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Linux 5.13 AMD Ryzen 9 5950X

AMD Ryzen 9 5950X 16-Core testing with a ASUS ROG CROSSHAIR VIII HERO (WI-FI) (3302 BIOS) and AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 8GB on Ubuntu 20.10 via the Phoronix Test Suite.

Automated Executive Summary

Linux 5.11 had the most wins, coming in first place for 35% of the tests.

Based on the geometric mean of all complete results, the fastest (Linux 5.12) was 1.007x the speed of the slowest (Linux 5.13 3May). Linux 5.11 was 0.996x the speed of Linux 5.12, randomize_kstack_offset was 0.999x the speed of Linux 5.11, Linux 5.13 3May was 0.998x the speed of randomize_kstack_offset.

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

Stress-NG (Test: Context Switching) at 1.347x
Stress-NG (Test: System V Message Passing) at 1.338x
Stress-NG (Test: Socket Activity) at 1.1x
Xmrig (Variant: Monero - Hash Count: 1M) at 1.097x
Tesseract (Resolution: 3840 x 2160) at 1.066x
GIMP (Test: rotate) at 1.052x
Stress-NG (Test: CPU Stress) at 1.049x
vkpeak (fp16-scalar) at 1.045x

Ethr (Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 8) at 1.044x
srsLTE (Test: OFDM_Test) at 1.044x.

Test Systems:

Linux 5.11

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (3302 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 2000GB Corsair Force MP600, Graphics: AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 8GB (2100/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: ASUS MG28U, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.10, Kernel: 5.11.18-051118-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 21.2.0-devel (git-55fb941 2021-04-16 groovy-oibaf-ppa) (LLVM 12.0.0), Vulkan: 1.2.168, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Disk Notes: NONE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa201009
Python Notes: Python 3.8.6
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Linux 5.12

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (3302 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 2000GB Corsair Force MP600, Graphics: AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 8GB (2100/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: ASUS MG28U, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.10, Kernel: 5.12.1-051201-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 21.2.0-devel (git-55fb941 2021-04-16 groovy-oibaf-ppa) (LLVM 12.0.0), Vulkan: 1.2.168, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Disk Notes: NONE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa201009
Python Notes: Python 3.8.6
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

Linux 5.13 3May

randomize_kstack_offset

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (3302 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 2000GB Corsair Force MP600, Graphics: AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 8GB (2100/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: ASUS MG28U, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.10, Kernel: 5.12.0-051200daily20210503-generic (x86_64), Desktop: GNOME Shell 3.38.2, Display Server: X Server 1.20.9, OpenGL: 4.6 Mesa 21.2.0-devel (git-55fb941 2021-04-16 groovy-oibaf-ppa) (LLVM 12.0.0), Vulkan: 1.2.168, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Disk Notes: NONE / errors=remount-ro,relatime,rw / Block Size: 4096
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa201009
Python Notes: Python 3.8.6
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	Linux 5.11	Linux 5.12	Linux 5.13 3May	randomize_kstack_offset
FS-Mark - 1.F.1.S (Files/s)	701.0	**686.2**	697.7	**709.8**
Normalized	98.76%	96.68%	98.3%	100%
Standard Deviation	5.6%	1.9%	2.2%	1.1%
FS-Mark - 4.F.3.S.D.1.S (Files/s)	**705.2**	**717.6**	715.7	713.5
Normalized	98.27%	100%	99.74%	99.43%
Standard Deviation	0.6%	1.4%	1.2%	0.4%
Compile Bench - Initial Create (MB/s)	**790.15**	777.33	**768.43**	773.54
Normalized	100%	98.38%	97.25%	97.9%
Standard Deviation	2.4%	1.7%	2.1%	0.8%
vkpeak - fp32-scalar (GFLOPS)	**9813**	**9438**	9525	9497
Normalized	100%	96.17%	97.07%	96.78%
Standard Deviation	1.1%	0.8%	1.1%	1%
vkpeak - fp32-vec4 (GFLOPS)	**9608**	9486	**9386**	9402
Normalized	100%	98.73%	97.68%	97.86%
Standard Deviation	0.6%	0.7%	0.7%	1.1%
vkpeak - fp16-scalar (GFLOPS)	9755	**9869**	9632	**9445**
Normalized	98.84%	100%	97.6%	95.69%
Standard Deviation	0.7%	1.3%	0.6%	0.5%
vkpeak - fp16-vec4 (GFLOPS)	**9604**	9451	9520	**9434**
Normalized	100%	98.4%	99.12%	98.23%
Standard Deviation	0.4%	0.4%	0.5%	0.5%
vkpeak - fp64-scalar (GFLOPS)	321.83	**321.90**	**321.72**	**321.72**
Normalized	99.98%	100%	99.94%	99.94%
Standard Deviation	0%	0%	0%	0%

vkpeak - fp64-vec4 (GFLOPS)	**321.73**	**321.60**	321.64	321.70
Normalized	100%	99.96%	99.97%	99.99%
Standard Deviation	0%	0%	0%	0%
vkpeak - int32-scalar (GIOPS)	**1581**	1581	1581	**1580**
Normalized	100%	99.98%	99.96%	99.95%
Standard Deviation	0%	0%	0%	0%
vkpeak - int32-vec4 (GIOPS)	**2053**	2052	2051	**2050**
Normalized	100%	99.95%	99.94%	99.89%
Standard Deviation	0%	0%	0%	0%
vkpeak - int16-scalar (GIOPS)	4889	**4915**	4849	**4820**
Normalized	99.48%	100%	98.66%	98.06%
Standard Deviation	0.4%	0.3%	0.3%	0.3%
vkpeak - int16-vec4 (GIOPS)	**4938**	4871	4891	**4859**
Normalized	100%	98.64%	99.05%	98.4%
Standard Deviation	0.1%	0.1%	0.2%	0.1%
RealSR-NCNN - 4x - Yes (sec)	57.613	**57.575**	**57.622**	57.592
Normalized	99.93%	100%	99.92%	99.97%
Standard Deviation	0.2%	0%	0.1%	0%
Waifu2x-NCNN Vulkan - 2x - 3 - Yes (sec)	**5.073**	5.065	5.072	**5.060**
Normalized	99.74%	99.9%	99.76%	100%
Standard Deviation	0.9%	0.2%	0.6%	0.1%
VkFFT (Benchmark Score)	20500	20501	**20480**	**20582**
Normalized	99.6%	99.61%	99.5%	100%
Standard Deviation	0.3%	0.2%	0.1%	0.3%
Tesseract - 3840 x 2160 (FPS)	407.5456	**423.6318**	**397.4433**	421.4907
Normalized	96.2%	100%	93.82%	99.49%
Standard Deviation	0.9%	4.4%	0.8%	1.3%
Xonotic - 3840 x 2160 - High (FPS)	**542.4447503**	547.9433934	**551.3453352**	547.0111828
Normalized	98.39%	99.38%	100%	99.21%
Standard Deviation	1%	2.1%	2%	0.7%
Xonotic - 3840 x 2160 - Ultra (FPS)	**476.0800924**	**486.8252941**	482.7683938	480.4957481
Normalized	97.79%	100%	99.17%	98.7%
Standard Deviation	1.3%	0.6%	0.5%	0.1%
Xonotic - 3840 x 2160 - Ultimate (FPS)	**378.9641737**	**383.9420227**	381.3802971	379.3637793
Normalized	98.7%	100%	99.33%	98.81%
Standard Deviation	0.4%	0.4%	0.7%	0.2%
ParaView - Many Spheres - 1920 x 1080 (Frames / Sec)	66.30	**66.11**	66.35	**66.40**
Normalized	99.85%	99.56%	99.92%	100%
Standard Deviation	0.1%	0.6%	0.2%	0.1%
ParaView - Many Spheres - 1920 x 1080 (MiPolys / Sec)	6647	**6628**	6652	**6657**
Normalized	99.85%	99.55%	99.92%	100%
Standard Deviation	0.1%	0.6%	0.2%	0.1%
ParaView - Many Spheres - 3840 x 2160 (Frames / Sec)	62.60	**62.57**	**62.61**	**62.61**
Normalized	99.98%	99.94%	100%	100%
Standard Deviation	0.1%	0%	0.1%	0%
ParaView - Many Spheres - 3840 x 2160 (MiPolys / Sec)	6276	**6273**	**6277**	6277
Normalized	99.97%	99.92%	100%	100%
Standard Deviation	0.1%	0%	0.1%	0%

ParaView - Wavelet Volume - 1920 x 1080 (Frames / Sec)	**505.86**	484.26	497.50	**474.75**
Normalized	100%	95.73%	98.35%	93.85%
Standard Deviation	1.1%	1%	1.5%	8.2%
ParaView - Wavelet Volume - 1920 x 1080 (MiVoxels / Sec)	**8094**	7748	7960	**7596**
Normalized	100%	95.73%	98.35%	93.85%
Standard Deviation	1.1%	1%	1.5%	8.2%
ParaView - Wavelet Volume - 3840 x 2160 (Frames / Sec)	**259.66**	262.05	261.96	**262.29**
Normalized	99%	99.91%	99.87%	100%
Standard Deviation	2.8%	0.2%	0.1%	0.1%
ParaView - Wavelet Volume - 3840 x 2160 (MiVoxels / Sec)	**4155**	4193	4191	**4197**
Normalized	99%	99.91%	99.87%	100%
Standard Deviation	2.8%	0.2%	0.1%	0.1%
ParaView - Wavelet Contour - 1920 x 1080 (Frames / Sec)	**370.30**	369.84	**369.10**	369.49
Normalized	100%	99.88%	99.68%	99.78%
Standard Deviation	0%	0%	0%	0%
ParaView - Wavelet Contour - 1920 x 1080 (MiPolys / Sec)	**3859**	3854	**3846**	3851
Normalized	100%	99.88%	99.68%	99.78%
Standard Deviation	0%	0%	0%	0%
ParaView - Wavelet Contour - 3840 x 2160 (Frames / Sec)	**249.59**	249.20	249.15	**249.04**
Normalized	100%	99.84%	99.82%	99.78%
Standard Deviation	0%	0.1%	0.1%	0.2%
ParaView - Wavelet Contour - 3840 x 2160 (MiPolys / Sec)	**2601**	2597	2597	**2595**
Normalized	100%	99.85%	99.83%	99.78%
Standard Deviation	0%	0.1%	0.1%	0.2%
Ethr - TCP - Latency - 1 (us)	**11.82**	**11.52**	11.61	11.61
Normalized	97.46%	100%	99.22%	99.22%
Standard Deviation	5.9%	7.5%	2%	6.2%
Ethr - TCP - Latency - 8 (us)	**12.05**	11.71	11.52	**11.16**
Normalized	92.61%	95.3%	96.88%	100%
Standard Deviation	8.9%	8.7%	5.7%	4.7%
Ethr - TCP - Bandwidth - 8 (Mbits/s)	146912	147374	**147975**	**144757**
Normalized	99.28%	99.59%	100%	97.83%
Standard Deviation	2.3%	1.2%	1%	1.2%
Ethr - UDP - Bandwidth - 8 (Mbits/s)	**206643**	215223	**215768**	214904
Normalized	95.77%	99.75%	100%	99.6%
Standard Deviation	0.9%	0.1%	0.4%	0.6%
Ethr - HTTP - Bandwidth - 1 (Mbits/s)	**1078**	1066	1068	**1062**
Normalized	100%	98.89%	99.07%	98.52%
Standard Deviation	0.5%	0.6%		0.3%
Ethr - HTTP - Bandwidth - 8 (Mbits/s)	**5112**	5069	5078	**5045**
Normalized	100%	99.16%	99.33%	98.69%
Standard Deviation	1.3%	0.6%	0.9%	1.3%
Ethr - TCP - Connections/s - 1 (Connections/sec)	**10019**	9631	9655	**9439**
Normalized	100%	96.13%	96.37%	94.21%
Standard Deviation	9.1%	7.3%	11.1%	8.5%

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Ethr - TCP - Connections/s - 8 (Connections/sec)	**93430**	91373	**89758**	92043
Normalized	100%	97.8%	96.07%	98.52%
Standard Deviation	0.4%	5.4%	4.5%	0.7%
NAMD - ATPase Simulation - 327,506 Atoms (days/ns)	**1.07862**	1.07989	1.08446	**1.09204**
Normalized	100%	99.88%	99.46%	98.77%
Standard Deviation	0.7%	0.9%	0.8%	0.8%
Timed HMMer Search - P.D.S (sec)	81.091	81.014	**80.988**	**81.190**
Normalized	99.87%	99.97%	100%	99.75%
Standard Deviation	0.1%	0.1%	0.2%	0.2%
Xmrig - Monero - 1M (H/s)	7001	**7586**	**6917**	7483
Normalized	92.29%	100%	91.19%	98.64%
Standard Deviation	1.1%	2.4%	1.8%	1.6%
Xmrig - Wownero - 1M (H/s)	13530	**13851**	**13472**	13751
Normalized	97.68%	100%	97.26%	99.28%
Standard Deviation	1.3%	0.3%	1.3%	0.5%
Chia Blockchain VDF - Square (IPS)	181433	182300	**179133**	**183233**
Normalized	99.02%	99.49%	97.76%	100%
Standard Deviation	0.8%	0.5%	2.2%	0.1%
Zstd Compression - 19 - Compression Speed (MB/s)	**51.5**	51.4	**51.3**	51.4
Normalized	100%	99.81%	99.61%	99.81%
Standard Deviation	0.3%	0.3%	0.2%	0.2%
Zstd Compression - 19 - D.S (MB/s)	**4312**	4293	4304	**4279**
Normalized	100%	99.57%	99.84%	99.24%
Standard Deviation	1.6%	1.1%	1.1%	1.9%
Zstd Compression - 19, Long Mode - Compression Speed (MB/s)	**36.5**	**36.5**	**36.4**	**36.4**
Normalized	100%	100%	99.73%	99.73%
Standard Deviation	0.3%	0.2%	0%	0.2%
Zstd Compression - 19, Long Mode - D.S (MB/s)	**4256**	4295	**4301**	4296
Normalized	98.95%	99.86%	100%	99.89%
Standard Deviation	1.7%	1.6%	1.3%	1.6%
srsLTE - OFDM_Test (Samples / Second)	**167600000**	162130000	162227273	**160533333**
Normalized	100%	96.74%	96.79%	95.78%
Standard Deviation	1.9%	2.5%	2.4%	0.9%
srsLTE - PHY_DL_Test (eNb Mb/s)	364.5	**370.0**	**358.4**	360.1
Normalized	98.51%	100%	96.86%	97.32%
Standard Deviation	0.8%	1.4%	0%	0.5%
srsLTE - PHY_DL_Test (UE Mb/s)	130.1	**131.4**	**127.1**	128.5
Normalized	99.01%	100%	96.73%	97.79%
Standard Deviation	0.4%	1.1%	0.3%	0.8%
LuaRadio - F.B.t.B.F.F (MiB/s)	1739	**1754**	1747	**1735**
Normalized	99.16%	100%	99.62%	98.91%
Standard Deviation	2.1%	1%	0.5%	0.3%
LuaRadio - F.D.F (MiB/s)	**468.2**	465.7	**463.1**	465.1
Normalized	100%	99.47%	98.91%	99.34%
Standard Deviation	0.9%	1%	0.6%	0.7%
LuaRadio - Hilbert Transform (MiB/s)	**129.5**	128.5	128.3	**127.5**
Normalized	100%	99.23%	99.07%	98.46%
Standard Deviation	0.7%	0.7%	0.7%	0.3%

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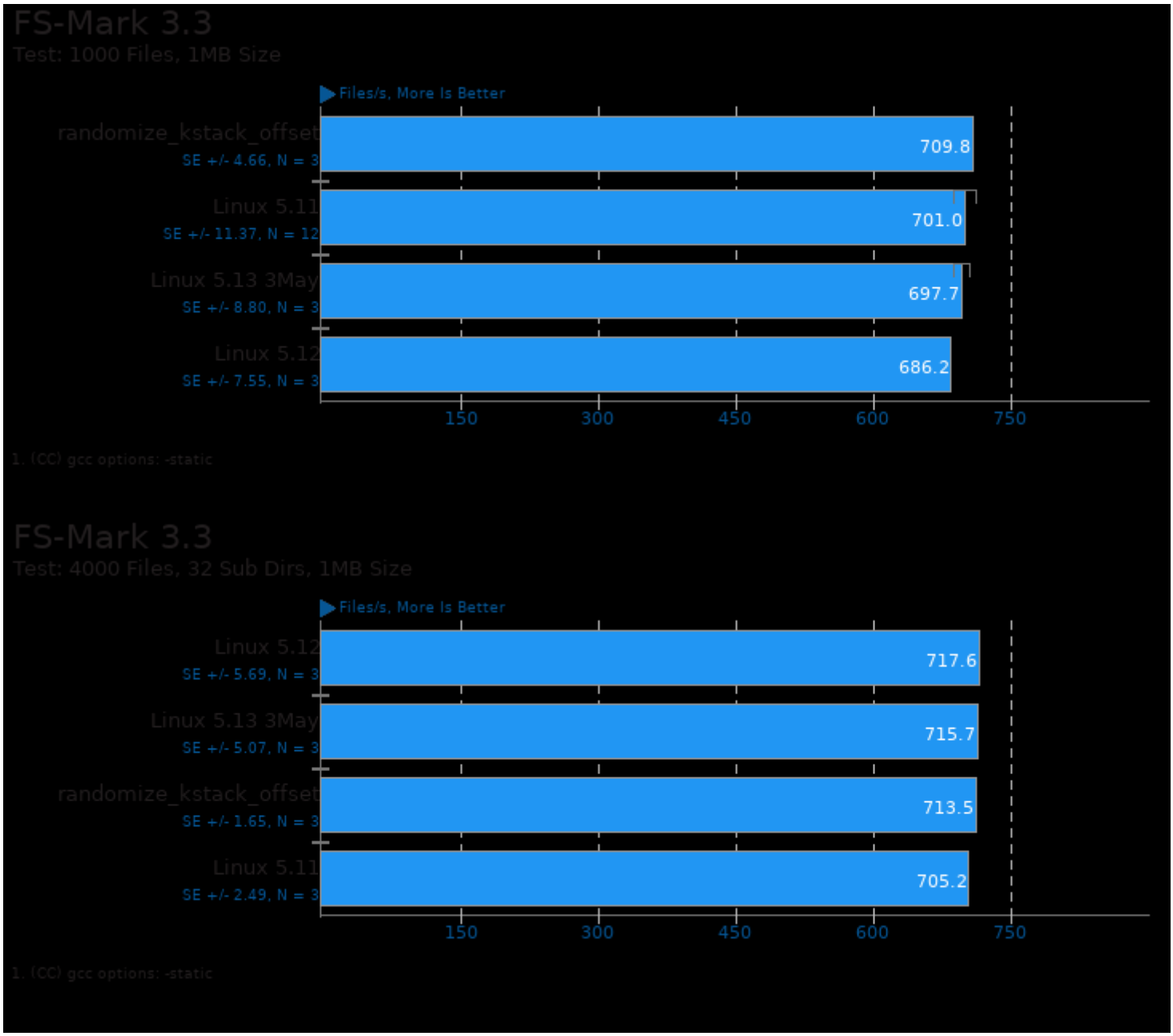
LuaRadio - Complex Phase (MiB/s)	877.3	**878.5**	**876.5**	878.2
Normalized	99.86%	100%	99.77%	99.97%
Standard Deviation	1.4%	0.5%	0.3%	0.6%
LuxCoreRender - DLSC - CPU (M samples/sec)	**3.70**	3.71	**3.73**	**3.70**
Normalized	99.2%	99.46%	100%	99.2%
Standard Deviation	1.2%	1%	1%	0.9%
LuxCoreRender - Danish Mood - CPU (M samples/sec)	**3.10**	**3.10**	**3.12**	3.11
Normalized	99.36%	99.36%	100%	99.68%
Standard Deviation	2.3%	0.9%	2%	2.3%
LuxCoreRender - Orange Juice - CPU (M samples/sec)	**5.76**	5.77	**5.79**	5.78
Normalized	99.48%	99.65%	100%	99.83%
Standard Deviation	0.5%	0.2%	0.4%	0.2%
AOM AV1 - Speed 8 Realtime - Bosphorus 4K (FPS)	40.53	40.25	**40.09**	**41.14**
Normalized	98.52%	97.84%	97.45%	100%
Standard Deviation	1.2%	4.2%	1.7%	0.4%
AOM AV1 - Speed 9 Realtime - Bosphorus 4K (FPS)	**48.69**	48.50	**47.21**	48.40
Normalized	100%	99.61%	96.96%	99.4%
Standard Deviation	0.8%	2%	0.8%	2.4%
SVT-AV1 - Enc Mode 4 - 1080p (FPS)	**6.117**	6.130	6.138	**6.144**
Normalized	99.56%	99.77%	99.9%	100%
Standard Deviation	1%	0.5%	0.7%	0.7%
SVT-AV1 - Enc Mode 8 - 1080p (FPS)	52.291	**51.836**	52.554	**52.577**
Normalized	99.46%	98.59%	99.96%	100%
Standard Deviation	0.2%	1.3%	0.1%	1.4%
SVT-HEVC - 7 - Bosphorus 1080p	**217.81**	218.62	218.99	**219.57**
Normalized	99.2%	99.57%	99.74%	100%
Standard Deviation	1.9%	1.1%	1.6%	1.4%
SVT-HEVC - 10 - Bosphorus 1080p (FPS)	**363.87**	365.05	366.02	**366.83**
Normalized	99.19%	99.51%	99.78%	100%
Standard Deviation	0.6%	0.6%	0.8%	0.4%
SVT-VP9 - VMAF Optimized - Bosphorus 1080p (FPS)	**227.49**	229.00	229.34	**229.65**
Normalized	99.06%	99.72%	99.87%	100%
Standard Deviation	3%	2.9%	2.6%	3.1%
SVT-VP9 - P.S.O - Bosphorus 1080p (FPS)	**233.46**	235.27	**235.45**	235.23
Normalized	99.15%	99.92%	100%	99.91%
Standard Deviation	0.4%	0.4%	0.3%	0.1%
Stockfish - Total Time (Nodes/s)	**54460035**	**56726532**	56470673	56618292
Normalized	96%	100%	99.55%	99.81%
Standard Deviation	1.3%	2.2%	0.5%	3.1%
Timed Godot Game Engine Compilation - Time To Compile (sec)	**80.167**	**79.960**	79.965	80.055
Normalized	99.74%	100%	99.99%	99.88%
Standard Deviation	0.3%	0.4%	0.4%	0.3%

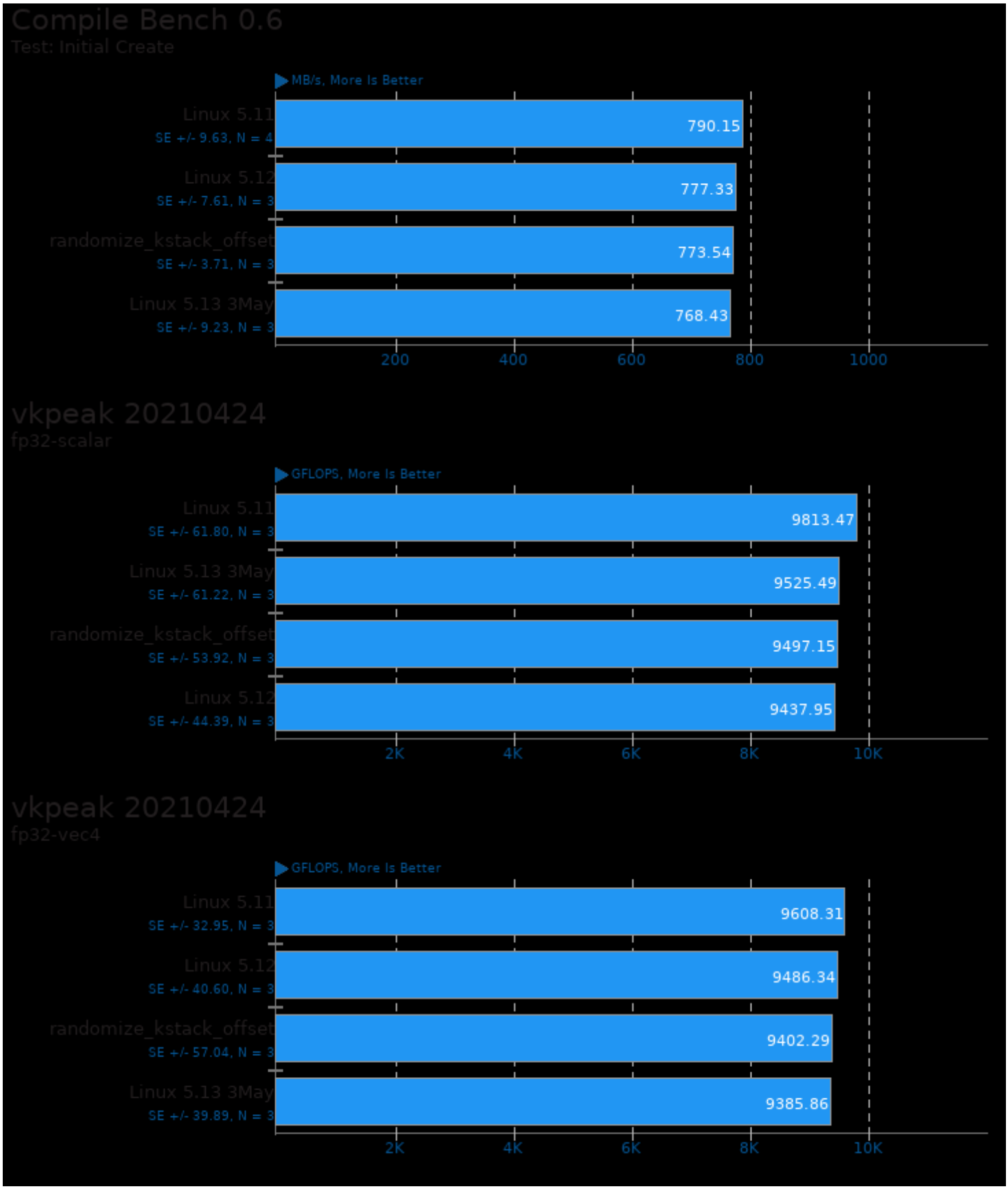
Linux 5.13 AMD Ryzen 9 5950X

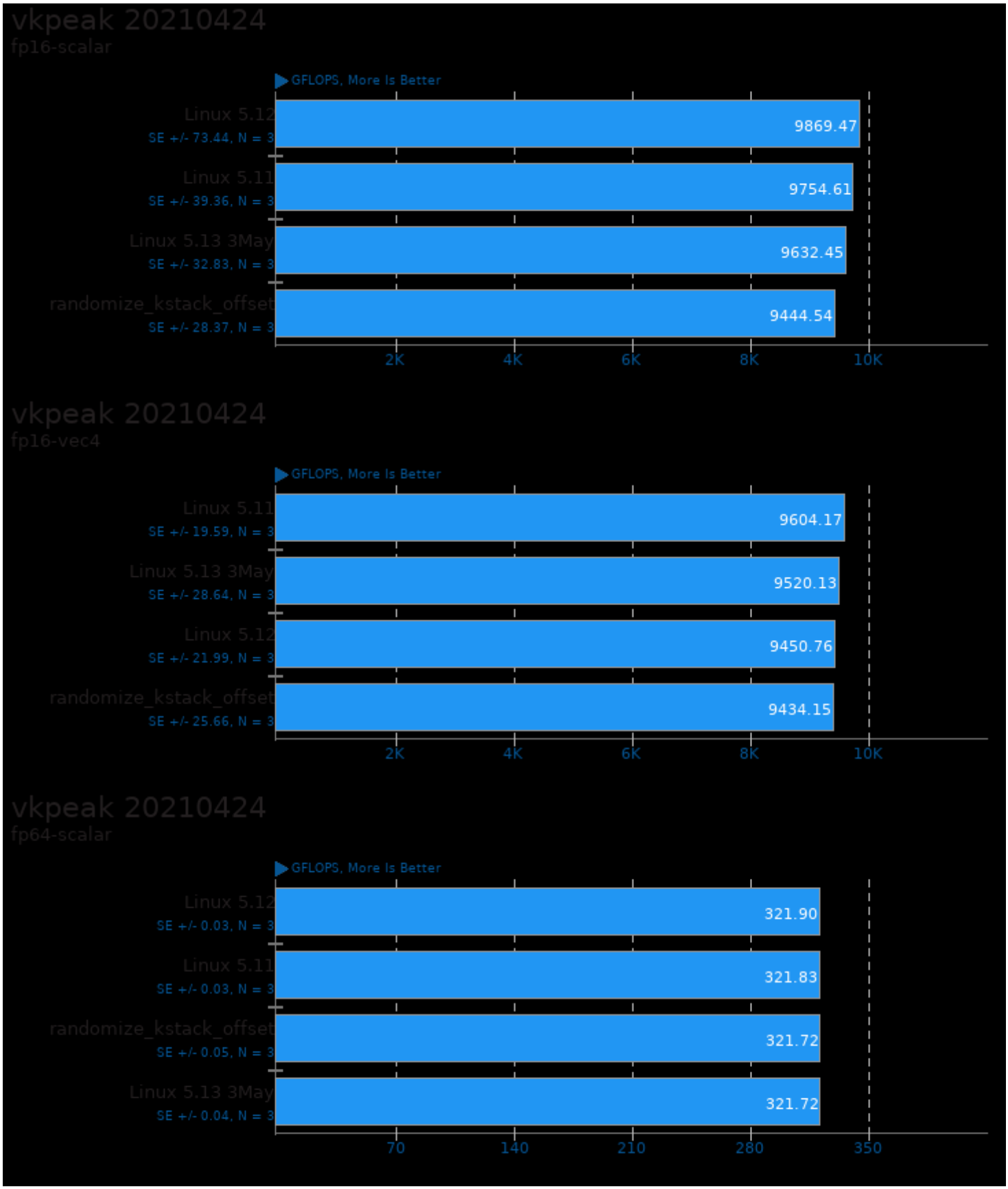
Timed Linux Kernel Compilation - Time To Compile (sec)	50.056	51.284	49.741	49.892
Normalized	99.37%	96.99%	100%	99.7%
Standard Deviation	1.2%	1.1%	1.2%	1.3%
Timed Mesa Compilation - Time To Compile (sec)	32.143	32.414	32.048	32.216
Normalized	99.7%	98.87%	100%	99.48%
Standard Deviation	0.3%	0.7%	0.2%	0.3%
Timed Wasmer Compilation - Time To Compile (sec)	56.073	55.803	56.659	56.350
Normalized	99.52%	100%	98.49%	99.03%
Standard Deviation	0.4%	1%	0.9%	0.5%
SecureMark - SecureMark-TLS	319344	317217	322534	328624
Normalized	97.18%	96.53%	98.15%	100%
Standard Deviation	0.6%	1.6%	0.9%	0.2%
Liquid-DSP - 16 - 256 - 57 (samples/s)	1041100000	1044266667	1040966667	1048700000
Normalized	99.28%	99.58%	99.26%	100%
Standard Deviation	0.2%	0.2%	0.8%	0.4%
Liquid-DSP - 32 - 256 - 57 (samples/s)	1098566667	1100200000	1097766667	1101000000
Normalized	99.78%	99.93%	99.71%	100%
Standard Deviation	0.1%	0.2%	0.3%	0.2%
libjpeg-turbo tjbench - D.T (Megapixels/sec)	268.107535	263.689680	270.782137	263.752484
Normalized	99.01%	97.38%	100%	97.4%
Standard Deviation	0.4%	0.2%	1.4%	0.2%
KeyDB (Ops/sec)	819653	832076	835297	837040
Normalized	97.92%	99.41%	99.79%	100%
Standard Deviation	0.5%	0.6%	0.2%	0.4%
GROMACS - water_GMX50_bare (Ns/Day)	1.269	1.267	1.267	1.274
Normalized	99.61%	99.45%	99.45%	100%
Standard Deviation	0.3%	0.2%	0.3%	0.3%
SQLite Speedtest - Timed Time - Size 1,000 (sec)	42.274	42.601	43.155	42.901
Normalized	100%	99.23%	97.96%	98.54%
Standard Deviation	1.2%	2.1%	1.3%	1.3%
Darktable - Boat - CPU-only (sec)	14.515	14.536	14.554	14.532
Normalized	100%	99.86%	99.73%	99.88%
Standard Deviation	0.1%	0.2%	0%	0.1%
Darktable - Masskrug - CPU-only (sec)	5.924	5.944	5.947	5.929
Normalized	100%	99.66%	99.61%	99.92%
Standard Deviation	0.5%	0.2%	0.2%	0.3%
Darktable - Server Rack - CPU-only (sec)	0.196	0.198	0.198	0.198
Normalized	100%	98.99%	98.99%	98.99%
Standard Deviation	0.3%	0.3%	0.5%	0.5%
Darktable - Server Room - CPU-only (sec)	5.853	5.872	5.871	5.838
Normalized	99.74%	99.42%	99.44%	100%
Standard Deviation	0.2%	0.2%	0.3%	0.2%
GIMP - resize (sec)	5.671	5.646	5.643	5.558
Normalized	98.01%	98.44%	98.49%	100%
Standard Deviation	2.4%	2.5%	2.2%	2.4%
GIMP - rotate (sec)	8.535	8.768	8.899	8.458

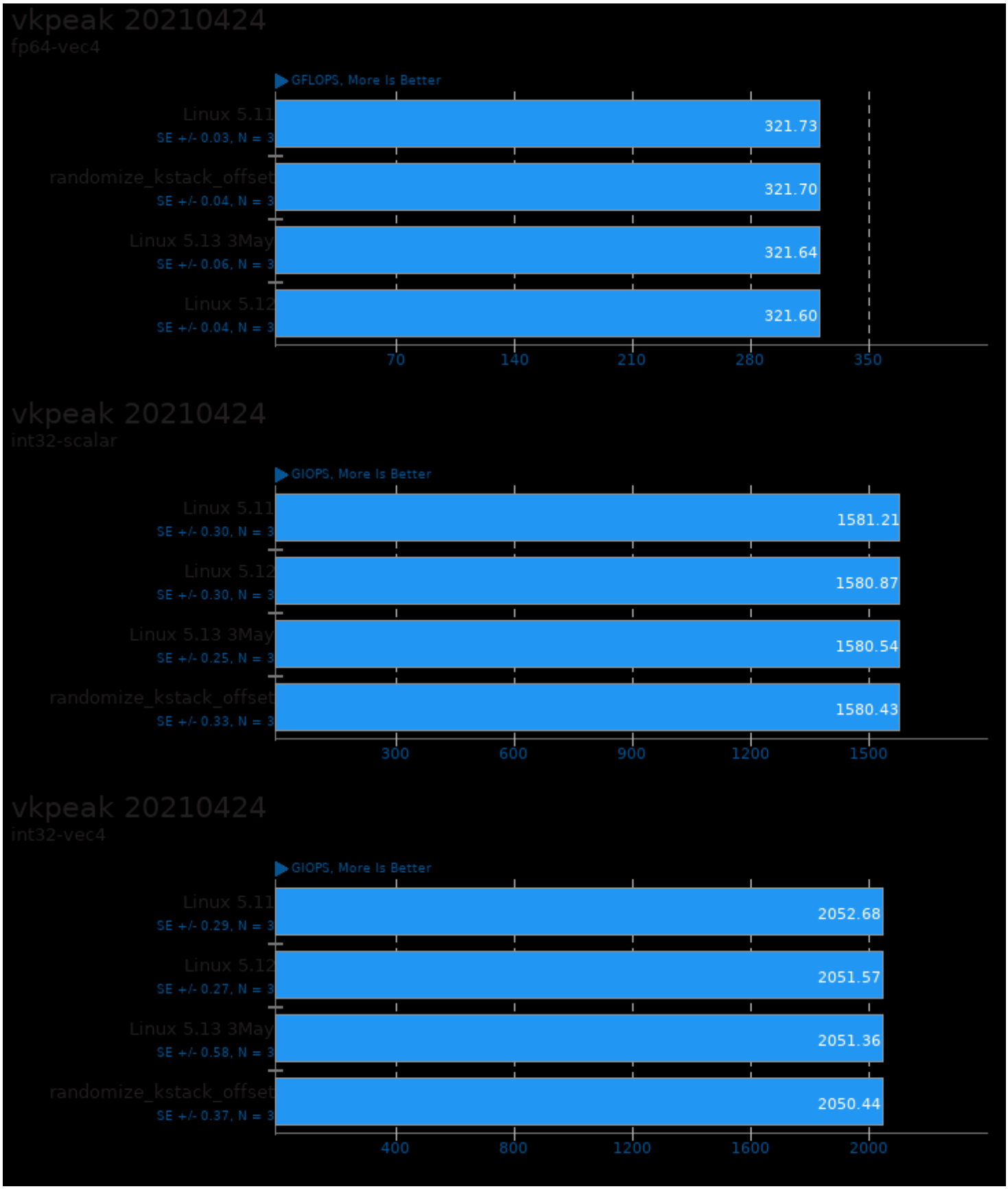
Normalized	99.1%	96.46%	95.04%	100%
Standard Deviation	0.6%	0.5%	2%	0.7%
GIMP - auto-levels (sec)	**9.681**	**9.581**	9.671	9.582
Normalized	98.97%	100%	99.07%	99.99%
Standard Deviation	1.1%	0.9%	0.4%	0.7%
GIMP - unsharp-mask (sec)	**12.292**	12.244	12.231	**12.200**
Normalized	99.25%	99.64%	99.75%	100%
Standard Deviation	0.6%	0.2%	0.9%	0.6%
Hugin - P.P.A.S.T (sec)	**34.302**	34.561	**34.854**	34.472
Normalized	100%	99.25%	98.42%	99.51%
Standard Deviation	1.7%	2.1%	0.7%	0.7%
OCRMyPDF - P.6.P.P.D (sec)	**12.543**	**12.424**	12.508	12.425
Normalized	99.05%	100%	99.33%	99.99%
Standard Deviation	0.6%	1.4%	1.2%	0.8%
RawTherapee - T.B.T (sec)	46.360	46.368	**46.413**	**46.028**
Normalized	99.28%	99.27%	99.17%	100%
Standard Deviation	0.3%	0.2%	0.1%	0.1%
Google Draco - Lion (ms)	**4241**	4199	**4063**	4067
Normalized	95.8%	96.76%	100%	99.9%
Standard Deviation	10.8%	0.9%	2.1%	0.8%
Google Draco - Church Facade (ms)	5322	**5410**	**5274**	5285
Normalized	99.1%	97.49%	100%	99.79%
Standard Deviation	2.4%	0.7%	0.5%	2.3%
Stress-NG - MEMFD (Bogo Ops/s)	**1392**	**1442**	1400	1400
Normalized	96.54%	100%	97.12%	97.07%
Standard Deviation	0.4%	0.1%	0.2%	0.1%
Stress-NG - Malloc (Bogo Ops/s)	257938939	253127888	**259049400**	**252697491**
Normalized	99.57%	97.71%	100%	97.55%
Standard Deviation	0.2%	0.2%	0.2%	0.2%
Stress-NG - SENDFILE (Bogo Ops/s)	**408425**	**395855**	396816	399832
Normalized	100%	96.92%	97.16%	97.9%
Standard Deviation	0.2%	0.3%	0.3%	0.4%
Stress-NG - CPU Stress (Bogo Ops/s)	**11041**	**11586**	11426	11549
Normalized	95.3%	100%	98.62%	99.68%
Standard Deviation	1.2%	2.8%	2.9%	2.9%
Stress-NG - Semaphores (Bogo	**2426814**	**2403606**	2419419	2404642
Normalized	100%	99.04%	99.7%	99.09%
Standard Deviation	0.6%	0.6%	1.5%	1.2%
Stress-NG - Memory Copying (Bogo Ops/s)	**1479**	1477	1477	**1476**
Normalized	100%	99.82%	99.81%	99.75%
Standard Deviation	0.1%	0.3%	0.1%	0.2%
Stress-NG - Socket Activity (Bogo	**11841**	12044	**13024**	12856
Normalized	90.92%	92.47%	100%	98.71%
Standard Deviation	0.5%	3.4%	1.6%	1.8%
Stress-NG - Context Switching (Bogo Ops/s)	8345623	**8902940**	**6610342**	6634896
Normalized	93.74%	100%	74.25%	74.52%
Standard Deviation	1%	0.1%	1.8%	4.3%
Stress-NG - S.V.M.P (Bogo Ops/s)	**14629189**	**19577137**	14843965	14870928
Normalized	74.73%	100%	75.82%	75.96%
Standard Deviation	0.5%	1.7%	3%	2.4%
ctx_clock - C.S.T (Clocks)	136	136	136	136
Blender - Barbershop - CPU-Only	295.76	296.25	**296.32**	**293.79**
Normalized	99.33%	99.17%	99.15%	100%

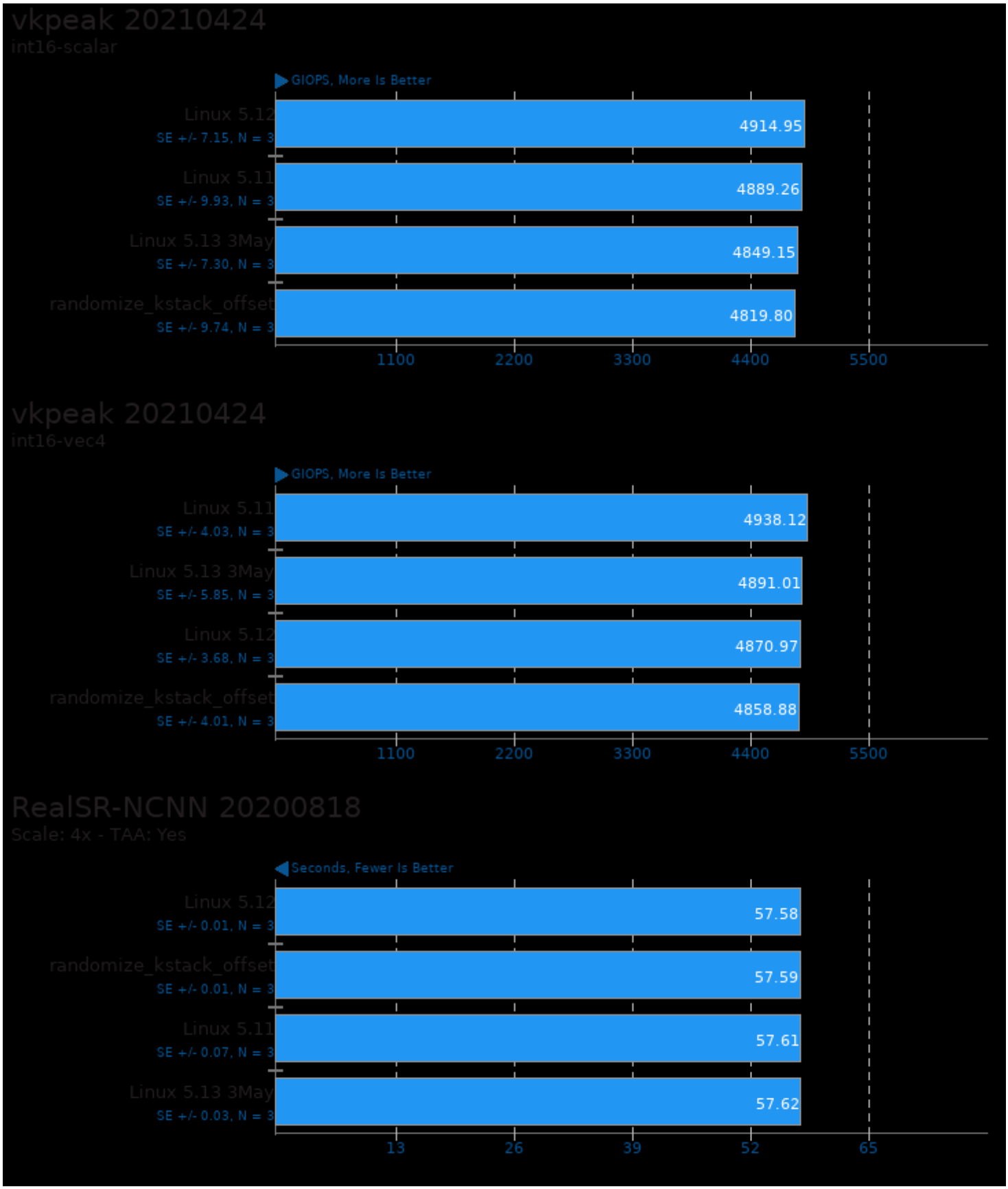
Standard Deviation	0.4%	0.2%	0.3%	0.1%
InfluxDB - 4 - 10000 - 2,5000,1 - 10000 (val/sec)	**1748594**	1728872	**1723348**	1724714
Normalized	100%	98.87%	98.56%	98.63%
Standard Deviation	0.5%	0.4%	2%	0.4%
InfluxDB - 64 - 10000 - 2,5000,1 - 10000 (val/sec)	**2136508**	**2122373**	2128686	2128910
Normalized	100%	99.34%	99.63%	99.64%
Standard Deviation	0.1%	0.4%	0.2%	0.6%


FS-Mark 3.3
Test: 1000 Files, 1MB Size
Files/s, More Is Better
randomize_kstack_offset
SE +/- 4.66, N = 3
709.8
Linux 5.11
SE +/- 11.37, N = 12
701.0
Linux 5.13 3May
SE +/- 8.80, N = 3
697.7
Linux 5.12
SE +/- 7.55, N = 3
686.2
150
300
450
600
750
1. (CC) gcc options: -static
FS-Mark 3.3
Test: 4000 Files, 32 Sub Dirs, 1MB Size
Files/s, More Is Better
Linux 5.12
SE +/- 5.69, N = 3
717.6
Linux 5.13 3May
SE +/- 5.07, N = 3
715.7
randomize_kstack_offset
SE +/- 1.65, N = 3
713.5
Linux 5.11
SE +/- 2.49, N = 3
705.2
150
300
450
600
750
1. (CC) gcc options: -static


Compile Bench 0.6
Test: Initial Create
MB/s, More Is Better
Linux 5.11
SE +/- 9.63, N = 4
790.15
Linux 5.12
SE +/- 7.61, N = 3
777.33
randomize_kstack_offset
SE +/- 3.71, N = 3
773.54
Linux 5.13 3May
SE +/- 9.23, N = 3
768.43
200
400
600
800
1000
vkpeak 20210424
fp32-scalar
GFLOPS, More Is Better
Linux 5.11
SE +/- 61.80, N = 3
9813.47
Linux 5.13 3May
SE +/- 61.22, N = 3
9525.49
randomize_kstack_offset
SE +/- 53.92, N = 3
9497.15
Linux 5.12
SE +/- 44.39, N = 3
9437.95
2K
4K
6K
8K
10K
vkpeak 20210424
fp32-vec4
GFLOPS, More Is Better
Linux 5.11
SE +/- 32.95, N = 3
9608.31
Linux 5.12
SE +/- 40.60, N = 3
9486.34
randomize_kstack_offset
SE +/- 57.04, N = 3
9402.29
Linux 5.13 3May
SE +/- 39.89, N = 3
9385.86
2K
4K
6K
8K
10K

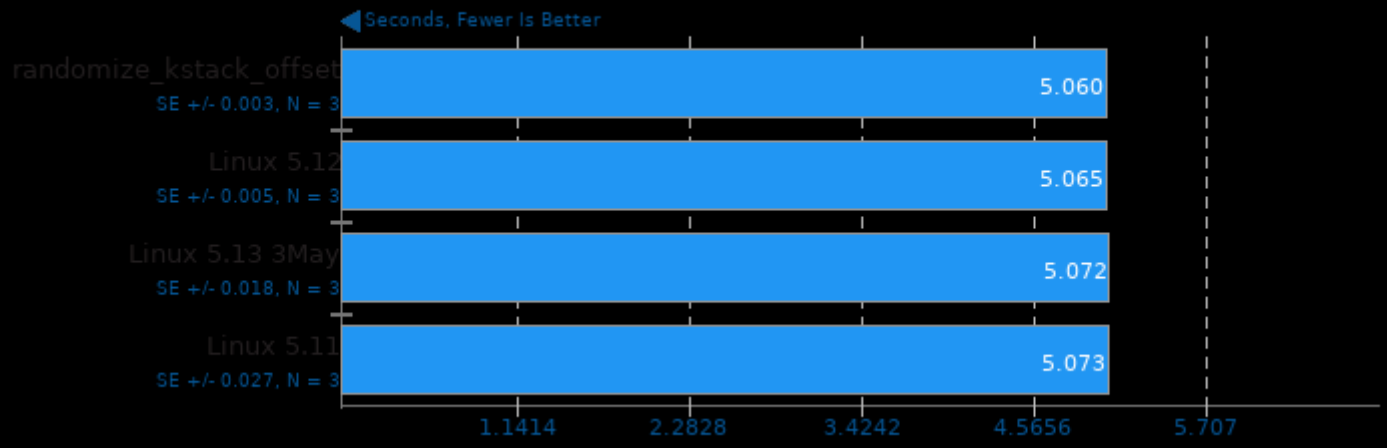

vkpeak 20210424
fp16-scalar
GFLOPS, More Is Better
Linux 5.12
SE +/- 73.44, N = 3
9869.47
Linux 5.11
SE +/- 39.36, N = 3
9754.61
Linux 5.13 3May
SE +/- 32.83, N = 3
9632.45
randomize_kstack_offset
SE +/- 28.37, N = 3
9444.54
2K
4K
6K
8K
10K
vkpeak 20210424
fp16-vec4
GFLOPS, More Is Better
Linux 5.11
SE +/- 19.59, N = 3
9604.17
Linux 5.13 3May
SE +/- 28.64, N = 3
9520.13
Linux 5.12
SE +/- 21.99, N = 3
9450.76
randomize_kstack_offset
SE +/- 25.66, N = 3
9434.15
2K
4K
6K
8K
10K
vkpeak 20210424
fp64-scalar
GFLOPS, More Is Better
Linux 5.12
SE +/- 0.03, N = 3
321.90
Linux 5.11
SE +/- 0.03, N = 3
321.83
randomize_kstack_offset
SE +/- 0.05, N = 3
321.72
Linux 5.13 3May
SE +/- 0.04, N = 3
321.72
70
140
210
280
350


vkpeak 20210424
fp64-vec4
GFLOPS, More Is Better
Linux 5.11
SE +/- 0.03, N = 3
321.73
randomize_kstack_offset
SE +/- 0.04, N = 3
321.70
Linux 5.13 3May
SE +/- 0.06, N = 3
321.64
Linux 5.12
SE +/- 0.04, N = 3
321.60
70
140
210
280
350
vkpeak 20210424
int32-scalar
GIOPS, More Is Better
Linux 5.11
SE +/- 0.30, N = 3
1581.21
Linux 5.12
SE +/- 0.30, N = 3
1580.87
Linux 5.13 3May
SE +/- 0.25, N = 3
1580.54
randomize_kstack_offset
SE +/- 0.33, N = 3
1580.43
300
600
900
1200
1500
vkpeak 20210424
int32-vec4
GIOPS, More Is Better
Linux 5.11
SE +/- 0.29, N = 3
2052.68
Linux 5.12
SE +/- 0.27, N = 3
2051.57
Linux 5.13 3May
SE +/- 0.58, N = 3
2051.36
randomize_kstack_offset
SE +/- 0.37, N = 3
2050.44
400
800
1200
1600
2000

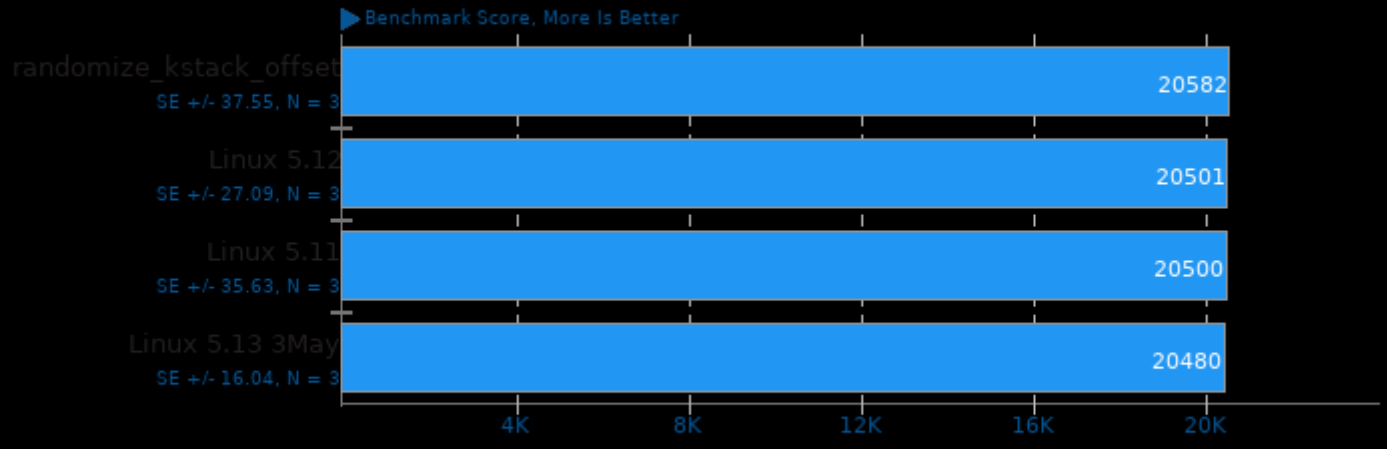

vkpeak 20210424
int16-scalar
GIOPS, More Is Better
Linux 5.12
SE +/- 7.15, N = 3
4914.95
Linux 5.11
SE +/- 9.93, N = 3
4889.26
Linux 5.13 3May
SE +/- 7.30, N = 3
4849.15
randomize_kstack_offset
SE +/- 9.74, N = 3
4819.80
1100
2200
3300
4400
5500
vkpeak 20210424
int16-vec4
GIOPS, More Is Better
Linux 5.11
SE +/- 4.03, N = 3
4938.12
Linux 5.13 3May
SE +/- 5.85, N = 3
4891.01
Linux 5.12
SE +/- 3.68, N = 3
4870.97
randomize_kstack_offset
SE +/- 4.01, N = 3
4858.88
1100
2200
3300
4400
5500
RealSR-NCNN 20200818
Scale: 4x - TAA: Yes
Seconds, Fewer Is Better
Linux 5.12
SE +/- 0.01, N = 3
57.58
randomize_kstack_offset
SE +/- 0.01, N = 3
57.59
Linux 5.11
SE +/- 0.07, N = 3
57.61
Linux 5.13 3May
SE +/- 0.03, N = 3
57.62
13
26
39
52
65

Waifu2x-NCNN Vulkan 20200818

Scale: 2x - Denoise: 3 - TAA: Yes



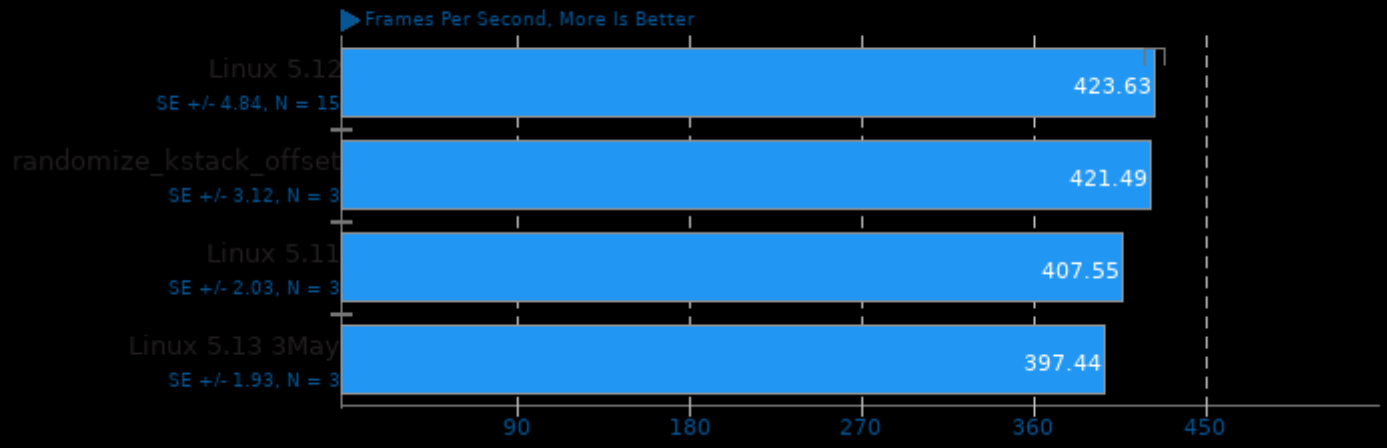
VkFFT 1.1.1

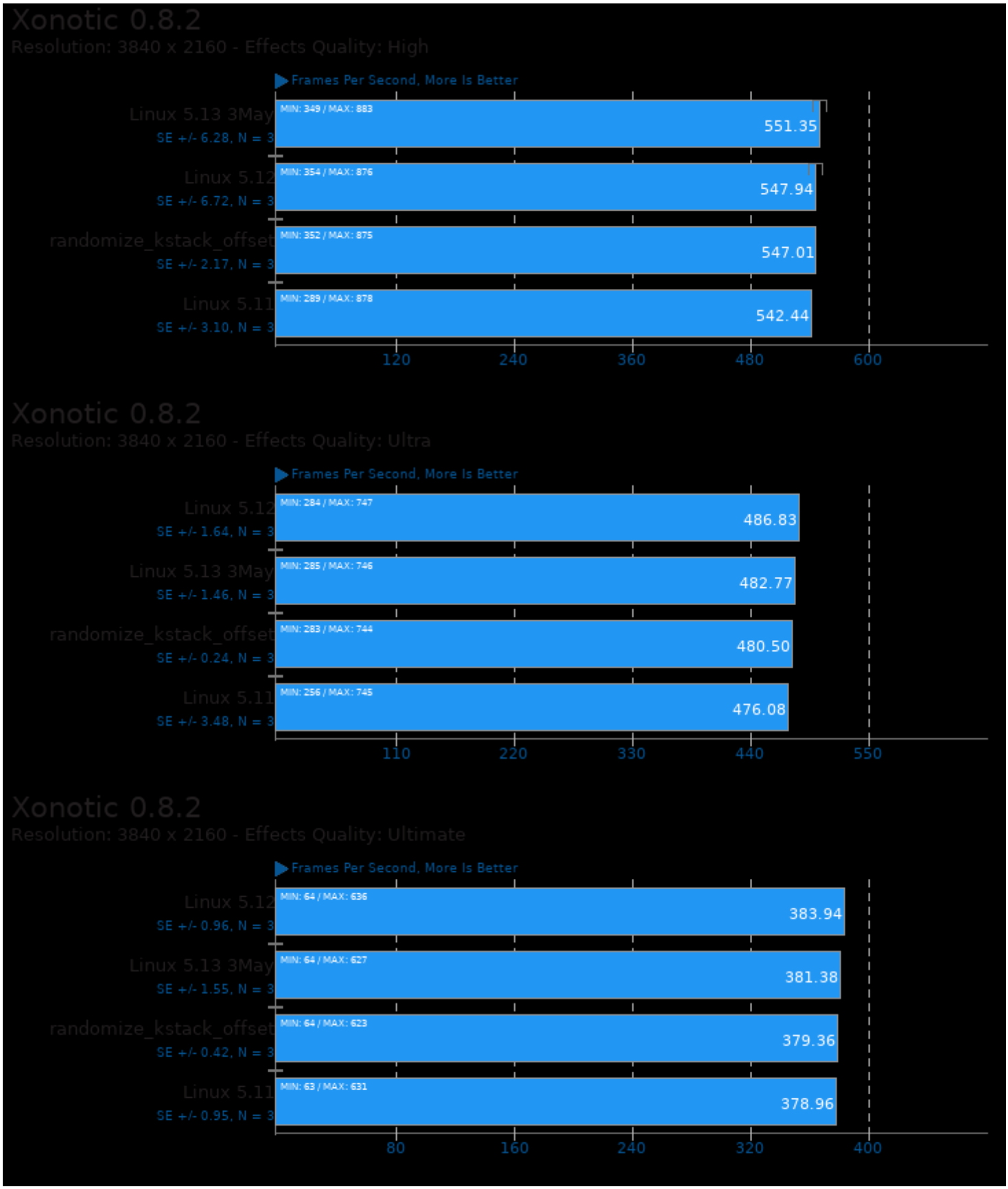


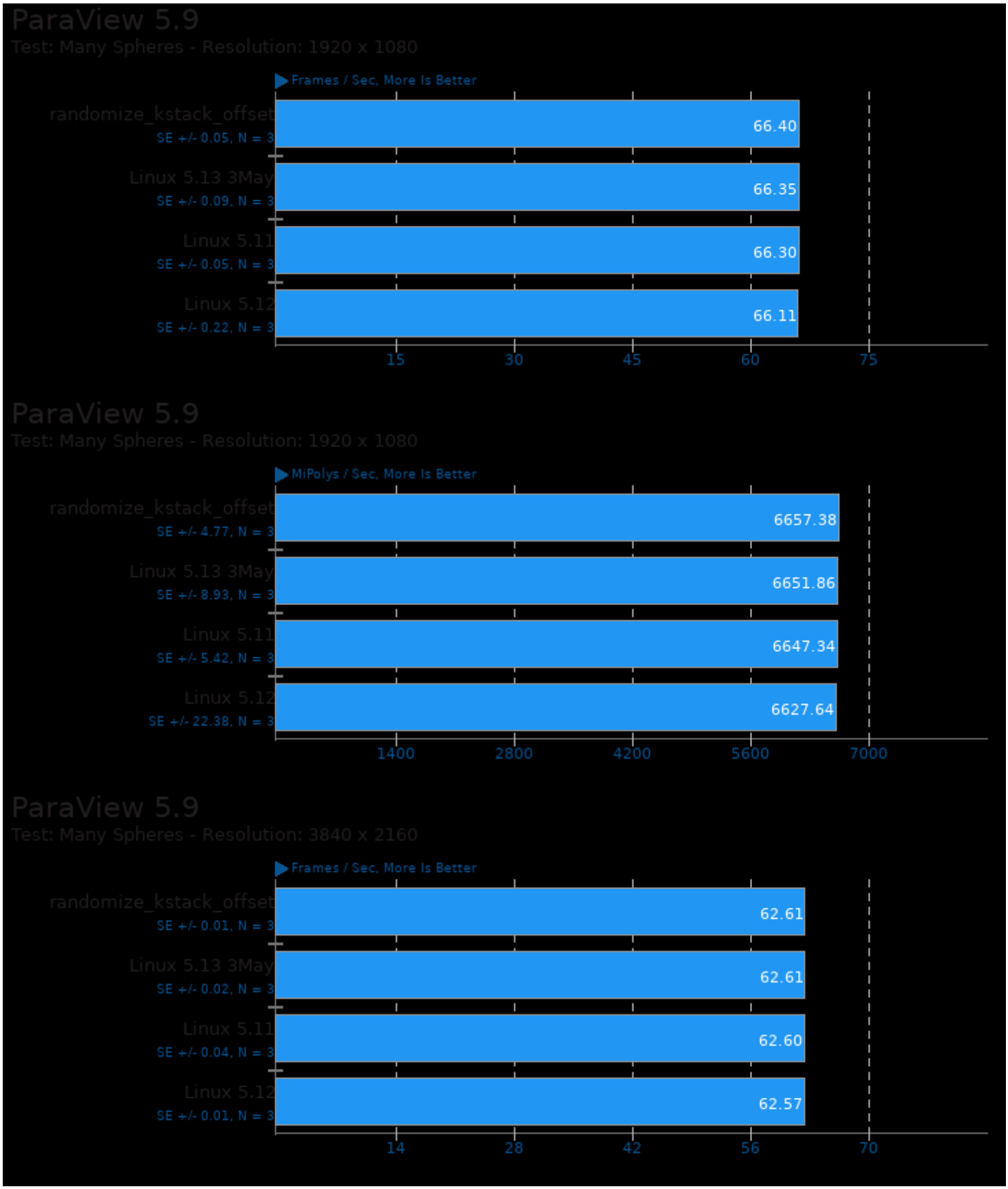
1. (CXX) g++ options: -O3 -pthread

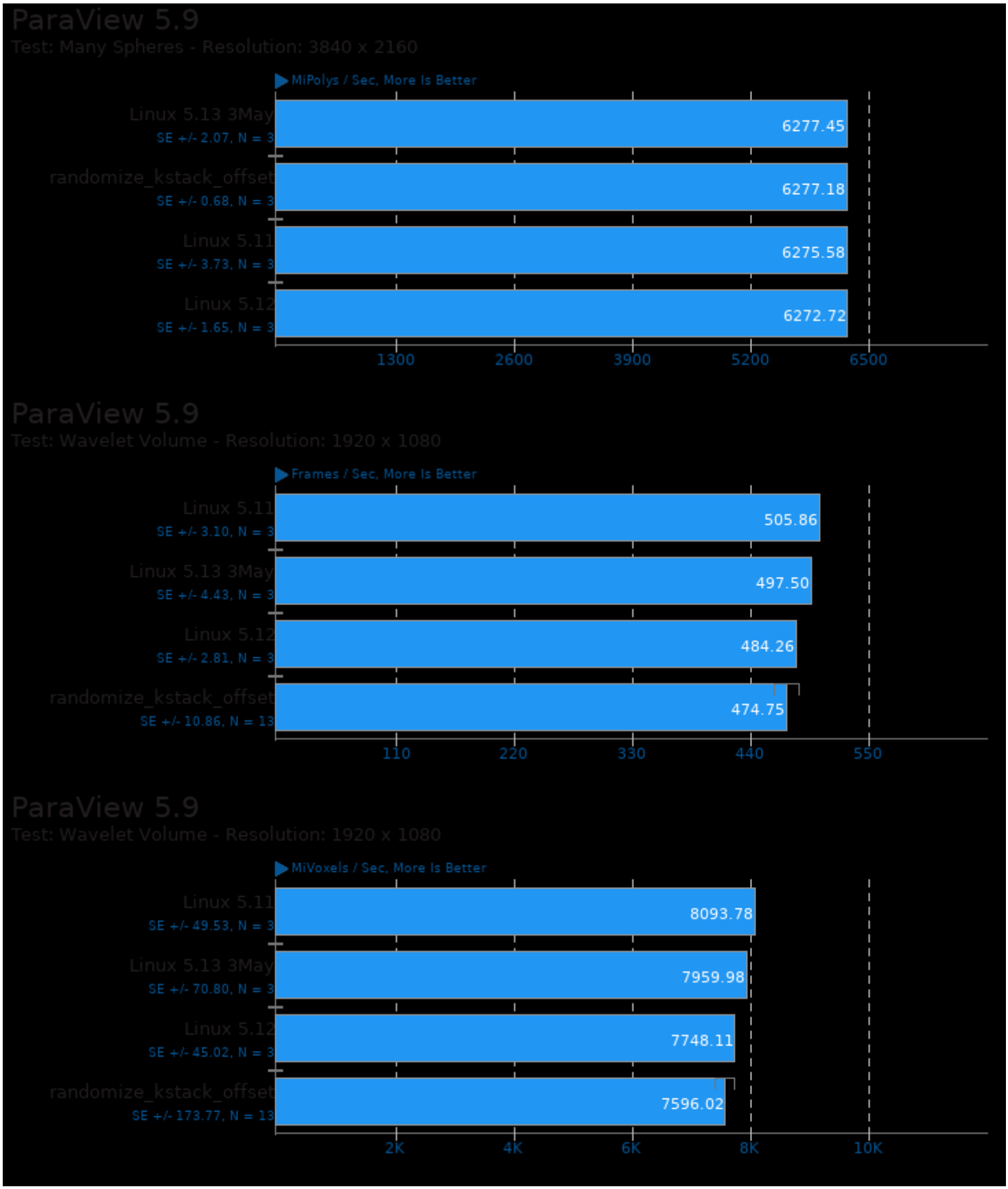
Tesseract 2014-05-12

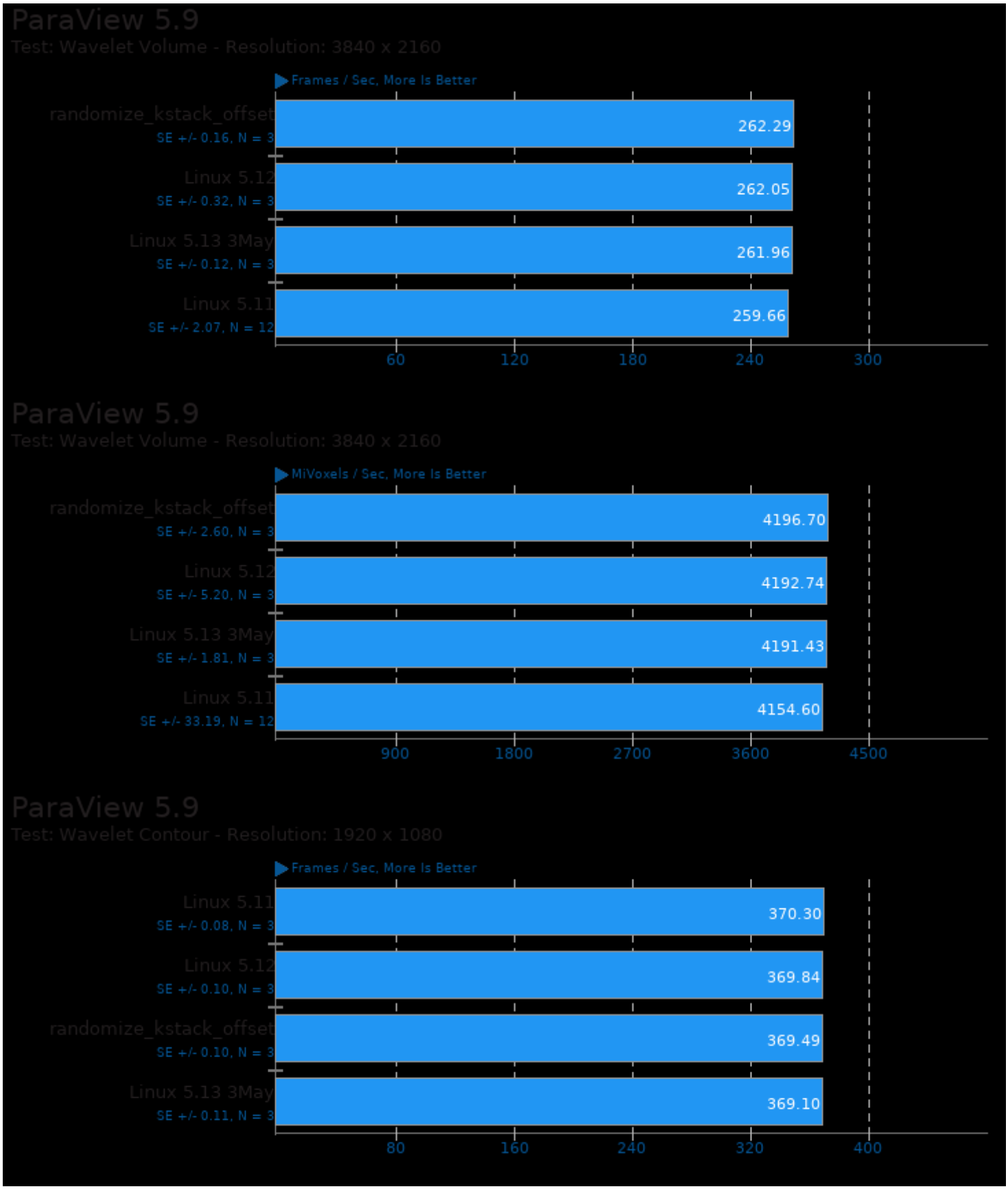
Resolution: 3840 x 2160

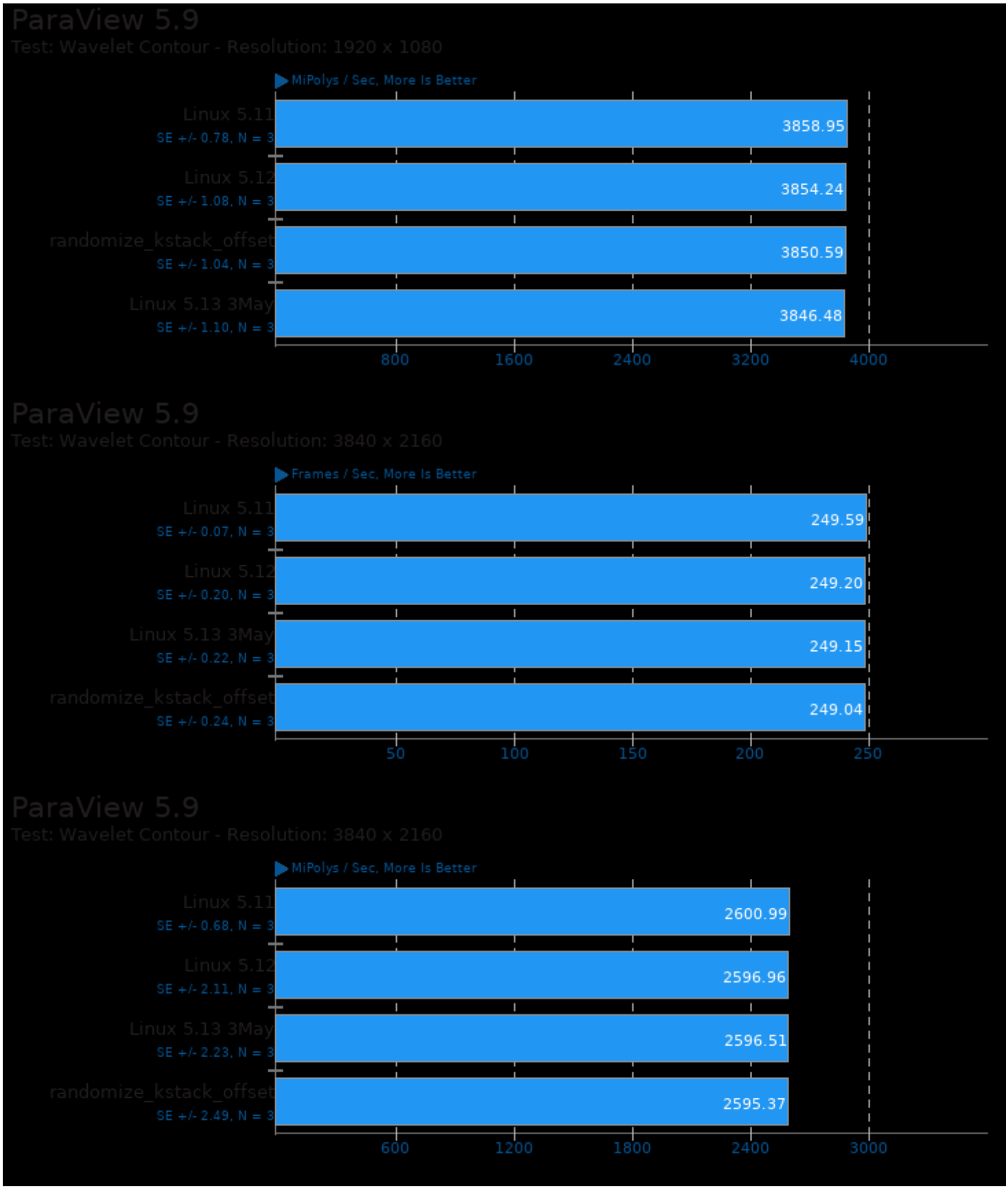


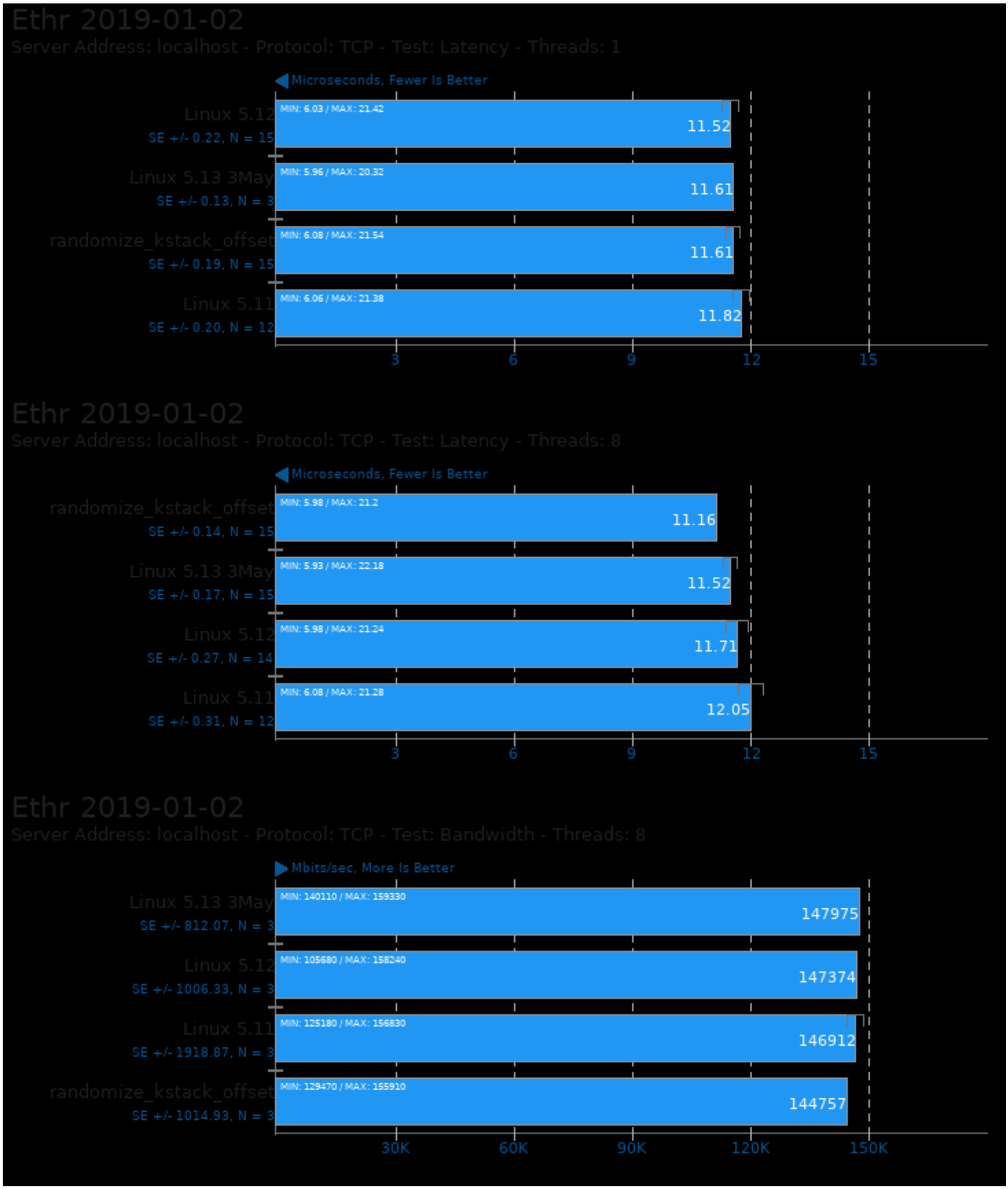

Xonotic 0.8.2
Resolution: 3840 x 2160 - Effects Quality: High
Frames Per Second, More Is Better
Linux 5.13 3May
SE +/- 6.28, N = 3
MIN: 349 / MAX: 883
551.35
Linux 5.12
SE +/- 6.72, N = 3
MIN: 354 / MAX: 876
547.94
randomize_kstack_offset
SE +/- 2.17, N = 3
MIN: 352 / MAX: 875
547.01
Linux 5.11
SE +/- 3.10, N = 3
MIN: 289 / MAX: 878
542.44
120
240
360
480
600
Xonotic 0.8.2
Resolution: 3840 x 2160 - Effects Quality: Ultra
Frames Per Second, More Is Better
Linux 5.12
SE +/- 1.64, N = 3
MIN: 284 / MAX: 747
486.83
Linux 5.13 3May
SE +/- 1.46, N = 3
MIN: 285 / MAX: 746
482.77
randomize_kstack_offset
SE +/- 0.24, N = 3
MIN: 283 / MAX: 744
480.50
Linux 5.11
SE +/- 3.48, N = 3
MIN: 256 / MAX: 745
476.08
110
220
330
440
550
Xonotic 0.8.2
Resolution: 3840 x 2160 - Effects Quality: Ultimate
Frames Per Second, More Is Better
Linux 5.12
SE +/- 0.96, N = 3
MIN: 64 / MAX: 636
383.94
Linux 5.13 3May
SE +/- 1.55, N = 3
MIN: 64 / MAX: 627
381.38
randomize_kstack_offset
SE +/- 0.42, N = 3
MIN: 64 / MAX: 623
379.36
Linux 5.11
SE +/- 0.95, N = 3
MIN: 63 / MAX: 631
378.96
80
160
240
320
400

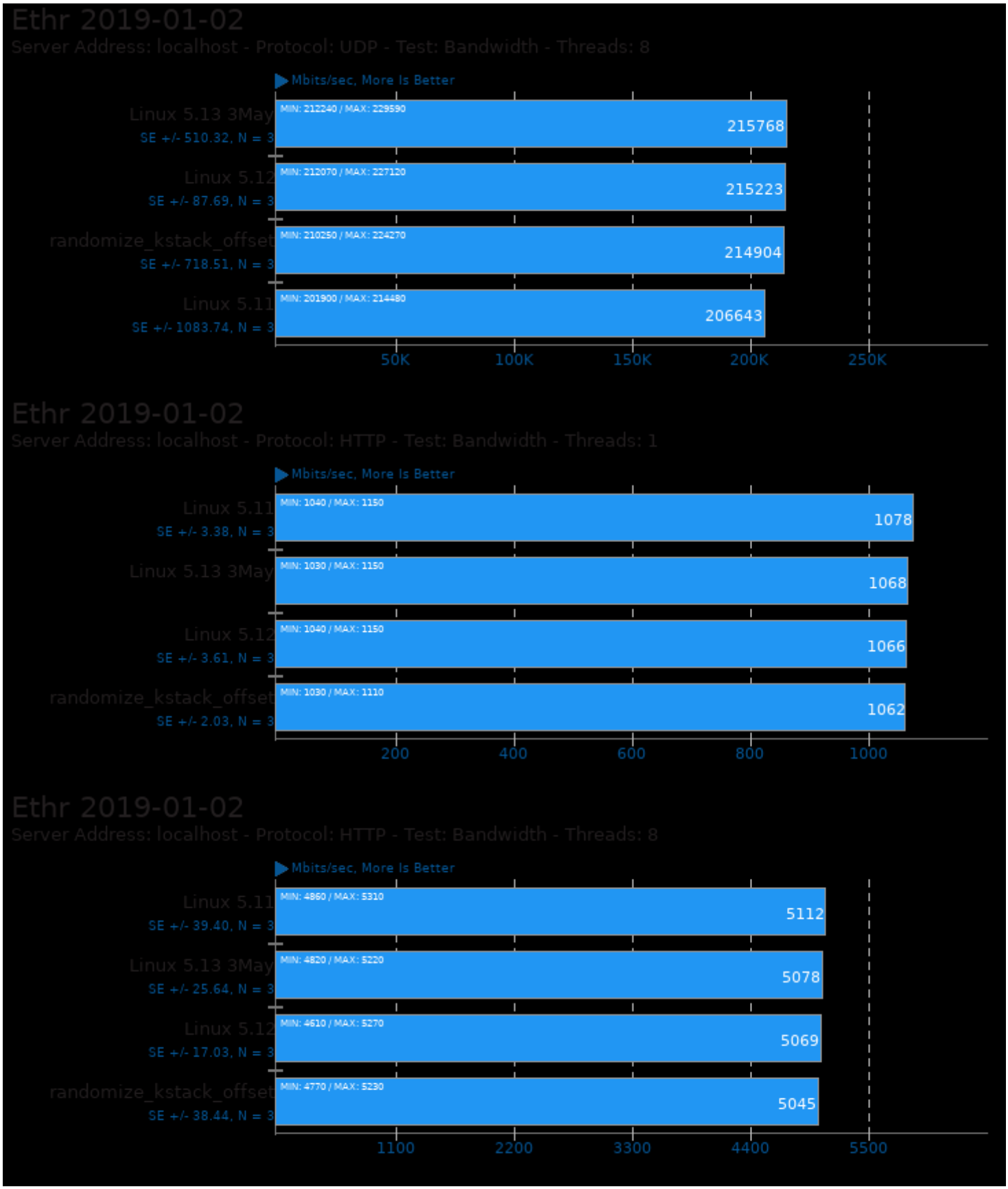

ParaView 5.9
Test: Many Spheres - Resolution: 1920 x 1080
Frames / Sec, More Is Better
randomize_kstack_offset
SE +/- 0.05, N = 3
66.40
Linux 5.13 3May
SE +/- 0.09, N = 3
66.35
Linux 5.11
SE +/- 0.05, N = 3
66.30
Linux 5.12
SE +/- 0.22, N = 3
66.11
15
30
45
60
75
ParaView 5.9
Test: Many Spheres - Resolution: 1920 x 1080
MiPolys / Sec, More Is Better
randomize_kstack_offset
SE +/- 4.77, N = 3
6657.38
Linux 5.13 3May
SE +/- 8.93, N = 3
6651.86
Linux 5.11
SE +/- 5.42, N = 3
6647.34
Linux 5.12
SE +/- 22.38, N = 3
6627.64
1400
2800
4200
5600
7000
ParaView 5.9
Test: Many Spheres - Resolution: 3840 x 2160
Frames / Sec, More Is Better
randomize_kstack_offset
SE +/- 0.01, N = 3
62.61
Linux 5.13 3May
SE +/- 0.02, N = 3
62.61
Linux 5.11
SE +/- 0.04, N = 3
62.60
Linux 5.12
SE +/- 0.01, N = 3
62.57
14
28
42
56
70

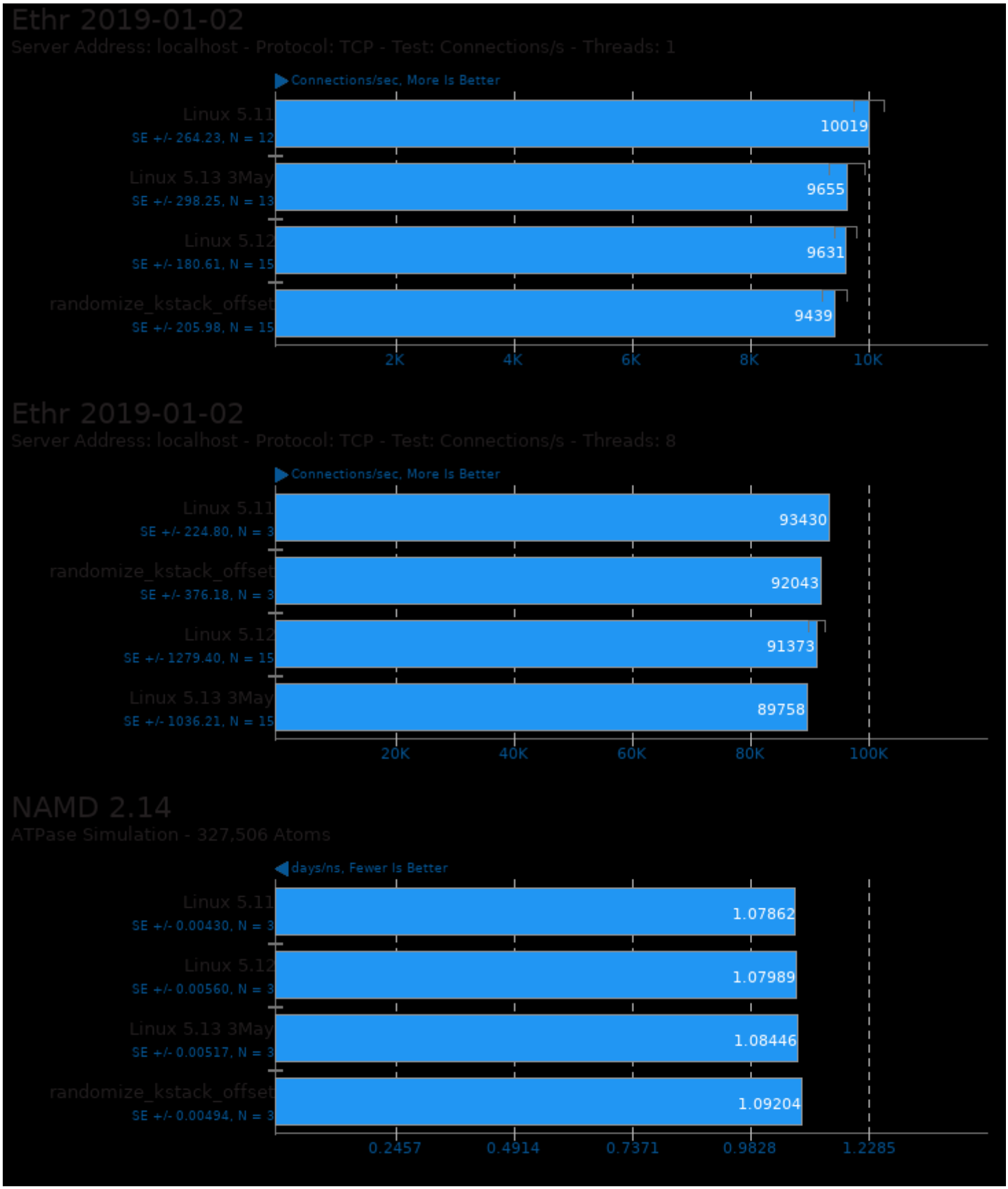

ParaView 5.9
Test: Many Spheres - Resolution: 3840 x 2160
MiPolys / Sec, More Is Better
Linux 5.13 3May
SE +/- 2.07, N = 3
6277.45
randomize_kstack_offset
SE +/- 0.68, N = 3
6277.18
Linux 5.11
SE +/- 3.73, N = 3
6275.58
Linux 5.12
SE +/- 1.65, N = 3
6272.72
1300
2600
3900
5200
6500
ParaView 5.9
Test: Wavelet Volume - Resolution: 1920 x 1080
Frames / Sec, More Is Better
Linux 5.11
SE +/- 3.10, N = 3
505.86
Linux 5.13 3May
SE +/- 4.43, N = 3
497.50
Linux 5.12
SE +/- 2.81, N = 3
484.26
randomize_kstack_offset
SE +/- 10.86, N = 13
474.75
110
220
330
440
550
ParaView 5.9
Test: Wavelet Volume - Resolution: 1920 x 1080
MiVoxels / Sec, More Is Better
Linux 5.11
SE +/- 49.53, N = 3
8093.78
Linux 5.13 3May
SE +/- 70.80, N = 3
7959.98
Linux 5.12
SE +/- 45.02, N = 3
7748.11
randomize_kstack_offset
SE +/- 173.77, N = 13
7596.02
2K
4K
6K
8K
10K

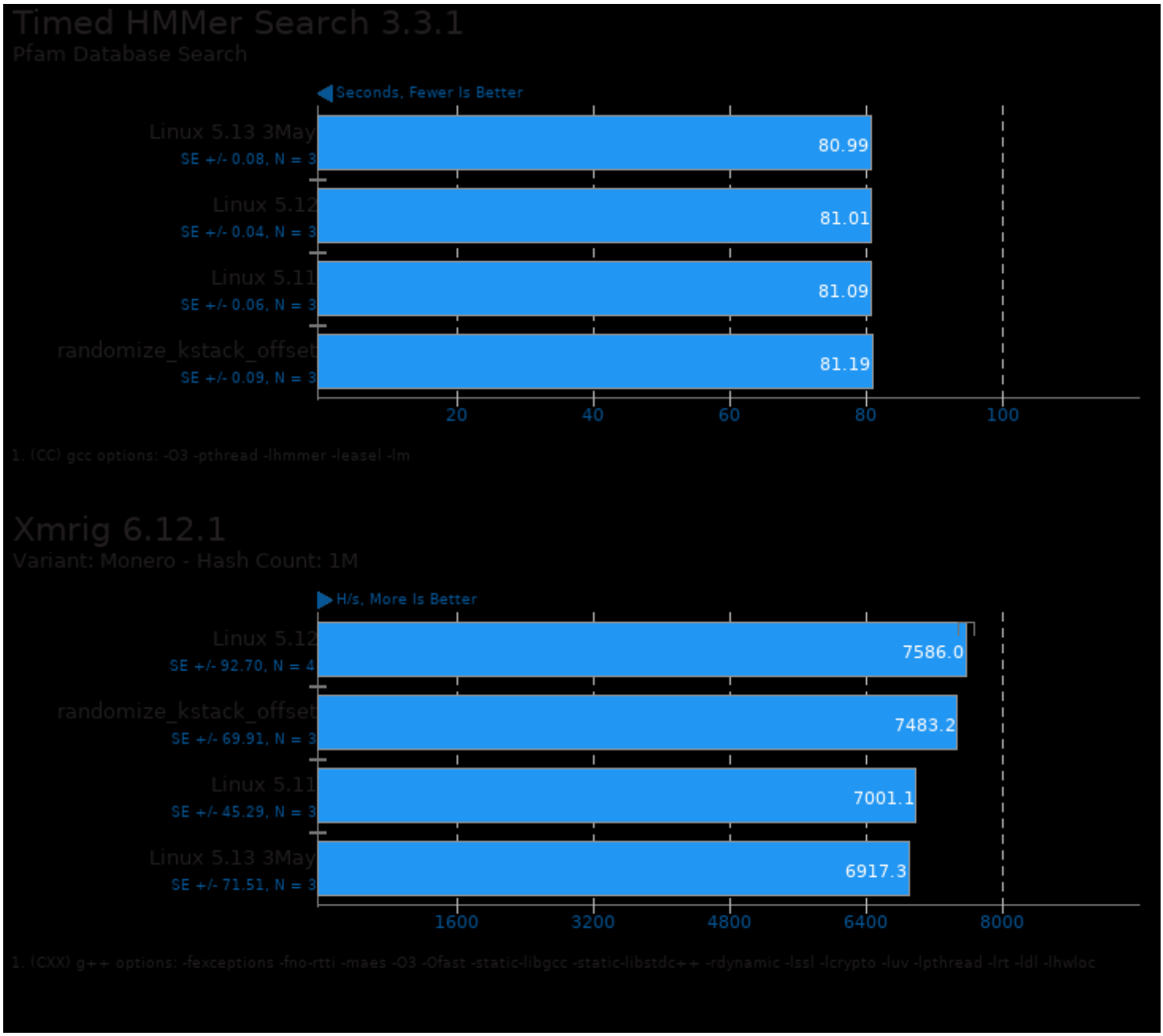

ParaView 5.9
Test: Wavelet Volume - Resolution: 3840 x 2160
Frames / Sec, More Is Better
randomize_kstack_offset
SE +/- 0.16, N = 3
262.29
Linux 5.12
SE +/- 0.32, N = 3
262.05
Linux 5.13 3May
SE +/- 0.12, N = 3
261.96
Linux 5.11
SE +/- 2.07, N = 12
259.66
60
120
180
240
300
ParaView 5.9
Test: Wavelet Volume - Resolution: 3840 x 2160
MiVoxels / Sec, More Is Better
randomize_kstack_offset
SE +/- 2.60, N = 3
4196.70
Linux 5.12
SE +/- 5.20, N = 3
4192.74
Linux 5.13 3May
SE +/- 1.81, N = 3
4191.43
Linux 5.11
SE +/- 33.19, N = 12
4154.60
900
1800
2700
3600
4500
ParaView 5.9
Test: Wavelet Contour - Resolution: 1920 x 1080
Frames / Sec, More Is Better
Linux 5.11
SE +/- 0.08, N = 3
370.30
Linux 5.12
SE +/- 0.10, N = 3
369.84
randomize_kstack_offset
SE +/- 0.10, N = 3
369.49
Linux 5.13 3May
SE +/- 0.11, N = 3
369.10
80
160
240
320
400

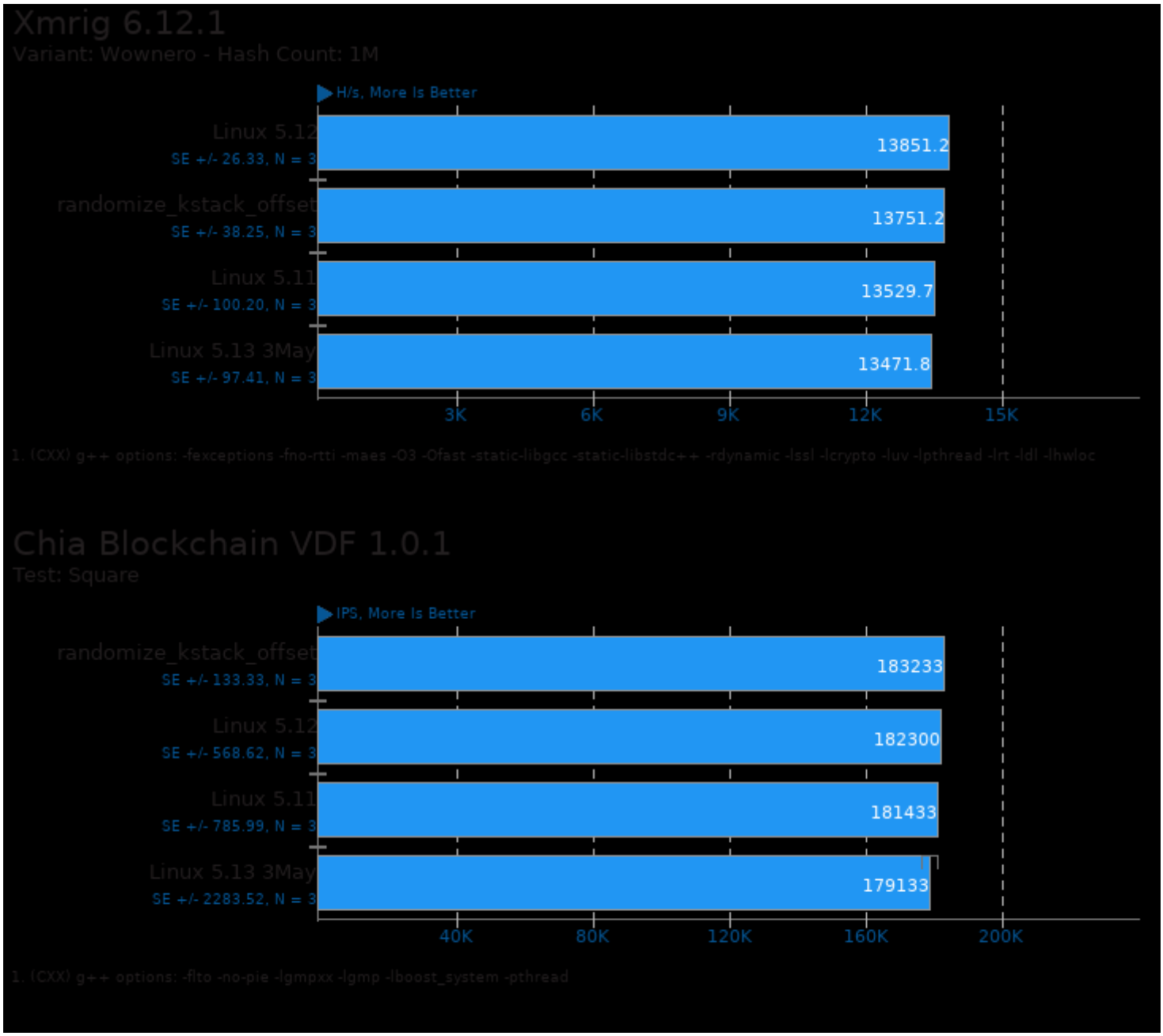

ParaView 5.9
Test: Wavelet Contour - Resolution: 1920 x 1080
MiPolys / Sec, More Is Better
Linux 5.11
SE +/- 0.78, N = 3
3858.95
Linux 5.12
SE +/- 1.08, N = 3
3854.24
randomize_kstack_offset
SE +/- 1.04, N = 3
3850.59
Linux 5.13 3May
SE +/- 1.10, N = 3
3846.48
800
1600
2400
3200
4000
ParaView 5.9
Test: Wavelet Contour - Resolution: 3840 x 2160
Frames / Sec, More Is Better
Linux 5.11
SE +/- 0.07, N = 3
249.59
Linux 5.12
SE +/- 0.20, N = 3
249.20
Linux 5.13 3May
SE +/- 0.22, N = 3
249.15
randomize_kstack_offset
SE +/- 0.24, N = 3
249.04
50
100
150
200
250
ParaView 5.9
Test: Wavelet Contour - Resolution: 3840 x 2160
MiPolys / Sec, More Is Better
Linux 5.11
SE +/- 0.68, N = 3
2600.99
Linux 5.12
SE +/- 2.11, N = 3
2596.96
Linux 5.13 3May
SE +/- 2.23, N = 3
2596.51
randomize_kstack_offset
SE +/- 2.49, N = 3
2595.37
600
1200
1800
2400
3000

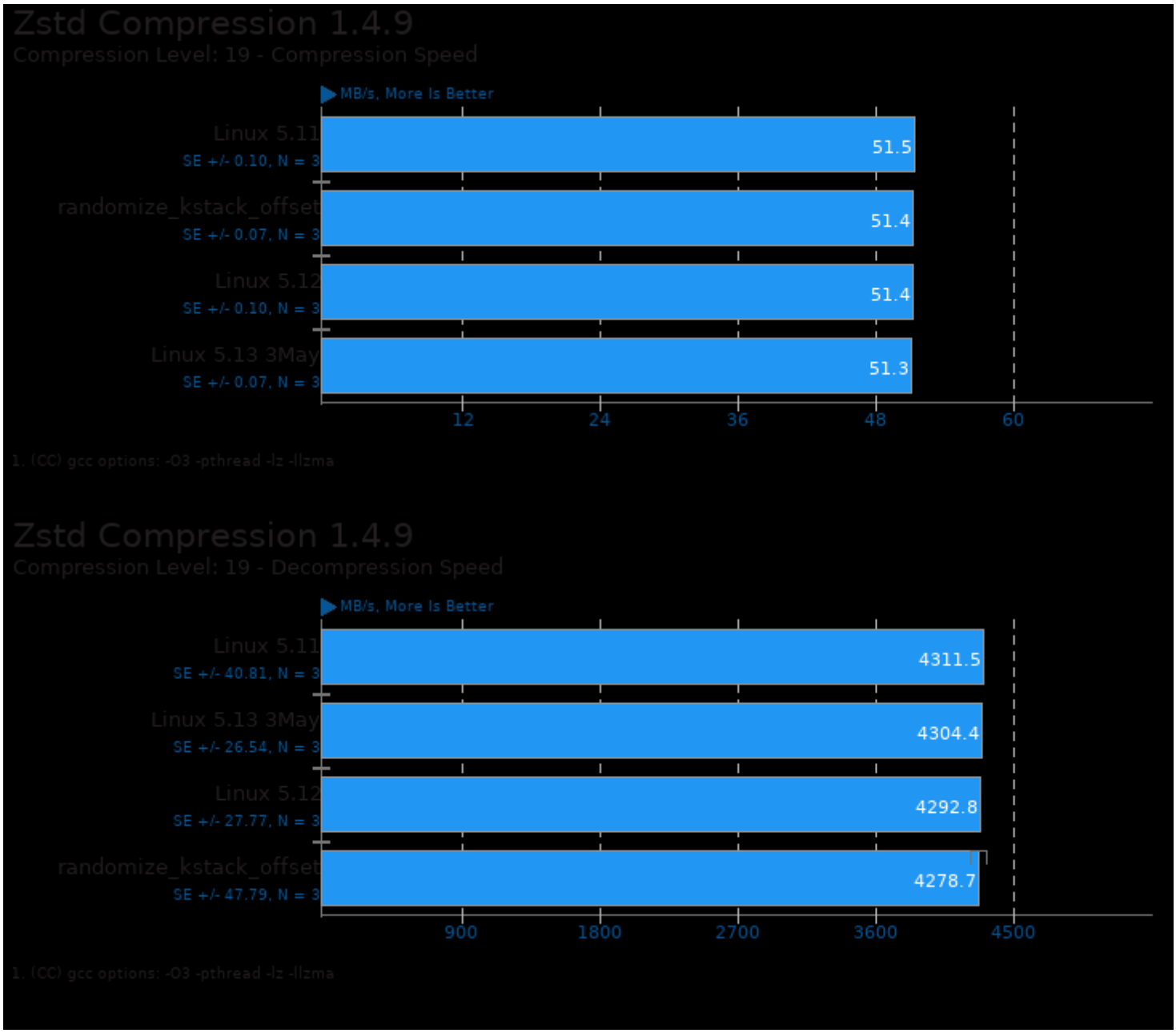

Ethr 2019-01-02
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 1
Microseconds, Fewer Is Better
Linux 5.12
SE +/- 0.22, N = 15
MIN: 6.03 / MAX: 21.42
11.52
Linux 5.13 3May
SE +/- 0.13, N = 3
MIN: 5.96 / MAX: 20.32
11.61
randomize_kstack_offset
SE +/- 0.19, N = 15
MIN: 6.08 / MAX: 21.54
11.61
Linux 5.11
SE +/- 0.20, N = 12
MIN: 6.06 / MAX: 21.38
11.82
3
6
9
12
15
Ethr 2019-01-02
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 8
Microseconds, Fewer Is Better
randomize_kstack_offset
SE +/- 0.14, N = 15
MIN: 5.98 / MAX: 21.2
11.16
Linux 5.13 3May
SE +/- 0.17, N = 15
MIN: 5.93 / MAX: 22.18
11.52
Linux 5.12
SE +/- 0.27, N = 14
MIN: 5.98 / MAX: 21.24
11.71
Linux 5.11
SE +/- 0.31, N = 12
MIN: 6.08 / MAX: 21.28
12.05
3
6
9
12
15
Ethr 2019-01-02
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 8
Mbits/sec, More Is Better
Linux 5.13 3May
SE +/- 812.07, N = 3
MIN: 140110 / MAX: 159330
147975
Linux 5.12
SE +/- 1006.33, N = 3
MIN: 105680 / MAX: 158240
147374
Linux 5.11
SE +/- 1918.87, N = 3
MIN: 125180 / MAX: 156830
146912
randomize_kstack_offset
SE +/- 1014.93, N = 3
MIN: 129470 / MAX: 155910
144757
30K
60K
90K
120K
150K

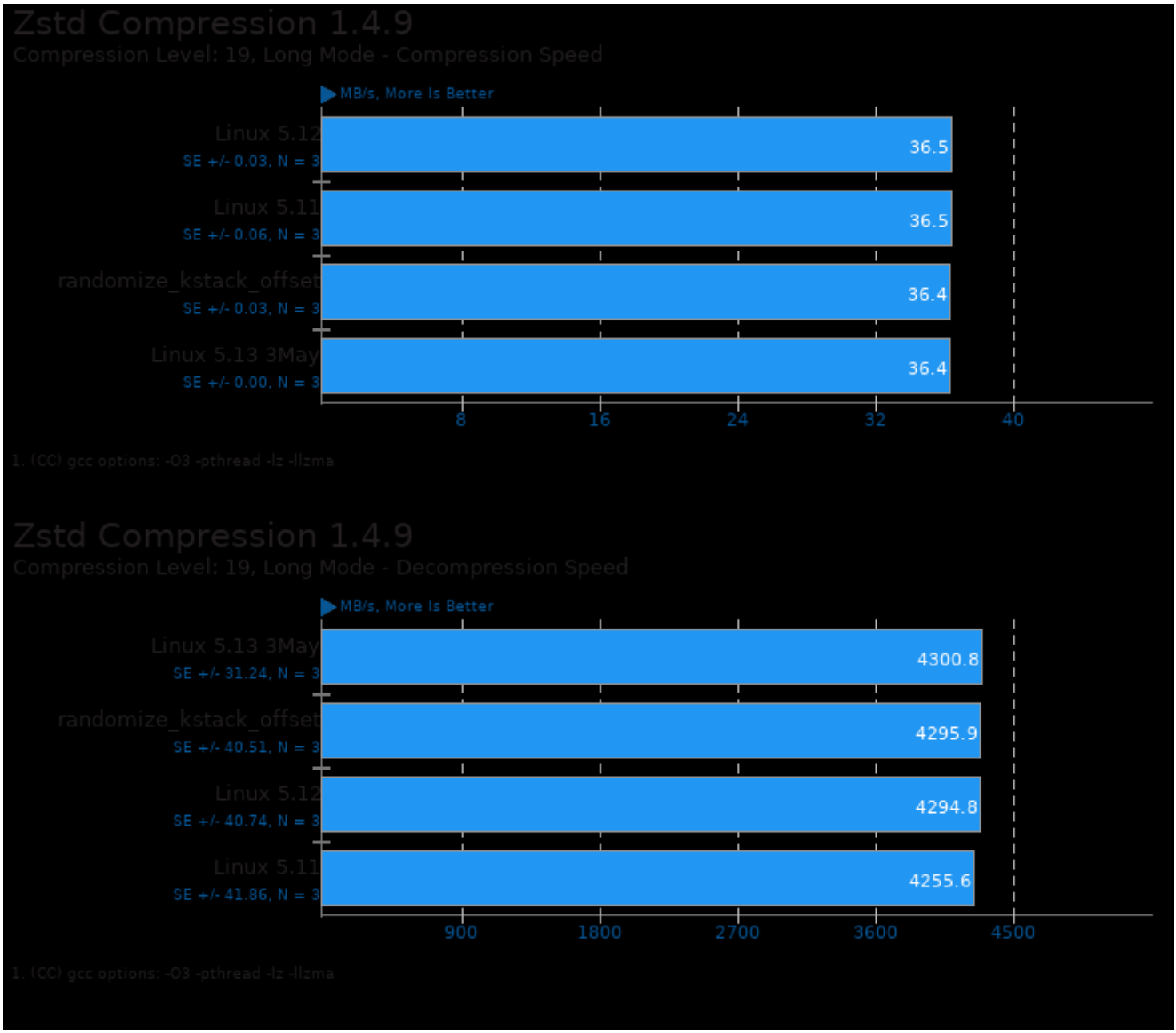

Ethr 2019-01-02
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 8
Mbits/sec, More Is Better
Linux 5.13 3May
SE +/- 510.32, N = 3
MIN: 212240 / MAX: 229590
215768
Linux 5.12
SE +/- 87.69, N = 3
MIN: 212070 / MAX: 227120
215223
randomize_kstack_offset
SE +/- 718.51, N = 3
MIN: 210250 / MAX: 224270
214904
Linux 5.11
SE +/- 1083.74, N = 3
MIN: 201900 / MAX: 214480
206643
50K
100K
150K
200K
250K
Ethr 2019-01-02
Server Address: localhost - Protocol: HTTP - Test: Bandwidth - Threads: 1
Mbits/sec, More Is Better
Linux 5.11
SE +/- 3.38, N = 3
MIN: 1040 / MAX: 1150
1078
Linux 5.13 3May
MIN: 1030 / MAX: 1150
1068
Linux 5.12
SE +/- 3.61, N = 3
MIN: 1040 / MAX: 1150
1066
randomize_kstack_offset
SE +/- 2.03, N = 3
MIN: 1030 / MAX: 1110
1062
200
400
600
800
1000
Ethr 2019-01-02
Server Address: localhost - Protocol: HTTP - Test: Bandwidth - Threads: 8
Mbits/sec, More Is Better
Linux 5.11
SE +/- 39.40, N = 3
MIN: 4860 / MAX: 5310
5112
Linux 5.13 3May
SE +/- 25.64, N = 3
MIN: 4820 / MAX: 5220
5078
Linux 5.12
SE +/- 17.03, N = 3
MIN: 4610 / MAX: 5270
5069
randomize_kstack_offset
SE +/- 38.44, N = 3
MIN: 4770 / MAX: 5230
5045
1100
2200
3300
4400
5500

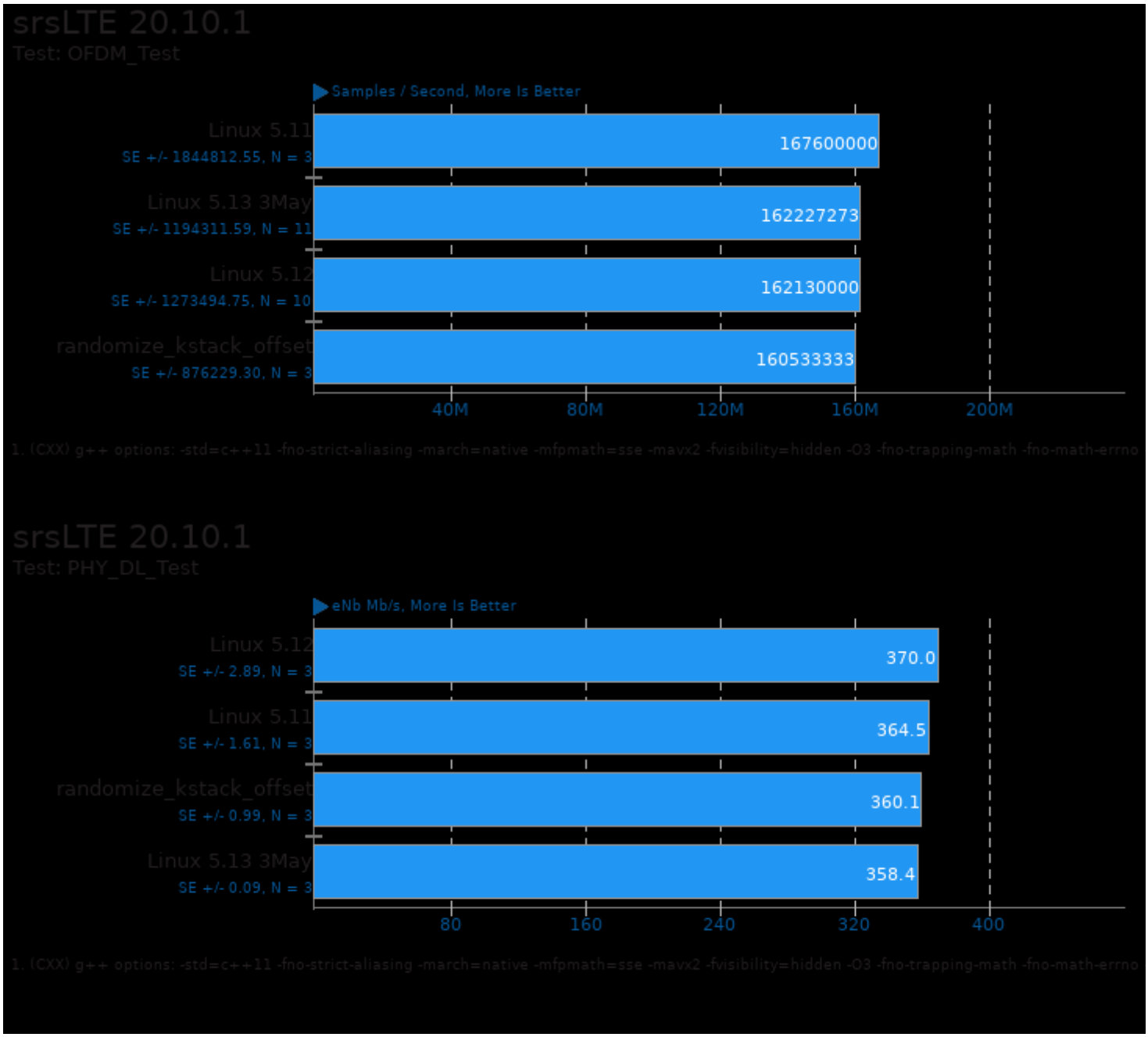

Ethr 2019-01-02
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 1
Connections/sec, More Is Better
Linux 5.11
SE +/- 264.23, N = 12
10019
Linux 5.13 3May
SE +/- 298.25, N = 13
9655
Linux 5.12
SE +/- 180.61, N = 15
9631
randomize_kstack_offset
SE +/- 205.98, N = 15
9439
2K
4K
6K
8K
10K
Ethr 2019-01-02
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 8
Connections/sec, More Is Better
Linux 5.11
SE +/- 224.80, N = 3
93430
randomize_kstack_offset
SE +/- 376.18, N = 3
92043
Linux 5.12
SE +/- 1279.40, N = 15
91373
Linux 5.13 3May
SE +/- 1036.21, N = 15
89758
20K
40K
60K
80K
100K
NAMD 2.14
ATPase Simulation - 327,506 Atoms
days/ns, Fewer Is Better
Linux 5.11
SE +/- 0.00430, N = 3
1.07862
Linux 5.12
SE +/- 0.00560, N = 3
1.07989
Linux 5.13 3May
SE +/- 0.00517, N = 3
1.08446
randomize_kstack_offset
SE +/- 0.00494, N = 3
1.09204
0.2457
0.4914
0.7371
0.9828
1.2285


Timed HMMer Search 3.3.1
Pfam Database Search
Seconds, Fewer Is Better
Linux 5.13 3May
SE +/- 0.08, N = 3
80.99
Linux 5.12
SE +/- 0.04, N = 3
81.01
Linux 5.11
SE +/- 0.06, N = 3
81.09
randomize_kstack_offset
SE +/- 0.09, N = 3
81.19
20
40
60
80
100
1. (CC) gcc options: -O3 -pthread -lhmmer -leasel -lm
Xmrig 6.12.1
Variant: Monero - Hash Count: 1M
H/s, More Is Better
Linux 5.12
SE +/- 92.70, N = 4
7586.0
randomize_kstack_offset
SE +/- 69.91, N = 3
7483.2
Linux 5.11
SE +/- 45.29, N = 3
7001.1
Linux 5.13 3May
SE +/- 71.51, N = 3
6917.3
1600
3200
4800
6400
8000
1. (CXX) g++ options: -fexceptions -fno-rtti -maes -O3 -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl -lhwloc


Xmrig 6.12.1
Variant: Wownero - Hash Count: 1M
H/s, More Is Better
Linux 5.12
SE +/- 26.33, N = 3
13851.2
randomize_kstack_offset
SE +/- 38.25, N = 3
13751.2
Linux 5.11
SE +/- 100.20, N = 3
13529.7
Linux 5.13 3May
SE +/- 97.41, N = 3
13471.8
3K
6K
9K
12K
15K
1. (CXX) g++ options: -fexceptions -fno-rtti -maes -O3 -Ofast -static-libgcc -static-libstdc++ -rdynamic -lssl -lcrypto -luv -lpthread -lrt -ldl -lhwloc
Chia Blockchain VDF 1.0.1
Test: Square
IPS, More Is Better
randomize_kstack_offset
SE +/- 133.33, N = 3
183233
Linux 5.12
SE +/- 568.62, N = 3
182300
Linux 5.11
SE +/- 785.99, N = 3
181433
Linux 5.13 3May
SE +/- 2283.52, N = 3
179133
40K
80K
120K
160K
200K
1. (CXX) g++ options: -flto -no-pie -lgmpxx -lgmp -lboost_system -pthread

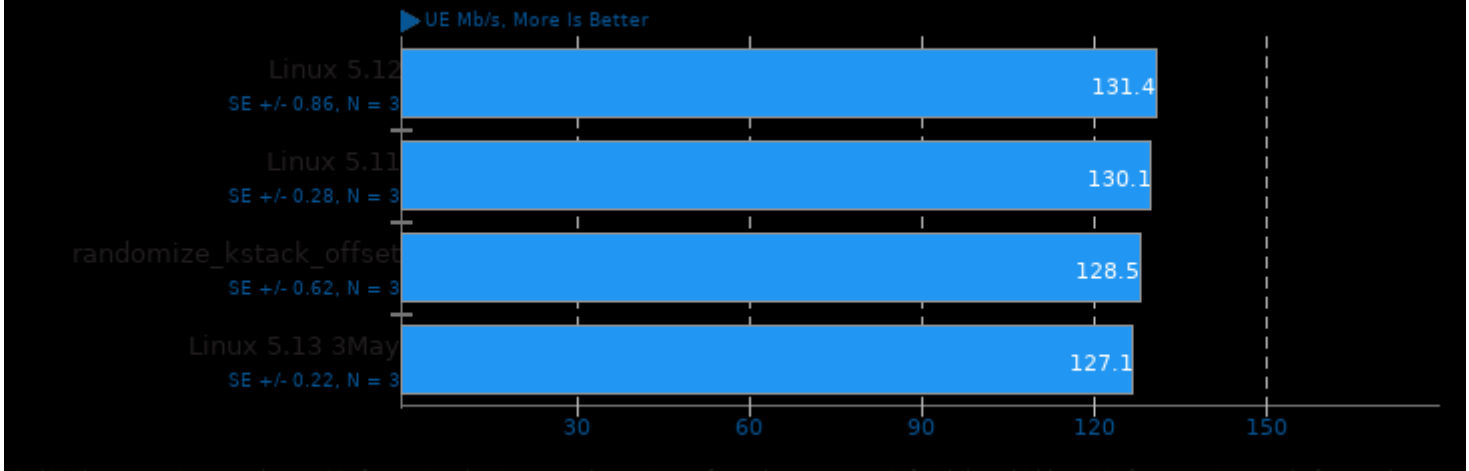

Zstd Compression 1.4.9
Compression Level: 19 - Compression Speed
MB/s, More Is Better
Linux 5.11
SE +/- 0.10, N = 3
51.5
randomize_kstack_offset
SE +/- 0.07, N = 3
51.4
Linux 5.12
SE +/- 0.10, N = 3
51.4
Linux 5.13 3May
SE +/- 0.07, N = 3
51.3
12
24
36
48
60
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.4.9
Compression Level: 19 - Decompression Speed
MB/s, More Is Better
Linux 5.11
SE +/- 40.81, N = 3
4311.5
Linux 5.13 3May
SE +/- 26.54, N = 3
4304.4
Linux 5.12
SE +/- 27.77, N = 3
4292.8
randomize_kstack_offset
SE +/- 47.79, N = 3
4278.7
900
1800
2700
3600
4500
1. (CC) gcc options: -O3 -pthread -lz -llzma


Zstd Compression 1.4.9
Compression Level: 19, Long Mode - Compression Speed
MB/s, More Is Better
Linux 5.12
SE +/- 0.03, N = 3
36.5
Linux 5.11
SE +/- 0.06, N = 3
36.5
randomize_kstack_offset
SE +/- 0.03, N = 3
36.4
Linux 5.13 3May
SE +/- 0.00, N = 3
36.4
8
16
24
32
40
1. (CC) gcc options: -O3 -pthread -lz -llzma
Zstd Compression 1.4.9
Compression Level: 19, Long Mode - Decompression Speed
MB/s, More Is Better
Linux 5.13 3May
SE +/- 31.24, N = 3
4300.8
randomize_kstack_offset
SE +/- 40.51, N = 3
4295.9
Linux 5.12
SE +/- 40.74, N = 3
4294.8
Linux 5.11
SE +/- 41.86, N = 3
4255.6
900
1800
2700
3600
4500
1. (CC) gcc options: -O3 -pthread -lz -llzma


srsLTE 20.10.1
Test: OFDM_Test
Samples / Second, More Is Better
Linux 5.11
SE +/- 1844812.55, N = 3
167600000
Linux 5.13 3May
SE +/- 1194311.59, N = 11
162227273
Linux 5.12
SE +/- 1273494.75, N = 10
162130000
randomize_kstack_offset
SE +/- 876229.30, N = 3
160533333
40M
80M
120M
160M
200M
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
srsLTE 20.10.1
Test: PHY_DL_Test
eNb Mb/s, More Is Better
Linux 5.12
SE +/- 2.89, N = 3
370.0
Linux 5.11
SE +/- 1.61, N = 3
364.5
randomize_kstack_offset
SE +/- 0.99, N = 3
360.1
Linux 5.13 3May
SE +/- 0.09, N = 3
358.4
80
160
240
320
400
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

srsLTE 20.10.1

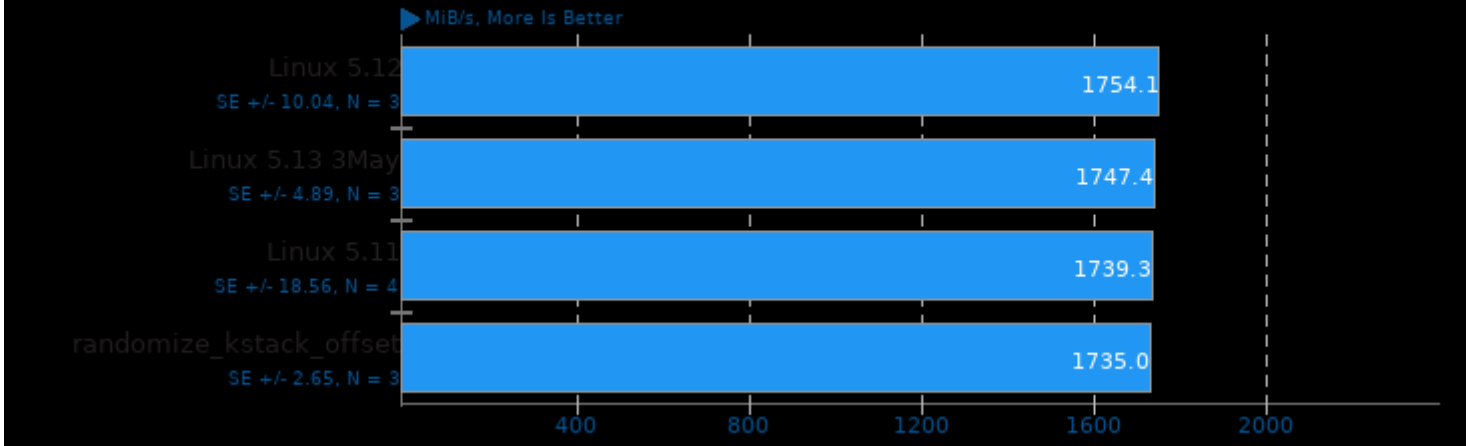
Test: PHY_DL_Test



1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno

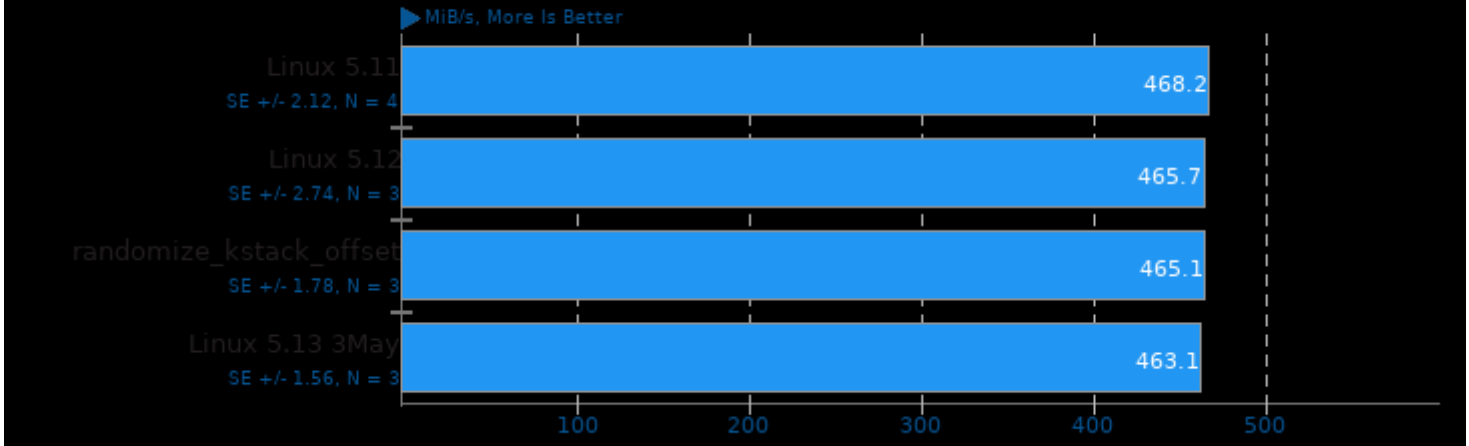
LuaRadio 0.9.1

Test: Five Back to Back FIR Filters



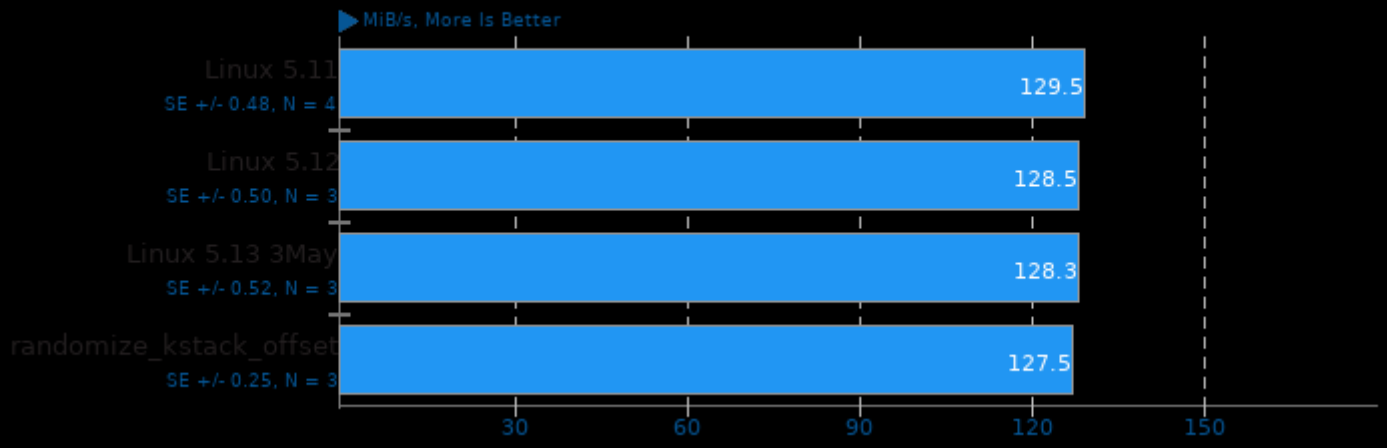
LuaRadio 0.9.1

Test: FM Deemphasis Filter



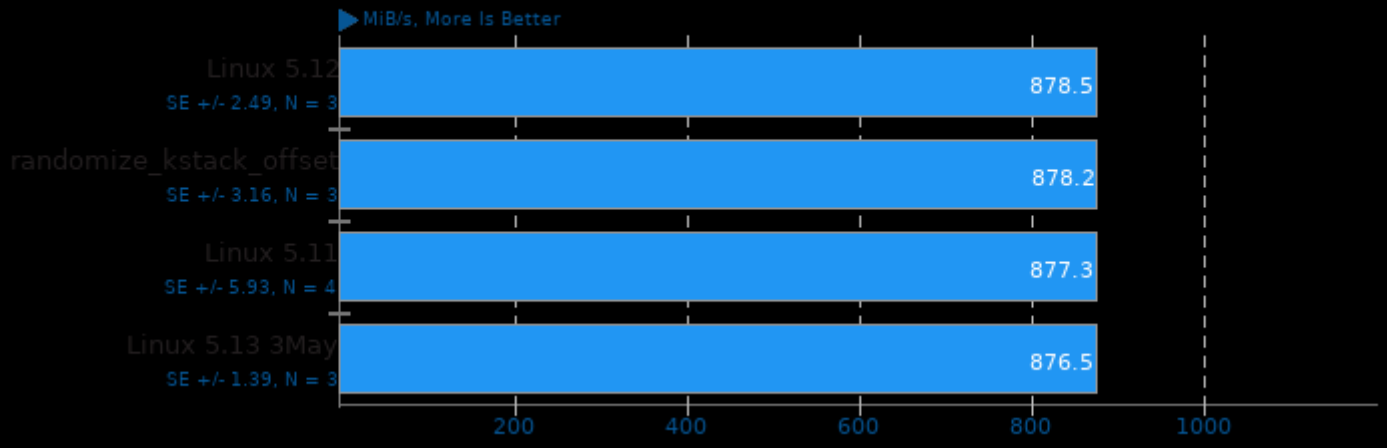
LuaRadio 0.9.1

Test: Hilbert Transform



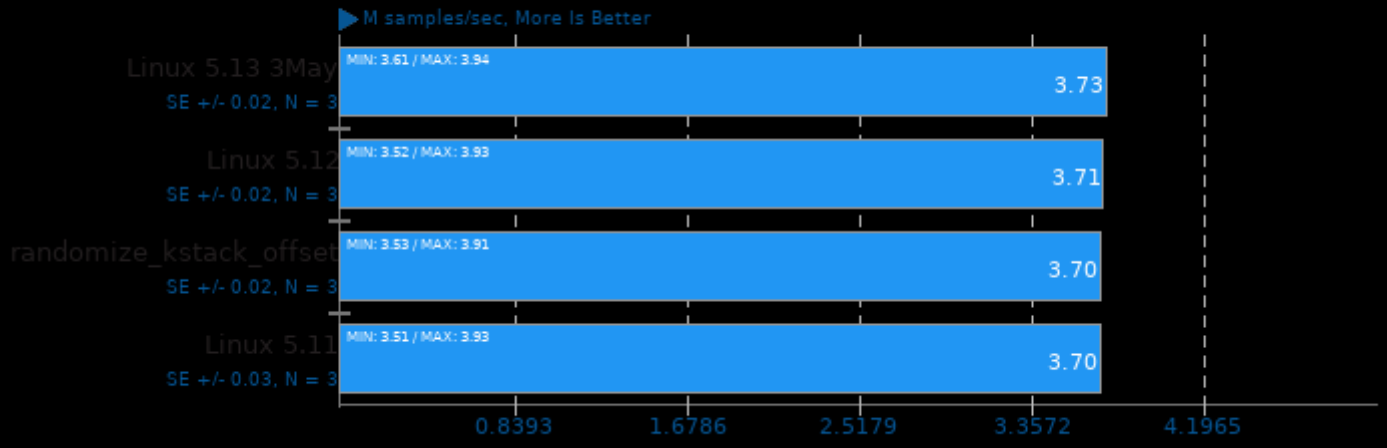
LuaRadio 0.9.1

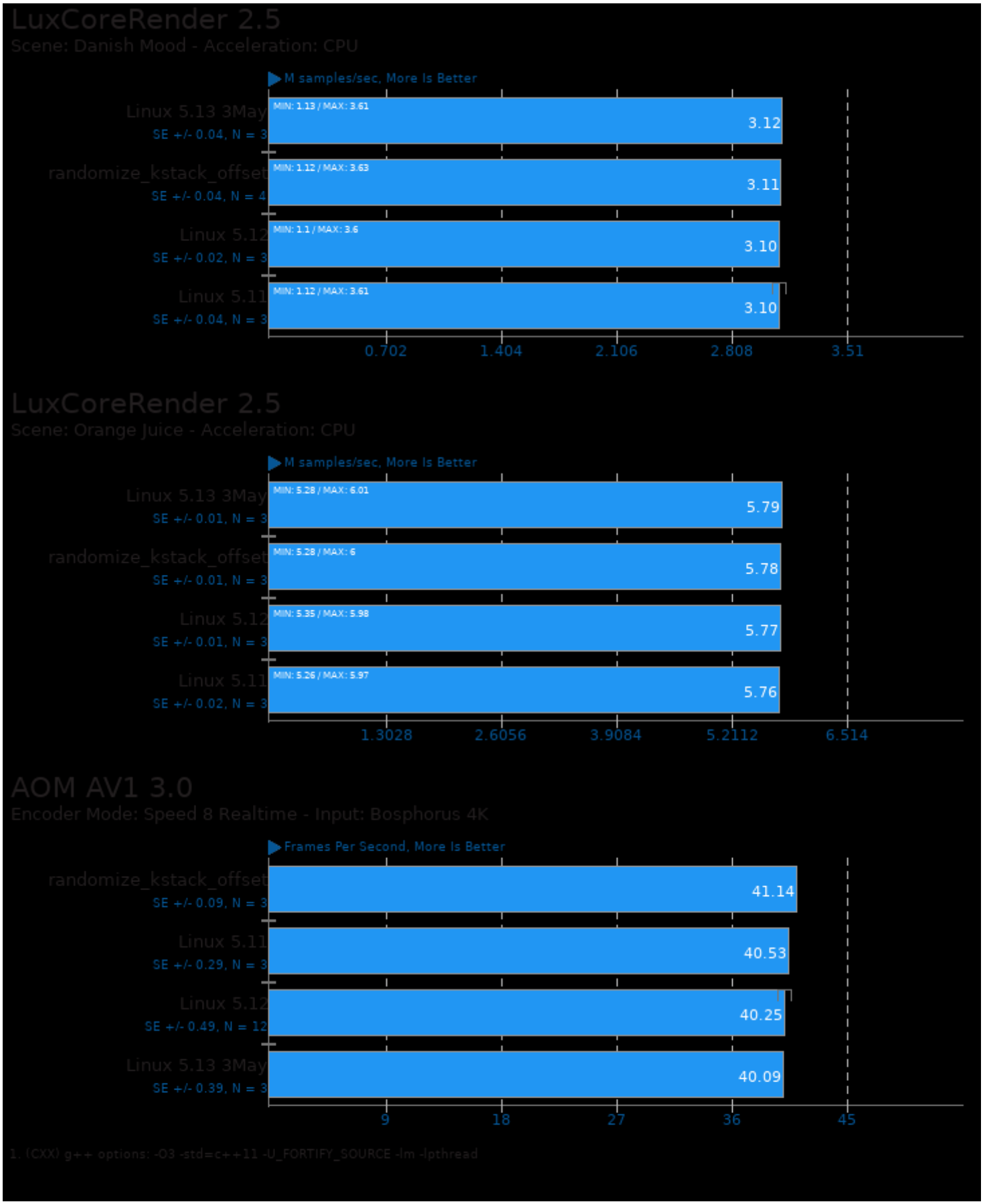
Test: Complex Phase

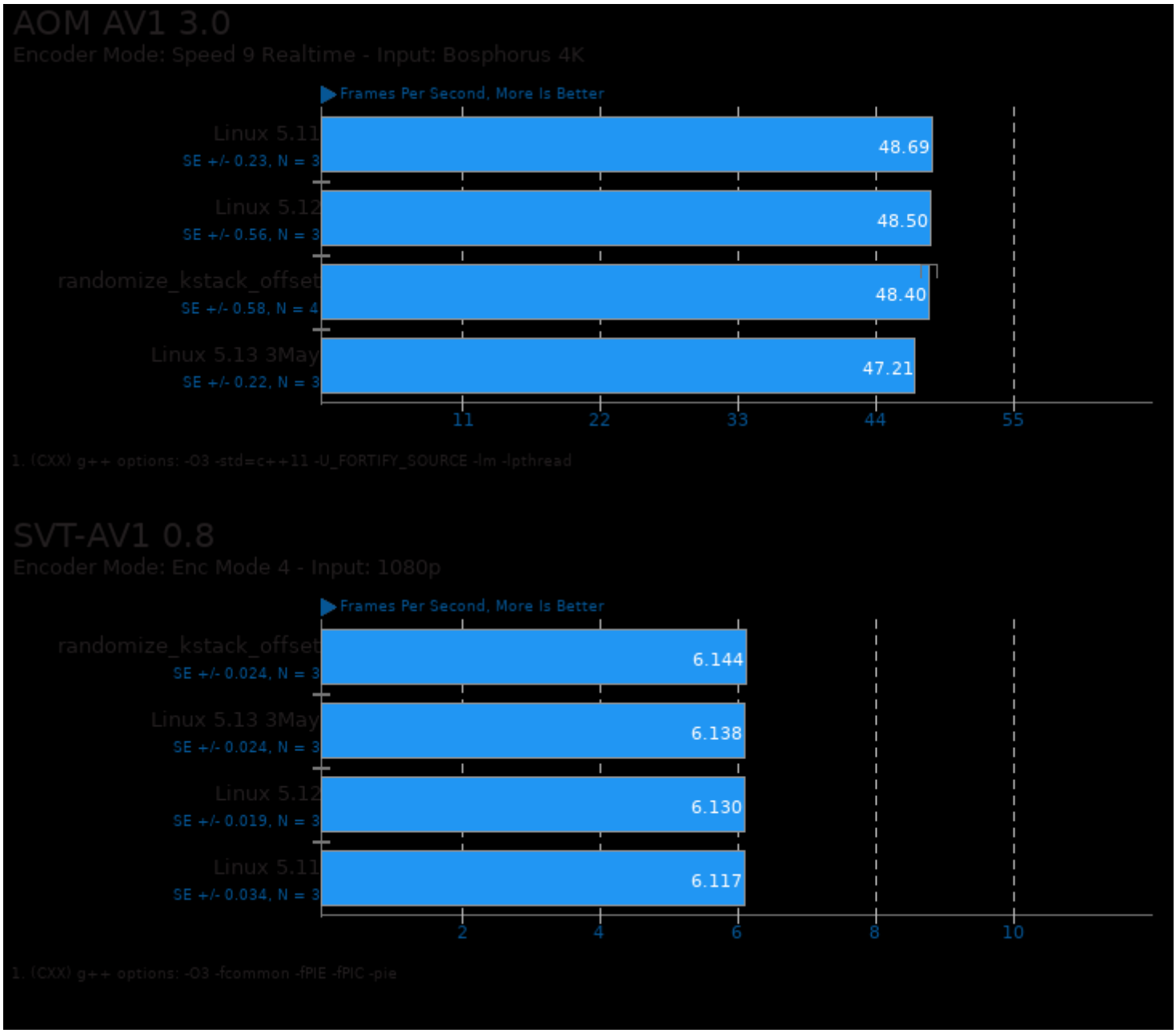


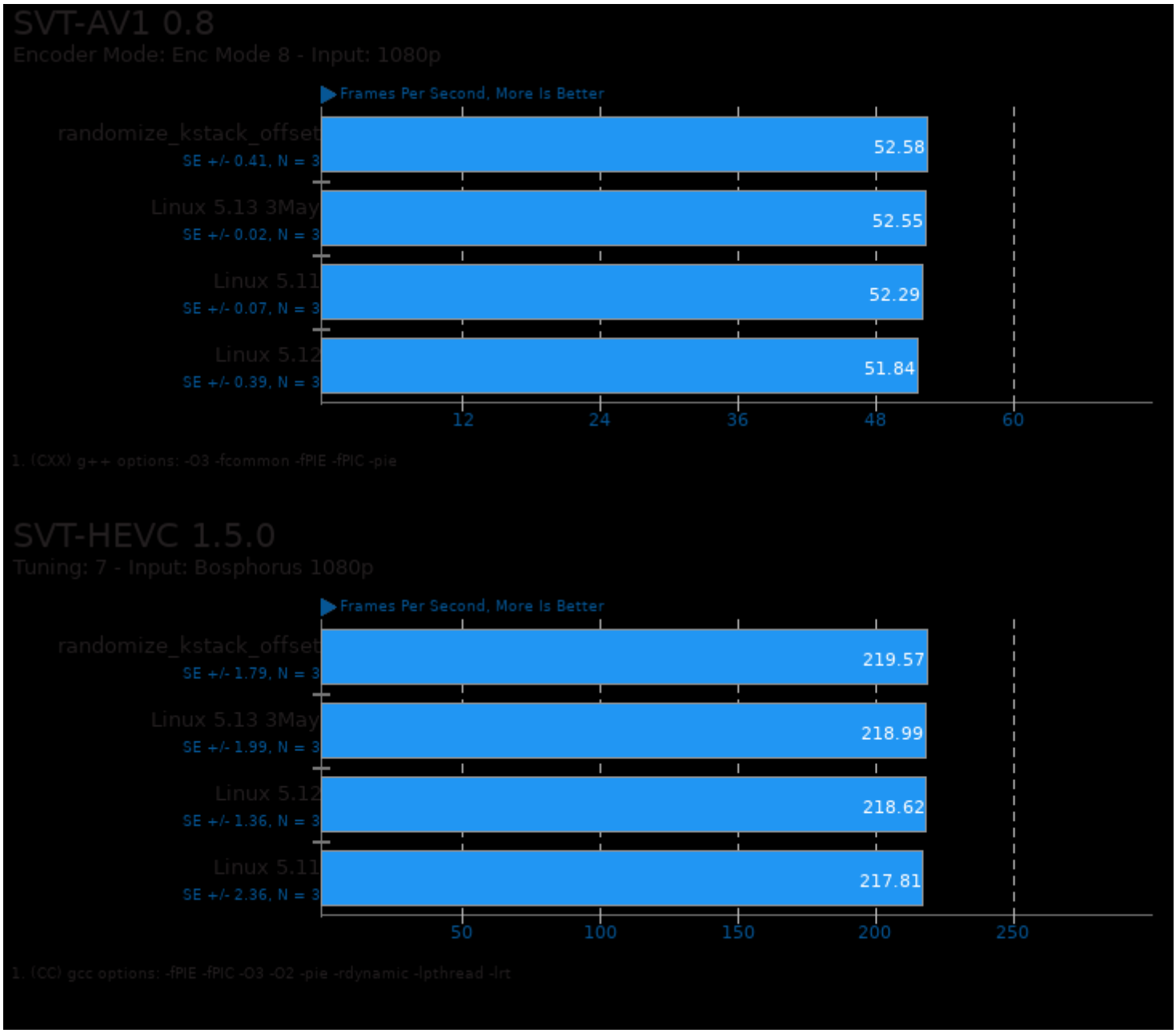
LuxCoreRender 2.5

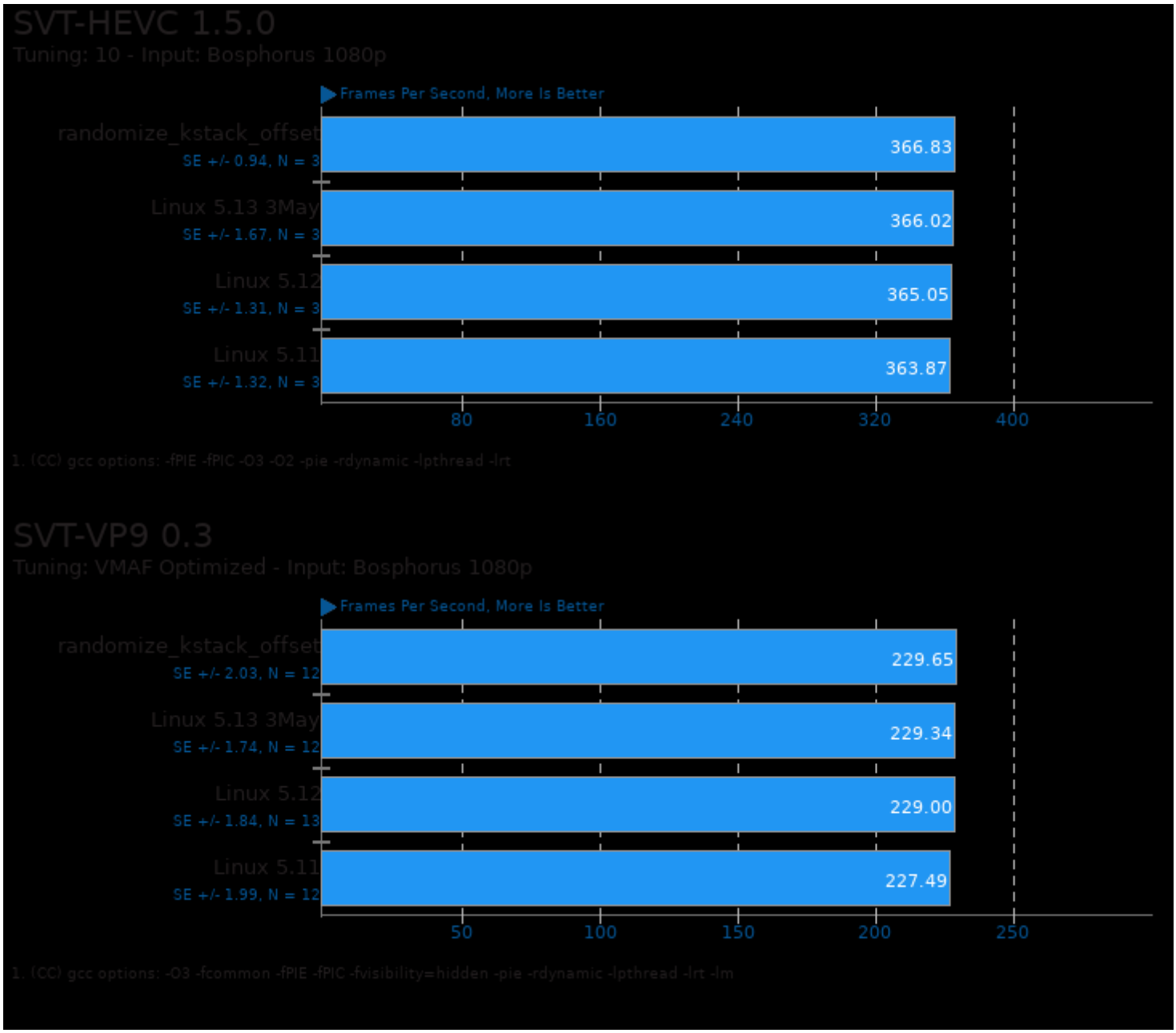
Scene: DLSC - Acceleration: CPU

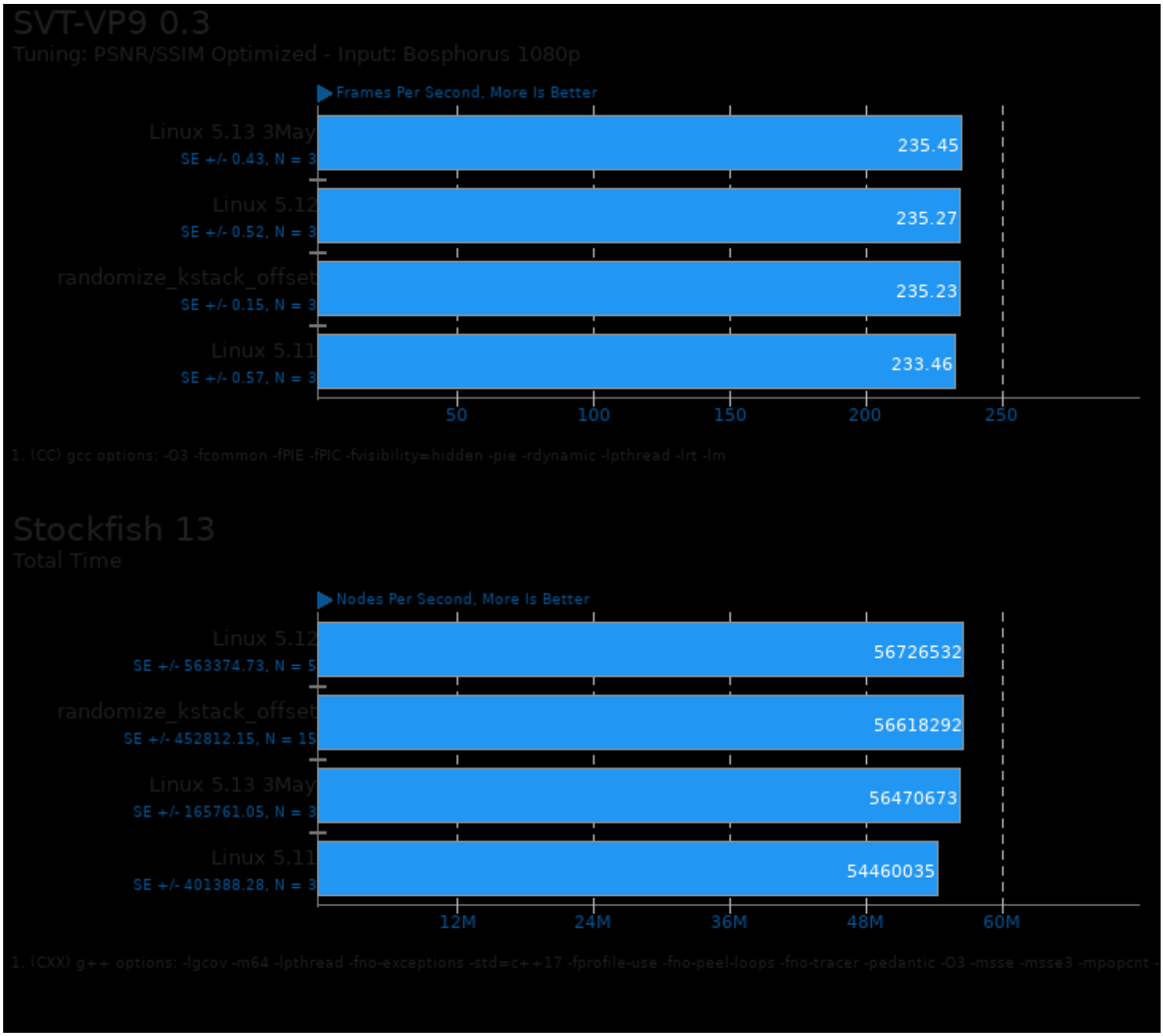


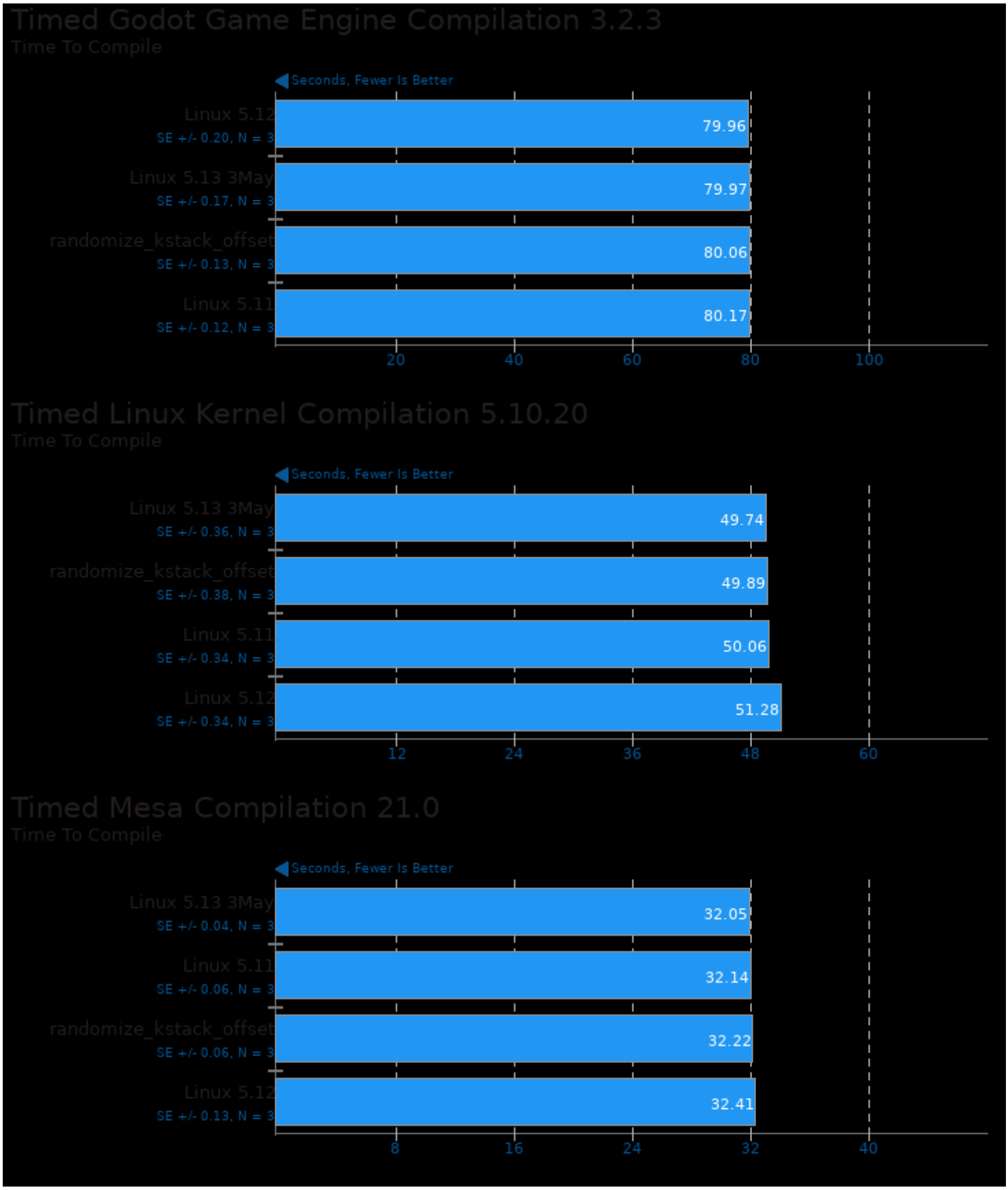

LuxCoreRender 2.5
Scene: Danish Mood - Acceleration: CPU
M samples/sec, More Is Better
Linux 5.13 3May
SE +/- 0.04, N = 3
MIN: 1.13 / MAX: 3.61
3.12
randomize_kstack_offset
SE +/- 0.04, N = 4
MIN: 1.12 / MAX: 3.63
3.11
Linux 5.12
SE +/- 0.02, N = 3
MIN: 1.1 / MAX: 3.6
3.10
Linux 5.11
SE +/- 0.04, N = 3
MIN: 1.12 / MAX: 3.61
3.10
0.702
1.404
2.106
2.808
3.51
LuxCoreRender 2.5
Scene: Orange Juice - Acceleration: CPU
M samples/sec, More Is Better
Linux 5.13 3May
SE +/- 0.01, N = 3
MIN: 5.28 / MAX: 6.01
5.79
randomize_kstack_offset
SE +/- 0.01, N = 3
MIN: 5.28 / MAX: 6
5.78
Linux 5.12
SE +/- 0.01, N = 3
MIN: 5.35 / MAX: 5.98
5.77
Linux 5.11
SE +/- 0.02, N = 3
MIN: 5.26 / MAX: 5.97
5.76
1.3028
2.6056
3.9084
5.2112
6.514
AOM AV1 3.0
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
randomize_kstack_offset
SE +/- 0.09, N = 3
41.14
Linux 5.11
SE +/- 0.29, N = 3
40.53
Linux 5.12
SE +/- 0.49, N = 12
40.25
Linux 5.13 3May
SE +/- 0.39, N = 3
40.09
9
18
27
36
45
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

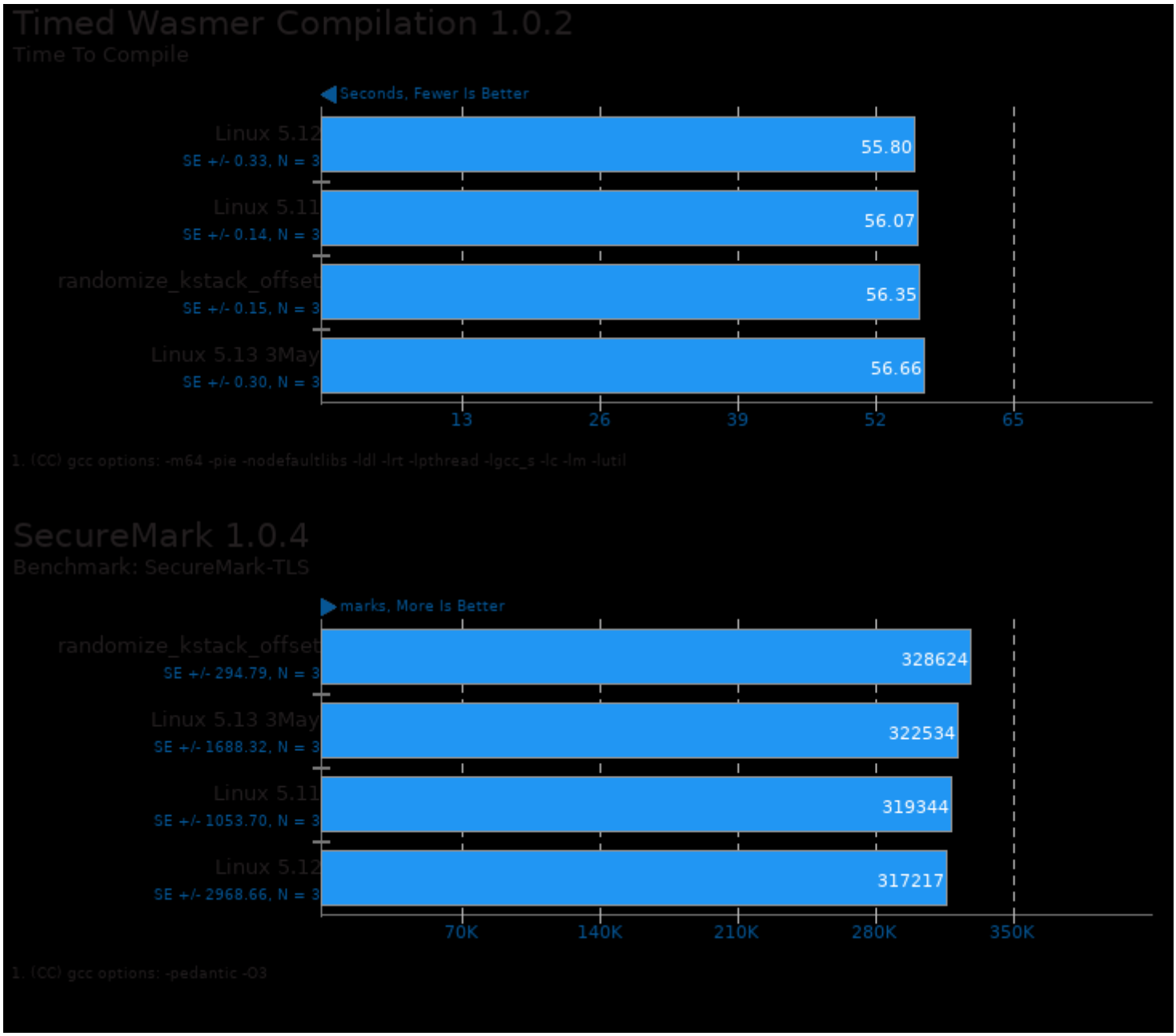

AOM AV1 3.0
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
Linux 5.11
SE +/- 0.23, N = 3
48.69
Linux 5.12
SE +/- 0.56, N = 3
48.50
randomize_kstack_offset
SE +/- 0.58, N = 4
48.40
Linux 5.13 3May
SE +/- 0.22, N = 3
47.21
11
22
33
44
55
1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread
SVT-AV1 0.8
Encoder Mode: Enc Mode 4 - Input: 1080p
Frames Per Second, More Is Better
randomize_kstack_offset
SE +/- 0.024, N = 3
6.144
Linux 5.13 3May
SE +/- 0.024, N = 3
6.138
Linux 5.12
SE +/- 0.019, N = 3
6.130
Linux 5.11
SE +/- 0.034, N = 3
6.117
2
4
6
8
10
1. (CXX) g++ options: -O3 -fcommon -fPIE -fPIC -pie

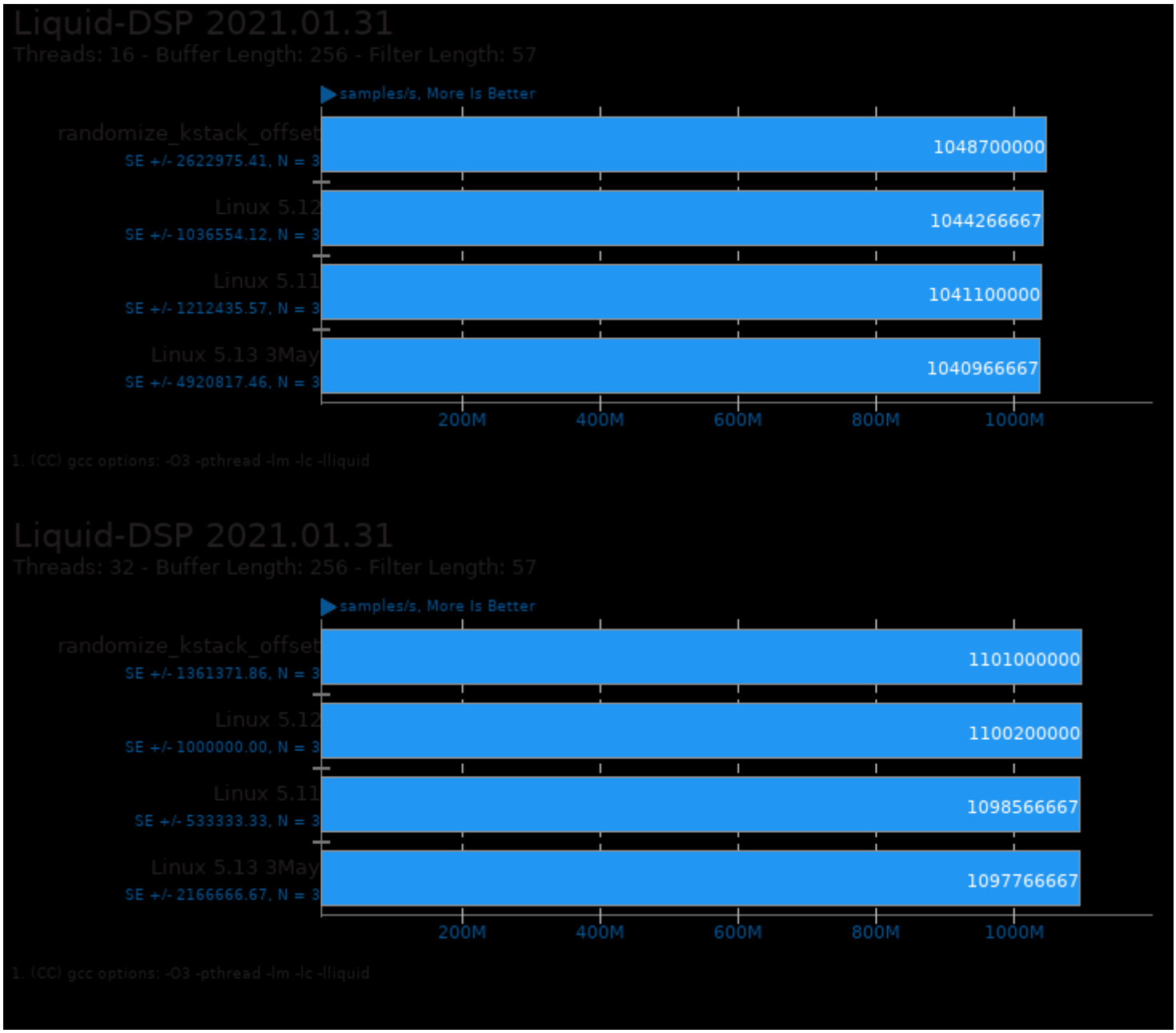

SVT-AV1 0.8
Encoder Mode: Enc Mode 8 - Input: 1080p
Frames Per Second, More Is Better
randomize_kstack_offset
SE +/- 0.41, N = 3
52.58
Linux 5.13 3May
SE +/- 0.02, N = 3
52.55
Linux 5.11
SE +/- 0.07, N = 3
52.29
Linux 5.12
SE +/- 0.39, N = 3
51.84
12
24
36
48
60
1. (CXX) g++ options: -O3 -fcommon -fPIE -fPIC -pie
SVT-HEVC 1.5.0
Tuning: 7 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
randomize_kstack_offset
SE +/- 1.79, N = 3
219.57
Linux 5.13 3May
SE +/- 1.99, N = 3
218.99
Linux 5.12
SE +/- 1.36, N = 3
218.62
Linux 5.11
SE +/- 2.36, N = 3
217.81
50
100
150
200
250
1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lpthread -lrt

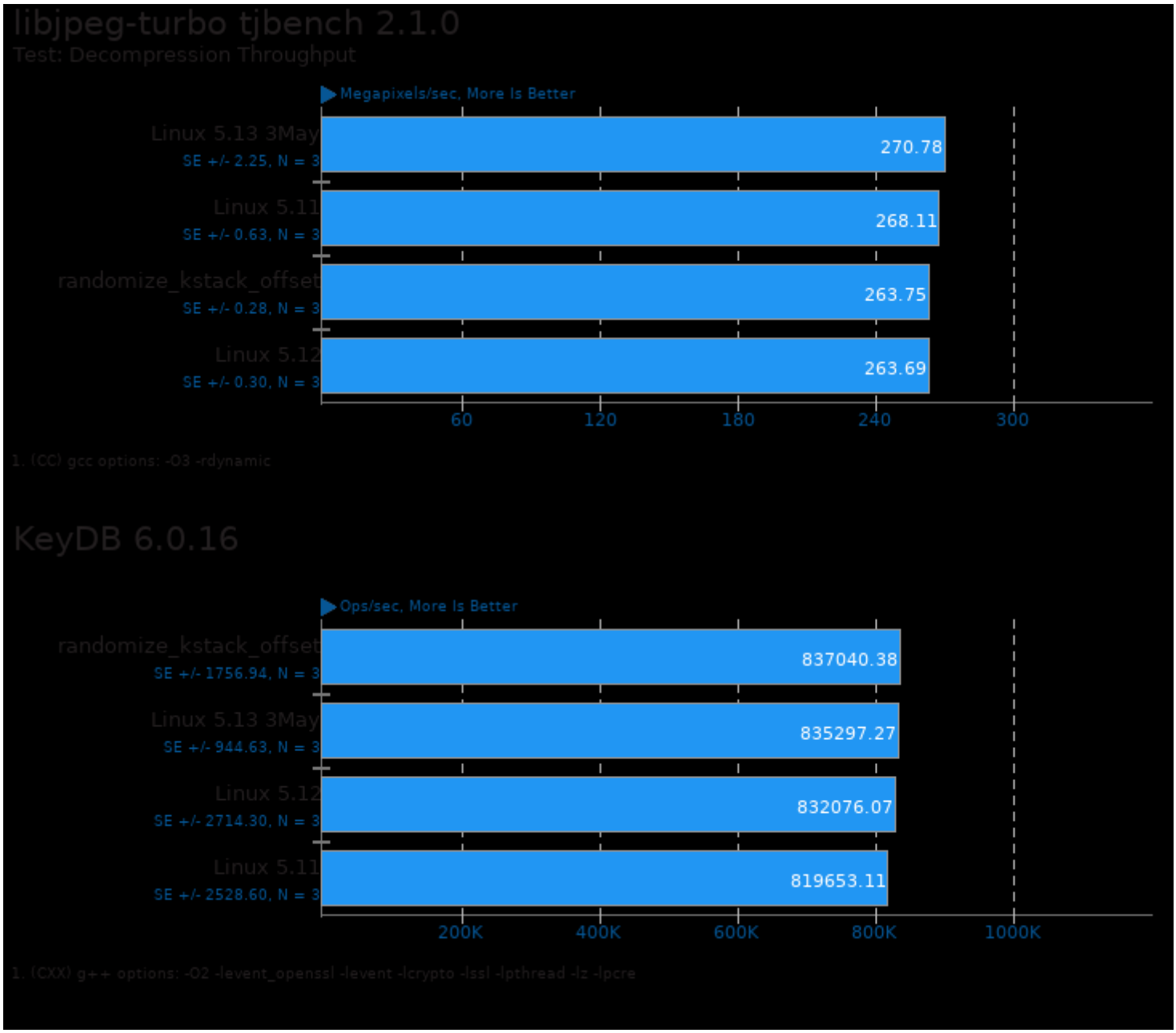

SVT-HEVC 1.5.0
Tuning: 10 - Input: Bosphorus 1080p
Frames Per Second, More Is Better
randomize_kstack_offset
SE +/- 0.94, N = 3
366.83
Linux 5.13 3May
SE +/- 1.67, N = 3
366.02
Linux 5.12
SE +/- 1.31, N = 3
365.05
Linux 5.11
SE +/- 1.32, N = 3
363.87
80
160
240
320
400
1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lpthread -lrt
SVT-VP9 0.3
Tuning: VMAF Optimized - Input: Bosphorus 1080p
Frames Per Second, More Is Better
randomize_kstack_offset
SE +/- 2.03, N = 12
229.65
Linux 5.13 3May
SE +/- 1.74, N = 12
229.34
Linux 5.12
SE +/- 1.84, N = 13
229.00
Linux 5.11
SE +/- 1.99, N = 12
227.49
50
100
150
200
250
1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm


SVT-VP9 0.3
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 1080p
Frames Per Second, More Is Better
Linux 5.13 3May
SE +/- 0.43, N = 3
235.45
Linux 5.12
SE +/- 0.52, N = 3
235.27
randomize_kstack_offset
SE +/- 0.15, N = 3
235.23
Linux 5.11
SE +/- 0.57, N = 3
233.46
50
100
150
200
250
1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm
Stockfish 13
Total Time
Nodes Per Second, More Is Better
Linux 5.12
SE +/- 563374.73, N = 5
56726532
randomize_kstack_offset
SE +/- 452812.15, N = 15
56618292
Linux 5.13 3May
SE +/- 165761.05, N = 3
56470673
Linux 5.11
SE +/- 401388.28, N = 3
54460035
12M
24M
36M
48M
60M
1. (CXX) g++ options: -lgcov -m64 -lpthread -fno-exceptions -std=c++17 -fprofile-use -fno-peel-loops -fno-tracer -pedantic -O3 -msse -msse3 -mpopcnt


Timed Godot Game Engine Compilation 3.2.3
Time To Compile
Seconds, Fewer Is Better
Linux 5.12
SE +/- 0.20, N = 3
79.96
Linux 5.13 3May
SE +/- 0.17, N = 3
79.97
randomize_kstack_offset
SE +/- 0.13, N = 3
80.06
Linux 5.11
SE +/- 0.12, N = 3
80.17
20
40
60
80
100
Timed Linux Kernel Compilation 5.10.20
Time To Compile
Seconds, Fewer Is Better
Linux 5.13 3May
SE +/- 0.36, N = 3
49.74
randomize_kstack_offset
SE +/- 0.38, N = 3
49.89
Linux 5.11
SE +/- 0.34, N = 3
50.06
Linux 5.12
SE +/- 0.34, N = 3
51.28
12
24
36
48
60
Timed Mesa Compilation 21.0
Time To Compile
Seconds, Fewer Is Better
Linux 5.13 3May
SE +/- 0.04, N = 3
32.05
Linux 5.11
SE +/- 0.06, N = 3
32.14
randomize_kstack_offset
SE +/- 0.06, N = 3
32.22
Linux 5.12
SE +/- 0.13, N = 3
32.41
8
16
24
32
40

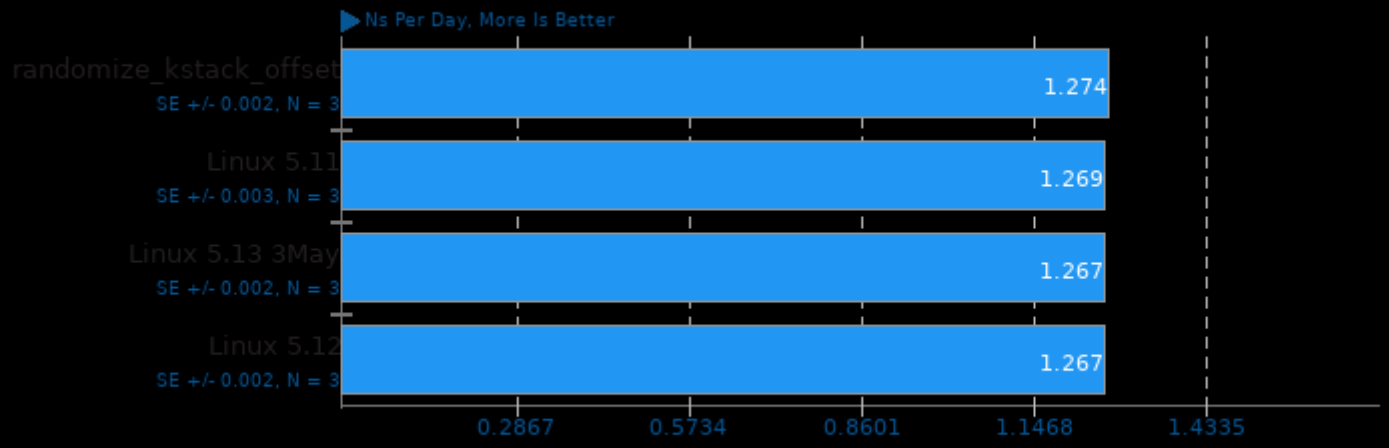

Timed Wasmer Compilation 1.0.2
Time To Compile
Seconds, Fewer Is Better
Linux 5.12
SE +/- 0.33, N = 3
55.80
Linux 5.11
SE +/- 0.14, N = 3
56.07
randomize_kstack_offset
SE +/- 0.15, N = 3
56.35
Linux 5.13 3May
SE +/- 0.30, N = 3
56.66
13
26
39
52
65
1. (CC) gcc options: -m64 -pie -nodefaultlibs -ldl -lrt -lpthread -lgcc_s -lc -lm -lutil
SecureMark 1.0.4
Benchmark: SecureMark-TLS
marks, More Is Better
randomize_kstack_offset
SE +/- 294.79, N = 3
328624
Linux 5.13 3May
SE +/- 1688.32, N = 3
322534
Linux 5.11
SE +/- 1053.70, N = 3
319344
Linux 5.12
SE +/- 2968.66, N = 3
317217
70K
140K
210K
280K
350K
1. (CC) gcc options: -pedantic -O3


Liquid-DSP 2021.01.31
Threads: 16 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
randomize_kstack_offset
SE +/- 2622975.41, N = 3
1048700000
Linux 5.12
SE +/- 1036554.12, N = 3
1044266667
Linux 5.11
SE +/- 1212435.57, N = 3
1041100000
Linux 5.13 3May
SE +/- 4920817.46, N = 3
1040966667
200M
400M
600M
800M
1000M
1. (CC) gcc options: -O3 -pthread -lm -lc -lliquid
Liquid-DSP 2021.01.31
Threads: 32 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
randomize_kstack_offset
SE +/- 1361371.86, N = 3
1101000000
Linux 5.12
SE +/- 1000000.00, N = 3
1100200000
Linux 5.11
SE +/- 533333.33, N = 3
1098566667
Linux 5.13 3May
SE +/- 2166666.67, N = 3
1097766667
200M
400M
600M
800M
1000M
1. (CC) gcc options: -O3 -pthread -lm -lc -lliquid


libjpeg-turbo tjbench 2.1.0
Test: Decompression Throughput
Megapixels/sec, More Is Better
Linux 5.13 3May
SE +/- 2.25, N = 3
270.78
Linux 5.11
SE +/- 0.63, N = 3
268.11
randomize_kstack_offset
SE +/- 0.28, N = 3
263.75
Linux 5.12
SE +/- 0.30, N = 3
263.69
60
120
180
240
300
1. (CC) gcc options: -O3 -rdynamic
KeyDB 6.0.16
Ops/sec, More Is Better
randomize_kstack_offset
SE +/- 1756.94, N = 3
837040.38
Linux 5.13 3May
SE +/- 944.63, N = 3
835297.27
Linux 5.12
SE +/- 2714.30, N = 3
832076.07
Linux 5.11
SE +/- 2528.60, N = 3
819653.11
200K
400K
600K
800K
1000K
1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre

GROMACS 2021

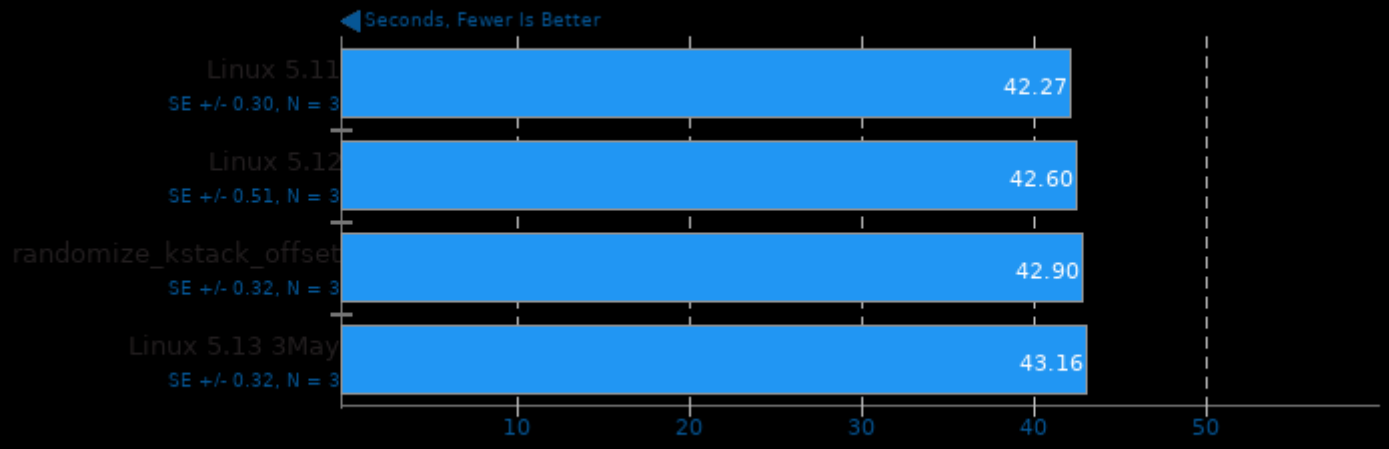
Input: water_GMX50_bare



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

SQLite Speedtest 3.30

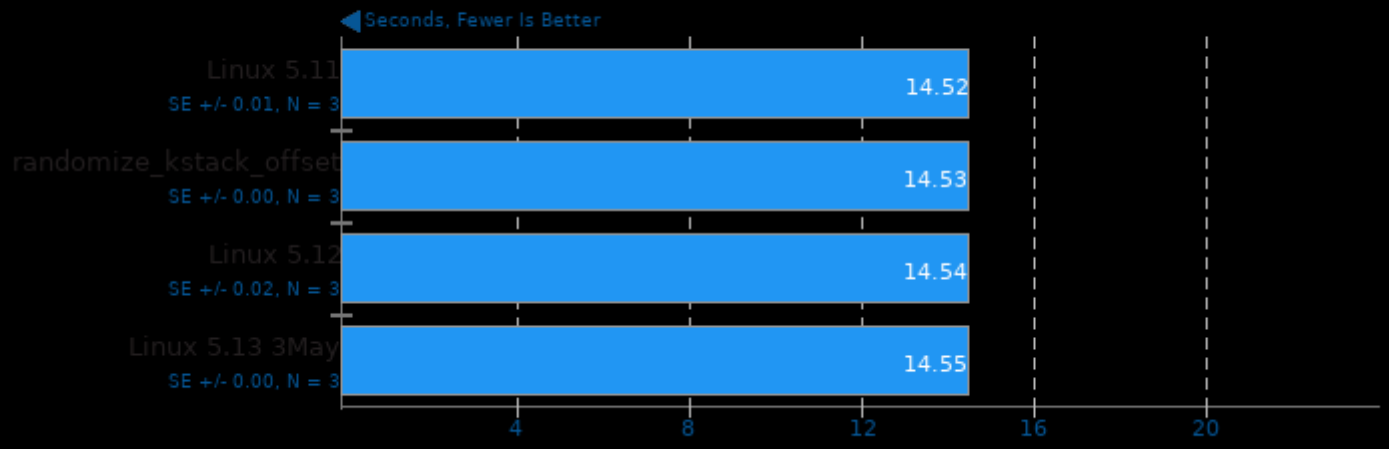
Timed Time - Size 1,000

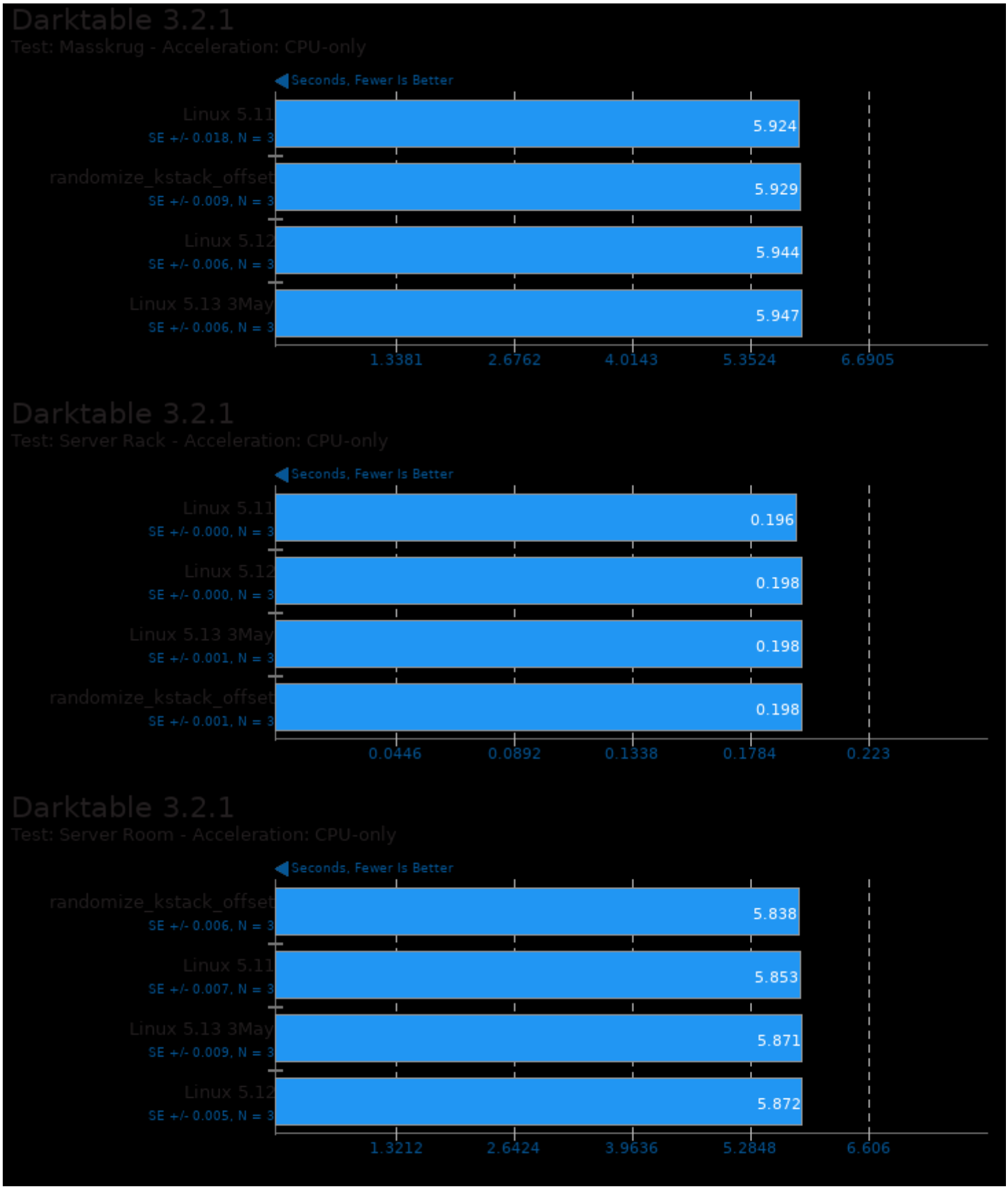


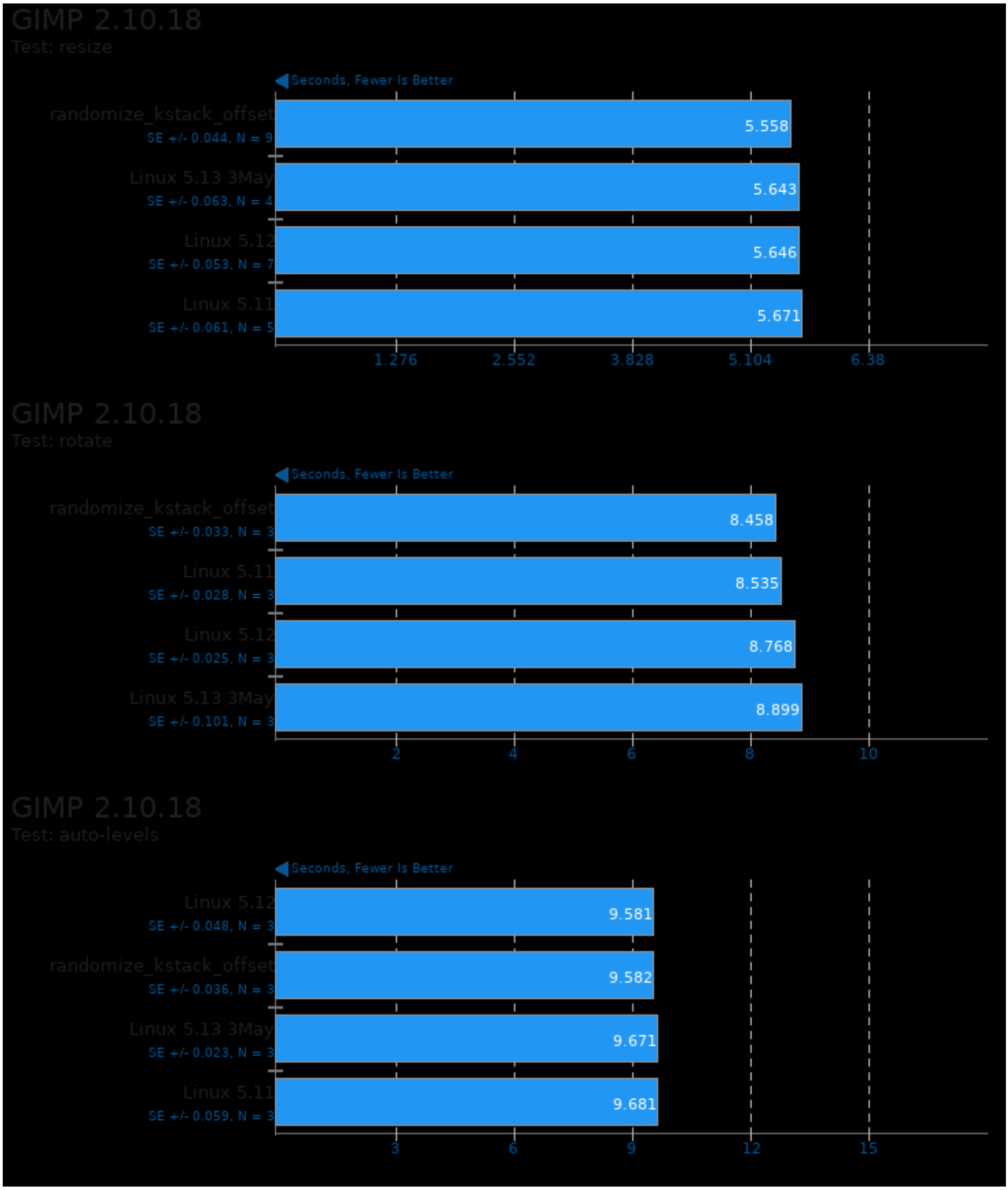
1. (CC) gcc options: -O2 -ldl -lz -lpthread

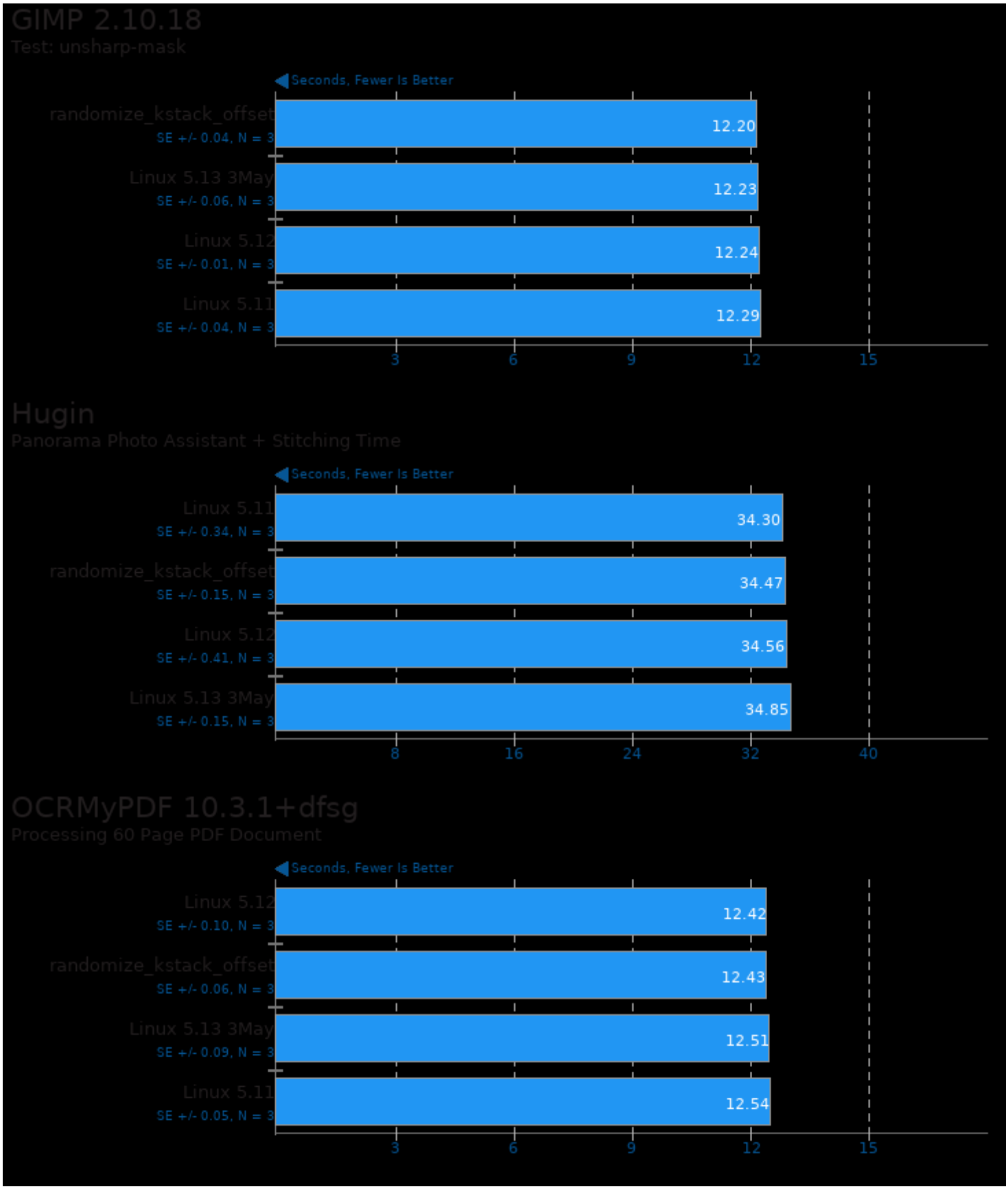
Darktable 3.2.1

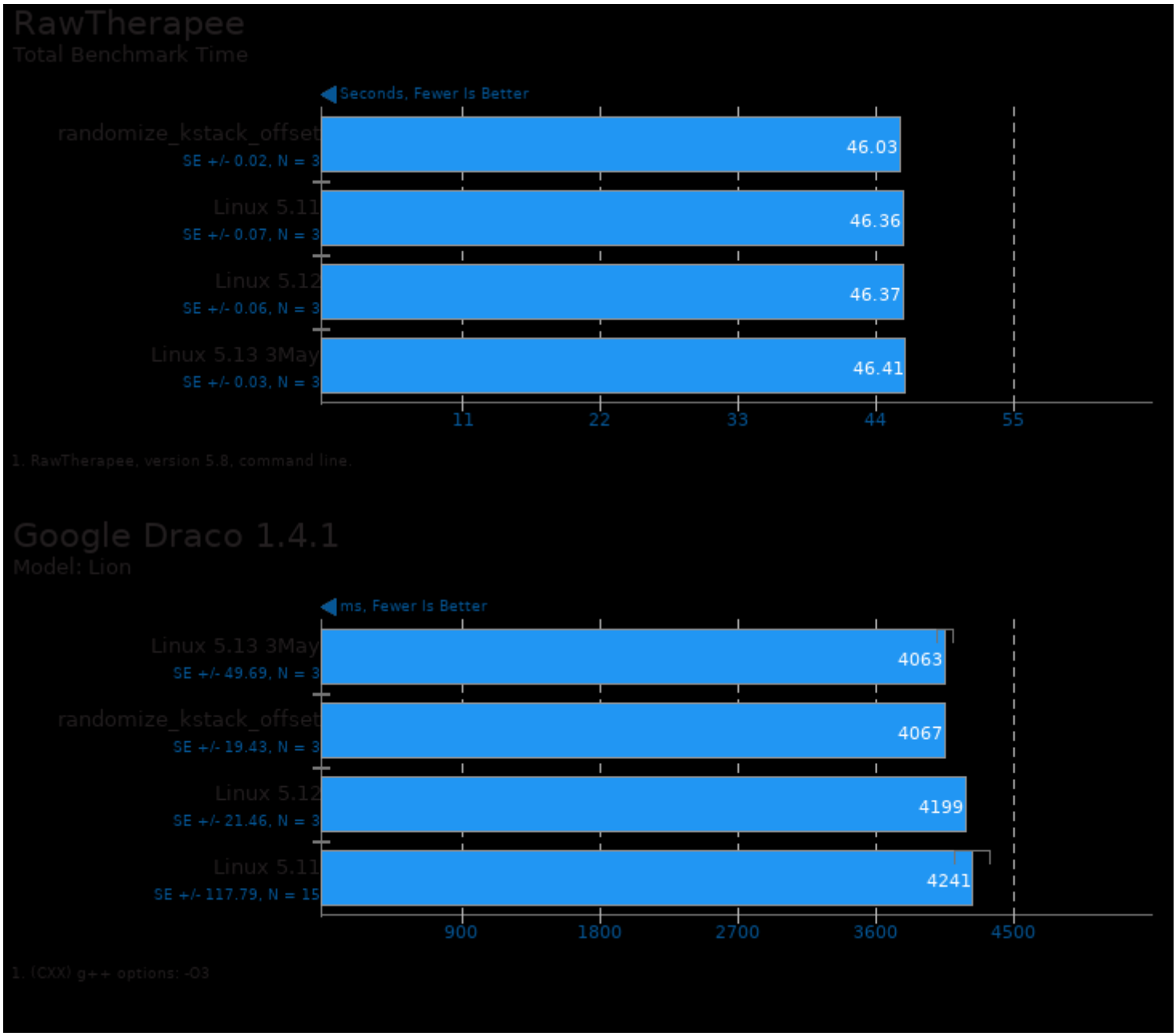
Test: Boat - Acceleration: CPU-only

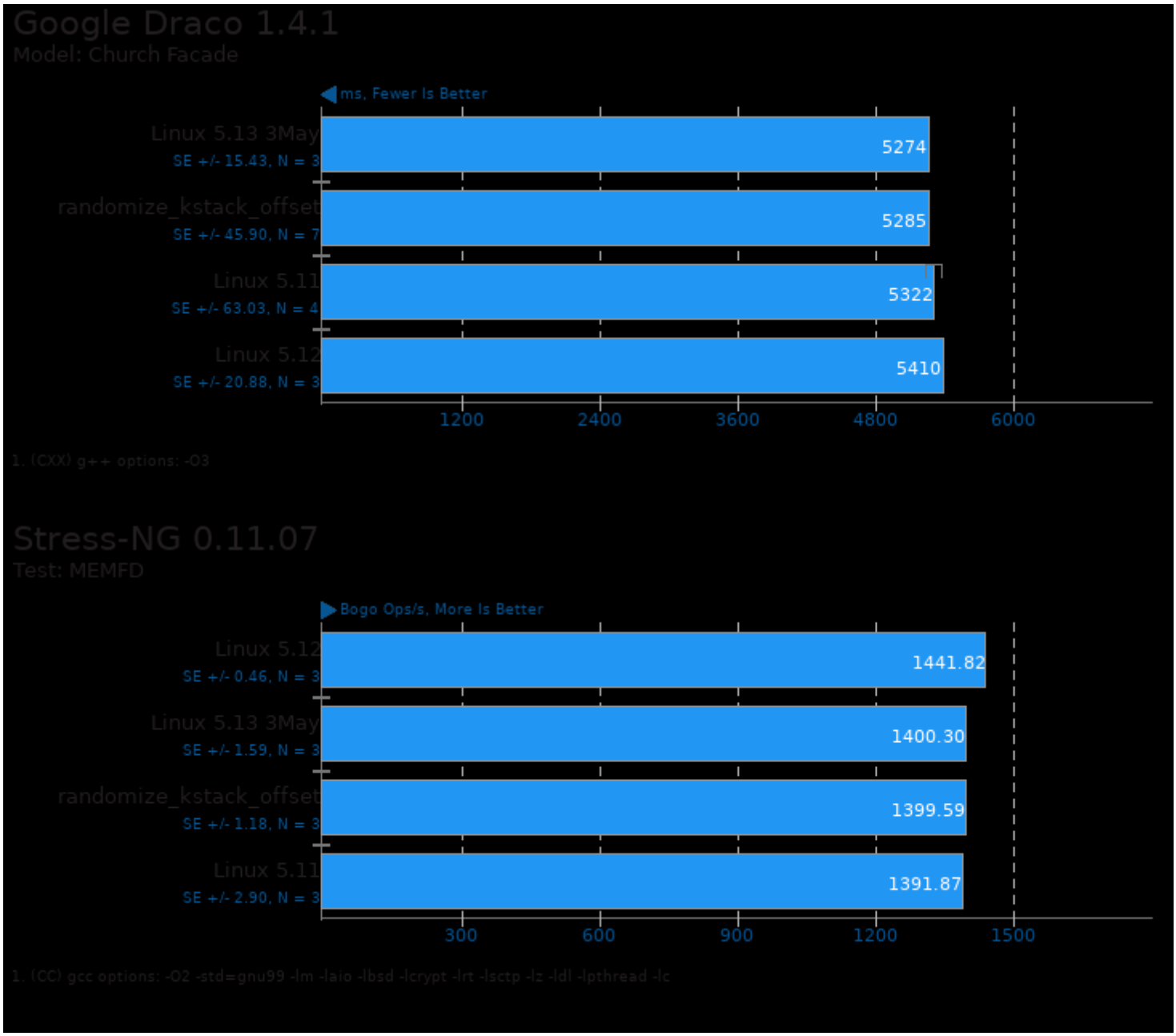


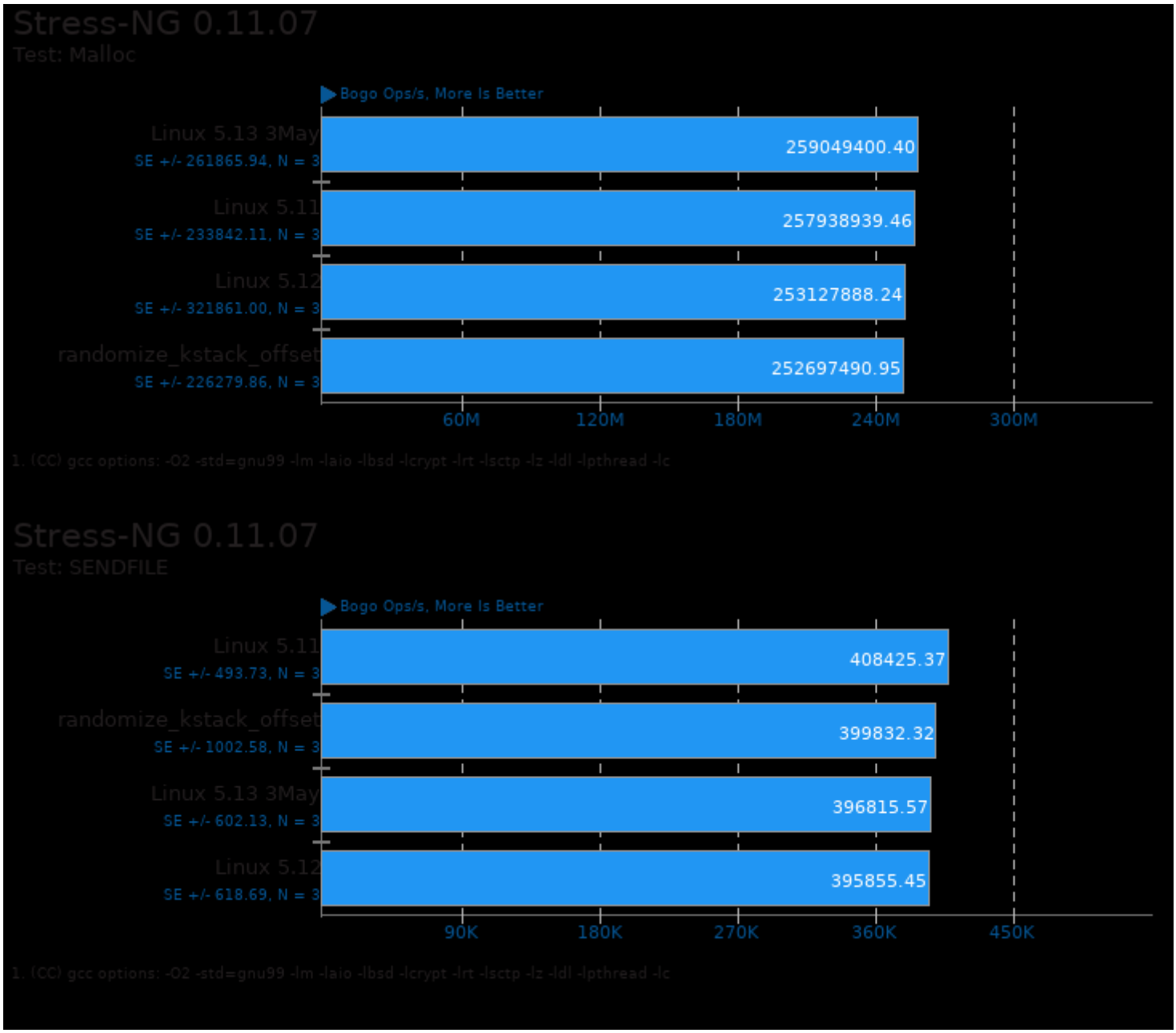

Darktable 3.2.1
Test: Masskrug - Acceleration: CPU-only
Seconds, Fewer Is Better
Linux 5.11
SE +/- 0.018, N = 3
5.924
randomize_kstack_offset
SE +/- 0.009, N = 3
5.929
Linux 5.12
SE +/- 0.006, N = 3
5.944
Linux 5.13 3May
SE +/- 0.006, N = 3
5.947
1.3381
2.6762
4.0143
5.3524
6.6905
Darktable 3.2.1
Test: Server Rack - Acceleration: CPU-only
Seconds, Fewer Is Better
Linux 5.11
SE +/- 0.000, N = 3
0.196
Linux 5.12
SE +/- 0.000, N = 3
0.198
Linux 5.13 3May
SE +/- 0.001, N = 3
0.198
randomize_kstack_offset
SE +/- 0.001, N = 3
0.198
0.0446
0.0892
0.1338
0.1784
0.223
Darktable 3.2.1
Test: Server Room - Acceleration: CPU-only
Seconds, Fewer Is Better
randomize_kstack_offset
SE +/- 0.006, N = 3
5.838
Linux 5.11
SE +/- 0.007, N = 3
5.853
Linux 5.13 3May
SE +/- 0.009, N = 3
5.871
Linux 5.12
SE +/- 0.005, N = 3
5.872
1.3212
2.6424
3.9636
5.2848
6.606

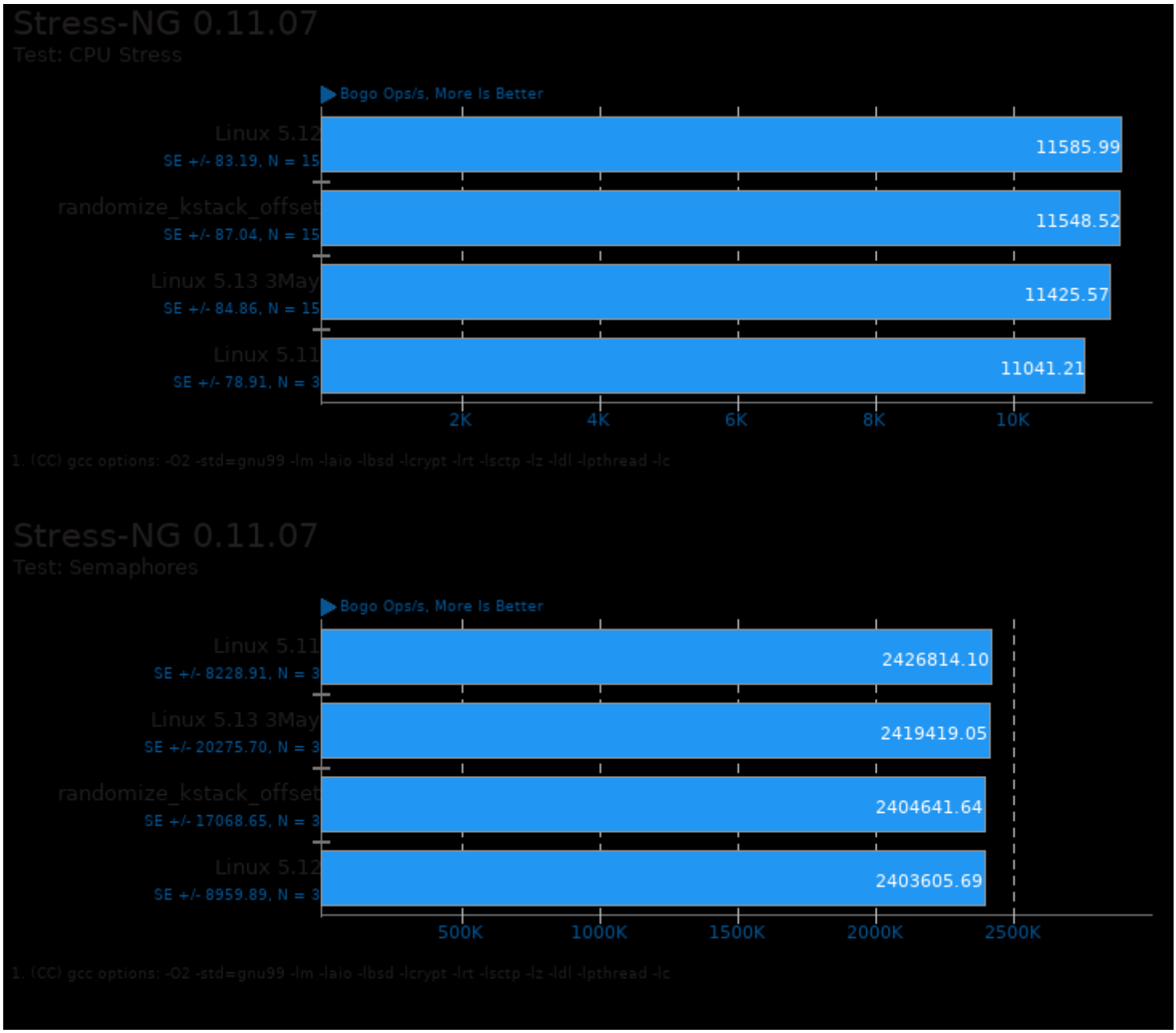

GIMP 2.10.18
Test: resize
Seconds, Fewer Is Better
randomize_kstack_offset
SE +/- 0.044, N = 9
5.558
Linux 5.13 3May
SE +/- 0.063, N = 4
5.643
Linux 5.12
SE +/- 0.053, N = 7
5.646
Linux 5.11
SE +/- 0.061, N = 5
5.671
1.276
2.552
3.828
5.104
6.38
GIMP 2.10.18
Test: rotate
Seconds, Fewer Is Better
randomize_kstack_offset
SE +/- 0.033, N = 3
8.458
Linux 5.11
SE +/- 0.028, N = 3
8.535
Linux 5.12
SE +/- 0.025, N = 3
8.768
Linux 5.13 3May
SE +/- 0.101, N = 3
8.899
2
4
6
8
10
GIMP 2.10.18
Test: auto-levels
Seconds, Fewer Is Better
Linux 5.12
SE +/- 0.048, N = 3
9.581
randomize_kstack_offset
SE +/- 0.036, N = 3
9.582
Linux 5.13 3May
SE +/- 0.023, N = 3
9.671
Linux 5.11
SE +/- 0.059, N = 3
9.681
3
6
9
12
15

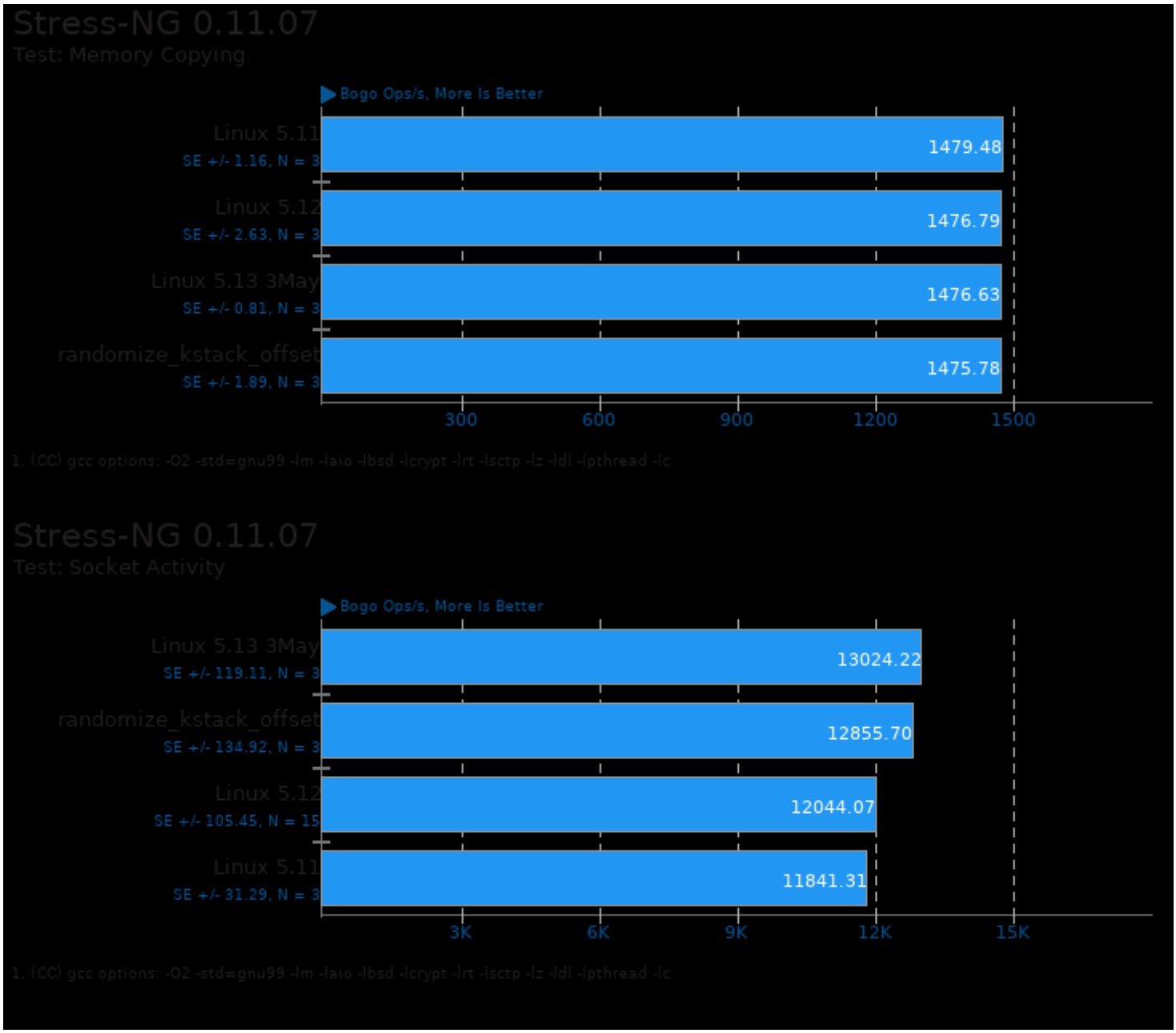

GIMP 2.10.18
Test: unsharp-mask
Seconds, Fewer Is Better
randomize_kstack_offset
SE +/- 0.04, N = 3
12.20
Linux 5.13 3May
SE +/- 0.06, N = 3
12.23
Linux 5.12
SE +/- 0.01, N = 3
12.24
Linux 5.11
SE +/- 0.04, N = 3
12.29
3
6
9
12
15
Hugin
Panorama Photo Assistant + Stitching Time
Seconds, Fewer Is Better
Linux 5.11
SE +/- 0.34, N = 3
34.30
randomize_kstack_offset
SE +/- 0.15, N = 3
34.47
Linux 5.12
SE +/- 0.41, N = 3
34.56
Linux 5.13 3May
SE +/- 0.15, N = 3
34.85
8
16
24
32
40
OCRMyPDF 10.3.1+dfsg
Processing 60 Page PDF Document
Seconds, Fewer Is Better
Linux 5.12
SE +/- 0.10, N = 3
12.42
randomize_kstack_offset
SE +/- 0.06, N = 3
12.43
Linux 5.13 3May
SE +/- 0.09, N = 3
12.51
Linux 5.11
SE +/- 0.05, N = 3
12.54
3
6
9
12
15


RawTherapee
Total Benchmark Time
Seconds, Fewer Is Better
randomize_kstack_offset
SE +/- 0.02, N = 3
46.03
Linux 5.11
SE +/- 0.07, N = 3
46.36
Linux 5.12
SE +/- 0.06, N = 3
46.37
Linux 5.13 3May
SE +/- 0.03, N = 3
46.41
11
22
33
44
55
1. RawTherapee, version 5.8, command line.
Google Draco 1.4.1
Model: Lion
ms, Fewer Is Better
Linux 5.13 3May
SE +/- 49.69, N = 3
4063
randomize_kstack_offset
SE +/- 19.43, N = 3
4067
Linux 5.12
SE +/- 21.46, N = 3
4199
Linux 5.11
SE +/- 117.79, N = 15
4241
900
1800
2700
3600
4500
1. (CXX) g++ options: -O3


Google Draco 1.4.1
Model: Church Facade
ms, Fewer Is Better
Linux 5.13 3May
SE +/- 15.43, N = 3
5274
randomize_kstack_offset
SE +/- 45.90, N = 7
5285
Linux 5.11
SE +/- 63.03, N = 4
5322
Linux 5.12
SE +/- 20.88, N = 3
5410
1200
2400
3600
4800
6000
1. (CXX) g++ options: -O3
Stress-NG 0.11.07
Test: MEMFD
Bogo Ops/s, More Is Better
Linux 5.12
SE +/- 0.46, N = 3
1441.82
Linux 5.13 3May
SE +/- 1.59, N = 3
1400.30
randomize_kstack_offset
SE +/- 1.18, N = 3
1399.59
Linux 5.11
SE +/- 2.90, N = 3
1391.87
300
600
900
1200
1500
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lbsd -lcrypt -lrt -lsctp -lz -ldl -lpthread -lc

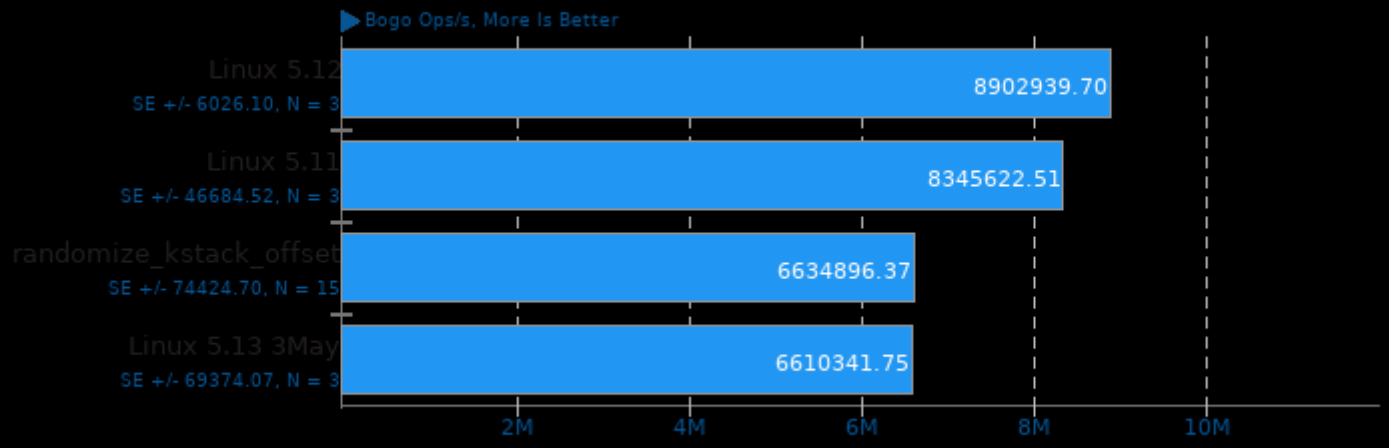

Stress-NG 0.11.07
Test: Malloc
Bogo Ops/s, More Is Better
Linux 5.13 3May
SE +/- 261865.94, N = 3
259049400.40
Linux 5.11
SE +/- 233842.11, N = 3
257938939.46
Linux 5.12
SE +/- 321861.00, N = 3
253127888.24
randomize_kstack_offset
SE +/- 226279.86, N = 3
252697490.95
60M
120M
180M
240M
300M
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lbsd -lcrypt -lrt -lsctp -lz -ldl -lpthread -lc
Stress-NG 0.11.07
Test: SENDFILE
Bogo Ops/s, More Is Better
Linux 5.11
SE +/- 493.73, N = 3
408425.37
randomize_kstack_offset
SE +/- 1002.58, N = 3
399832.32
Linux 5.13 3May
SE +/- 602.13, N = 3
396815.57
Linux 5.12
SE +/- 618.69, N = 3
395855.45
90K
180K
270K
360K
450K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lbsd -lcrypt -lrt -lsctp -lz -ldl -lpthread -lc


Stress-NG 0.11.07
Test: CPU Stress
Bogo Ops/s, More Is Better
Linux 5.12
SE +/- 83.19, N = 15
11585.99
randomize_kstack_offset
SE +/- 87.04, N = 15
11548.52
Linux 5.13 3May
SE +/- 84.86, N = 15
11425.57
Linux 5.11
SE +/- 78.91, N = 3
11041.21
2K
4K
6K
8K
10K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lbsd -lcrypt -lrt -lsctp -lz -ldl -lpthread -lc
Stress-NG 0.11.07
Test: Semaphores
Bogo Ops/s, More Is Better
Linux 5.11
SE +/- 8228.91, N = 3
2426814.10
Linux 5.13 3May
SE +/- 20275.70, N = 3
2419419.05
randomize_kstack_offset
SE +/- 17068.65, N = 3
2404641.64
Linux 5.12
SE +/- 8959.89, N = 3
2403605.69
500K
1000K
1500K
2000K
2500K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lbsd -lcrypt -lrt -lsctp -lz -ldl -lpthread -lc


Stress-NG 0.11.07
Test: Memory Copying
Bogo Ops/s, More Is Better
Linux 5.11
SE +/- 1.16, N = 3
1479.48
Linux 5.12
SE +/- 2.63, N = 3
1476.79
Linux 5.13 3May
SE +/- 0.81, N = 3
1476.63
randomize_kstack_offset
SE +/- 1.89, N = 3
1475.78
300
600
900
1200
1500
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lbsd -lcrypt -lrt -lsctp -lz -ldl -lpthread -lc
Stress-NG 0.11.07
Test: Socket Activity
Bogo Ops/s, More Is Better
Linux 5.13 3May
SE +/- 119.11, N = 3
13024.22
randomize_kstack_offset
SE +/- 134.92, N = 3
12855.70
Linux 5.12
SE +/- 105.45, N = 15
12044.07
Linux 5.11
SE +/- 31.29, N = 3
11841.31
3K
6K
9K
12K
15K
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lbsd -lcrypt -lrt -lsctp -lz -ldl -lpthread -lc

Stress-NG 0.11.07

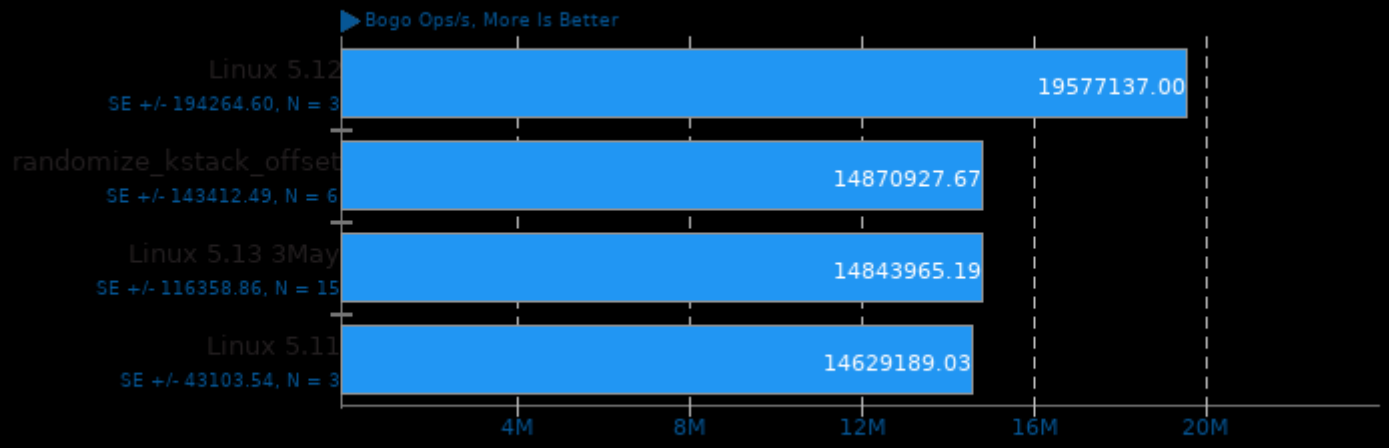
Test: Context Switching



1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lbsd -lcrypt -lrt -lsctp -lz -ldl -lpthread -lc

Stress-NG 0.11.07

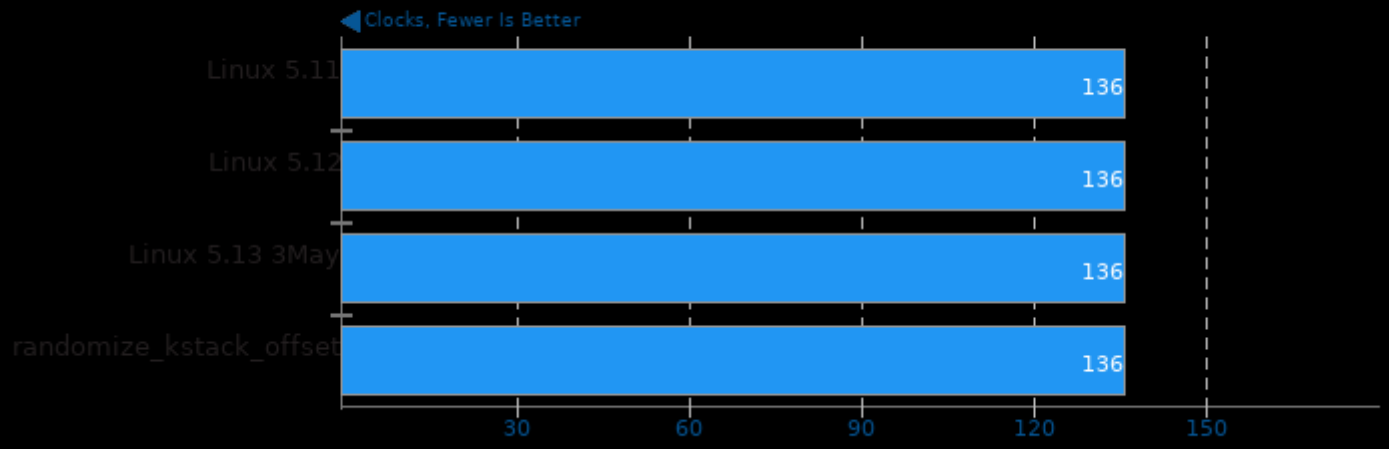
Test: System V Message Passing

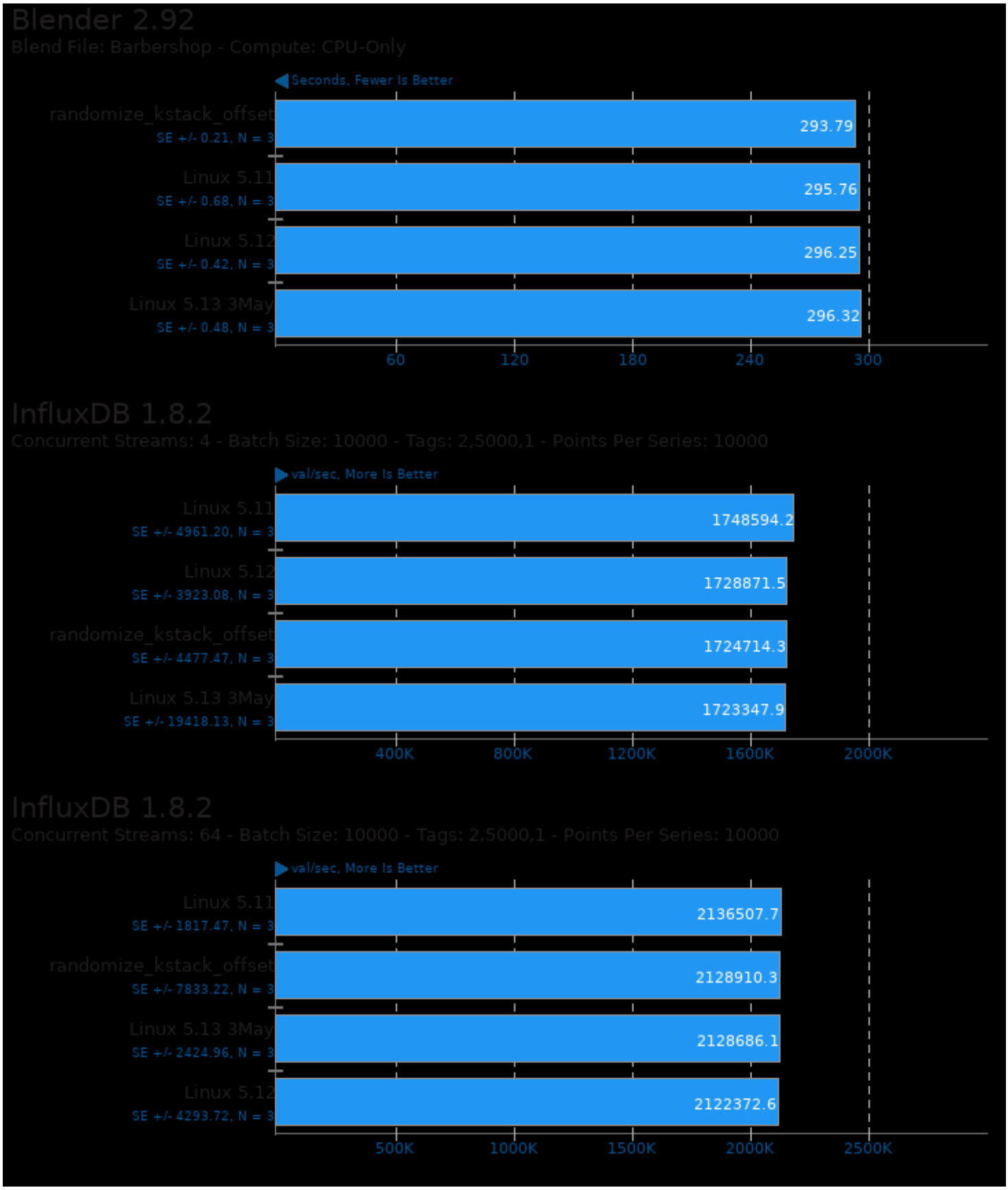


1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lbsd -lcrypt -lrt -lsctp -lz -ldl -lpthread -lc

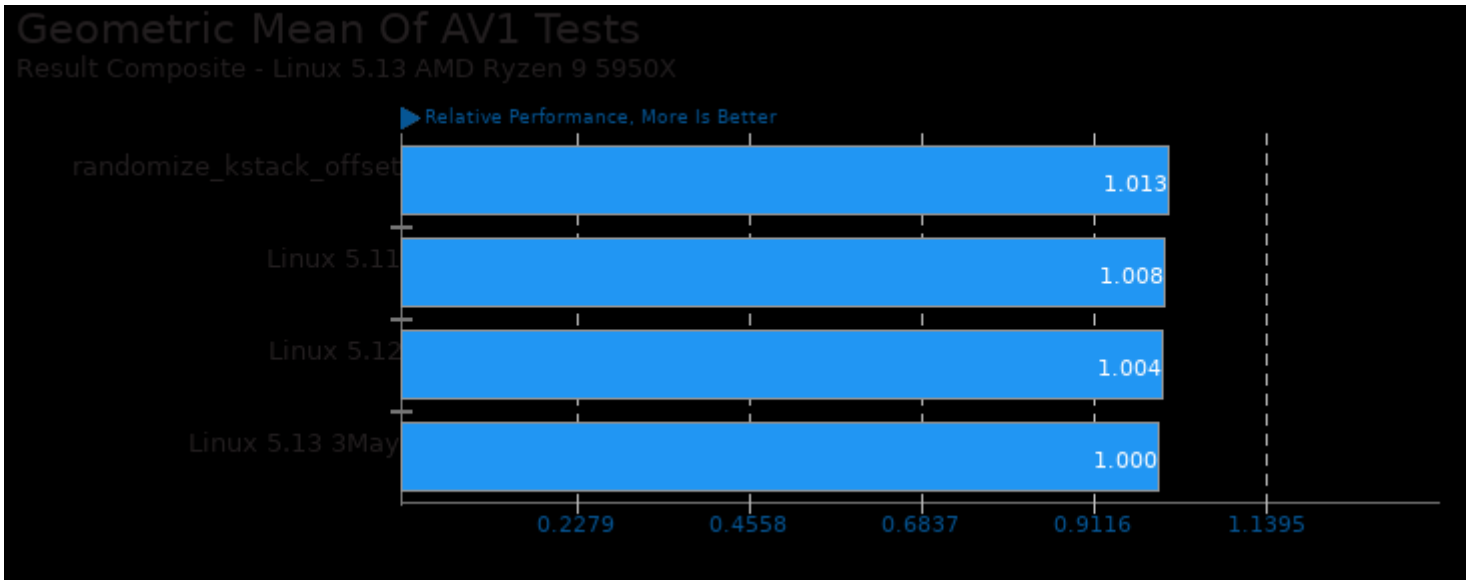
ctx_clock

Context Switch Time




Blender 2.92
Blend File: Barbershop - Compute: CPU-Only
Seconds, Fewer Is Better
randomize_kstack_offset
SE +/- 0.21, N = 3
293.79
Linux 5.11
SE +/- 0.68, N = 3
295.76
Linux 5.12
SE +/- 0.42, N = 3
296.25
Linux 5.13 3May
SE +/- 0.48, N = 3
296.32
60
120
180
240
300
InfluxDB 1.8.2
Concurrent Streams: 4 - Batch Size: 10000 - Tags: 2,5000,1 - Points Per Series: 10000
val/sec, More Is Better
Linux 5.11
SE +/- 4961.20, N = 3
1748594.2
Linux 5.12
SE +/- 3923.08, N = 3
1728871.5
randomize_kstack_offset
SE +/- 4477.47, N = 3
1724714.3
Linux 5.13 3May
SE +/- 19418.13, N = 3
1723347.9
400K
800K
1200K
1600K
2000K
InfluxDB 1.8.2
Concurrent Streams: 64 - Batch Size: 10000 - Tags: 2,5000,1 - Points Per Series: 10000
val/sec, More Is Better
Linux 5.11
SE +/- 1817.47, N = 3
2136507.7
randomize_kstack_offset
SE +/- 7833.22, N = 3
2128910.3
Linux 5.13 3May
SE +/- 2424.96, N = 3
2128686.1
Linux 5.12
SE +/- 4293.72, N = 3
2122372.6
500K
1000K
1500K
2000K
2500K

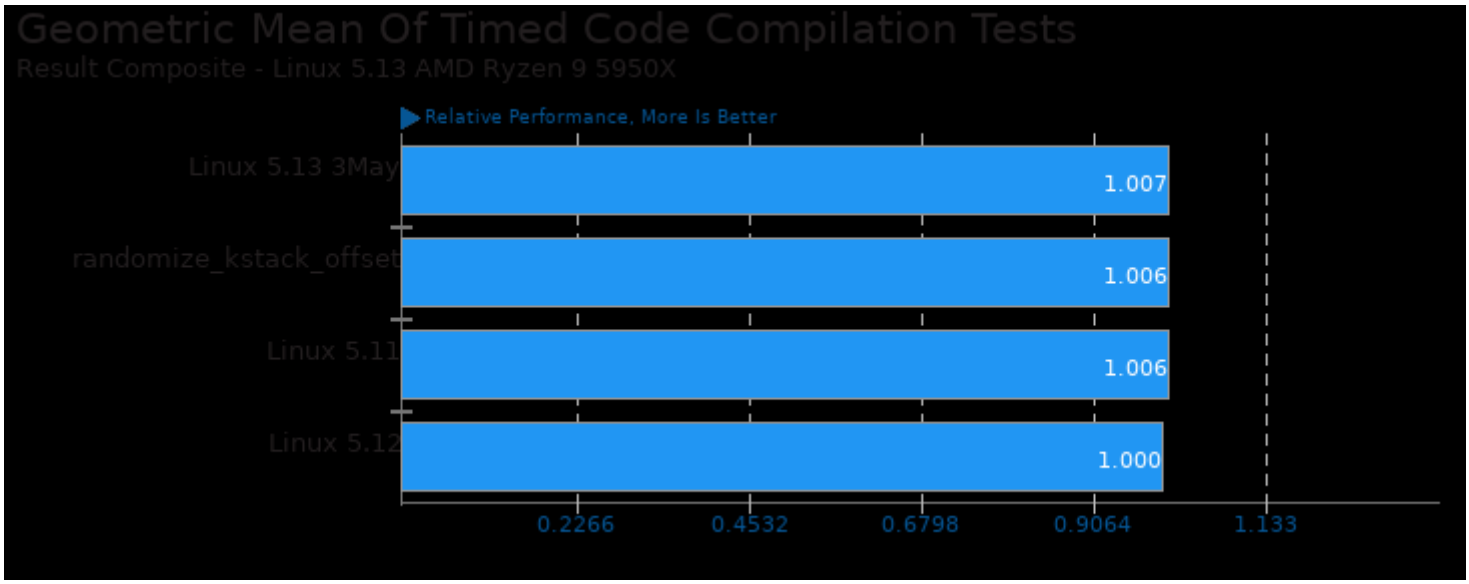
These geometric means are based upon test groupings / test suites for this result file.



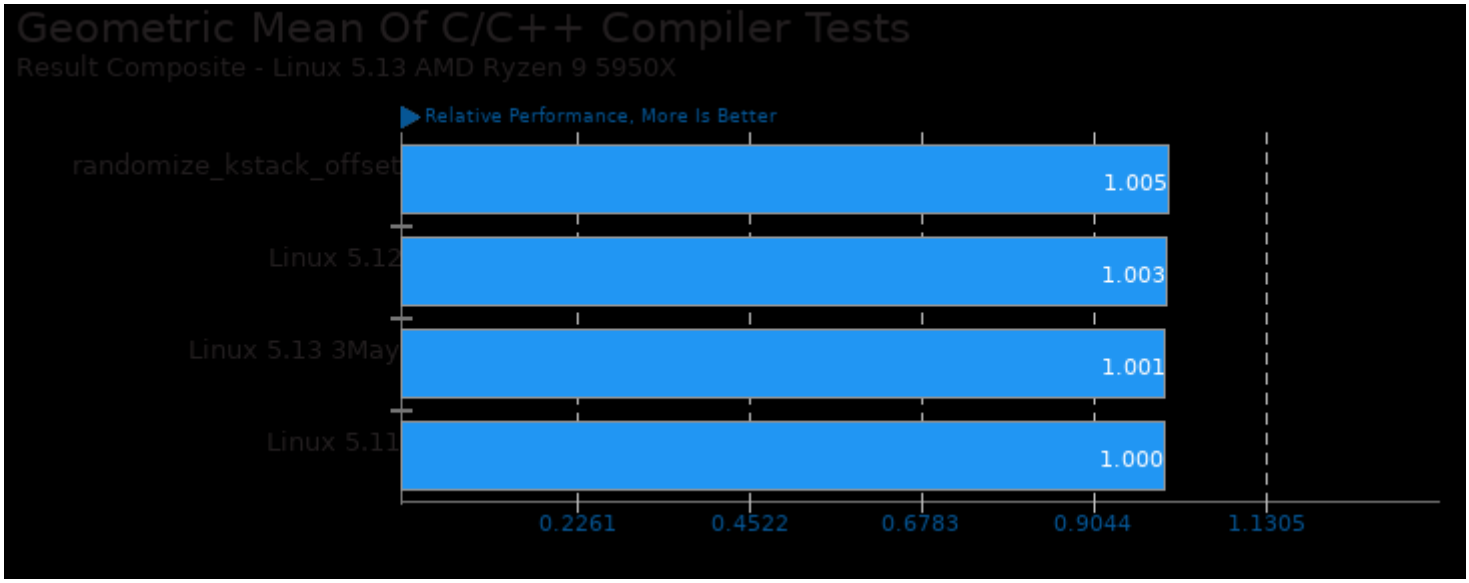
Geometric mean based upon tests: pts/aom-av1 and pts/svt-av1



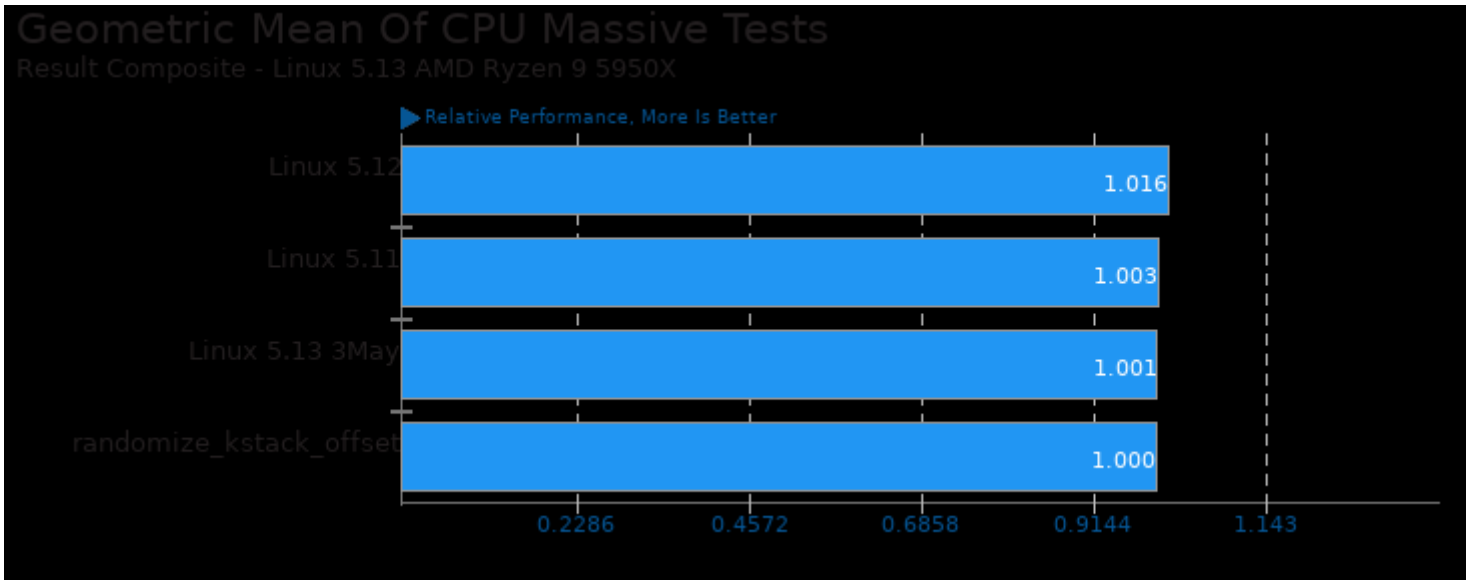
Geometric mean based upon tests: pts/chia-vdf and pts/srslte



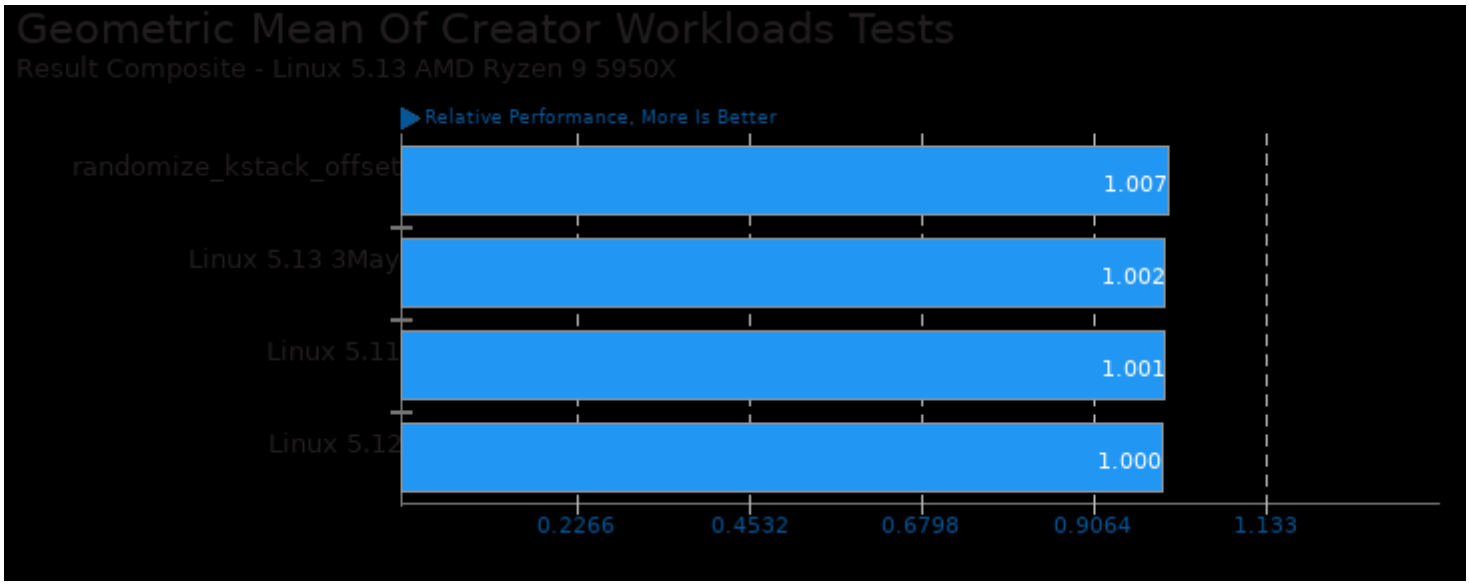
Geometric mean based upon tests: pts/build-linux-kernel, pts/build-godot, pts/build-wasmer and pts/build-mesa



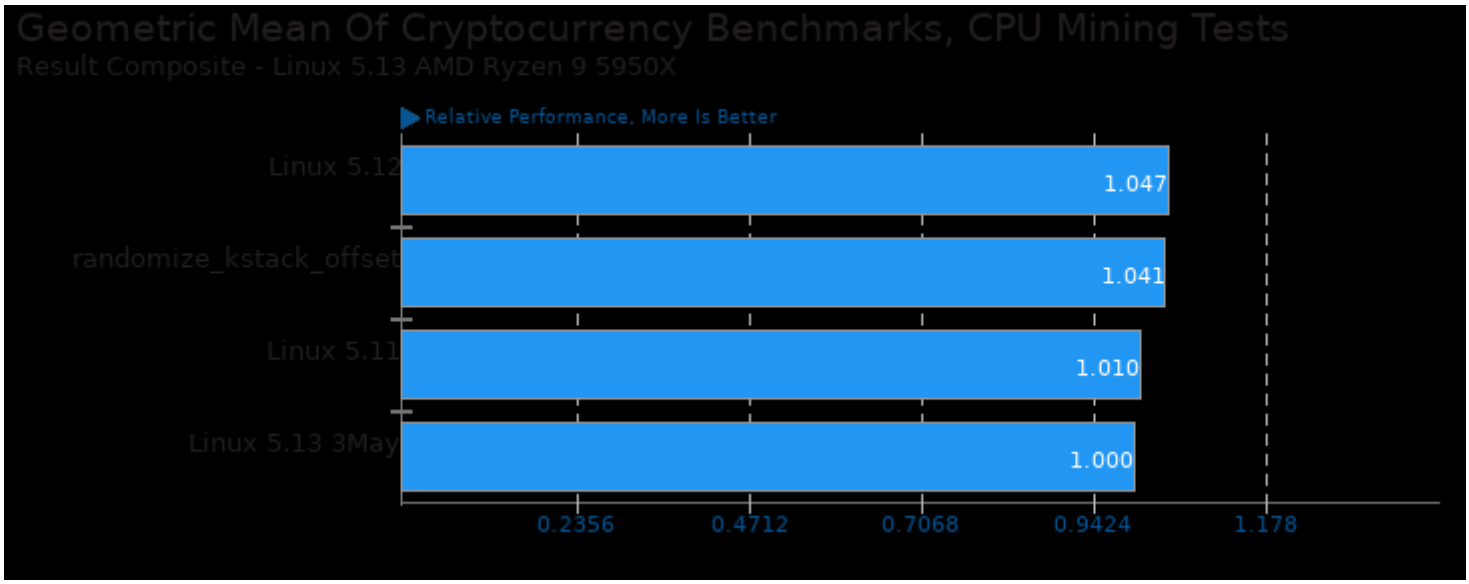
Geometric mean based upon tests: pts/stockfish, pts/hmmer, pts/sqlite-speedtest, pts/compress-zstd, pts/aom-av1, pts/svt-av1, pts/svt-vp9, pts/gromacs and pts/keydb



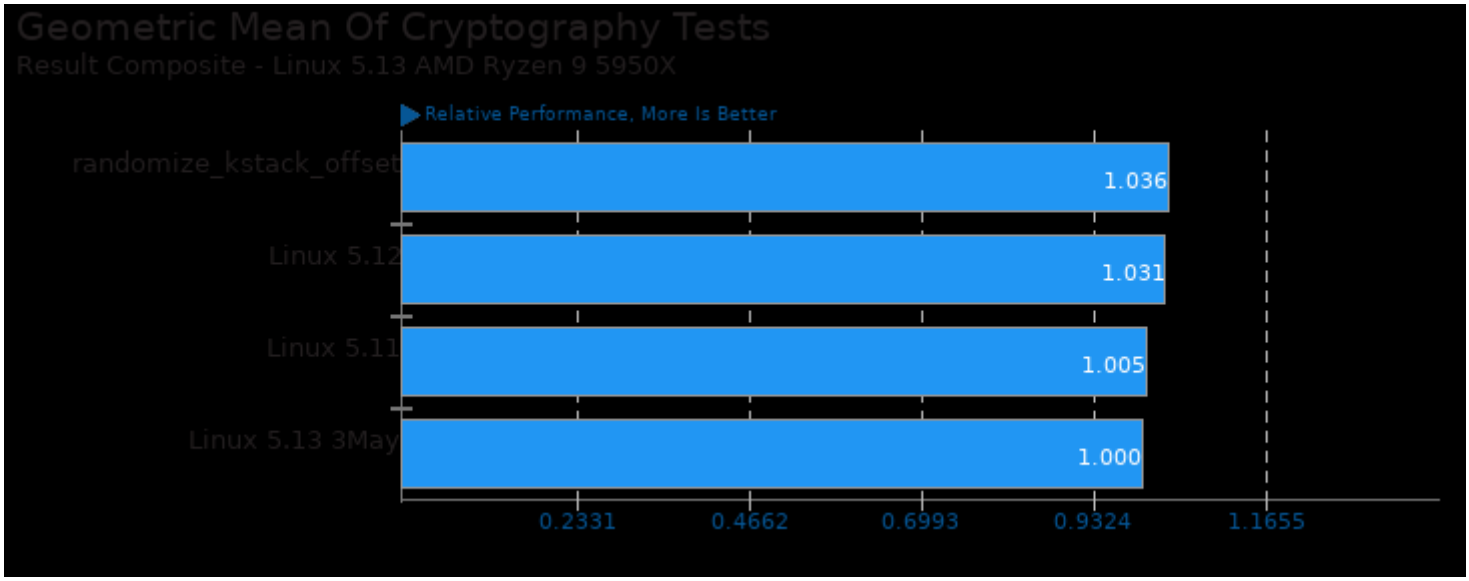
Geometric mean based upon tests: pts/build-linux-kernel, pts/compilebench, pts/compress-zstd, pts/ctx-clock, pts/svt-av1, pts/svt-hevc, pts/svt-vp9, pts/hmmer, pts/namd, pts/stockfish, pts/stress-ng, pts/blender, system/darktable and pts/tjbench



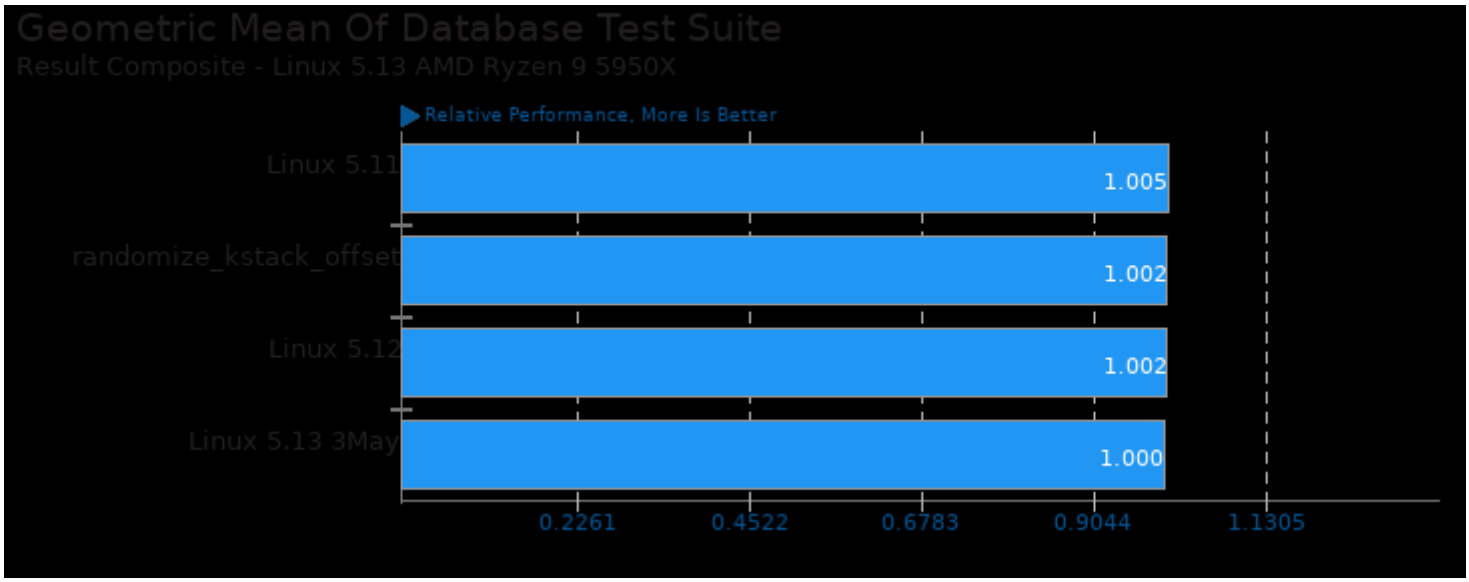
Geometric mean based upon tests: pts/blender, pts/luxcorerender, system/ocrmypdf, pts/svt-vp9, pts/svt-hevc, pts/aom-av1, pts/svt-av1, system/rawtherapee, pts/tjbench, system/gimp, system/hugin, system/darktable, pts/draco and pts/build-godot



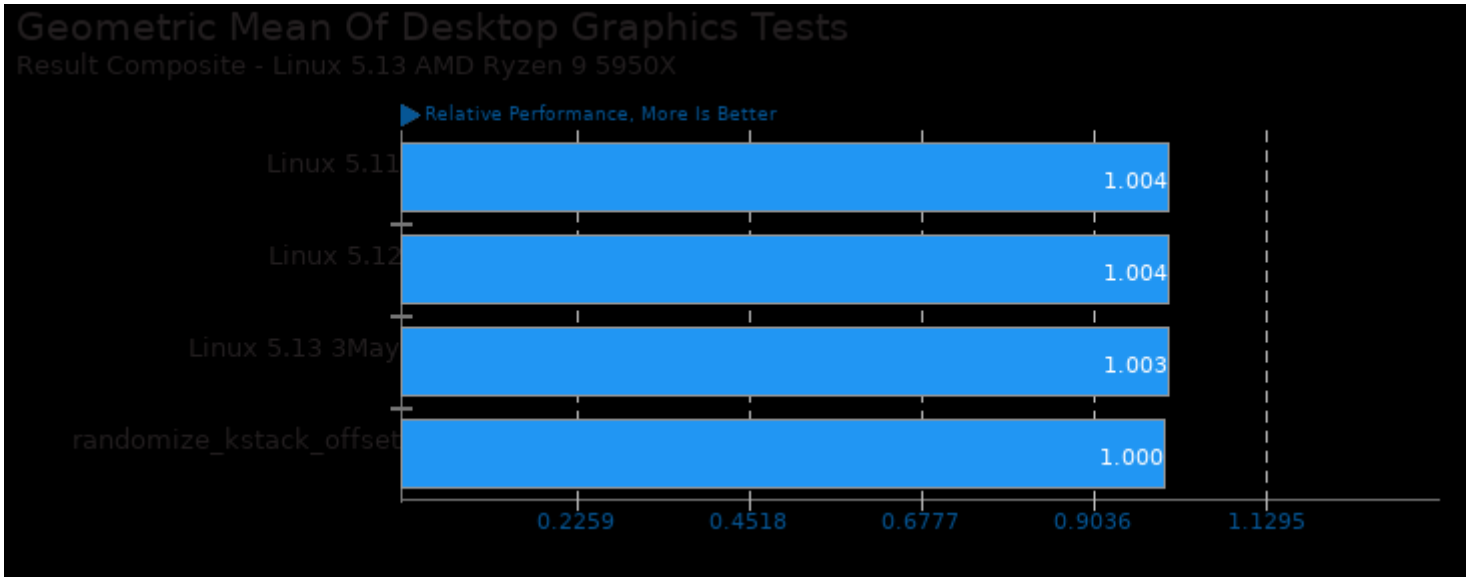
Geometric mean based upon tests: pts/xmrig and pts/chia-vdf



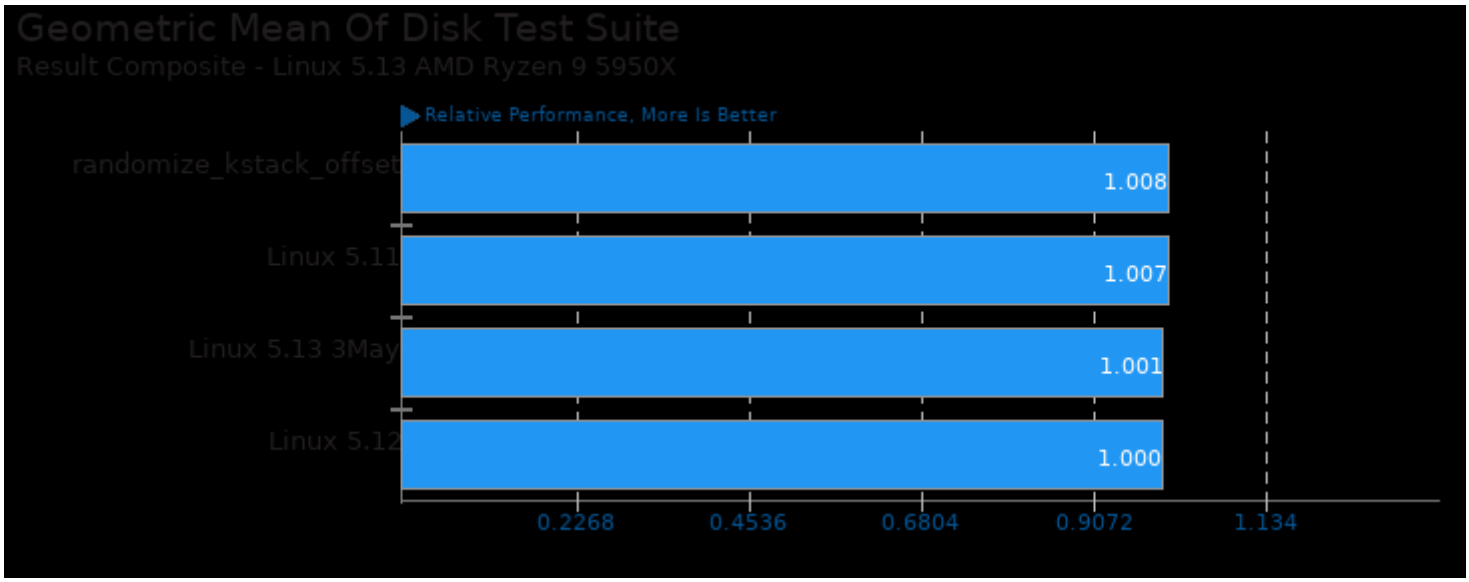
Geometric mean based upon tests: pts/securemark, pts/xmrig and pts/chia-vdf



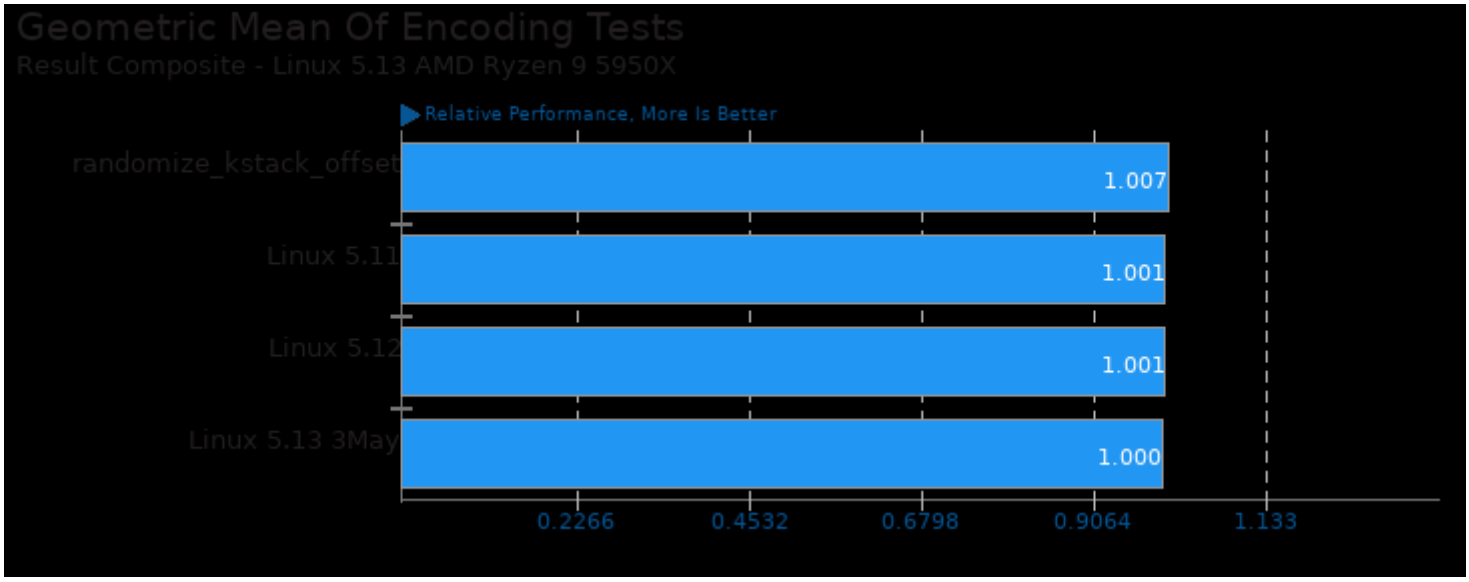
Geometric mean based upon tests: pts/sqlite-speedtest, pts/keydb and pts/influxdb



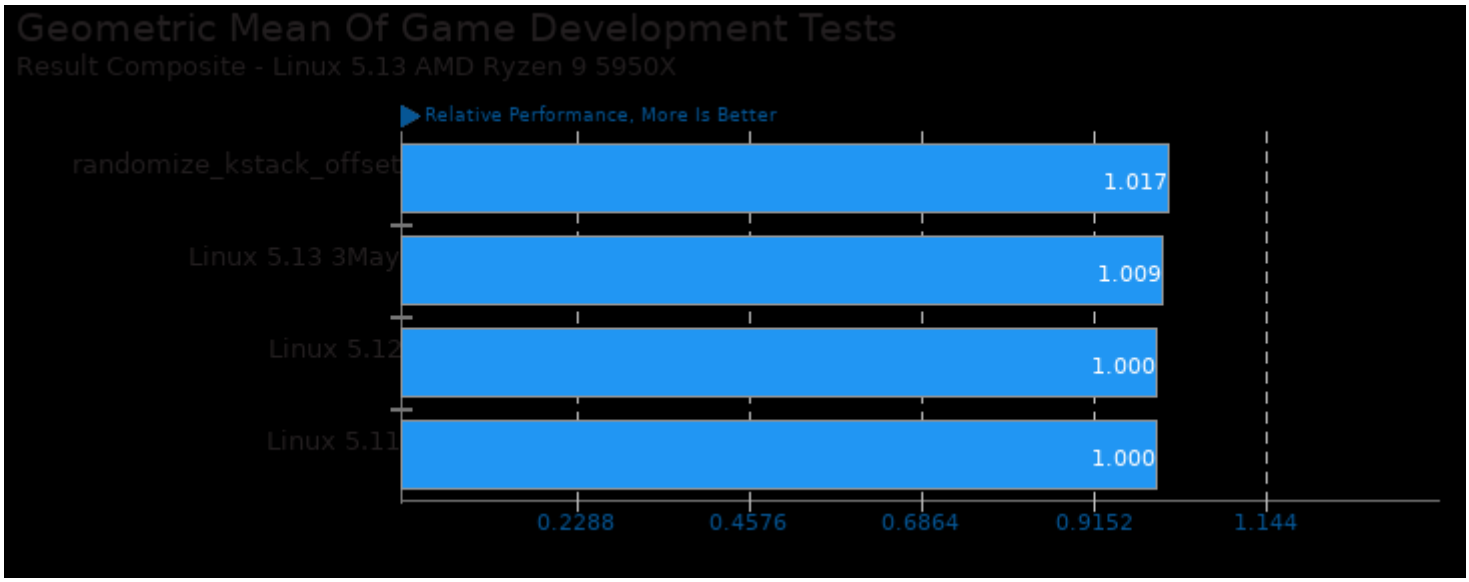
Geometric mean based upon tests: pts/xonotic, pts/tesseract and pts/paraview



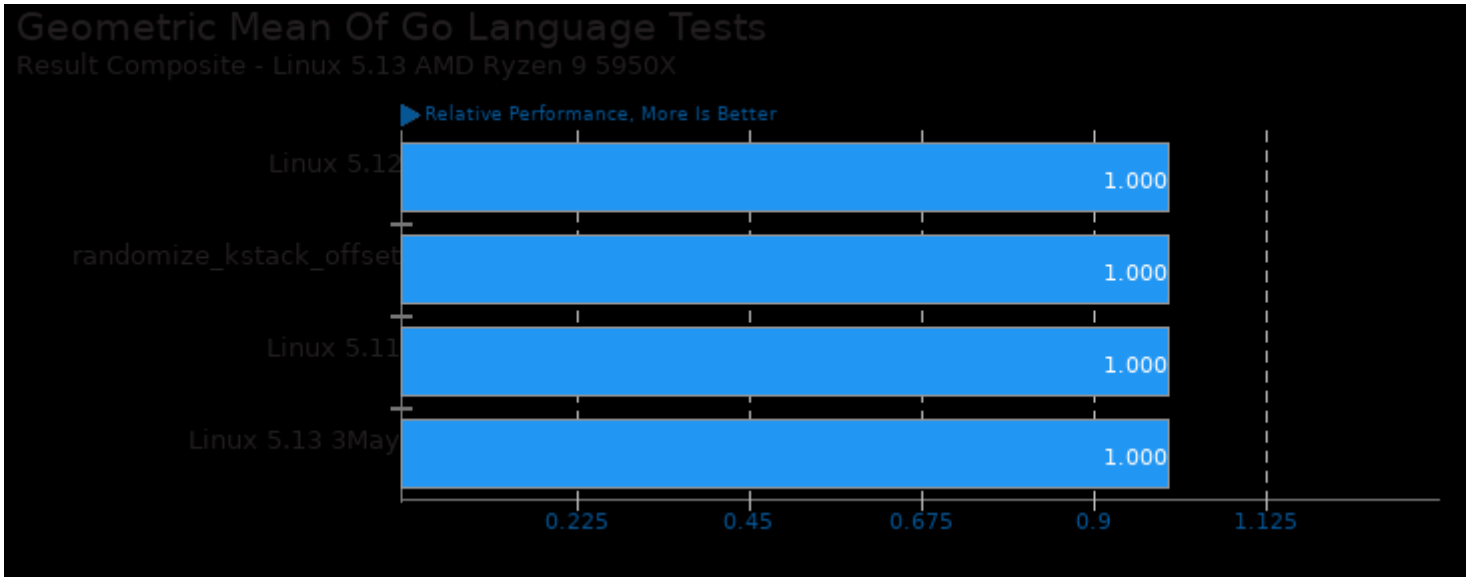
Geometric mean based upon tests: pts/fs-mark and pts/compilebench



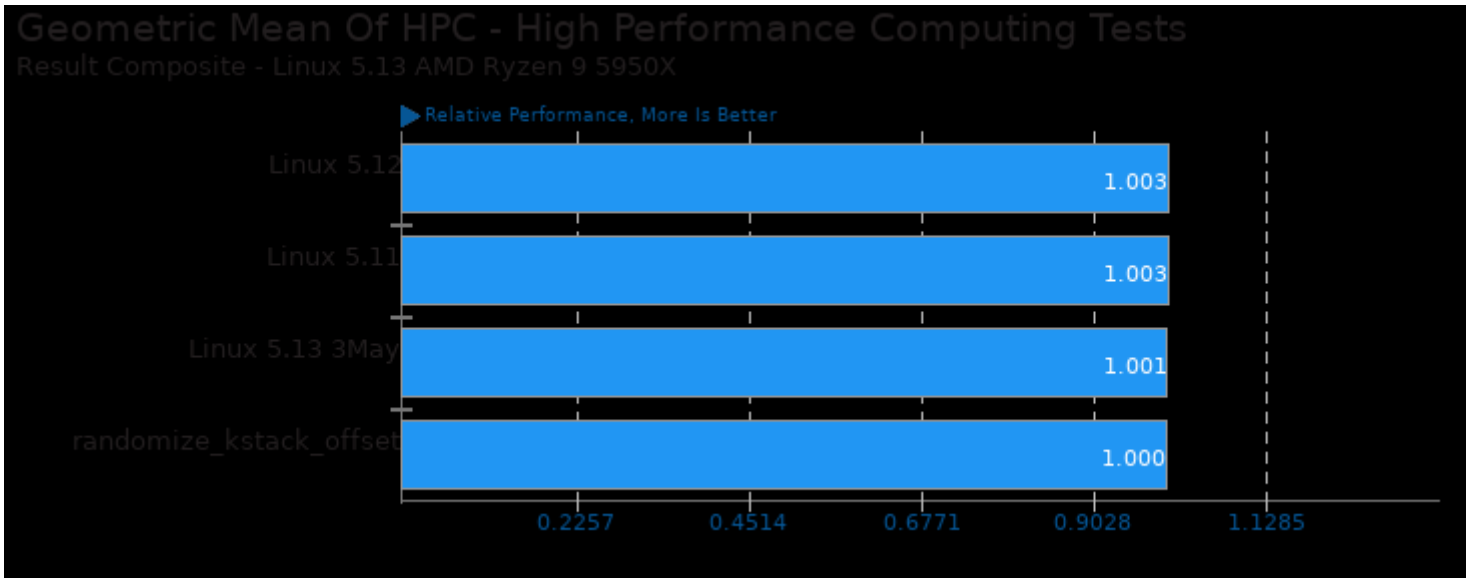
Geometric mean based upon tests: pts/svt-vp9, pts/svt-hevc, pts/aom-av1 and pts/svt-av1



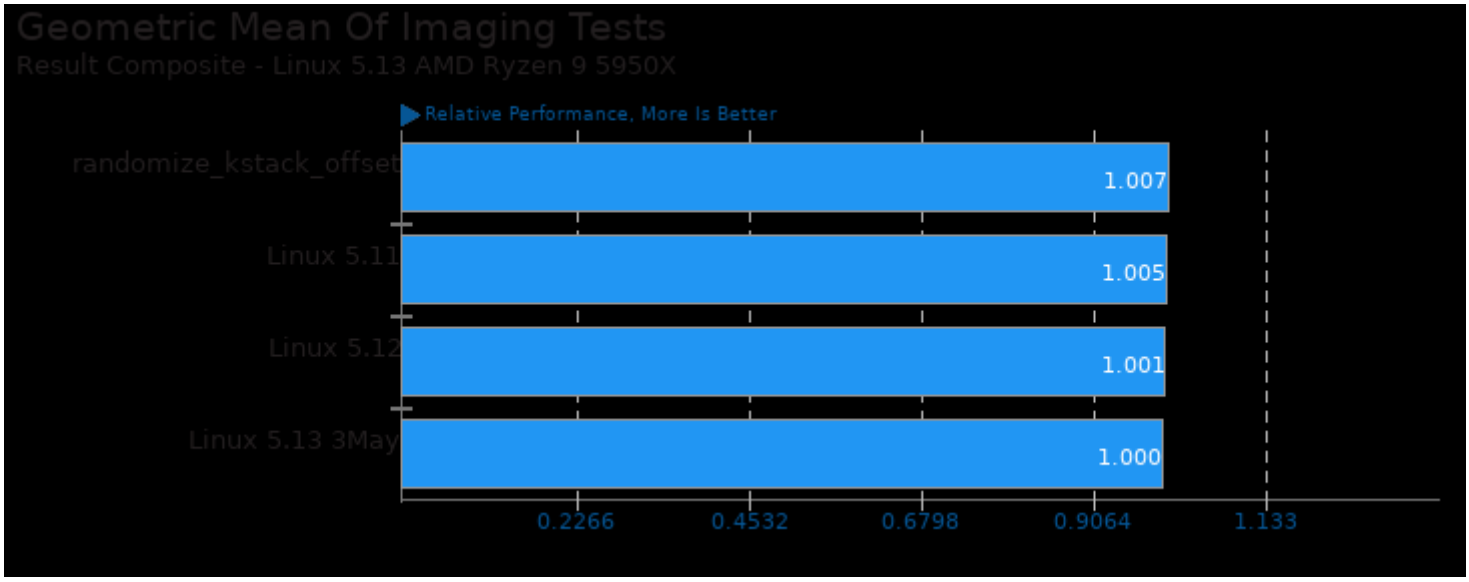
Geometric mean based upon tests: pts/draco, pts/build-godot and pts/blender



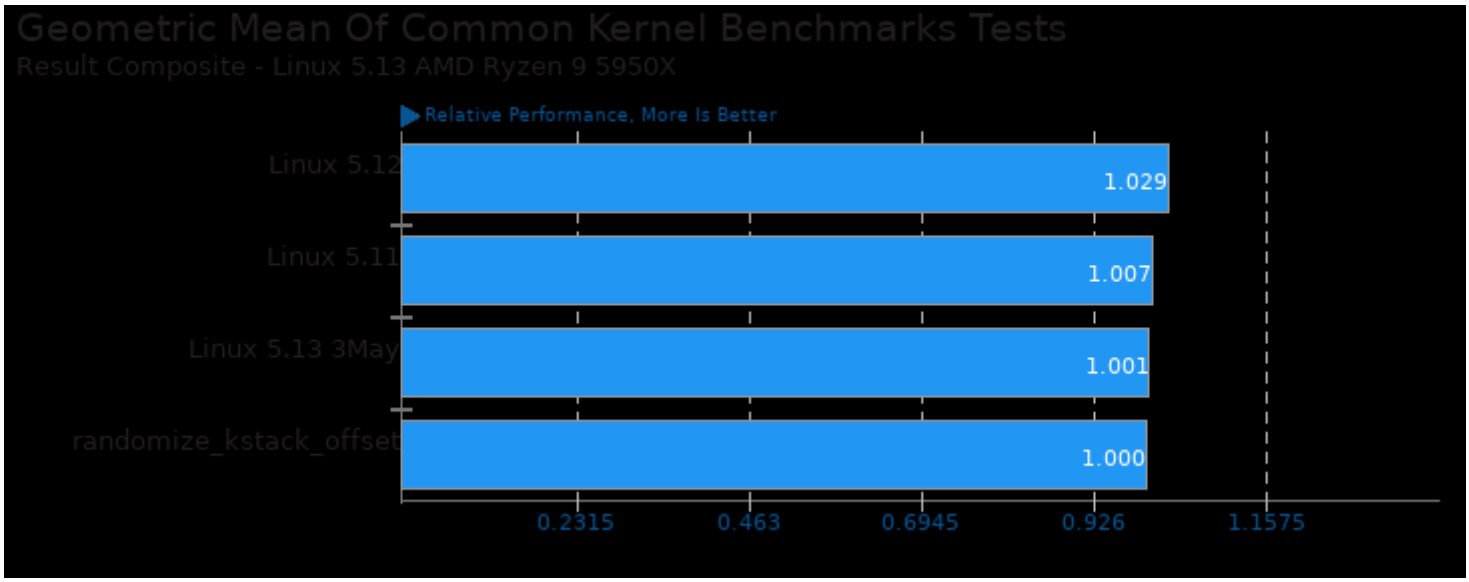
Geometric mean based upon tests: pts/ethr and pts/influxdb



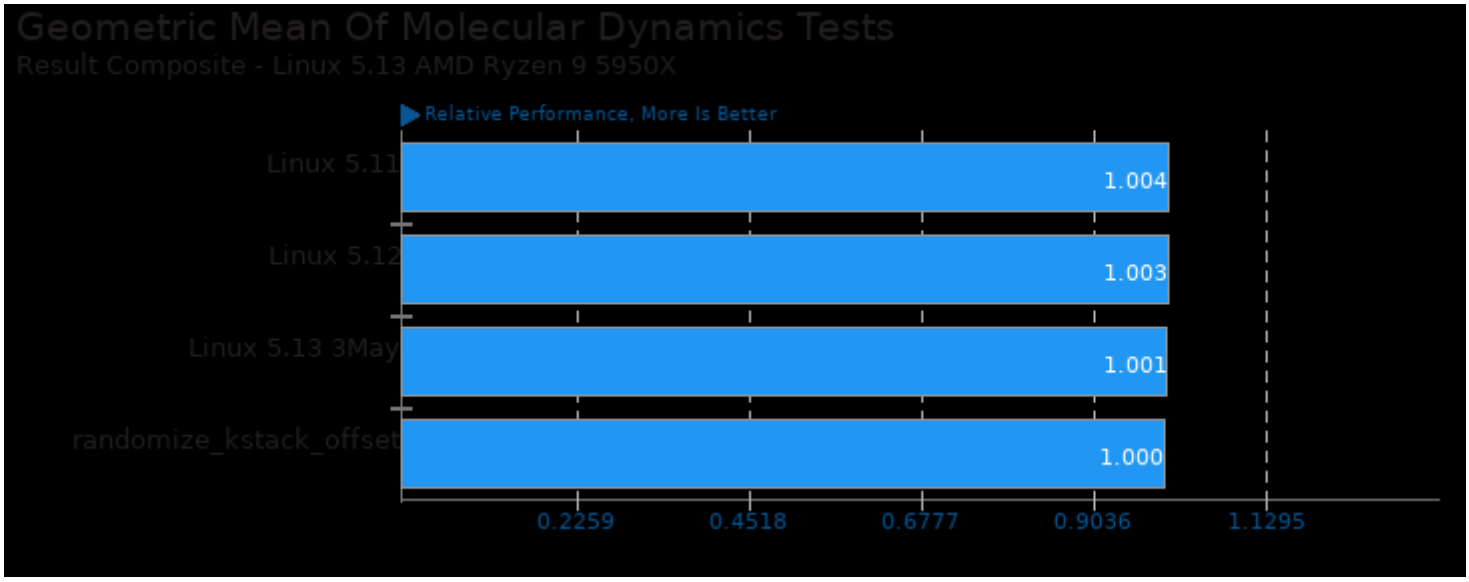
Geometric mean based upon tests: pts/namd, pts/gromacs and pts/hmmer



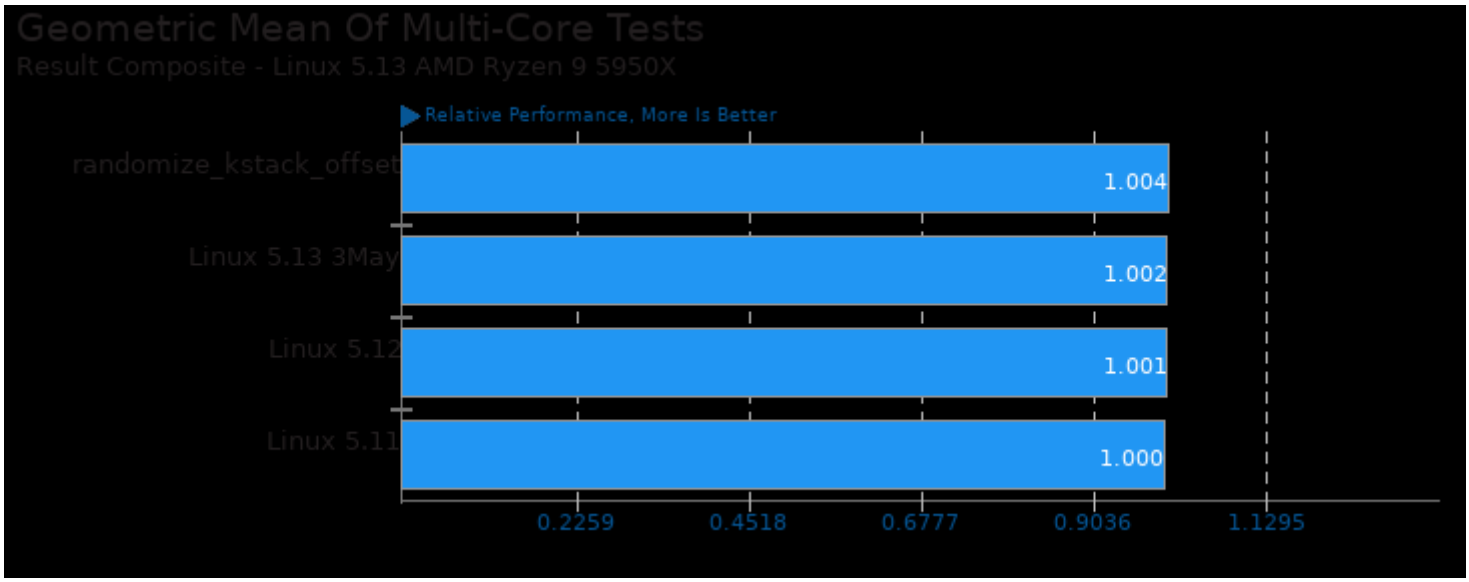
Geometric mean based upon tests: system/rawtherapee, pts/tjbench, system/gimp, system/hugin and system/darktable



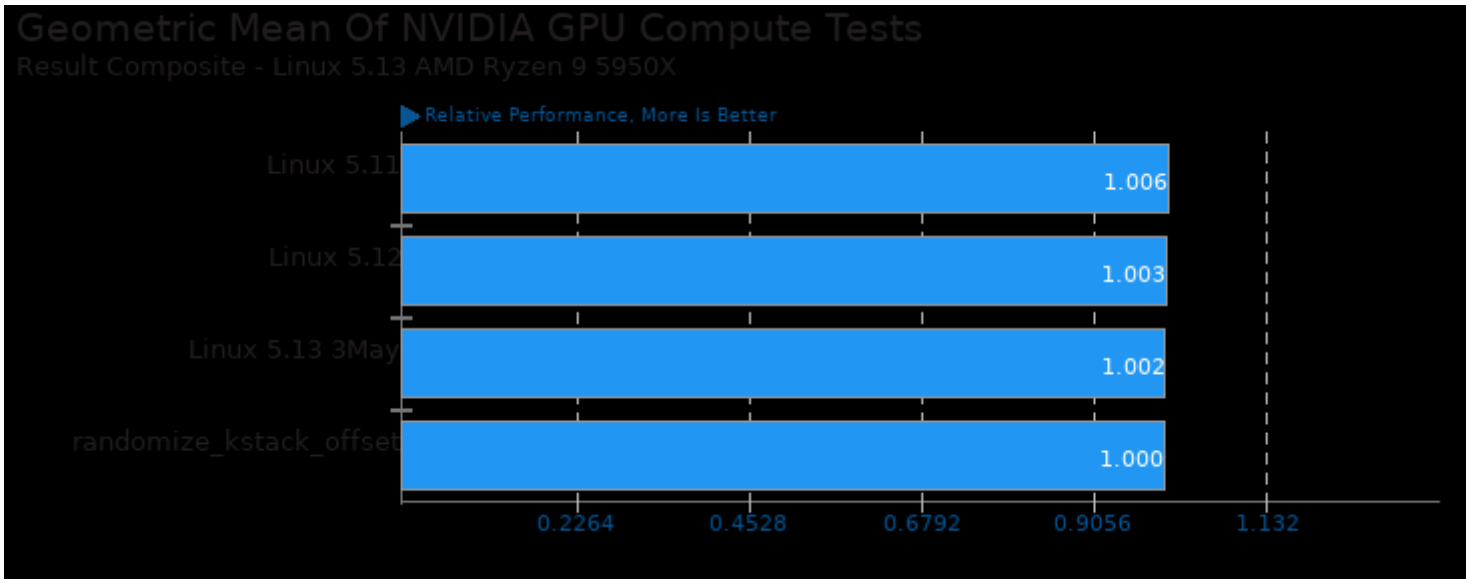
Geometric mean based upon tests: pts/sqlite-speedtest, pts/ctx-clock, pts/stress-ng and pts/ethr



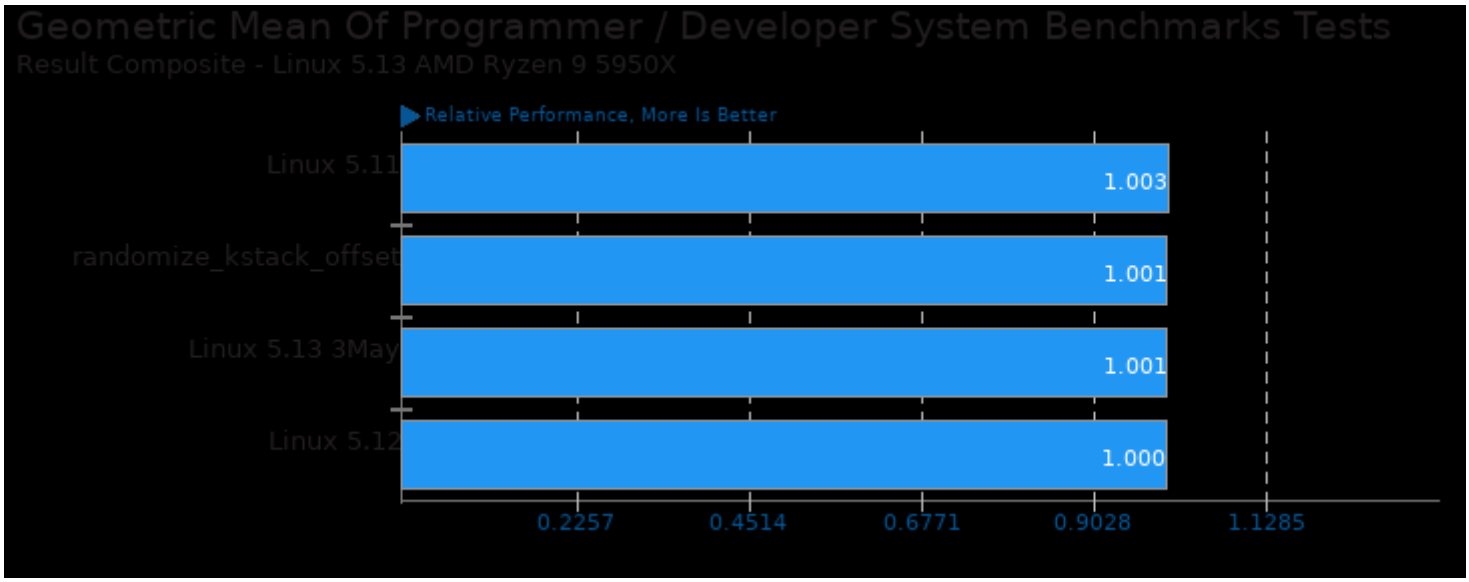
Geometric mean based upon tests: pts/namd and pts/gromacs



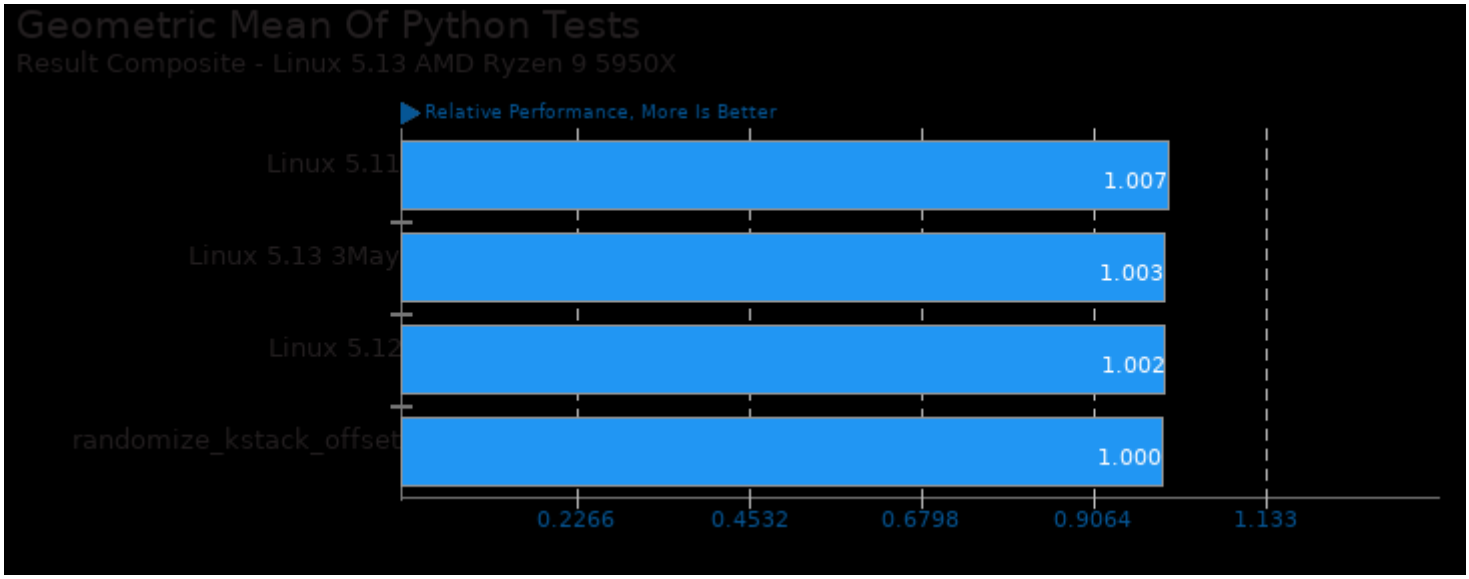
Geometric mean based upon tests: pts/blender, pts/stockfish, pts/svt-vp9, pts/svt-hevc, pts/aom-av1, pts/svt-av1, pts/namd, pts/gromacs, pts/compress-zstd, pts/build-linux-kernel, pts/build-godot, pts/build-wasmer, pts/build-mesa and pts/luxcorerender



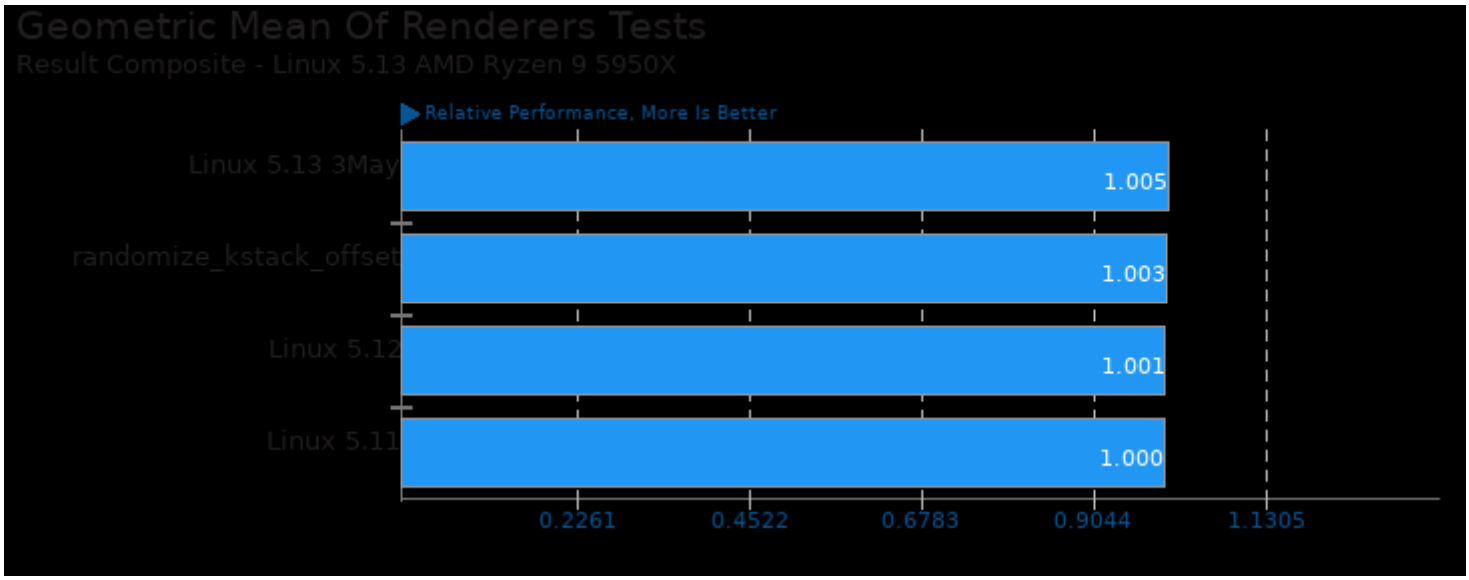
Geometric mean based upon tests: pts/gromacs, pts/luxcorerender, pts/blender, pts/vkfft, pts/vkpeak, pts/realsr-ncnn and pts/waifu2x-ncnn



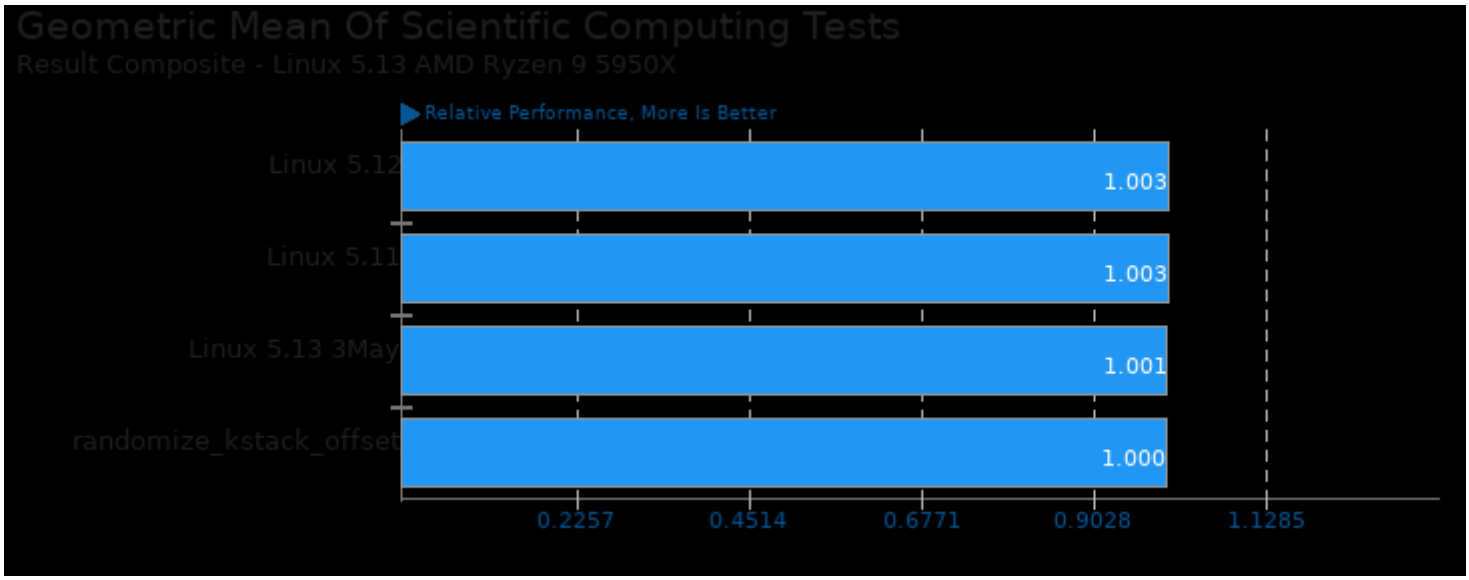
Geometric mean based upon tests: pts/sqlite-speedtest, pts/compress-zstd, pts/build-linux-kernel, pts/build-godot, pts/build-wasmer and pts/build-mesa



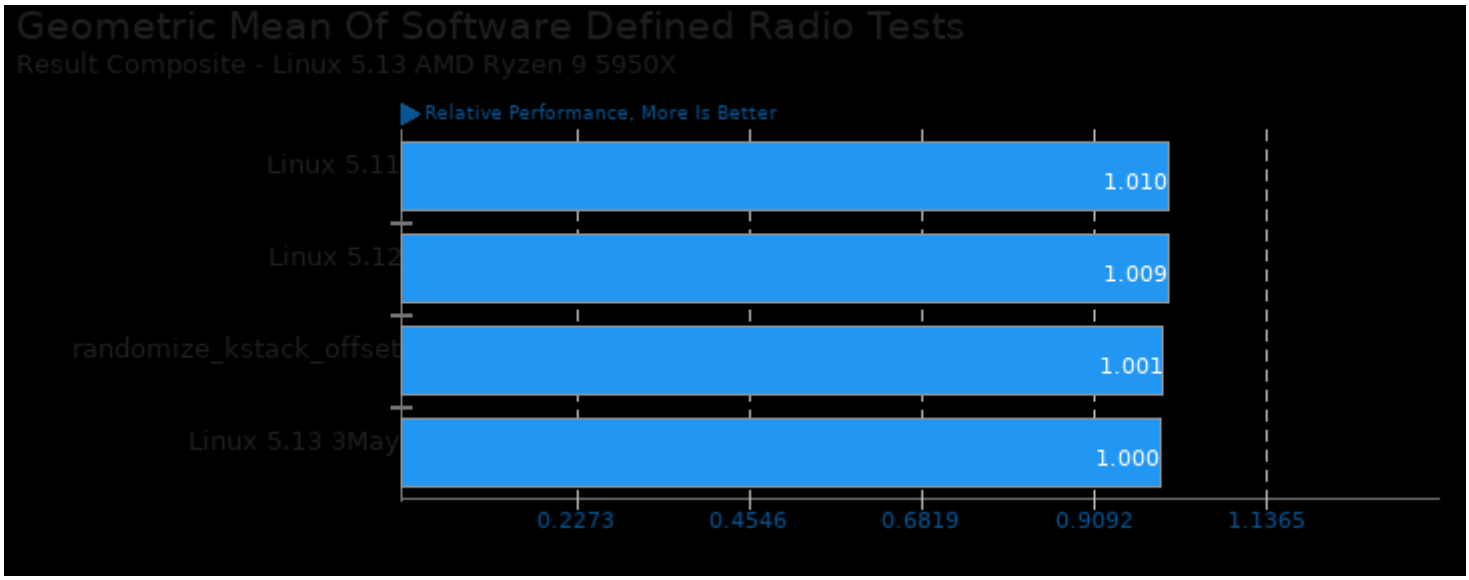
Geometric mean based upon tests: pts/compilebench, pts/paraview, pts/chia-vdf, pts/build-godot, pts/build-mesa and system/ocrmypdf



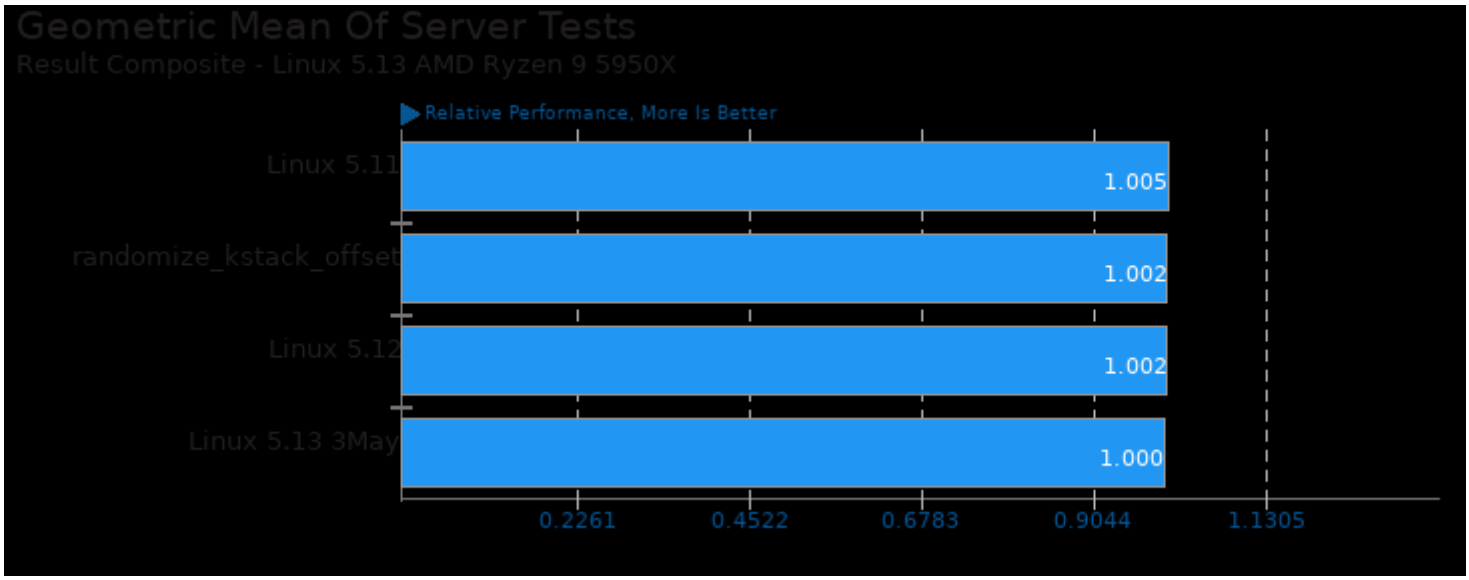
Geometric mean based upon tests: pts/blender and pts/luxcorerender



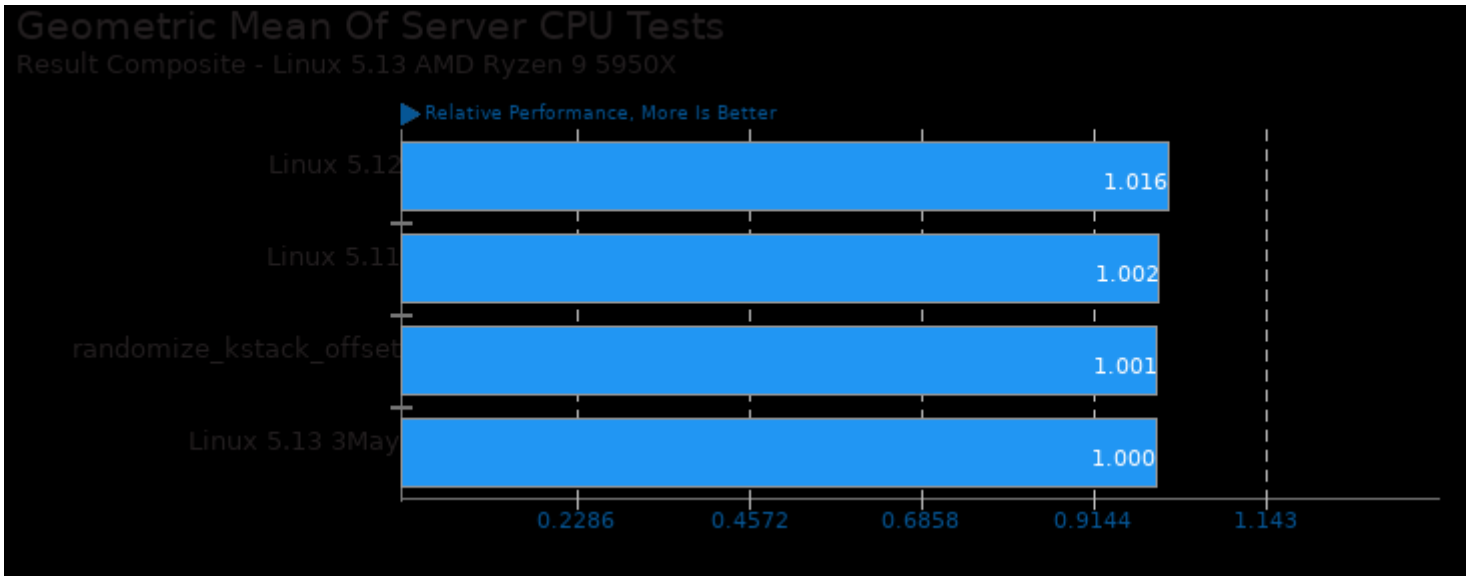
Geometric mean based upon tests: pts/namd, pts/gromacs and pts/hmmer



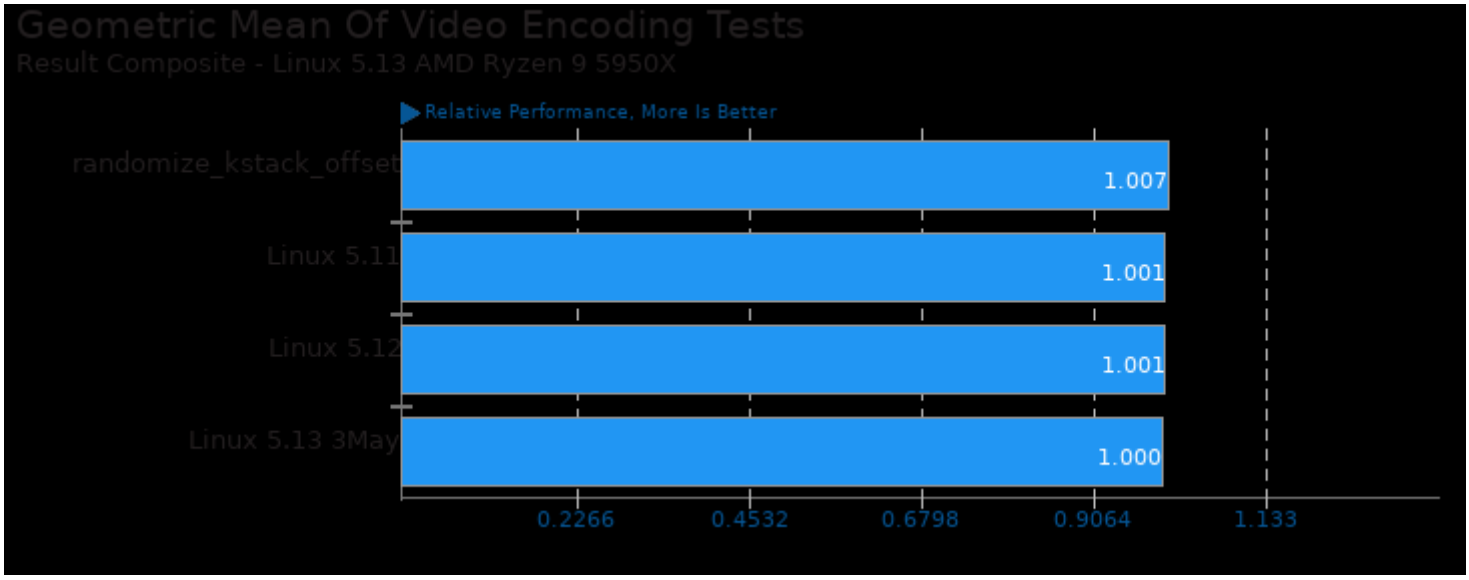
Geometric mean based upon tests: pts/liquid-dsp, pts/srslte and pts/luaradio



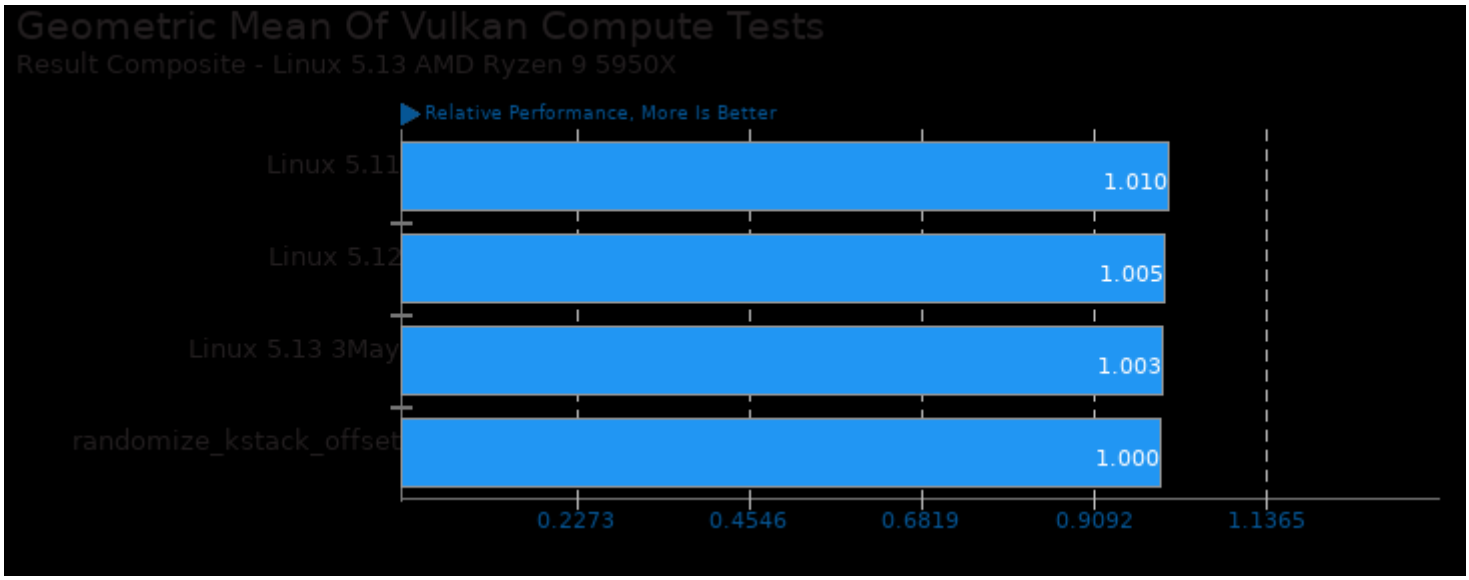
Geometric mean based upon tests: pts/keydb, pts/sqlite-speedtest and pts/influxdb



Geometric mean based upon tests: pts/namd, pts/svt-av1, pts/svt-hevc, pts/svt-vp9, pts/stockfish, pts/build-linux-kernel, pts/compress-zstd, pts/tjbench, system/gimp, pts/stress-ng, pts/ctx-clock and pts/blender



Geometric mean based upon tests: pts/svt-vp9, pts/svt-hevc, pts/aom-av1 and pts/svt-av1



Geometric mean based upon tests: pts/vkfft, pts/vkpeak, pts/realsr-ncnn and pts/waifu2x-ncnn



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

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 07:10.