

www.phoronix-test-suite.com

Dual AMD EPYC 7601 Linux CPU Core/Thread Benchmarks

2 x AMD EPYC 7601 32-Core testing for a future article on Phoronix.com..

Automated Executive Summary

128 Threads had the most wins, coming in first place for 79% of the tests.

Based on the geometric mean of all complete results, the fastest (128 Threads) was 16.233x the speed of the slowest (2 Threads). 64 Threads was 0.884x the speed of 128 Threads, 32 Threads was 0.595x the speed of 64 Threads, 16 Threads was 0.625x the speed of 32 Threads, 8 Threads was 0.58x the speed of 16 Threads, 4 Threads was 0.584x the speed of 8 Threads, 2 Threads was 0.553x the speed of 4 Threads.

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

BRL-CAD (VGR Performance Metric) at 75.387x
Smallpt (Global Illumination Renderer; 128 Samples) at 51.561x
C-Ray (Total Time - 4K, 16 Rays Per Pixel) at 49.176x
Rodinia (Test: OpenMP LavaMD) at 48.797x
asmFish (1024 Hash Memory, 26 Depth) at 44.996x
NAMD (ATPase Simulation - 327,506 Atoms) at 43.691x
Stockfish (Total Time) at 42.447x
Primesieve (1e12 Prime Number Generation) at 39.421x

m-queens (Time To Solve) at 38.274x
POV-Ray (Trace Time) at 38.174x.

Test Systems:

2 Threads

Processor: 2 x AMD EPYC 7601 32-Core @ 2.68GHz (2 Cores), Motherboard: Dell 02MJ3T (1.2.5 BIOS), Chipset: AMD Family 17h, Memory: 16 x 32 GB DDR4-2400MT/s 36ASF4G72PZ-2G6D2, Disk: 120GB SSDSCKJB120G7R + 20 x 500GB Samsung SSD 860, Graphics: Matrox Matrox G200eW3, Monitor: VE228, Network: Broadcom Limited BCM57416 NetXtreme-E 10GBase-T RDMA

OS: Ubuntu 18.04, Kernel: 4.19.0-041900rc6-generic (x86_64) 20180930, Desktop: GNOME Shell 3.28.3, Compiler: GCC 7.3.0, File-System: ext4, Screen Resolution: 1600x1200

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib --with-tune=generic --without-cuda-driver -v
Python Notes: Python 2.7.15rc1 + Python 3.6.6
Security Notes: __user pointer sanitization + Full AMD retpoline IBPB + SSB disabled via prctl and seccomp

4 Threads

Processor: 2 x AMD EPYC 7601 32-Core @ 2.69GHz (4 Cores), Motherboard: Dell 02MJ3T (1.2.5 BIOS), Chipset: AMD Family 17h, Memory: 16 x 32 GB DDR4-2400MT/s 36ASF4G72PZ-2G6D2, Disk: 20 x 500GB Samsung SSD 860 + 120GB SSDSCKJB120G7R, Graphics: Matrox Matrox G200eW3, Monitor: VE228, Network: Broadcom Limited BCM57416 NetXtreme-E 10GBase-T RDMA

OS: Ubuntu 18.04, Kernel: 4.19.0-041900rc6-generic (x86_64) 20180930, Desktop: GNOME Shell 3.28.3, Compiler: GCC 7.3.0, File-System: ext4, Screen Resolution: 1600x1200

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib --with-tune=generic --without-cuda-driver -v
Python Notes: Python 2.7.15rc1 + Python 3.6.6
Security Notes: __user pointer sanitization + Full AMD retpoline IBPB + SSB disabled via prctl and seccomp

8 Threads

Processor: 2 x AMD EPYC 7601 32-Core @ 2.69GHz (8 Cores), Motherboard: Dell 02MJ3T (1.2.5 BIOS), Chipset: AMD Family 17h, Memory: 16 x 32 GB DDR4-2400MT/s 36ASF4G72PZ-2G6D2, Disk: 20 x 500GB Samsung SSD 860 + 120GB SSDSCKJB120G7R, Graphics: Matrox Matrox G200eW3, Monitor: VE228, Network: Broadcom Limited BCM57416 NetXtreme-E 10GBase-T RDMA

OS: Ubuntu 18.04, Kernel: 4.19.0-041900rc6-generic (x86_64) 20180930, Desktop: GNOME Shell 3.28.3, Compiler: GCC 7.3.0, File-System: ext4, Screen Resolution: 1600x1200

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib --with-tune=generic --without-cuda-driver -v
Python Notes: Python 2.7.15rc1 + Python 3.6.6
Security Notes: __user pointer sanitization + Full AMD retpoline IBPB + SSB disabled via prctl and seccomp

16 Threads

Processor: 2 x AMD EPYC 7601 32-Core @ 2.70GHz (16 Cores), Motherboard: Dell 02MJ3T (1.2.5 BIOS), Chipset: AMD Family 17h, Memory: 16 x 32 GB DDR4-2400MT/s 36ASF4G72PZ-2G6D2, Disk: 20 x 500GB Samsung SSD 860 + 120GB SSDSCKJB120G7R, Graphics: Matrox Matrox G200eW3, Monitor: VE228, Network: Broadcom Limited BCM57416 NetXtreme-E 10GBase-T RDMA

OS: Ubuntu 18.04, Kernel: 4.19.0-041900rc6-generic (x86_64) 20180930, Desktop: GNOME Shell 3.28.3, Compiler: GCC 7.3.0, File-System: ext4, Screen Resolution: 1600x1200

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib --with-tune=generic --without-cuda-driver -v
Python Notes: Python 2.7.15rc1 + Python 3.6.6
Security Notes: __user pointer sanitization + Full AMD retpoline IBPB + SSB disabled via prctl and seccomp

32 Threads

Processor: 2 x AMD EPYC 7601 32-Core @ 2.69GHz (32 Cores), Motherboard: Dell 02MJ3T (1.2.5 BIOS), Chipset: AMD Family 17h, Memory: 16 x 32 GB DDR4-2400MT/s 36ASF4G72PZ-2G6D2, Disk: 20 x 500GB Samsung SSD 860 + 120GB SSDSCKJB120G7R, Graphics: Matrox Matrox G200eW3, Monitor: VE228, Network: Broadcom Limited BCM57416 NetXtreme-E 10GBase-T RDMA

OS: Ubuntu 18.04, Kernel: 4.19.0-041900rc6-generic (x86_64) 20180930, Desktop: GNOME Shell 3.28.3, Compiler: GCC 7.3.0, File-System: ext4, Screen Resolution: 1600x1200

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib --with-tune=generic --without-cuda-driver -v
Python Notes: Python 2.7.15rc1 + Python 3.6.6
Security Notes: __user pointer sanitization + Full AMD retpoline IBPB + SSB disabled via prctl and seccomp

64 Threads

Processor: 2 x AMD EPYC 7601 32-Core @ 3.10GHz (64 Cores), Motherboard: Dell 02MJ3T (1.2.5 BIOS), Chipset: AMD Family 17h, Memory: 16 x 32 GB DDR4-2400MT/s 36ASF4G72PZ-2G6D2, Disk: 20 x 500GB Samsung SSD 860 + 120GB SSDSCKJB120G7R, Graphics: Matrox Matrox G200eW3, Monitor: VE228, Network: Broadcom Limited BCM57416 NetXtreme-E 10GBase-T RDMA

OS: Ubuntu 18.04, Kernel: 4.19.0-041900rc6-generic (x86_64) 20180930, Desktop: GNOME Shell 3.28.3, Compiler: GCC 7.3.0, File-System: ext4, Screen Resolution: 1600x1200

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib --with-tune=generic --without-cuda-driver -v
Python Notes: Python 2.7.15rc1 + Python 3.6.6
Security Notes: __user pointer sanitization + Full AMD retpoline IBPB + SSB disabled via prctl and seccomp

128 Threads

Processor: 2 x AMD EPYC 7601 32-Core @ 3.12GHz (64 Cores / 128 Threads), Motherboard: Dell 02MJ3T (1.2.5 BIOS), Chipset: AMD Family 17h, Memory: 16 x 32 GB DDR4-2400MT/s 36ASF4G72PZ-2G6D2, Disk: 120GB SSDSCKJB120G7R + 20 x 500GB Samsung SSD 860, Graphics: Matrox Matrox G200eW3, Monitor: VE228, Network: Broadcom Limited BCM57416 NetXtreme-E 10GBase-T RDMA

OS: Ubuntu 18.04, Kernel: 4.19.0-041900rc6-generic (x86_64) 20180930, Desktop: GNOME Shell 3.28.3, Compiler: GCC 7.3.0, File-System: ext4, Screen Resolution: 1600x1200

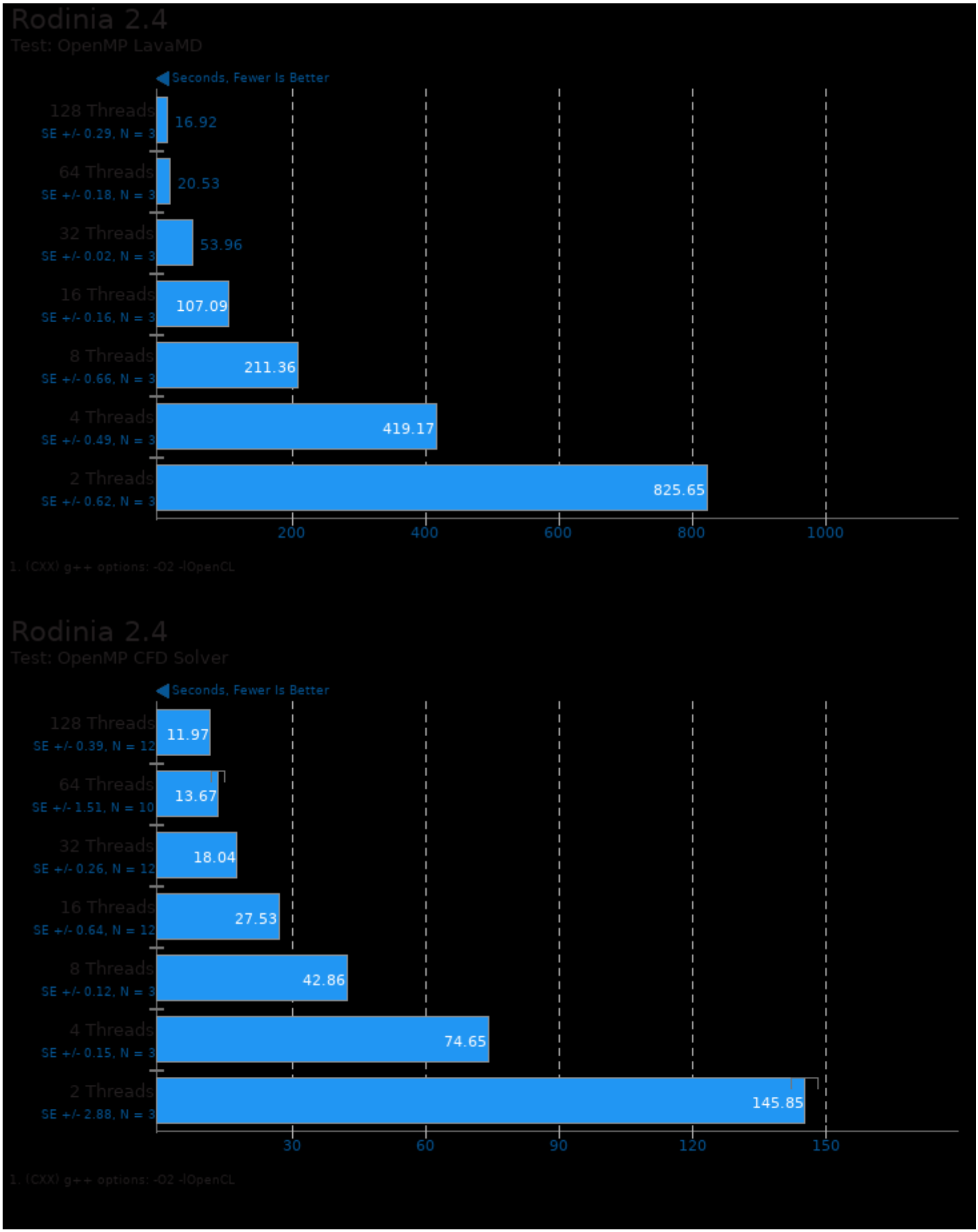
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++ --enable-libmpx --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib --with-tune=generic --without-cuda-driver -v
Python Notes: Python 2.7.15rc1 + Python 3.6.6
Security Notes: __user pointer sanitization + Full AMD retpoline IBPB + SSB disabled via prctl and seccomp

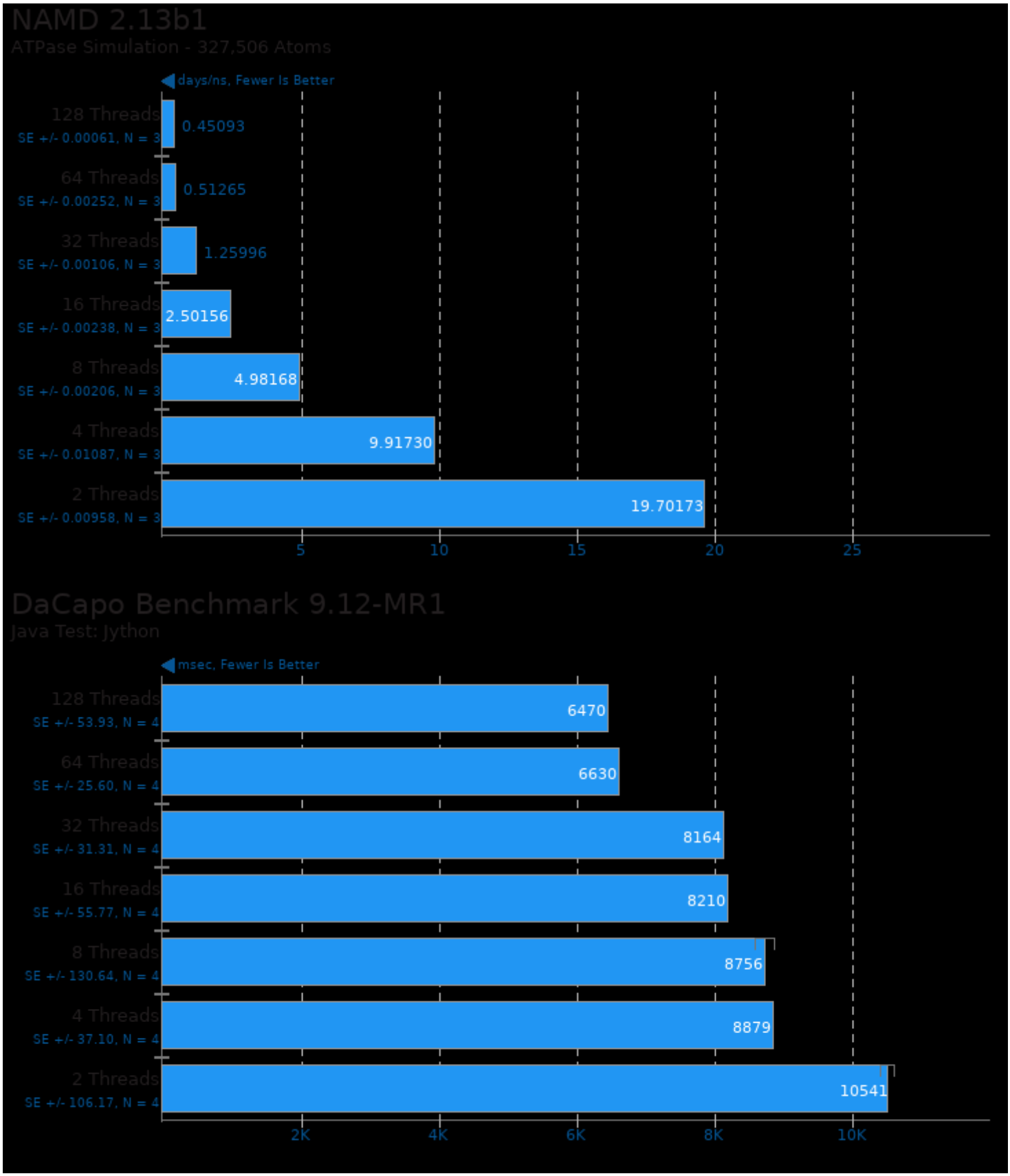
	2 Threads	4 Threads	8 Threads	16 Threads	32 Threads	64 Threads	128 Threads
Rodinia - OpenMP LavaMD (sec)	**825.65**	419.17	211.36	107.09	53.96	20.53	**16.92**
Normalized	2.05%	4.04%	8.01%	15.8%	31.36%	82.42%	100%
Standard Deviation	0.1%	0.2%	0.5%	0.3%	0.1%	1.5%	2.9%
Rodinia - OpenMP CFD Solver (sec)	**145.85**	74.65	42.86	27.53	18.04	13.67	**11.97**
Normalized	8.21%	16.03%	27.93%	43.48%	66.35%	87.56%	100%
Standard Deviation	3.4%	0.4%	0.5%	8.1%	5%	35%	11.4%
NAMD - ATPase Simulation - 327,506	**19.70173**	9.91730	4.98168	2.50156	1.25996	0.51265	**0.45093**
Normalized	2.29%	4.55%	9.05%	18.03%	35.79%	87.96%	100%
Standard Deviation	0.1%	0.2%	0.1%	0.2%	0.1%	0.8%	0.2%
DaCapo Benchmark - Jython (msec)	**10541**	8879	8756	8210	8164	6630	**6470**
Normalized	61.38%	72.87%	73.89%	78.81%	79.25%	97.59%	100%
Standard Deviation	2%	0.8%	3%	1.4%	0.8%	0.8%	1.7%
TTSIOD 3D Renderer - P.R.W.S.S.M (FPS)	**33.14**	53.96	95.35	159	246	**386**	365
Normalized	8.59%	13.98%	24.7%	41.19%	63.73%	100%	94.56%
Standard Deviation	0.5%	0.4%	0.3%	0.5%	1.6%	5.5%	7%
x264 - H.2.V.E (FPS)	**11.06**	17.71	33.72	64.34	119	**156**	148
Normalized	7.09%	11.35%	21.62%	41.24%	76.28%	100%	94.87%
Standard Deviation	0.9%	0.1%	0.3%	0.4%	0.2%	0.3%	0.7%
GraphicsMagick - Swirl (Iterations/min)	**64**	91	116	133	145	175	**196**
Normalized	32.65%	46.43%	59.18%	67.86%	73.98%	89.29%	100%
Standard Deviation	0.9%			0.9%	1.1%	5.7%	
GraphicsMagick - Sharpen (Iterations/min)	**31**	52	79	106	128	161	**181**
Normalized	17.13%	28.73%	43.65%	58.56%	70.72%	88.95%	100%
Standard Deviation				0.5%	0.4%	4.9%	0.3%

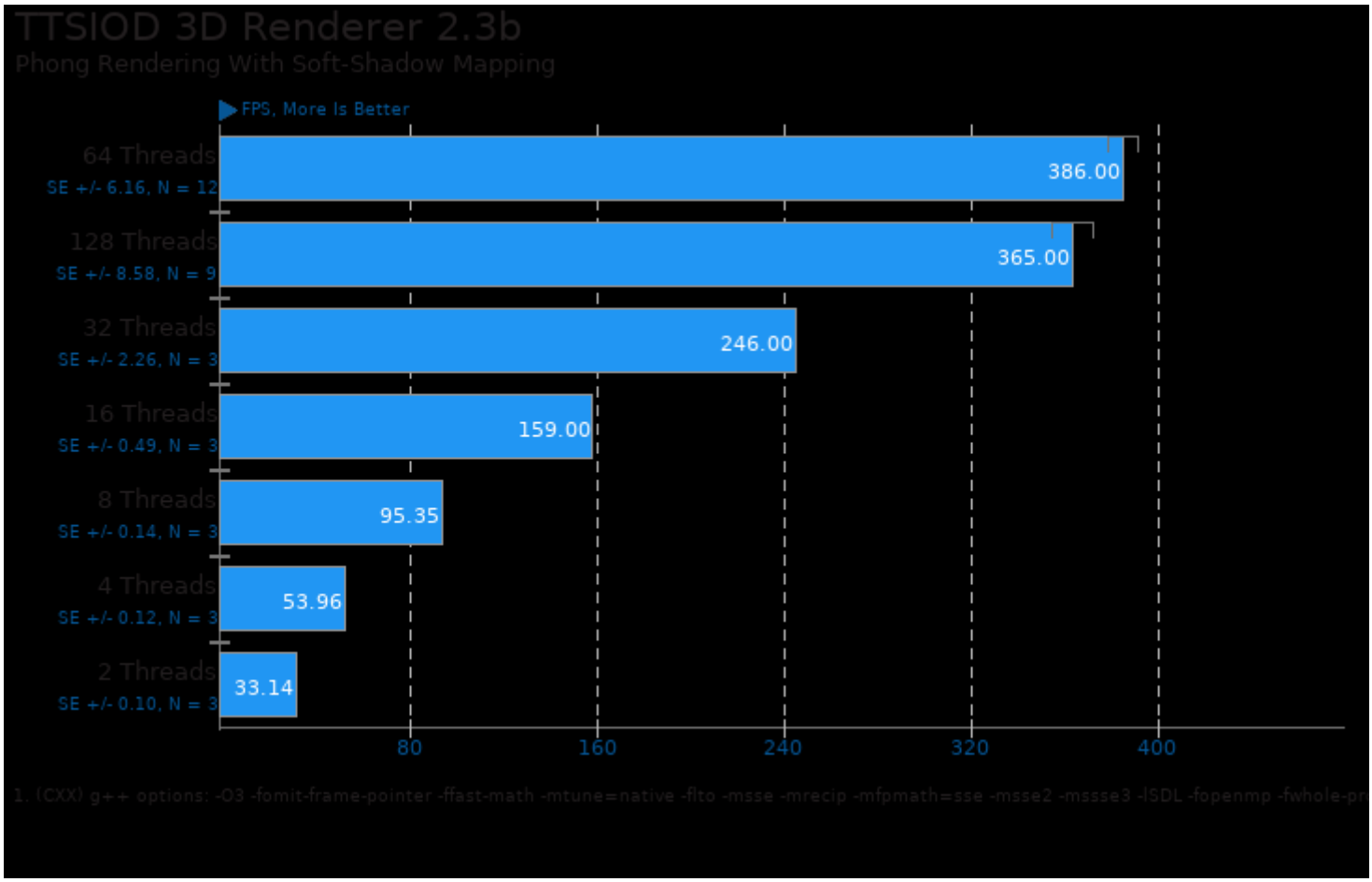
GraphicsMagick - Enhanced (Iterations/min)	**36**	60	87	112	132	169	**188**
Normalized	19.15%	31.91%	46.28%	59.57%	70.21%	89.89%	100%
Standard Deviation	3.2%				1.2%	6.7%	0.6%
GraphicsMagick - Noise-Gaussian (Iterations/min)	**21**	36	60	89	117	150	**180**
Normalized	11.67%	20%	33.33%	49.44%	65%	83.33%	100%
Standard Deviation						3.9%	
Himeno Benchmark - P.P.S (MFLOPS)	539	535	**188**	699	784	842	**1004**
Normalized	53.69%	53.29%	18.73%	69.62%	78.09%	83.86%	100%
Standard Deviation	26.4%	17.5%	80.3%	12.5%	0.4%	0.5%	0.4%
7-Zip Compression - C.S.T (MIPS)	**5070**	9914	19092	37357	74751	**151861**	148114
Normalized	3.34%	6.53%	12.57%	24.6%	49.22%	100%	97.53%
Standard Deviation	0.9%	2.2%	0.8%	2.4%	3%	3%	5%
Stockfish - Total Time (Nodes/s)	**2434846**	4658151	8910242	17247144	34765371	73945885	**103351936**
Normalized	2.36%	4.51%	8.62%	16.69%	33.64%	71.55%	100%
Standard Deviation	1.1%	0.5%	0.5%	0.5%	0.9%	1.1%	1%
asmFish - 1.H.M.2.D (Nodes/s)	**2667766**	5297822	10677009	20917149	41744957	87578363	**120037694**
Normalized	2.22%	4.41%	8.89%	17.43%	34.78%	72.96%	100%
Standard Deviation	0.5%	1.4%	0.5%	1.3%	0.6%	0.8%	0.6%
ebizzy (Records/s)	**91998**	183887	362148	692003	1266780	1833221	**1964128**
Normalized	4.68%	9.36%	18.44%	35.23%	64.5%	93.34%	100%
Standard Deviation	0.1%	0.2%	3.1%	3.5%	2.4%	6.5%	4.4%
Timed ImageMagick Compilation - Time To Compile (sec)	**194.81**	108.08	62.80	43.62	33.97	27.15	**24.18**
Normalized	12.41%	22.37%	38.5%	55.43%	71.18%	89.06%	100%
Standard Deviation	0.2%	0.6%	1.3%	0.5%	1%	1.7%	2.9%
Timed Linux Kernel Compilation - Time To Compile (sec)	**592.71**		160.03	87.06	50.44	30.87	**25.47**
Normalized	4.3%		15.92%	29.26%	50.5%	82.51%	100%
Standard Deviation	0.5%		1.5%	2.5%	3.4%	3.8%	3.5%
Timed LLVM Compilation - Time To Compile (sec)	**3532**	2048	893	472	272	163	**154**
Normalized	4.36%	7.52%	17.25%	32.63%	56.62%	94.48%	100%
C-Ray - Total Time - 4.1.R.P.P (sec)	**753.87**	376.36	188.41	94.46	47.66	16.71	**15.33**
Normalized	2.03%	4.07%	8.14%	16.23%	32.17%	91.74%	100%
Standard Deviation	0.2%	0.1%	0.1%	0.1%	0.2%	0.3%	0.4%
POV-Ray - Trace Time (sec)	**478.70**	239.22	120.79	62.22	33.72	17.63	**12.54**
Normalized	2.62%	5.24%	10.38%	20.15%	37.19%	71.13%	100%
Standard Deviation	0.2%	0.2%	0.1%	0.2%	0.7%	0.6%	1.4%
Primesieve - 1.P.N.G (sec)	**232.19**	116.55	58.39	29.30	14.83	6.25	**5.89**
Normalized	2.54%	5.05%	10.09%	20.1%	39.72%	94.24%	100%
Standard Deviation	0.2%	0.1%	0.3%	0.2%	0.3%	0.2%	1%

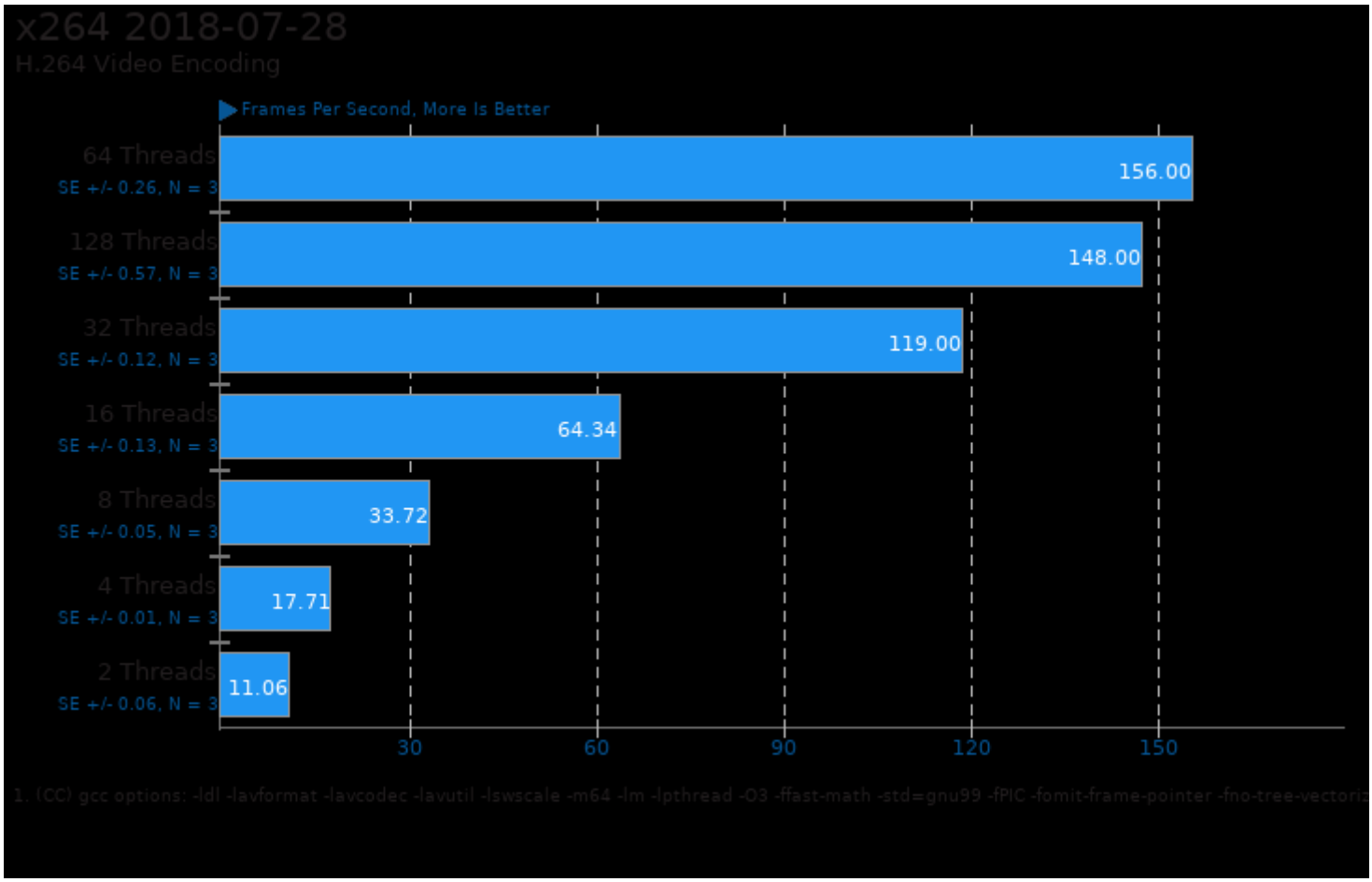
Rust Mandelbrot - T.T.C.S.P.M (sec)	**234.44**	142.97	95.87	73.09	61.37	59.18	**47.62**
Normalized	20.31%	33.31%	49.67%	65.15%	77.59%	80.47%	100%
Standard Deviation	0.1%	0.7%	0%	0.6%	0%	2.3%	0.3%
Smallpt - G.I.R.1.S (sec)	**465.60**	233.60	117.51	59.35	30.42	12.35	**9.03**
Normalized	1.94%	3.87%	7.68%	15.21%	29.68%	73.12%	100%
Standard Deviation	0.1%	0.2%	0.2%	0.2%	0.4%	1.7%	1.7%
m-queens - Time To Solve (sec)	**712.67**	357.69	180.67	92.08	47.31	26.30	**18.62**
Normalized	2.61%	5.21%	10.31%	20.22%	39.36%	70.8%	100%
Standard Deviation	0%	0.1%	0%	0%	0%	0.2%	0.5%
Tachyon - Total Time	**55.70**	27.80	14.17	7.04	3.59	1.95	**1.47**
Normalized	2.64%	5.29%	10.37%	20.88%	40.95%	75.38%	100%
Standard Deviation	0.3%	0.4%	2.8%	0.3%	0.7%	6.8%	6.5%
OpenSSL - R.4.b.P (Signs/sec)	**269**	538	1075	2149	4296	8632	**9238**
Normalized	2.91%	5.82%	11.64%	23.26%	46.5%	93.44%	100%
Standard Deviation	0.1%	0.1%	0%	0.1%	0.1%	0.1%	0.1%
Aircrack-ng (k/s)	**2308**	4616	9289	18569	37049	78269	**81032**
Normalized	2.85%	5.7%	11.46%	22.92%	45.72%	96.59%	100%
Standard Deviation	0.8%	0.2%	0%	0.2%	0.2%	0.3%	0.3%
Cpuminer-Opt - m7m (kH/s - Hash Speed)					**429**	1426	**1788**
Normalized					23.99%	79.75%	100%
Standard Deviation					21%	0.8%	0.4%
Cpuminer-Opt - deep (kH/s - Hash Speed)	**343**				7469	23253	**26607**
Normalized	1.29%				28.07%	87.39%	100%
Standard Deviation					59.4%	1.1%	0%
Cpuminer-Opt - lbry (kH/s - Hash Speed)	**1885**	3690	8251	22290	29670	58944	**65192**
Normalized	2.89%	5.66%	12.66%	34.19%	45.51%	90.42%	100%
Standard Deviation	7.7%	1.6%	49.8%	2.3%	0.9%	21.3%	3.5%
Cpuminer-Opt - skein (kH/s - Hash Speed)	**3482**	5767	12503	27403	46647	99653	**105883**
Normalized	3.29%	5.45%	11.81%	25.88%	44.06%	94.12%	100%
Standard Deviation	46.8%	0.3%	143.2%	10.9%	0.7%	1.9%	2.1%
Cpuminer-Opt - myr-gr (kH/s - Hash Speed)	**920**	1882	1371	984	1827	3863	**6319**
Normalized	14.56%	29.78%	21.7%	15.57%	28.91%	61.13%	100%
Standard Deviation	27.9%	2.6%	3.2%	36.3%	2%	3.8%	0.2%
Cpuminer-Opt - sha256t (kH/s - Hash Speed)	**4592**	9133	28088	52233	76435	**159987**	158933
Normalized	2.87%	5.71%	17.56%	32.65%	47.78%	100%	99.34%
Standard Deviation	0.1%	0.3%	3.3%	7.5%	3.5%	0.8%	0%
Tensorflow - Cifar10 (sec)	**304.99**	225.24	131.67	97.78	78.29	**59.05**	65.18
Normalized	19.36%	26.22%	44.85%	60.39%	75.42%	100%	90.6%
Standard Deviation	0.1%	0.1%	0.3%	0.1%	0.3%	0.9%	1.1%
PostgreSQL pgbench - Buffer Test - Normal Load - Read Only (TPS)	**17375**	35792	65014	115290	208984	388357	**534013**
Normalized	3.25%	6.7%	12.17%	21.59%	39.13%	72.72%	100%
Standard Deviation	1.9%	0.4%	3.1%	0.6%	1.3%	0.5%	0.9%

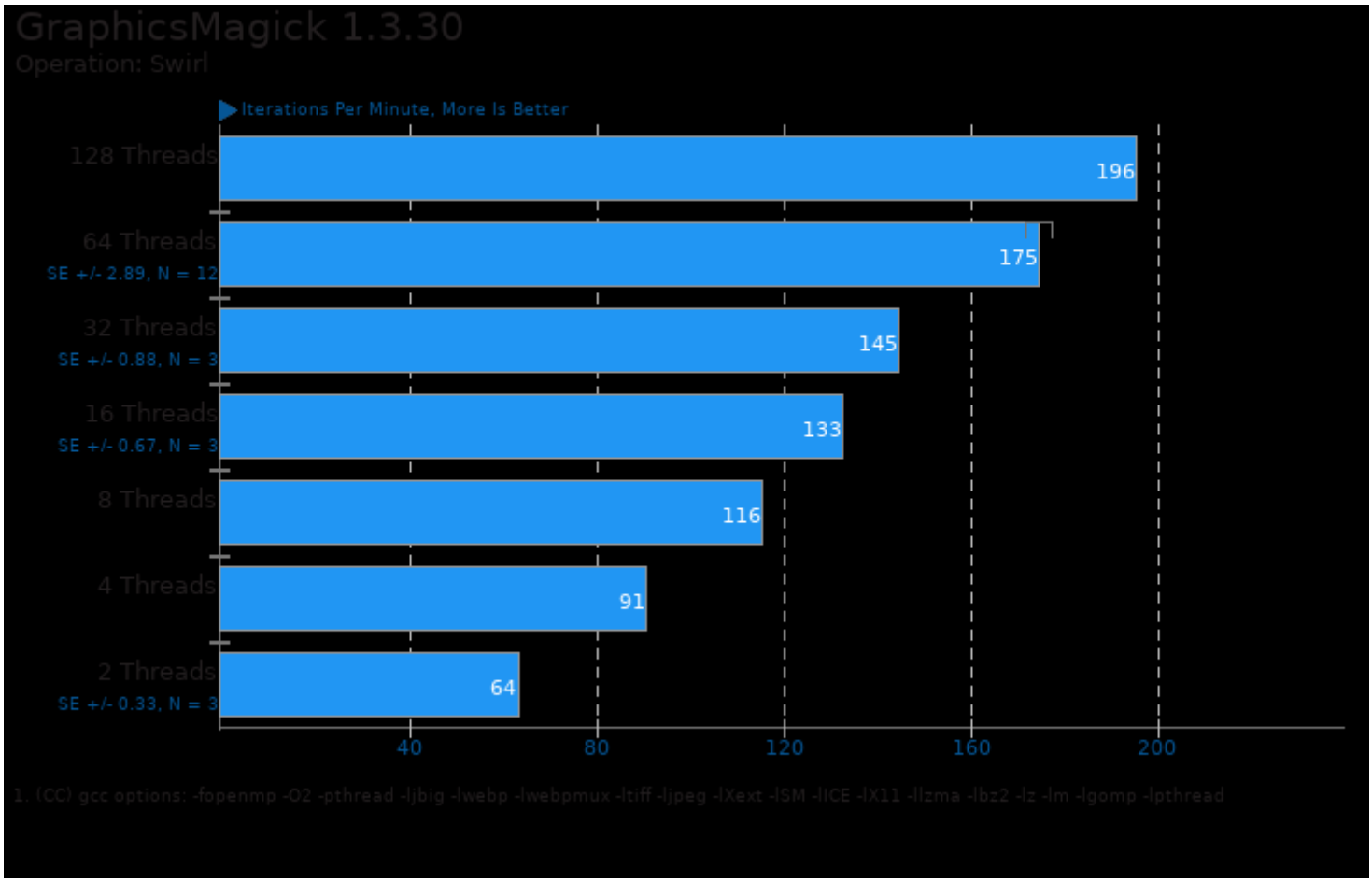
Darktable - Boat - CPU-only (sec)	**48.74**	25.63	14.09	8.07	5.49	**4.03**	4.27
Normalized	8.27%	15.72%	28.6%	49.94%	73.41%	100%	94.38%
Standard Deviation	1.4%	2%	1.2%	3.4%	1.4%	1.8%	2.1%
Darktable - Masskrug - CPU-only (sec)	**43.83**	24.11	14.77	9.86	7.90	**6.10**	6.71
Normalized	13.92%	25.3%	41.3%	61.87%	77.22%	100%	90.91%
Standard Deviation	2.9%	1.2%	3.2%	1.7%	1.6%	0.3%	5.1%
Darktable - Server Rack - CPU-only (sec)	**0.91**	0.53	0.35	0.25	0.19	**0.14**	0.15
Normalized	15.38%	26.42%	40%	56%	73.68%	100%	93.33%
Standard Deviation	0.4%	2.6%	3.5%	9.2%	5.1%	4%	4.3%
Darktable - Server Room - CPU-only (sec)	**23.16**	12.51	7.04	4.56	**3.00**	3.16	4.24
Normalized	12.95%	23.98%	42.61%	65.79%	100%	94.94%	70.75%
Standard Deviation	0.3%	2%	3.2%	1.6%	5.7%	0.7%	0.3%
Blender - BMW27 - CPU-Only (sec)	**2305**	1165	586.30	297.51	158.49	82.20	**61.21**
Normalized	2.66%	5.25%	10.44%	20.57%	38.62%	74.46%	100%
Standard Deviation	0.2%	0.4%	0.1%	0.1%	0.2%	0.3%	0.1%
Blender - Fishy Cat - CPU-Only (sec)	**3292**	1646	822.54	413.42	213.52	111.44	**88.68**
Normalized	2.69%	5.39%	10.78%	21.45%	41.53%	79.58%	100%
Standard Deviation	0.2%	0.2%	0.1%	0.1%	0.2%	0.1%	0.4%
Chaos Group V-RAY - CPU (sec)	**735.06**	372.96	190.17	97.99	54.35	28.48	**24.32**
Normalized	3.31%	6.52%	12.79%	24.82%	44.75%	85.39%	100%
Standard Deviation	0.6%	0.3%	0.8%	0.6%	0.3%	0.6%	1.7%
Tesseract OCR - T.T.O.7.I (sec)	**93.13**	58.84	57.98	53.33	52.02	48.92	**41.90**
Normalized	44.99%	71.21%	72.27%	78.57%	80.55%	85.65%	100%
Standard Deviation	0.6%	0.7%	1.1%	2%	1.3%	2.4%	1.5%
BRL-CAD - V.P.M (VGR Performance Metric)	**5684**	13045	28440	58199	119461	354090	**428502**
Normalized	1.33%	3.04%	6.64%	13.58%	27.88%	82.63%	100%

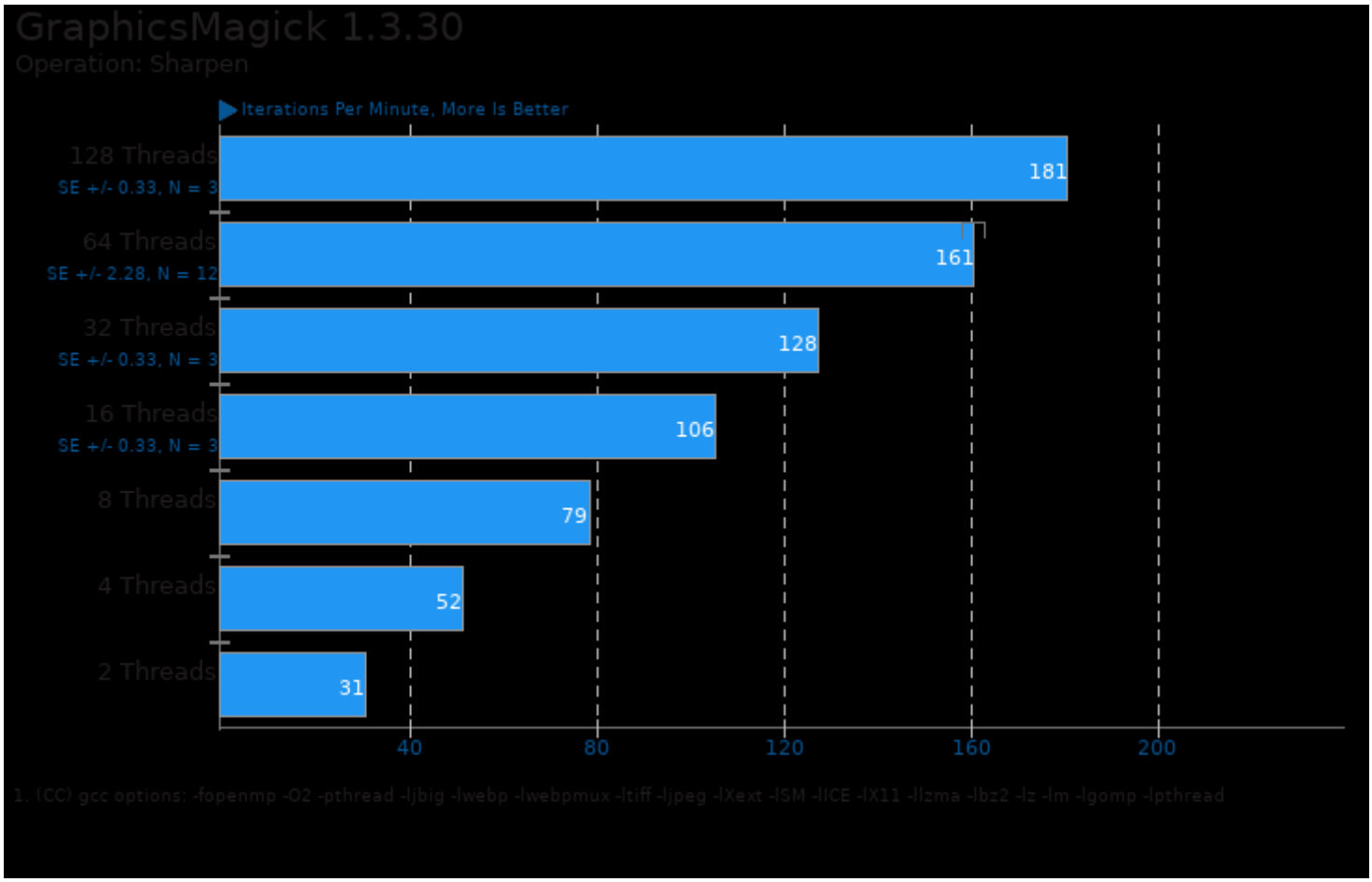

Rodinia 2.4
Test: OpenMP LavaMD
Seconds, Fewer Is Better
128 Threads
SE +/- 0.29, N = 3
16.92
64 Threads
SE +/- 0.18, N = 3
20.53
32 Threads
SE +/- 0.02, N = 3
53.96
16 Threads
SE +/- 0.16, N = 3
107.09
8 Threads
SE +/- 0.66, N = 3
211.36
4 Threads
SE +/- 0.49, N = 3
419.17
2 Threads
SE +/- 0.62, N = 3
825.65
200
400
600
800
1000
1. (CXX) g++ options: -O2 -lOpenCL
Rodinia 2.4
Test: OpenMP CFD Solver
Seconds, Fewer Is Better
128 Threads
SE +/- 0.39, N = 12
11.97
64 Threads
SE +/- 1.51, N = 10
13.67
32 Threads
SE +/- 0.26, N = 12
18.04
16 Threads
SE +/- 0.64, N = 12
27.53
8 Threads
SE +/- 0.12, N = 3
42.86
4 Threads
SE +/- 0.15, N = 3
74.65
2 Threads
SE +/- 2.88, N = 3
145.85
30
60
90
120
150
1. (CXX) g++ options: -O2 -lOpenCL

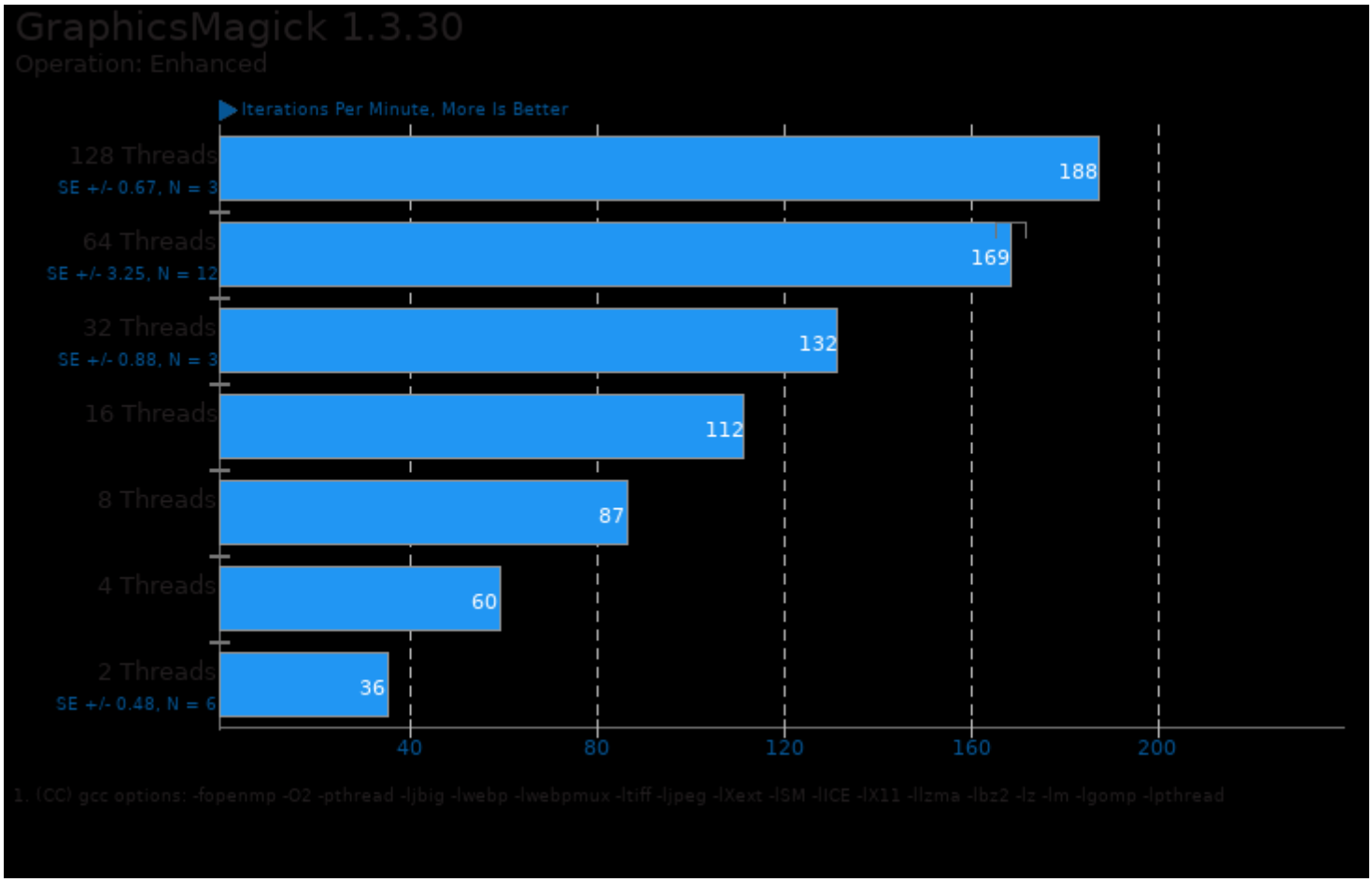

NAMD 2.13b1
ATPase Simulation - 327,506 Atoms
days/ns, Fewer Is Better
128 Threads
SE +/- 0.00061, N = 3
0.45093
64 Threads
SE +/- 0.00252, N = 3
0.51265
32 Threads
SE +/- 0.00106, N = 3
1.25996
16 Threads
SE +/- 0.00238, N = 3
2.50156
8 Threads
SE +/- 0.00206, N = 3
4.98168
4 Threads
SE +/- 0.01087, N = 3
9.91730
2 Threads
SE +/- 0.00958, N = 3
19.70173
5
10
15
20
25
DaCapo Benchmark 9.12-MR1
Java Test: Jython
msec, Fewer Is Better
128 Threads
SE +/- 53.93, N = 4
6470
64 Threads
SE +/- 25.60, N = 4
6630
32 Threads
SE +/- 31.31, N = 4
8164
16 Threads
SE +/- 55.77, N = 4
8210
8 Threads
SE +/- 130.64, N = 4
8756
4 Threads
SE +/- 37.10, N = 4
8879
2 Threads
SE +/- 106.17, N = 4
10541
2K
4K
6K
8K
10K


TTSIOD 3D Renderer 2.3b
Phong Rendering With Soft-Shadow Mapping
FPS, More Is Better
64 Threads
SE +/- 6.16, N = 12
386.00
128 Threads
SE +/- 8.58, N = 9
365.00
32 Threads
SE +/- 2.26, N = 3
246.00
16 Threads
SE +/- 0.49, N = 3
159.00
8 Threads
SE +/- 0.14, N = 3
95.35
4 Threads
SE +/- 0.12, N = 3
53.96
2 Threads
SE +/- 0.10, N = 3
33.14
80
160
240
320
400
1. (CXX) g++ options: -O3 -fomit-frame-pointer -ffast-math -mtune=native -flto -msse -mrecip -mfpmath=sse -msse2 -mssse3 -lSDL -fopenmp -fwhole-pr


x264 2018-07-28
H.264 Video Encoding
Frames Per Second, More Is Better
64 Threads
SE +/- 0.26, N = 3
156.00
128 Threads
SE +/- 0.57, N = 3
148.00
32 Threads
SE +/- 0.12, N = 3
119.00
16 Threads
SE +/- 0.13, N = 3
64.34
8 Threads
SE +/- 0.05, N = 3
33.72
4 Threads
SE +/- 0.01, N = 3
17.71
2 Threads
SE +/- 0.06, N = 3
11.06
30
60
90
120
150
1. (CC) gcc options: -ldl -lavformat -lavcodec -lavutil -lswscale -m64 -lm -lpthread -O3 -ffast-math -std=gnu99 -fPIC -fomit-frame-pointer -fno-tree-vectori

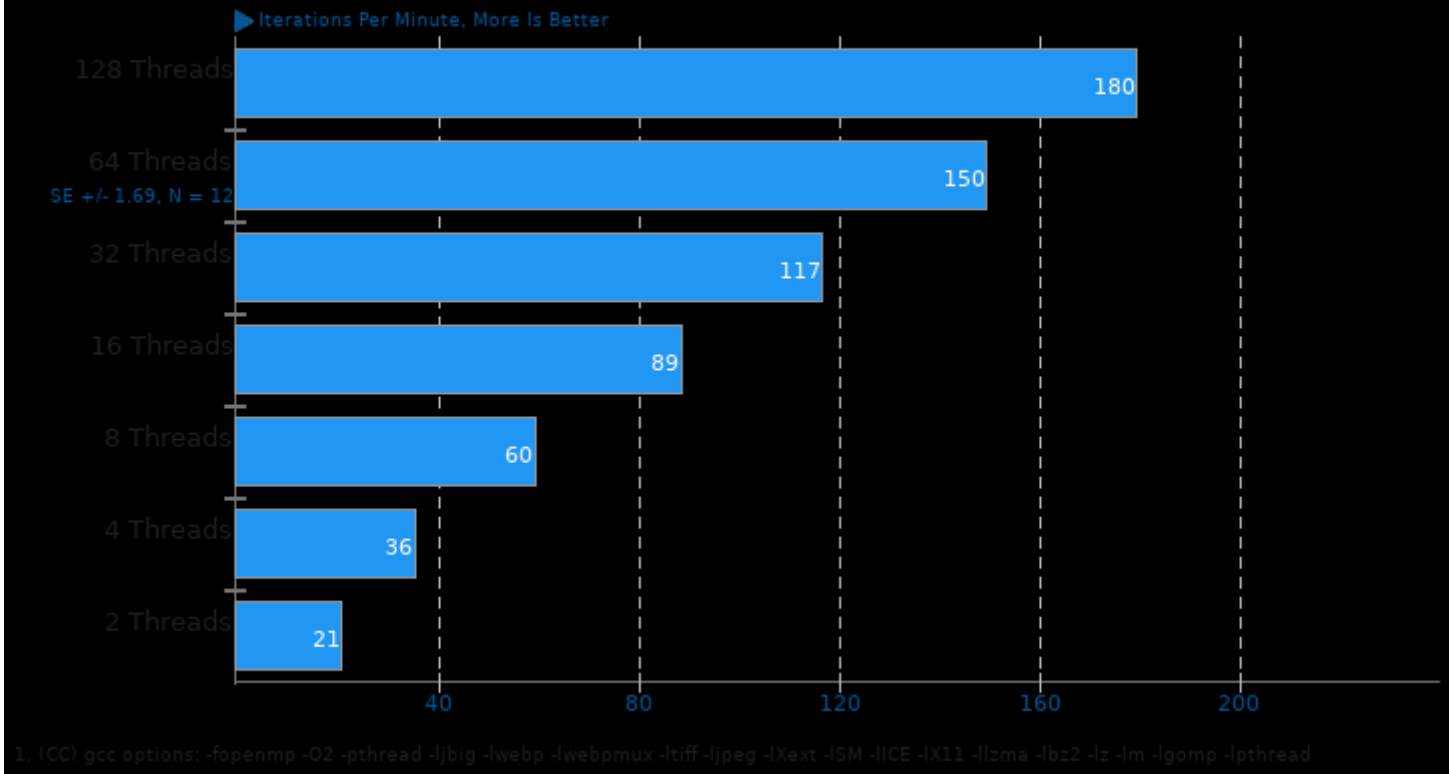

GraphicsMagick 1.3.30
Operation: Swirl
Iterations Per Minute, More Is Better
128 Threads
196
64 Threads
SE +/- 2.89, N = 12
175
32 Threads
SE +/- 0.88, N = 3
145
16 Threads
SE +/- 0.67, N = 3
133
8 Threads
116
4 Threads
91
2 Threads
SE +/- 0.33, N = 3
64
40
80
120
160
200
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lz -lm -lgomp -lpthread


GraphicsMagick 1.3.30
Operation: Sharpen
Iterations Per Minute, More Is Better
128 Threads
SE +/- 0.33, N = 3
181
64 Threads
SE +/- 2.28, N = 12
161
32 Threads
SE +/- 0.33, N = 3
128
16 Threads
SE +/- 0.33, N = 3
106
8 Threads
79
4 Threads
52
2 Threads
31
40
80
120
160
200
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lz -lm -lgomp -lpthread


GraphicsMagick 1.3.30
Operation: Enhanced
Iterations Per Minute, More Is Better
128 Threads
SE +/- 0.67, N = 3
188
64 Threads
SE +/- 3.25, N = 12
169
32 Threads
SE +/- 0.88, N = 3
132
16 Threads
112
8 Threads
87
4 Threads
60
2 Threads
SE +/- 0.48, N = 6
36
40
80
120
160
200
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lz -lm -lgomp -lpthread

GraphicsMagick 1.3.30

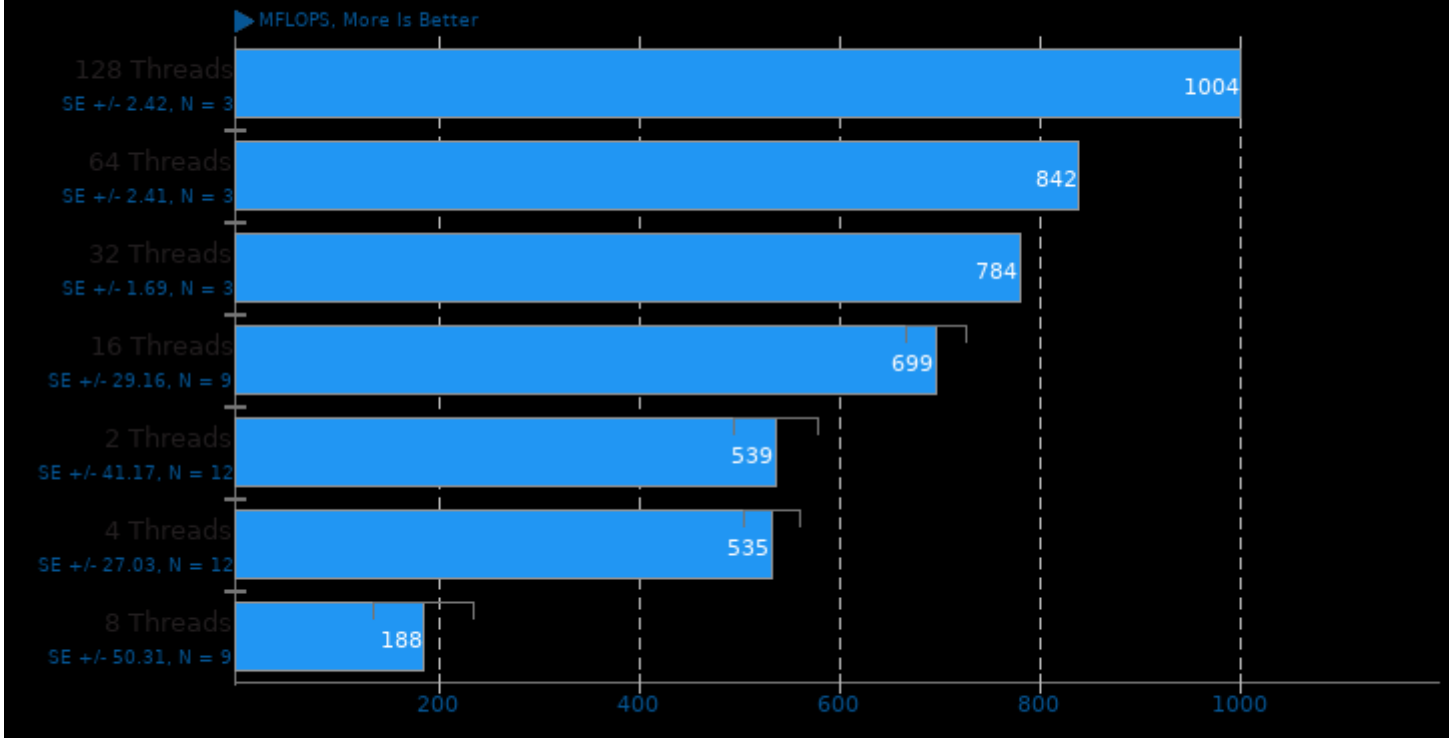
Operation: Noise-Gaussian



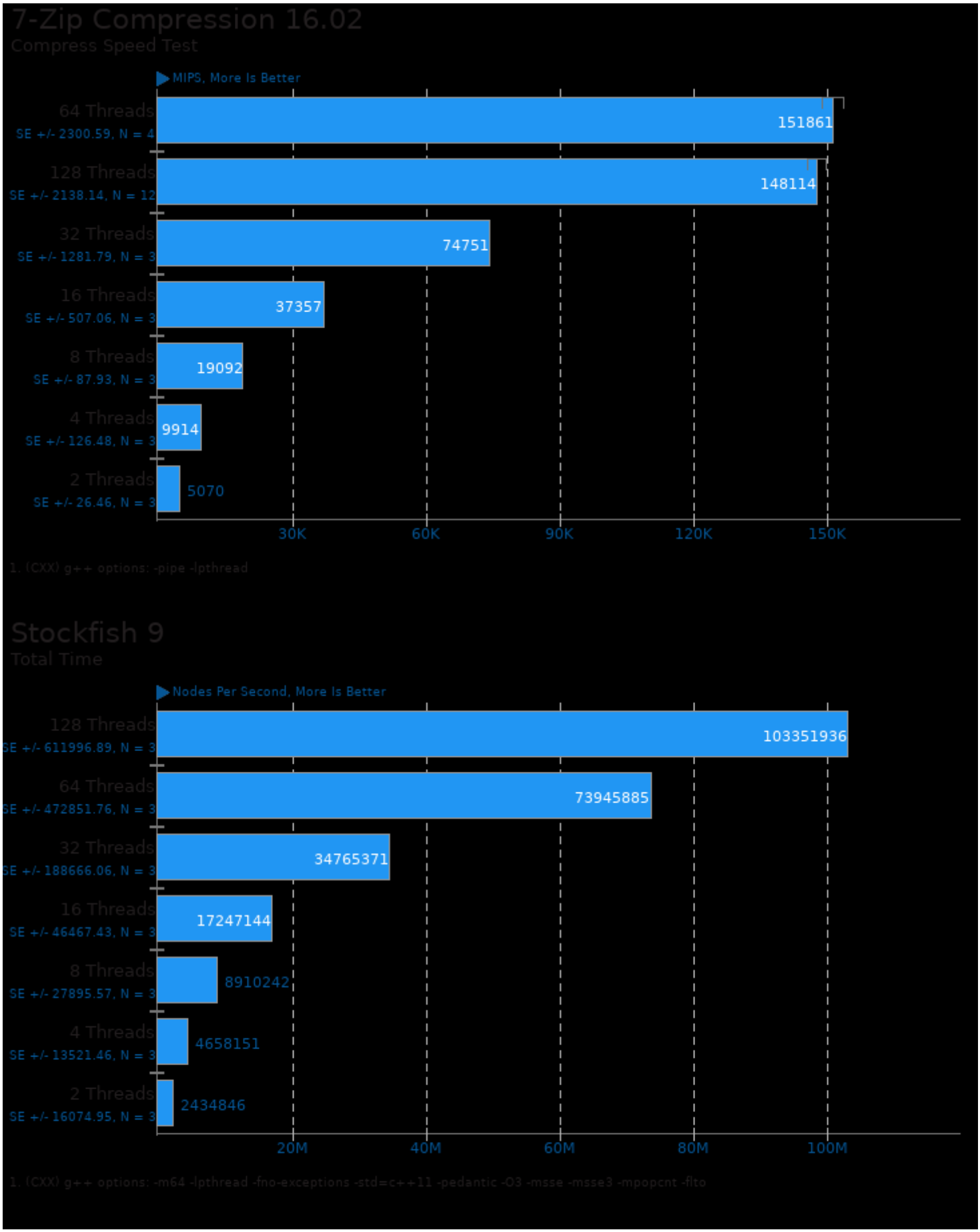
1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lz -lm -lgomp -lpthread

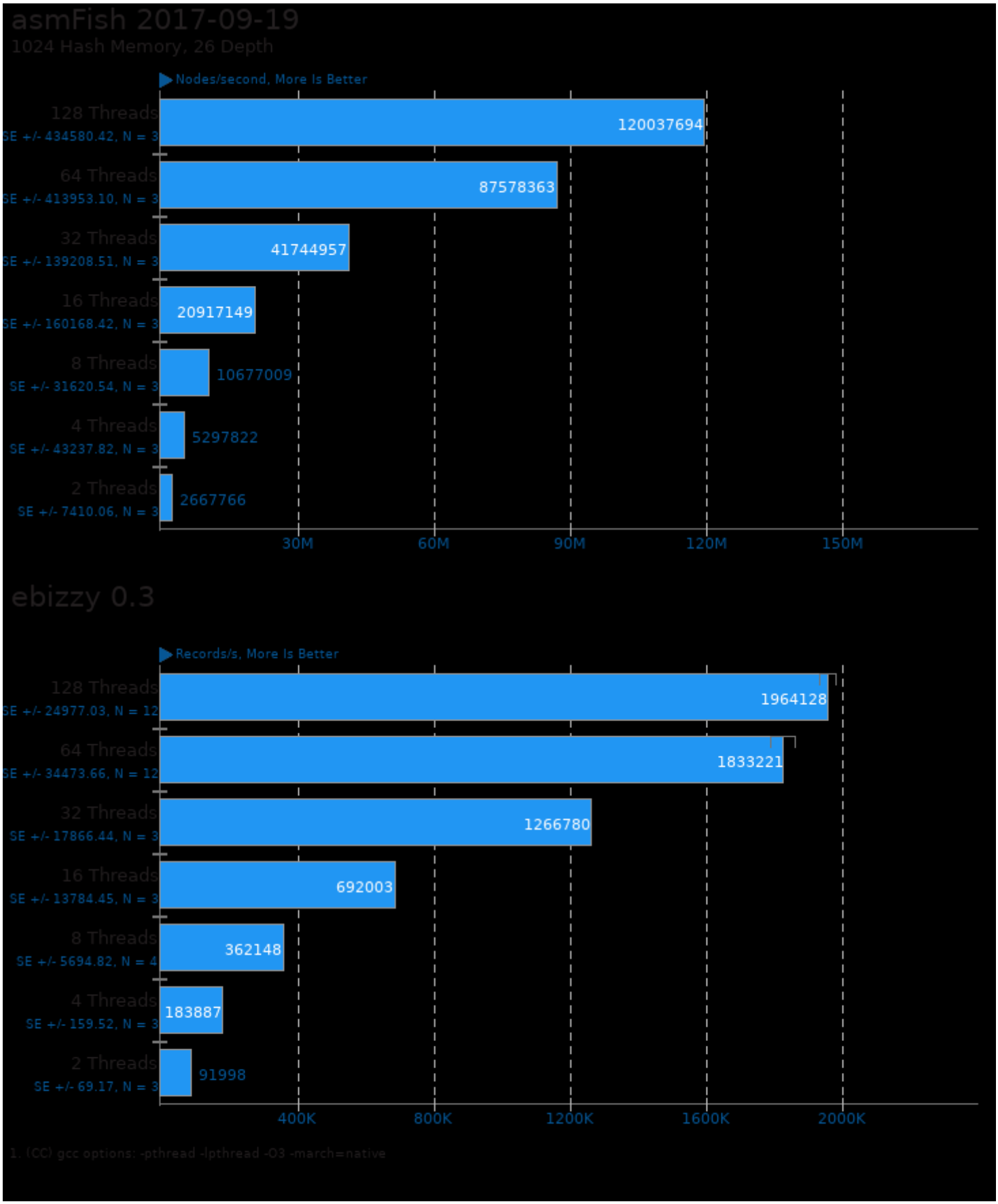
Himeno Benchmark 3.0

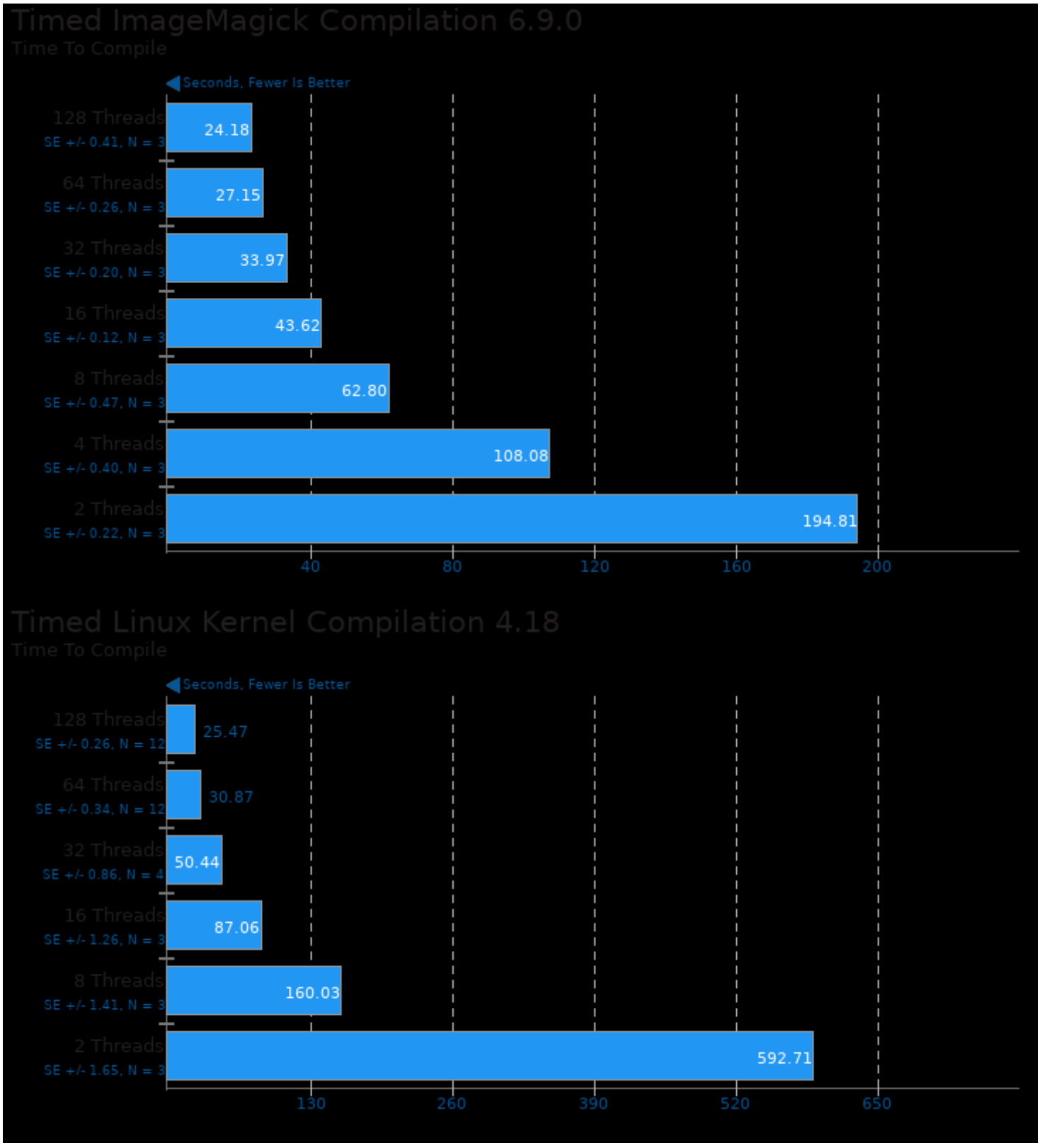
Poisson Pressure Solver

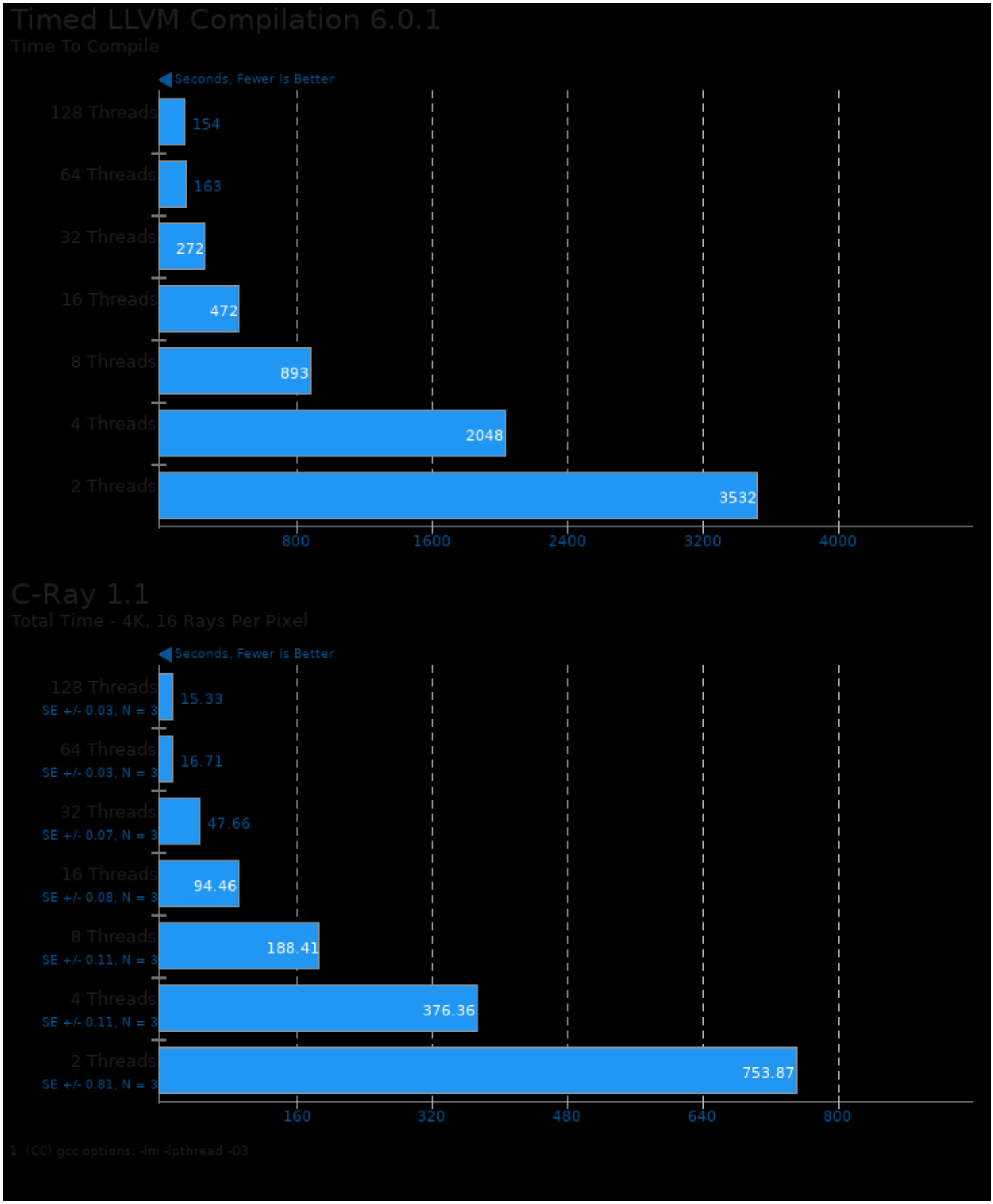


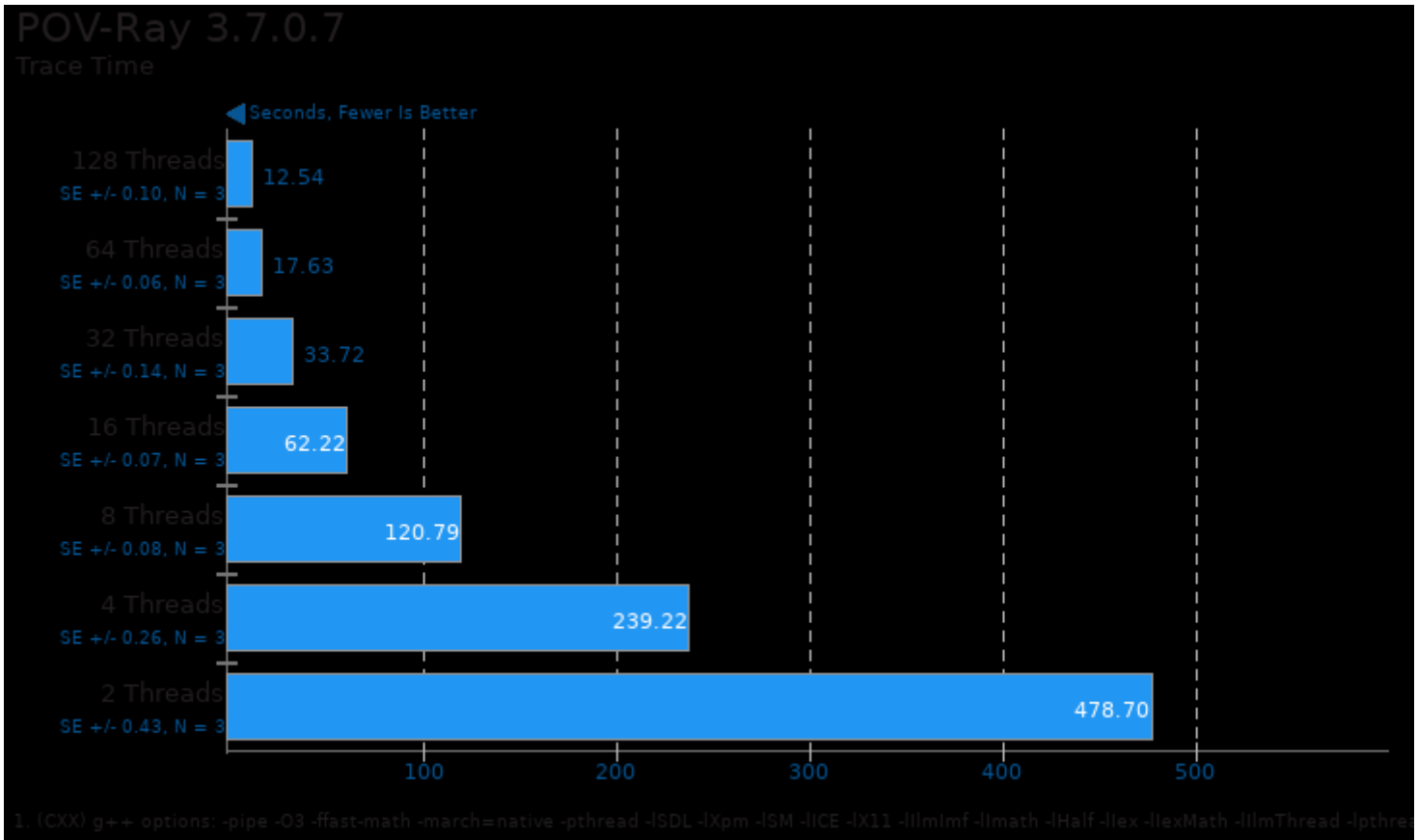
1. (CC) gcc options: -O3 -mavx2

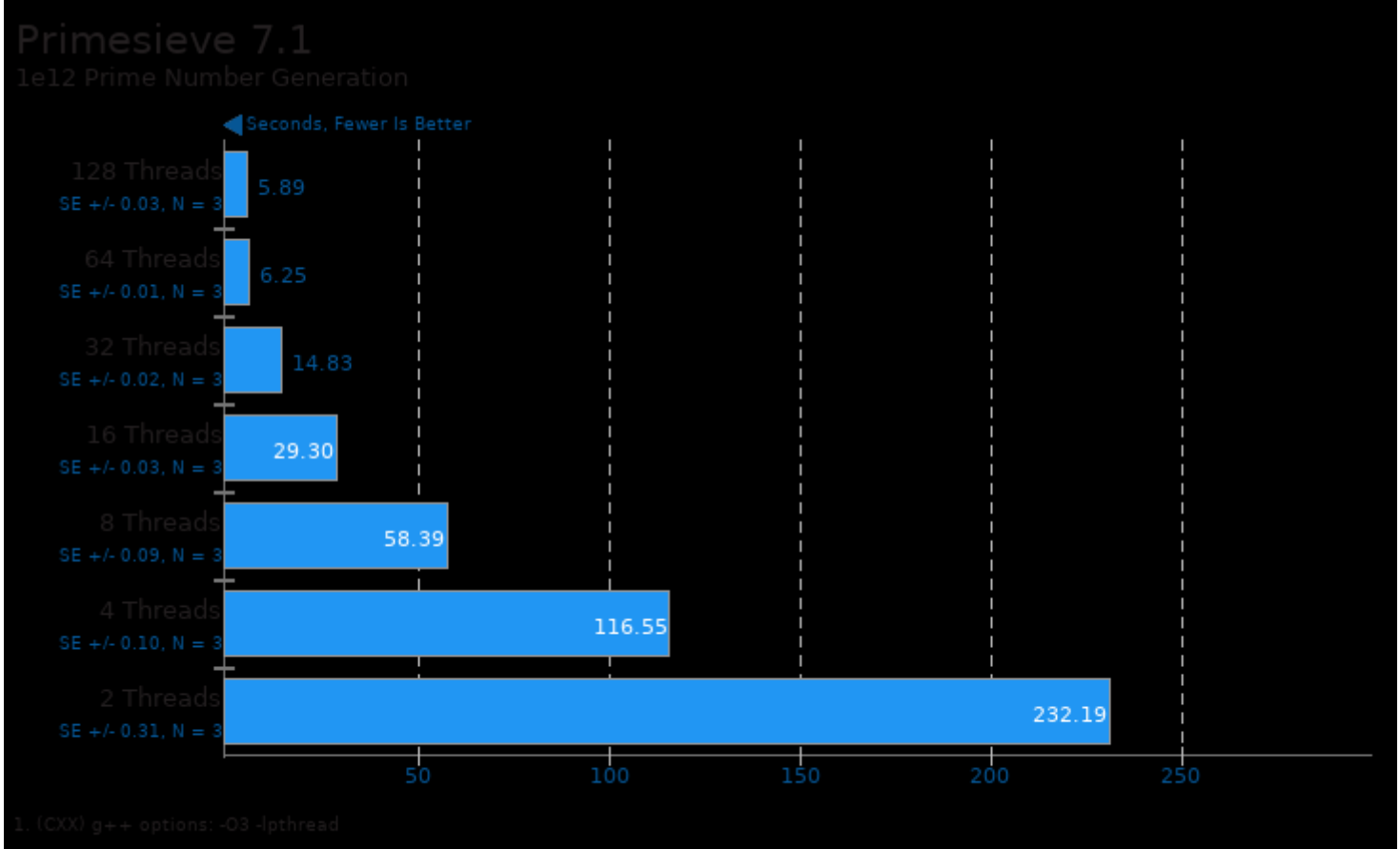

7-Zip Compression 16.02
Compress Speed Test
MIPS, More Is Better
64 Threads
SE +/- 2300.59, N = 4
151861
128 Threads
SE +/- 2138.14, N = 12
148114
32 Threads
SE +/- 1281.79, N = 3
74751
16 Threads
SE +/- 507.06, N = 3
37357
8 Threads
SE +/- 87.93, N = 3
19092
4 Threads
SE +/- 126.48, N = 3
9914
2 Threads
SE +/- 26.46, N = 3
5070
30K
60K
90K
120K
150K
1. (CXX) g++ options: -pipe -lpthread
Stockfish 9
Total Time
Nodes Per Second, More Is Better
128 Threads
SE +/- 611996.89, N = 3
103351936
64 Threads
SE +/- 472851.76, N = 3
73945885
32 Threads
SE +/- 188666.06, N = 3
34765371
16 Threads
SE +/- 46467.43, N = 3
17247144
8 Threads
SE +/- 27895.57, N = 3
8910242
4 Threads
SE +/- 13521.46, N = 3
4658151
2 Threads
SE +/- 16074.95, N = 3
2434846
20M
40M
60M
80M
100M
1. (CXX) g++ options: -m64 -lpthread -fno-exceptions -std=c++11 -pedantic -O3 -msse -msse3 -mpopcnt -flto


asmFish 2017-09-19
1024 Hash Memory, 26 Depth
Nodes/second, More Is Better
128 Threads
SE +/- 434580.42, N = 3
120037694
64 Threads
SE +/- 413953.10, N = 3
87578363
32 Threads
SE +/- 139208.51, N = 3
41744957
16 Threads
SE +/- 160168.42, N = 3
20917149
8 Threads
SE +/- 31620.54, N = 3
10677009
4 Threads
SE +/- 43237.82, N = 3
5297822
2 Threads
SE +/- 7410.06, N = 3
2667766
30M
60M
90M
120M
150M
ebizzy 0.3
Records/s, More Is Better
128 Threads
SE +/- 24977.03, N = 12
1964128
64 Threads
SE +/- 34473.66, N = 12
1833221
32 Threads
SE +/- 17866.44, N = 3
1266780
16 Threads
SE +/- 13784.45, N = 3
692003
8 Threads
SE +/- 5694.82, N = 4
362148
4 Threads
SE +/- 159.52, N = 3
183887
2 Threads
SE +/- 69.17, N = 3
91998
400K
800K
1200K
1600K
2000K
1. (CC) gcc options: -pthread -lpthread -O3 -march=native


Timed ImageMagick Compilation 6.9.0
Time To Compile
Seconds, Fewer Is Better
128 Threads
SE +/- 0.41, N = 3
24.18
64 Threads
SE +/- 0.26, N = 3
27.15
32 Threads
SE +/- 0.20, N = 3
33.97
16 Threads
SE +/- 0.12, N = 3
43.62
8 Threads
SE +/- 0.47, N = 3
62.80
4 Threads
SE +/- 0.40, N = 3
108.08
2 Threads
SE +/- 0.22, N = 3
194.81
40
80
120
160
200
Timed Linux Kernel Compilation 4.18
Time To Compile
Seconds, Fewer Is Better
128 Threads
SE +/- 0.26, N = 12
25.47
64 Threads
SE +/- 0.34, N = 12
30.87
32 Threads
SE +/- 0.86, N = 4
50.44
16 Threads
SE +/- 1.26, N = 3
87.06
8 Threads
SE +/- 1.41, N = 3
160.03
2 Threads
SE +/- 1.65, N = 3
592.71
130
260
390
520
650

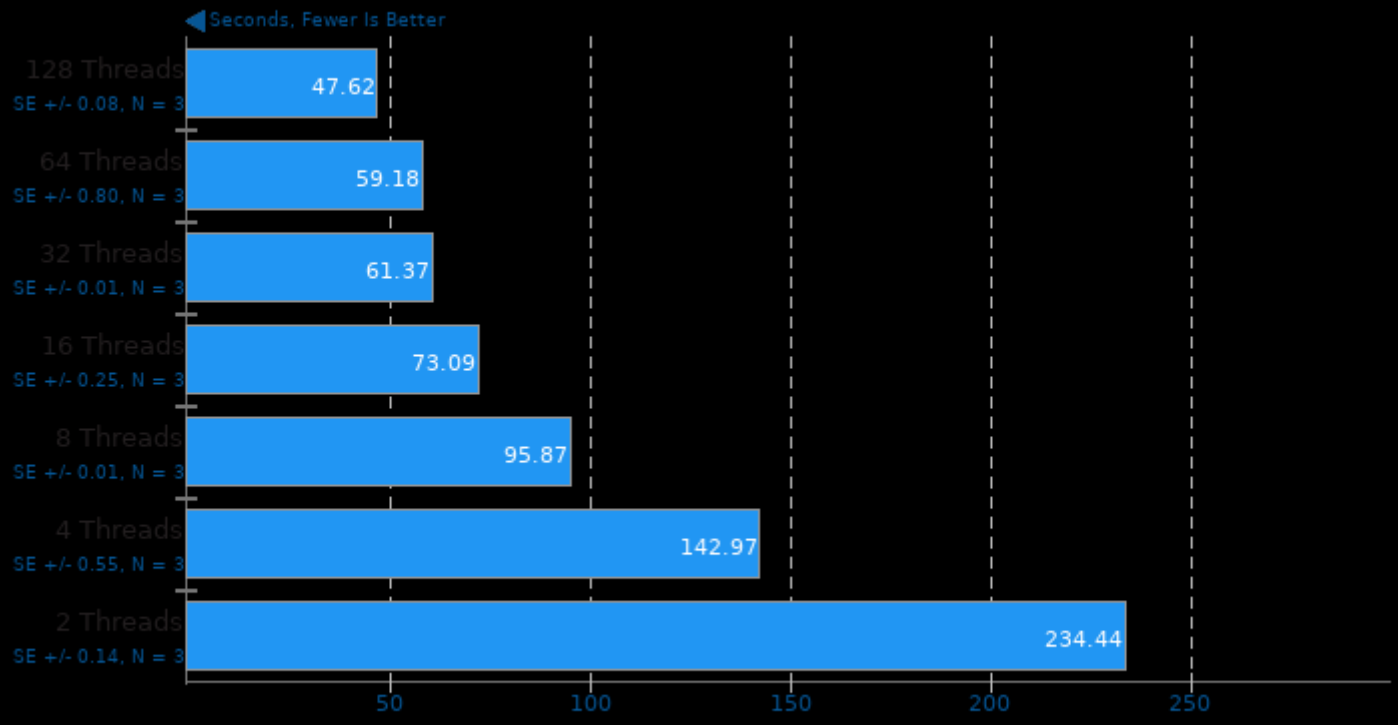

Timed LLVM Compilation 6.0.1
Time To Compile
Seconds, Fewer Is Better
128 Threads
154
64 Threads
163
32 Threads
272
16 Threads
472
8 Threads
893
4 Threads
2048
2 Threads
3532
800
1600
2400
3200
4000
C-Ray 1.1
Total Time - 4K, 16 Rays Per Pixel
Seconds, Fewer Is Better
128 Threads
SE +/- 0.03, N = 3
15.33
64 Threads
SE +/- 0.03, N = 3
16.71
32 Threads
SE +/- 0.07, N = 3
47.66
16 Threads
SE +/- 0.08, N = 3
94.46
8 Threads
SE +/- 0.11, N = 3
188.41
4 Threads
SE +/- 0.11, N = 3
376.36
2 Threads
SE +/- 0.81, N = 3
753.87
160
320
480
640
800
1. (CC) gcc options: -lm -lpthread -O3


POV-Ray 3.7.0.7
Trace Time
Seconds, Fewer Is Better
128 Threads
SE +/- 0.10, N = 3
12.54
64 Threads
SE +/- 0.06, N = 3
17.63
32 Threads
SE +/- 0.14, N = 3
33.72
16 Threads
SE +/- 0.07, N = 3
62.22
8 Threads
SE +/- 0.08, N = 3
120.79
4 Threads
SE +/- 0.26, N = 3
239.22
2 Threads
SE +/- 0.43, N = 3
478.70
100
200
300
400
500
1. (CXX) g++ options: -pipe -O3 -ffast-math -march=native -pthread -lSDL -lXpm -lSM -lICE -lX11 -lIlmImf -lImath -lHalf -lIex -lIexMath -lIlmThread -lpthre


Primesieve 7.1
1e12 Prime Number Generation
Seconds, Fewer Is Better
128 Threads
SE +/- 0.03, N = 3
5.89
64 Threads
SE +/- 0.01, N = 3
6.25
32 Threads
SE +/- 0.02, N = 3
14.83
16 Threads
SE +/- 0.03, N = 3
29.30
8 Threads
SE +/- 0.09, N = 3
58.39
4 Threads
SE +/- 0.10, N = 3
116.55
2 Threads
SE +/- 0.31, N = 3
232.19
50
100
150
200
250
1. (CXX) g++ options: -O3 -lpthread

Rust Mandelbrot

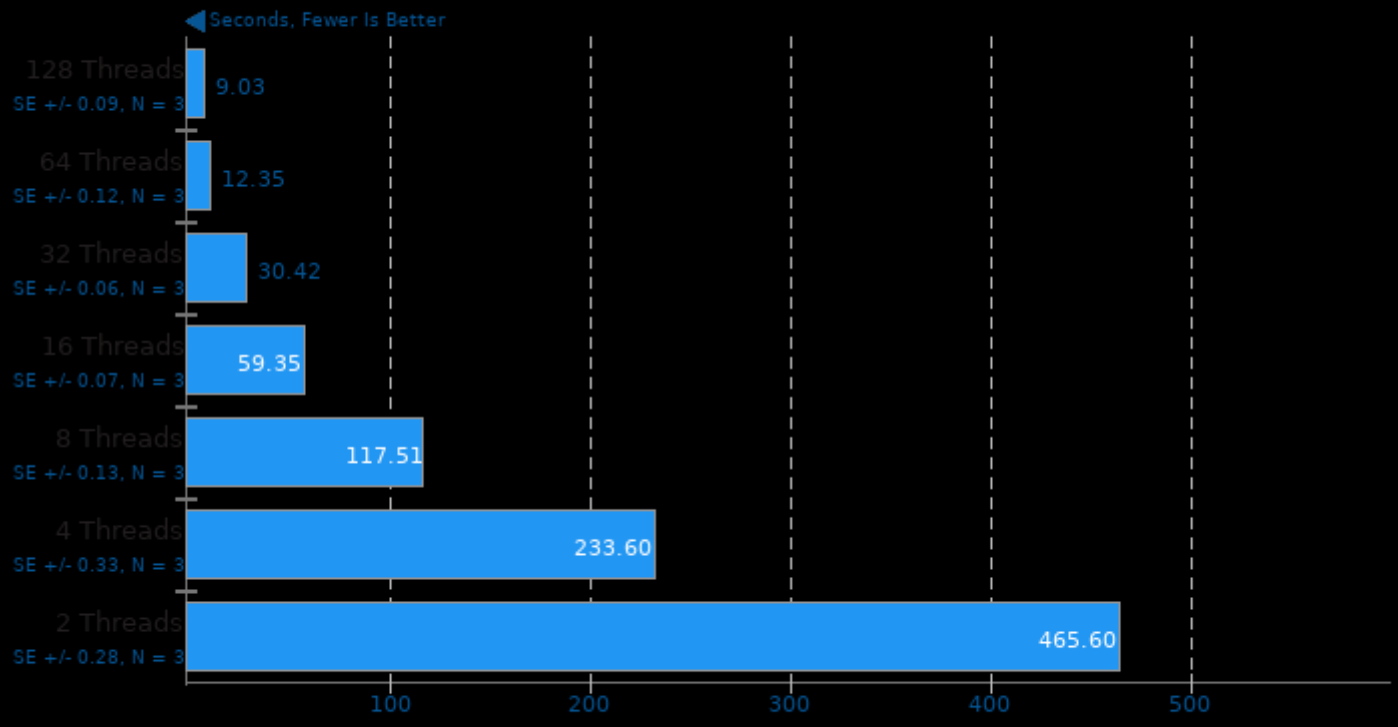
Time To Complete Serial/Parallel Mandelbrot



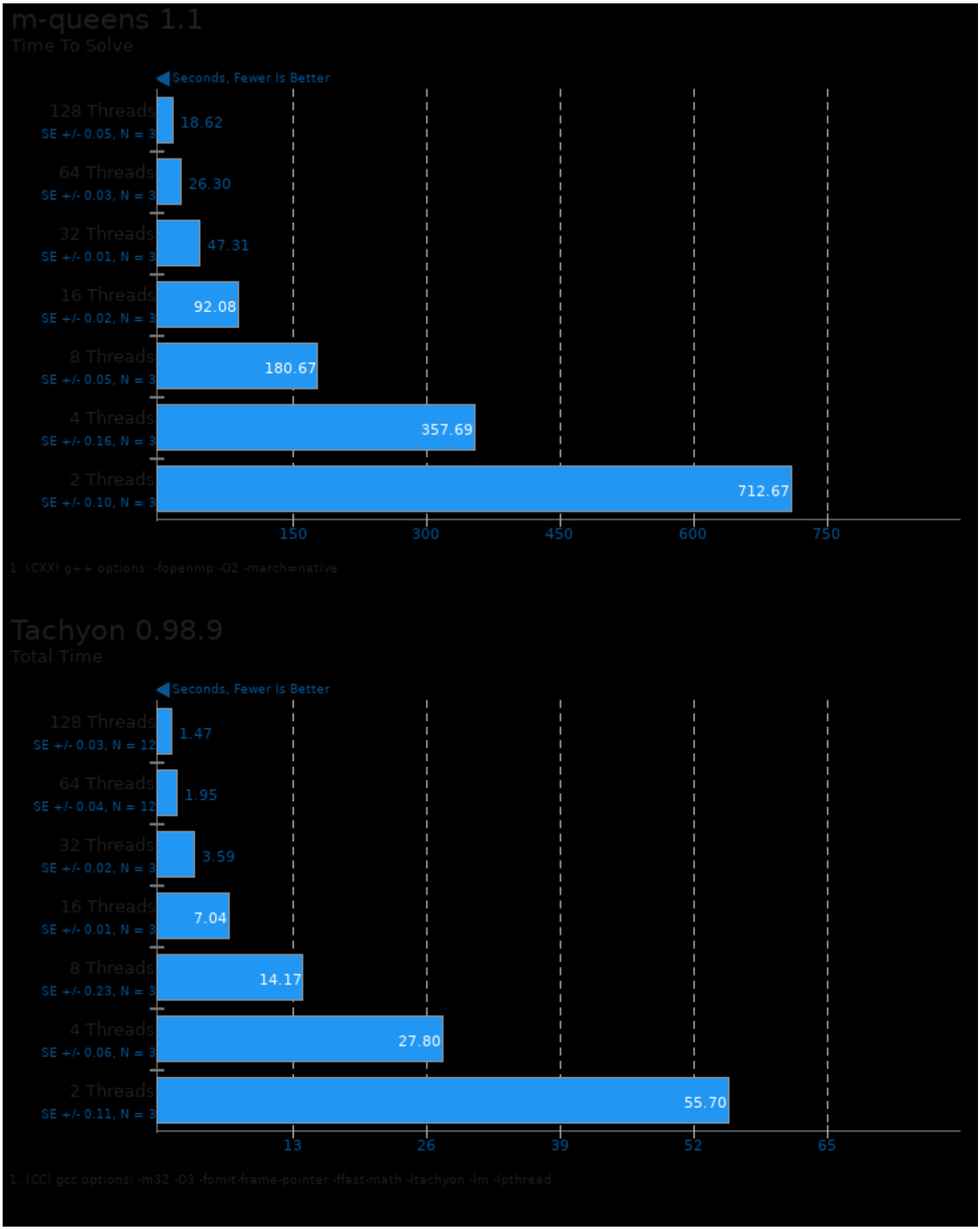
1. (CC) gcc options: -m64 -pie -nodefaultlibs

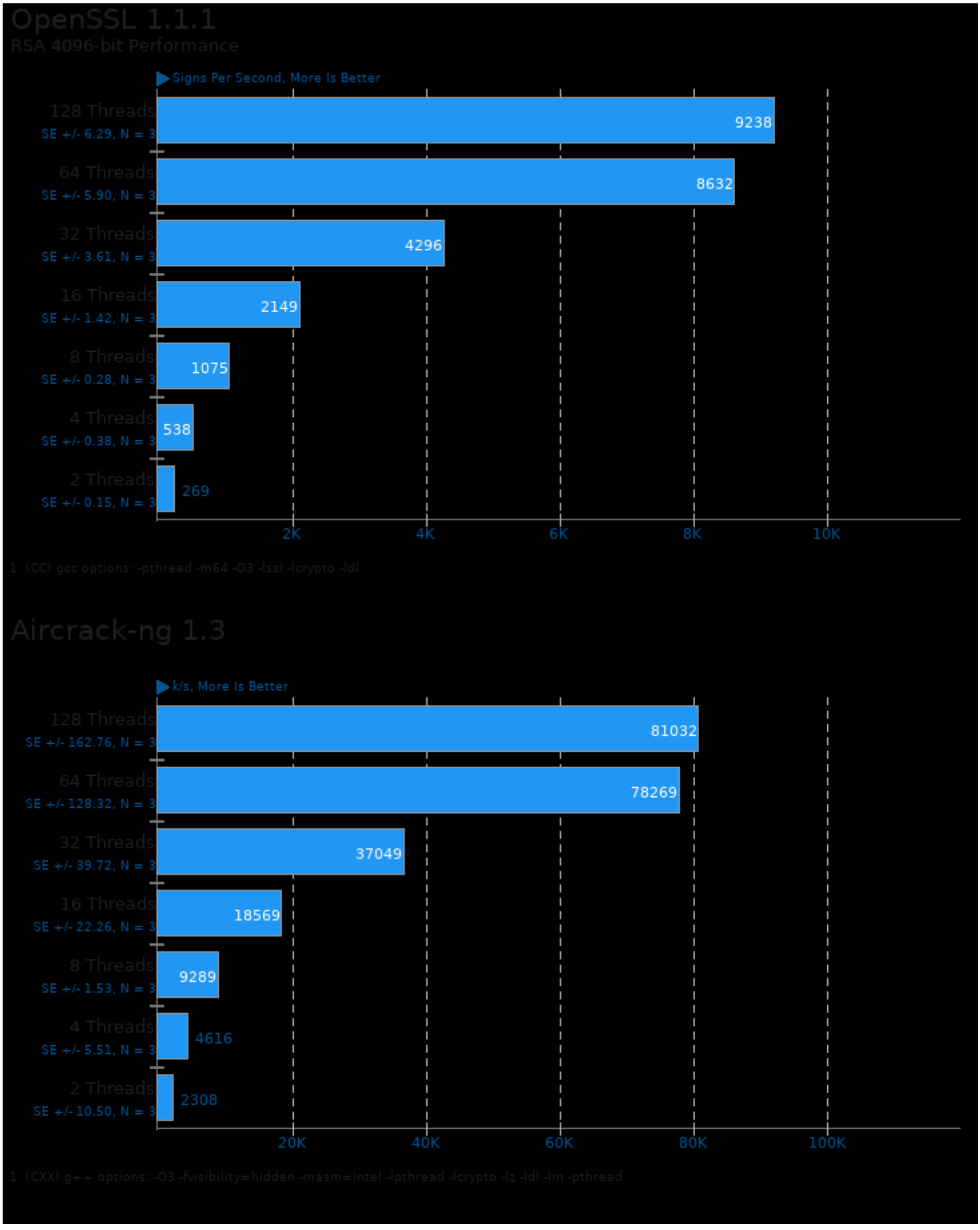
Smallpt 1.0

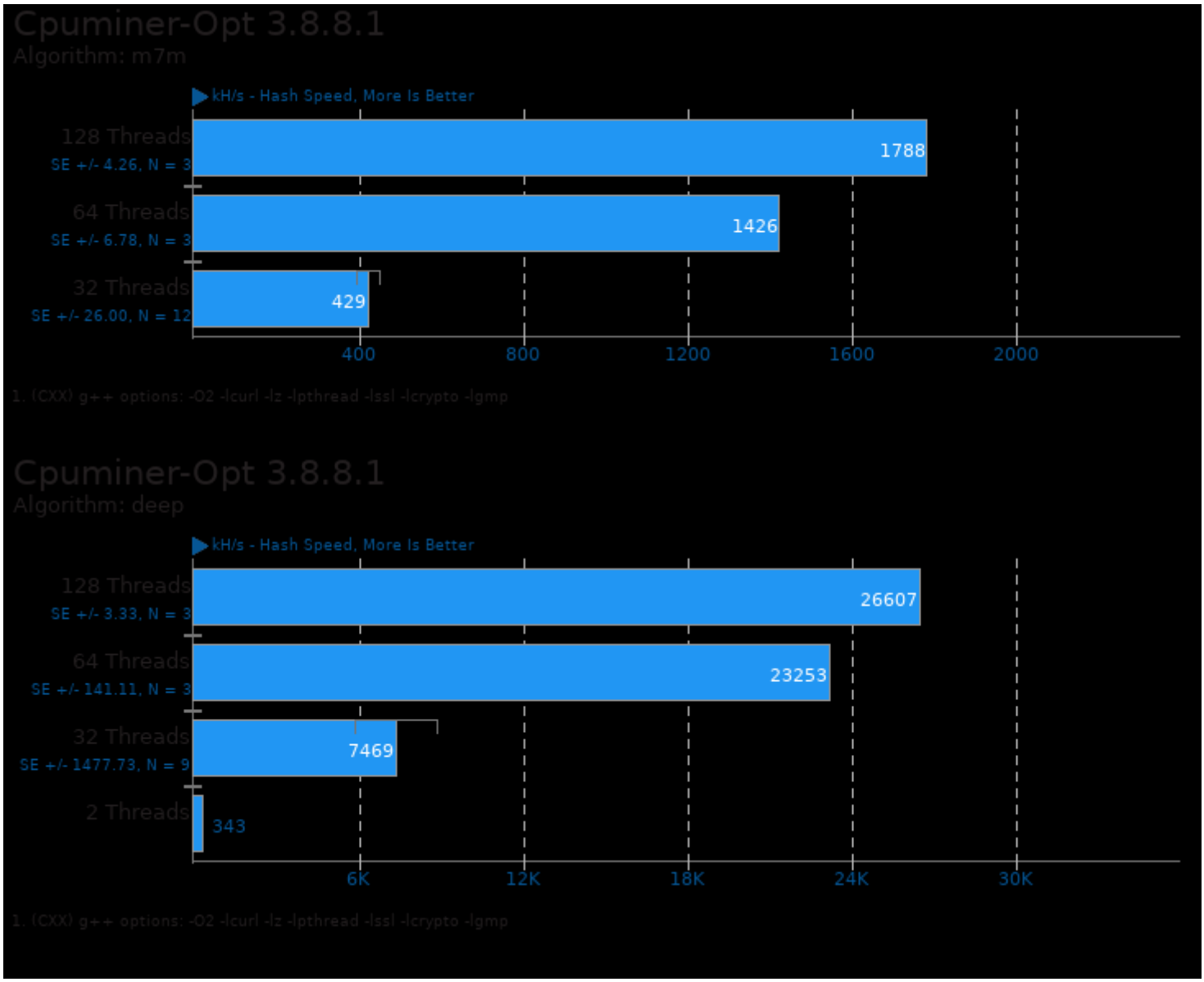
Global Illumination Renderer; 128 Samples

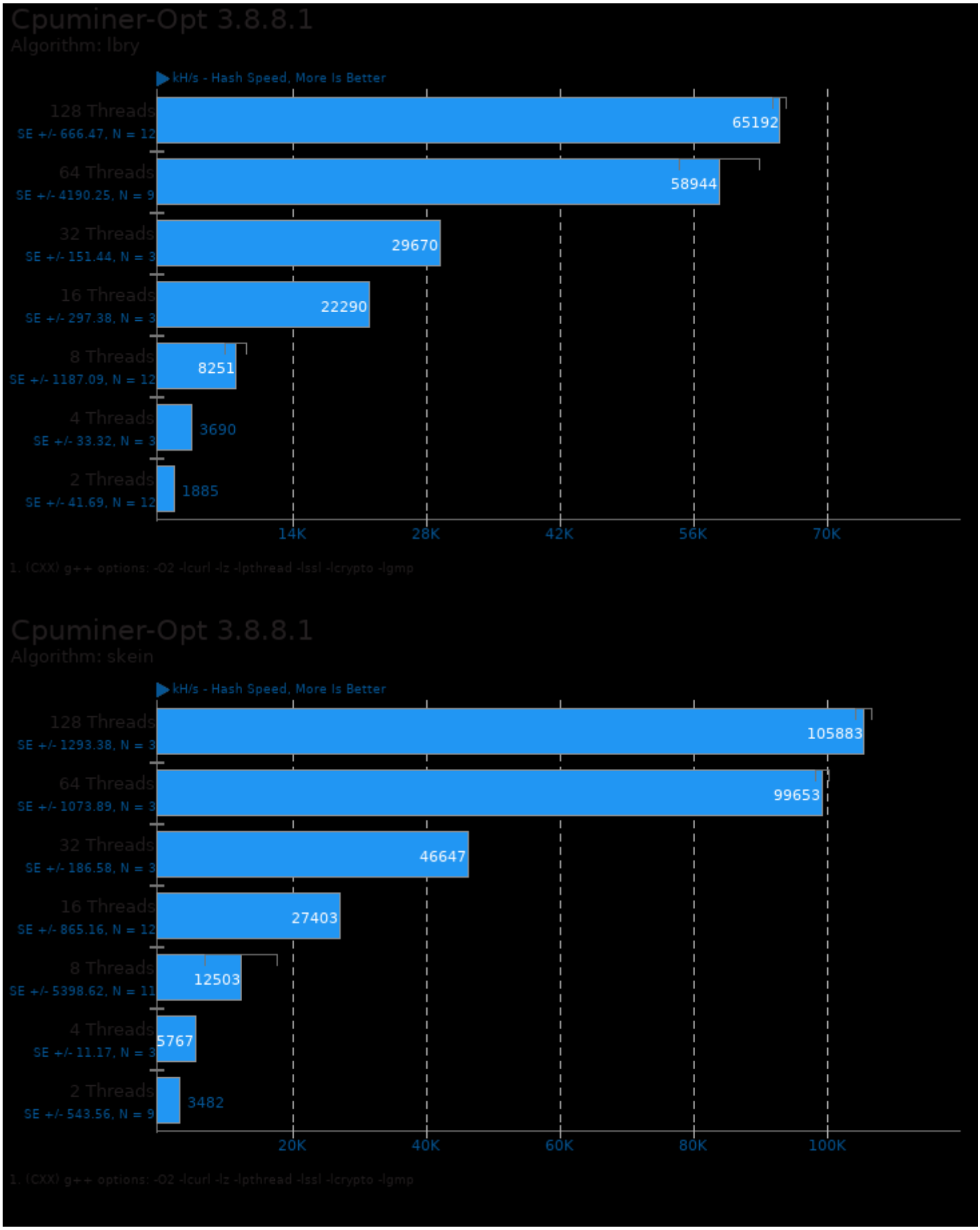


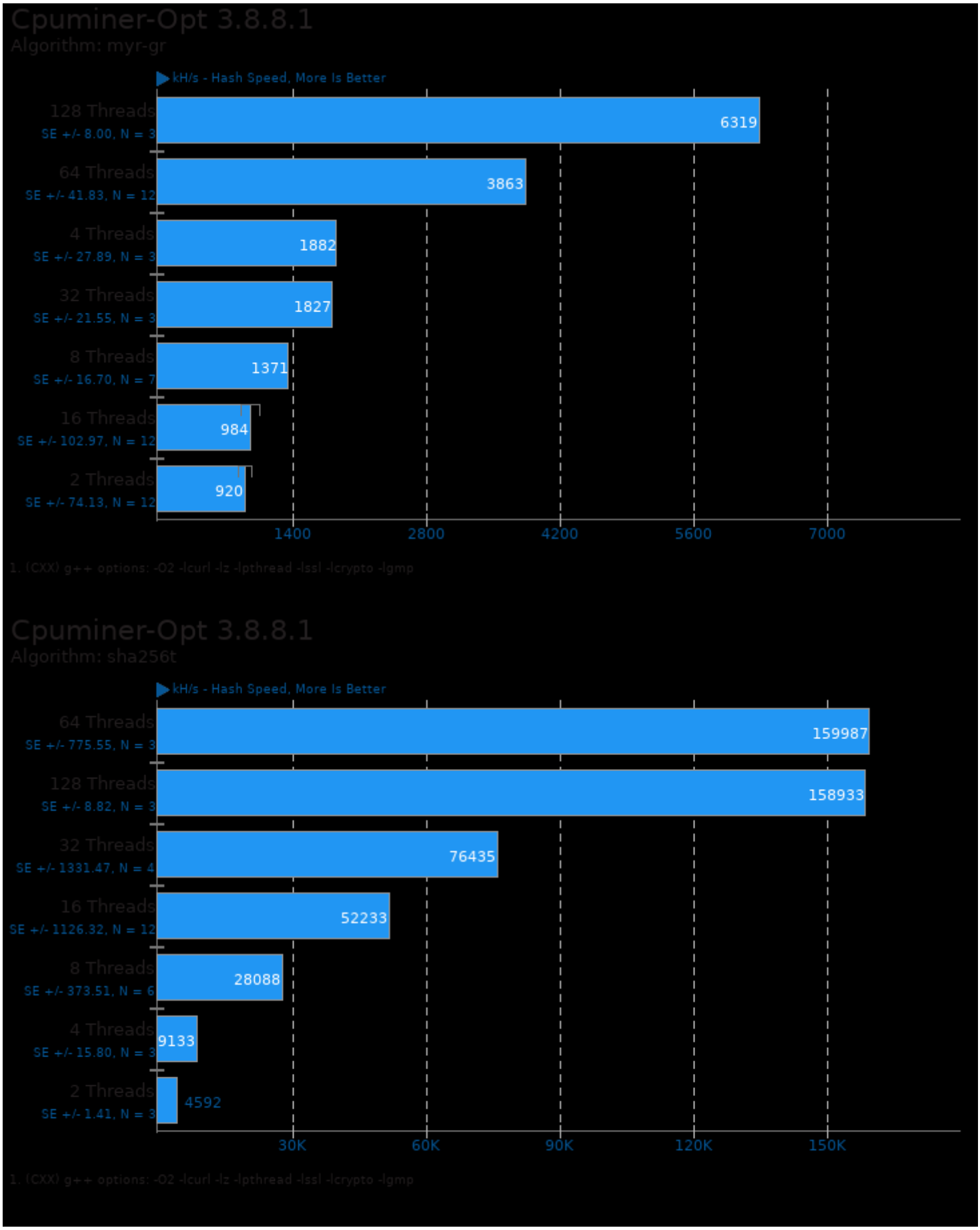
1. (CXX) g++ options: -fopenmp

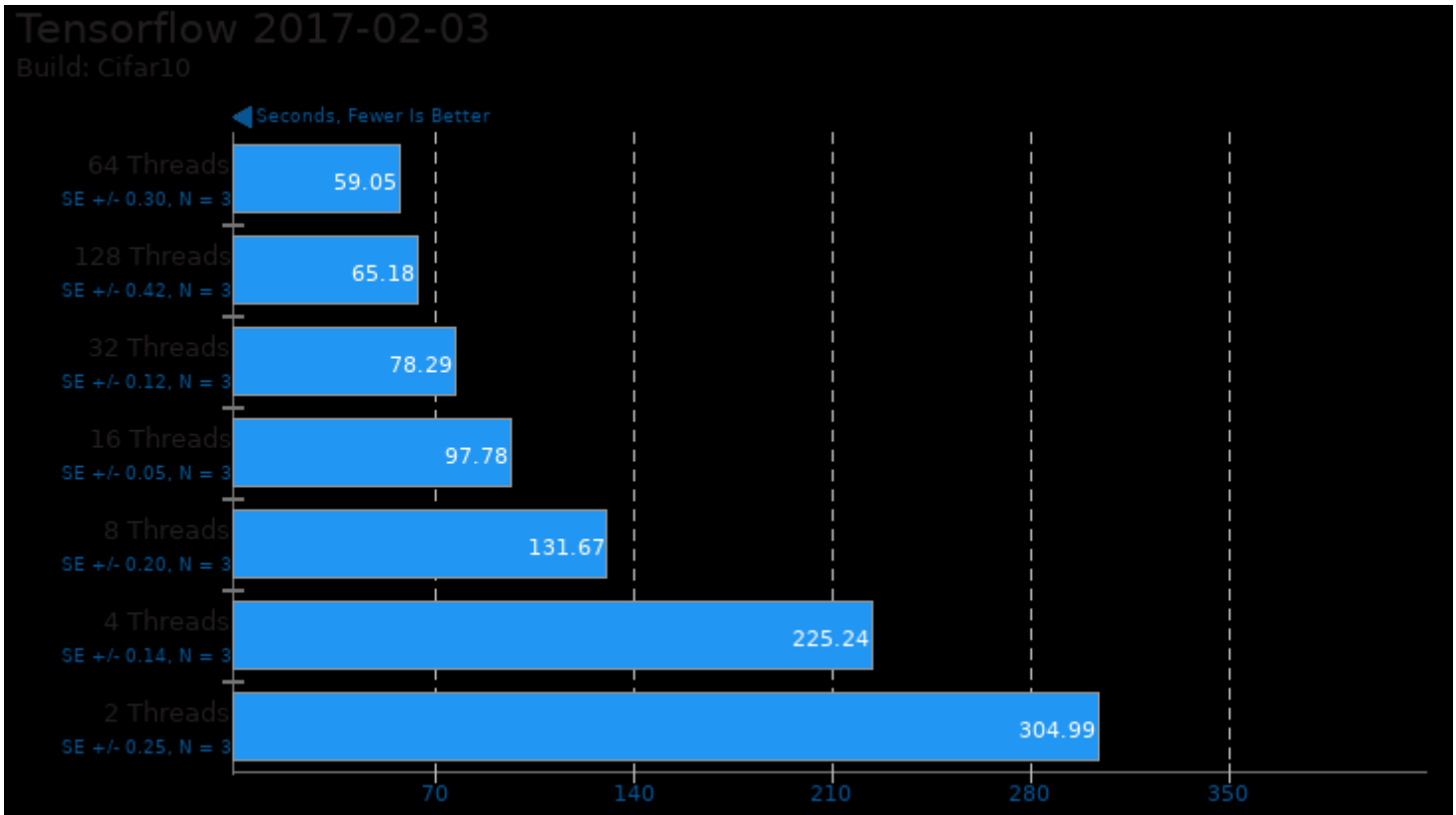

m-queens 1.1
Time To Solve
Seconds, Fewer Is Better
128 Threads
SE +/- 0.05, N = 3
18.62
64 Threads
SE +/- 0.03, N = 3
26.30
32 Threads
SE +/- 0.01, N = 3
47.31
16 Threads
SE +/- 0.02, N = 3
92.08
8 Threads
SE +/- 0.05, N = 3
180.67
4 Threads
SE +/- 0.16, N = 3
357.69
2 Threads
SE +/- 0.10, N = 3
712.67
150
300
450
600
750
1. (CXX) g++ options: -fopenmp -O2 -march=native
Tachyon 0.98.9
Total Time
Seconds, Fewer Is Better
128 Threads
SE +/- 0.03, N = 12
1.47
64 Threads
SE +/- 0.04, N = 12
1.95
32 Threads
SE +/- 0.02, N = 3
3.59
16 Threads
SE +/- 0.01, N = 3
7.04
8 Threads
SE +/- 0.23, N = 3
14.17
4 Threads
SE +/- 0.06, N = 3
27.80
2 Threads
SE +/- 0.11, N = 3
55.70
13
26
39
52
65
1. (CC) gcc options: -m32 -O3 -fomit-frame-pointer -ffast-math -ltachyon -lm -lpthread

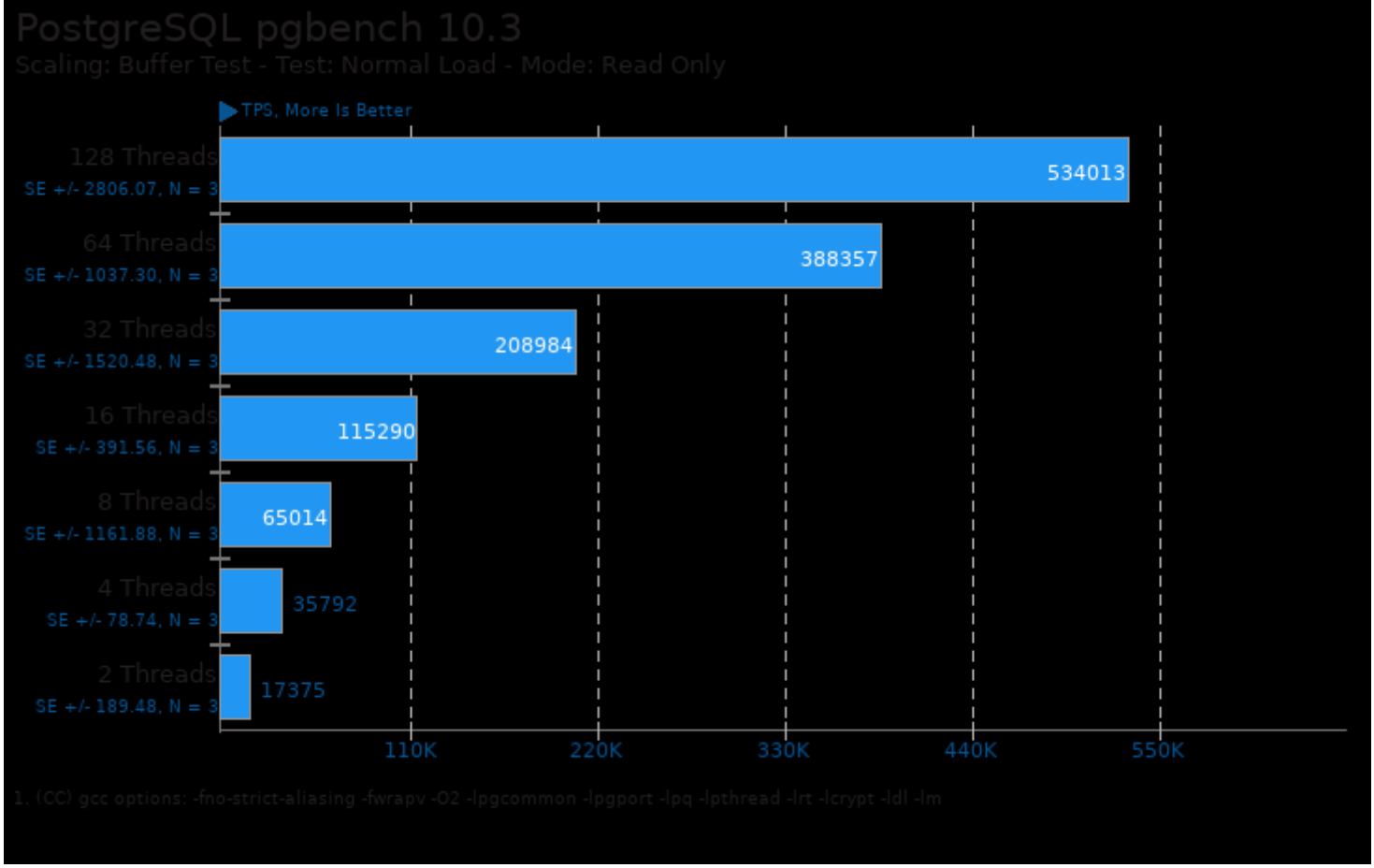

OpenSSL 1.1.1
RSA 4096-bit Performance
Signs Per Second, More Is Better
128 Threads
SE +/- 6.29, N = 3
9238
64 Threads
SE +/- 5.90, N = 3
8632
32 Threads
SE +/- 3.61, N = 3
4296
16 Threads
SE +/- 1.42, N = 3
2149
8 Threads
SE +/- 0.28, N = 3
1075
4 Threads
SE +/- 0.38, N = 3
538
2 Threads
SE +/- 0.15, N = 3
269
2K
4K
6K
8K
10K
1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl
Aircrack-ng 1.3
k/s, More Is Better
128 Threads
SE +/- 162.76, N = 3
81032
64 Threads
SE +/- 128.32, N = 3
78269
32 Threads
SE +/- 39.72, N = 3
37049
16 Threads
SE +/- 22.26, N = 3
18569
8 Threads
SE +/- 1.53, N = 3
9289
4 Threads
SE +/- 5.51, N = 3
4616
2 Threads
SE +/- 10.50, N = 3
2308
20K
40K
60K
80K
100K
1. (CXX) g++ options: -O3 -fvisibility=hidden -masm=intel -lpthread -lcrypto -lz -ldl -lm -pthread

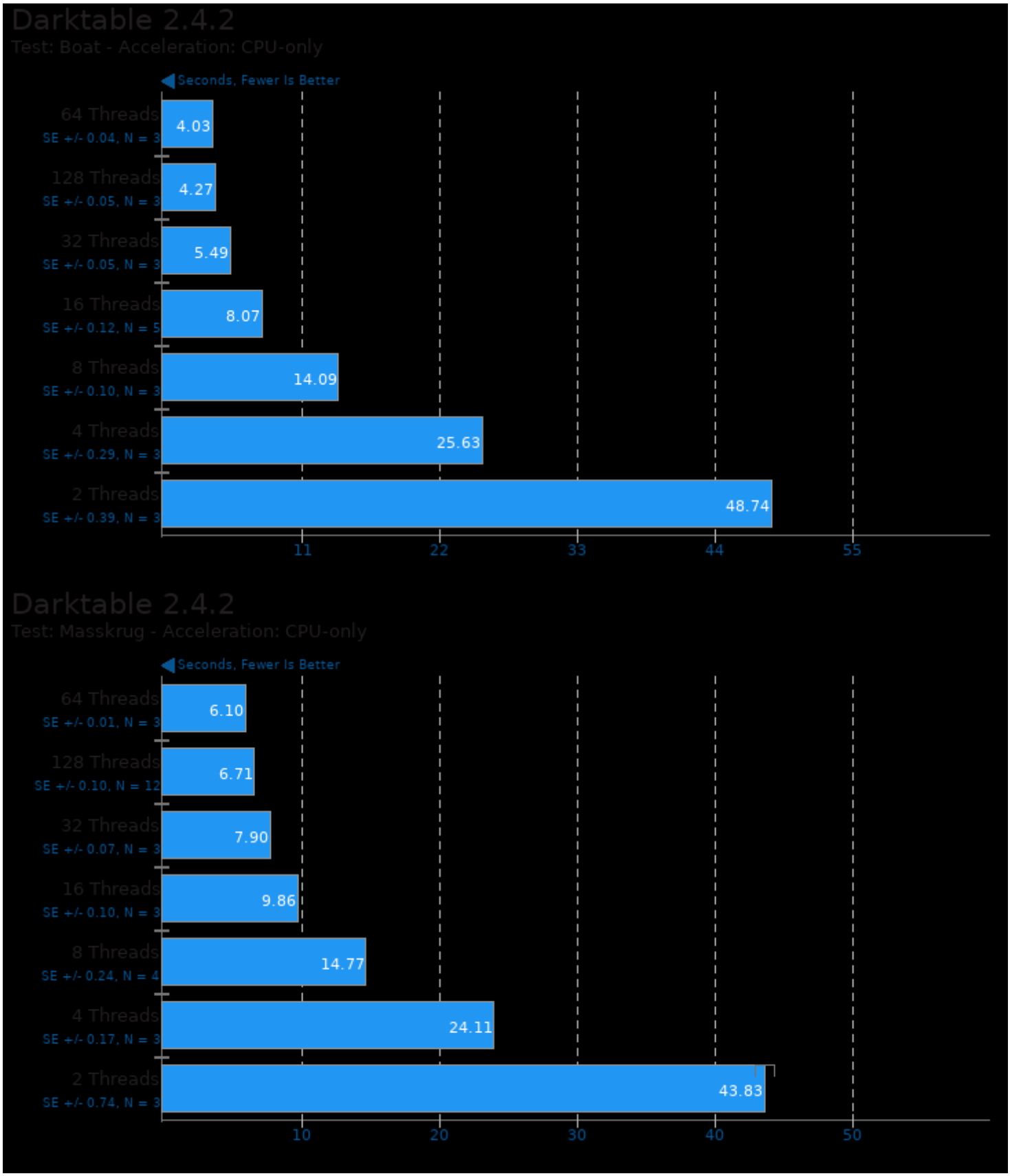

Cpuminer-Opt 3.8.8.1
Algorithm: m7m
kH/s - Hash Speed, More Is Better
128 Threads
SE +/- 4.26, N = 3
1788
64 Threads
SE +/- 6.78, N = 3
1426
32 Threads
SE +/- 26.00, N = 12
429
400
800
1200
1600
2000
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.8.8.1
Algorithm: deep
kH/s - Hash Speed, More Is Better
128 Threads
SE +/- 3.33, N = 3
26607
64 Threads
SE +/- 141.11, N = 3
23253
32 Threads
SE +/- 1477.73, N = 9
7469
2 Threads
343
6K
12K
18K
24K
30K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

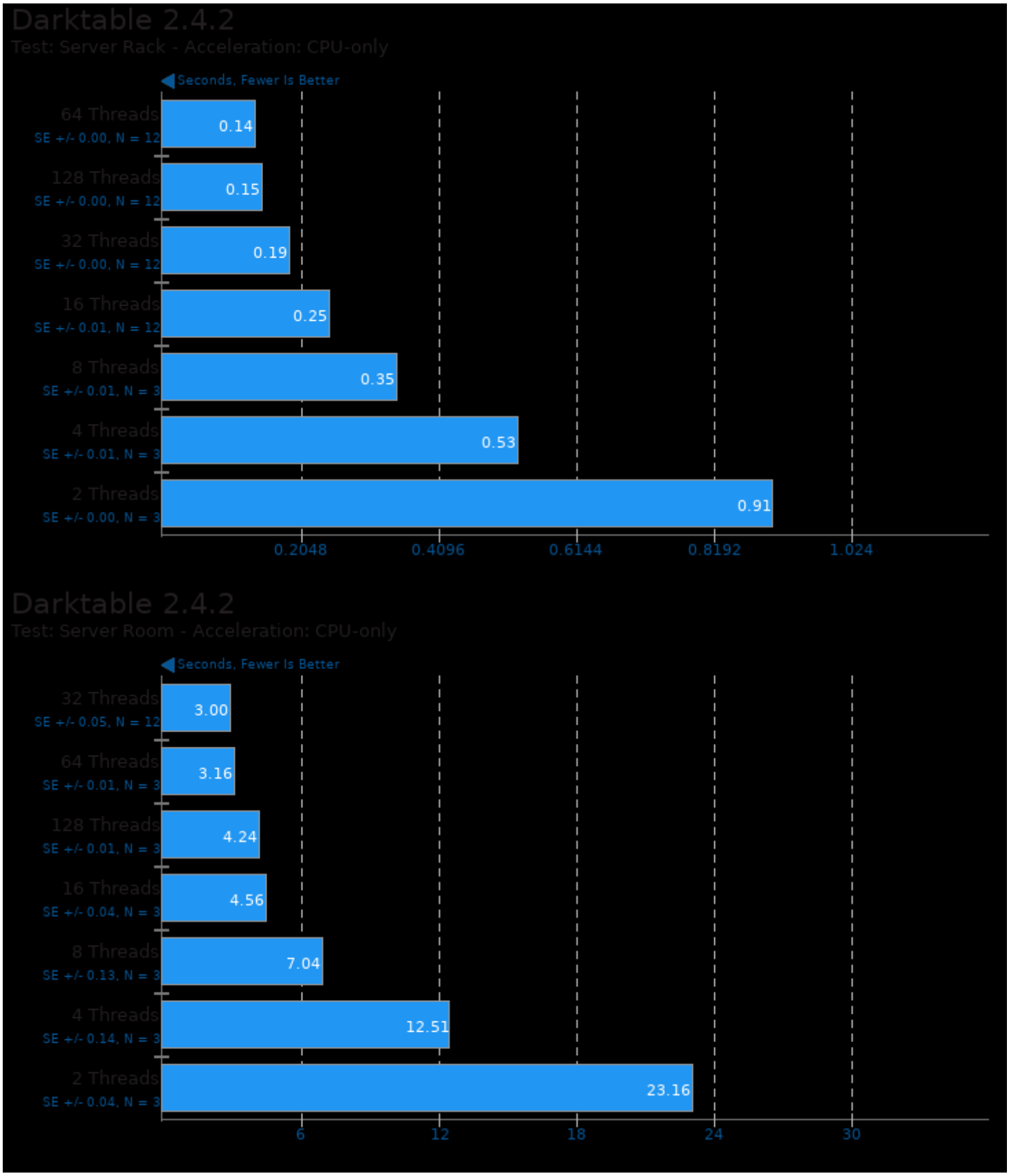

Cpuminer-Opt 3.8.8.1
Algorithm: lbry
kH/s - Hash Speed, More Is Better
128 Threads
SE +/- 666.47, N = 12
65192
64 Threads
SE +/- 4190.25, N = 9
58944
32 Threads
SE +/- 151.44, N = 3
29670
16 Threads
SE +/- 297.38, N = 3
22290
8 Threads
SE +/- 1187.09, N = 12
8251
4 Threads
SE +/- 33.32, N = 3
3690
2 Threads
SE +/- 41.69, N = 12
1885
14K
28K
42K
56K
70K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.8.8.1
Algorithm: skein
kH/s - Hash Speed, More Is Better
128 Threads
SE +/- 1293.38, N = 3
105883
64 Threads
SE +/- 1073.89, N = 3
99653
32 Threads
SE +/- 186.58, N = 3
46647
16 Threads
SE +/- 865.16, N = 12
27403
8 Threads
SE +/- 5398.62, N = 11
12503
4 Threads
SE +/- 11.17, N = 3
5767
2 Threads
SE +/- 543.56, N = 9
3482
20K
40K
60K
80K
100K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

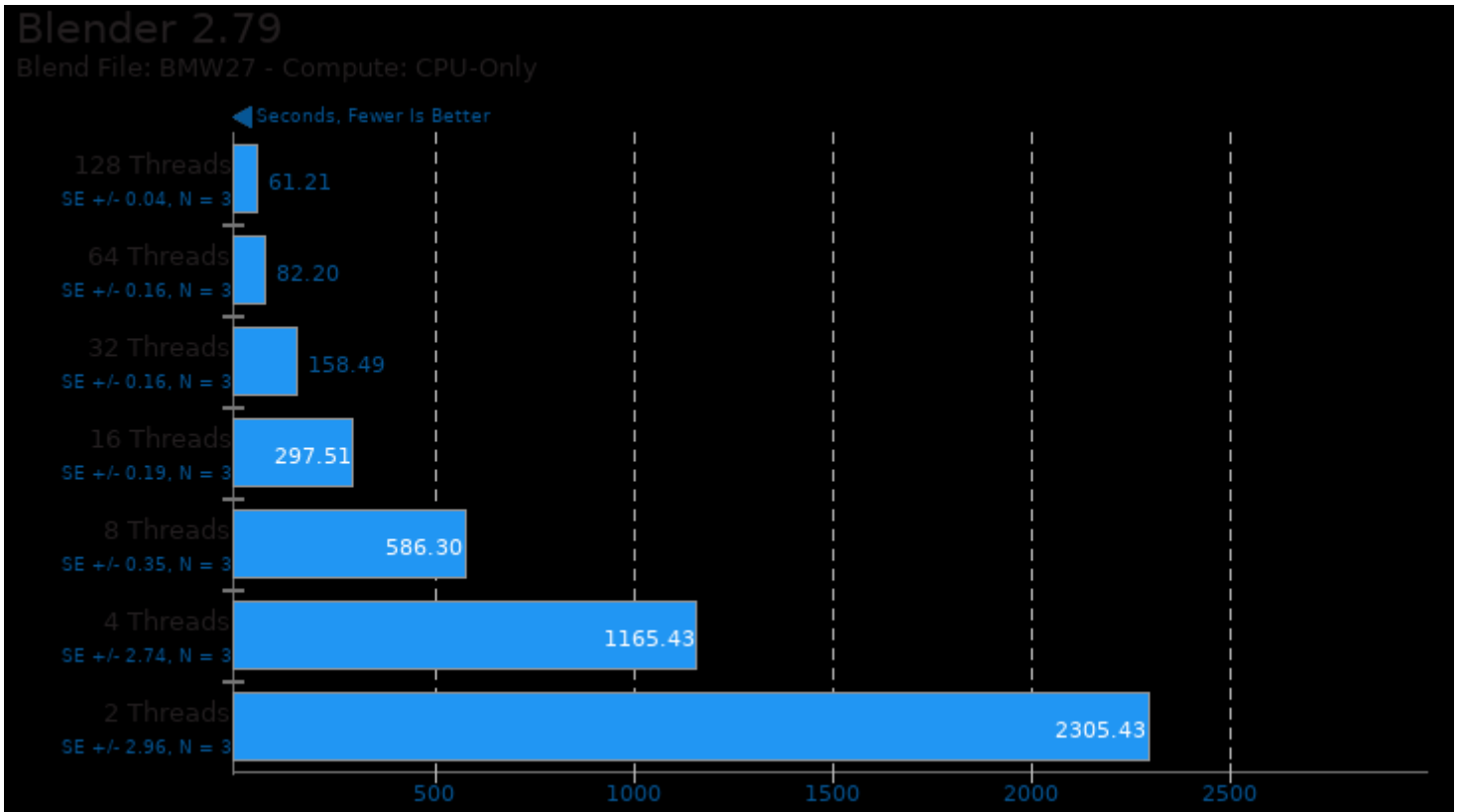

Cpuminer-Opt 3.8.8.1
Algorithm: myr-gr
kH/s - Hash Speed, More Is Better
128 Threads
SE +/- 8.00, N = 3
6319
64 Threads
SE +/- 41.83, N = 12
3863
4 Threads
SE +/- 27.89, N = 3
1882
32 Threads
SE +/- 21.55, N = 3
1827
8 Threads
SE +/- 16.70, N = 7
1371
16 Threads
SE +/- 102.97, N = 12
984
2 Threads
SE +/- 74.13, N = 12
920
1400
2800
4200
5600
7000
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp
Cpuminer-Opt 3.8.8.1
Algorithm: sha256t
kH/s - Hash Speed, More Is Better
64 Threads
SE +/- 775.55, N = 3
159987
128 Threads
SE +/- 8.82, N = 3
158933
32 Threads
SE +/- 1331.47, N = 4
76435
16 Threads
SE +/- 1126.32, N = 12
52233
8 Threads
SE +/- 373.51, N = 6
28088
4 Threads
SE +/- 15.80, N = 3
9133
2 Threads
SE +/- 1.41, N = 3
4592
30K
60K
90K
120K
150K
1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

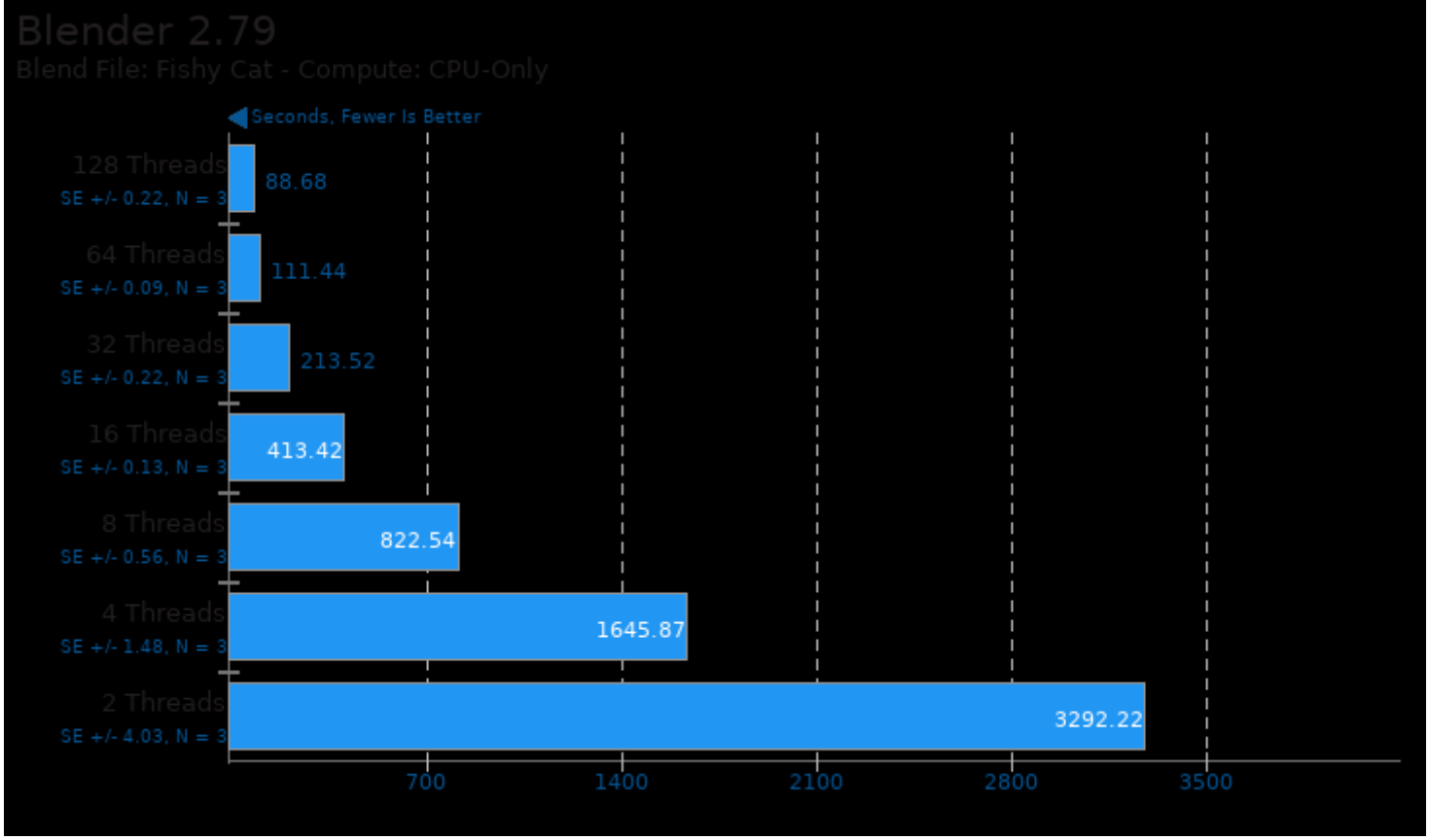

Tensorflow 2017-02-03
Build: Cifar10
Seconds, Fewer Is Better
64 Threads
SE +/- 0.30, N = 3
59.05
128 Threads
SE +/- 0.42, N = 3
65.18
32 Threads
SE +/- 0.12, N = 3
78.29
16 Threads
SE +/- 0.05, N = 3
97.78
8 Threads
SE +/- 0.20, N = 3
131.67
4 Threads
SE +/- 0.14, N = 3
225.24
2 Threads
SE +/- 0.25, N = 3
304.99
70
140
210
280
350

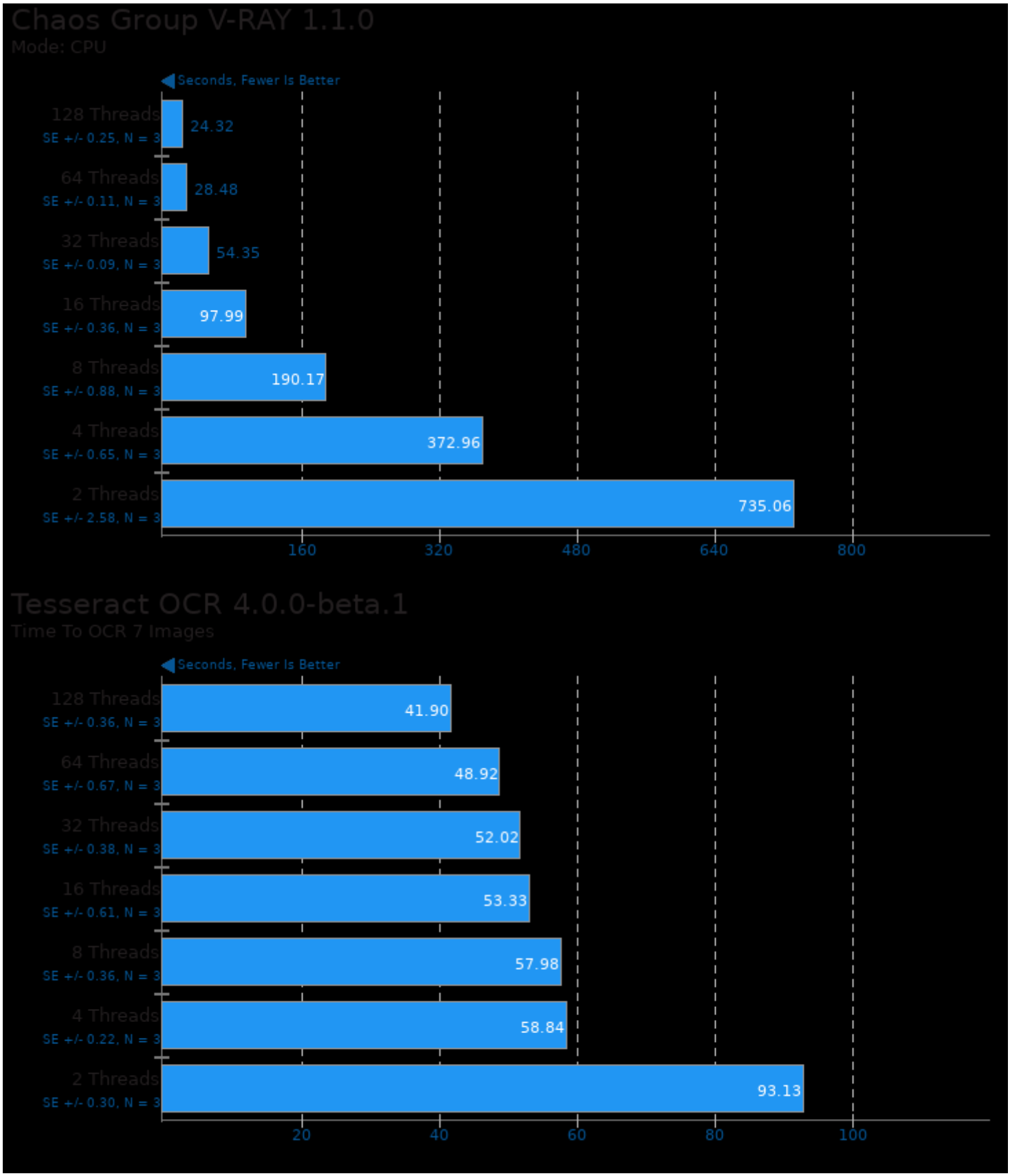

PostgreSQL pgbench 10.3
Scaling: Buffer Test - Test: Normal Load - Mode: Read Only
TPS, More Is Better
128 Threads
SE +/- 2806.07, N = 3
534013
64 Threads
SE +/- 1037.30, N = 3
388357
32 Threads
SE +/- 1520.48, N = 3
208984
16 Threads
SE +/- 391.56, N = 3
115290
8 Threads
SE +/- 1161.88, N = 3
65014
4 Threads
SE +/- 78.74, N = 3
35792
2 Threads
SE +/- 189.48, N = 3
17375
110K
220K
330K
440K
550K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O2 -lpgcommon -lpgport -lpq -lpthread -lrt -lcrypt -ldl -lm

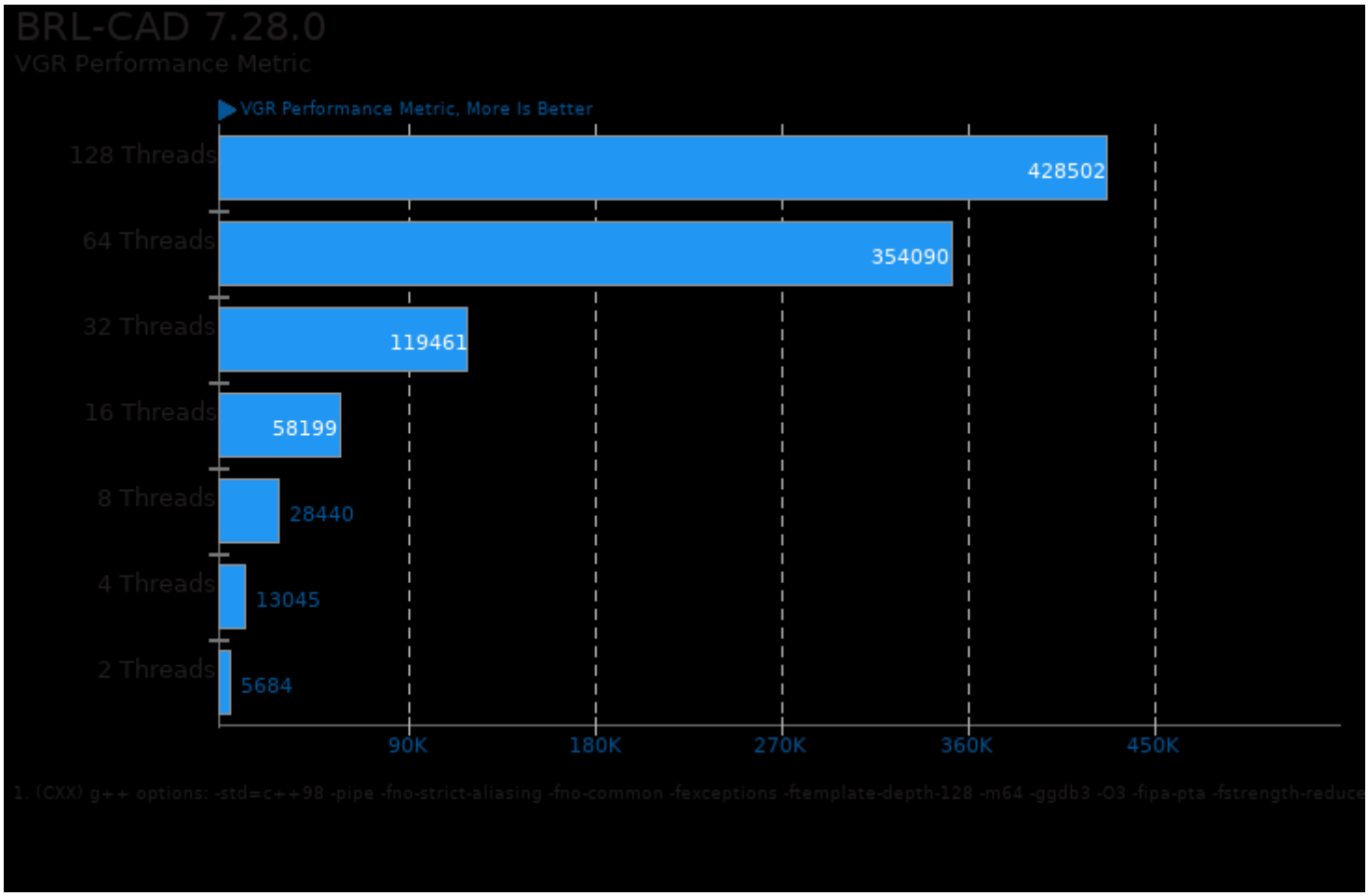

Darktable 2.4.2
Test: Boat - Acceleration: CPU-only
Seconds, Fewer Is Better
64 Threads
SE +/- 0.04, N = 3
4.03
128 Threads
SE +/- 0.05, N = 3
4.27
32 Threads
SE +/- 0.05, N = 3
5.49
16 Threads
SE +/- 0.12, N = 5
8.07
8 Threads
SE +/- 0.10, N = 3
14.09
4 Threads
SE +/- 0.29, N = 3
25.63
2 Threads
SE +/- 0.39, N = 3
48.74
11
22
33
44
55
Darktable 2.4.2
Test: Masskrug - Acceleration: CPU-only
Seconds, Fewer Is Better
64 Threads
SE +/- 0.01, N = 3
6.10
128 Threads
SE +/- 0.10, N = 12
6.71
32 Threads
SE +/- 0.07, N = 3
7.90
16 Threads
SE +/- 0.10, N = 3
9.86
8 Threads
SE +/- 0.24, N = 4
14.77
4 Threads
SE +/- 0.17, N = 3
24.11
2 Threads
SE +/- 0.74, N = 3
43.83
10
20
30
40
50


Darktable 2.4.2
Test: Server Rack - Acceleration: CPU-only
Seconds, Fewer Is Better
64 Threads
SE +/- 0.00, N = 12
0.14
128 Threads
SE +/- 0.00, N = 12
0.15
32 Threads
SE +/- 0.00, N = 12
0.19
16 Threads
SE +/- 0.01, N = 12
0.25
8 Threads
SE +/- 0.01, N = 3
0.35
4 Threads
SE +/- 0.01, N = 3
0.53
2 Threads
SE +/- 0.00, N = 3
0.91
0.2048
0.4096
0.6144
0.8192
1.024
Darktable 2.4.2
Test: Server Room - Acceleration: CPU-only
Seconds, Fewer Is Better
32 Threads
SE +/- 0.05, N = 12
3.00
64 Threads
SE +/- 0.01, N = 3
3.16
128 Threads
SE +/- 0.01, N = 3
4.24
16 Threads
SE +/- 0.04, N = 3
4.56
8 Threads
SE +/- 0.13, N = 3
7.04
4 Threads
SE +/- 0.14, N = 3
12.51
2 Threads
SE +/- 0.04, N = 3
23.16
6
12
18
24
30

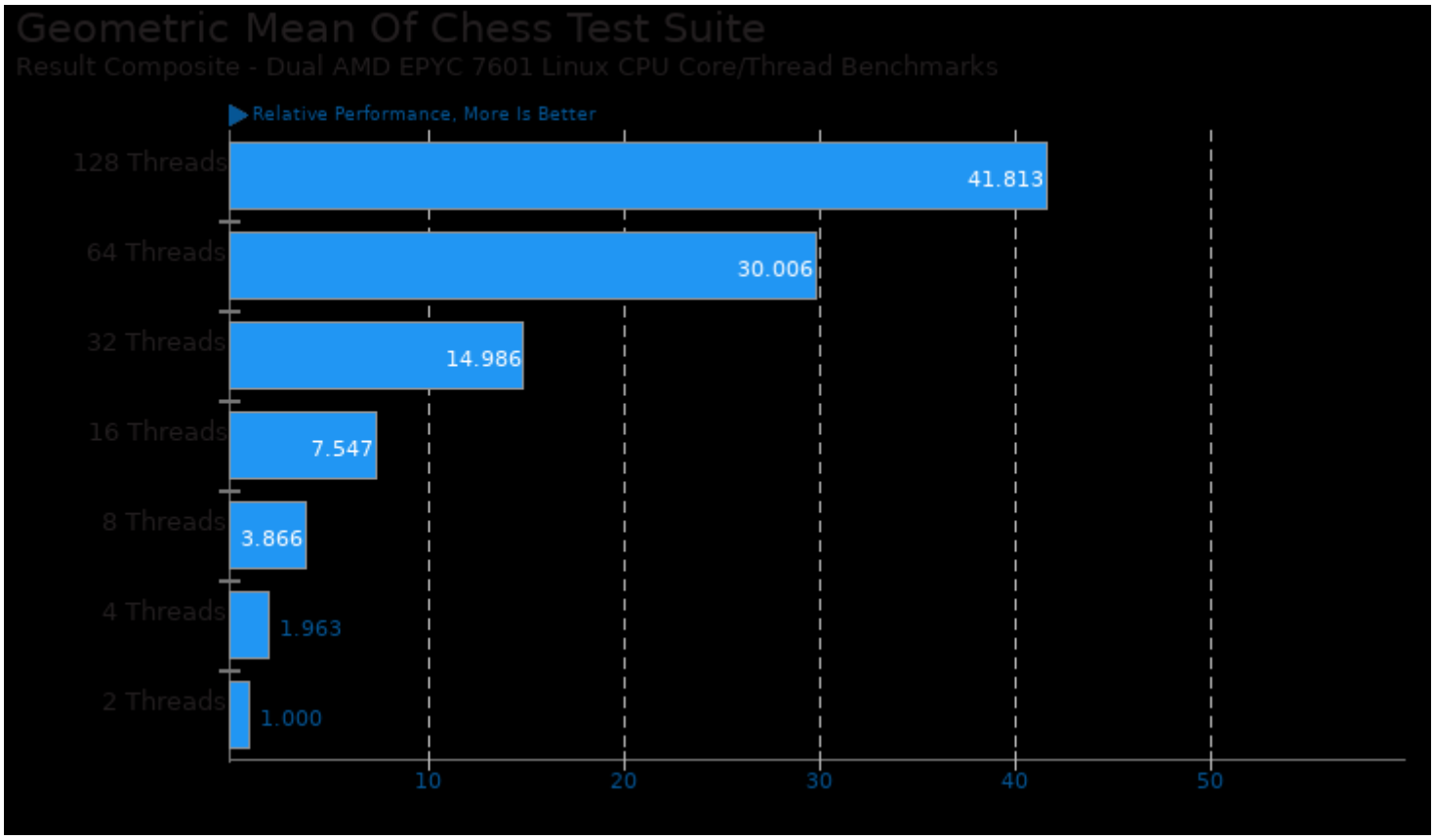

Blender 2.79
Blend File: BMW27 - Compute: CPU-Only
Seconds, Fewer Is Better
128 Threads
SE +/- 0.04, N = 3
61.21
64 Threads
SE +/- 0.16, N = 3
82.20
32 Threads
SE +/- 0.16, N = 3
158.49
16 Threads
SE +/- 0.19, N = 3
297.51
8 Threads
SE +/- 0.35, N = 3
586.30
4 Threads
SE +/- 2.74, N = 3
1165.43
2 Threads
SE +/- 2.96, N = 3
2305.43
500
1000
1500
2000
2500


Blender 2.79
Blend File: Fishy Cat - Compute: CPU-Only
Seconds, Fewer Is Better
128 Threads
SE +/- 0.22, N = 3
88.68
64 Threads
SE +/- 0.09, N = 3
111.44
32 Threads
SE +/- 0.22, N = 3
213.52
16 Threads
SE +/- 0.13, N = 3
413.42
8 Threads
SE +/- 0.56, N = 3
822.54
4 Threads
SE +/- 1.48, N = 3
1645.87
2 Threads
SE +/- 4.03, N = 3
3292.22
700
1400
2100
2800
3500

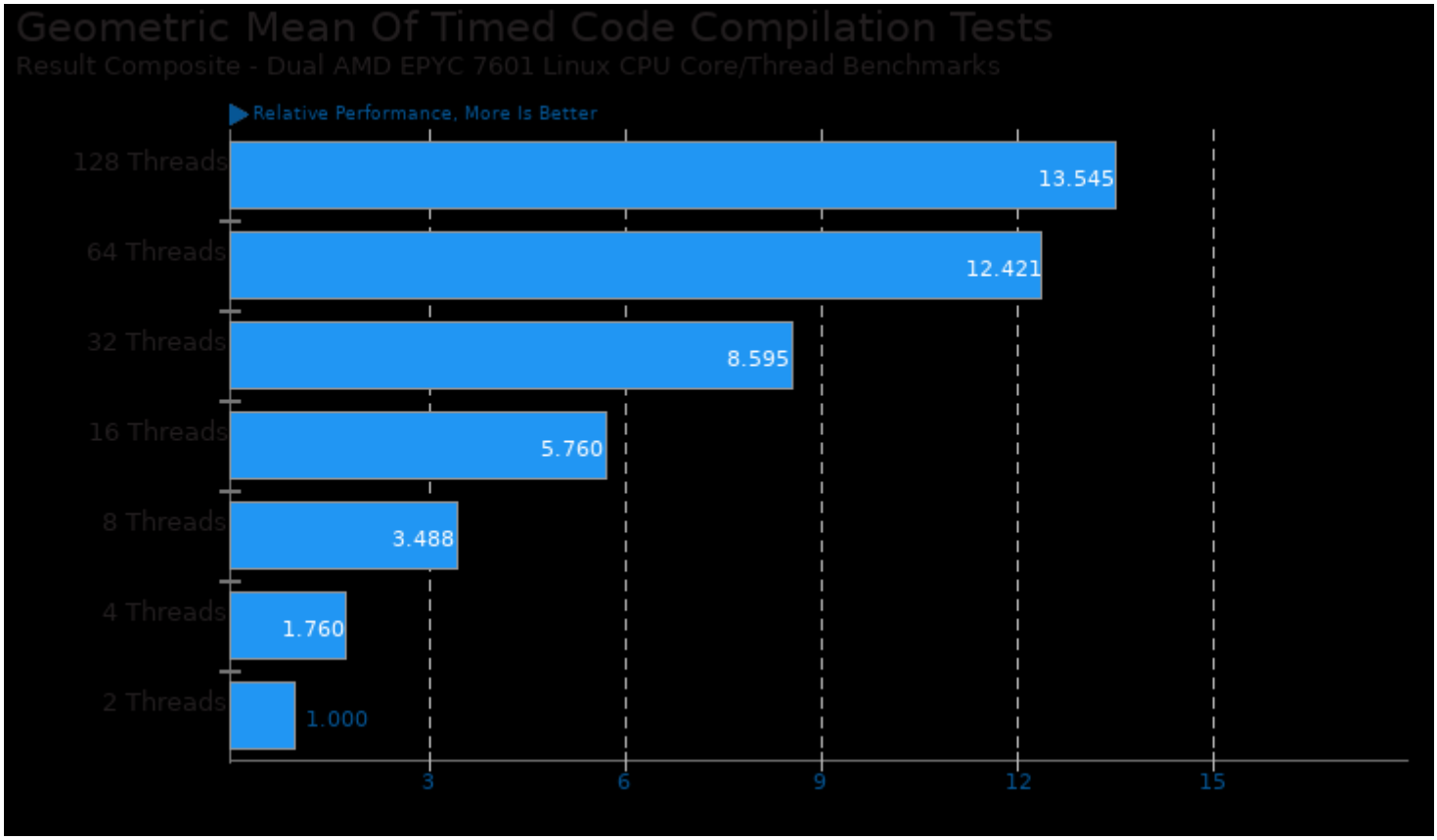

Chaos Group V-RAY 1.1.0
Mode: CPU
Seconds, Fewer Is Better
128 Threads
SE +/- 0.25, N = 3
24.32
64 Threads
SE +/- 0.11, N = 3
28.48
32 Threads
SE +/- 0.09, N = 3
54.35
16 Threads
SE +/- 0.36, N = 3
97.99
8 Threads
SE +/- 0.88, N = 3
190.17
4 Threads
SE +/- 0.65, N = 3
372.96
2 Threads
SE +/- 2.58, N = 3
735.06
160
320
480
640
800
Tesseract OCR 4.0.0-beta.1
Time To OCR 7 Images
Seconds, Fewer Is Better
128 Threads
SE +/- 0.36, N = 3
41.90
64 Threads
SE +/- 0.67, N = 3
48.92
32 Threads
SE +/- 0.38, N = 3
52.02
16 Threads
SE +/- 0.61, N = 3
53.33
8 Threads
SE +/- 0.36, N = 3
57.98
4 Threads
SE +/- 0.22, N = 3
58.84
2 Threads
SE +/- 0.30, N = 3
93.13
20
40
60
80
100


BRL-CAD 7.28.0
VGR Performance Metric
VGR Performance Metric, More Is Better
128 Threads
428502
64 Threads
354090
32 Threads
119461
16 Threads
58199
8 Threads
28440
4 Threads
13045
2 Threads
5684
90K
180K
270K
360K
450K
1. (CXX) g++ options: -std=c++98 -pipe -fno-strict-aliasing -fno-common -fexceptions -ftemplate-depth-128 -m64 -ggdb3 -O3 -fipa-pta -fstrength-reduce

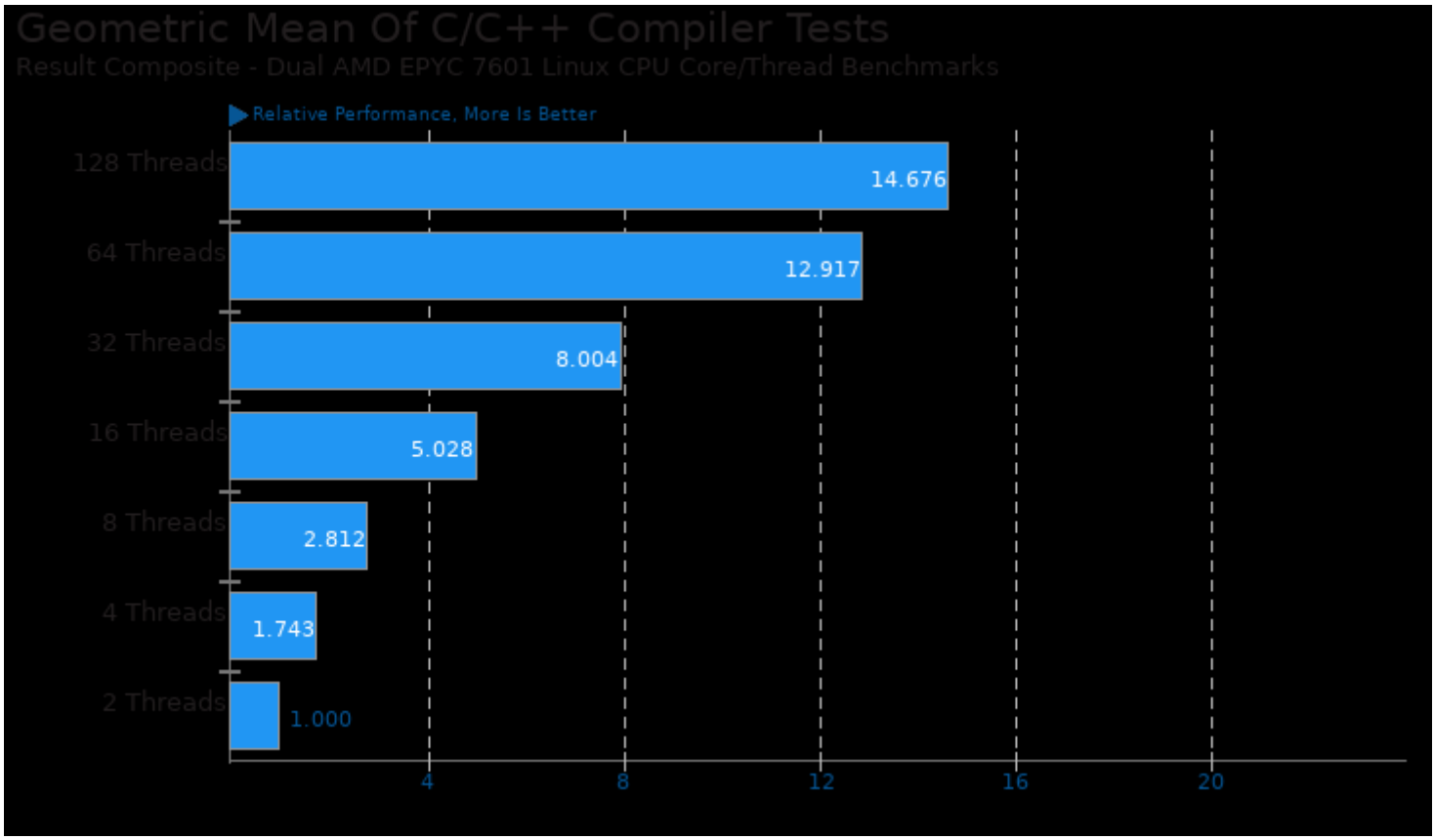
These geometric means are based upon test groupings / test suites for this result file.



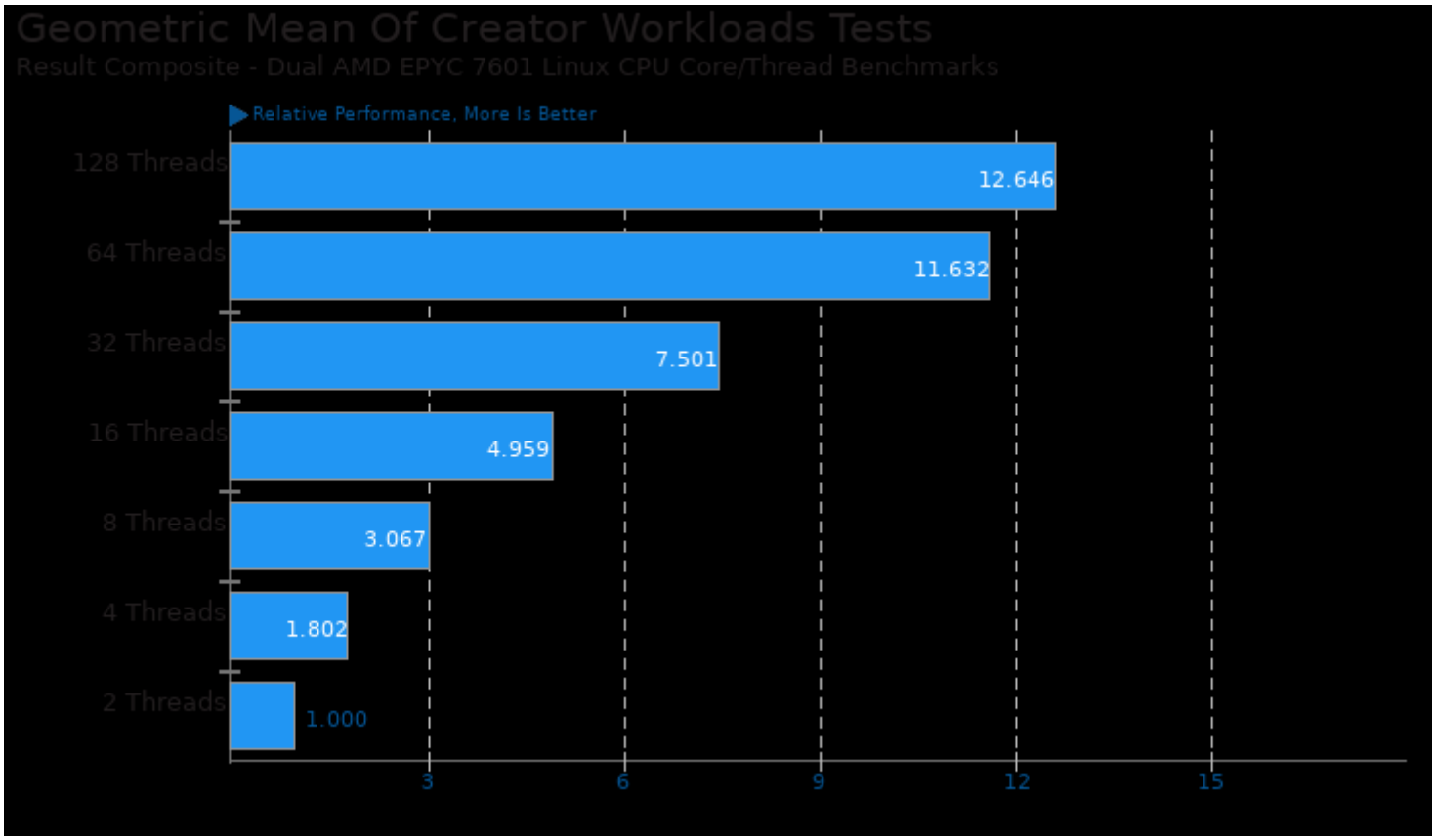
Geometric mean based upon tests: pts/stockfish, pts/asmfish and pts/m-queens



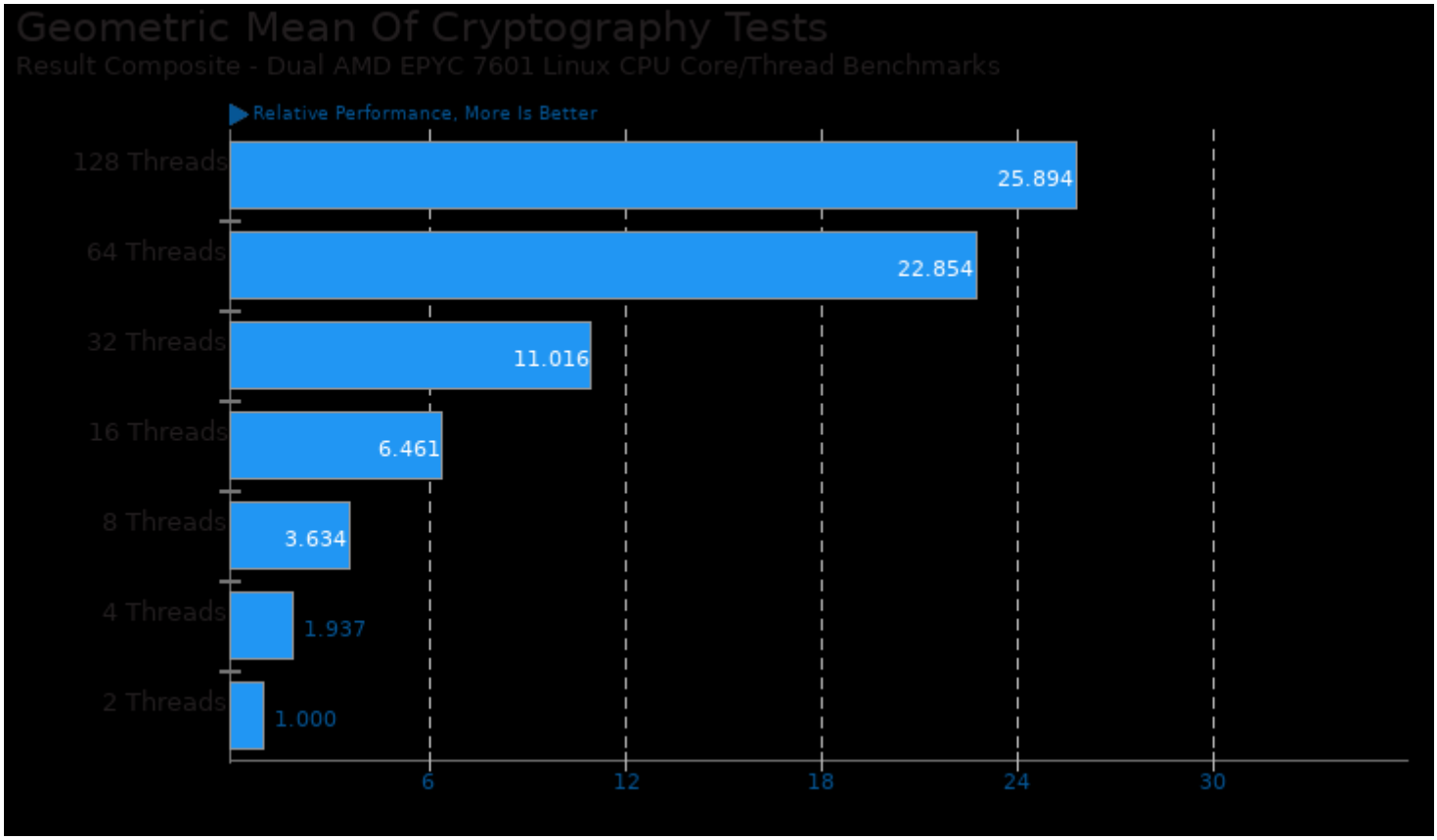
Geometric mean based upon tests: pts/build-linux-kernel, pts/build-imagemagick and pts/build-llvm



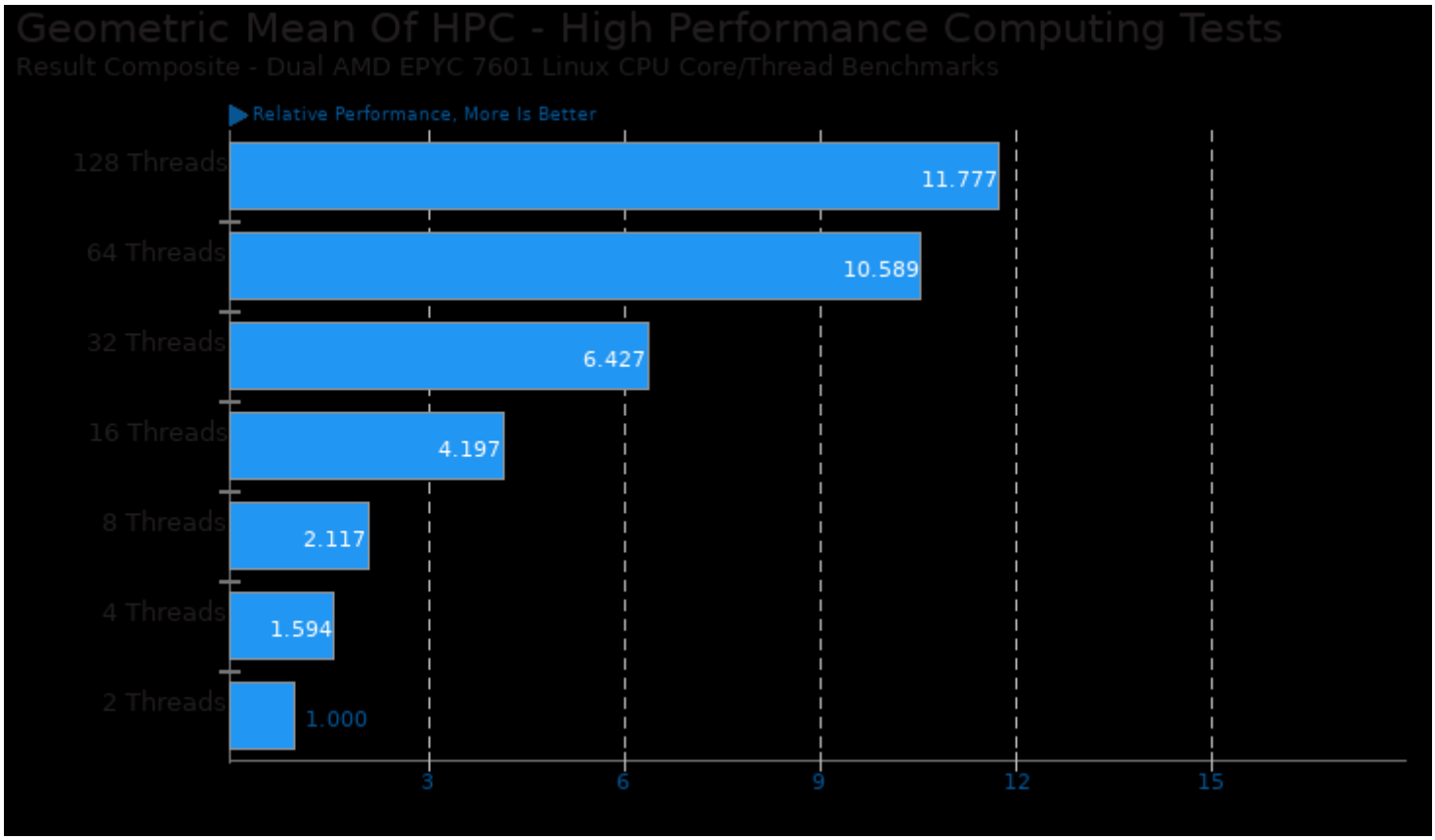
Geometric mean based upon tests: pts/graphics-magick, pts/himeno, pts/stockfish, pts/build-imagemagick, pts/build-llvm, pts/c-ray, pts/compress-7zip, pts/pgbench, pts/x264, pts/openssl, pts/aircrack-ng and pts/tachyon



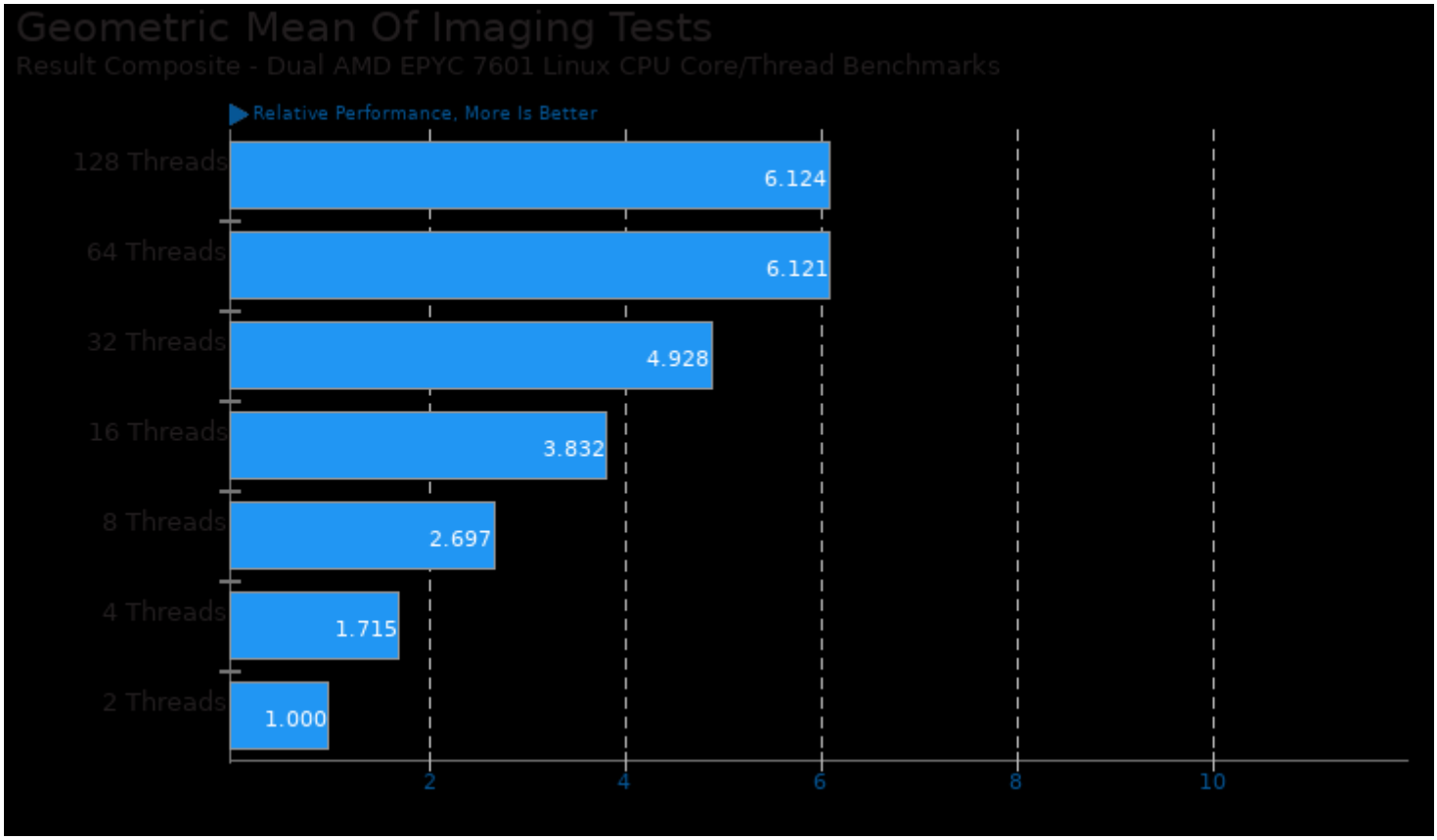
Geometric mean based upon tests: pts/c-ray, pts/tachyon, pts/povray, pts/smallpt, pts/ttsiod-renderer, pts/v-ray, system/tesseract-ocr, pts/x264, pts/graphics-magick, system/darktable and pts/brl-cad



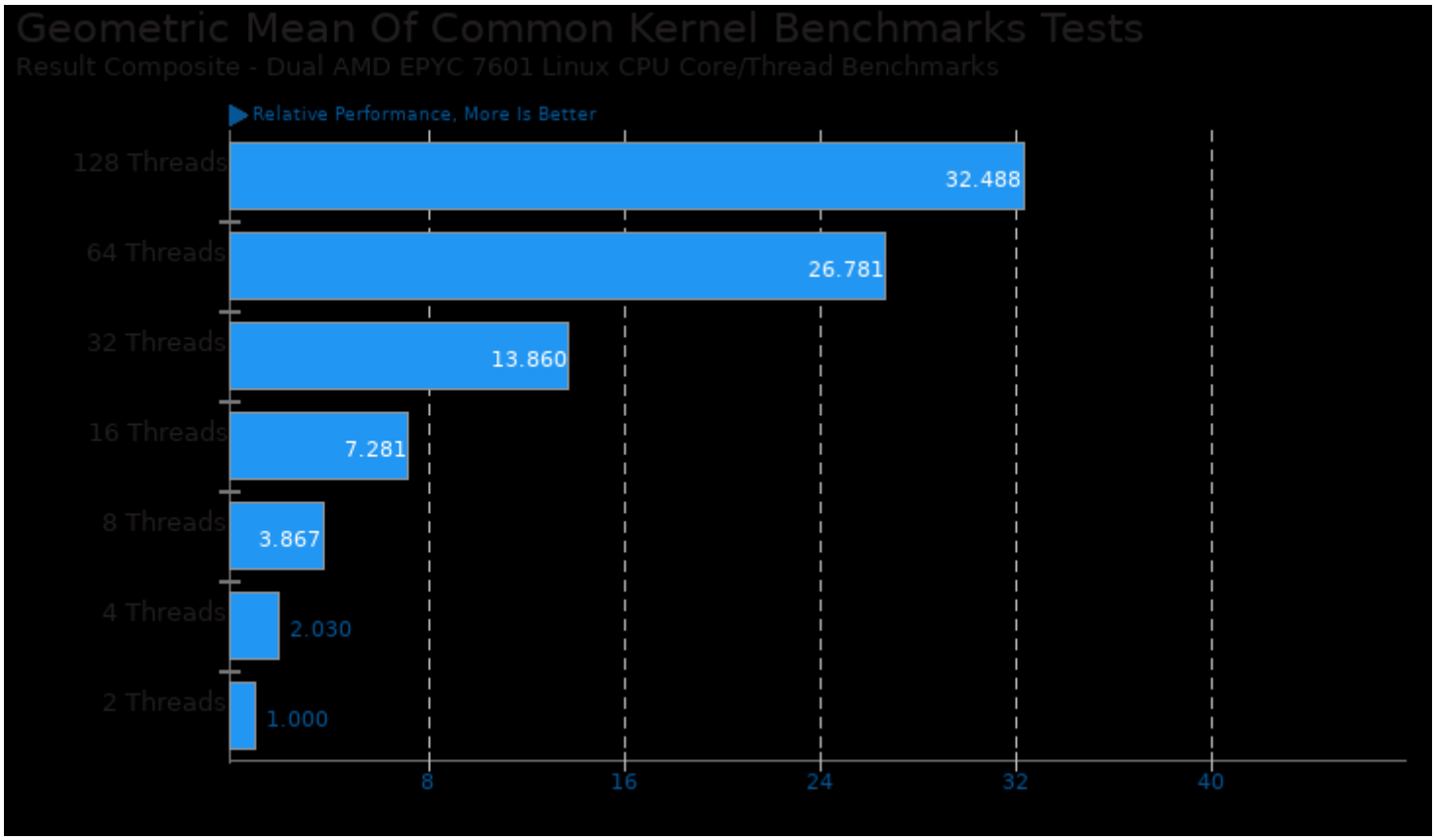
Geometric mean based upon tests: pts/openssl, pts/aircrack-ng and pts/cpuminer-opt



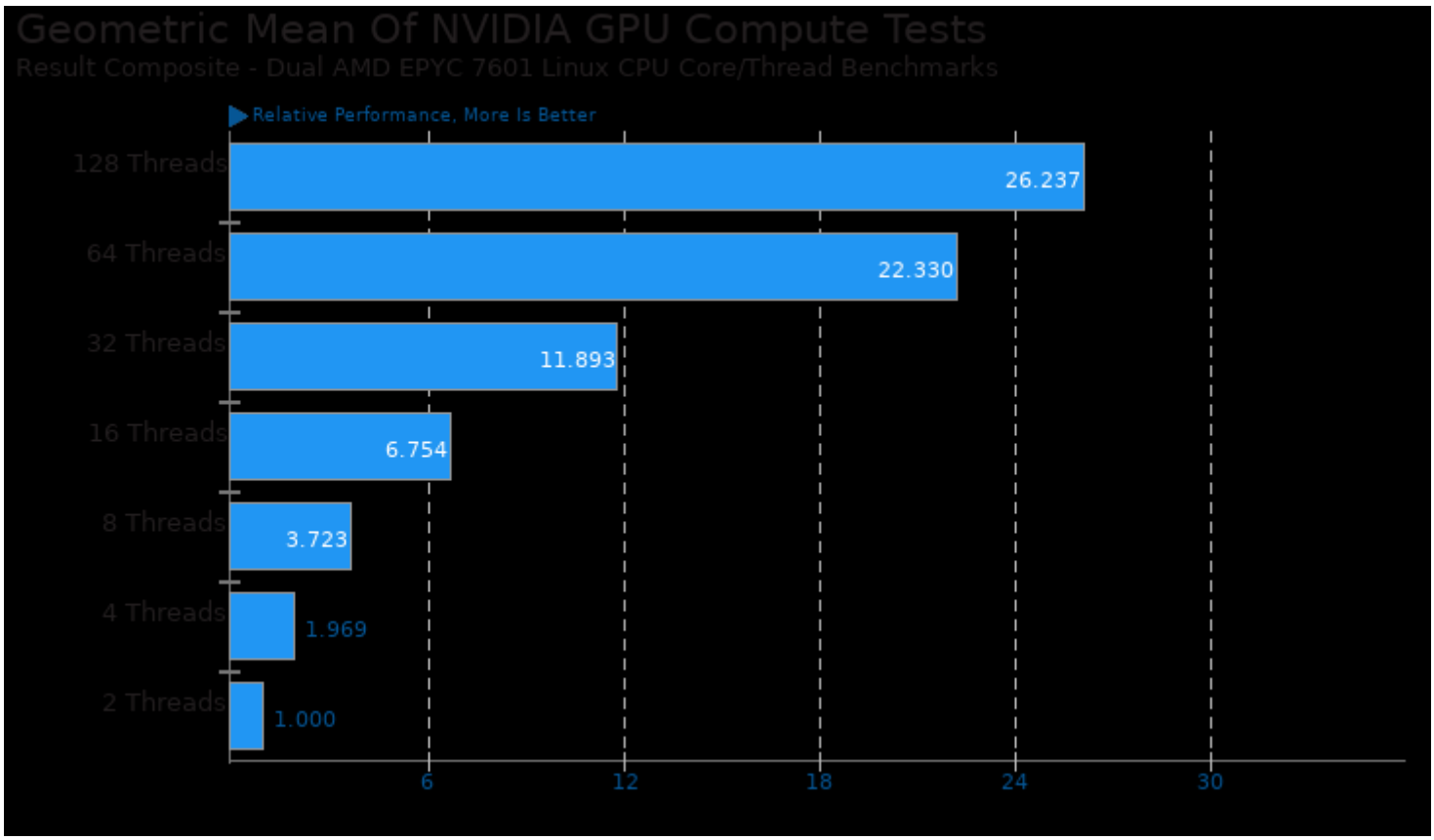
Geometric mean based upon tests: pts/rodinia, pts/namd, pts/himeno and pts/tensorflow



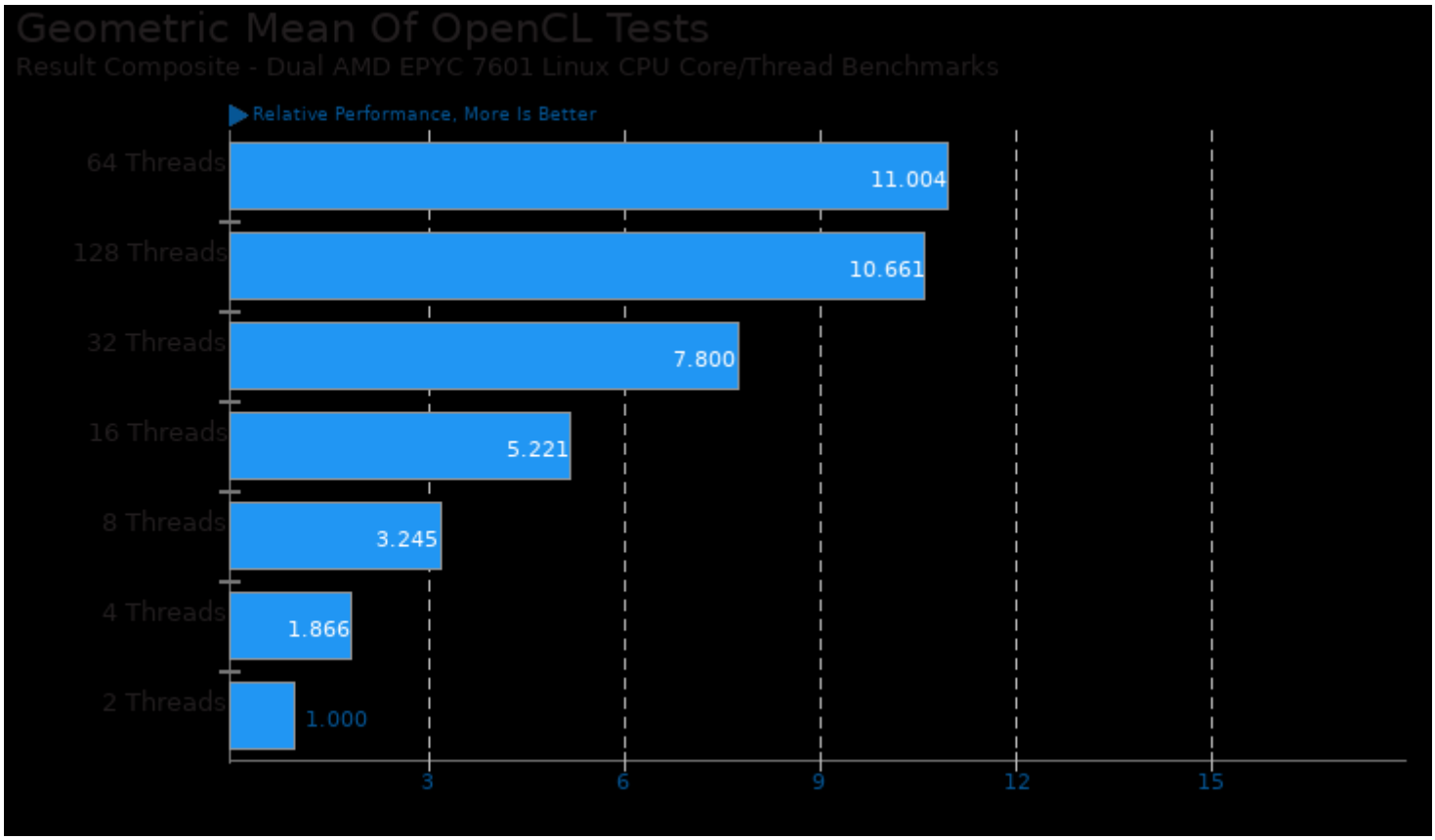
Geometric mean based upon tests: pts/graphics-magick and system/darktable



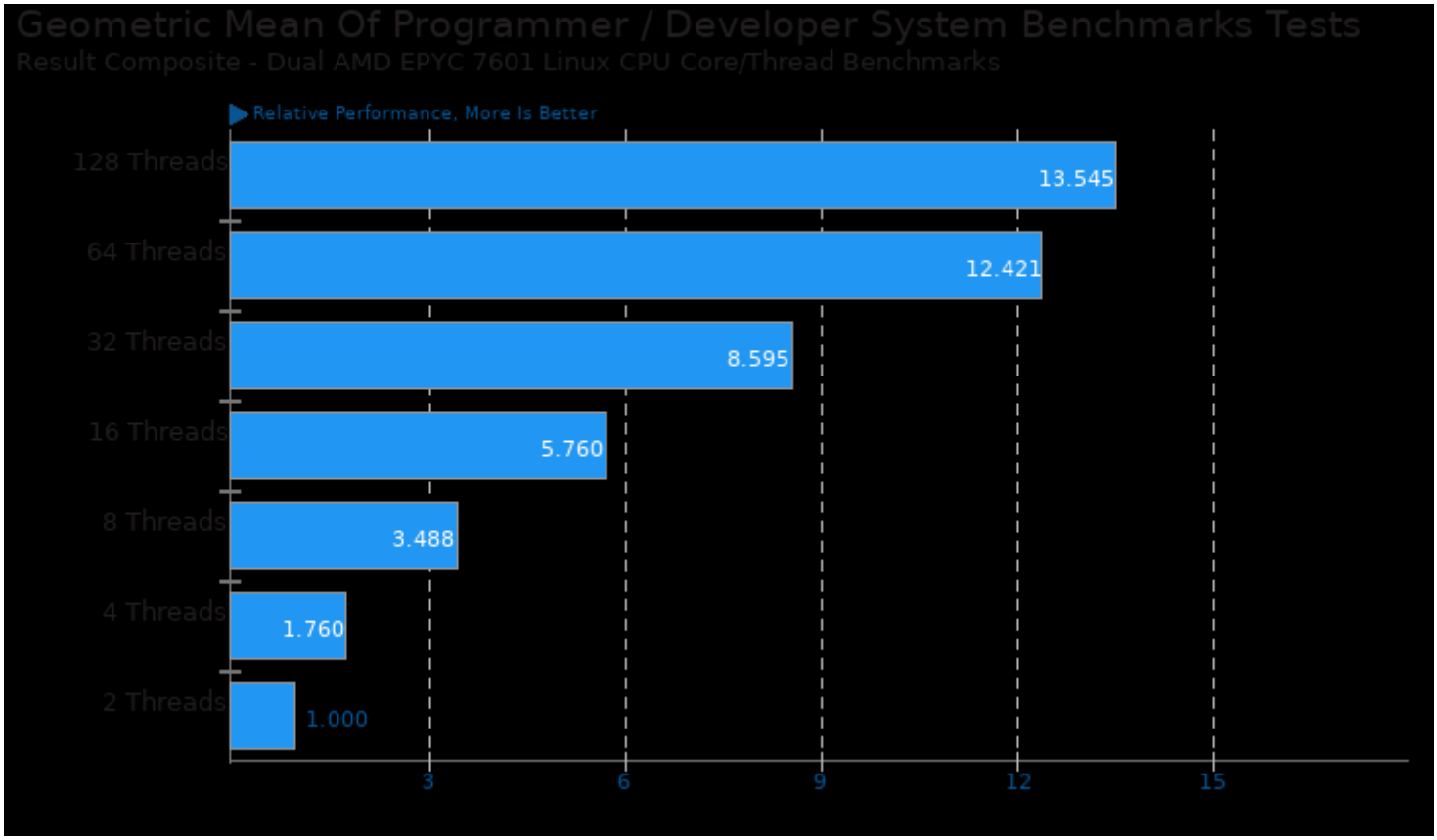
Geometric mean based upon tests: pts/pgbench and pts/openssl



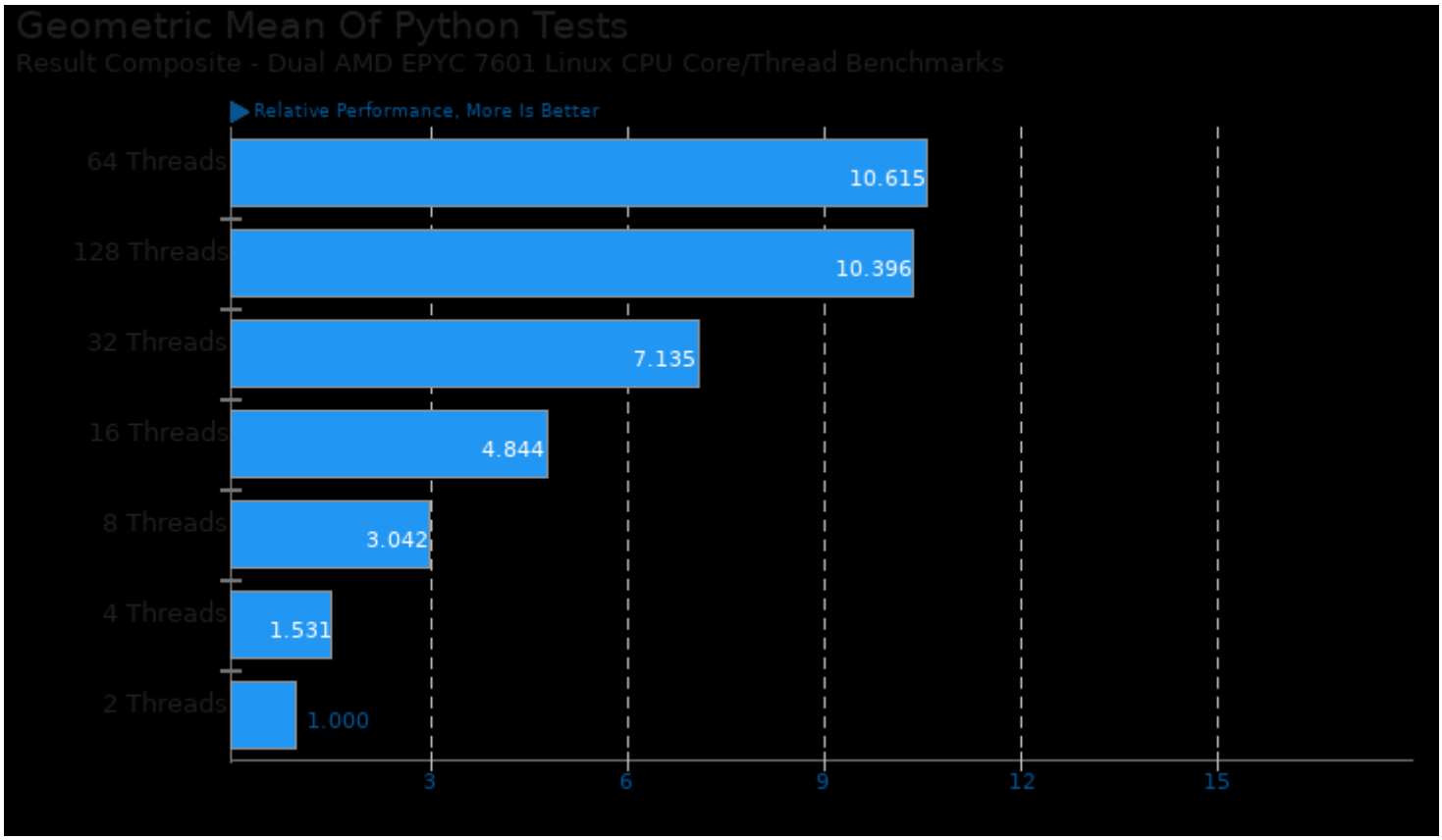
Geometric mean based upon tests: pts/rodinia and pts/v-ray



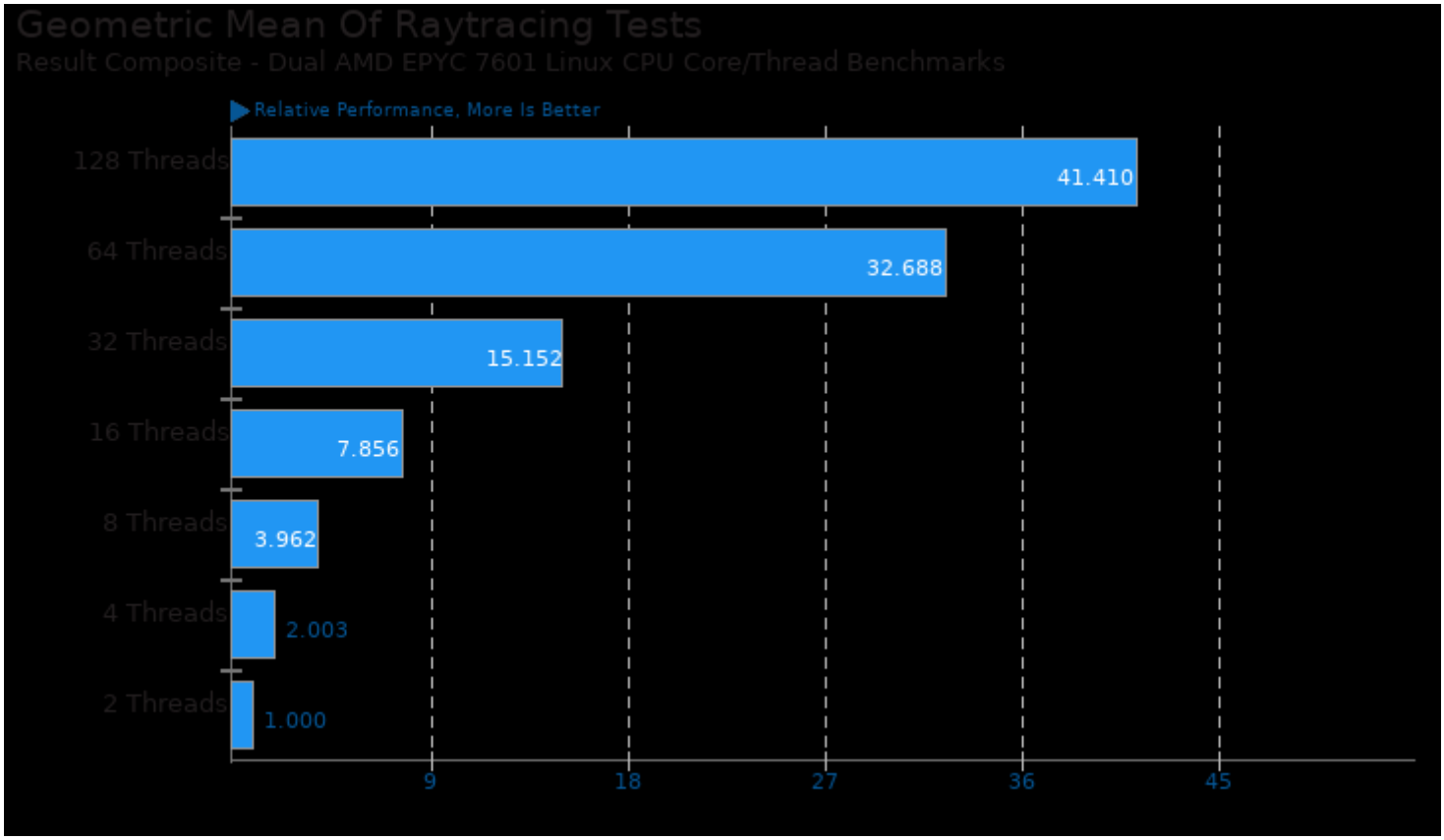
Geometric mean based upon tests: pts/rodinia and system/darktable



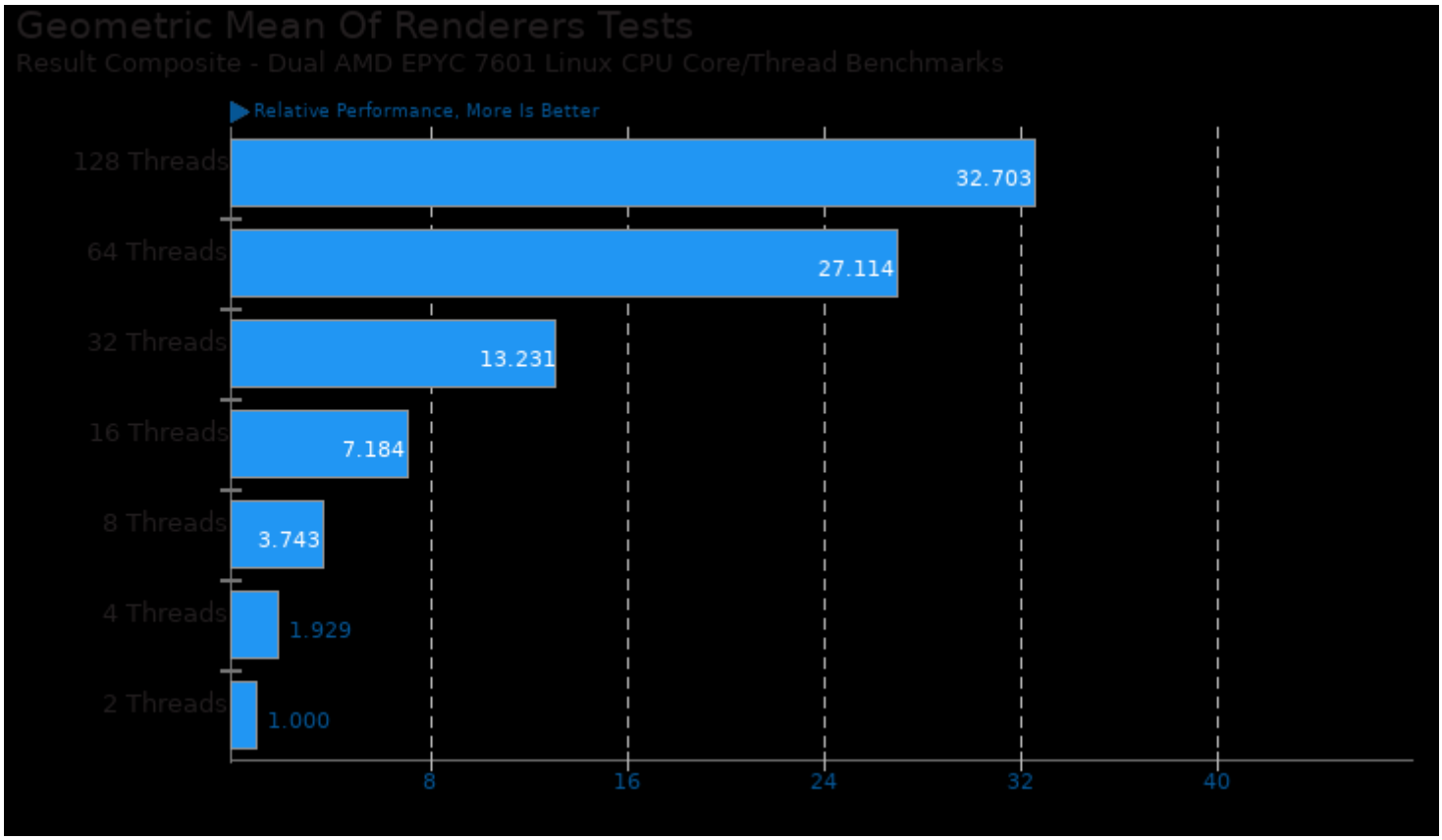
Geometric mean based upon tests: pts/build-linux-kernel, pts/build-imagemagick and pts/build-llvm



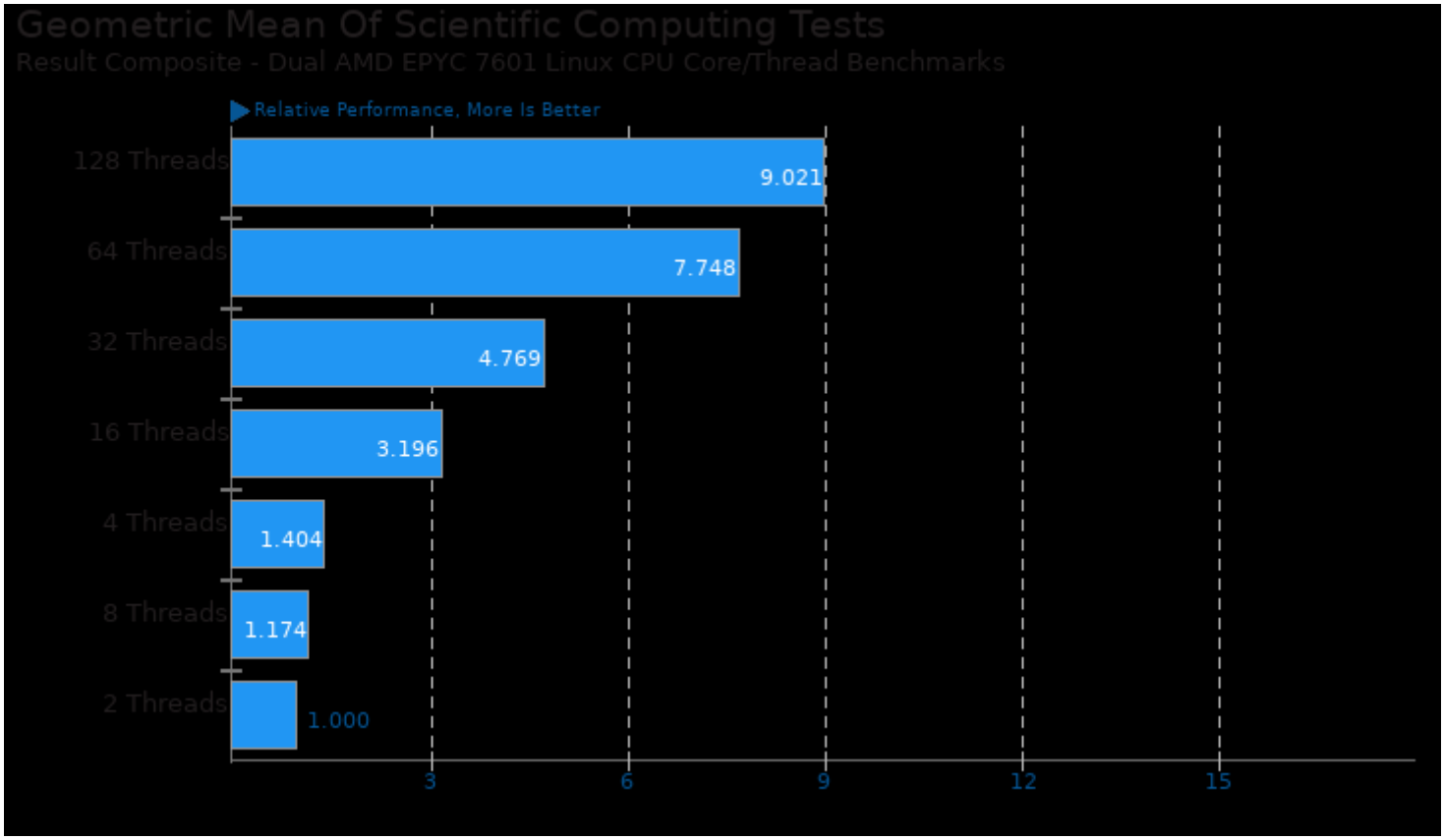
Geometric mean based upon tests: pts/build-llvm and pts/tensorflow



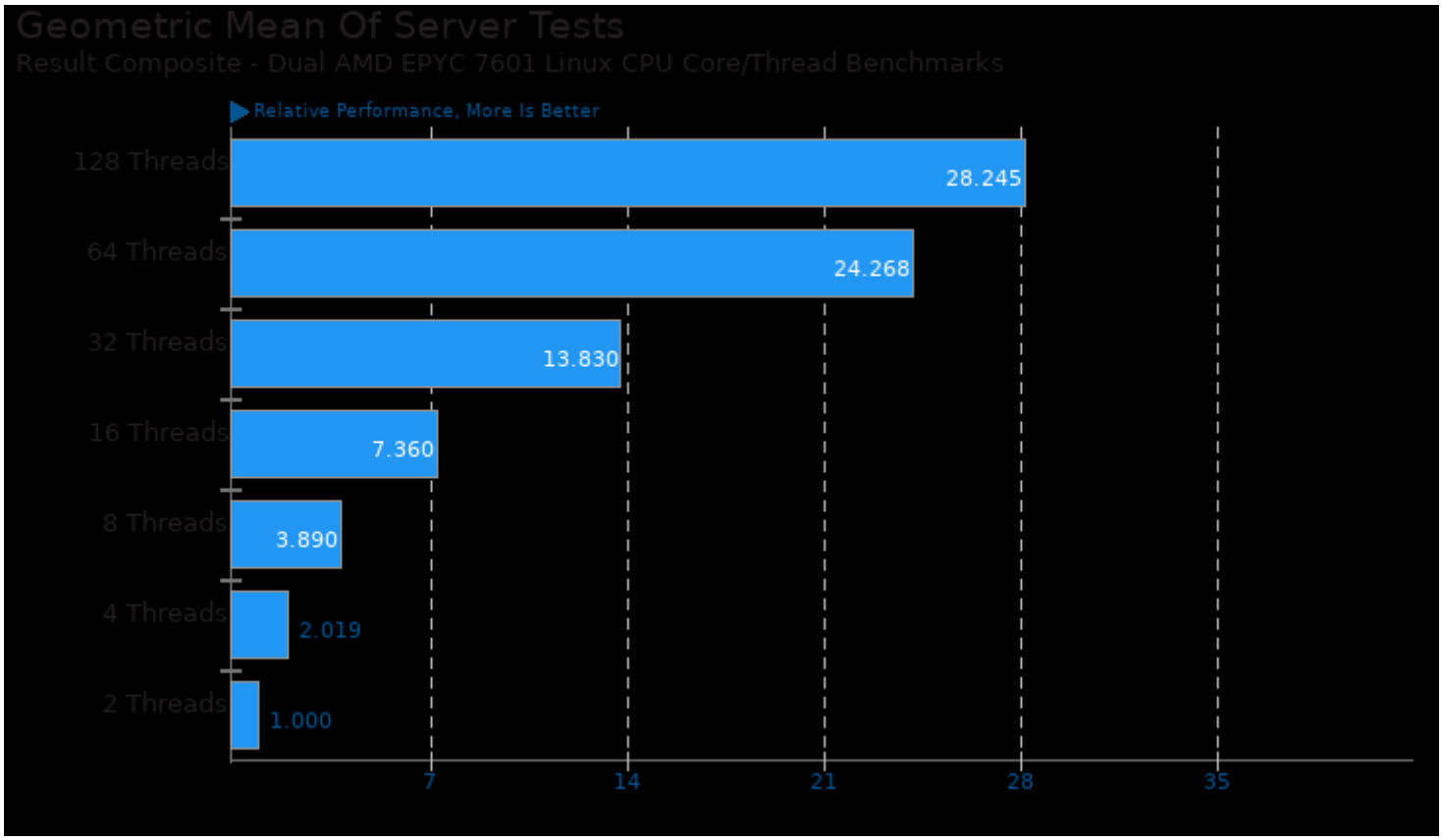
Geometric mean based upon tests: pts/c-ray, pts/tachyon and pts/povray



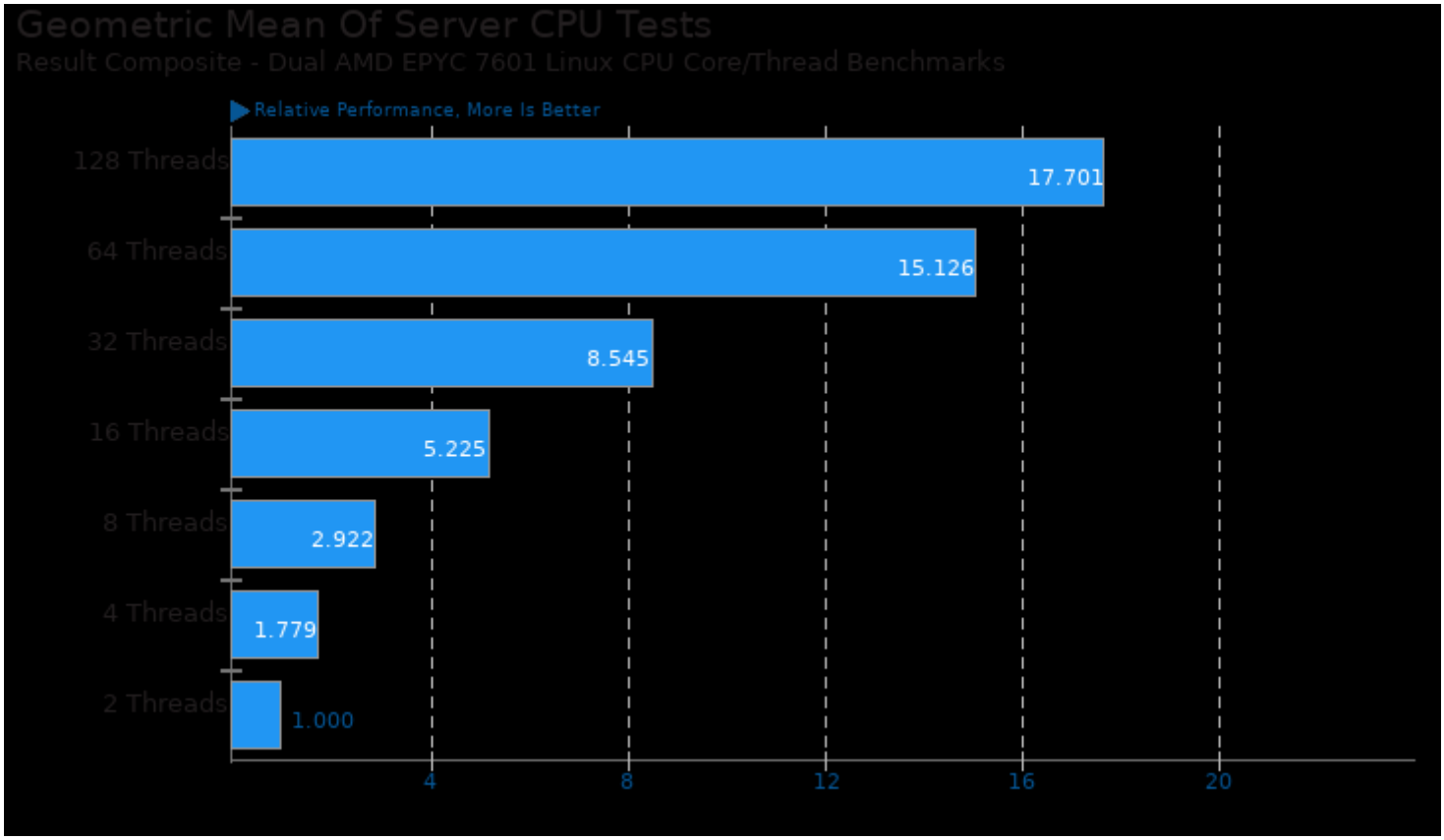
Geometric mean based upon tests: pts/c-ray, pts/tachyon, pts/povray, pts/smallpt, pts/ttsiod-renderer and pts/v-ray



Geometric mean based upon tests: pts/namd and pts/himeno

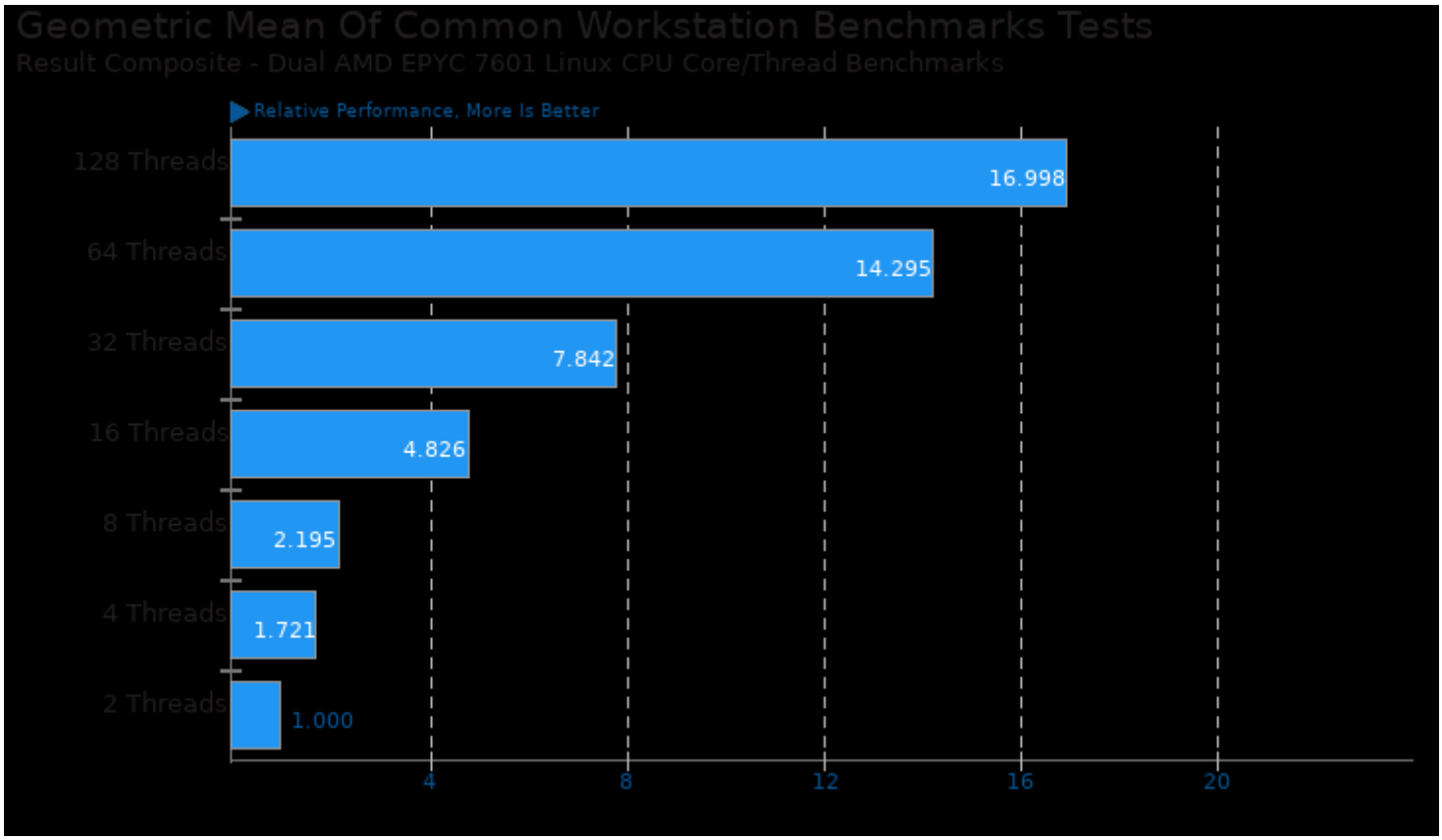


Geometric mean based upon tests: pts/ebizzy, pts/pgbench and pts/openssl



Geometric mean based upon tests: pts/rodinia, pts/namd, pts/dacapobench, pts/x264, pts/himeno, pts/compress-7zip, pts/stockfish, pts/asmfish, pts/build-linux-kernel, pts/build-llvm, pts/c-ray, pts/povray, pts/rust-mandel, pts/m-queens,

pts/openssl, system/tesseract-ocr and pts/cpuminer-opt



Geometric mean based upon tests: pts/rodinia, pts/himeno and pts/brl-cad

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 17:32.