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Ubuntu 17.10 vs. Clear Linux - Core i9 7960X, 7980XE

AMD Ryzen Threadripper 1950X tests versus Core i9 7900X, 7960X, 7980XE with Intel Clear Linux verus Ubuntu Linux for a future article on Phoronix.

Automated Executive Summary

Core i9 7900X: Clear Linux had the most wins, coming in first place for 40% of the tests.

Based on the geometric mean of all complete results, the fastest (Core i9 7980XE: Clear Linux) was 3.85x the speed of the slowest (Ryzen1700: Arch 4.14.8). Threadripper: Clear Linux was 1.414x the speed of Threadripper: Ubuntu 17.10, Core i9 7900X: Ubuntu 17.10 was 0.874x the speed of Threadripper: Clear Linux, Core i9 7900X: Clear Linux was 1.343x the speed of Core i9 7900X: Ubuntu 17.10, Core i9 7960X: Ubuntu 17.10 was 0.776x the speed of Core i9 7900X: Clear Linux, Core i9 7960X: Clear Linux was 1.159x the speed of Core i9 7960X: Ubuntu 17.10, Core i9 7980XE: Ubuntu 17.10 was 0.894x the speed of Core i9 7960X: Clear Linux, Core i9 7980XE: Clear Linux was 1.334x the speed of Core i9 7980XE: Ubuntu 17.10, Ryzen1700: Arch 4.14.8 was 0.26x the speed of Core i9 7980XE: Clear Linux.

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

Rodinia (Test: OpenMP LavaMD) at 8.557x
PostgreSQL pgbench (Scaling: Buffer Test - Test: Single Thread - Mode: Read Write) at 7.277x
Himeno Benchmark (Poisson Pressure Solver) at 7.137x

Rodinia (Test: OpenMP CFD Solver) at 6.68x
OpenSSL (RSA 4096-bit Performance) at 6.335x
Redis (Test: GET) at 3.981x
Redis (Test: SET) at 3.926x
Timed LLVM Compilation (Time To Compile) at 3.836x
Stockfish (Total Time) at 3.463x
Blender (Blend File: BMW27 - Compute: CPU-Only) at 3.057x.

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

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

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

Core i9 7960X: Clear Linux

Processor: Intel Core i9-7960X @ 4.40GHz (32 Cores), Motherboard: MSI X299 SLI PLUS (MS-7A93) v1.0, Chipset: Intel Device 2020, Memory: 4 x 4096 MB DDR4-3000MT/s, Disk: 16GB Voyager 3.0 + Samsung SSD 950 PRO 256GB, Graphics: NVIDIA GeForce GTX 1080, Audio: Realtek ALC1220, Network: Intel Connection

OS: Clear Linux OS 17920, Kernel: 4.13.3-393.native (x86_64), Vulkan: 1.0.39, Compiler: GCC 7.2.1 20170910 + Clang 5.0.0 + LLVM 5.0.0, File-System: ext4, Screen Resolution: 1024x768

Compiler Notes: --build=x86_64-generic-linux --disable-libmpx --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-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 7980XE: Ubuntu 17.10

Processor: Intel Core i9-7980XE @ 4.40GHz (36 Cores), Motherboard: ASUS PRIME X299-A, Chipset: Intel Device 2020, Memory: 16384MB, Disk: 525GB Crucial_CT525MX3 + 240GB Force MP500, Graphics: Sapphire AMD Radeon 4096MB, Audio: Realtek ALC1220, Monitor: Acer B286HK, Network: Intel Connection

OS: Ubuntu 17.10, Kernel: 4.13.0-11-generic (x86_64), Desktop: GNOME Shell 3.26.0, Display Driver: modesetting 1.19.3, OpenGL: 4.5 Mesa 17.2.1 (LLVM 5.0.0), 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

Core i9 7980XE: Clear Linux

Processor: Intel Core i9-7980XE @ 4.40GHz (36 Cores), Motherboard: ASUS PRIME X299-A, Chipset: Intel Device 2020, Memory: 4 x 4096 MB DDR4-3200MT/s Corsair CMK16GX4M4C3200C16, Disk: 16GB Voyager 3.0 + 240GB Force MP500, Graphics: Sapphire AMD Radeon R9 FURY / NANO, Audio: Realtek ALC1220, Network: Intel Connection

OS: Clear Linux OS 17960, Kernel: 4.13.3-394.native (x86_64), Vulkan: 1.0.39, Compiler: GCC 7.2.1 20170910 + Clang 5.0.0 + LLVM 5.0.0, File-System: ext4, Screen Resolution: 1024x768

Compiler Notes: --build=x86_64-generic-linux --disable-libmpx --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-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

Ryzen1700: Arch 4.14.8

Processor: AMD Ryzen 7 1700 Eight-Core @ 1.55GHz (8 Cores / 16 Threads), Motherboard: ASRock X370 Gaming K4, Chipset: AMD Family 17h, Memory: 32768MB, Disk: 1000GB Western Digital WD10EZEX-60M + 240GB ADATA SP550 + 1000GB Western Digital WD10EZEX-00B + 2000GB Seagate ST2000LM003 HN-M + 1500GB Western Digital WD15EARS-60M + 480GB SanDisk Ultra II + Samsung SSD 960 EVO 250GB, Graphics: AMD Radeon 3840MB, Audio: C-Media CMI8788, Monitor: MPCP28UHD + HP 27xw, Network: Intel I211 Gigabit Connection

OS: Arch rolling, Kernel: 4.14.8-1-zen (x86_64), Display Driver: modesetting 1.19.3, OpenGL: 4.5 Mesa 17.3.1 (LLVM 5.0.1), Compiler: GCC 7.2.1 20171128 + TCC 0.9.27 + Clang 5.0.1 + LLVM 3.5.2, File-System: ext4, Screen Resolution: 11520x2160

Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++ --enable-libmpx --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq schedutil

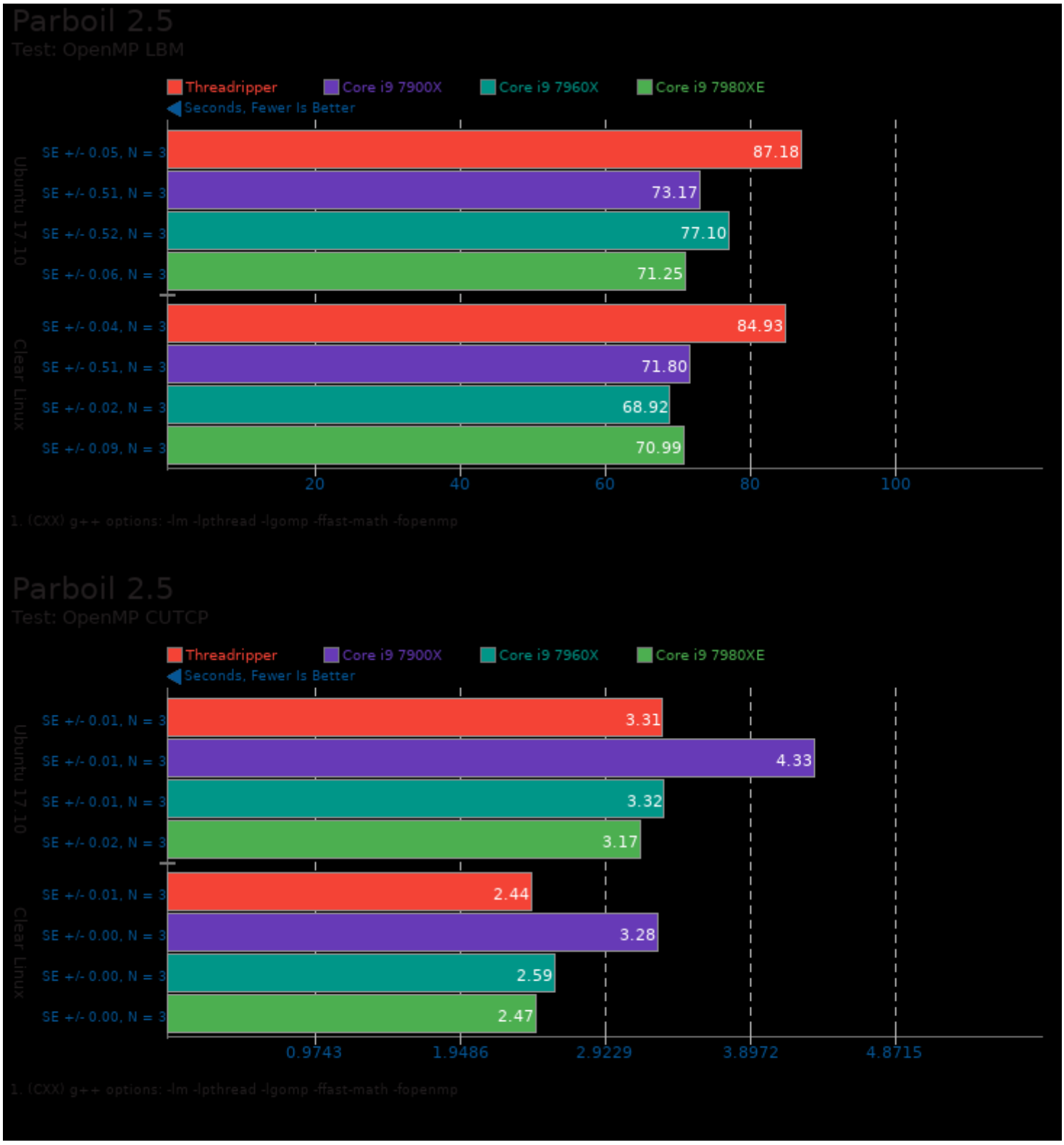
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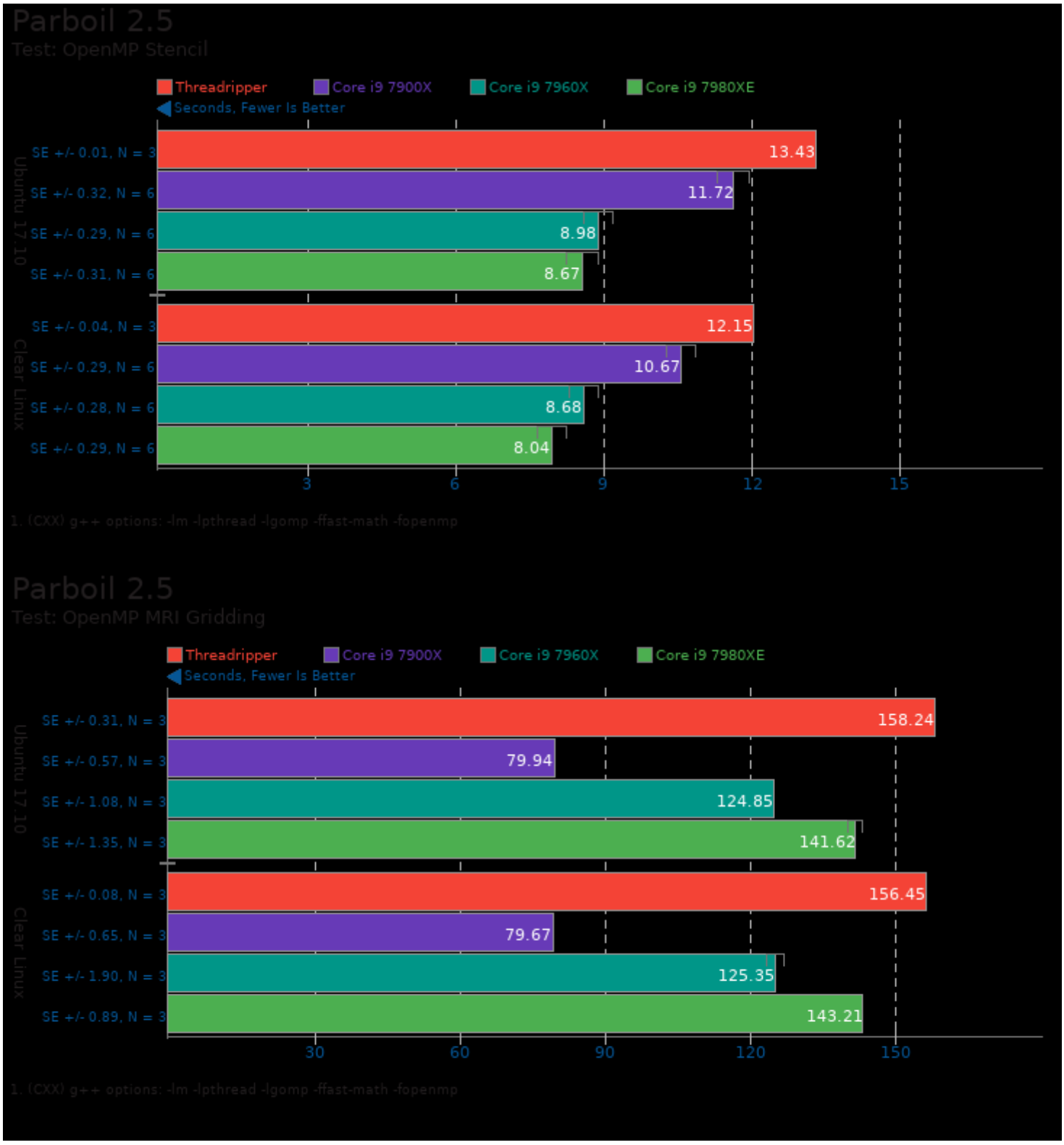
Ubuntu 17.10 vs. Clear Linux - Core i9 7960X, 7980XE

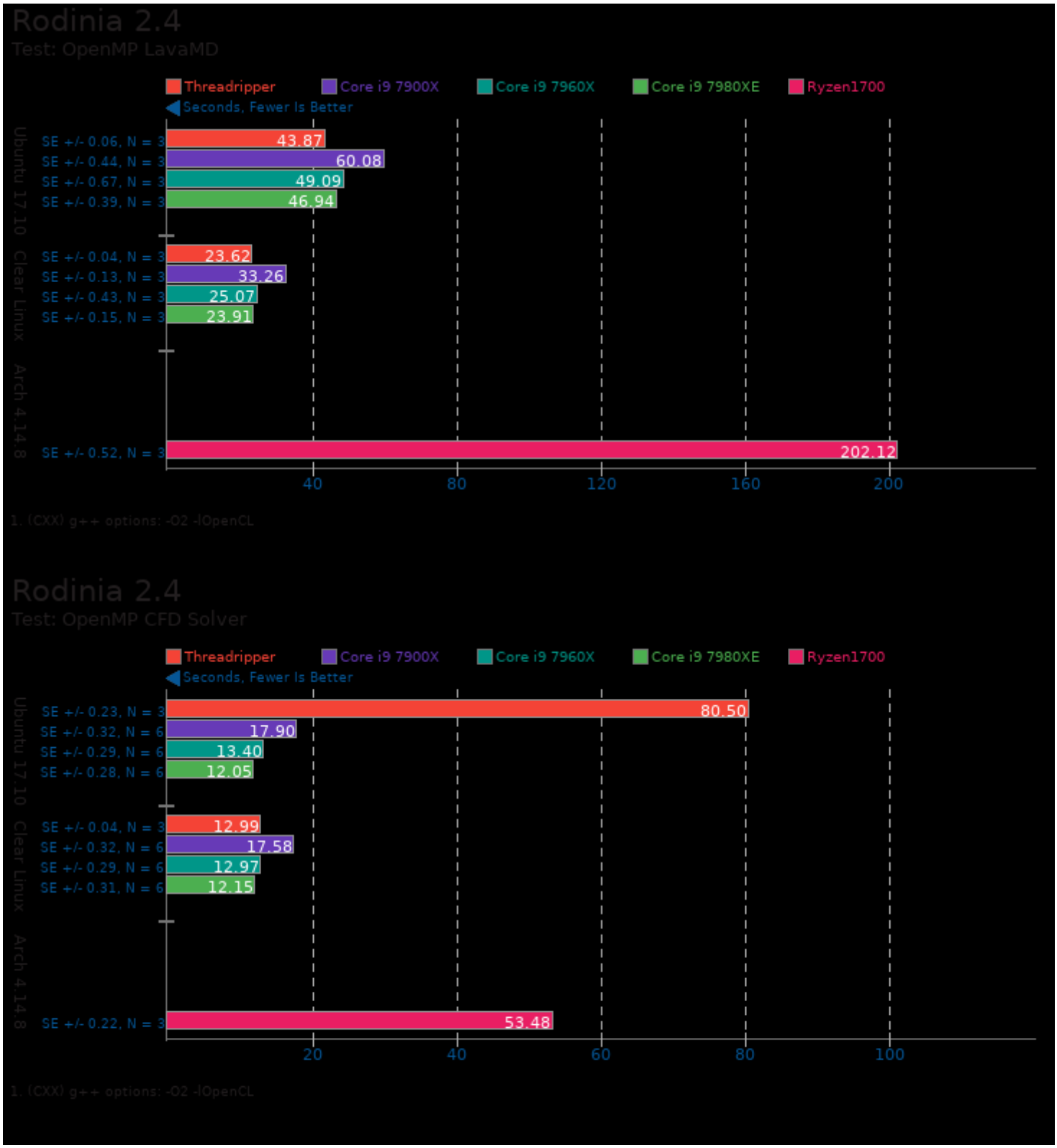
	Threadripper: Ubuntu 17.10	Threadripper: Clear Linux	Core i9 7900X: Ubuntu 17.10	Core i9 7900X: Clear Linux	Core i9 7960X: Ubuntu 17.10	Core i9 7960X: Clear Linux	Core i9 7980XE: Ubuntu 17.10	Core i9 7980XE: Clear Linux	Ryzen1700: Arch 4.14.8
Parboil - OpenMP LBM (sec)	87.18	84.93	73.17	71.80	77.10	68.92	71.25	70.99	
Normalized	79.05%	81.15%	94.19%	95.99%	89.39%	100%	96.73%	97.08%	
Standard Deviation	0.1%	0.1%	1.2%	1.2%	1.2%	0%	0.1%	0.2%	
Parboil - OpenMP CUTCP (sec)	3.31	2.44	4.33	3.28	3.32	2.59	3.17	2.47	
Normalized	73.72%	100%	56.35%	74.39%	73.49%	94.21%	76.97%	98.79%	
Standard Deviation	0.4%	0.4%	0.3%	0.2%	0.7%	0.3%	1%	0%	
Parboil - OpenMP Stencil (sec)	13.43	12.15	11.72	10.67	8.98	8.68	8.67	8.04	
Normalized	59.87%	66.17%	68.6%	75.35%	89.53%	92.63%	92.73%	100%	
Standard Deviation	0.1%	0.6%	6.7%	6.7%	7.9%	8%	8.8%	8.8%	
Parboil - O.M.G (sec)	158.24	156.45	79.94	79.67	124.85	125.35	141.62	143.21	
Normalized	50.35%	50.92%	99.66%	100%	63.81%	63.56%	56.26%	55.63%	
Standard Deviation	0.3%	0.1%	1.2%	1.4%	1.5%	2.6%	1.6%	1.1%	
Rodinia - OpenMP LavaMD (sec)	43.87	23.62	60.08	33.26	49.09	25.07	46.94	23.91	202.12
Normalized	53.84%	100%	39.31%	71.02%	48.12%	94.22%	50.32%	98.79%	11.69%
Standard Deviation	0.2%	0.3%	1.3%	0.7%	2.4%	3%	1.4%	1.1%	0.4%
Rodinia - OpenMP CFD Solver (sec)	80.50	12.99	17.90	17.58	13.40	12.97	12.05	12.15	53.48
Normalized	14.97%	92.76%	67.32%	68.54%	89.93%	92.91%	100%	99.18%	22.53%
Standard Deviation	0.5%	0.5%	4.4%	4.4%	5.3%	5.5%	5.6%	6.3%	0.7%
Rodinia - O.S (sec)	51.37	17.34	13.97	14.08	14.86	14.53	14.45	14.27	51.01
Normalized	27.19%	80.57%	100%	99.22%	94.01%	96.15%	96.68%	97.9%	27.39%
Standard Deviation	0.5%	0.2%	8.6%	6%	2.2%	5%	1.4%	6.3%	1.4%
FFTW - Float + SSE - 2D FFT Size 1024 (Mflops)	26347	23766	25341	26982	26055		22463	23681	9002
Normalized	97.65%	88.08%	93.92%	100%	96.56%		83.25%	87.77%	33.36%
Standard Deviation	0.3%	0.1%	0.4%	2.4%	1.3%		3.4%	0.7%	0.8%
FFTW - Float + SSE - 2D FFT Size 4096 (Mflops)	16200	16573	18592	17486	19464		17897	16826	7375
Normalized	83.23%	85.15%	95.52%	89.84%	100%		91.95%	86.45%	37.89%
Standard Deviation	1.5%	0.9%	2.6%	0.8%	1.5%		0.2%	0.7%	4%
Timed HMMer Search - P.D.S (sec)	7.91		14.52		5.06		10.83		
Normalized	63.97%		34.85%		100%		46.72%		
Standard Deviation	1.5%		5%		0.3%		6.9%		
CacheBench - R.M.W (MB/s)	29374	53552	33776	51791	31284	52131	32052	50544	20537
Normalized	54.85%	100%	63.07%	96.71%	58.42%	97.35%	59.85%	94.38%	38.35%
Standard Deviation	0%	0%	1.1%	0%	0.7%	2.8%	1%	0.1%	0%

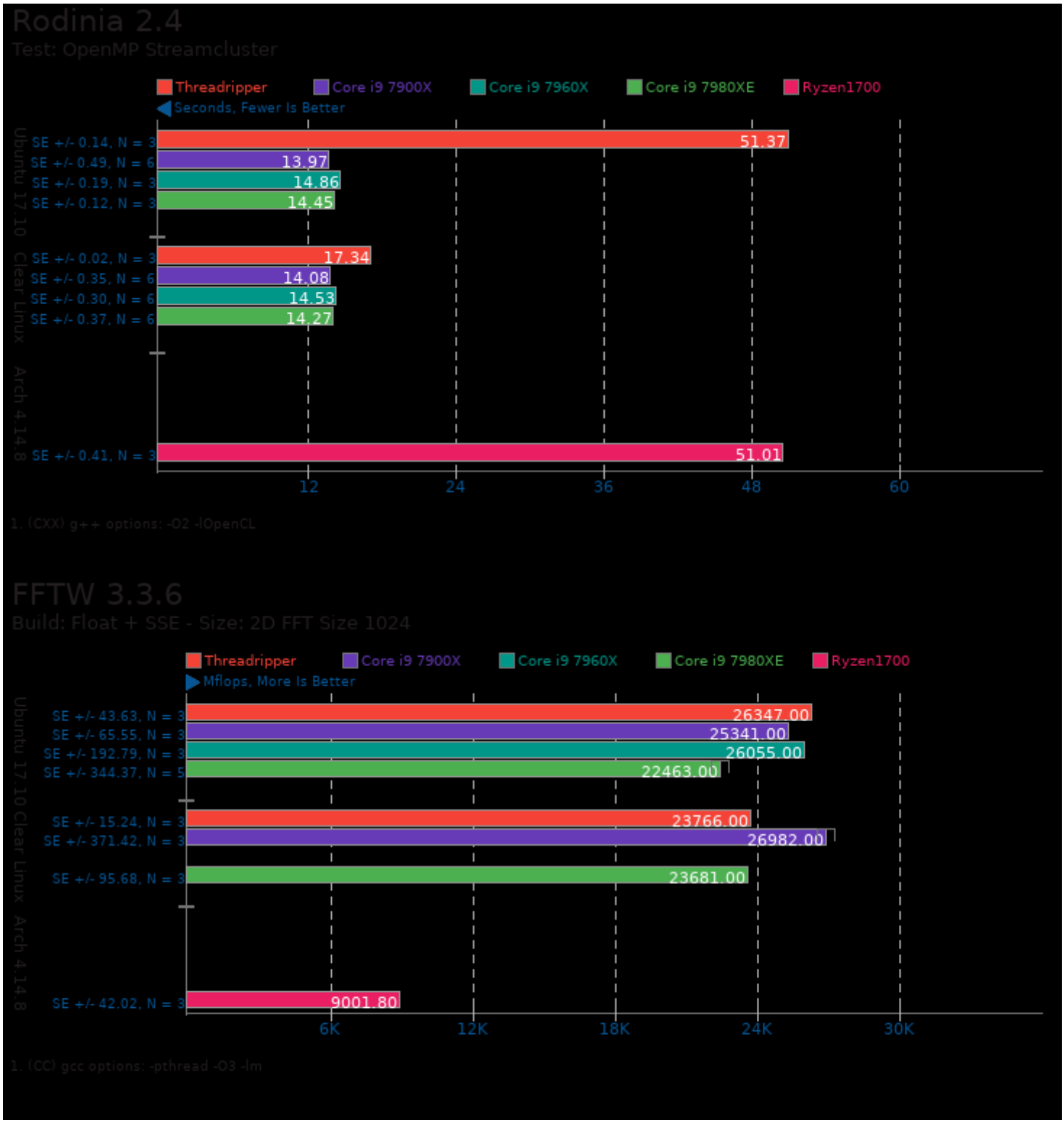
GraphicsMagick - Resizing (Iterations/min)	228	216	250	**271**	245	259	249	256	**92**
Normalized	84.13%	79.7%	92.25%	100%	90.41%	95.57%	91.88%	94.46%	33.95%
Standard Deviation	0.5%								
Himeno Benchmark - P.P.S (MFLOPS)	1304	1315	2942	3013	2869	3001	2957	**3221**	**451.24**
Normalized	40.48%	40.82%	91.36%	93.55%	89.1%	93.17%	91.81%	100%	14.01%
Standard Deviation	0.2%	0.5%	2%	1.6%	1.4%	0.6%	1.9%	1.1%	1.1%
Timed LLVM Compilation - Time To Compile (sec)	**253.39**	354.58	261.30						**972.12**
Normalized	100%	71.46%	96.97%						26.07%
Standard Deviation	0%	4%	0.5%						0%
C-Ray - Total Time (sec)	5.17	**4.09**	7.38	6.29	5.76	4.95	5.25	4.70	**23.41**
Normalized	79.11%	100%	55.42%	65.02%	71.01%	82.63%	77.9%	87.02%	17.47%
Standard Deviation	0.3%	0.4%	0.1%	0.1%	9.4%	11%	0.3%	11.5%	0.1%
Stockfish - Total Time (ms)	3638	3450	2844	**2613**	3210	2783	2837	2695	**9048**
Normalized	71.83%	75.74%	91.88%	100%	81.4%	93.89%	92.1%	96.96%	28.88%
Standard Deviation	1%	0.1%	1.2%	0.1%	18.2%	1.7%	0.4%	4.6%	1.4%
FLAC Audio Encoding - WAV To	5.47	5.22	4.92	**4.36**	5.05	4.66	5.91	5.16	**14.32**
Normalized	79.71%	83.52%	88.62%	100%	86.34%	93.56%	73.77%	84.5%	30.45%
Standard Deviation	1%	0.3%	11.6%	0.4%	10.3%	12%	12.2%	1.2%	1.3%
LAME MP3 Encoding - WAV To MP3 (sec)	8.93	8.85	8.32	**8.11**	8.98	8.39	10.14	9.60	**23.57**
Normalized	90.82%	91.64%	97.48%	100%	90.31%	96.66%	79.98%	84.48%	34.41%
Standard Deviation	0.9%	0.1%	7%	7.3%	8.5%	7.7%	10.5%	6.9%	0.6%
FFmpeg - H.2.H.T.N.D (sec)	7.81	6.19	13.89	**5.10**	7.23	5.22	13.58	5.21	**15.08**
Normalized	65.3%	82.39%	36.72%	100%	70.54%	97.7%	37.56%	97.89%	33.82%
Standard Deviation	2.2%	1.8%	5.5%	10.5%	2.6%	0.4%	5.3%	1.5%	0.7%
OpenSSL - R.4.b.P (Signs/sec)	2183	2184	2112	2113	2826	2832	3005	**3006**	**474.60**
Normalized	72.6%	72.65%	70.25%	70.3%	94.01%	94.19%	99.95%	100%	15.79%
Standard Deviation	0.2%	0.2%	0%	0%	0.1%	0%	0%	0%	0.5%
PostgreSQL pgbench - Buffer Test - Normal Load - Read Write (TPS)	9947	12566	14118	22233	**6649**	7045	12850	**23670**	8347
Normalized	42.02%	53.09%	59.64%	93.93%	28.09%	29.76%	54.29%	100%	35.27%
Standard Deviation	43.9%	13.7%	4.5%	4.2%	2.9%	0.4%	13.7%	1.6%	3.2%
PostgreSQL pgbench - Buffer Test - Single Thread - Read Write (TPS)	1105	2546	724.21	**3593**	**493.74**	581.06	745.20	3413	520.29
Normalized	30.74%	70.85%	20.16%	100%	13.74%	16.17%	20.74%	94.98%	14.48%
Standard Deviation	0.1%	3.3%	9.7%	1%	0.3%	0.5%	2%	0.3%	0.4%

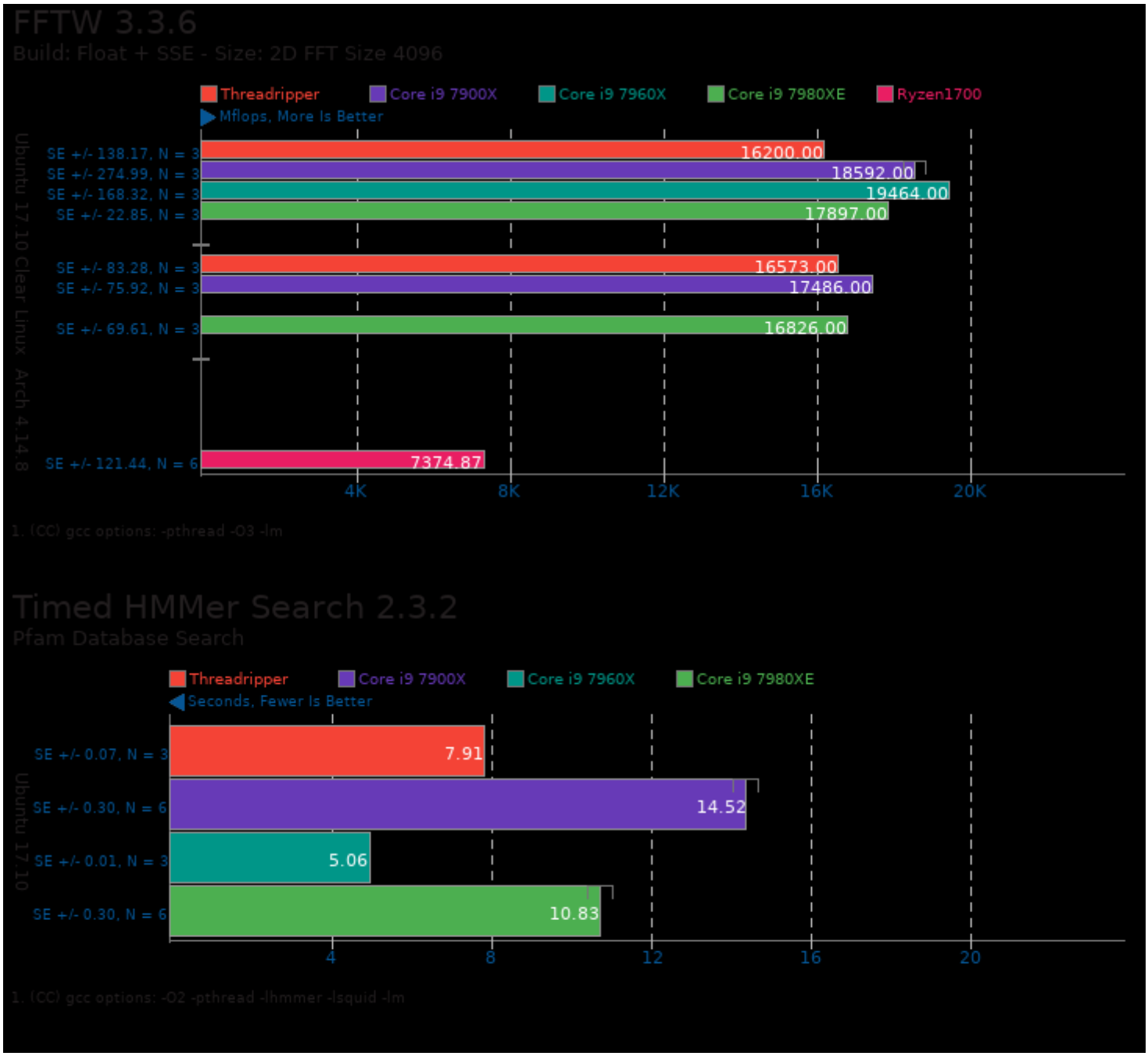
Redis - GET (Reqs/sec)	2191834	2767869	2650329	3681125	3142794	3581232	2810741	**3783114**	**950279**
Normalized	57.94%	73.16%	70.06%	97.3%	83.07%	94.66%	74.3%	100%	25.12%
Standard Deviation	3.4%	1.4%	0.9%	0.8%	2.6%	2.3%	5.4%	0.2%	0.4%
Redis - SET (Reqs/sec)	1549736	1932086	1955802	**2654983**	2295929	2567035	2363326	2620258	**676307**
Normalized	58.37%	72.77%	73.67%	100%	86.48%	96.69%	89.01%	98.69%	25.47%
Standard Deviation	1.2%	1.6%	1%	0.8%	2%	2.1%	2.7%	1%	0.7%
Blender - BMW27 - CPU-Only (sec)	527.43	522.30	412.97	**409.58**	436.51	430.26	439.38	427.90	**1252**
Normalized	77.66%	78.42%	99.18%	100%	93.83%	95.19%	93.22%	95.72%	32.71%
Xsbench	2728244	2851137	3394205	3694296	4725943	5096887	4920010	**5298598**	**1750095**
Normalized	51.49%	53.81%	64.06%	69.72%	89.19%	96.19%	92.85%	100%	33.03%
Standard Deviation	0.2%	0%	0.3%	0.1%	0%	0%	0%	0%	0.3%
Apache Benchmark - S.W.P.S (Reqs/sec)	**27533**	29662	44342	**48034**	47064	46228	41831	47435	
Normalized	57.32%	61.75%	92.31%	100%	97.98%	96.24%	87.09%	98.75%	
Standard Deviation	2.1%	1.1%	4.3%	4%	3.5%	3.3%	3.4%	3.1%	

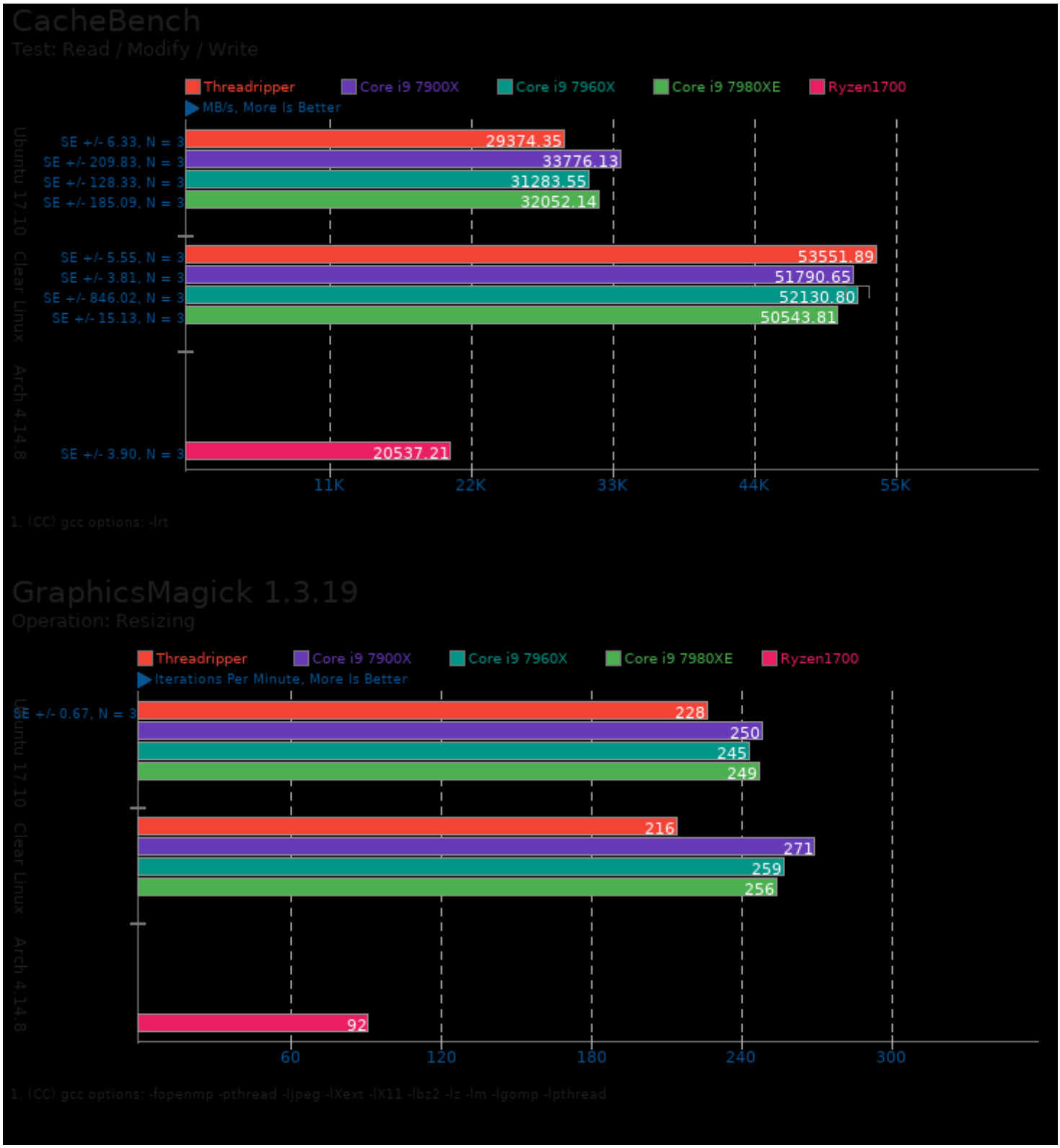

Parboil 2.5
Test: OpenMP LBM
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Seconds, Fewer Is Better
Ubuntu 17.10
SE +/- 0.05, N = 3
87.18
SE +/- 0.51, N = 3
73.17
SE +/- 0.52, N = 3
77.10
SE +/- 0.06, N = 3
71.25
Clear Linux
SE +/- 0.04, N = 3
84.93
SE +/- 0.51, N = 3
71.80
SE +/- 0.02, N = 3
68.92
SE +/- 0.09, N = 3
70.99
20
40
60
80
100
1. (CXX) g++ options: -lm -lpthread -lgomp -ffast-math -fopenmp
Parboil 2.5
Test: OpenMP CUTCP
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Seconds, Fewer Is Better
Ubuntu 17.10
SE +/- 0.01, N = 3
3.31
SE +/- 0.01, N = 3
4.33
SE +/- 0.01, N = 3
3.32
SE +/- 0.02, N = 3
3.17
Clear Linux
SE +/- 0.01, N = 3
2.44
SE +/- 0.00, N = 3
3.28
SE +/- 0.00, N = 3
2.59
SE +/- 0.00, N = 3
2.47
0.9743
1.9486
2.9229
3.8972
4.8715
1. (CXX) g++ options: -lm -lpthread -lgomp -ffast-math -fopenmp

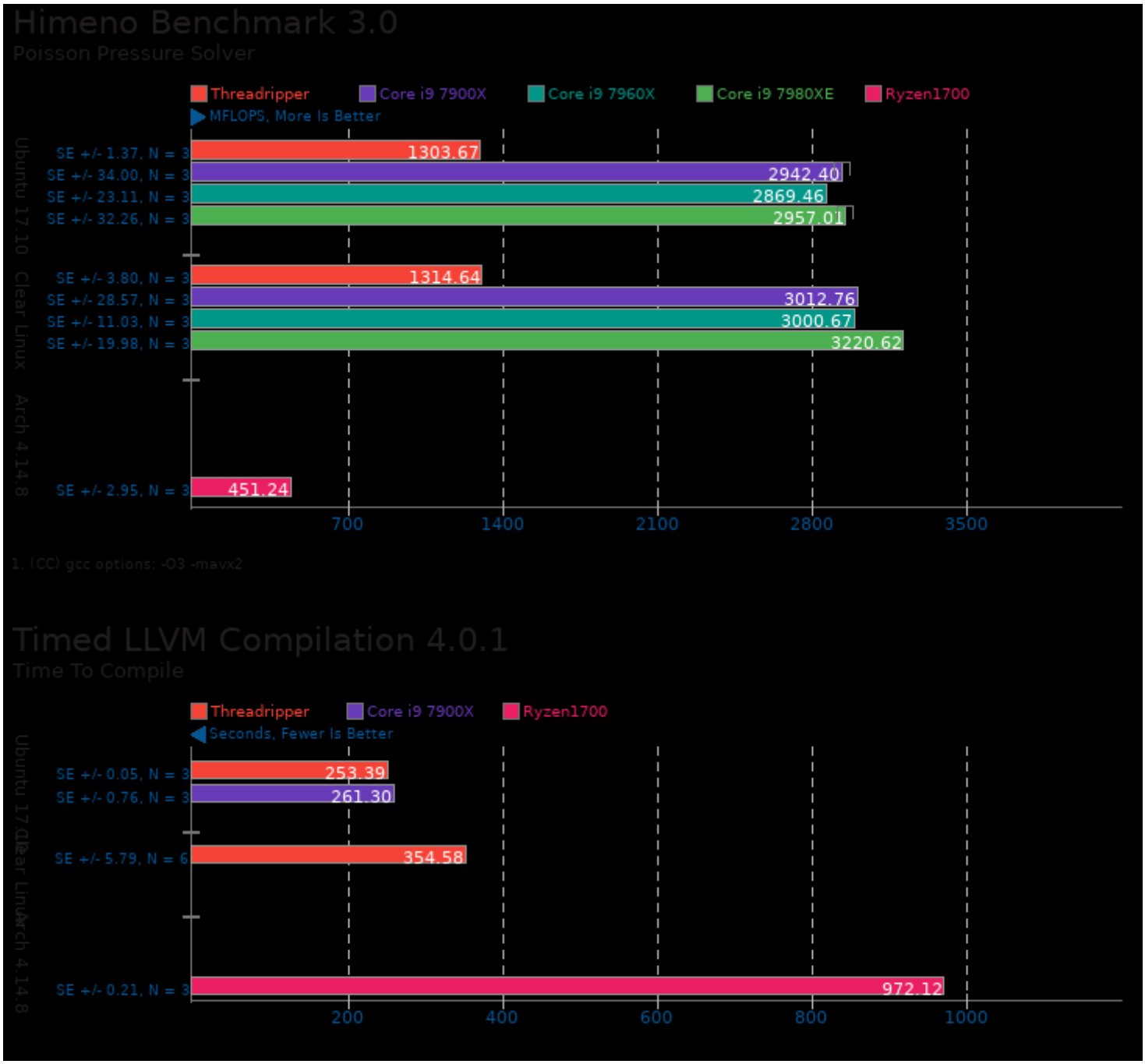

Parboil 2.5
Test: OpenMP Stencil
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Seconds, Fewer Is Better
Ubuntu 17.10
SE +/- 0.01, N = 3
13.43
SE +/- 0.32, N = 6
11.72
SE +/- 0.29, N = 6
8.98
SE +/- 0.31, N = 6
8.67
Clear Linux
SE +/- 0.04, N = 3
12.15
SE +/- 0.29, N = 6
10.67
SE +/- 0.28, N = 6
8.68
SE +/- 0.29, N = 6
8.04
3
6
9
12
15
1. (CXX) g++ options: -lm -lpthread -lgomp -ffast-math -fopenmp
Parboil 2.5
Test: OpenMP MRI Gridding
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Seconds, Fewer Is Better
Ubuntu 17.10
SE +/- 0.31, N = 3
158.24
SE +/- 0.57, N = 3
79.94
SE +/- 1.08, N = 3
124.85
SE +/- 1.35, N = 3
141.62
Clear Linux
SE +/- 0.08, N = 3
156.45
SE +/- 0.65, N = 3
79.67
SE +/- 1.90, N = 3
125.35
SE +/- 0.89, N = 3
143.21
30
60
90
120
150
1. (CXX) g++ options: -lm -lpthread -lgomp -ffast-math -fopenmp

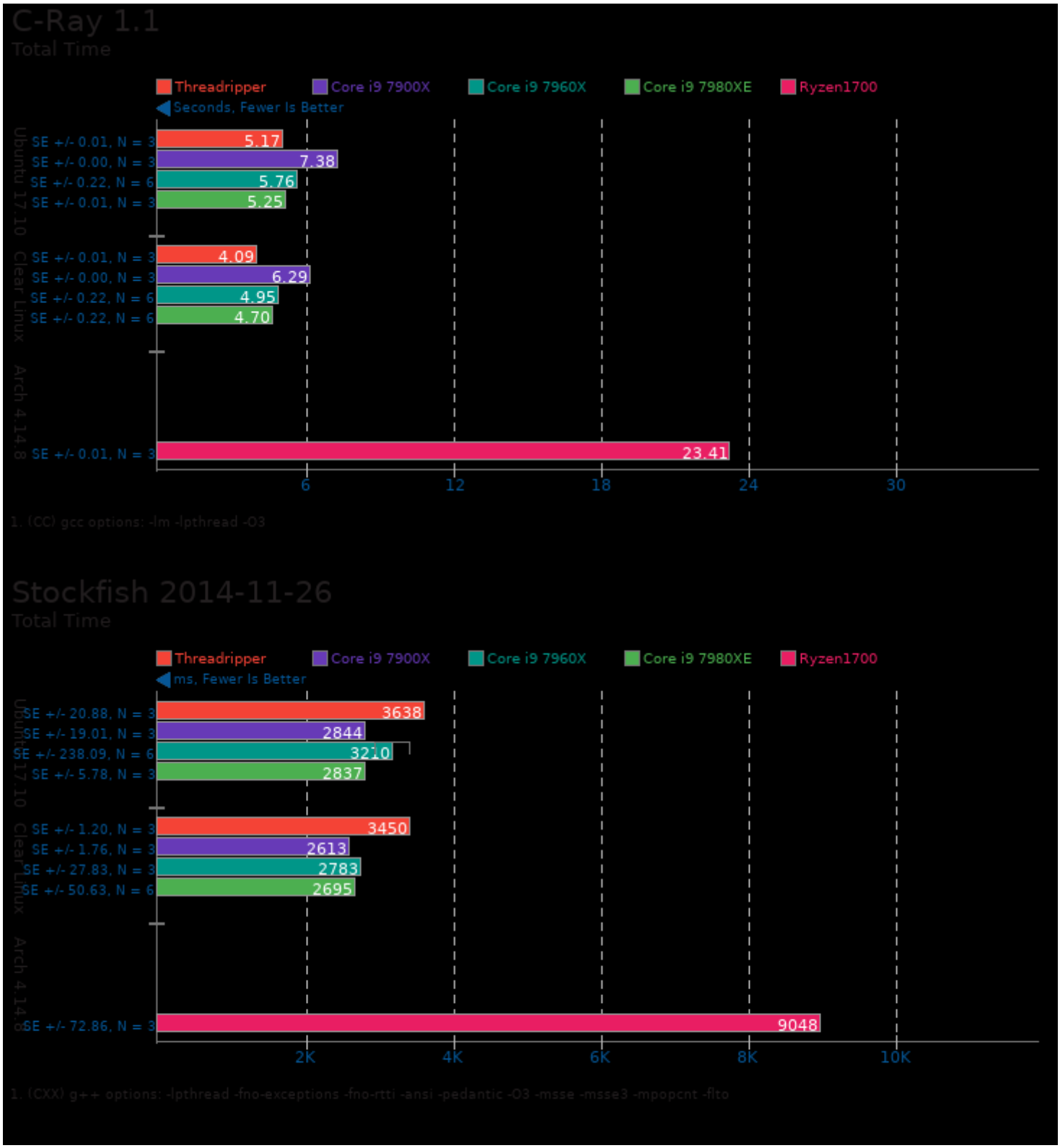

Rodinia 2.4
Test: OpenMP LavaMD
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
Seconds, Fewer Is Better
Ubuntu 17.10
SE +/- 0.06, N = 3
43.87
SE +/- 0.44, N = 3
60.08
SE +/- 0.67, N = 3
49.09
SE +/- 0.39, N = 3
46.94
Clear Linux Arch 4.14.8
SE +/- 0.04, N = 3
23.62
SE +/- 0.13, N = 3
33.26
SE +/- 0.43, N = 3
25.07
SE +/- 0.15, N = 3
23.91
SE +/- 0.52, N = 3
202.12
40
80
120
160
200
1. (CXX) g++ options: -O2 -lOpenCL
Rodinia 2.4
Test: OpenMP CFD Solver
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
Seconds, Fewer Is Better
Ubuntu 17.10
SE +/- 0.23, N = 3
80.50
SE +/- 0.32, N = 6
17.90
SE +/- 0.29, N = 6
13.40
SE +/- 0.28, N = 6
12.05
Clear Linux Arch 4.14.8
SE +/- 0.04, N = 3
12.99
SE +/- 0.32, N = 6
17.58
SE +/- 0.29, N = 6
12.97
SE +/- 0.31, N = 6
12.15
SE +/- 0.22, N = 3
53.48
20
40
60
80
100
1. (CXX) g++ options: -O2 -lOpenCL

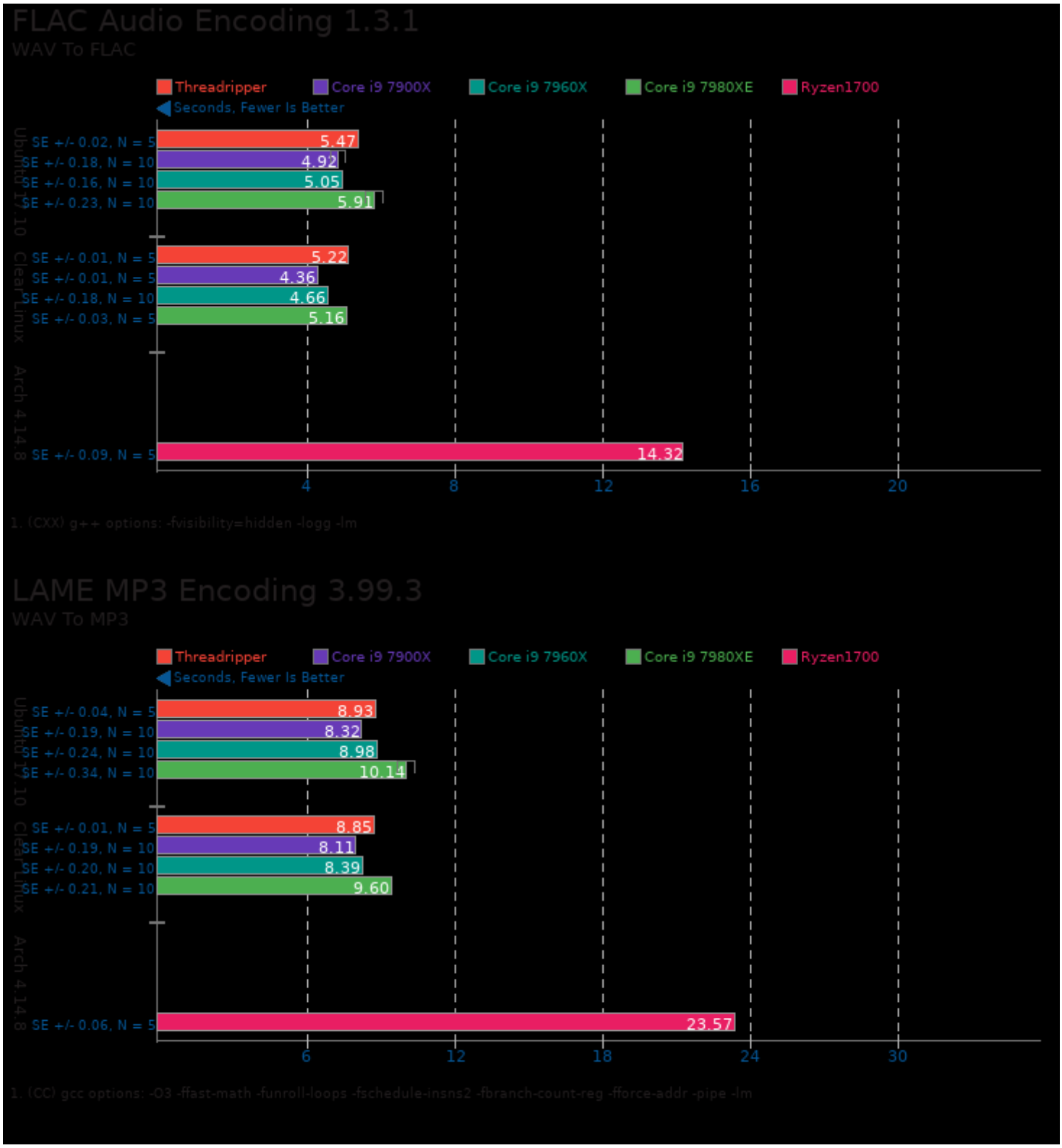

Rodinia 2.4
Test: OpenMP Streamcluster
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
Seconds, Fewer Is Better
Ubuntu 17.10
SE +/- 0.14, N = 3
51.37
SE +/- 0.49, N = 6
13.97
SE +/- 0.19, N = 3
14.86
SE +/- 0.12, N = 3
14.45
Clear Linux Arch 4.14.8
SE +/- 0.02, N = 3
17.34
SE +/- 0.35, N = 6
14.08
SE +/- 0.30, N = 6
14.53
SE +/- 0.37, N = 6
14.27
SE +/- 0.41, N = 3
51.01
12
24
36
48
60
1. (CXX) g++ options: -O2 -lOpenCL
FFTW 3.3.6
Build: Float + SSE - Size: 2D FFT Size 1024
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
Mflops, More Is Better
Ubuntu 17.10
SE +/- 43.63, N = 3
26347.00
SE +/- 65.55, N = 3
25341.00
SE +/- 192.79, N = 3
26055.00
SE +/- 344.37, N = 5
22463.00
Clear Linux Arch 4.14.8
SE +/- 15.24, N = 3
23766.00
SE +/- 371.42, N = 3
26982.00
SE +/- 95.68, N = 3
23681.00
SE +/- 42.02, N = 3
9001.80
6K
12K
18K
24K
30K
1. (CC) gcc options: -pthread -O3 -lm

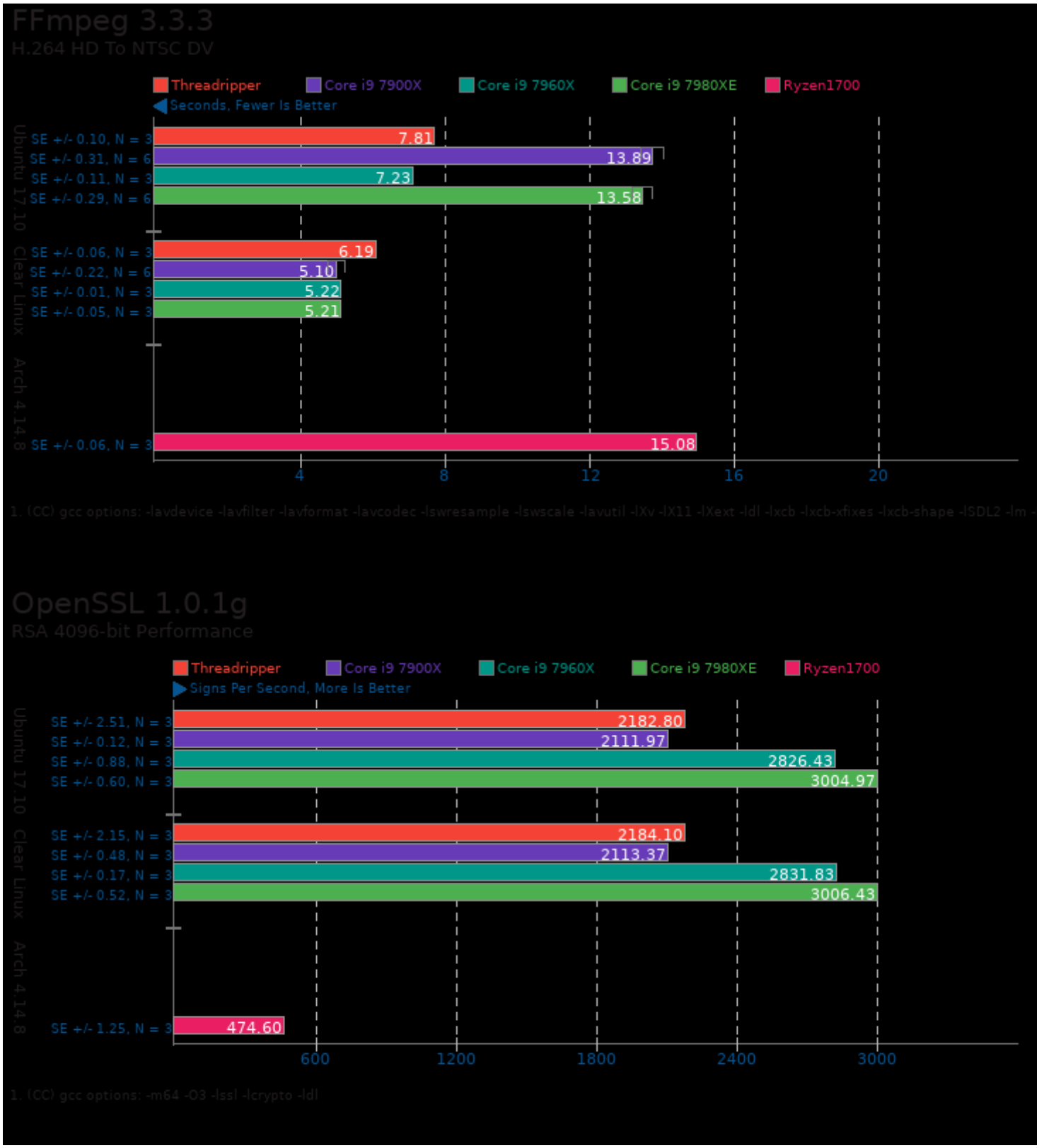

FFTW 3.3.6
Build: Float + SSE - Size: 2D FFT Size 4096
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
Mflops, More Is Better
Ubuntu 17.10 Clear Linux Arch 4.14.8
SE +/- 138.17, N = 3
SE +/- 274.99, N = 3
SE +/- 168.32, N = 3
SE +/- 22.85, N = 3
SE +/- 83.28, N = 3
SE +/- 75.92, N = 3
SE +/- 69.61, N = 3
SE +/- 121.44, N = 6
16200.00
18592.00
19464.00
17897.00
16573.00
17486.00
16826.00
7374.87
4K
8K
12K
16K
20K
1. (CC) gcc options: -pthread -O3 -lm
Timed HMMer Search 2.3.2
Pfam Database Search
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Seconds, Fewer Is Better
Ubuntu 17.10
SE +/- 0.07, N = 3
SE +/- 0.30, N = 6
SE +/- 0.01, N = 3
SE +/- 0.30, N = 6
7.91
14.52
5.06
10.83
4
8
12
16
20
1. (CC) gcc options: -O2 -pthread -lhmmer -lsquid -lm


CacheBench
Test: Read / Modify / Write
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
MB/s, More Is Better
Ubuntu 17.10 Clear Linux Arch 4.14.8
SE +/- 6.33, N = 3
29374.35
SE +/- 209.83, N = 3
33776.13
SE +/- 128.33, N = 3
31283.55
SE +/- 185.09, N = 3
32052.14
SE +/- 5.55, N = 3
53551.89
SE +/- 3.81, N = 3
51790.65
SE +/- 846.02, N = 3
52130.80
SE +/- 15.13, N = 3
50543.81
SE +/- 3.90, N = 3
20537.21
11K
22K
33K
44K
55K
1. (CC) gcc options: -lrt
GraphicsMagick 1.3.19
Operation: Resizing
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
Iterations Per Minute, More Is Better
Ubuntu 17.10 Clear Linux Arch 4.14.8
SE +/- 0.67, N = 3
228
250
245
249
216
271
259
256
92
60
120
180
240
300
1. (CC) gcc options: -fopenmp -pthread -ljpeg -lXext -lX11 -lbz2 -lz -lm -lgomp -lpthread

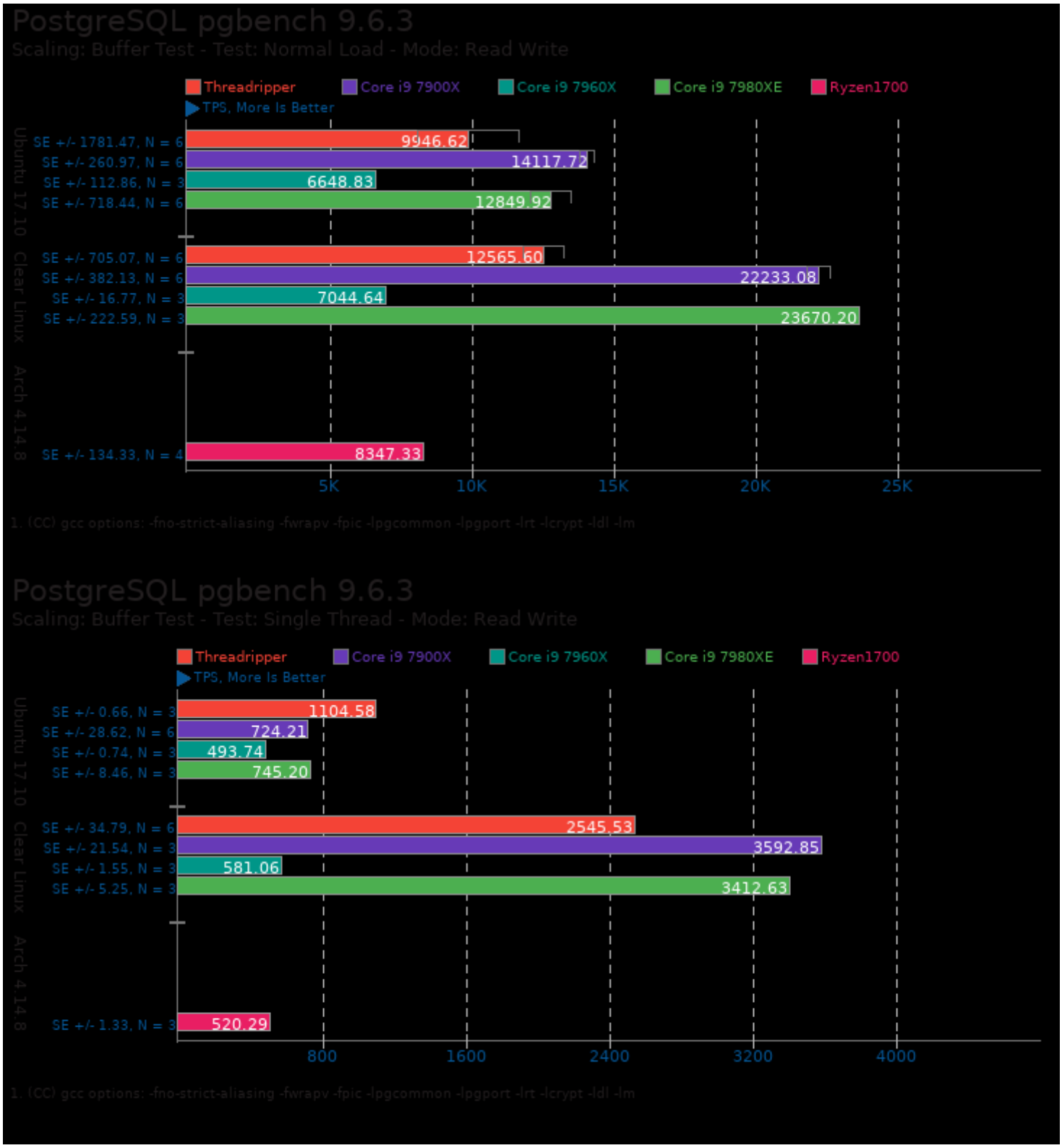

Himeno Benchmark 3.0
Poisson Pressure Solver
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
MFLOPS, More Is Better
Ubuntu 17.10
Clear Linux Arch 4.14.8
SE +/- 1.37, N = 3
1303.67
SE +/- 34.00, N = 3
2942.40
SE +/- 23.11, N = 3
2869.46
SE +/- 32.26, N = 3
2957.01
SE +/- 3.80, N = 3
1314.64
SE +/- 28.57, N = 3
3012.76
SE +/- 11.03, N = 3
3000.67
SE +/- 19.98, N = 3
3220.62
SE +/- 2.95, N = 3
451.24
700
1400
2100
2800
3500
1. (CC) gcc options: -O3 -mavx2
Timed LLVM Compilation 4.0.1
Time To Compile
Threadripper
Core i9 7900X
Ryzen1700
Seconds, Fewer Is Better
Ubuntu 17.10
Clear Linux Arch 4.14.8
SE +/- 0.05, N = 3
253.39
SE +/- 0.76, N = 3
261.30
SE +/- 5.79, N = 6
354.58
SE +/- 0.21, N = 3
972.12
200
400
600
800
1000

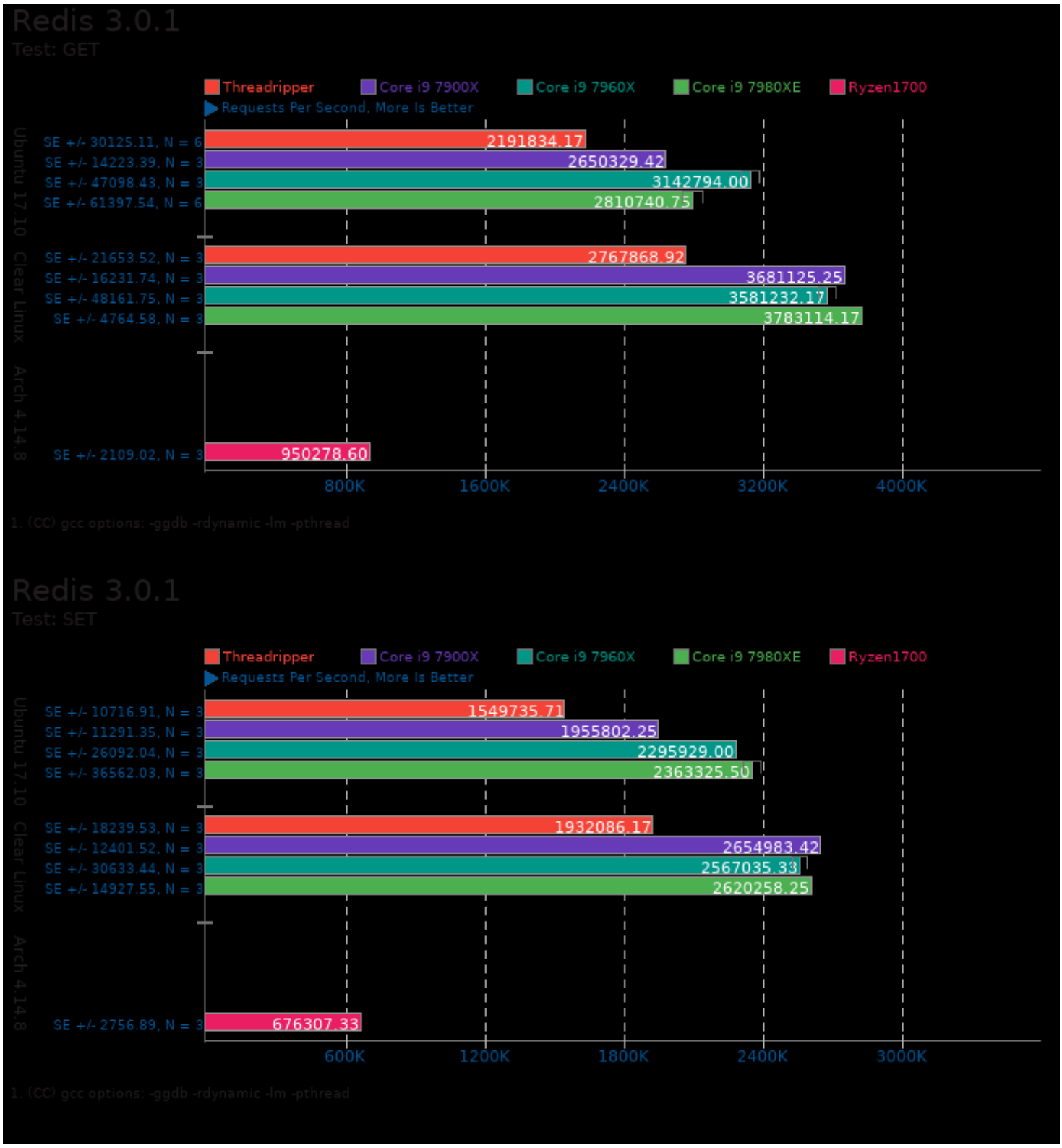

C-Ray 1.1
Total Time
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
Seconds, Fewer Is Better
Ubuntu 17.10
SE +/- 0.01, N = 3
5.17
SE +/- 0.00, N = 3
7.38
SE +/- 0.22, N = 6
5.76
SE +/- 0.01, N = 3
5.25
Clear Linux Arch 4.14.8
SE +/- 0.01, N = 3
4.09
SE +/- 0.00, N = 3
6.29
SE +/- 0.22, N = 6
4.95
SE +/- 0.22, N = 6
4.70
SE +/- 0.01, N = 3
23.41
6
12
18
24
30
1. (CC) gcc options: -lm -lpthread -O3
Stockfish 2014-11-26
Total Time
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
ms, Fewer Is Better
Ubuntu 17.10
SE +/- 20.88, N = 3
3638
SE +/- 19.01, N = 3
2844
SE +/- 238.09, N = 6
3210
SE +/- 5.78, N = 3
2837
Clear Linux Arch 4.14.8
SE +/- 1.20, N = 3
3450
SE +/- 1.76, N = 3
2613
SE +/- 27.83, N = 3
2783
SE +/- 50.63, N = 6
2695
SE +/- 72.86, N = 3
9048
2K
4K
6K
8K
10K
1. (CXX) g++ options: -lpthread -fno-exceptions -fno-rtti -ansi -pedantic -O3 -msse -msse3 -mpopcnt -flto

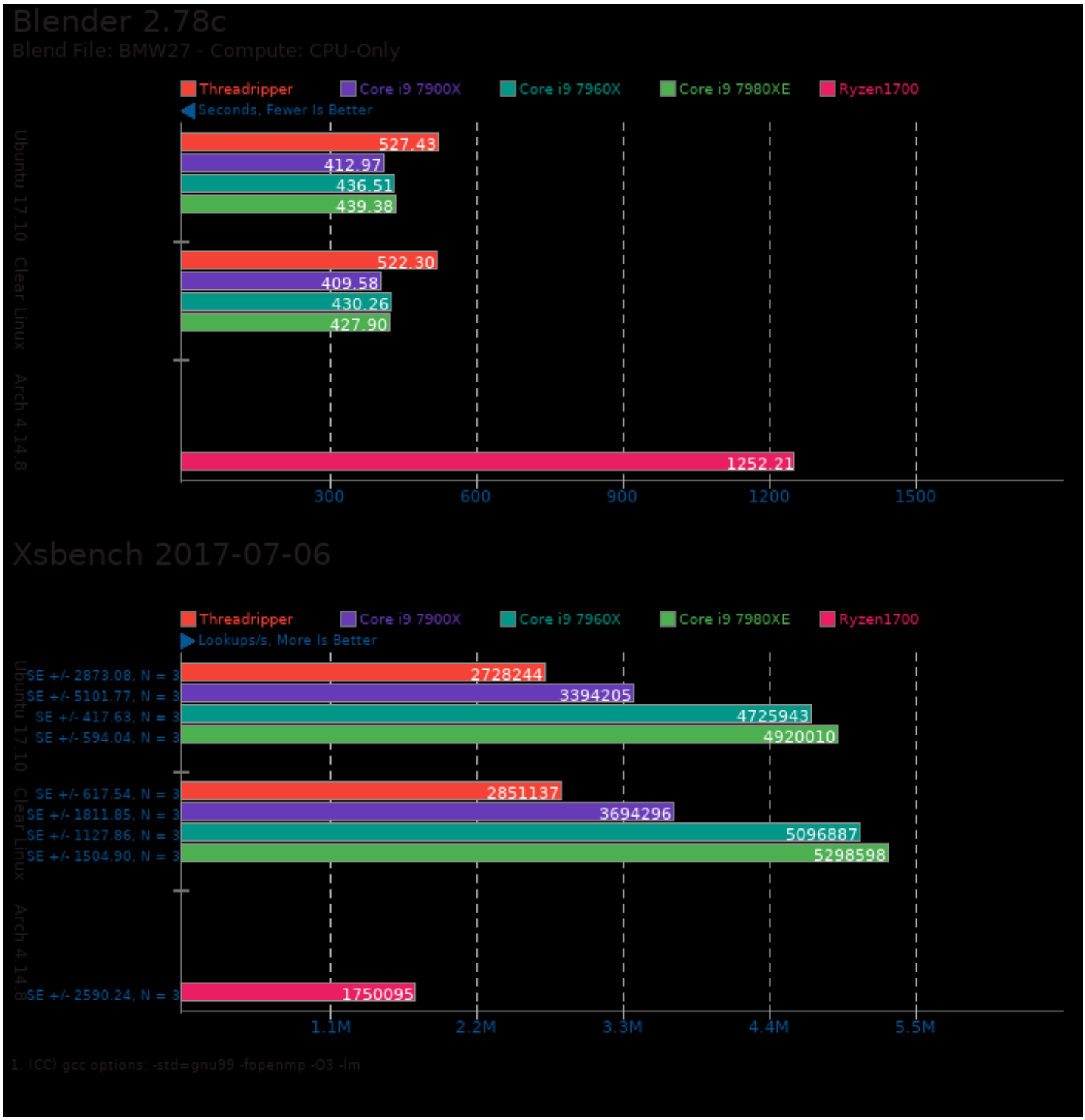

FLAC Audio Encoding 1.3.1
WAV To FLAC
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
Seconds, Fewer Is Better
Ubuntu 17.10
SE +/- 0.02, N = 5
5.47
SE +/- 0.18, N = 10
4.92
SE +/- 0.16, N = 10
5.05
SE +/- 0.23, N = 10
5.91
Clear Linux Arch 4.14.8
SE +/- 0.01, N = 5
5.22
SE +/- 0.01, N = 5
4.36
SE +/- 0.18, N = 10
4.66
SE +/- 0.03, N = 5
5.16
SE +/- 0.09, N = 5
14.32
4
8
12
16
20
1. (CXX) g++ options: -fvisibility=hidden -logg -lm
LAME MP3 Encoding 3.99.3
WAV To MP3
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
Seconds, Fewer Is Better
Ubuntu 17.10
SE +/- 0.04, N = 5
8.93
SE +/- 0.19, N = 10
8.32
SE +/- 0.24, N = 10
8.98
SE +/- 0.34, N = 10
10.14
Clear Linux Arch 4.14.8
SE +/- 0.01, N = 5
8.85
SE +/- 0.19, N = 10
8.11
SE +/- 0.20, N = 10
8.39
SE +/- 0.21, N = 10
9.60
SE +/- 0.06, N = 5
23.57
6
12
18
24
30
1. (CC) gcc options: -O3 -ffast-math -funroll-loops -fschedule-insns2 -fbranch-count-reg -fforce-addr -pipe -lm

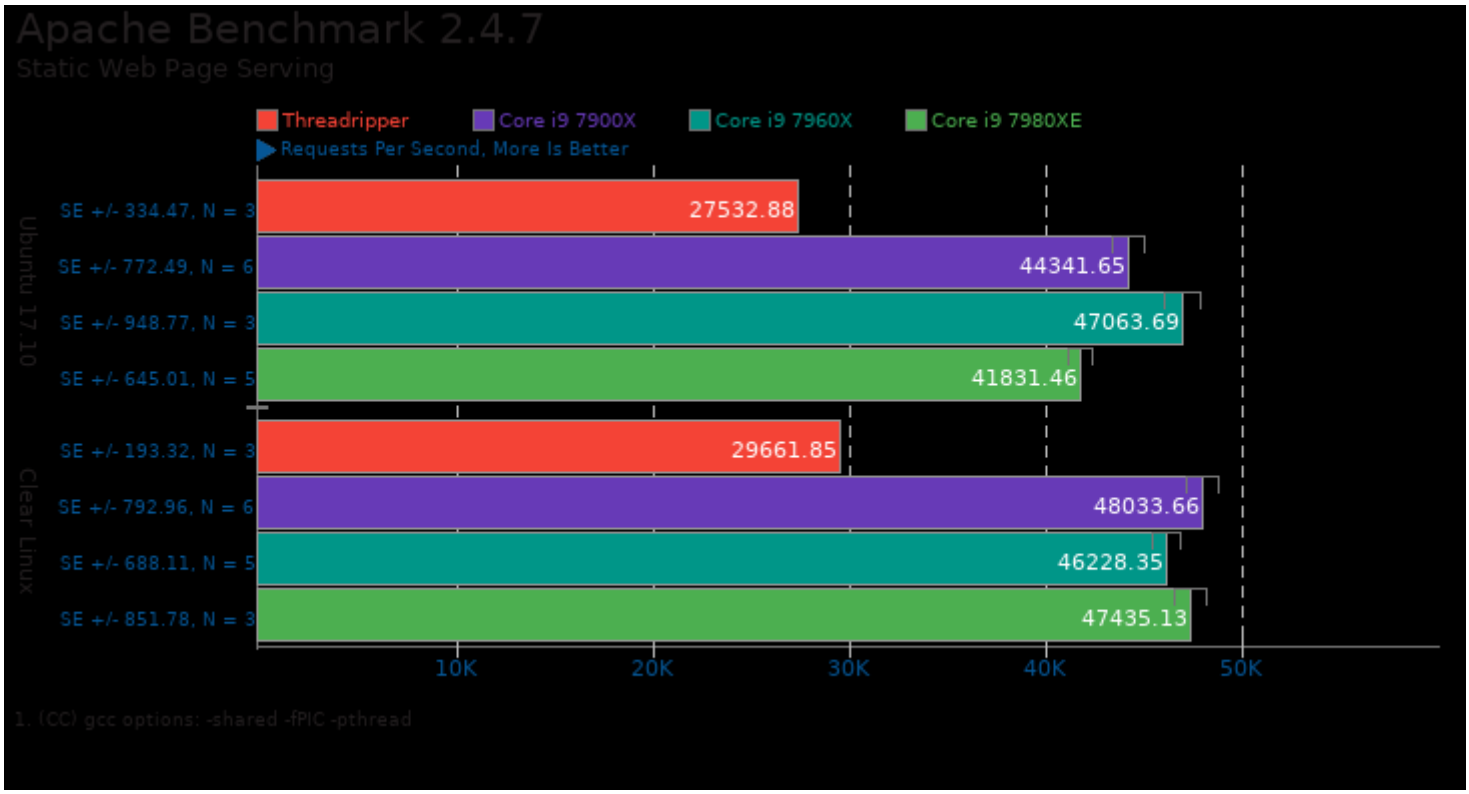

FFmpeg 3.3.3
H.264 HD To NTSC DV
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
Seconds, Fewer Is Better
Ubuntu 17.10
SE +/- 0.10, N = 3
7.81
SE +/- 0.31, N = 6
13.89
SE +/- 0.11, N = 3
7.23
SE +/- 0.29, N = 6
13.58
Clear Linux
SE +/- 0.06, N = 3
6.19
SE +/- 0.22, N = 6
5.10
SE +/- 0.01, N = 3
5.22
SE +/- 0.05, N = 3
5.21
Arch 4.14.8
SE +/- 0.06, N = 3
15.08
4
8
12
16
20
1. (CC) gcc options: -lavdevice -lavfilter -lavformat -lavcodec -lswresample -lswscale -lavutil -lXv -lX11 -lXext -ldl -lxcb -lxcb-xfixes -lxcb-shape -lSDL2 -lm

OpenSSL 1.0.1g
RSA 4096-bit Performance
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
Signs Per Second, More Is Better
Ubuntu 17.10
SE +/- 2.51, N = 3
2182.80
SE +/- 0.12, N = 3
2111.97
SE +/- 0.88, N = 3
2826.43
SE +/- 0.60, N = 3
3004.97
Clear Linux
SE +/- 2.15, N = 3
2184.10
SE +/- 0.48, N = 3
2113.37
SE +/- 0.17, N = 3
2831.83
SE +/- 0.52, N = 3
3006.43
Arch 4.14.8
SE +/- 1.25, N = 3
474.60
600
1200
1800
2400
3000
1. (CC) gcc options: -m64 -O3 -lssl -lcrypto -ldl

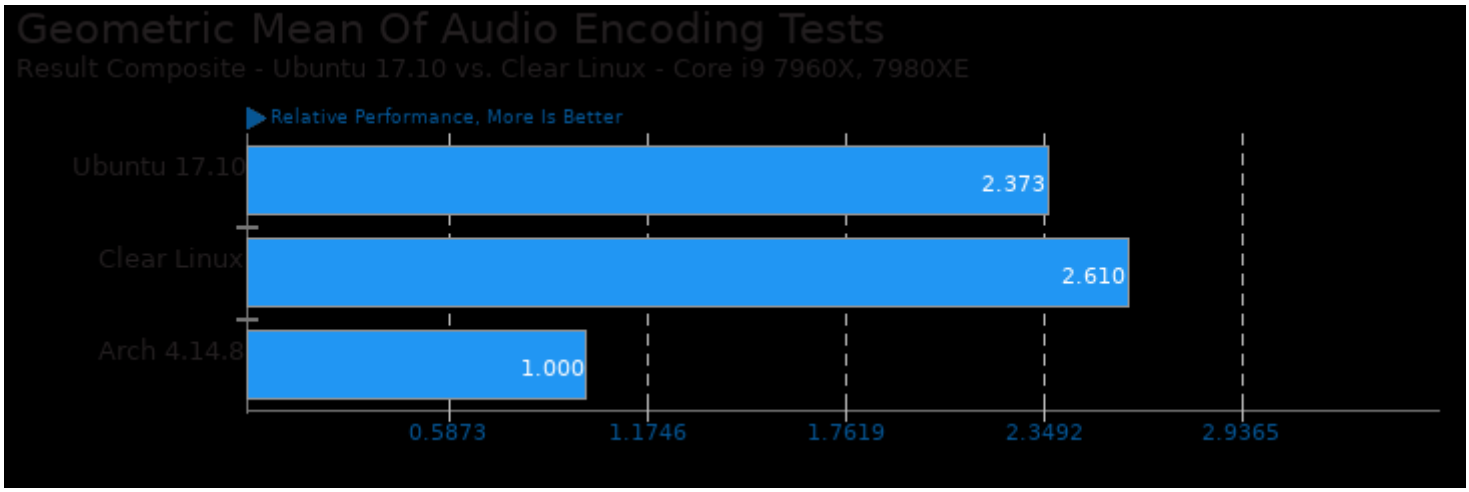

PostgreSQL pgbench 9.6.3
Scaling: Buffer Test - Test: Normal Load - Mode: Read Write
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
TPS, More Is Better
Ubuntu 17.10 Clear Linux Arch 4.14.8
SE +/- 1781.47, N = 6
9946.62
SE +/- 260.97, N = 6
14117.72
SE +/- 112.86, N = 3
6648.83
SE +/- 718.44, N = 6
12849.92
SE +/- 705.07, N = 6
12565.60
SE +/- 382.13, N = 6
22233.08
SE +/- 16.77, N = 3
7044.64
SE +/- 222.59, N = 3
23670.20
SE +/- 134.33, N = 4
8347.33
5K
10K
15K
20K
25K
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -fpic -lpgcommon -lpgport -lrt -lcrypt -ldl -lm
PostgreSQL pgbench 9.6.3
Scaling: Buffer Test - Test: Single Thread - Mode: Read Write
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
TPS, More Is Better
Ubuntu 17.10 Clear Linux Arch 4.14.8
SE +/- 0.66, N = 3
1104.58
SE +/- 28.62, N = 6
724.21
SE +/- 0.74, N = 3
493.74
SE +/- 8.46, N = 3
745.20
SE +/- 34.79, N = 6
2545.53
SE +/- 21.54, N = 3
3592.85
SE +/- 1.55, N = 3
581.06
SE +/- 5.25, N = 3
3412.63
SE +/- 1.33, N = 3
520.29
800
1600
2400
3200
4000
1. (CC) gcc options: -fno-strict-aliasing -fwrapv -fpic -lpgcommon -lpgport -lrt -lcrypt -ldl -lm


Redis 3.0.1
Test: GET
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
Requests Per Second, More Is Better
Ubuntu 17.10 Clear Linux Arch 4.14.8
SE +/- 30125.11, N = 6
2191834.17
SE +/- 14223.39, N = 3
2650329.42
SE +/- 47098.43, N = 3
3142794.00
SE +/- 61397.54, N = 6
2810740.75
SE +/- 21653.52, N = 3
2767868.92
SE +/- 16231.74, N = 3
3681125.25
SE +/- 48161.75, N = 3
3581232.17
SE +/- 4764.58, N = 3
3783114.17
SE +/- 2109.02, N = 3
950278.60
800K
1600K
2400K
3200K
4000K
1. (CC) gcc options: -ggdb -rdynamic -lm -pthread
Redis 3.0.1
Test: SET
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
Requests Per Second, More Is Better
Ubuntu 17.10 Clear Linux Arch 4.14.8
SE +/- 10716.91, N = 3
1549735.71
SE +/- 11291.35, N = 3
1955802.25
SE +/- 26092.04, N = 3
2295929.00
SE +/- 36562.03, N = 3
2363325.50
SE +/- 18239.53, N = 3
1932086.17
SE +/- 12401.52, N = 3
2654983.42
SE +/- 30633.44, N = 3
2567035.33
SE +/- 14927.55, N = 3
2620258.25
SE +/- 2756.89, N = 3
676307.33
600K
1200K
1800K
2400K
3000K
1. (CC) gcc options: -ggdb -rdynamic -lm -pthread

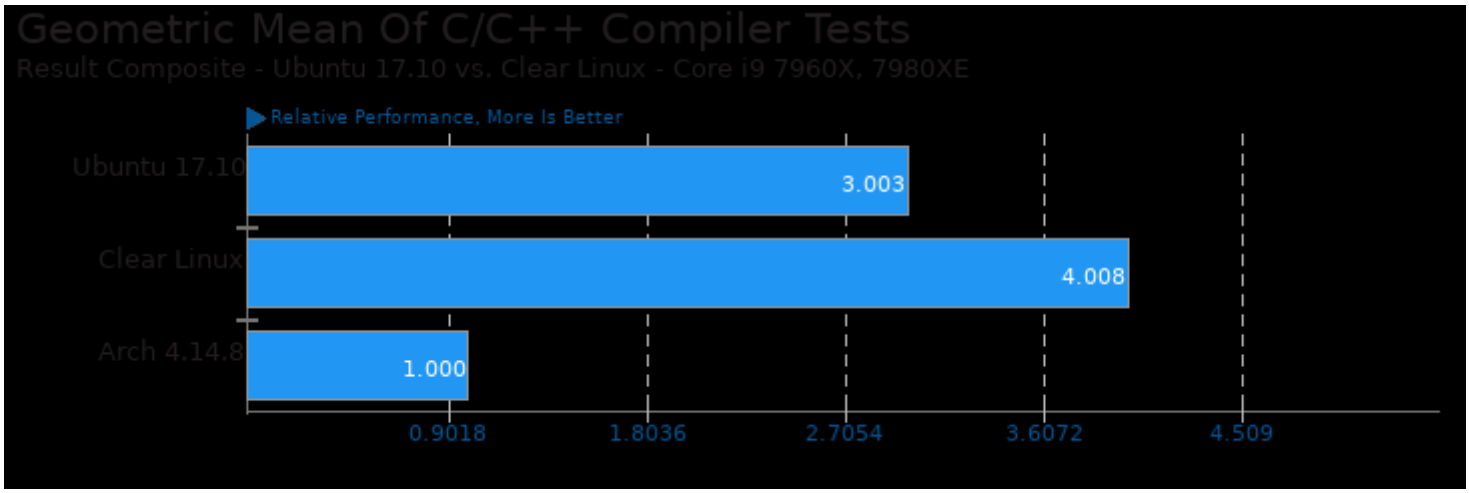

Blender 2.78c
Blend File: BMW27 - Compute: CPU-Only
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
Seconds, Fewer Is Better
Ubuntu 17.10
Clear Linux
Arch 4.14.8
527.43
412.97
436.51
439.38
522.30
409.58
430.26
427.90
1252.21
300
600
900
1200
1500
Xsbench 2017-07-06
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Ryzen1700
Lookups/s, More Is Better
Ubuntu 17.10
Clear Linux
Arch 4.14.8
SE +/- 2873.08, N = 3
SE +/- 5101.77, N = 3
SE +/- 417.63, N = 3
SE +/- 594.04, N = 3
2728244
3394205
4725943
4920010
SE +/- 617.54, N = 3
SE +/- 1811.85, N = 3
SE +/- 1127.86, N = 3
SE +/- 1504.90, N = 3
2851137
3694296
5096887
5298598
SE +/- 2590.24, N = 3
1750095
1.1M
2.2M
3.3M
4.4M
5.5M
1. (CC) gcc options: -std=gnu99 -fopenmp -O3 -lm


Apache Benchmark 2.4.7
Static Web Page Serving
Threadripper
Core i9 7900X
Core i9 7960X
Core i9 7980XE
Requests Per Second, More Is Better
Ubuntu 17.10
SE +/- 334.47, N = 3
27532.88
SE +/- 772.49, N = 6
44341.65
SE +/- 948.77, N = 3
47063.69
SE +/- 645.01, N = 5
41831.46
Clear Linux
SE +/- 193.32, N = 3
29661.85
SE +/- 792.96, N = 6
48033.66
SE +/- 688.11, N = 5
46228.35
SE +/- 851.78, N = 3
47435.13
10K
20K
30K
40K
50K
1. (CC) gcc options: -shared -fPIC -pthread

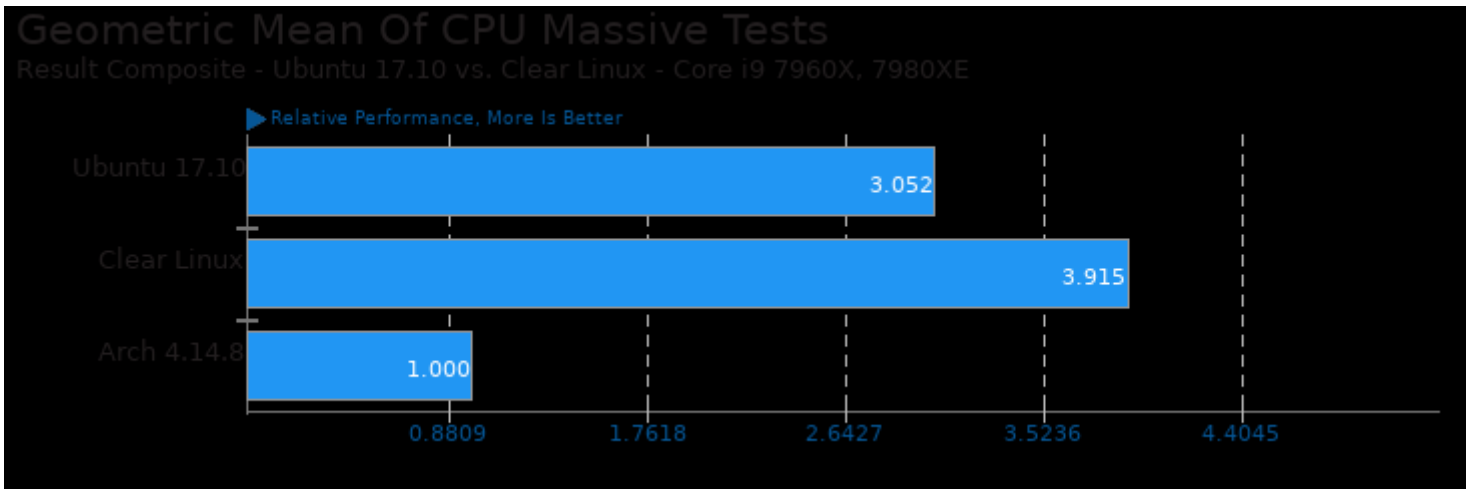
These geometric means are based upon test groupings / test suites for this result file.



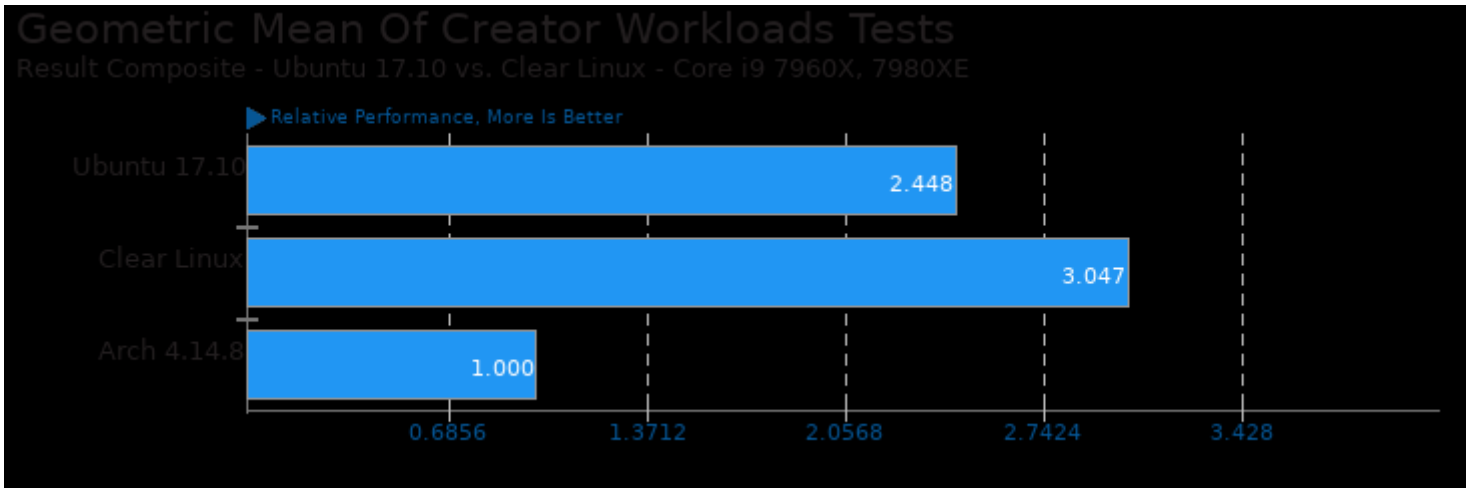
Geometric mean based upon tests: pts/encode-mp3 and pts/encode-flac



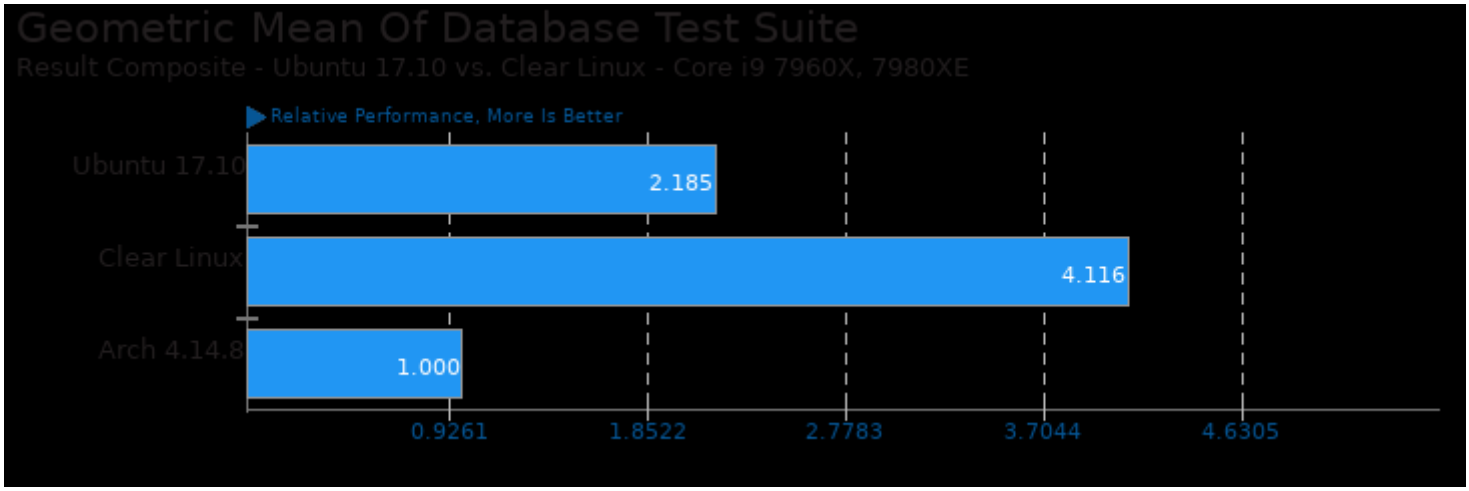
Geometric mean based upon tests: pts/fftw, pts/graphics-magick, pts/himeno, pts/stockfish, pts/hmmer, pts/build-llvm, pts/c-ray, pts/encode-mp3, pts/encode-flac, pts/pgbench, pts/apache and pts/openssl



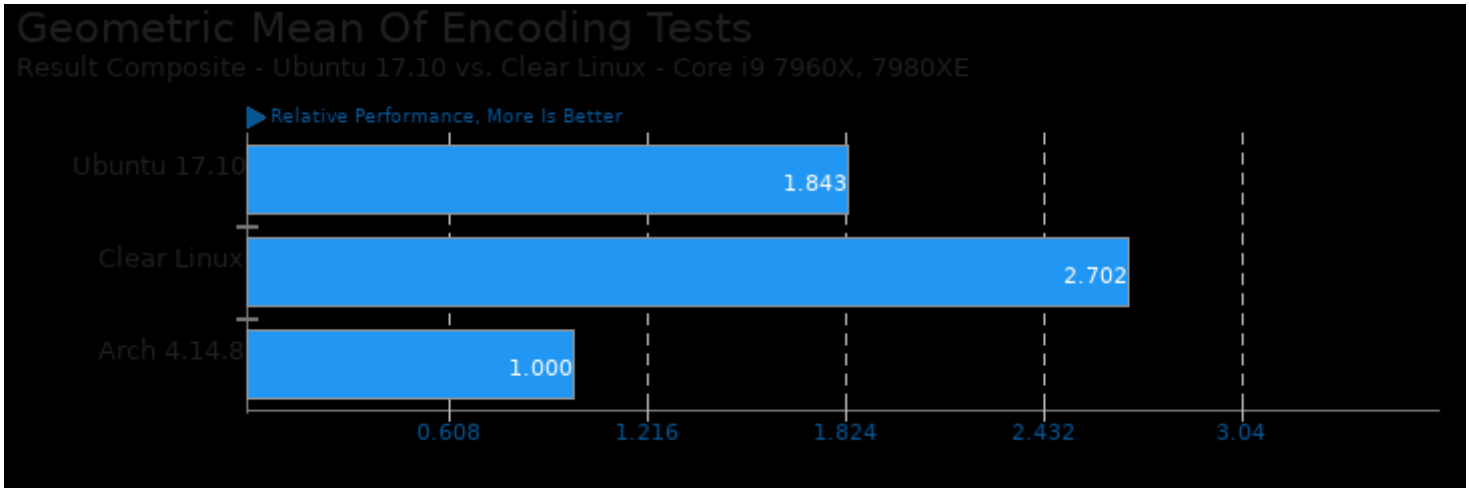
Geometric mean based upon tests: pts/apache, pts/build-llvm, pts/c-ray, pts/cachebench, pts/encode-flac, pts/encode-mp3, pts/fftw, pts/graphics-magick, pts/himeno, pts/hmmer, pts/openssl, pts/parboil, pts/pgbench, pts/redis, pts/rodinia, pts/stockfish, pts/blender and pts/xsbench



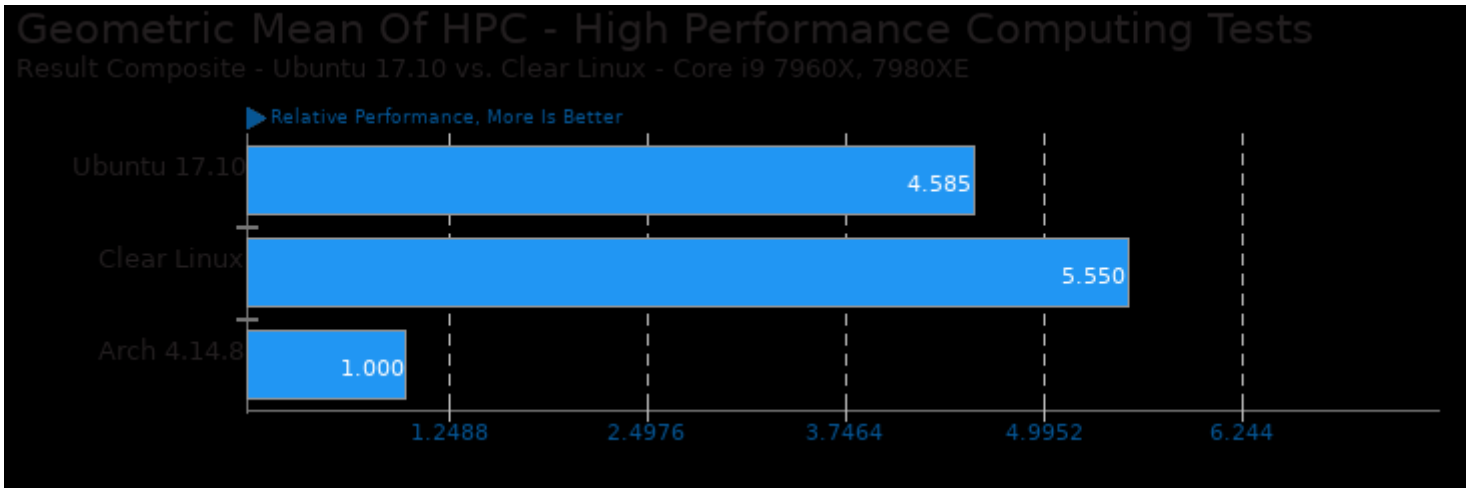
Geometric mean based upon tests: pts/c-ray, pts/blender, pts/ffmpeg, pts/encode-mp3, pts/encode-flac and pts/graphics-magick



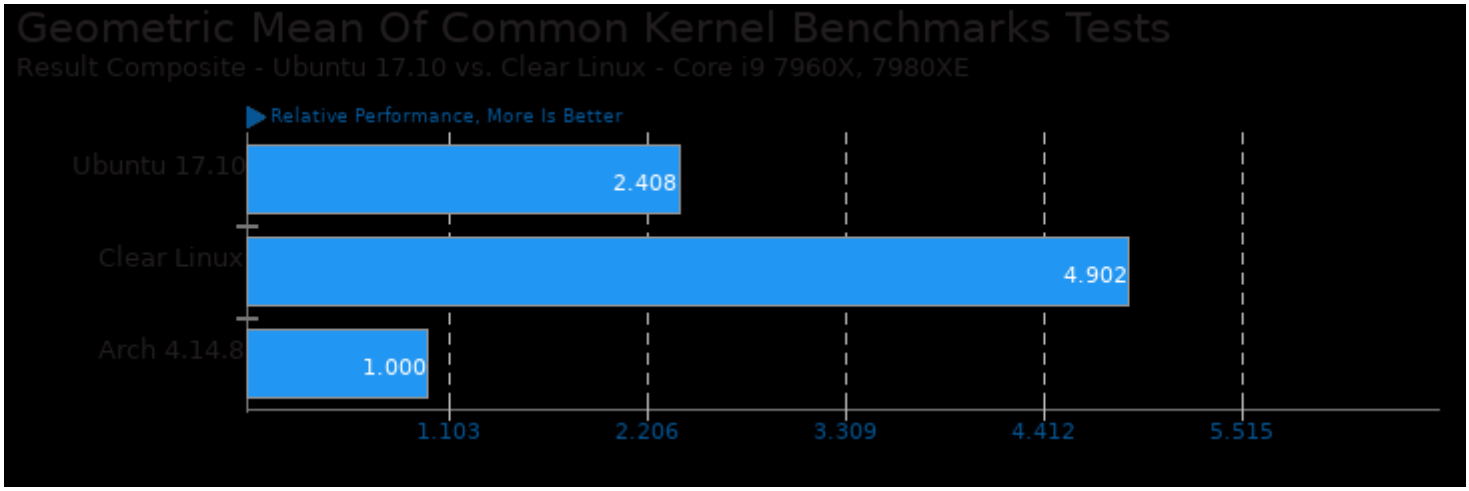
Geometric mean based upon tests: pts/redis and pts/pgbench



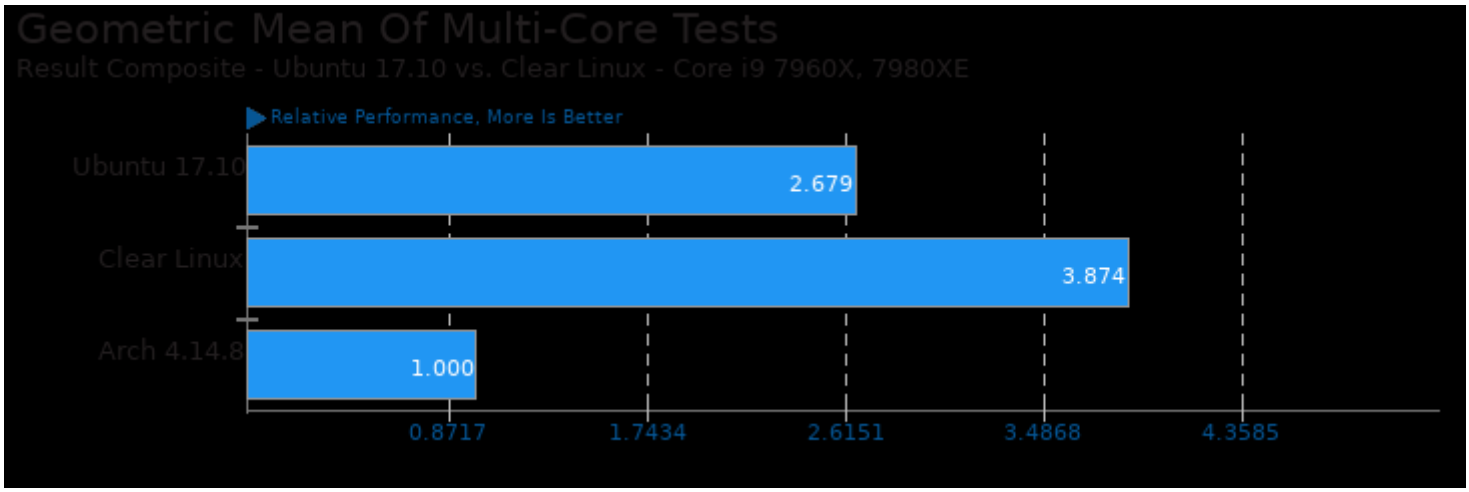
Geometric mean based upon tests: pts/encode-mp3, pts/encode-flac and pts/ffmpeg



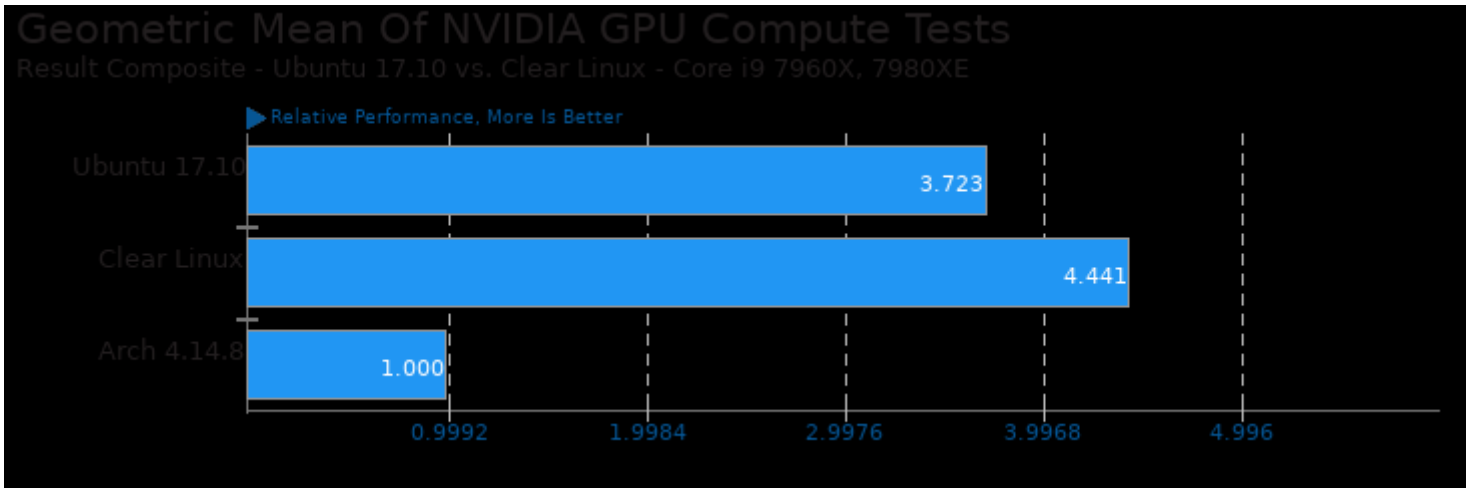
Geometric mean based upon tests: pts/rodinia, pts/parboil, pts/fftw, pts/himeno and pts/hmmer



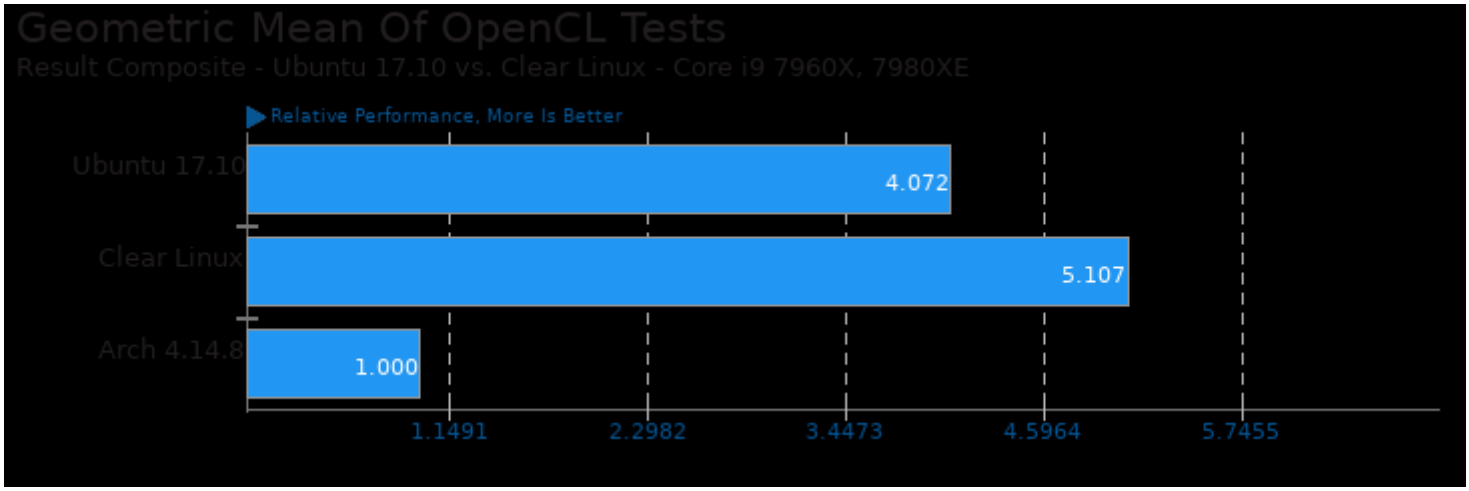
Geometric mean based upon tests: pts/apache, pts/pgbench and pts/openssl



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



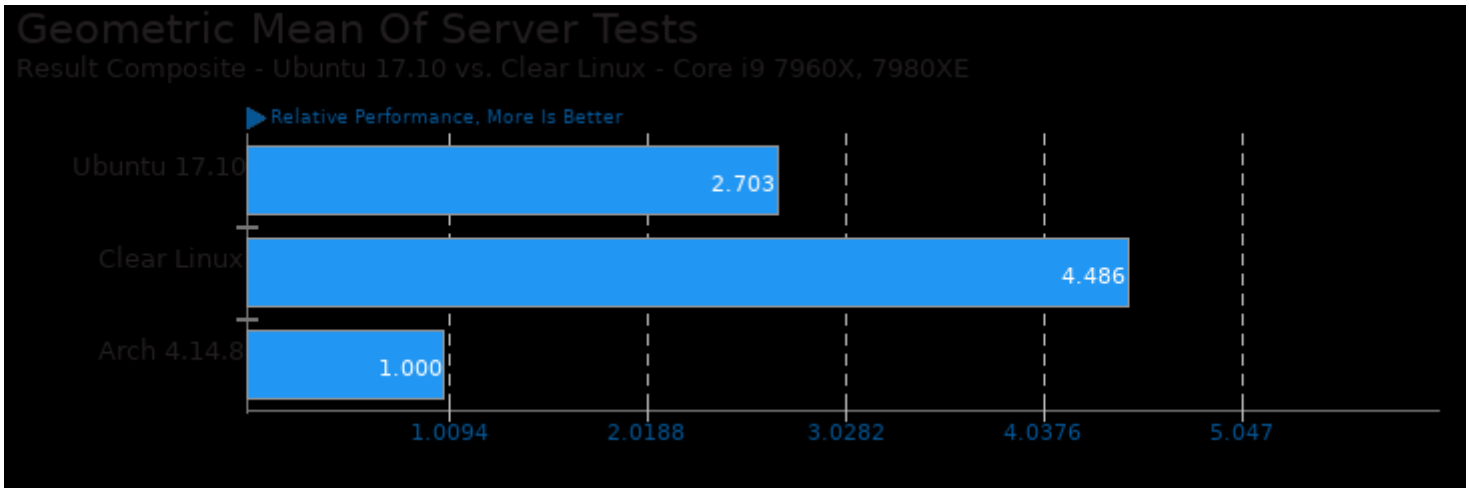
Geometric mean based upon tests: pts/rodinia and pts/blender



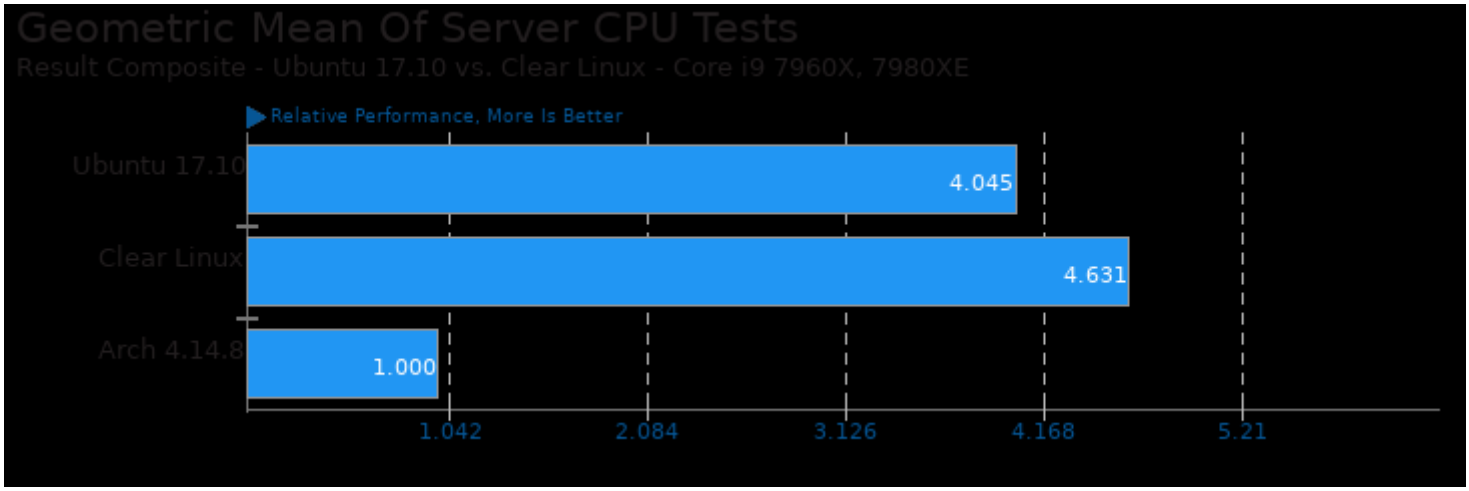
Geometric mean based upon tests: pts/rodinia and pts/parboil



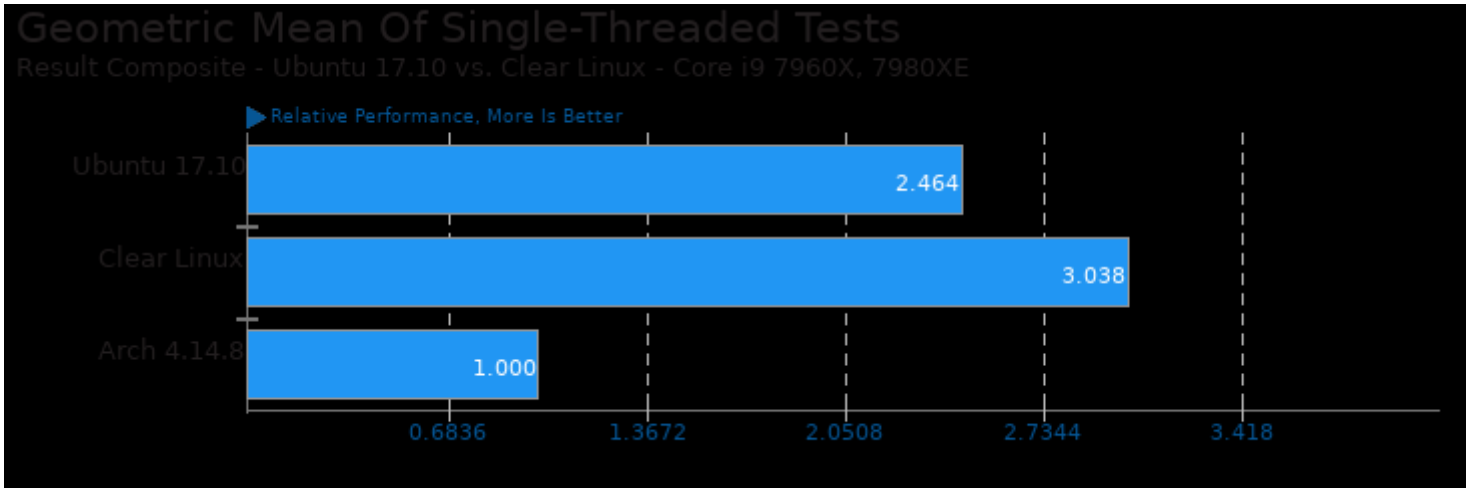
Geometric mean based upon tests: pts/c-ray and pts/blender



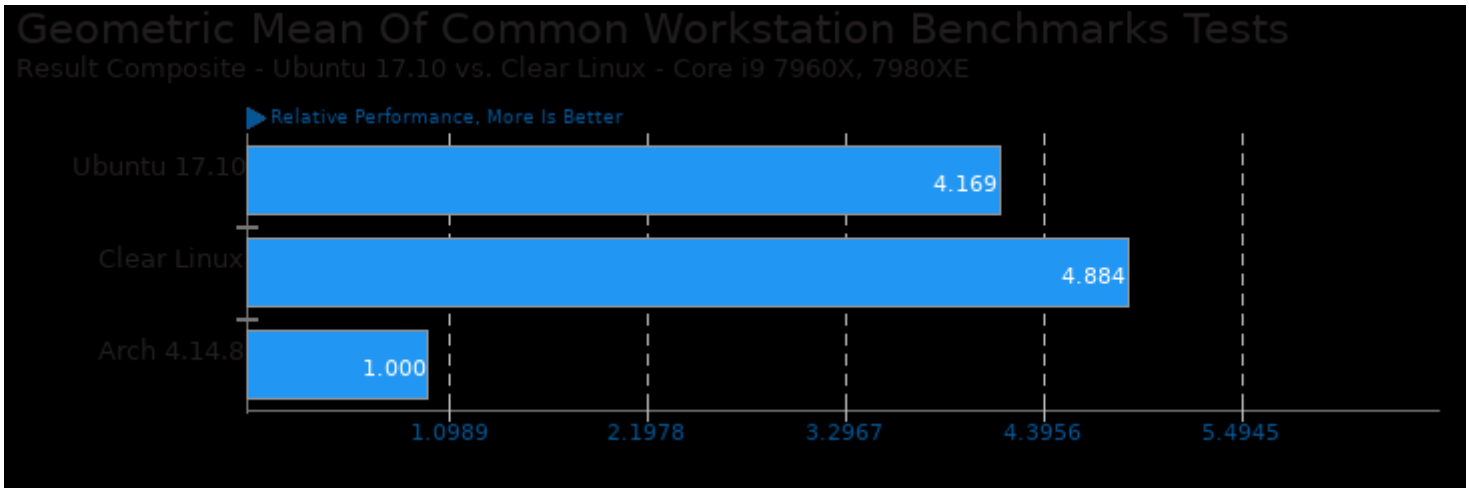
Geometric mean based upon tests: pts/apache, pts/pgbench, pts/redis and pts/openssl



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 Thursday, 28 March 2024 06:58.