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Xeon Platinum 8280 2P September

2 x Intel Xeon Platinum 8280 testing with a GIGABYTE MD61-SC2-00 v01000100 (T15 BIOS) and llvmpipe on Ubuntu 21.04 via the Phoronix Test Suite.

Automated Executive Summary

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

Based on the geometric mean of all complete results, the fastest (2) was 1.015x the speed of the slowest (4). 3 was 0.999x the speed of 2, 5 was 0.996x the speed of 3, 1 was 0.999x the speed of 5, 4 was 0.99x the speed of 1.

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

YafaRay (Total Time For Sample Scene) at 3.138x
NCNN (Target: CPU - Model: yolov4-tiny) at 1.587x
NCNN (Target: CPU - Model: mobilenet) at 1.585x
Tachyon (Total Time) at 1.414x
Zstd Compression (Compression Level: 3 - Compression Speed) at 1.336x
NCNN (Target: CPU - Model: shufflenet-v2) at 1.297x
Zstd Compression (Compression Level: 8 - Compression Speed) at 1.294x
Zstd Compression (Compression Level: 19, Long Mode - Compression Speed) at 1.223x
Apache HTTP Server (Concurrent Requests: 200) at 1.211x

Renaissance (Test: Savina Reactors.IO) at 1.206x.

Test Systems:

1

2

3

4

5

Processor: 2 x Intel Xeon Platinum 8280 @ 4.00GHz (56 Cores / 112 Threads), Motherboard: GIGABYTE MD61-SC2-00 v01000100 (T15 BIOS), Chipset: Intel Sky Lake-E DMI3 Registers, Memory: 378GB, Disk: 280GB INTEL SSDPED1D280GA, Graphics: llvmpipe, Monitor: VE228, Network: 2 x Intel X722 for 1GbE + 2 x QLogic FastLinQ QL41000 10/25/40/50GbE

OS: Ubuntu 21.04, Kernel: 5.11.0-16-generic (x86_64), Desktop: GNOME Shell 3.38.4, Display Server: X Server + Wayland, OpenGL: 4.5 Mesa 21.0.1 (LLVM 11.0.1 256 bits), Compiler: GCC 10.3.0, File-System: ext4, Screen Resolution: 1920x1080

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-mutex --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-gDeRY6/gcc-10-10.3.0/debian/tmp-gcn/usr, hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0x5003003
Java Notes: OpenJDK Runtime Environment (build 11.0.11+9-Ubuntu-0ubuntu2)
Python Notes: Python 3.9.5
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

	1	2	3	4	5
Apache Cassandra - Reads	**330593**	**291269**	310827		
Normalized	100%	88.11%	94.02%		
Apache Cassandra - Writes	**211550**	250526	**251493**		
Normalized	84.12%	99.62%	100%		
Apache Cassandra - Mixed 1:1 (Op/s)	**257618**	**255008**			
Normalized	100%	98.99%			

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Apache Cassandra - Mixed 1:3 (Op/s)	274178	228873			
Normalized	100%	83.48%			
Apache HTTP Server - 100 (Reqs/sec)	87703	97040		96389	
Normalized	90.38%	100%		99.33%	
Apache HTTP Server - 200 (Reqs/sec)	132720	132501		109613	
Normalized	100%	99.84%		82.59%	
Apache HTTP Server - 500 (Reqs/sec)	121286	118327		120011	
Normalized	100%	97.56%		98.95%	
Apache HTTP Server - 1000 (Reqs/sec)	119879	119449		116585	
Normalized	100%	99.64%		97.25%	
ASTC Encoder - Medium (sec)	5.1963	5.3107	5.1143	5.2445	
Normalized	98.42%	96.3%	100%	97.52%	
ASTC Encoder - Thorough (sec)	7.2474	7.2779	7.2545	7.3178	
Normalized	100%	99.58%	99.9%	99.04%	
ASTC Encoder - Exhaustive	14.9031	14.9156	14.9261	14.9183	
Normalized	100%	99.92%	99.85%	99.9%	
BRL-CAD - V.P.M (VGR Performance Metric)		354639		371894	
Normalized		95.36%		100%	
C-Blosc - blosclz (MB/s)	9887	9918	9926	9812	9938
Normalized	99.48%	99.8%	99.87%	98.73%	100%
dav1d - Chimera 1080p (FPS)	422.96	425.61	423.33	424.13	421.84
Normalized	99.38%	100%	99.46%	99.65%	99.11%
dav1d - Summer Nature 4K (FPS)	244.21	246.4	243.34	243.61	246.36
Normalized	99.11%	100%	98.76%	98.87%	99.98%
dav1d - S.N.1 (FPS)	455.43	458.59	462.04	458.19	455.85
Normalized	98.57%	99.25%	100%	99.17%	98.66%
dav1d - C.1.1.b (FPS)	327.01	328.67	325.04	325.79	328.21
Normalized	99.49%	100%	98.9%	99.12%	99.86%
ECP-CANDLE - P1B2 (sec)	45.85	46.353		45.906	
Normalized	100%	98.91%		99.88%	
ECP-CANDLE - P3B1 (sec)	1033	1012		1021	
Normalized	97.99%	100%		99.14%	
ECP-CANDLE - P3B2 (sec)	1656	1702		1761	
Normalized	100%	97.29%		94.04%	
Embree - Pathtracer - Crown	49.3294	49.3665	49.4115	49.2759	
Normalized	99.83%	99.91%	100%	99.73%	
Embree - Pathtracer ISPC - Crown (FPS)	47.4299	47.4991	46.9819	47.4089	
Normalized	99.85%	100%	98.91%	99.81%	
Embree - Pathtracer - Asian Dragon (FPS)	56.3862	56.397	56.2959	56.4996	
Normalized	99.8%	99.82%	99.64%	100%	
Embree - Pathtracer - Asian Dragon Obj (FPS)	50.8453	50.9305	50.8942	50.7521	
Normalized	99.83%	100%	99.93%	99.65%	

Embree - Pathtracer ISPC - Asian Dragon (FPS)	**58.481**	59.1229	**60.5754**	58.7763	
Normalized	96.54%	97.6%	100%	97.03%	
Embree - Pathtracer ISPC - Asian Dragon Obj (FPS)	**52.2197**	52.6509	**52.6813**	52.6336	
Normalized	99.12%	99.94%	100%	99.91%	
Facebook RocksDB - Rand Fill (Op/s)	**181624**	181180		**180881**	
Normalized	100%	99.76%		99.59%	
Facebook RocksDB - Rand Read (Op/s)	239114381	**234607962**		**241638865**	
Normalized	98.96%	97.09%		100%	
Facebook RocksDB - Update Rand (Op/s)	169135	**169639**		**168239**	
Normalized	99.7%	100%		99.17%	
Facebook RocksDB - Seq Fill (Op/s)	**181168**	180906		**180063**	
Normalized	100%	99.86%		99.39%	
Facebook RocksDB - Rand Fill Sync (Op/s)	**146696**	146248		**145823**	
Normalized	100%	99.69%		99.4%	
Facebook RocksDB - Read While Writing (Op/s)	**6539455**	6635603		**6805057**	
Normalized	96.1%	97.51%		100%	
Facebook RocksDB - R.R.W.R (Op/s)	**2377783**	2299668		**2285983**	
Normalized	100%	96.71%		96.14%	
Google SynthMark - VoiceMark_100 (Voices)	540.702	**541.692**	540.994	**540.009**	
Normalized	99.82%	100%	99.87%	99.69%	
GROMACS - MPI CPU - water_GMX50_bare (Ns/Day)	**5.719**	5.702	**5.685**	5.712	
Normalized	100%	99.7%	99.41%	99.88%	
Intel Open Image Denoise - RT.hdr_alb_nrm.3840x2160 (Images / Sec)	**1.85**	**1.87**	**1.85**	1.86	
Normalized	98.93%	100%	98.93%	99.47%	
Intel Open Image Denoise - RT.ldr_alb_nrm.3840x2160 (Images / Sec)	**1.86**	**1.86**	1.85	**1.84**	
Normalized	100%	100%	99.46%	98.92%	
Intel Open Image Denoise - RTLightmap.hdr.4096x4096 (Images / Sec)	**0.91**	0.90	0.88	**0.86**	
Normalized	100%	98.9%	96.7%	94.51%	
JPEG XL Decoding libjxl - 1	**38.9**	37.43	36.91	**36.88**	38.86
Normalized	100%	96.22%	94.88%	94.81%	99.9%
JPEG XL Decoding libjxl - All (MP/s)	**120.9**	116.74	**115.28**	117.08	119.13
Normalized	100%	96.56%	95.35%	96.84%	98.54%
JPEG XL libjxl - PNG - 5 (MP/s)	**52.81**	52.7	52.69	**52.23**	52.38

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Normalized	100%	99.79%	99.77%	98.9%	99.19%
JPEG XL libjxl - PNG - 7 (MP/s)	7.28	7.21	7.21	7.29	7.21
Normalized	99.86%	98.9%	98.9%	100%	98.9%
JPEG XL libjxl - PNG - 8 (MP/s)	0.62	0.61	0.61	0.62	0.6
Normalized	100%	98.39%	98.39%	100%	96.77%
JPEG XL libjxl - JPEG - 5 (MP/s)	56.14	55.5	53.53	54.58	54.53
Normalized	100%	98.86%	95.35%	97.22%	97.13%
JPEG XL libjxl - JPEG - 7 (MP/s)	55.94	55.84	55.21	55.11	54.13
Normalized	100%	99.82%	98.7%	98.52%	96.76%
JPEG XL libjxl - JPEG - 8 (MP/s)	22.09	22.48	21.51	22.24	21.82
Normalized	98.27%	100%	95.69%	98.93%	97.06%
KeyDB (Ops/sec)	463151	471878	437480	451404	
Normalized	98.15%	100%	92.71%	95.66%	
LeelaChessZero - BLAS	3274	3483	3386	3494	3755
Normalized	87.19%	92.76%	90.17%	93.05%	100%
LeelaChessZero - Eigen	3085	3472	3294	3350	3549
Normalized	86.93%	97.83%	92.81%	94.39%	100%
Mobile Neural Network - mobilenetV3 (ms)	2.8	2.919	3.036	2.919	
Normalized	100%	95.92%	92.23%	95.92%	
Mobile Neural Network - squeezenetv1.1 (ms)	5.079	5.121	5.841	5.253	
Normalized	100%	99.18%	86.95%	96.69%	
Mobile Neural Network - resnet-v2-50 (ms)	26.332	25.782	25.682	28.837	
Normalized	97.53%	99.61%	100%	89.06%	
Mobile Neural Network - SqueezeNetV1.0 (ms)	7.168	7.159	7.547	7.865	
Normalized	99.87%	100%	94.86%	91.02%	
Mobile Neural Network - MobileNetV2_224 (ms)	3.939	4.313	4.397	4.002	
Normalized	100%	91.33%	89.58%	98.43%	
Mobile Neural Network - mobilenet-v1-1.0 (ms)	3.071	3.149	3.076	3.056	
Normalized	99.51%	97.05%	99.35%	100%	
Mobile Neural Network - inception-v3 (ms)	28.735	28.747	28.765	29.176	
Normalized	100%	99.96%	99.9%	98.49%	
NAS Parallel Benchmarks - BT.C (Mop/s)	135993	134802	135225	134581	134288
Normalized	100%	99.12%	99.44%	98.96%	98.75%
NAS Parallel Benchmarks - CG.C (Mop/s)	32268	31973	32205	31720	32167
Normalized	100%	99.09%	99.8%	98.3%	99.69%
NAS Parallel Benchmarks - EP.C (Mop/s)	5692	5794	5927	5766	5821
Normalized	96.03%	97.75%	100%	97.28%	98.21%
NAS Parallel Benchmarks - EP.D (Mop/s)	6302	6202	6138	6198	6300
Normalized	100%	98.41%	97.39%	98.34%	99.96%

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NAS Parallel Benchmarks - FT.C (Mop/s)	56010	56465	53819	54915	54252
Normalized	99.19%	100%	95.32%	97.26%	96.08%
NAS Parallel Benchmarks - IS.D (Mop/s)	1772	1673	1679	1705	1651
Normalized	100%	94.42%	94.74%	96.18%	93.15%
NAS Parallel Benchmarks - LU.C (Mop/s)	109023	108218	108274	108674	108125
Normalized	100%	99.26%	99.31%	99.68%	99.18%
NAS Parallel Benchmarks - MG.C (Mop/s)	69109	69260	69953	69338	68904
Normalized	98.79%	99.01%	100%	99.12%	98.5%
NAS Parallel Benchmarks - SP.B (Mop/s)	70268	69960	70372	70161	69954
Normalized	99.85%	99.41%	100%	99.7%	99.41%
NAS Parallel Benchmarks - SP.C (Mop/s)	50199	50414	50066	50204	50299
Normalized	99.57%	100%	99.31%	99.58%	99.77%
Natron - Spaceship (FPS)	1.1	1		1	
Normalized	100%	90.91%		90.91%	
NCNN - CPU - mobilenet (ms)	65.63	43.08	68.28	54.62	
Normalized	65.64%	100%	63.09%	78.87%	
NCNN - CPU-v2-v2 - mobilenet-v2 (ms)	20.05	22.1	21.28	20.43	
Normalized	100%	90.72%	94.22%	98.14%	
NCNN - CPU-v3-v3 - mobilenet-v3 (ms)	20.2	21.12	20.95	20.41	
Normalized	100%	95.64%	96.42%	98.97%	
NCNN - CPU - shufflenet-v2 (ms)	21.06	26.14	20.15	20.23	
Normalized	95.68%	77.08%	100%	99.6%	
NCNN - CPU - mnasnet (ms)	18.89	22.74	19.11	20.38	
Normalized	100%	83.07%	98.85%	92.69%	
NCNN - CPU - efficientnet-b0	24.19	25.5	25.3	25.05	
Normalized	100%	94.86%	95.61%	96.57%	
NCNN - CPU - blazeface (ms)	11.25	11.12	10.69	11.64	
Normalized	95.02%	96.13%	100%	91.84%	
NCNN - CPU - googlenet (ms)	37.14	37.18	35.7	35.67	
Normalized	96.04%	95.94%	99.92%	100%	
NCNN - CPU - vgg16 (ms)	48.17	57.07	52.25	50.12	
Normalized	100%	84.41%	92.19%	96.11%	
NCNN - CPU - resnet18 (ms)	22.04	21.74	20.01	21.94	
Normalized	90.79%	92.04%	100%	91.2%	
NCNN - CPU - alexnet (ms)	15.7	13.82	15.33	16.46	
Normalized	88.03%	100%	90.15%	83.96%	
NCNN - CPU - resnet50 (ms)	42.25	41.74	41.75	41.9	
Normalized	98.79%	100%	99.98%	99.62%	
NCNN - CPU - yolov4-tiny (ms)	51.9	38.78	61.56	52.87	
Normalized	74.72%	100%	63%	73.35%	
NCNN - CPU - squeezenet_ssd (ms)	37.76	42.67	39.52	38.99	
Normalized	100%	88.49%	95.55%	96.85%	
NCNN - CPU - regnety_400m (ms)	69.25	73.85	69.87	71.35	

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Normalized	100%	93.77%	99.11%	97.06%
nginx - 20 (Reqs/sec)	148779	151079		145099
Normalized	98.48%	100%		96.04%
nginx - 100 (Reqs/sec)	146447	147405		148481
Normalized	98.63%	99.28%		100%
nginx - 200 (Reqs/sec)	154281	152051		150732
Normalized	100%	98.55%		97.7%
nginx - 500 (Reqs/sec)	154549	157612		157618
Normalized	98.05%	100%		100%
nginx - 1000 (Reqs/sec)	158541	158308		158214
Normalized	100%	99.85%		99.79%
ONNX Runtime - yolov4 - OpenMP CPU (Inferences/min)	300	300		298
Normalized	100%	100%		99.33%
ONNX Runtime - bertsquad-10 - OpenMP CPU (Inferences/min)	446	467		492
Normalized	90.65%	94.92%		100%
ONNX Runtime - fcn-resnet101-11 - OpenMP CPU	235	229		250
Normalized	94%	91.6%		100%
ONNX Runtime - shufflenet-v2-10 - OpenMP CPU (Inferences/min)	7153	7153		7101
Normalized	100%	100%		99.27%
ONNX Runtime - super-resolution-10 - OpenMP CPU (Inferences/min)	6678	5986		6134
Normalized	100%	89.64%		91.85%
OpenSSL - SHA256 (byte/s)	15286754540	15241314900	15233730600	15263723050
Normalized	100%	99.7%	99.65%	99.85%
OpenSSL - RSA4096 (sign/s)	13605	13603	13618	13608
Normalized	99.9%	99.88%	100%	99.93%
OpenSSL - RSA4096 (verify/s)	900380	897260	899494	900115
Normalized	100%	99.65%	99.9%	99.97%
OpenVKL - vklBenchmark ISPC (Items / Sec)	177	175	178	172
Normalized	99.44%	98.31%	100%	96.63%
OpenVKL - v.S (Items / Sec)	72	76	76	72
Normalized	94.74%	100%	100%	94.74%
PJSIP - INVITE (Responses/sec)	2913	3068	3079	2815
Normalized	94.61%	99.64%	100%	91.43%
PJSIP - OPTIONS, Stateful (Responses/sec)	5542	5455	5378	5347
Normalized	100%	98.43%	97.04%	96.48%
PJSIP - OPTIONS, Stateless (Responses/sec)	31067	33953	31975	32542
Normalized	91.5%	100%	94.17%	95.84%
PostgreSQL pgbench - 1 - 1 - Read Only (TPS)	21570	21089	21183	20629
Normalized	100%	97.77%	98.21%	95.64%
PostgreSQL pgbench - 1 - 1 - Read Only - Average Latency	0.046	0.047	0.047	0.048
Normalized	100%	97.87%	97.87%	95.83%

PostgreSQL pgbench - 1 - 1 - Read Write (TPS)	2955	**2911**	**2973**	2930
Normalized	99.39%	97.91%	100%	98.55%
PostgreSQL pgbench - 1 - 1 - Read Write - Average Latency	0.338	**0.343**	**0.336**	0.341
Normalized	99.41%	97.96%	100%	98.53%
PostgreSQL pgbench - 1 - 50 - Read Only (TPS)	**756824**	751731	754029	**741889**
Normalized	100%	99.33%	99.63%	98.03%
PostgreSQL pgbench - 1 - 50 - Read Only - Average Latency	**0.066**	**0.067**	**0.066**	**0.067**
Normalized	100%	98.51%	100%	98.51%
PostgreSQL pgbench - 1 - 100 - Read Only (TPS)	951719	**958556**	955922	**950667**
Normalized	99.29%	100%	99.73%	99.18%
PostgreSQL pgbench - 1 - 100 - Read Only - Average Latency	**0.105**	**0.104**	**0.105**	**0.105**
Normalized	99.05%	100%	99.05%	99.05%
PostgreSQL pgbench - 1 - 250 - Read Only (TPS)	747024	**742962**	745025	**753158**
Normalized	99.19%	98.65%	98.92%	100%
PostgreSQL pgbench - 1 - 250 - Read Only - Average Latency	0.335	**0.337**	0.336	**0.332**
Normalized	99.1%	98.52%	98.81%	100%
PostgreSQL pgbench - 1 - 50 - Read Write (TPS)	1932	**1966**	**1920**	1956
Normalized	98.27%	100%	97.66%	99.49%
PostgreSQL pgbench - 1 - 50 - Read Write - Average Latency	25.884	**25.439**	**26.043**	25.566
Normalized	98.28%	100%	97.68%	99.5%
PostgreSQL pgbench - 100 - 1 - Read Only (TPS)	**18862**	**17922**	18676	18260
Normalized	100%	95.02%	99.01%	96.81%
PostgreSQL pgbench - 100 - 1 - Read Only - Average Latency	**0.053**	**0.056**	0.054	0.055
Normalized	100%	94.64%	98.15%	96.36%
PostgreSQL pgbench - 1 - 100 - Read Write (TPS)	**1228**	**1280**	1252	1241
Normalized	95.94%	100%	97.81%	96.95%
PostgreSQL pgbench - 1 - 100 - Read Write - Average Latency	**81.463**	**78.123**	79.9	80.584
Normalized	95.9%	100%	97.78%	96.95%
PostgreSQL pgbench - 1 - 250 - Read Write (TPS)	725	**708**	716	**780**
Normalized	92.95%	90.77%	91.79%	100%
PostgreSQL pgbench - 1 - 250 - Read Write - Average Latency	345.054	**353.212**	349.13	**320.859**
Normalized	92.99%	90.84%	91.9%	100%
PostgreSQL pgbench - 100 - 1 - Read Write (TPS)	**2606**	**2499**	2565	**2499**
Normalized	100%	95.89%	98.43%	95.89%

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PostgreSQL pgbench - 100 - 1 - Read Write - Average Latency	0.384	0.4	0.39	0.4	
Normalized	100%	96%	98.46%	96%	
PostgreSQL pgbench - 100 - 50 - Read Only (TPS)	628681	631134	628980	618207	
Normalized	99.61%	100%	99.66%	97.95%	
PostgreSQL pgbench - 100 - 50 - Read Only - Average Latency	0.08	0.079	0.08	0.081	
Normalized	98.75%	100%	98.75%	97.53%	
PostgreSQL pgbench - 100 - 100 - Read Only (TPS)	809900	799951	798485	800706	
Normalized	100%	98.77%	98.59%	98.86%	
PostgreSQL pgbench - 100 - 100 - Read Only - Average Latency	0.124	0.125	0.125	0.125	
Normalized	100%	99.2%	99.2%	99.2%	
PostgreSQL pgbench - 100 - 250 - Read Only (TPS)	629258	645578	649011	638016	
Normalized	96.96%	99.47%	100%	98.31%	
PostgreSQL pgbench - 100 - 250 - Read Only - Average Latency	0.398	0.387	0.385	0.392	
Normalized	96.73%	99.48%	100%	98.21%	
PostgreSQL pgbench - 100 - 50 - Read Write (TPS)	53188	53289	53168	52934	
Normalized	99.81%	100%	99.77%	99.33%	
PostgreSQL pgbench - 100 - 50 - Read Write - Average Latency	0.94	0.938	0.94	0.945	
Normalized	99.79%	100%	99.79%	99.26%	
PostgreSQL pgbench - 100 - 100 - Read Write (TPS)	57665	56781	56648	57246	
Normalized	100%	98.47%	98.24%	99.27%	
PostgreSQL pgbench - 100 - 100 - Read Write - Average Latency	1.735	1.762	1.766	1.747	
Normalized	100%	98.47%	98.24%	99.31%	
PostgreSQL pgbench - 100 - 250 - Read Write (TPS)	53023	53030	52745	52968	
Normalized	99.99%	100%	99.46%	99.88%	
PostgreSQL pgbench - 100 - 250 - Read Write - Average Latency	4.717	4.717	4.742	4.723	
Normalized	100%	100%	99.47%	99.87%	
Quantum ESPRESSO - AUSURF112 (sec)	333.36	333.83	332.83	334.58	341.4
Normalized	99.84%	99.7%	100%	99.48%	97.49%
Renaissance - Scala Dotty (ms)	981.8	964.5	966.0	1005	947.2
Normalized	96.48%	98.21%	98.05%	94.21%	100%
Renaissance - Rand Forest (ms)	1256	1205	1200	1236	1148
Normalized	91.44%	95.25%	95.72%	92.9%	100%
Renaissance - ALS Movie Lens (ms)	15140	15090	15194	15135	15006
Normalized	99.12%	99.44%	98.76%	99.14%	100%

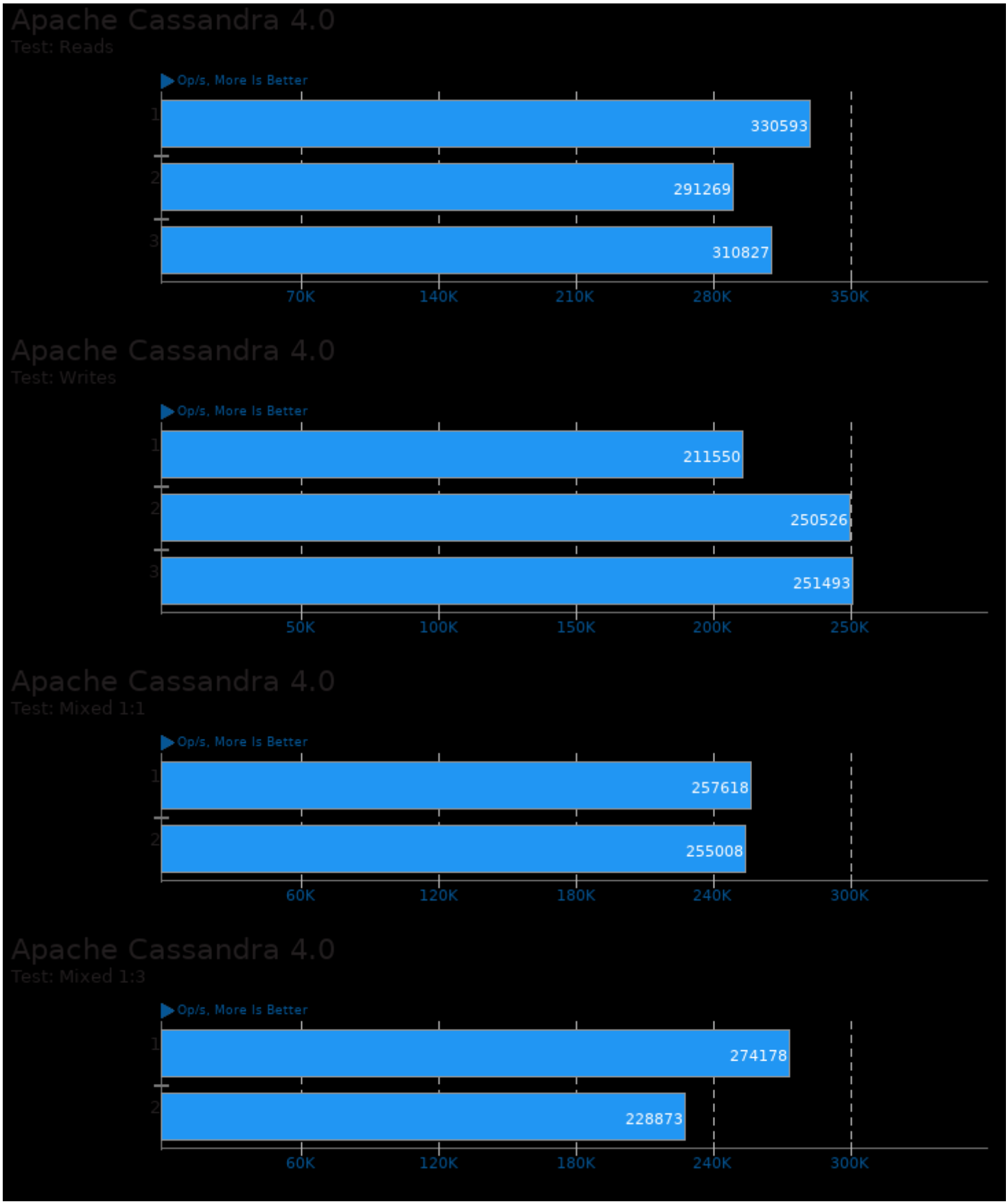
Xeon Platinum 8280 2P September

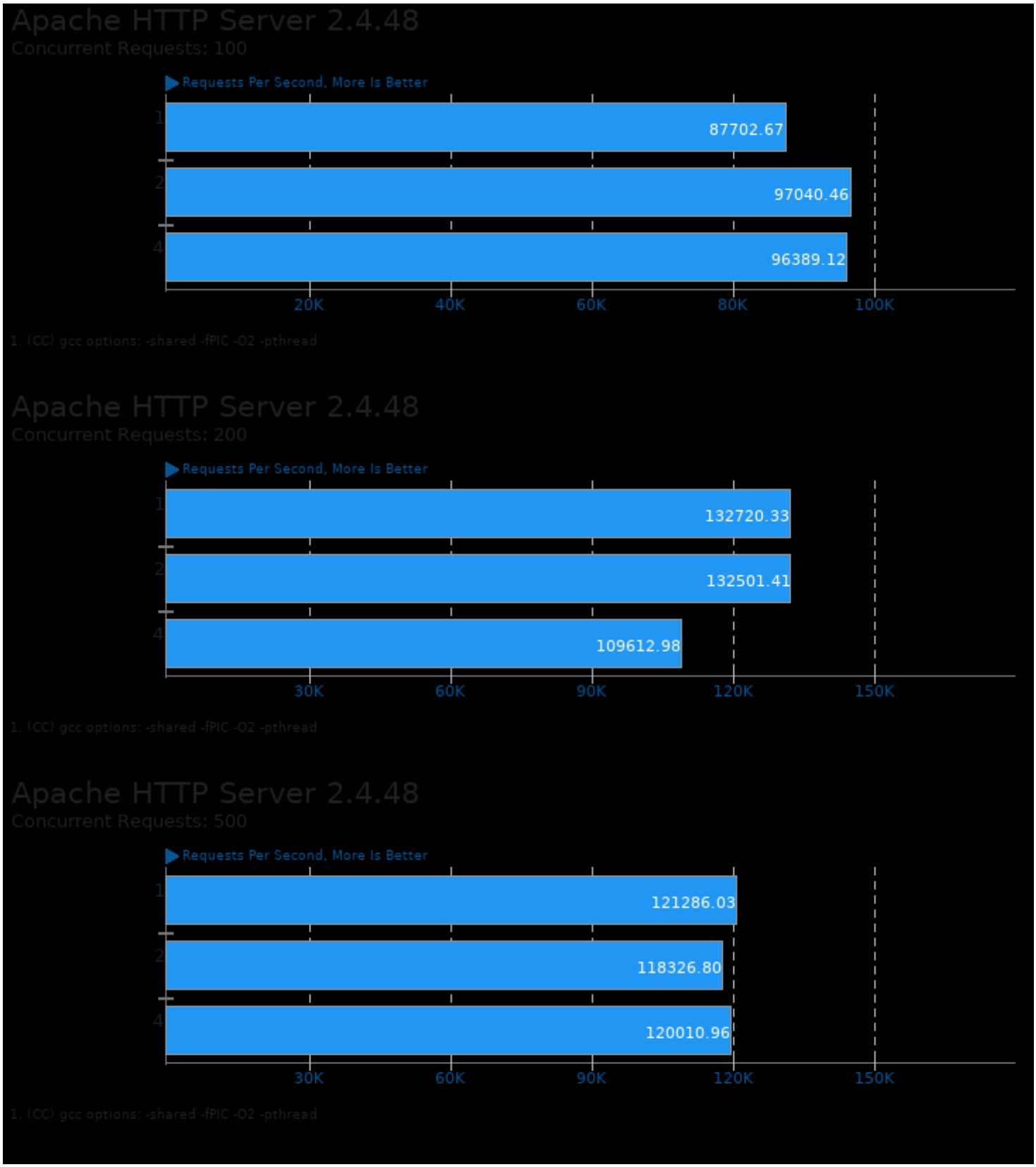
Renaissance - Apache Spark ALS (ms)	2697	2582	2664	2690	2685
Normalized	95.72%	100%	96.91%	95.98%	96.17%
Renaissance - Apache Spark Bayes (ms)	918.6	838.1	873.4	854.5	856.7
Normalized	91.24%	100%	95.96%	98.08%	97.83%
Renaissance - Savina Reactors.IO (ms)	13154	15083	13975	15864	14414
Normalized	100%	87.22%	94.13%	82.92%	91.26%
Renaissance - A.S.P (ms)	4991	4798	4879	5158	4767
Normalized	95.51%	99.36%	97.71%	92.42%	100%
Renaissance - F.H.R (ms)	4236	4203	4355	4296	4512
Normalized	99.2%	100%	96.49%	97.82%	93.14%
Renaissance - I.M.D.S (ms)	12353	11897	12224	12704	12930
Normalized	96.31%	100%	97.33%	93.65%	92.02%
Renaissance - A.U.C.T (ms)	20468	20740	20541	20570	20820
Normalized	100%	98.68%	99.64%	99.5%	98.31%
Renaissance - G.A.U.J.F (ms)	6763	6761	6363	6701	6591
Normalized	94.09%	94.11%	100%	94.96%	96.54%
simdjson - Kostya (GB/s)	2.43	2.45	2.51	2.45	2.46
Normalized	96.81%	97.61%	100%	97.61%	98.01%
simdjson - LargeRand (GB/s)	0.86	0.85	0.86	0.86	0.86
Normalized	100%	98.84%	100%	100%	100%
simdjson - PartialTweets (GB/s)	3.66	3.66	3.66	3.67	3.66
Normalized	99.73%	99.73%	99.73%	100%	99.73%
simdjson - DistinctUserID (GB/s)	4.2	4.23	4.21	4.21	4.21
Normalized	99.29%	100%	99.53%	99.53%	99.53%
srsRAN - OFDM_Test (Samples / Second)	106600000	110500000	103800000	97500000	108100000
Normalized	96.47%	100%	93.94%	88.24%	97.83%
srsRAN - 4.P.1.P.M.6.Q (eNb Mb/s)	271.8	277.2	272.6	264.6	277.4
Normalized	97.98%	99.93%	98.27%	95.39%	100%
srsRAN - 4.P.1.P.M.6.Q (UE Mb/s)	114.8	117.3	115.5	108.3	117.5
Normalized	97.7%	99.83%	98.3%	92.17%	100%
srsRAN - 4.P.1.P.S.6.Q (eNb	280.4	274.7	282.9	269.3	275.3
Normalized	99.12%	97.1%	100%	95.19%	97.31%
srsRAN - 4.P.1.P.S.6.Q (UE Mb/s)	167.8	165	170.1	155	165.5
Normalized	98.65%	97%	100%	91.12%	97.3%
srsRAN - 4.P.1.P.M.2.Q (eNb Mb/s)	304.3	305.5	312.6	296.8	311.7
Normalized	97.34%	97.73%	100%	94.95%	99.71%
srsRAN - 4.P.1.P.M.2.Q (UE Mb/s)	125.8	127	129.6	119.2	129.1
Normalized	97.07%	97.99%	100%	91.98%	99.61%
srsRAN - 4.P.1.P.S.2.Q (eNb	303	310.2	311.4	297.9	308
Normalized	97.3%	99.61%	100%	95.66%	98.91%
srsRAN - 4.P.1.P.S.2.Q (UE Mb/s)	198.8	204.8	205.9	195.5	203.4
Normalized	96.55%	99.47%	100%	94.95%	98.79%
srsRAN - 5.P.T.5.P.S.6.Q (eNb Mb/s)	101.4	101.6	103.6	101	100.1
Normalized	97.88%	98.07%	100%	97.49%	96.62%

srsRAN - 5.P.T.5.P.S.6.Q (UE Mb/s)	62.6	62.8	**64**	62.1	**61.9**
Normalized	97.81%	98.13%	100%	97.03%	96.72%
srsRAN - 5.P.T.2.P.S.2.Q (eNb Mb/s)	120.5	118.6	**121.4**	**114.3**	118.3
Normalized	99.26%	97.69%	100%	94.15%	97.45%
srsRAN - 5.P.T.2.P.S.2.Q (UE Mb/s)	84.1	82.1	**84.8**	**78.8**	82.9
Normalized	99.17%	96.82%	100%	92.92%	97.76%
SVT-AV1 - Preset 4 - Bosphorus 4K (FPS)	**1.323**	1.325	**1.343**	1.328	
Normalized	98.51%	98.66%	100%	98.88%	
SVT-AV1 - Preset 8 - Bosphorus 4K (FPS)	12.313	**12.377**	12.264	**12.2**	
Normalized	99.48%	100%	99.09%	98.57%	
SVT-AV1 - Preset 4 - Bosphorus 1080p (FPS)	5.746	**5.825**	5.703	**5.603**	
Normalized	98.64%	100%	97.91%	96.19%	
SVT-AV1 - Preset 8 - Bosphorus 1080p (FPS)	63.868	**63.542**	64.56	**64.665**	
Normalized	98.77%	98.26%	99.84%	100%	
Tachyon - Total Time (sec)	20.6915	**28.6803**	26.0952	**20.2841**	
Normalized	98.03%	70.72%	77.73%	100%	
Timed FFmpeg Compilation - Time To Compile (sec)	**21.213**	**21.303**	21.245	21.297	
Normalized	100%	99.58%	99.85%	99.61%	
Timed GCC Compilation - Time To Compile (sec)	969.967	**969.855**	**978.371**	977.179	
Normalized	99.99%	100%	99.13%	99.25%	
Timed GDB GNU Debugger Compilation - Time To Compile (sec)	**76.415**	76.779	76.546	**77.238**	
Normalized	100%	99.53%	99.83%	98.93%	
Timed Linux Kernel Compilation - Time To Compile (sec)	31.99	**31.841**	32.124	**32.155**	
Normalized	99.53%	100%	99.12%	99.02%	
TNN - CPU - DenseNet (ms)	3946	**4029**	3969	**3904**	
Normalized	98.92%	96.89%	98.35%	100%	
TNN - CPU - MobileNet v2 (ms)	**400.1**	401.621	**411.429**	409.334	
Normalized	100%	99.62%	97.25%	97.74%	
TNN - CPU - SqueezeNet v2 (ms)	**86.341**	85.937	**81.72**	84.433	
Normalized	94.65%	95.09%	100%	96.79%	
TNN - CPU - SqueezeNet v1.1 (ms)	342.626	341.918	**334.691**	**350.432**	
Normalized	97.68%	97.89%	100%	95.51%	
YafaRay - T.T.F.S.S (sec)	136.316	**97.137**	99.03	**304.771**	
Normalized	71.26%	100%	98.09%	31.87%	
Zstd Compression - 3 - Compression Speed (MB/s)	2927	**2882**	2917	**3850**	2933
Normalized	76.04%	74.86%	75.78%	100%	76.18%

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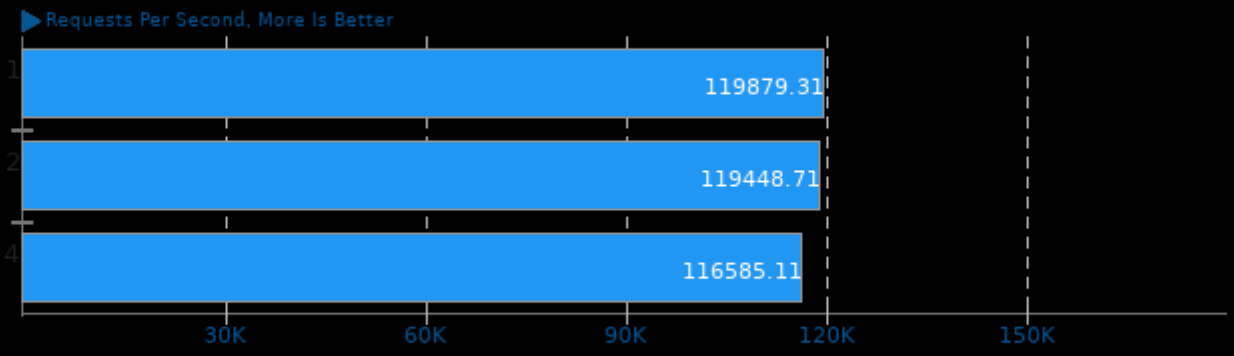
Zstd Compression - 8 - Compression Speed (MB/s)	1397	1552	**1671**	1566	**1291**
Normalized	83.6%	92.88%	100%	93.74%	77.27%
Zstd Compression - 8 - D.S	**2678**	2660	2634	2610	**2588**
Normalized	100%	99.3%	98.35%	97.46%	96.63%
Zstd Compression - 19 - Compression Speed (MB/s)	70.5	**74.4**	**69.2**	70.1	72.7
Normalized	94.76%	100%	93.01%	94.22%	97.72%
Zstd Compression - 19 - D.S (MB/s)	**2150**	**2194**	2162	2156	2173
Normalized	98%	100%	98.57%	98.27%	99.07%
Zstd Compression - 3, Long Mode - Compression Speed	**326.3**	**316**	322.9	324.9	325.1
Normalized	100%	96.84%	98.96%	99.57%	99.63%
Zstd Compression - 3, Long Mode - D.S (MB/s)	**2853**	2845	2842	2837	**2734**
Normalized	100%	99.72%	99.62%	99.44%	95.82%
Zstd Compression - 8, Long Mode - Compression Speed	**361.7**	359.9	361.3	353.4	**339.6**
Normalized	100%	99.5%	99.89%	97.71%	93.89%
Zstd Compression - 8, Long Mode - D.S (MB/s)	**2834**	2773	**2727**	2736	2804
Normalized	100%	97.83%	96.21%	96.54%	98.92%
Zstd Compression - 19, Long Mode - Compression Speed	39.3	38.7	41.3	**34.5**	**42.2**
Normalized	93.13%	91.71%	97.87%	81.75%	100%
Zstd Compression - 19, Long Mode - D.S (MB/s)	2232	2240	2189	**2182**	**2253**
Normalized	99.05%	99.44%	97.15%	96.83%	100%


Apache Cassandra 4.0
Test: Reads
Op/s, More Is Better
1
330593
2
291269
3
310827
70K
140K
210K
280K
350K
Apache Cassandra 4.0
Test: Writes
Op/s, More Is Better
1
211550
2
250526
3
251493
50K
100K
150K
200K
250K
Apache Cassandra 4.0
Test: Mixed 1:1
Op/s, More Is Better
1
257618
2
255008
60K
120K
180K
240K
300K
Apache Cassandra 4.0
Test: Mixed 1:3
Op/s, More Is Better
1
274178
2
228873
60K
120K
180K
240K
300K


Apache HTTP Server 2.4.48
Concurrent Requests: 100
Requests Per Second, More Is Better
1
2
4
87702.67
97040.46
96389.12
20K
40K
60K
80K
100K
1. (CC) gcc options: -shared -fPIC -O2 -pthread
Apache HTTP Server 2.4.48
Concurrent Requests: 200
Requests Per Second, More Is Better
1
2
4
132720.33
132501.41
109612.98
30K
60K
90K
120K
150K
1. (CC) gcc options: -shared -fPIC -O2 -pthread
Apache HTTP Server 2.4.48
Concurrent Requests: 500
Requests Per Second, More Is Better
1
2
4
121286.03
118326.80
120010.96
30K
60K
90K
120K
150K
1. (CC) gcc options: -shared -fPIC -O2 -pthread

Apache HTTP Server 2.4.48

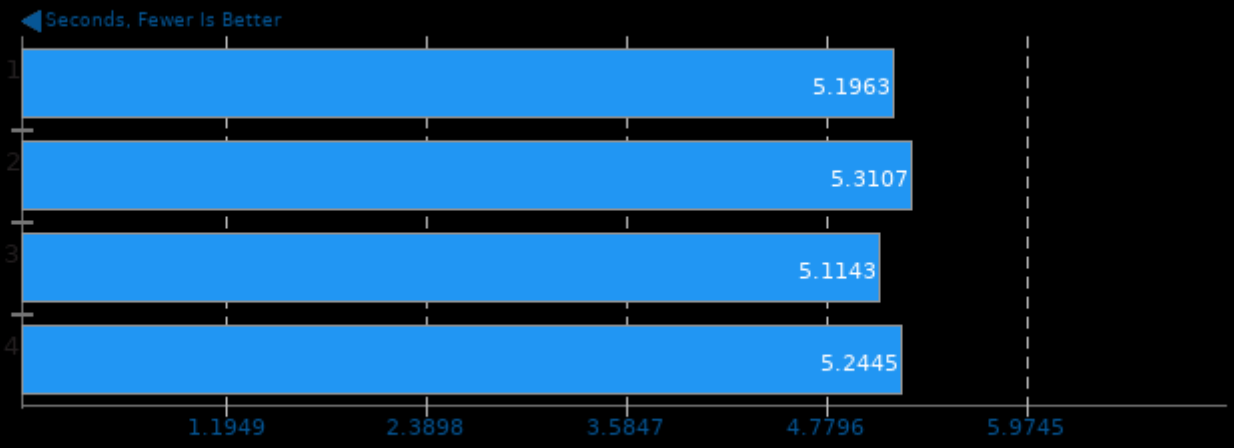
Concurrent Requests: 1000



1. (CC) gcc options: -shared -fPIC -O2 -pthread

ASTC Encoder 3.0

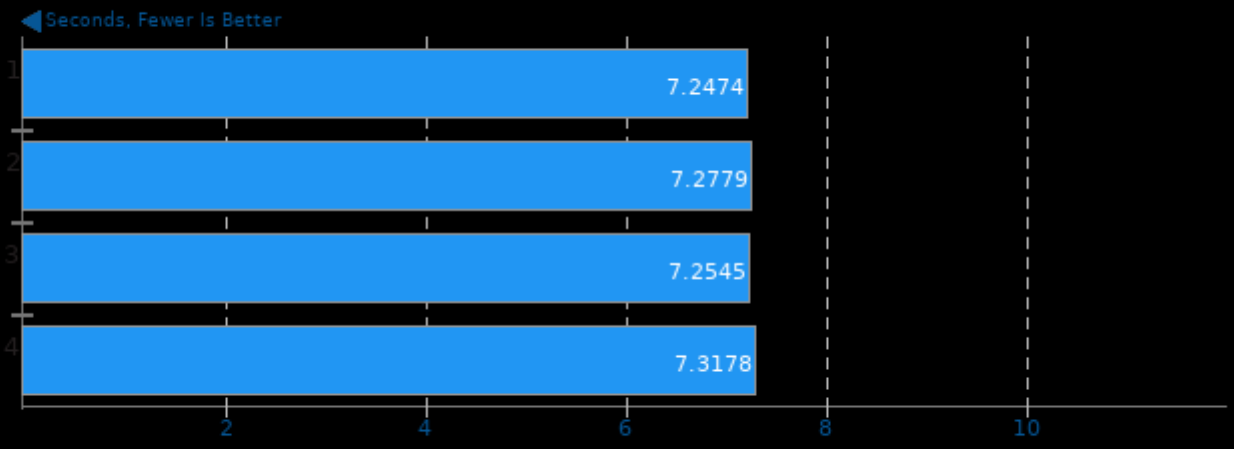
Preset: Medium



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

ASTC Encoder 3.0

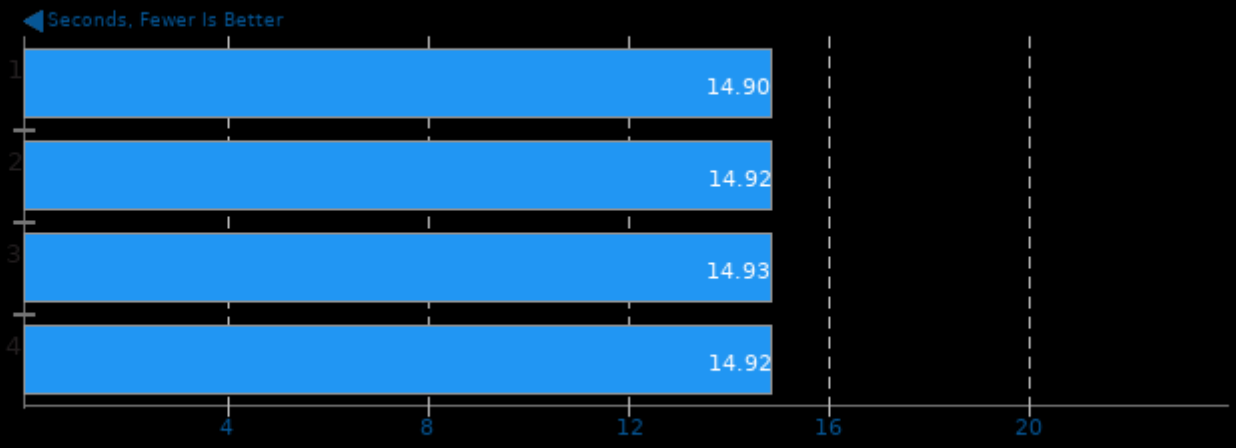
Preset: Thorough



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

ASTC Encoder 3.0

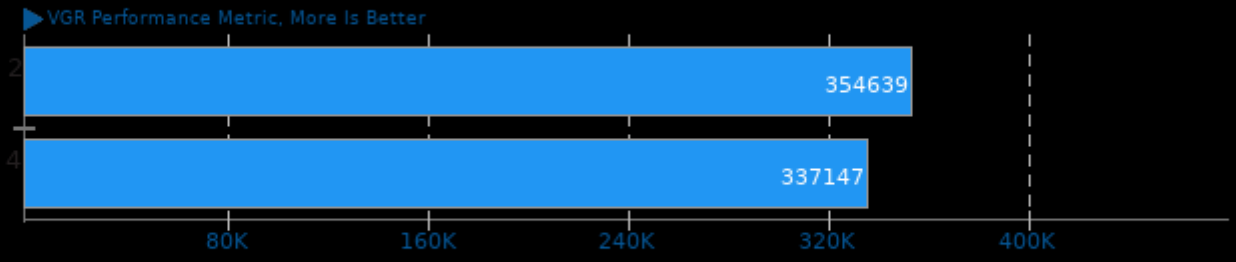
Preset: Exhaustive



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

BRL-CAD 7.32.2

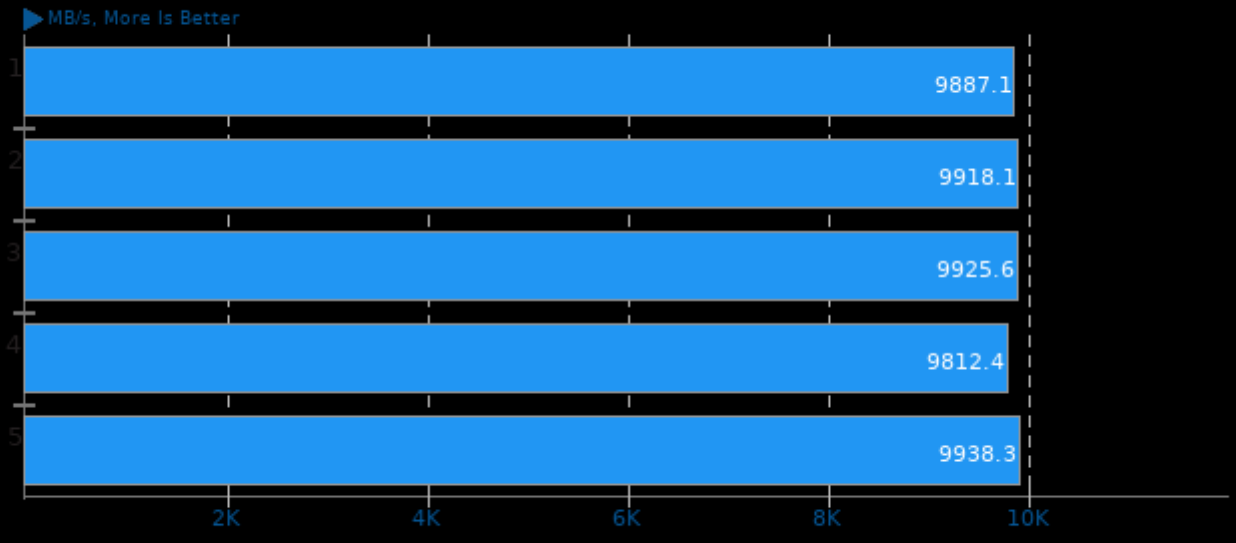
VGR Performance Metric



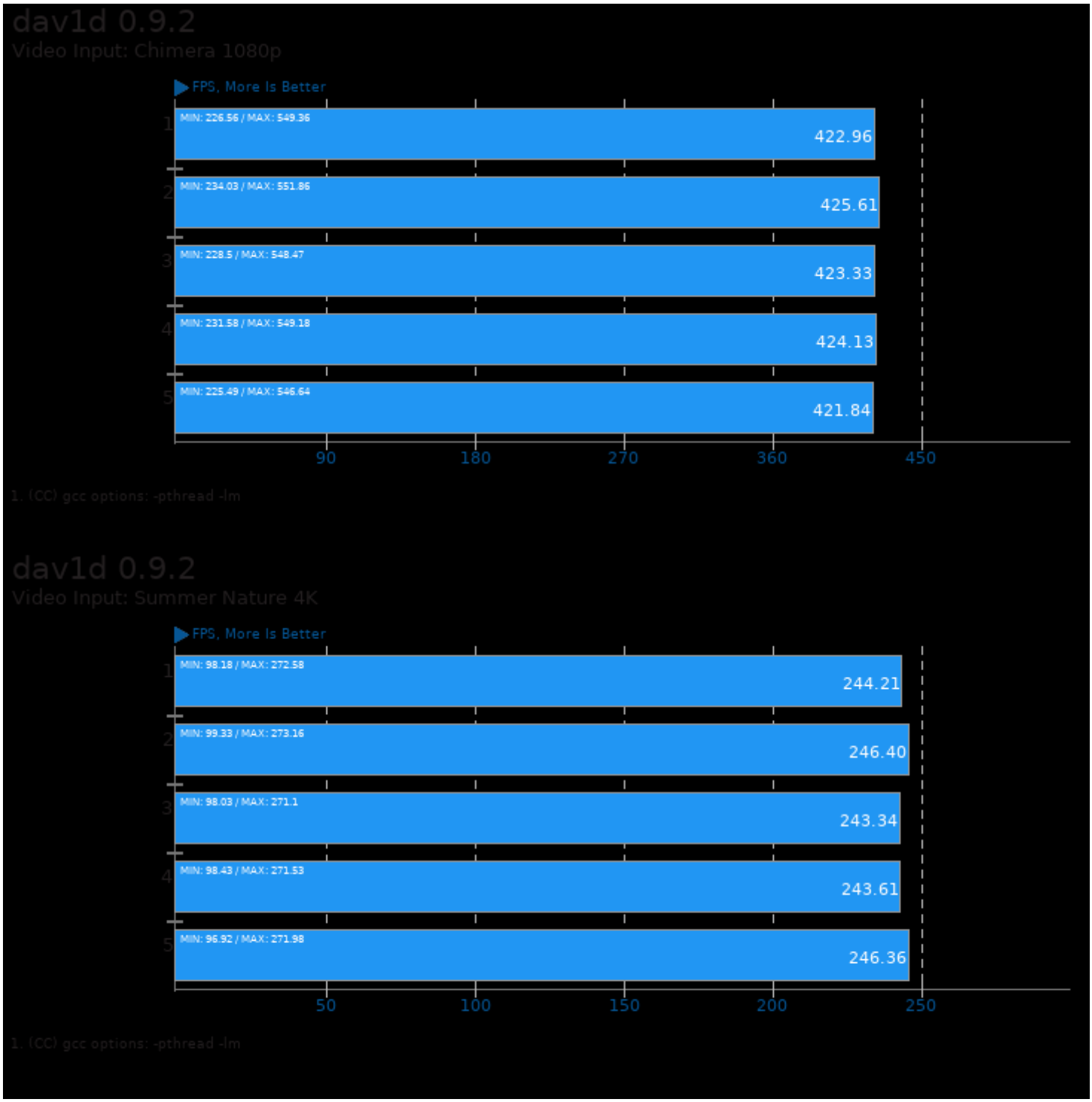
1. (CXX) g++ options: -std=c++11 -pipe -fvisibility=hidden -fno-strict-aliasing -fno-common -fexceptions -ftemplate-depth-128 -m64 -ggdb3 -O3 -fipa-pt

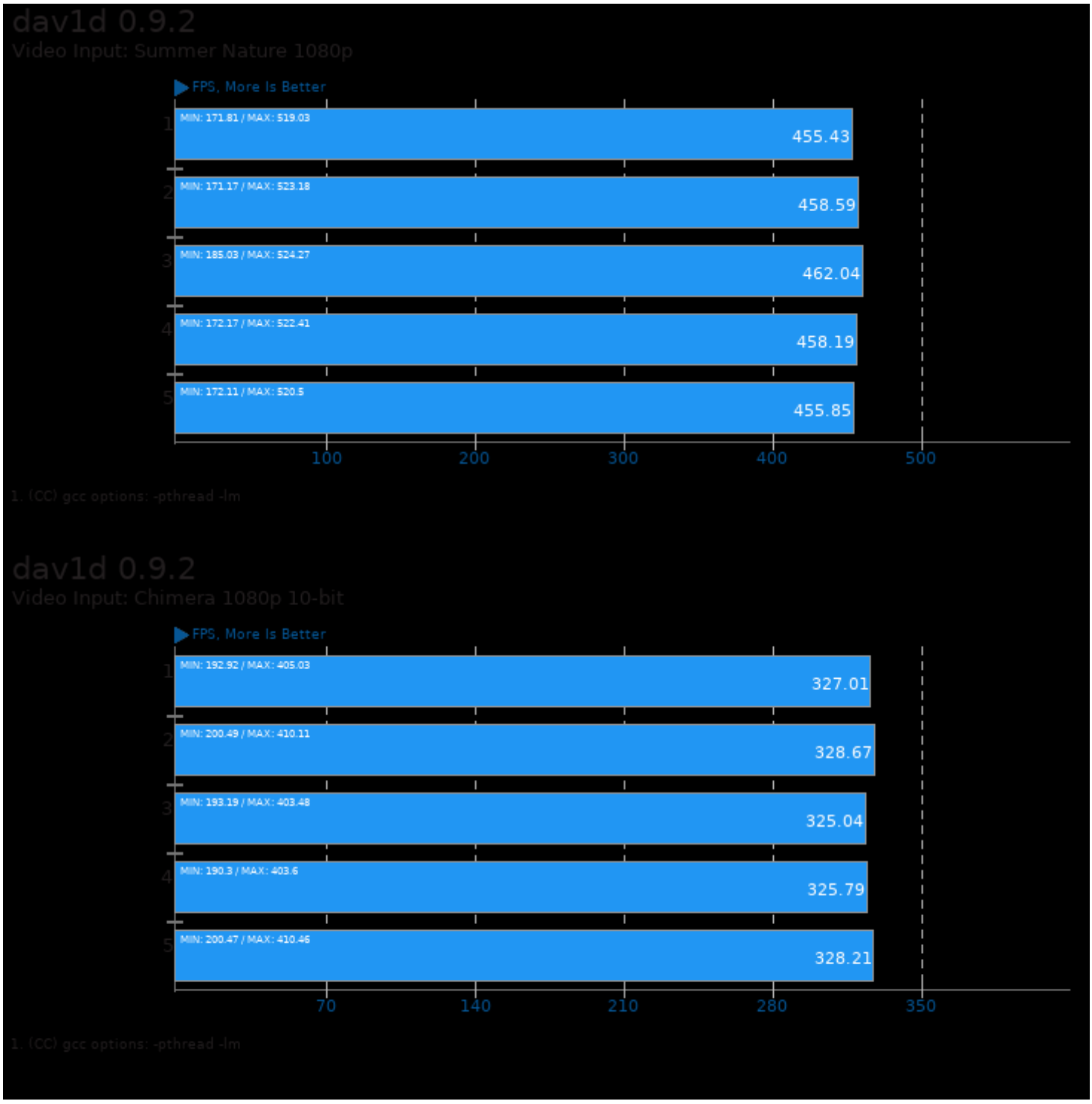
C-Blosc 2.0

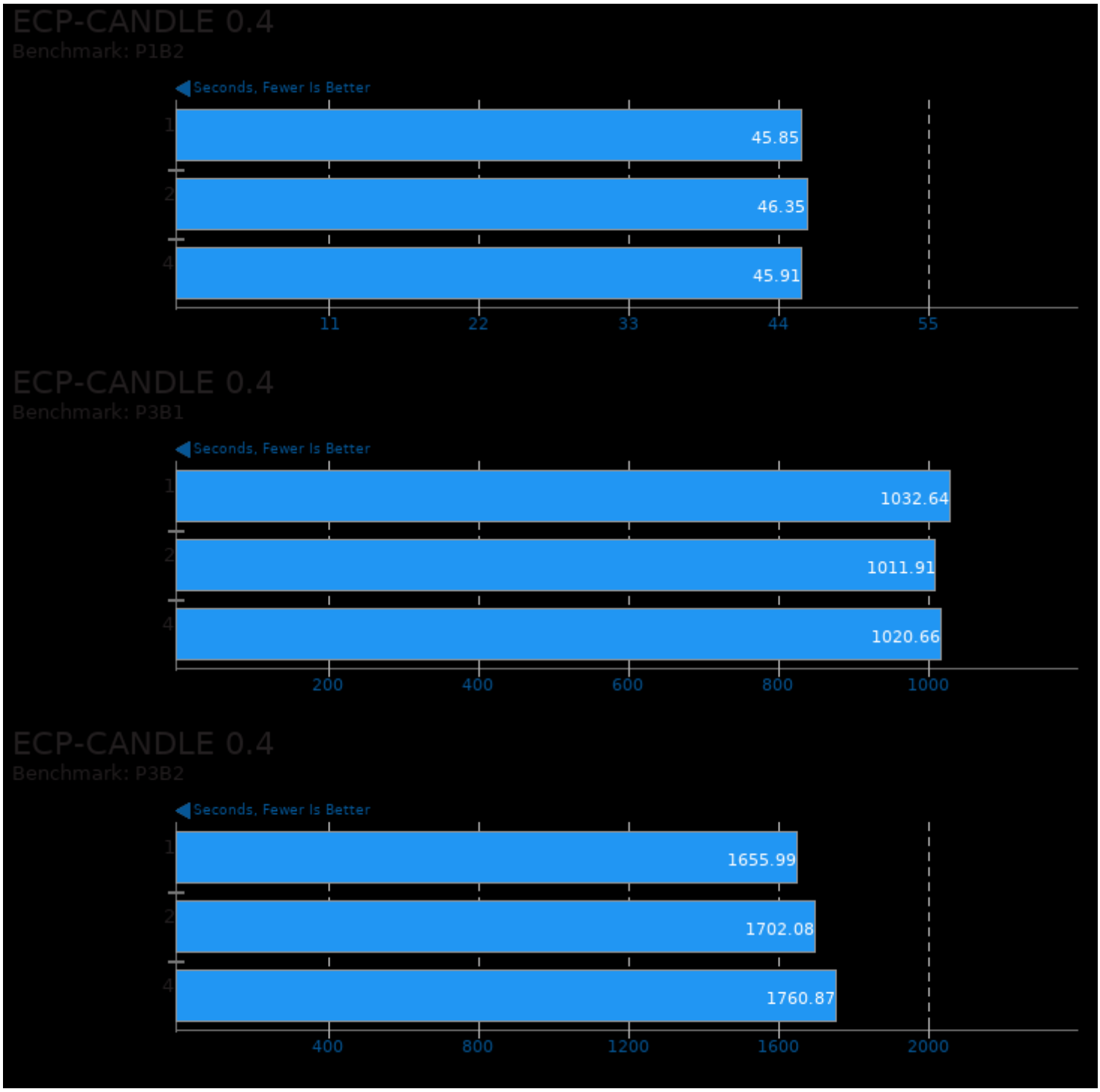
Compressor: blosclz



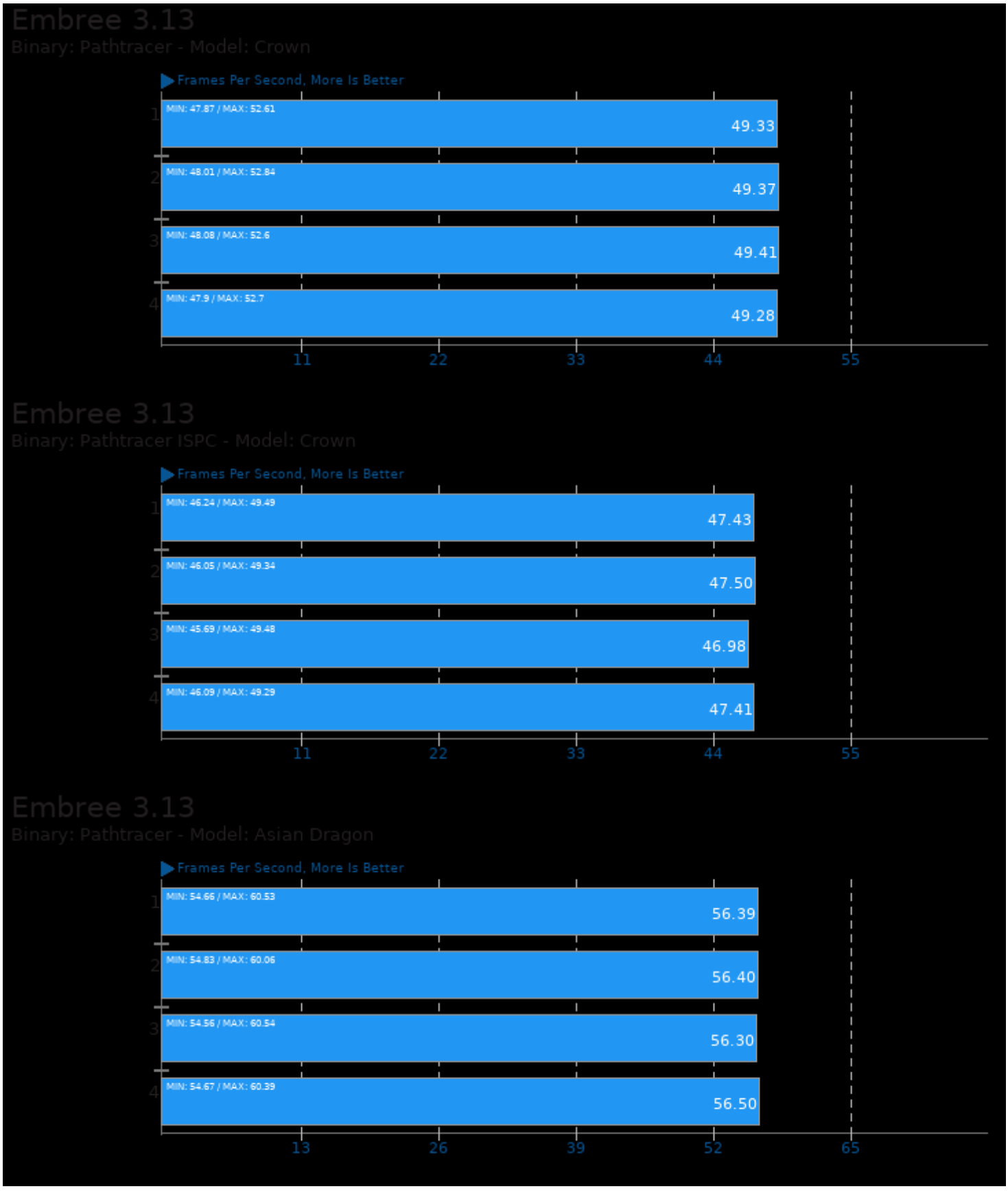
1. (CC) gcc options: -std=gnu99 -O3 -pthread -lrt -lm


dav1d 0.9.2
Video Input: Chimera 1080p
FPS, More Is Better
1
MIN: 226.56 / MAX: 549.36
422.96
2
MIN: 234.03 / MAX: 551.86
425.61
3
MIN: 228.5 / MAX: 548.47
423.33
4
MIN: 231.58 / MAX: 549.18
424.13
5
MIN: 225.49 / MAX: 546.64
421.84
90
180
270
360
450
1. (CC) gcc options: -pthread -lm
dav1d 0.9.2
Video Input: Summer Nature 4K
FPS, More Is Better
1
MIN: 98.18 / MAX: 272.58
244.21
2
MIN: 99.33 / MAX: 273.16
246.40
3
MIN: 98.03 / MAX: 271.1
243.34
4
MIN: 98.43 / MAX: 271.53
243.61
5
MIN: 96.92 / MAX: 271.98
246.36
50
100
150
200
250
1. (CC) gcc options: -pthread -lm


dav1d 0.9.2
Video Input: Summer Nature 1080p
FPS, More Is Better
1
MIN: 171.81 / MAX: 519.03
455.43
2
MIN: 171.17 / MAX: 523.18
458.59
3
MIN: 185.03 / MAX: 524.27
462.04
4
MIN: 172.17 / MAX: 522.41
458.19
5
MIN: 172.11 / MAX: 520.5
455.85
100
200
300
400
500
1. (CC) gcc options: -pthread -lm
dav1d 0.9.2
Video Input: Chimera 1080p 10-bit
FPS, More Is Better
1
MIN: 192.92 / MAX: 405.03
327.01
2
MIN: 200.49 / MAX: 410.11
328.67
3
MIN: 193.19 / MAX: 403.48
325.04
4
MIN: 190.3 / MAX: 403.6
325.79
5
MIN: 200.47 / MAX: 410.46
328.21
70
140
210
280
350
1. (CC) gcc options: -pthread -lm

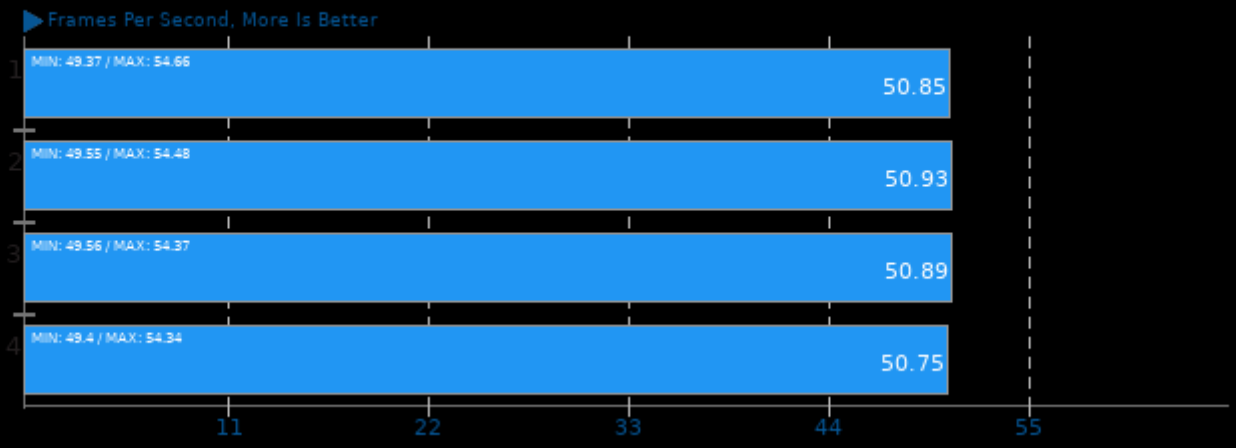

ECP-CANDLE 0.4
Benchmark: P1B2
Seconds, Fewer Is Better
1
45.85
2
46.35
4
45.91
11
22
33
44
55
ECP-CANDLE 0.4
Benchmark: P3B1
Seconds, Fewer Is Better
1
1032.64
2
1011.91
4
1020.66
200
400
600
800
1000
ECP-CANDLE 0.4
Benchmark: P3B2
Seconds, Fewer Is Better
1
1655.99
2
1702.08
4
1760.87
400
800
1200
1600
2000

Xeon Platinum 8280 2P September



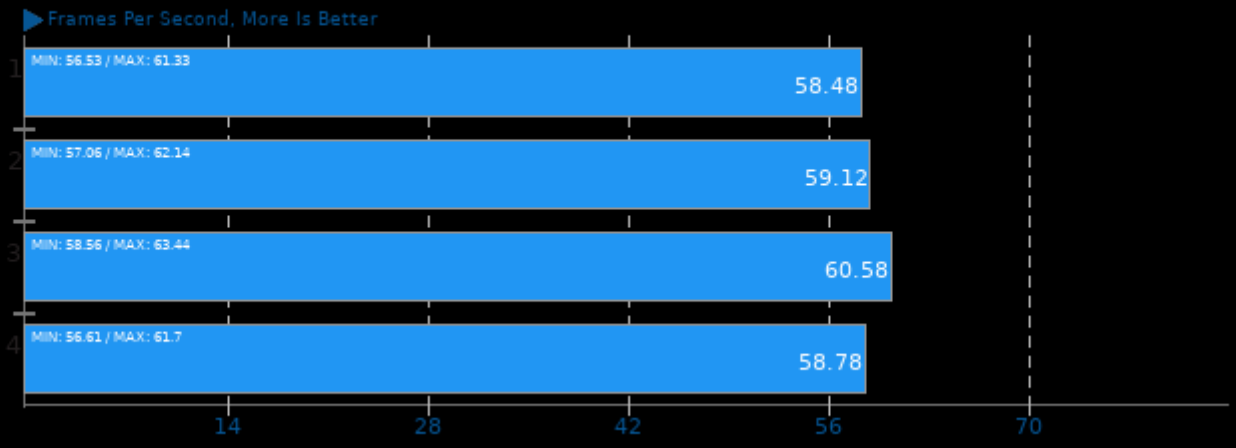
Embree 3.13

Binary: Pathtracer - Model: Asian Dragon Obj



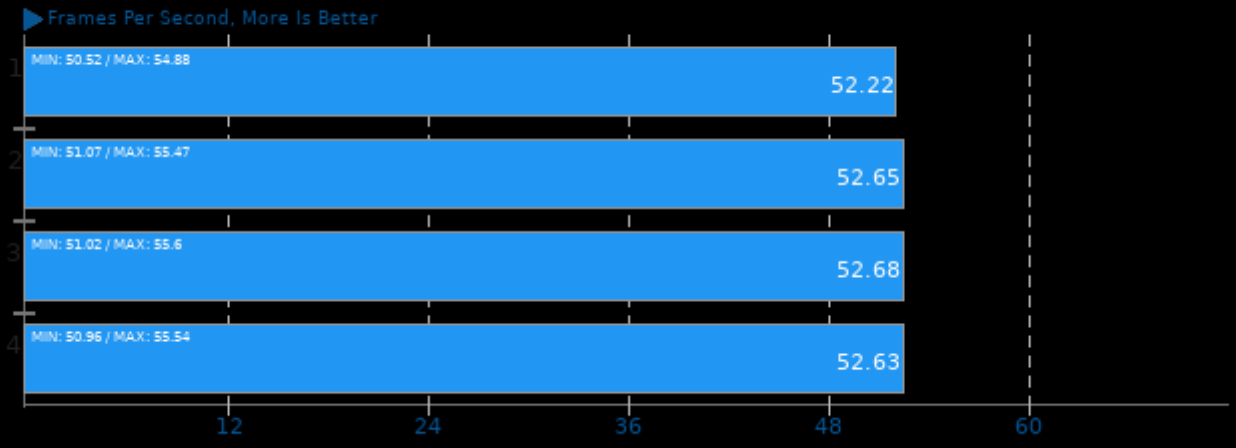
Embree 3.13

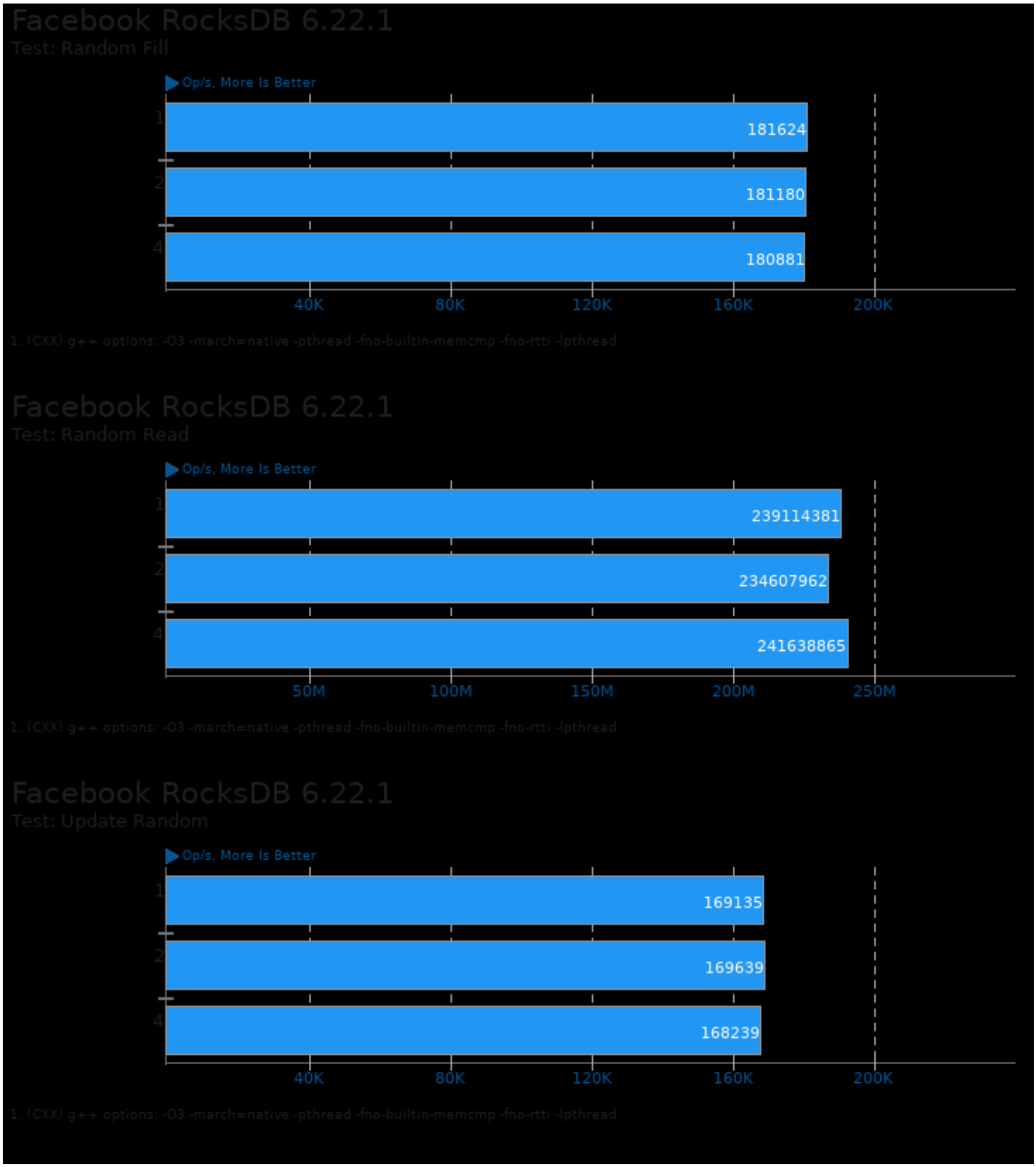
Binary: Pathtracer ISPC - Model: Asian Dragon

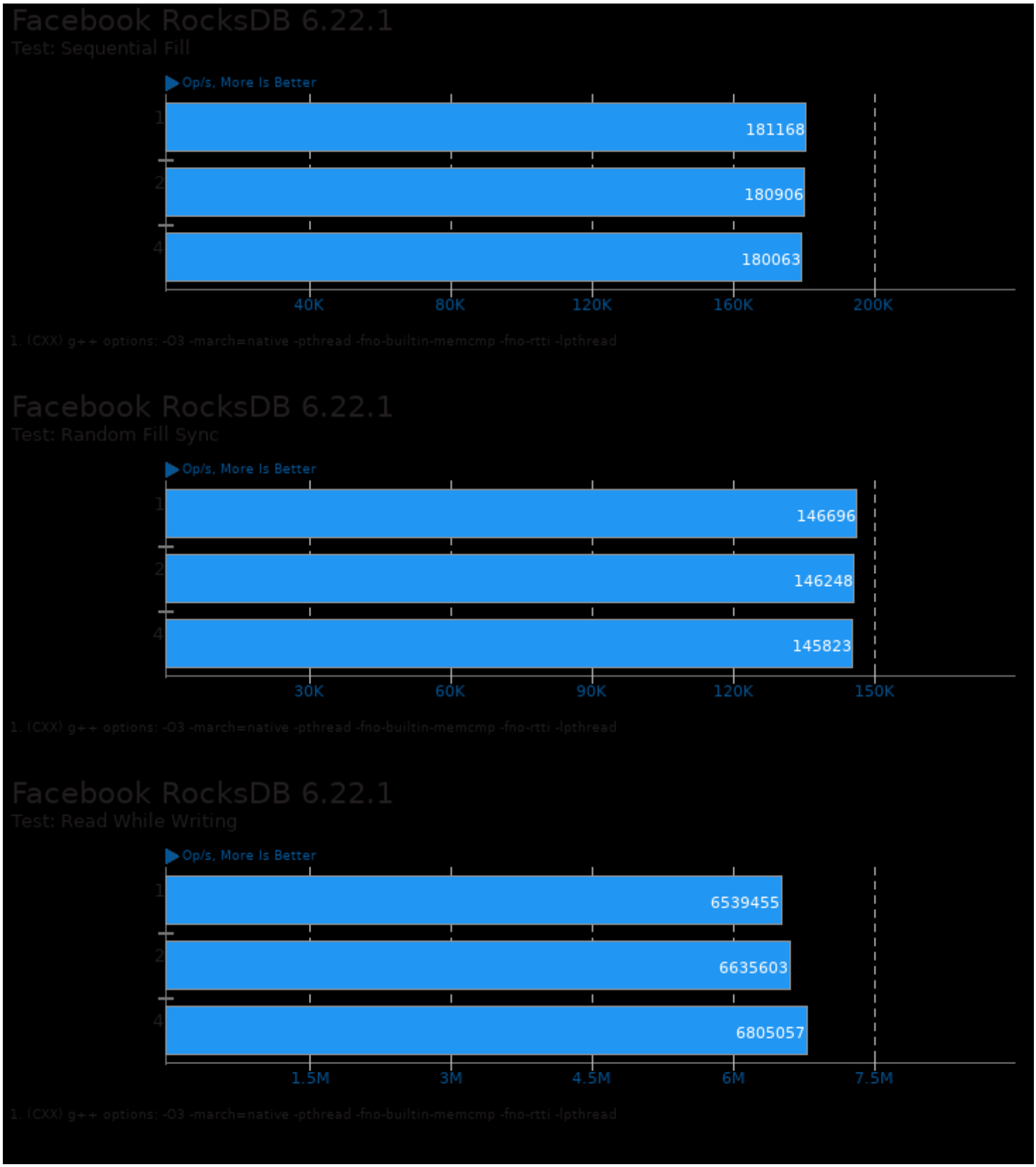


Embree 3.13

Binary: Pathtracer ISPC - Model: Asian Dragon Obj

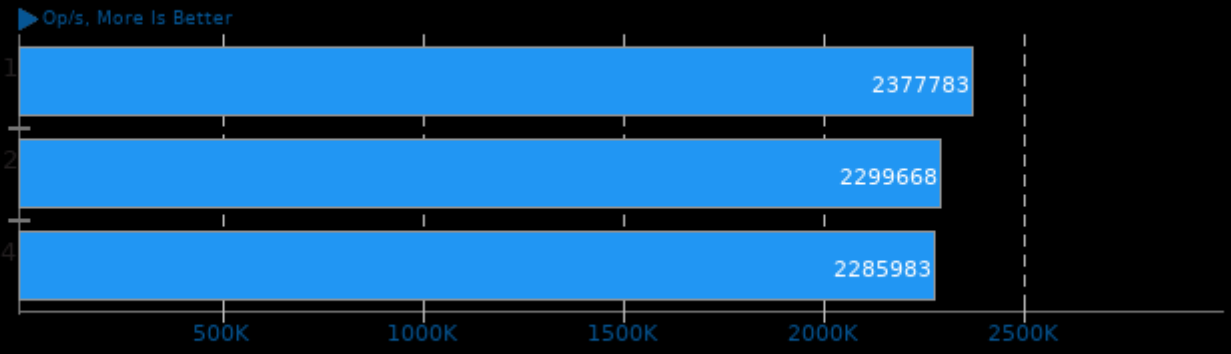



Facebook RocksDB 6.22.1
Test: Random Fill
Op/s, More Is Better
1
2
4
181624
181180
180881
40K
80K
120K
160K
200K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread
Facebook RocksDB 6.22.1
Test: Random Read
Op/s, More Is Better
1
2
4
239114381
234607962
241638865
50M
100M
150M
200M
250M
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread
Facebook RocksDB 6.22.1
Test: Update Random
Op/s, More Is Better
1
2
4
169135
169639
168239
40K
80K
120K
160K
200K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread


Facebook RocksDB 6.22.1
Test: Sequential Fill
Op/s, More Is Better
1
2
4
181168
180906
180063
40K
80K
120K
160K
200K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread
Facebook RocksDB 6.22.1
Test: Random Fill Sync
Op/s, More Is Better
1
2
4
146696
146248
145823
30K
60K
90K
120K
150K
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread
Facebook RocksDB 6.22.1
Test: Read While Writing
Op/s, More Is Better
1
2
4
6539455
6635603
6805057
1.5M
3M
4.5M
6M
7.5M
1. (CXX) g++ options: -O3 -march=native -pthread -fno-builtin-memcmp -fno-rtti -lpthread

Facebook RocksDB 6.22.1

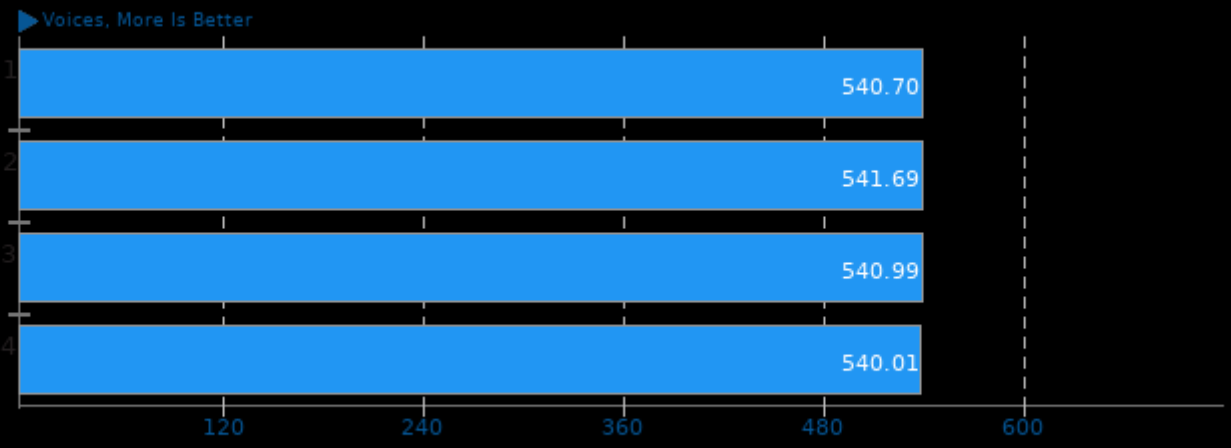
Test: Read Random Write Random



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

Google SynthMark 20201109

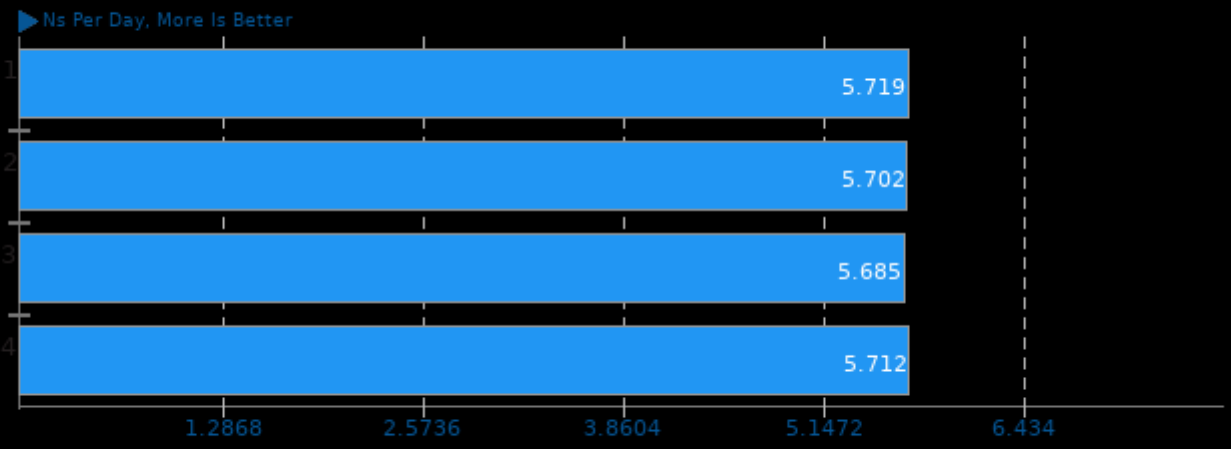
Test: VoiceMark_100



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

GROMACS 2021.2

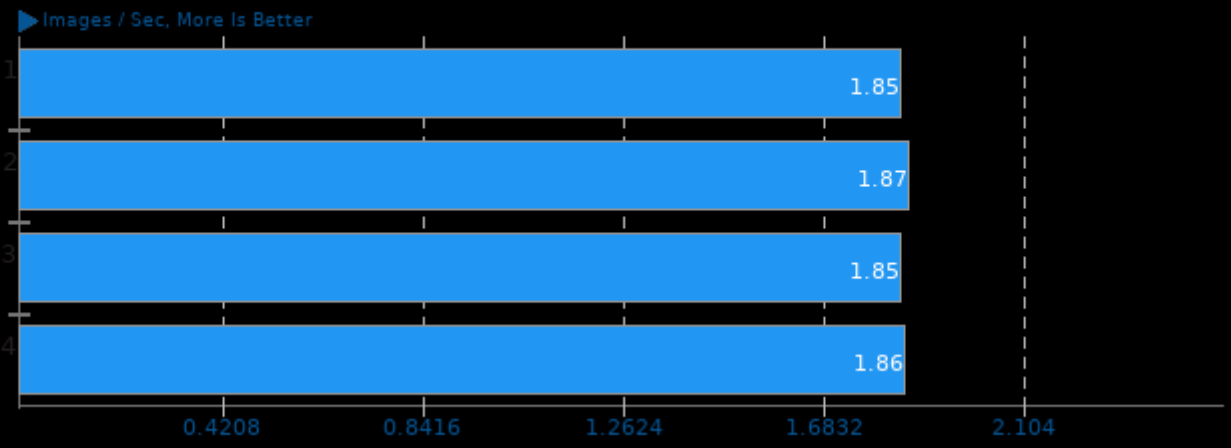
Implementation: MPI CPU - Input: water_GMX50_bare



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

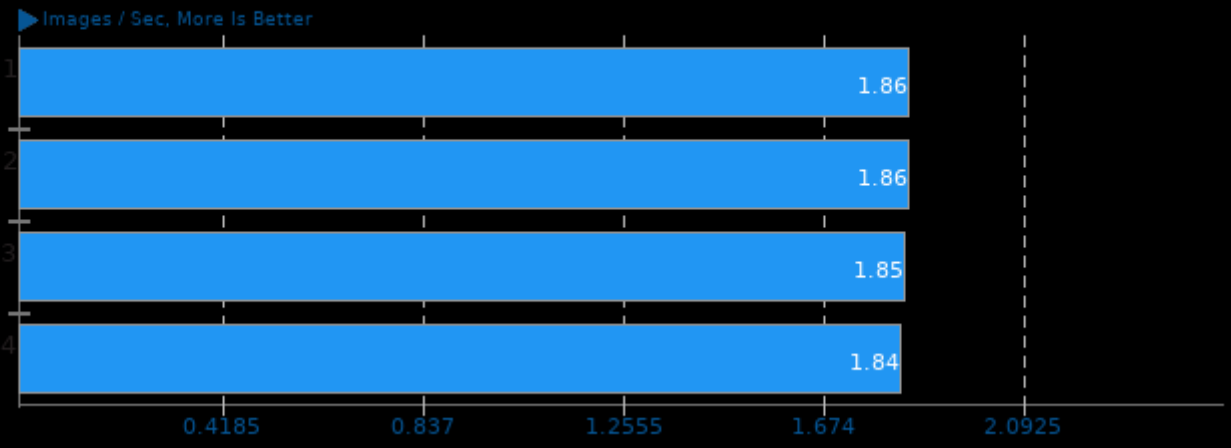
Intel Open Image Denoise 1.4.0

Run: RT.hdr_alb_nrm.3840x2160



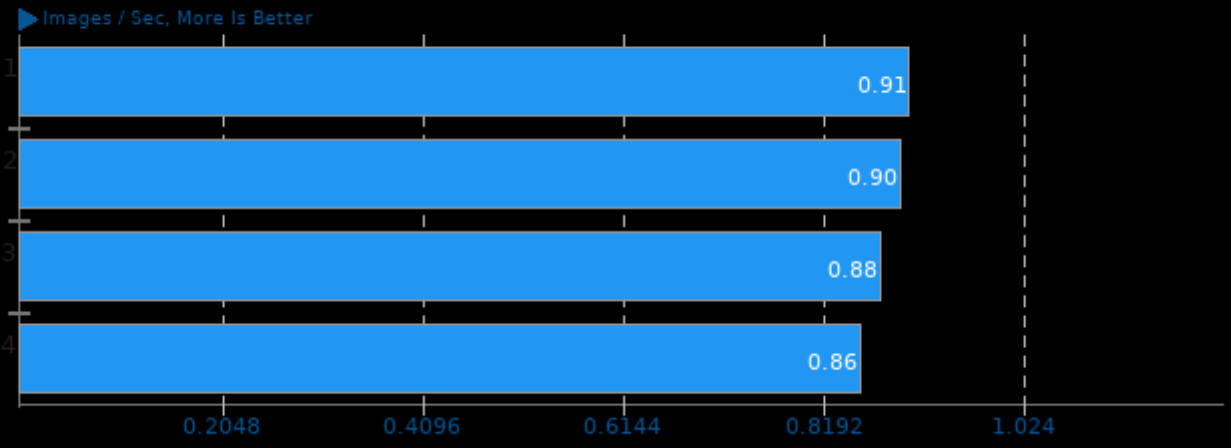
Intel Open Image Denoise 1.4.0

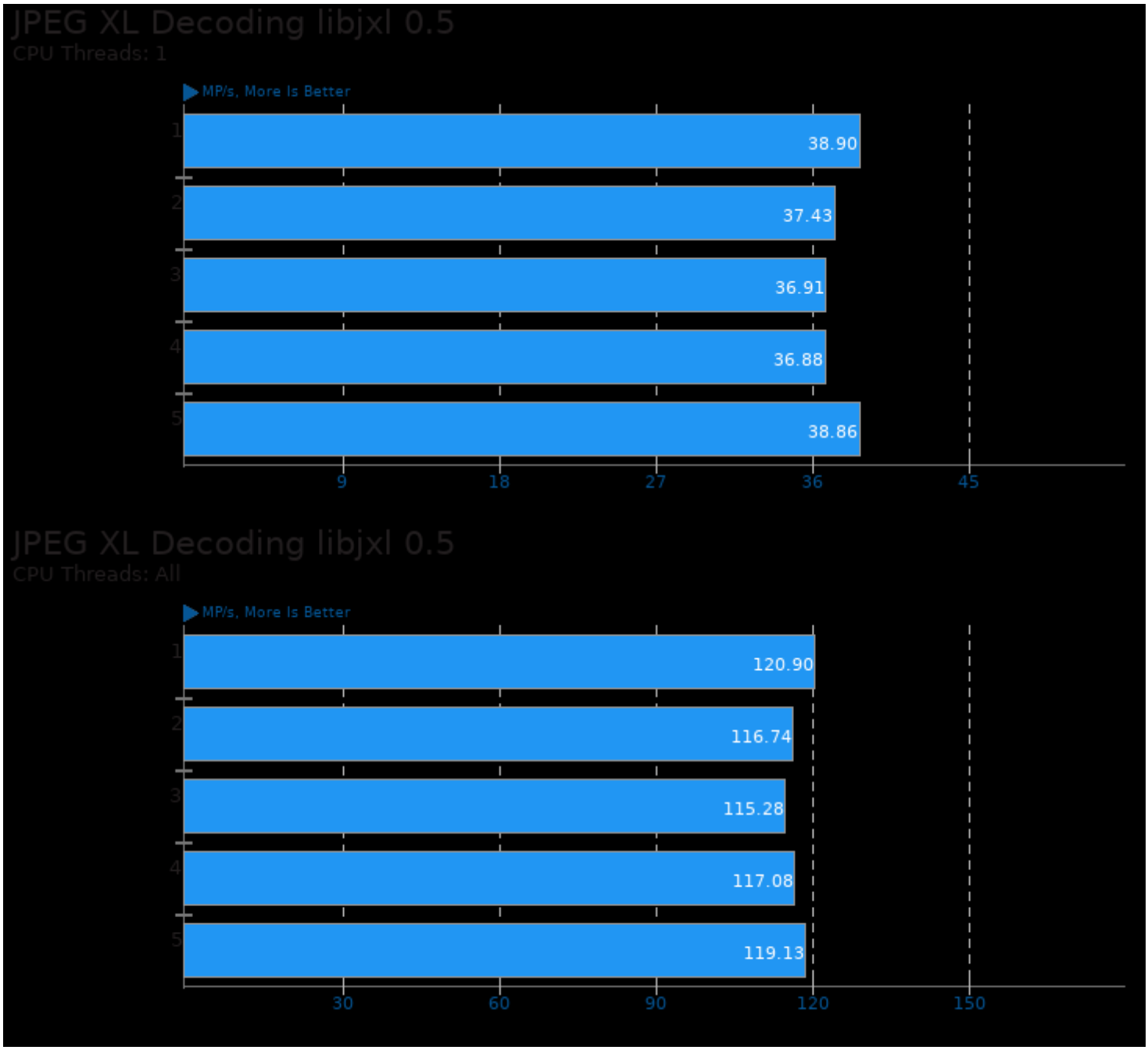
Run: RT.ldr_alb_nrm.3840x2160

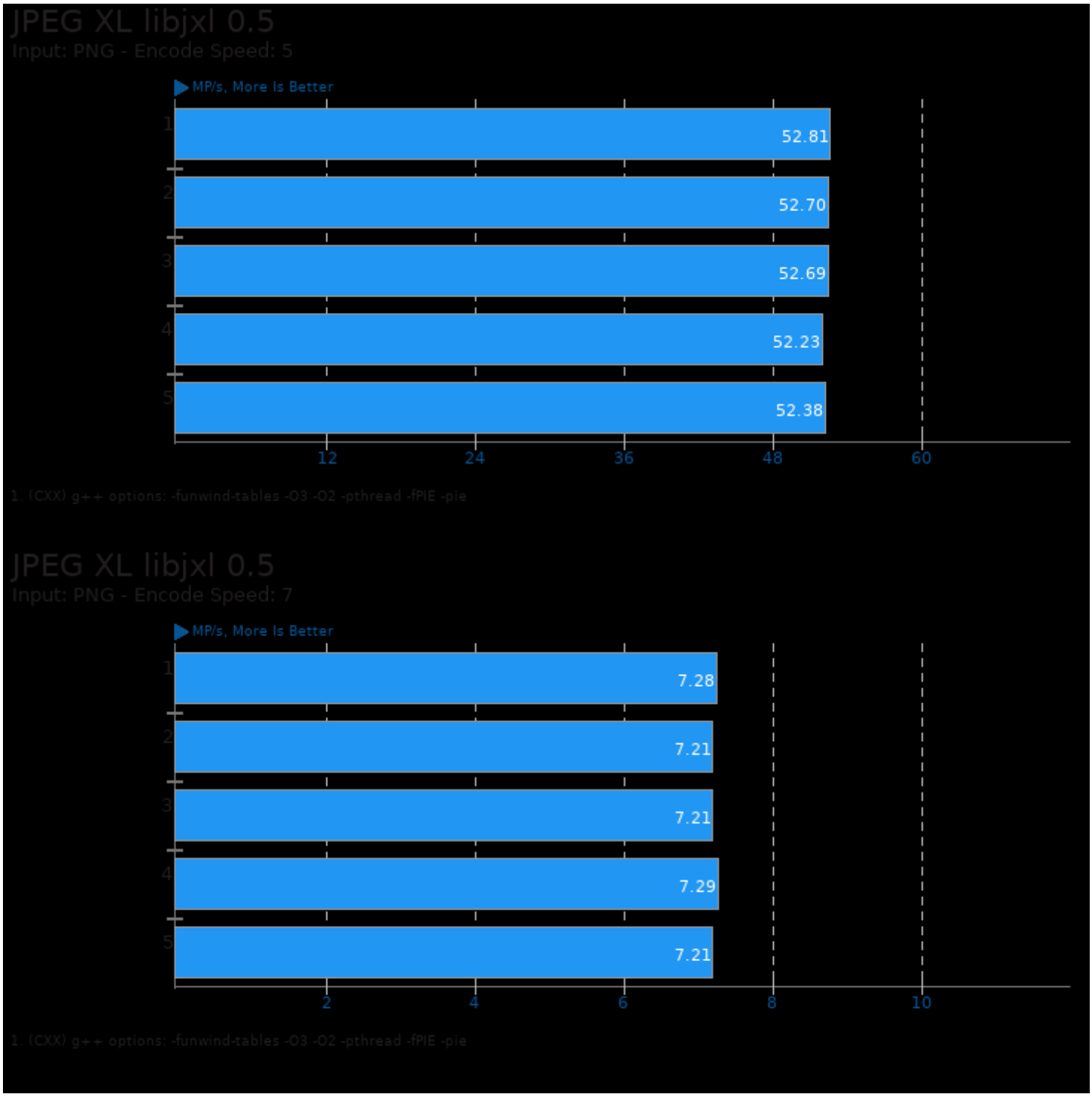


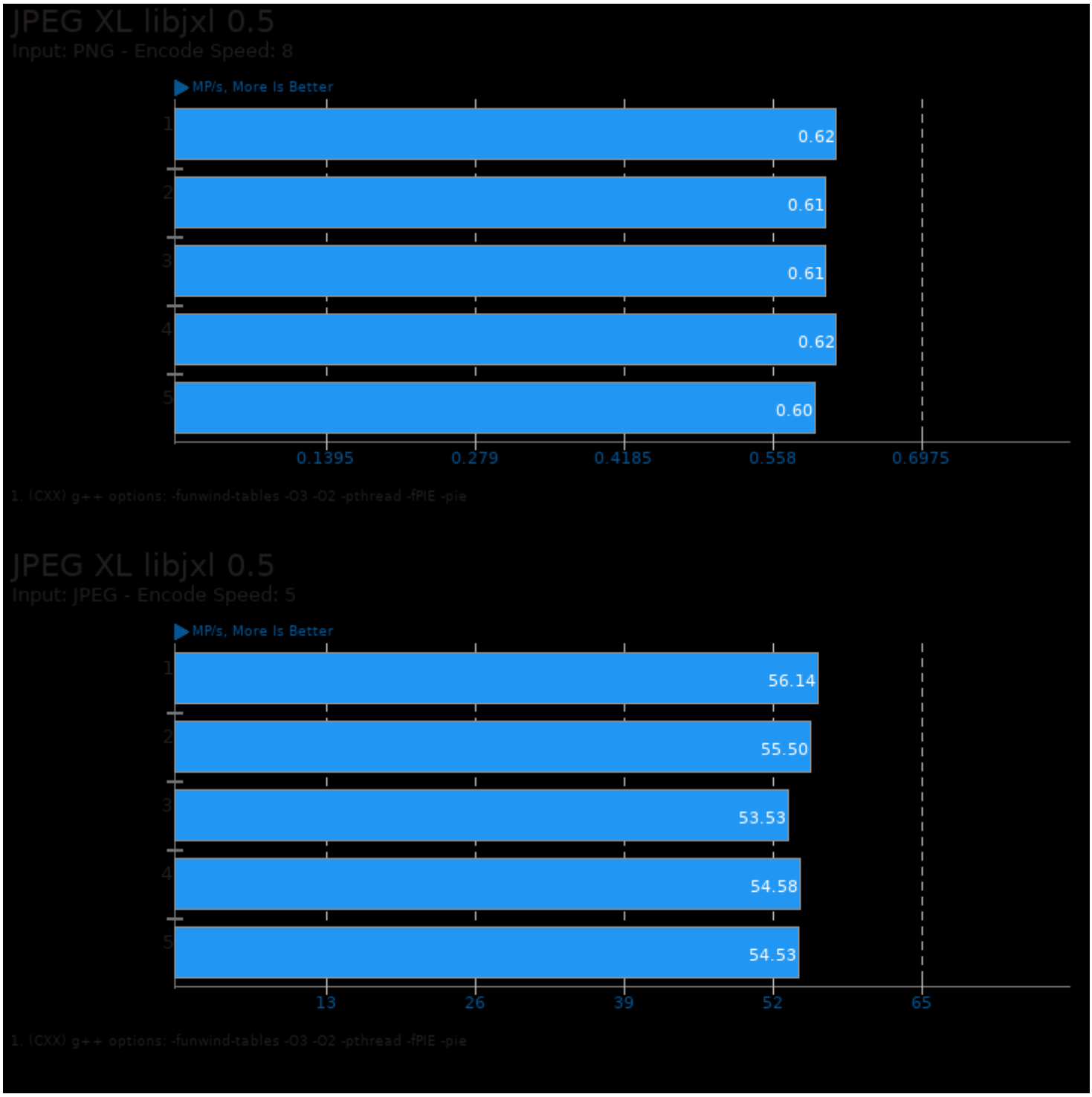
Intel Open Image Denoise 1.4.0

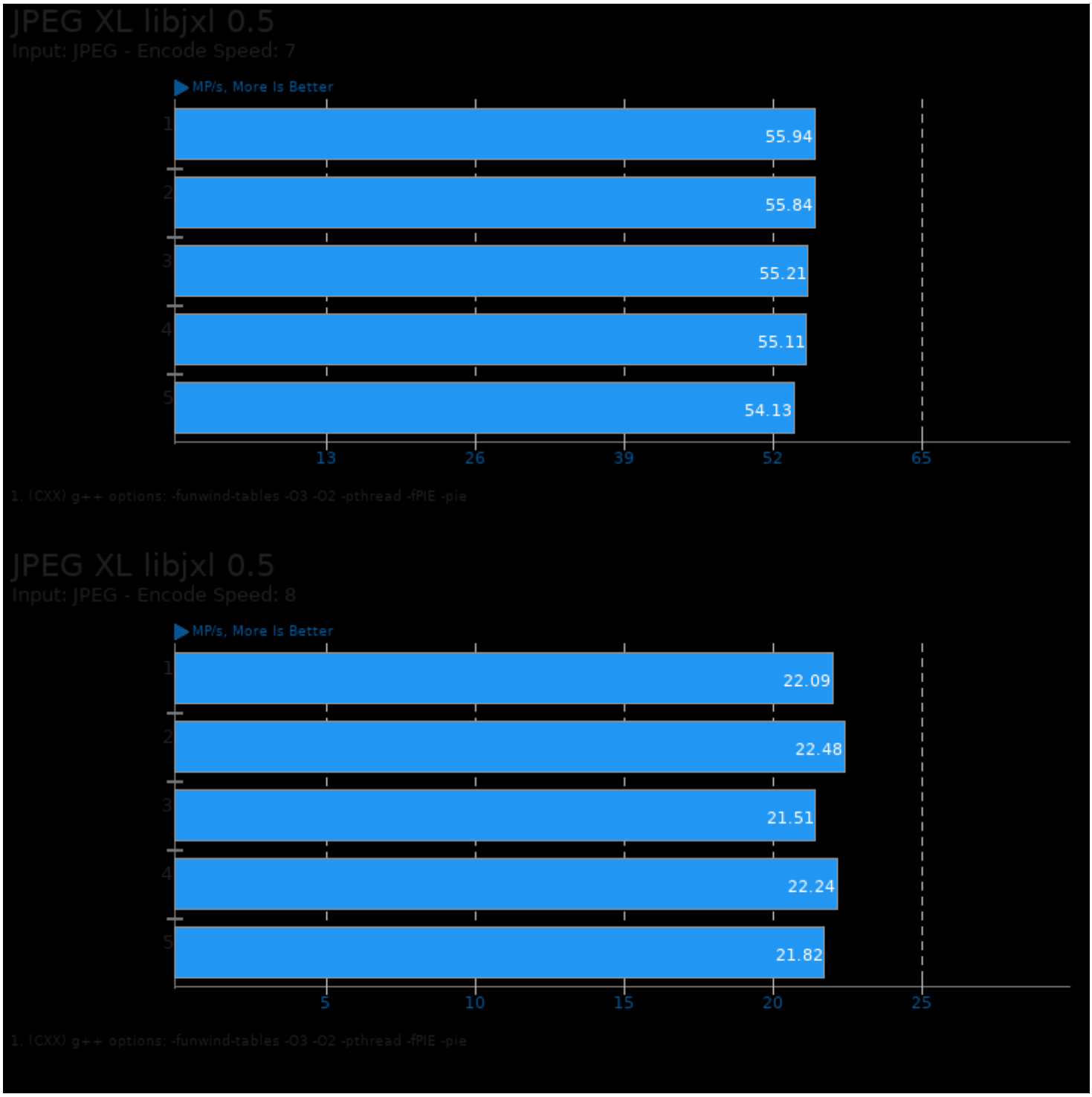
Run: RTLightmap.hdr.4096x4096



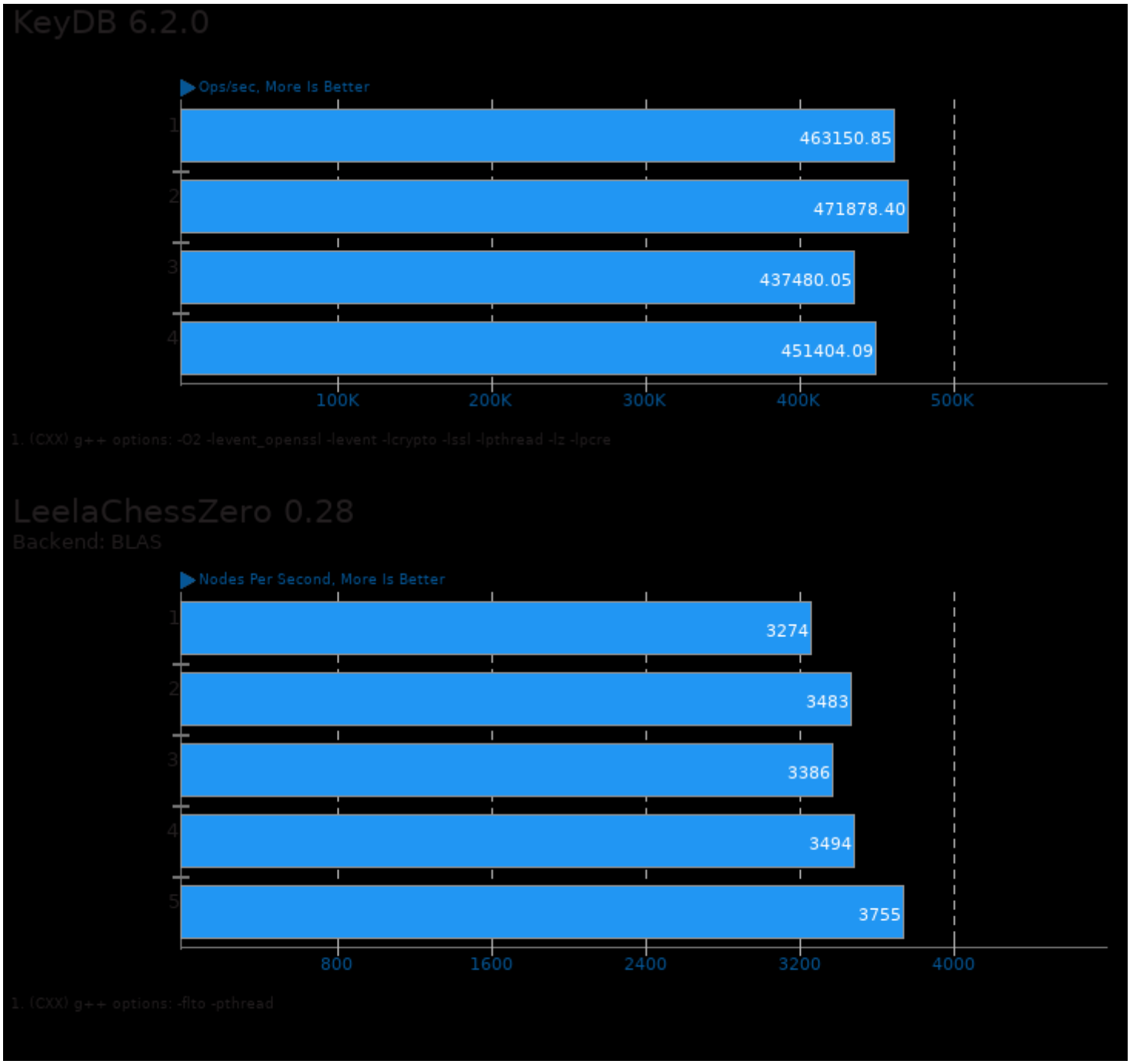

JPEG XL Decoding libjxl 0.5
CPU Threads: 1
MP/s, More Is Better
1
38.90
2
37.43
3
36.91
4
36.88
5
38.86
9
18
27
36
45
JPEG XL Decoding libjxl 0.5
CPU Threads: All
MP/s, More Is Better
1
120.90
2
116.74
3
115.28
4
117.08
5
119.13
30
60
90
120
150

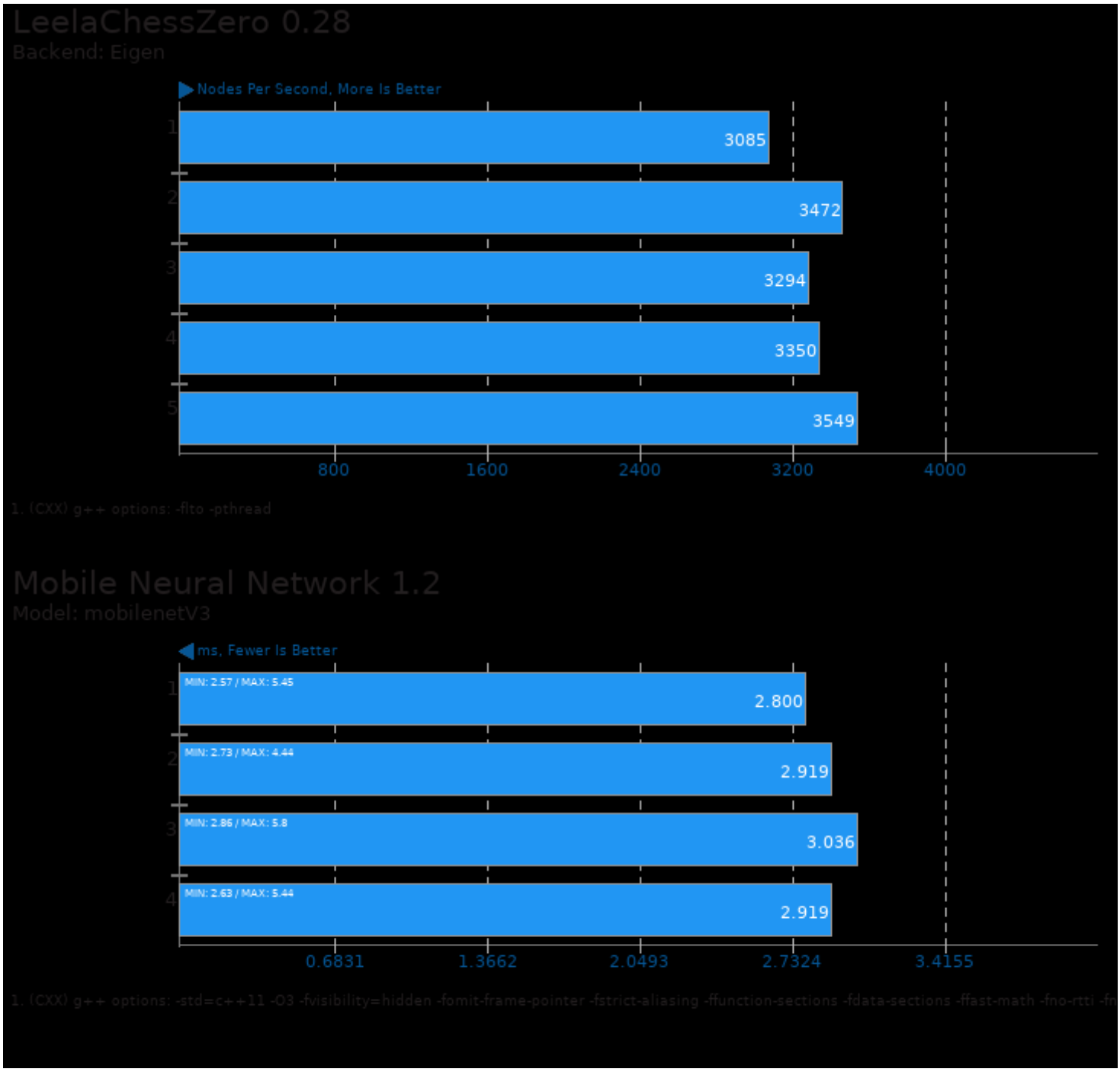

JPEG XL libjxl 0.5
Input: PNG - Encode Speed: 5
MP/s, More Is Better
1
2
3
4
5
52.81
52.70
52.69
52.23
52.38
12
24
36
48
60
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie
JPEG XL libjxl 0.5
Input: PNG - Encode Speed: 7
MP/s, More Is Better
1
2
3
4
5
7.28
7.21
7.21
7.29
7.21
2
4
6
8
10
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie

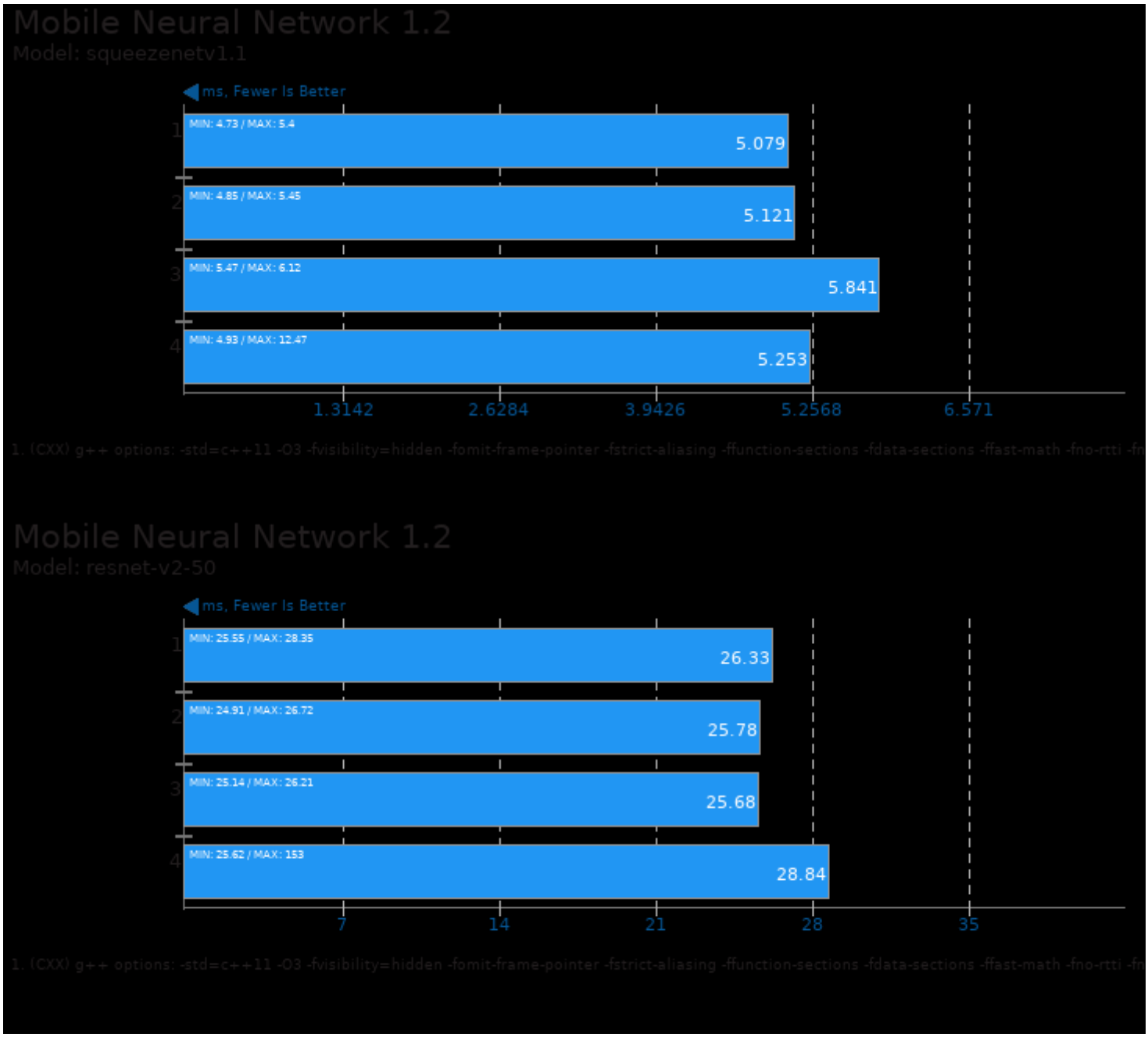

JPEG XL libjxl 0.5
Input: PNG - Encode Speed: 8
MP/s, More Is Better
1
2
3
4
5
0.62
0.61
0.61
0.62
0.60
0.1395
0.279
0.4185
0.558
0.6975
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie
JPEG XL libjxl 0.5
Input: JPEG - Encode Speed: 5
MP/s, More Is Better
1
2
3
4
5
56.14
55.50
53.53
54.58
54.53
13
26
39
52
65
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie

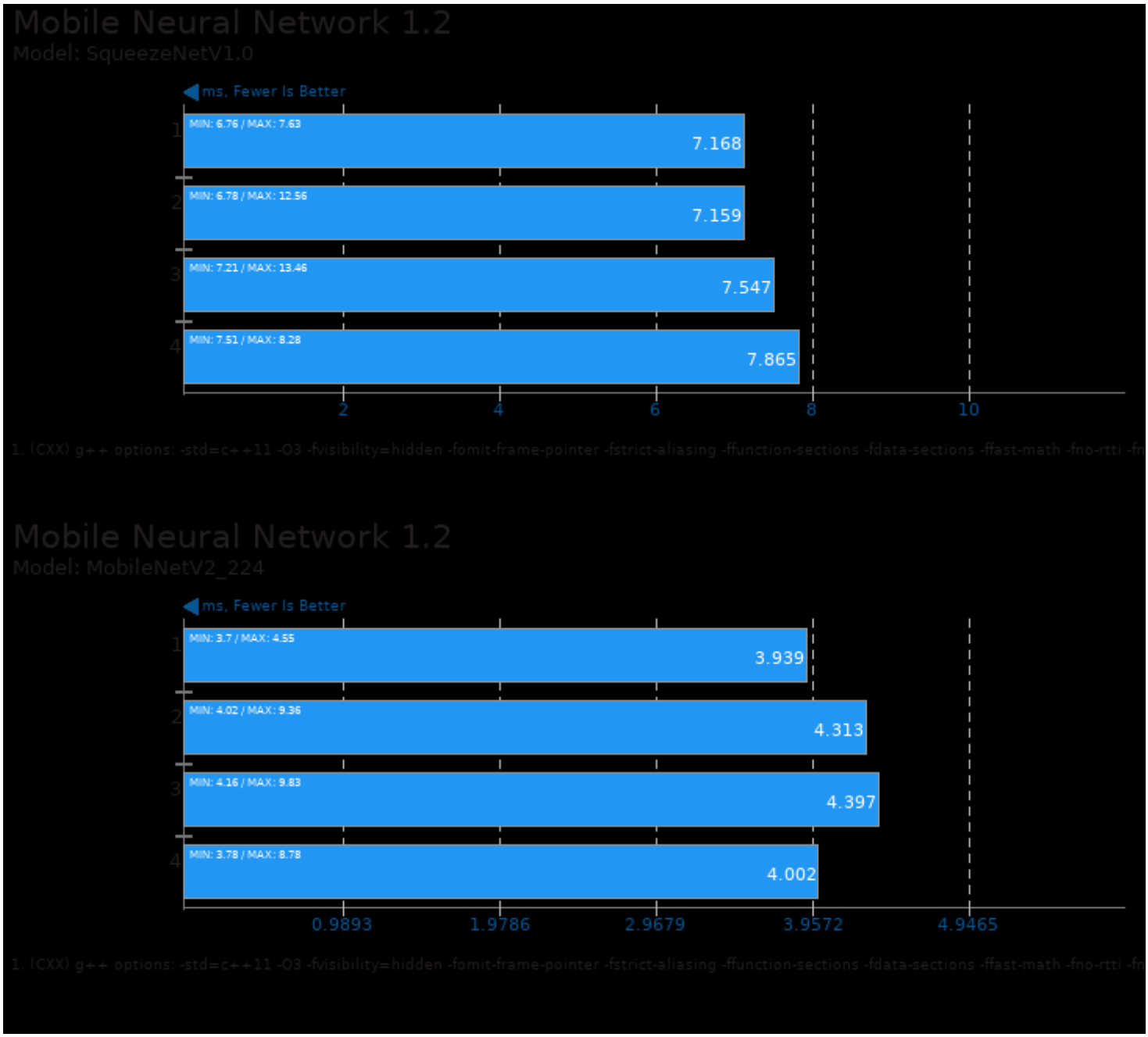

JPEG XL libjxl 0.5
Input: JPEG - Encode Speed: 7
MP/s, More Is Better
1
2
3
4
5
55.94
55.84
55.21
55.11
54.13
13
26
39
52
65
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie

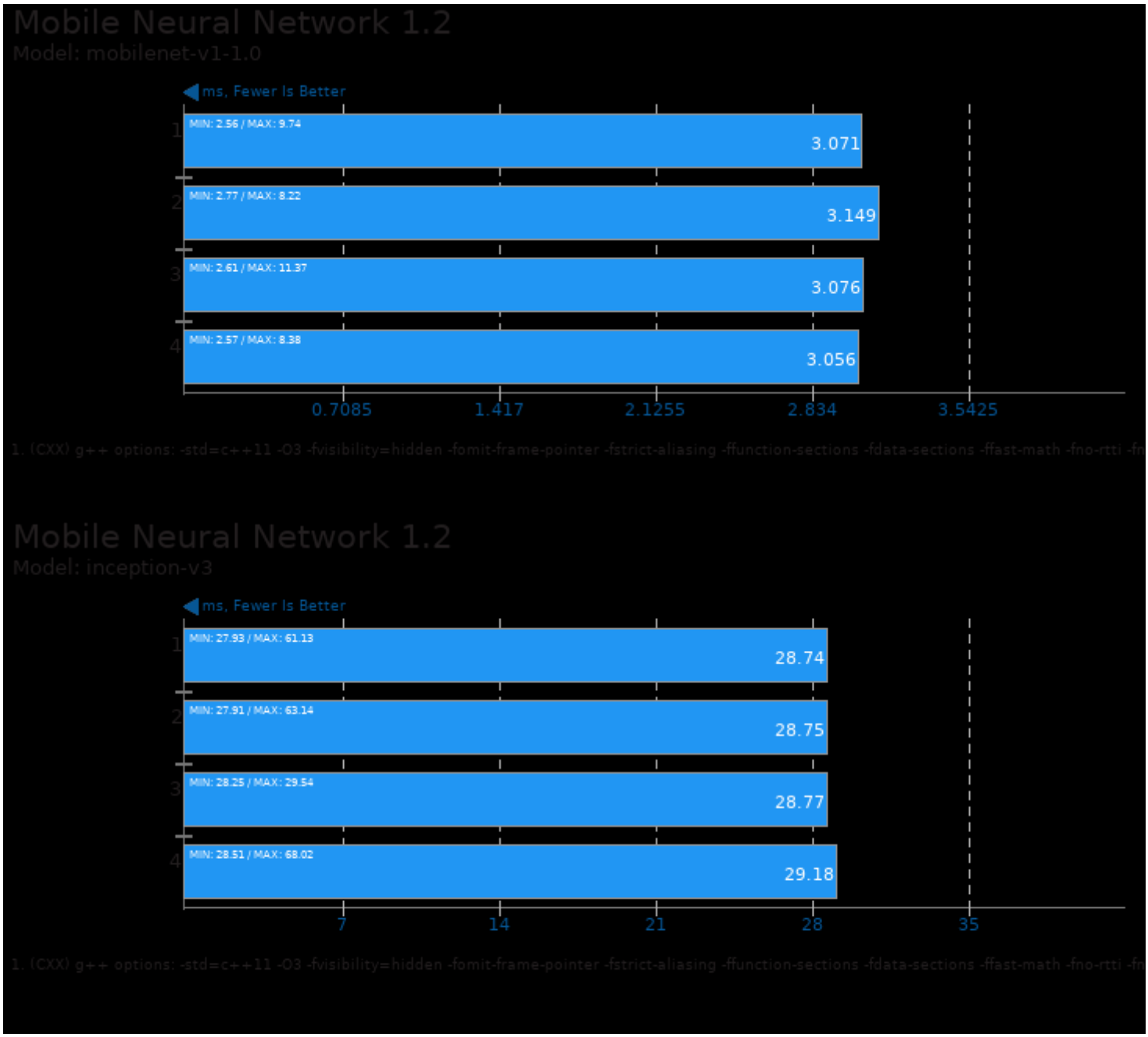
JPEG XL libjxl 0.5
Input: JPEG - Encode Speed: 8
MP/s, More Is Better
1
2
3
4
5
22.09
22.48
21.51
22.24
21.82
5
10
15
20
25
1. (CXX) g++ options: -funwind-tables -O3 -O2 -pthread -fPIE -pie

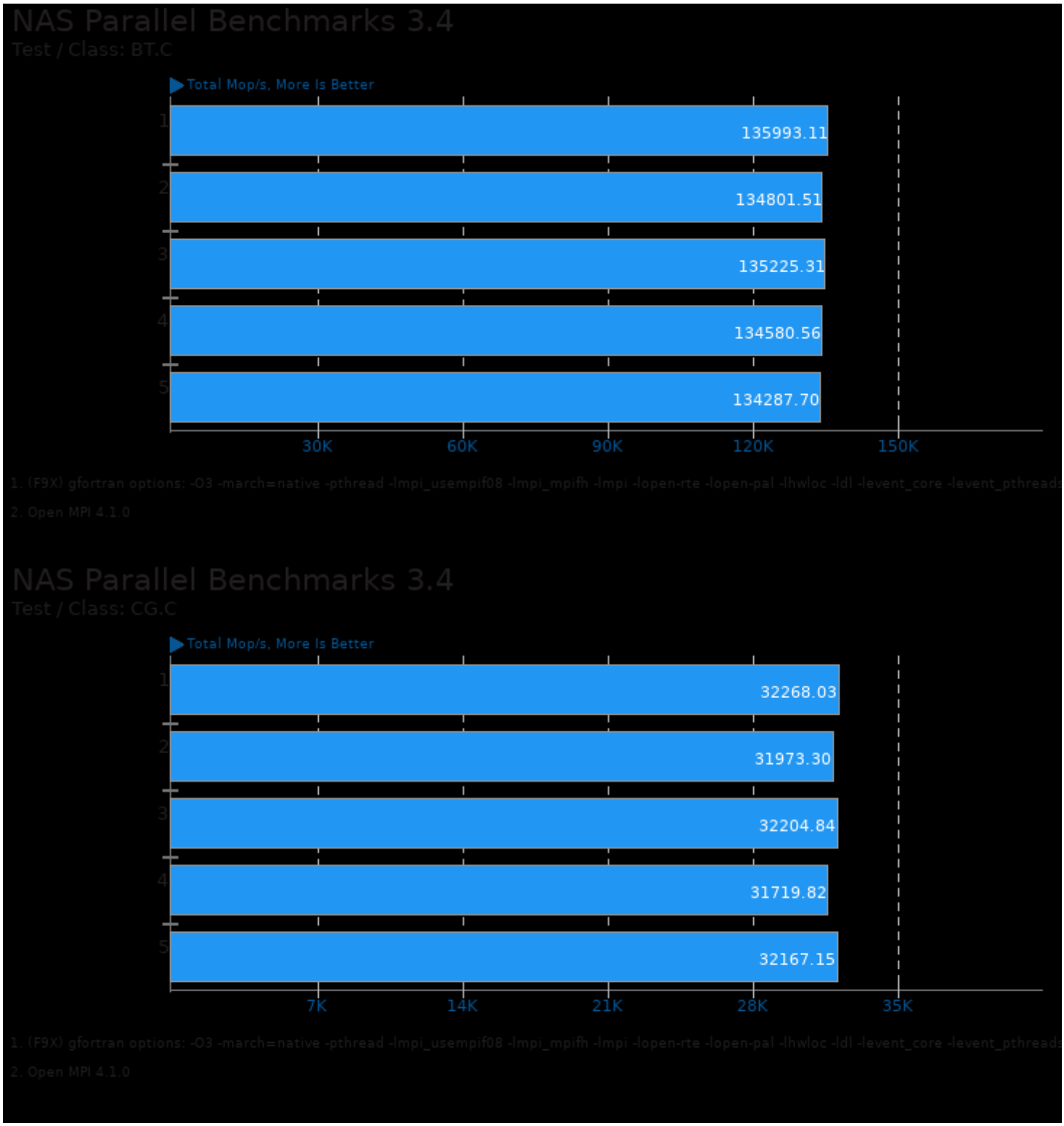

KeyDB 6.2.0
Ops/sec, More Is Better
1
463150.85
2
471878.40
3
437480.05
4
451404.09
100K
200K
300K
400K
500K
1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre
LeelaChessZero 0.28
Backend: BLAS
Nodes Per Second, More Is Better
1
3274
2
3483
3
3386
4
3494
5
3755
800
1600
2400
3200
4000
1. (CXX) g++ options: -flto -pthread

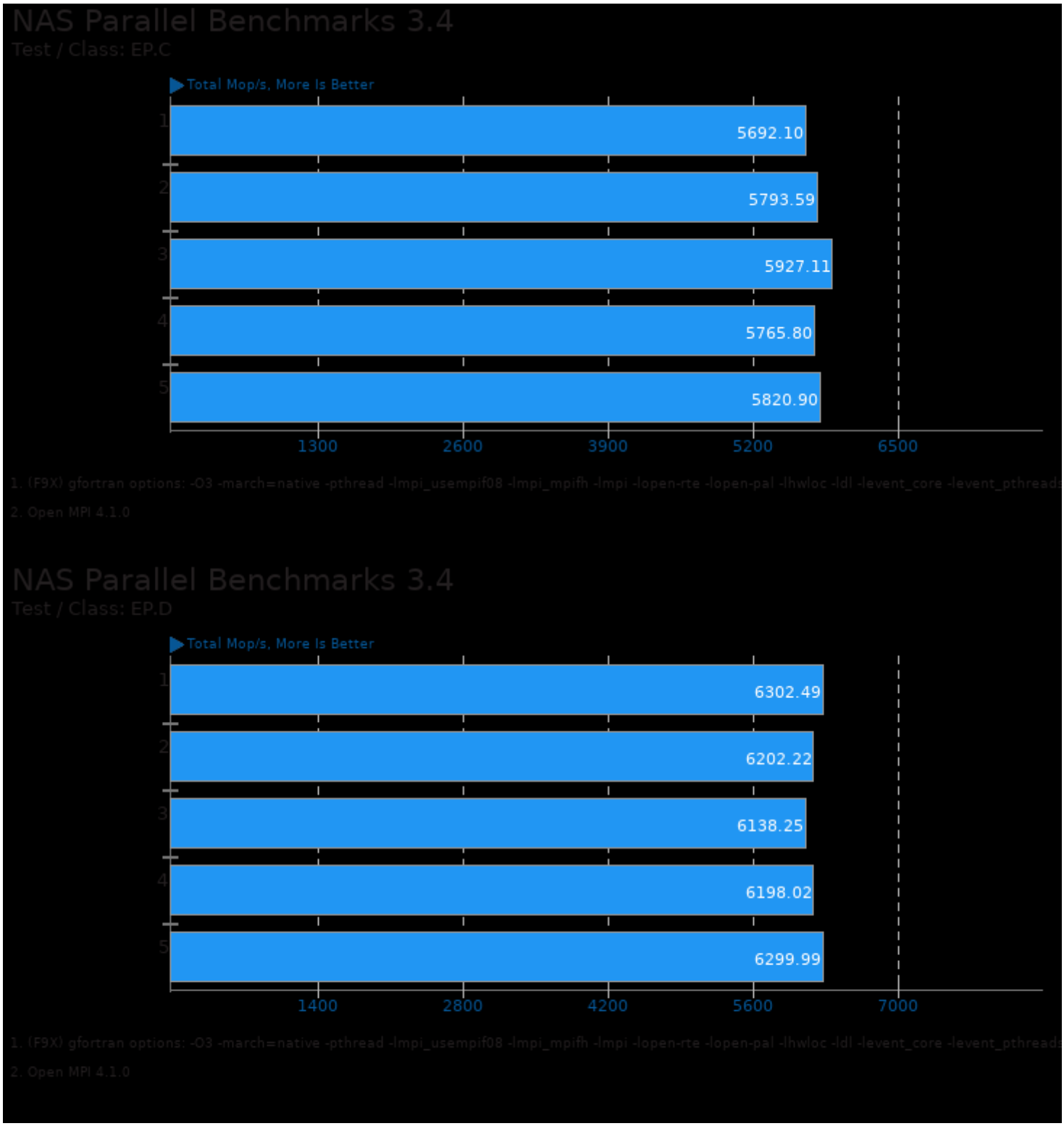

LeelaChessZero 0.28
Backend: Eigen
Nodes Per Second, More Is Better
1
3085
2
3472
3
3294
4
3350
5
3549
800
1600
2400
3200
4000
1. (CXX) g++ options: -flto -pthread
Mobile Neural Network 1.2
Model: mobilenetV3
ms, Fewer Is Better
1
MIN: 2.57 / MAX: 5.45
2.800
2
MIN: 2.73 / MAX: 4.44
2.919
3
MIN: 2.86 / MAX: 5.8
3.036
4
MIN: 2.63 / MAX: 5.44
2.919
0.6831
1.3662
2.0493
2.7324
3.4155
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fn

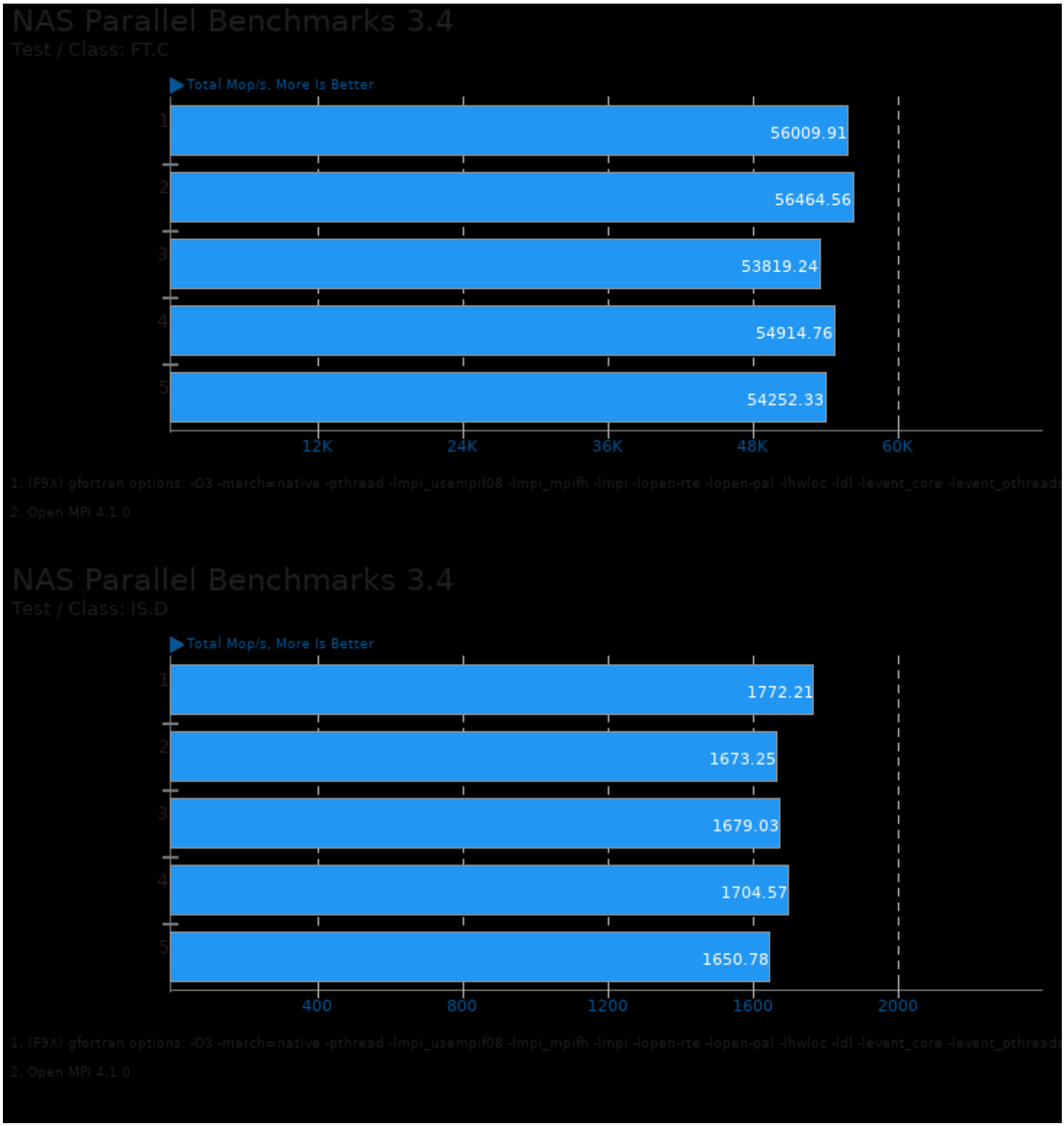

Mobile Neural Network 1.2
Model: squeezenetv1.1
ms, Fewer Is Better
1
MIN: 4.73 / MAX: 5.4
5.079
2
MIN: 4.85 / MAX: 5.45
5.121
3
MIN: 5.47 / MAX: 6.12
5.841
4
MIN: 4.93 / MAX: 12.47
5.253
1.3142
2.6284
3.9426
5.2568
6.571
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fr
Mobile Neural Network 1.2
Model: resnet-v2-50
ms, Fewer Is Better
1
MIN: 25.55 / MAX: 28.35
26.33
2
MIN: 24.91 / MAX: 26.72
25.78
3
MIN: 25.14 / MAX: 26.21
25.68
4
MIN: 25.62 / MAX: 153
28.84
7
14
21
28
35
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fr

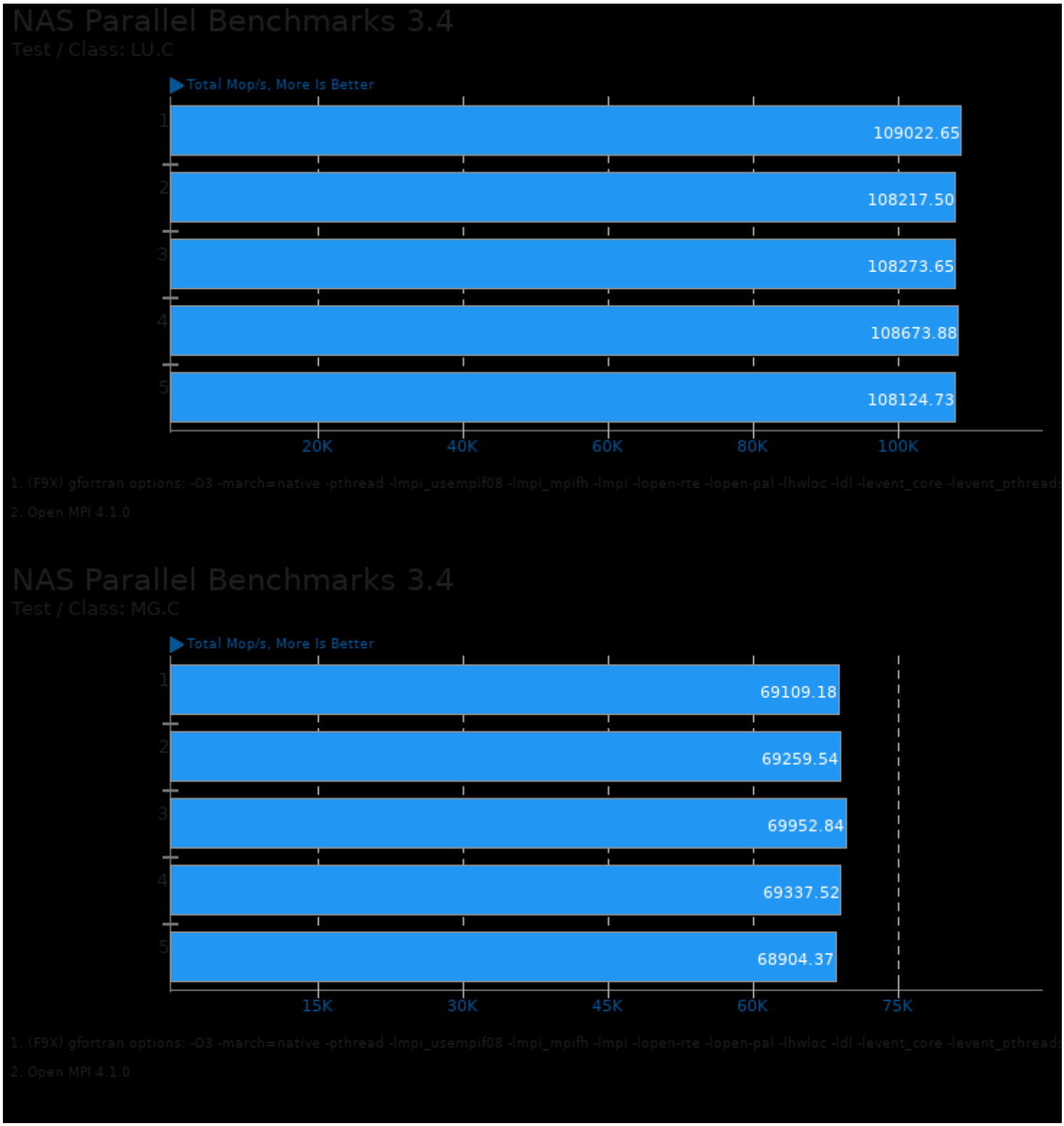

Mobile Neural Network 1.2
Model: SqueezeNetV1.0
ms, Fewer Is Better
1
MIN: 6.76 / MAX: 7.63
7.168
2
MIN: 6.78 / MAX: 12.56
7.159
3
MIN: 7.21 / MAX: 13.46
7.547
4
MIN: 7.51 / MAX: 8.28
7.865
2
4
6
8
10
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fr
Mobile Neural Network 1.2
Model: MobileNetV2_224
ms, Fewer Is Better
1
MIN: 3.7 / MAX: 4.55
3.939
2
MIN: 4.02 / MAX: 9.36
4.313
3
MIN: 4.16 / MAX: 9.83
4.397
4
MIN: 3.78 / MAX: 8.78
4.002
0.9893
1.9786
2.9679
3.9572
4.9465
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fr

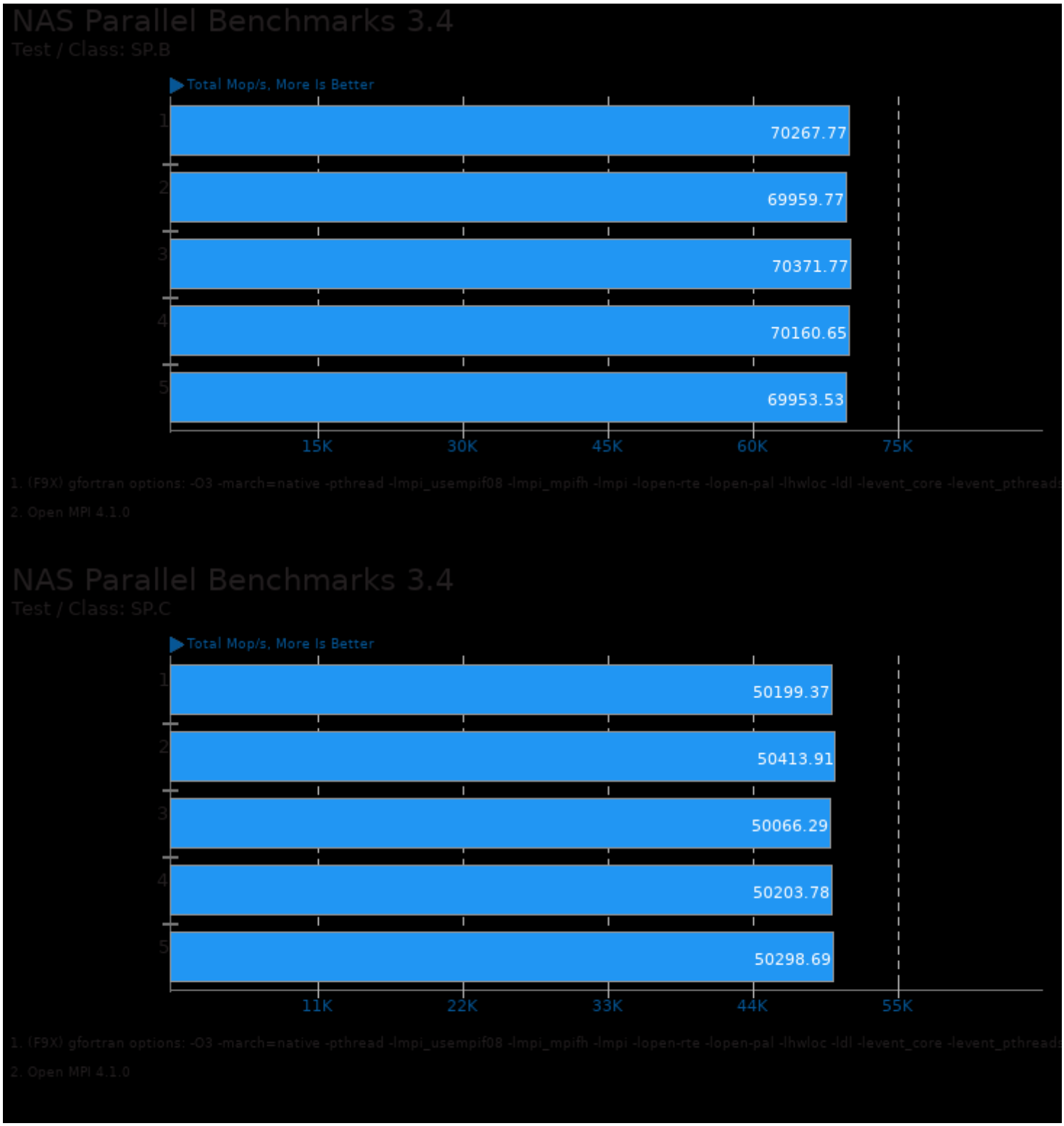

Mobile Neural Network 1.2
Model: mobilenet-v1-1.0
ms, Fewer Is Better
1
MIN: 2.56 / MAX: 9.74
3.071
2
MIN: 2.77 / MAX: 8.22
3.149
3
MIN: 2.61 / MAX: 11.37
3.076
4
MIN: 2.57 / MAX: 8.38
3.056
0.7085
1.417
2.1255
2.834
3.5425
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fr
Mobile Neural Network 1.2
Model: inception-v3
ms, Fewer Is Better
1
MIN: 27.93 / MAX: 61.13
28.74
2
MIN: 27.91 / MAX: 63.14
28.75
3
MIN: 28.25 / MAX: 29.54
28.77
4
MIN: 28.51 / MAX: 68.02
29.18
7
14
21
28
35
1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fr


NAS Parallel Benchmarks 3.4
Test / Class: BT.C
Total Mop/s, More Is Better
1
135993.11
2
134801.51
3
135225.31
4
134580.56
5
134287.70
30K
60K
90K
120K
150K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0
NAS Parallel Benchmarks 3.4
Test / Class: CG.C
Total Mop/s, More Is Better
1
32268.03
2
31973.30
3
32204.84
4
31719.82
5
32167.15
7K
14K
21K
28K
35K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0


NAS Parallel Benchmarks 3.4
Test / Class: EP.C
Total Mop/s, More Is Better
1
2
3
4
5
5692.10
5793.59
5927.11
5765.80
5820.90
1300
2600
3900
5200
6500
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0
NAS Parallel Benchmarks 3.4
Test / Class: EP.D
Total Mop/s, More Is Better
1
2
3
4
5
6302.49
6202.22
6138.25
6198.02
6299.99
1400
2800
4200
5600
7000
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0

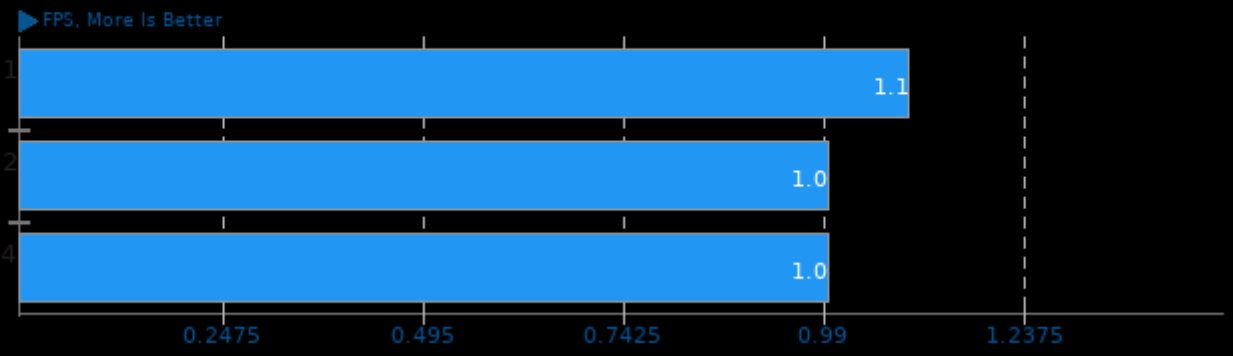

NAS Parallel Benchmarks 3.4
Test / Class: FT.C
Total Mop/s, More Is Better
1
56009.91
2
56464.56
3
53819.24
4
54914.76
5
54252.33
12K
24K
36K
48K
60K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0
NAS Parallel Benchmarks 3.4
Test / Class: IS.D
Total Mop/s, More Is Better
1
1772.21
2
1673.25
3
1679.03
4
1704.57
5
1650.78
400
800
1200
1600
2000
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0


NAS Parallel Benchmarks 3.4
Test / Class: LU.C
Total Mop/s, More Is Better
1
2
3
4
5
109022.65
108217.50
108273.65
108673.88
108124.73
20K
40K
60K
80K
100K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0
NAS Parallel Benchmarks 3.4
Test / Class: MG.C
Total Mop/s, More Is Better
1
2
3
4
5
69109.18
69259.54
69952.84
69337.52
68904.37
15K
30K
45K
60K
75K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0


NAS Parallel Benchmarks 3.4
Test / Class: SP.B
Total Mop/s, More Is Better
1
2
3
4
5
70267.77
69959.77
70371.77
70160.65
69953.53
15K
30K
45K
60K
75K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0
NAS Parallel Benchmarks 3.4
Test / Class: SP.C
Total Mop/s, More Is Better
1
2
3
4
5
50199.37
50413.91
50066.29
50203.78
50298.69
11K
22K
33K
44K
55K
1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi -lopen-rte -lopen-pal -lhwloc -ldl -levent_core -levent_pthreads
2. Open MPI 4.1.0

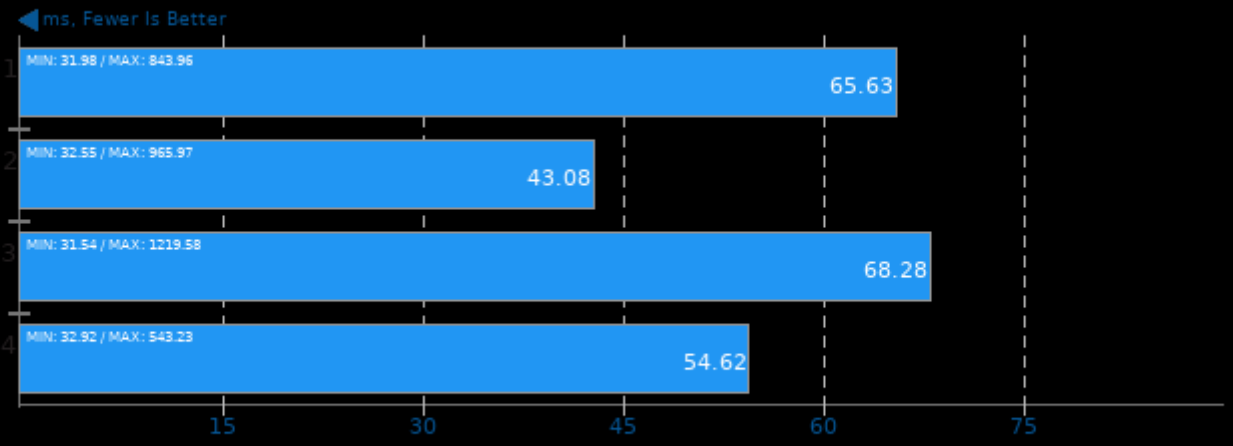
Natron 2.4

Input: Spaceship



NCNN 20210720

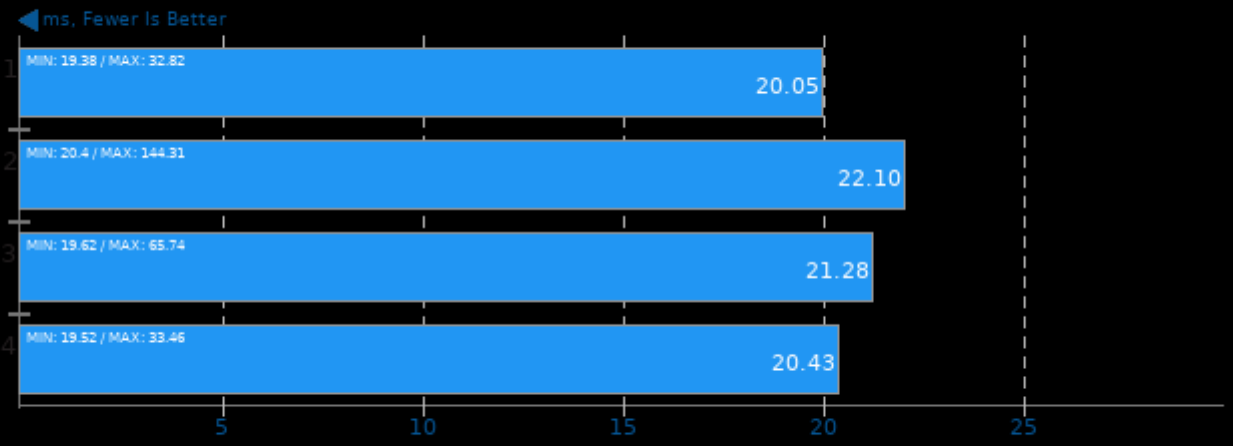
Target: CPU - Model: mobilenet



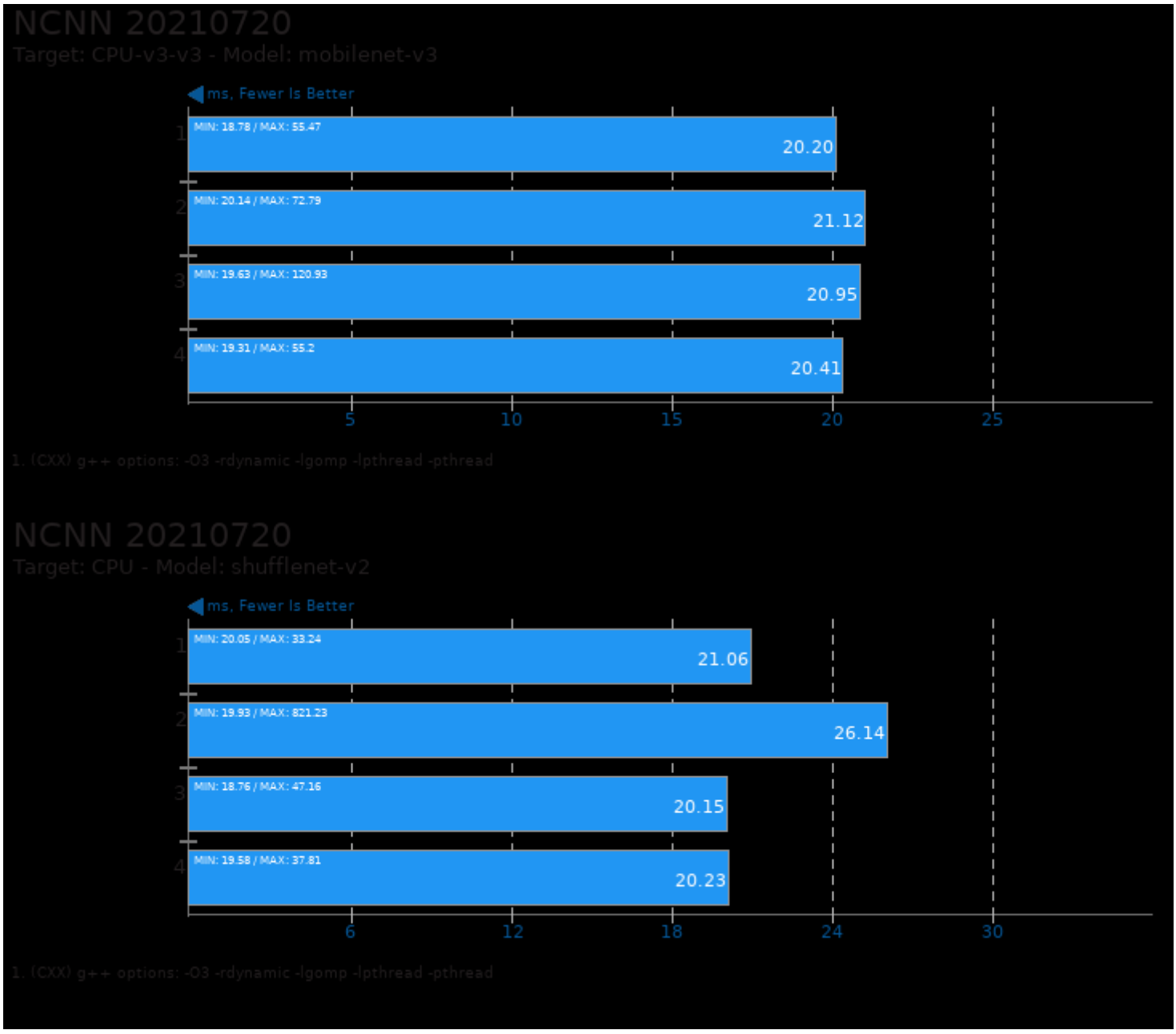
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

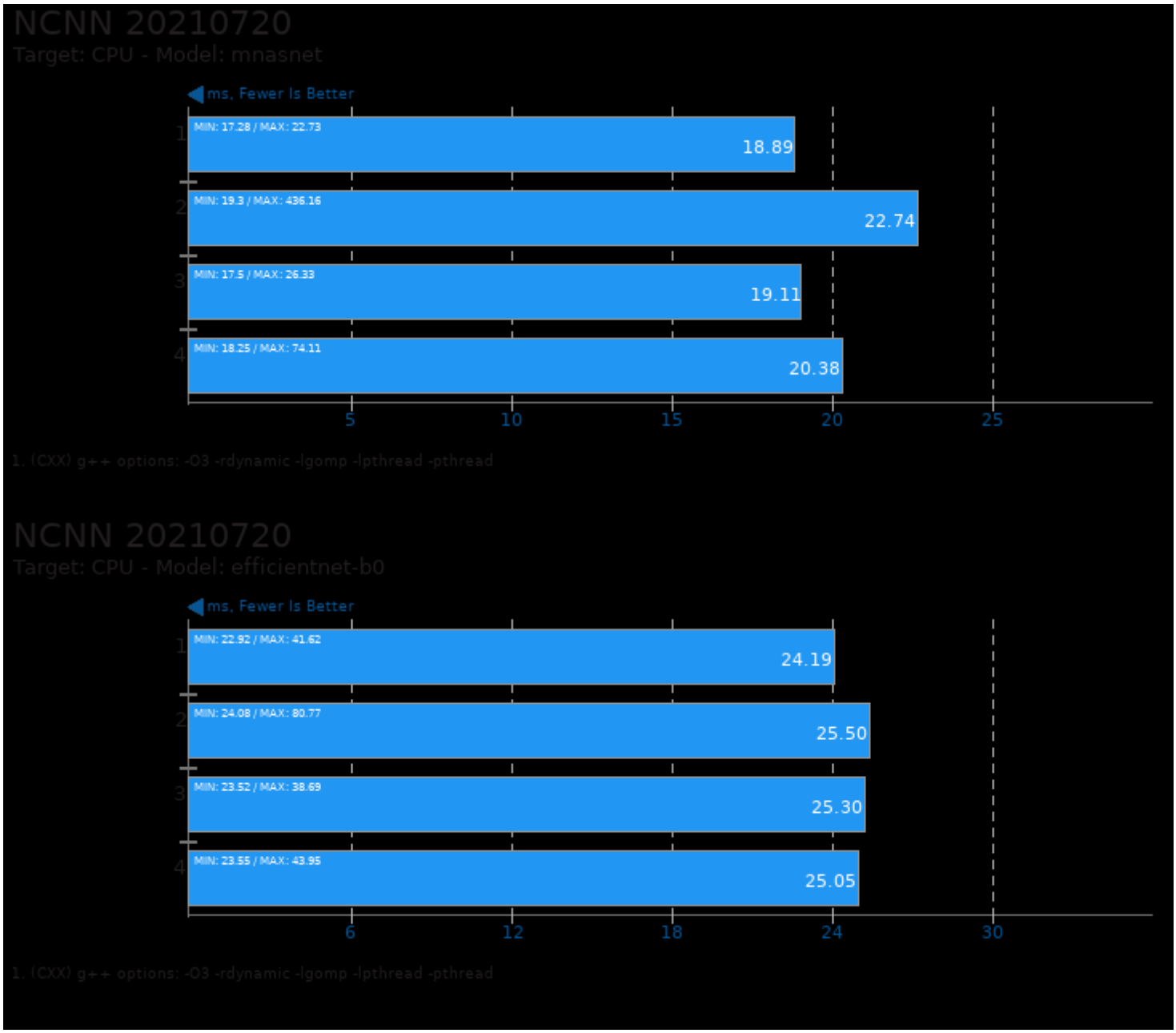
NCNN 20210720

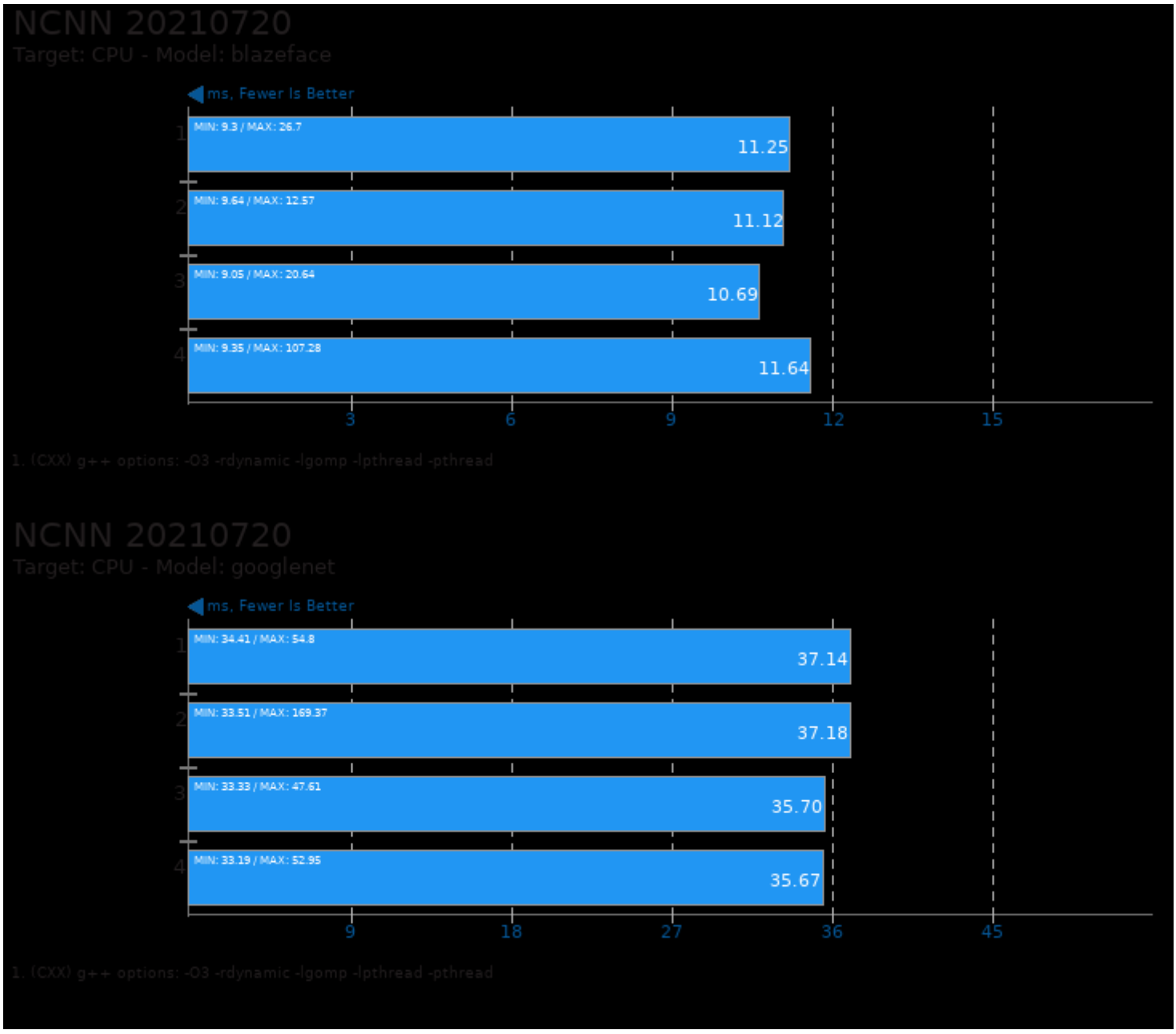
Target: CPU-v2-v2 - Model: mobilenet-v2

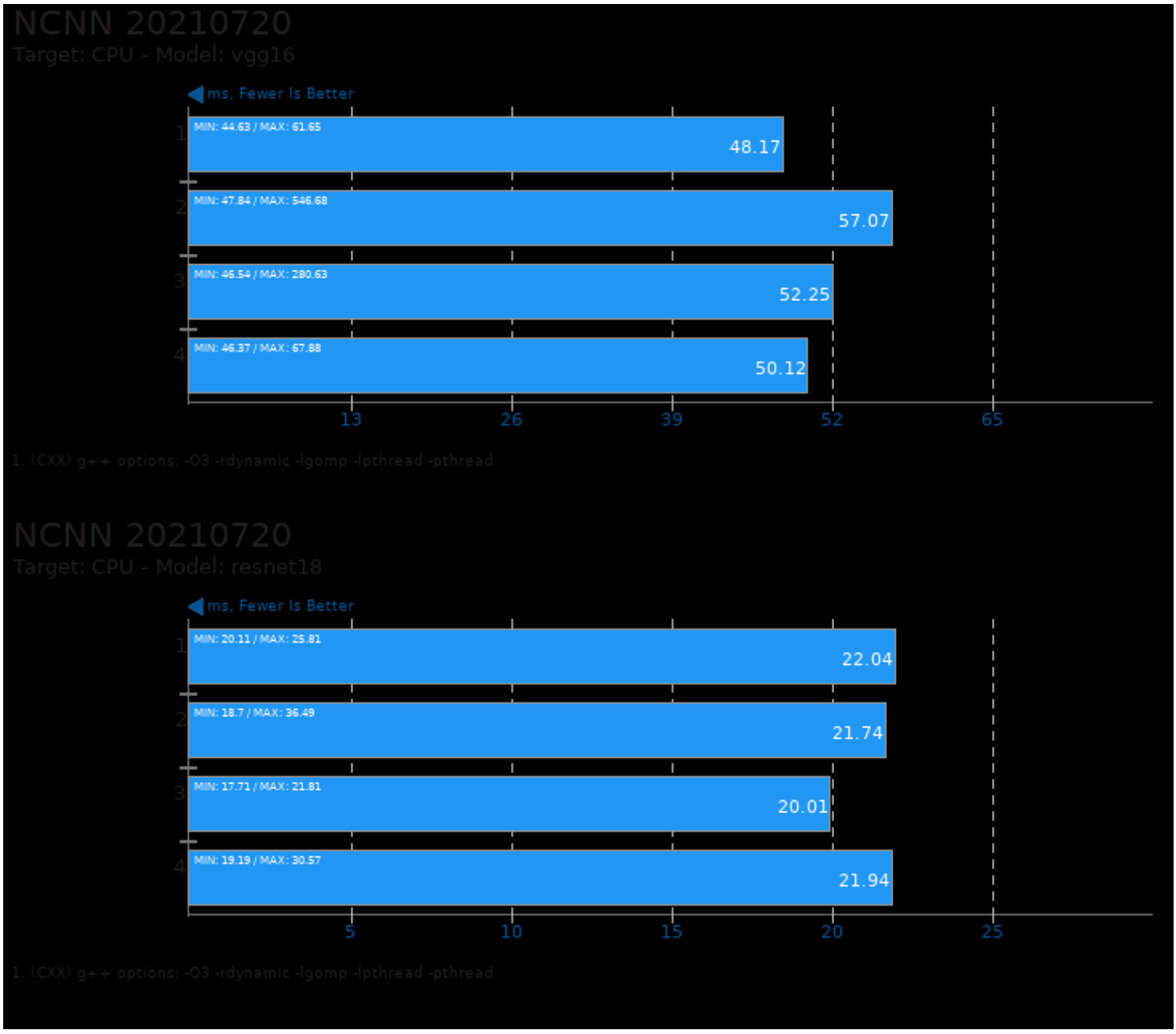


1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

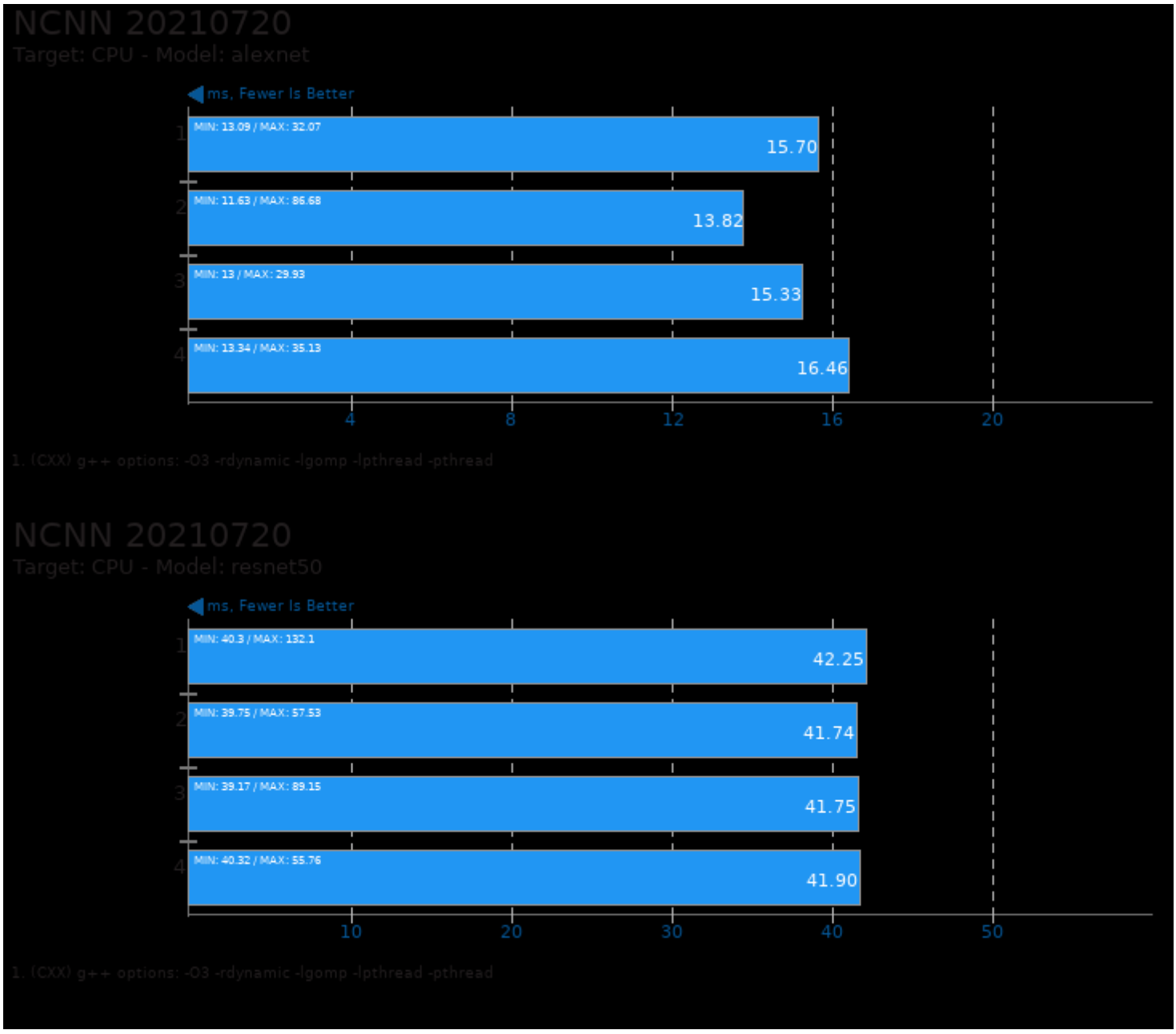

NCNN 20210720
Target: CPU-v3-v3 - Model: mobilenet-v3
ms, Fewer Is Better
1
MIN: 18.78 / MAX: 55.47
20.20
2
MIN: 20.14 / MAX: 72.79
21.12
3
MIN: 19.63 / MAX: 120.93
20.95
4
MIN: 19.31 / MAX: 55.2
20.41
5
10
15
20
25
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: shufflenet-v2
ms, Fewer Is Better
1
MIN: 20.05 / MAX: 33.24
21.06
2
MIN: 19.93 / MAX: 821.23
26.14
3
MIN: 18.76 / MAX: 47.16
20.15
4
MIN: 19.58 / MAX: 37.81
20.23
6
12
18
24
30
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

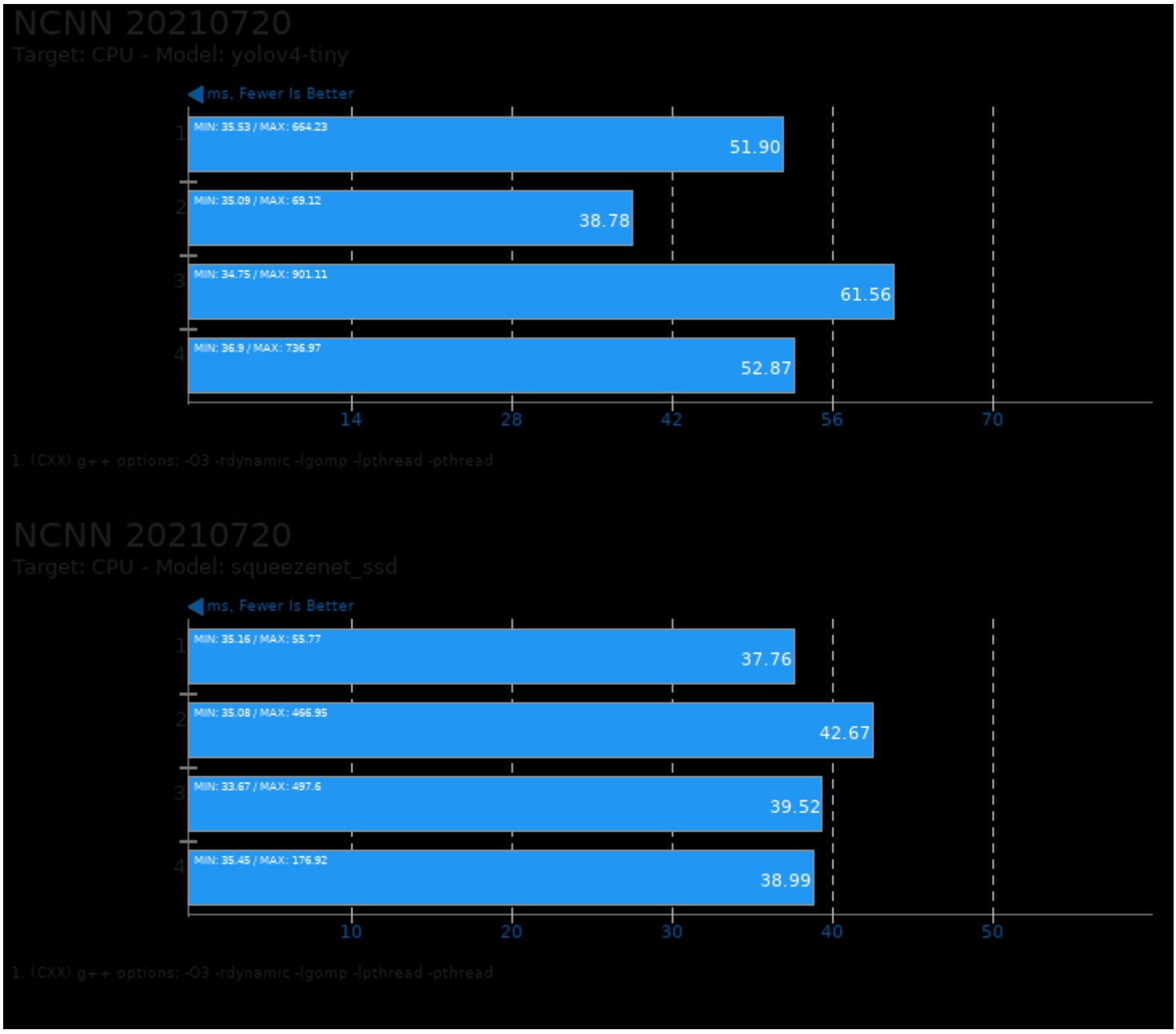

NCNN 20210720
Target: CPU - Model: mnasnet
ms, Fewer Is Better
1
MIN: 17.28 / MAX: 22.73
18.89
2
MIN: 19.3 / MAX: 436.16
22.74
3
MIN: 17.5 / MAX: 26.33
19.11
4
MIN: 18.25 / MAX: 74.11
20.38
5
10
15
20
25
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: efficientnet-b0
ms, Fewer Is Better
1
MIN: 22.92 / MAX: 41.62
24.19
2
MIN: 24.08 / MAX: 80.77
25.50
3
MIN: 23.52 / MAX: 38.69
25.30
4
MIN: 23.55 / MAX: 43.95
25.05
6
12
18
24
30
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread


NCNN 20210720
Target: CPU - Model: blazeface
ms, Fewer Is Better
1
MIN: 9.3 / MAX: 26.7
11.25
2
MIN: 9.64 / MAX: 12.57
11.12
3
MIN: 9.05 / MAX: 20.64
10.69
4
MIN: 9.35 / MAX: 107.28
11.64
3
6
9
12
15
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: googlenet
ms, Fewer Is Better
1
MIN: 34.41 / MAX: 54.8
37.14
2
MIN: 33.51 / MAX: 169.37
37.18
3
MIN: 33.33 / MAX: 47.61
35.70
4
MIN: 33.19 / MAX: 52.95
35.67
9
18
27
36
45
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread


NCNN 20210720
Target: CPU - Model: vgg16
ms, Fewer Is Better
1
MIN: 44.63 / MAX: 61.65
48.17
2
MIN: 47.84 / MAX: 546.68
57.07
3
MIN: 46.54 / MAX: 280.63
52.25
4
MIN: 46.37 / MAX: 67.88
50.12
13
26
39
52
65
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: resnet18
ms, Fewer Is Better
1
MIN: 20.11 / MAX: 25.81
22.04
2
MIN: 18.7 / MAX: 36.49
21.74
3
MIN: 17.71 / MAX: 21.81
20.01
4
MIN: 19.19 / MAX: 30.57
21.94
5
10
15
20
25
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

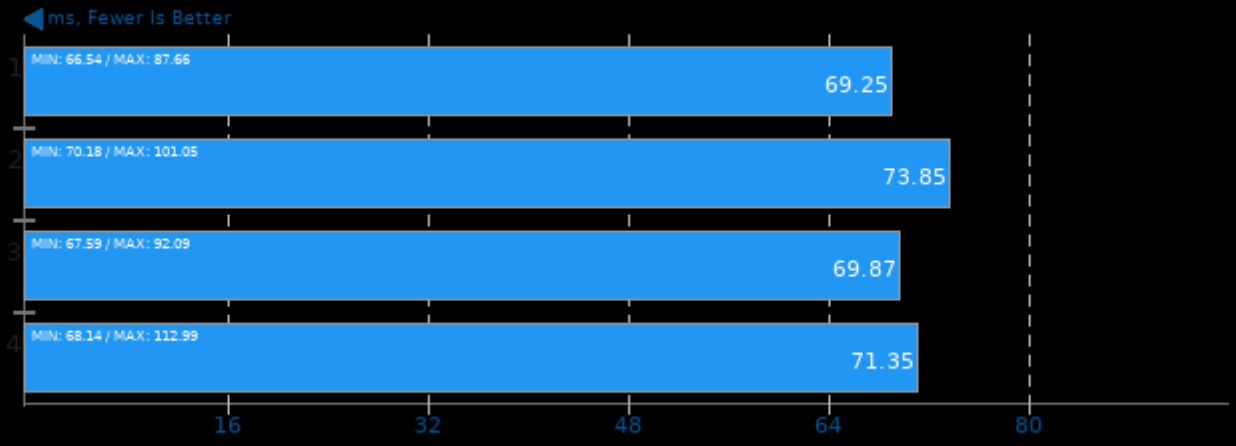
Xeon Platinum 8280 2P September




NCNN 20210720
Target: CPU - Model: yolov4-tiny
ms, Fewer Is Better
1
MIN: 35.53 / MAX: 664.23
51.90
2
MIN: 35.09 / MAX: 69.12
38.78
3
MIN: 34.75 / MAX: 901.11
61.56
4
MIN: 36.9 / MAX: 736.97
52.87
14
28
42
56
70
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread
NCNN 20210720
Target: CPU - Model: squeezenet_ssd
ms, Fewer Is Better
1
MIN: 35.16 / MAX: 55.77
37.76
2
MIN: 35.08 / MAX: 466.95
42.67
3
MIN: 33.67 / MAX: 497.6
39.52
4
MIN: 35.45 / MAX: 176.92
38.99
10
20
30
40
50
1. (CXX) g++ options: -O3 -rdynamic -lgomp -lpthread -pthread

NCNN 20210720

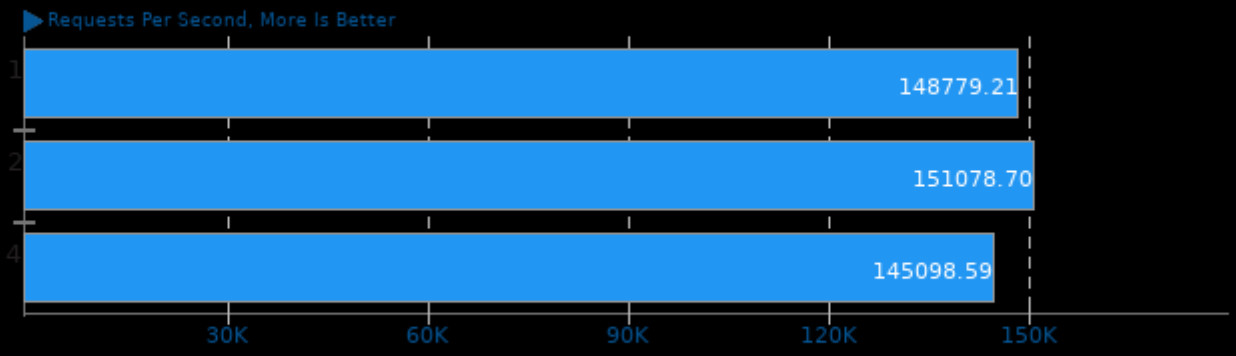
Target: CPU - Model: regnety_400m



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

nginx 1.21.1

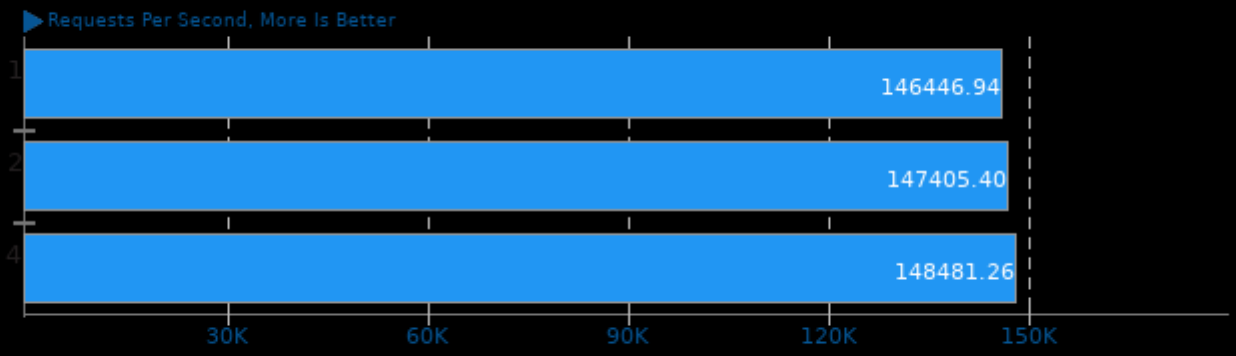
Concurrent Requests: 20



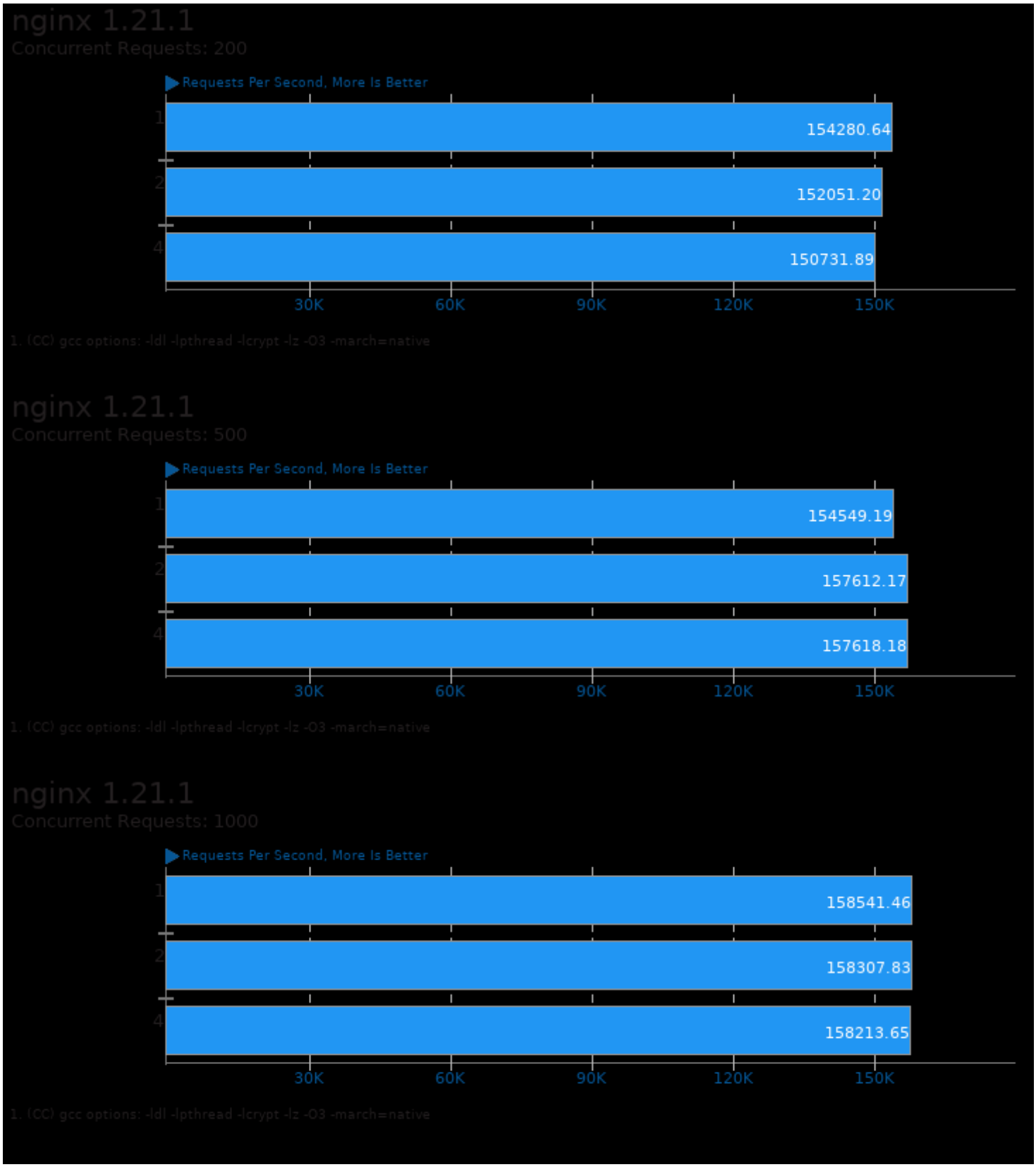
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native

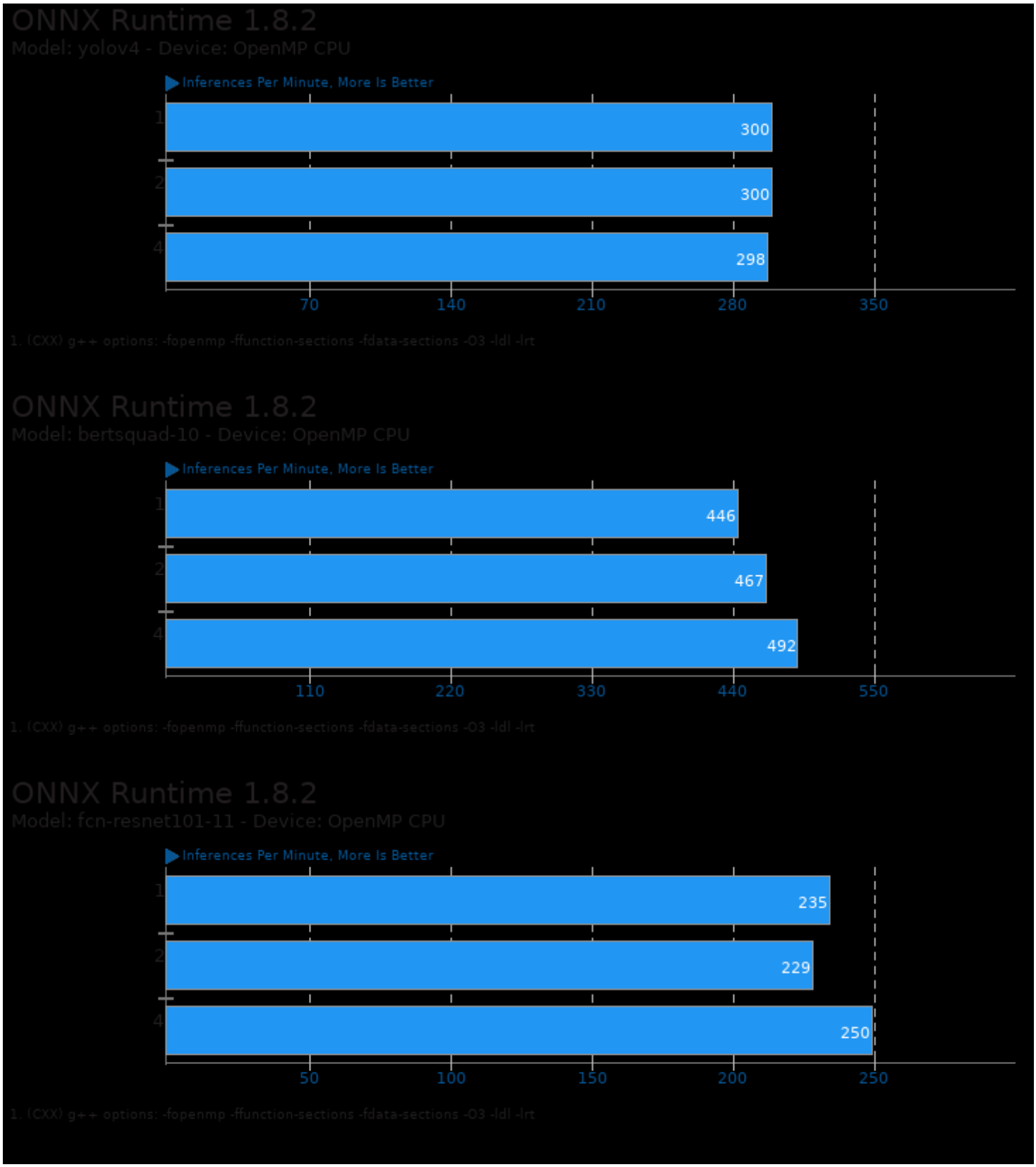
nginx 1.21.1

Concurrent Requests: 100



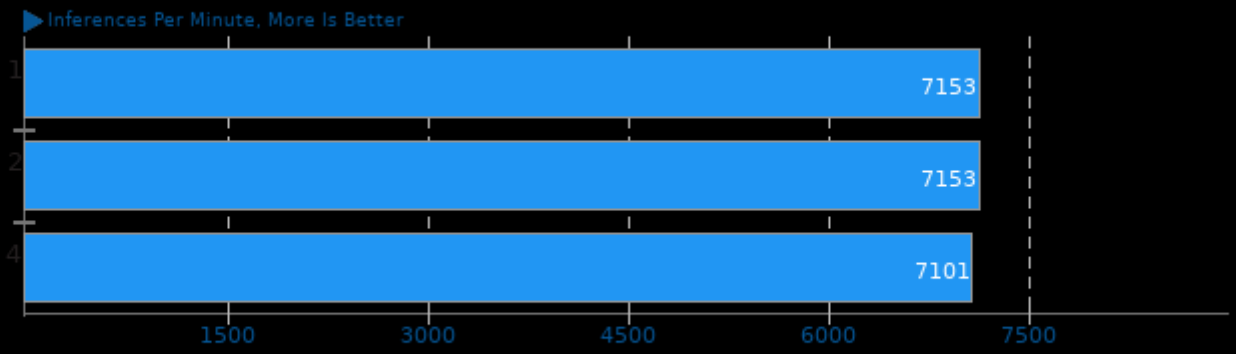
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native


nginx 1.21.1
Concurrent Requests: 200
Requests Per Second, More Is Better
1
154280.64
2
152051.20
4
150731.89
30K
60K
90K
120K
150K
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native
nginx 1.21.1
Concurrent Requests: 500
Requests Per Second, More Is Better
1
154549.19
2
157612.17
4
157618.18
30K
60K
90K
120K
150K
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native
nginx 1.21.1
Concurrent Requests: 1000
Requests Per Second, More Is Better
1
158541.46
2
158307.83
4
158213.65
30K
60K
90K
120K
150K
1. (CC) gcc options: -ldl -lpthread -lcrypt -lz -O3 -march=native


ONNX Runtime 1.8.2
Model: yolov4 - Device: OpenMP CPU
Inferences Per Minute, More Is Better
1
2
4
300
300
298
70
140
210
280
350
1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt
ONNX Runtime 1.8.2
Model: bertsquad-10 - Device: OpenMP CPU
Inferences Per Minute, More Is Better
1
2
4
446
467
492
110
220
330
440
550
1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt
ONNX Runtime 1.8.2
Model: fcn-resnet101-11 - Device: OpenMP CPU
Inferences Per Minute, More Is Better
1
2
4
235
229
250
50
100
150
200
250
1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

ONNX Runtime 1.8.2

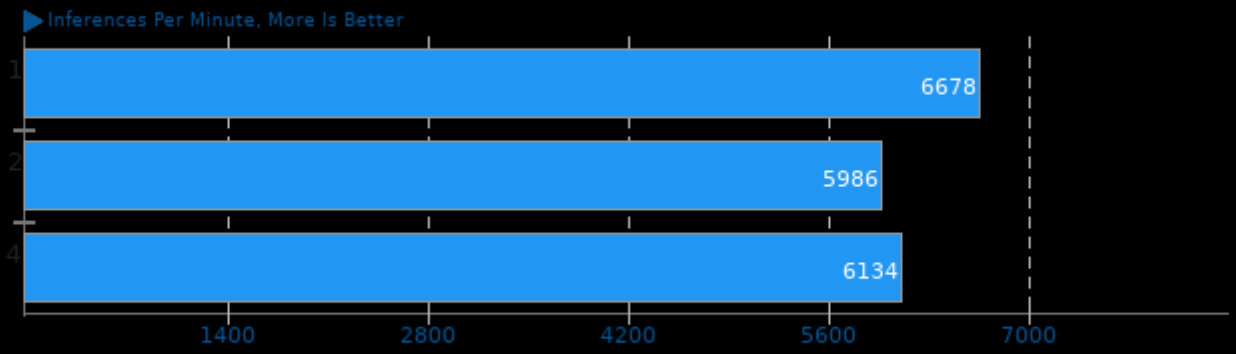
Model: shufflenet-v2-10 - Device: OpenMP CPU



1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

ONNX Runtime 1.8.2

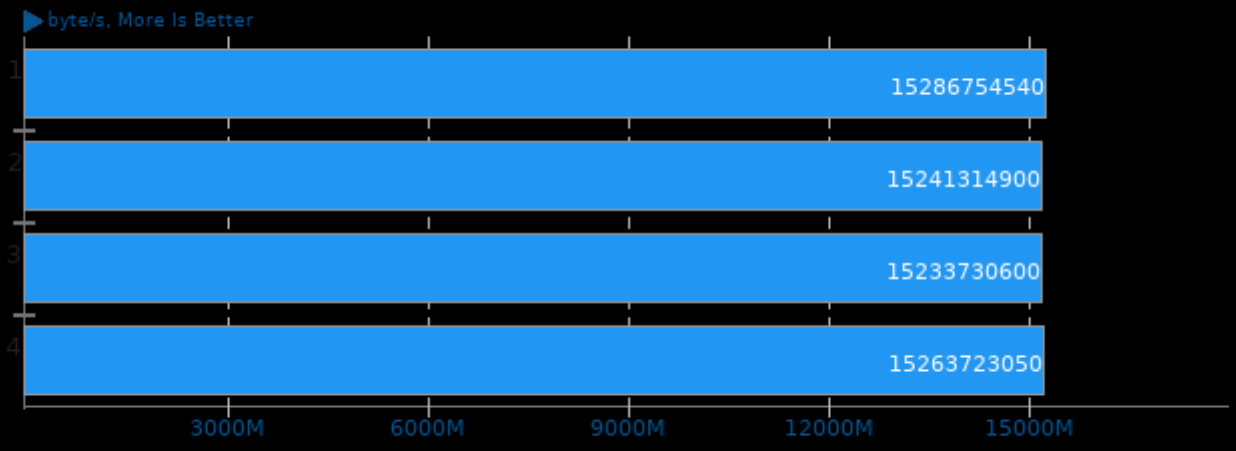
Model: super-resolution-10 - Device: OpenMP CPU



1. (CXX) g++ options: -fopenmp -ffunction-sections -fdata-sections -O3 -ldl -lrt

OpenSSL 3.0

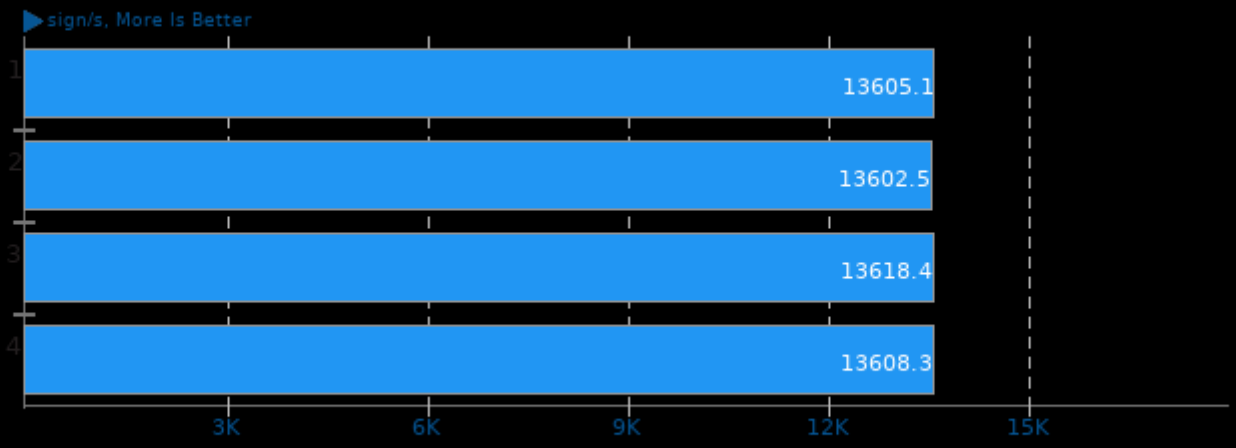
Algorithm: SHA256



1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

OpenSSL 3.0

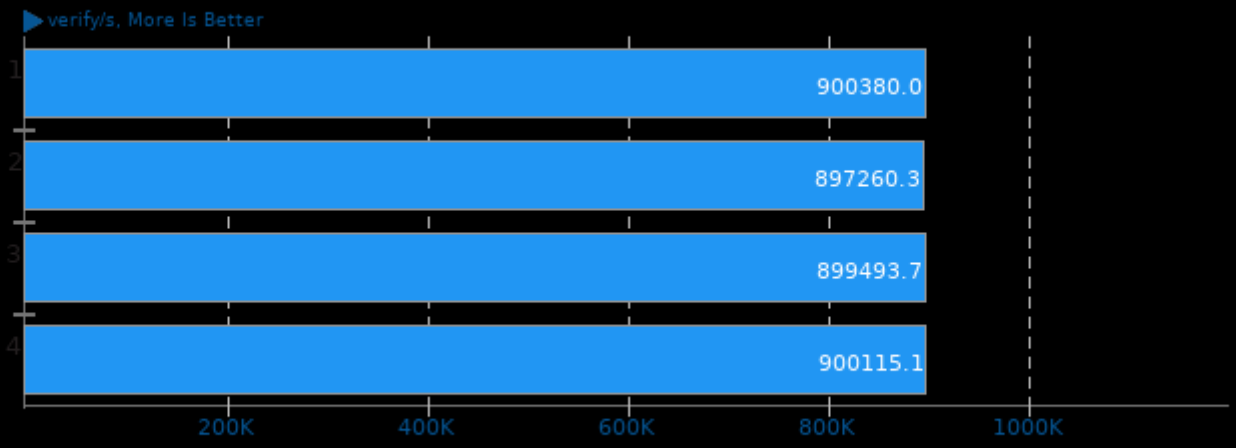
Algorithm: RSA4096



1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

OpenSSL 3.0

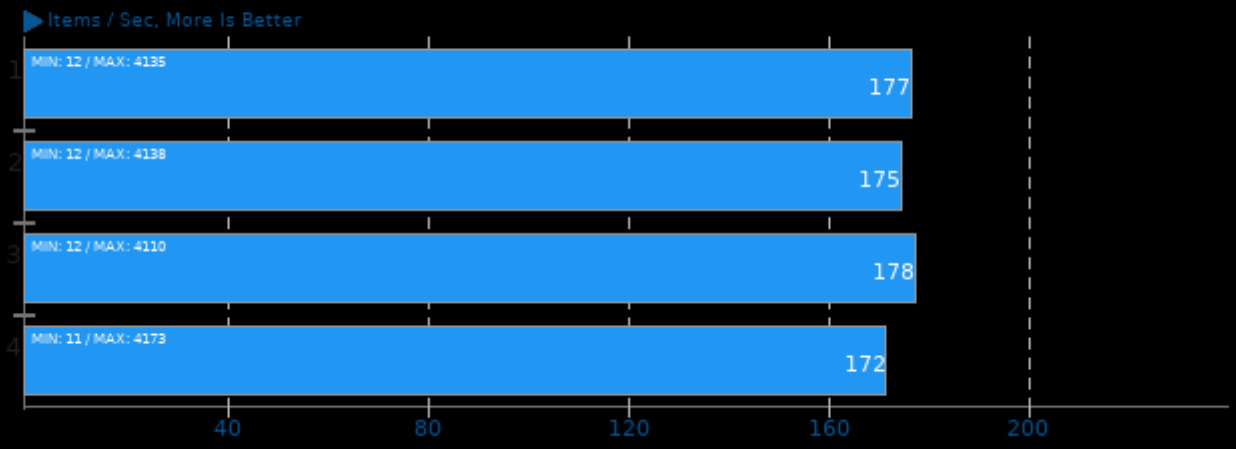
Algorithm: RSA4096



1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

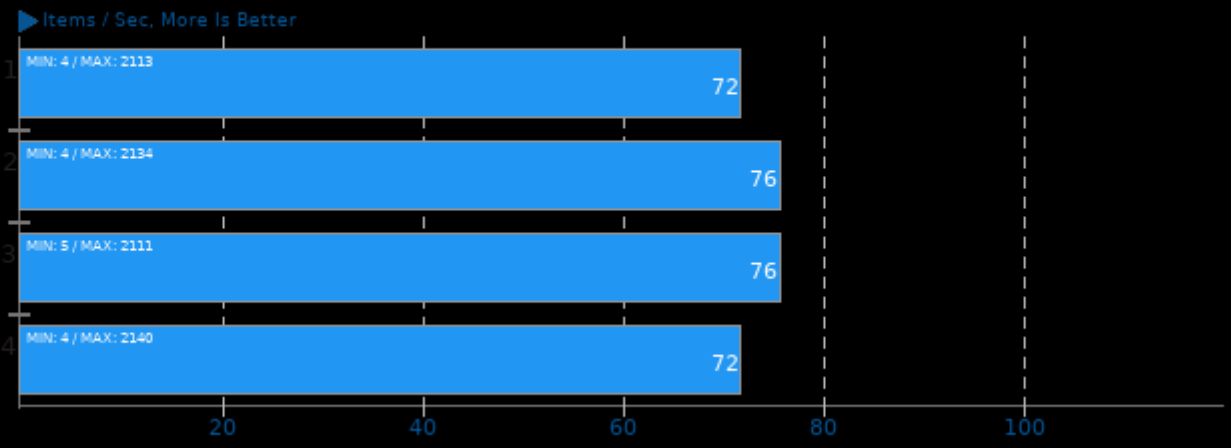
OpenVKL 1.0

Benchmark: vklBenchmark ISPC



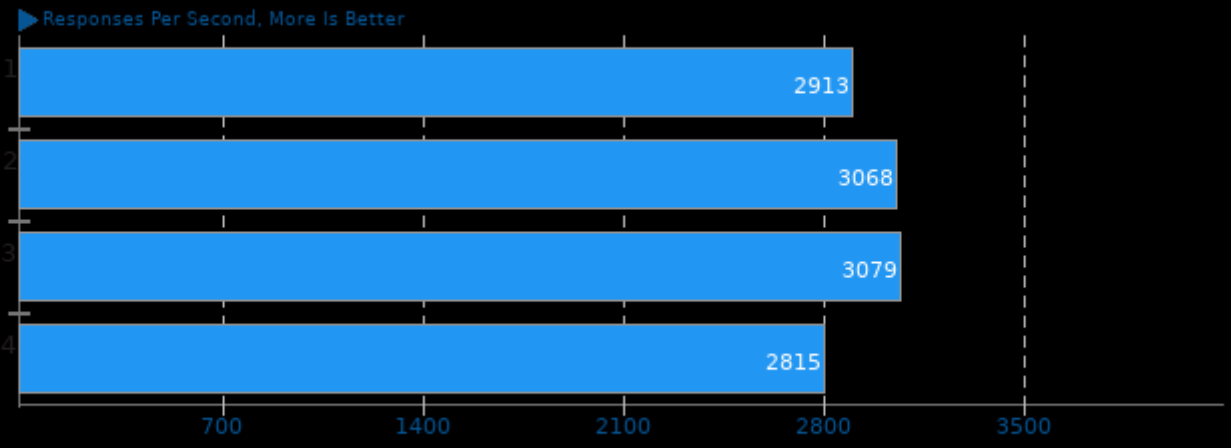
OpenVKL 1.0

Benchmark: vklBenchmark Scalar



PJSIP 2.11

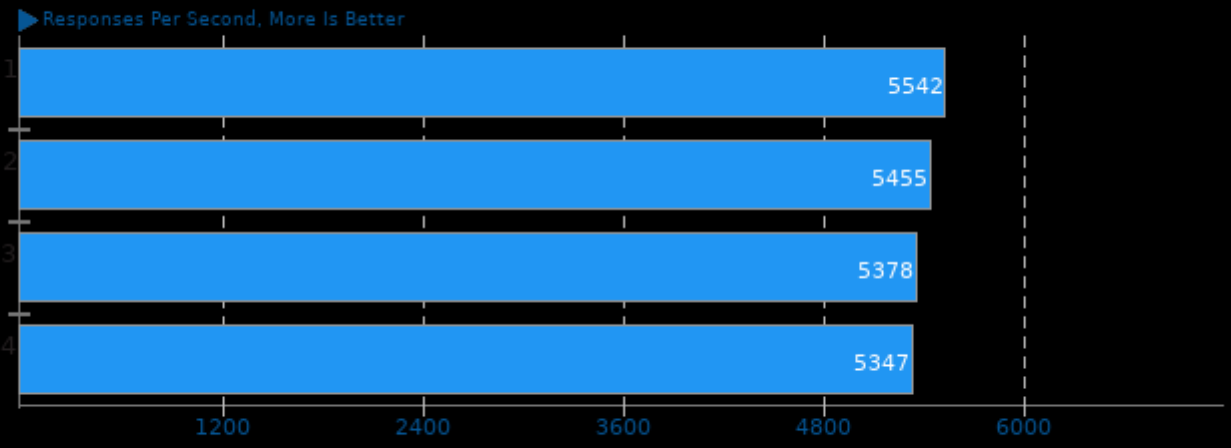
Method: INVITE



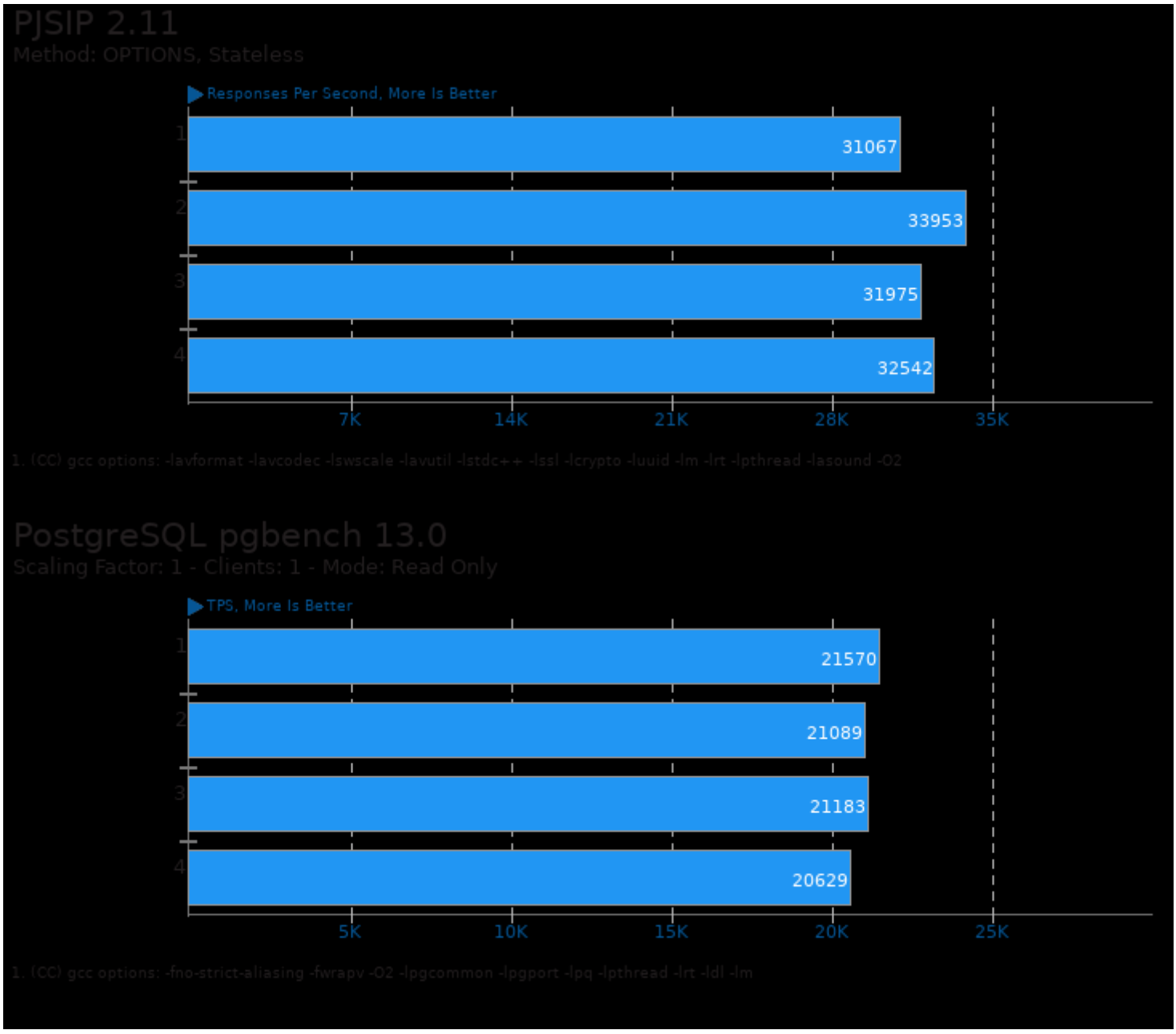
1. (CC) gcc options: -lavformat -lavcodec -lswscale -lavutil -lstdc++ -lssl -lcrypto -luuid -lm -lrt -lpthread -lasound -O2

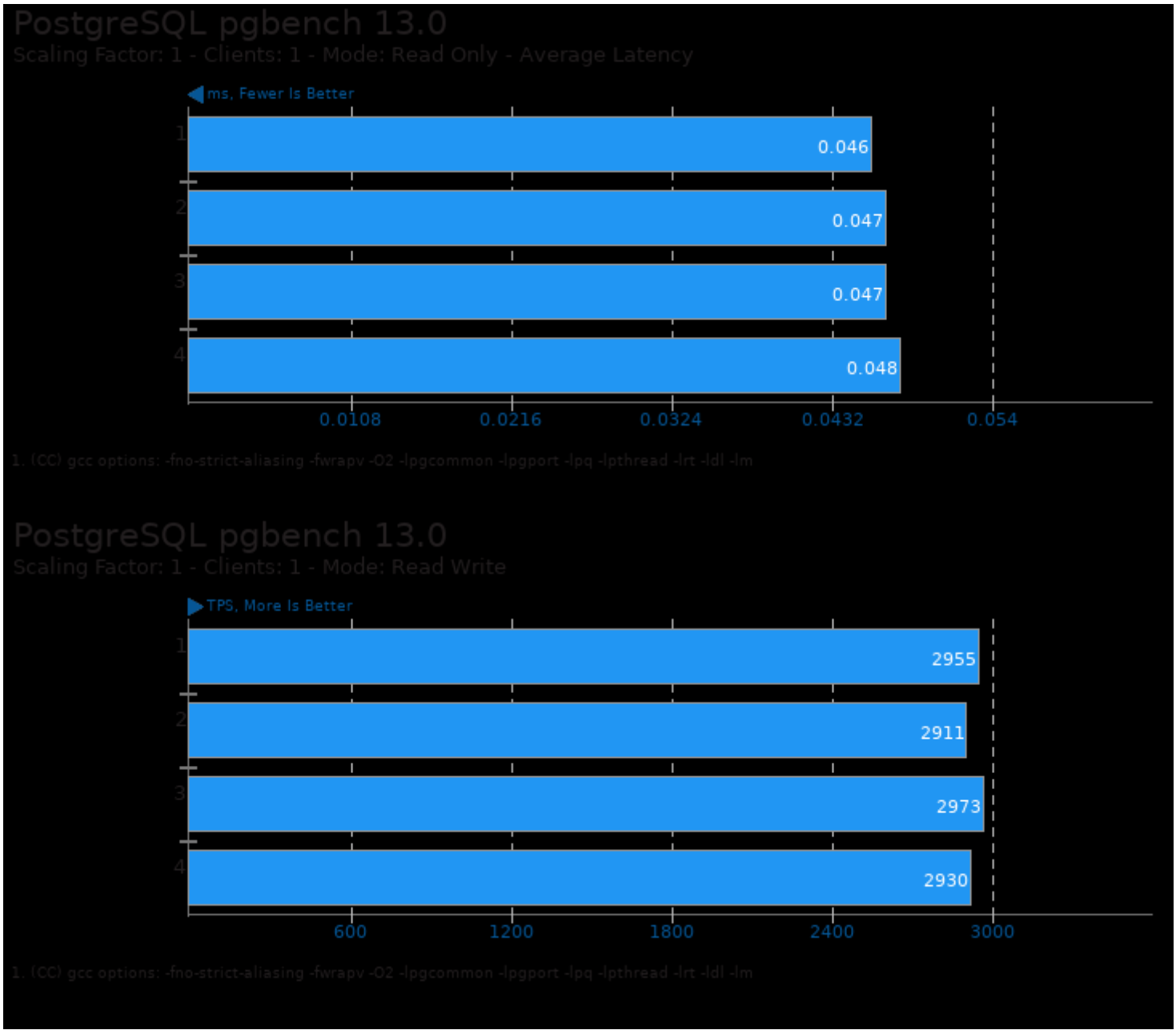
PJSIP 2.11

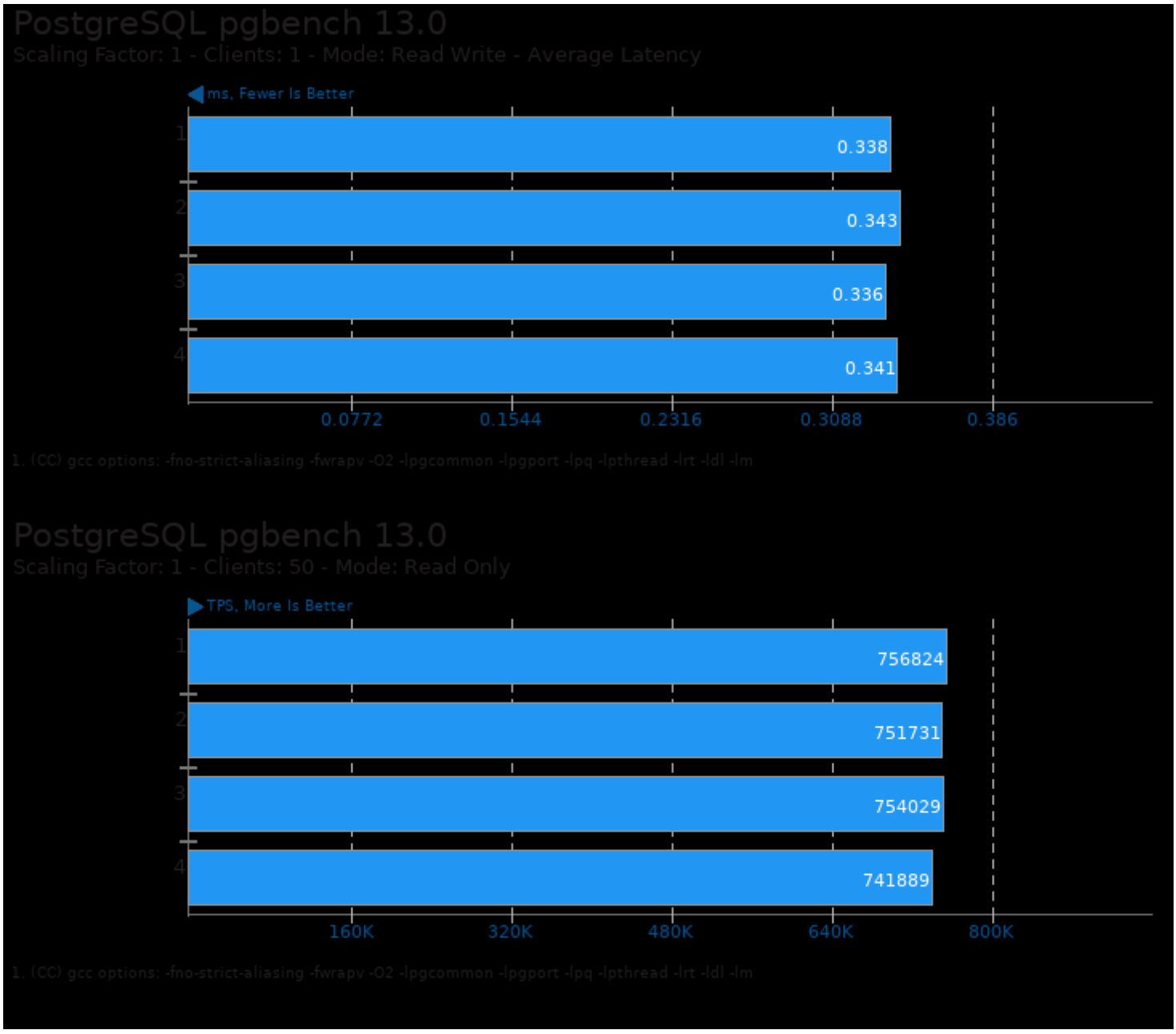
Method: OPTIONS, Stateful

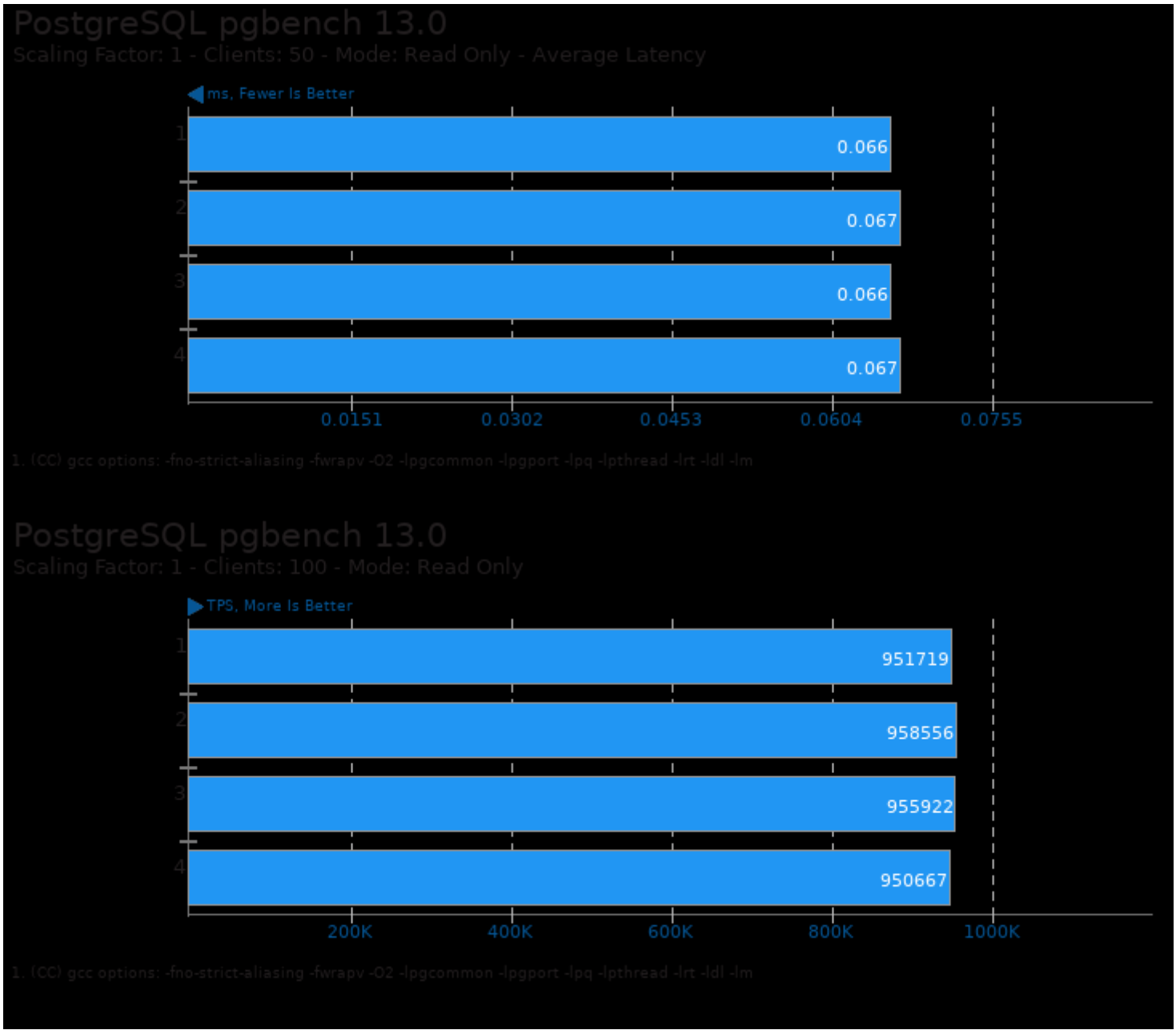


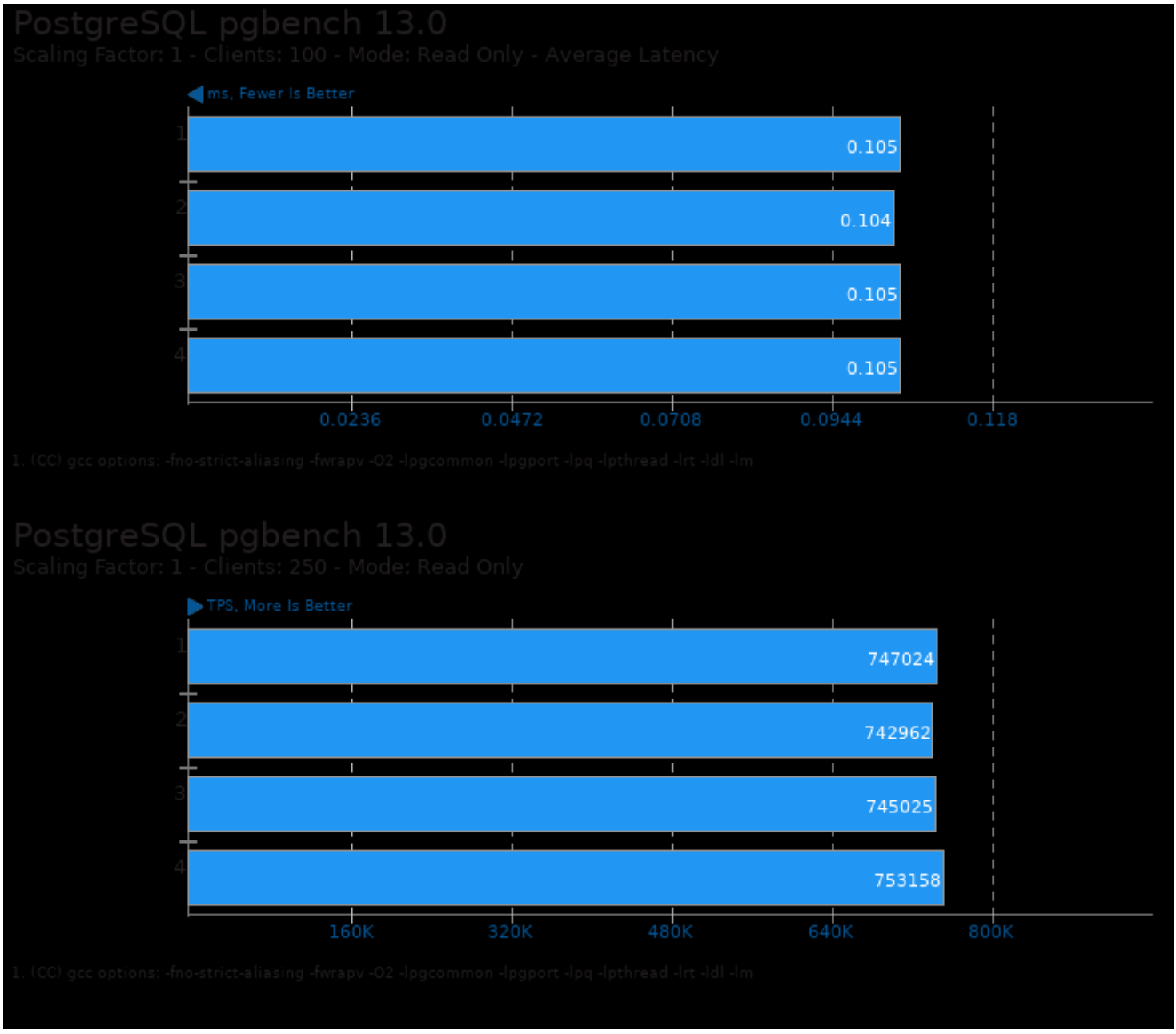
1. (CC) gcc options: -lavformat -lavcodec -lswscale -lavutil -lstdc++ -lssl -lcrypto -luuid -lm -lrt -lpthread -lasound -O2

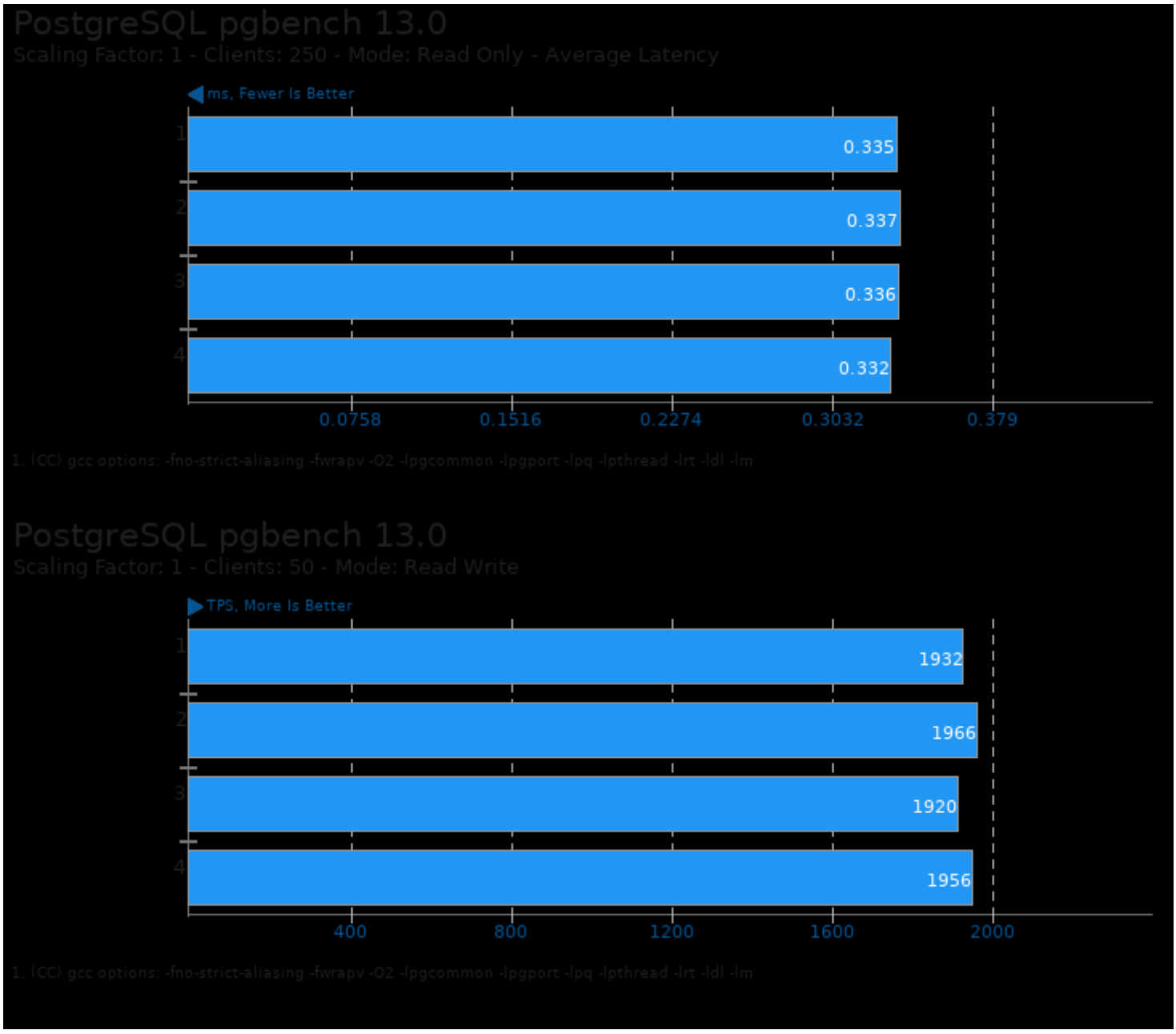

PJSIP 2.11
Method: OPTIONS, Stateless
Responses Per Second, More Is Better
1
2
3
4
31067
33953
31975
32542
7K
14K
21K
28K
35K
1. (CC) gcc options: -lavformat -lavcodec -lswscale -lavutil -lstdc++ -lssl -lcrypto -luuid -lm -lrt -lpthread -lasound -O2
PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 1 - Mode: Read Only
TPS, More Is Better
1
2
3
4
21570
21089
21183
20629
5K
10K
15K
20K
25K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

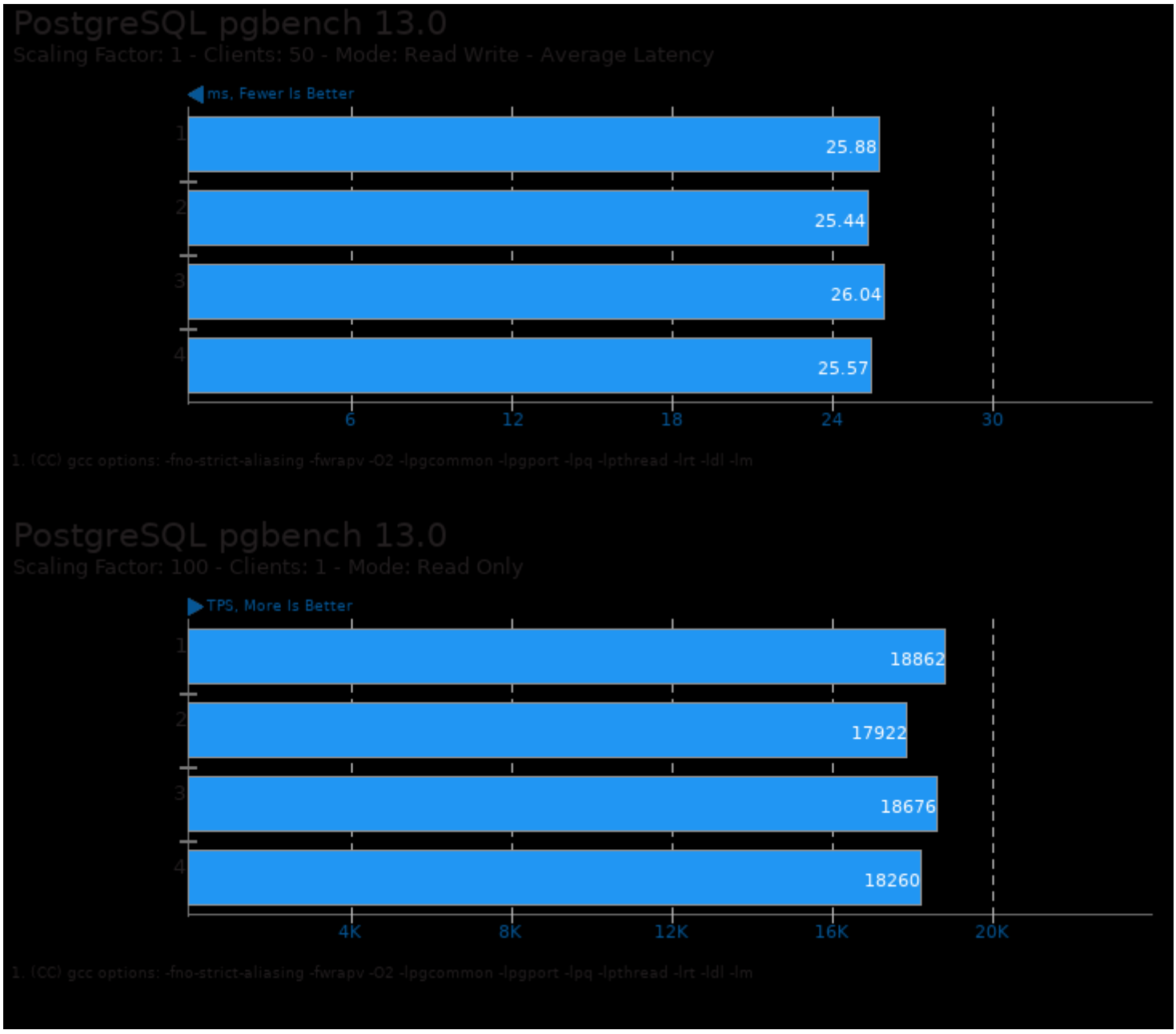

PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 1 - Mode: Read Only - Average Latency
ms, Fewer Is Better
1
2
3
4
0.046
0.047
0.047
0.048
0.0108
0.0216
0.0324
0.0432
0.054
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 1 - Mode: Read Write
TPS, More Is Better
1
2
3
4
2955
2911
2973
2930
600
1200
1800
2400
3000
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

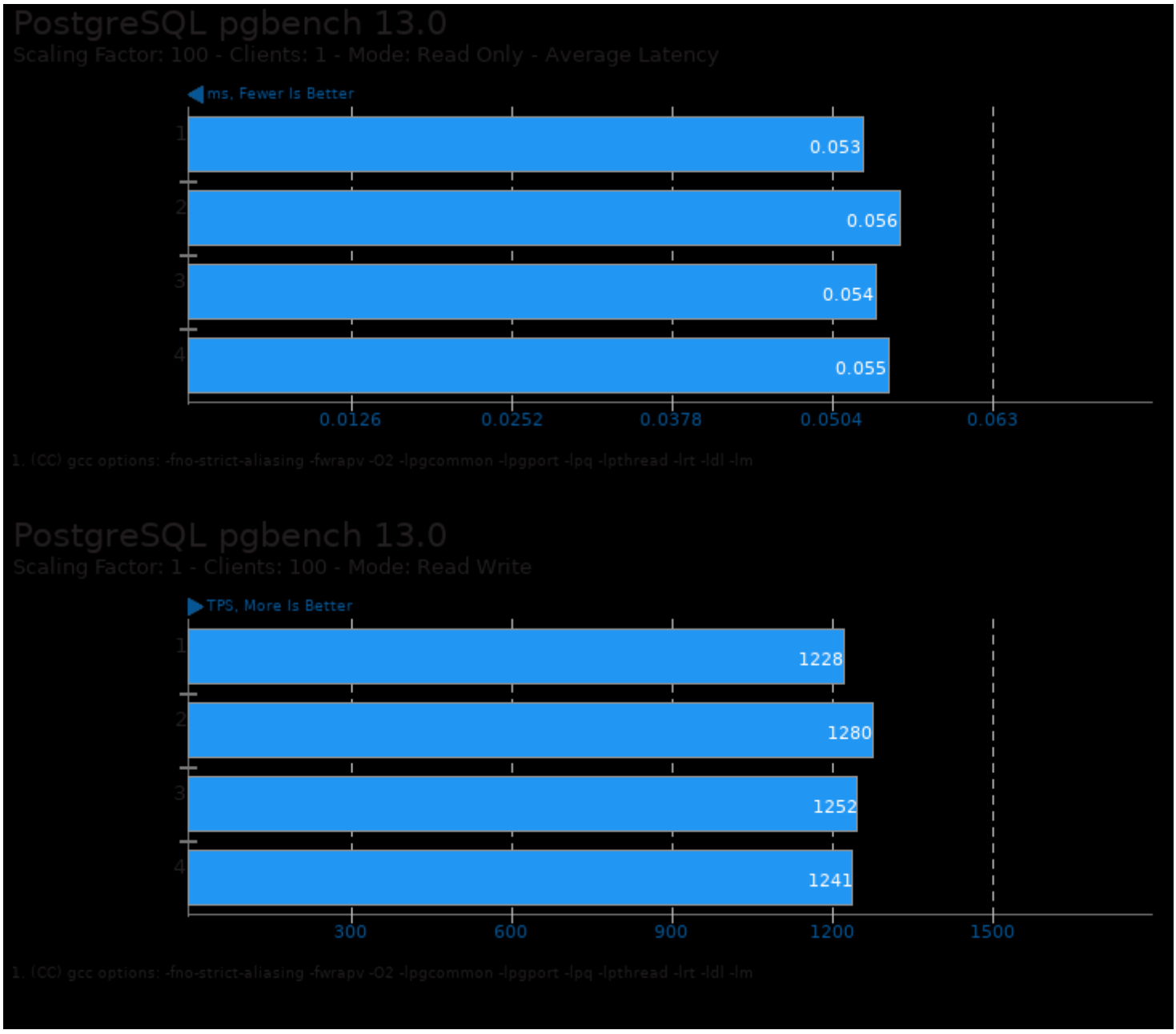

PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 1 - Mode: Read Write - Average Latency
ms, Fewer Is Better
1
2
3
4
0.338
0.343
0.336
0.341
0.0772
0.1544
0.2316
0.3088
0.386
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 50 - Mode: Read Only
TPS, More Is Better
1
2
3
4
756824
751731
754029
741889
160K
320K
480K
640K
800K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

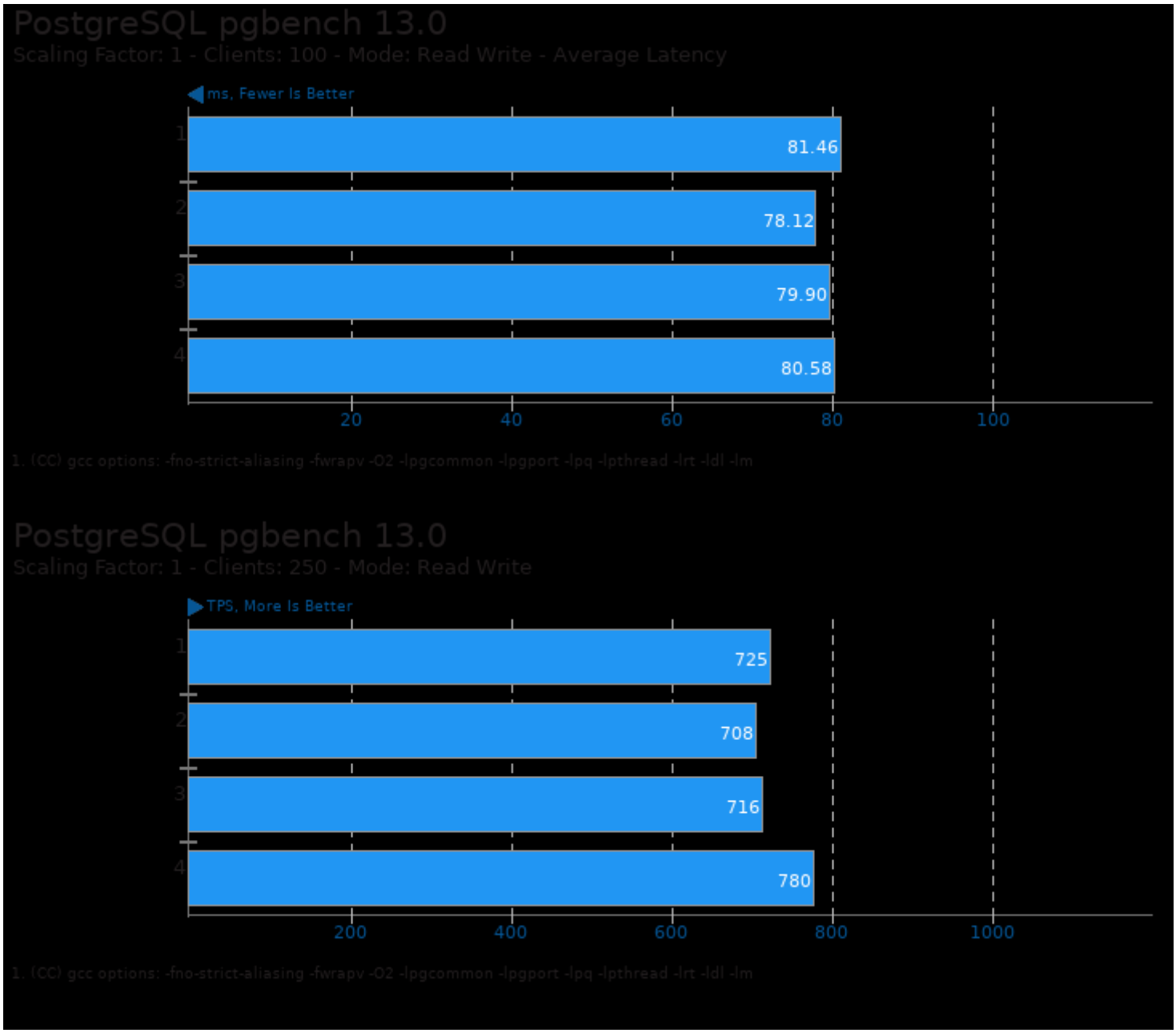

PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 50 - Mode: Read Only - Average Latency
ms, Fewer Is Better
1
2
3
4
0.066
0.067
0.066
0.067
0.0151
0.0302
0.0453
0.0604
0.0755
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 100 - Mode: Read Only
TPS, More Is Better
1
2
3
4
951719
958556
955922
950667
200K
400K
600K
800K
1000K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

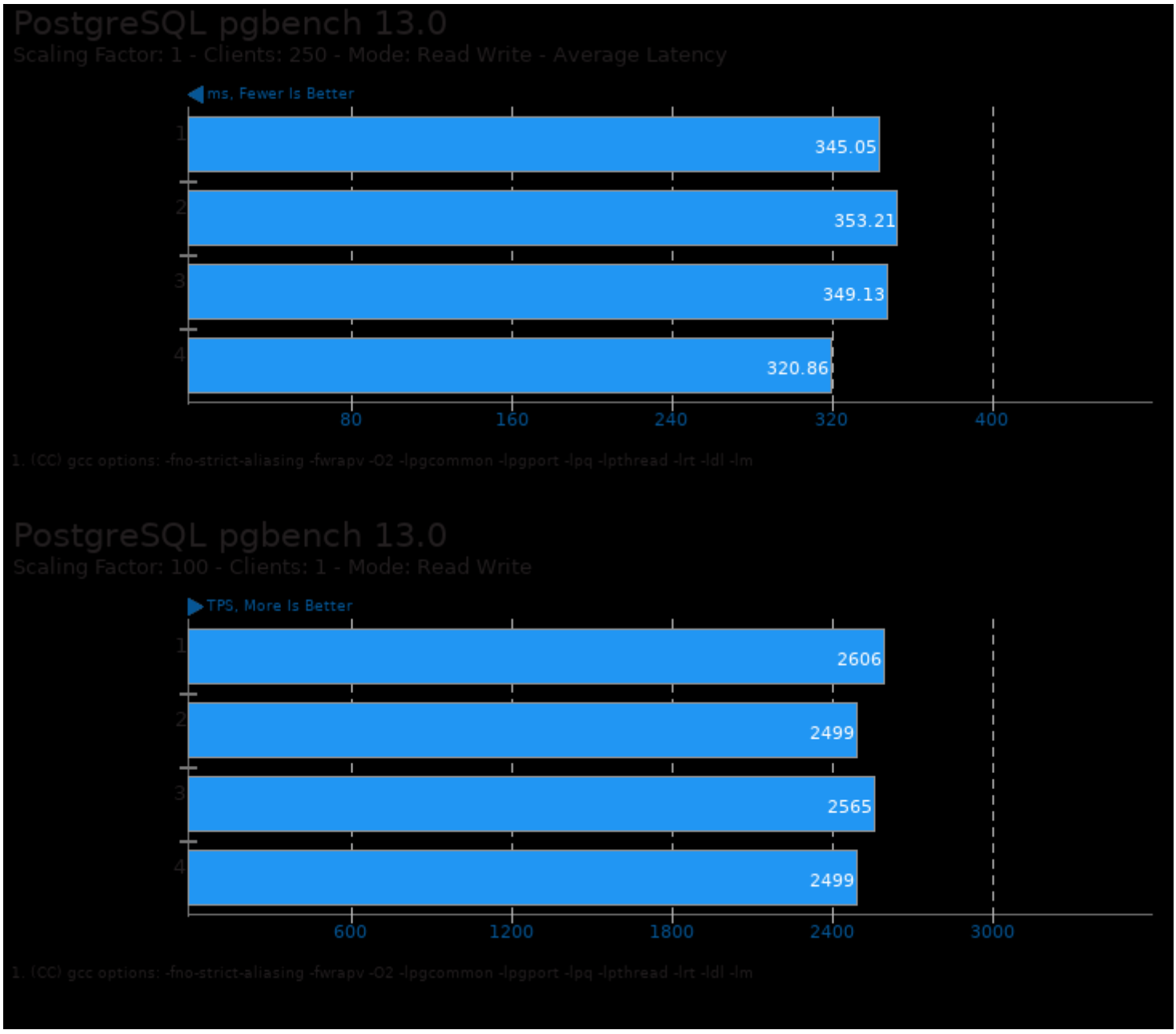

PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 100 - Mode: Read Only - Average Latency
ms, Fewer Is Better
1
2
3
4
0.105
0.104
0.105
0.105
0.0236
0.0472
0.0708
0.0944
0.118
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 250 - Mode: Read Only
TPS, More Is Better
1
2
3
4
747024
742962
745025
753158
160K
320K
480K
640K
800K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

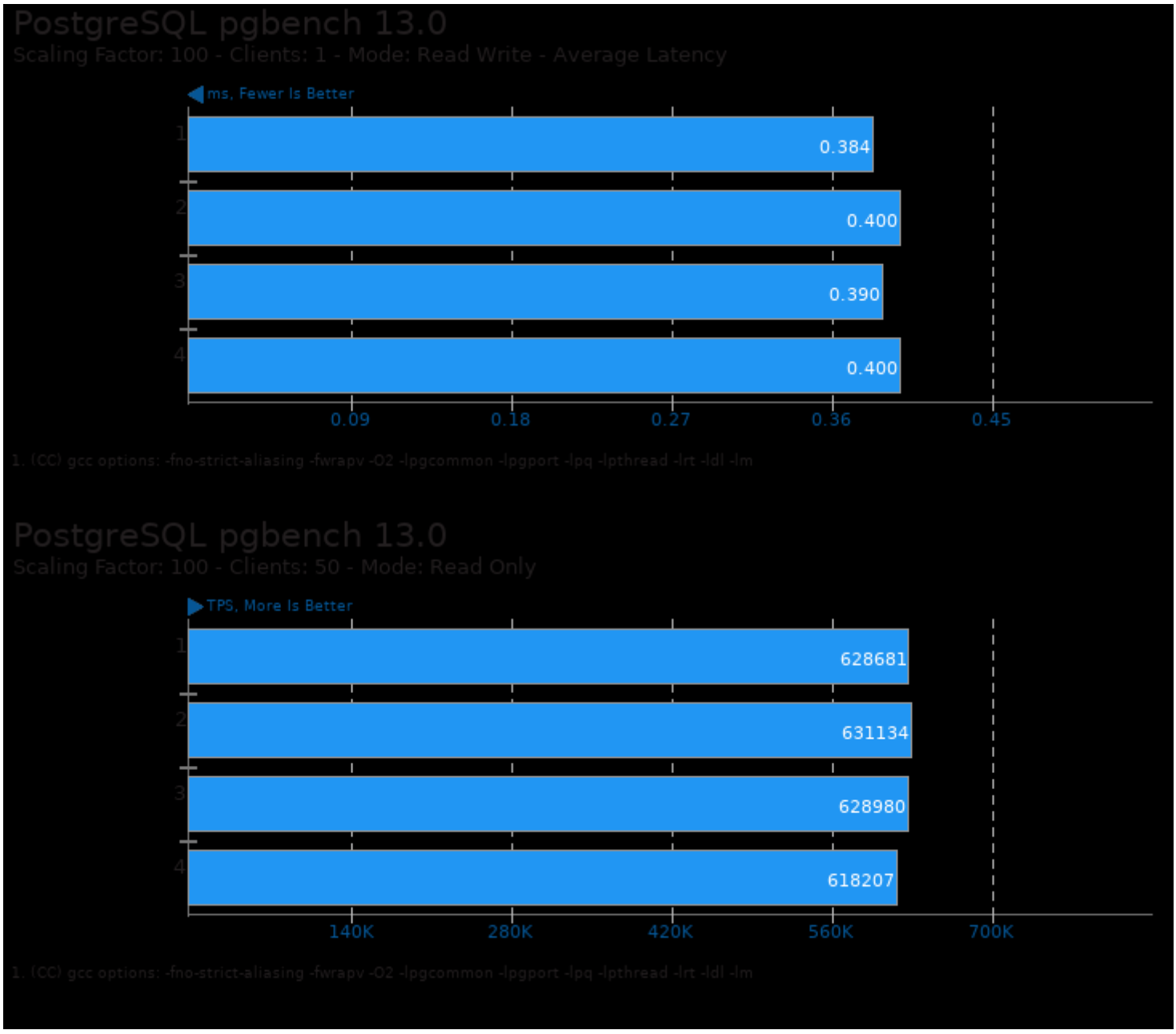

PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 250 - Mode: Read Only - Average Latency
ms, Fewer Is Better
1
0.335
2
0.337
3
0.336
4
0.332
0.0758
0.1516
0.2274
0.3032
0.379
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 50 - Mode: Read Write
TPS, More Is Better
1
1932
2
1966
3
1920
4
1956
400
800
1200
1600
2000
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

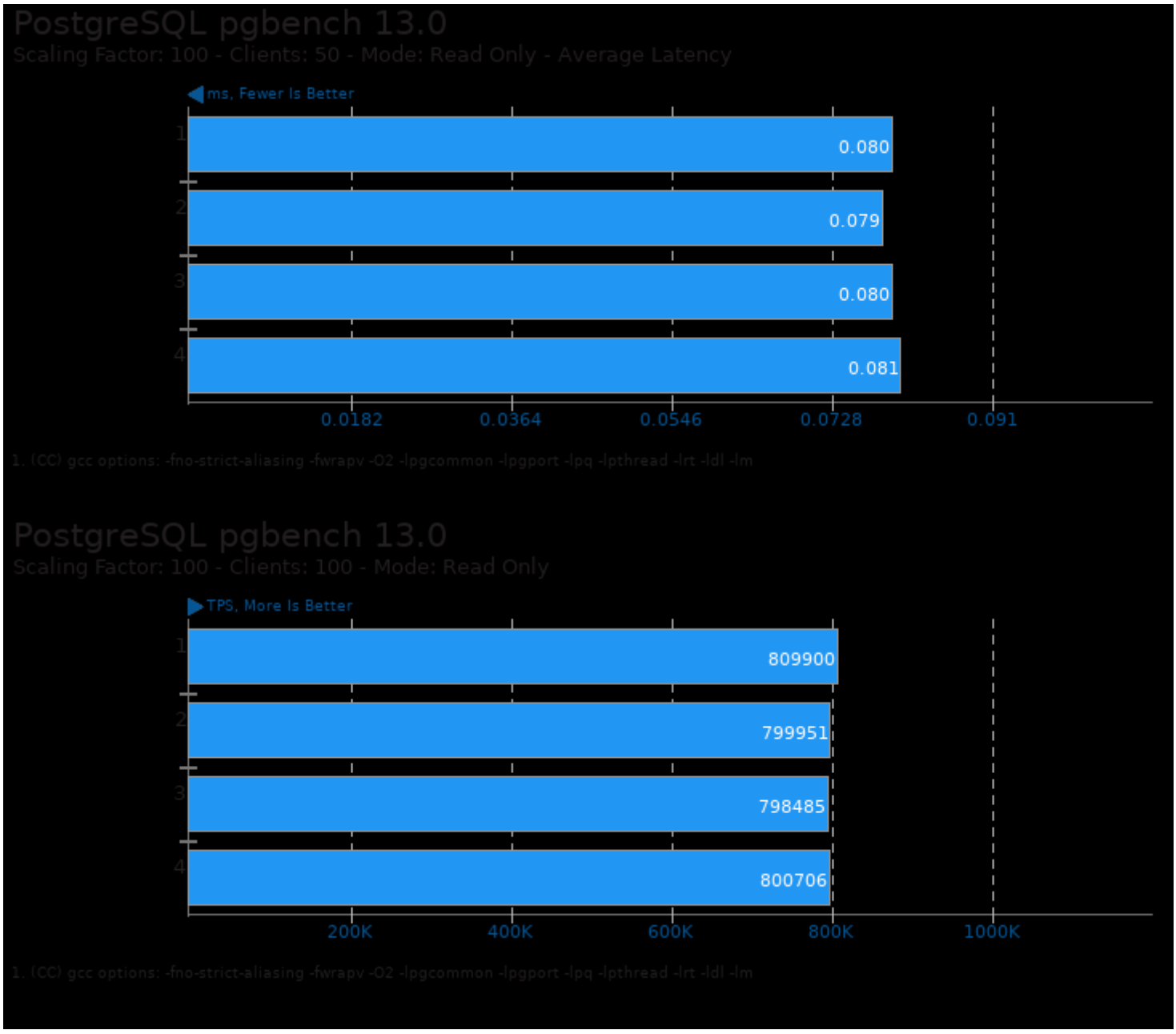

PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 50 - Mode: Read Write - Average Latency
ms, Fewer Is Better
1
25.88
2
25.44
3
26.04
4
25.57
6
12
18
24
30
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 1 - Mode: Read Only
TPS, More Is Better
1
18862
2
17922
3
18676
4
18260
4K
8K
12K
16K
20K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

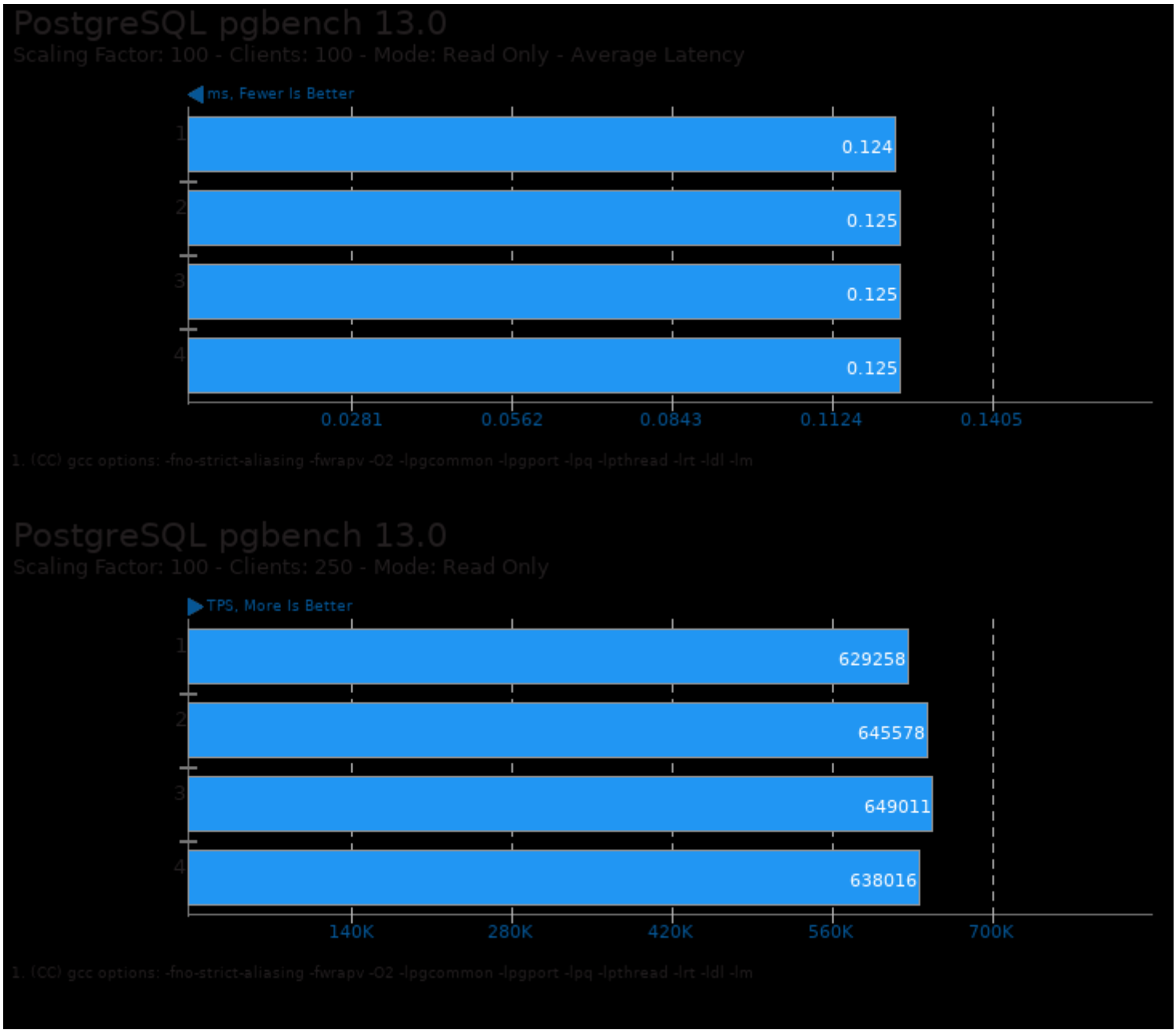

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 1 - Mode: Read Only - Average Latency
ms, Fewer Is Better
1
2
3
4
0.053
0.056
0.054
0.055
0.0126
0.0252
0.0378
0.0504
0.063
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 100 - Mode: Read Write
TPS, More Is Better
1
2
3
4
1228
1280
1252
1241
300
600
900
1200
1500
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

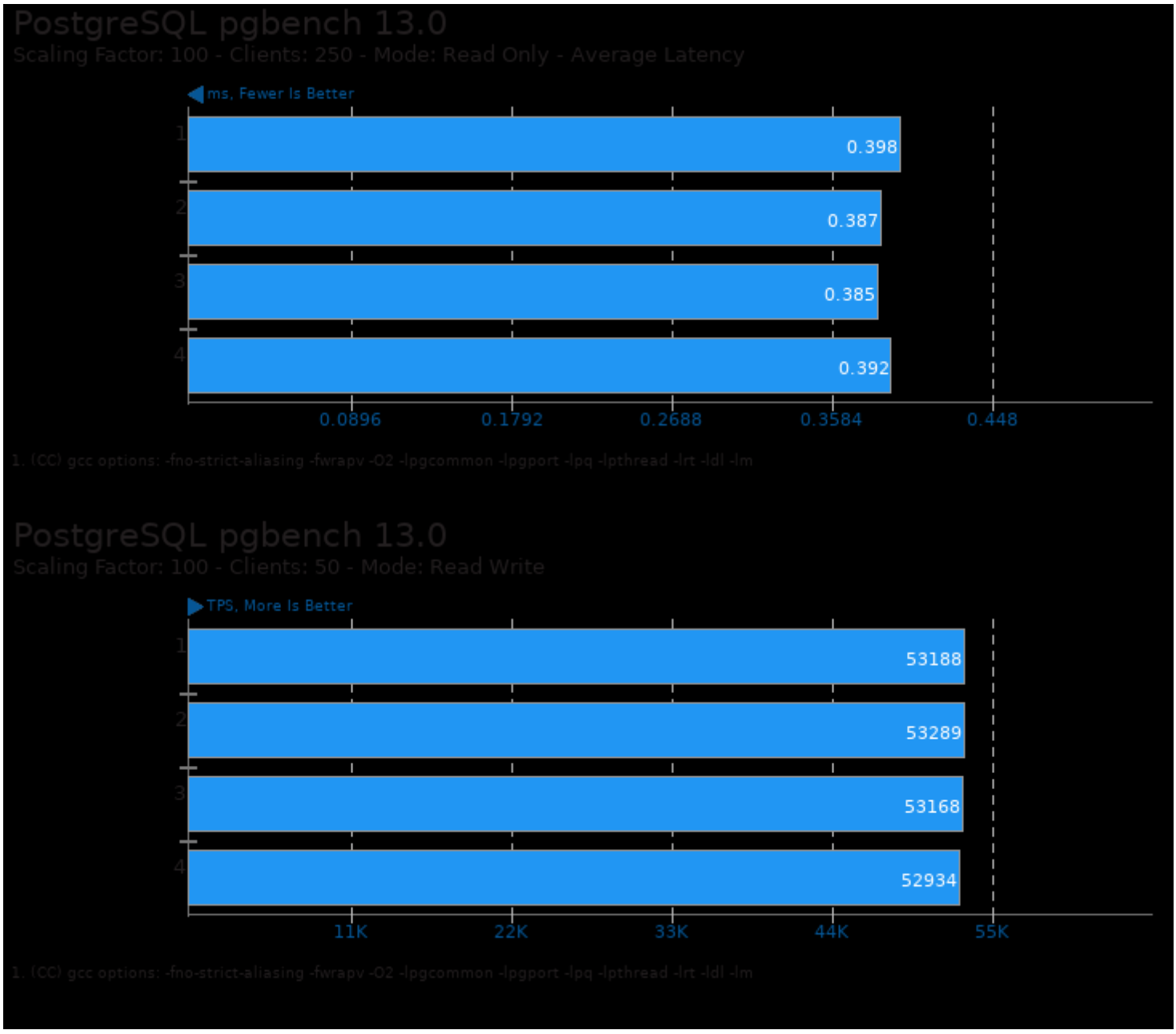

PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 100 - Mode: Read Write - Average Latency
ms, Fewer Is Better
1
2
3
4
81.46
78.12
79.90
80.58
20
40
60
80
100
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 250 - Mode: Read Write
TPS, More Is Better
1
2
3
4
725
708
716
780
200
400
600
800
1000
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

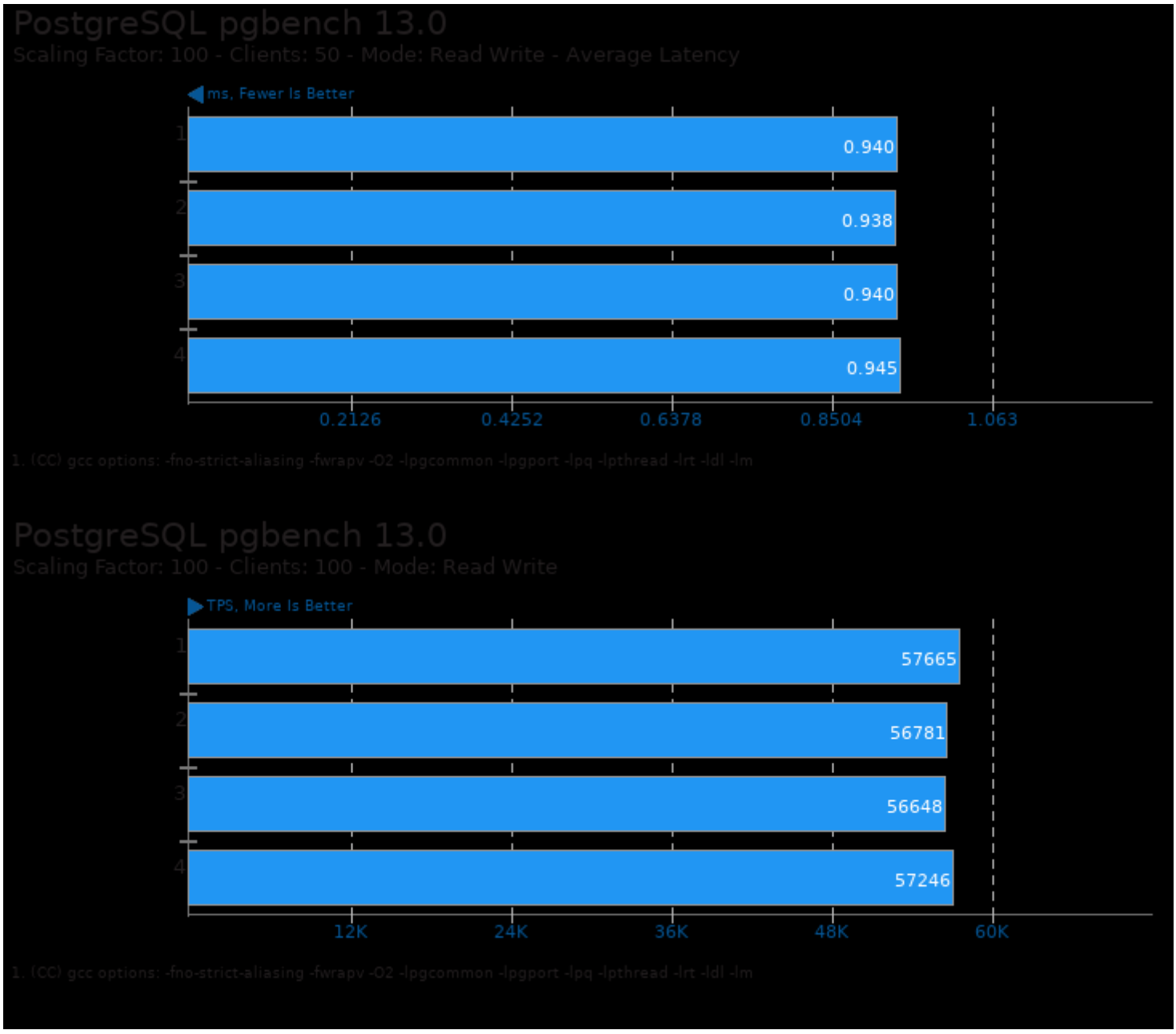

PostgreSQL pgbench 13.0
Scaling Factor: 1 - Clients: 250 - Mode: Read Write - Average Latency
ms, Fewer Is Better
1
345.05
2
353.21
3
349.13
4
320.86
80
160
240
320
400
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 1 - Mode: Read Write
TPS, More Is Better
1
2606
2
2499
3
2565
4
2499
600
1200
1800
2400
3000
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

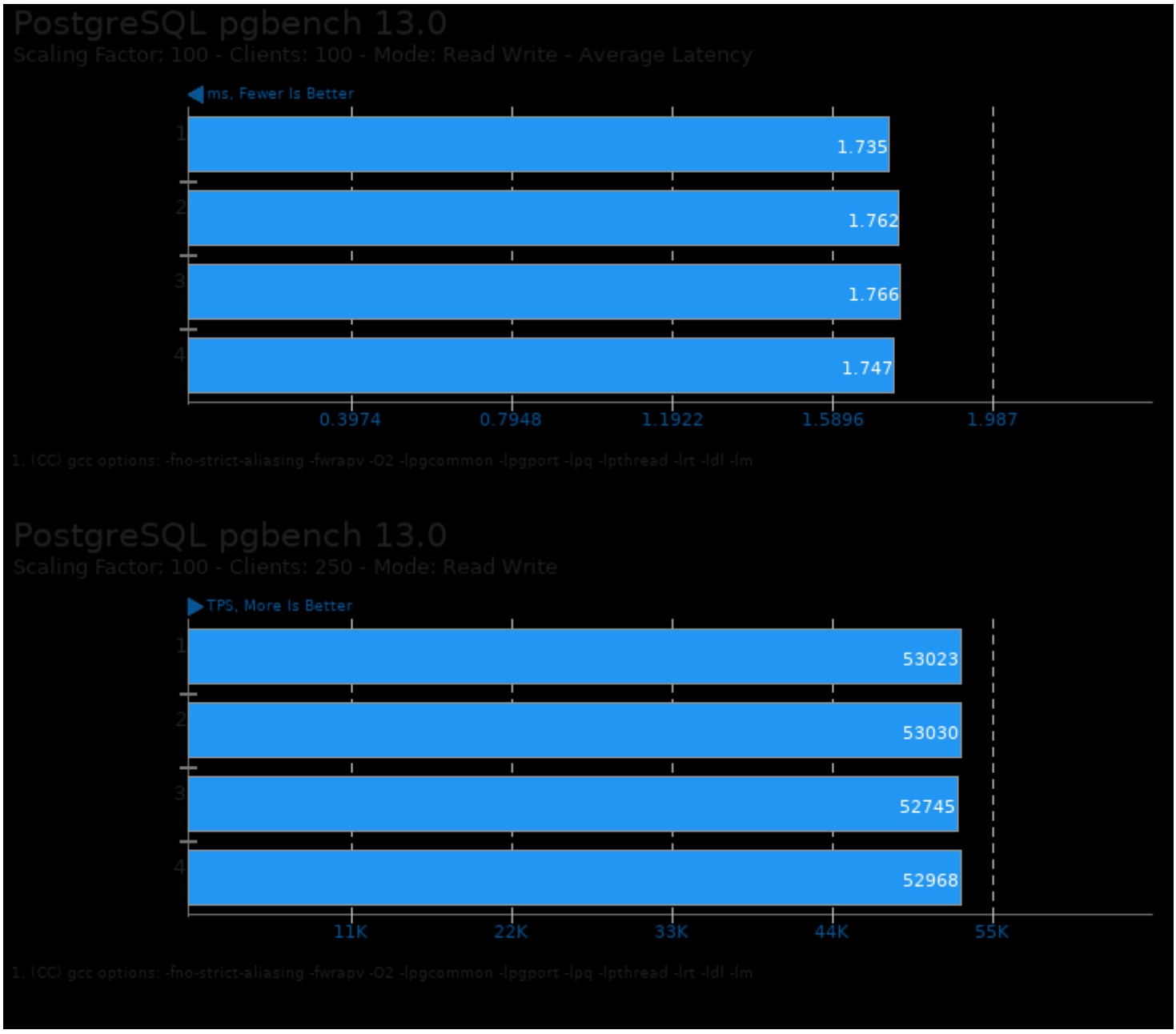

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 1 - Mode: Read Write - Average Latency
ms, Fewer Is Better
1
0.384
2
0.400
3
0.390
4
0.400
0.09
0.18
0.27
0.36
0.45
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 50 - Mode: Read Only
TPS, More Is Better
1
628681
2
631134
3
628980
4
618207
140K
280K
420K
560K
700K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

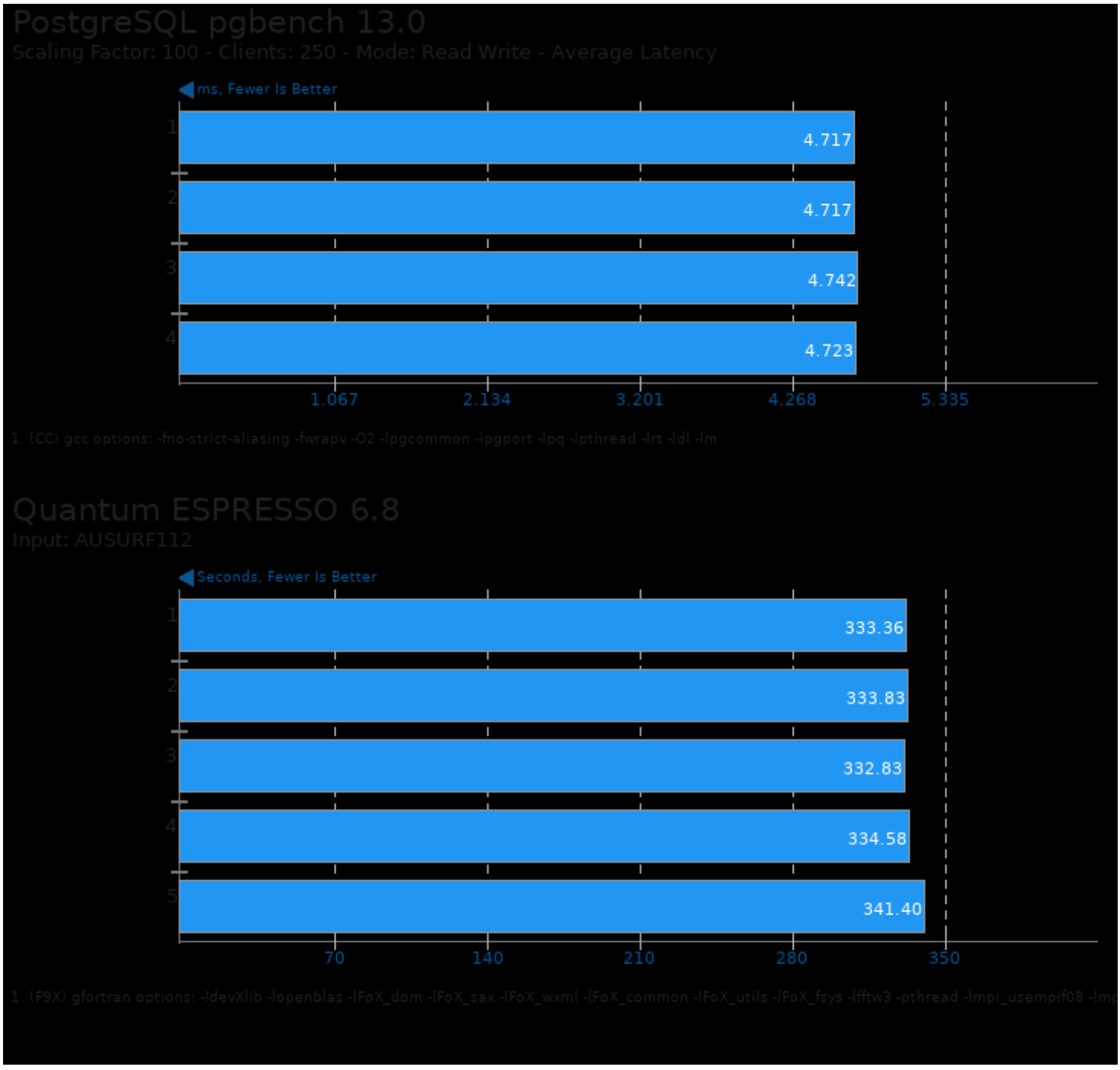

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 50 - Mode: Read Only - Average Latency
ms, Fewer Is Better
1
2
3
4
0.080
0.079
0.080
0.081
0.0182
0.0364
0.0546
0.0728
0.091
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 100 - Mode: Read Only
TPS, More Is Better
1
2
3
4
809900
799951
798485
800706
200K
400K
600K
800K
1000K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

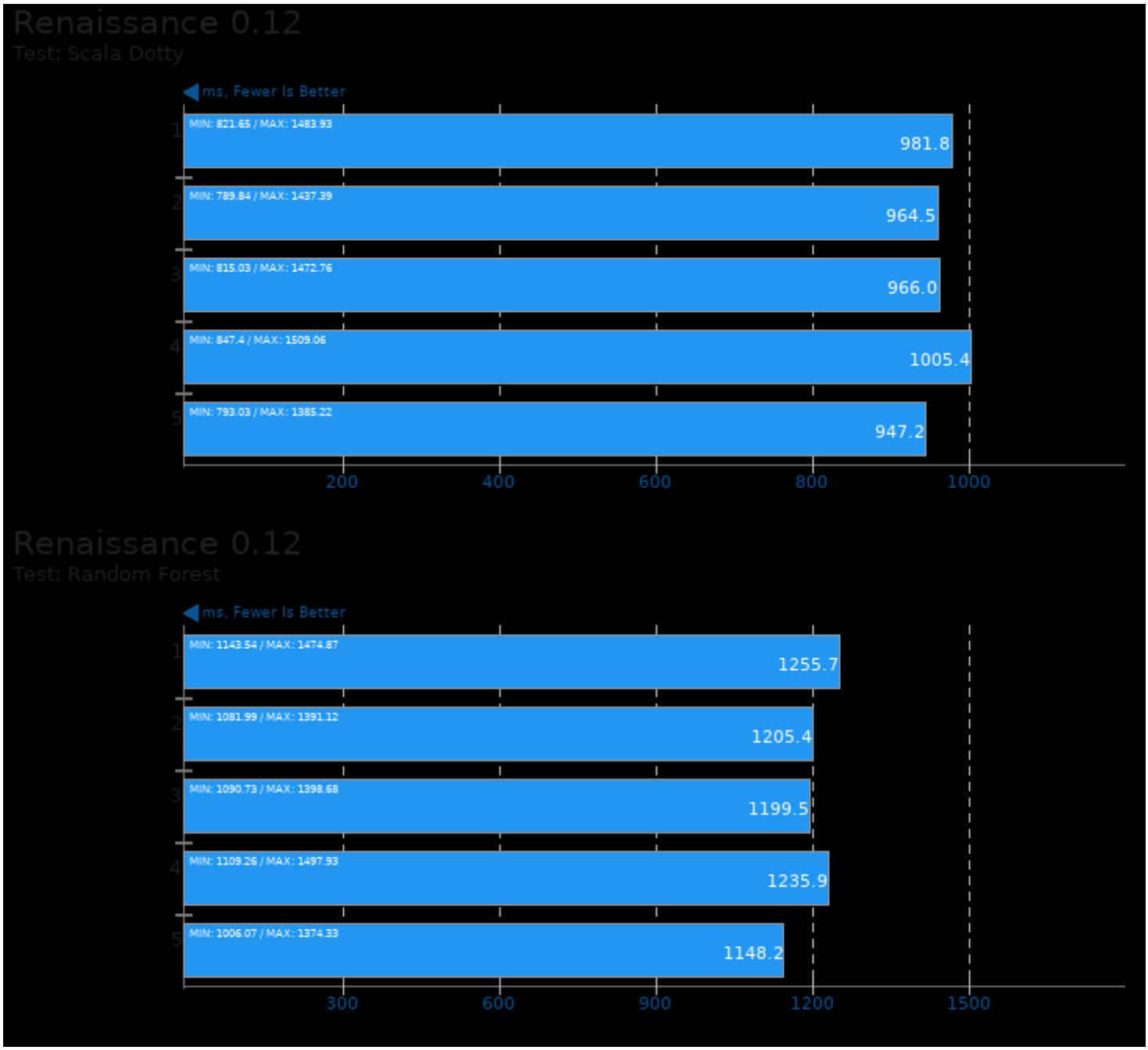

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 100 - Mode: Read Only - Average Latency
ms, Fewer Is Better
1
2
3
4
0.124
0.125
0.125
0.125
0.0281
0.0562
0.0843
0.1124
0.1405
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 250 - Mode: Read Only
TPS, More Is Better
1
2
3
4
629258
645578
649011
638016
140K
280K
420K
560K
700K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

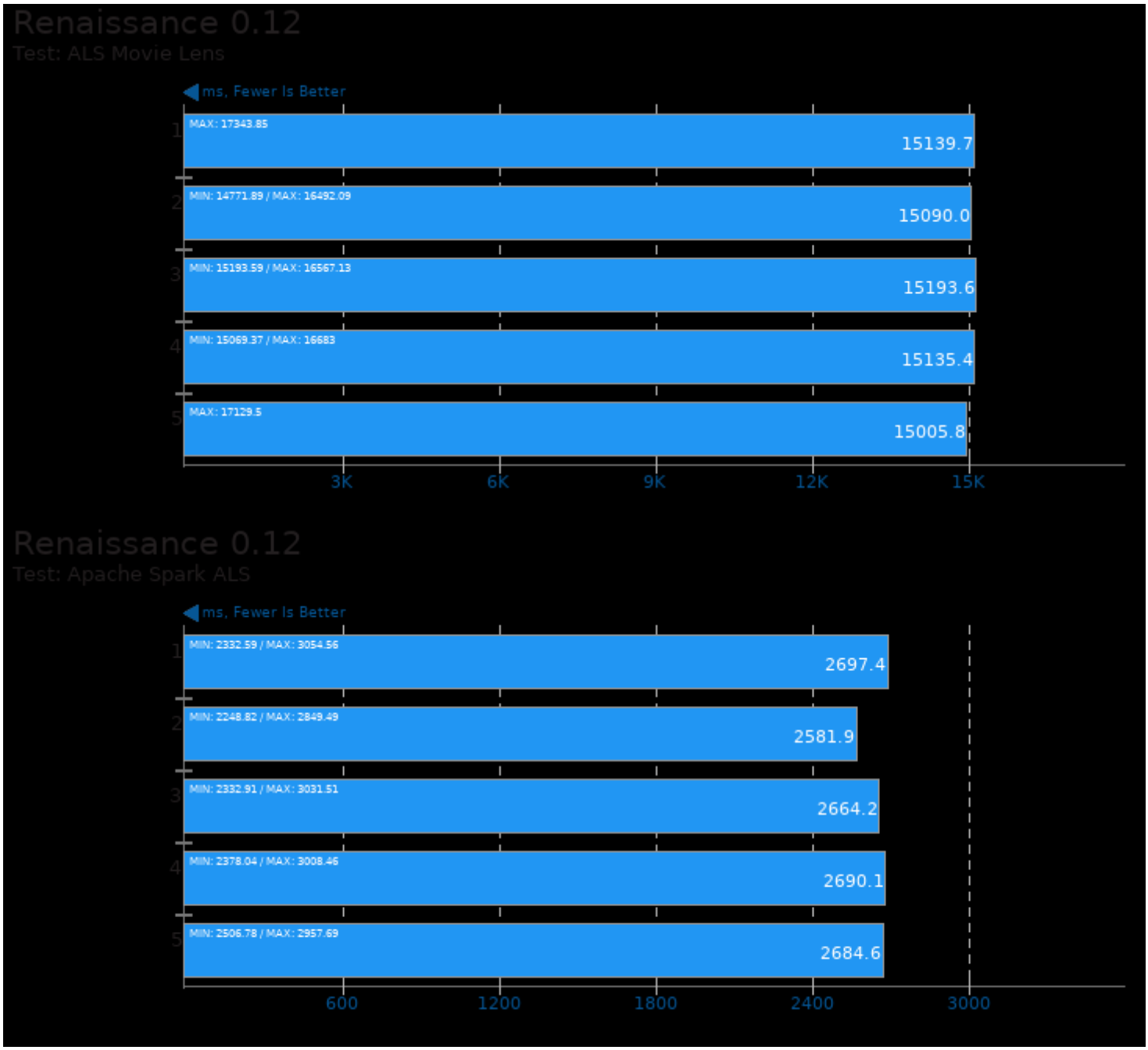

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 250 - Mode: Read Only - Average Latency
ms, Fewer Is Better
1
2
3
4
0.398
0.387
0.385
0.392
0.0896
0.1792
0.2688
0.3584
0.448
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 50 - Mode: Read Write
TPS, More Is Better
1
2
3
4
53188
53289
53168
52934
11K
22K
33K
44K
55K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

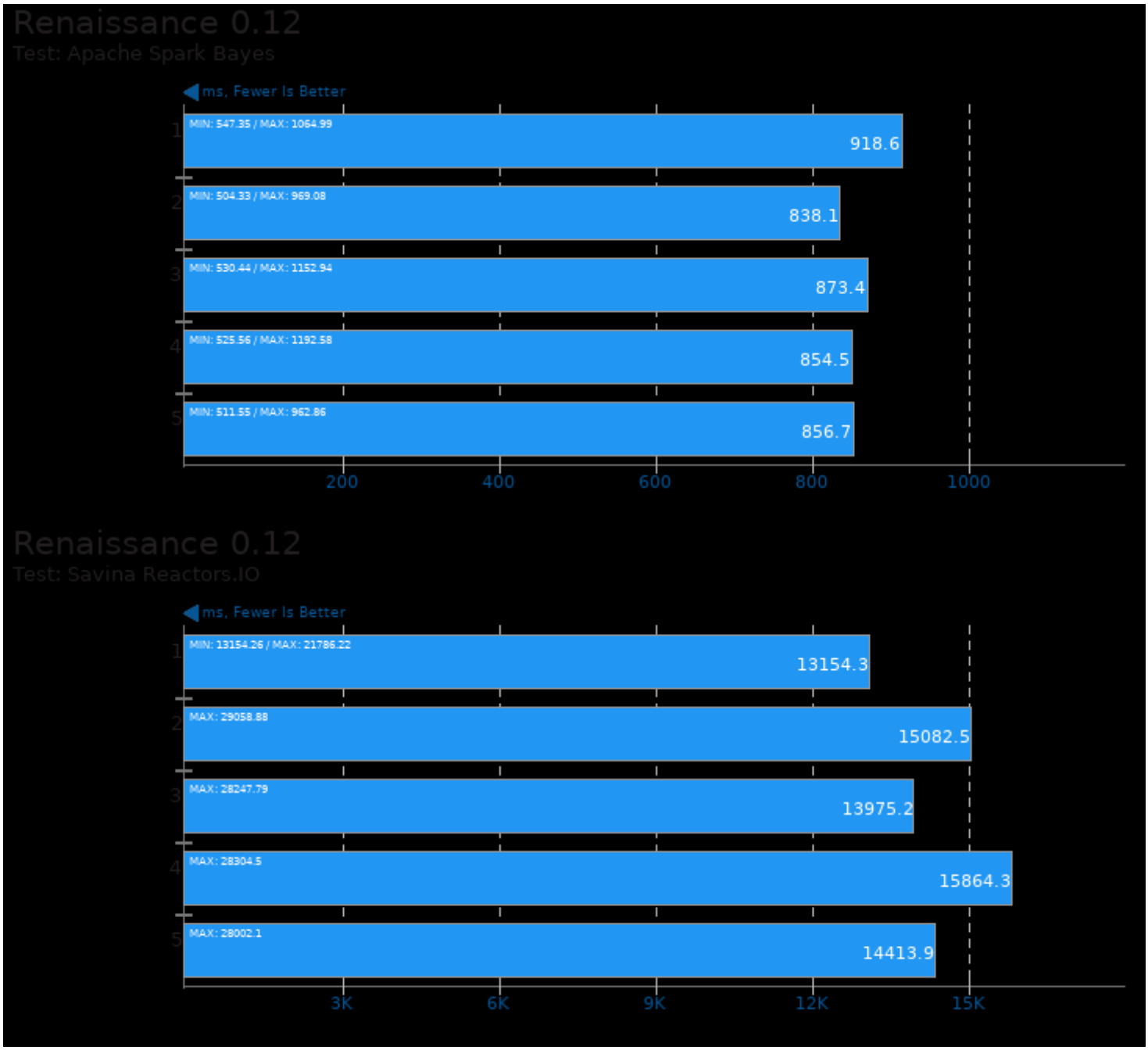

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 50 - Mode: Read Write - Average Latency
ms, Fewer Is Better
1
2
3
4
0.940
0.938
0.940
0.945
0.2126
0.4252
0.6378
0.8504
1.063
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 100 - Mode: Read Write
TPS, More Is Better
1
2
3
4
57665
56781
56648
57246
12K
24K
36K
48K
60K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

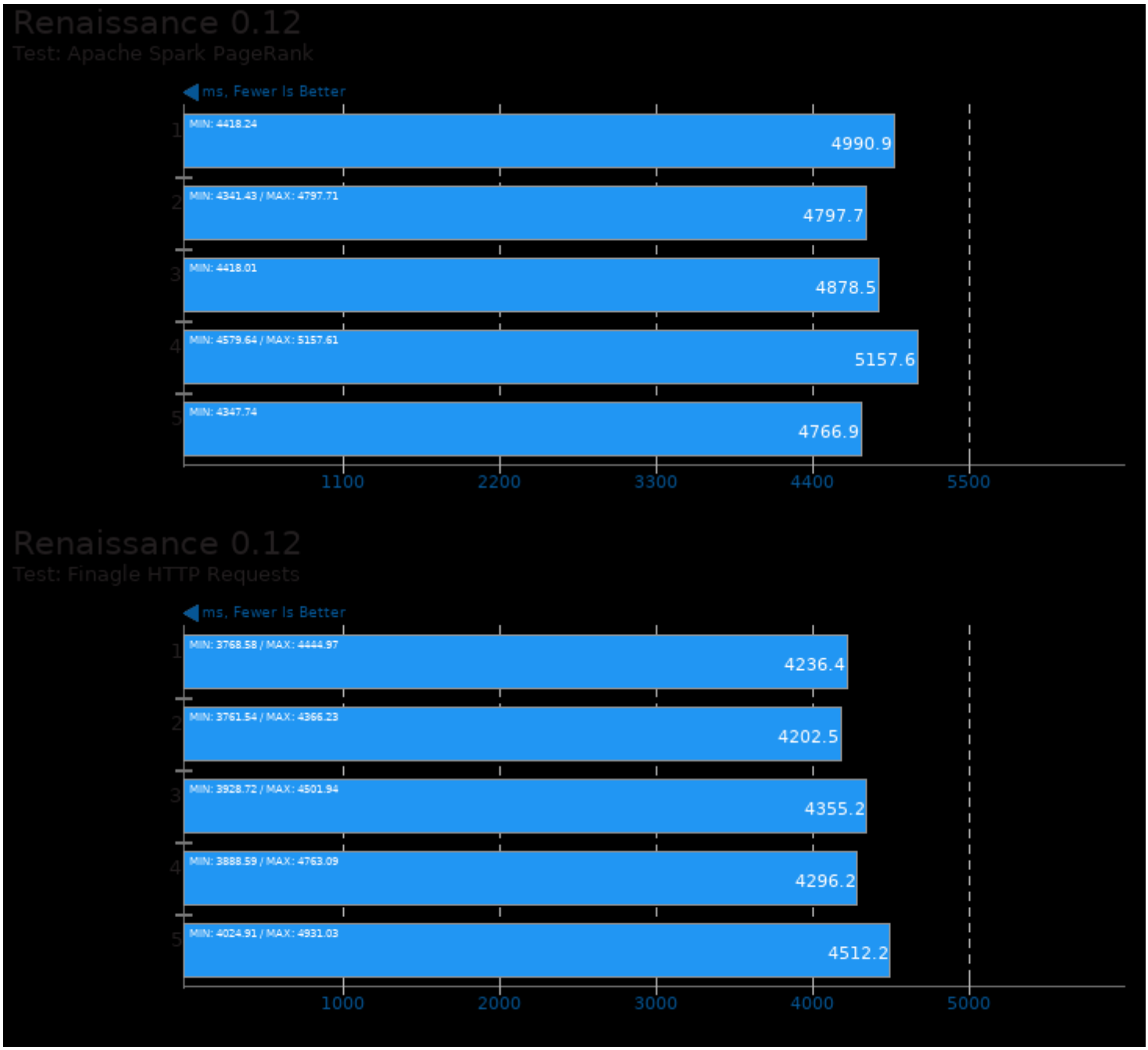

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 100 - Mode: Read Write - Average Latency
ms, Fewer Is Better
1.735
1.762
1.766
1.747
0.3974
0.7948
1.1922
1.5896
1.987
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 250 - Mode: Read Write
TPS, More Is Better
53023
53030
52745
52968
11K
22K
33K
44K
55K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

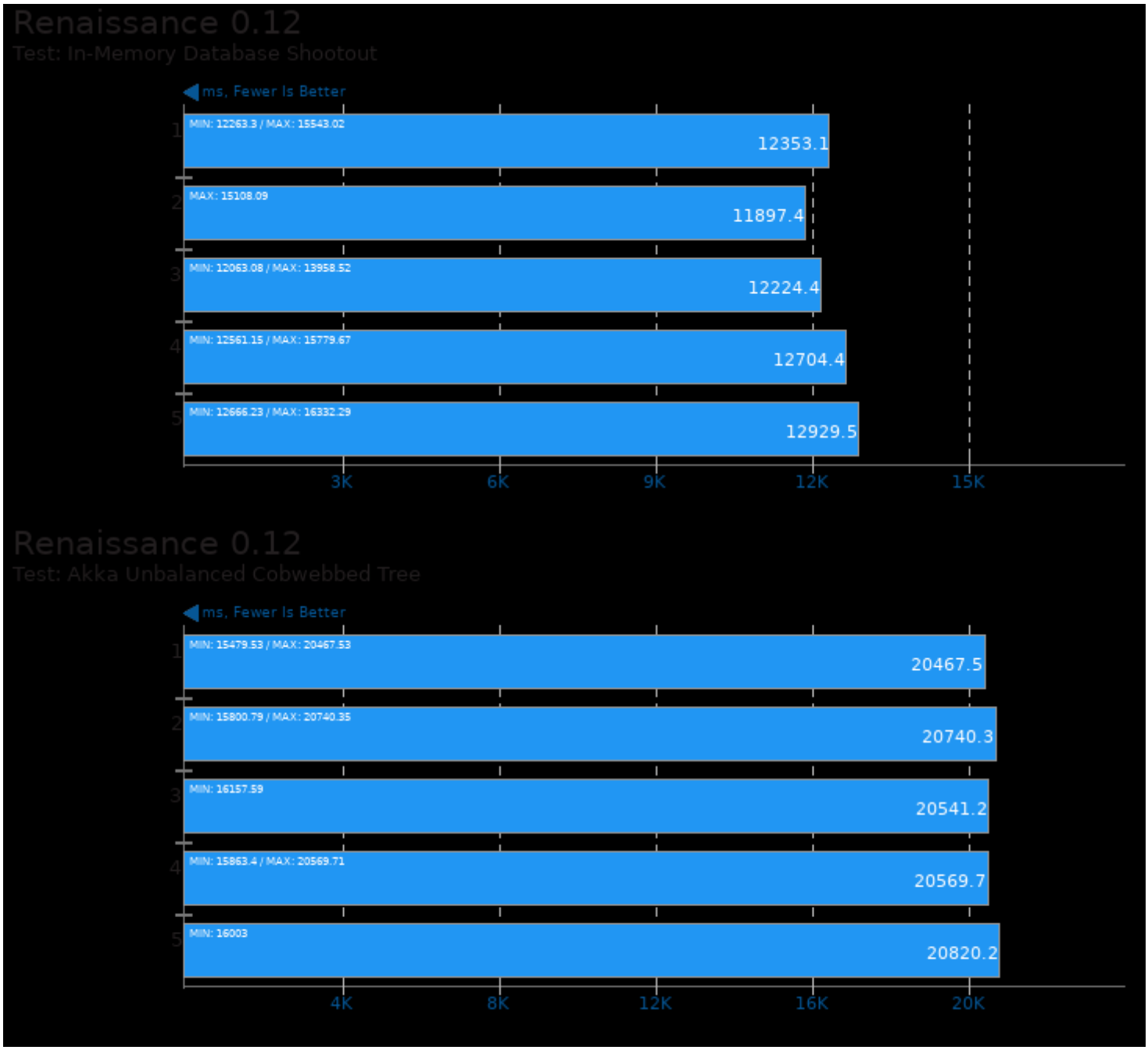

PostgreSQL pgbench 13.0
Scaling Factor: 100 - Clients: 250 - Mode: Read Write - Average Latency
ms, Fewer Is Better
1
2
3
4
4.717
4.717
4.742
4.723
1.067
2.134
3.201
4.268
5.335
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm
Quantum ESPRESSO 6.8
Input: AUSURF112
Seconds, Fewer Is Better
1
2
3
4
5
333.36
333.83
332.83
334.58
341.40
70
140
210
280
350
1. (F9X) gfortran options: -ldevXlib -lopenblas -lFoX_dom -lFoX_sax -lFoX_wxml -lFoX_common -lFoX_utils -lFoX_fsys -lfftw3 -pthread -lmpi_usempif08 -lmp

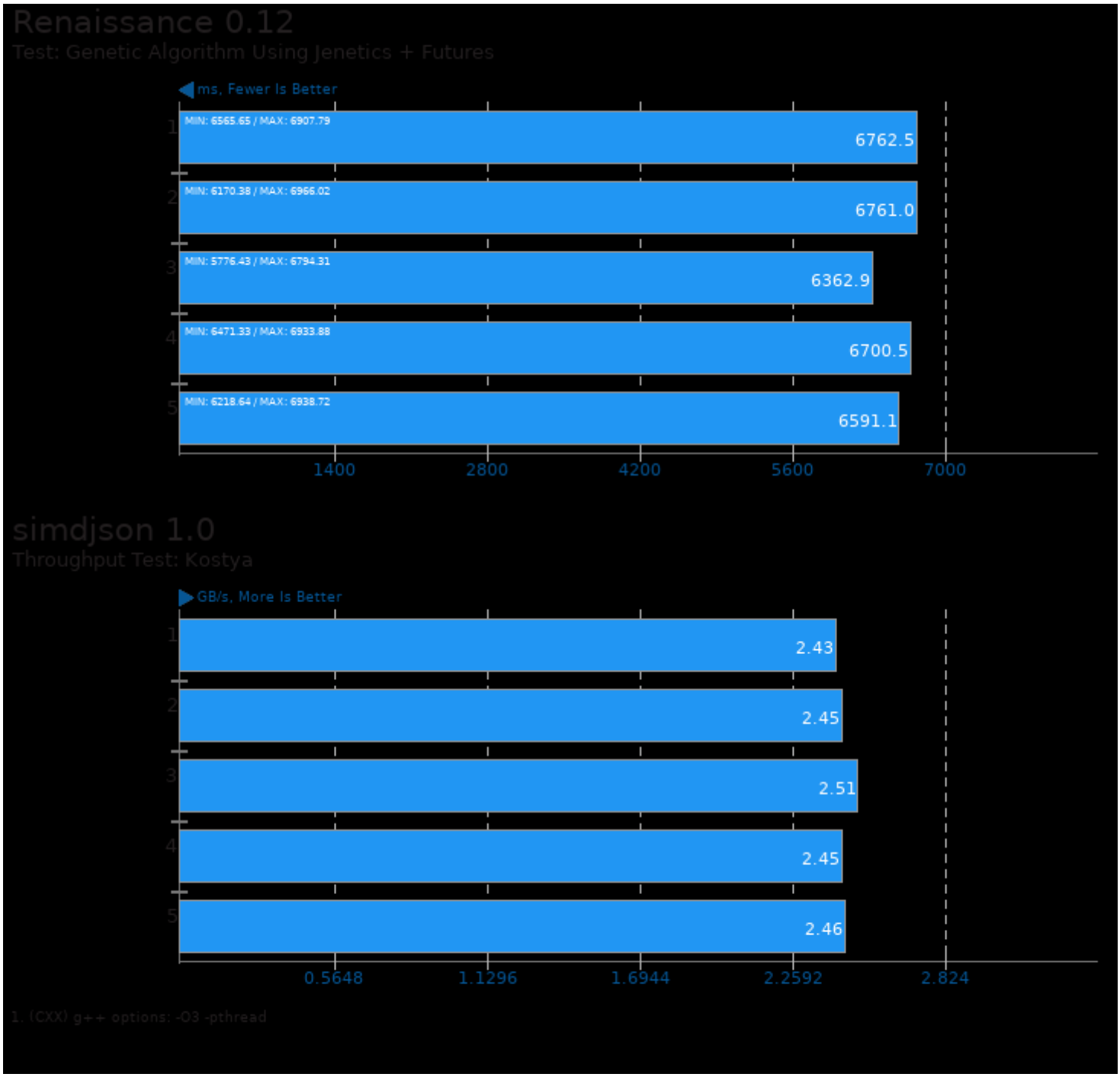

Renaissance 0.12
Test: Scala Dotty
ms, Fewer Is Better
1
MIN: 821.65 / MAX: 1483.93
981.8
2
MIN: 789.84 / MAX: 1437.39
964.5
3
MIN: 815.03 / MAX: 1472.76
966.0
4
MIN: 847.4 / MAX: 1509.06
1005.4
5
MIN: 793.03 / MAX: 1385.22
947.2
200
400
600
800
1000
Renaissance 0.12
Test: Random Forest
ms, Fewer Is Better
1
MIN: 1143.54 / MAX: 1474.87
1255.7
2
MIN: 1081.99 / MAX: 1391.12
1205.4
3
MIN: 1090.73 / MAX: 1398.68
1199.5
4
MIN: 1109.26 / MAX: 1497.93
1235.9
5
MIN: 1006.07 / MAX: 1374.33
1148.2
300
600
900
1200
1500

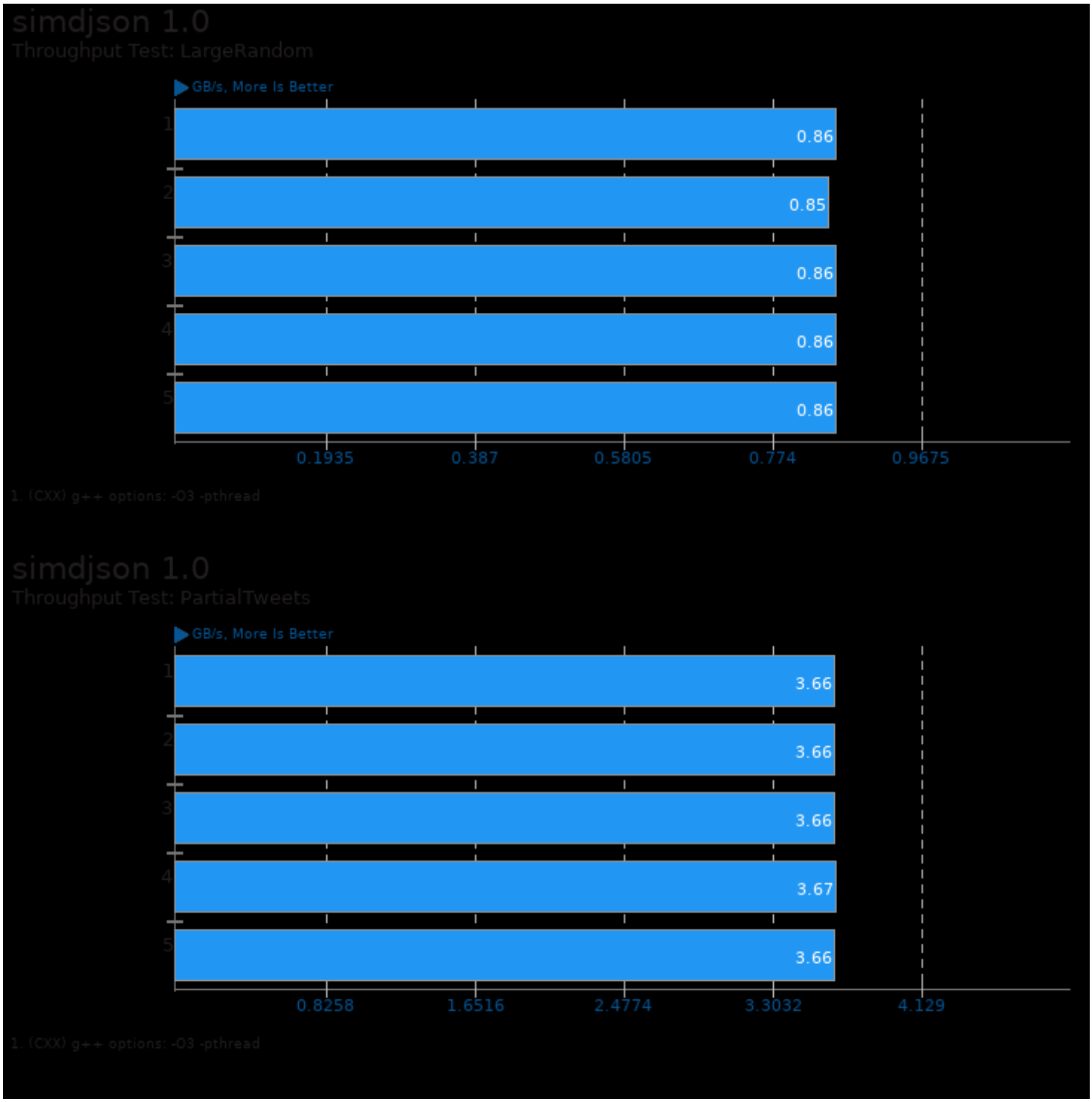

Renaissance 0.12
Test: ALS Movie Lens
ms, Fewer Is Better
1
MAX: 17343.85
15139.7
2
MIN: 14771.89 / MAX: 16492.09
15090.0
3
MIN: 15193.59 / MAX: 16567.13
15193.6
4
MIN: 15069.37 / MAX: 16683
15135.4
5
MAX: 17129.5
15005.8
3K
6K
9K
12K
15K
Renaissance 0.12
Test: Apache Spark ALS
ms, Fewer Is Better
1
MIN: 2332.59 / MAX: 3054.56
2697.4
2
MIN: 2248.82 / MAX: 2849.49
2581.9
3
MIN: 2332.91 / MAX: 3031.51
2664.2
4
MIN: 2378.04 / MAX: 3008.46
2690.1
5
MIN: 2506.78 / MAX: 2957.69
2684.6
600
1200
1800
2400
3000

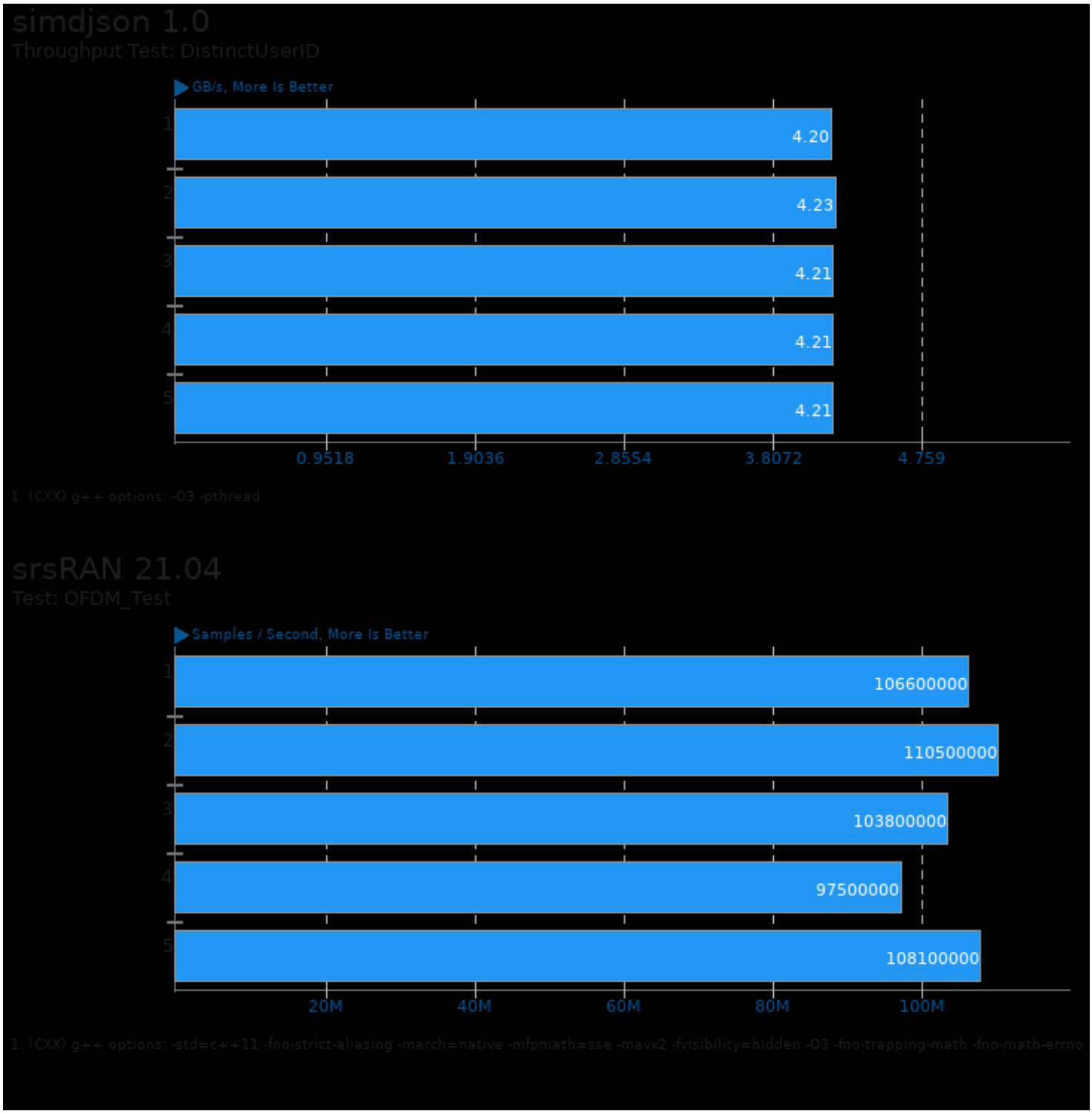

Renaissance 0.12
Test: Apache Spark Bayes
ms, Fewer Is Better
1
MIN: 547.35 / MAX: 1064.99
918.6
2
MIN: 504.33 / MAX: 969.08
838.1
3
MIN: 530.44 / MAX: 1152.94
873.4
4
MIN: 525.56 / MAX: 1192.58
854.5
5
MIN: 511.55 / MAX: 962.86
856.7
200
400
600
800
1000
Renaissance 0.12
Test: Savina Reactors.IO
ms, Fewer Is Better
1
MIN: 13154.26 / MAX: 21786.22
13154.3
2
MAX: 29058.88
15082.5
3
MAX: 28247.79
13975.2
4
MAX: 28304.5
15864.3
5
MAX: 28002.1
14413.9
3K
6K
9K
12K
15K

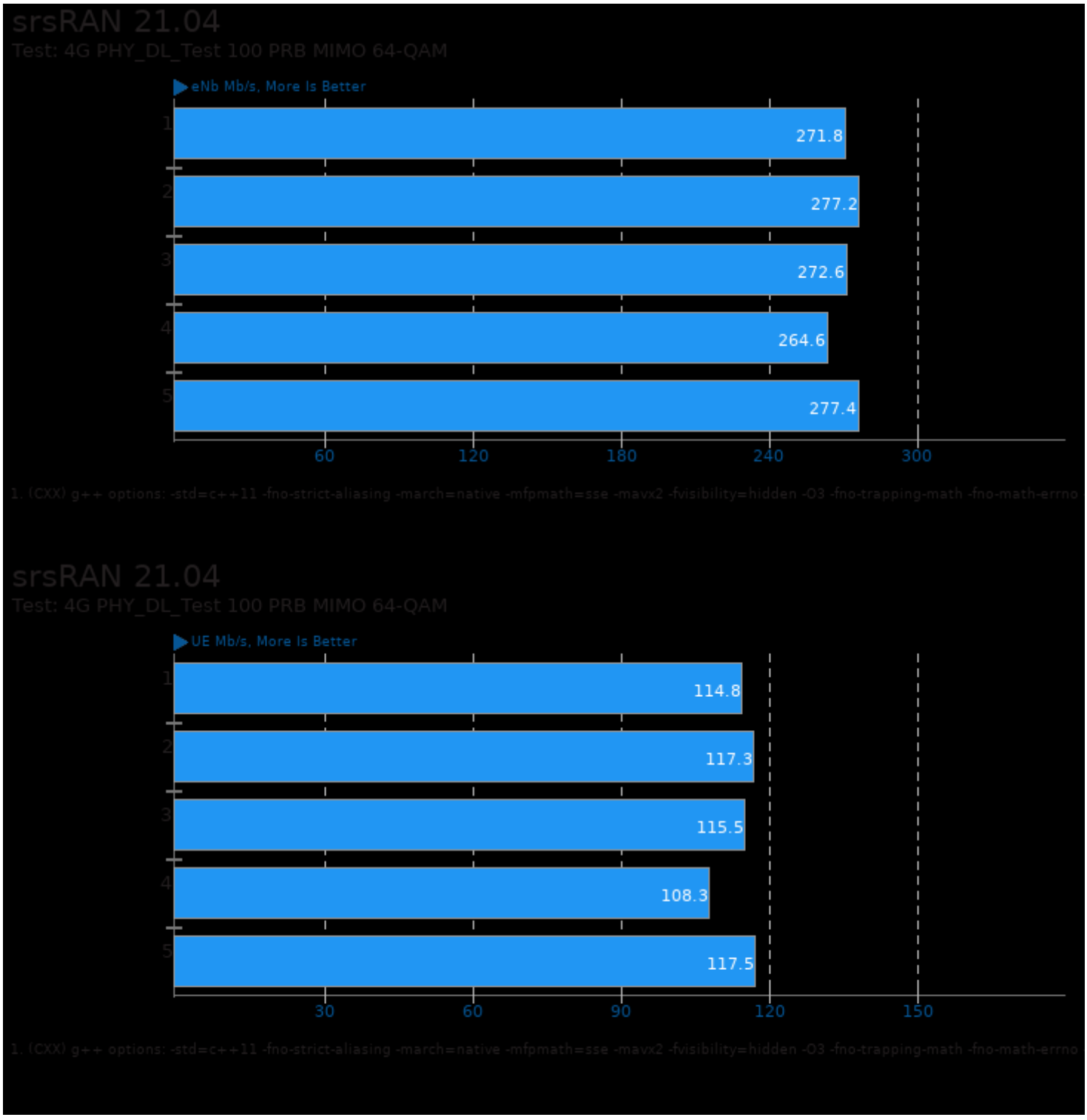

Renaissance 0.12
Test: Apache Spark PageRank
ms, Fewer Is Better
1
MIN: 4418.24
4990.9
2
MIN: 4341.43 / MAX: 4797.71
4797.7
3
MIN: 4418.01
4878.5
4
MIN: 4579.64 / MAX: 5157.61
5157.6
5
MIN: 4347.74
4766.9
1100
2200
3300
4400
5500
Renaissance 0.12
Test: Finagle HTTP Requests
ms, Fewer Is Better
1
MIN: 3768.58 / MAX: 4444.97
4236.4
2
MIN: 3761.54 / MAX: 4366.23
4202.5
3
MIN: 3928.72 / MAX: 4501.94
4355.2
4
MIN: 3888.59 / MAX: 4763.09
4296.2
5
MIN: 4024.91 / MAX: 4931.03
4512.2
1000
2000
3000
4000
5000

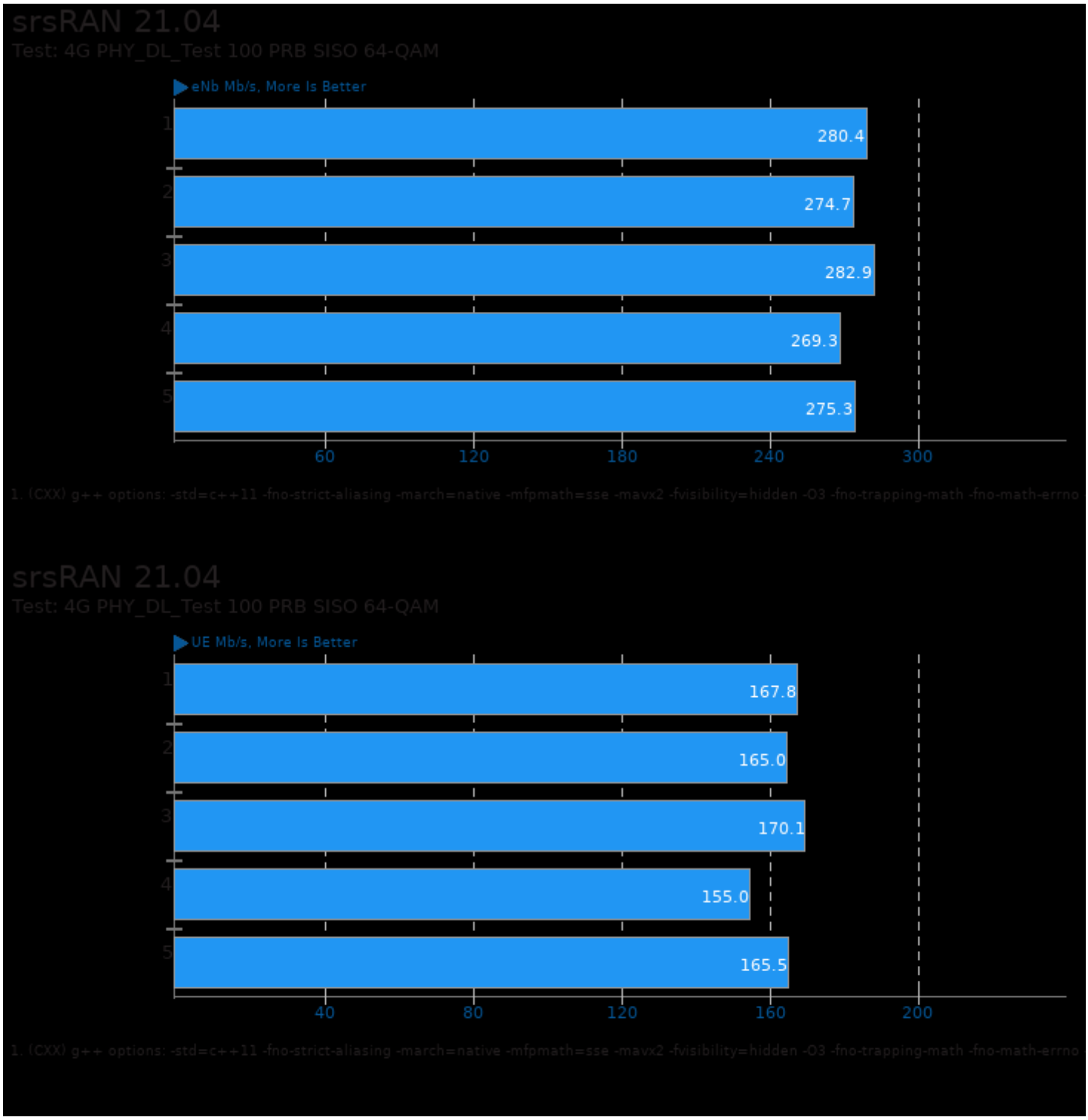

Renaissance 0.12
Test: In-Memory Database Shootout
ms, Fewer Is Better
1
MIN: 12263.3 / MAX: 15543.02
12353.1
2
MAX: 15108.09
11897.4
3
MIN: 12063.08 / MAX: 13958.52
12224.4
4
MIN: 12561.15 / MAX: 15779.67
12704.4
5
MIN: 12666.23 / MAX: 16332.29
12929.5
3K
6K
9K
12K
15K
Renaissance 0.12
Test: Akka Unbalanced Cobwebbed Tree
ms, Fewer Is Better
1
MIN: 15479.53 / MAX: 20467.53
20467.5
2
MIN: 15800.79 / MAX: 20740.35
20740.3
3
MIN: 16157.59
20541.2
4
MIN: 15863.4 / MAX: 20569.71
20569.7
5
MIN: 16003
20820.2
4K
8K
12K
16K
20K

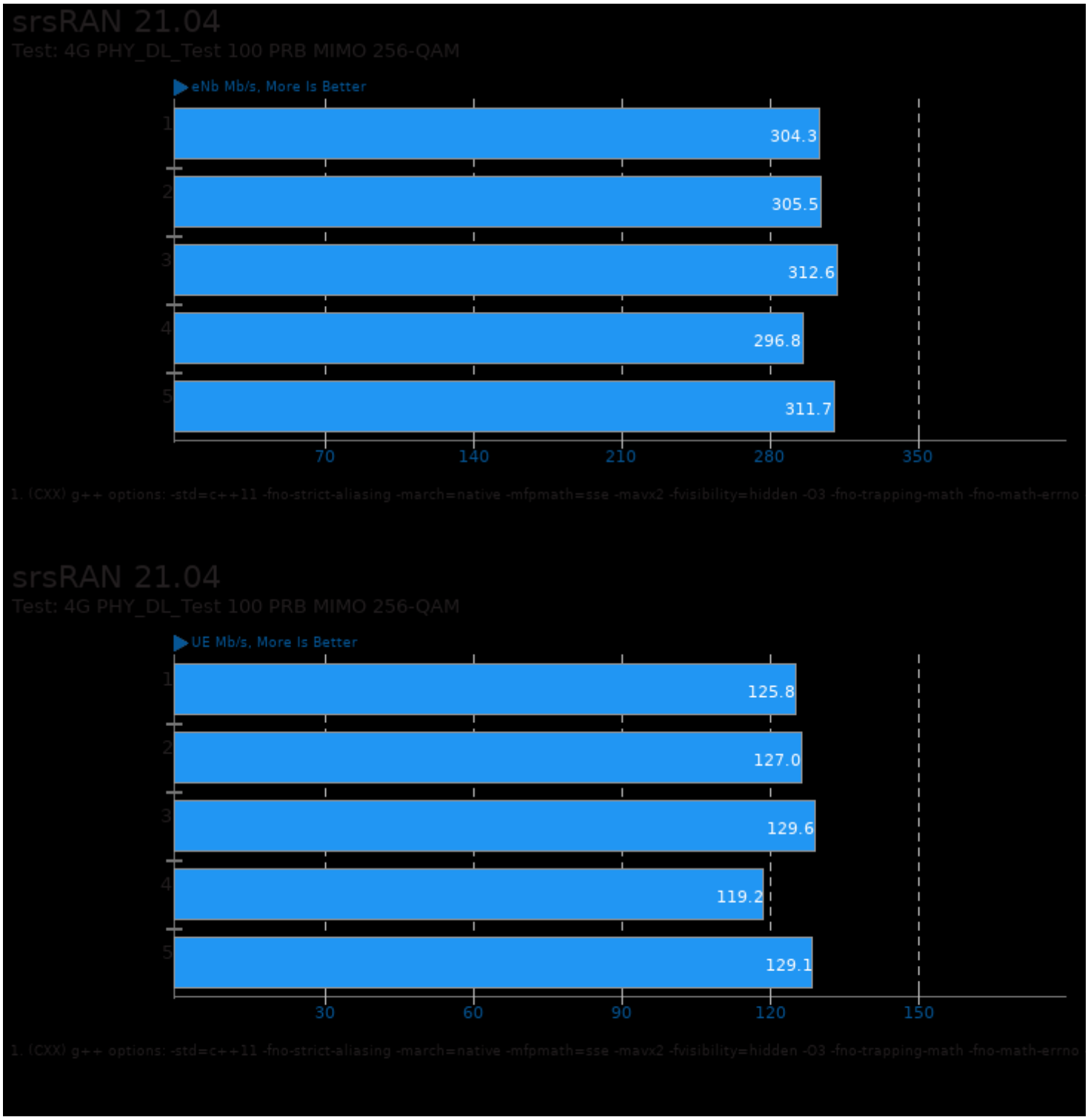

Renaissance 0.12
Test: Genetic Algorithm Using Jenetics + Futures
ms, Fewer Is Better
1
MIN: 6565.65 / MAX: 6907.79
6762.5
2
MIN: 6170.38 / MAX: 6966.02
6761.0
3
MIN: 5776.43 / MAX: 6794.31
6362.9
4
MIN: 6471.33 / MAX: 6933.88
6700.5
5
MIN: 6218.64 / MAX: 6938.72
6591.1
1400
2800
4200
5600
7000
simdjson 1.0
Throughput Test: Kostya
GB/s, More Is Better
1
2.43
2
2.45
3
2.51
4
2.45
5
2.46
0.5648
1.1296
1.6944
2.2592
2.824
1. (CXX) g++ options: -O3 -pthread

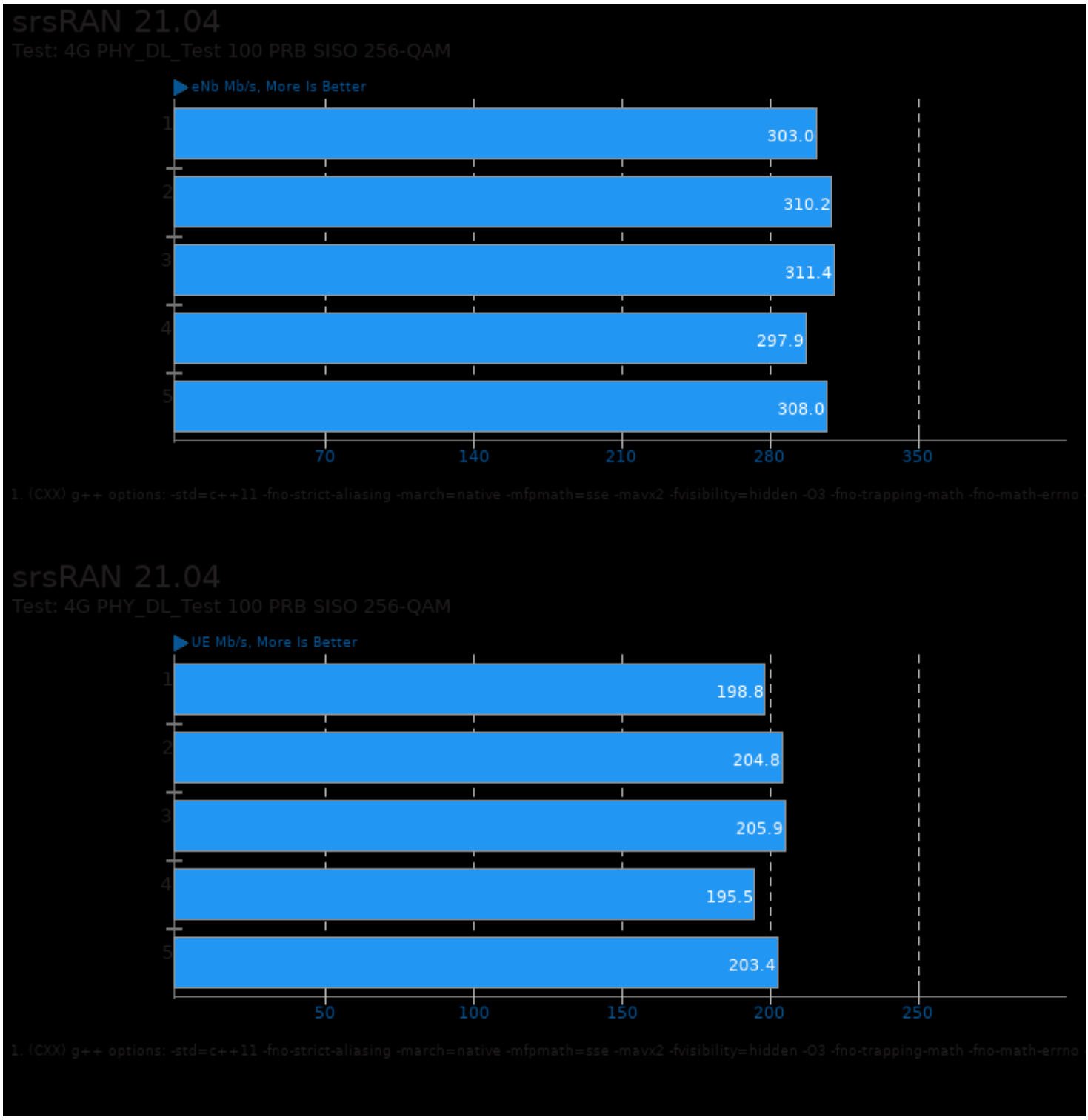

simdjson 1.0
Throughput Test: LargeRandom
GB/s, More Is Better
1
2
3
4
5
0.86
0.85
0.86
0.86
0.86
0.1935
0.387
0.5805
0.774
0.9675
1. (CXX) g++ options: -O3 -pthread
simdjson 1.0
Throughput Test: PartialTweets
GB/s, More Is Better
1
2
3
4
5
3.66
3.66
3.66
3.67
3.66
0.8258
1.6516
2.4774
3.3032
4.129
1. (CXX) g++ options: -O3 -pthread

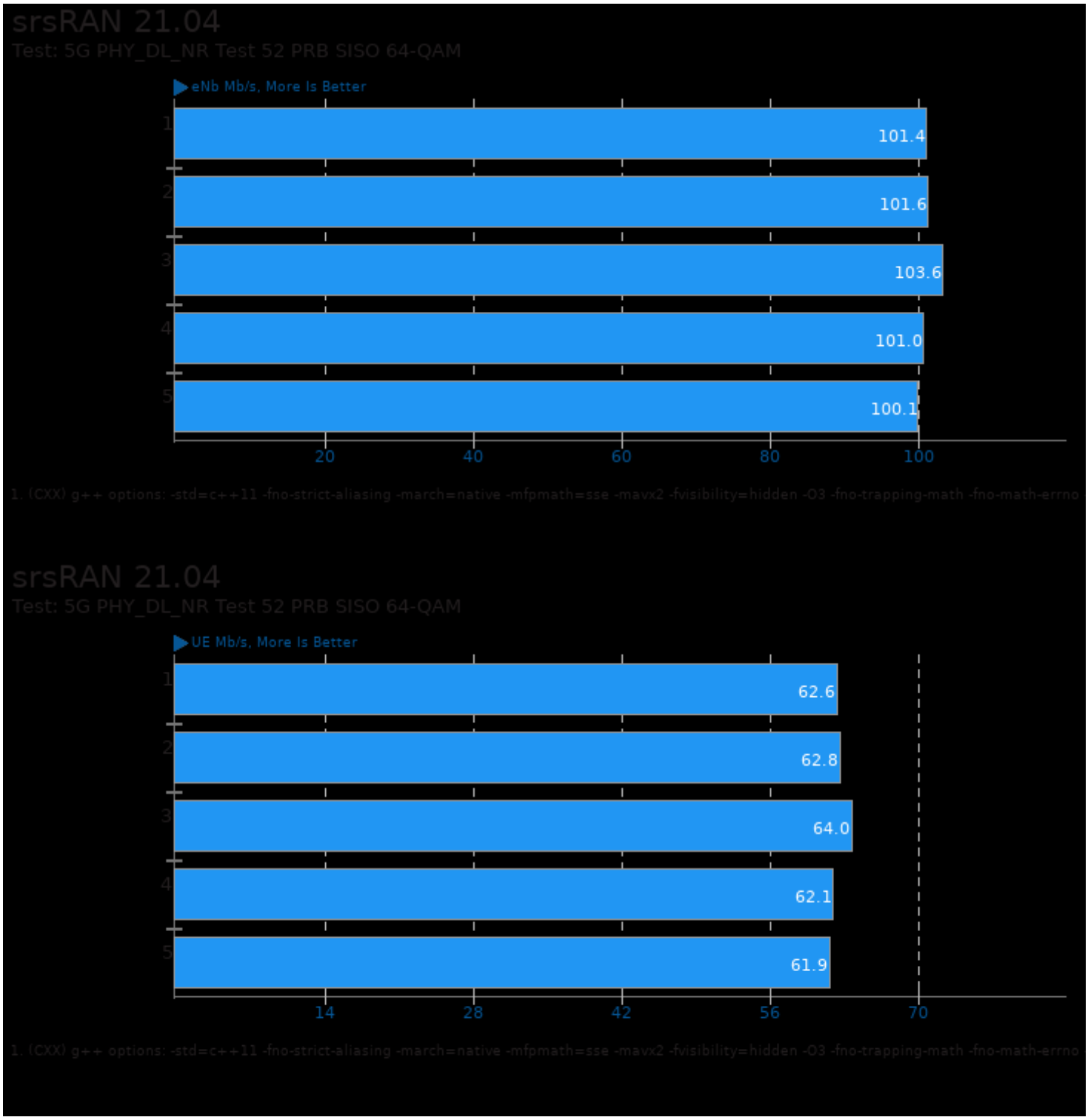

simdjson 1.0
Throughput Test: DistinctUserID
GB/s, More Is Better
1
4.20
2
4.23
3
4.21
4
4.21
5
4.21
0.9518
1.9036
2.8554
3.8072
4.759
1. (CXX) g++ options: -O3 -pthread
srsRAN 21.04
Test: OFDM_Test
Samples / Second, More Is Better
1
106600000
2
110500000
3
103800000
4
97500000
5
108100000
20M
40M
60M
80M
100M
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

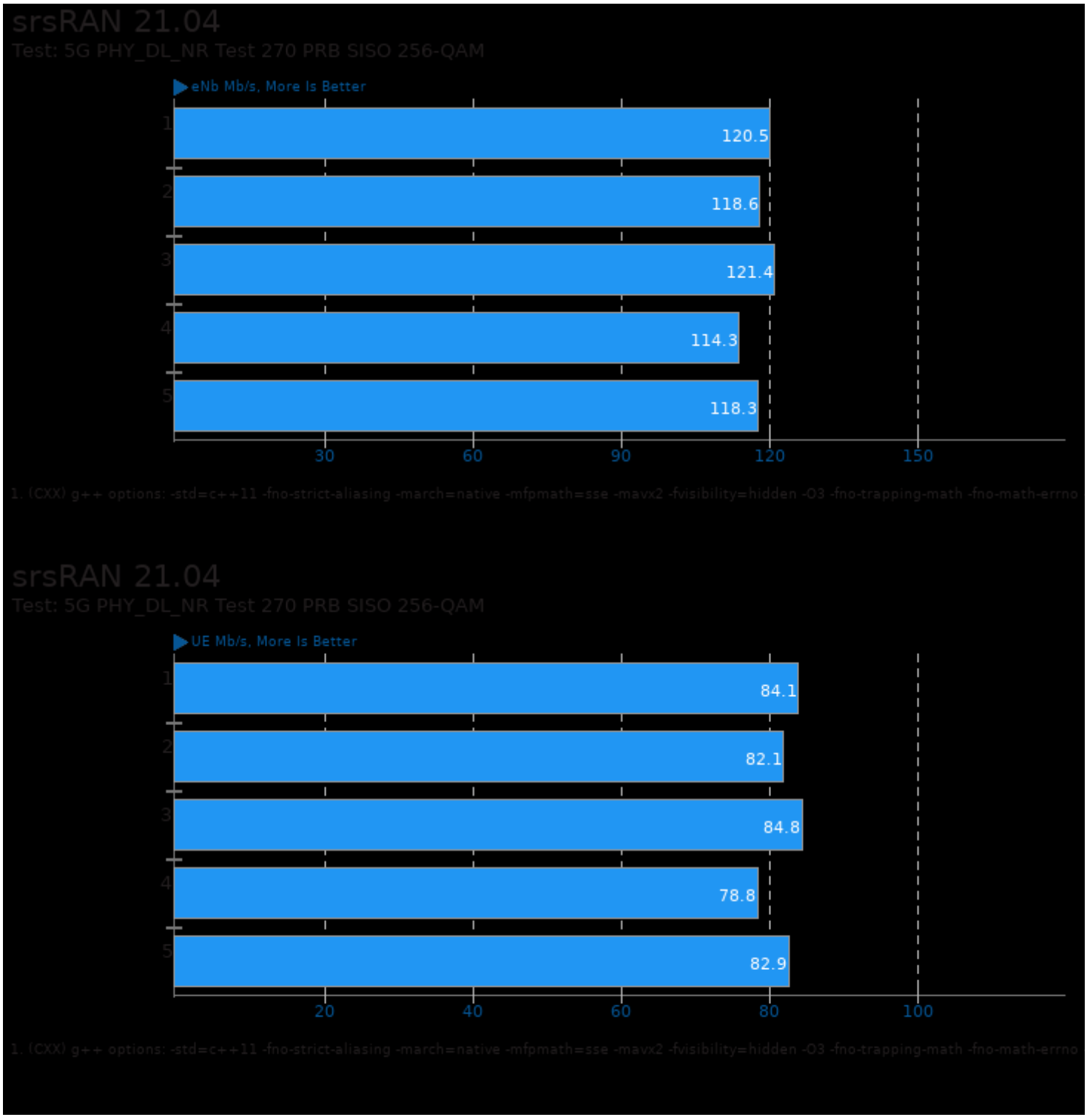

srsRAN 21.04
Test: 4G PHY_DL_Test 100 PRB MIMO 64-QAM
eNb Mb/s, More Is Better
1
271.8
2
277.2
3
272.6
4
264.6
5
277.4
60
120
180
240
300
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 21.04
Test: 4G PHY_DL_Test 100 PRB MIMO 64-QAM
UE Mb/s, More Is Better
1
114.8
2
117.3
3
115.5
4
108.3
5
117.5
30
60
90
120
150
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

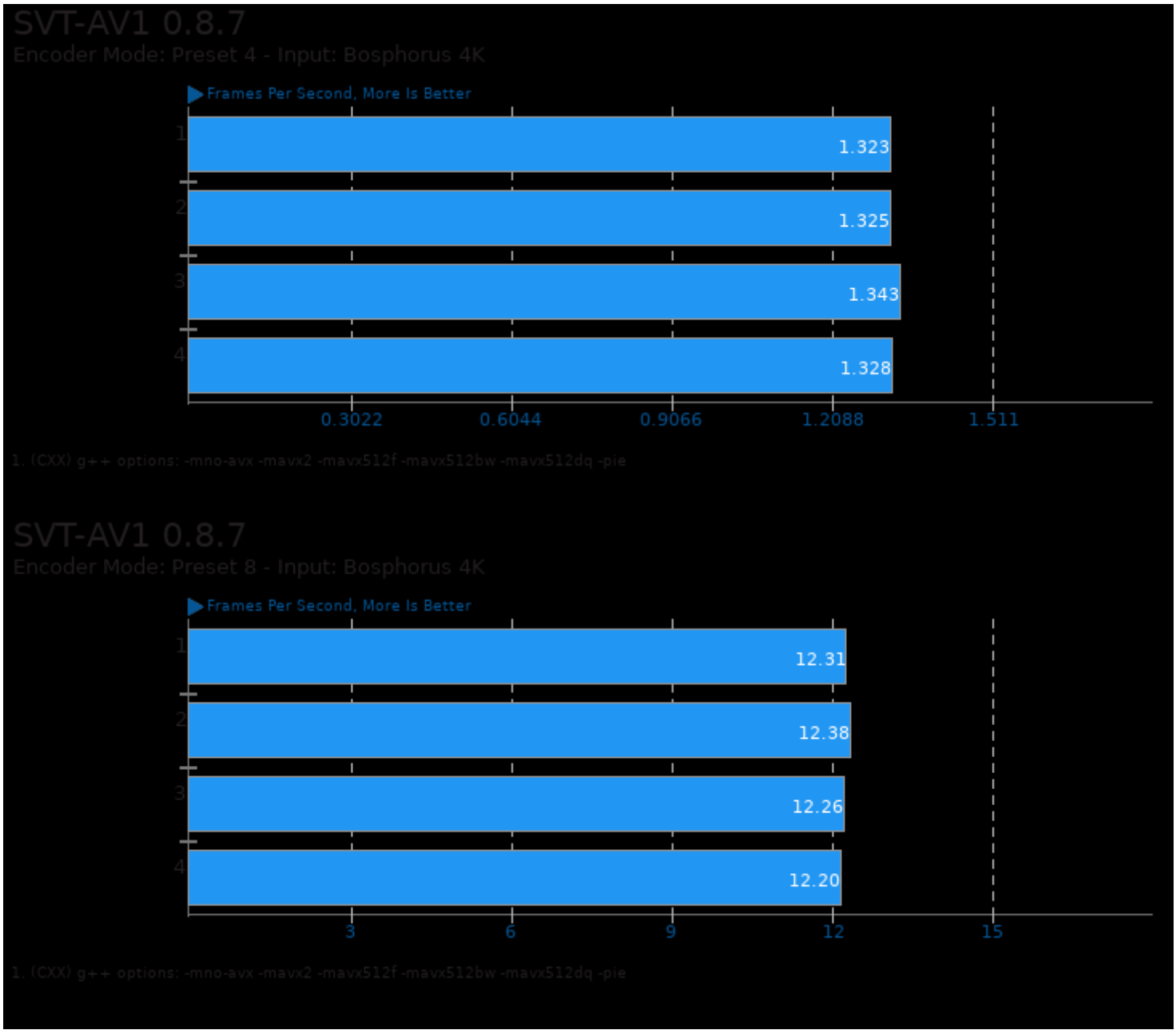

srsRAN 21.04
Test: 4G PHY_DL_Test 100 PRB SISO 64-QAM
eNb Mb/s, More Is Better
1
280.4
2
274.7
3
282.9
4
269.3
5
275.3
60
120
180
240
300
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 21.04
Test: 4G PHY_DL_Test 100 PRB SISO 64-QAM
UE Mb/s, More Is Better
1
167.8
2
165.0
3
170.1
4
155.0
5
165.5
40
80
120
160
200
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

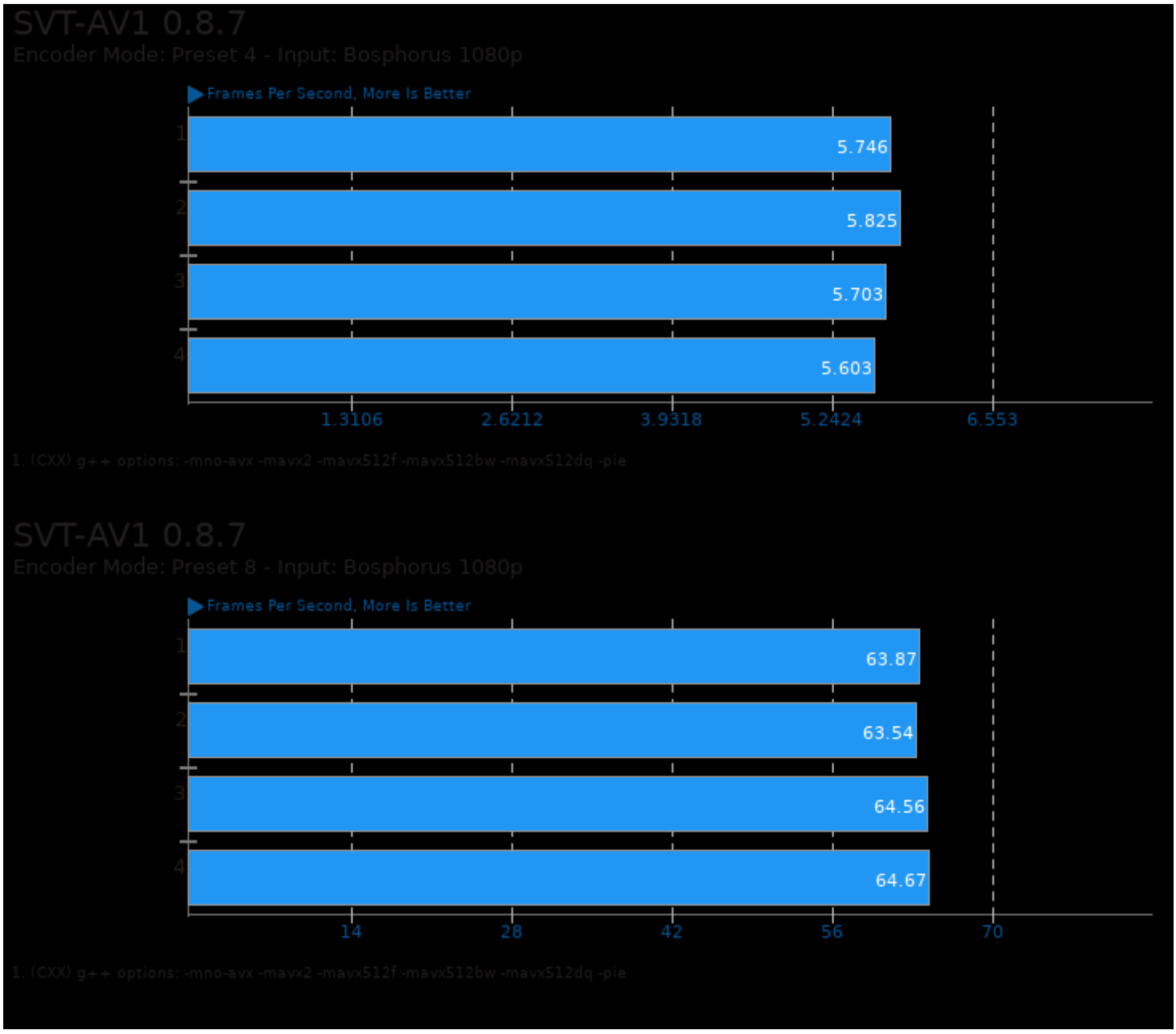

srsRAN 21.04
Test: 4G PHY_DL_Test 100 PRB MIMO 256-QAM
eNb Mb/s, More Is Better
1
304.3
2
305.5
3
312.6
4
296.8
5
311.7
70
140
210
280
350
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 21.04
Test: 4G PHY_DL_Test 100 PRB MIMO 256-QAM
UE Mb/s, More Is Better
1
125.8
2
127.0
3
129.6
4
119.2
5
129.1
30
60
90
120
150
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno


srsRAN 21.04
Test: 4G PHY_DL_Test 100 PRB SISO 256-QAM
eNb Mb/s, More Is Better
1
303.0
2
310.2
3
311.4
4
297.9
5
308.0
70
140
210
280
350
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 21.04
Test: 4G PHY_DL_Test 100 PRB SISO 256-QAM
UE Mb/s, More Is Better
1
198.8
2
204.8
3
205.9
4
195.5
5
203.4
50
100
150
200
250
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno


srsRAN 21.04
Test: 5G PHY_DL_NR Test 52 PRB SISO 64-QAM
eNb Mb/s, More Is Better
1
2
3
4
5
101.4
101.6
103.6
101.0
100.1
20
40
60
80
100
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 21.04
Test: 5G PHY_DL_NR Test 52 PRB SISO 64-QAM
UE Mb/s, More Is Better
1
2
3
4
5
62.6
62.8
64.0
62.1
61.9
14
28
42
56
70
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

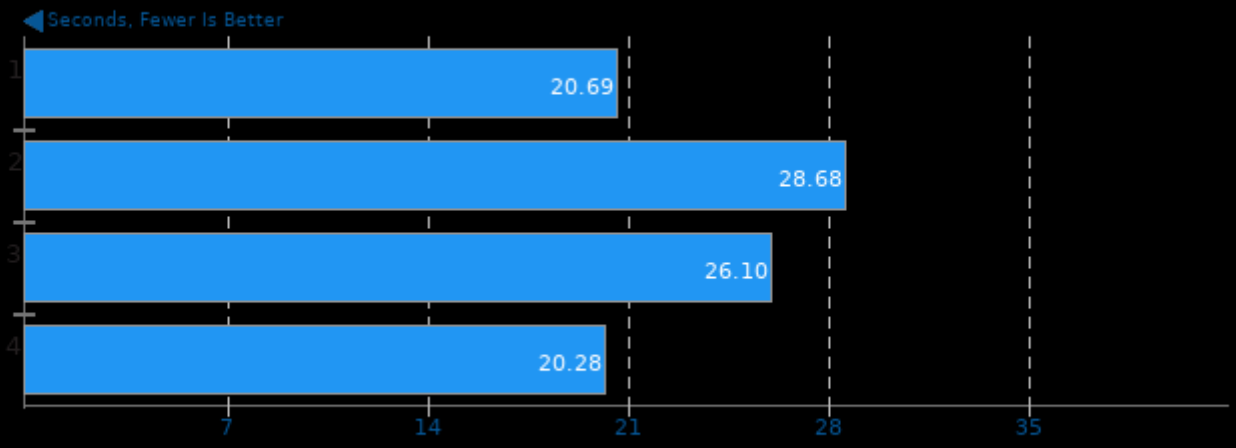

srsRAN 21.04
Test: 5G PHY_DL_NR Test 270 PRB SISO 256-QAM
eNb Mb/s, More Is Better
1
120.5
2
118.6
3
121.4
4
114.3
5
118.3
30
60
90
120
150
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsRAN 21.04
Test: 5G PHY_DL_NR Test 270 PRB SISO 256-QAM
UE Mb/s, More Is Better
1
84.1
2
82.1
3
84.8
4
78.8
5
82.9
20
40
60
80
100
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno


SVT-AV1 0.8.7
Encoder Mode: Preset 4 - Input: Bosphorus 4K
Frames Per Second, More Is Better
1
2
3
4
1.323
1.325
1.343
1.328
0.3022
0.6044
0.9066
1.2088
1.511
1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie
SVT-AV1 0.8.7
Encoder Mode: Preset 8 - Input: Bosphorus 4K
Frames Per Second, More Is Better
1
2
3
4
12.31
12.38
12.26
12.20
3
6
9
12
15
1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie


SVT-AV1 0.8.7
Encoder Mode: Preset 4 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
1
2
3
4
5.746
5.825
5.703
5.603
1.3106
2.6212
3.9318
5.2424
6.553
1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie
SVT-AV1 0.8.7
Encoder Mode: Preset 8 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
1
2
3
4
63.87
63.54
64.56
64.67
14
28
42
56
70
1. (CXX) g++ options: -mno-avx -mavx2 -mavx512f -mavx512bw -mavx512dq -pie

Tachyon 0.99b6

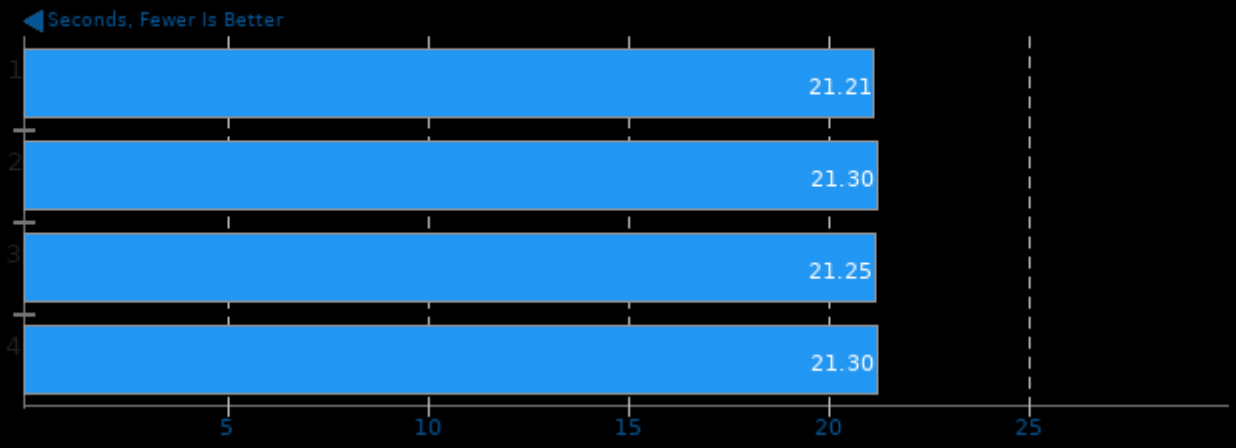
Total Time



1. (CC) gcc options: -m64 -O3 -fomit-frame-pointer -ffast-math -ltachyon -lm -lpthread

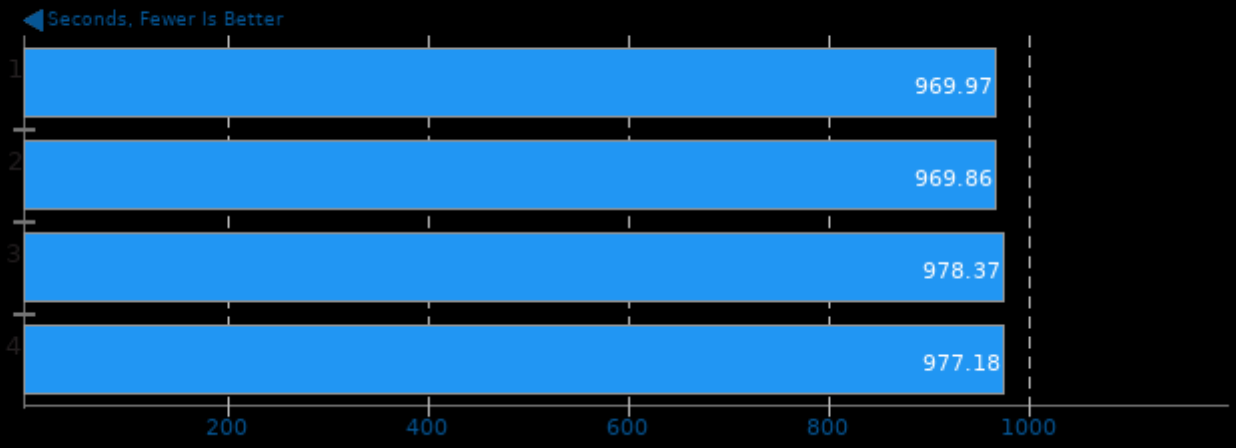
Timed FFmpeg Compilation 4.4

Time To Compile



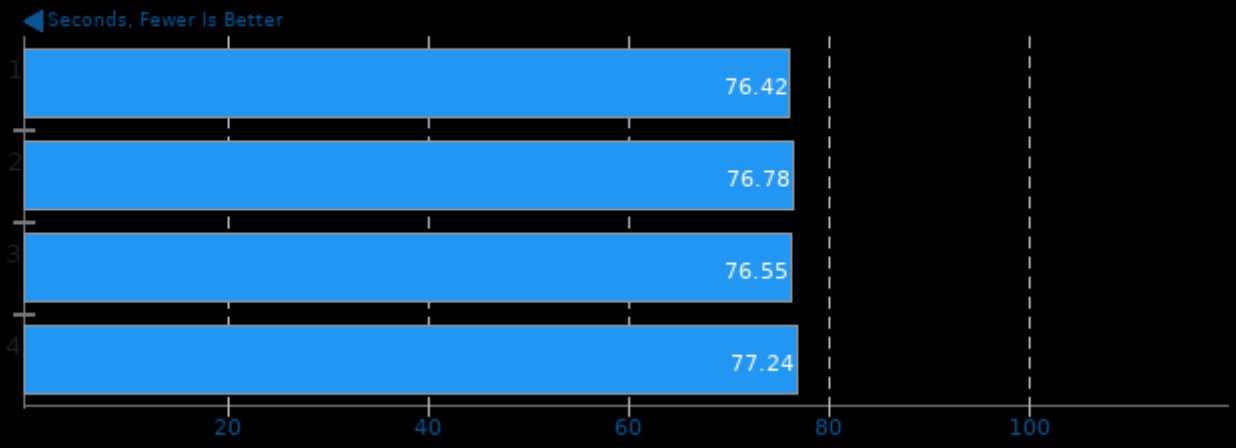
Timed GCC Compilation 11.2.0

Time To Compile



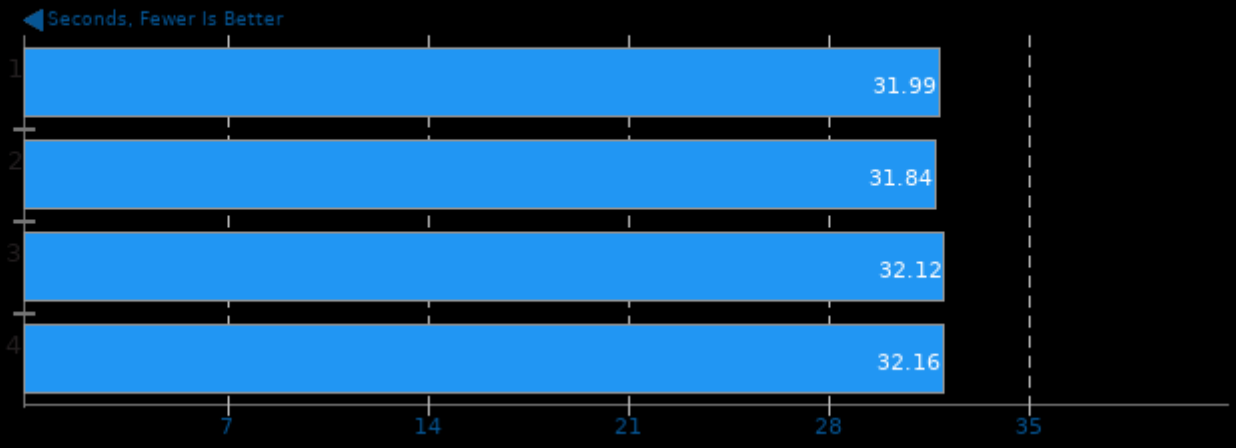
Timed GDB GNU Debugger Compilation 10.2

Time To Compile



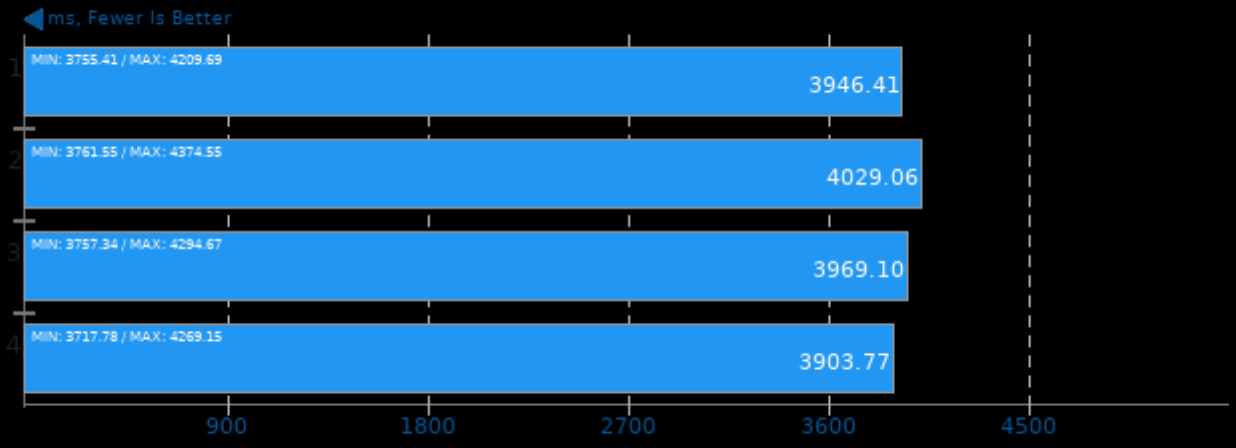
Timed Linux Kernel Compilation 5.14

Time To Compile

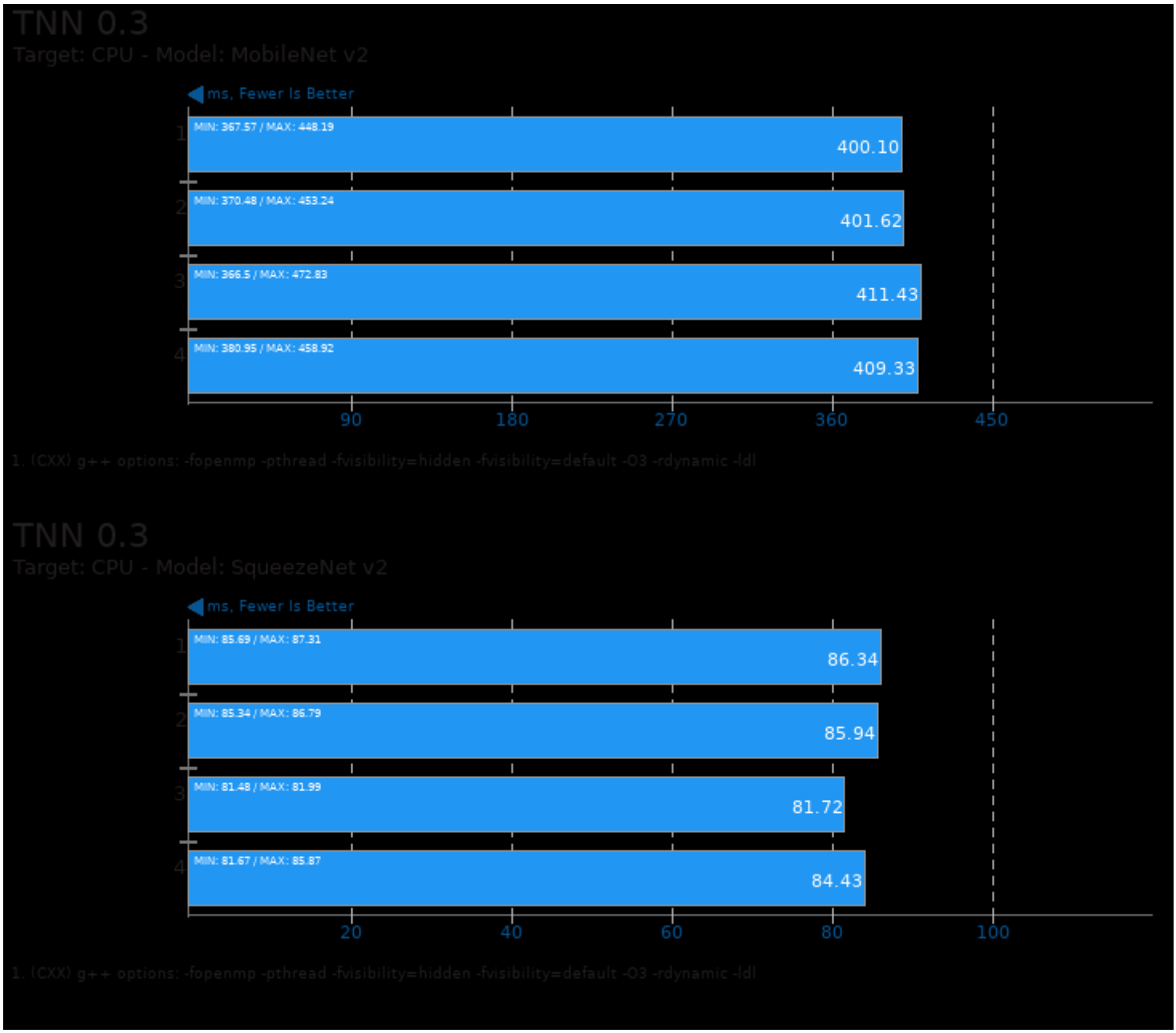


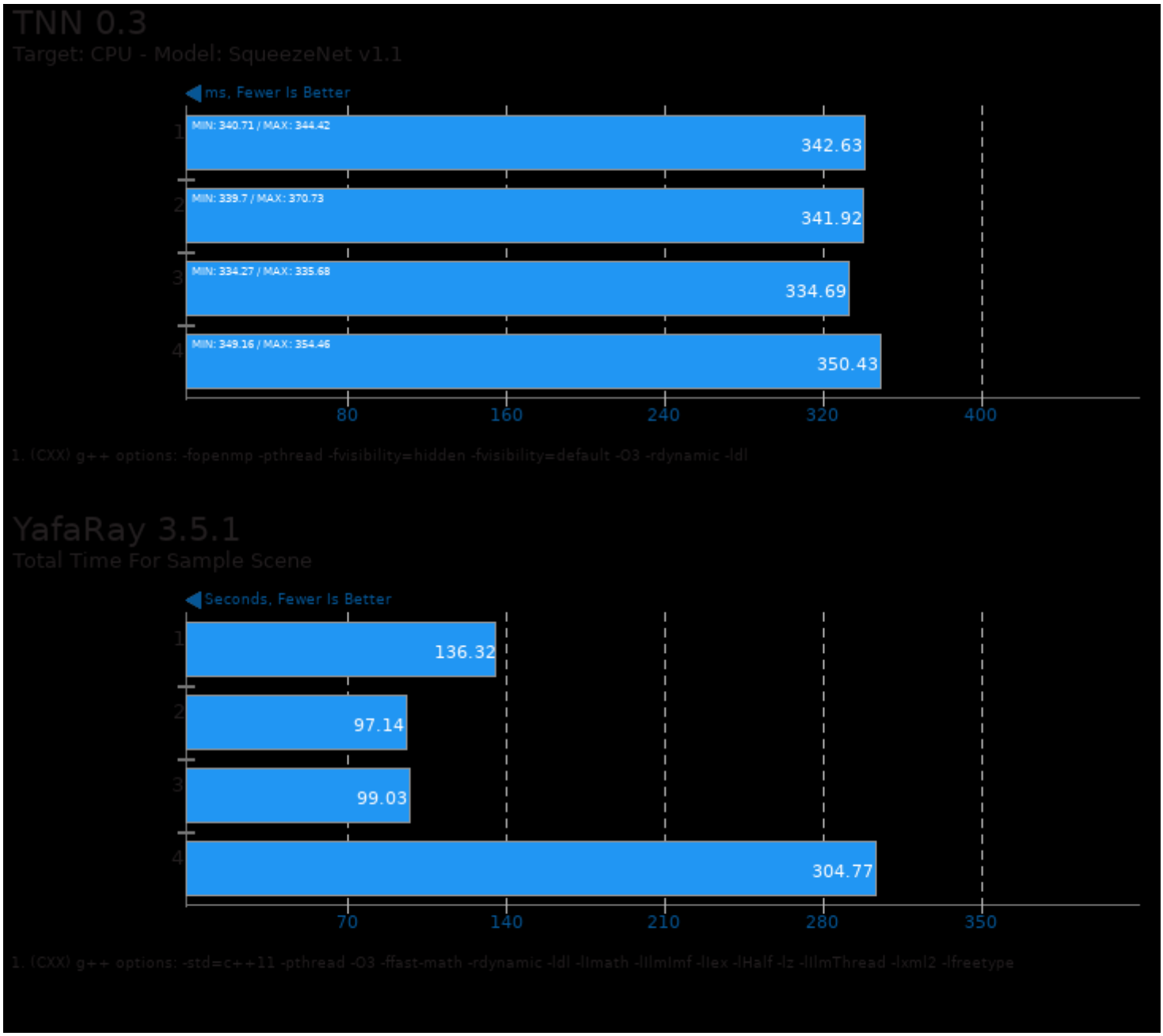
TNN 0.3

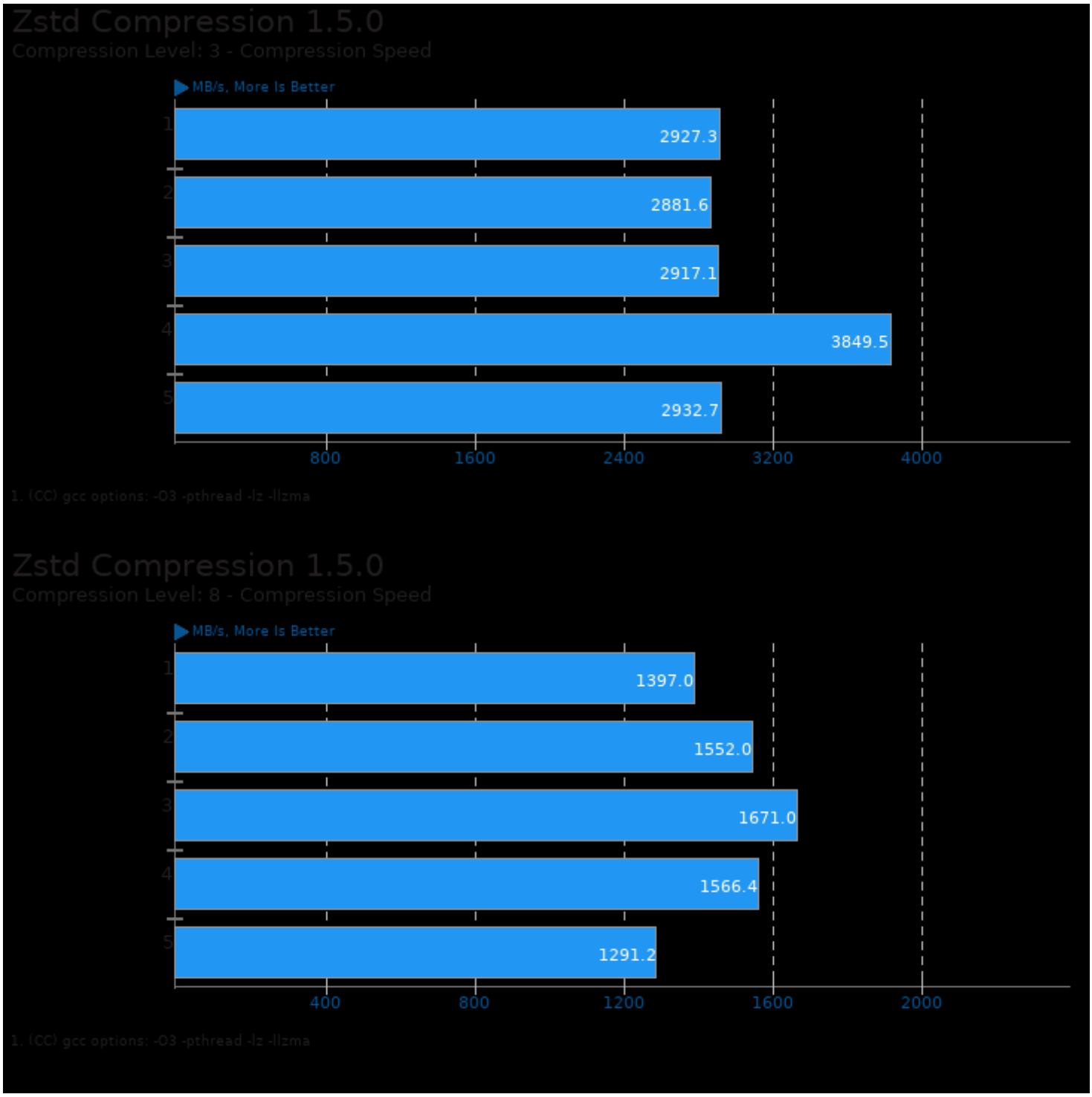
Target: CPU - Model: DenseNet



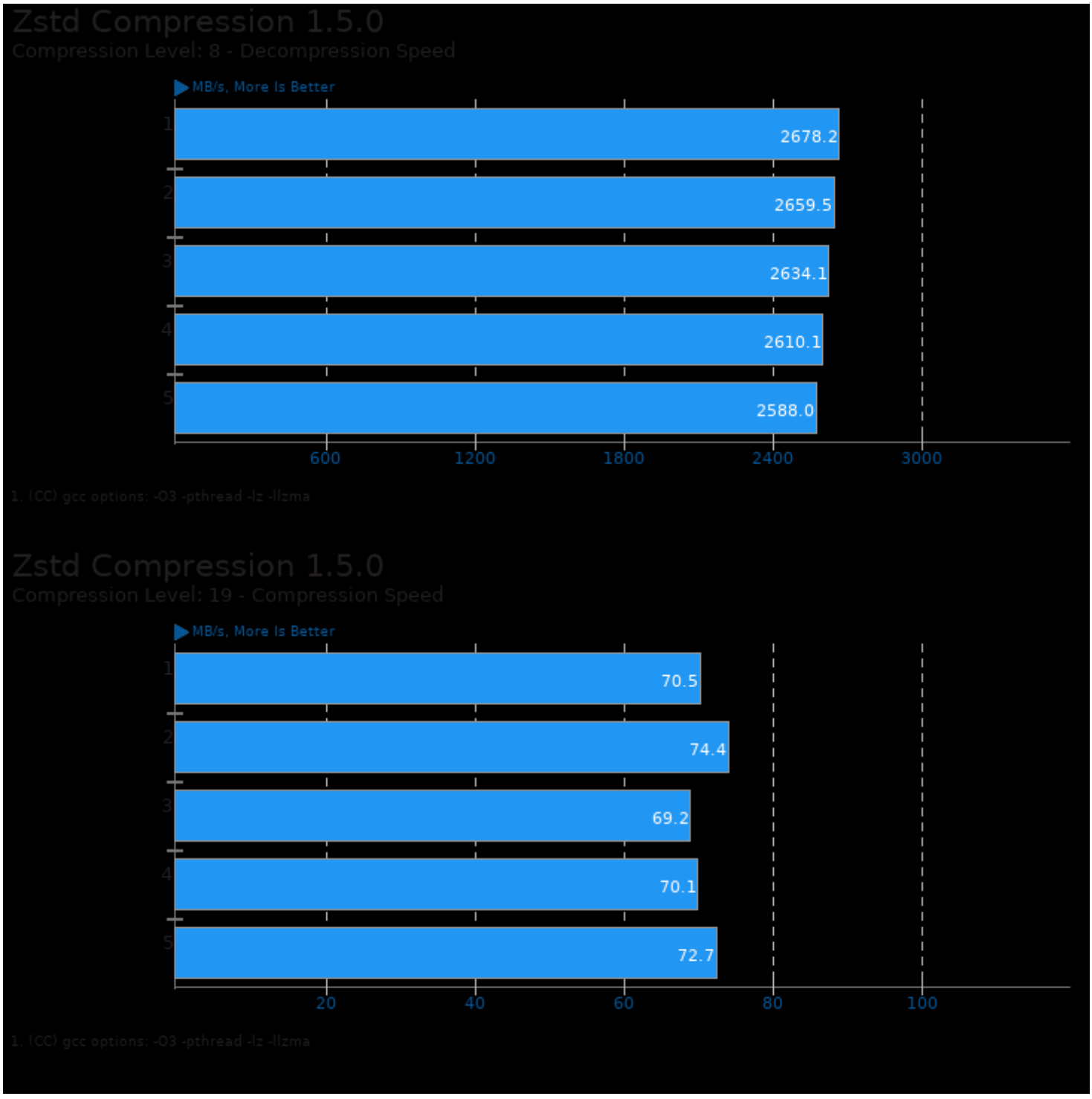
1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

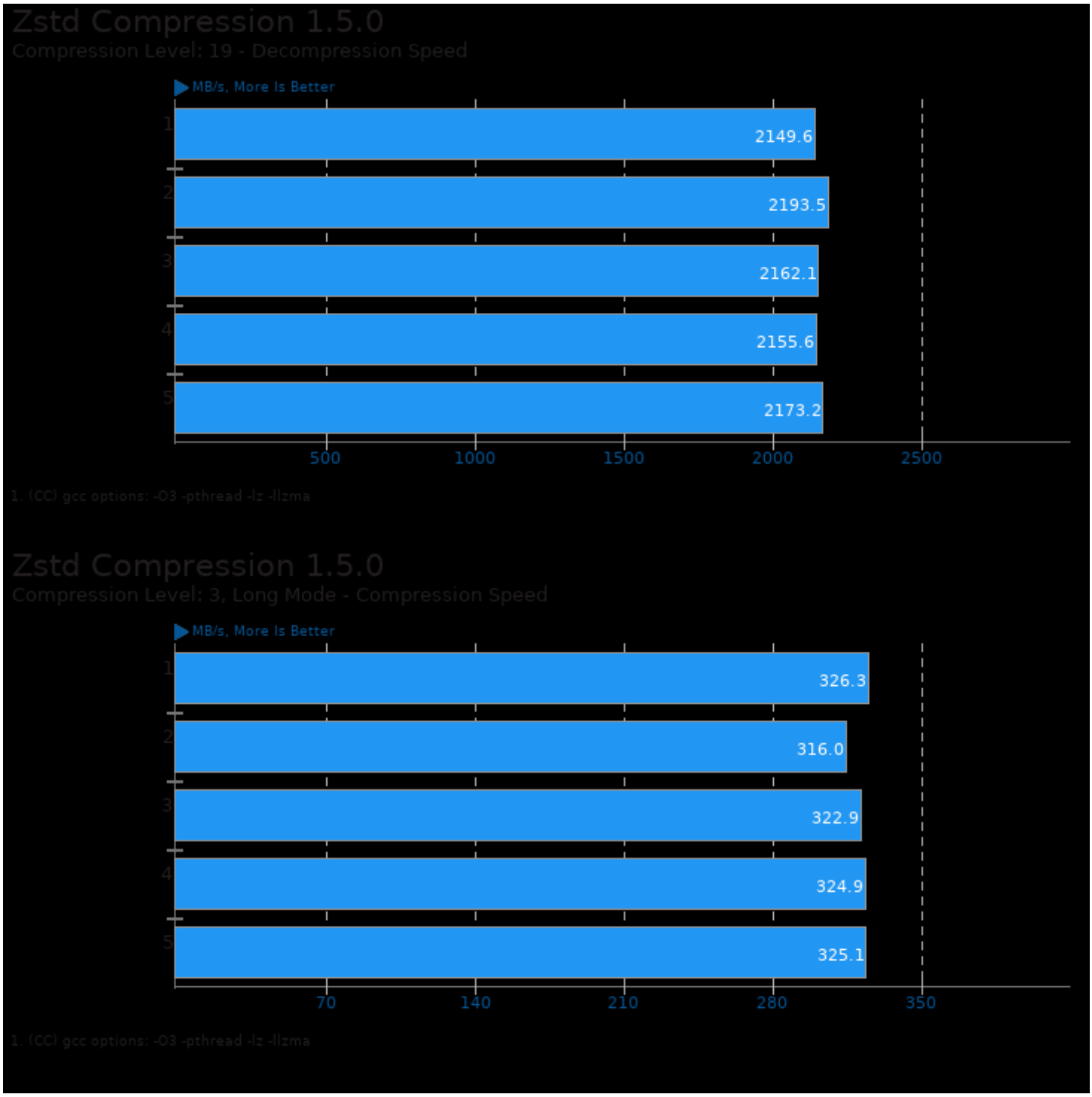

TNN 0.3
Target: CPU - Model: MobileNet v2
ms, Fewer Is Better
1
MIN: 367.57 / MAX: 448.19
400.10
2
MIN: 370.48 / MAX: 453.24
401.62
3
MIN: 366.5 / MAX: 472.83
411.43
4
MIN: 380.95 / MAX: 458.92
409.33
90
180
270
360
450
1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl
TNN 0.3
Target: CPU - Model: SqueezeNet v2
ms, Fewer Is Better
1
MIN: 85.69 / MAX: 87.31
86.34
2
MIN: 85.34 / MAX: 86.79
85.94
3
MIN: 81.48 / MAX: 81.99
81.72
4
MIN: 81.67 / MAX: 85.87
84.43
20
40
60
80
100
1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl

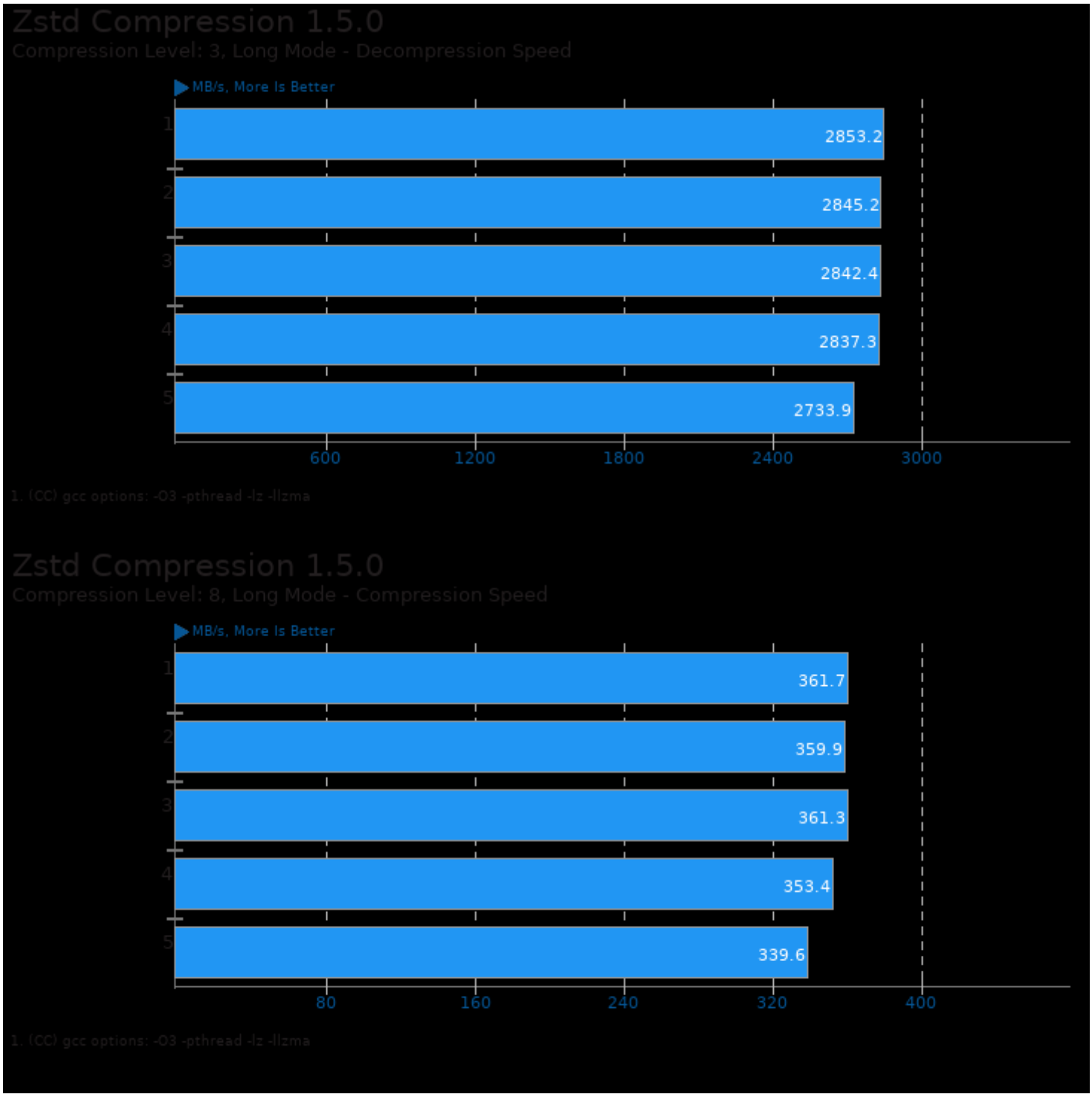

TNN 0.3
Target: CPU - Model: SqueezeNet v1.1
ms, Fewer Is Better
1
MIN: 340.71 / MAX: 344.42
342.63
2
MIN: 339.7 / MAX: 370.73
341.92
3
MIN: 334.27 / MAX: 335.68
334.69
4
MIN: 349.16 / MAX: 354.46
350.43
80
160
240
320
400
1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -fvisibility=default -O3 -rdynamic -ldl
YafaRay 3.5.1
Total Time For Sample Scene
Seconds, Fewer Is Better
1
136.32
2
97.14
3
99.03
4
304.77
70
140
210
280
350
1. (CXX) g++ options: -std=c++11 -pthread -O3 -ffast-math -rdynamic -ldl -lImath -lIlmImf -lIex -lHalf -lz -lIlmThread -lxml2 -lfreetype

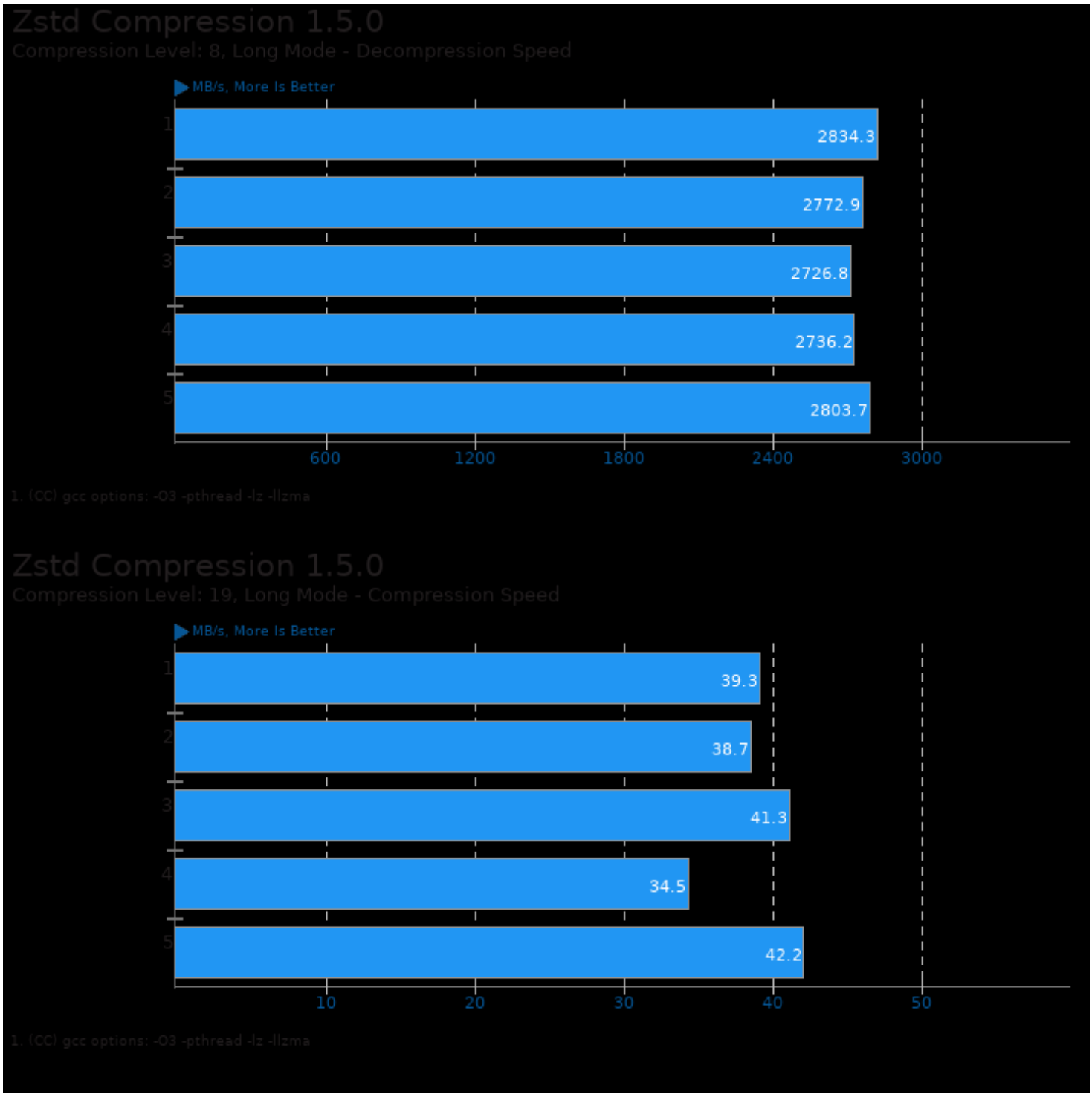

Zstd Compression 1.5.0
Compression Level: 3 - Compression Speed
MB/s, More Is Better
1
2927.3
2
2881.6
3
2917.1
4
3849.5
5
2932.7
800
1600
2400
3200
4000
1. (CC) gcc options: -O3 -pthread -lz -llzma

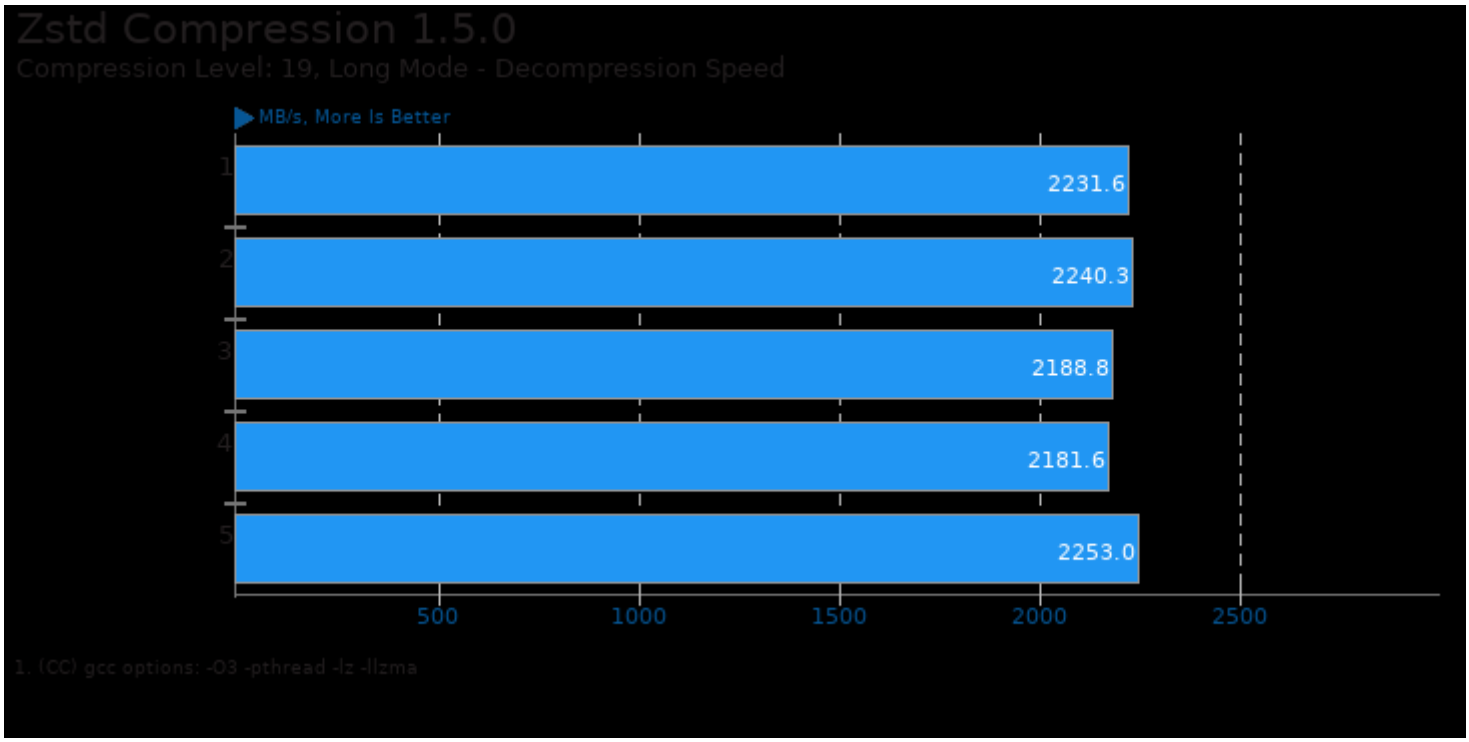
Zstd Compression 1.5.0
Compression Level: 8 - Compression Speed
MB/s, More Is Better
1
1397.0
2
1552.0
3
1671.0
4
1566.4
5
1291.2
400
800
1200
1600
2000
1. (CC) gcc options: -O3 -pthread -lz -llzma


Zstd Compression 1.5.0
Compression Level: 8 - Decompression Speed
MB/s, More Is Better
1
2678.2
2
2659.5
3
2634.1
4
2610.1
5
2588.0
600
1200
1800
2400
3000
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 19 - Compression Speed
MB/s, More Is Better
1
70.5
2
74.4
3
69.2
4
70.1
5
72.7
20
40
60
80
100
1. (CC) gcc options: -O3 -pthread -lz -llzma

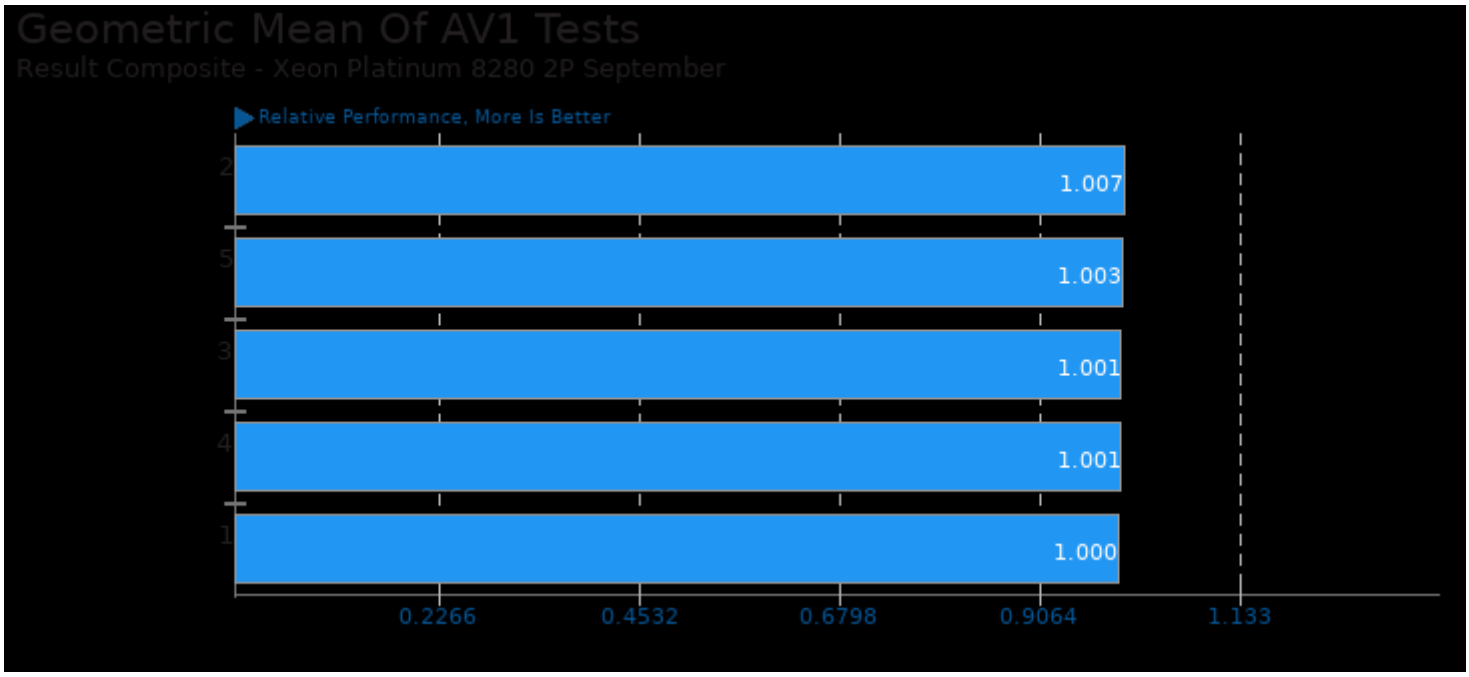

Zstd Compression 1.5.0
Compression Level: 19 - Decompression Speed
MB/s, More Is Better
1
2
3
4
5
2149.6
2193.5
2162.1
2155.6
2173.2
500
1000
1500
2000
2500
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 3, Long Mode - Compression Speed
MB/s, More Is Better
1
2
3
4
5
326.3
316.0
322.9
324.9
325.1
70
140
210
280
350
1. (CC) gcc options: -O3 -pthread -lz -llzma


Zstd Compression 1.5.0
Compression Level: 3, Long Mode - Decompression Speed
MB/s, More Is Better
1
2853.2
2
2845.2
3
2842.4
4
2837.3
5
2733.9
600
1200
1800
2400
3000
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 8, Long Mode - Compression Speed
MB/s, More Is Better
1
361.7
2
359.9
3
361.3
4
353.4
5
339.6
80
160
240
320
400
1. (CC) gcc options: -O3 -pthread -lz -llzma

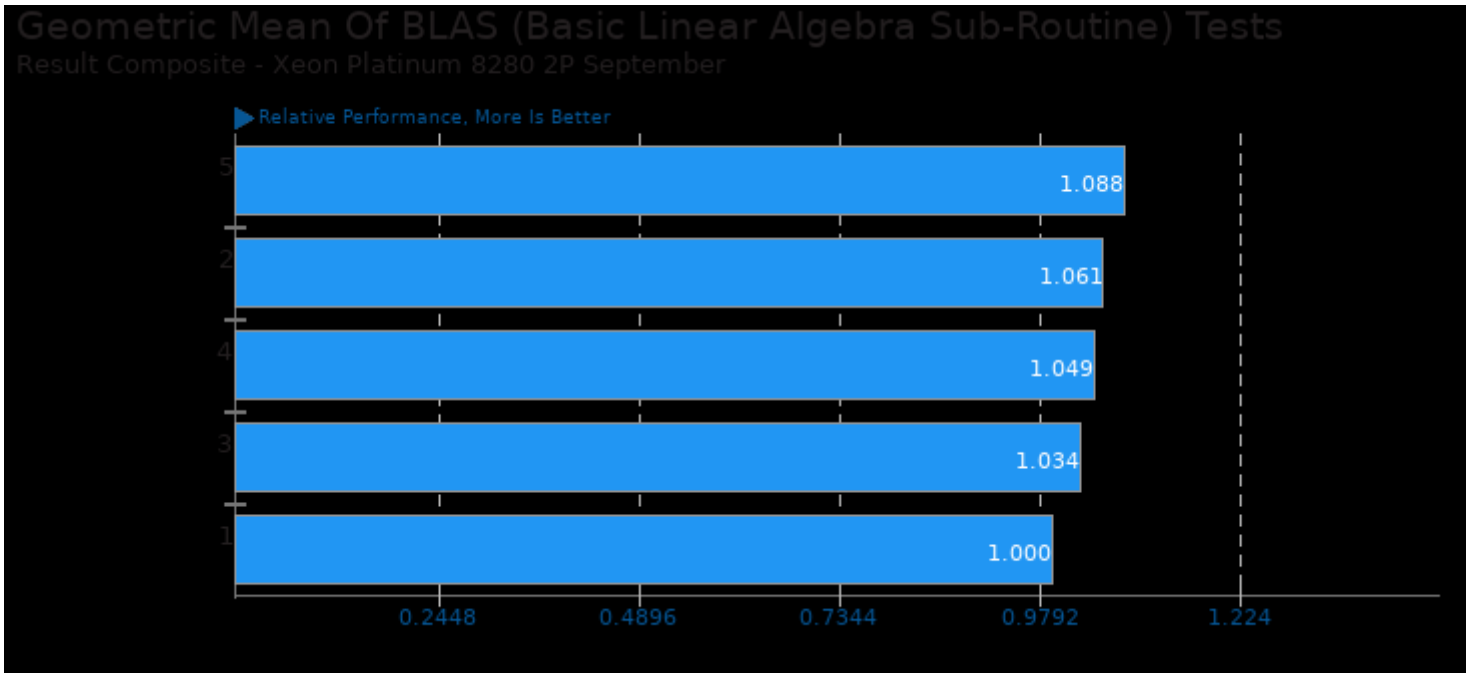

Zstd Compression 1.5.0
Compression Level: 8, Long Mode - Decompression Speed
MB/s, More Is Better
1
2834.3
2
2772.9
3
2726.8
4
2736.2
5
2803.7
600
1200
1800
2400
3000
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.5.0
Compression Level: 19, Long Mode - Compression Speed
MB/s, More Is Better
1
39.3
2
38.7
3
41.3
4
34.5
5
42.2
10
20
30
40
50
1. (CC) gcc options: -O3 -pthread -lz -llzma


Zstd Compression 1.5.0
Compression Level: 19, Long Mode - Decompression Speed
MB/s, More Is Better
1
2
3
4
5
2231.6
2240.3
2188.8
2181.6
2253.0
500
1000
1500
2000
2500
1. (CC) gcc options: -O3 -pthread -lz -llzma

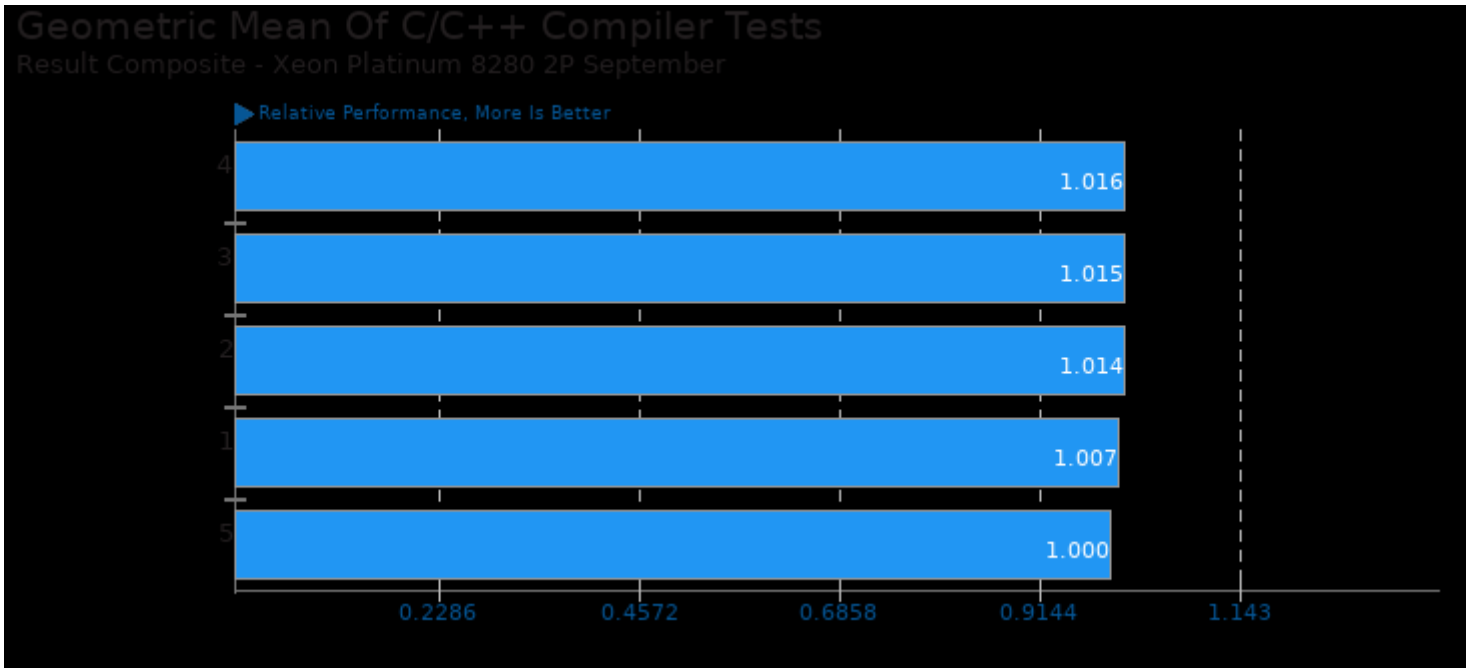
These geometric means are based upon test groupings / test suites for this result file.



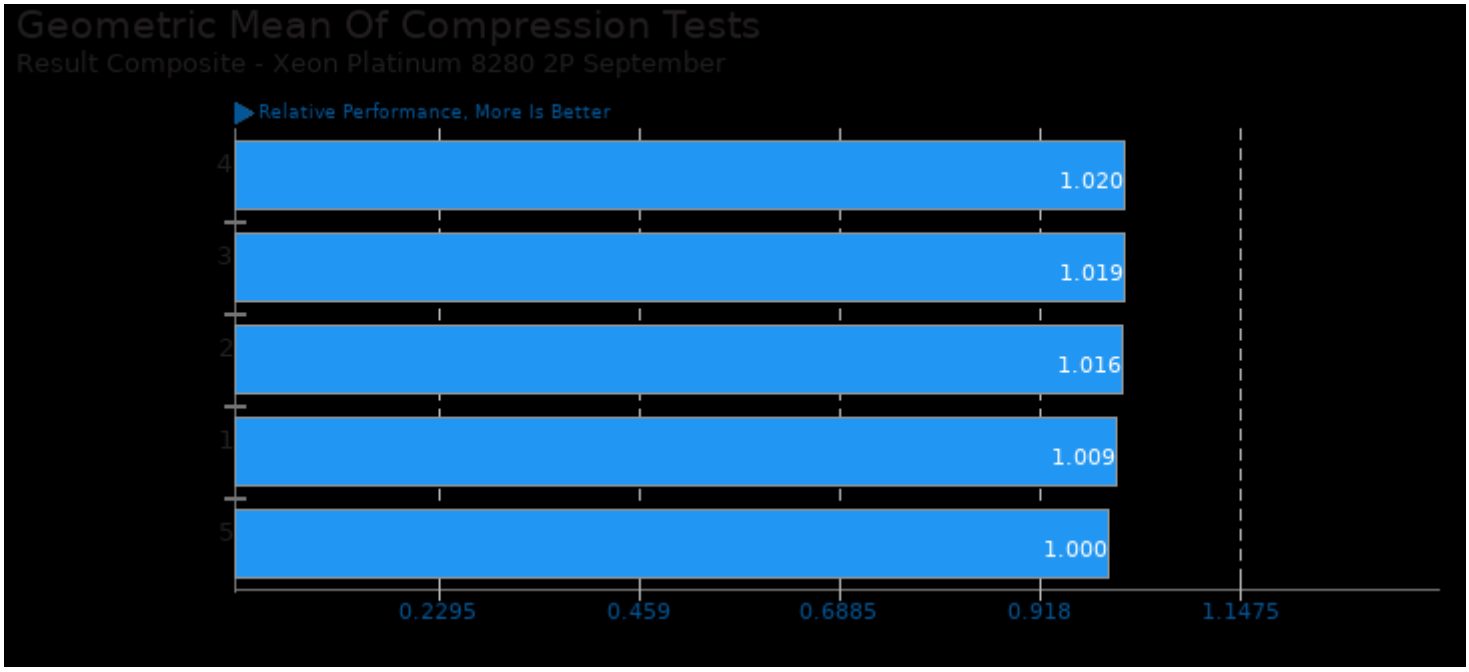
Geometric mean based upon tests: pts/dav1d and pts/svt-av1



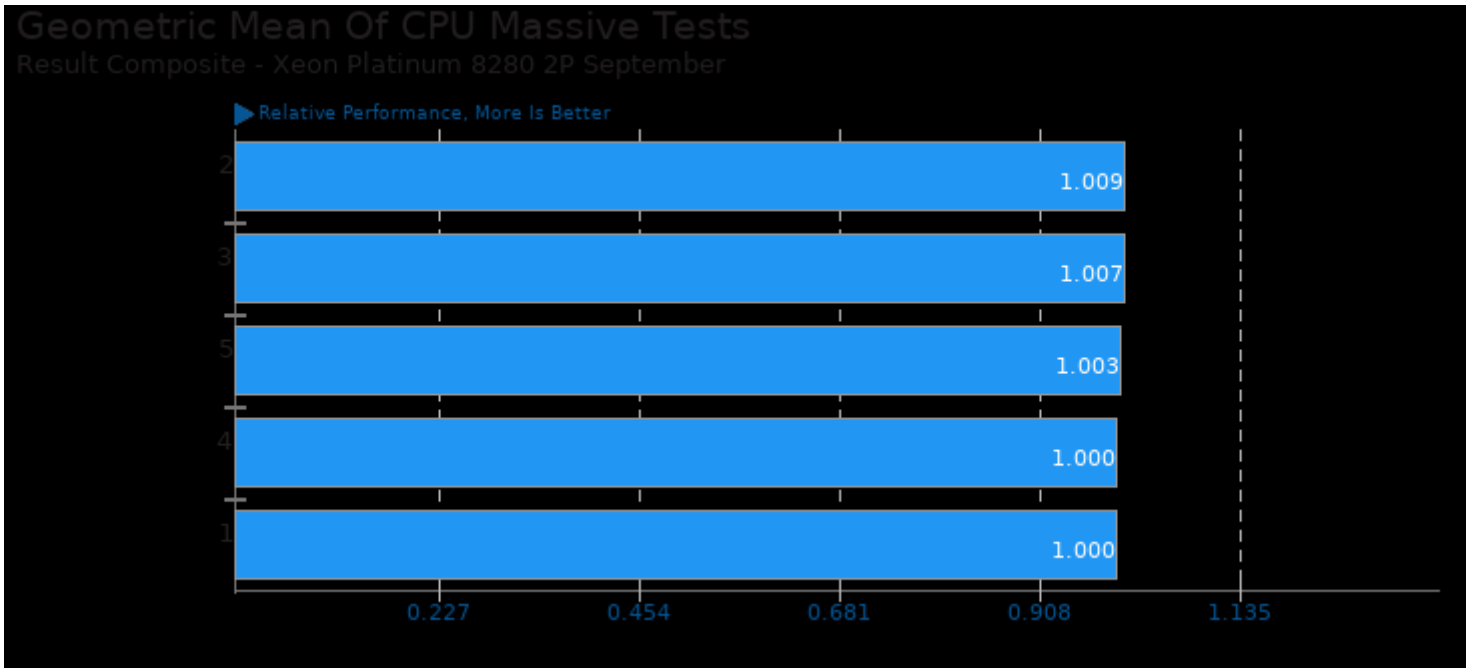
Geometric mean based upon tests: pts/lczero and pts/qe



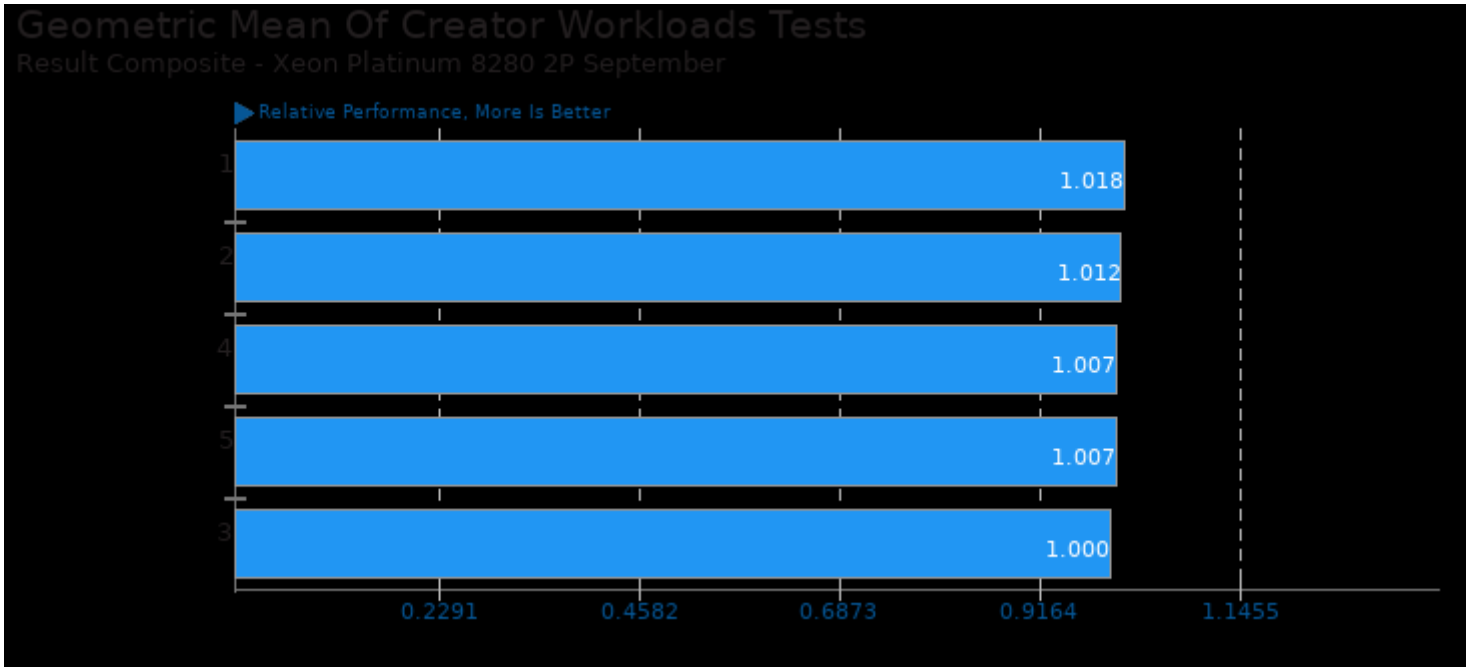
Geometric mean based upon tests: pts/pgbench, pts/apache, pts/dav1d, pts/compress-zstd, pts/openssl, pts/nginx, pts/svt-av1, pts/gromacs, pts/build-gdb, pts/build-ffmpeg, pts/tachyon and pts/keydb



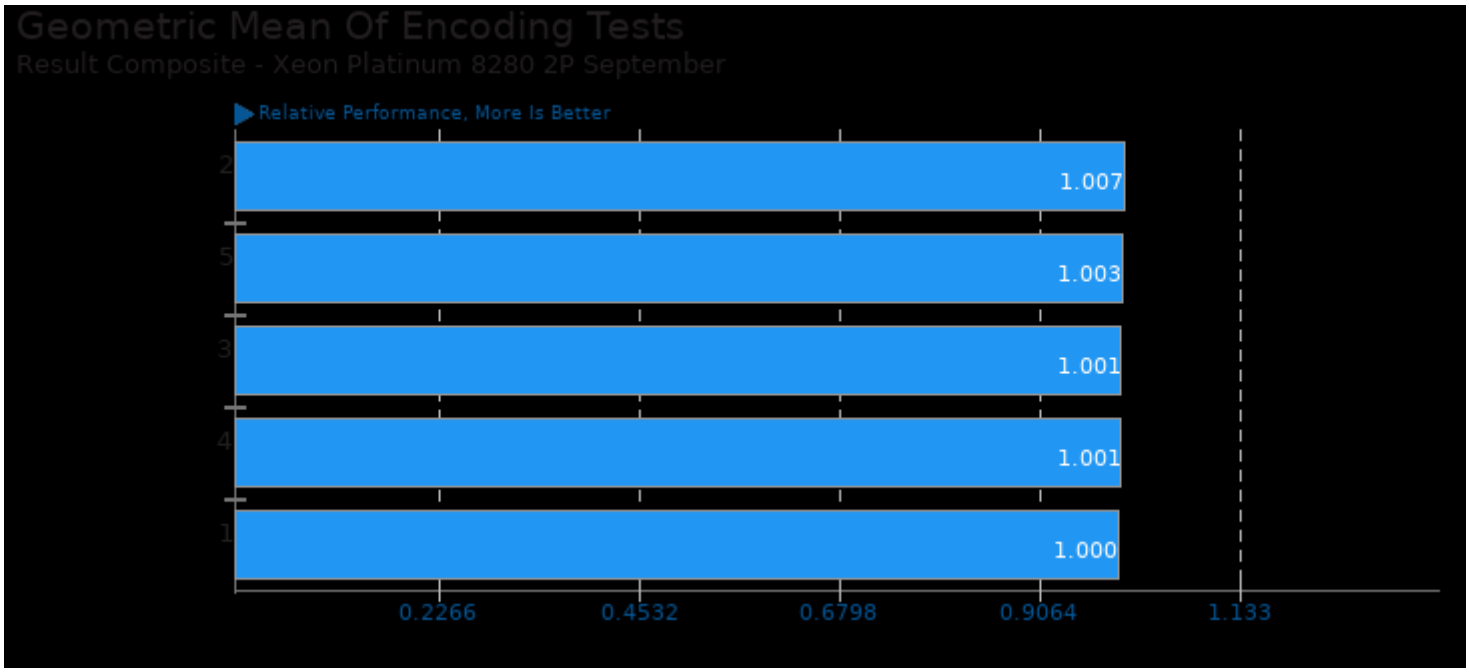
Geometric mean based upon tests: pts/compress-zstd and pts/blosc



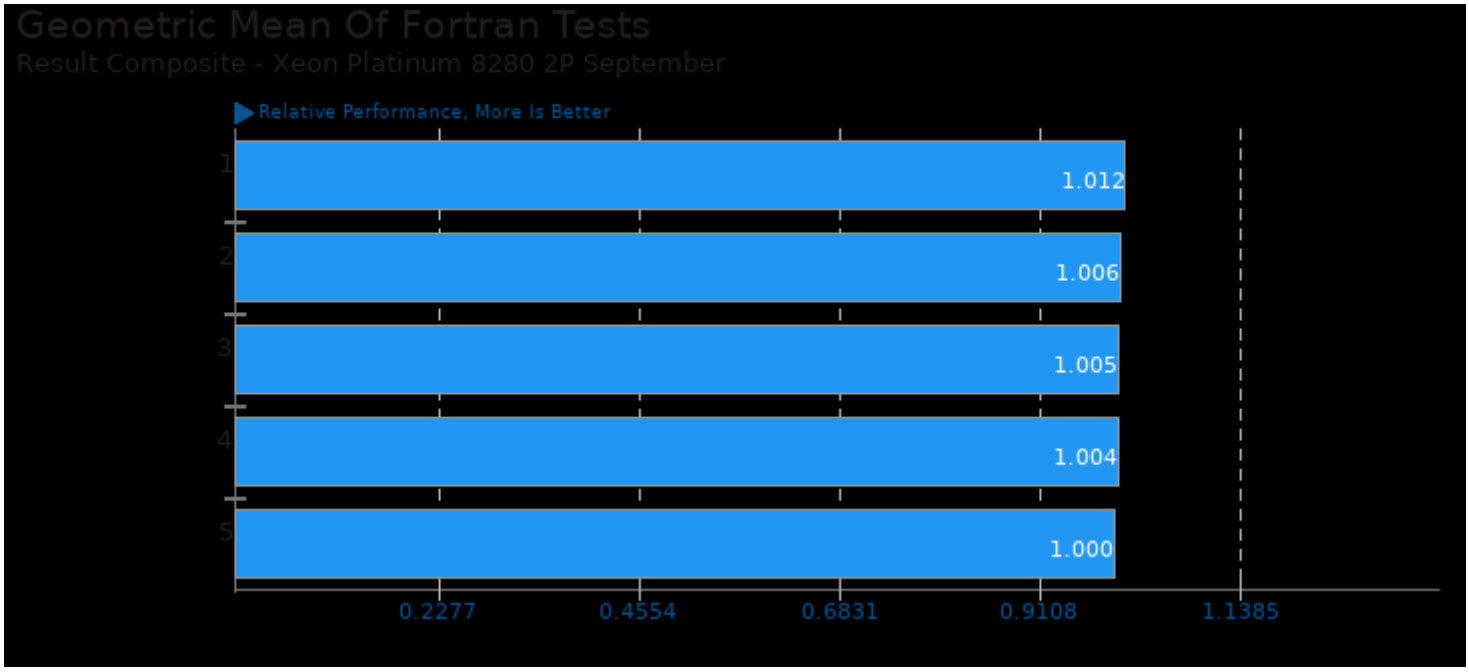
Geometric mean based upon tests: pts/apache, pts/brl-cad, pts/build-gcc, pts/build-linux-kernel, pts/compress-zstd, pts/dav1d, pts/svt-av1, pts/openssl, pts/lczero, pts/nginx, pts/npb, pts/pgbench, pts/tachyon and pts/renaissance



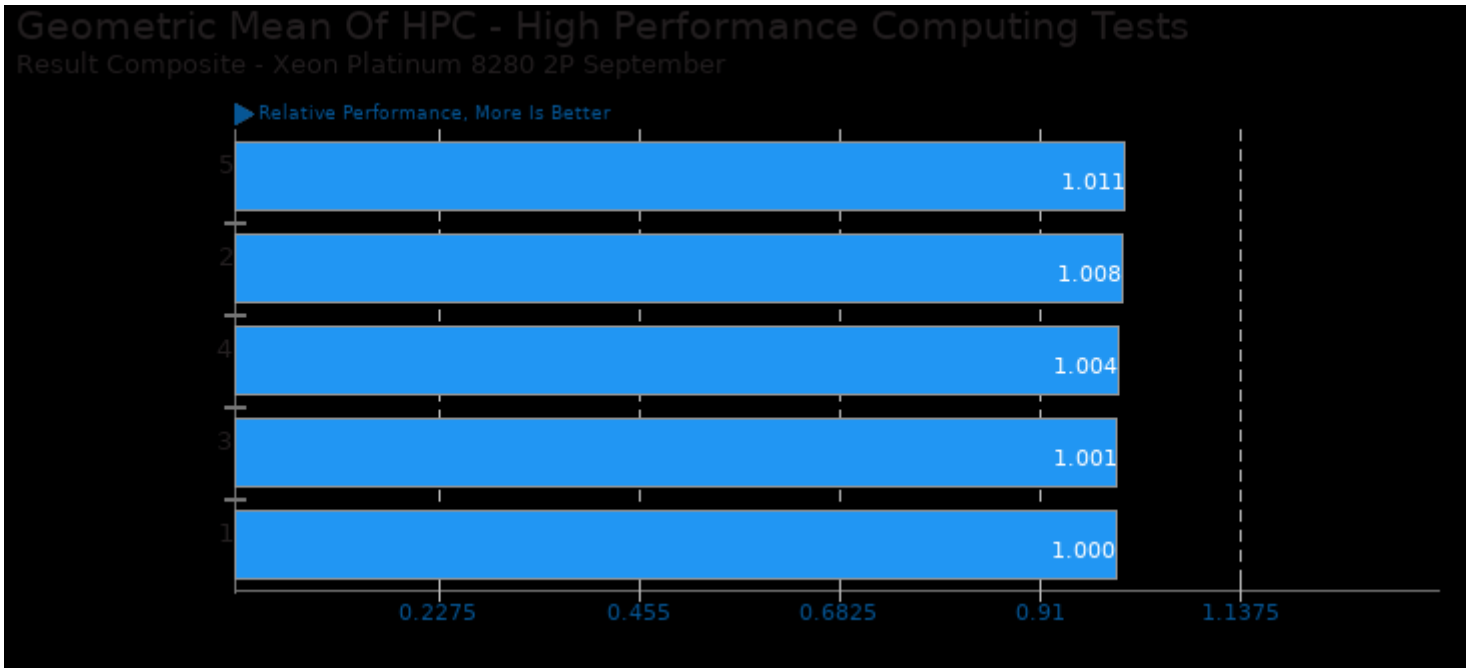
Geometric mean based upon tests: pts/tachyon, pts/yafaray, pts/natron, pts/dav1d, pts/svt-av1, pts/jpegxl, pts/jpegxl-decode, pts/embree, pts/oidn, pts/openvkl, pts/astcenc, pts/synthmark and pts/brl-cad



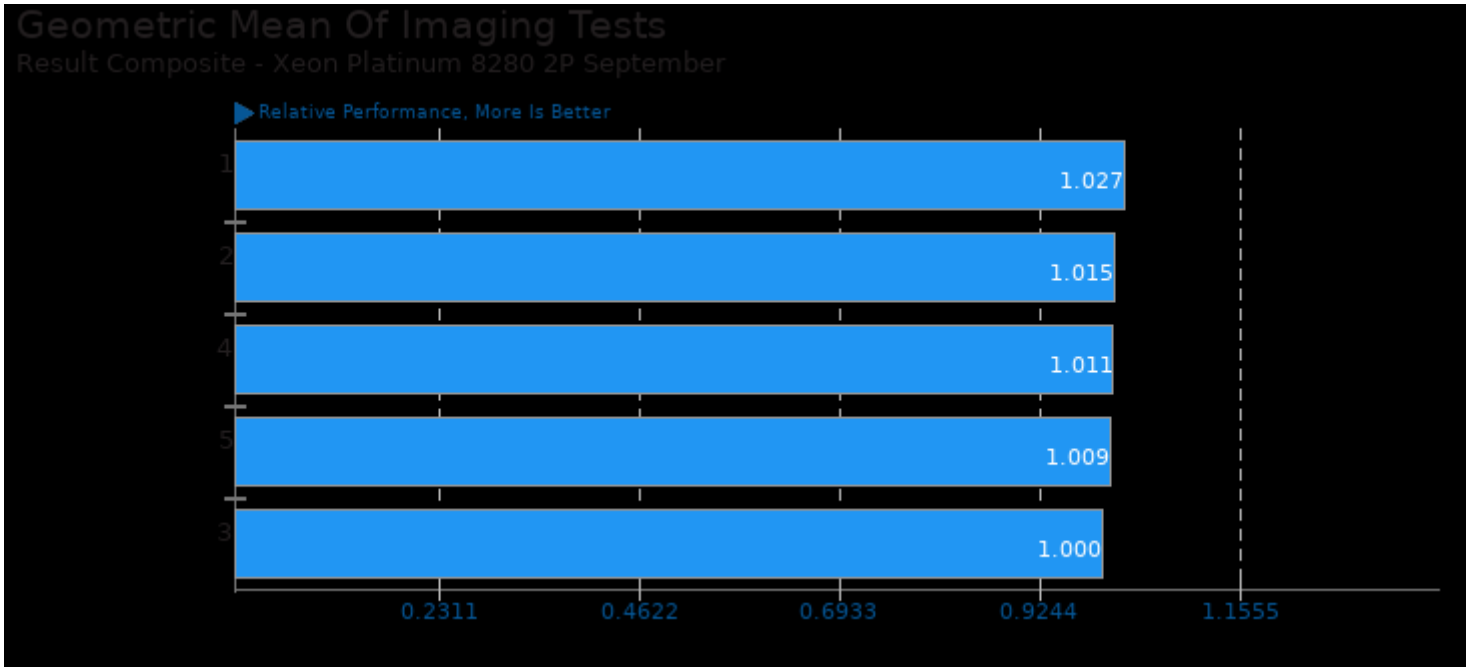
Geometric mean based upon tests: pts/dav1d and pts/svt-av1



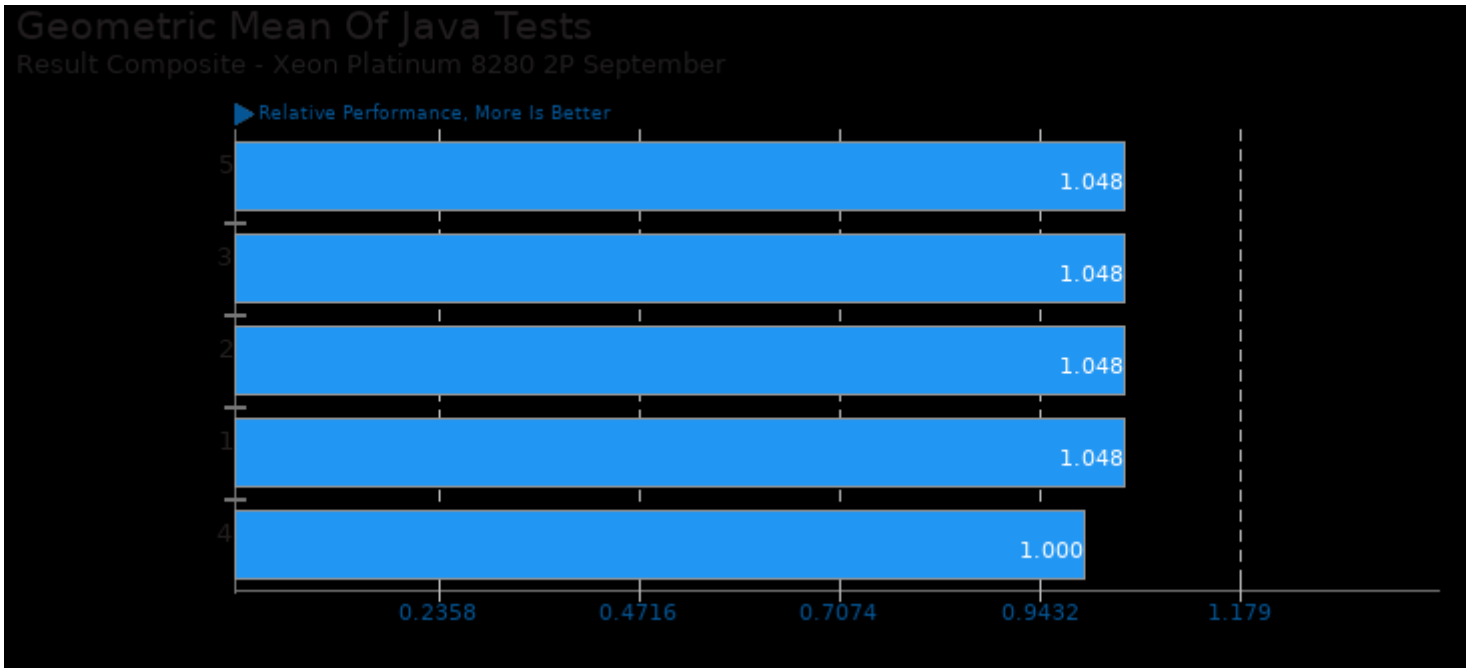
Geometric mean based upon tests: pts/npb and pts/qe



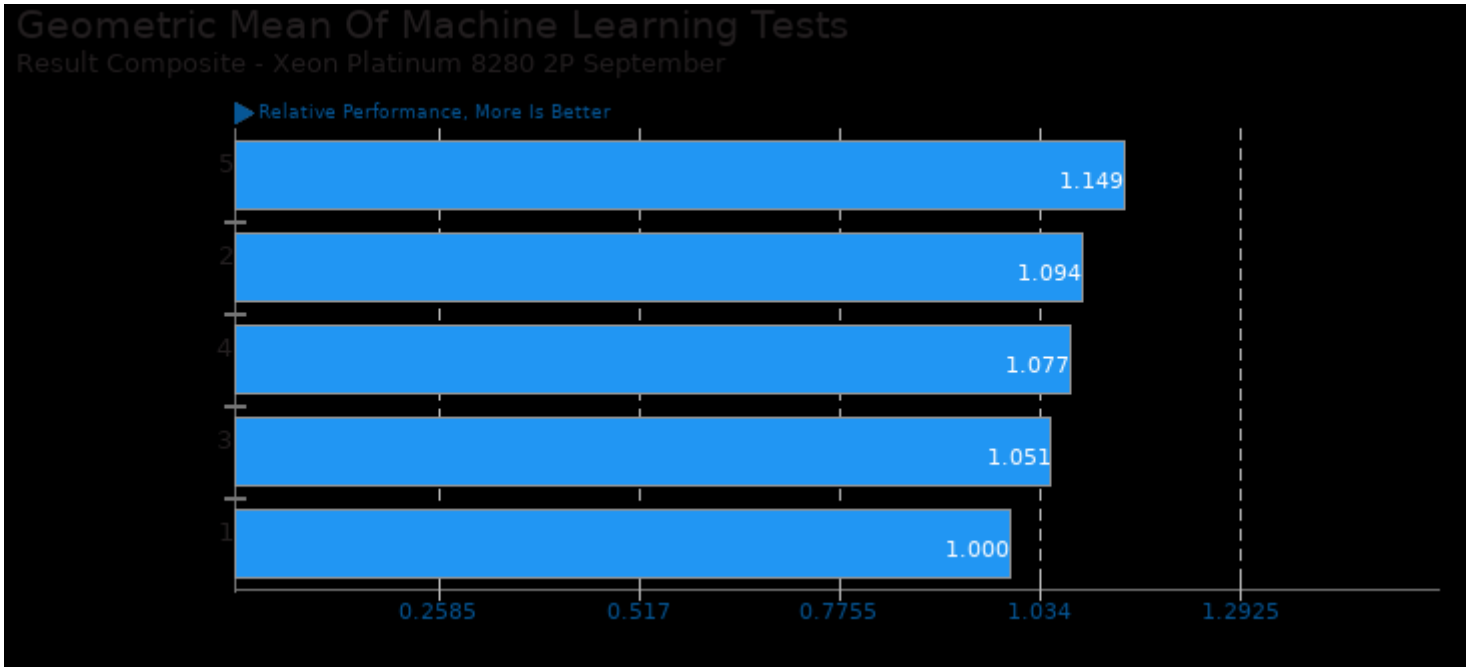
Geometric mean based upon tests: pts/npb, pts/qe, pts/gromacs, pts/mnn, pts/ncnn, pts/tnn, pts/ecp-candle, pts/onnx and pts/lczero



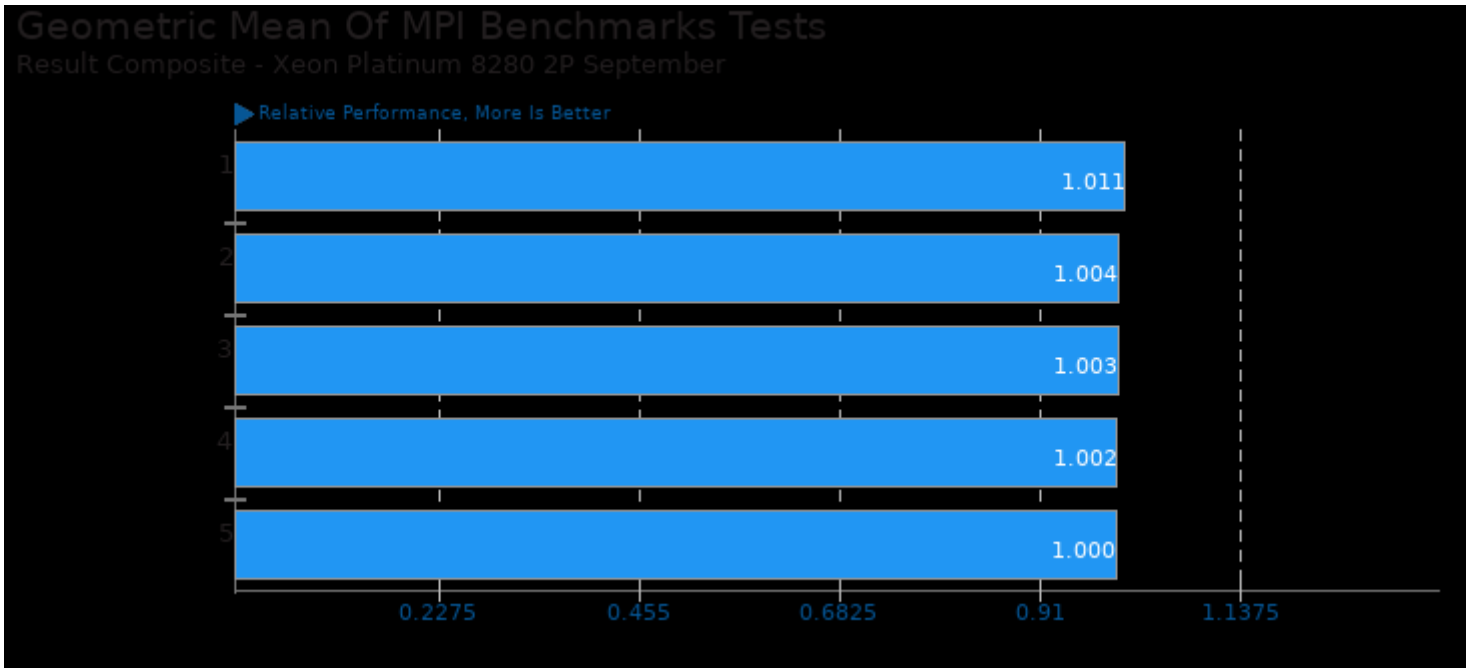
Geometric mean based upon tests: pts/jpegxl and pts/jpegxl-decode



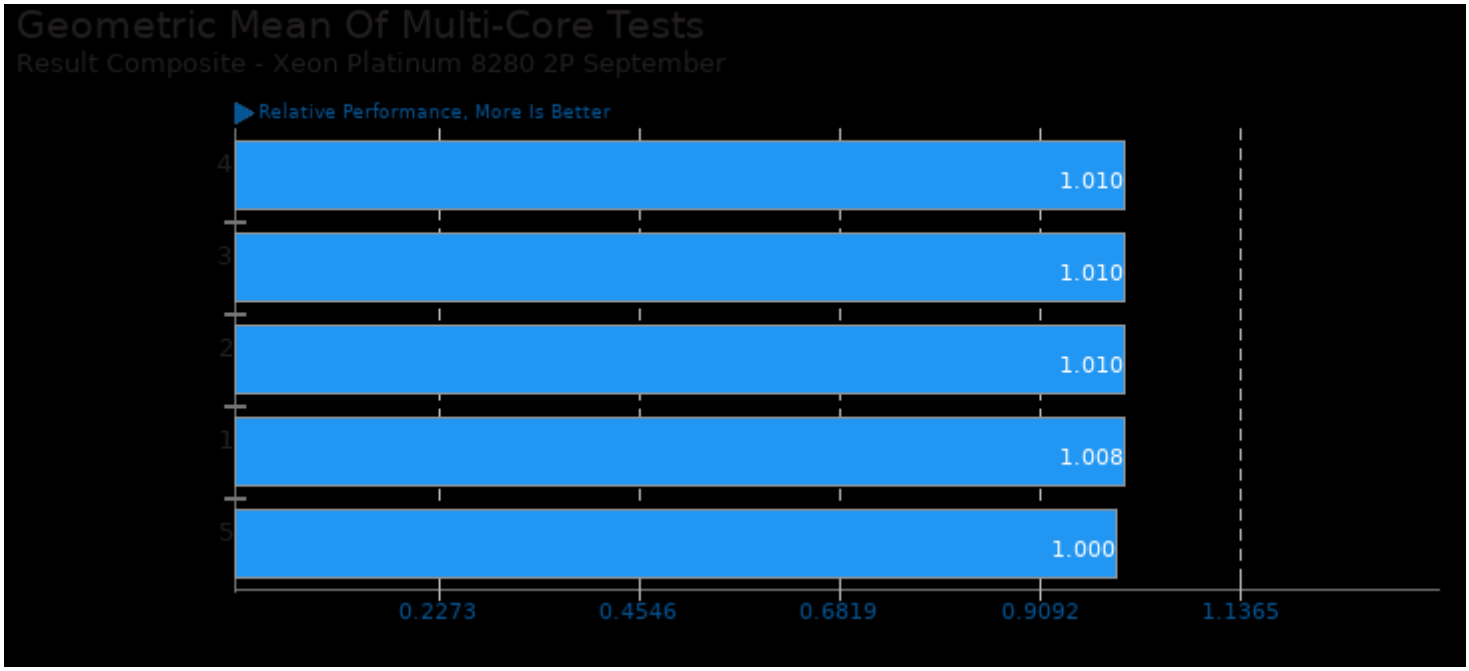
Geometric mean based upon tests: pts/cassandra and pts/renaissance



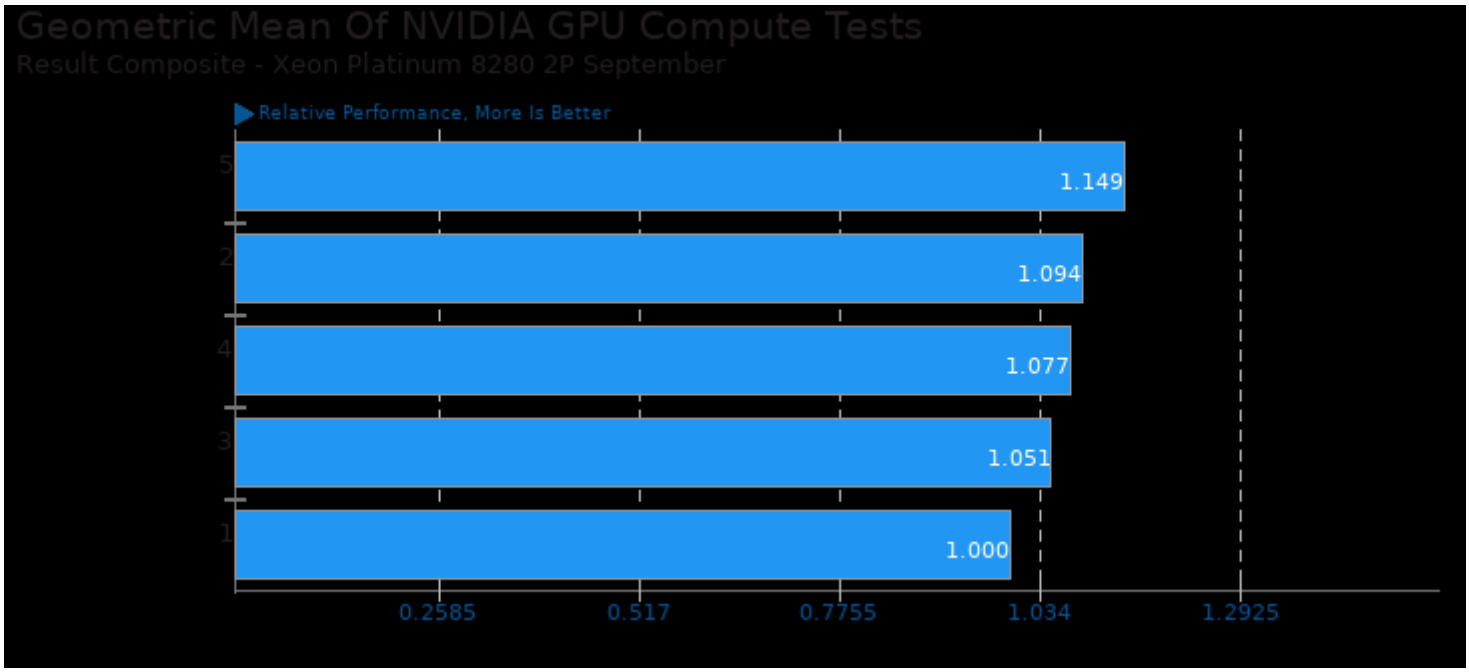
Geometric mean based upon tests: pts/mnn, pts/ncnn, pts/tnn, pts/ecp-candle, pts/onnx and pts/lczero



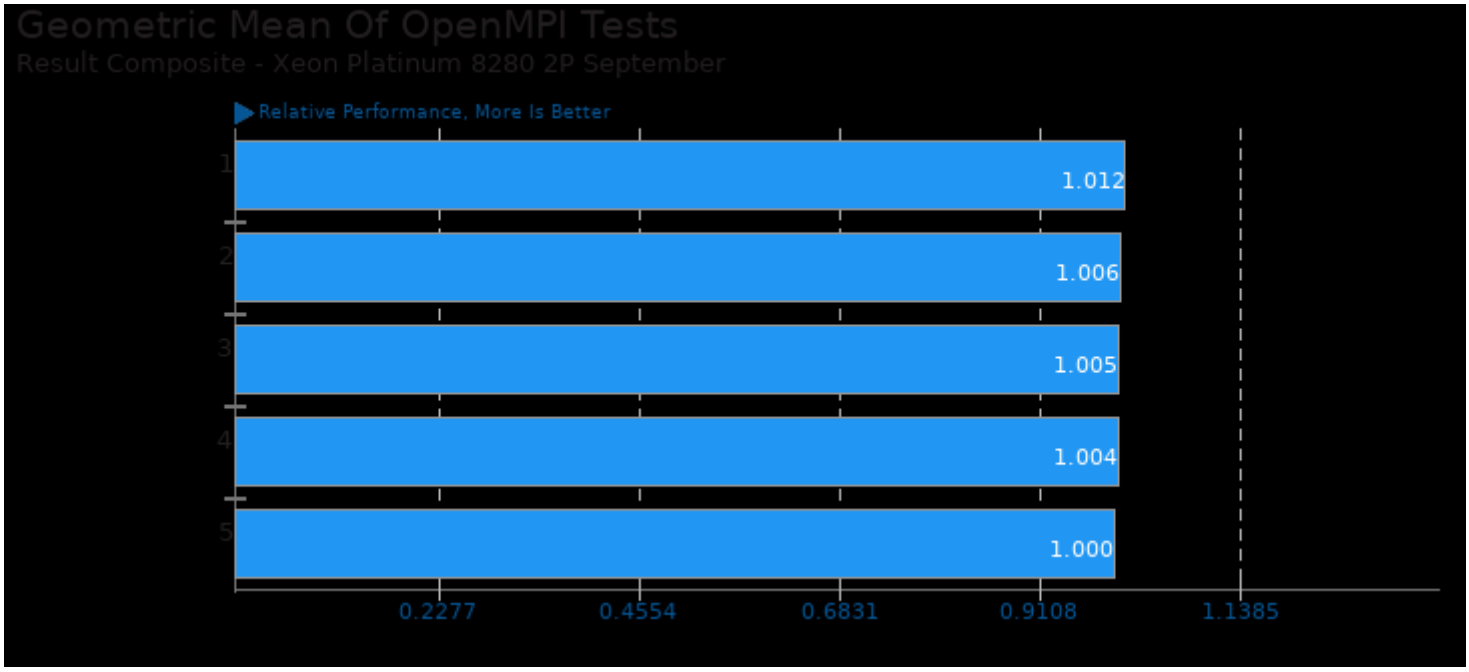
Geometric mean based upon tests: pts/gromacs and pts/npb



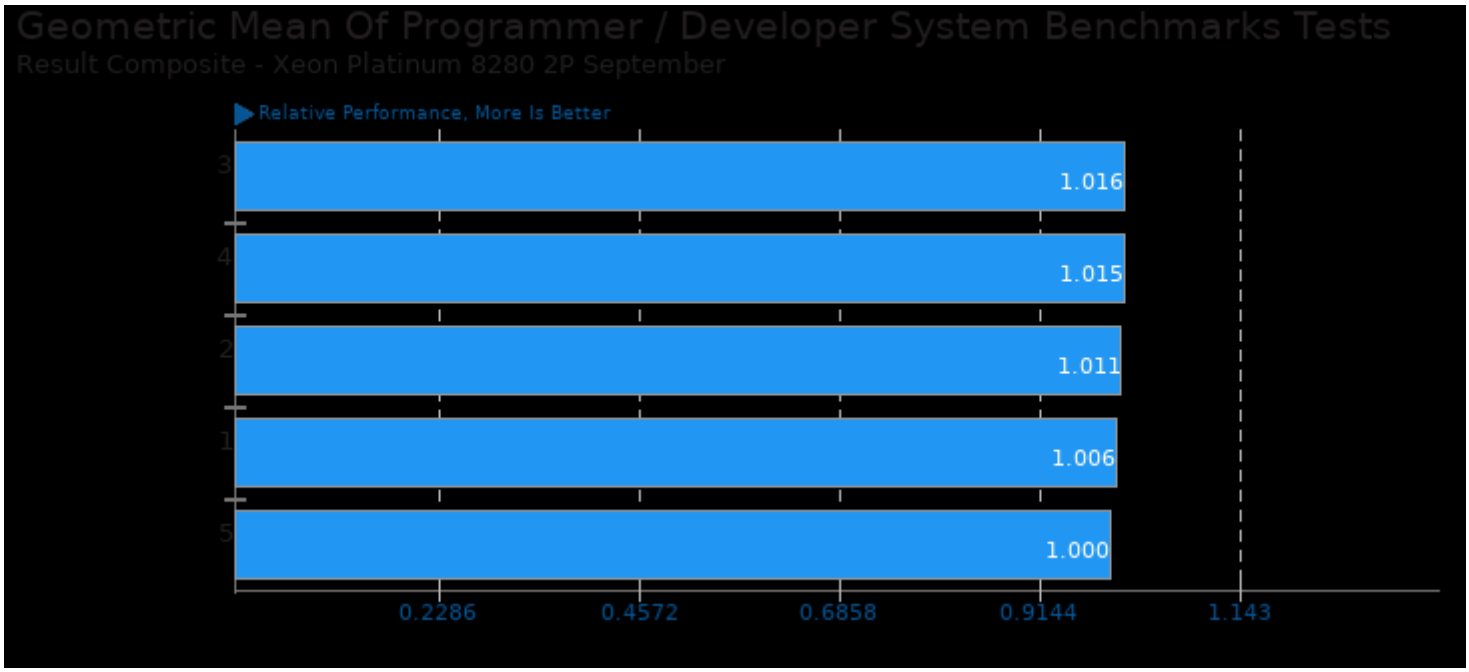
Geometric mean based upon tests: pts/tachyon, pts/yafaray, pts/dav1d, pts/svt-av1, pts/npb, pts/gromacs, pts/compress-zstd, pts/build-linux-kernel, pts/build-gcc, pts/build-gdb, pts/build-ffmpeg, pts/natron, pts/embree, pts/oidn, pts/openvkl, pts/cassandra and pts/pgbench



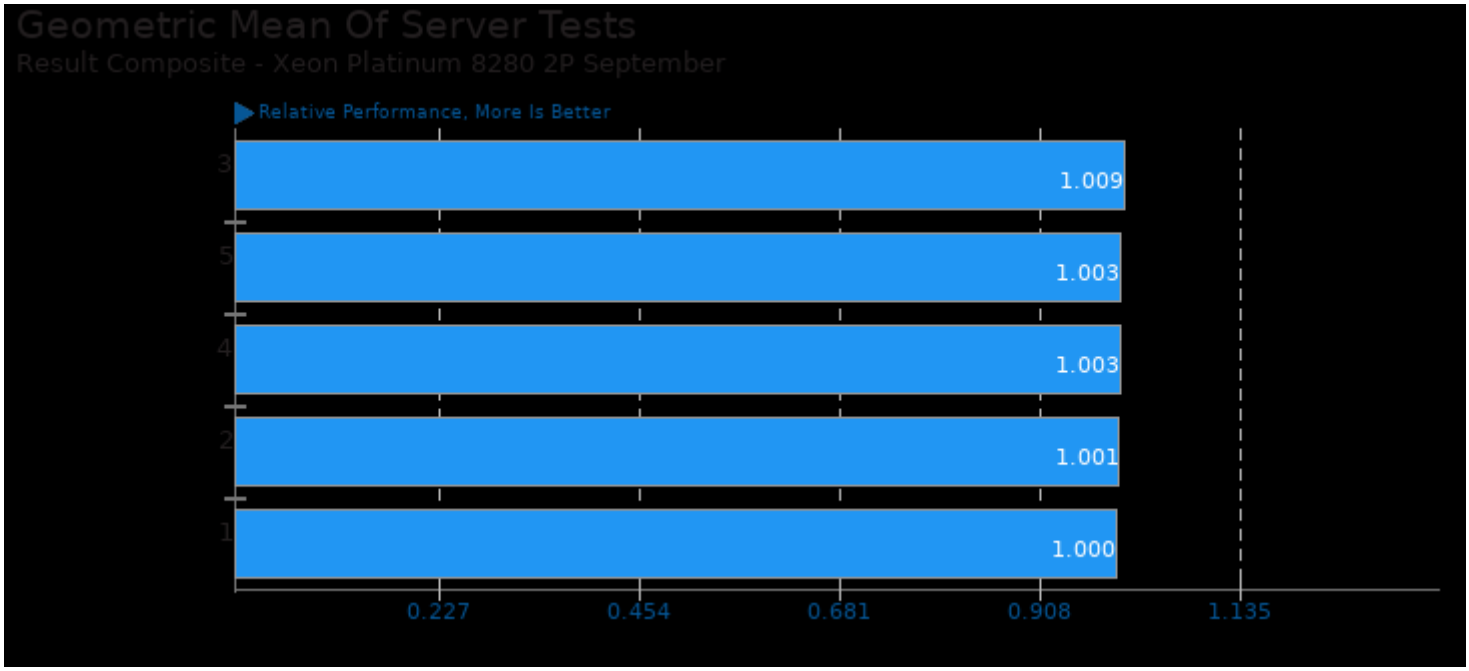
Geometric mean based upon tests: pts/gromacs, pts/lczero and pts/ncnn



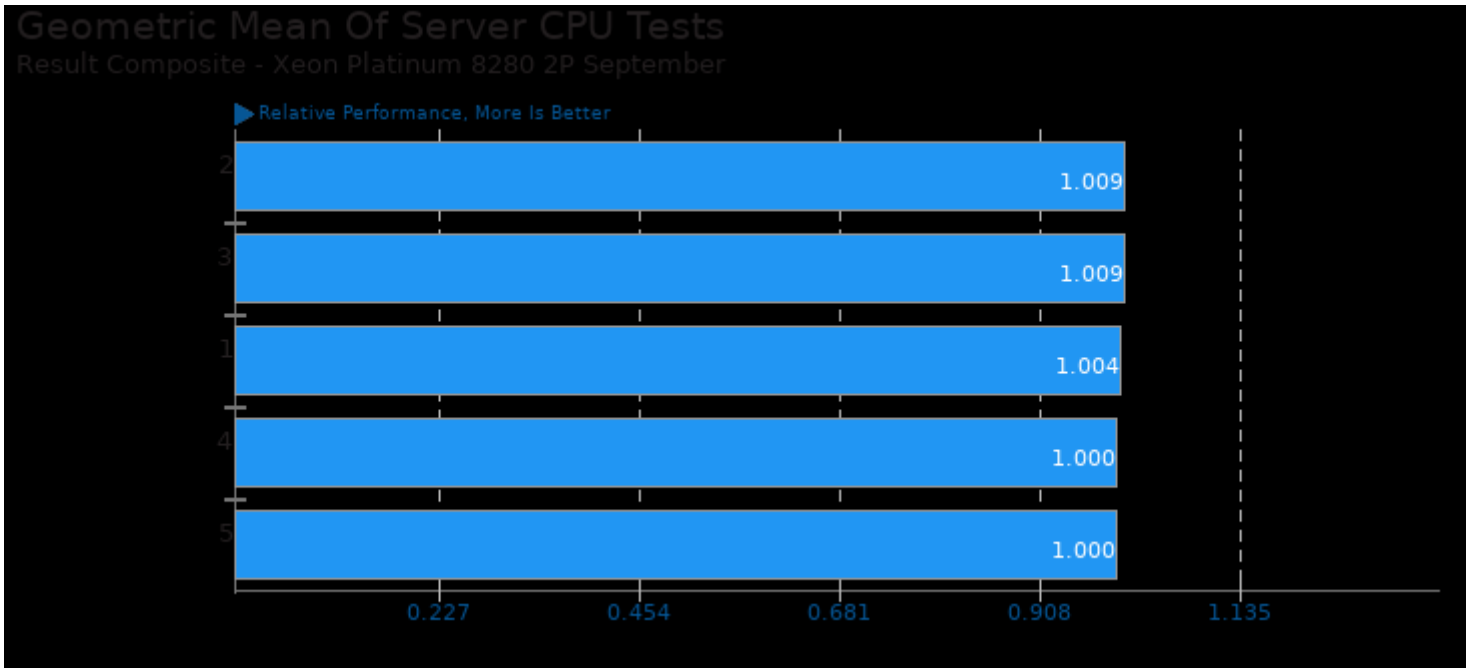
Geometric mean based upon tests: pts/gromacs, pts/npb and pts/qe



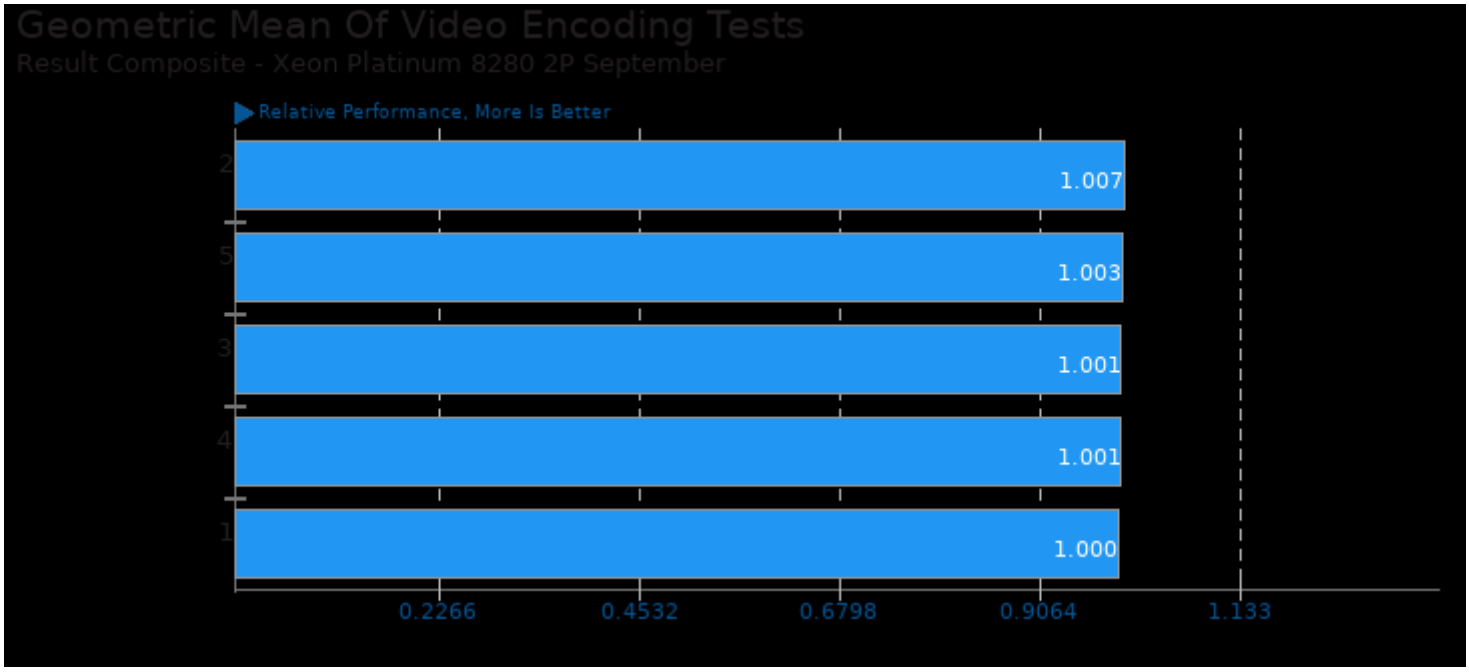
Geometric mean based upon tests: pts/simdjson, pts/blosc, pts/compress-zstd, pts/build-linux-kernel, pts/build-gcc, pts/build-gdb and pts/build-ffmpeg



Geometric mean based upon tests: pts/apache, pts/nginx, pts/pgbench, pts/keydb, pts/cassandra, pts/rocksdb, pts/openssl and pts/simdjson



Geometric mean based upon tests: pts/npb, pts/renaissance, pts/svt-av1, pts/dav1d, pts/build-gcc, pts/build-linux-kernel, pts/compress-zstd and pts/openssl



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

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 09:55.