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Ubuntu 17.10 vs. s. Clear Linux - Core i9 Prep

AMD Ryzen Threadripper 1950X tests versus Core i9 7900X with Antergos, Clear Linux, Ubuntu.

Automated Executive Summary

Core i9 7900X: Clear Linux 17650 had the most wins, coming in first place for 55% of the tests.

Based on the geometric mean of all complete results, the fastest (Core i9 7900X: Clear Linux 17650) was 1.546x the speed of the slowest (Threadripper: Ubuntu 17.10). Threadripper: Clear Linux 17650 was 1.306x the speed of Threadripper: Ubuntu 17.10, Core i9 7900X: Ubuntu 17.10 was 0.939x the speed of Threadripper: Clear Linux 17650, Core i9 7900X: Clear Linux 17650 was 1.26x the speed of Core i9 7900X: Ubuntu 17.10, Core i9 7960X: Ubuntu 17.10 was 0.823x the speed of Core i9 7900X: Clear Linux 17650.

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

Rodinia (Test: OpenMP CFD Solver) at 6.197x
Timed HMMer Search (Pfam Database Search) at 2.87x
Rodinia (Test: OpenMP LavaMD) at 2.544x
Himeno Benchmark (Poisson Pressure Solver) at 2.311x
Parboil (Test: OpenMP MRI Gridding) at 1.986x
CacheBench (Test: Read / Modify / Write) at 1.823x
Parboil (Test: OpenMP CUTCP) at 1.775x

Apache Benchmark (Static Web Page Serving) at 1.745x
Xsbench at 1.732x
Redis (Test: SET) at 1.713x.

Test Systems:

Threadripper: Ubuntu 17.10

Processor: AMD Ryzen Threadripper 1950X 16-Core @ 3.40GHz (32 Cores), Motherboard: Gigabyte X399 AORUS Gaming 7, Chipset: AMD Device 1450, Memory: 32768MB, Disk: 120GB Force MP500, Graphics: XFX AMD Radeon R9 290/390 4096MB, Audio: Realtek ALC1220, Monitor: Acer B286HK, Network: Qualcomm Atheros Device e0b1 + Intel Wireless 8265 / 8275

OS: Ubuntu 17.10, Kernel: 4.12.0-12-generic (x86_64), Desktop: GNOME Shell 3.25.91, Display Driver: modesetting 1.19.3, OpenGL: 4.5 Mesa 17.2.0-rc4 (LLVM 4.0.1), Compiler: GCC 7.2.0, File-System: ext4, Screen Resolution: 3840x2160

Environment Notes: GJS_DEBUG_TOPICS=JS ERROR;JS LOG GJS_DEBUG_OUTPUT=stderr
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
Processor Notes: Scaling Governor: acpi-cpufreq ondemand

Threadripper: Clear Linux 17650

Processor: AMD Ryzen Threadripper 1950X 16-Core @ 3.40GHz (32 Cores), Motherboard: Gigabyte X399 AORUS Gaming 7, Chipset: AMD Device 1450, Memory: 4 x 8192 MB DDR4-3200MT/s, Disk: 120GB Force MP500, Graphics: XFX AMD Radeon R9 290/390, Audio: Realtek ALC1220, Network: Qualcomm Atheros Device e0b1 + Intel Wireless 8265 / 8275

OS: Clear Linux OS 17650, Kernel: 4.13.0-387.native (x86_64), Vulkan: 1.0.39, Compiler: GCC 7.2.0 + Clang 4.0.1 + LLVM 4.0.1, File-System: ext4, Screen Resolution: 1024x768

Compiler Notes: --build=x86_64-generic-linux --disable-libunwind-exceptions --disable-multiarch --disable-vtable-verify --enable-__cxa_atexit --enable-bootstrap --enable-clocale=gnu --enable-gnu-indirect-function --enable-languages=c,c++,fortran,go --enable-ld=default --enable-libmpx --enable-libstdcxx-pch --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --exec-prefix=/usr --includedir=/usr/include --target=x86_64-generic-linux --with-arch=westmere --with-glibc-version=2.19 --with-gnu-ld --with-isl --with-ppl=yes --with-tune=haswell
Processor Notes: Scaling Governor: acpi-cpufreq performance

Core i9 7900X: Ubuntu 17.10

Processor: Intel Core i7-7900X @ 4.50GHz (20 Cores), Motherboard: MSI X299 SLI PLUS (MS-7A93) v1.0, Chipset: Intel Device 2020, Memory: 16384MB, Disk: 240GB Force MP500, Graphics: NVE4 2048MB, Audio: Realtek ALC1220, Monitor: DELL P2415Q, Network: Intel Connection

OS: Ubuntu 17.10, Kernel: 4.12.0-12-generic (x86_64), Desktop: GNOME Shell 3.25.91, Display Driver: modesetting 1.19.3, OpenGL: 4.3 Mesa 17.2.0-rc4, Compiler: GCC 7.2.0, File-System: ext4, Screen Resolution: 3840x2160

Environment Notes: GJS_DEBUG_TOPICS=JS ERROR;JS LOG GJS_DEBUG_OUTPUT=stderr

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
Processor Notes: Scaling Governor: intel_pstate powersave

Core i9 7900X: Clear Linux 17650

Processor: Intel Core i7-7900X @ 4.50GHz (20 Cores), Motherboard: MSI X299 SLI PLUS (MS-7A93) v1.0, Chipset: Intel Device 2020, Memory: 4 x 4096 MB DDR4-2800MT/s, Disk: 240GB Force MP500, Graphics: NVIDIA GeForce GTX 760, Audio: Realtek ALC1220, Network: Intel Connection

OS: Clear Linux OS 17650, Kernel: 4.13.0-387.native (x86_64), Vulkan: 1.0.39, Compiler: GCC 7.2.0 + Clang 4.0.1 + LLVM 4.0.1, File-System: ext4, Screen Resolution: 1024x768

Compiler Notes: --build=x86_64-generic-linux --disable-libunwind-exceptions --disable-multiarch --disable-vtable-verify --enable-__cxa_atexit --enable-bootstrap --enable-clocale=gnu --enable-gnu-indirect-function --enable-languages=c,c++,fortran,go --enable-ld=default --enable-libmpx --enable-libstdcxx-pch --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --exec-prefix=/usr --includedir=/usr/include --target=x86_64-generic-linux --with-arch=westmere --with-glibc-version=2.19 --with-gnu-ld --with-isl --with-ppl=yes --with-tune=haswell
Processor Notes: Scaling Governor: intel_pstate performance

Core i9 7960X: Ubuntu 17.10

Processor: Intel Core i9-7960X @ 4.40GHz (32 Cores), Motherboard: MSI X299 SLI PLUS (MS-7A93) v1.0, Chipset: Intel Device 2020, Memory: 16384MB, Disk: Samsung SSD 950 PRO 256GB, Graphics: NVIDIA GeForce GTX 1080 8192MB, Audio: Realtek ALC1220, Monitor: DELL P2415Q, Network: Intel Connection

OS: Ubuntu 17.10, Kernel: 4.13.0-11-generic (x86_64), Desktop: GNOME Shell 3.26.0, Display Server: Wayland, OpenGL: 4.3 Mesa 17.2.0, Compiler: GCC 7.2.0, File-System: ext4, Screen Resolution: 3840x2160

Environment Notes: GJS_DEBUG_TOPICS=JS ERROR;JS LOG GJS_DEBUG_OUTPUT=stderr
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
Processor Notes: Scaling Governor: intel_pstate powersave

	Threadripper: Ubuntu 17.10	Threadripper: Clear Linux 17650	Core i9 7900X: Ubuntu 17.10	Core i9 7900X: Clear Linux 17650	Core i9 7960X: Ubuntu 17.10
Parboil - OpenMP LBM (sec)	**87.18**	84.93	73.17	**71.80**	77.10
Normalized	82.36%	84.54%	98.13%	100%	93.13%
Standard Deviation	0.1%	0.1%	1.2%	1.2%	1.2%
Parboil - OpenMP CUTCP (sec)	3.31	**2.44**	**4.33**	3.28	3.32
Normalized	73.72%	100%	56.35%	74.39%	73.49%
Standard Deviation	0.4%	0.4%	0.3%	0.2%	0.7%
Parboil - OpenMP Stencil (sec)	**13.43**	12.15	11.72	10.67	**8.98**
Normalized	66.87%	73.91%	76.62%	84.16%	100%
Standard Deviation	0.1%	0.6%	6.7%	6.7%	7.9%
Parboil - O.M.G (sec)	**158.24**	156.45	79.94	**79.67**	124.85
Normalized	50.35%	50.92%	99.66%	100%	63.81%
Standard Deviation	0.3%	0.1%	1.2%	1.4%	1.5%

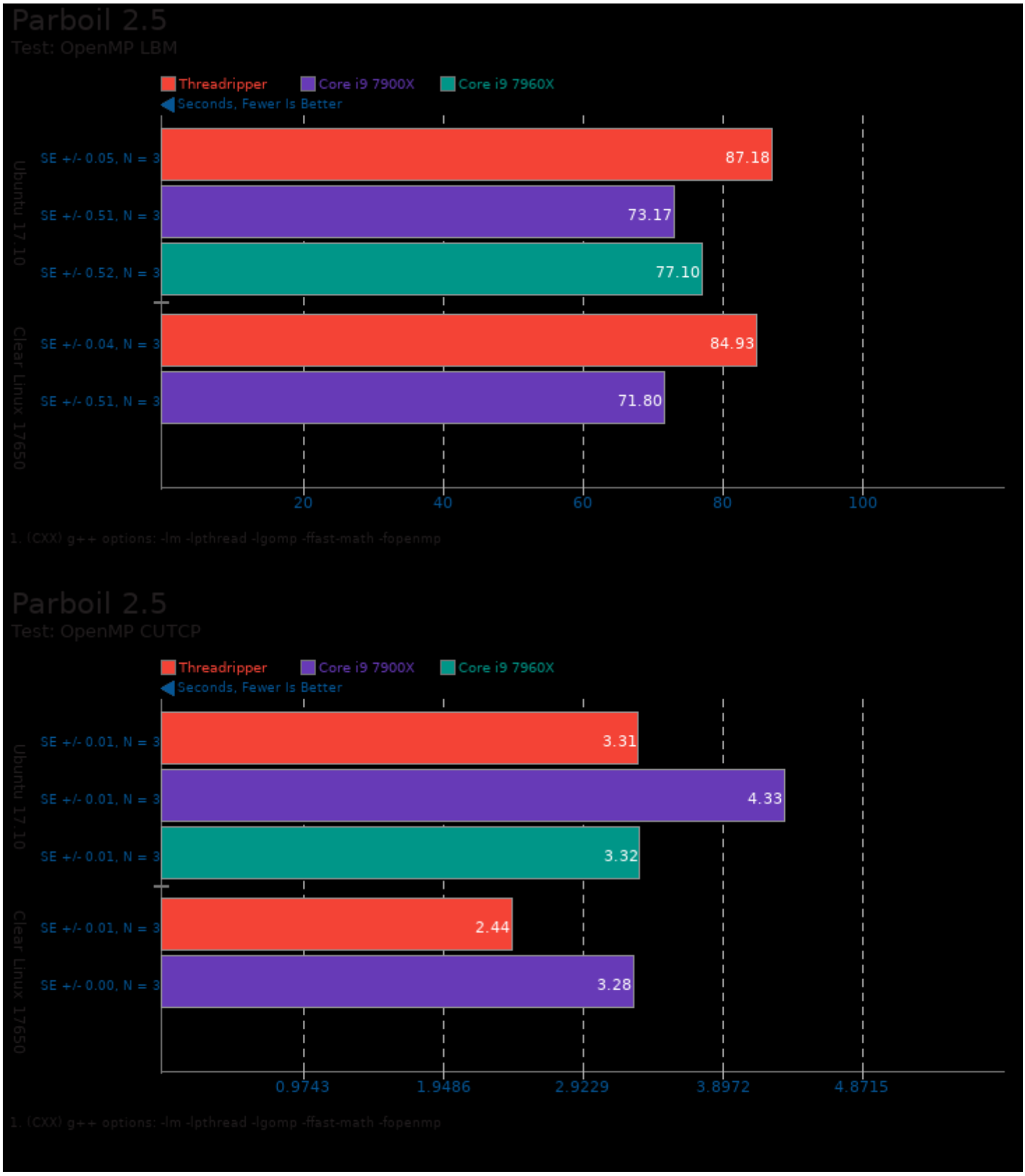
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Rodinia - OpenMP LavaMD (sec)	43.87	23.62	60.08	33.26	49.09
Normalized	53.84%	100%	39.31%	71.02%	48.12%
Standard Deviation	0.2%	0.3%	1.3%	0.7%	2.4%
Rodinia - OpenMP CFD Solver (sec)	80.50	12.99	17.90	17.58	13.40
Normalized	16.14%	100%	72.57%	73.89%	96.94%
Standard Deviation	0.5%	0.5%	4.4%	4.4%	5.3%
Rodinia - O.S (sec)	51.37	17.34	13.97	14.08	14.86
Normalized	27.19%	80.57%	100%	99.22%	94.01%
Standard Deviation	0.5%	0.2%	8.6%	6%	2.2%
FFTW - Float + SSE - 2D FFT Size 1024 (Mflops)	26347	23766	25341	26982	26055
Normalized	97.65%	88.08%	93.92%	100%	96.56%
Standard Deviation	0.3%	0.1%	0.4%	2.4%	1.3%
FFTW - Float + SSE - 2D FFT Size 4096 (Mflops)	16200	16573	18592	17486	19464
Normalized	83.23%	85.15%	95.52%	89.84%	100%
Standard Deviation	1.5%	0.9%	2.6%	0.8%	1.5%
Timed HMMer Search - P.D.S (sec)	7.91		14.52		5.06
Normalized	63.97%		34.85%		100%
Standard Deviation	1.5%		5%		0.3%
CacheBench - R.M.W (MB/s)	29374	53552	33776	51791	31284
Normalized	54.85%	100%	63.07%	96.71%	58.42%
Standard Deviation	0%	0%	1.1%	0%	0.7%
GraphicsMagick - Resizing (Iterations/min)	228	216	250	271	245
Normalized	84.13%	79.7%	92.25%	100%	90.41%
Standard Deviation	0.5%				
Himeno Benchmark - P.P.S (MFLOPS)	1304	1315	2942	3013	2869
Normalized	43.27%	43.64%	97.66%	100%	95.24%
Standard Deviation	0.2%	0.5%	2%	1.6%	1.4%
Timed LLVM Compilation - Time To Compile (sec)	253.39	354.58	261.30		
Normalized	100%	71.46%	96.97%		
Standard Deviation	0%	4%	0.5%		
C-Ray - Total Time (sec)	5.17	4.09	7.38	6.29	5.76
Normalized	79.11%	100%	55.42%	65.02%	71.01%
Standard Deviation	0.3%	0.4%	0.1%	0.1%	9.4%
Stockfish - Total Time (ms)	3638	3450	2844	2613	3210
Normalized	71.83%	75.74%	91.88%	100%	81.4%
Standard Deviation	1%	0.1%	1.2%	0.1%	18.2%
FLAC Audio Encoding - WAV To FLAC (sec)	5.47	5.22	4.92	4.36	5.05
Normalized	79.71%	83.52%	88.62%	100%	86.34%
Standard Deviation	1%	0.3%	11.6%	0.4%	10.3%
LAME MP3 Encoding - WAV To MP3 (sec)	8.93	8.85	8.32	8.11	8.98
Normalized	90.82%	91.64%	97.48%	100%	90.31%
Standard Deviation	0.9%	0.1%	7%	7.3%	8.5%
FFmpeg - H.2.H.T.N.D (sec)	7.81	6.19	13.89	5.10	7.23
Normalized	65.3%	82.39%	36.72%	100%	70.54%
Standard Deviation	2.2%	1.8%	5.5%	10.5%	2.6%

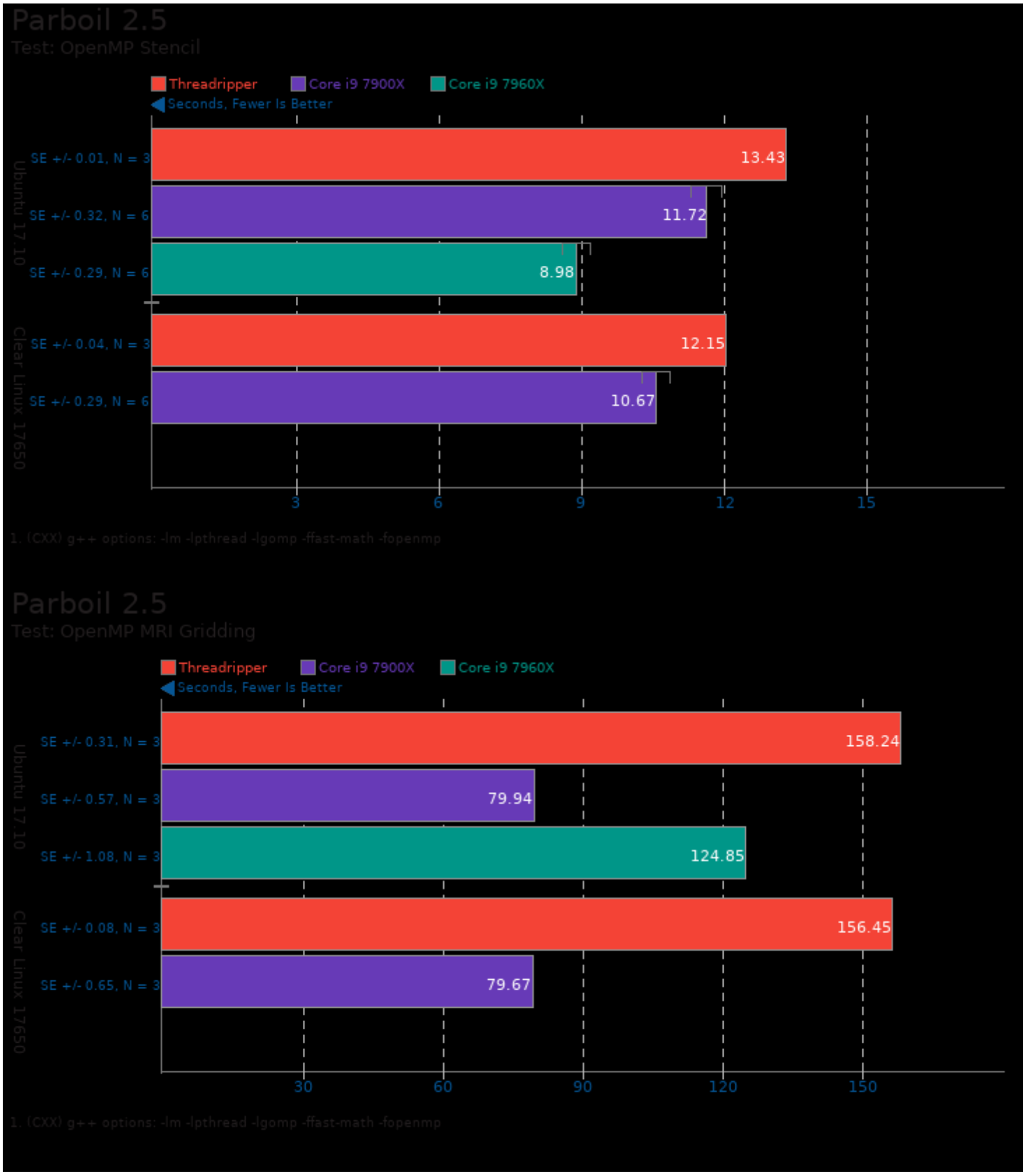
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OpenSSL - R.4.b.P (Signs/sec)	2183	2184	**2112**	2113	**2826**
Normalized	77.23%	77.27%	74.72%	74.77%	100%
Standard Deviation	0.2%	0.2%	0%	0%	0.1%
PostgreSQL pgbench - Buffer Test - Normal Load - Read Write	9947	12566	14118	**22233**	**6649**
Normalized	44.74%	56.52%	63.5%	100%	29.91%
Standard Deviation	43.9%	13.7%	4.5%	4.2%	2.9%
PostgreSQL pgbench - Buffer Test - Single Thread - Read Write	1105	2546	724.21	**3593**	**493.74**
Normalized	30.74%	70.85%	20.16%	100%	13.74%
Standard Deviation	0.1%	3.3%	9.7%	1%	0.3%
Redis - GET (Reqs/sec)	**2191834**	2767869	2650329	**3681125**	3142794
Normalized	59.54%	75.19%	72%	100%	85.38%
Standard Deviation	3.4%	1.4%	0.9%	0.8%	2.6%
Redis - SET (Reqs/sec)	**1549736**	1932086	1955802	**2654983**	2295929
Normalized	58.37%	72.77%	73.67%	100%	86.48%
Standard Deviation	1.2%	1.6%	1%	0.8%	2%
Blender - BMW27 - CPU-Only (sec)	**527.43**	522.30	412.97	**409.58**	436.51
Normalized	77.66%	78.42%	99.18%	100%	93.83%
Xsbench (Lookups/s)	**2728244**	2851137	3394205	3694296	**4725943**
Normalized	57.73%	60.33%	71.82%	78.17%	100%
Standard Deviation	0.2%	0%	0.3%	0.1%	0%
Apache Benchmark - S.W.P.S (Reqs/sec)	**27533**	29662	44342	**48034**	47064
Normalized	57.32%	61.75%	92.31%	100%	97.98%
Standard Deviation	2.1%	1.1%	4.3%	4%	3.5%

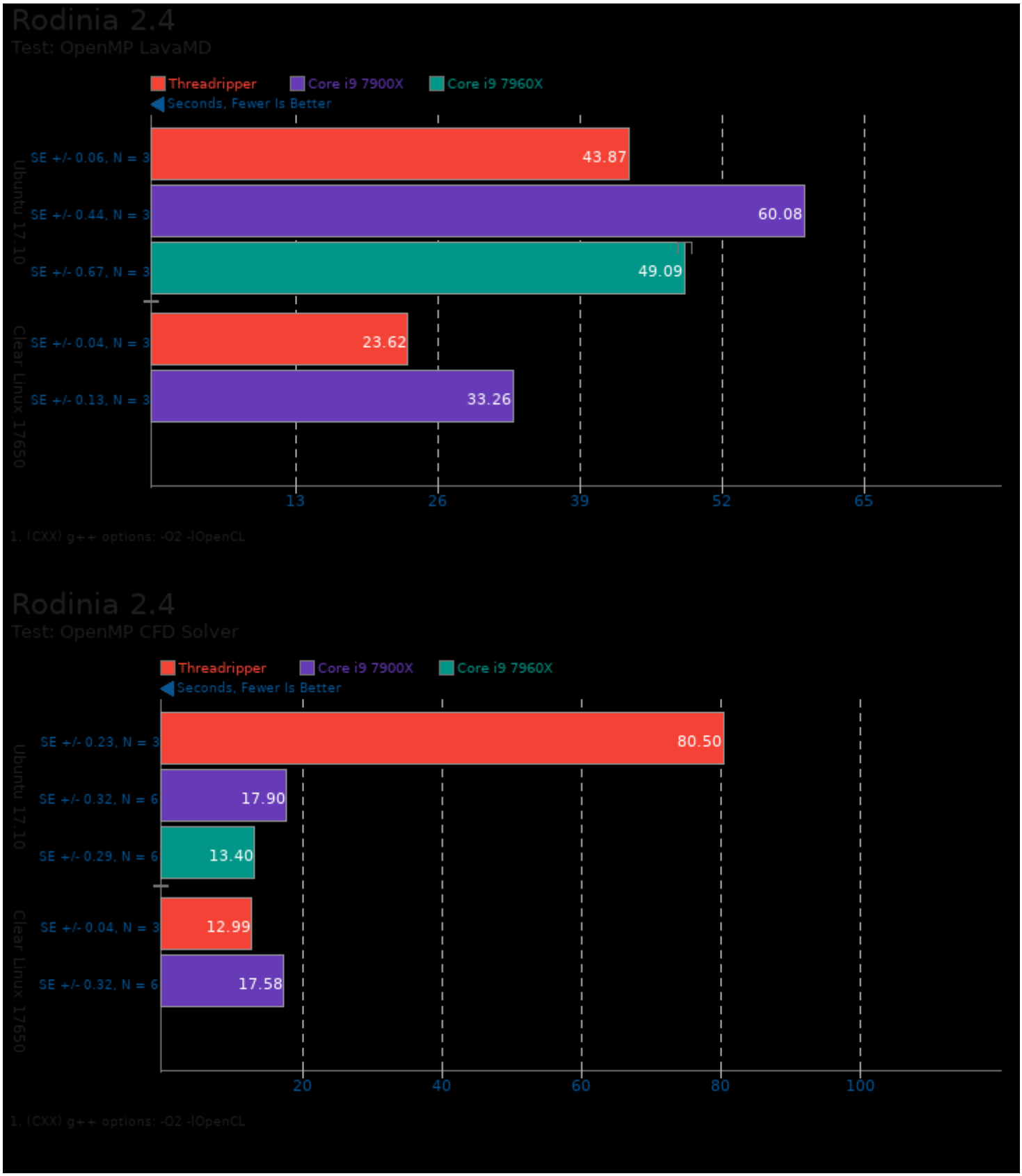
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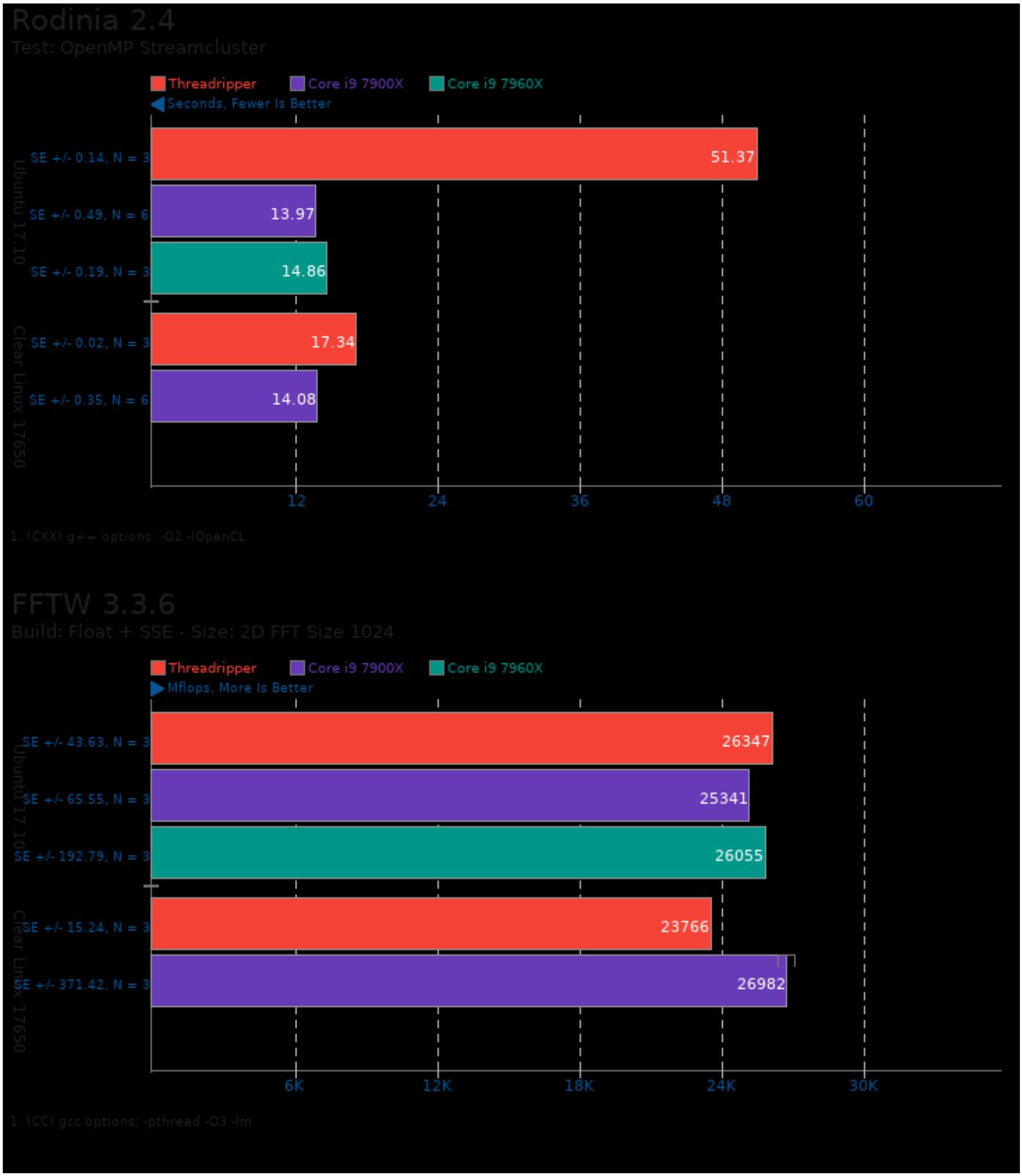
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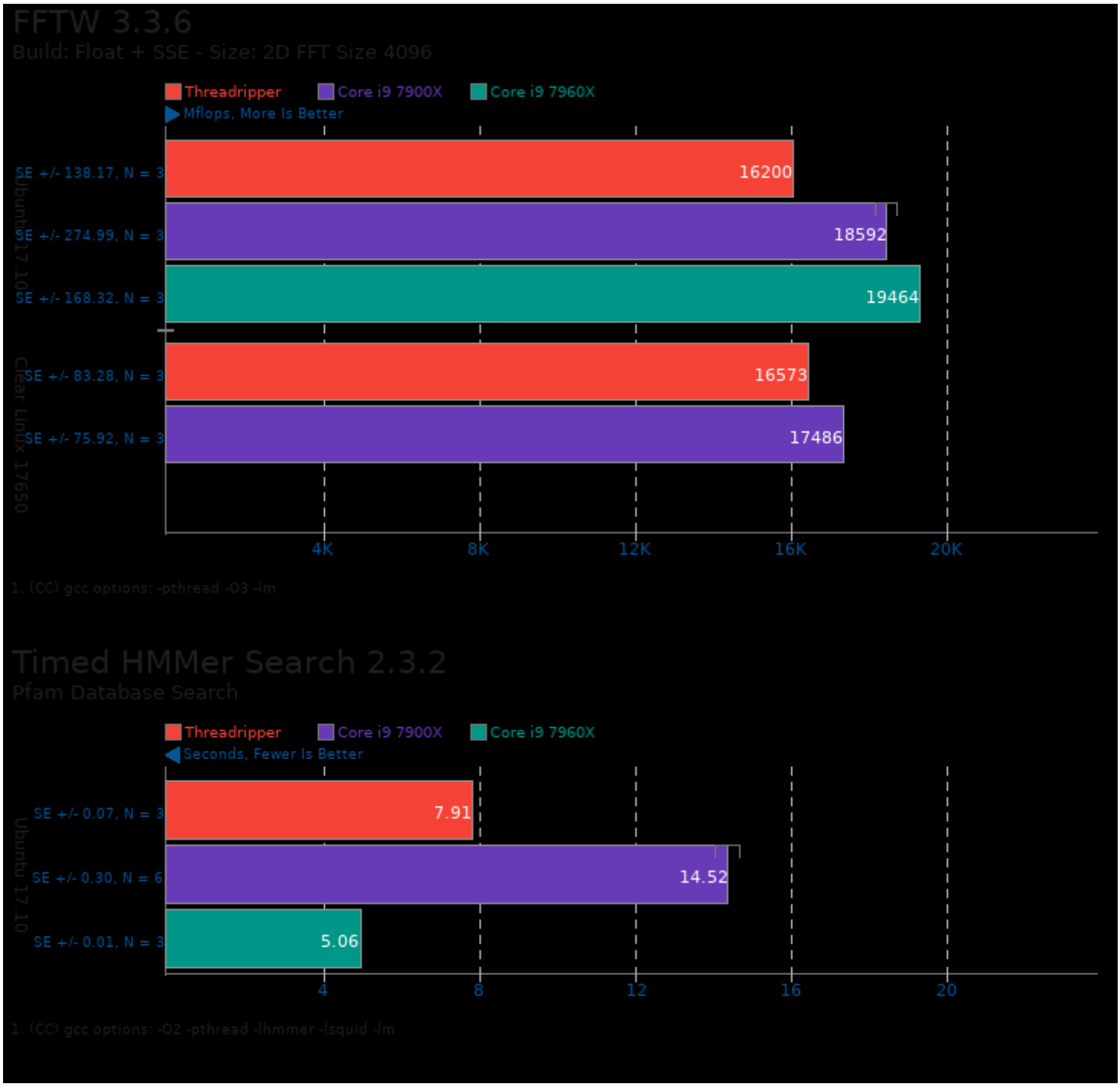
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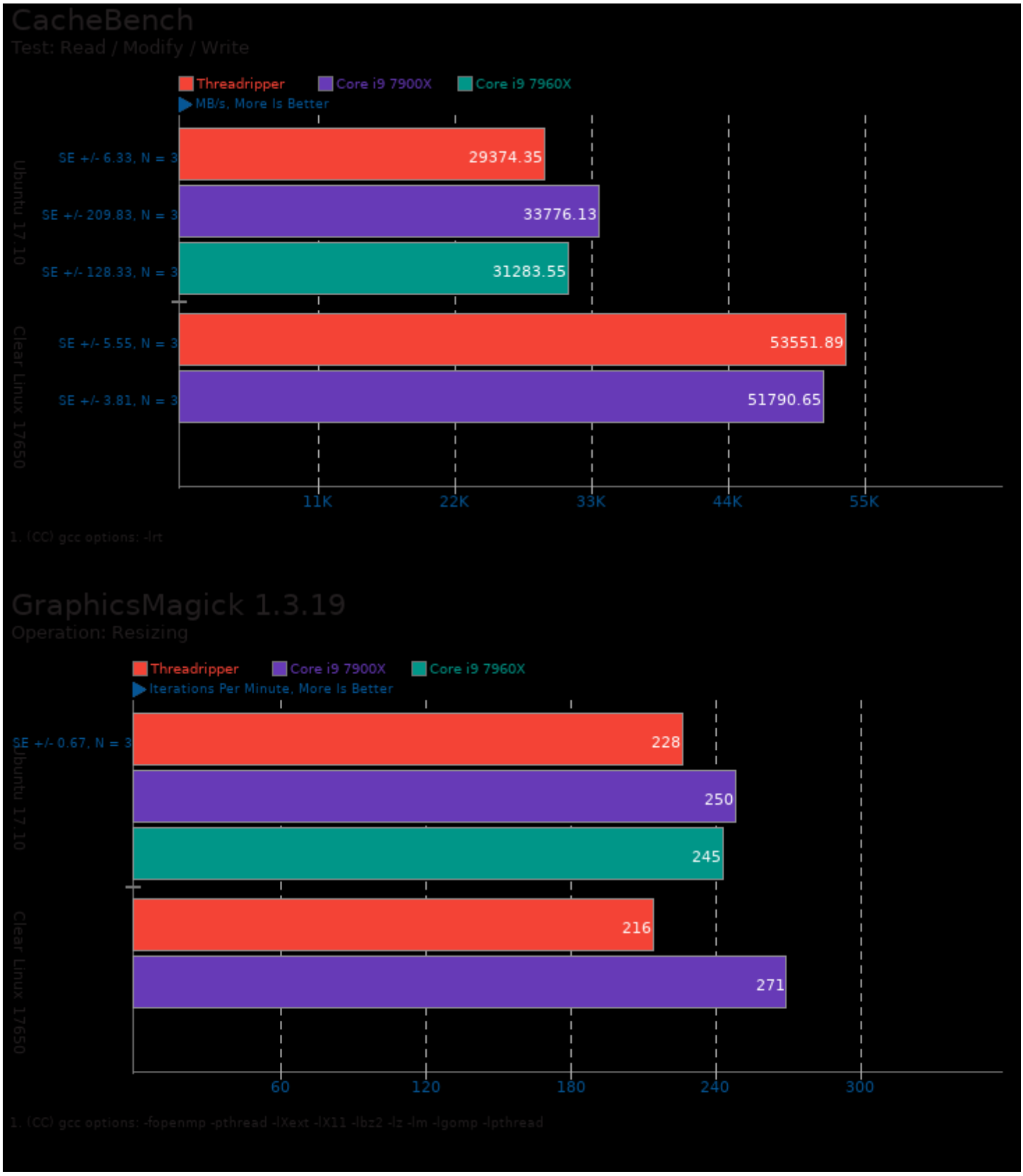
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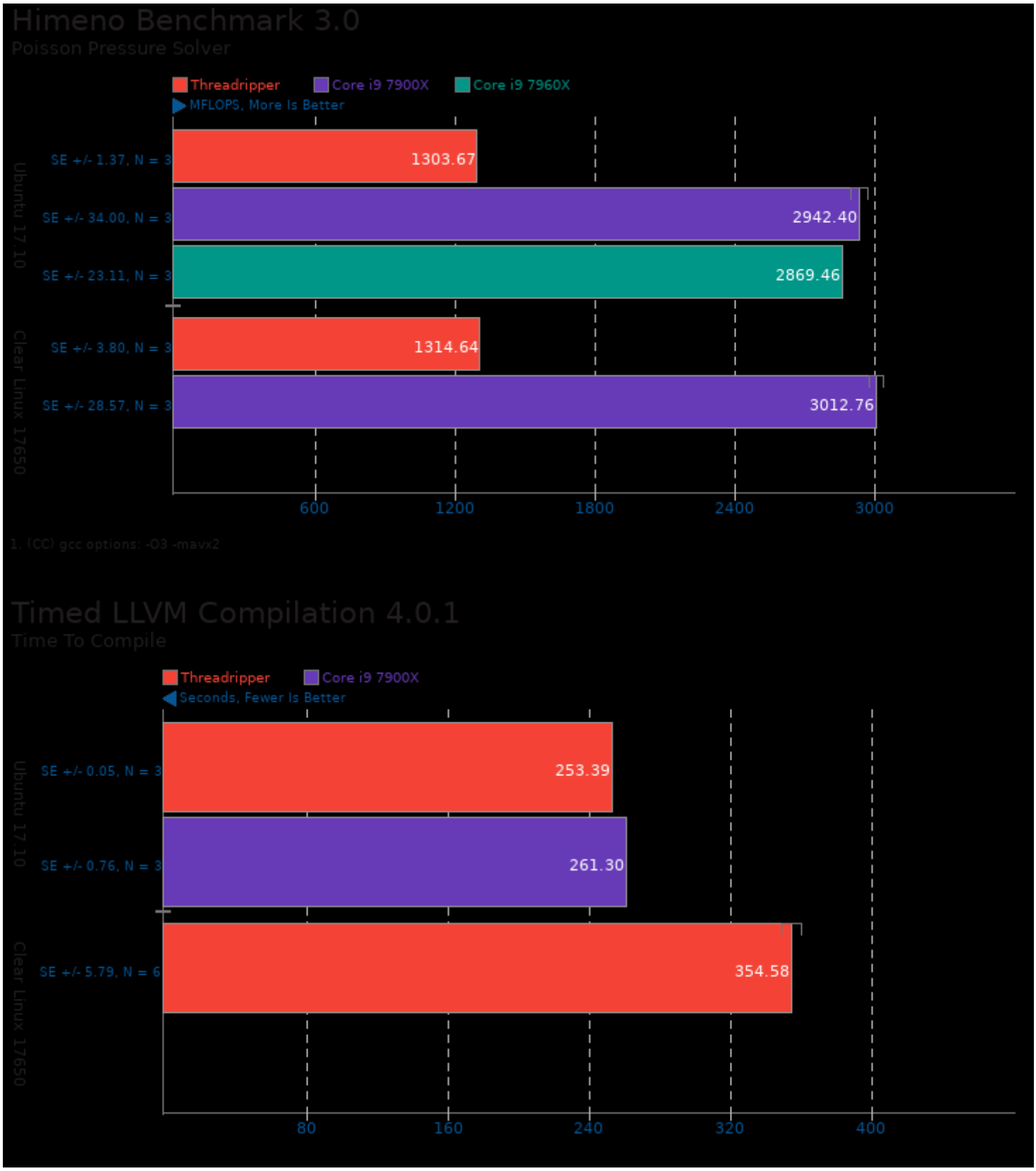
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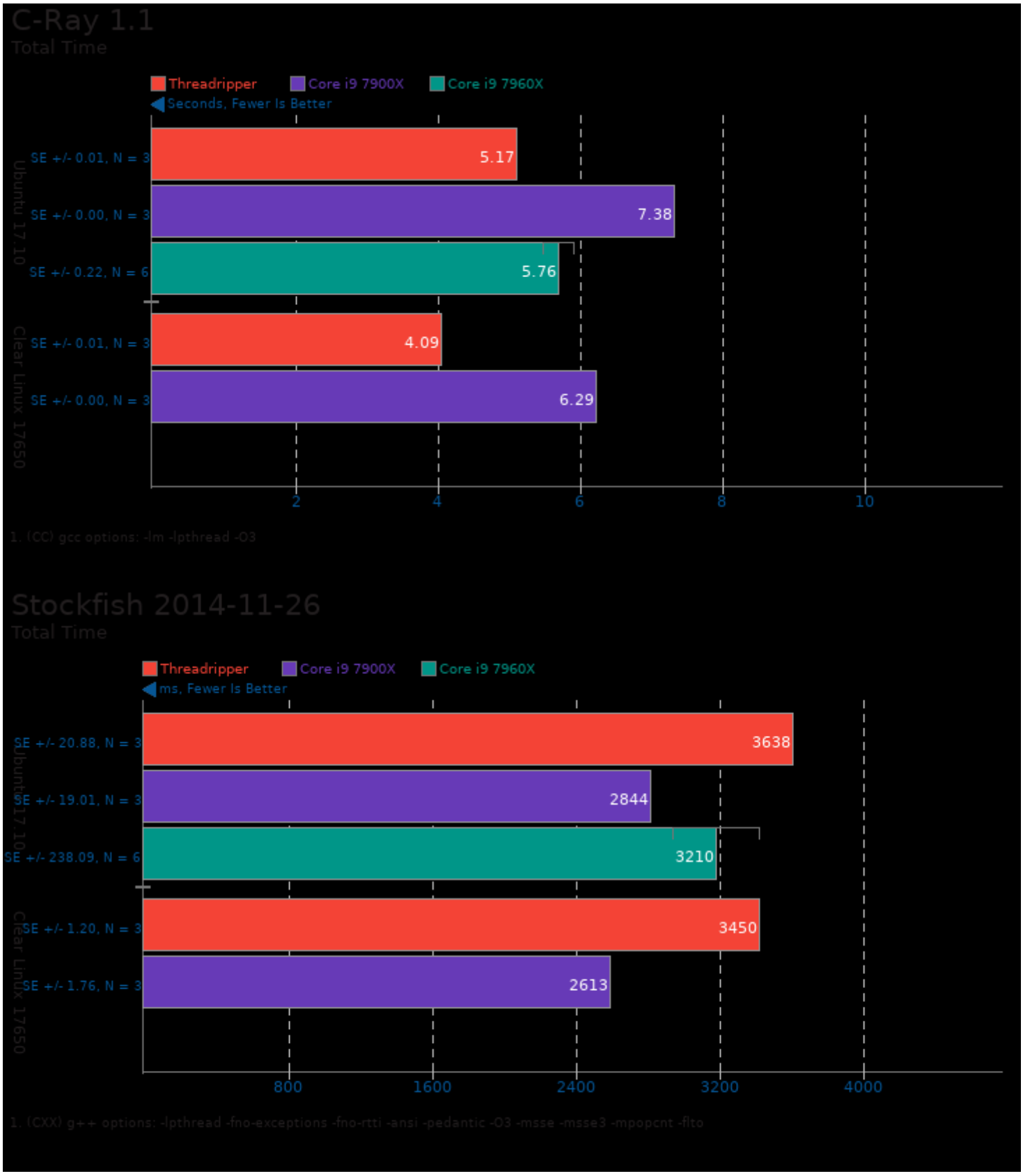
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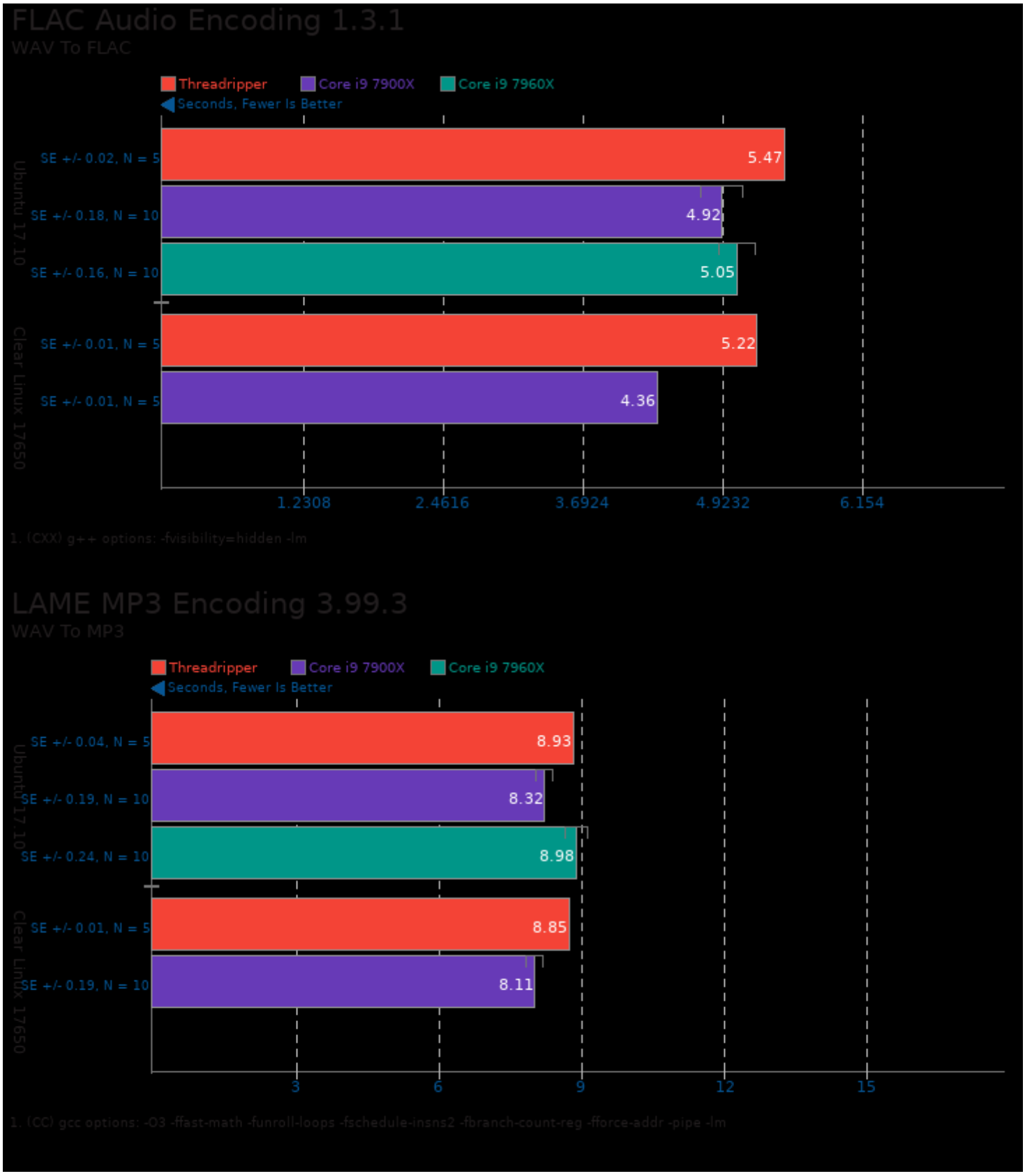
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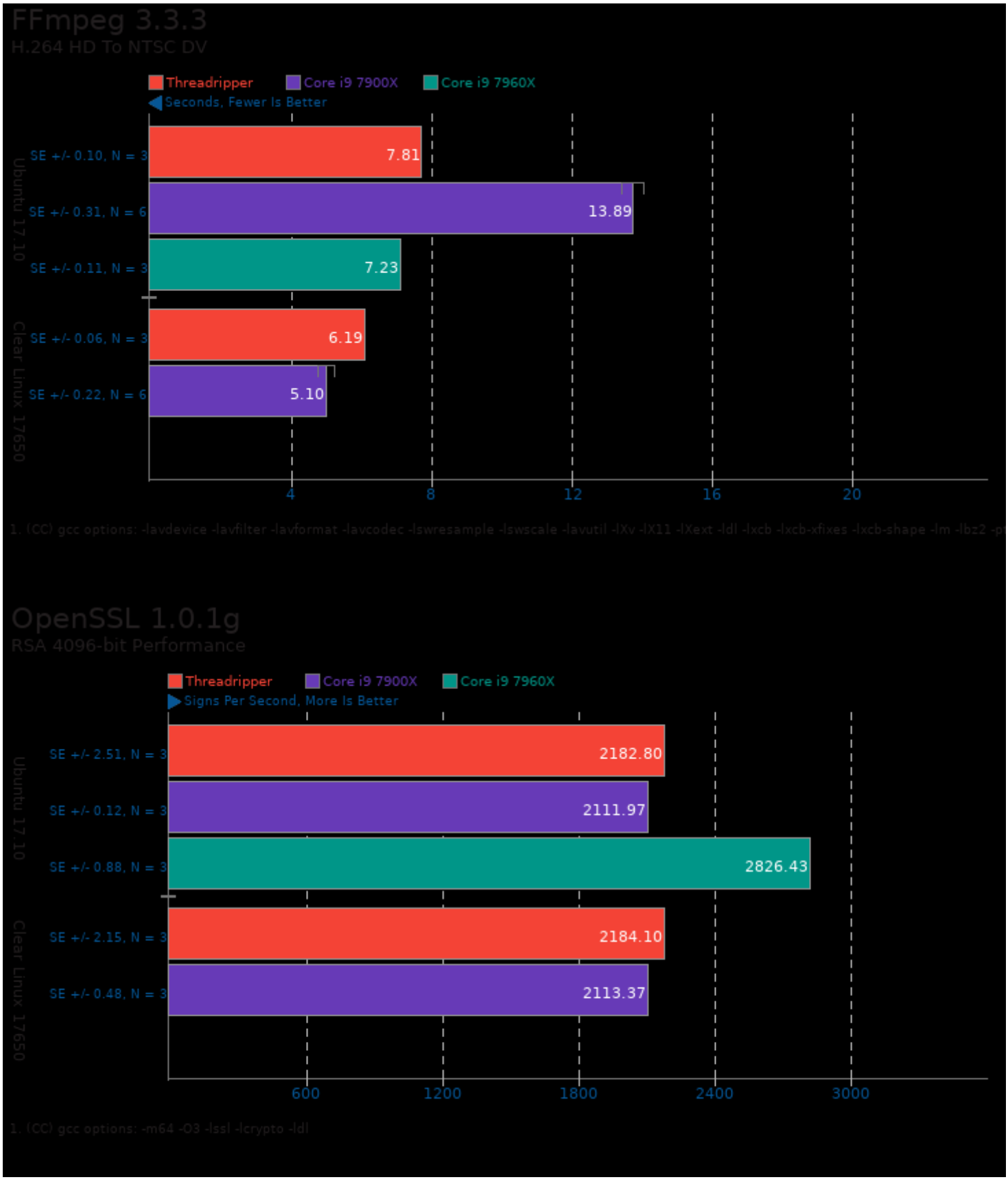
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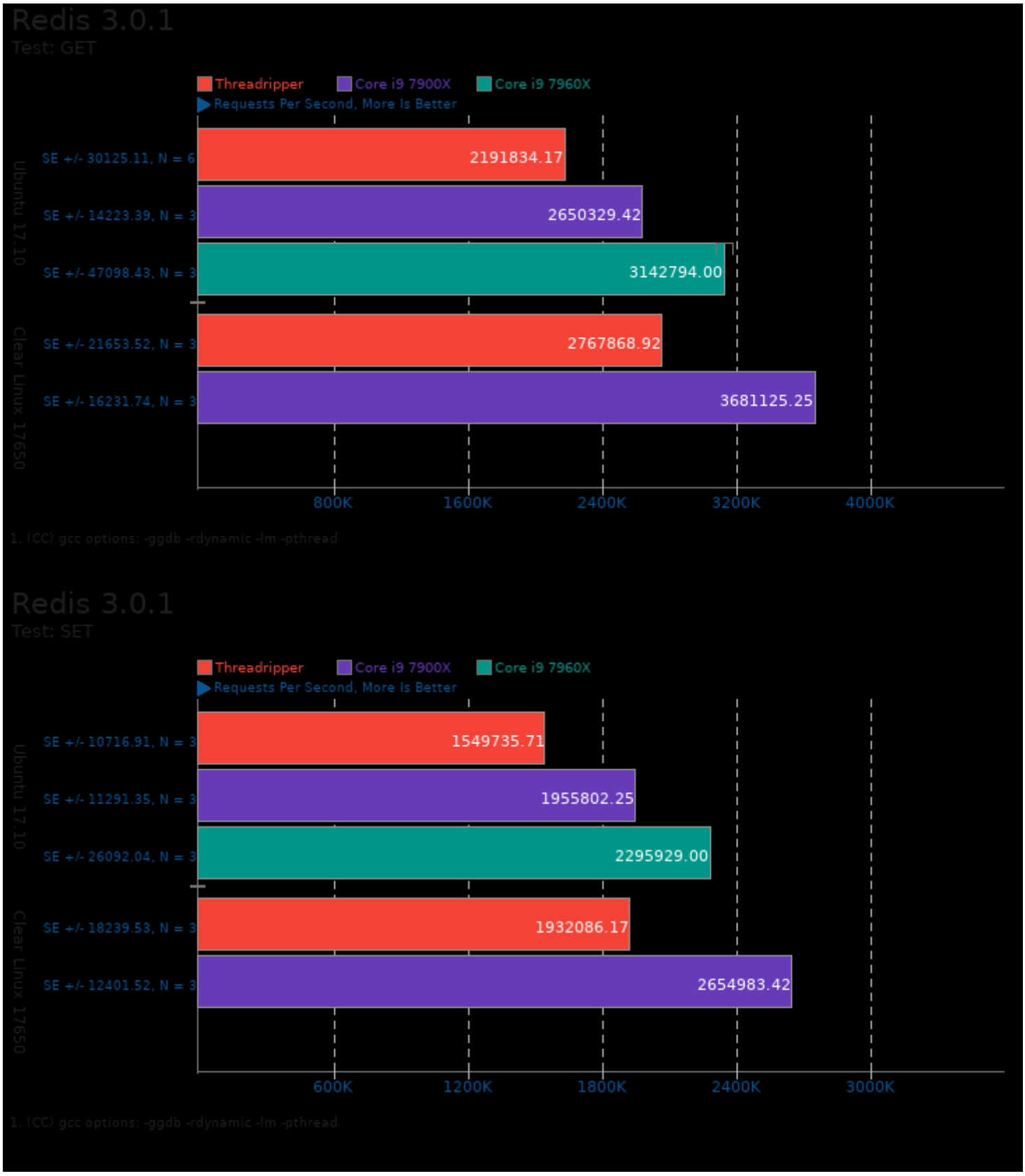
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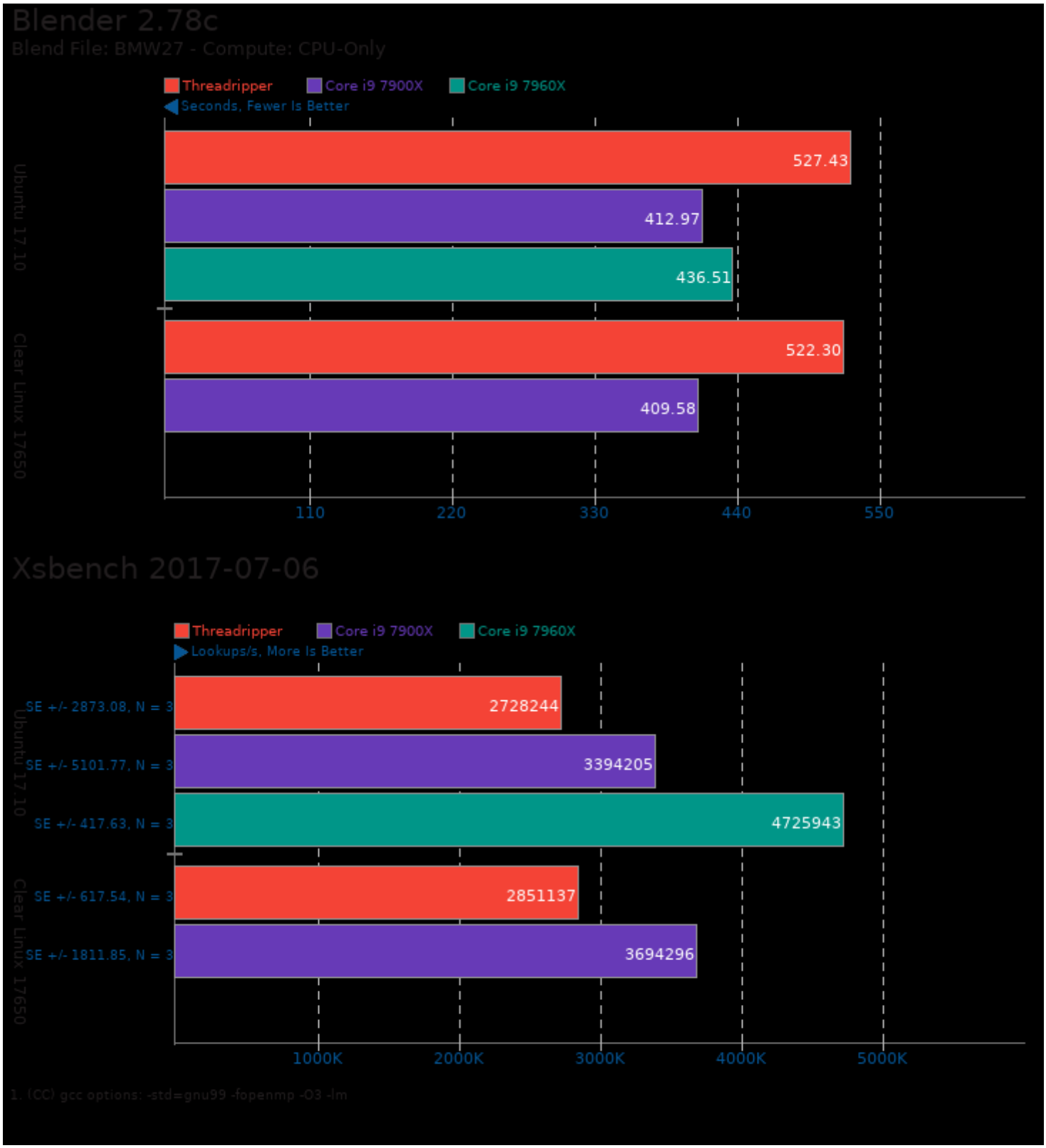
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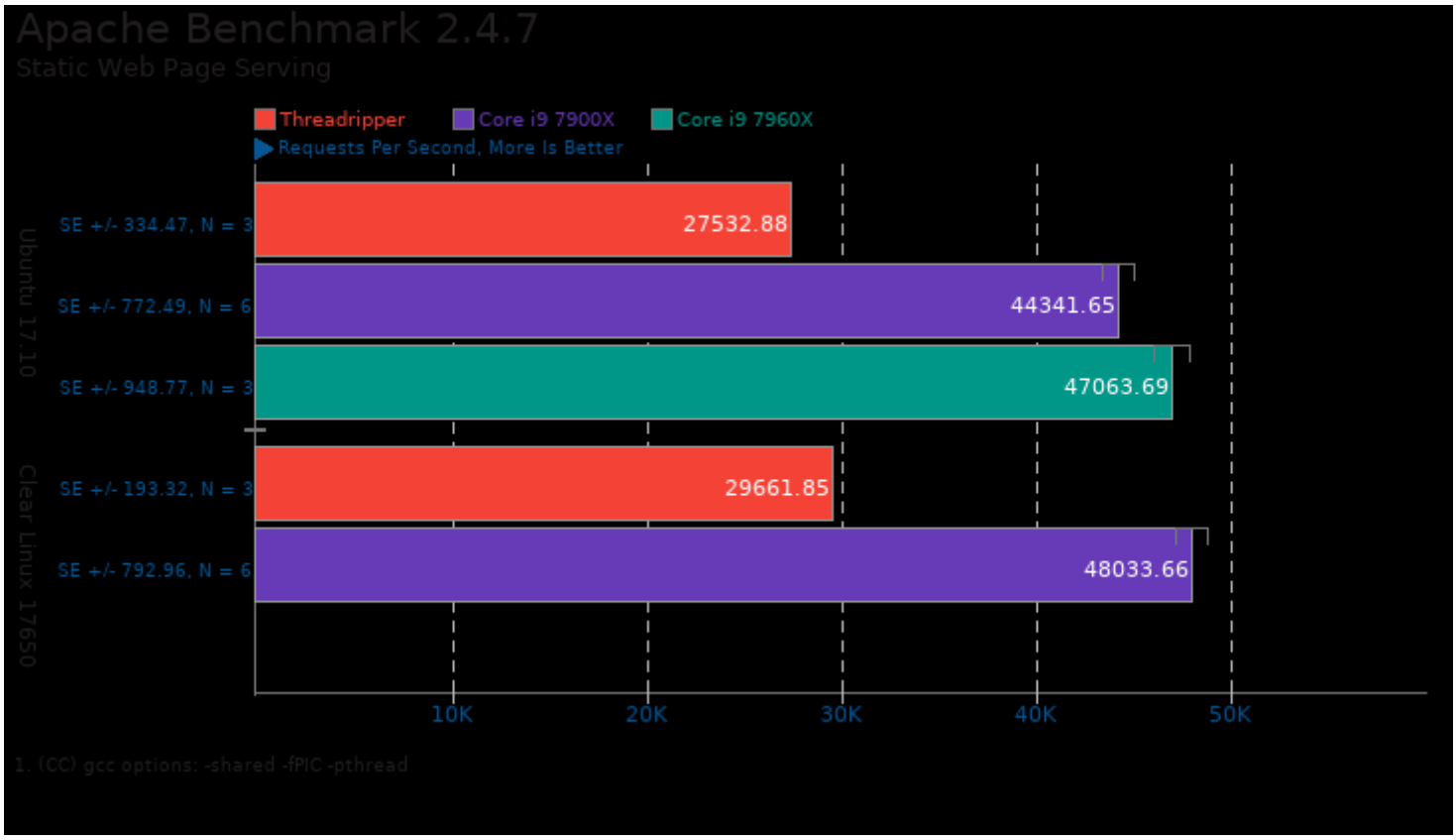
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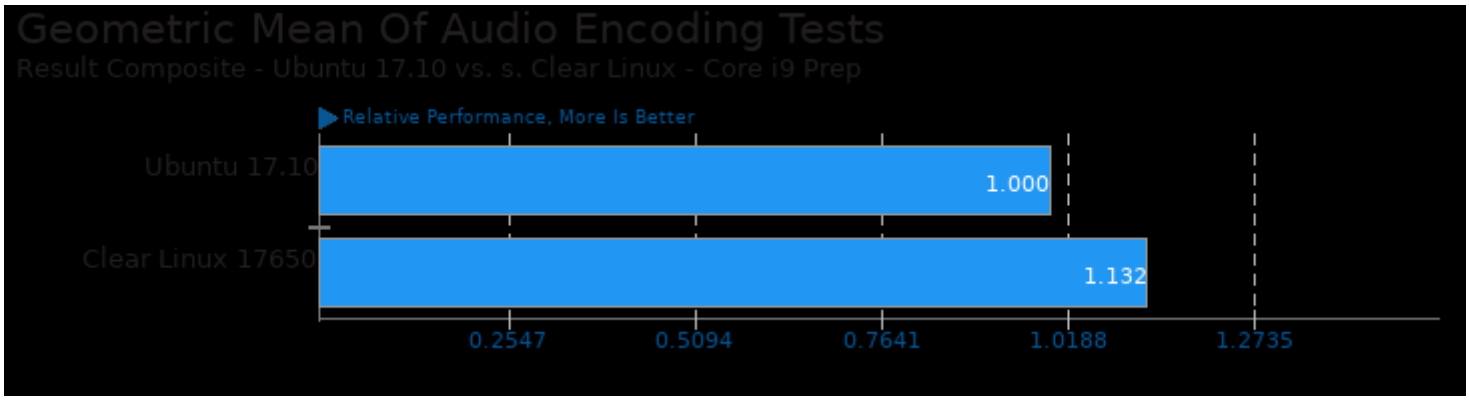


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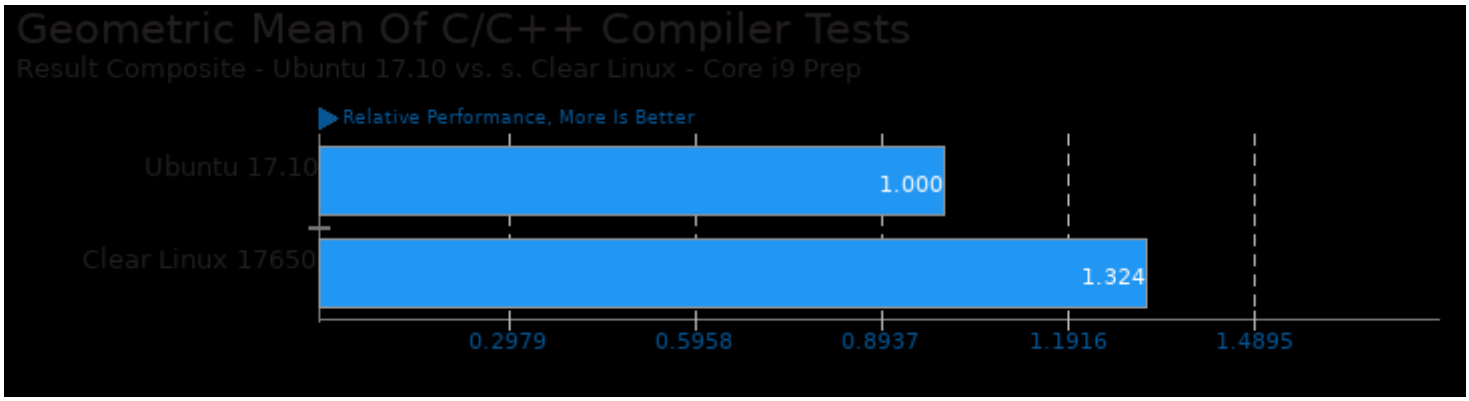


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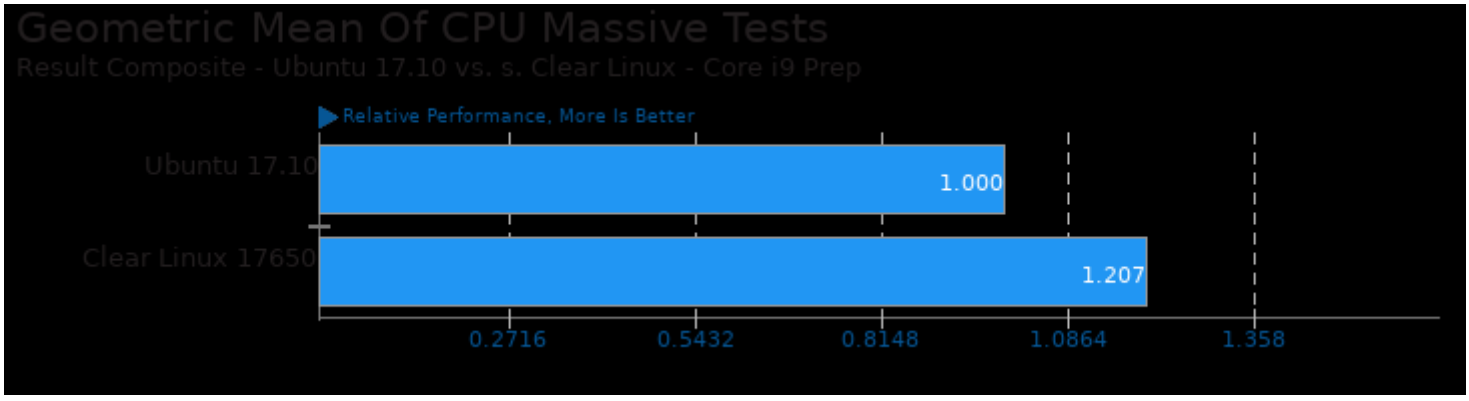
These geometric means are based upon test groupings / test suites for this result file.



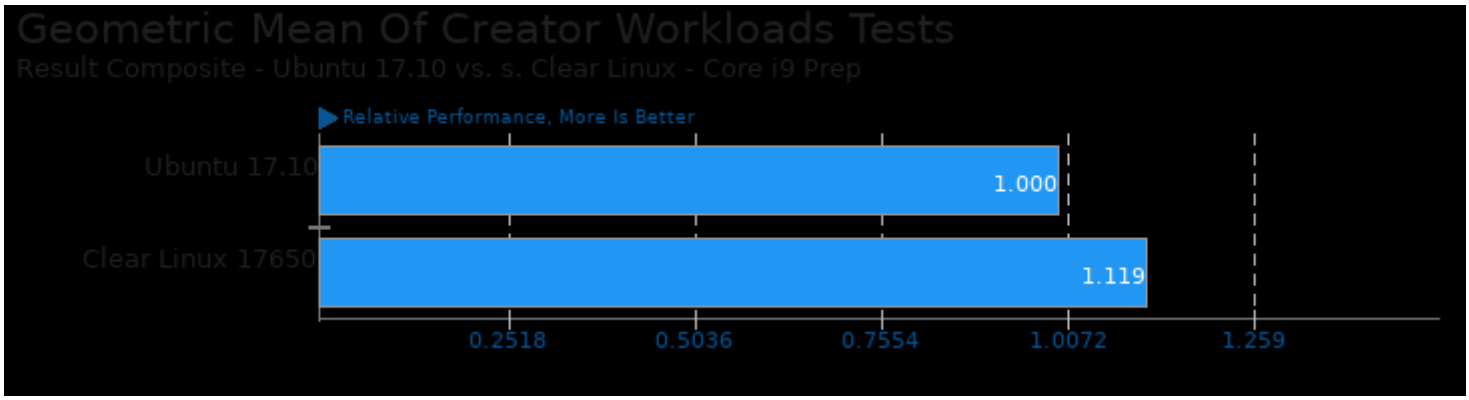
Geometric mean based upon tests: pts/encode-mp3 and pts/encode-flac



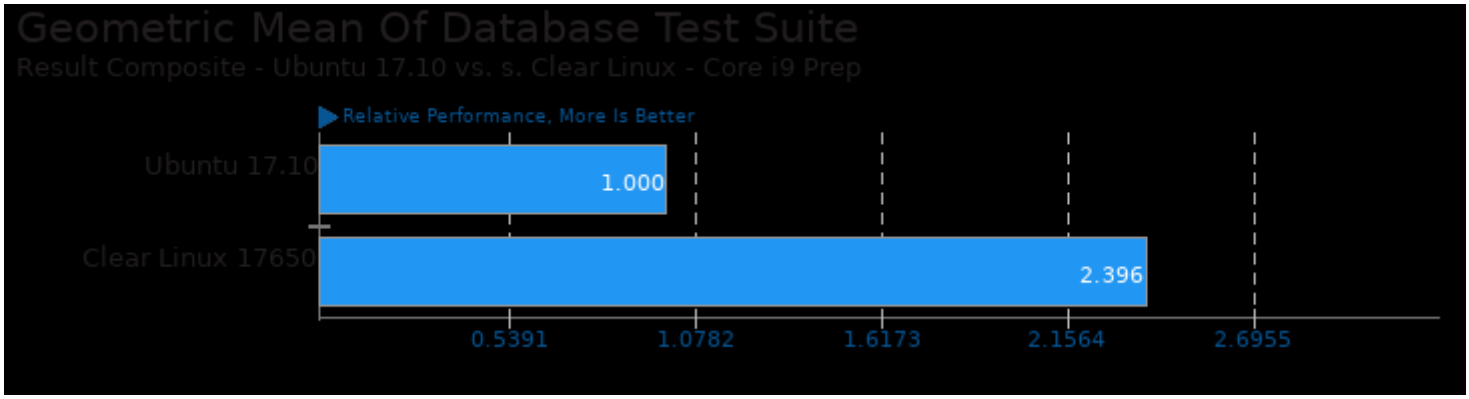
Geometric mean based upon tests: pts/fftw, pts/graphics-magick, pts/himeno, pts/stockfish, pts/hmmer, pts/build-llvm, pts/c-ray, pts/encode-mp3, pts/encode-flac, pts/pgbench, pts/apache and pts/openssl



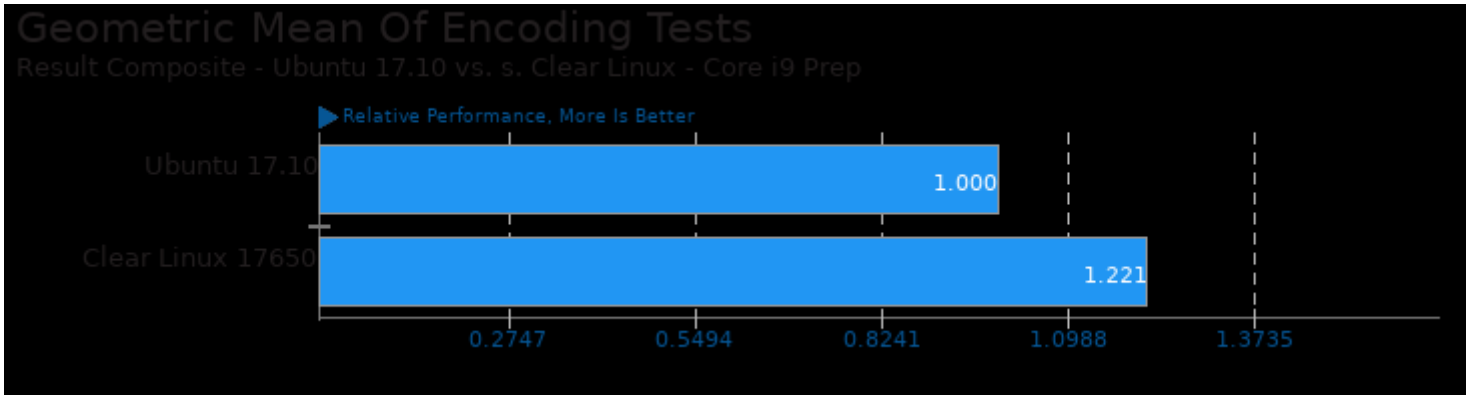
Geometric mean based upon tests: pts/apache, pts/build-llvm, pts/c-ray, pts/cachebench, pts/encode-flac, pts/encode-mp3, pts/fftw, pts/graphics-magick, pts/himeno, pts/hmmer, pts/openssl, pts/parboil, pts/pgbench, pts/redis, pts/rodinia, pts/stockfish, pts/blender and pts/xsbench



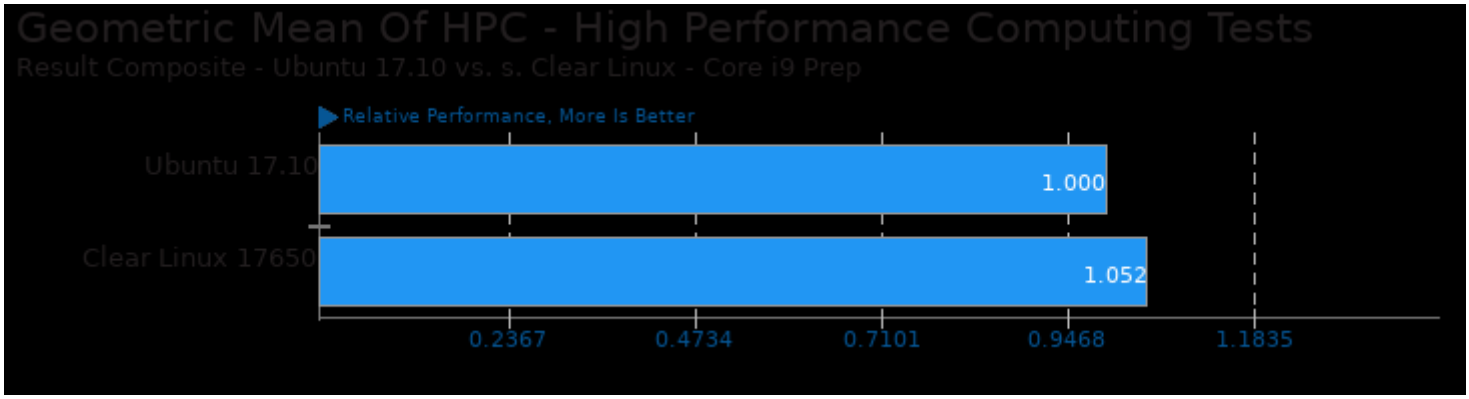
Geometric mean based upon tests: pts/c-ray, pts/blender, pts/ffmpeg, pts/encode-mp3, pts/encode-flac and pts/graphics-magick



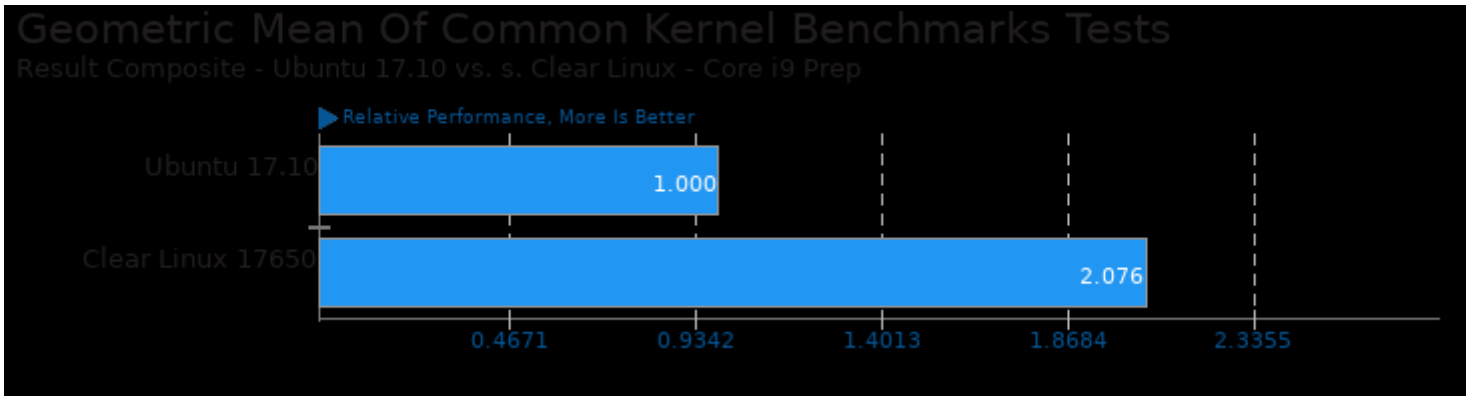
Geometric mean based upon tests: pts/redis and pts/pgbench



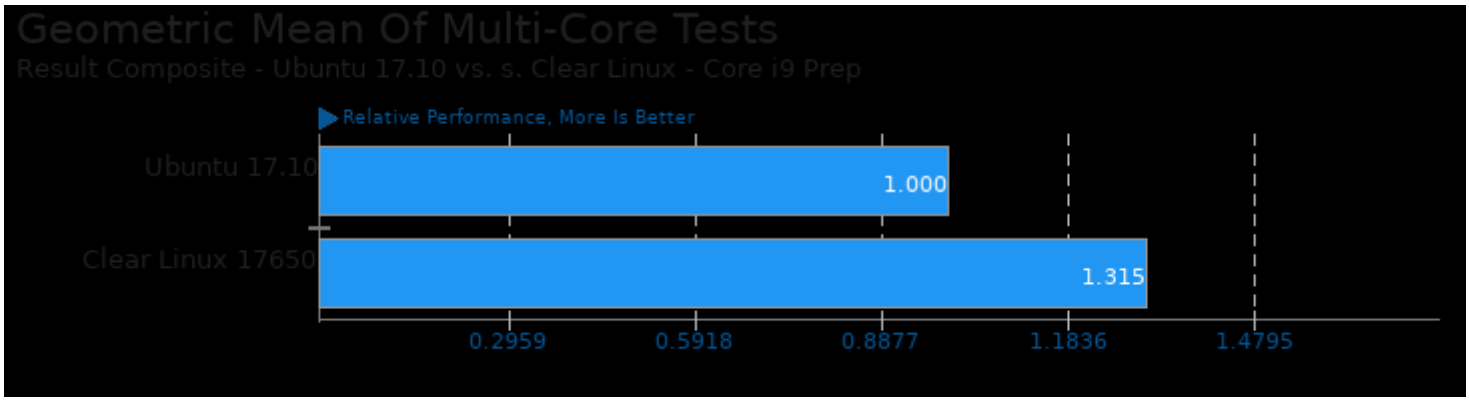
Geometric mean based upon tests: pts/encode-mp3, pts/encode-flac and pts/ffmpeg



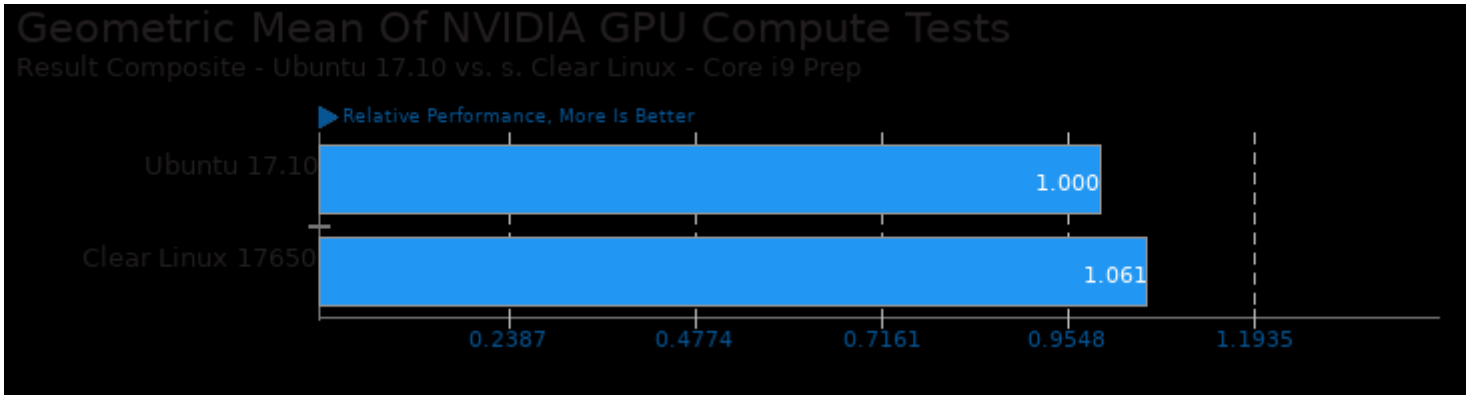
Geometric mean based upon tests: pts/rodinia, pts/parboil, pts/fftw, pts/himeno and pts/hmmer



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

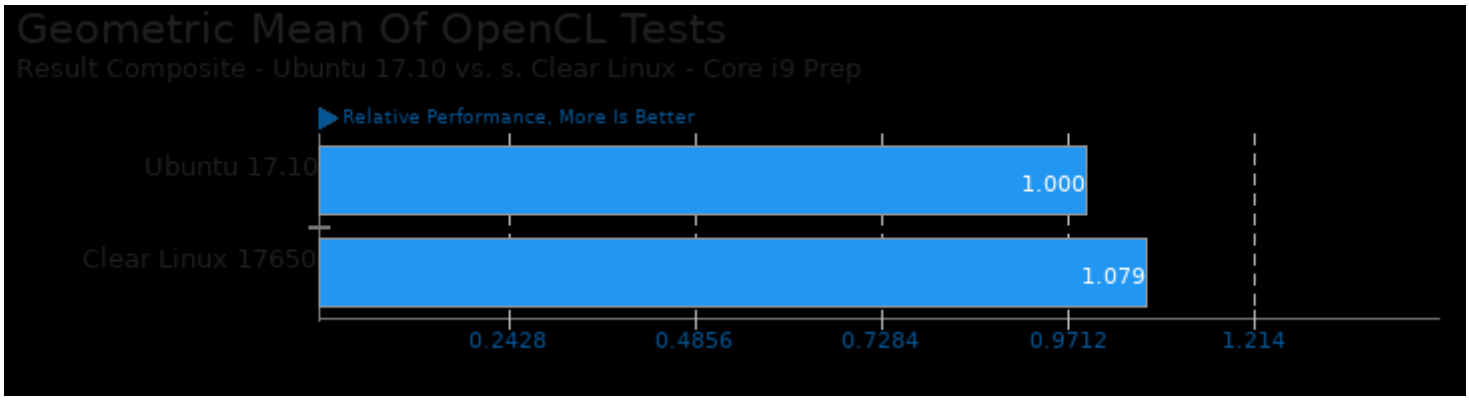


Geometric mean based upon tests: pts/blender, pts/c-ray, pts/stockfish, pts/ffmpeg, pts/rodinia, pts/parboil, pts/graphics-magick, pts/build-llvm, pts/xsbench and pts/pgbench

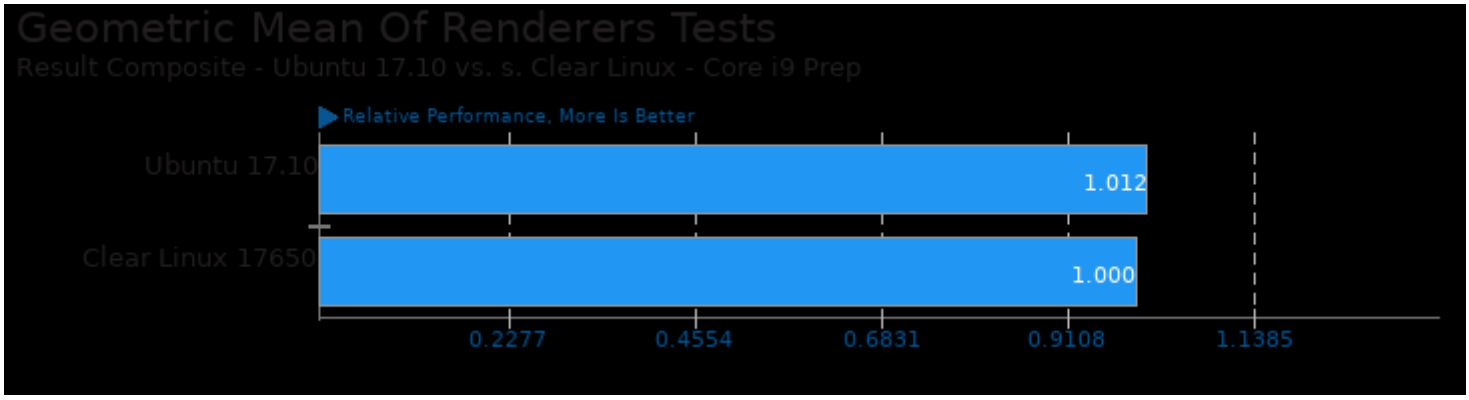


Geometric mean based upon tests: pts/rodinia and pts/blender

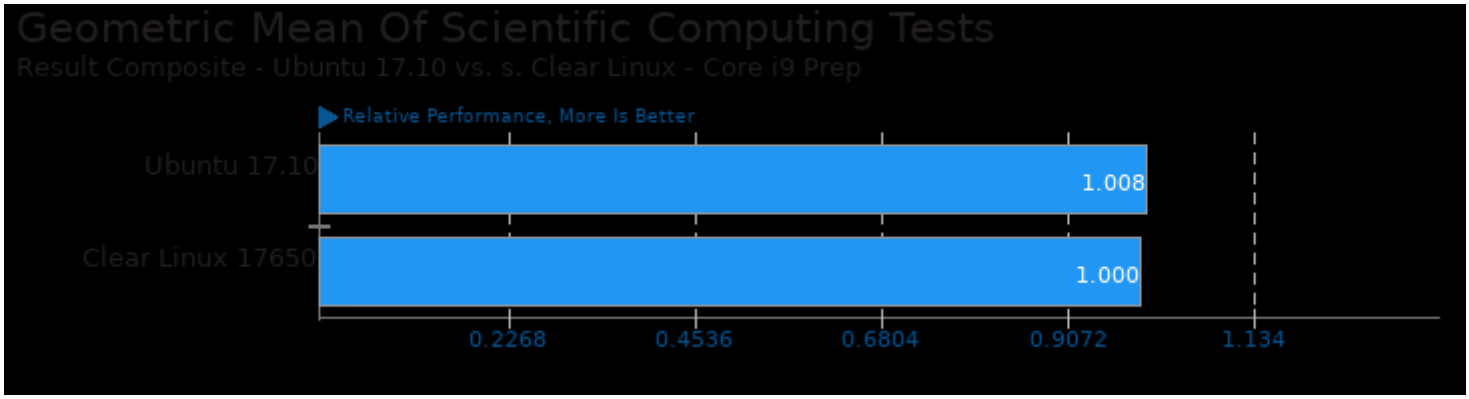
Ubuntu 17.10 vs. s. Clear Linux - Core i9 Prep



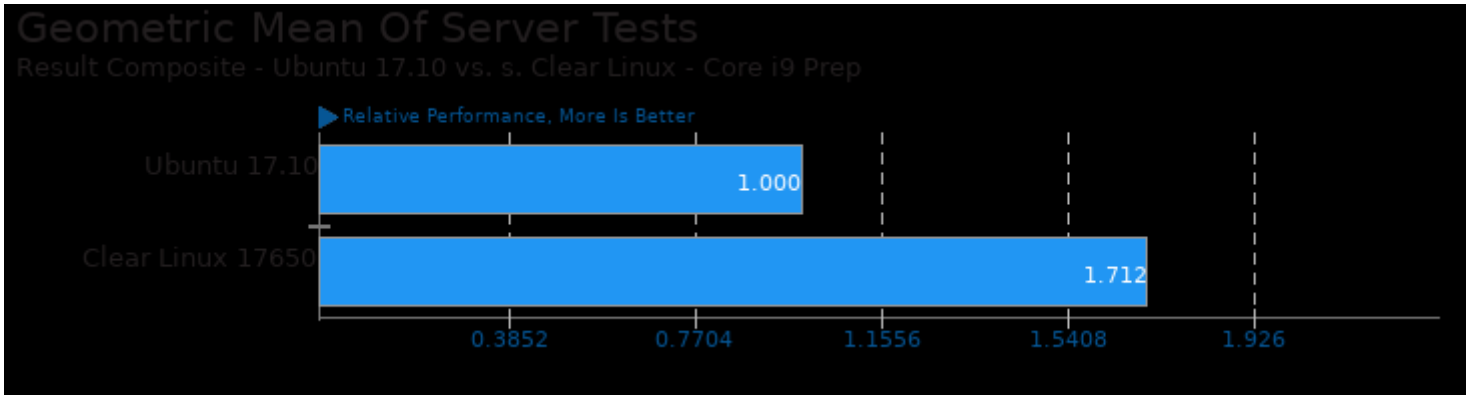
Geometric mean based upon tests: pts/rodinia and pts/parboil



Geometric mean based upon tests: pts/c-ray and pts/blender

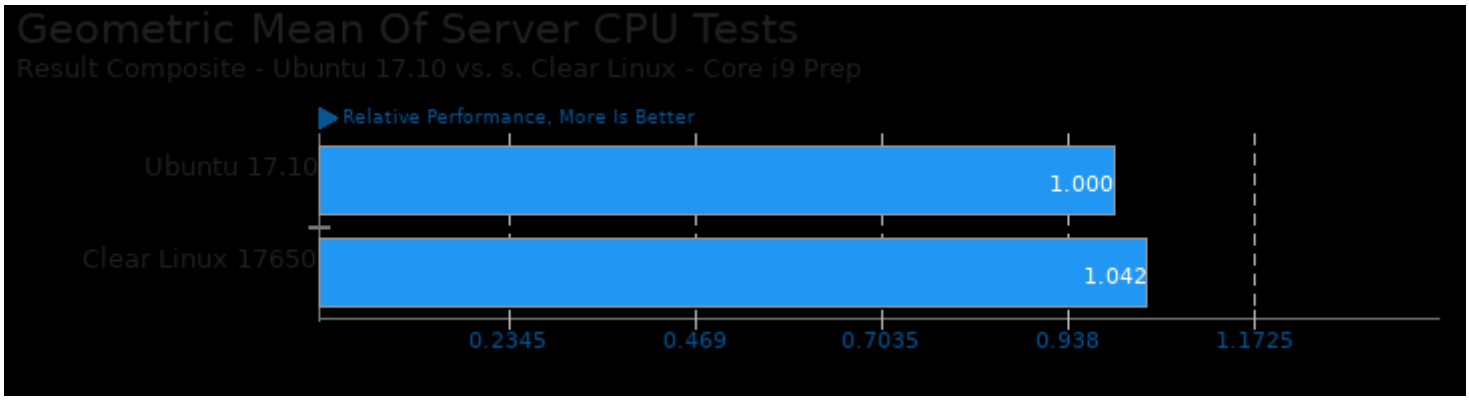


Geometric mean based upon tests: pts/fftw, pts/himeno and pts/hmmer

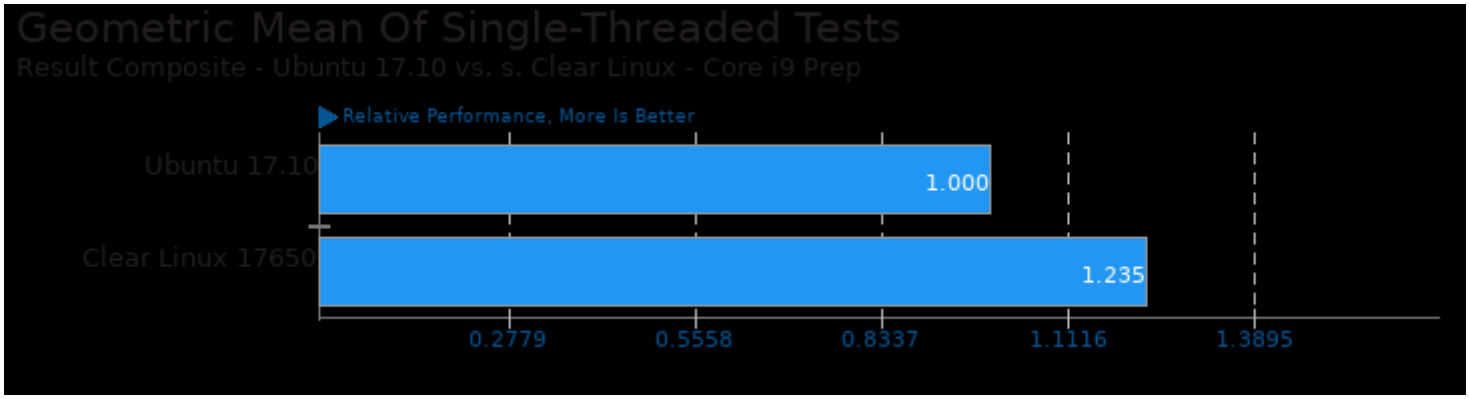


Geometric mean based upon tests: pts/apache, pts/pgbench, pts/redis and pts/openssl

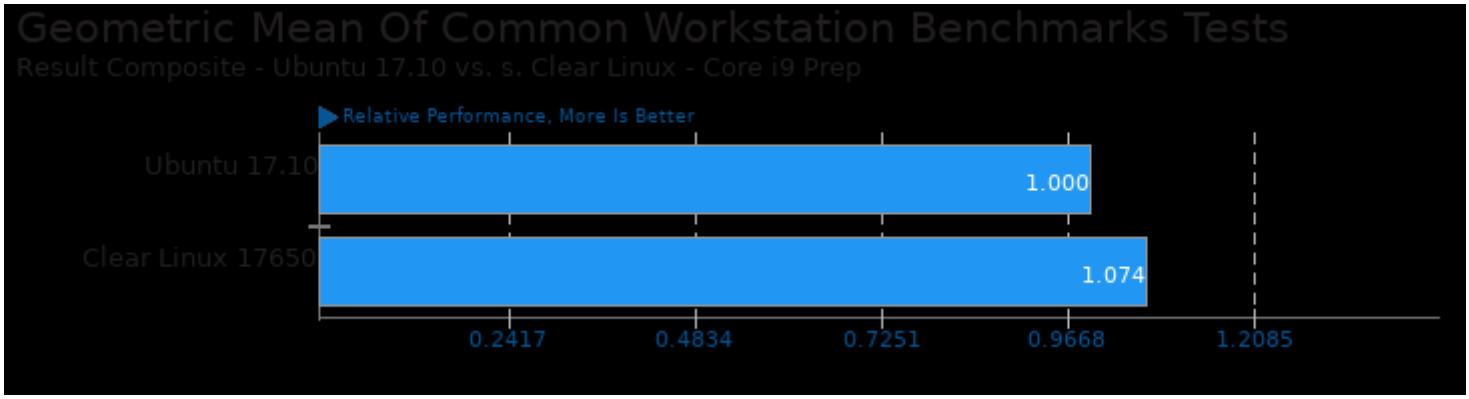
Ubuntu 17.10 vs. s. Clear Linux - Core i9 Prep



Geometric mean based upon tests: pts/rodinia, pts/himeno, pts/stockfish, pts/build-llvm, pts/c-ray, pts/openssl, pts/redis and pts/blender



Geometric mean based upon tests: pts/cachebench, pts/encode-flac, pts/encode-mp3 and pts/redis



Geometric mean based upon tests: pts/blender, pts/rodinia, pts/parboil and pts/himeno

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 02:03.