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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
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%
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%
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%
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%
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%
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%
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 - 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 - 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 - 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 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 - 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%
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%
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%
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%

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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%
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%
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%
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%
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%
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%

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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%
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%
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%
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%
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 (MiPolys / Sec)	6276	**6273**	**6277**	6277
Normalized	99.97%	99.92%	100%	100%
Standard Deviation	0.1%	0%	0.1%	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 (MiPolys / Sec)	**2601**	2597	2597	**2595**
Normalized	100%	99.85%	99.83%	99.78%
Standard Deviation	0%	0.1%	0.1%	0.2%
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 (MiVoxels / Sec)	**4155**	4193	4191	**4197**
Normalized	99%	99.91%	99.87%	100%
Standard Deviation	2.8%	0.2%	0.1%	0.1%
Stockfish - Total Time (Nodes/s)	**54460035**	**56726532**	56470673	56618292
Normalized	96%	100%	99.55%	99.81%

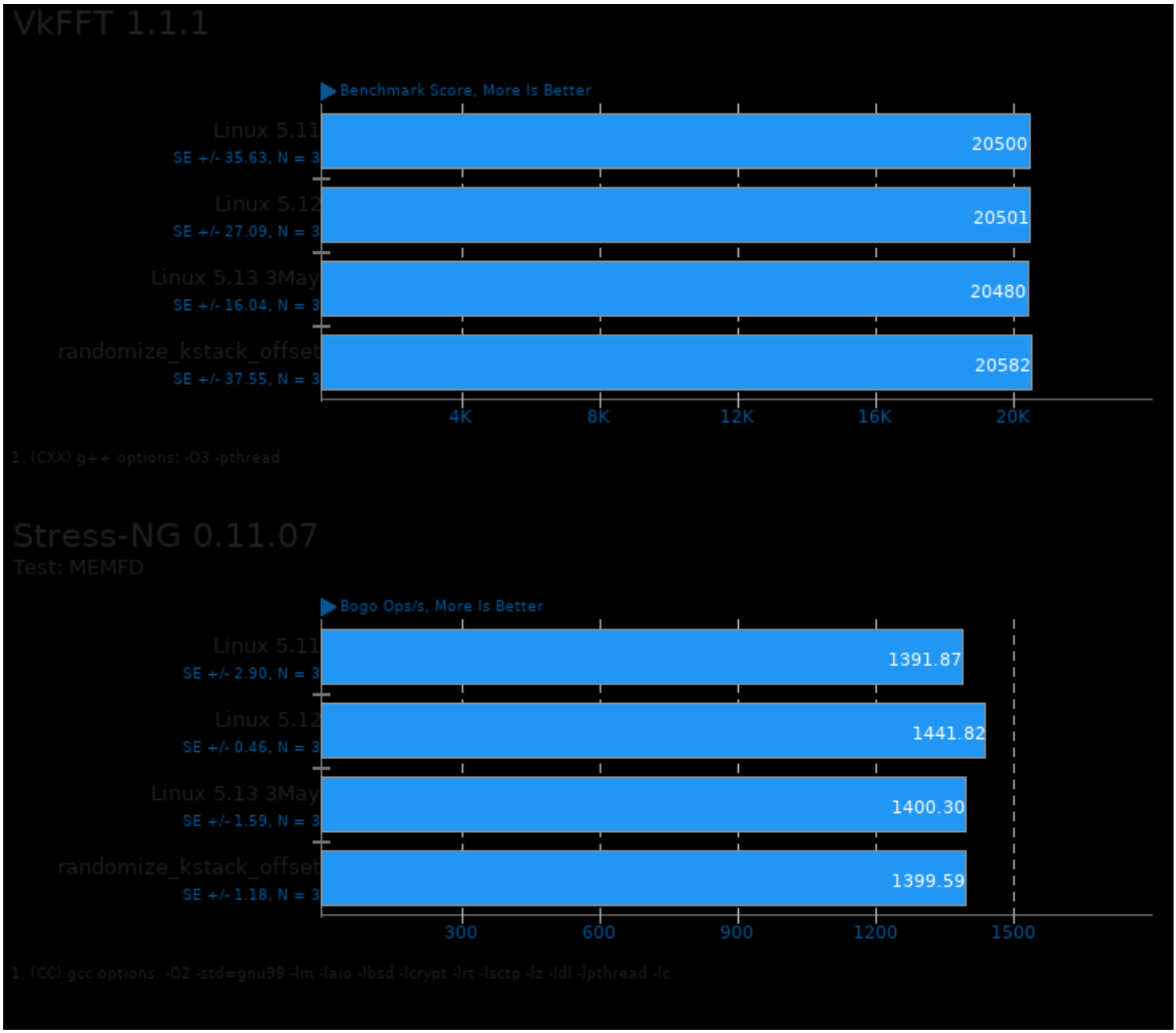
Standard Deviation	1.3%	2.2%	0.5%	3.1%
GROMACS - water_GMX50_bare (Ns/Day)	1.269	1.267	1.267	1.274
Normalized	99.61%	99.45%	99.45%	100%
Standard Deviation	0.3%	0.2%	0.3%	0.3%
KeyDB (Ops/sec)	819653	832076	835297	837040
Normalized	97.92%	99.41%	99.79%	100%
Standard Deviation	0.5%	0.6%	0.2%	0.4%
srsLTE - 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%
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%
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%
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%
ctx_clock - C.S.T (Clocks)	136	136	136	136
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%
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%
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%
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%
Timed HMMer Search - P.D.S (sec)	81.091	81.014	80.988	81.190

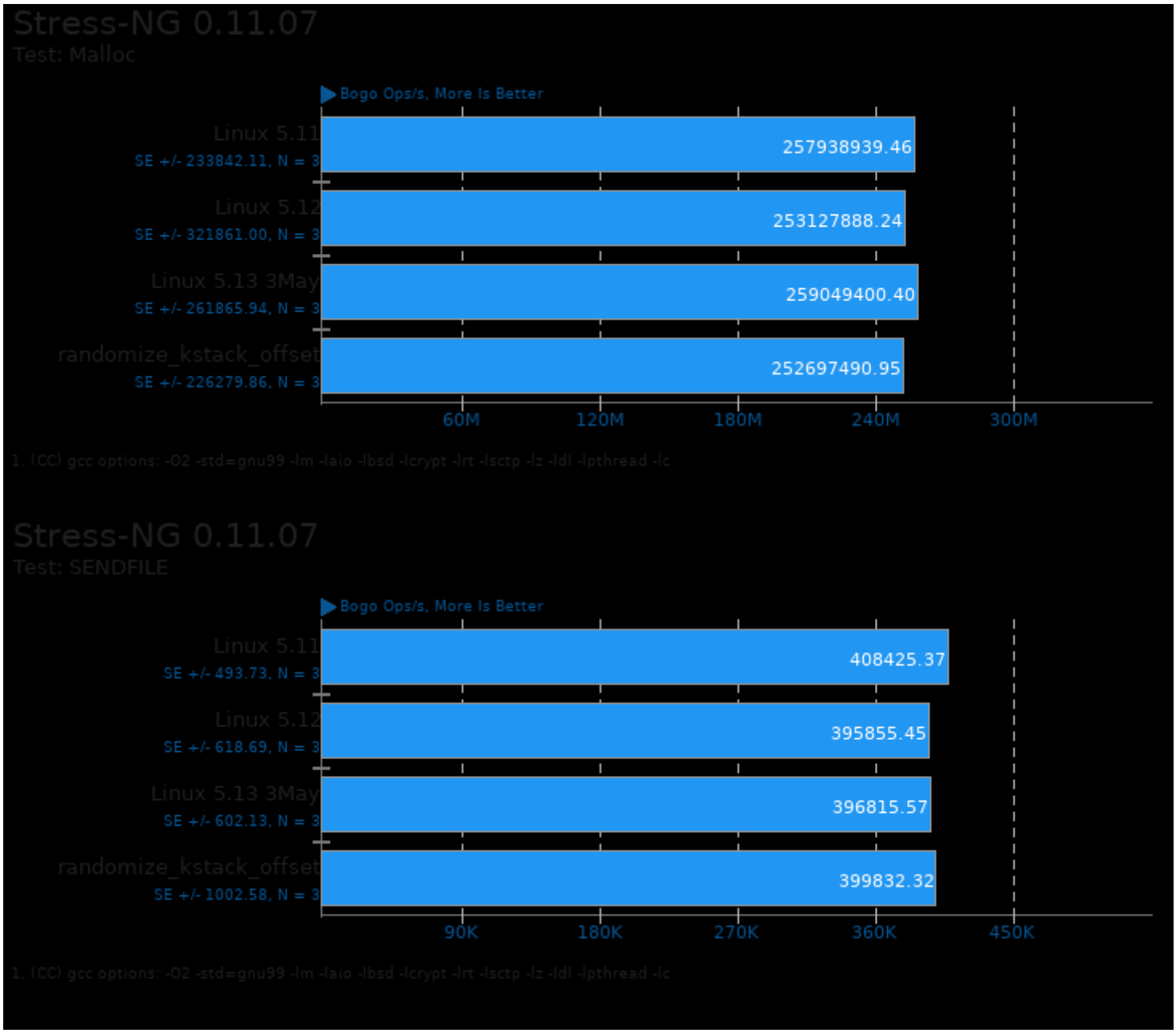
Linux 5.13 AMD Ryzen 9 5950X

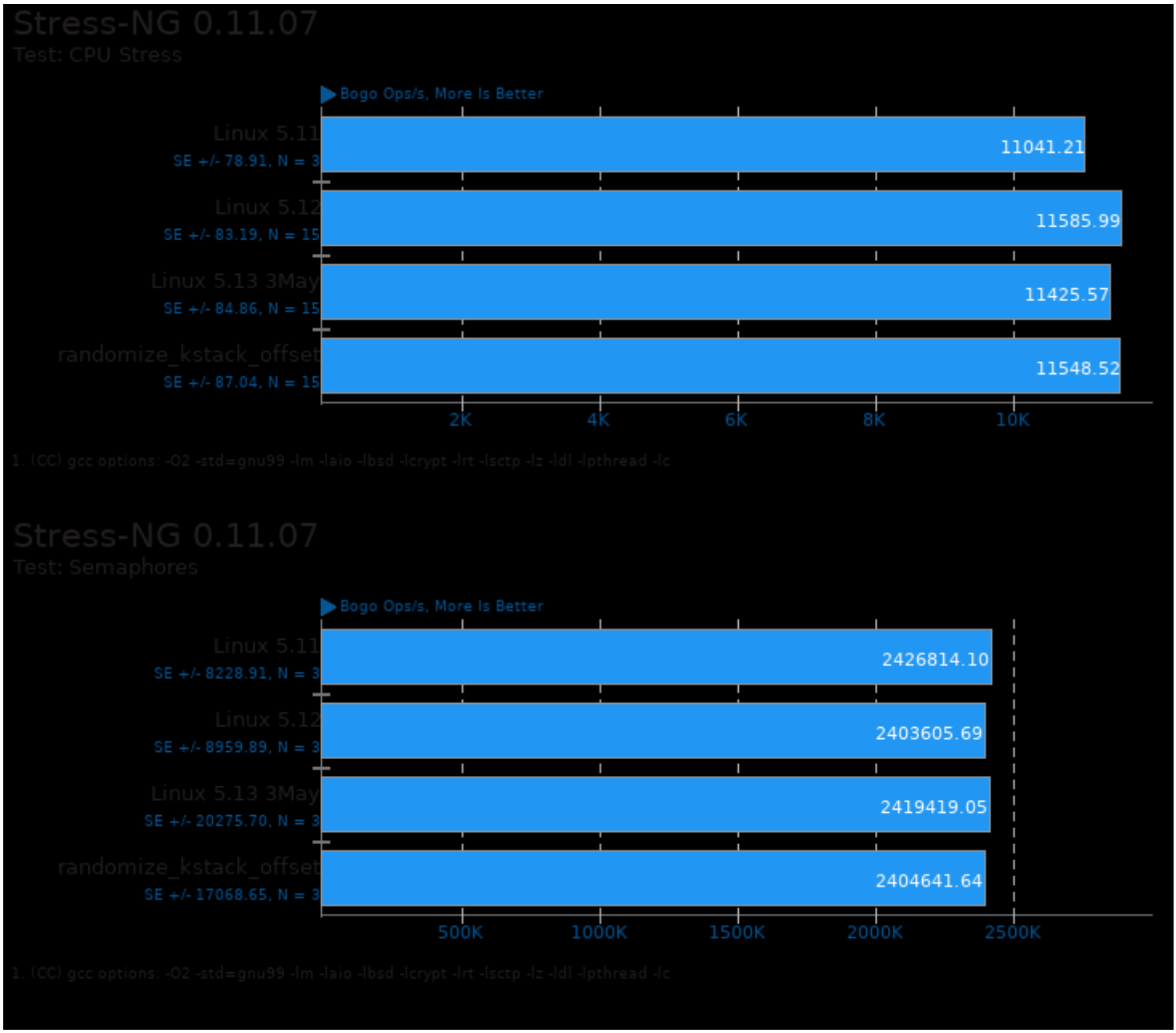
Normalized	99.87%	99.97%	100%	99.75%
Standard Deviation	0.1%	0.1%	0.2%	0.2%
Timed Godot Game Engine Compilation - Time To Compile (sec)	**80.167**	**79.960**	79.965	80.055
Normalized	99.74%	100%	99.99%	99.88%
Standard Deviation	0.3%	0.4%	0.4%	0.3%
Timed Linux Kernel Compilation - Time To Compile (sec)	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%
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%

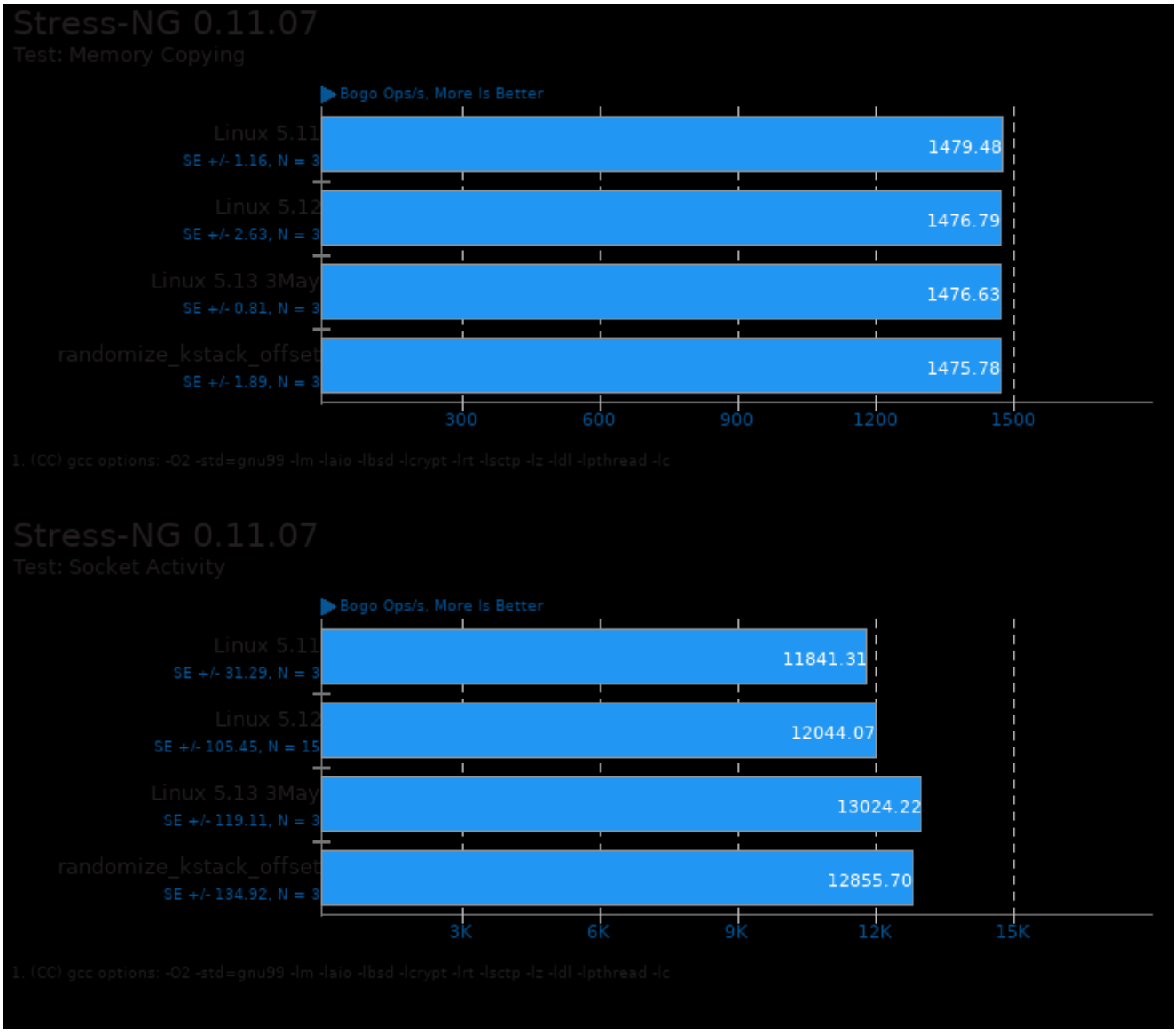
Linux 5.13 AMD Ryzen 9 5950X

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%
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%


VkFFT 1.1.1
Benchmark Score, More Is Better
Linux 5.11
SE +/- 35.63, N = 3
20500
Linux 5.12
SE +/- 27.09, N = 3
20501
Linux 5.13 3May
SE +/- 16.04, N = 3
20480
randomize_kstack_offset
SE +/- 37.55, N = 3
20582
4K
8K
12K
16K
20K
1. (CXX) g++ options: -O3 -pthread
Stress-NG 0.11.07
Test: MEMFD
Bogo Ops/s, More Is Better
Linux 5.11
SE +/- 2.90, N = 3
1391.87
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
300
600
900
1200
1500
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lbsd -lcrypt -lrt -lsctp -lz -ldl -lpthread -lc

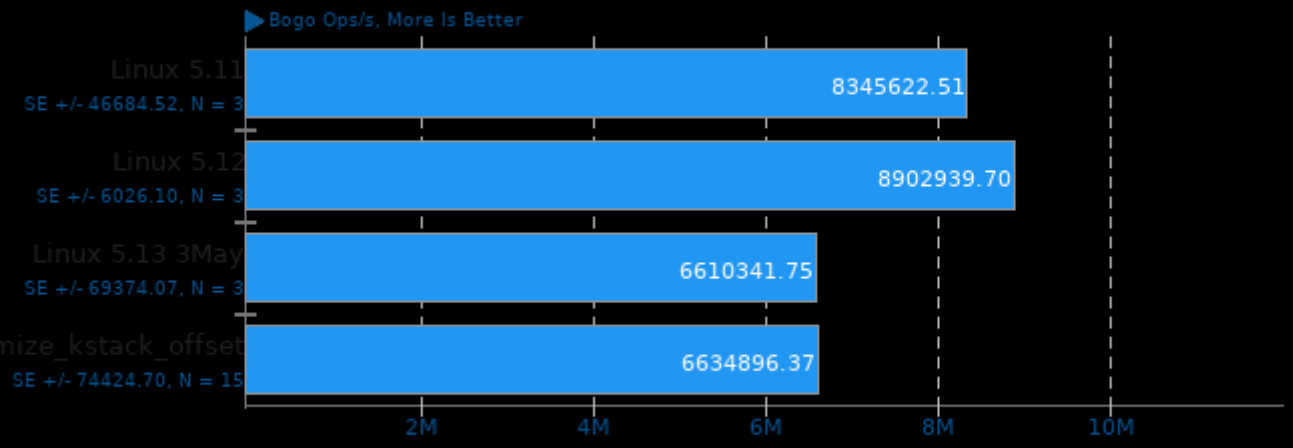

Stress-NG 0.11.07
Test: Malloc
Bogo Ops/s, More Is Better
Linux 5.11
SE +/- 233842.11, N = 3
257938939.46
Linux 5.12
SE +/- 321861.00, N = 3
253127888.24
Linux 5.13 3May
SE +/- 261865.94, N = 3
259049400.40
randomize_kstack_offset
SE +/- 226279.86, N = 3
252697490.95
60M
120M
180M
240M
300M
1. (CC) gcc 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
Linux 5.12
SE +/- 618.69, N = 3
395855.45
Linux 5.13 3May
SE +/- 602.13, N = 3
396815.57
randomize_kstack_offset
SE +/- 1002.58, N = 3
399832.32
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 5.11
SE +/- 78.91, N = 3
11041.21
Linux 5.12
SE +/- 83.19, N = 15
11585.99
Linux 5.13 3May
SE +/- 84.86, N = 15
11425.57
randomize_kstack_offset
SE +/- 87.04, N = 15
11548.52
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 5.12
SE +/- 8959.89, N = 3
2403605.69
Linux 5.13 3May
SE +/- 20275.70, N = 3
2419419.05
randomize_kstack_offset
SE +/- 17068.65, N = 3
2404641.64
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 5.11
SE +/- 31.29, N = 3
11841.31
Linux 5.12
SE +/- 105.45, N = 15
12044.07
Linux 5.13 3May
SE +/- 119.11, N = 3
13024.22
randomize_kstack_offset
SE +/- 134.92, N = 3
12855.70
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

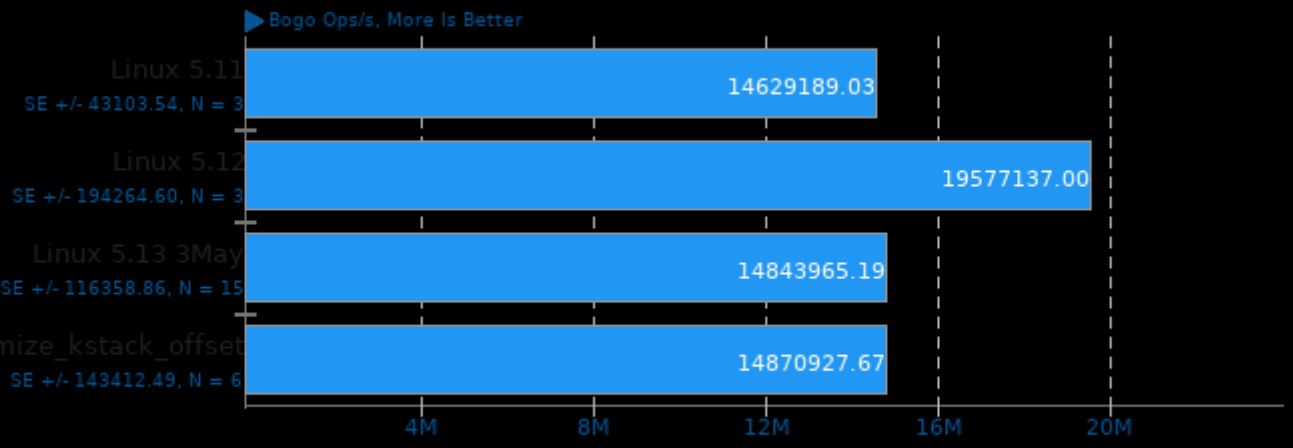
Test: Context Switching



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

Stress-NG 0.11.07

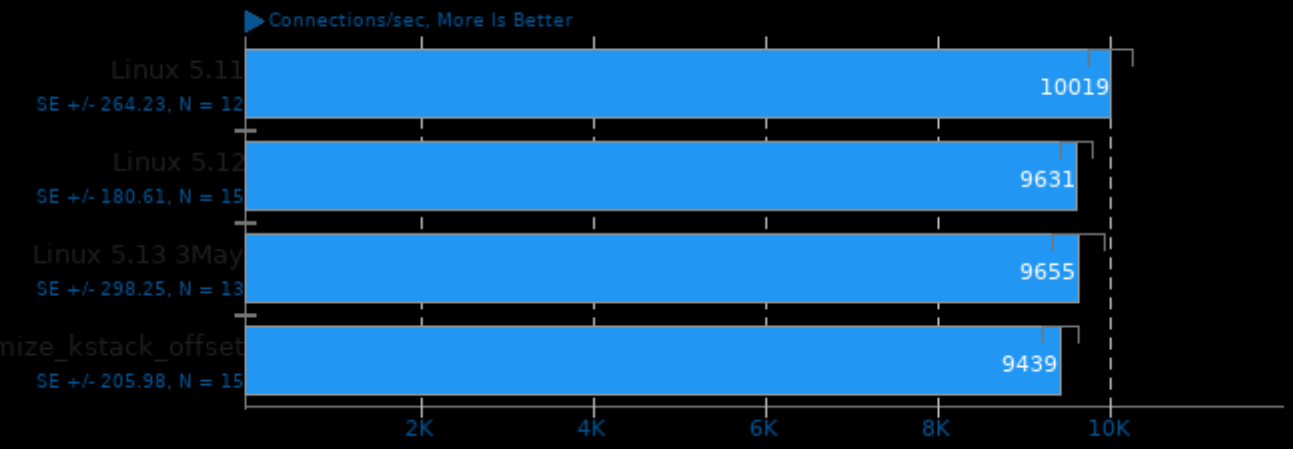
Test: System V Message Passing

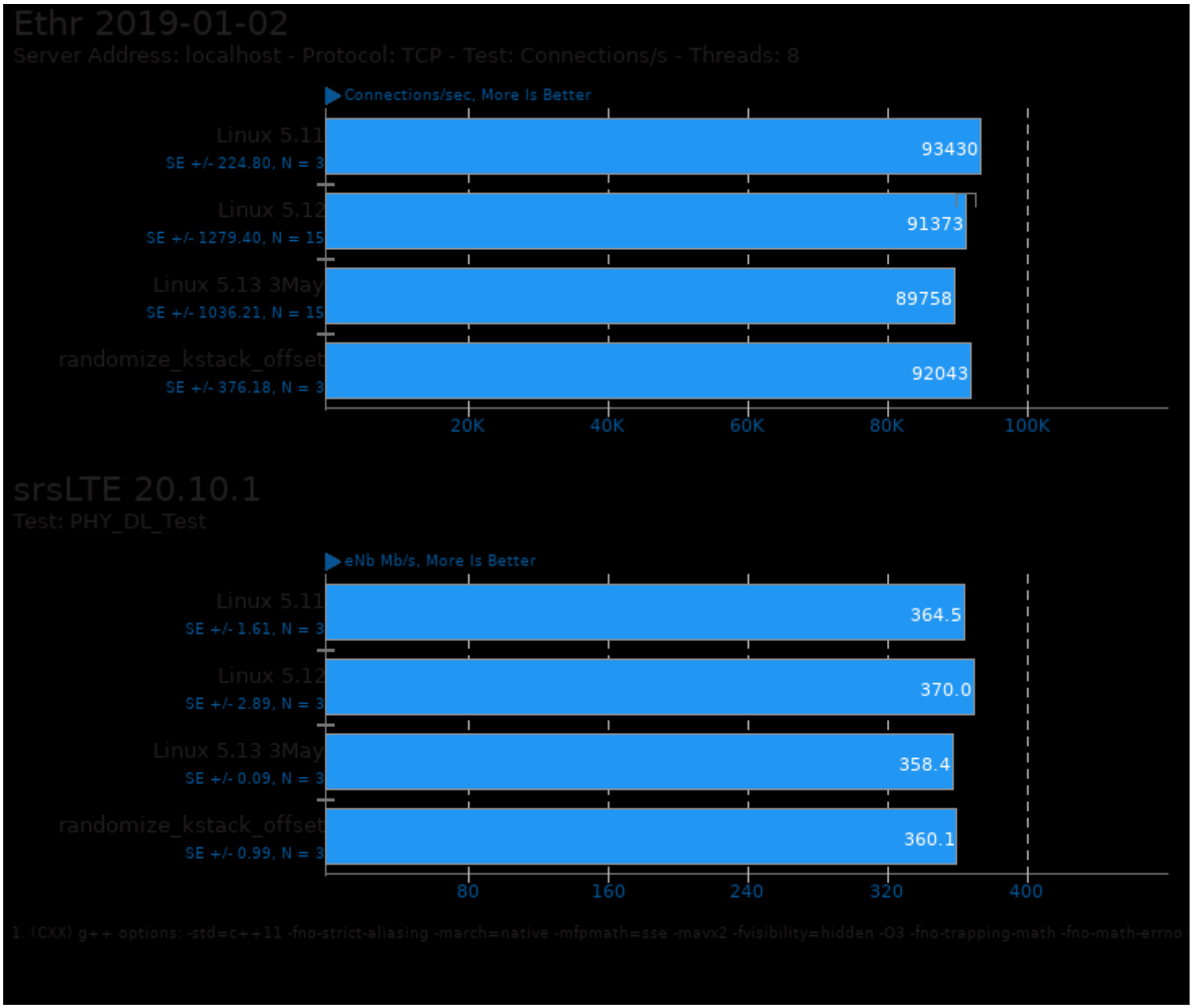


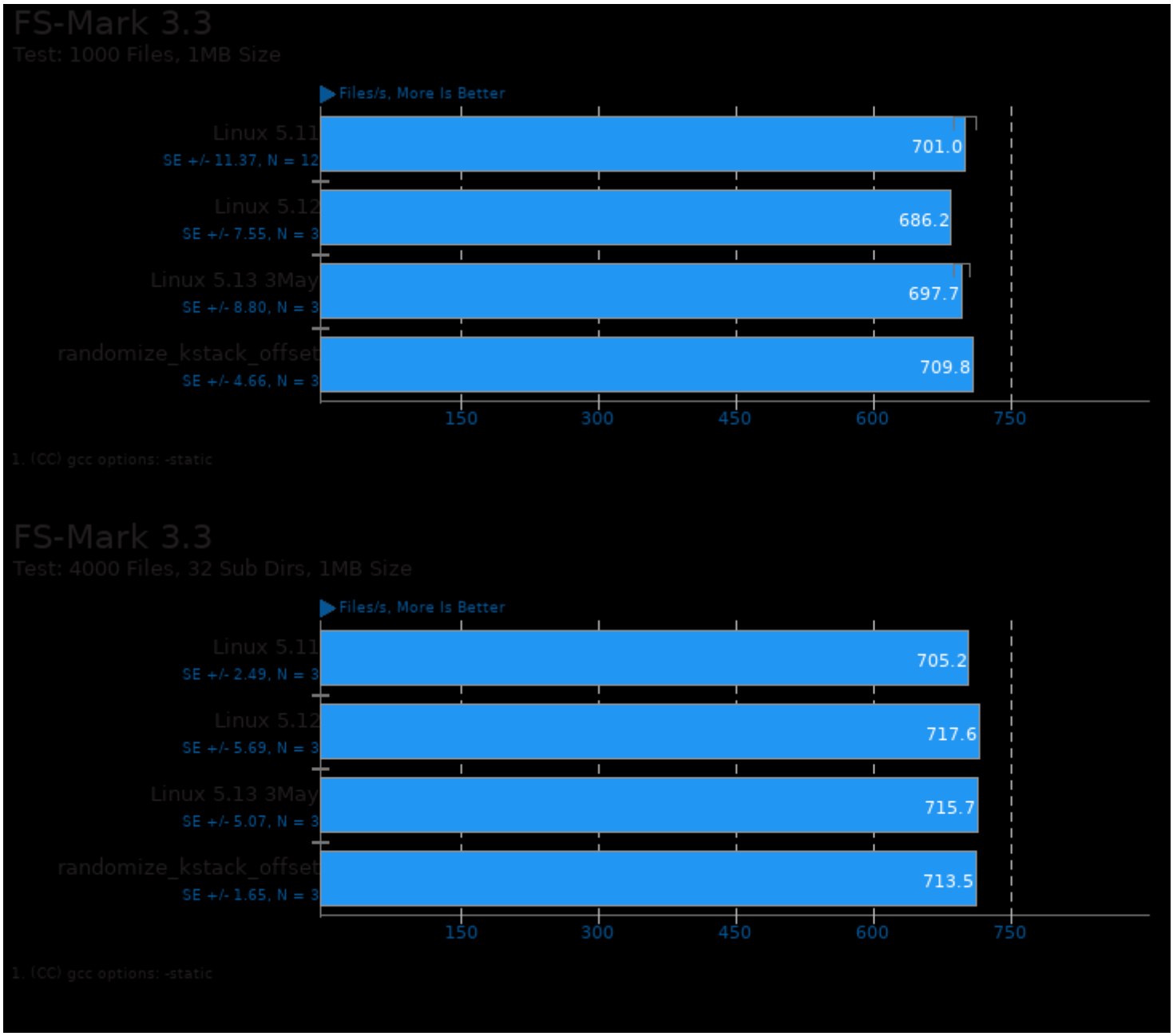
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lbsd -lcrypt -lrt -lsctp -lz -ldl -lpthread -lc

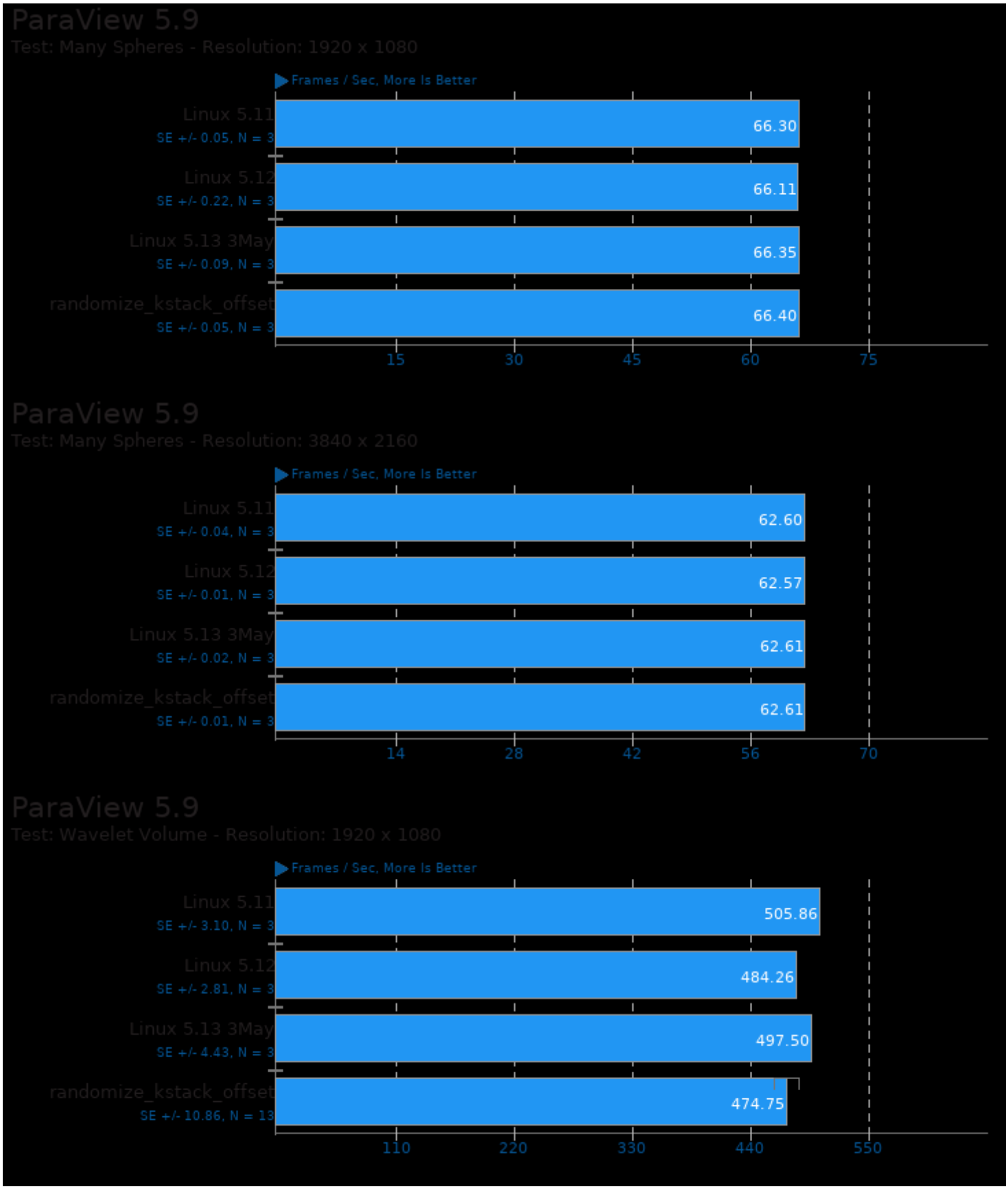
Ethr 2019-01-02

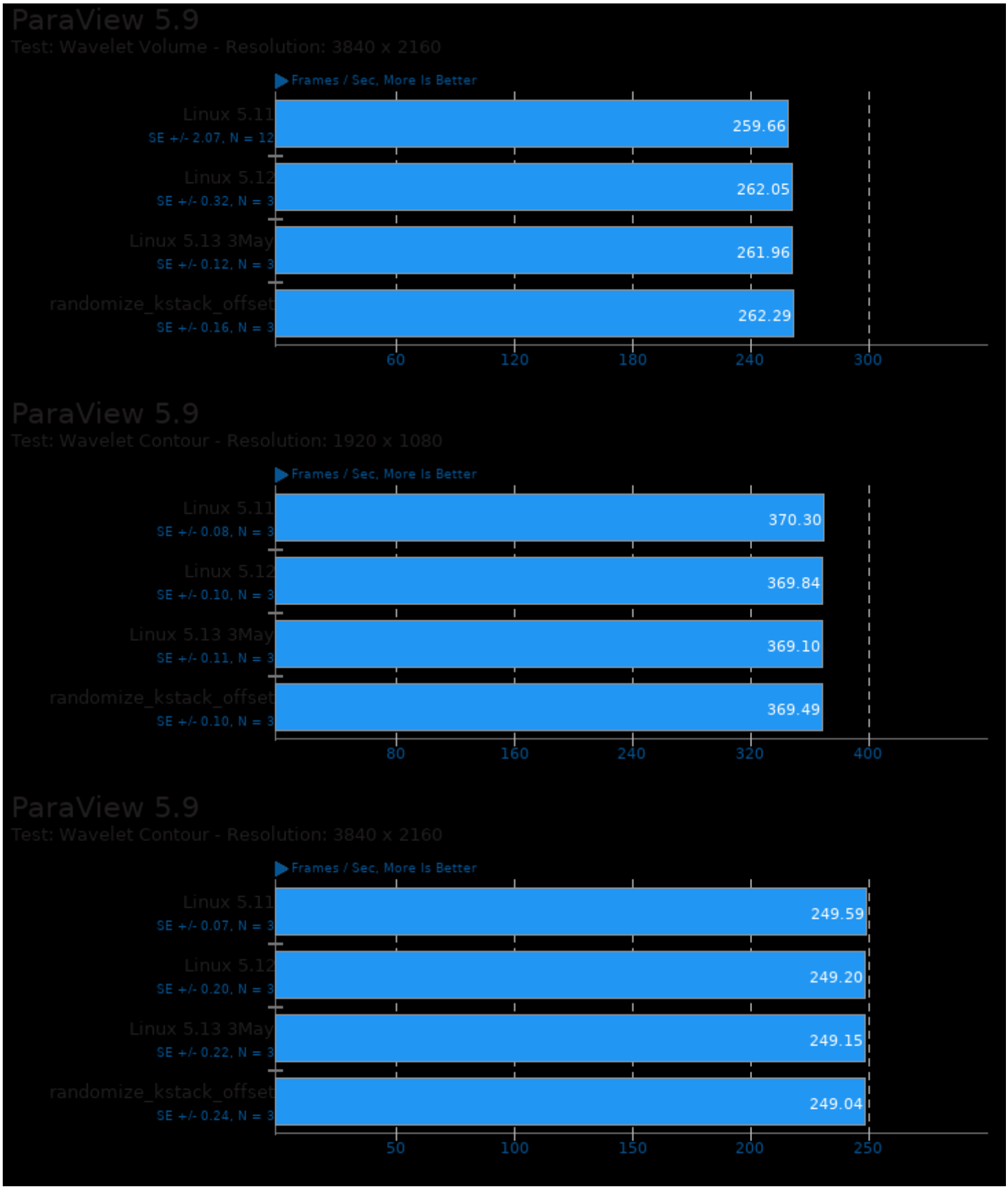
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 1

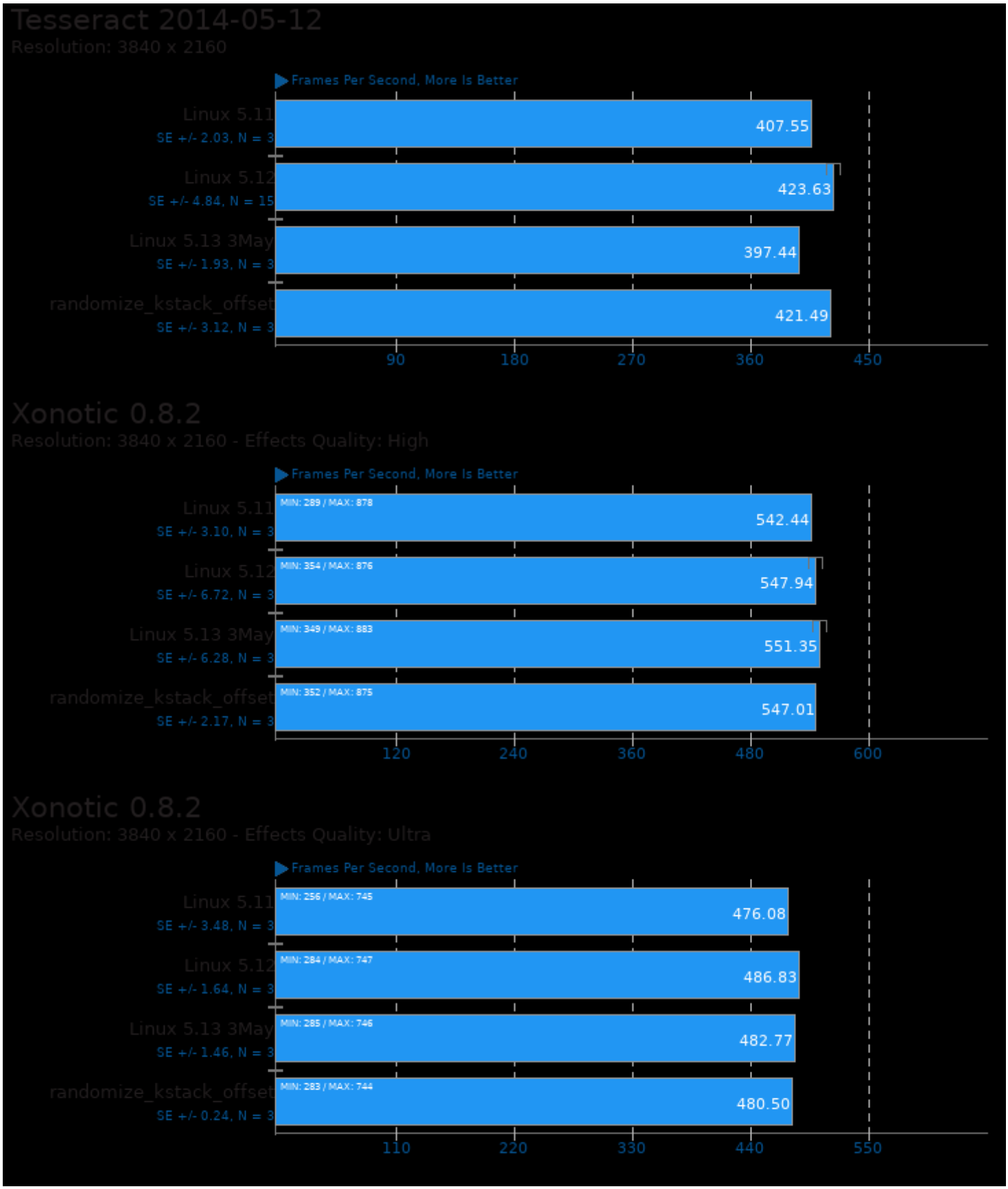


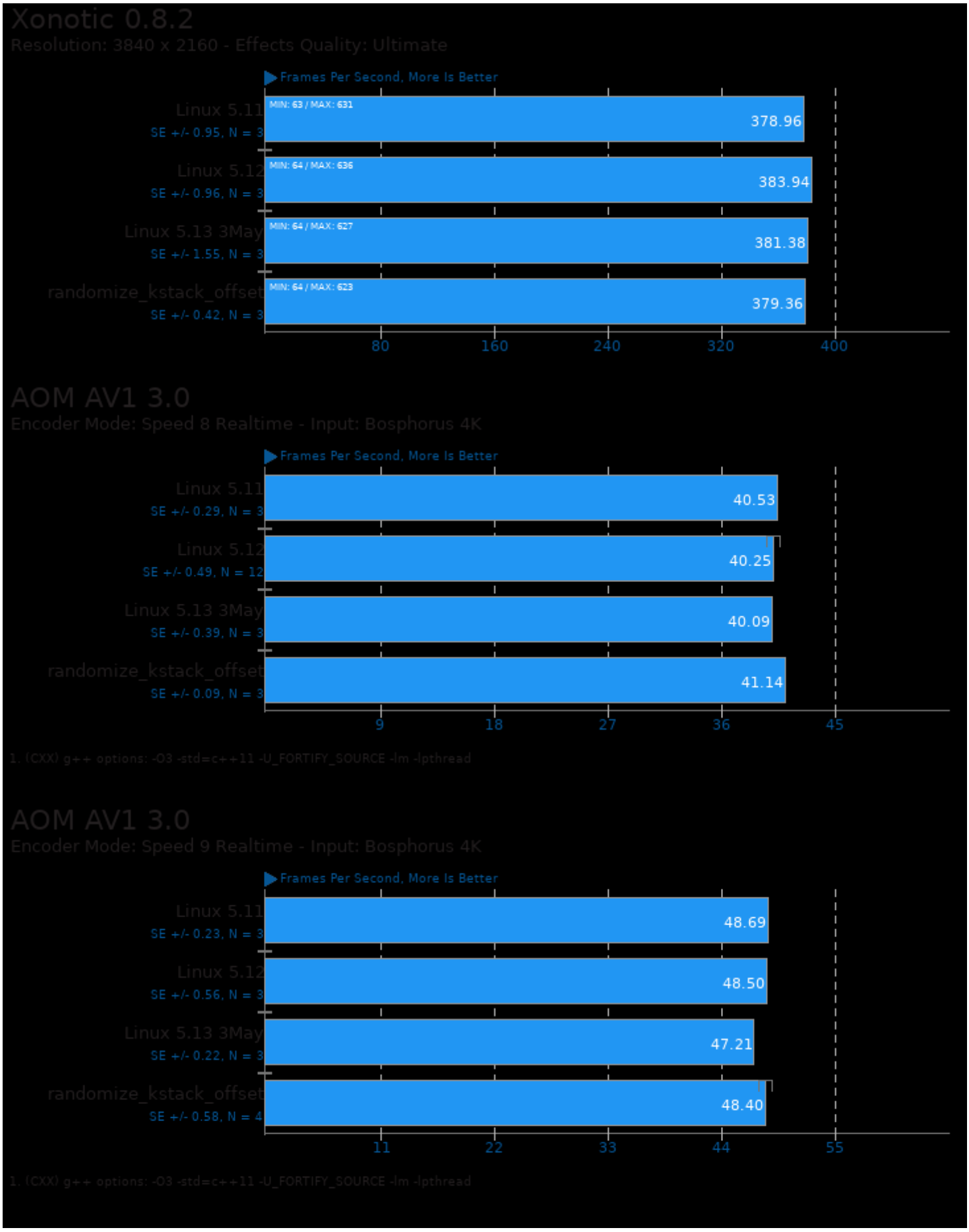

Ethr 2019-01-02
Server Address: localhost - Protocol: TCP - Test: Connections/s - Threads: 8
Connections/sec, More Is Better
Linux 5.11
SE +/- 224.80, N = 3
93430
Linux 5.12
SE +/- 1279.40, N = 15
91373
Linux 5.13 3May
SE +/- 1036.21, N = 15
89758
randomize_kstack_offset
SE +/- 376.18, N = 3
92043
20K
40K
60K
80K
100K
srsLTE 20.10.1
Test: PHY_DL_Test
eNb Mb/s, More Is Better
Linux 5.11
SE +/- 1.61, N = 3
364.5
Linux 5.12
SE +/- 2.89, N = 3
370.0
Linux 5.13 3May
SE +/- 0.09, N = 3
358.4
randomize_kstack_offset
SE +/- 0.99, N = 3
360.1
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

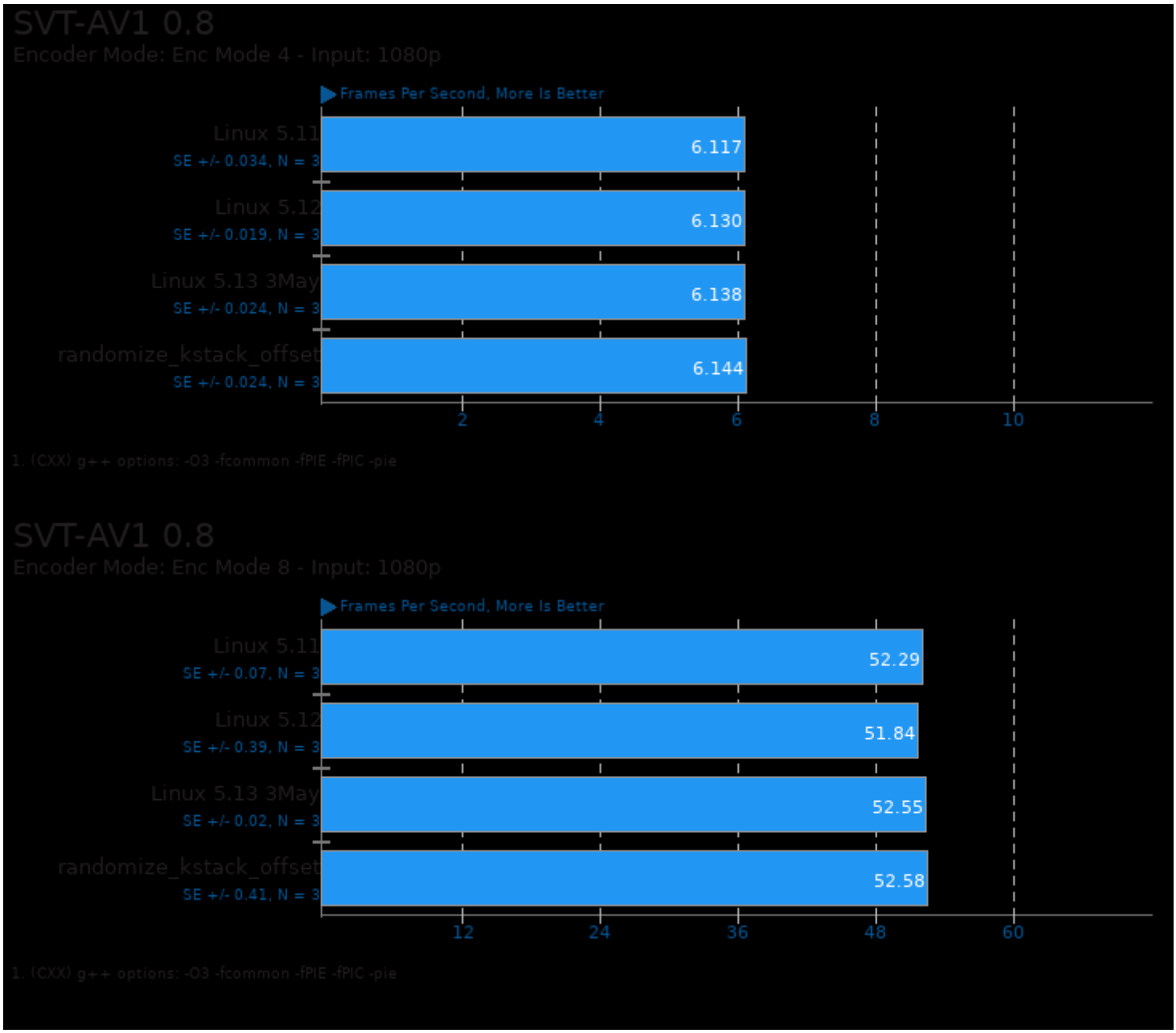

FS-Mark 3.3
Test: 1000 Files, 1MB Size
Files/s, More Is Better
Linux 5.11
SE +/- 11.37, N = 12
701.0
Linux 5.12
SE +/- 7.55, N = 3
686.2
Linux 5.13 3May
SE +/- 8.80, N = 3
697.7
randomize_kstack_offset
SE +/- 4.66, N = 3
709.8
150
300
450
600
750
1. (CC) gcc options: -static
FS-Mark 3.3
Test: 4000 Files,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

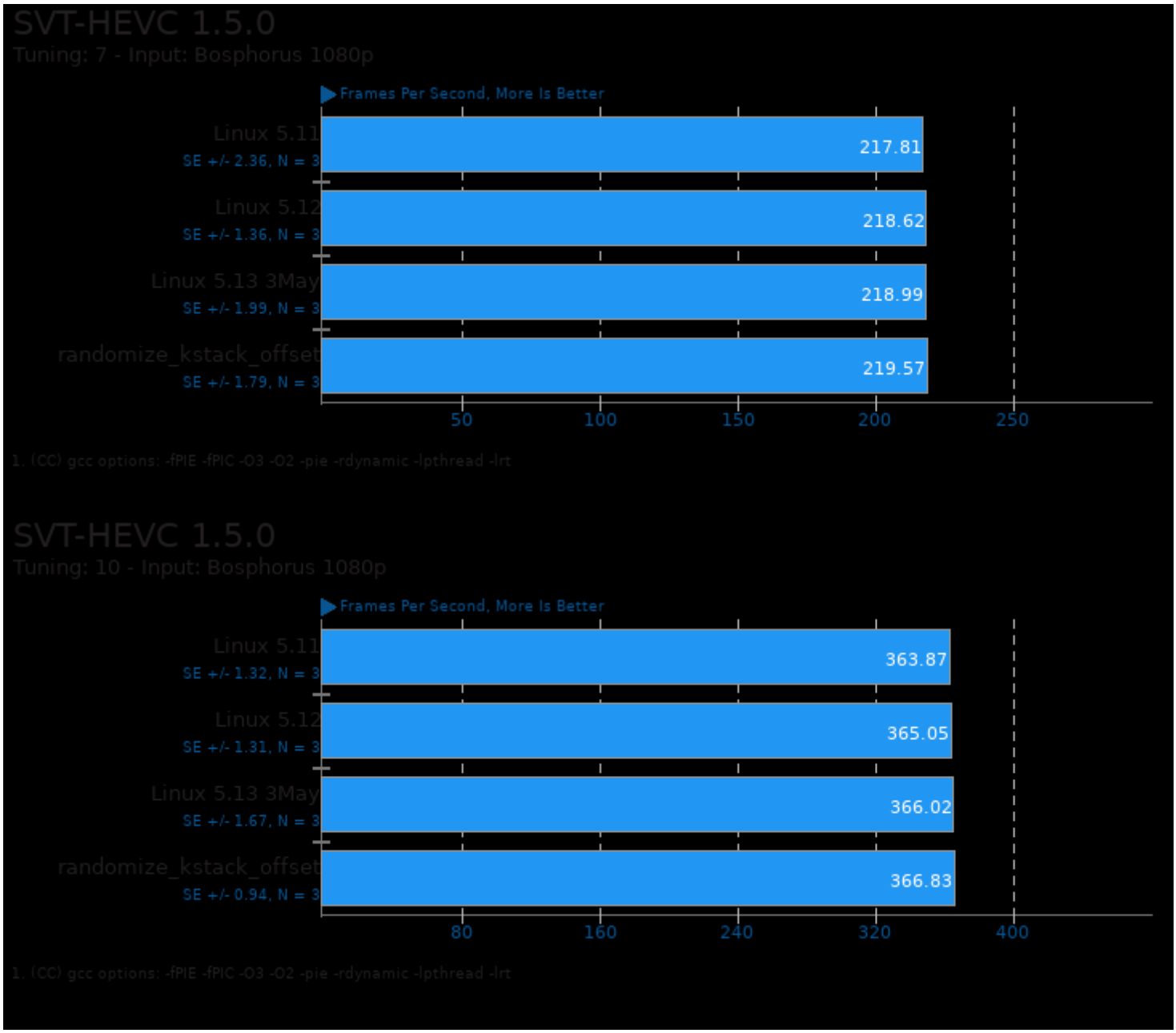

ParaView 5.9
Test: Many Spheres - Resolution: 1920 x 1080
Frames / Sec, More Is Better
Linux 5.11
SE +/- 0.05, N = 3
66.30
Linux 5.12
SE +/- 0.22, N = 3
66.11
Linux 5.13 3May
SE +/- 0.09, N = 3
66.35
randomize_kstack_offset
SE +/- 0.05, N = 3
66.40
15
30
45
60
75
ParaView 5.9
Test: Many Spheres - Resolution: 3840 x 2160
Frames / Sec, More Is Better
Linux 5.11
SE +/- 0.04, N = 3
62.60
Linux 5.12
SE +/- 0.01, N = 3
62.57
Linux 5.13 3May
SE +/- 0.02, N = 3
62.61
randomize_kstack_offset
SE +/- 0.01, N = 3
62.61
14
28
42
56
70
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 5.12
SE +/- 2.81, N = 3
484.26
Linux 5.13 3May
SE +/- 4.43, N = 3
497.50
randomize_kstack_offset
SE +/- 10.86, N = 13
474.75
110
220
330
440
550


ParaView 5.9
Test: Wavelet Volume - Resolution: 3840 x 2160
Frames / Sec, More Is Better
Linux 5.11
SE +/- 2.07, N = 12
259.66
Linux 5.12
SE +/- 0.32, N = 3
262.05
Linux 5.13 3May
SE +/- 0.12, N = 3
261.96
randomize_kstack_offset
SE +/- 0.16, N = 3
262.29
60
120
180
240
300
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
Linux 5.13 3May
SE +/- 0.11, N = 3
369.10
randomize_kstack_offset
SE +/- 0.10, N = 3
369.49
80
160
240
320
400
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


Tesseract 2014-05-12
Resolution: 3840 x 2160
Frames Per Second, More Is Better
Linux 5.11
SE +/- 2.03, N = 3
407.55
Linux 5.12
SE +/- 4.84, N = 15
423.63
Linux 5.13 3May
SE +/- 1.93, N = 3
397.44
randomize_kstack_offset
SE +/- 3.12, N = 3
421.49
90
180
270
360
450
Xonotic 0.8.2
Resolution: 3840 x 2160 - Effects Quality: High
Frames Per Second, More Is Better
Linux 5.11
SE +/- 3.10, N = 3
MIN: 289 / MAX: 878
542.44
Linux 5.12
SE +/- 6.72, N = 3
MIN: 354 / MAX: 876
547.94
Linux 5.13 3May
SE +/- 6.28, N = 3
MIN: 349 / MAX: 883
551.35
randomize_kstack_offset
SE +/- 2.17, N = 3
MIN: 352 / MAX: 875
547.01
120
240
360
480
600
Xonotic 0.8.2
Resolution: 3840 x 2160 - Effects Quality: Ultra
Frames Per Second, More Is Better
Linux 5.11
SE +/- 3.48, N = 3
MIN: 256 / MAX: 745
476.08
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
110
220
330
440
550

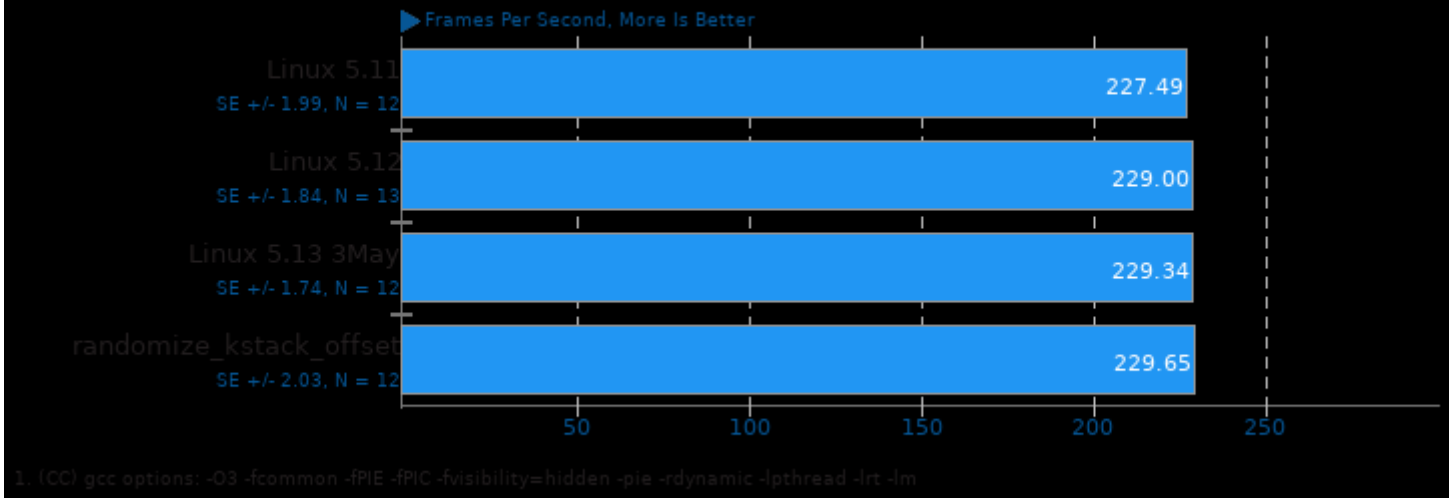

Xonotic 0.8.2
Resolution: 3840 x 2160 - Effects Quality: Ultimate
Frames Per Second, More Is Better
Linux 5.11
SE +/- 0.95, N = 3
MIN: 63 / MAX: 631
378.96
Linux 5.12
SE +/- 0.96, N = 3
MIN: 64 / MAX: 636
383.94
Linux 5.13 3May
SE +/- 1.55, N = 3
MIN: 64 / MAX: 627
381.38
randomize_kstack_offset
SE +/- 0.42, N = 3
MIN: 64 / MAX: 623
379.36
80
160
240
320
400
AOM AV1 3.0
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K
Frames Per Second, More Is Better
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
randomize_kstack_offset
SE +/- 0.09, N = 3
41.14
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
Linux 5.13 3May
SE +/- 0.22, N = 3
47.21
randomize_kstack_offset
SE +/- 0.58, N = 4
48.40
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
Linux 5.11
SE +/- 0.034, N = 3
6.117
Linux 5.12
SE +/- 0.019, N = 3
6.130
Linux 5.13 3May
SE +/- 0.024, N = 3
6.138
randomize_kstack_offset
SE +/- 0.024, N = 3
6.144
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
Linux 5.11
SE +/- 0.07, N = 3
52.29
Linux 5.12
SE +/- 0.39, N = 3
51.84
Linux 5.13 3May
SE +/- 0.02, N = 3
52.55
randomize_kstack_offset
SE +/- 0.41, N = 3
52.58
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
Linux 5.11
SE +/- 2.36, N = 3
217.81
Linux 5.12
SE +/- 1.36, N = 3
218.62
Linux 5.13 3May
SE +/- 1.99, N = 3
218.99
randomize_kstack_offset
SE +/- 1.79, N = 3
219.57
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
Linux 5.11
SE +/- 1.32, N = 3
363.87
Linux 5.12
SE +/- 1.31, N = 3
365.05
Linux 5.13 3May
SE +/- 1.67, N = 3
366.02
randomize_kstack_offset
SE +/- 0.94, N = 3
366.83
80
160
240
320
400
1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lpthread -lrt

SVT-VP9 0.3

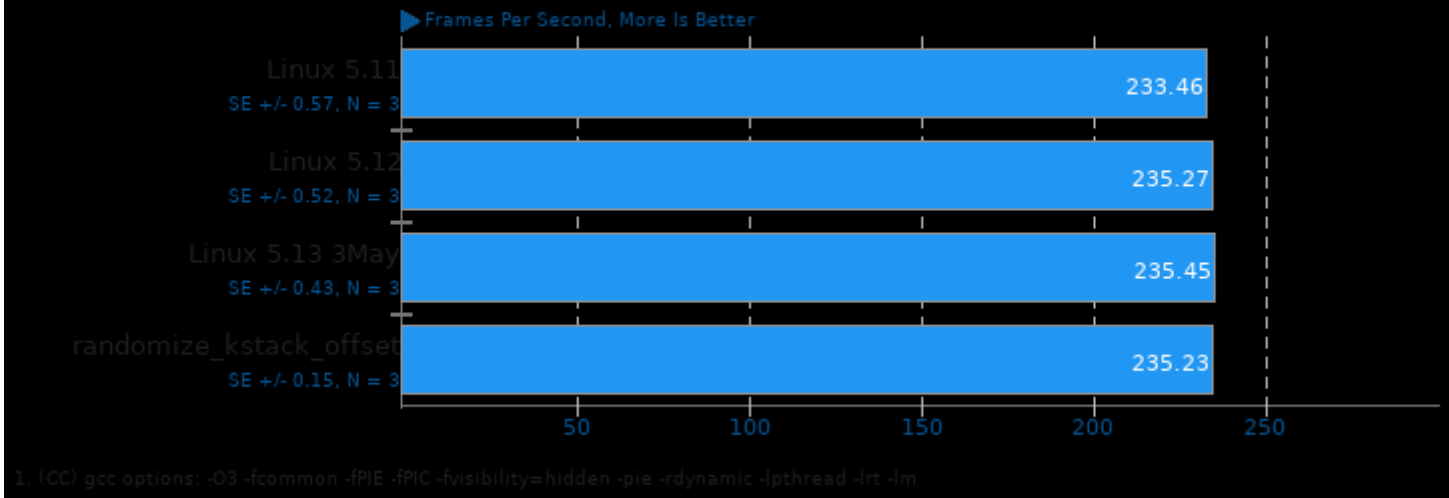
Tuning: VMAF Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

SVT-VP9 0.3

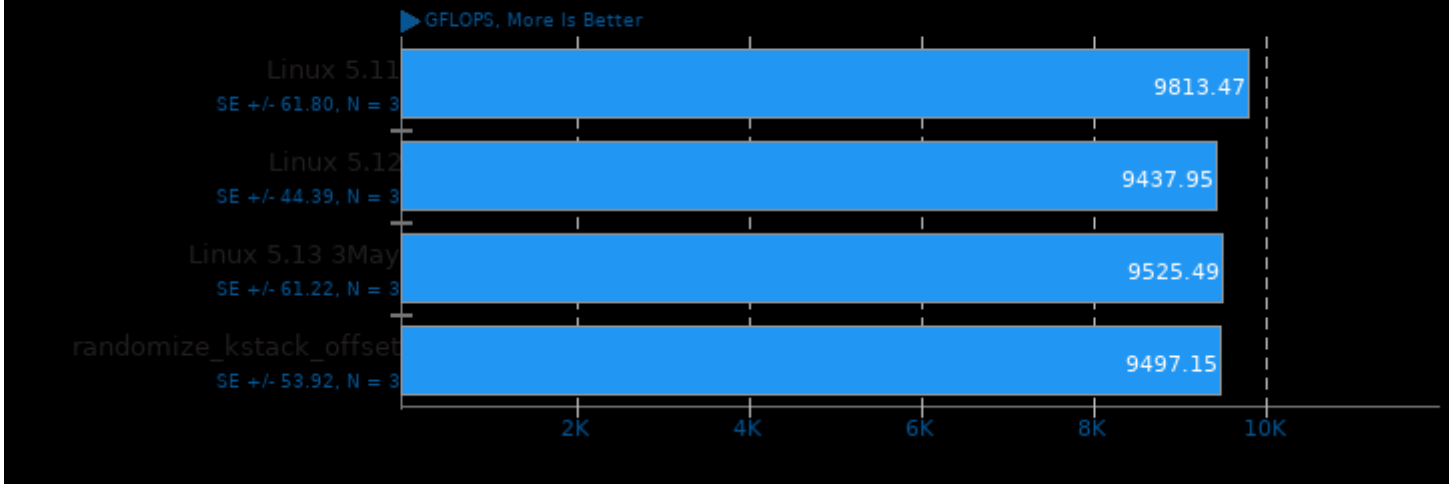
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 1080p

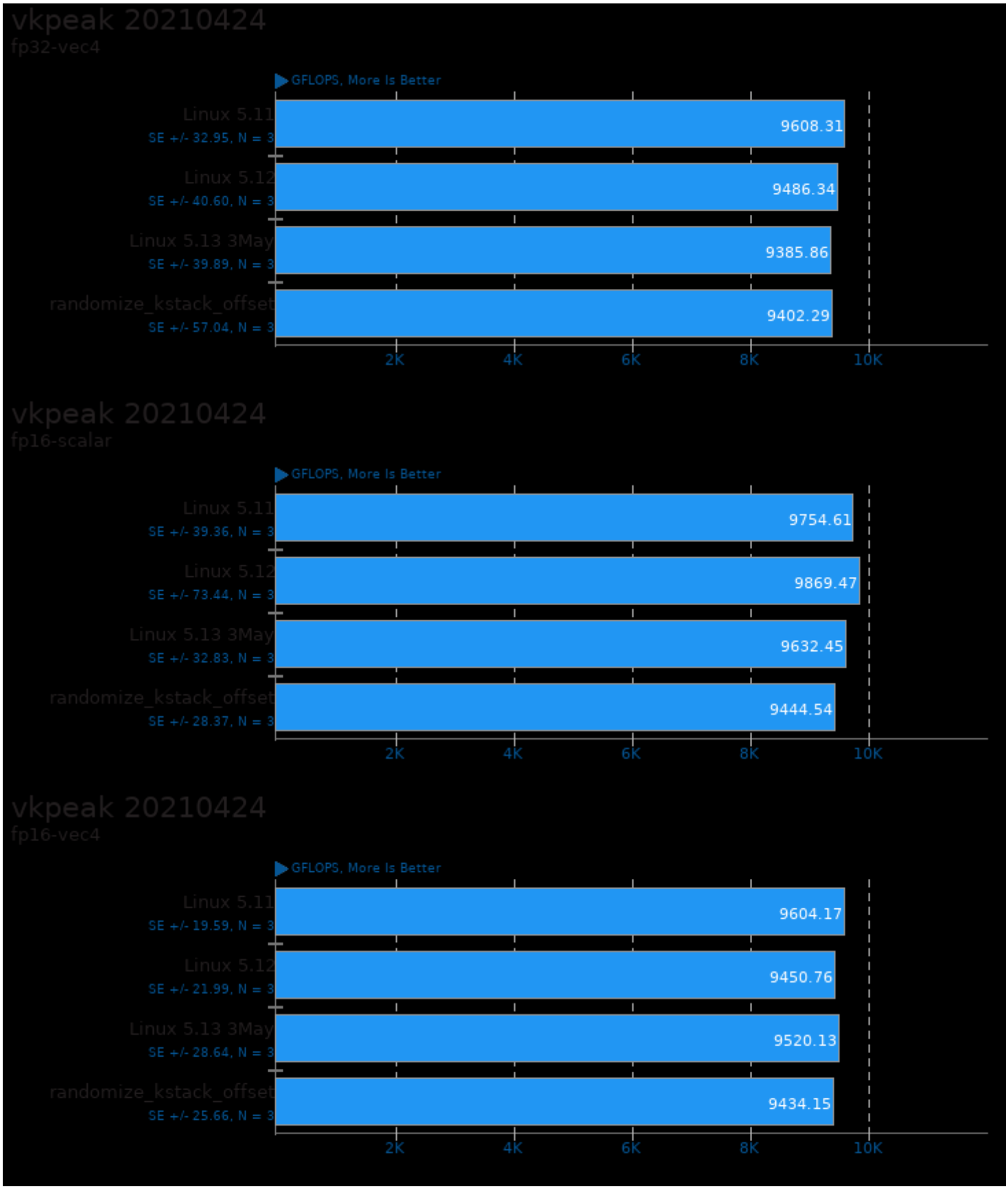


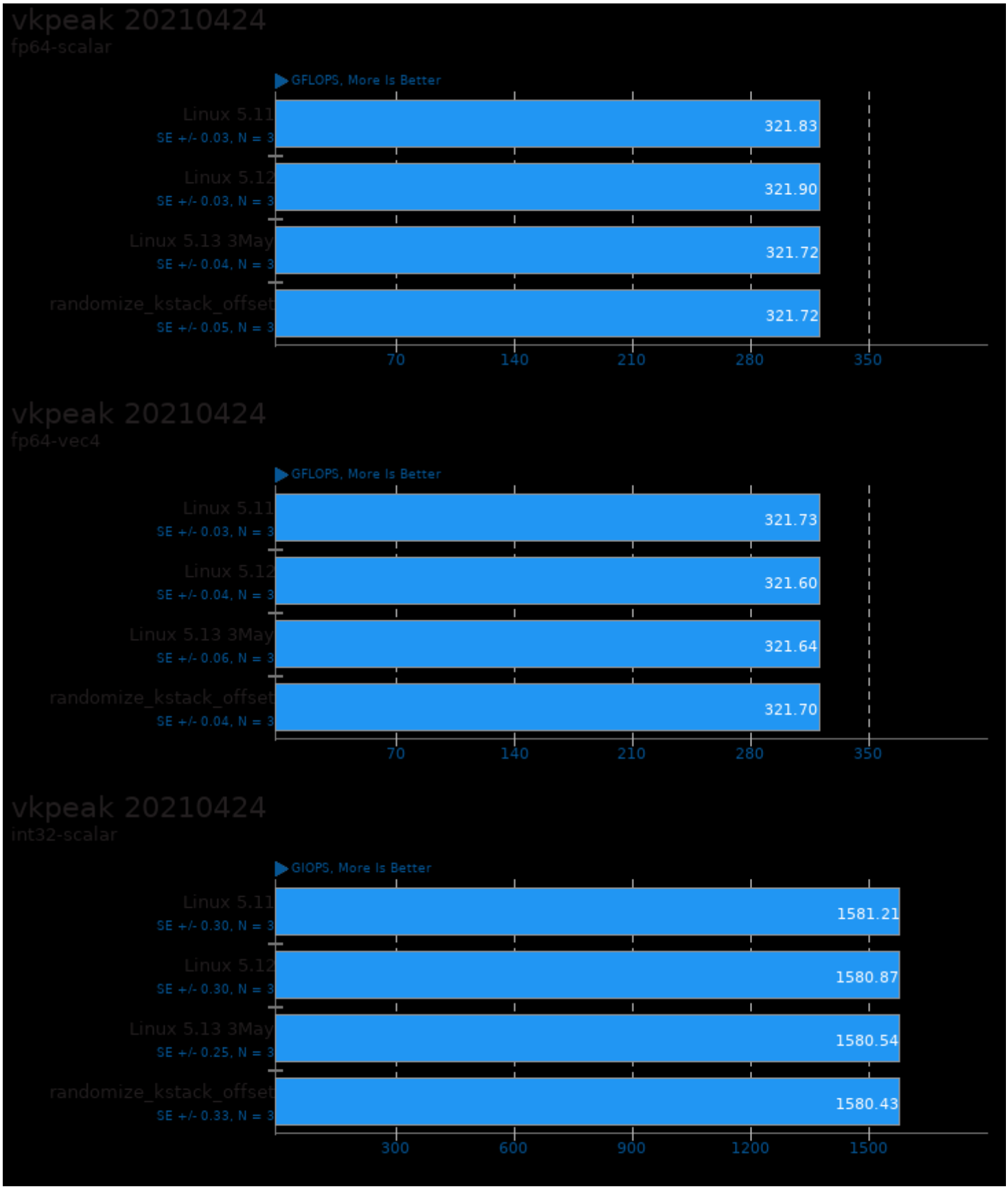
1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

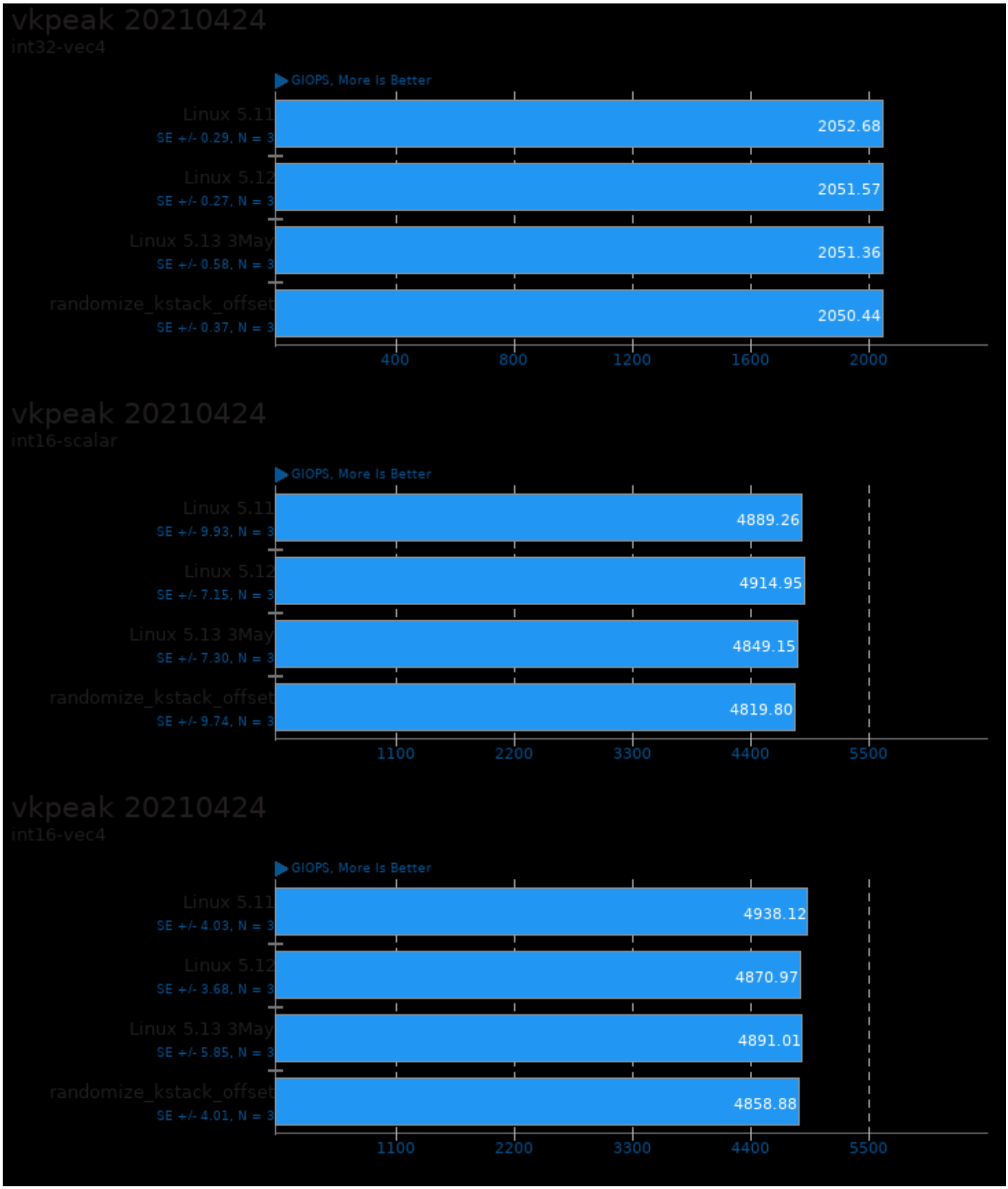
vkpeak 20210424

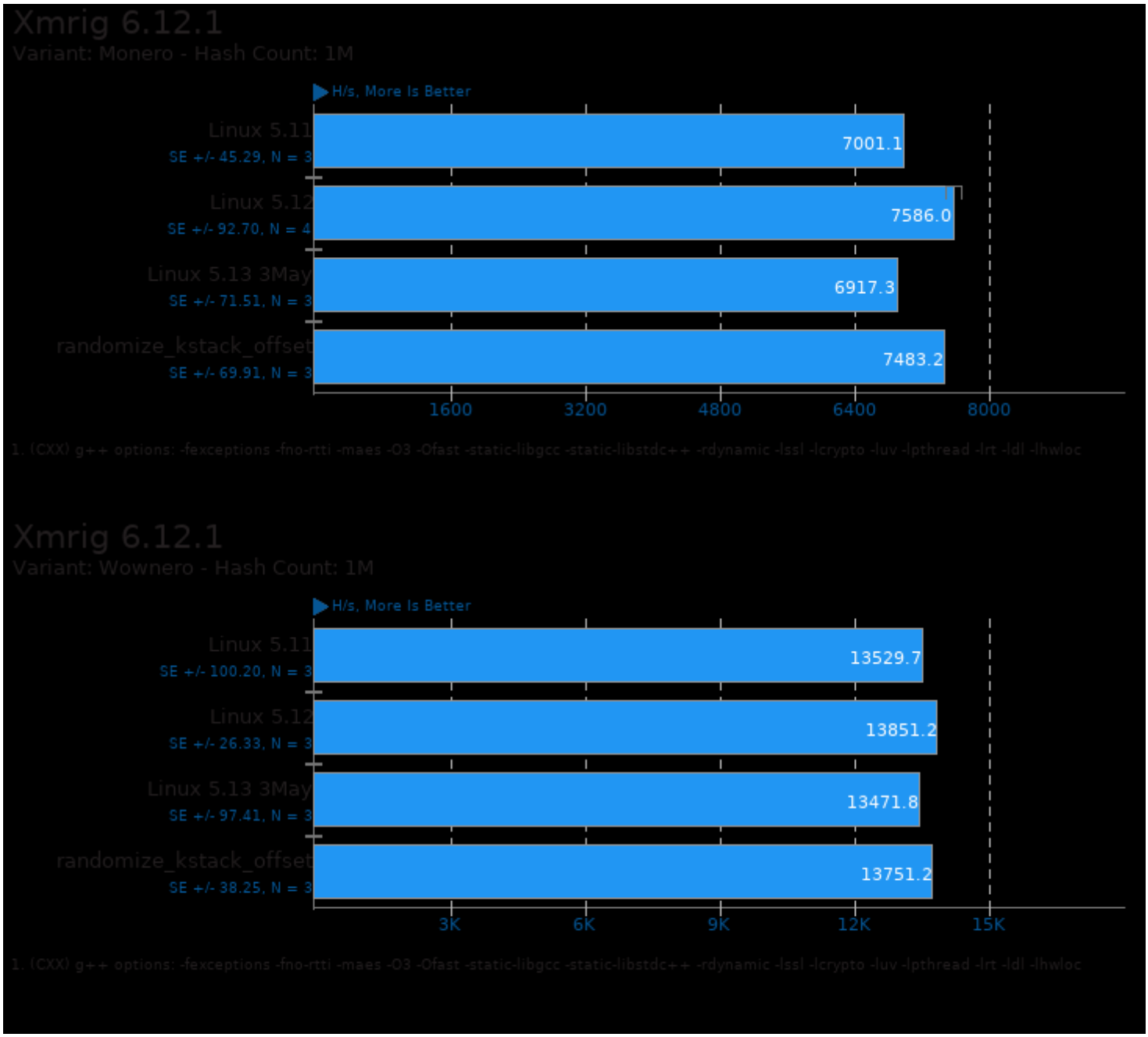
fp32-scalar




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
Linux 5.13 3May
SE +/- 39.89, N = 3
9385.86
randomize_kstack_offset
SE +/- 57.04, N = 3
9402.29
2K
4K
6K
8K
10K
vkpeak 20210424
fp16-scalar
GFLOPS, More Is Better
Linux 5.11
SE +/- 39.36, N = 3
9754.61
Linux 5.12
SE +/- 73.44, N = 3
9869.47
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 5.12
SE +/- 21.99, N = 3
9450.76
Linux 5.13 3May
SE +/- 28.64, N = 3
9520.13
randomize_kstack_offset
SE +/- 25.66, N = 3
9434.15
2K
4K
6K
8K
10K

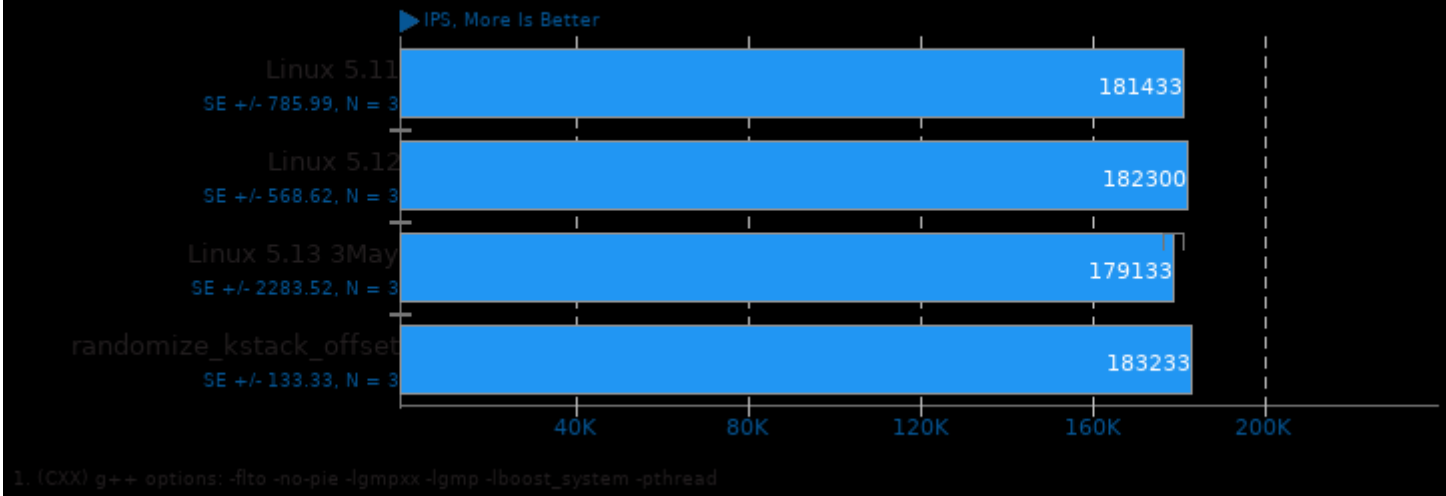

vkpeak 20210424
fp64-scalar
GFLOPS, More Is Better
Linux 5.11
SE +/- 0.03, N = 3
321.83
Linux 5.12
SE +/- 0.03, N = 3
321.90
Linux 5.13 3May
SE +/- 0.04, N = 3
321.72
randomize_kstack_offset
SE +/- 0.05, N = 3
321.72
70
140
210
280
350
vkpeak 20210424
fp64-vec4
GFLOPS, More Is Better
Linux 5.11
SE +/- 0.03, N = 3
321.73
Linux 5.12
SE +/- 0.04, N = 3
321.60
Linux 5.13 3May
SE +/- 0.06, N = 3
321.64
randomize_kstack_offset
SE +/- 0.04, N = 3
321.70
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 5.11
SE +/- 9.93, N = 3
4889.26
Linux 5.12
SE +/- 7.15, N = 3
4914.95
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 5.12
SE +/- 3.68, N = 3
4870.97
Linux 5.13 3May
SE +/- 5.85, N = 3
4891.01
randomize_kstack_offset
SE +/- 4.01, N = 3
4858.88
1100
2200
3300
4400
5500


Xmrig 6.12.1
Variant: Monero - Hash Count: 1M
H/s, More Is Better
Linux 5.11
SE +/- 45.29, N = 3
7001.1
Linux 5.12
SE +/- 92.70, N = 4
7586.0
Linux 5.13 3May
SE +/- 71.51, N = 3
6917.3
randomize_kstack_offset
SE +/- 69.91, N = 3
7483.2
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 5.11
SE +/- 100.20, N = 3
13529.7
Linux 5.12
SE +/- 26.33, N = 3
13851.2
Linux 5.13 3May
SE +/- 97.41, N = 3
13471.8
randomize_kstack_offset
SE +/- 38.25, N = 3
13751.2
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

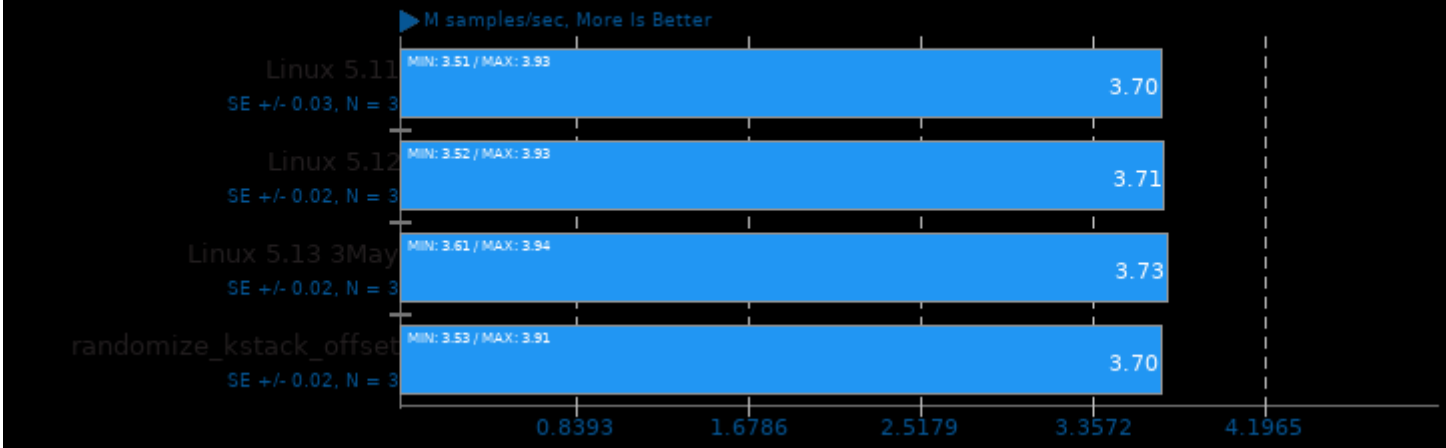
Test: Square



1. (CXX) g++ options: -flto -no-pie -lgmpxx -lgmp -lboost_system -pthread

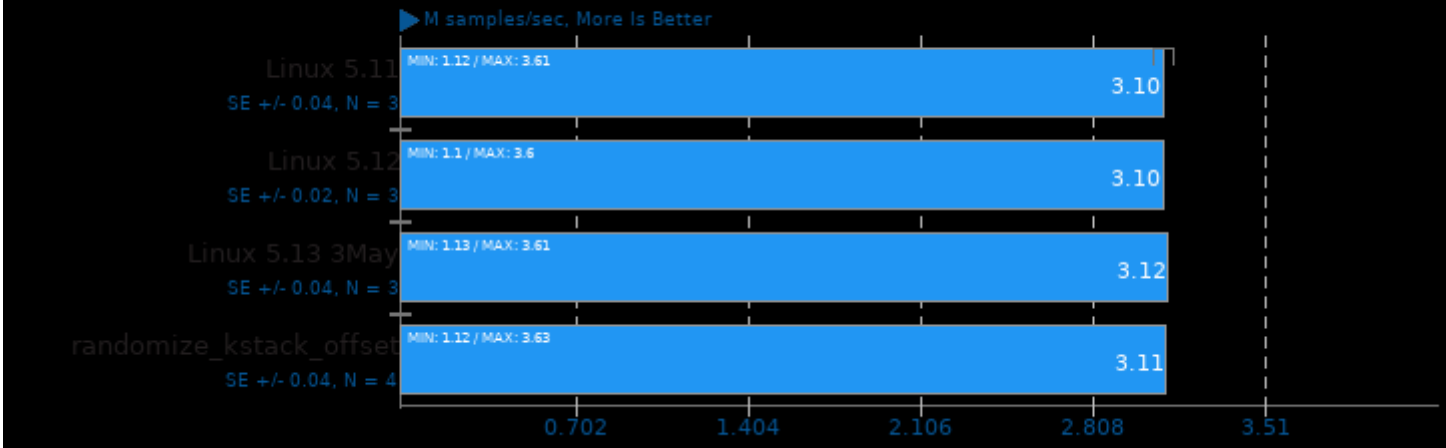
LuxCoreRender 2.5

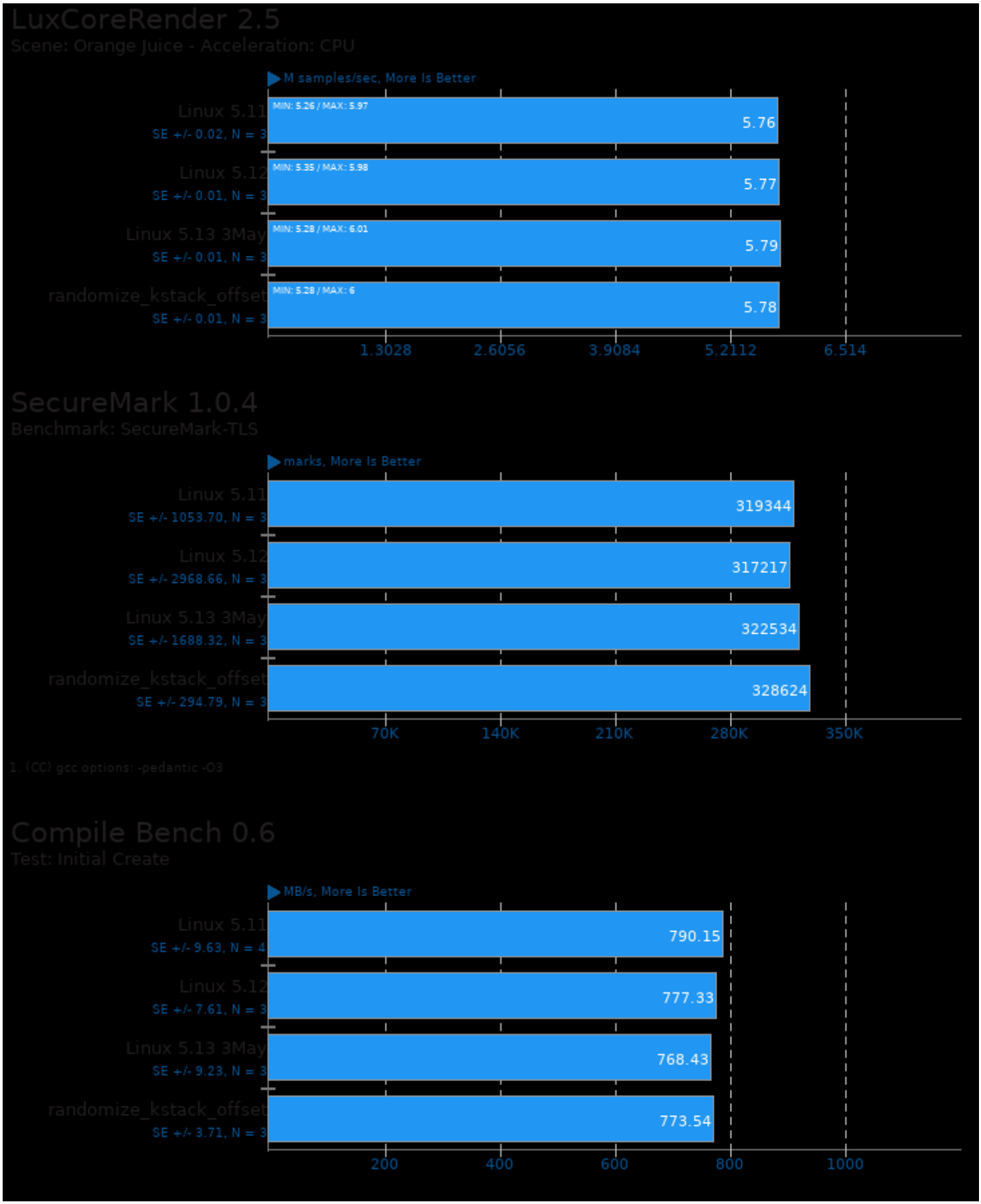
Scene: DLSC - Acceleration: CPU

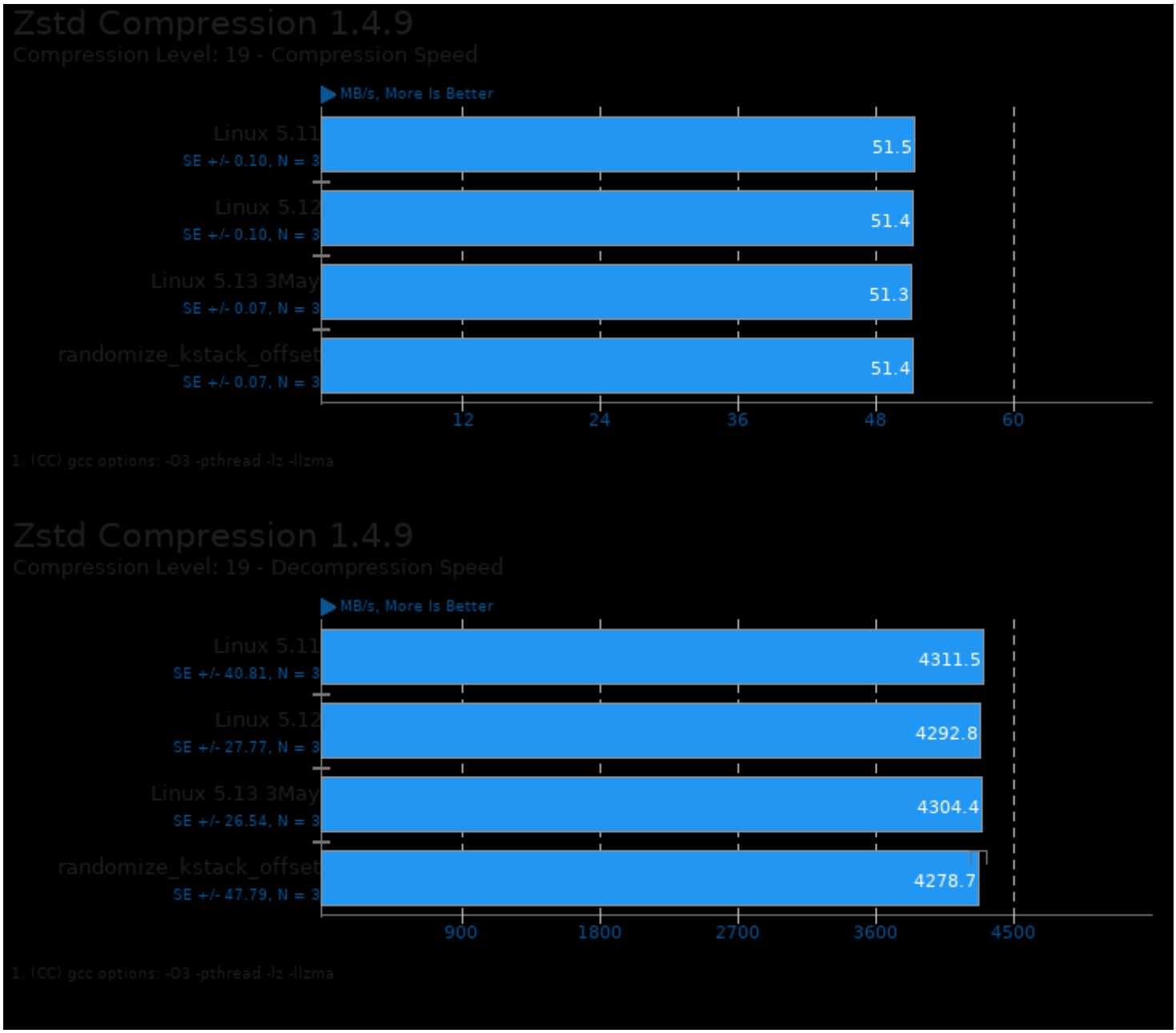


LuxCoreRender 2.5

Scene: Danish Mood - Acceleration: CPU

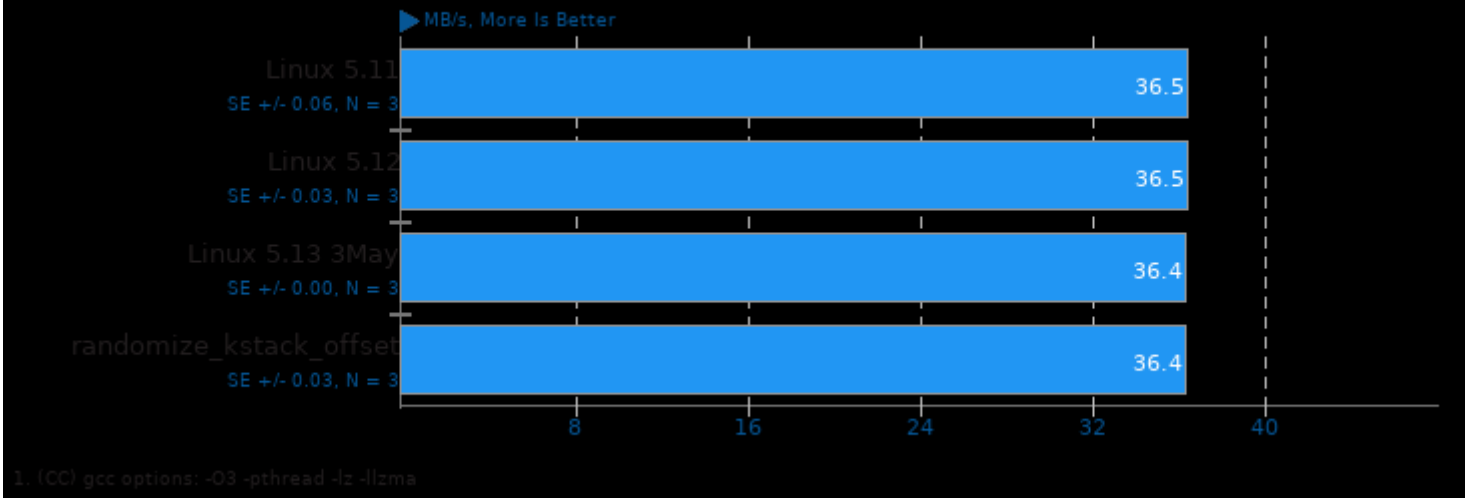



LuxCoreRender 2.5
Scene: Orange Juice - Acceleration: CPU
M samples/sec, More Is Better
Linux 5.11
SE +/- 0.02, N = 3
MIN: 5.26 / MAX: 5.97
5.76
Linux 5.12
SE +/- 0.01, N = 3
MIN: 5.35 / MAX: 5.98
5.77
Linux 5.13 3May
SE +/- 0.01, N = 3
MIN: 5.28 / MAX: 6.01
5.79
randomize_kstack_offset
SE +/- 0.01, N = 3
MIN: 5.28 / MAX: 6
5.78
1.3028
2.6056
3.9084
5.2112
6.514
SecureMark 1.0.4
Benchmark: SecureMark-TLS
marks, More Is Better
Linux 5.11
SE +/- 1053.70, N = 3
319344
Linux 5.12
SE +/- 2968.66, N = 3
317217
Linux 5.13 3May
SE +/- 1688.32, N = 3
322534
randomize_kstack_offset
SE +/- 294.79, N = 3
328624
70K
140K
210K
280K
350K
1. (CC) gcc options: -pedantic -O3
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
Linux 5.13 3May
SE +/- 9.23, N = 3
768.43
randomize_kstack_offset
SE +/- 3.71, N = 3
773.54
200
400
600
800
1000


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
Linux 5.12
SE +/- 0.10, N = 3
51.4
Linux 5.13 3May
SE +/- 0.07, N = 3
51.3
randomize_kstack_offset
SE +/- 0.07, N = 3
51.4
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 5.12
SE +/- 27.77, N = 3
4292.8
Linux 5.13 3May
SE +/- 26.54, N = 3
4304.4
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

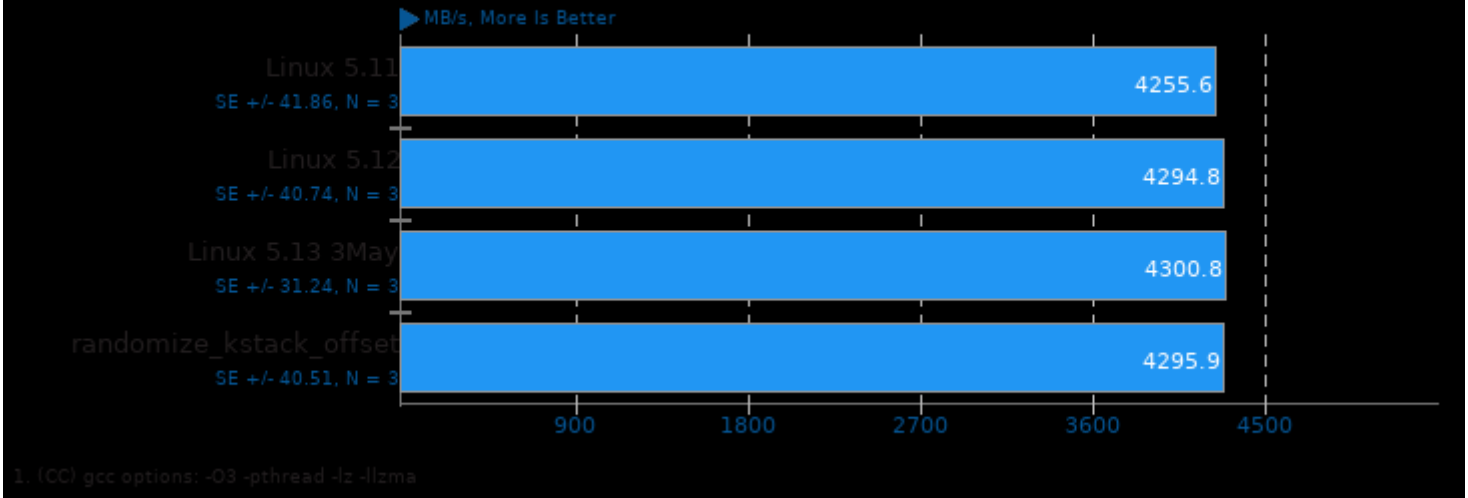
Compression Level: 19, Long Mode - Compression Speed



1. (CC) gcc options: -O3 -pthread -lz -llzma

Zstd Compression 1.4.9

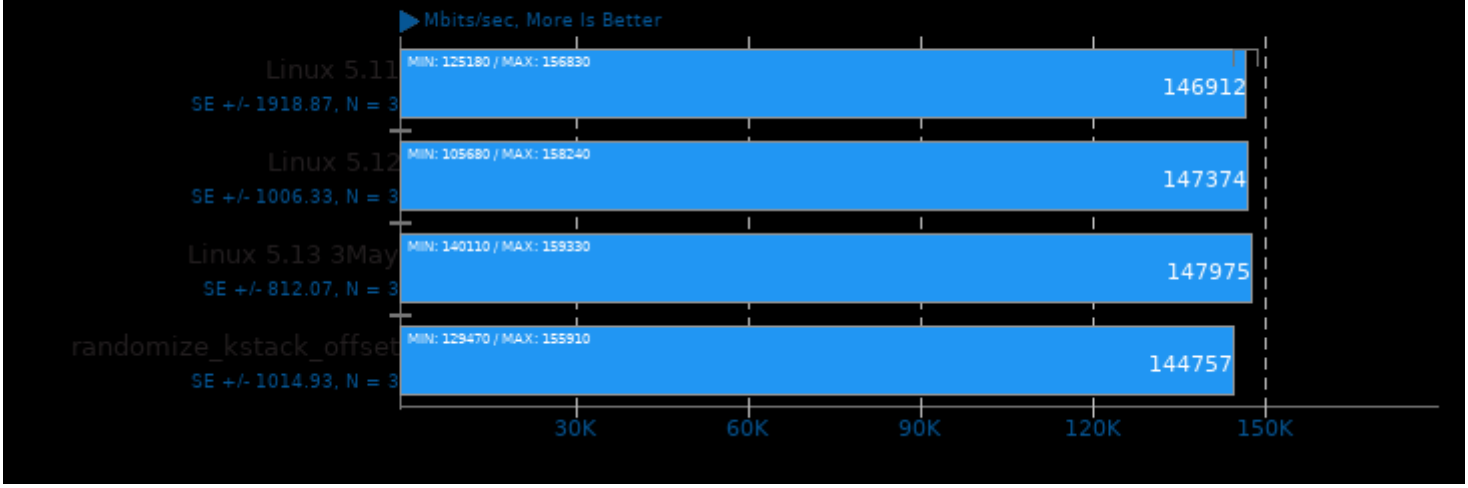
Compression Level: 19, Long Mode - Decompression Speed

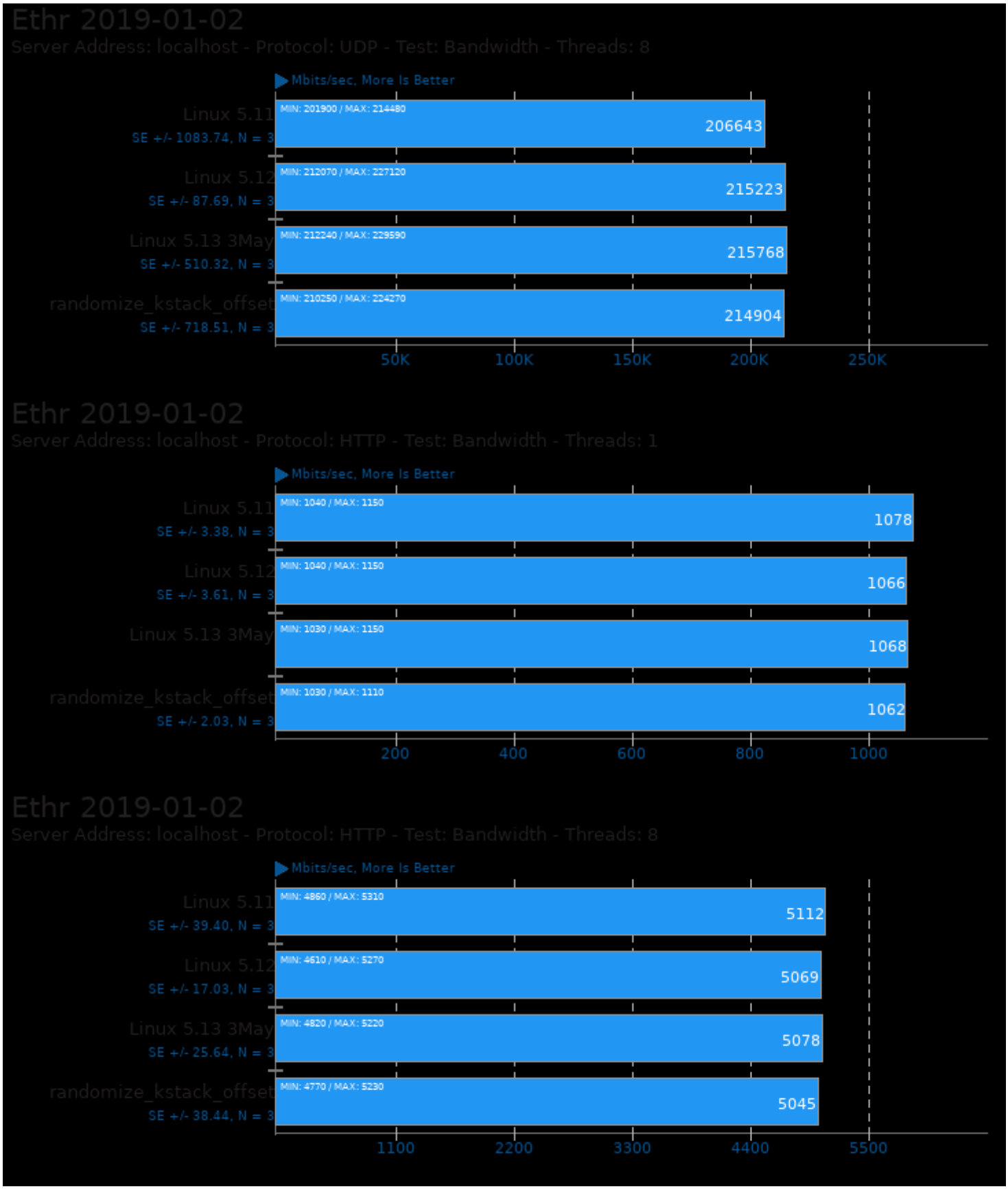


1. (CC) gcc options: -O3 -pthread -lz -llzma

Ethr 2019-01-02

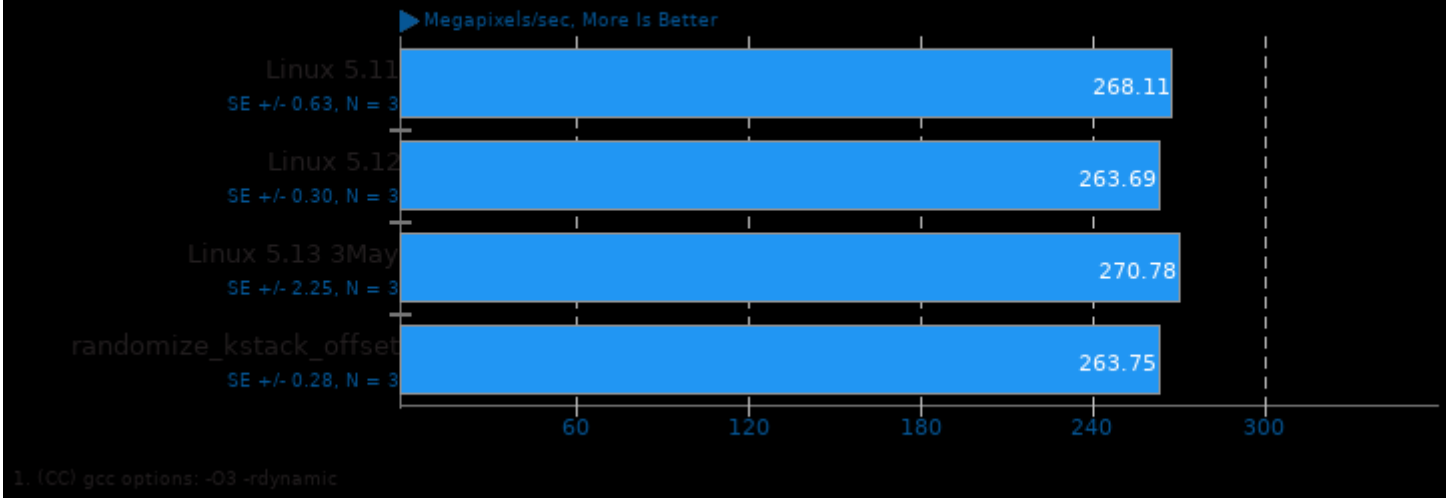
Server Address: localhost - Protocol: TCP - Test: Bandwidth - Threads: 8




Ethr 2019-01-02
Server Address: localhost - Protocol: UDP - Test: Bandwidth - Threads: 8
Mbits/sec, More Is Better
Linux 5.11
SE +/- 1083.74, N = 3
MIN: 201900 / MAX: 214480
206643
Linux 5.12
SE +/- 87.69, N = 3
MIN: 212070 / MAX: 227120
215223
Linux 5.13 3May
SE +/- 510.32, N = 3
MIN: 212240 / MAX: 229590
215768
randomize_kstack_offset
SE +/- 718.51, N = 3
MIN: 210250 / MAX: 224270
214904
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 5.12
SE +/- 3.61, N = 3
MIN: 1040 / MAX: 1150
1066
Linux 5.13 3May
MIN: 1030 / MAX: 1150
1068
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 5.12
SE +/- 17.03, N = 3
MIN: 4610 / MAX: 5270
5069
Linux 5.13 3May
SE +/- 25.64, N = 3
MIN: 4820 / MAX: 5220
5078
randomize_kstack_offset
SE +/- 38.44, N = 3
MIN: 4770 / MAX: 5230
5045
1100
2200
3300
4400
5500

libjpeg-turbo tjbench 2.1.0

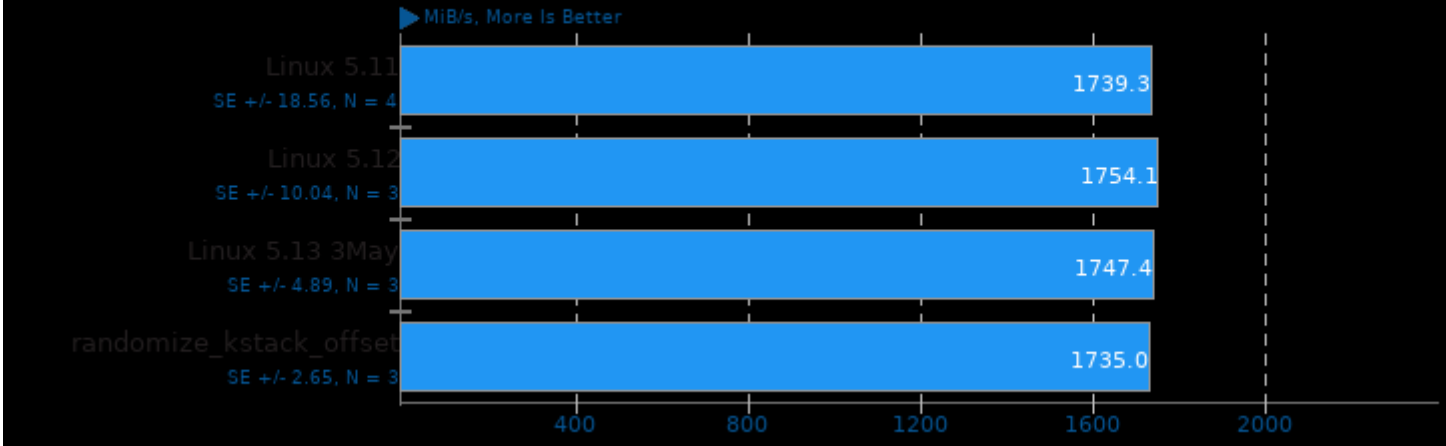
Test: Decompression Throughput



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

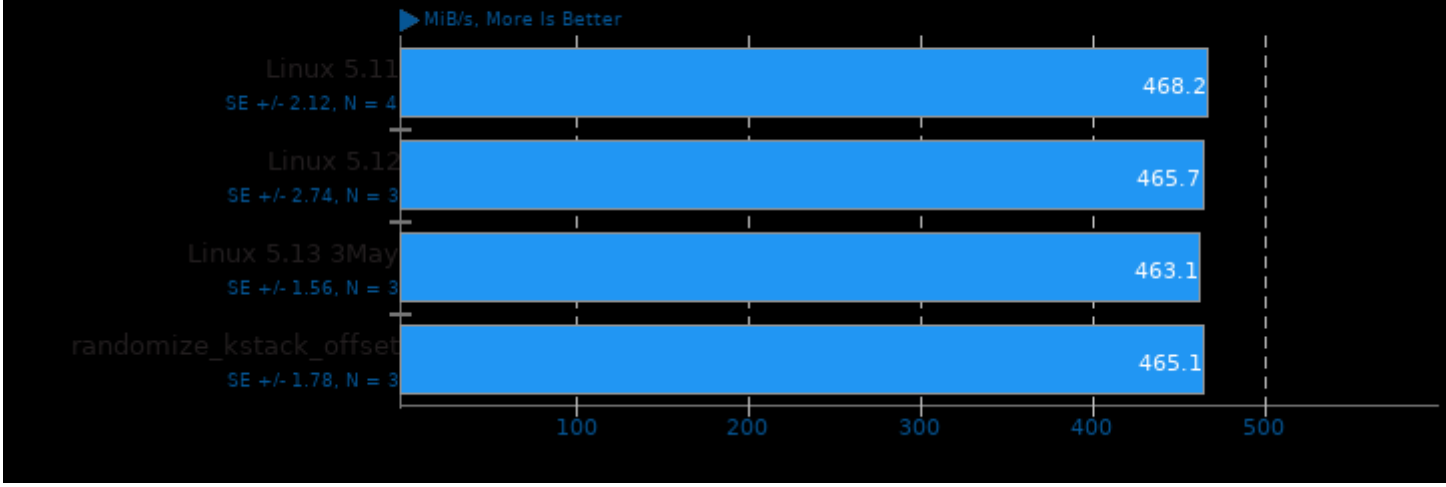
LuaRadio 0.9.1

Test: Five Back to Back FIR Filters



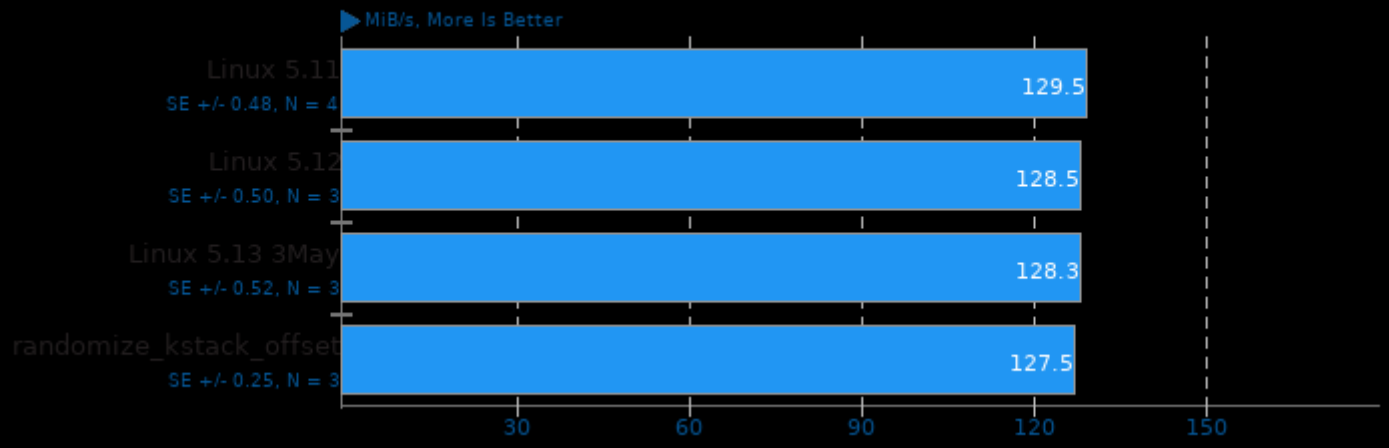
LuaRadio 0.9.1

Test: FM Deemphasis Filter



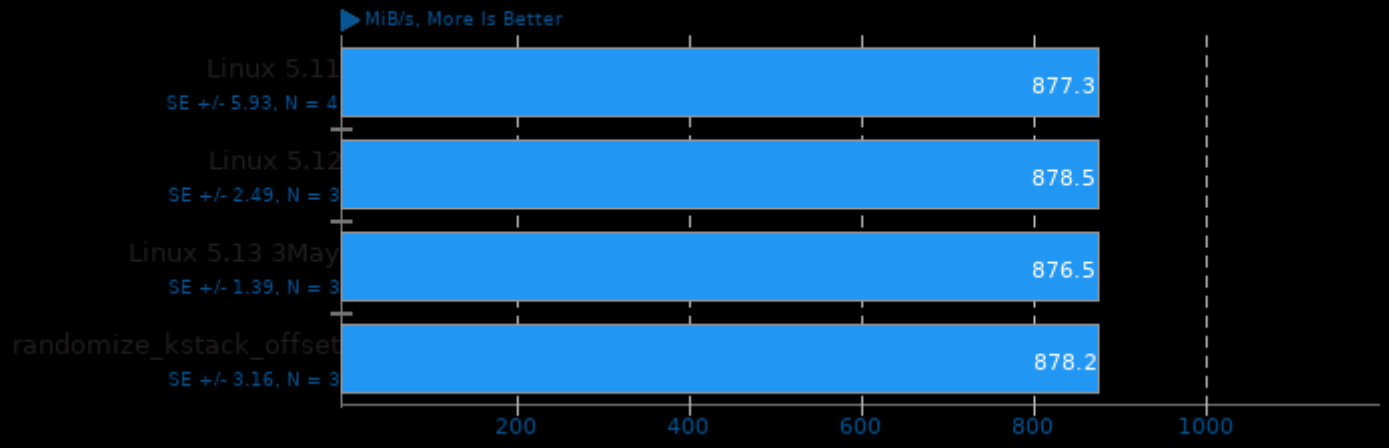
LuaRadio 0.9.1

Test: Hilbert Transform



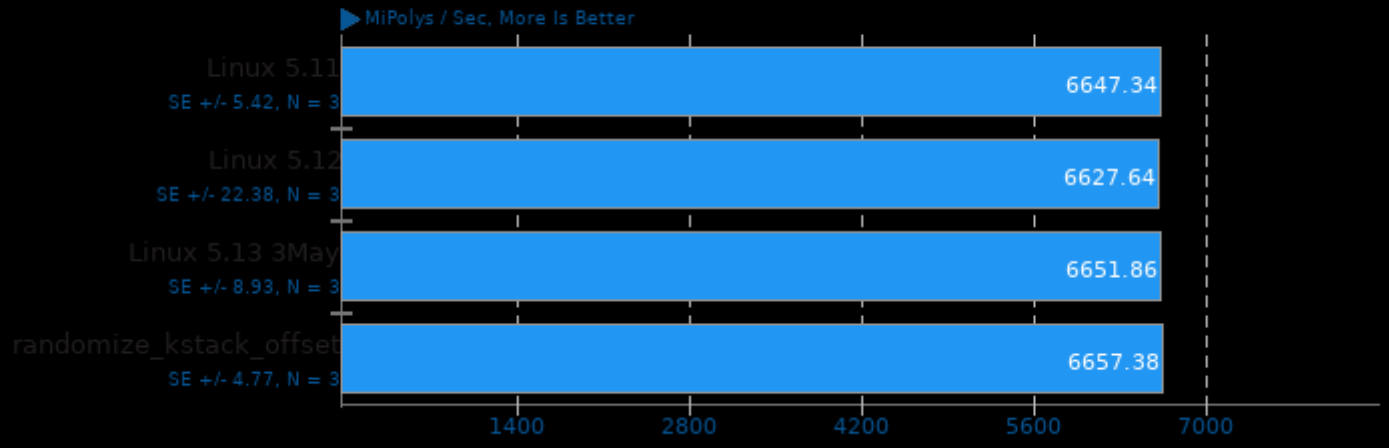
LuaRadio 0.9.1

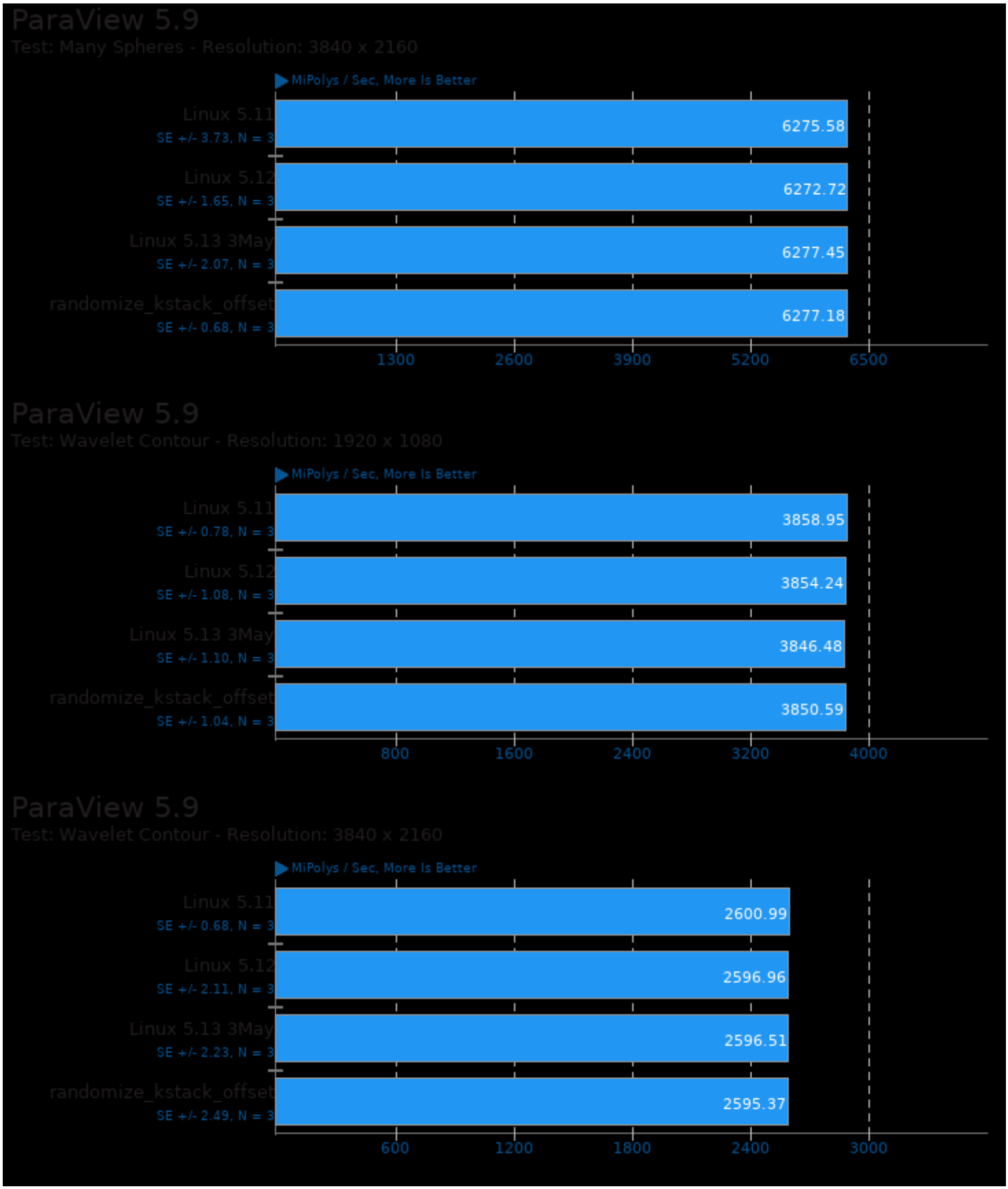
Test: Complex Phase



ParaView 5.9

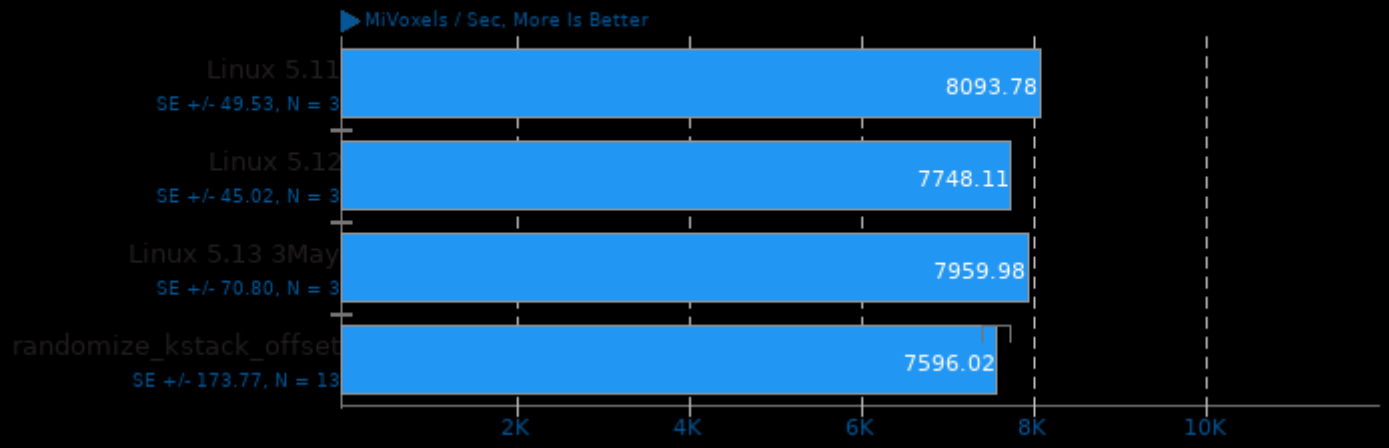
Test: Many Spheres - Resolution: 1920 x 1080




ParaView 5.9
Test: Many Spheres - Resolution: 3840 x 2160
MiPolys / Sec, More Is Better
Linux 5.11
SE +/- 3.73, N = 3
6275.58
Linux 5.12
SE +/- 1.65, N = 3
6272.72
Linux 5.13 3May
SE +/- 2.07, N = 3
6277.45
randomize_kstack_offset
SE +/- 0.68, N = 3
6277.18
1300
2600
3900
5200
6500
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
Linux 5.13 3May
SE +/- 1.10, N = 3
3846.48
randomize_kstack_offset
SE +/- 1.04, N = 3
3850.59
800
1600
2400
3200
4000
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

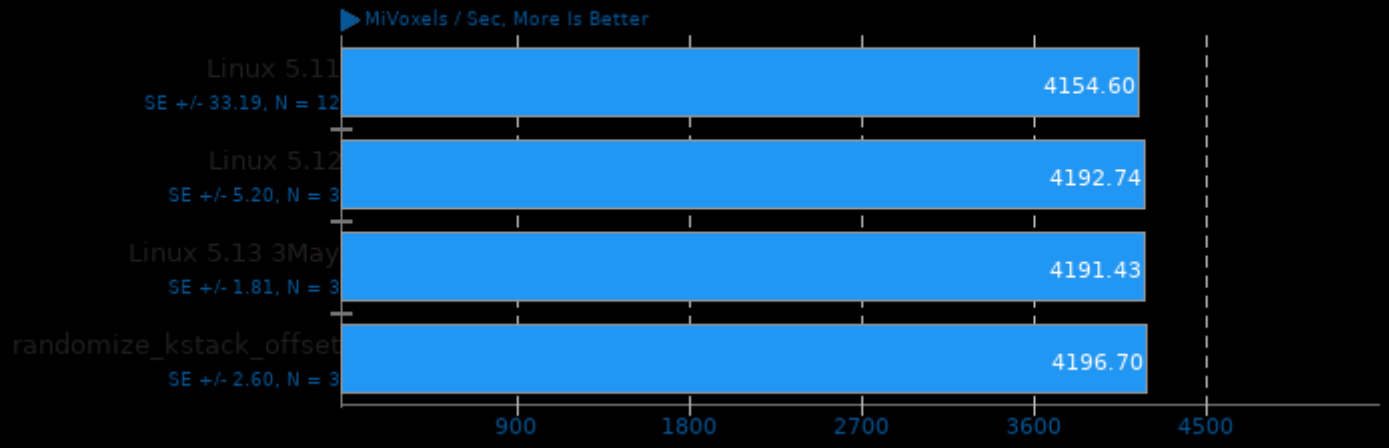
ParaView 5.9

Test: Wavelet Volume - Resolution: 1920 x 1080



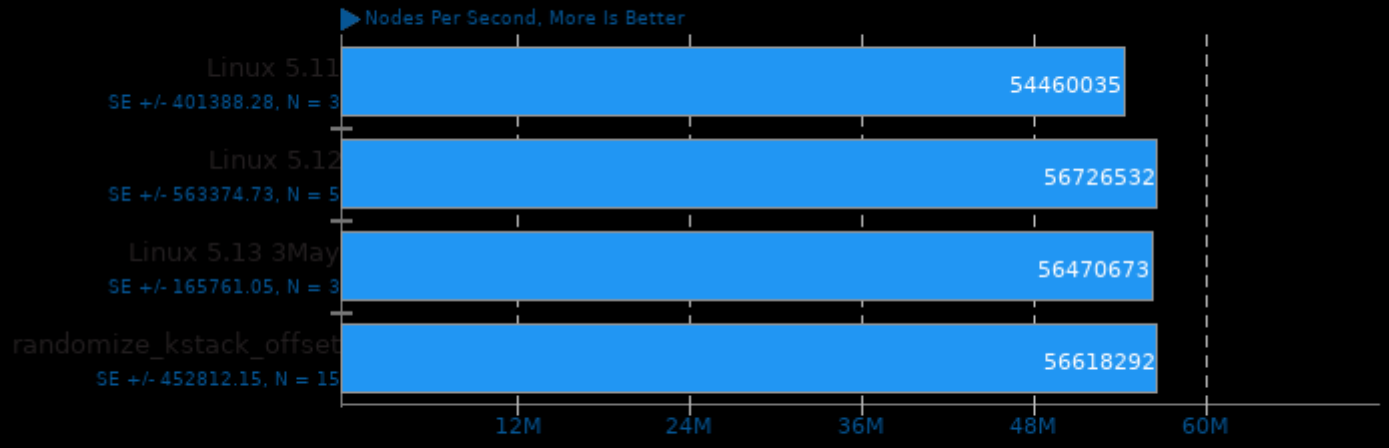
ParaView 5.9

Test: Wavelet Volume - Resolution: 3840 x 2160

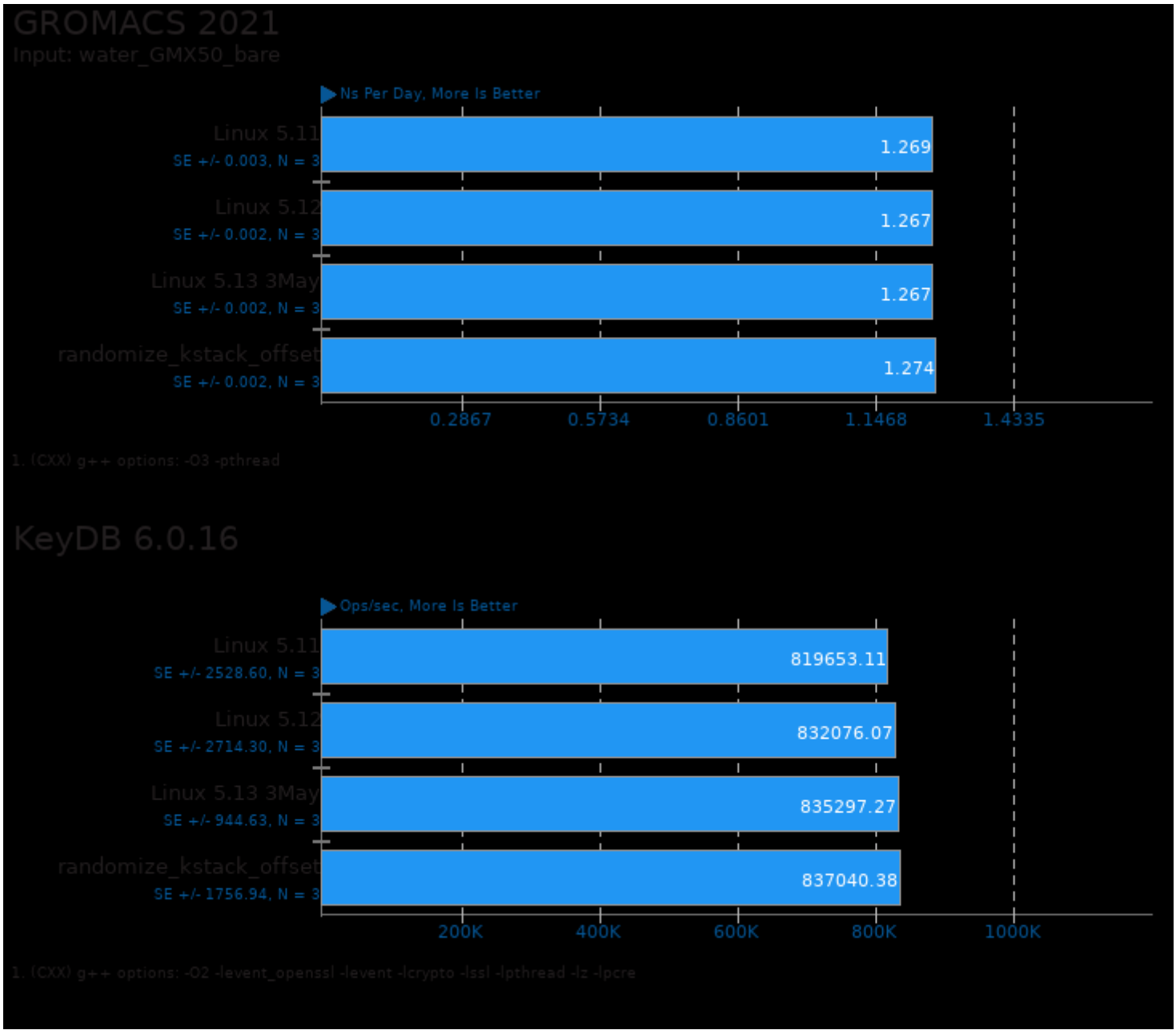


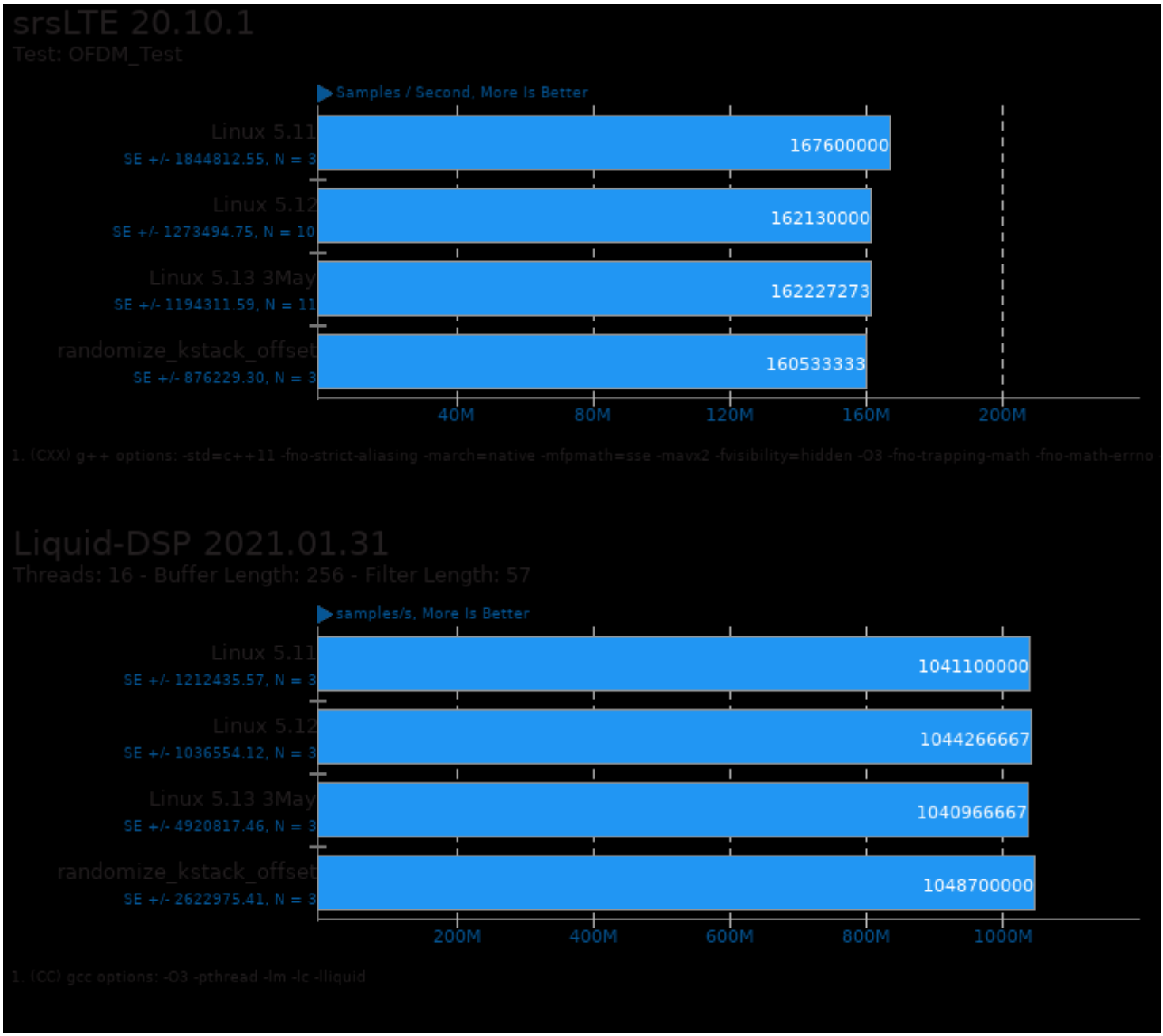
Stockfish 13

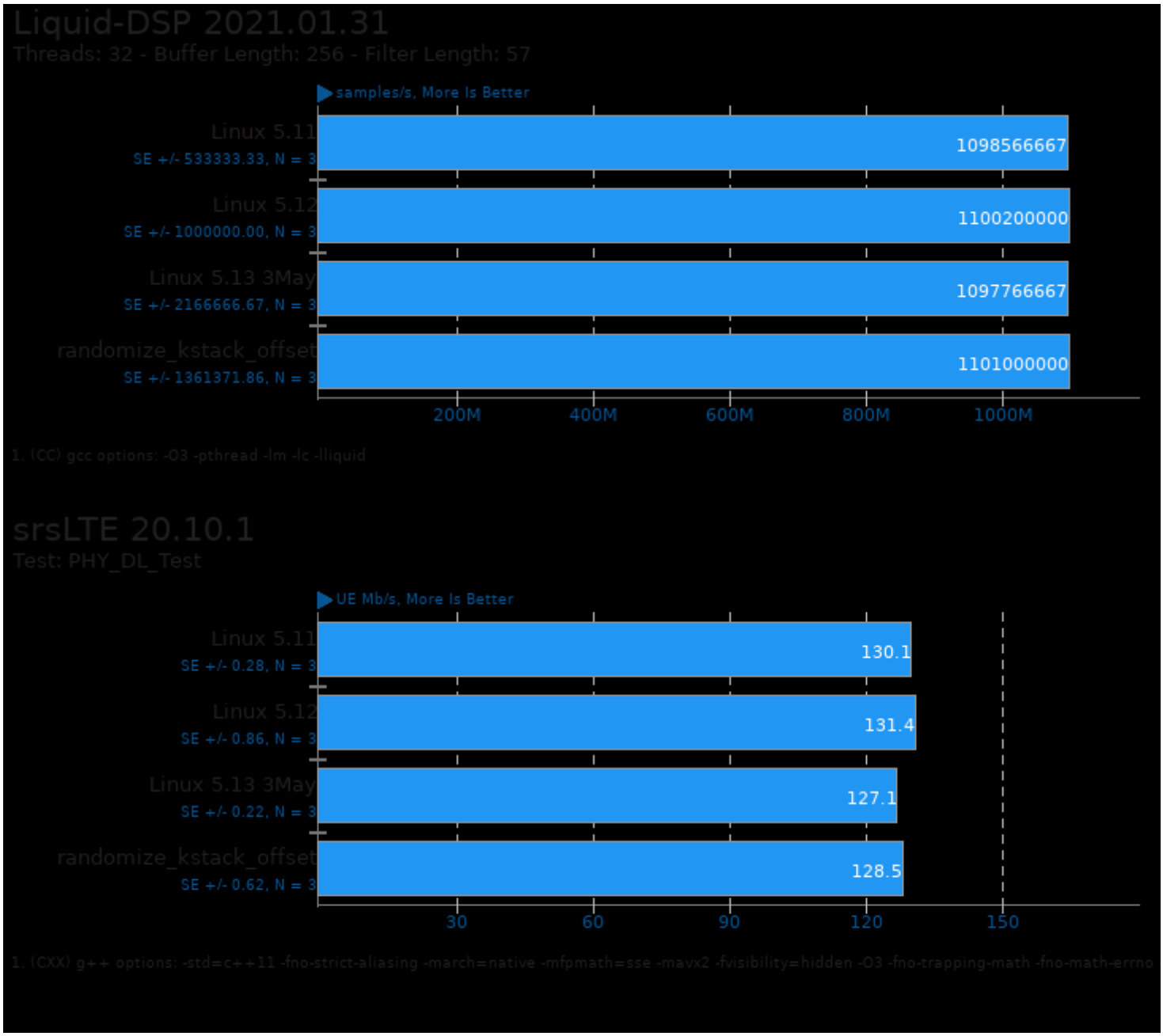
Total Time

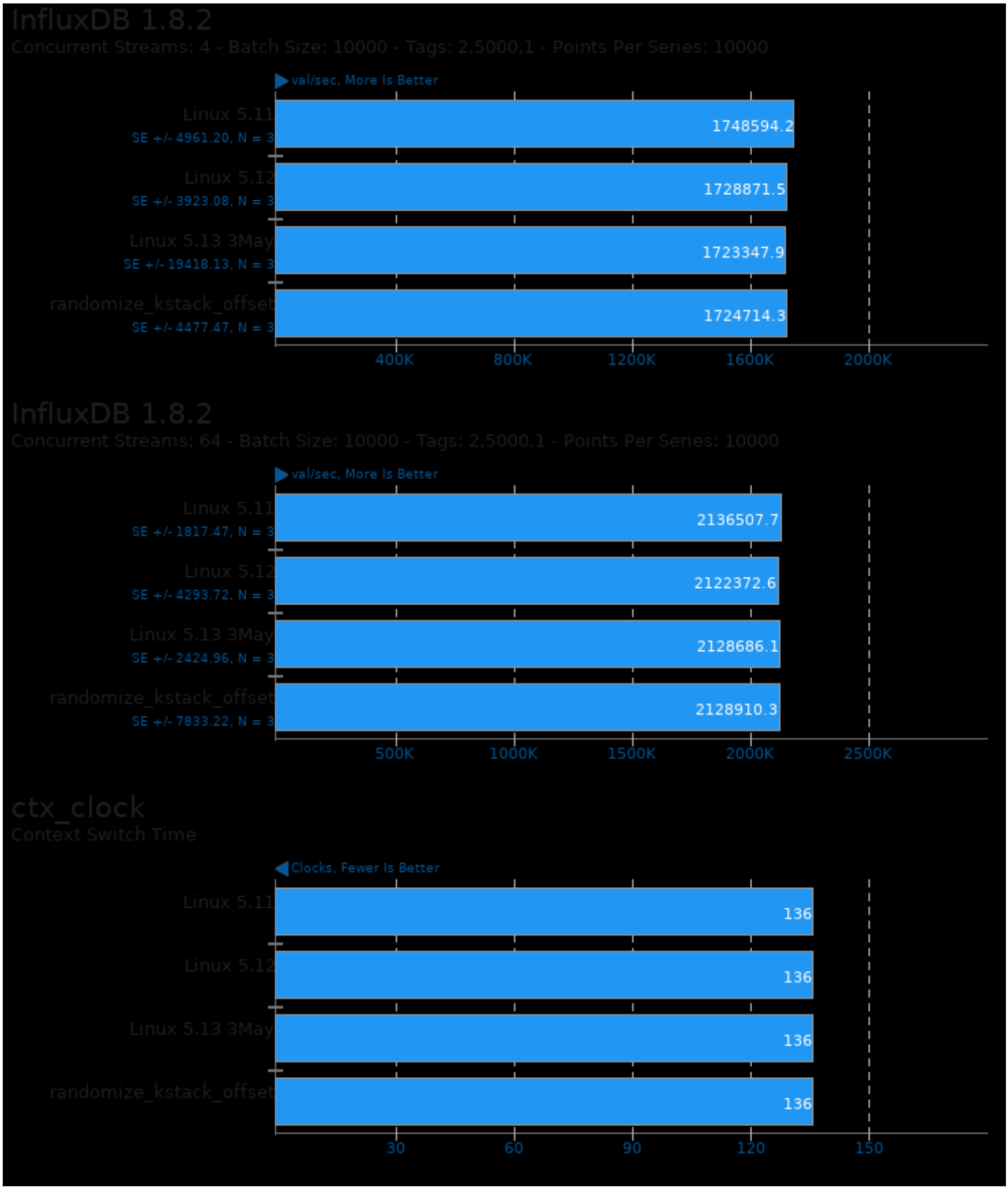


1. (CXX) g++ options: -lgcov -m64 -lpthread -fno-exceptions -std=c++17 -fprofile-use -fno-peel-loops -fno-tracer -pedantic -O3 -msse -msse3 -mpopcnt -


GROMACS 2021
Input: water_GMX50_bare
Ns Per Day, More Is Better
Linux 5.11
SE +/- 0.003, N = 3
1.269
Linux 5.12
SE +/- 0.002, N = 3
1.267
Linux 5.13 3May
SE +/- 0.002, N = 3
1.267
randomize_kstack_offset
SE +/- 0.002, N = 3
1.274
0.2867
0.5734
0.8601
1.1468
1.4335
1. (CXX) g++ options: -O3 -pthread
KeyDB 6.0.16
Ops/sec, More Is Better
Linux 5.11
SE +/- 2528.60, N = 3
819653.11
Linux 5.12
SE +/- 2714.30, N = 3
832076.07
Linux 5.13 3May
SE +/- 944.63, N = 3
835297.27
randomize_kstack_offset
SE +/- 1756.94, N = 3
837040.38
200K
400K
600K
800K
1000K
1. (CXX) g++ options: -O2 -levent_openssl -levent -lcrypto -lssl -lpthread -lz -lpcre

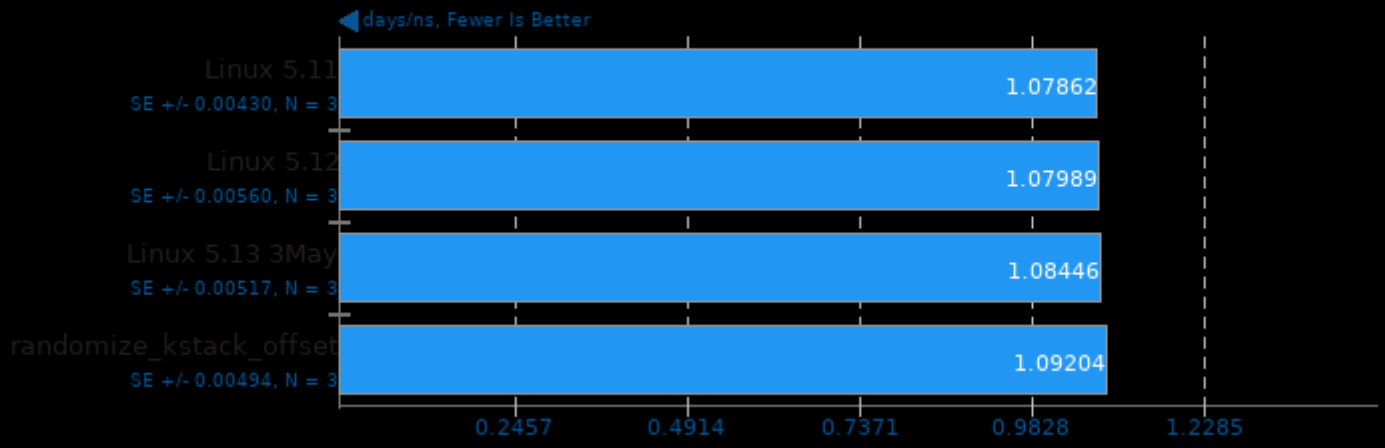

srsLTE 20.10.1
Test: OFDM_Test
Samples / Second, More Is Better
Linux 5.11
SE +/- 1844812.55, N = 3
167600000
Linux 5.12
SE +/- 1273494.75, N = 10
162130000
Linux 5.13 3May
SE +/- 1194311.59, N = 11
162227273
randomize_kstack_offset
SE +/- 876229.30, N = 3
160533333
40M
80M
120M
160M
200M
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno
Liquid-DSP 2021.01.31
Threads: 16 - Buffer Length: 256 - Filter Length: 57
samples/s, More Is Better
Linux 5.11
SE +/- 1212435.57, N = 3
1041100000
Linux 5.12
SE +/- 1036554.12, N = 3
1044266667
Linux 5.13 3May
SE +/- 4920817.46, N = 3
1040966667
randomize_kstack_offset
SE +/- 2622975.41, N = 3
1048700000
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
Linux 5.11
SE +/- 533333.33, N = 3
1098566667
Linux 5.12
SE +/- 1000000.00, N = 3
1100200000
Linux 5.13 3May
SE +/- 2166666.67, N = 3
1097766667
randomize_kstack_offset
SE +/- 1361371.86, N = 3
1101000000
200M
400M
600M
800M
1000M
1. (CC) gcc options: -O3 -pthread -lm -lc -liquid
srsLTE 20.10.1
Test: PHY_DL_Test
UE Mb/s, More Is Better
Linux 5.11
SE +/- 0.28, N = 3
130.1
Linux 5.12
SE +/- 0.86, N = 3
131.4
Linux 5.13 3May
SE +/- 0.22, N = 3
127.1
randomize_kstack_offset
SE +/- 0.62, N = 3
128.5
30
60
90
120
150
1. (CXX) g++ options: -std=c++11 -fno-strict-aliasing -march=native -mfpmath=sse -mavx2 -fvisibility=hidden -O3 -fno-trapping-math -fno-math-errno


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
Linux 5.13 3May
SE +/- 19418.13, N = 3
1723347.9
randomize_kstack_offset
SE +/- 4477.47, N = 3
1724714.3
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
Linux 5.12
SE +/- 4293.72, N = 3
2122372.6
Linux 5.13 3May
SE +/- 2424.96, N = 3
2128686.1
randomize_kstack_offset
SE +/- 7833.22, N = 3
2128910.3
500K
1000K
1500K
2000K
2500K
ctx_clock
Context Switch Time
Clocks, Fewer Is Better
Linux 5.11
136
Linux 5.12
136
Linux 5.13 3May
136
randomize_kstack_offset
136
30
60
90
120
150

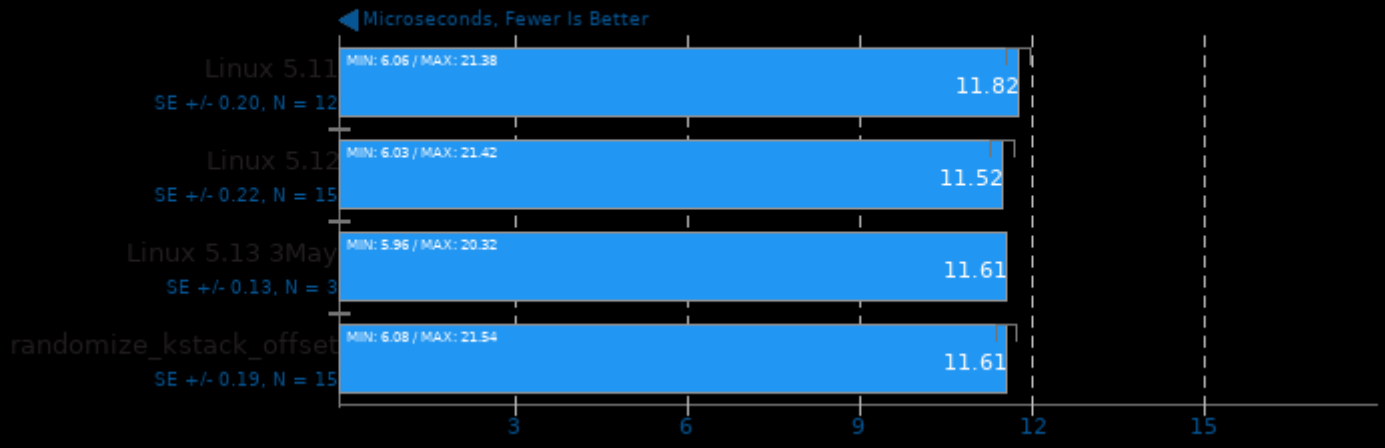
NAMD 2.14

ATPase Simulation - 327,506 Atoms



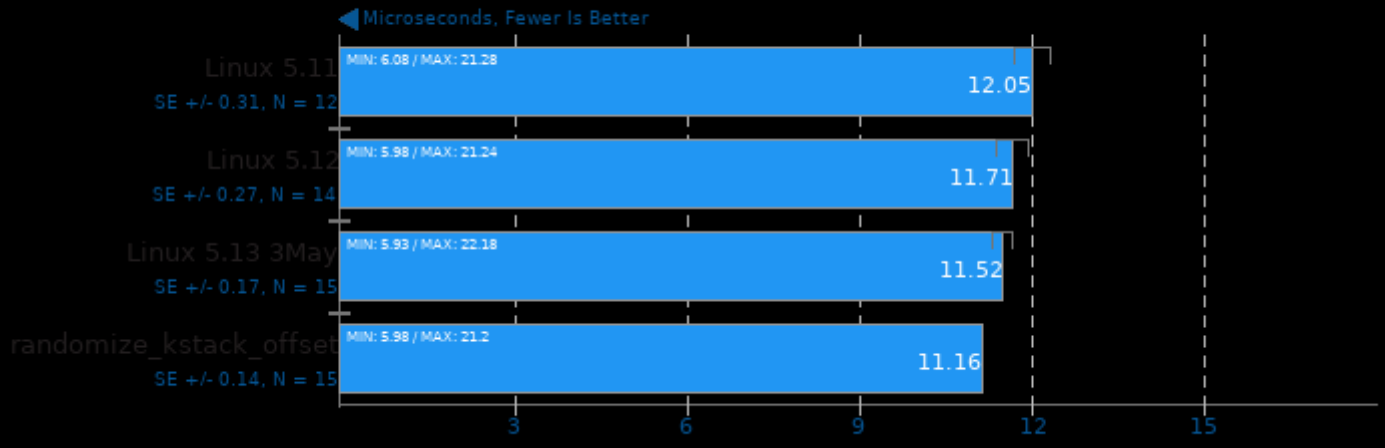
Ethr 2019-01-02

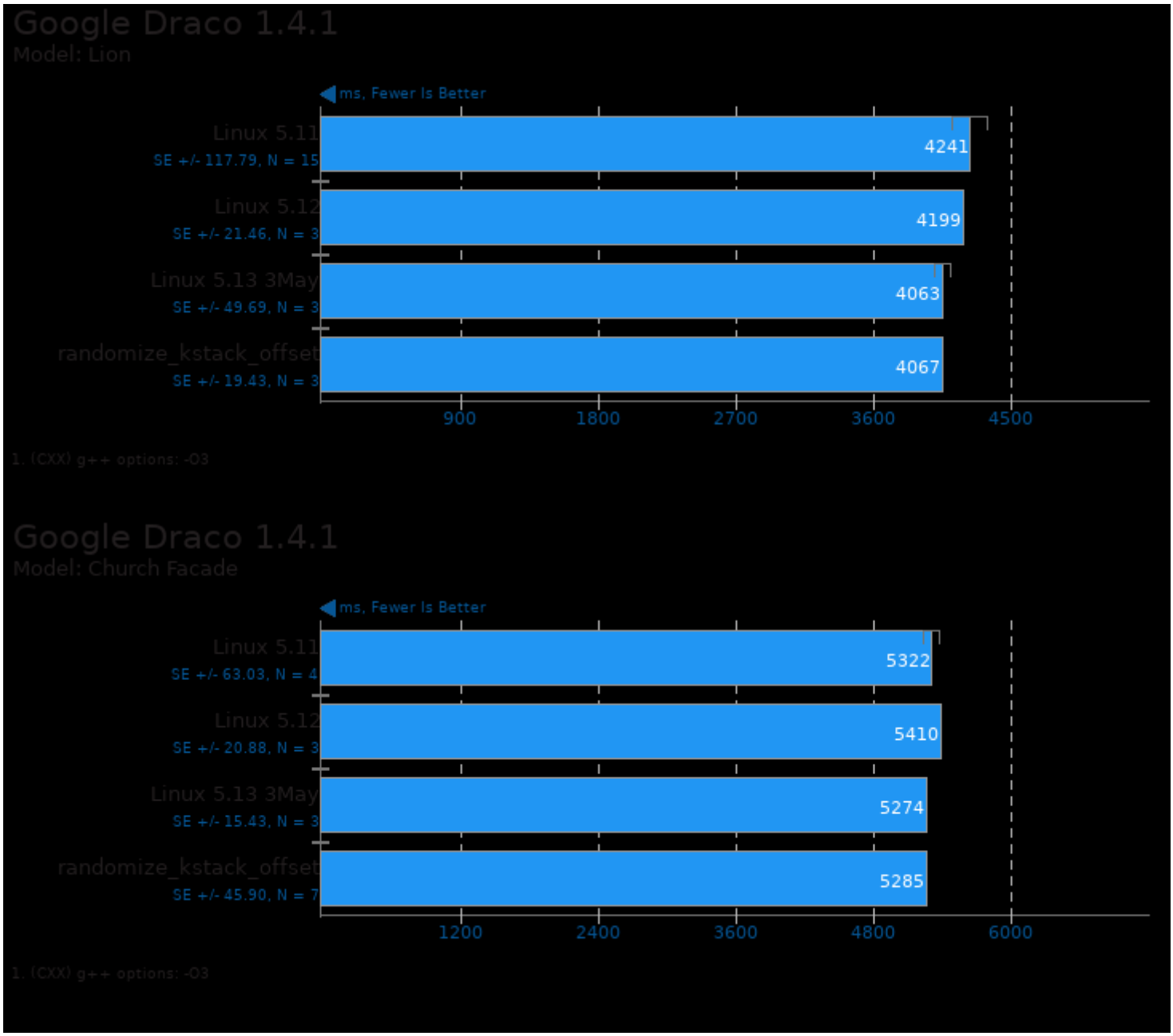
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 1



Ethr 2019-01-02

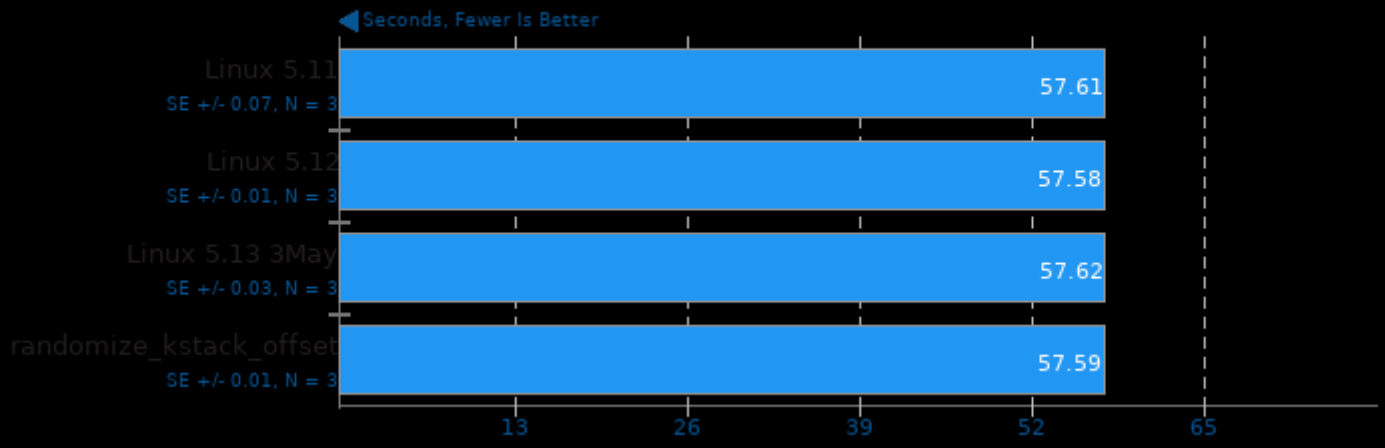
Server Address: localhost - Protocol: TCP - Test: Latency - Threads: 8




Google Draco 1.4.1
Model: Lion
ms, Fewer Is Better
Linux 5.11
SE +/- 117.79, N = 15
4241
Linux 5.12
SE +/- 21.46, N = 3
4199
Linux 5.13 3May
SE +/- 49.69, N = 3
4063
randomize_kstack_offset
SE +/- 19.43, N = 3
4067
900
1800
2700
3600
4500
1. (CXX) g++ options: -O3
Google Draco 1.4.1
Model: Church Facade
ms, Fewer Is Better
Linux 5.11
SE +/- 63.03, N = 4
5322
Linux 5.12
SE +/- 20.88, N = 3
5410
Linux 5.13 3May
SE +/- 15.43, N = 3
5274
randomize_kstack_offset
SE +/- 45.90, N = 7
5285
1200
2400
3600
4800
6000
1. (CXX) g++ options: -O3

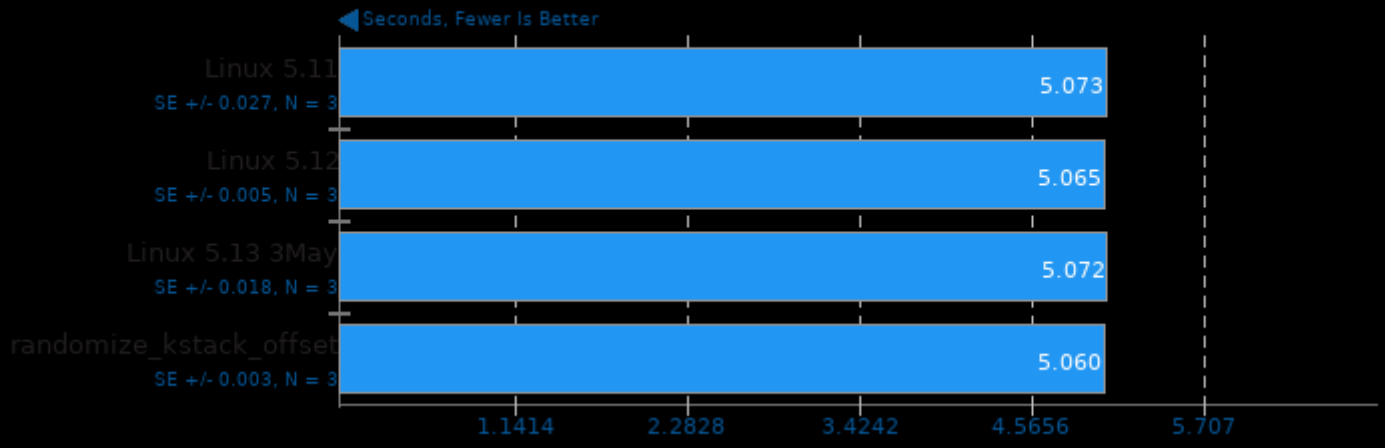
RealSR-NCNN 20200818

Scale: 4x - TAA: Yes



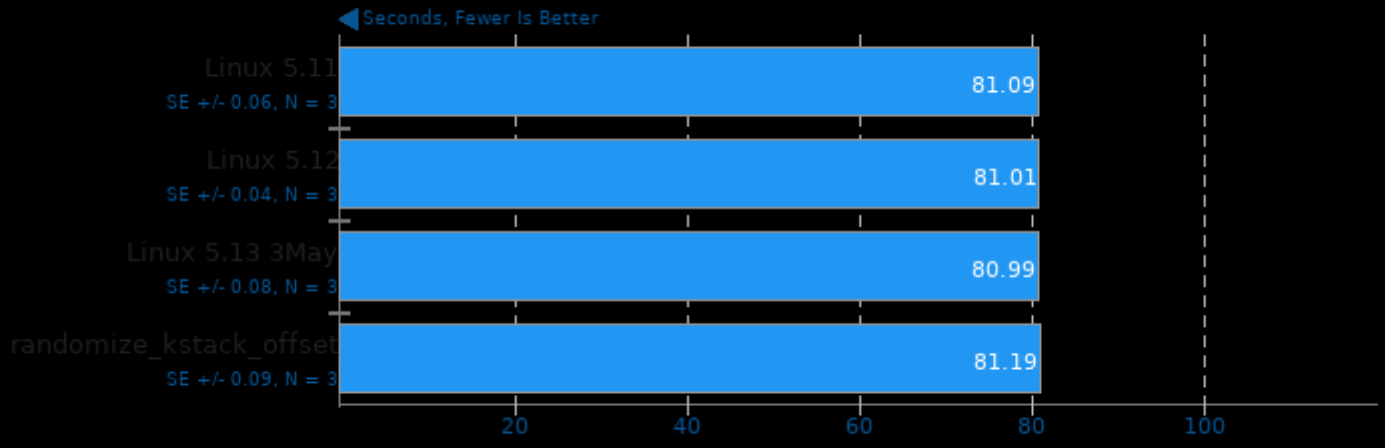
Waifu2x-NCNN Vulkan 20200818

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

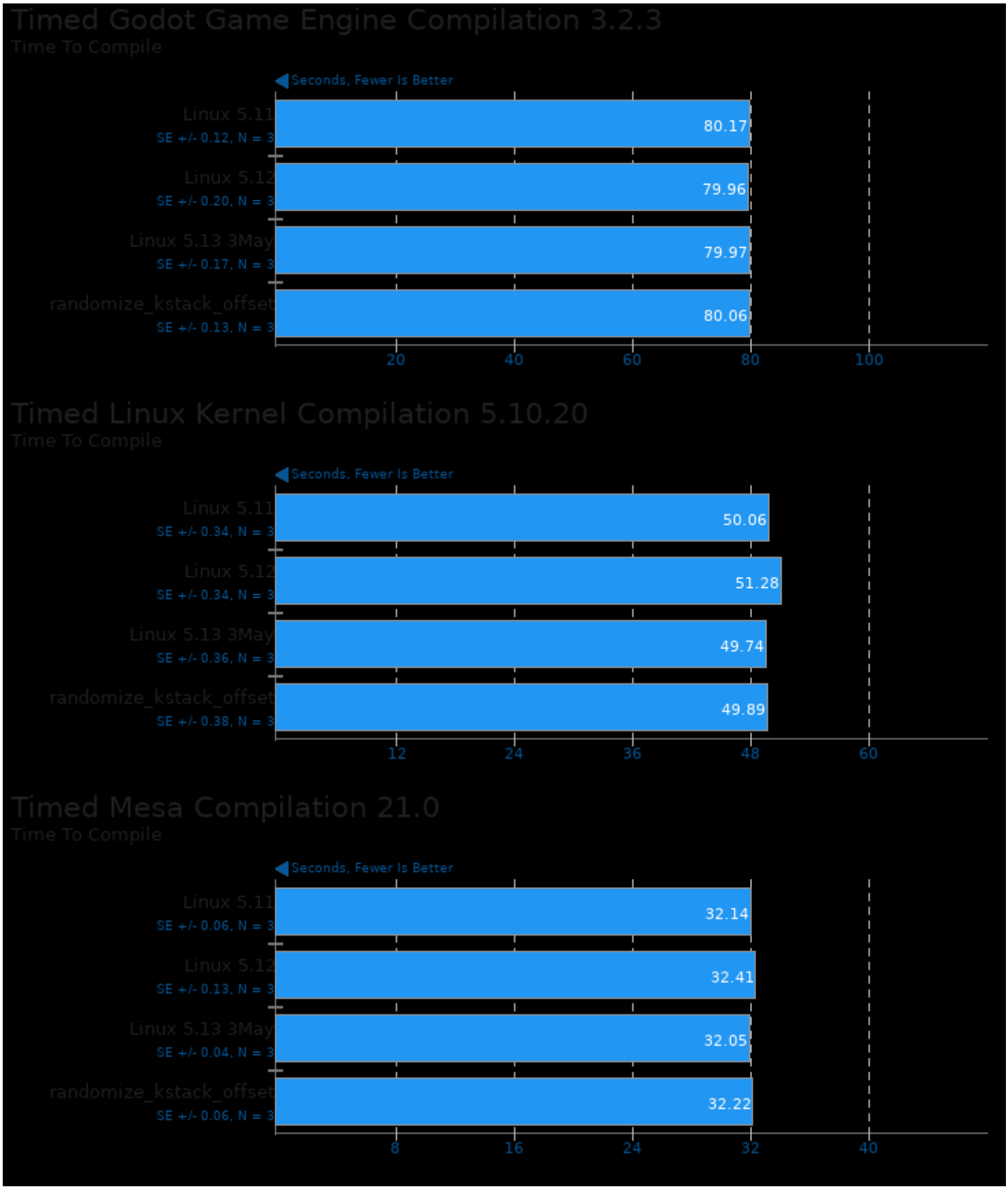


Timed HMMer Search 3.3.1

Pfam Database Search

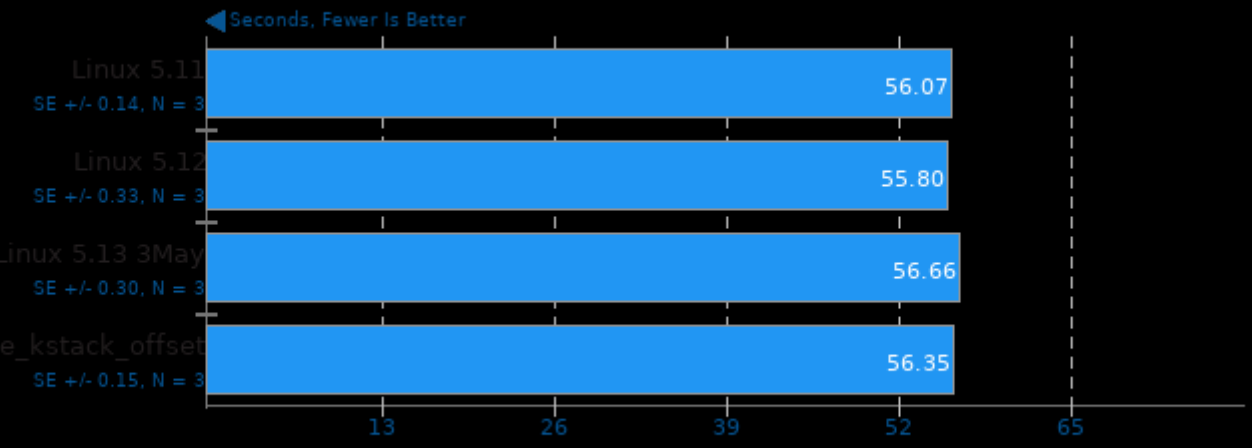


1. (CC) gcc options: -O3 -pthread -lhmmer -leasel -lm


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

Timed Wasmer Compilation 1.0.2

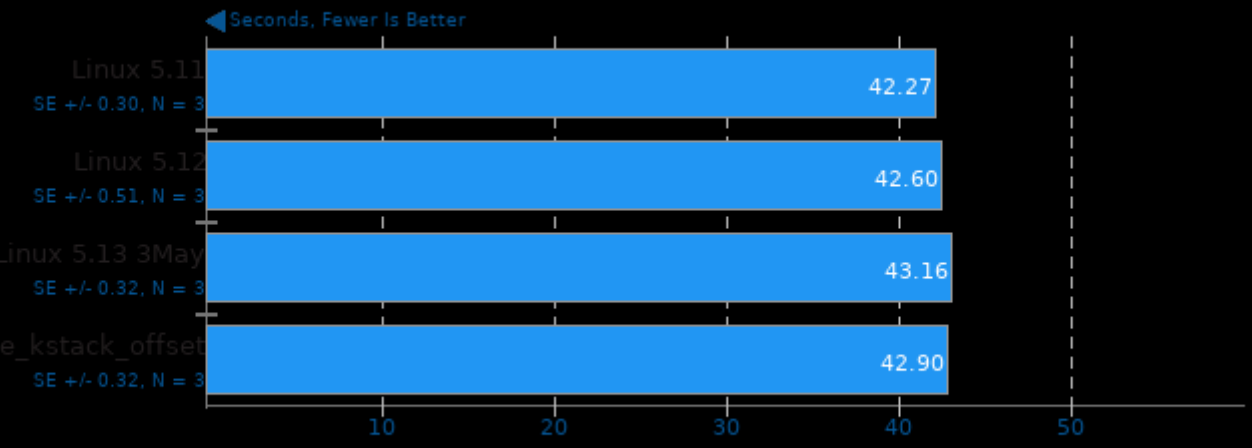
Time To Compile



1. (CC) gcc options: -m64 -pie -nodefaultlibs -ldl -lrt -lpthread -lgcc_s -lc -lm -lutil

SQLite Speedtest 3.30

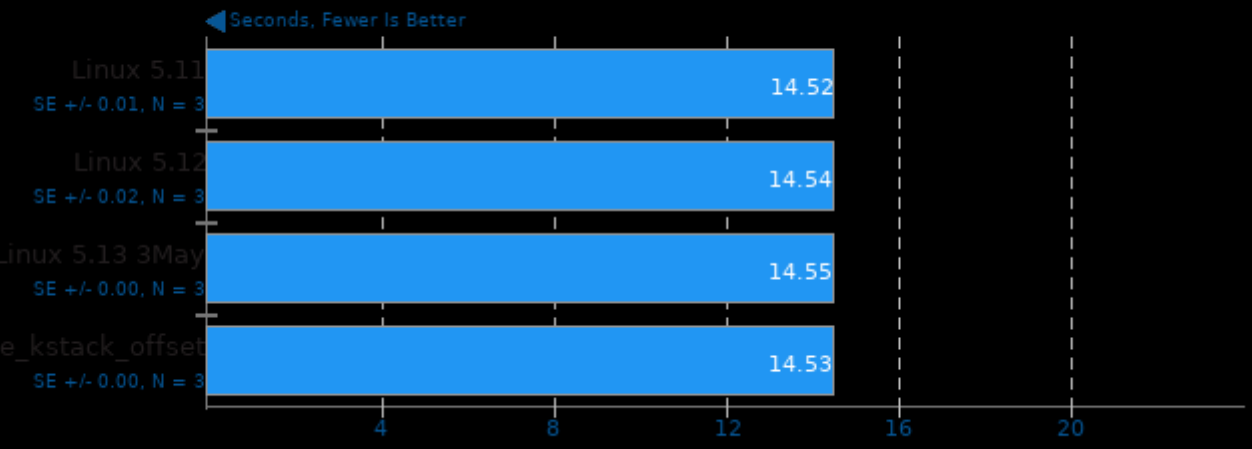
Timed Time - Size 1,000

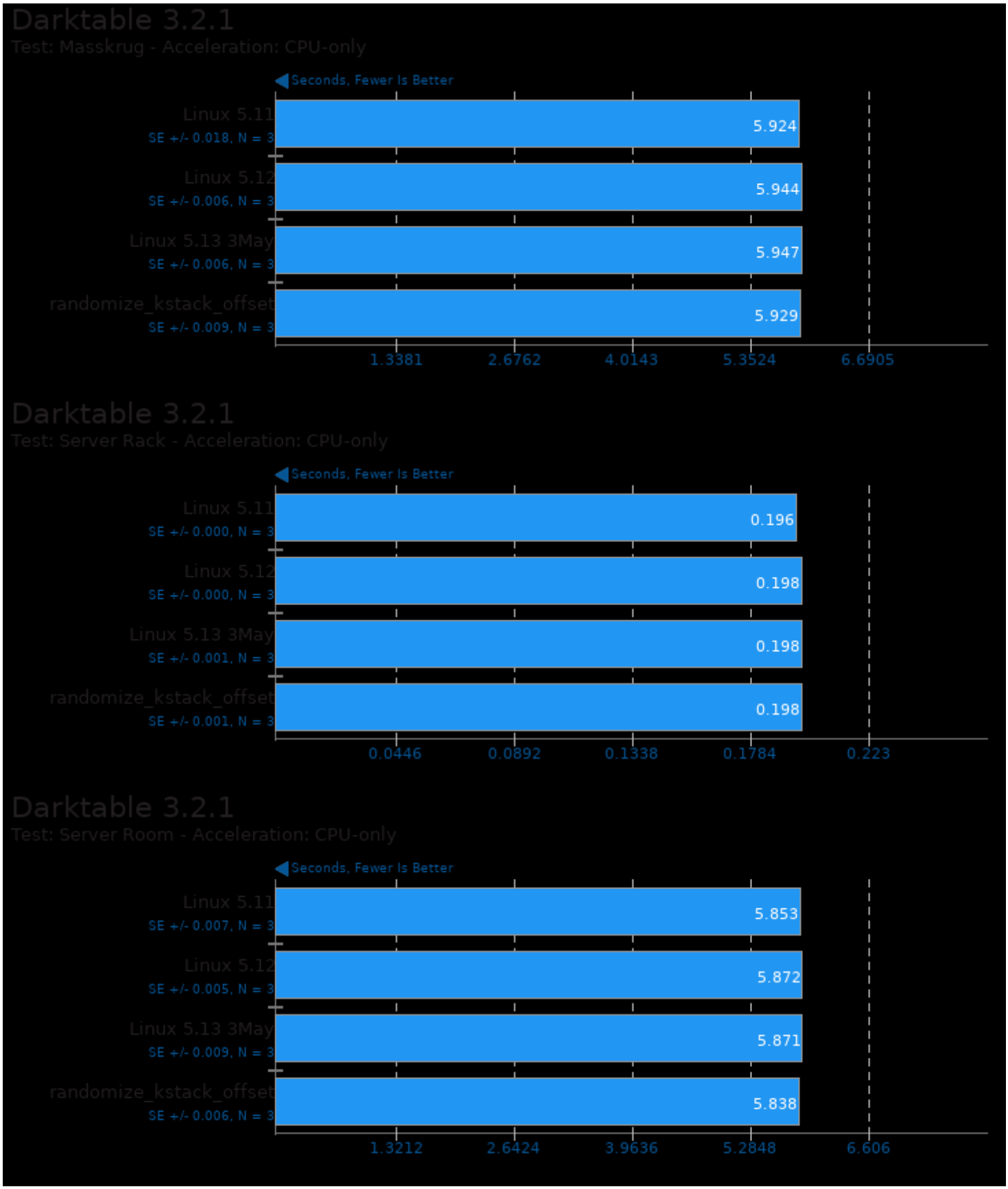


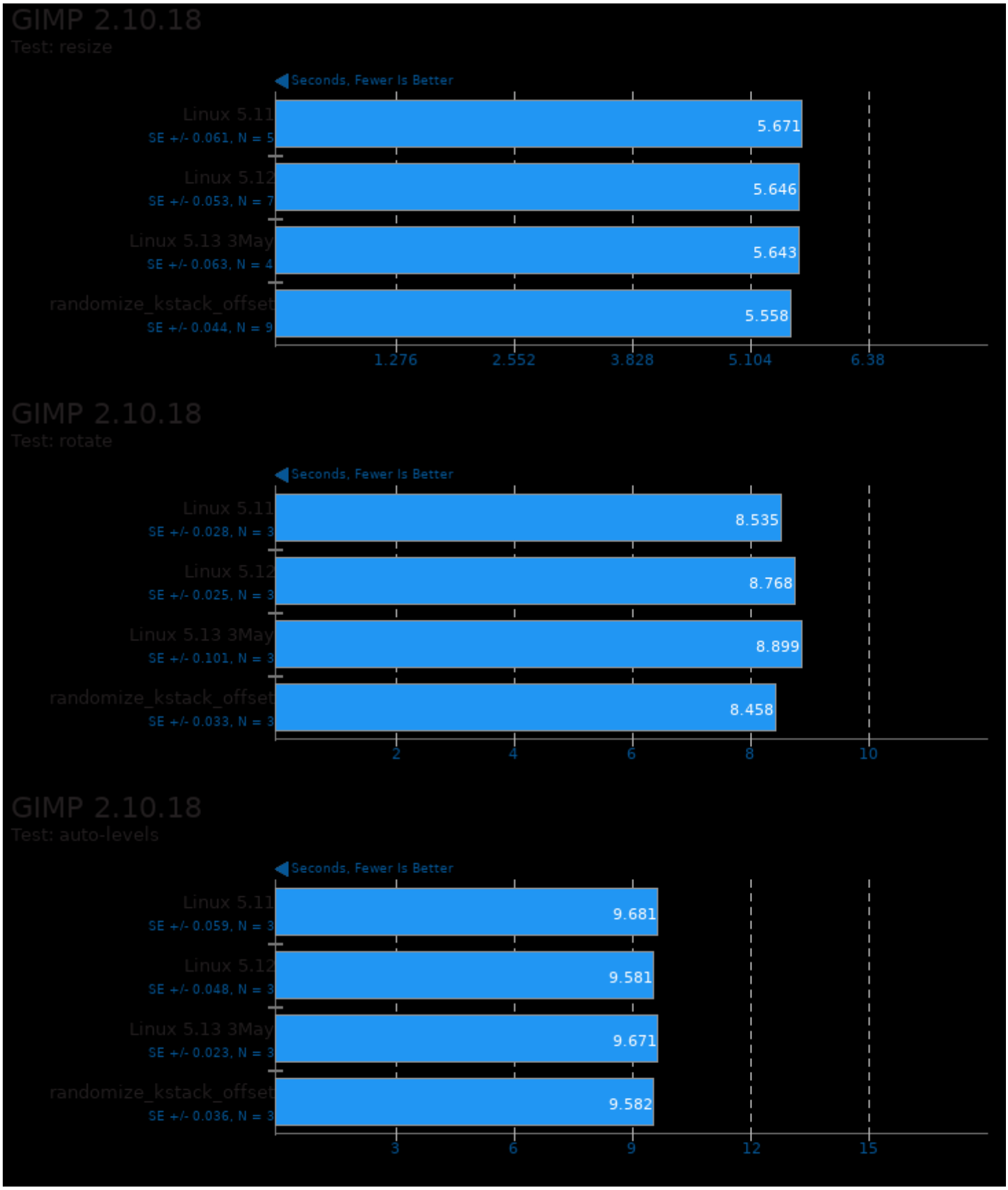
1. (CC) gcc options: -O2 -ldl -lz -lpthread

Darktable 3.2.1

Test: Boat - Acceleration: CPU-only

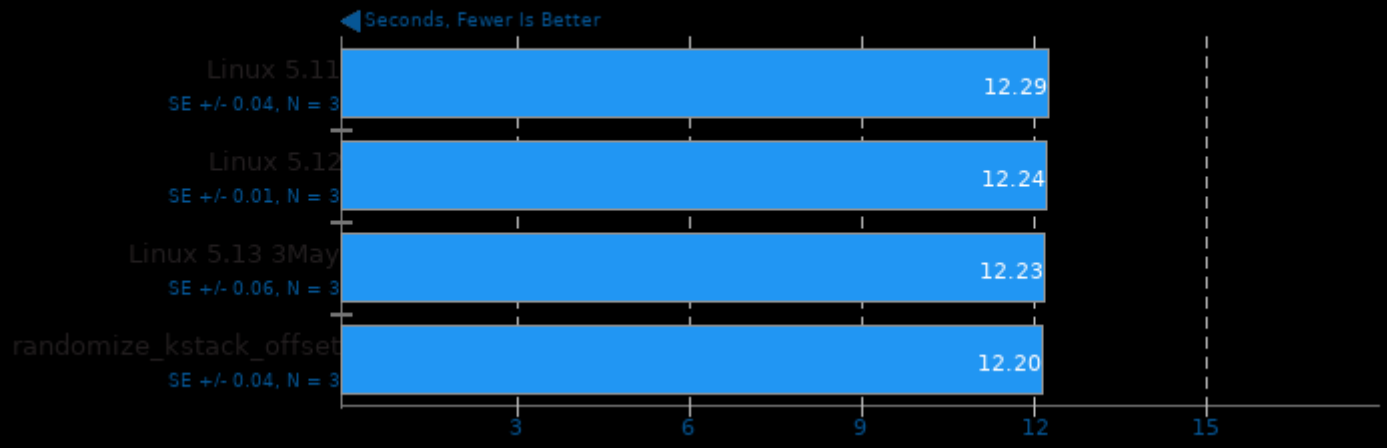



Darktable 3.2.1
Test: Masskrug - Acceleration: CPU-only
Seconds, Fewer Is Better
Linux 5.11
SE +/- 0.018, N = 3
5.924
Linux 5.12
SE +/- 0.006, N = 3
5.944
Linux 5.13 3May
SE +/- 0.006, N = 3
5.947
randomize_kstack_offset
SE +/- 0.009, N = 3
5.929
1.3381
2.6762
4.0143
5.3524
6.6905
Darktable 3.2.1
Test: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


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

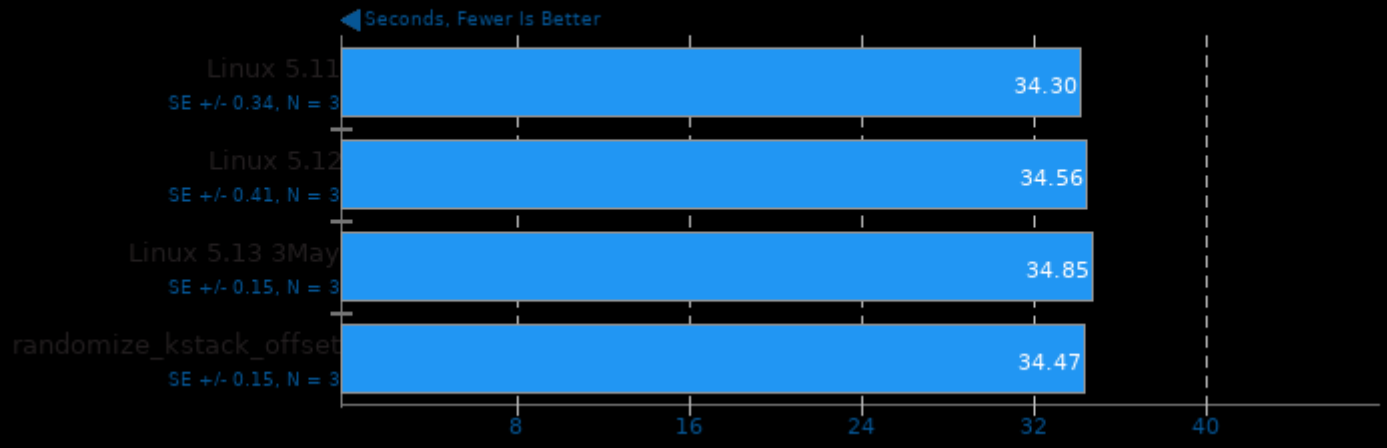
GIMP 2.10.18

Test: unsharp-mask



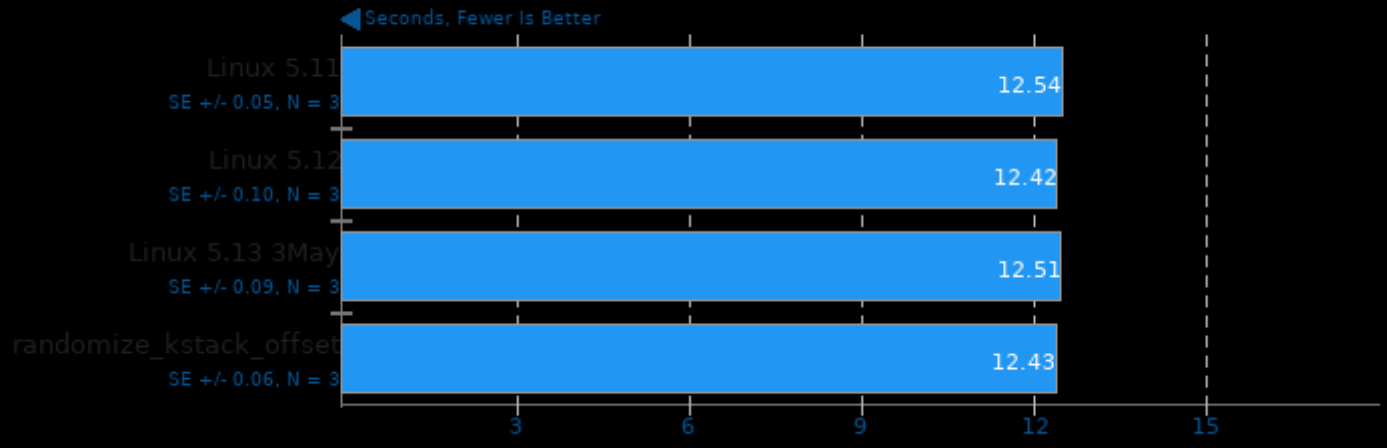
Hugin

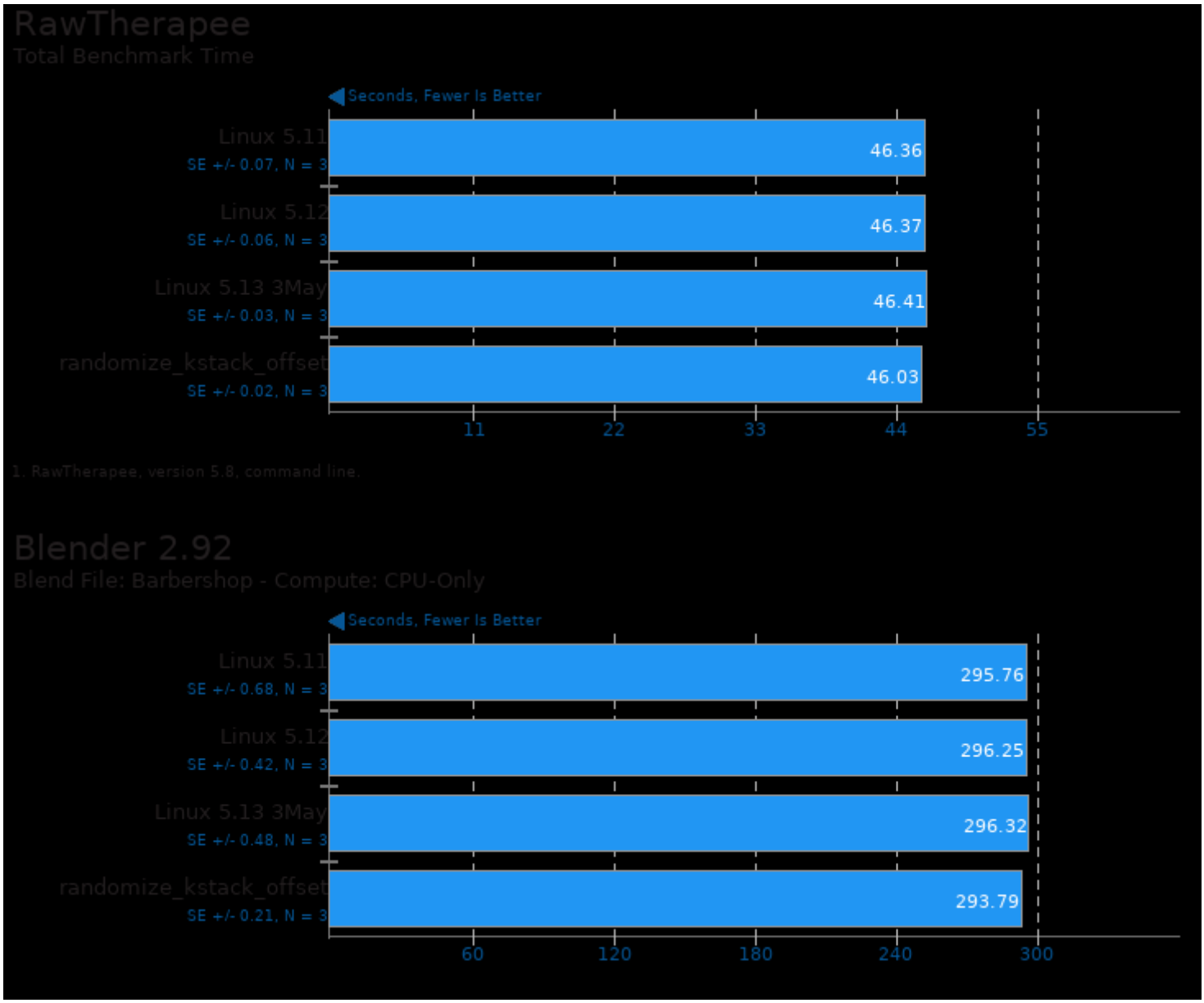
Panorama Photo Assistant + Stitching Time



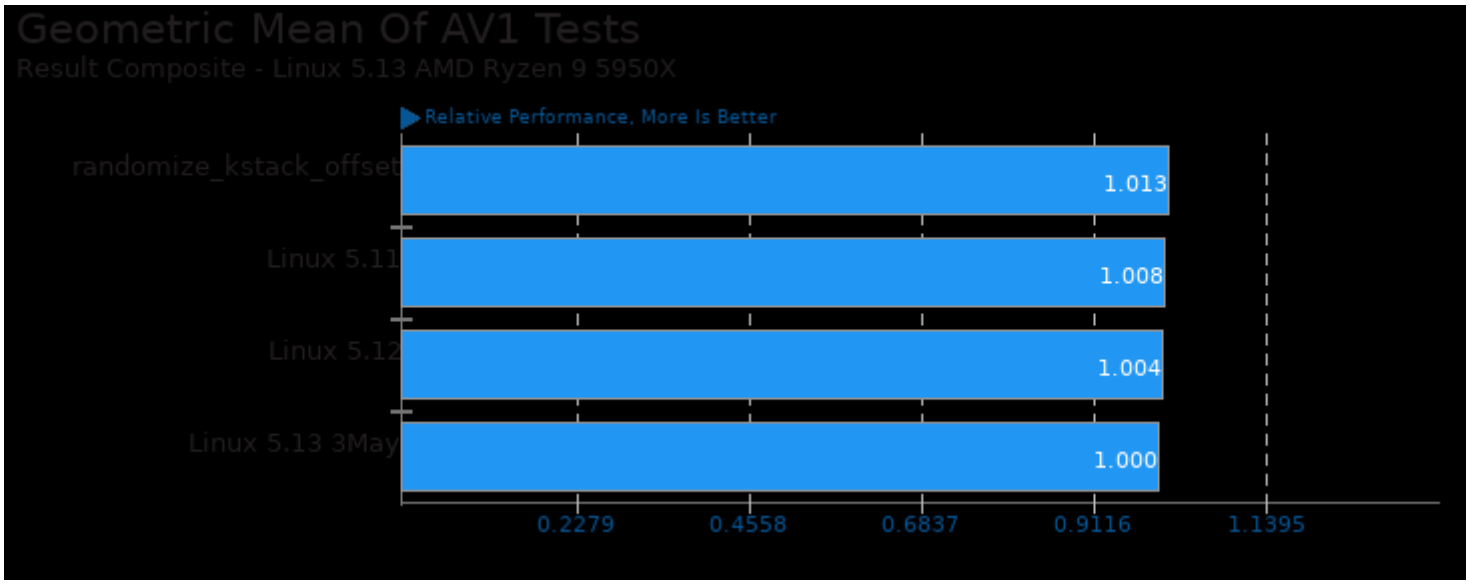
OCRMyPDF 10.3.1+dfsg

Processing 60 Page PDF Document




RawTherapee
Total Benchmark Time
Seconds, Fewer Is Better
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
randomize_kstack_offset
SE +/- 0.02, N = 3
46.03
11
22
33
44
55
1. RawTherapee, version 5.8, command line.
Blender 2.92
Blend File: Barbershop - Compute: CPU-Only
Seconds, Fewer Is Better
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
randomize_kstack_offset
SE +/- 0.21, N = 3
293.79
60
120
180
240
300

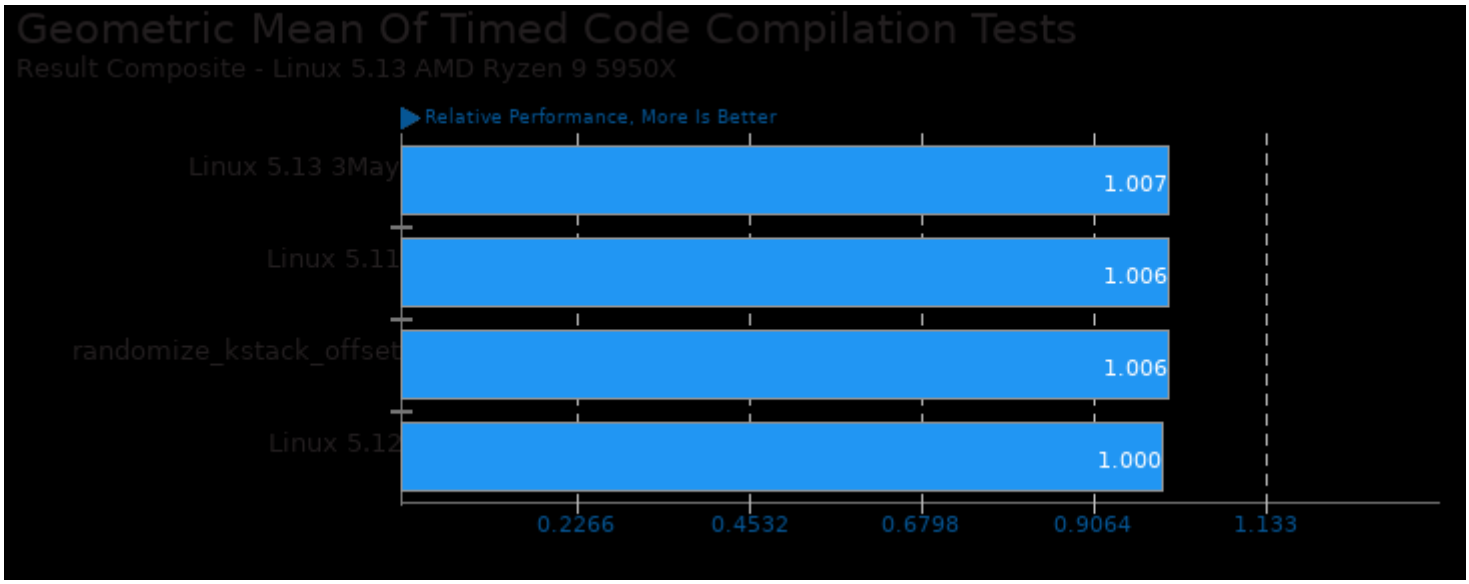
These geometric means are based upon test groupings / test suites for this result file.



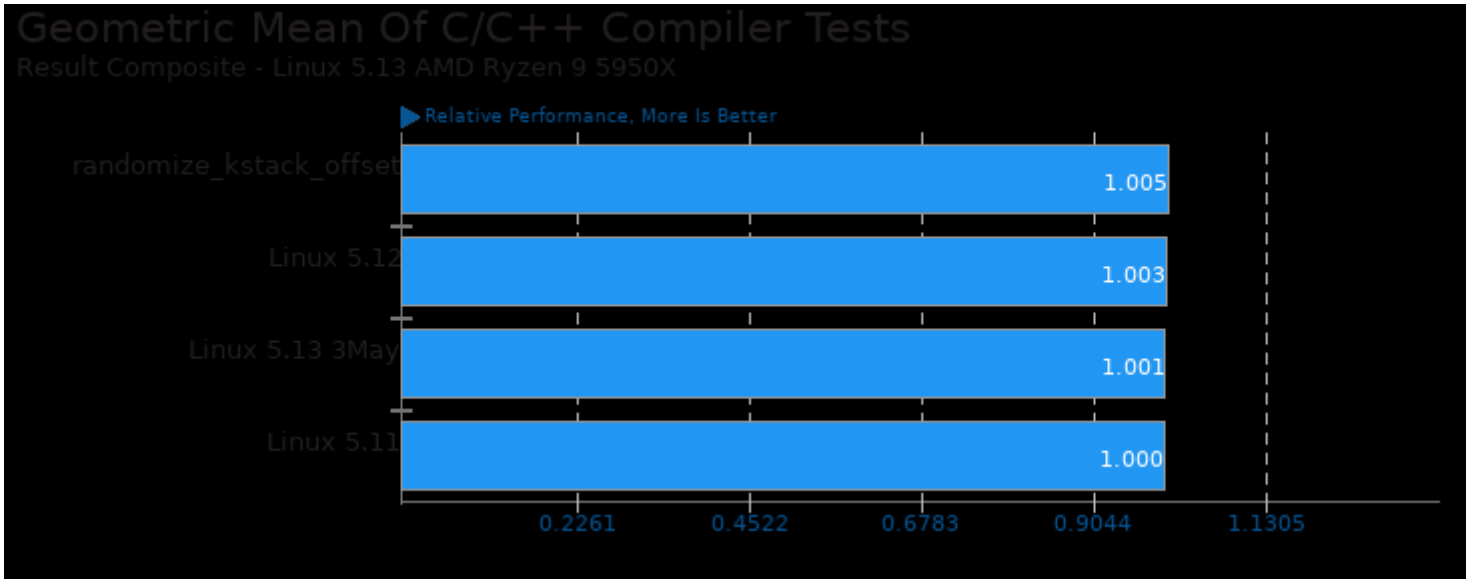
Geometric mean based upon tests: pts/aom-av1 and pts/svt-av1



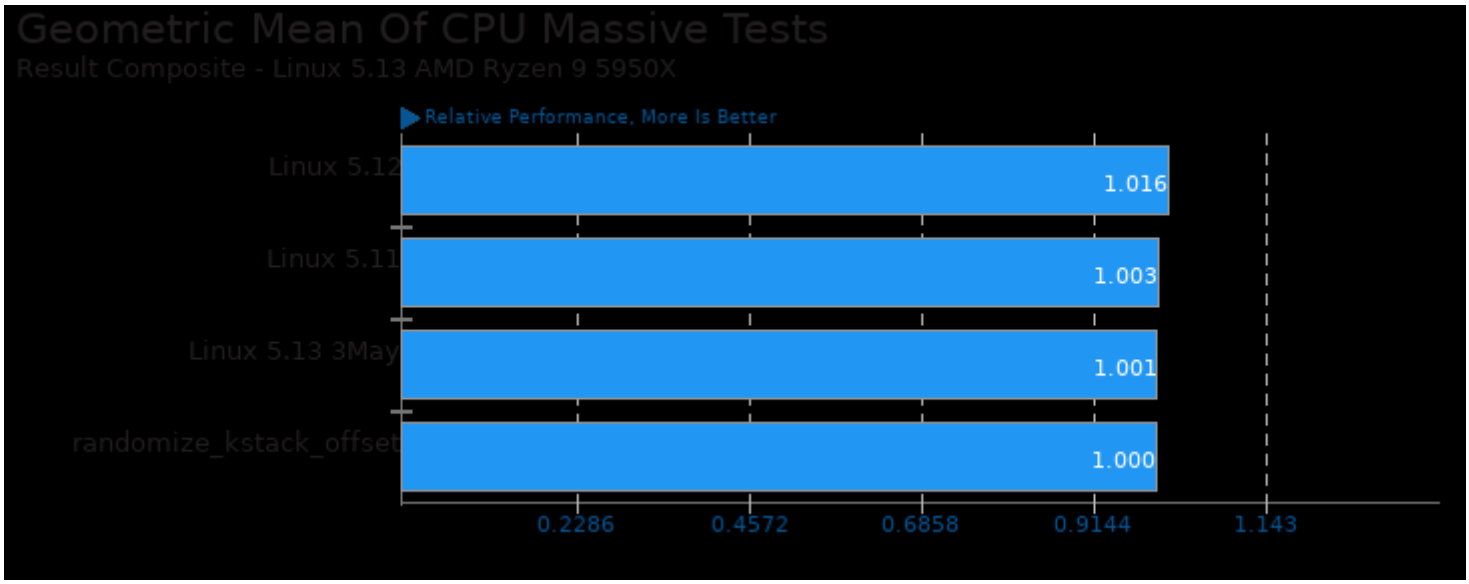
Geometric mean based upon tests: pts/srslte and pts/chia-vdf



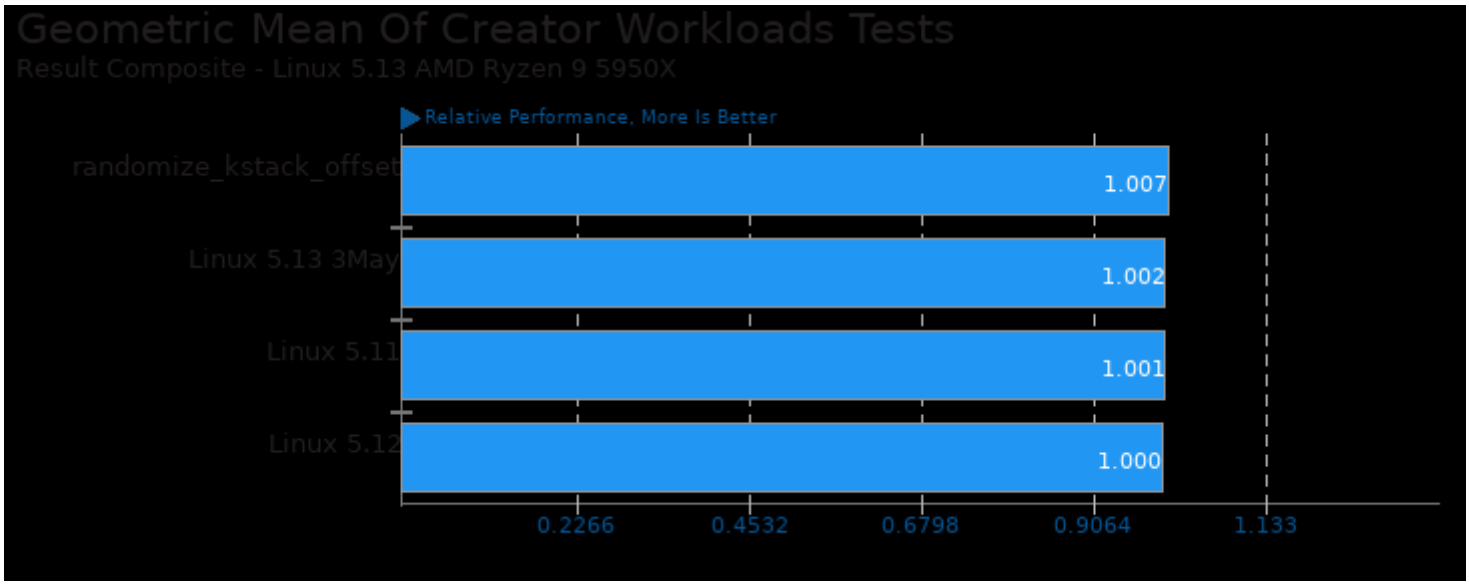
Geometric mean based upon tests: pts/build-linux-kernel, pts/build-godot, pts/build-wasmer and pts/build-mesa



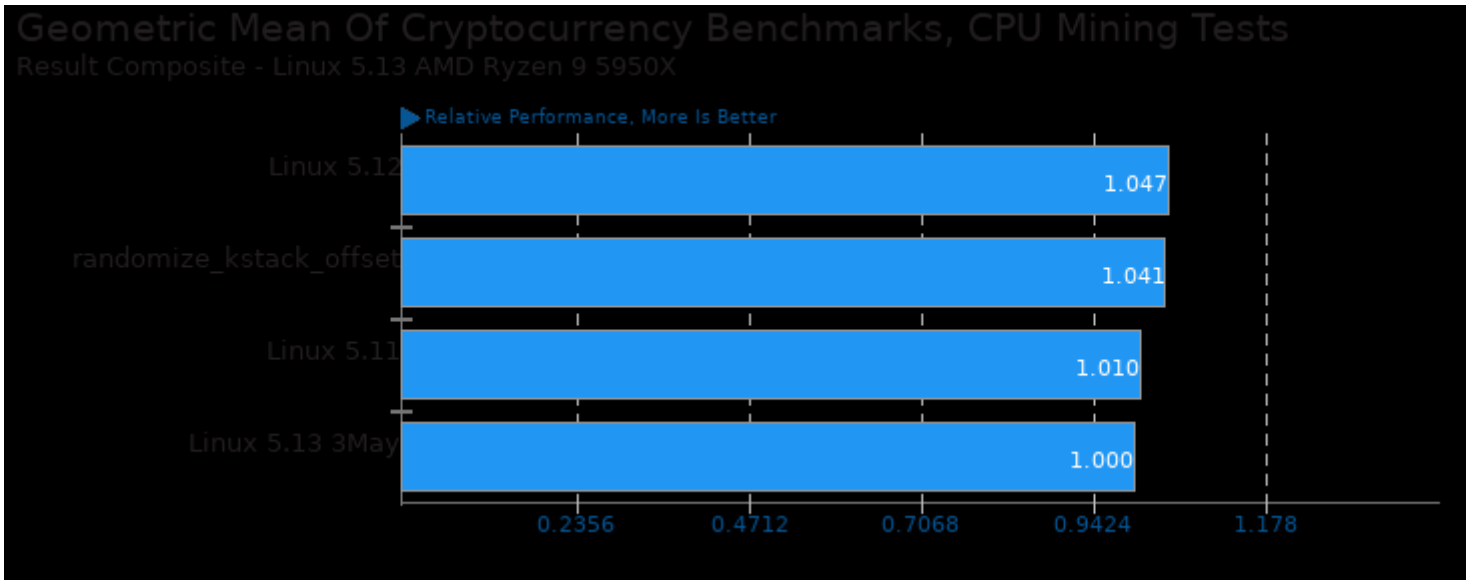
Geometric mean based upon tests: pts/stockfish, pts/hmmer, pts/sqlite-speedtest, pts/compress-zstd, pts/aom-av1, pts/svt-av1, pts/svt-vp9, pts/gromacs and pts/keydb



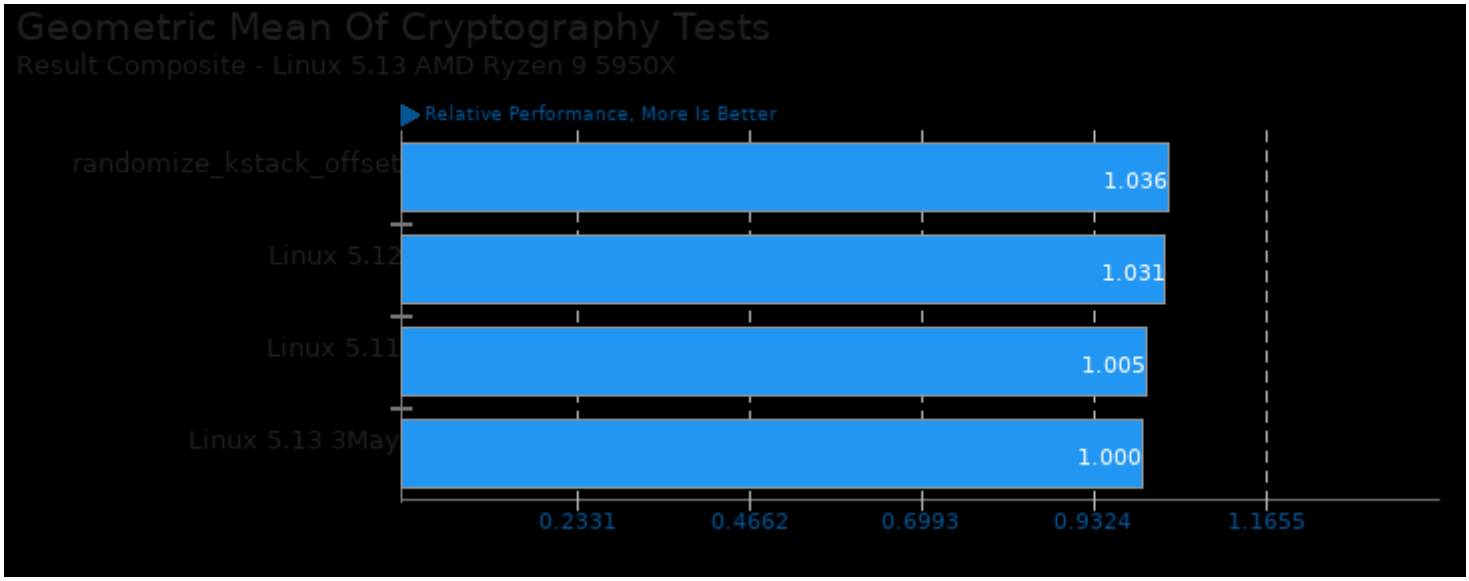
Geometric mean based upon tests: pts/build-linux-kernel, pts/compilebench, pts/compress-zstd, pts/ctx-clock, pts/svt-av1, pts/svt-hevc, pts/svt-vp9, pts/hmmer, pts/namd, pts/stockfish, pts/stress-ng, pts/blender, system/darktable and pts/tjbench



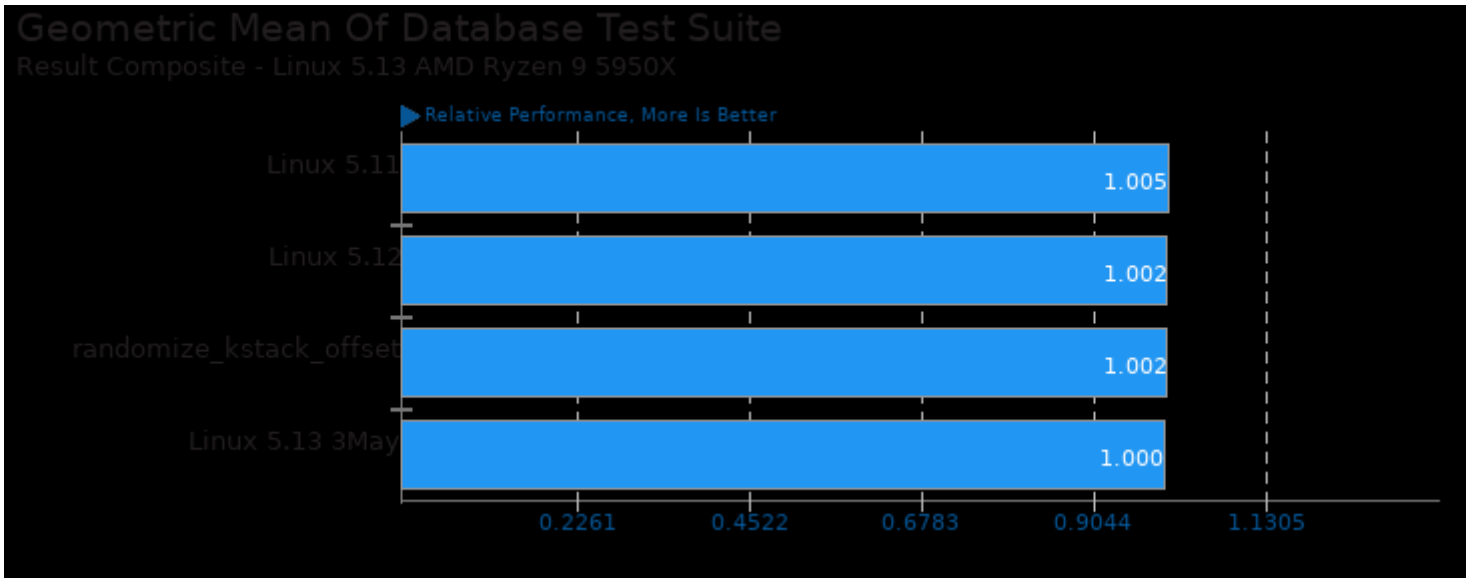
Geometric mean based upon tests: pts/blender, pts/luxcorerender, system/ocrmypdf, pts/svt-vp9, pts/svt-hevc, pts/aom-av1, pts/svt-av1, system/rawtherapee, pts/tjbench, system/gimp, system/hugin, system/darktable, pts/draco and pts/build-godot



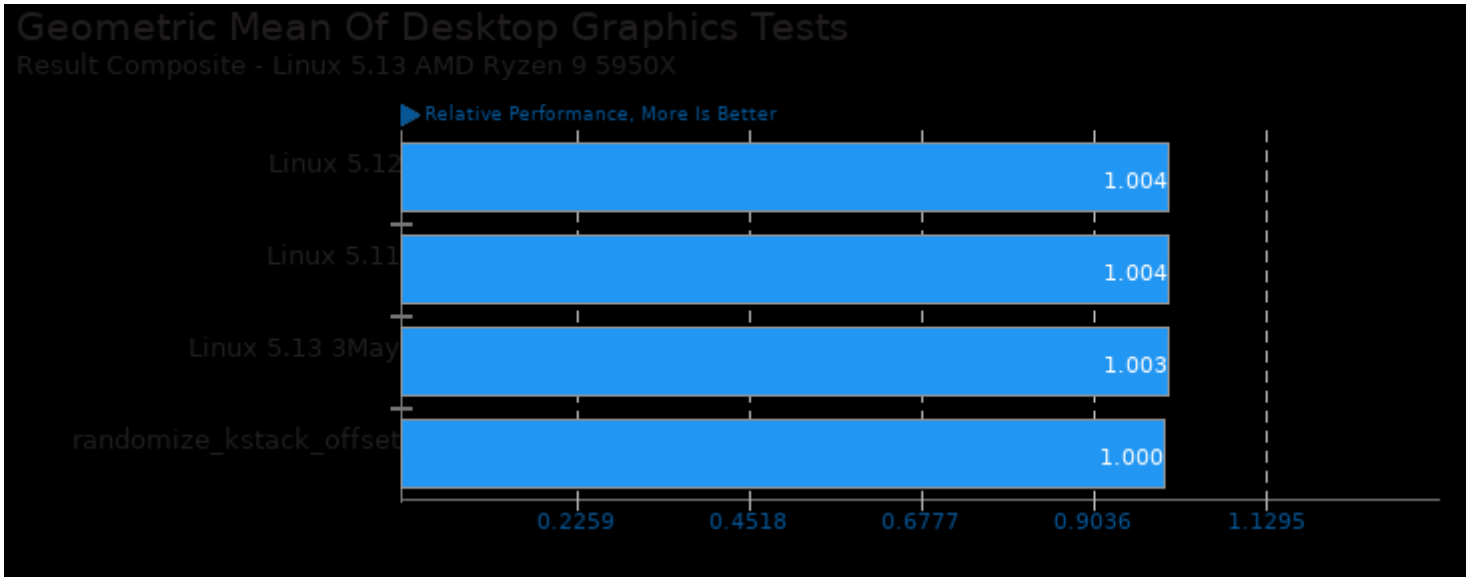
Geometric mean based upon tests: pts/xmrig and pts/chia-vdf



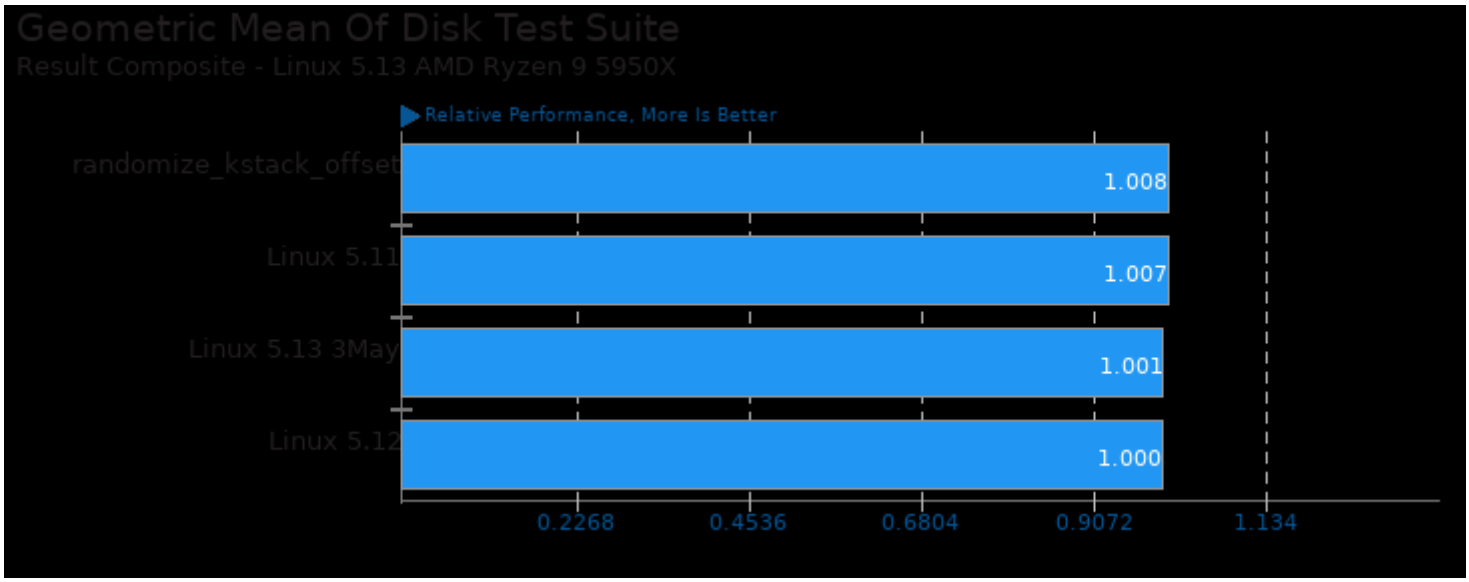
Geometric mean based upon tests: pts/securemark, pts/xmrig and pts/chia-vdf



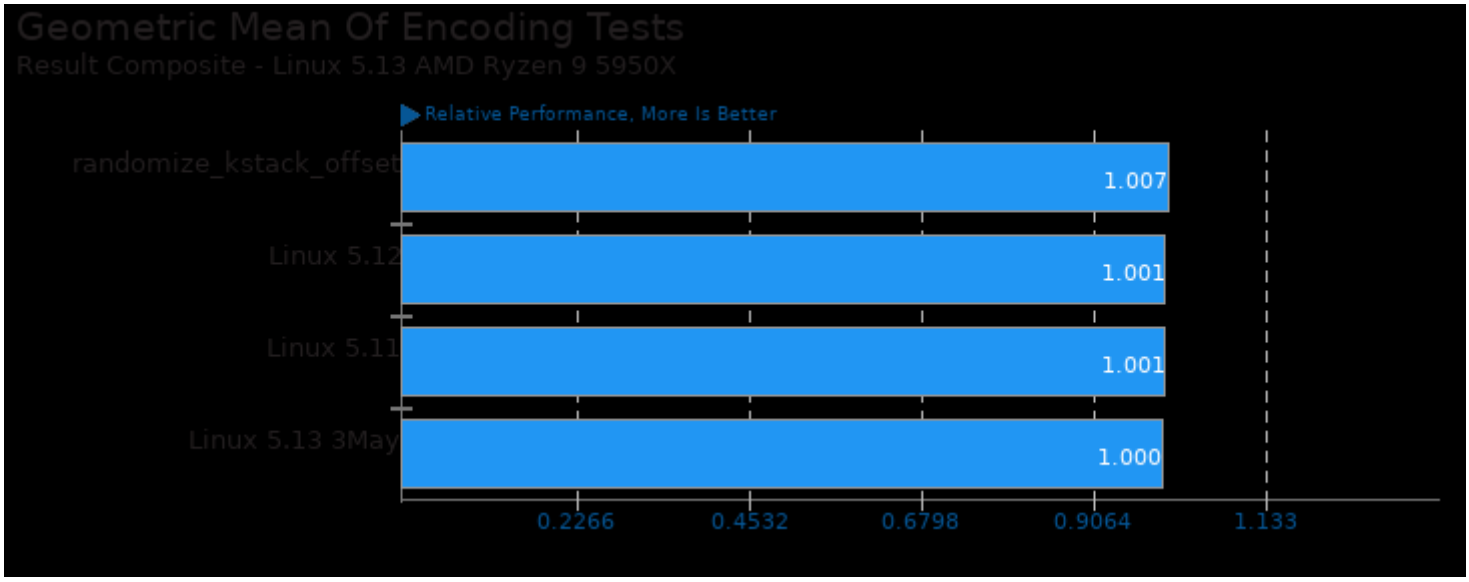
Geometric mean based upon tests: pts/sqlite-speedtest, pts/keydb and pts/influxdb



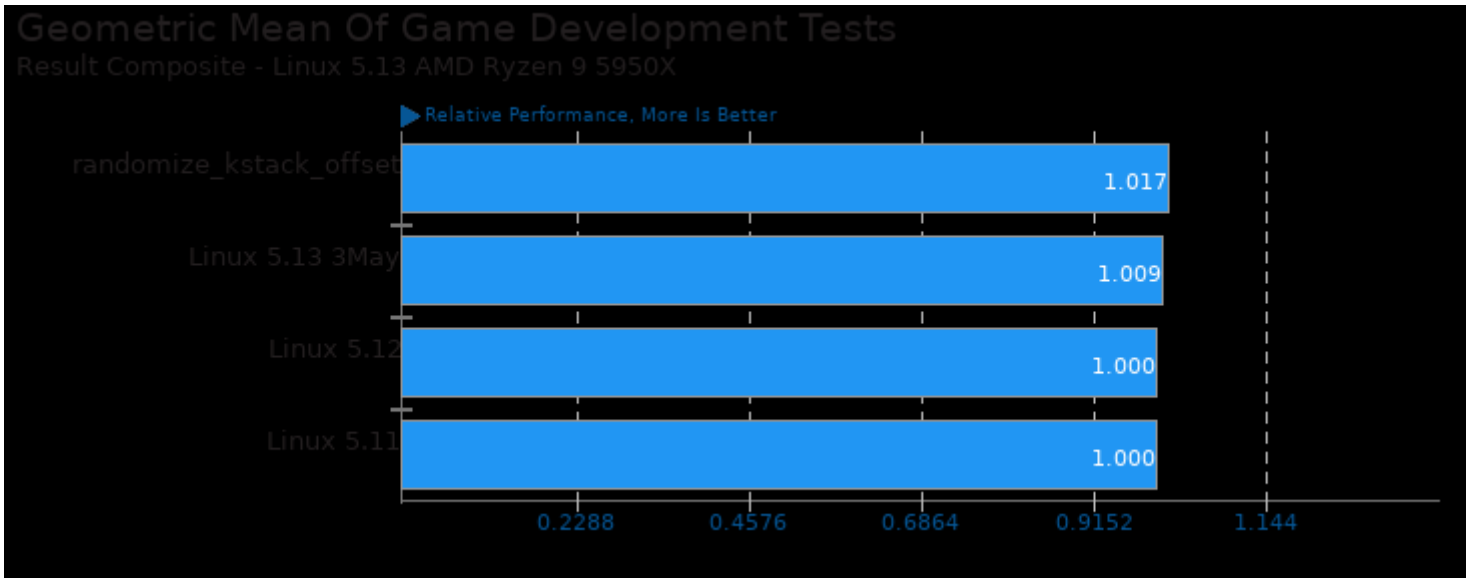
Geometric mean based upon tests: pts/xonotic, pts/tesseract and pts/paraview



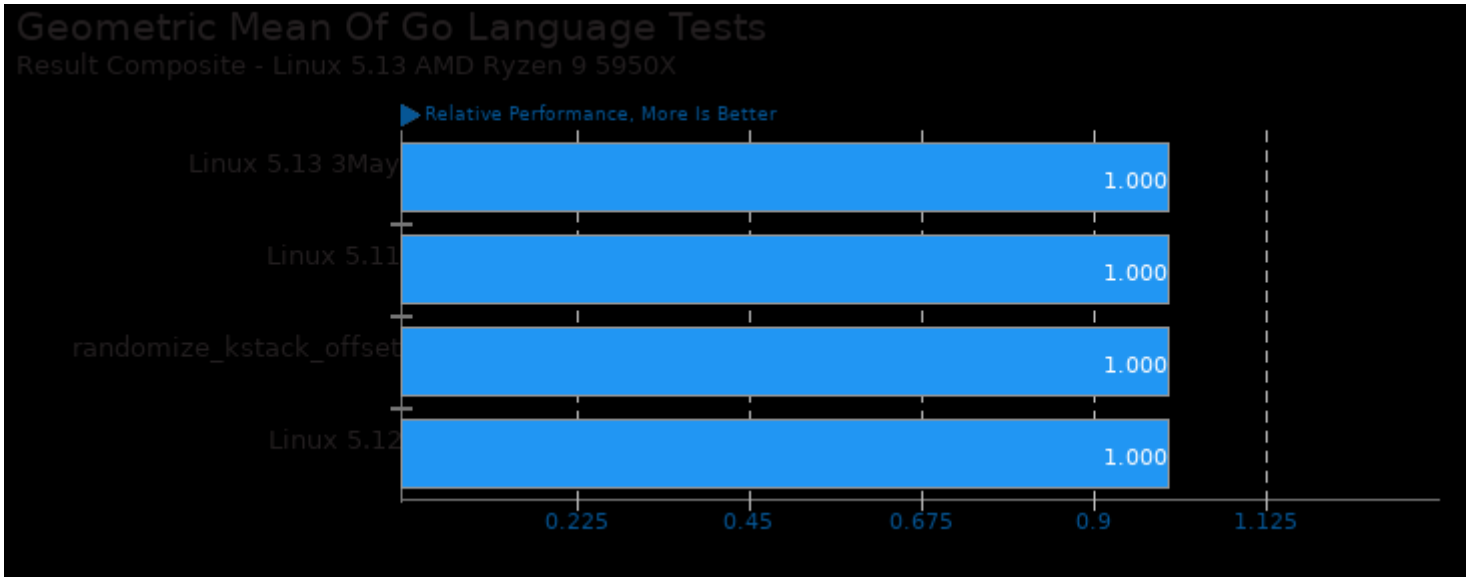
Geometric mean based upon tests: pts/fs-mark and pts/compilebench



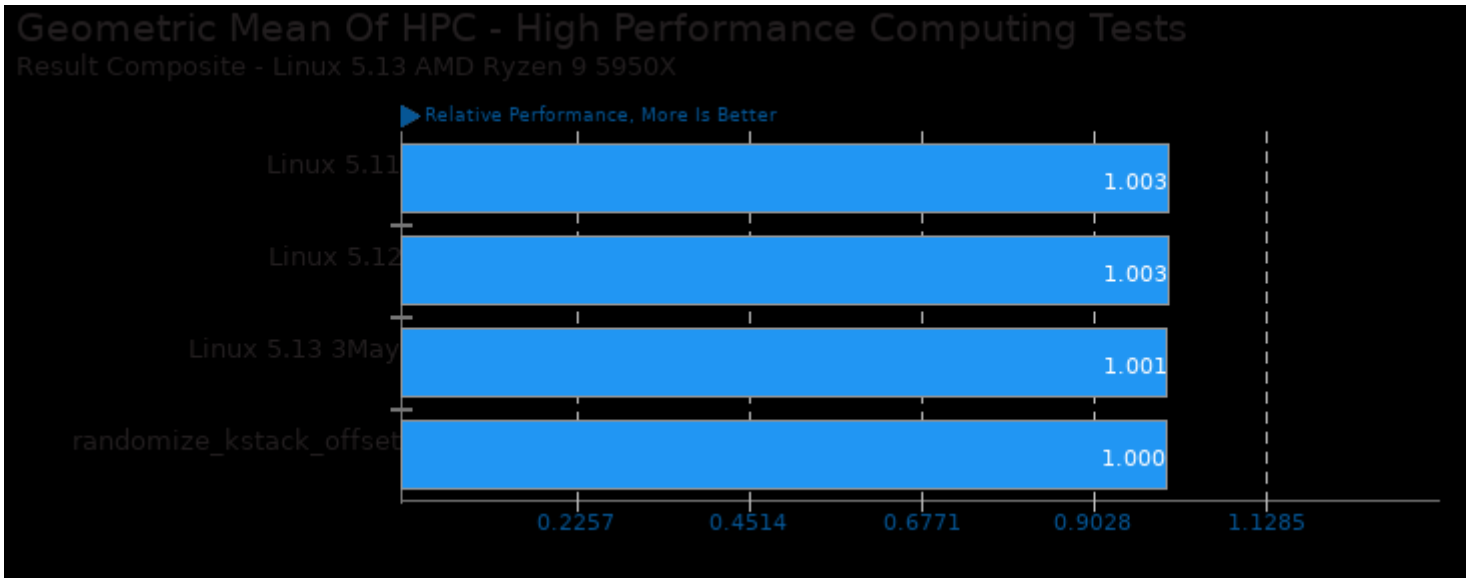
Geometric mean based upon tests: pts/svt-vp9, pts/svt-hevc, pts/aom-av1 and pts/svt-av1



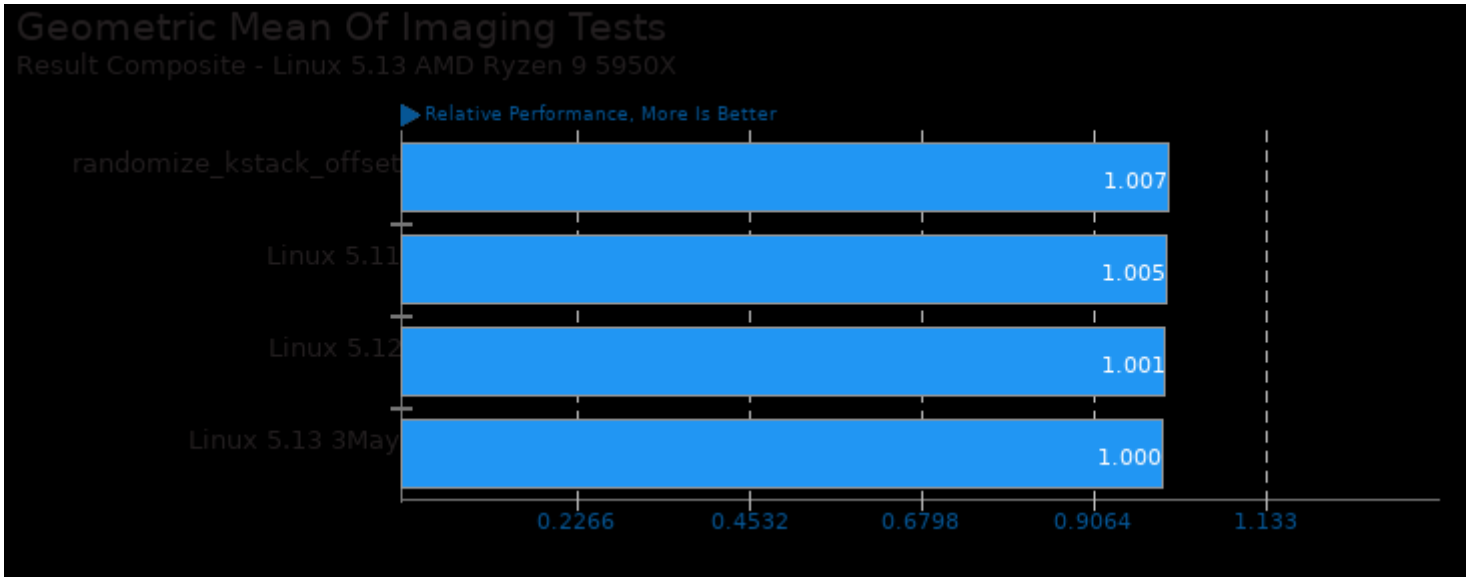
Geometric mean based upon tests: pts/draco, pts/build-godot and pts/blender



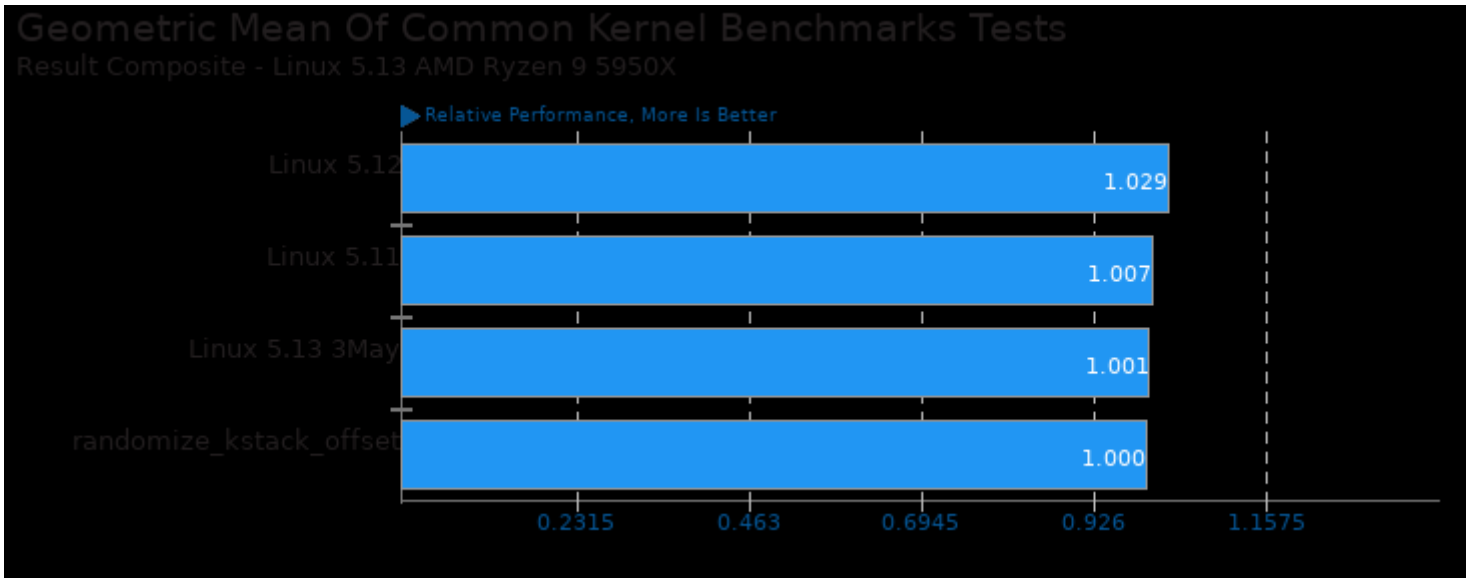
Geometric mean based upon tests: pts/ethr and pts/influxdb



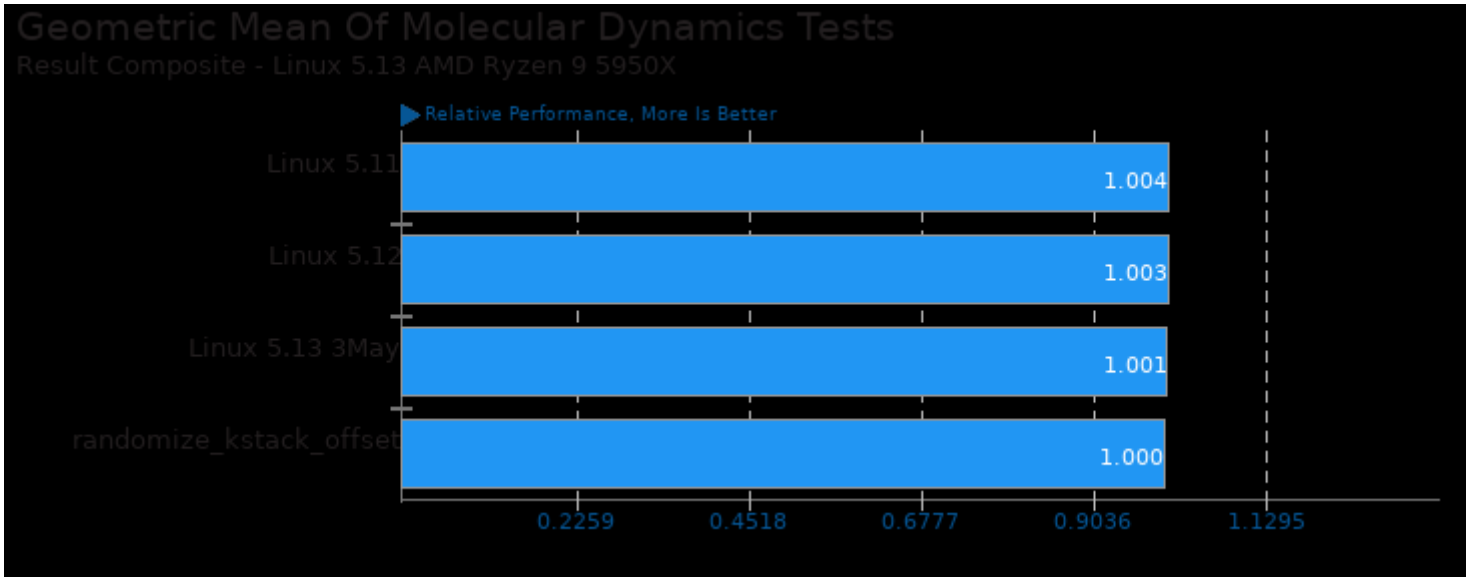
Geometric mean based upon tests: pts/namd, pts/gromacs and pts/hmmer



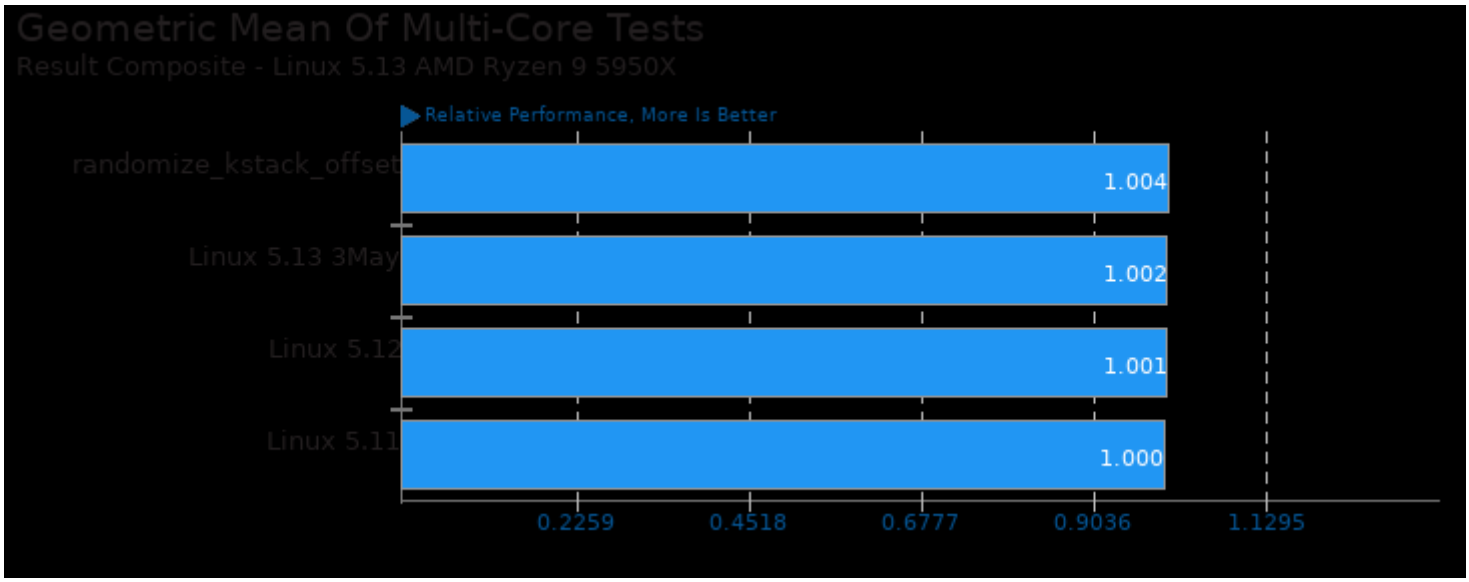
Geometric mean based upon tests: system/rawtherapee, pts/tjbench, system/gimp, system/hugin and system/darktable



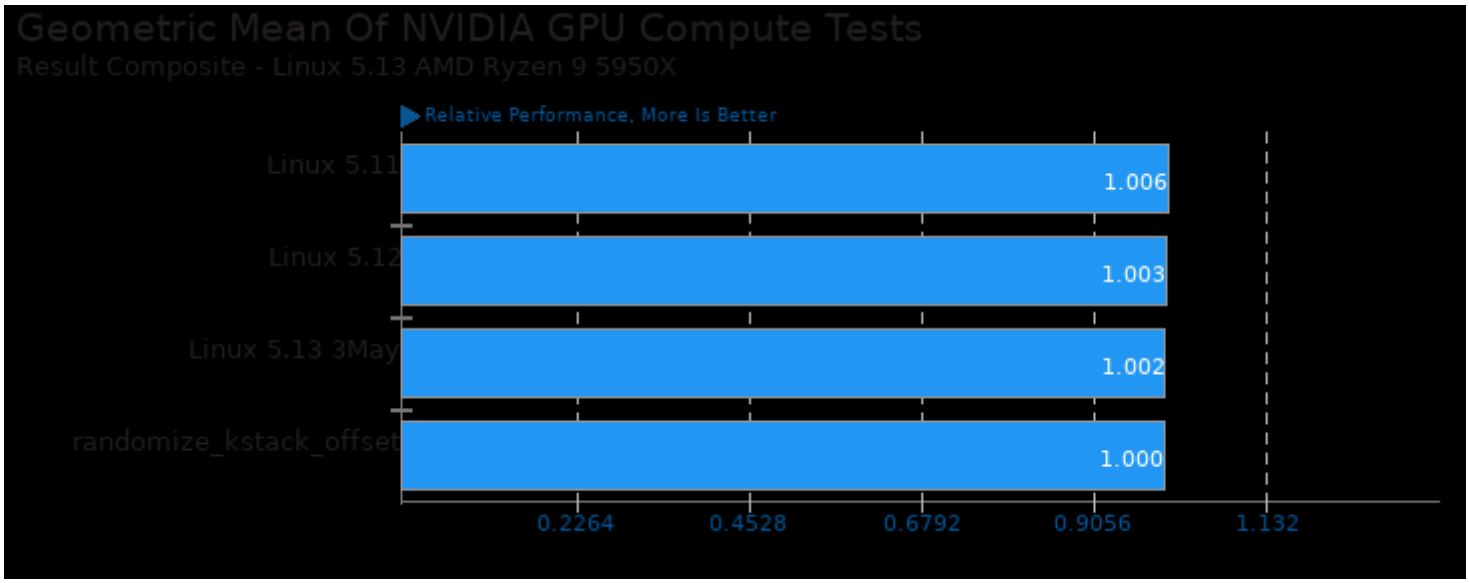
Geometric mean based upon tests: pts/sqlite-speedtest, pts/ctx-clock, pts/stress-ng and pts/ethr



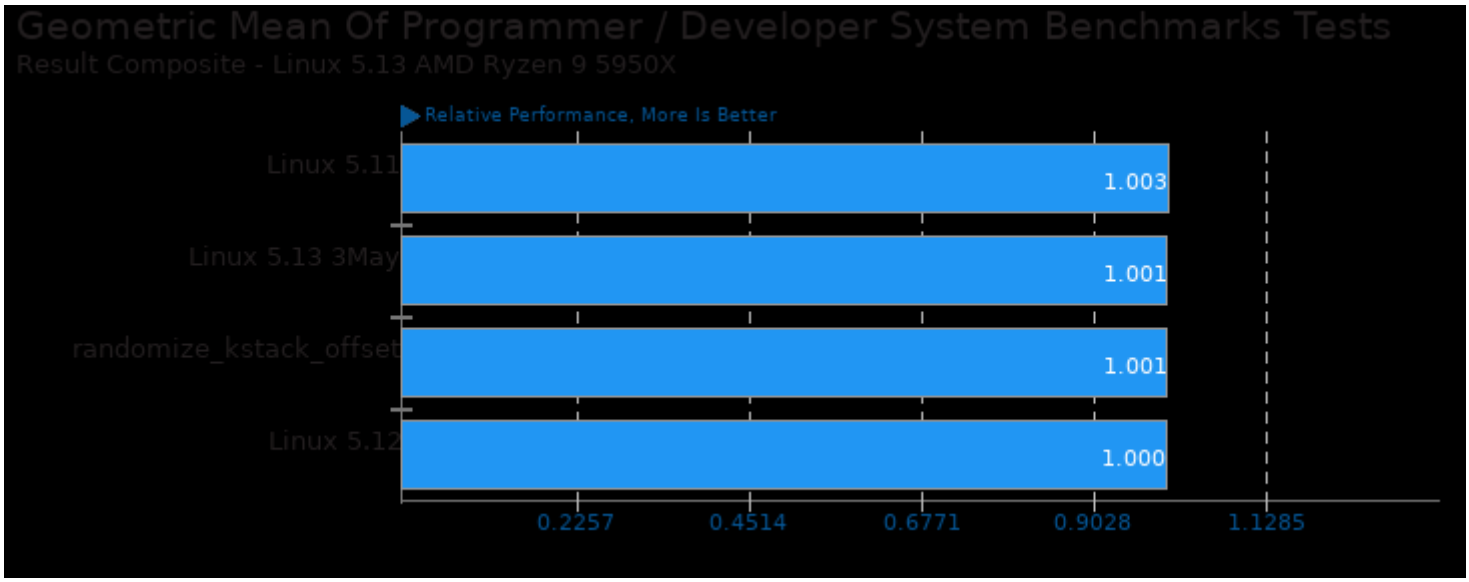
Geometric mean based upon tests: pts/namd and pts/gromacs



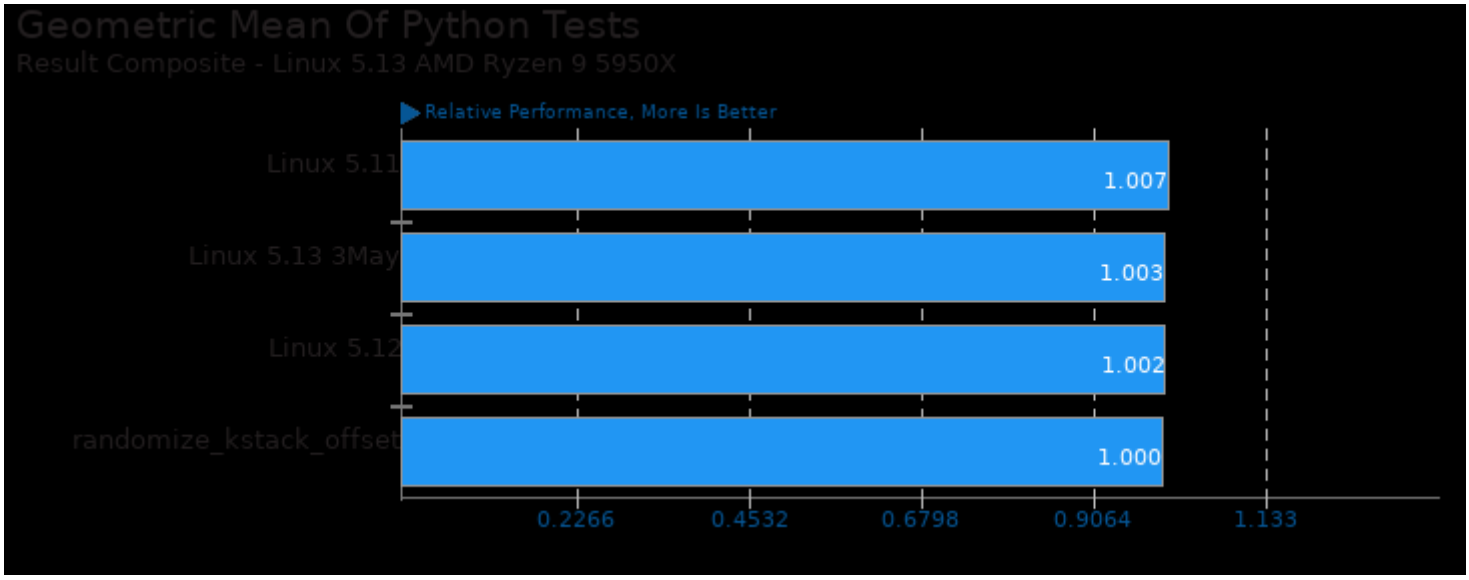
Geometric mean based upon tests: pts/blender, pts/stockfish, pts/svt-vp9, pts/svt-hevc, pts/aom-av1, pts/svt-av1, pts/namd, pts/gromacs, pts/compress-zstd, pts/build-linux-kernel, pts/build-godot, pts/build-wasmer, pts/build-mesa and pts/luxcorerender



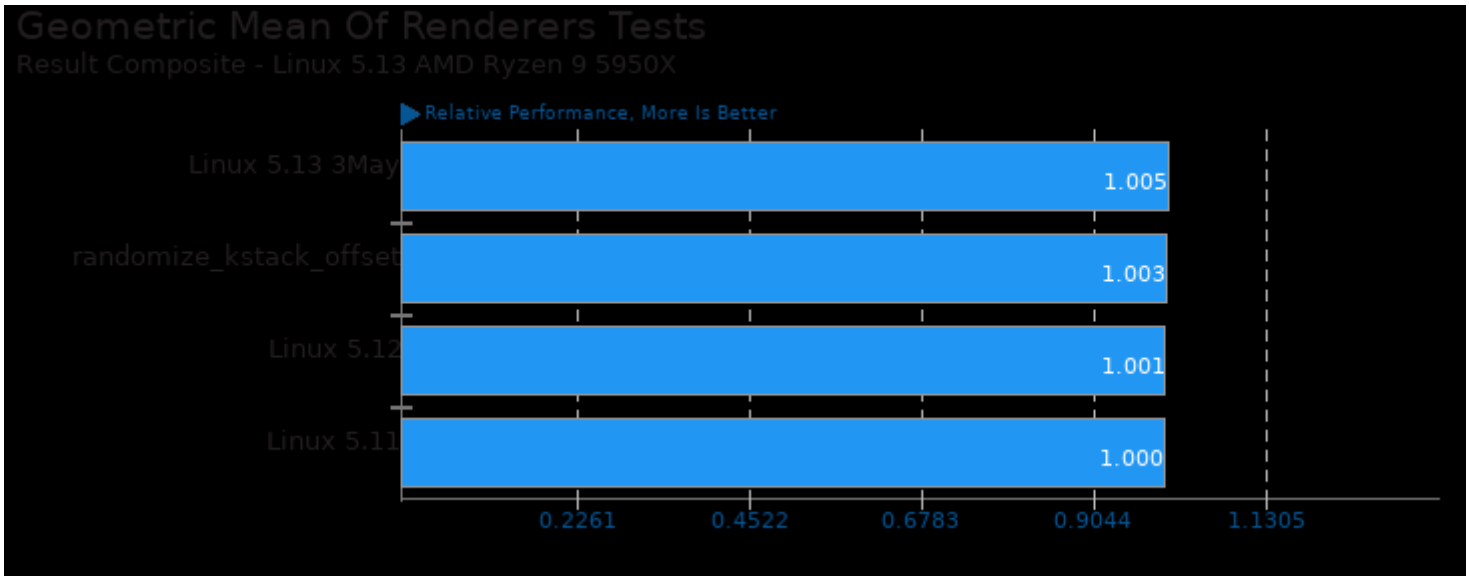
Geometric mean based upon tests: pts/gromacs, pts/luxcorerender, pts/blender, pts/vkfft, pts/vkpeak, pts/realsr-ncnn and pts/waifu2x-ncnn



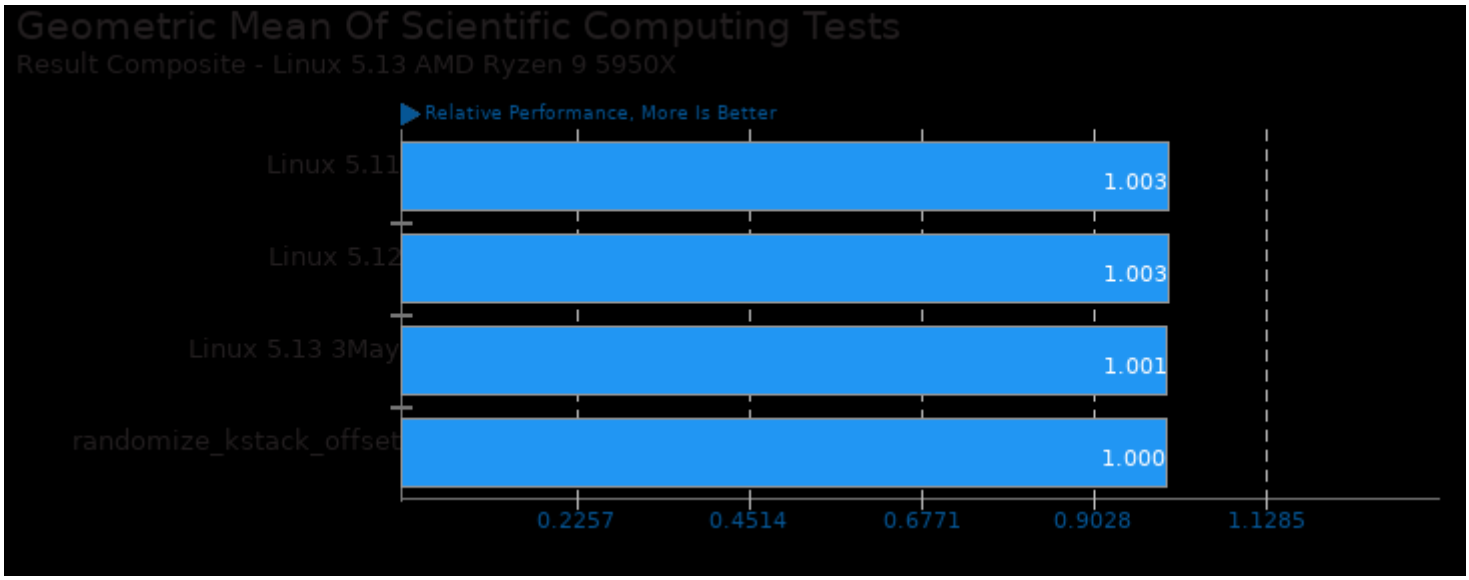
Geometric mean based upon tests: pts/sqlite-speedtest, pts/compress-zstd, pts/build-linux-kernel, pts/build-godot, pts/build-wasmer and pts/build-mesa



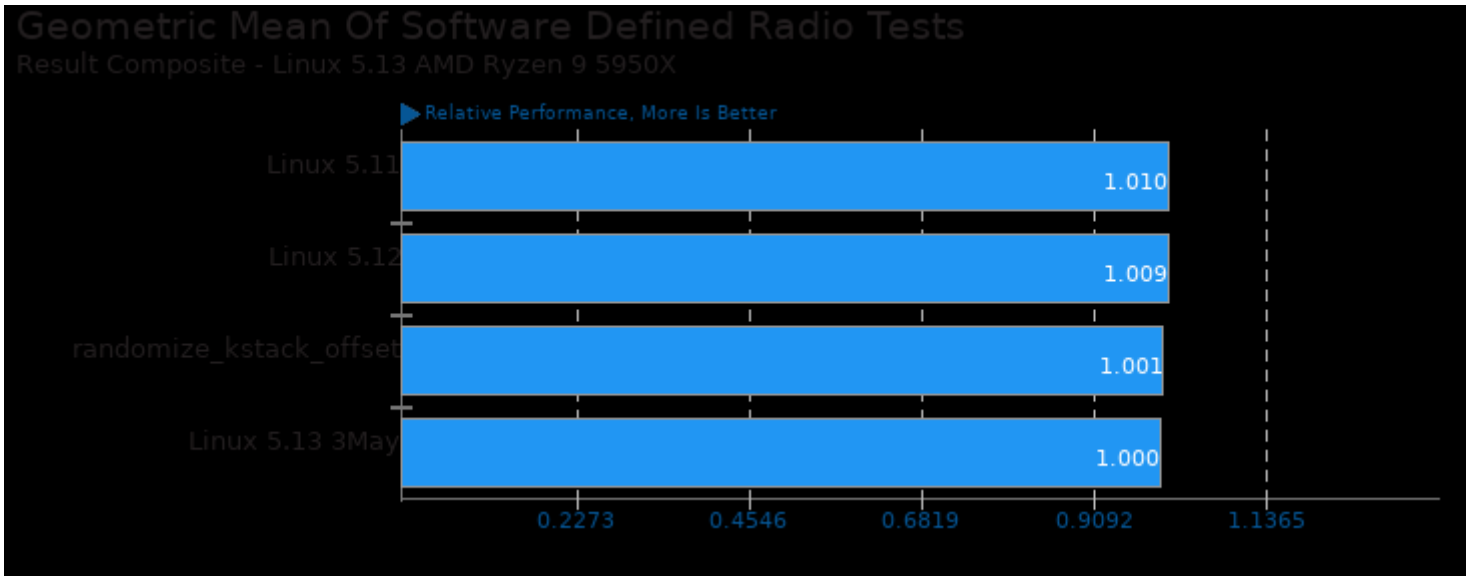
Geometric mean based upon tests: pts/paraview, pts/chia-vdf, pts/compilebench, pts/build-godot, pts/build-mesa and system/ocrmypdf



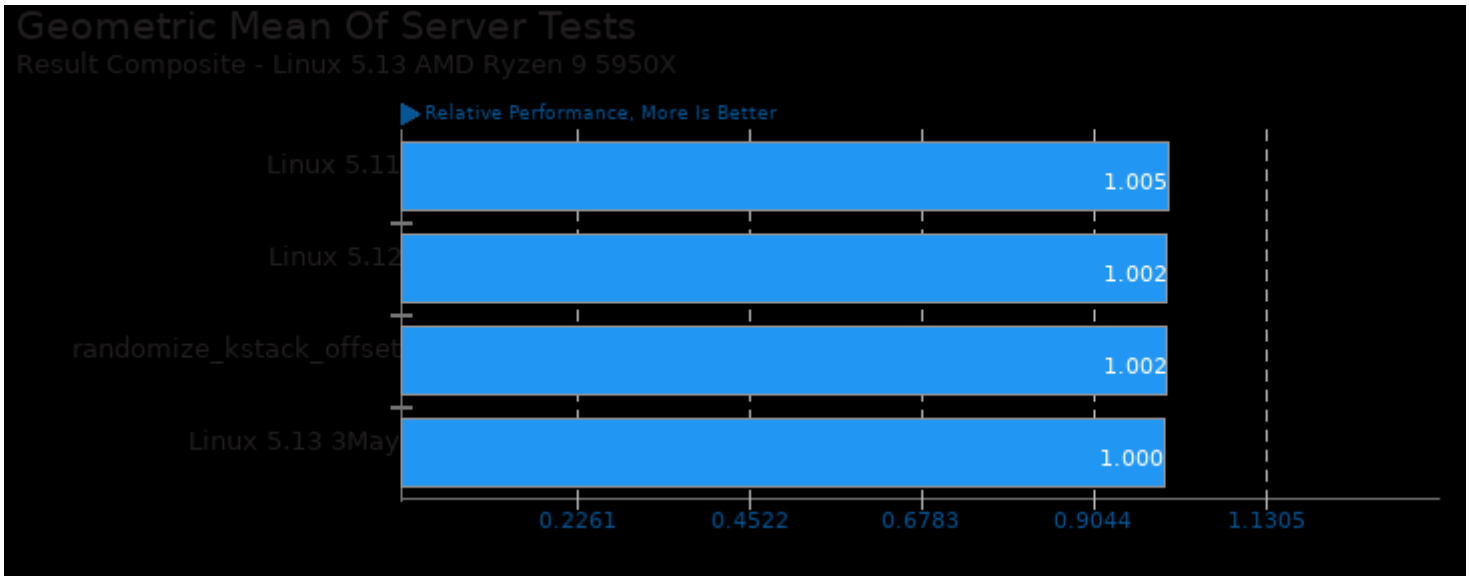
Geometric mean based upon tests: pts/blender and pts/luxcorerender



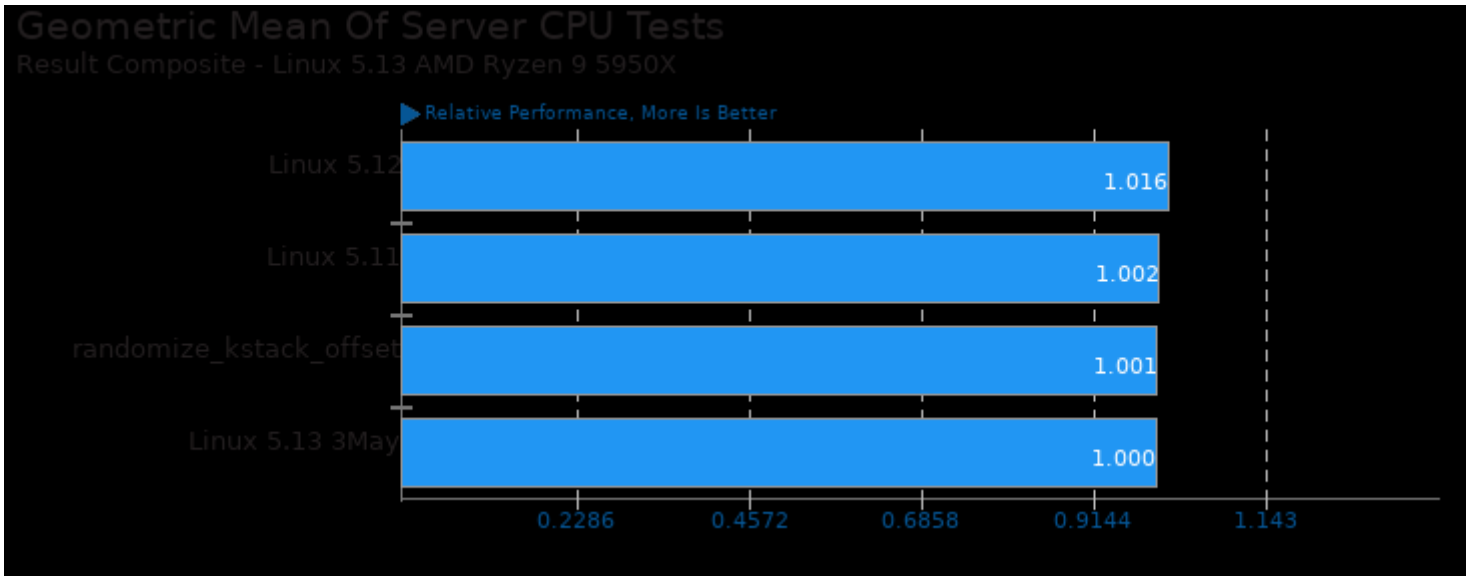
Geometric mean based upon tests: pts/namd, pts/gromacs and pts/hmmer



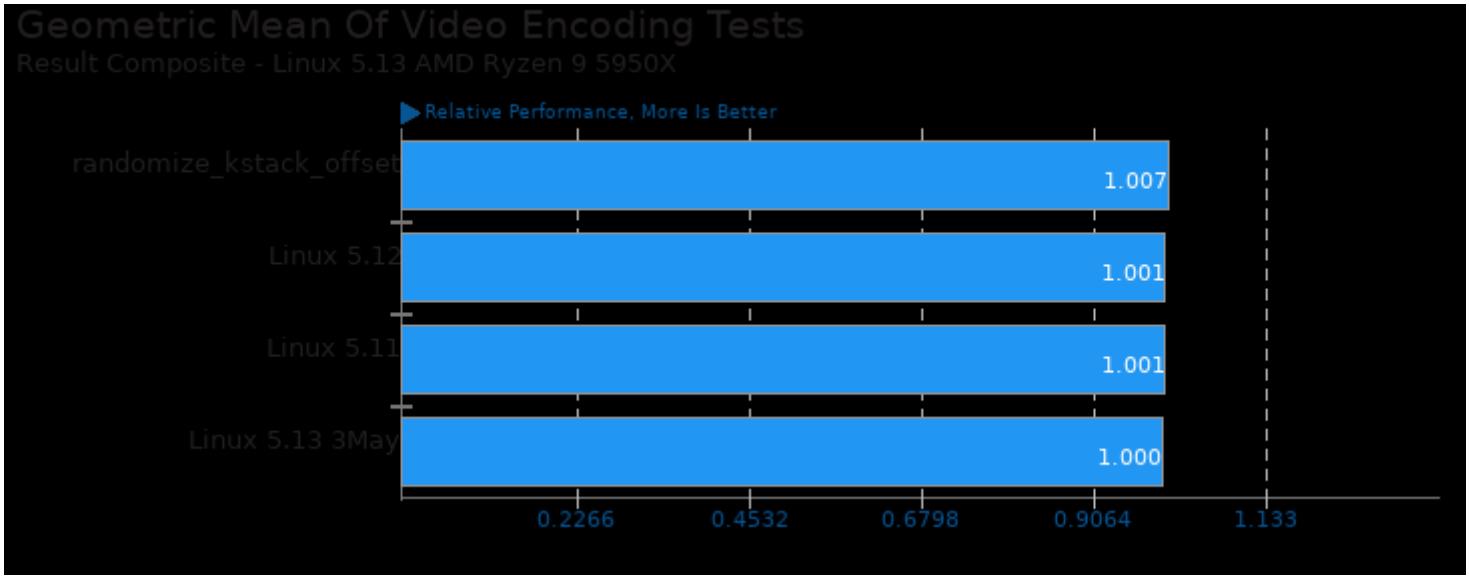
Geometric mean based upon tests: pts/liquid-dsp, pts/srslte and pts/luaradio



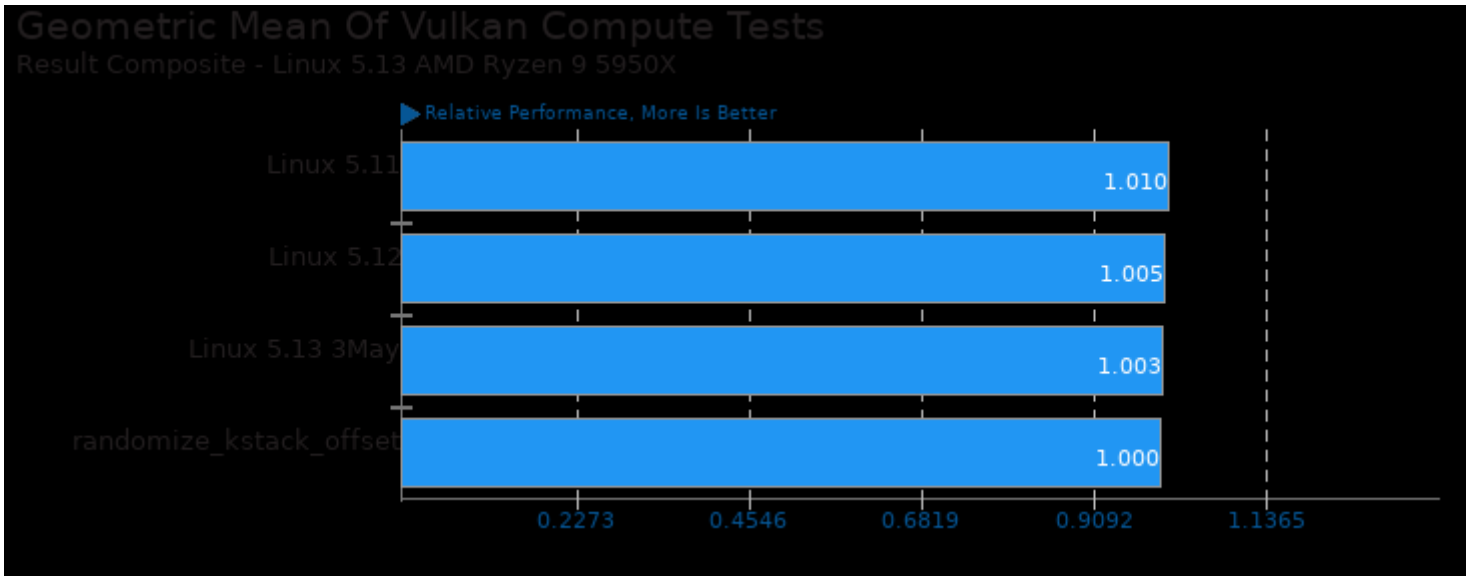
Geometric mean based upon tests: pts/keydb, pts/sqlite-speedtest and pts/influxdb



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 15:03.