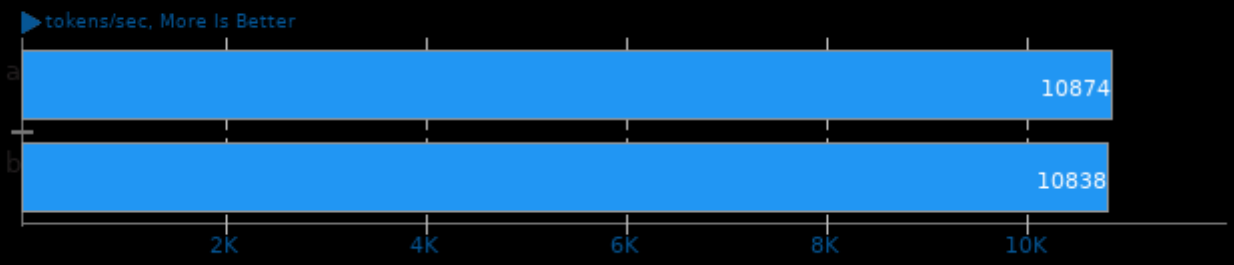
Test: System V Message Passing



1. (CC) gcc options: -O2 -std=gnu99 -lm -fuse-ld=gold -laio -lapparmor -latomic -lbsd -lc -lcrypt -ldl -lEGL -lGLESv2 -ljpeg -lrt -lsctp -lz -pthread

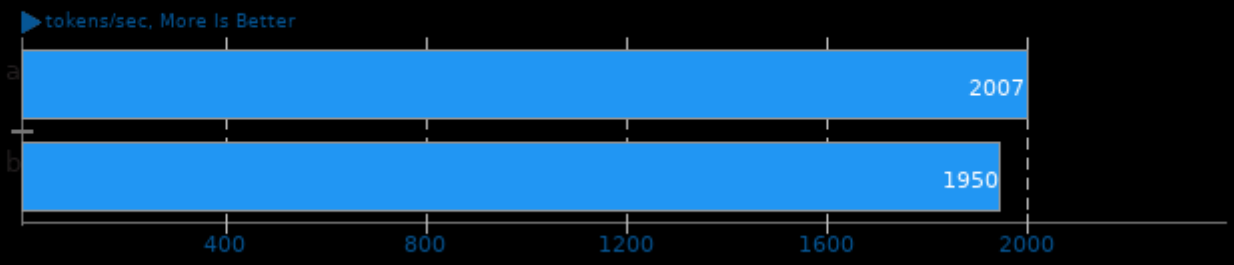
spaCy 3.4.1

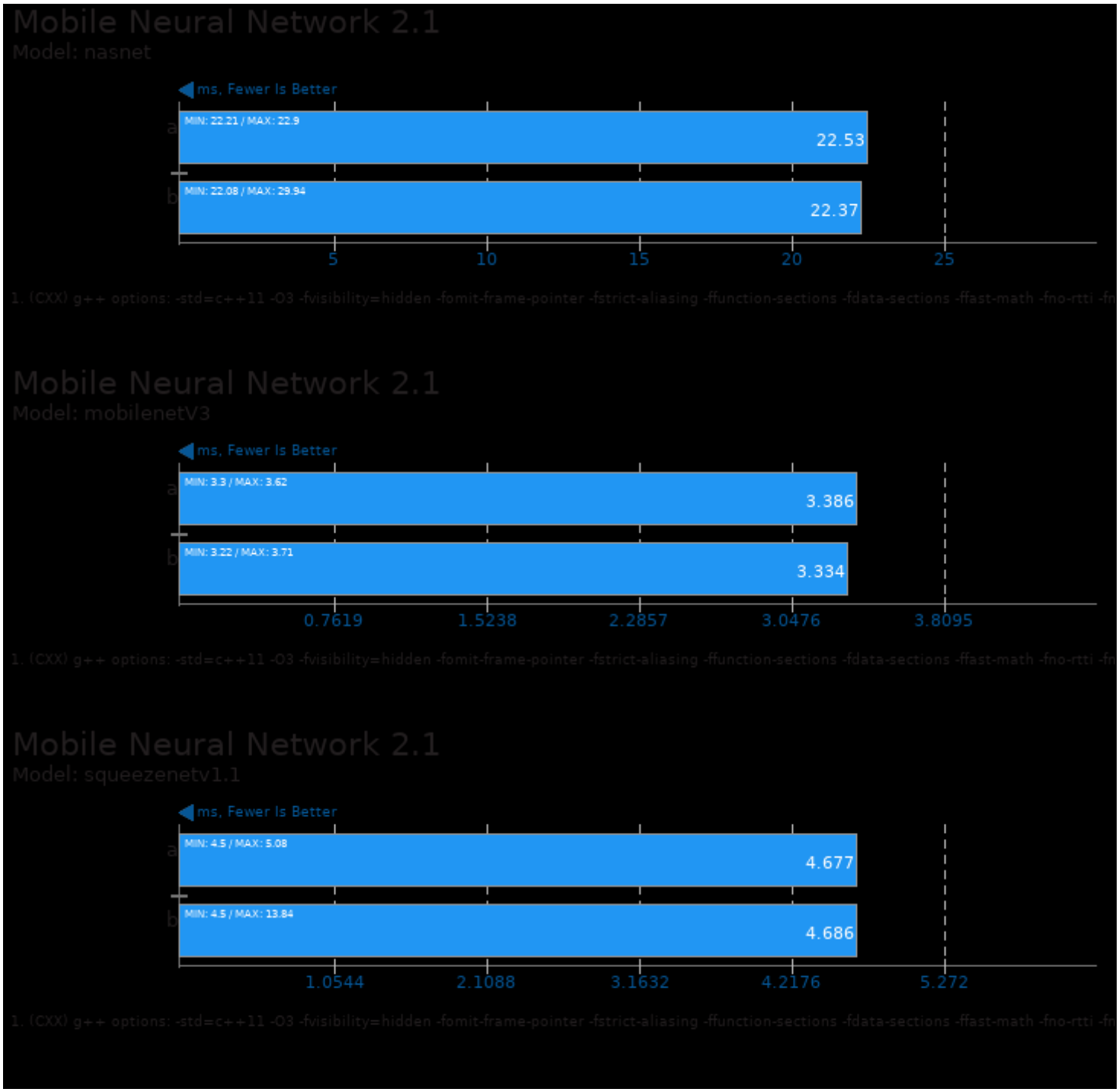
Model: en_core_web_lg

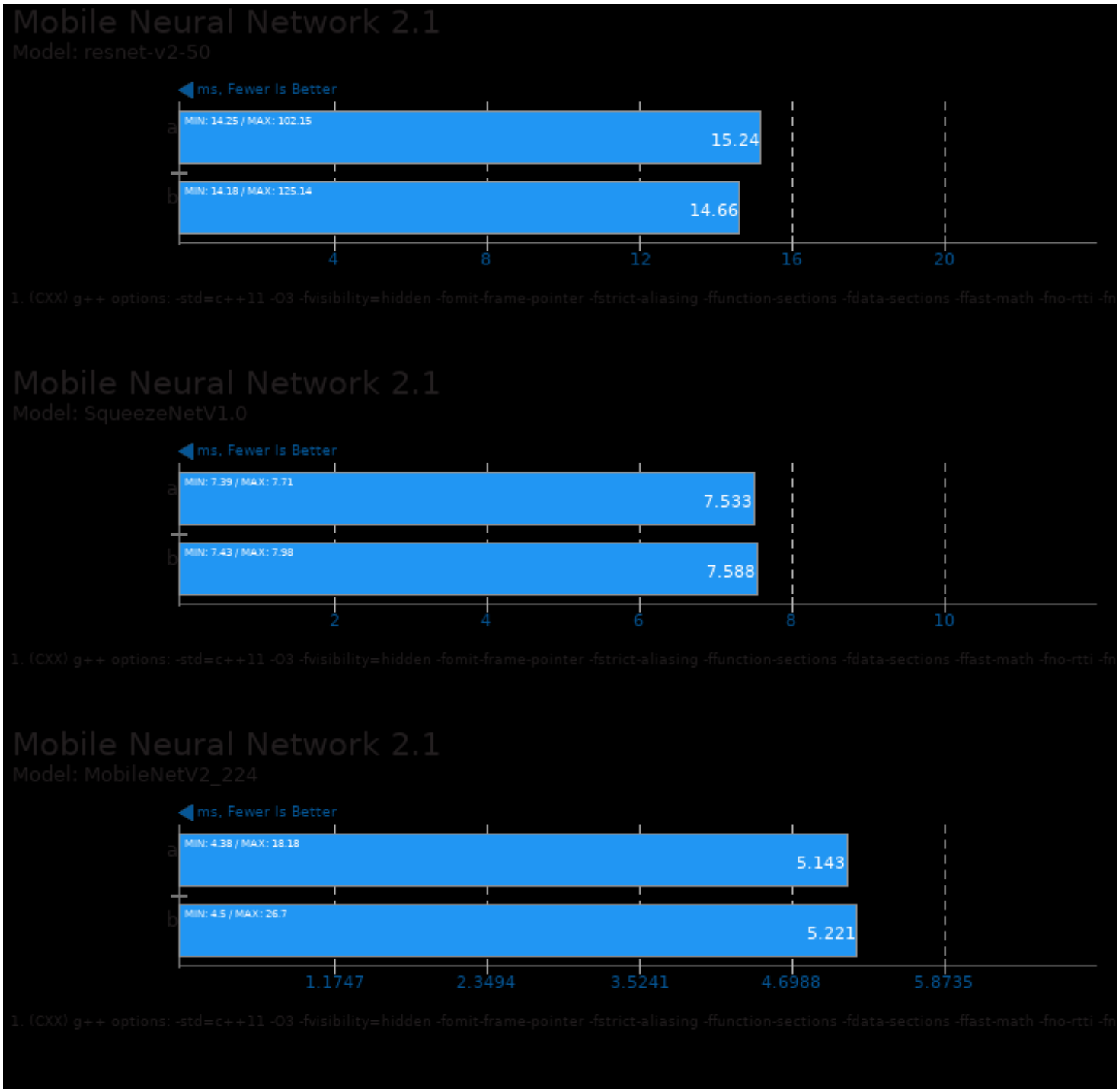


spaCy 3.4.1

Model: en_core_web_trf

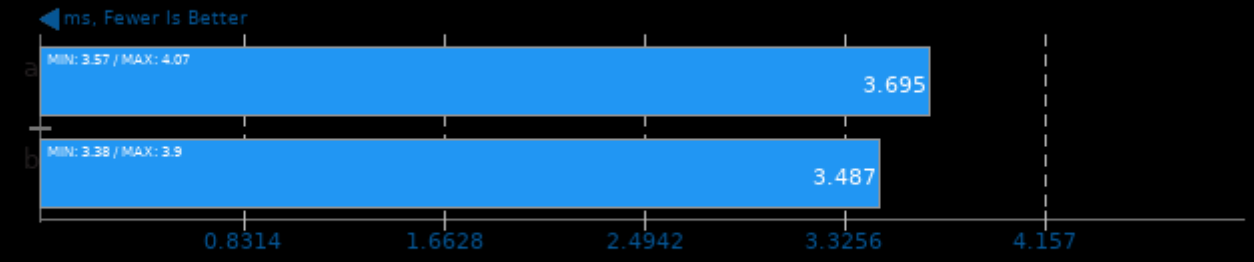



Mobile Neural Network 2.1
Model: nasnet
ms, Fewer Is Better
a
MIN: 22.21 / MAX: 22.9
22.53
b
MIN: 22.08 / MAX: 29.94
22.37
5
10
15
20
25
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn
Mobile Neural Network 2.1
Model: mobilenetV3
ms, Fewer Is Better
a
MIN: 3.3 / MAX: 3.62
3.386
b
MIN: 3.22 / MAX: 3.71
3.334
0.7619
1.5238
2.2857
3.0476
3.8095
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn
Mobile Neural Network 2.1
Model: squeezenetv1.1
ms, Fewer Is Better
a
MIN: 4.5 / MAX: 5.08
4.677
b
MIN: 4.5 / MAX: 13.84
4.686
1.0544
2.1088
3.1632
4.2176
5.272
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn


Mobile Neural Network 2.1
Model: resnet-v2-50
ms, Fewer Is Better
MIN: 14.25 / MAX: 102.15
15.24
MIN: 14.18 / MAX: 125.14
14.66
4
8
12
16
20
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn
Mobile Neural Network 2.1
Model: SqueezeNetV1.0
ms, Fewer Is Better
MIN: 7.39 / MAX: 7.71
7.533
MIN: 7.43 / MAX: 7.98
7.588
2
4
6
8
10
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn
Mobile Neural Network 2.1
Model: MobileNetV2_224
ms, Fewer Is Better
MIN: 4.38 / MAX: 18.18
5.143
MIN: 4.5 / MAX: 26.7
5.221
1.1747
2.3494
3.5241
4.6988
5.8735
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn

Mobile Neural Network 2.1

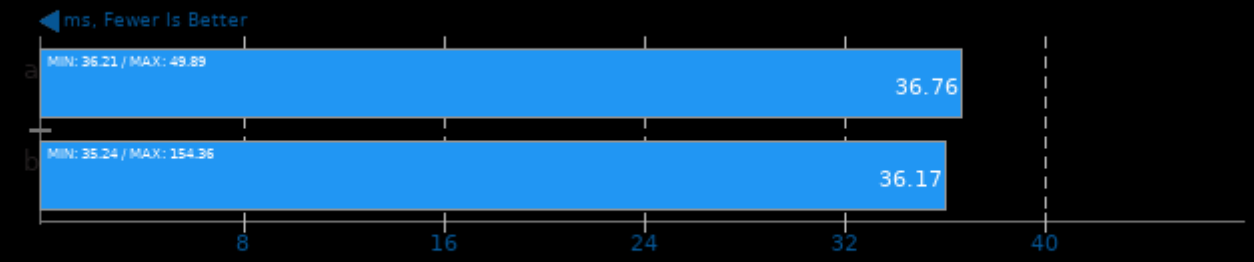
Model: mobilenet-v1-1.0



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn

Mobile Neural Network 2.1

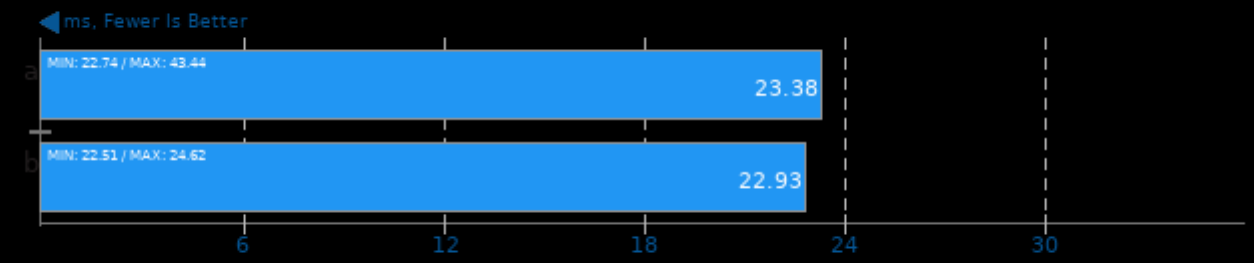
Model: inception-v3



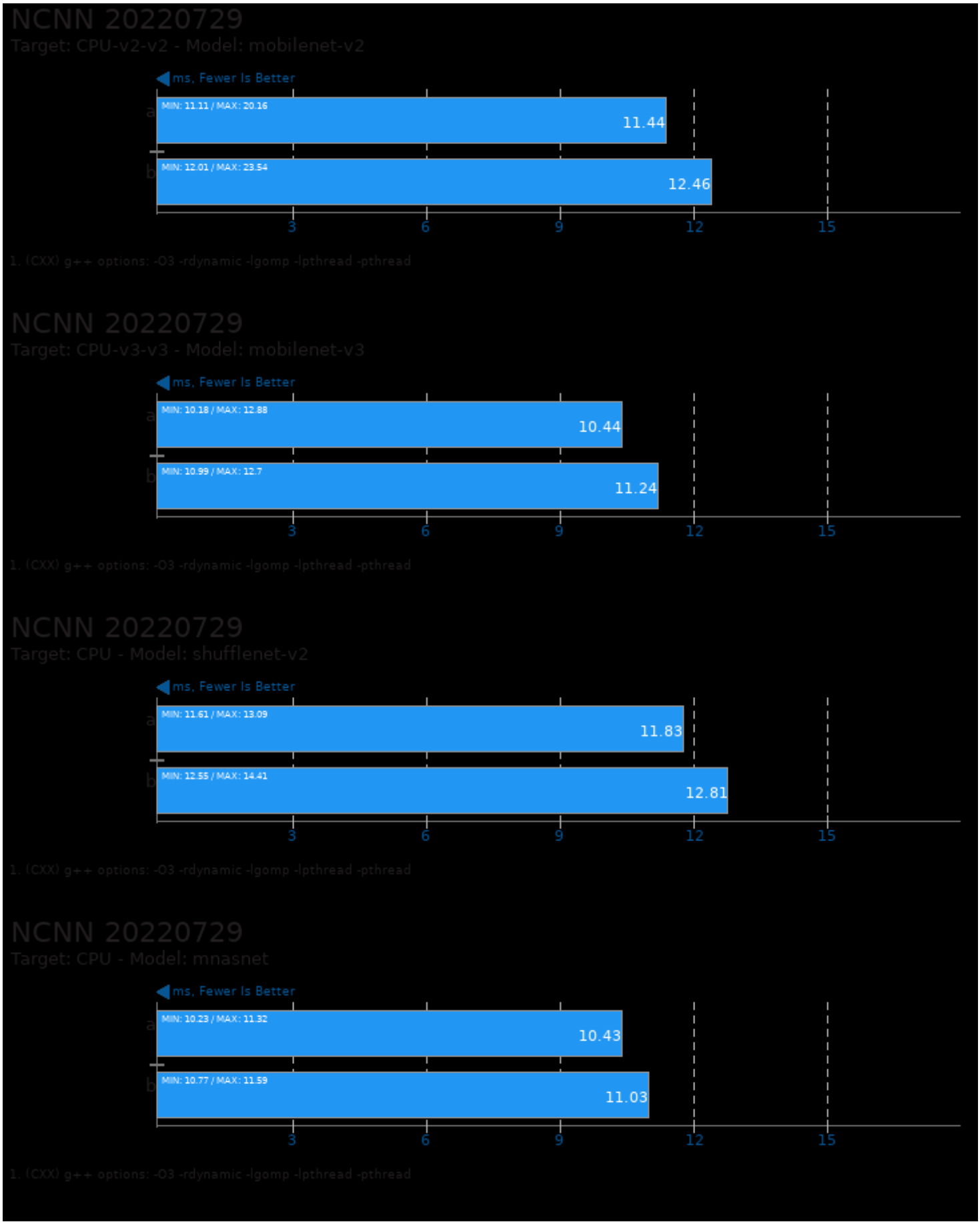
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn

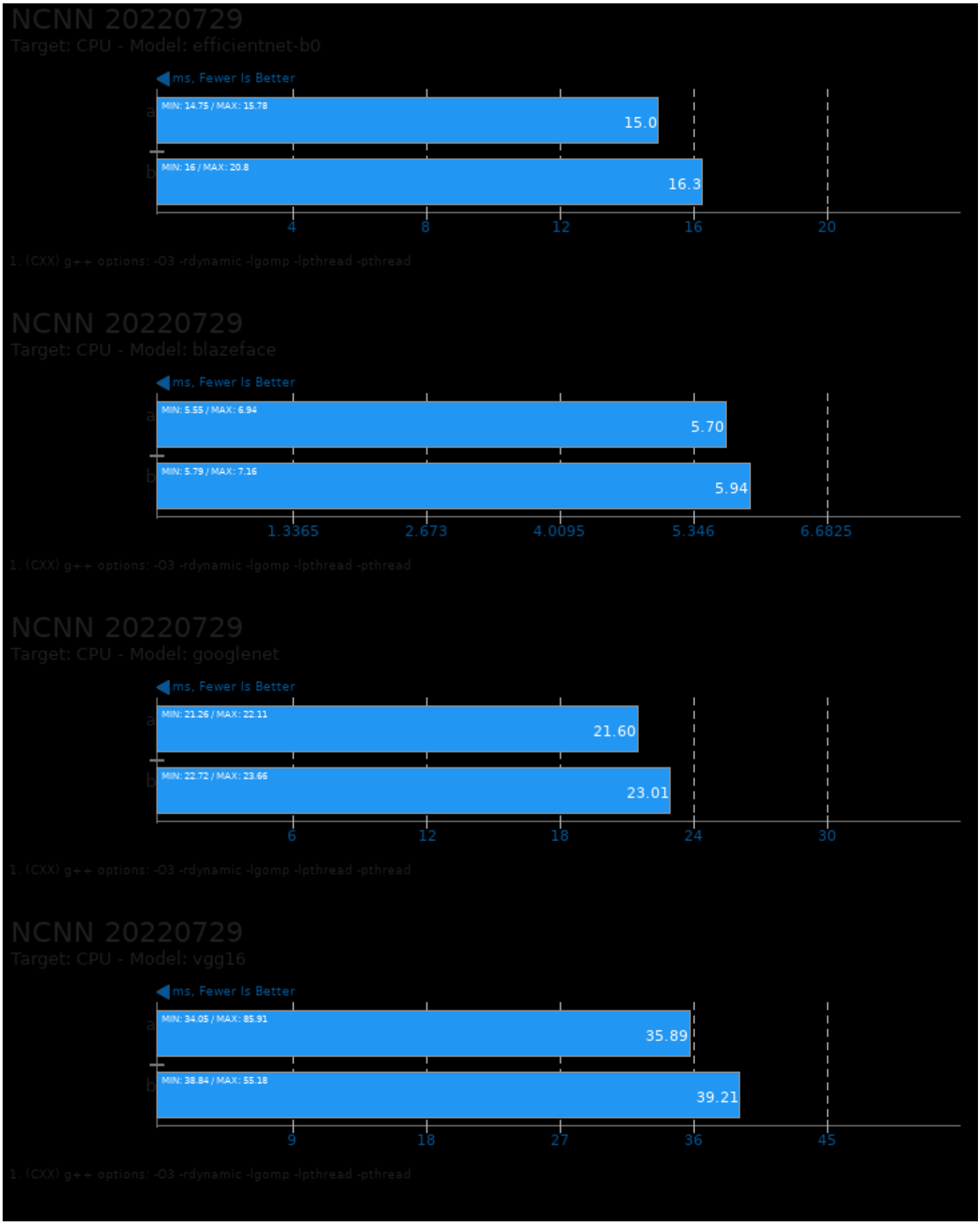
NCNN 20220729

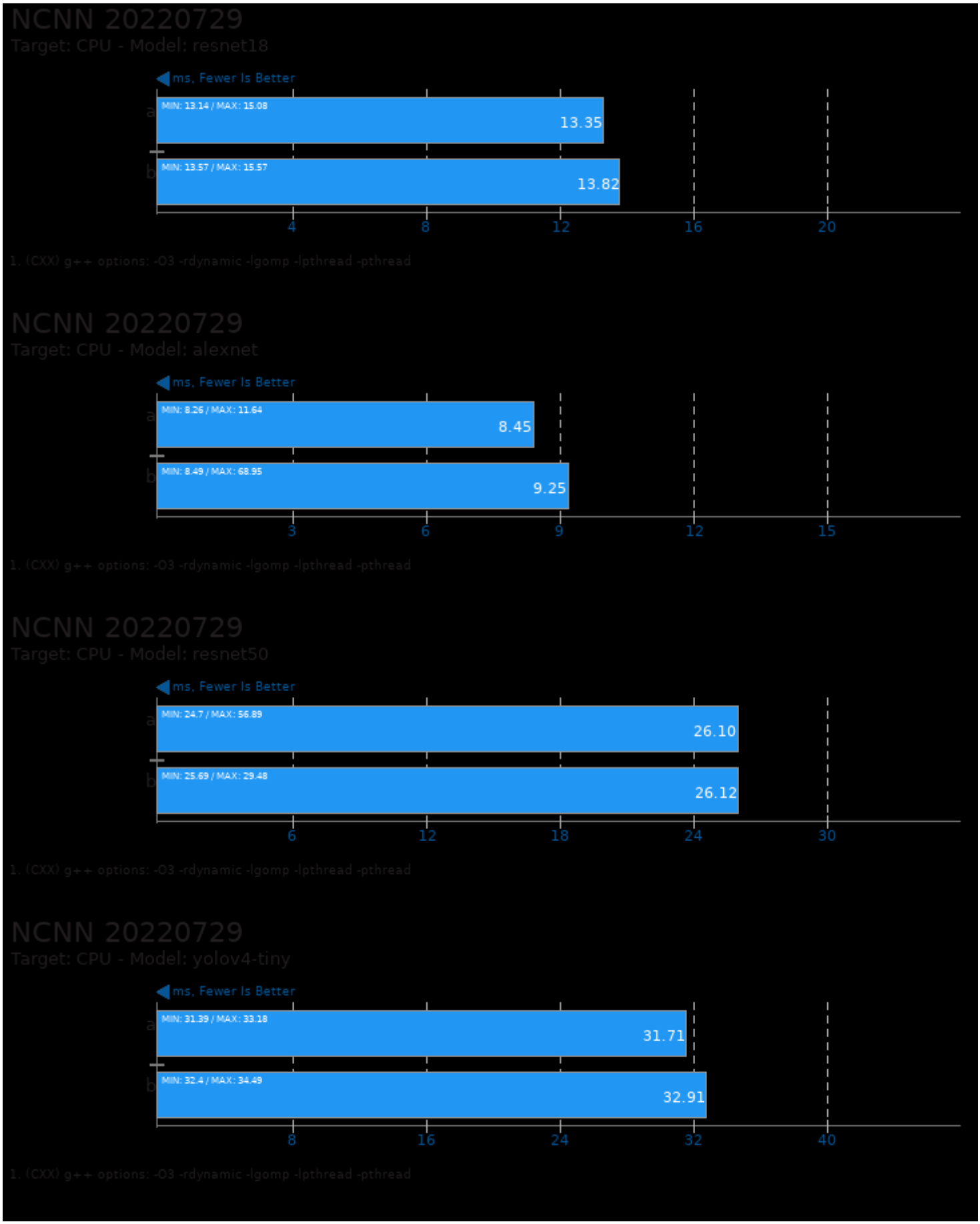
Target: CPU - Model: mobilenet

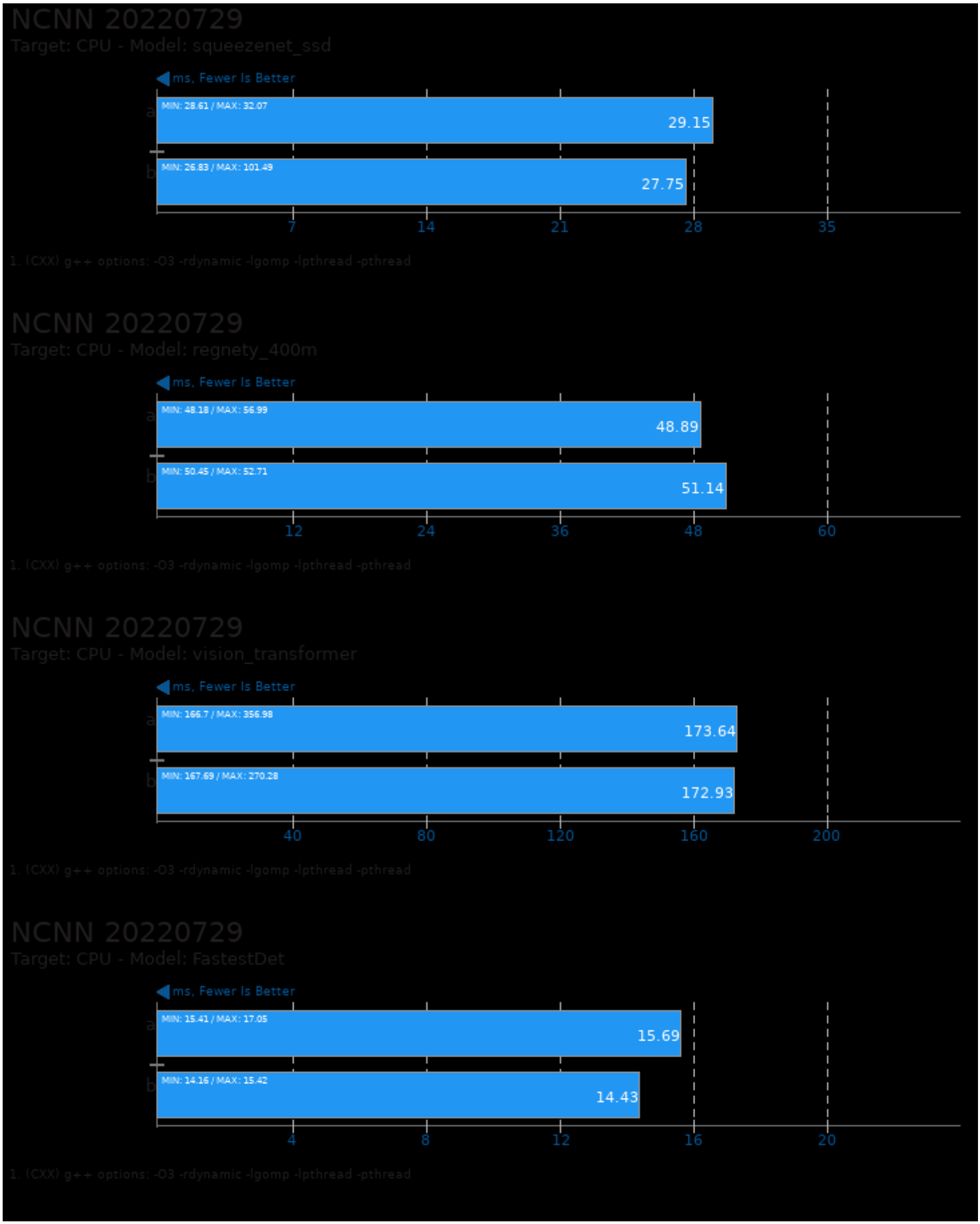


1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

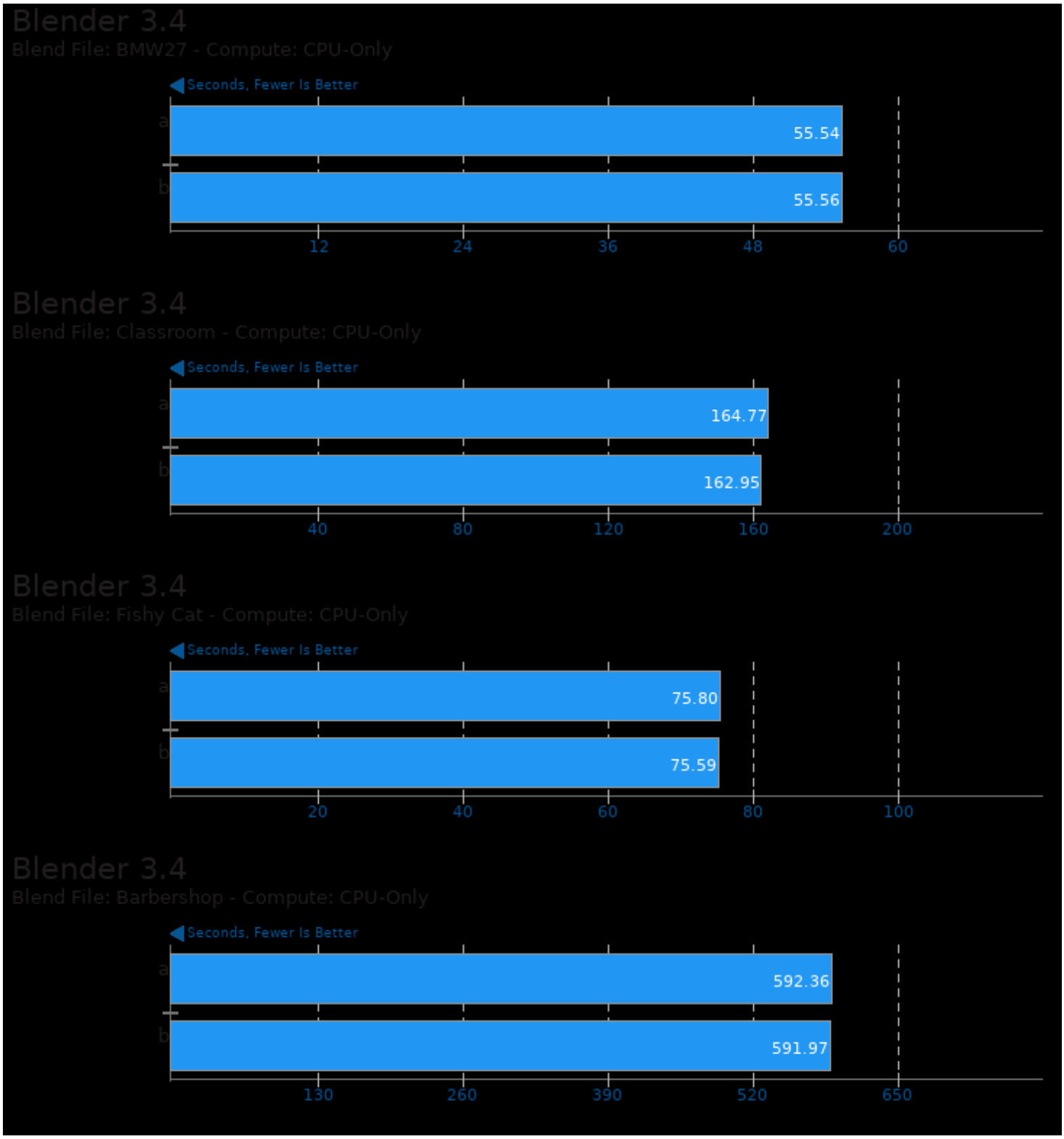

NCNN 20220729
Target: CPU-v2-v2 - Model: mobilenet-v2
ms, Fewer Is Better
MIN: 11.11 / MAX: 20.16
11.44
MIN: 12.01 / MAX: 23.54
12.46
3
6
9
12
15
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20220729
Target: CPU-v3-v3 - Model: mobilenet-v3
ms, Fewer Is Better
MIN: 10.18 / MAX: 12.88
10.44
MIN: 10.99 / MAX: 12.7
11.24
3
6
9
12
15
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20220729
Target: CPU - Model: shufflenet-v2
ms, Fewer Is Better
MIN: 11.61 / MAX: 13.09
11.83
MIN: 12.55 / MAX: 14.41
12.81
3
6
9
12
15
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20220729
Target: CPU - Model: mnasnet
ms, Fewer Is Better
MIN: 10.23 / MAX: 11.32
10.43
MIN: 10.77 / MAX: 11.59
11.03
3
6
9
12
15
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

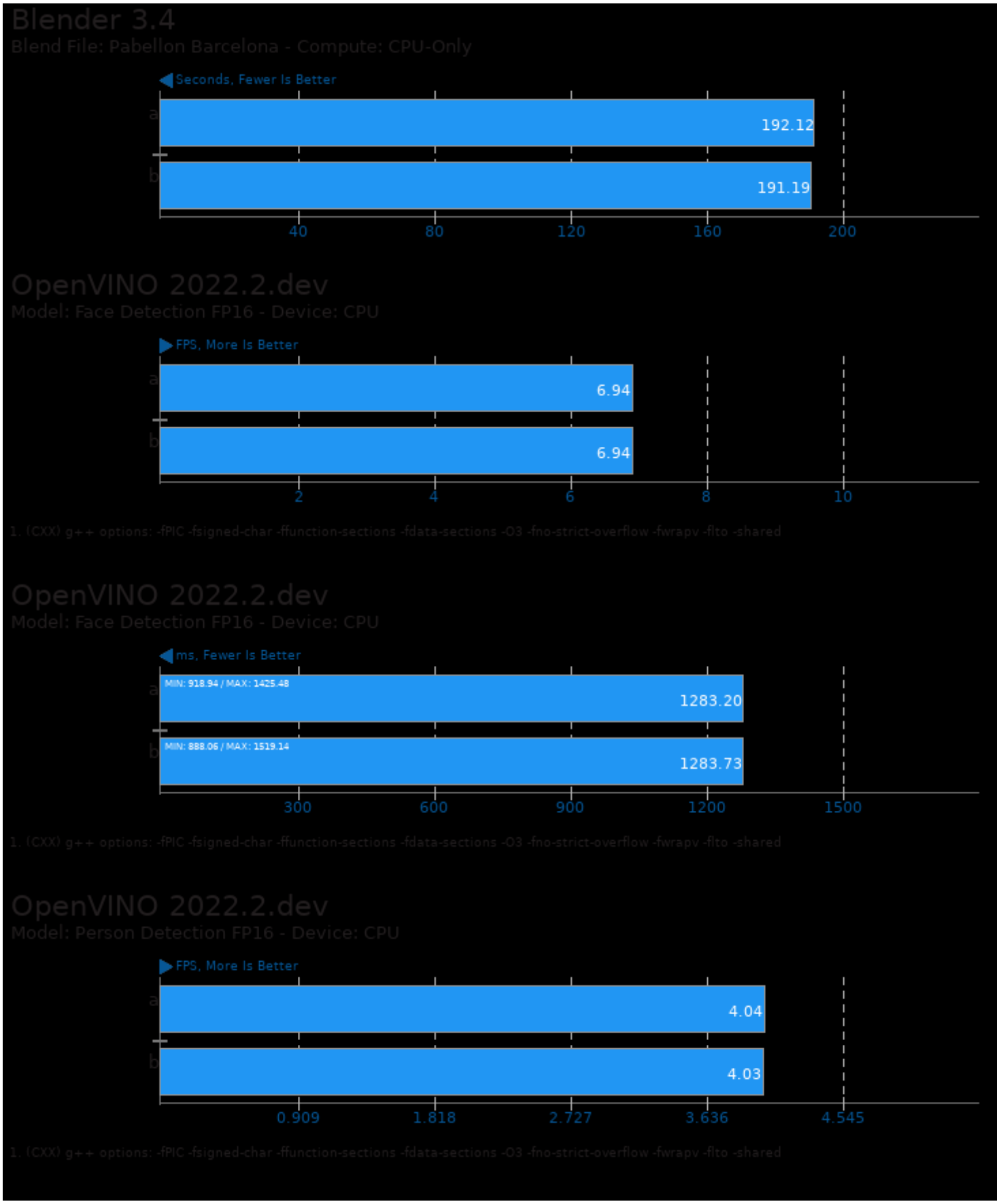

NCNN 20220729
Target: CPU - Model: efficientnet-b0
ms, Fewer Is Better
a
MIN: 14.75 / MAX: 15.78
15.0
b
MIN: 16 / MAX: 20.8
16.3
4
8
12
16
20
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20220729
Target: CPU - Model: blazeface
ms, Fewer Is Better
a
MIN: 5.55 / MAX: 6.94
5.70
b
MIN: 5.79 / MAX: 7.16
5.94
1.3365
2.673
4.0095
5.346
6.6825
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20220729
Target: CPU - Model: googlenet
ms, Fewer Is Better
a
MIN: 21.26 / MAX: 22.11
21.60
b
MIN: 22.72 / MAX: 23.66
23.01
6
12
18
24
30
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20220729
Target: CPU - Model: vgg16
ms, Fewer Is Better
a
MIN: 34.05 / MAX: 85.91
35.89
b
MIN: 38.84 / MAX: 55.18
39.21
9
18
27
36
45
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

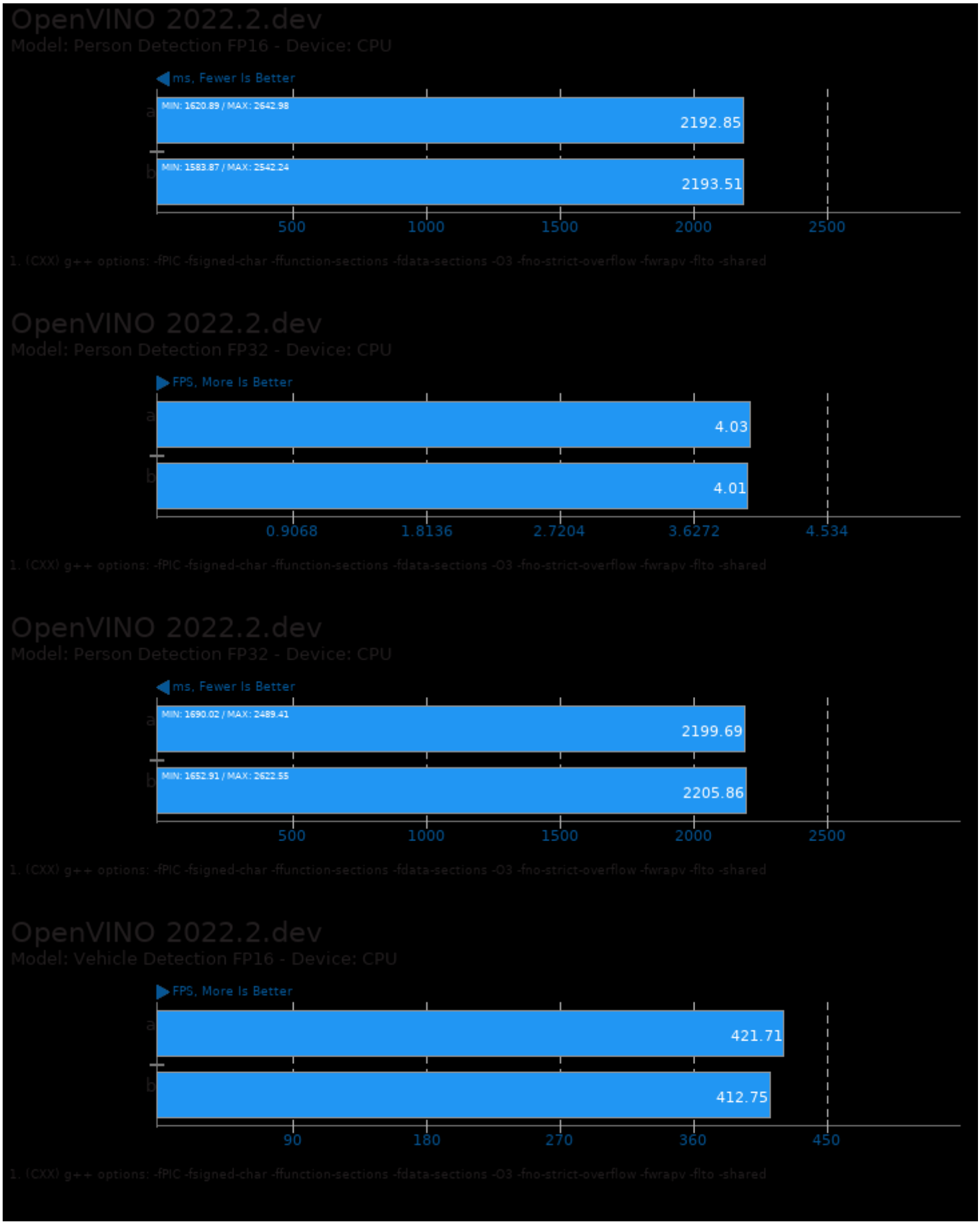

NCNN 20220729
Target: CPU - Model: resnet18
ms, Fewer Is Better
a
MIN: 13.14 / MAX: 15.08
13.35
b
MIN: 13.57 / MAX: 15.57
13.82
4
8
12
16
20
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20220729
Target: CPU - Model: alexnet
ms, Fewer Is Better
a
MIN: 8.26 / MAX: 11.64
8.45
b
MIN: 8.49 / MAX: 68.95
9.25
3
6
9
12
15
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20220729
Target: CPU - Model: resnet50
ms, Fewer Is Better
a
MIN: 24.7 / MAX: 56.89
26.10
b
MIN: 25.69 / MAX: 29.48
26.12
6
12
18
24
30
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20220729
Target: CPU - Model: yolov4-tiny
ms, Fewer Is Better
a
MIN: 31.39 / MAX: 33.18
31.71
b
MIN: 32.4 / MAX: 34.49
32.91
8
16
24
32
40
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

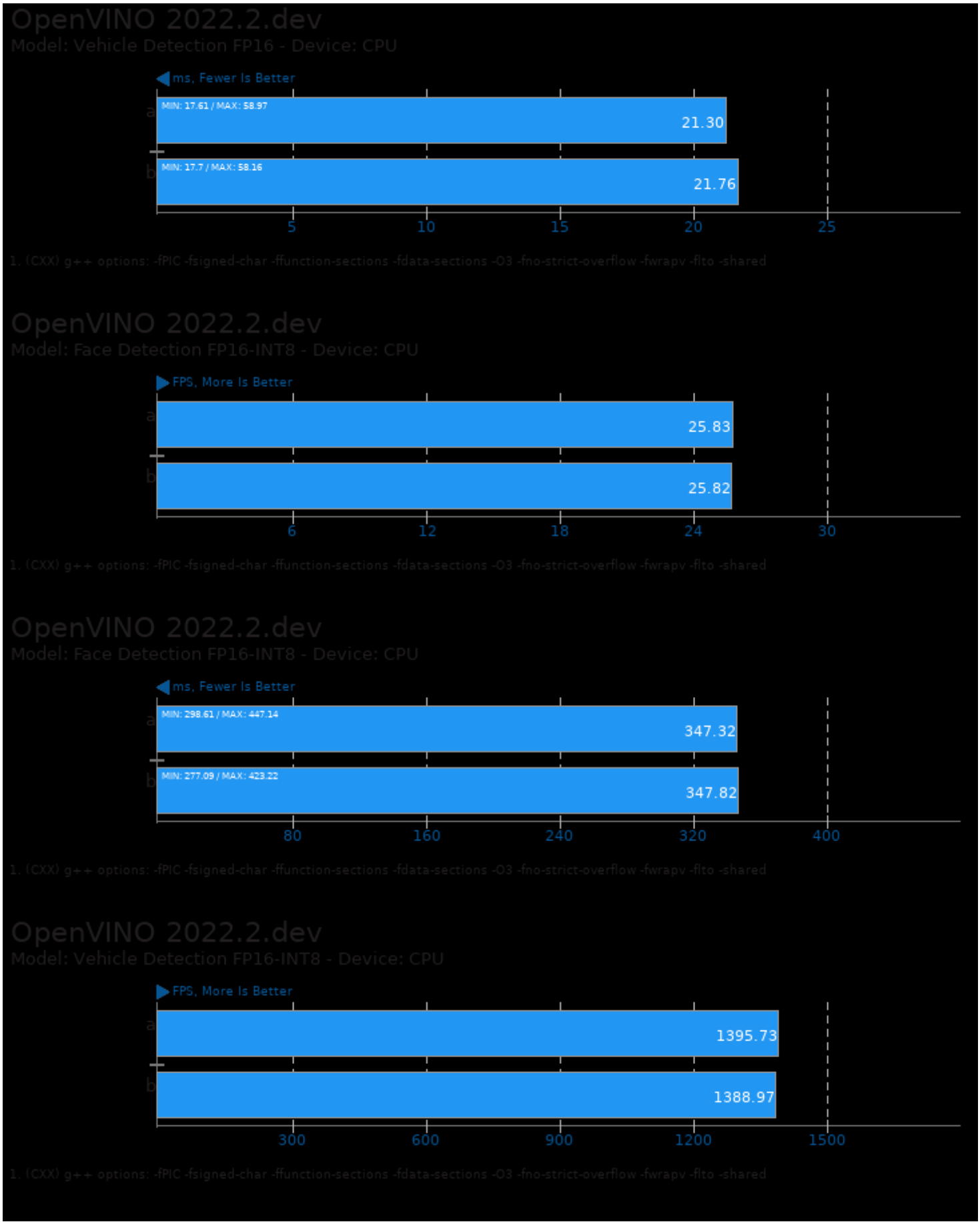

NCNN 20220729
Target: CPU - Model: squeezenet_ssd
ms, Fewer Is Better
MIN: 28.61 / MAX: 32.07
29.15
MIN: 26.83 / MAX: 101.49
27.75
7
14
21
28
35
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20220729
Target: CPU - Model: regnety_400m
ms, Fewer Is Better
MIN: 48.18 / MAX: 56.99
48.89
MIN: 50.45 / MAX: 52.71
51.14
12
24
36
48
60
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20220729
Target: CPU - Model: vision_transformer
ms, Fewer Is Better
MIN: 166.7 / MAX: 356.98
173.64
MIN: 167.69 / MAX: 270.28
172.93
40
80
120
160
200
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20220729
Target: CPU - Model: FastestDet
ms, Fewer Is Better
MIN: 15.41 / MAX: 17.05
15.69
MIN: 14.16 / MAX: 15.42
14.43
4
8
12
16
20
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

cascade lake refresh



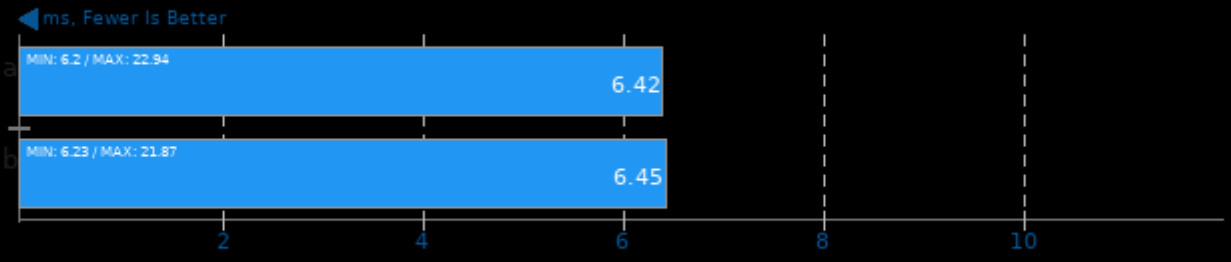

Blender 3.4
Blend File: Pabellon Barcelona - Compute: CPU-Only
Seconds, Fewer Is Better
a
192.12
b
191.19
40
80
120
160
200
OpenVINO 2022.2.dev
Model: Face Detection FP16 - Device: CPU
FPS, More Is Better
a
6.94
b
6.94
2
4
6
8
10
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Face Detection FP16 - Device: CPU
ms, Fewer Is Better
a
MIN: 918.94 / MAX: 1425.48
1283.20
b
MIN: 888.06 / MAX: 1519.14
1283.73
300
600
900
1200
1500
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Person Detection FP16 - Device: CPU
FPS, More Is Better
a
4.04
b
4.03
0.909
1.818
2.727
3.636
4.545
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared


OpenVINO 2022.2.dev
Model: Person Detection FP16 - Device: CPU
ms, Fewer Is Better
a
MIN: 1620.89 / MAX: 2642.98
2192.85
b
MIN: 1583.87 / MAX: 2542.24
2193.51
500
1000
1500
2000
2500
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Person Detection FP32 - Device: CPU
FPS, More Is Better
a
4.03
b
4.01
0.9068
1.8136
2.7204
3.6272
4.534
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Person Detection FP32 - Device: CPU
ms, Fewer Is Better
a
MIN: 1690.02 / MAX: 2489.41
2199.69
b
MIN: 1652.91 / MAX: 2622.55
2205.86
500
1000
1500
2000
2500
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Vehicle Detection FP16 - Device: CPU
FPS, More Is Better
a
421.71
b
412.75
90
180
270
360
450
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared


OpenVINO 2022.2.dev
Model: Vehicle Detection FP16 - Device: CPU
ms, Fewer Is Better
a
MIN: 17.61 / MAX: 58.97
21.30
b
MIN: 17.7 / MAX: 58.16
21.76
5
10
15
20
25
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Face Detection FP16-INT8 - Device: CPU
FPS, More Is Better
a
25.83
b
25.82
6
12
18
24
30
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Face Detection FP16-INT8 - Device: CPU
ms, Fewer Is Better
a
MIN: 298.61 / MAX: 447.14
347.32
b
MIN: 277.09 / MAX: 423.22
347.82
80
160
240
320
400
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Vehicle Detection FP16-INT8 - Device: CPU
FPS, More Is Better
a
1395.73
b
1388.97
300
600
900
1200
1500
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared

OpenVINO 2022.2.dev

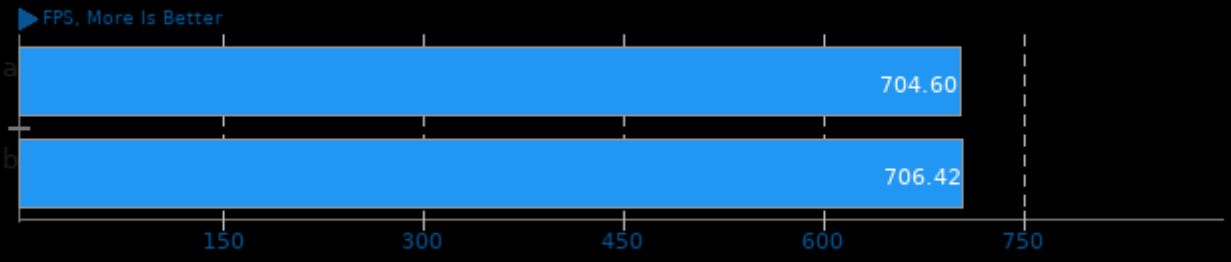
Model: Vehicle Detection FP16-INT8 - Device: CPU



1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared

OpenVINO 2022.2.dev

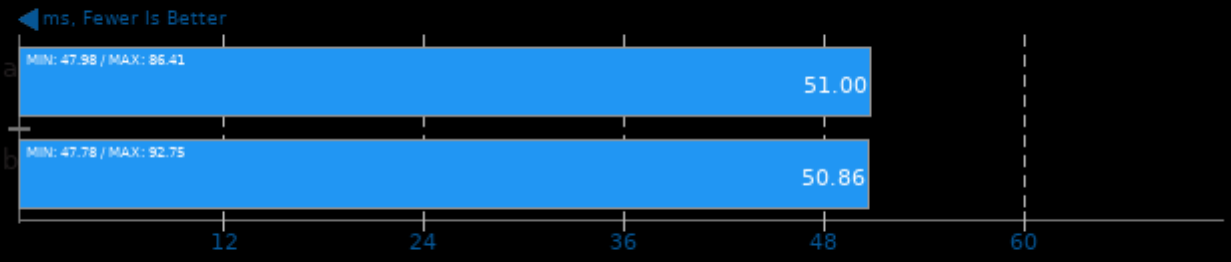
Model: Weld Porosity Detection FP16 - Device: CPU



1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared

OpenVINO 2022.2.dev

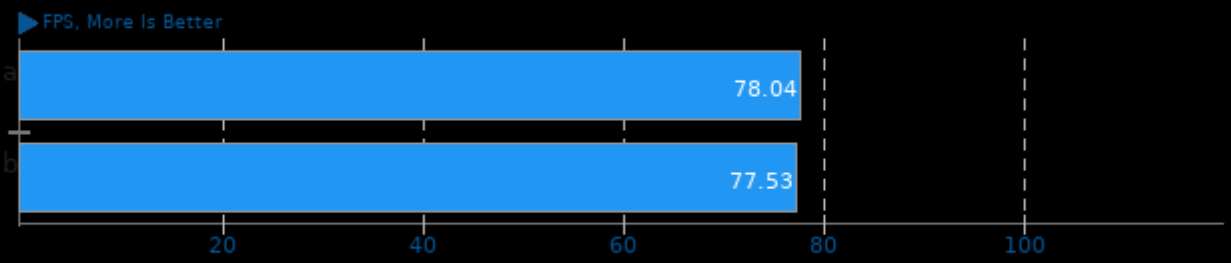
Model: Weld Porosity Detection FP16 - Device: CPU



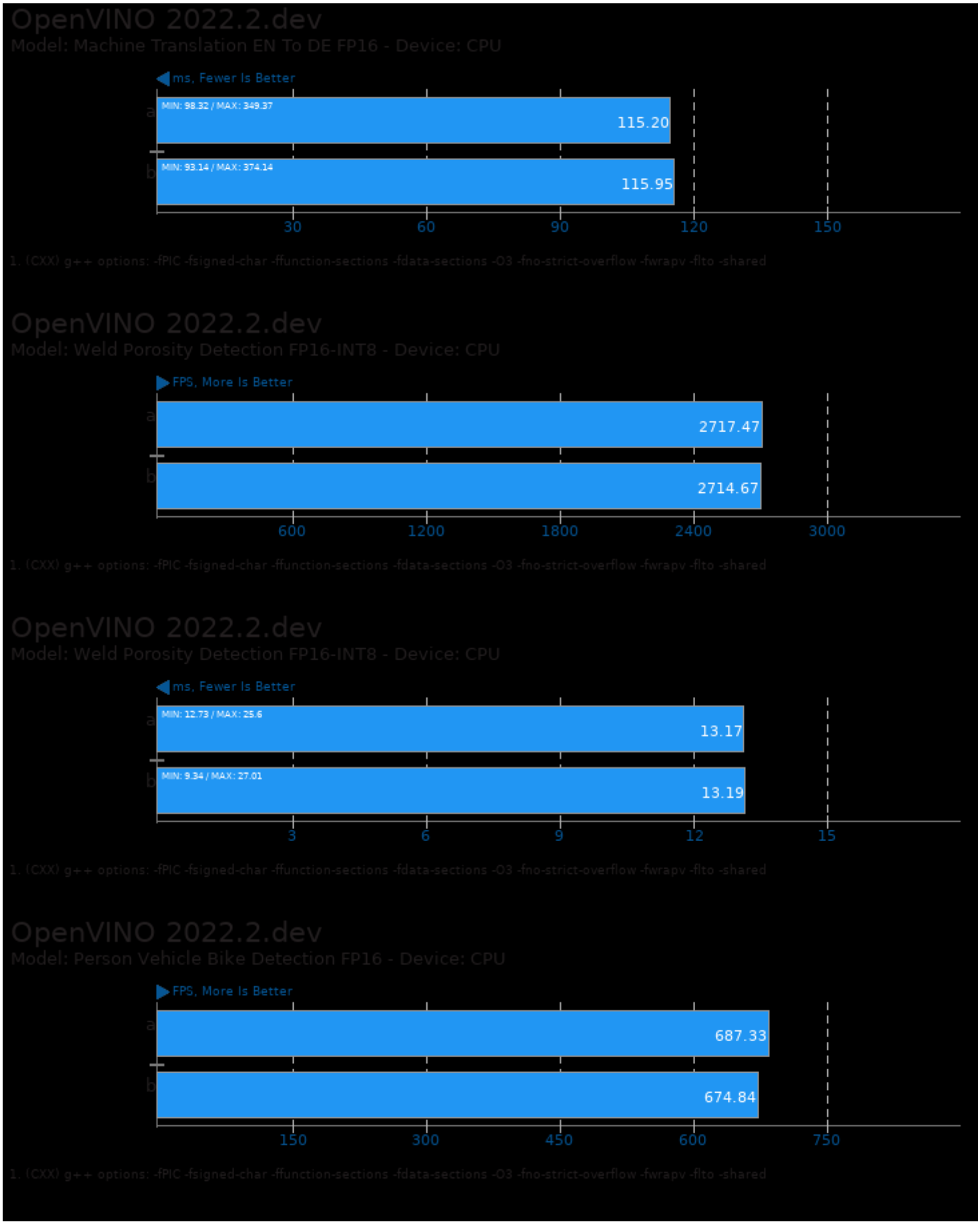
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared

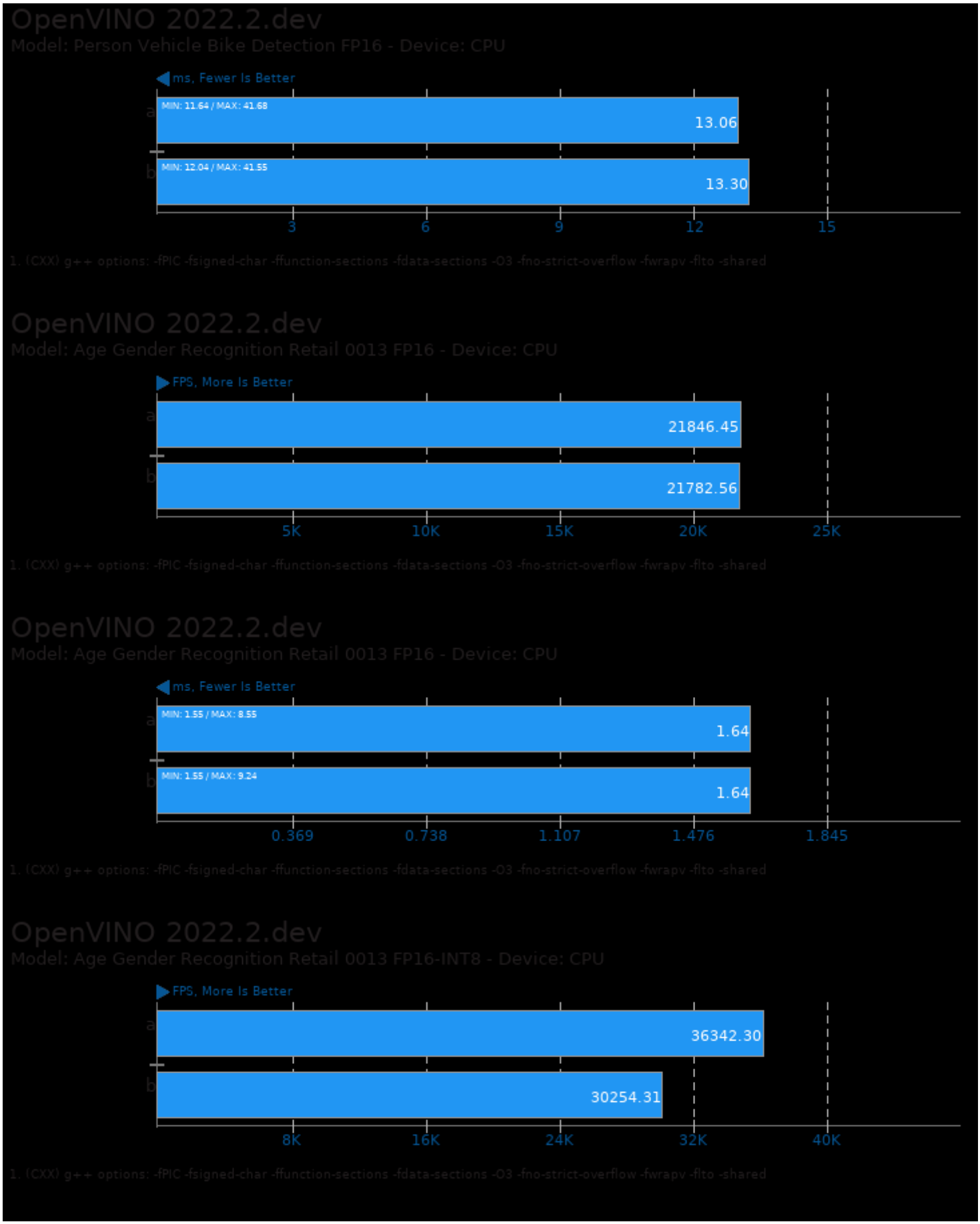
OpenVINO 2022.2.dev

Model: Machine Translation EN To DE FP16 - Device: CPU



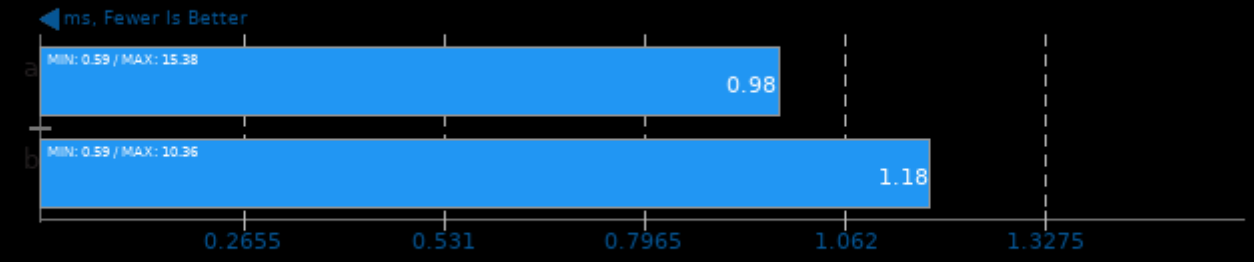
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared


OpenVINO 2022.2.dev
Model: Machine Translation EN To DE FP16 - Device: CPU
ms, Fewer Is Better
a
MIN: 98.32 / MAX: 349.37
115.20
b
MIN: 93.14 / MAX: 374.14
115.95
30
60
90
120
150
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Weld Porosity Detection FP16-INT8 - Device: CPU
FPS, More Is Better
a
2717.47
b
2714.67
600
1200
1800
2400
3000
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Weld Porosity Detection FP16-INT8 - Device: CPU
ms, Fewer Is Better
a
MIN: 12.73 / MAX: 25.6
13.17
b
MIN: 9.34 / MAX: 27.01
13.19
3
6
9
12
15
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Person Vehicle Bike Detection FP16 - Device: CPU
FPS, More Is Better
a
687.33
b
674.84
150
300
450
600
750
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared


OpenVINO 2022.2.dev
Model: Person Vehicle Bike Detection FP16 - Device: CPU
ms, Fewer Is Better
MIN: 11.64 / MAX: 41.68
13.06
MIN: 12.04 / MAX: 41.55
13.30
3
6
9
12
15
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Age Gender Recognition Retail 0013 FP16 - Device: CPU
FPS, More Is Better
21846.45
21782.56
5K
10K
15K
20K
25K
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Age Gender Recognition Retail 0013 FP16 - Device: CPU
ms, Fewer Is Better
MIN: 1.55 / MAX: 8.55
1.64
MIN: 1.55 / MAX: 9.24
1.64
0.369
0.738
1.107
1.476
1.845
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared
OpenVINO 2022.2.dev
Model: Age Gender Recognition Retail 0013 FP16-INT8 - Device: CPU
FPS, More Is Better
36342.30
30254.31
8K
16K
24K
32K
40K
1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared

OpenVINO 2022.2.dev

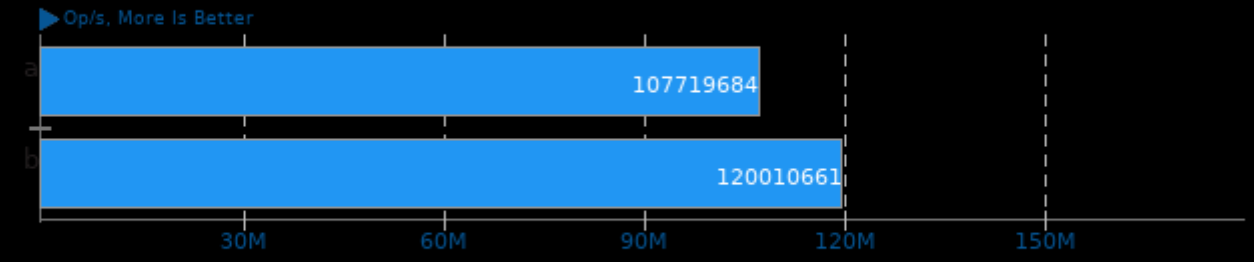
Model: Age Gender Recognition Retail 0013 FP16-INT8 - Device: CPU



1. (CXX) g++ options: -fPIC -fsigned-char -ffunction-sections -fdata-sections -O3 -fno-strict-overflow -fwrapv -flto -shared

Facebook RocksDB 7.5.3

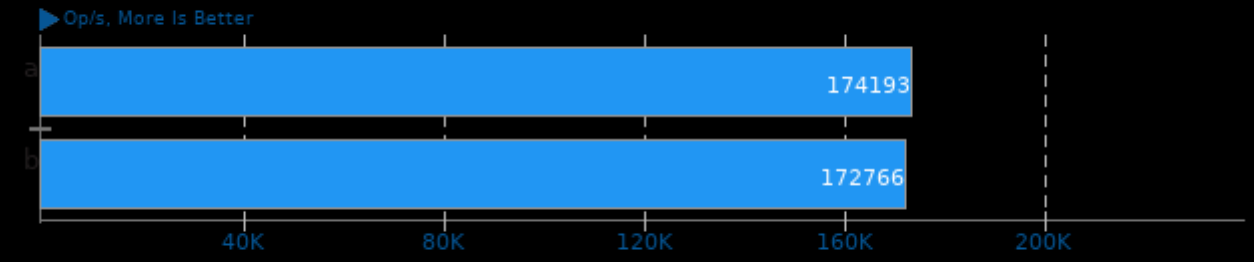
Test: Random Read



1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

Facebook RocksDB 7.5.3

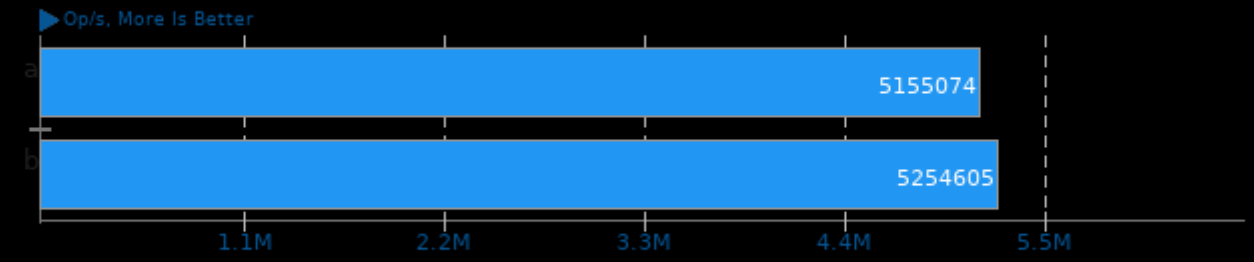
Test: Update Random



1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

Facebook RocksDB 7.5.3

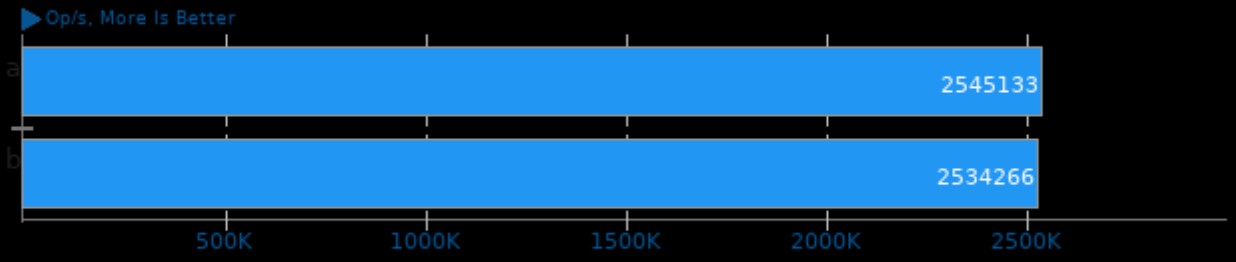
Test: Read While Writing



1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

Facebook RocksDB 7.5.3

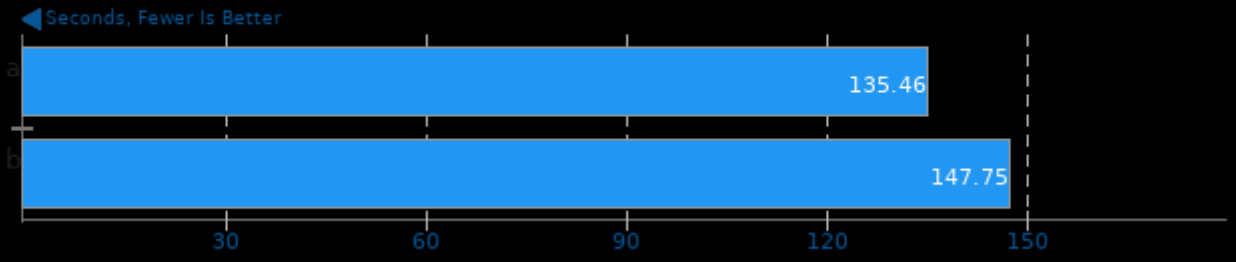
Test: Read Random Write Random



1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

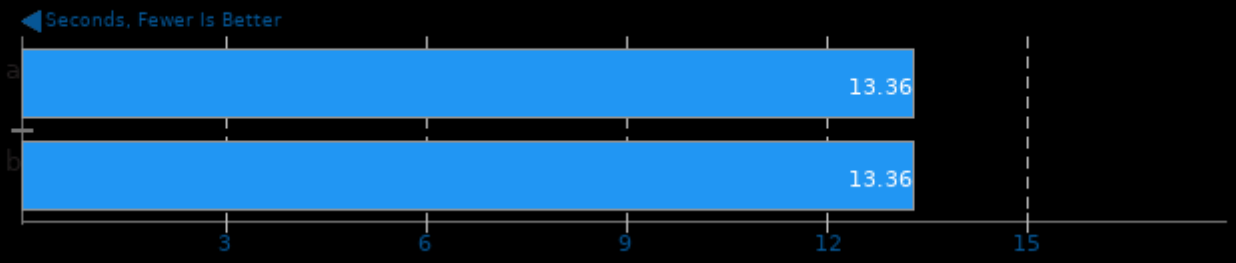
Numenta Anomaly Benchmark 1.1

Detector: KNN CAD



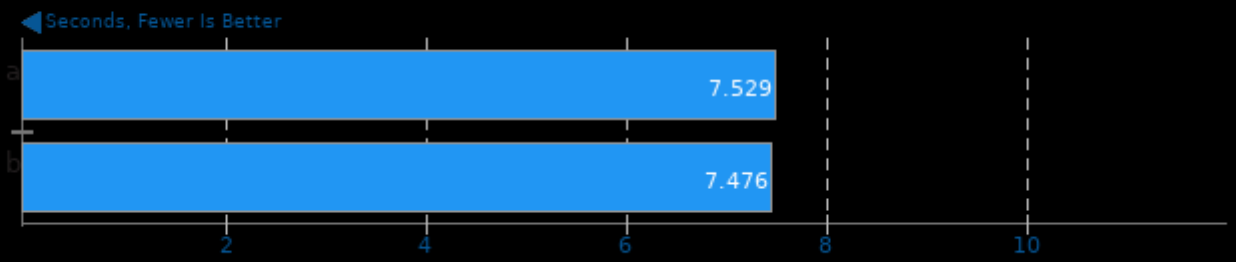
Numenta Anomaly Benchmark 1.1

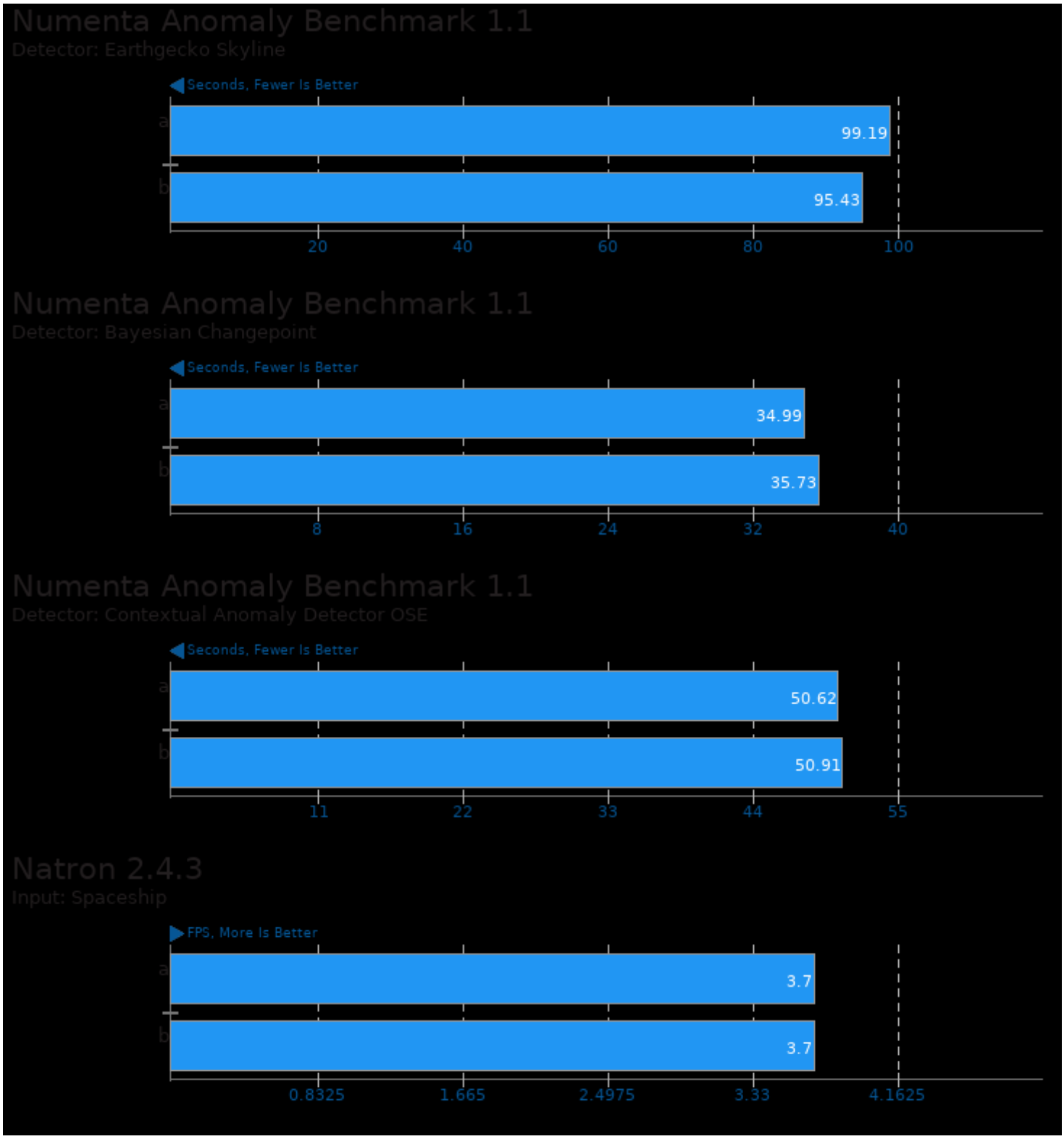
Detector: Relative Entropy

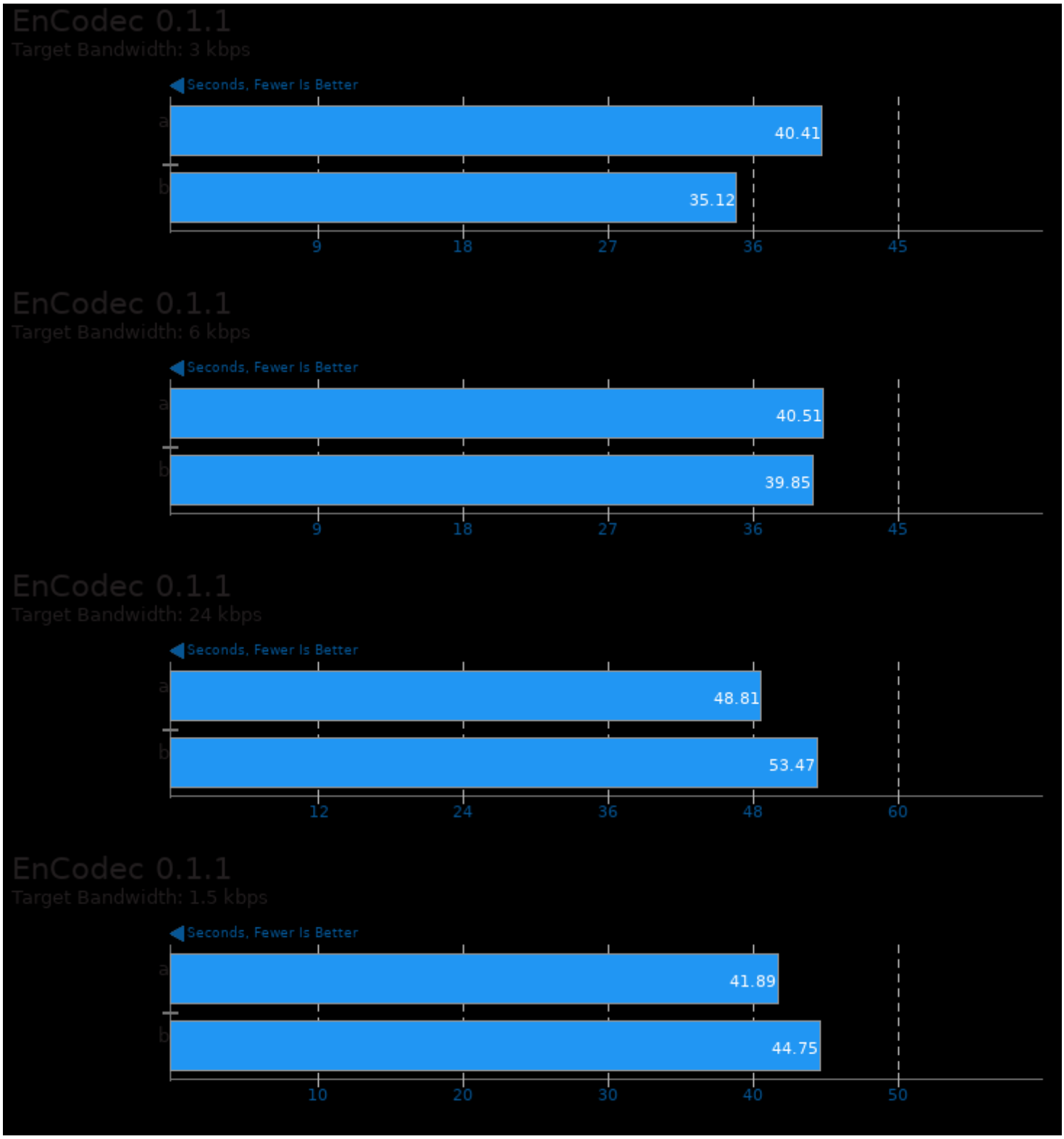


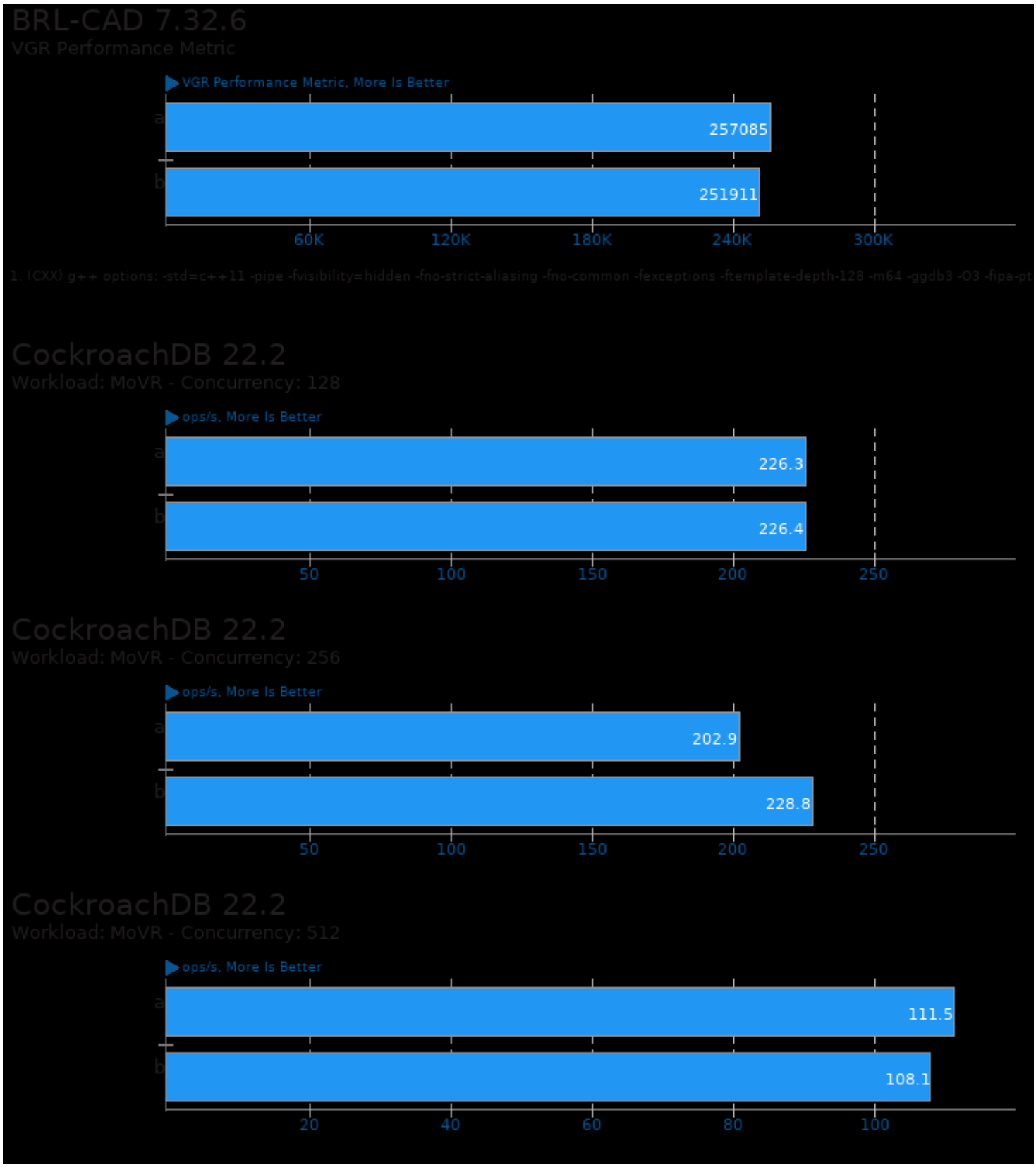
Numenta Anomaly Benchmark 1.1

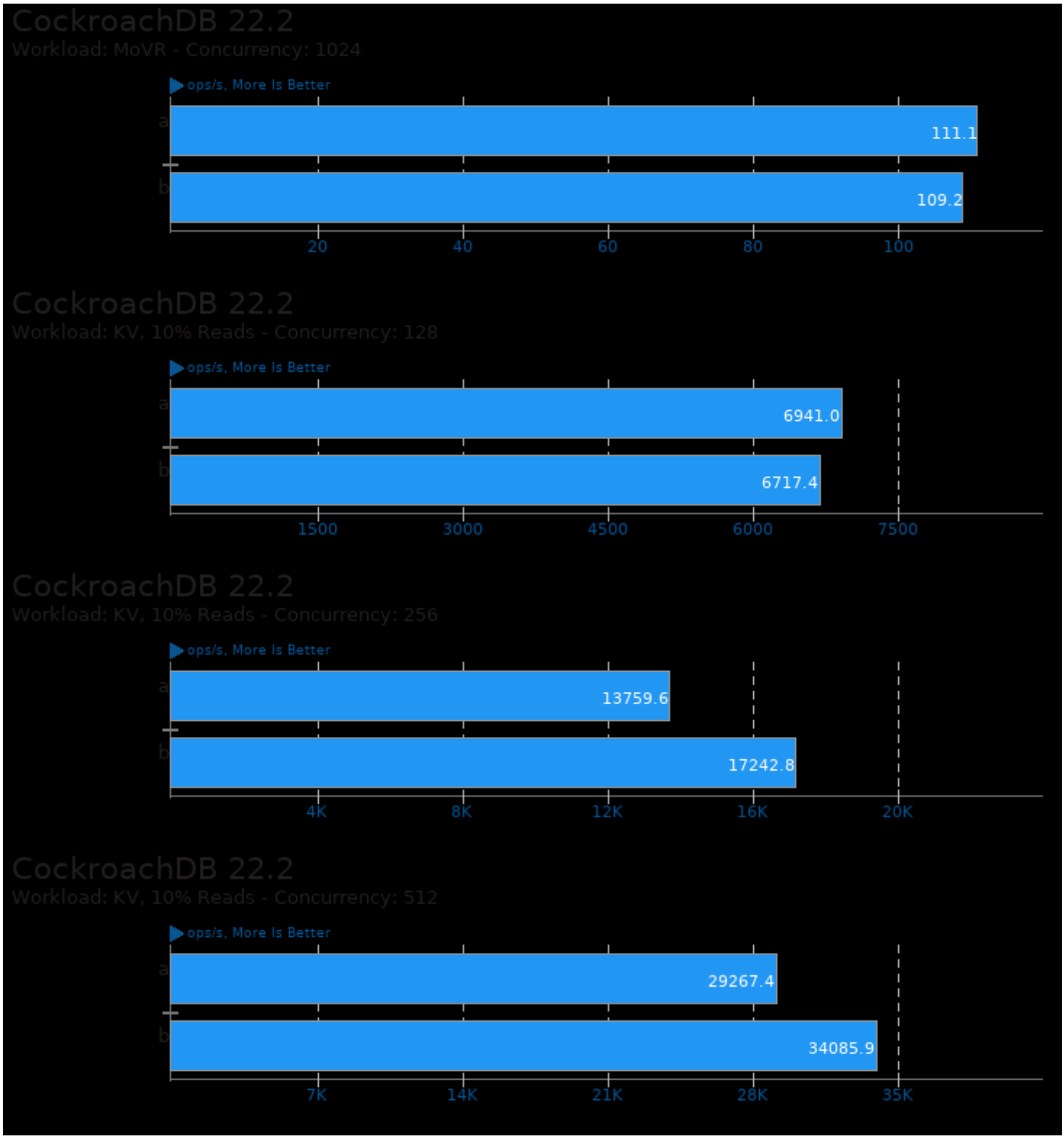
Detector: Windowed Gaussian



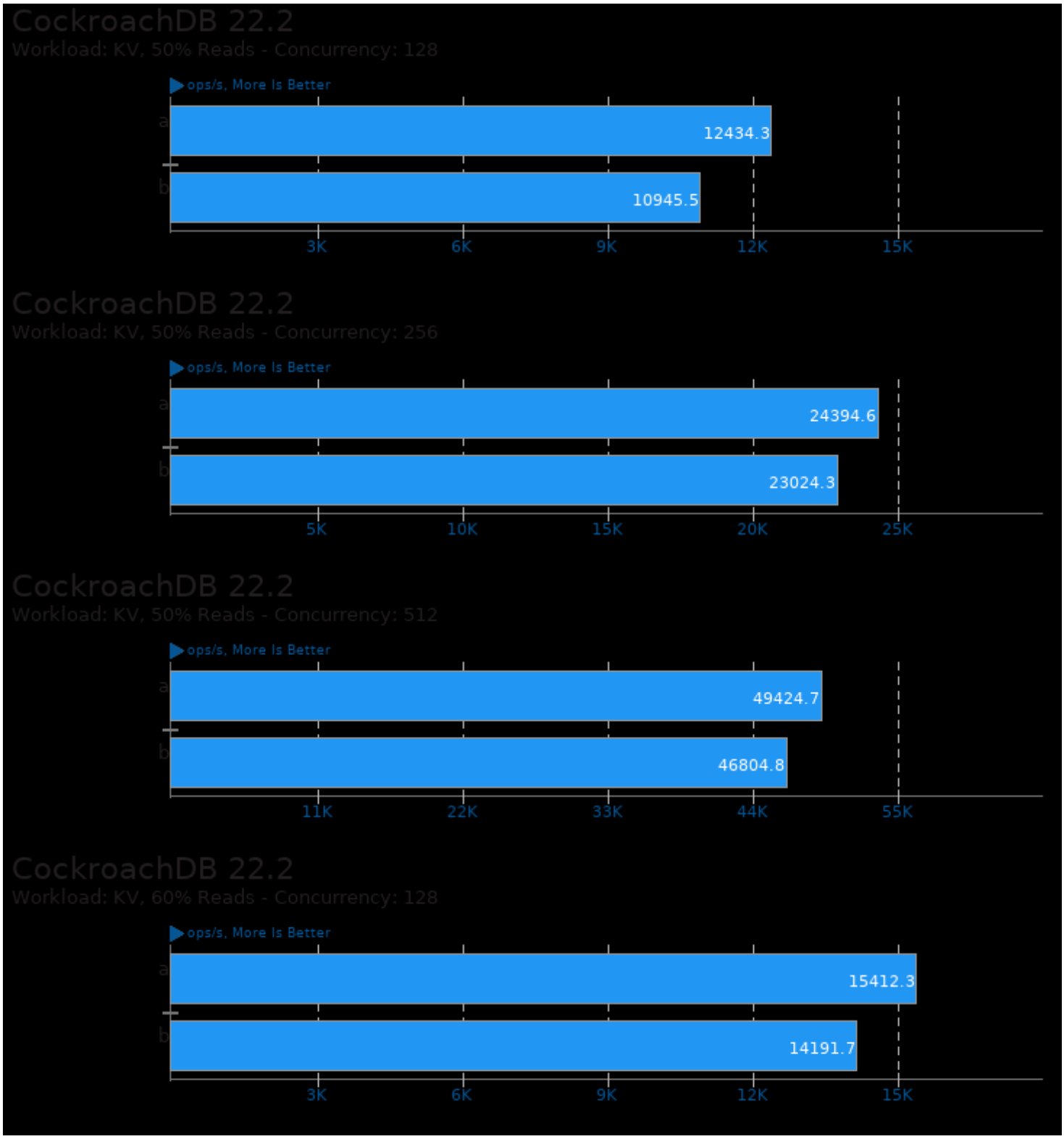

Numenta Anomaly Benchmark 1.1
Detector: Earthgecko Skyline
Seconds, Fewer Is Better
a
99.19
b
95.43
20
40
60
80
100
Numenta Anomaly Benchmark 1.1
Detector: Bayesian Changepoint
Seconds, Fewer Is Better
a
34.99
b
35.73
8
16
24
32
40
Numenta Anomaly Benchmark 1.1
Detector: Contextual Anomaly Detector OSE
Seconds, Fewer Is Better
a
50.62
b
50.91
11
22
33
44
55
Natron 2.4.3
Input: Spaceship
FPS, More Is Better
a
3.7
b
3.7
0.8325
1.665
2.4975
3.33
4.1625


EnCodec 0.1.1
Target Bandwidth: 3 kbps
Seconds, Fewer Is Better
a
b
40.41
35.12
9
18
27
36
45
EnCodec 0.1.1
Target Bandwidth: 6 kbps
Seconds, Fewer Is Better
a
b
40.51
39.85
9
18
27
36
45
EnCodec 0.1.1
Target Bandwidth: 24 kbps
Seconds, Fewer Is Better
a
b
48.81
53.47
12
24
36
48
60
EnCodec 0.1.1
Target Bandwidth: 1.5 kbps
Seconds, Fewer Is Better
a
b
41.89
44.75
10
20
30
40
50

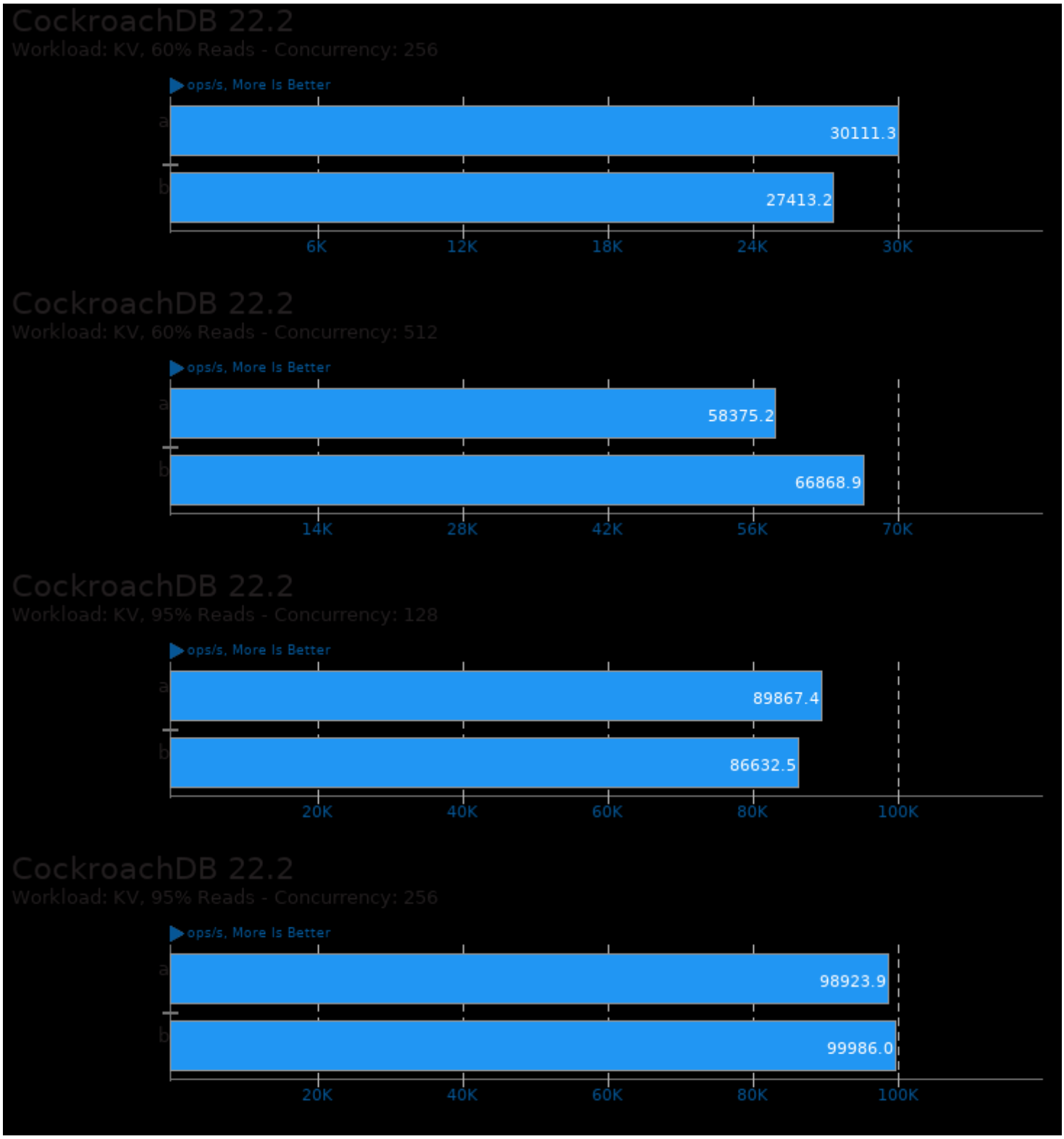

BRL-CAD 7.32.6
VGR Performance Metric
VGR Performance Metric, More Is Better
a
257085
b
251911
60K
120K
180K
240K
300K
1. (CXX) g++ options: -std=c++11 -pipe -fvisibility=hidden -fno-strict-aliasing -fno-common -fexceptions -ftemplate-depth-128 -m64 -ggdb3 -O3 -fipa-pt
CockroachDB 22.2
Workload: MoVR - Concurrency: 128
ops/s, More Is Better
a
226.3
b
226.4
50
100
150
200
250
CockroachDB 22.2
Workload: MoVR - Concurrency: 256
ops/s, More Is Better
a
202.9
b
228.8
50
100
150
200
250
CockroachDB 22.2
Workload: MoVR - Concurrency: 512
ops/s, More Is Better
a
111.5
b
108.1
20
40
60
80
100


CockroachDB 22.2
Workload: MoVR - Concurrency: 1024
ops/s, More Is Better
a
111.1
b
109.2
20
40
60
80
100
CockroachDB 22.2
Workload: KV, 10% Reads - Concurrency: 128
ops/s, More Is Better
a
6941.0
b
6717.4
1500
3000
4500
6000
7500
CockroachDB 22.2
Workload: KV, 10% Reads - Concurrency: 256
ops/s, More Is Better
a
13759.6
b
17242.8
4K
8K
12K
16K
20K
CockroachDB 22.2
Workload: KV, 10% Reads - Concurrency: 512
ops/s, More Is Better
a
29267.4
b
34085.9
7K
14K
21K
28K
35K

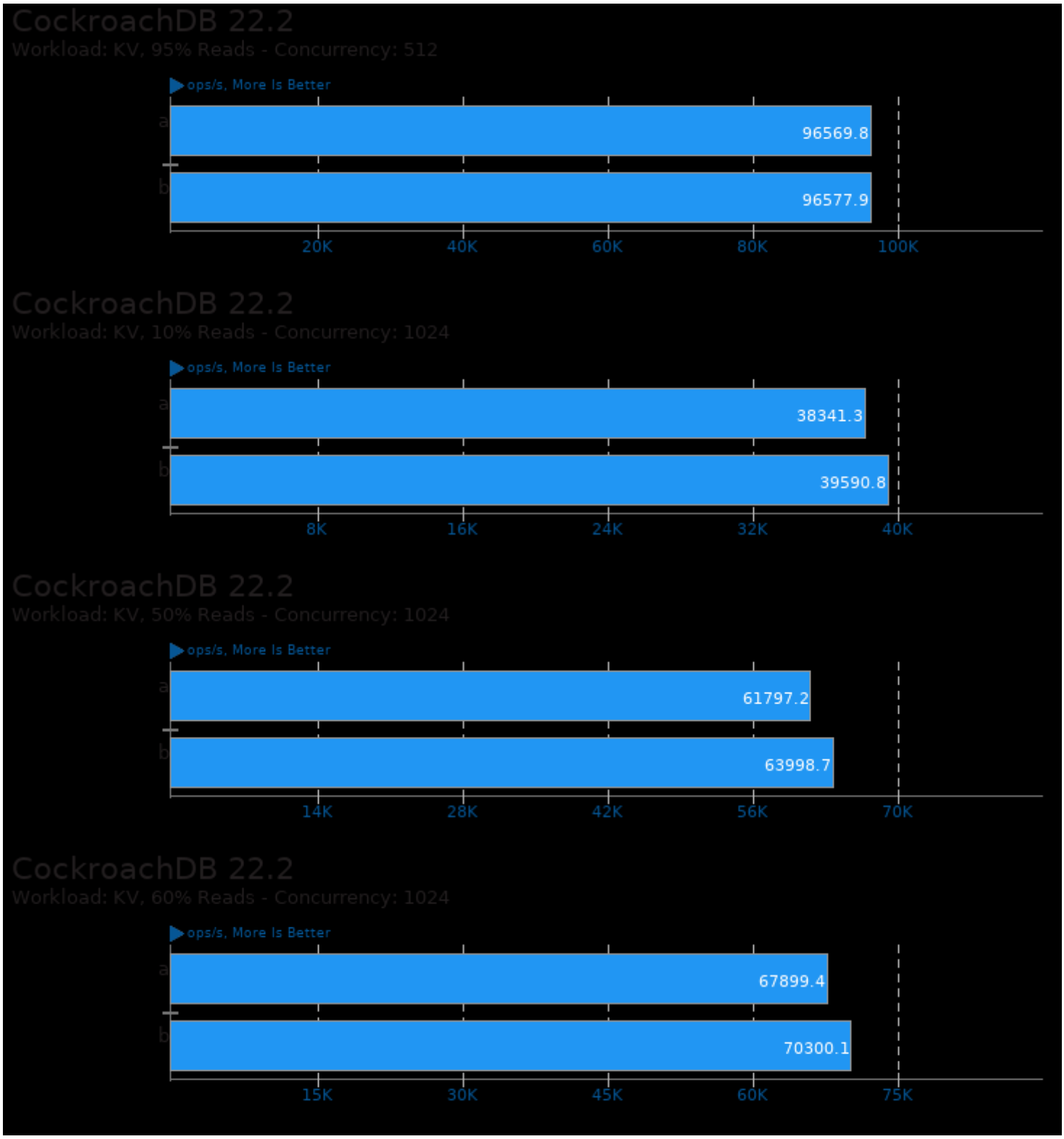
cascade lake refresh



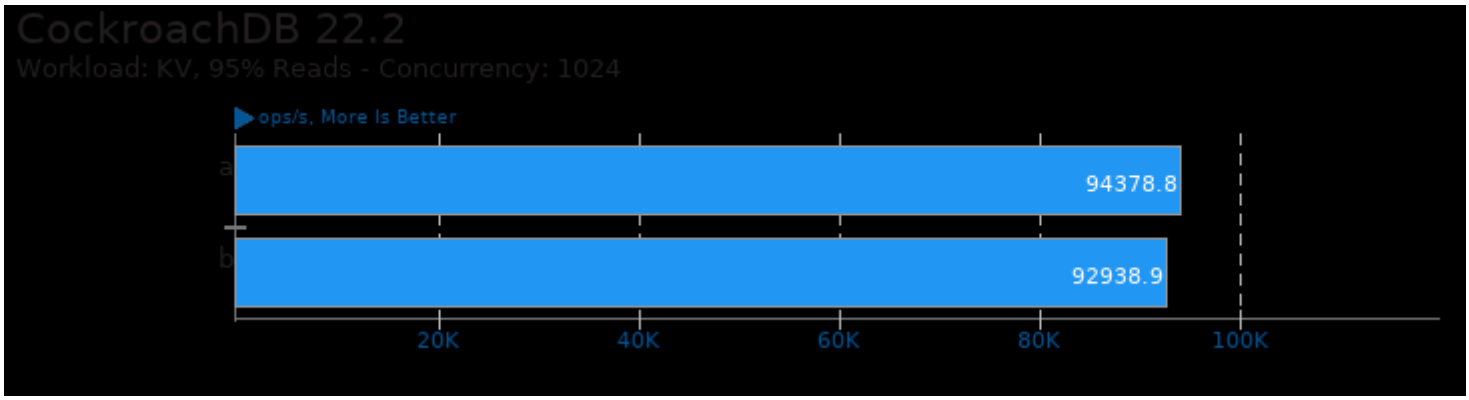
cascade lake refresh



cascade lake refresh

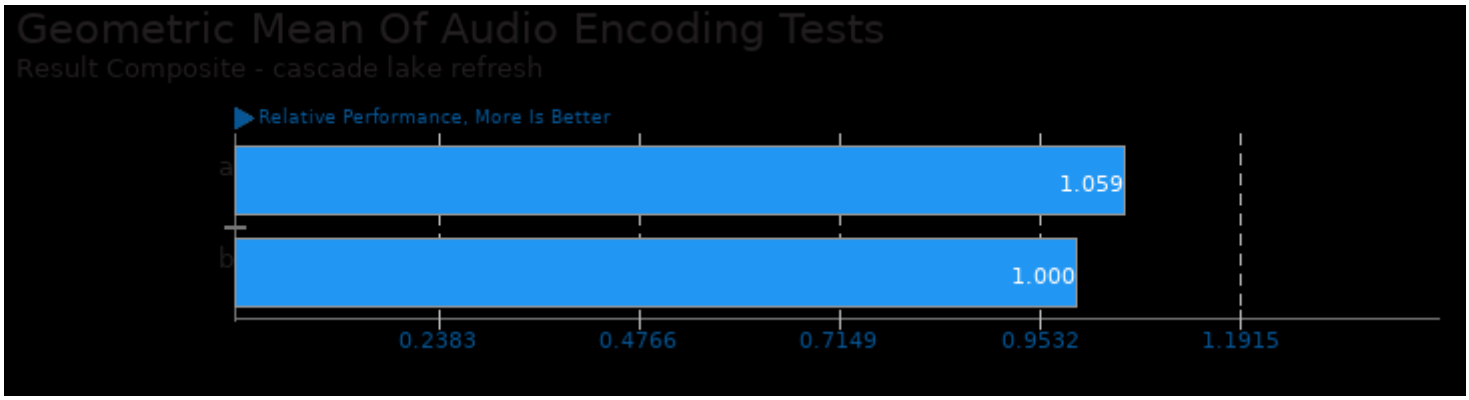


cascade lake refresh



cascade lake refresh

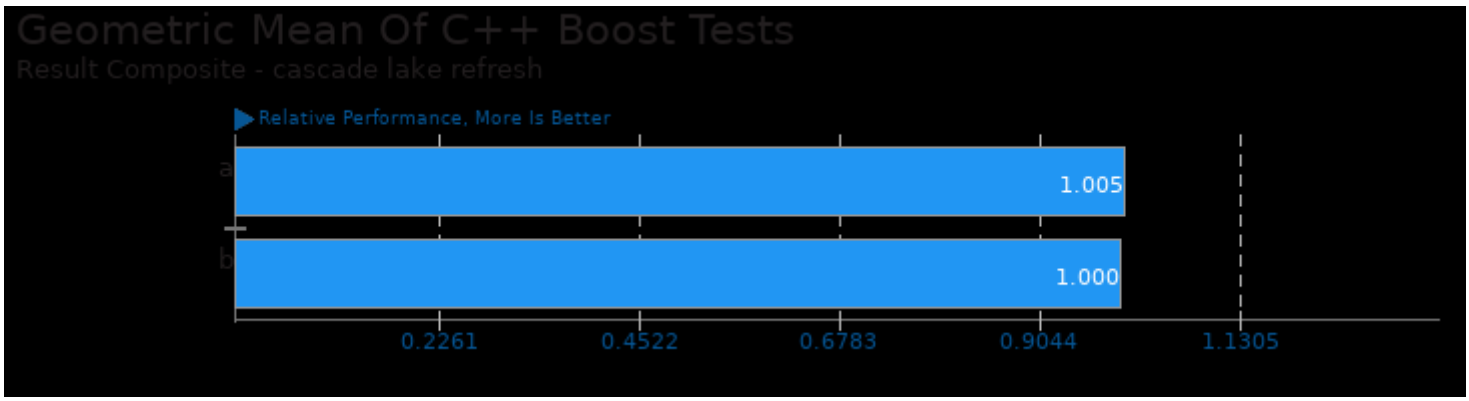
These geometric means are based upon test groupings / test suites for this result file.



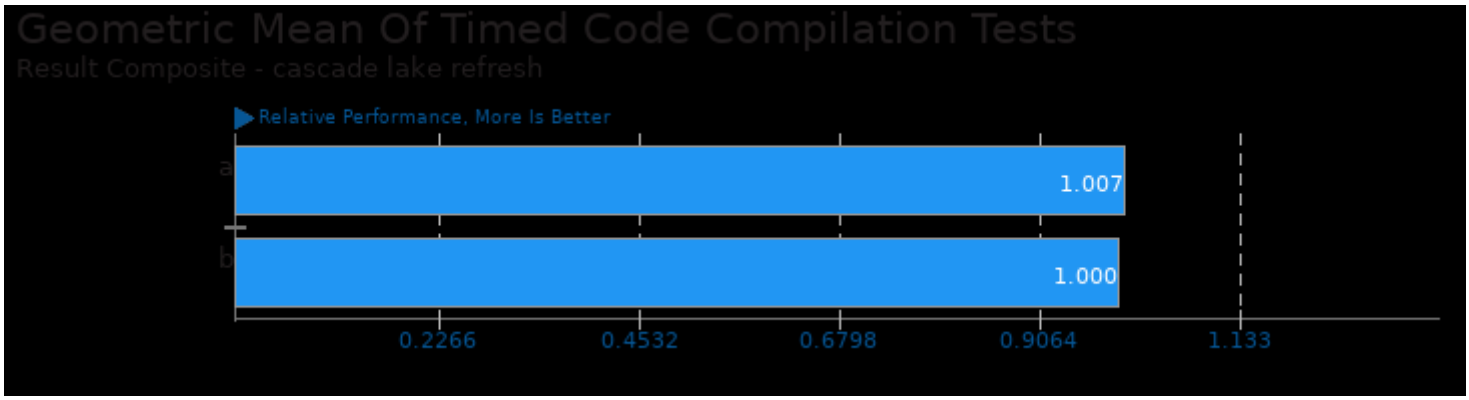
Geometric mean based upon tests: pts/encode-flac and pts/stargate



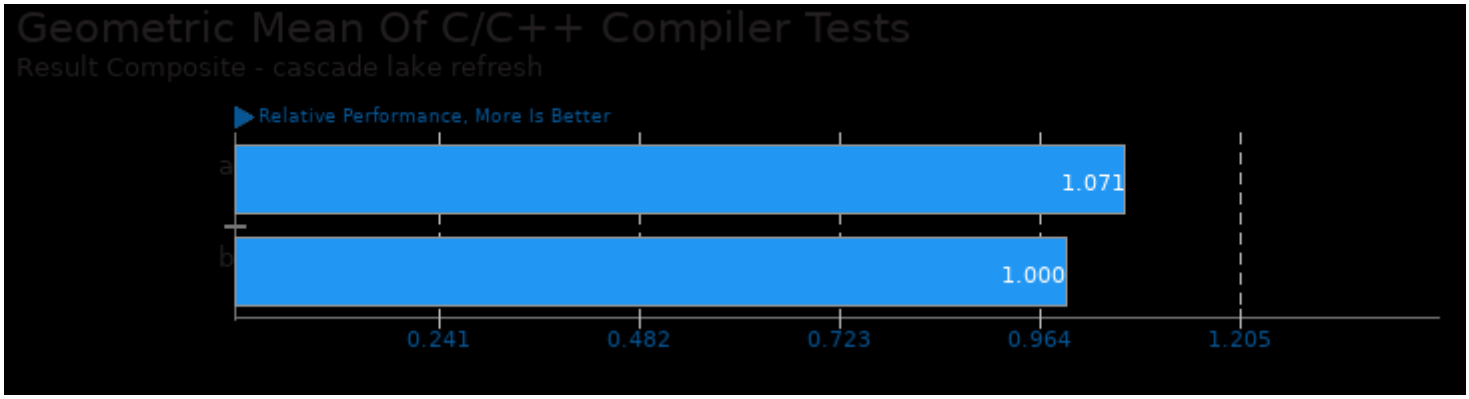
Geometric mean based upon tests: pts/aom-av1, pts/svt-av1 and pts/avifenc



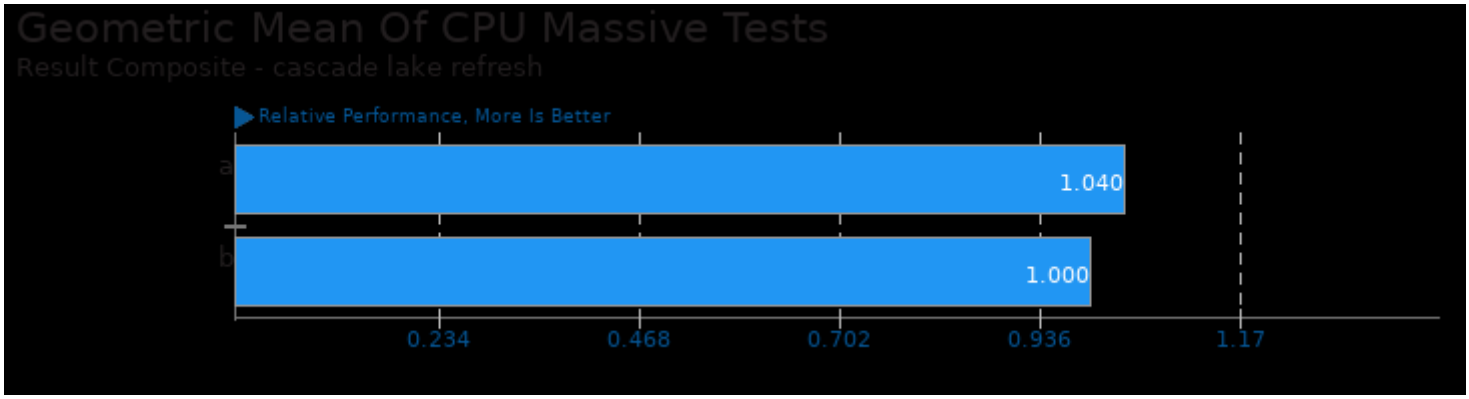
Geometric mean based upon tests: pts/openfoam and pts/srsran



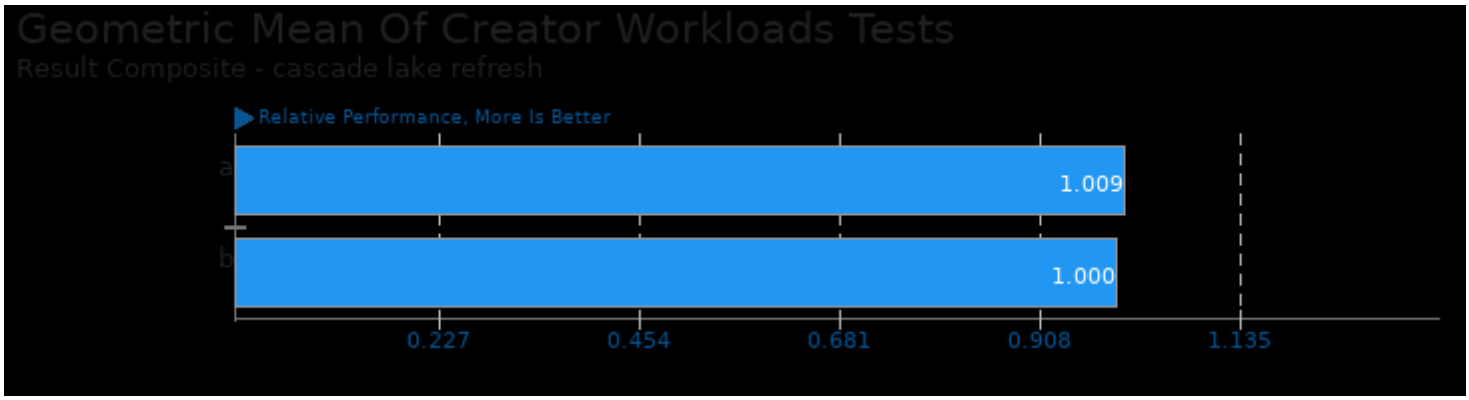
Geometric mean based upon tests: pts/build-php, pts/build-linux-kernel, pts/build-python, pts/build-erlang and pts/build-nodejs



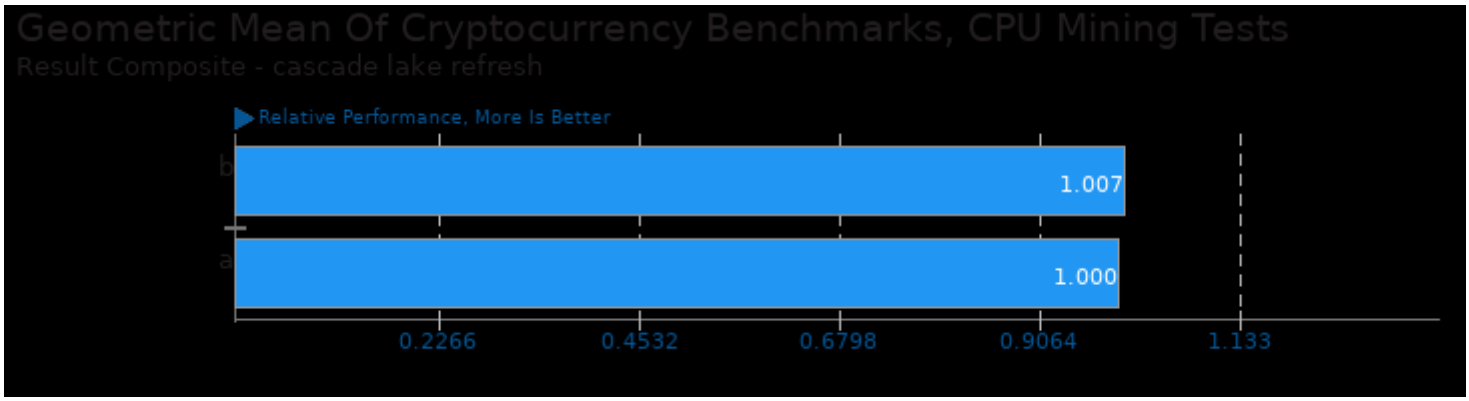
Geometric mean based upon tests: pts/graphics-magick, pts/build-php, pts/compress-7zip, pts/encode-flac, pts/pgbench, pts/lammps, pts/aircrack-ng, pts/aom-av1 and pts/svt-av1



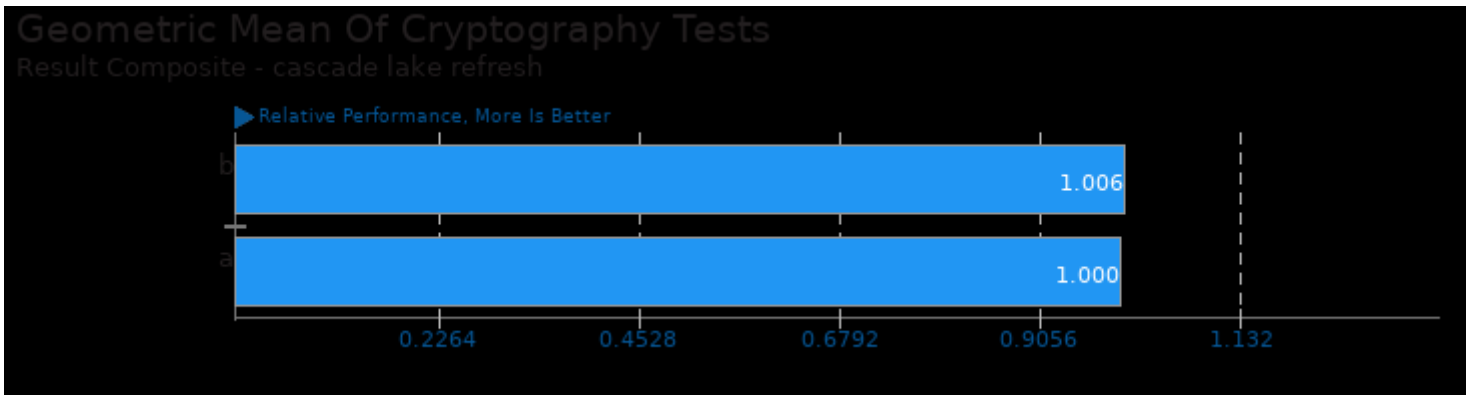
Geometric mean based upon tests: pts/brl-cad, pts/build-linux-kernel, pts/build-php, pts/compress-7zip, pts/svt-av1, pts/encode-flac, pts/graphics-magick, pts/lammps, pts/onednn, pts/numenta-nab, pts/pgbench, pts/redis, pts/stress-ng, pts/tensorflow, pts/blender and pts/cpuminer-opt



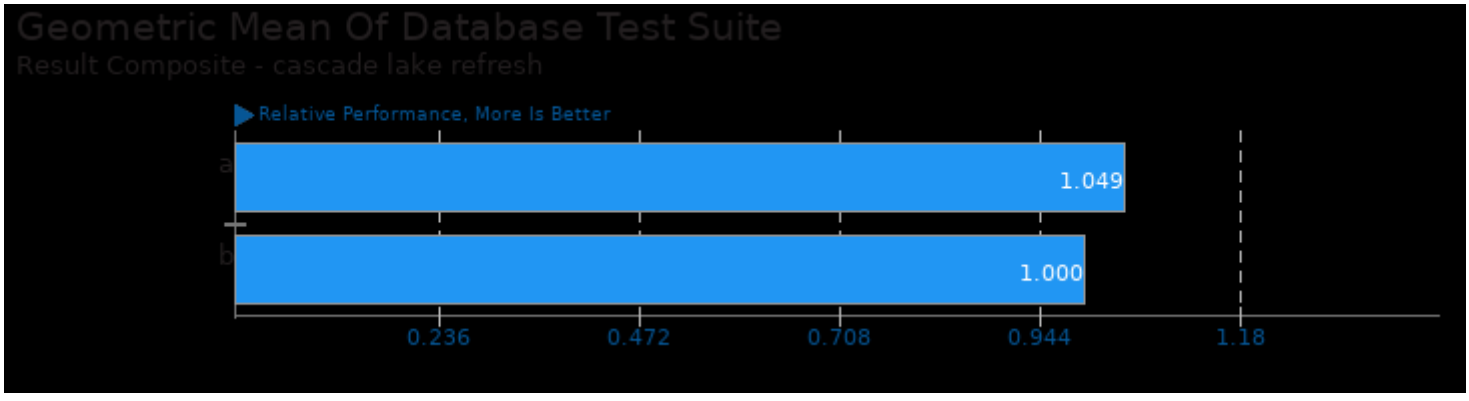
Geometric mean based upon tests: pts/ospray-studio, pts/blender, pts/natron, pts/aom-av1, pts/svt-av1, pts/avifenc, pts/encode-flac, pts/stargate, pts/graphics-magick, pts/webp, pts/webp2, pts/jpegxl, pts/jpegxl-decode, pts/onednn, pts/openvkl, pts/openvino, pts/astcenc and pts/brl-cad



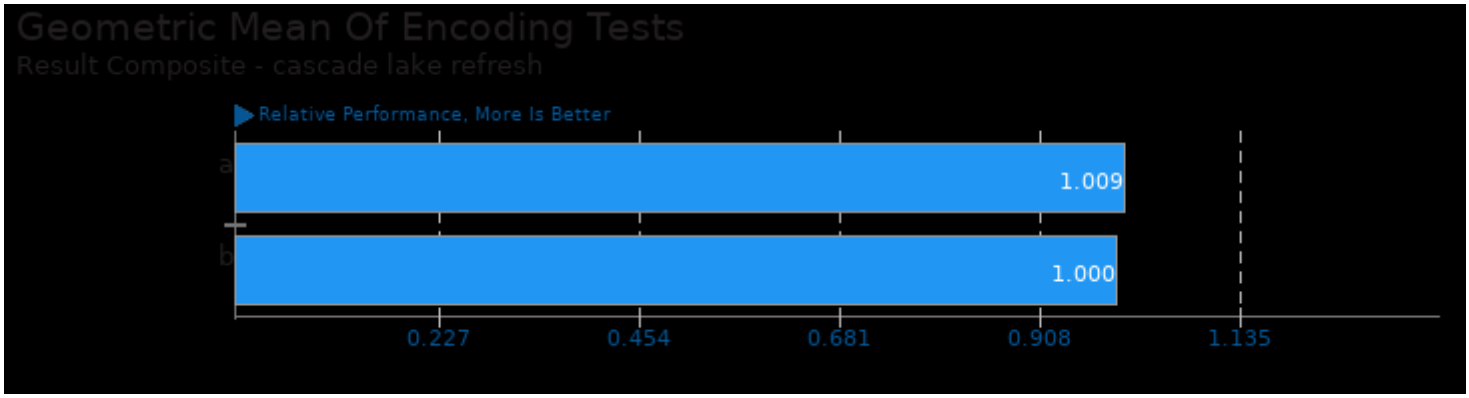
Geometric mean based upon tests: pts/cpuminer-opt and pts/xmrig



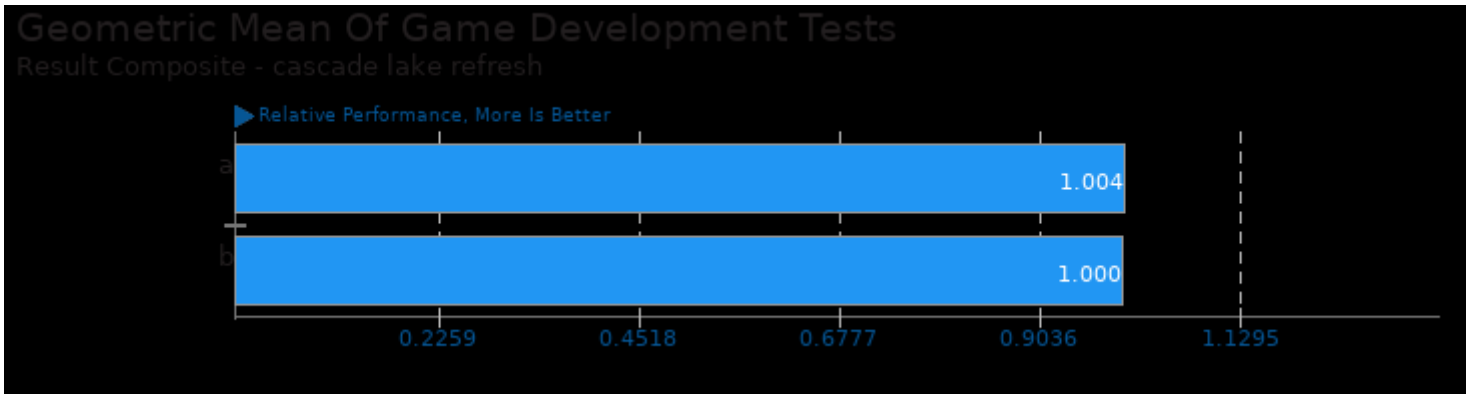
Geometric mean based upon tests: pts/aircrack-ng, pts/cpuminer-opt and pts/xmrig



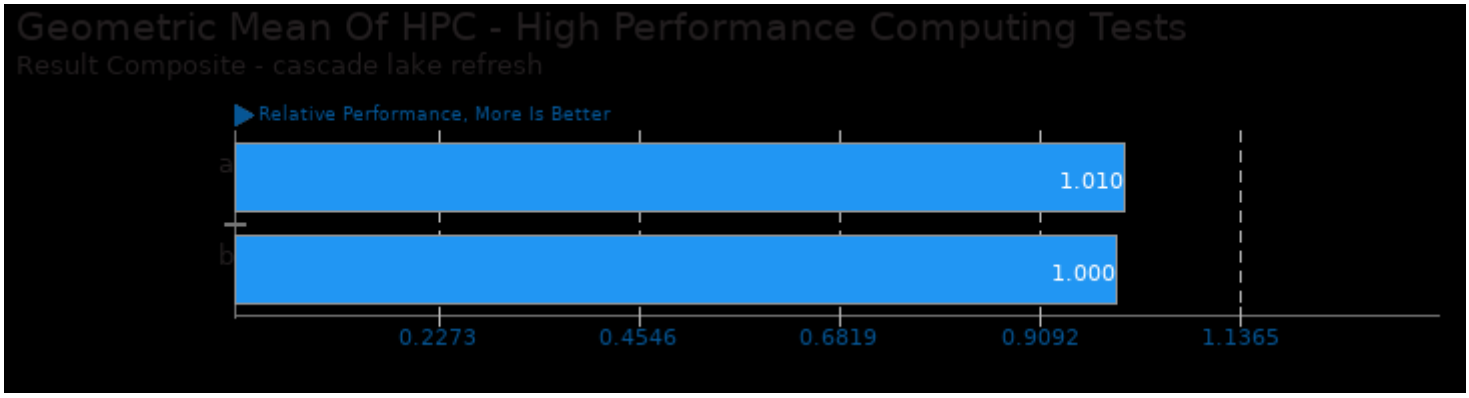
Geometric mean based upon tests: pts/redis, pts/dragonflydb, pts/memtier-benchmark, pts/rocksdb, pts/pgbench, pts/clickhouse, pts/spark and pts/cockroach



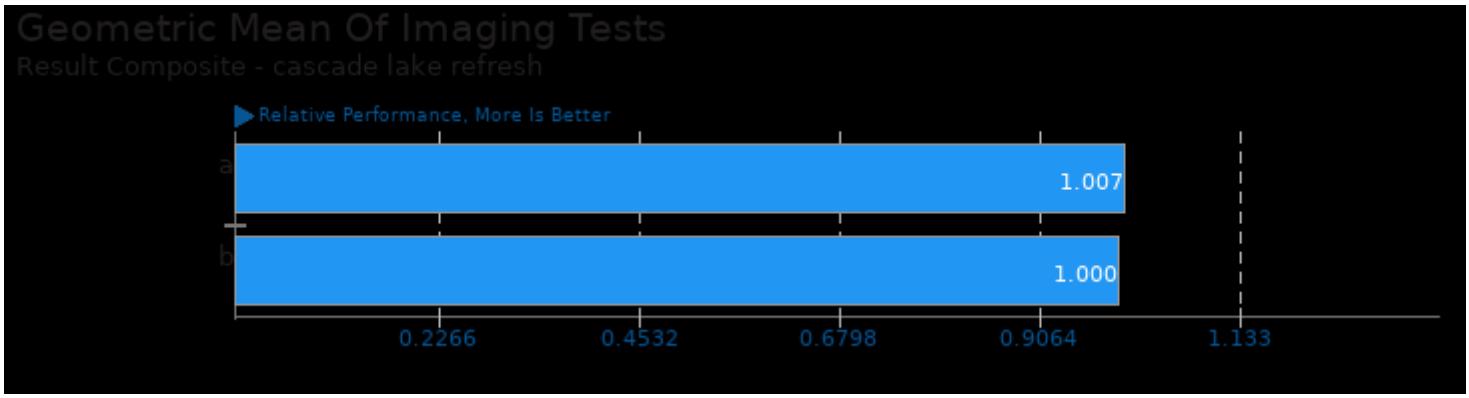
Geometric mean based upon tests: pts/encode-flac, pts/stargate, pts/aom-av1, pts/svt-av1 and pts/avifenc



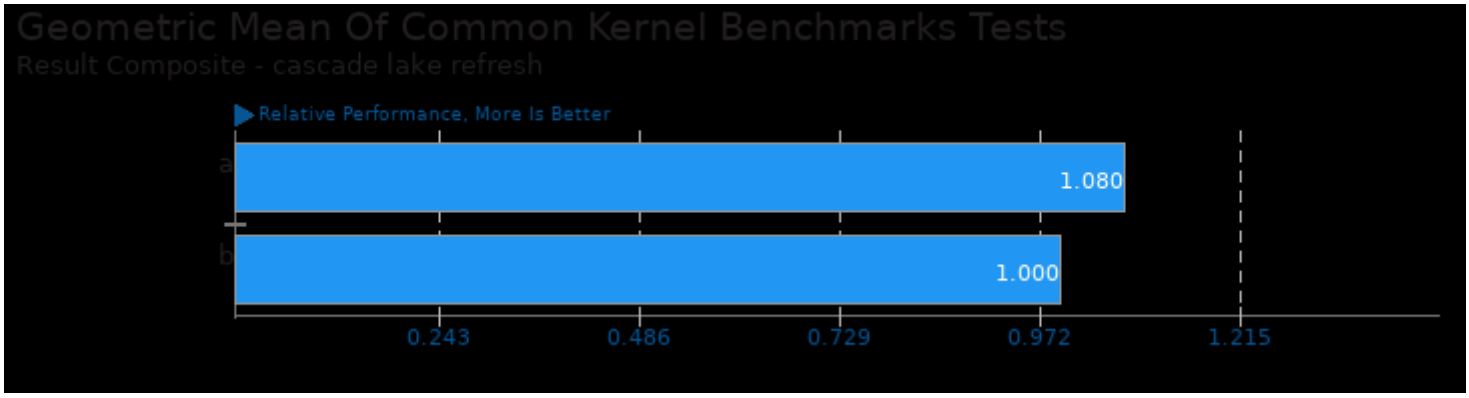
Geometric mean based upon tests: pts/astcenc, pts/blender and pts/openvkl



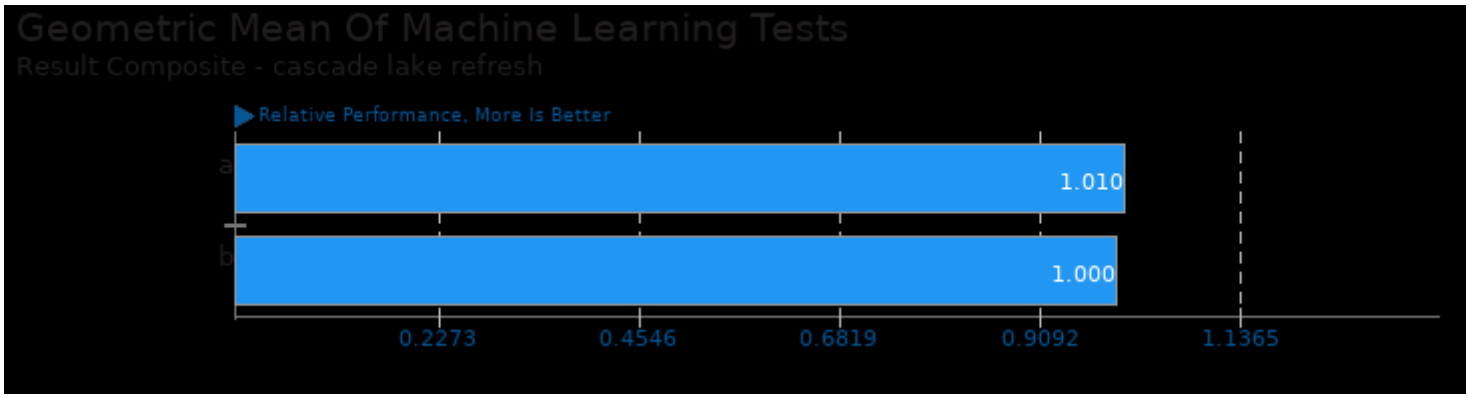
Geometric mean based upon tests: pts/lammps, pts/openfoam, pts/mnn, pts/ncnn, pts/numenta-nab, pts/tensorflow, pts/onednn, pts/openvino, pts/spacy, pts/deepsparse, pts/openradioss, pts/nekrs and pts/minibude



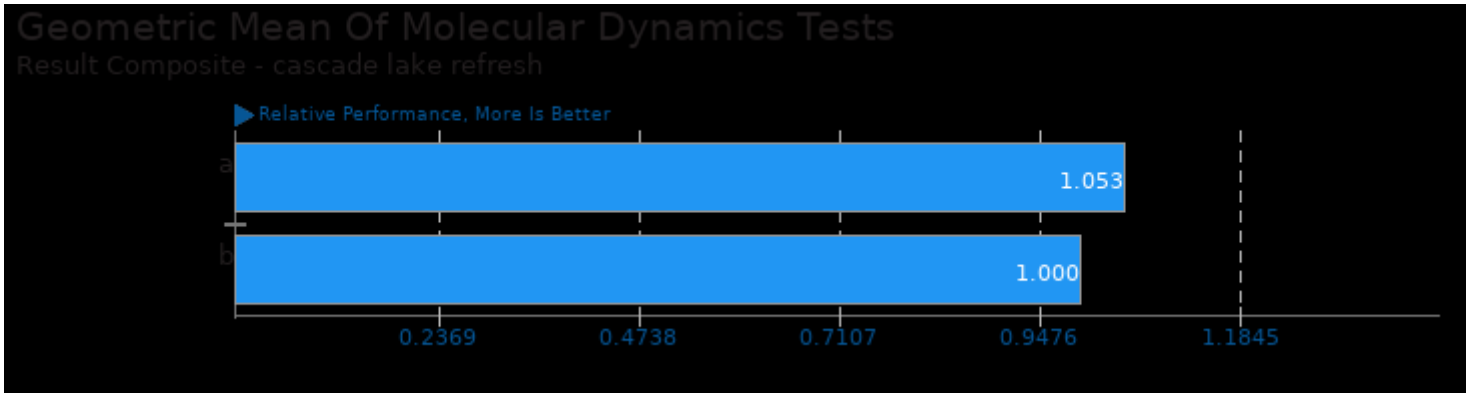
Geometric mean based upon tests: pts/graphics-magick, pts/webp, pts/webp2, pts/jpegxl, pts/jpegxl-decode and pts/avifenc



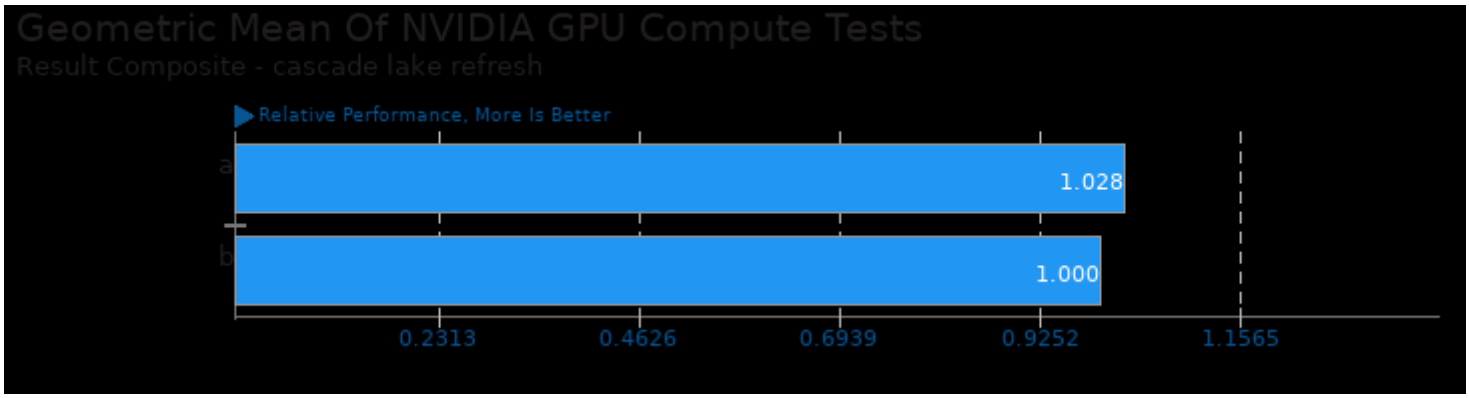
Geometric mean based upon tests: pts/pgbench, pts/stress-ng and pts/rocksdb



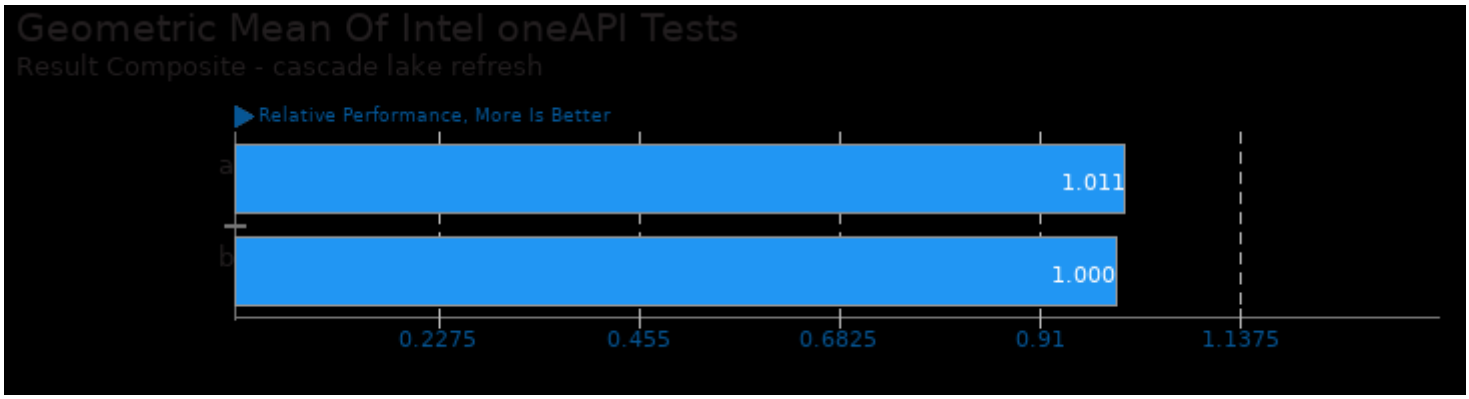
Geometric mean based upon tests: pts/mnn, pts/ncnn, pts/numenta-nab, pts/tensorflow, pts/onednn, pts/openvino, pts/spacy and pts/deepsparse



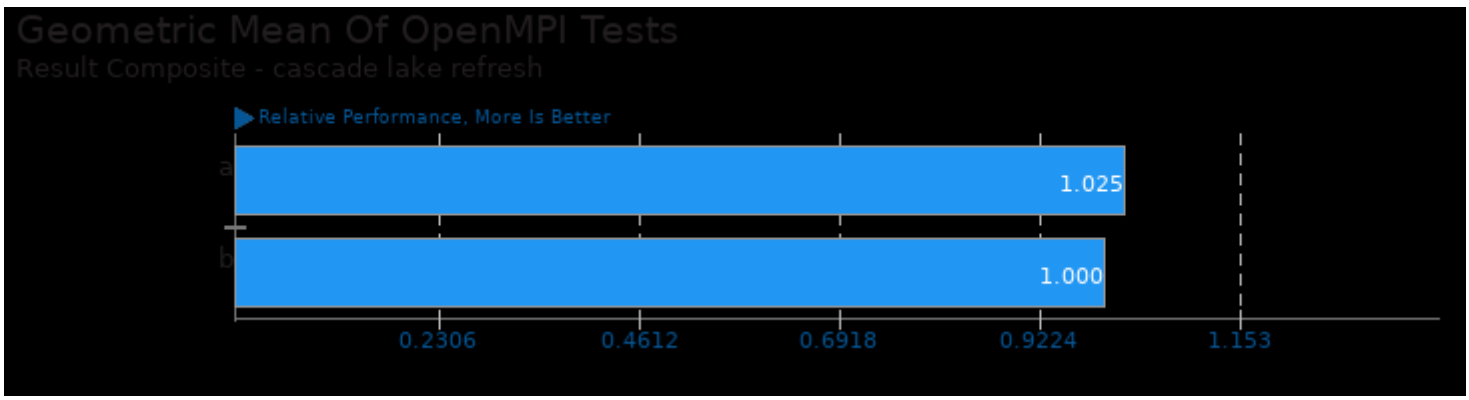
Geometric mean based upon tests: pts/lammps and pts/openfoam



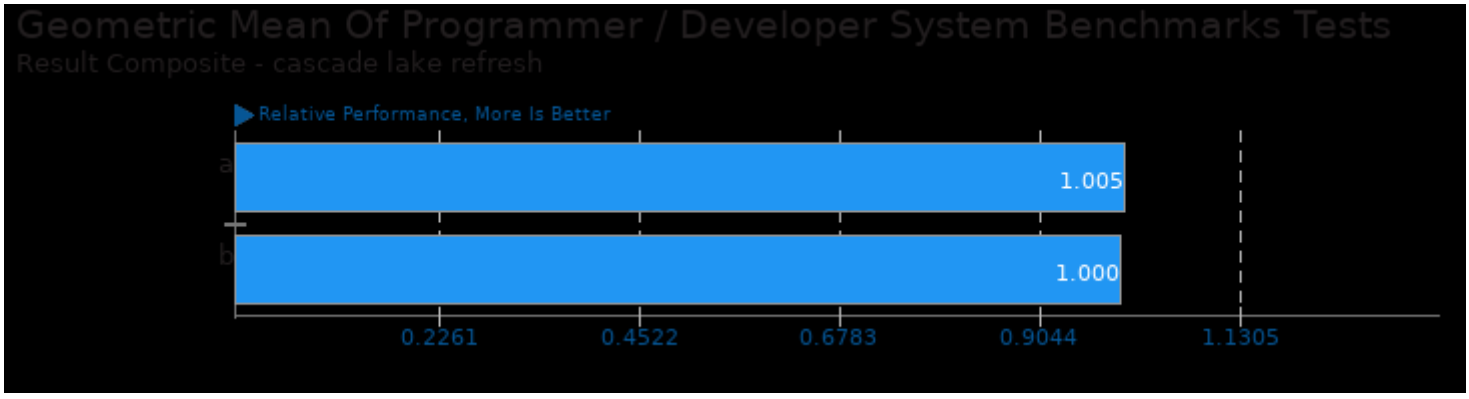
Geometric mean based upon tests: pts/blender and pts/ncnn



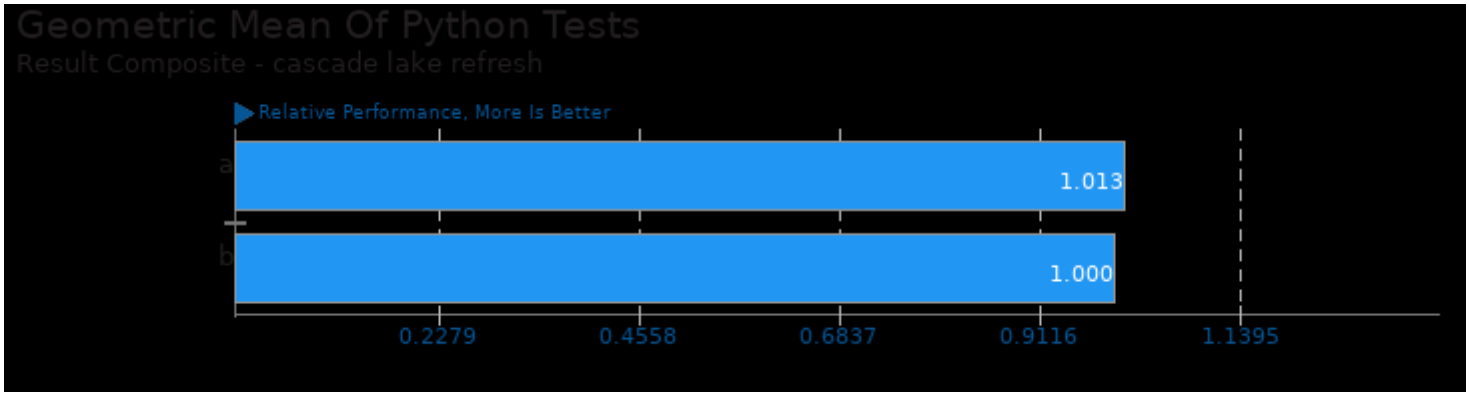
Geometric mean based upon tests: pts/onednn, pts/ospray-studio, pts/openvkl and pts/openvino



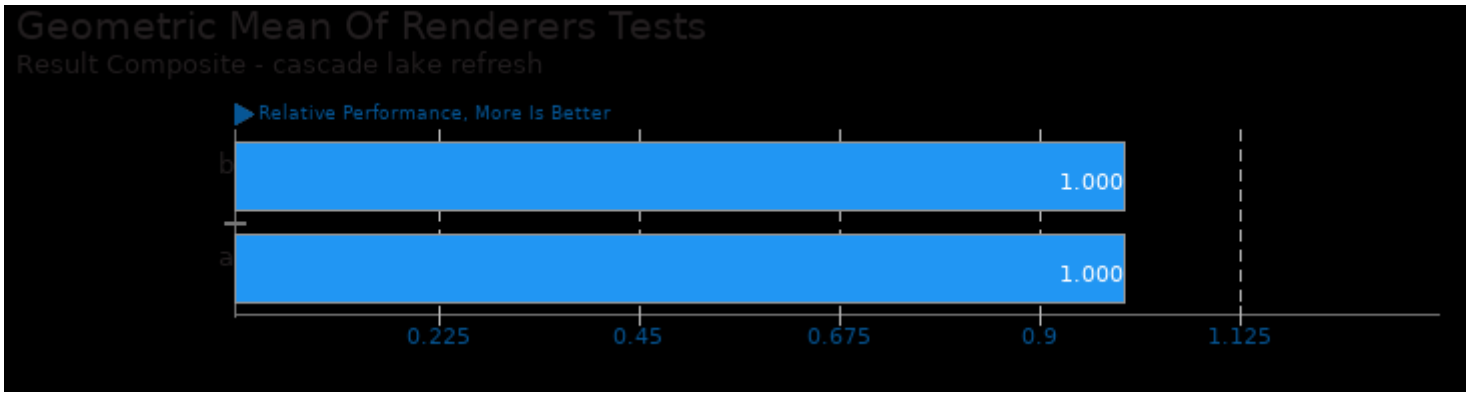
Geometric mean based upon tests: pts/nekrs, pts/openfoam, pts/openradioss and pts/lammps



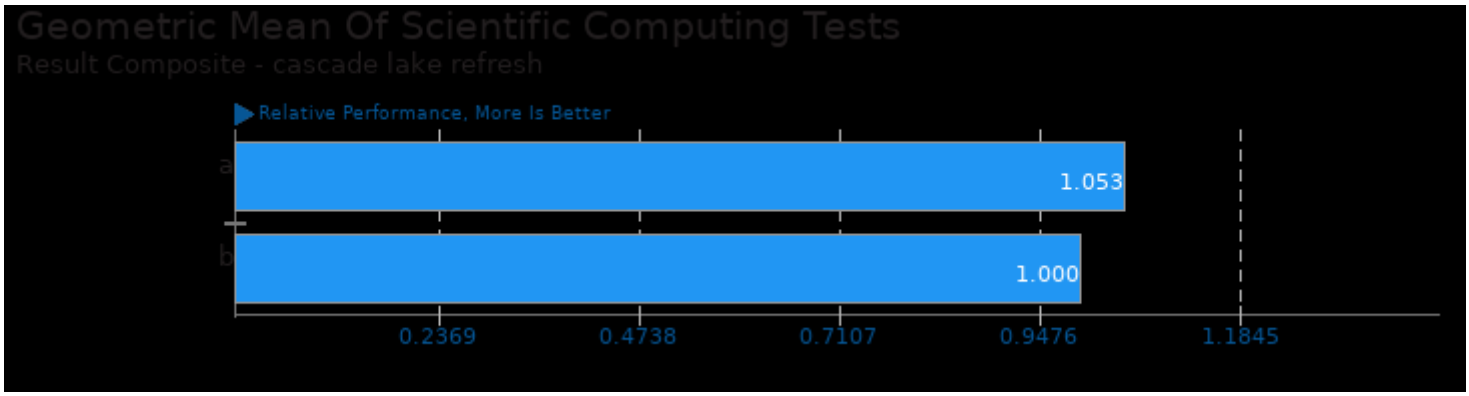
Geometric mean based upon tests: pts/node-web-tooling, pts/build-php, pts/build-linux-kernel, pts/build-python, pts/build-erlang and pts/build-nodejs



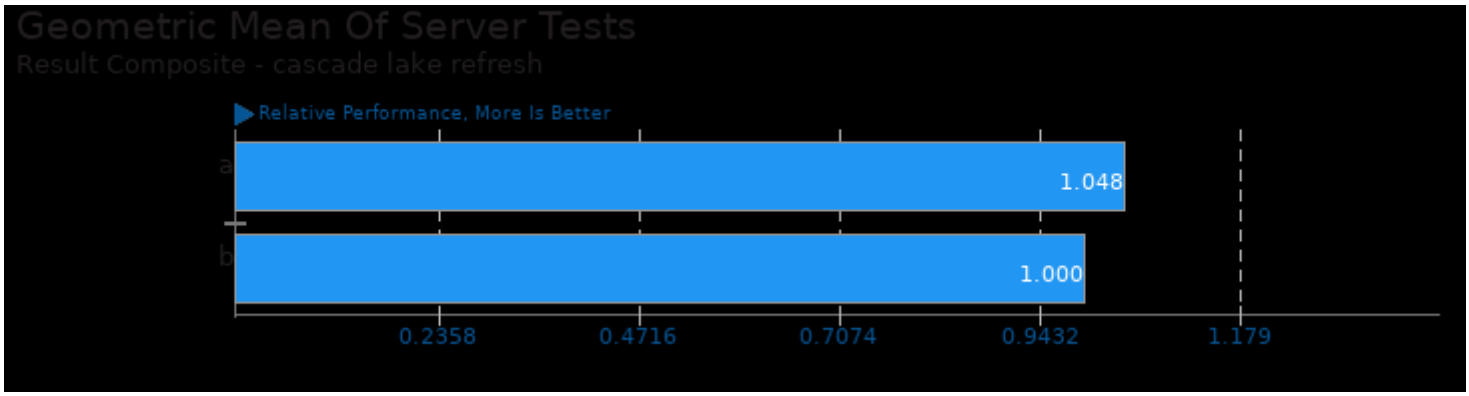
Geometric mean based upon tests: pts/stargate, pts/build-nodejs, pts/spark, pts/tensorflow, pts/deepsparse, pts/spacy, pts/openvino, pts/numenta-nab and pts/encodec



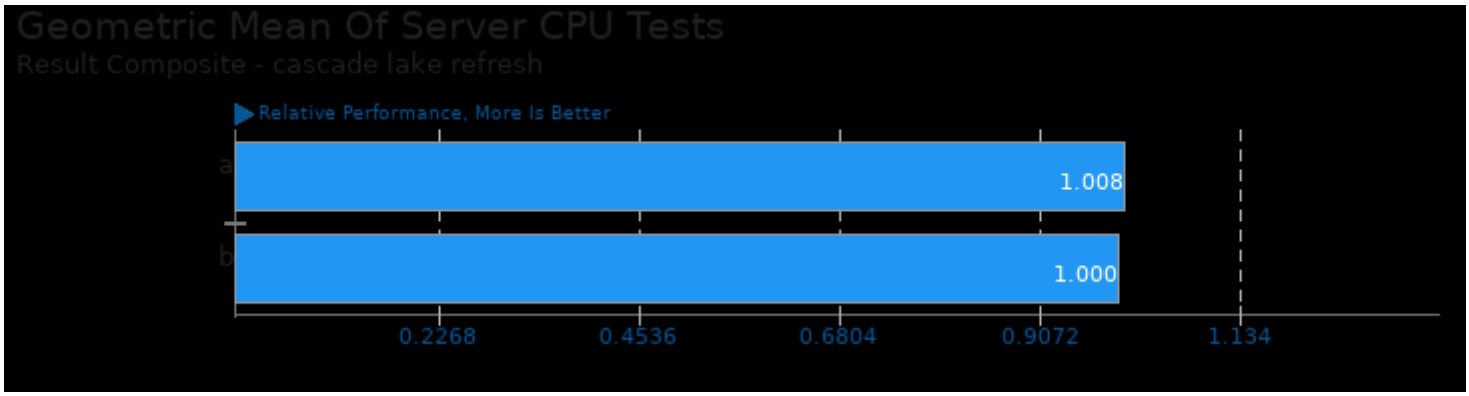
Geometric mean based upon tests: pts/ospray-studio, pts/blender and pts/natron



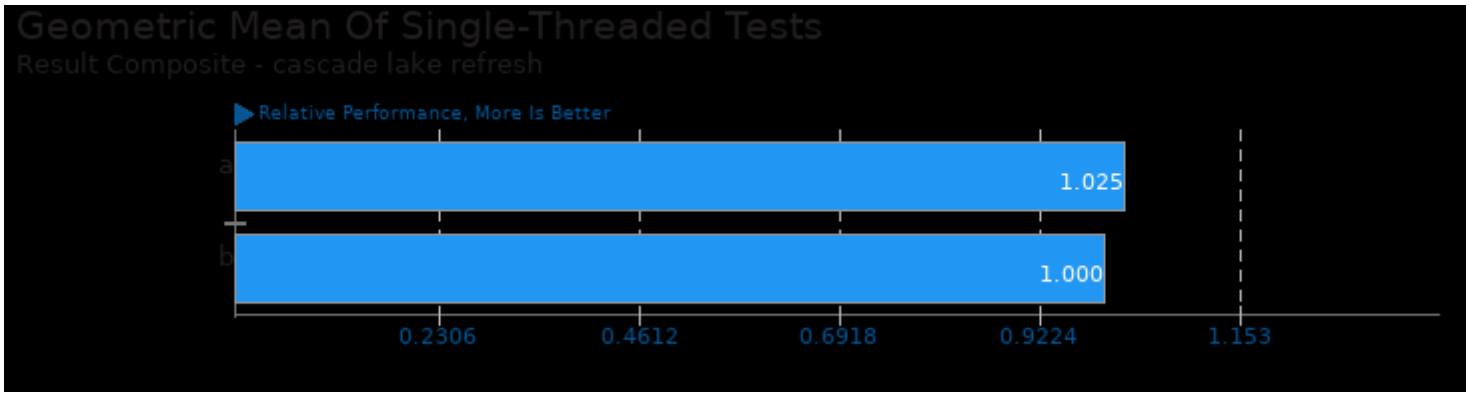
Geometric mean based upon tests: pts/lammps and pts/openfoam



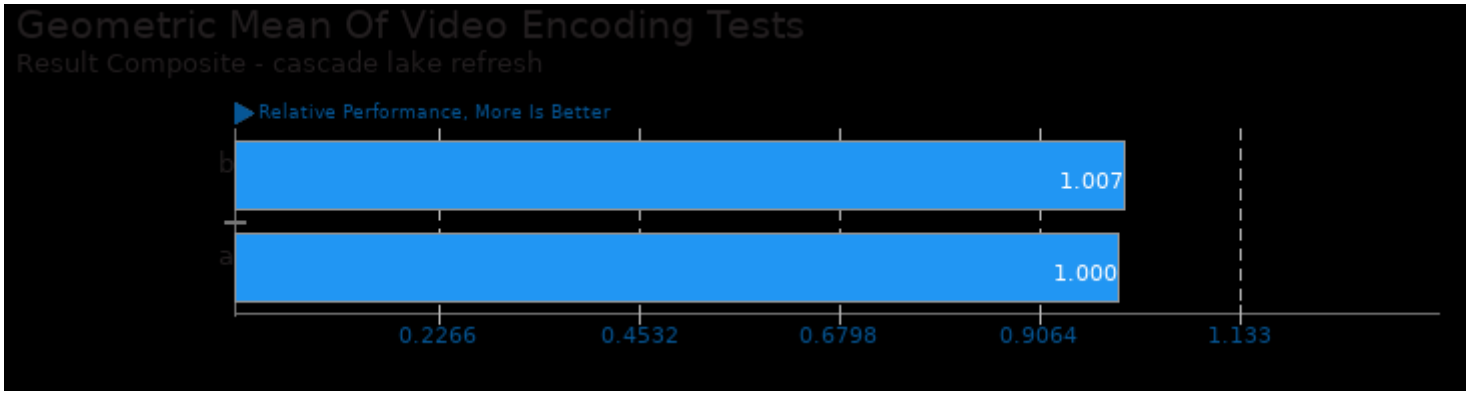
Geometric mean based upon tests: pts/memtier-benchmark, pts/pgbench, pts/redis, pts/rocksdb, pts/node-web-tooling, pts/dragonflydb, pts/clickhouse, pts/spark and pts/cockroach



Geometric mean based upon tests: pts/onednn, pts/svt-av1, pts/compress-7zip, pts/build-linux-kernel, pts/build-php, pts/redis, pts/stress-ng, pts/blender, pts/numenta-nab and pts/cpuminer-opt

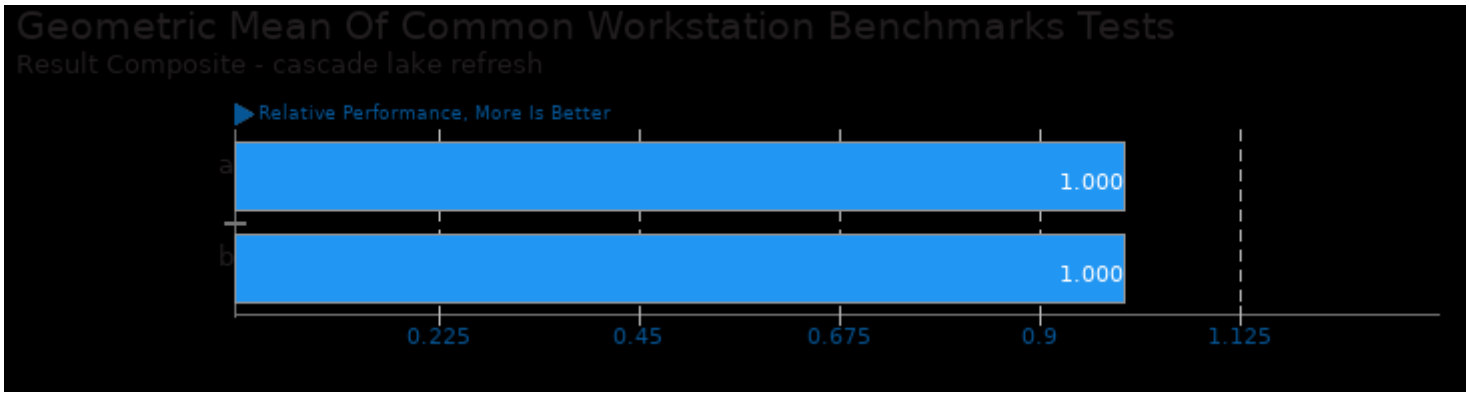


Geometric mean based upon tests: pts/encode-flac and pts/redis



cascade lake refresh

Geometric mean based upon tests: pts/aom-av1, pts/svt-av1 and pts/avifenc



Geometric mean based upon tests: pts/blender and pts/brl-cad

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 17:17.