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EPYC 7763 LLVM Clang Compiler Tests

AMD EPYC 7763 64-Core testing with a Supermicro H12SSL-i v1.01 (2.0 BIOS) and ASPEED on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

Clang 12.0 had the most wins, coming in first place for 53% of the tests.

Based on the geometric mean of all complete results, the fastest (Clang 12.0) was 1.05x the speed of the slowest (Clang 11.0). Clang 12.0 LTO was 0.99x the speed of Clang 12.0 and Clang 11.0 was 0.963x the speed of Clang 12.0 LTO.

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

ViennaCL (Test: CPU BLAS - dGEMM-NN) at 1.72x

ViennaCL (Test: CPU BLAS - dGEMM-TN) at 1.701x

dav1d (Video Input: Chimera 1080p 10-bit) at 1.674x

EtcPak (Configuration: DXT1) at 1.452x

oneDNN (Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU) at 1.452x

EtcPak (Configuration: ETC1) at 1.389x

oneDNN (Harness: Convolution Batch Shapes Auto - Data Type: u8s8f32 - Engine: CPU) at 1.268x

ViennaCL (Test: CPU BLAS - dGEMM-NT) at 1.207x

EtcPak (Configuration: ETC2) at 1.197x

oneDNN (Harness: IP Shapes 3D - Data Type: u8s8f32 - Engine: CPU) at 1.194x.

Test Systems:

Clang 12.0

Processor: AMD EPYC 7763 64-Core @ 2.45GHz (64 Cores / 128 Threads), Motherboard: Supermicro H12SSL-i v1.01 (2.0 BIOS), Chipset: AMD Starship/Matisse, Memory: 126GB, Disk: 3841GB Micron_9300_MTFDHAL3T8TDP, Graphics: ASPEED, Network: 2 x Broadcom NetXtreme BCM5720 2-port PCIe

OS: Ubuntu 20.04, Kernel: 5.12.0-051200rc6daily20210408-generic (x86_64) 20210407, Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.8, Compiler: Clang 12.0.0-++20210409092622+fa0971b87fb2-1~exp1~20210409193326.73, File-System: ext4, Screen Resolution: 1024x768

Kernel Notes: Transparent Huge Pages: madvise

Environment Notes: CXXFLAGS="-O3 -march=native" CFLAGS="-O3 -march=native"

Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0xa001119

Python Notes: Python 3.8.2

Security Notes: itlb_multithit: 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 + srbs: Not affected + tsx_async_abort: Not affected

Clang 11.0

Processor: AMD EPYC 7763 64-Core @ 2.45GHz (64 Cores / 128 Threads), Motherboard: Supermicro H12SSL-i v1.01 (2.0 BIOS), Chipset: AMD Starship/Matisse, Memory: 126GB, Disk: 3841GB Micron_9300_MTFDHAL3T8TDP, Graphics: ASPEED, Network: 2 x Broadcom NetXtreme BCM5720 2-port PCIe

OS: Ubuntu 20.04, Kernel: 5.12.0-051200rc6daily20210408-generic (x86_64) 20210407, Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.8, Compiler: Clang 11.0.0-2-ubuntu20.04.1, File-System: ext4, Screen Resolution: 1024x768

Kernel Notes: Transparent Huge Pages: madvise

Environment Notes: CXXFLAGS="-O3 -march=native" CFLAGS="-O3 -march=native"

Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0xa001119

Python Notes: Python 3.8.2

Security Notes: itlb_multithit: 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 + srbs: Not affected + tsx_async_abort: Not affected

Clang 12.0 LTO

Processor: AMD EPYC 7763 64-Core @ 2.45GHz (64 Cores / 128 Threads), Motherboard: Supermicro H12SSL-i v1.01 (2.0 BIOS), Chipset: AMD Starship/Matisse, Memory: 126GB, Disk: 3841GB Micron_9300_MTFDHAL3T8TDP, Graphics: ASPEED, Network: 2 x Broadcom NetXtreme BCM5720 2-port PCIe

OS: Ubuntu 20.04, Kernel: 5.12.0-051200rc6daily20210408-generic (x86_64) 20210407, Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.8, Compiler: Clang 12.0.0-++20210409092622+fa0971b87fb2-1~exp1~20210409193326.73, File-System: ext4, Screen Resolution: 1024x768

1024x768

Kernel Notes: Transparent Huge Pages: madvise

Environment Notes: CXXFLAGS="-O3 -march=native -fno" CFLAGS="-O3 -march=native -fno"

Processor Notes: Scaling Governor: acpi-cpufreq ondemand (Boost: Enabled) - CPU Microcode: 0xa001119

Python Notes: Python 3.8.2

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 retrpeline IBPB: conditional IBRS_FW STIBP: always-on RSB filling + srbs: Not affected + tsx_async_abort: Not affected

	Clang 12.0	Clang 11.0	Clang 12.0 LTO
QuantLib (MFLOPS)	2654	2640	2658
Normalized	99.85%	99.34%	100%
Standard Deviation	0.1%	0.1%	0.1%
Etcpak - DXT1 (Mpx/s)	2719	1873	2720
Normalized	99.95%	68.85%	100%
Standard Deviation	0.2%	0.2%	0.4%
Etcpak - ETC1 (Mpx/s)	284.642	205.065	284.763
Normalized	99.96%	72.01%	100%
Standard Deviation	0.1%	0%	0%
Etcpak - ETC2 (Mpx/s)	202.085	168.819	202.101
Normalized	99.99%	83.53%	100%
Standard Deviation	0%	0%	0%
toyBrot Fractal Generator - TBB (ms)	6780	6247	7085
Normalized	92.14%	100%	88.17%
Standard Deviation	2.2%	2.8%	2.1%
toyBrot Fractal Generator - OpenMP (ms)	7507	7029	
Normalized	93.63%	100%	
Standard Deviation	0.3%	0.5%	
toyBrot Fractal Generator - C++ Tasks (ms)	7437	6836	7367
Normalized	91.92%	100%	92.79%
Standard Deviation	0.8%	0.2%	0.4%
toyBrot Fractal Generator - C++ Threads	7220	6395	7143
Normalized	88.57%	100%	89.53%
Standard Deviation	0.7%	0.7%	0.4%
FFTW - Stock - 1D FFT Size 32 (Mflops)	13333	13324	
Normalized	100%	99.93%	
Standard Deviation	0.3%	0.3%	
FFTW - Stock - 1D FFT Size 1024 (Mflops)	10805	10564	
Normalized	100%	97.77%	
Standard Deviation	0.4%	0.6%	
FFTW - Stock - 1D FFT Size 2048 (Mflops)	10467	10004	
Normalized	100%	95.58%	
Standard Deviation	0.1%	0.5%	
FFTW - Stock - 1D FFT Size 4096 (Mflops)	9862	9439	
Normalized	100%	95.71%	
Standard Deviation	1.8%	0.3%	
FFTW - Stock - 2D FFT Size 1024 (Mflops)	9088	8810	
Normalized	100%	96.93%	
Standard Deviation	0.9%	0.9%	
FFTW - Stock - 2D FFT Size 2048 (Mflops)	7790	7879	
Normalized	98.88%	100%	
Standard Deviation	1.5%	0.6%	

FFTW - Stock - 2D FFT Size 4096 (Mflops)	6744	6824
Normalized	98.83%	100%
Standard Deviation	0.9%	1.5%
FFTW - Float + SSE - 1D FFT Size 32 (Mflops)	15649	14590
Normalized	100%	93.23%
Standard Deviation	0.5%	1.5%
FFTW - Float + SSE - 1D FFT Size 1024 (Mflops)	50350	50740
Normalized	99.23%	100%
Standard Deviation	6.6%	2%
FFTW - Float + SSE - 1D FFT Size 2048 (Mflops)	51254	50084
Normalized	100%	97.72%
Standard Deviation	1.5%	2%
FFTW - Float + SSE - 1D FFT Size 4096 (Mflops)	45428	46676
Normalized	97.33%	100%
Standard Deviation	5.7%	3.4%
FFTW - Float + SSE - 2D FFT Size 1024 (Mflops)	36239	36181
Normalized	100%	99.84%
Standard Deviation	0.8%	2.9%
FFTW - Float + SSE - 2D FFT Size 2048 (Mflops)	31935	31741
Normalized	100%	99.39%
Standard Deviation	0.4%	0.8%
FFTW - Float + SSE - 2D FFT Size 4096 (Mflops)	22797	22913
Normalized	99.49%	100%
Standard Deviation	4.6%	1.7%
Timed MrBayes Analysis - P.P.A (sec)	89.116	88.620
Normalized	99.44%	100%
Standard Deviation	1.9%	1.9%
WebP Image Encode - Default (Encode Time - sec)	1.331	1.336
Normalized	100%	99.63%
Standard Deviation	0.1%	0.1%
WebP Image Encode - Quality 100 (Encode Time - sec)	2.199	2.240
Normalized	100%	98.17%
Standard Deviation	0.1%	0%
WebP Image Encode - Q.1.L (Encode Time - sec)	19.016	18.573
Normalized	97.67%	100%
Standard Deviation	0.2%	1.2%
WebP Image Encode - Q.1.H.C (Encode Time - sec)	6.309	6.243
Normalized	98.95%	100%
Standard Deviation	0.1%	0.5%
WebP Image Encode - Q.1.L.H.C (Encode Time - sec)	38.449	37.727
Normalized	98.12%	100%
Standard Deviation	0.3%	0.4%

simdjson - Kostya (GB/s)	2.75	2.68	
Normalized	100%	97.45%	
Standard Deviation	0.6%	0.2%	
simdjson - LargeRand (GB/s)	0.84	0.81	
Normalized	100%	96.43%	
Standard Deviation	0%	0%	
simdjson - PartialTweets (GB/s)	4.60	4.41	
Normalized	100%	95.87%	
Standard Deviation	0.2%	0.4%	
simdjson - DistinctUserID (GB/s)	4.62	4.41	
Normalized	100%	95.45%	
Standard Deviation	0.1%	0.1%	
LZ4 Compression - 3 - Compression Speed (MB/s)	52.07	52.35	50.93
Normalized	99.47%	100%	97.29%
Standard Deviation	2.7%	1.1%	0.1%
LZ4 Compression - 3 - D.S (MB/s)	13912	13840	13715
Normalized	100%	99.49%	98.59%
Standard Deviation	0.9%	0.2%	0.8%
LZ4 Compression - 9 - Compression Speed (MB/s)	48.50	49.01	48.47
Normalized	98.96%	100%	98.9%
Standard Deviation	1.5%	1.6%	2.7%
LZ4 Compression - 9 - D.S (MB/s)	13927	13928	13699
Normalized	99.99%	100%	98.35%
Standard Deviation	0.8%	0.3%	0.6%
JPEG XL - PNG - 5 (MP/s)	74.27	78.41	
Normalized	94.72%	100%	
Standard Deviation	0.4%	0.5%	
JPEG XL - PNG - 7 (MP/s)	12.15	12.01	
Normalized	100%	98.85%	
Standard Deviation	0.7%	0.3%	
JPEG XL - PNG - 8 (MP/s)	0.82	0.8	
Normalized	100%	97.56%	
Standard Deviation	0%	0%	
JPEG XL - JPEG - 5 (MP/s)	66.66	65.58	
Normalized	100%	98.38%	
Standard Deviation	0.4%	0.5%	
JPEG XL - JPEG - 7 (MP/s)	66.38	65.43	
Normalized	100%	98.57%	
Standard Deviation	0.4%	0.2%	
JPEG XL - JPEG - 8 (MP/s)	28.13	27.24	
Normalized	100%	96.84%	
Standard Deviation	0.2%	0.1%	
SciMark - Composite (Mflops)	3191	3319	
Normalized	96.12%	100%	
Standard Deviation	0.1%	0.8%	
SciMark - Monte Carlo (Mflops)	675.13	674.86	
Normalized	100%	99.96%	
Standard Deviation	0.1%	0.1%	
SciMark - F.F.T (Mflops)	363.85	399.16	
Normalized	91.15%	100%	
Standard Deviation	0.2%	0.3%	
SciMark - S.M.M (Mflops)	4280	4590	
Normalized	93.24%	100%	

Standard Deviation	0.4%	0.1%
SciMark - D.L.M.F (Mflops)	8848	9147
Normalized	96.74%	100%
Standard Deviation	0.1%	1.5%
SciMark - J.S.O.R (Mflops)	1786	1785
Normalized	100%	100%
Standard Deviation	0%	0%
Botan - KASUMI (MiB/s)	82.644	79.149
Normalized	100%	95.77%
Standard Deviation	0%	0.1%
Botan - KASUMI - Decrypt (MiB/s)	84.229	80.221
Normalized	100%	95.24%
Standard Deviation	0.1%	0.1%
Botan - AES-256 (MiB/s)	4659	4901
Normalized	95.07%	100%
Standard Deviation	0.1%	0.1%
Botan - AES-256 - Decrypt (MiB/s)	4682	4896
Normalized	95.65%	100%
Standard Deviation	0.2%	0%
Botan - Twofish (MiB/s)	315.409	299.214
Normalized	100%	94.87%
Standard Deviation	0.1%	0.1%
Botan - Twofish - Decrypt (MiB/s)	321.190	302.405
Normalized	100%	94.15%
Standard Deviation	0.1%	0.1%
Botan - Blowfish (MiB/s)	380.054	319.234
Normalized	100%	84%
Standard Deviation	0%	0.9%
Botan - Blowfish - Decrypt (MiB/s)	351.284	351.075
Normalized	100%	99.94%
Standard Deviation	0%	1%
Botan - CAST-256 (MiB/s)	132.820	128.586
Normalized	100%	96.81%
Standard Deviation	0%	0%
Botan - CAST-256 - Decrypt (MiB/s)	133.048	127.740
Normalized	100%	96.01%
Standard Deviation	0%	0%
Botan - ChaCha20Poly1305 (MiB/s)	850.496	848.236
Normalized	100%	99.73%
Standard Deviation	1%	0.1%
Botan - ChaCha20Poly1305 - Decrypt (MiB/s)	843.404	840.637
Normalized	100%	99.67%
Standard Deviation	1%	0%
LibRaw - P.P.B (Mpix/sec)	41.78	38.71
Normalized	100%	92.65%
Standard Deviation	0.5%	1.5%
TSCP - A.C.P (Nodes/s)	1570966	1638265
Normalized	95.89%	100%
Standard Deviation	0.3%	0.4%
GraphicsMagick - Swirl (Iterations/min)	1993	1915
Normalized	100%	96.09%
Standard Deviation	0.6%	1.1%
GraphicsMagick - Rotate (Iterations/min)	712	665
Normalized	100%	93.4%
Standard Deviation	0.6%	0.3%

GraphicsMagick - Sharpen (Iterations/min)	614	613
Normalized	100%	99.84%
GraphicsMagick - Enhanced (Iterations/min)	1076	1068
Normalized	100%	99.26%
Standard Deviation	0.3%	
GraphicsMagick - Resizing (Iterations/min)	2136	2034
Normalized	100%	95.22%
Standard Deviation	6.8%	2.3%
GraphicsMagick - Noise-Gaussian (Iterations/min)	457	463
Normalized	98.7%	100%
Standard Deviation	0.4%	
GraphicsMagick - HWB Color Space (Iterations/min)	605	616
Normalized	98.21%	100%
Standard Deviation	0.2%	0.2%
dav1d - Chimera 1080p (FPS)	1198	1190
Normalized	100%	99.35%
Standard Deviation	0.4%	1%
dav1d - Summer Nature 4K (FPS)	541.56	543.43
Normalized	99.66%	100%
Standard Deviation	0.6%	0.5%
dav1d - S.N.1 (FPS)	1244	1251
Normalized	99.43%	100%
Standard Deviation	1.1%	0.3%
dav1d - C.1.1.b (FPS)	308.32	184.19
Normalized	100%	59.74%
Standard Deviation	0.5%	0.5%
AOM AV1 - Speed 0 Two-Pass - Bosphorus	0.21	0.21
4K (FPS)		
Standard Deviation	0%	0%
AOM AV1 - Speed 4 Two-Pass - Bosphorus	4.87	4.95
4K (FPS)		
Normalized	98.38%	100%
Standard Deviation	1.6%	2.3%
AOM AV1 - Speed 6 Realtime - Bosphorus	17.22	17.13
4K (FPS)		
Normalized	100%	99.48%
Standard Deviation	1.2%	1.1%
AOM AV1 - Speed 6 Two-Pass - Bosphorus	8.99	9.14
4K (FPS)		
Normalized	98.36%	100%
Standard Deviation	2%	0.7%
AOM AV1 - Speed 8 Realtime - Bosphorus	33.39	33.14
4K (FPS)		
Normalized	100%	99.25%
Standard Deviation	2.5%	1.1%
AOM AV1 - Speed 9 Realtime - Bosphorus	38.11	37.28
4K (FPS)		
Normalized	100%	97.82%
Standard Deviation	1.9%	1.4%

AOM AV1 - Speed 0 Two-Pass - Bosphorus	0.53	0.53
1080p (FPS)		
Standard Deviation	0%	0%
AOM AV1 - Speed 4 Two-Pass - Bosphorus	7.10	7.20
1080p (FPS)		
Normalized	98.61%	100%
Standard Deviation	1%	0.2%
AOM AV1 - Speed 6 Realtime - Bosphorus	26.85	26.61
1080p (FPS)		
Normalized	100%	99.11%
Standard Deviation	1.7%	0.8%
AOM AV1 - Speed 6 Two-Pass - Bosphorus	22.13	22.00
1080p (FPS)		
Normalized	100%	99.41%
Standard Deviation	0.4%	1.2%
AOM AV1 - Speed 8 Realtime - Bosphorus	88.78	86.09
1080p (FPS)		
Normalized	100%	96.97%
Standard Deviation	2.1%	1%
AOM AV1 - Speed 9 Realtime - Bosphorus	103.17	100.55
1080p (FPS)		
Normalized	100%	97.46%
Standard Deviation	0.5%	0.9%
SVT-AV1 - Enc Mode 0 - 1080p (FPS)	0.183	0.181
1080p (FPS)		
Normalized	100%	98.91%
Standard Deviation	0%	0%
SVT-AV1 - Enc Mode 4 - 1080p (FPS)	11.474	11.821
1080p (FPS)		
Normalized	97.06%	100%
Standard Deviation	2.6%	2.8%
SVT-AV1 - Enc Mode 8 - 1080p (FPS)	118.067	117.392
1080p (FPS)		
Normalized	100%	99.43%
Standard Deviation	0.1%	0.7%
SVT-HEVC - 1 - Bosphorus 1080p (FPS)	41.09	41.01
1080p (FPS)		
Normalized	100%	99.81%
Standard Deviation	0.7%	0.4%
SVT-HEVC - 7 - Bosphorus 1080p (FPS)	345.30	346.89
1080p (FPS)		
Normalized	99.54%	100%
Standard Deviation	0.8%	1.7%
SVT-HEVC - 10 - Bosphorus 1080p (FPS)	643.58	652.74
1080p (FPS)		
Normalized	98.6%	100%
Standard Deviation	0.8%	1.5%
SVT-VP9 - VMAF Optimized - Bosphorus	487.43	481.05
1080p (FPS)		
Normalized	100%	98.69%
Standard Deviation	0.5%	0.1%
SVT-VP9 - P.S.O - Bosphorus 1080p (FPS)	488.23	482.02
1080p (FPS)		
Normalized	100%	98.73%
Standard Deviation	0.3%	0.6%
SVT-VP9 - V.Q.O - Bosphorus 1080p (FPS)	372.49	373.99
1080p (FPS)		
Normalized	99.6%	100%
Standard Deviation	0.5%	0.9%
x265 - Bosphorus 4K (FPS)	30.32	29.94
1080p (FPS)		
Normalized	100%	98.75%
Standard Deviation	1.3%	1.5%

x265 - Bosphorus 1080p (FPS)	74.00	73.36
Normalized	100%	99.14%
Standard Deviation	1.1%	1.1%
Coremark - CoreMark Size 666 - I.P.S	1785466	1790837
(Iterations/Sec)		
Normalized	99.7%	100%
Standard Deviation	0.1%	0.1%
libavif avifenc - 0 (sec)	47.884	47.894
Normalized	100%	99.98%
Standard Deviation	0.2%	0.3%
libavif avifenc - 2 (sec)	25.175	25.472
Normalized	100%	98.83%
Standard Deviation	0.4%	0.4%
libavif avifenc - 6 (sec)	9.510	9.536
Normalized	100%	99.73%
Standard Deviation	0.2%	0.4%
libavif avifenc - 10 (sec)	3.361	3.429
Normalized	100%	98.02%
Standard Deviation	0.7%	0.5%
libavif avifenc - 6, Lossless (sec)	25.220	26.034
Normalized	100%	96.87%
Standard Deviation	0.2%	1.5%
libavif avifenc - 10, Lossless (sec)	5.746	5.879
Normalized	100%	97.74%
Standard Deviation	0.4%	0.3%
C-Ray - Total Time - 4.1.R.P.P (sec)	15.870	15.599
Normalized	98.29%	100%
Standard Deviation	0.2%	0.1%
POV-Ray - Trace Time (sec)	9.296	9.408
Normalized	100%	98.81%
Standard Deviation	0.8%	0.6%
oneDNN - IP Shapes 1D - f32 - CPU (ms)	1.07701	1.08011
Normalized	100%	99.71%
Standard Deviation	0.3%	0.2%
oneDNN - IP Shapes 3D - f32 - CPU (ms)	3.28507	3.52787
Normalized	100%	93.12%
Standard Deviation	0.9%	2.3%
oneDNN - IP Shapes 1D - u8s8f32 - CPU (ms)	1.07507	1.07577
Normalized	100%	99.93%
Standard Deviation	0.5%	0.6%
oneDNN - IP Shapes 3D - u8s8f32 - CPU (ms)	0.710124	0.594729
Normalized	83.75%	100%
Standard Deviation	2.8%	2.6%
oneDNN - C.B.S.A - f32 - CPU (ms)	1.22132	0.841169
Normalized	68.87%	100%
Standard Deviation	3%	0.1%
oneDNN - D.B.s - f32 - CPU (ms)	1.44425	1.45757
Normalized	100%	99.09%
Standard Deviation	0.1%	0.7%
oneDNN - D.B.s - f32 - CPU (ms)	2.36797	2.31859
Normalized	97.91%	100%
Standard Deviation	1.5%	1.8%
oneDNN - C.B.S.A - u8s8f32 - CPU (ms)	2.03606	1.60540
Normalized	78.85%	100%
Standard Deviation	3.3%	0.1%

EPYC 7763 LLVM Clang Compiler Tests

oneDNN - D.B.s - u8s8f32 - CPU (ms)	0.491940	0.489278
Normalized	99.46%	100%
Standard Deviation	1%	0.6%
oneDNN - D.B.s - u8s8f32 - CPU (ms)	0.779776	0.779101
Normalized	99.91%	100%
Standard Deviation	0.9%	0.3%
oneDNN - R.N.N.T - f32 - CPU (ms)	1303	1276
Normalized	97.95%	100%
Standard Deviation	0.5%	1.3%
oneDNN - R.N.N.I - f32 - CPU (ms)	593.972	563.200
Normalized	94.82%	100%
Standard Deviation	2.8%	0.3%
oneDNN - R.N.N.T - u8s8f32 - CPU (ms)	1307	1278
Normalized	97.72%	100%
Standard Deviation	0.5%	1%
oneDNN - R.N.N.I - u8s8f32 - CPU (ms)	590.182	562.970
Normalized	95.39%	100%
Standard Deviation	0.6%	0.1%
oneDNN - M.M.B.S.T - f32 - CPU (ms)	0.313689	0.315522
Normalized	100%	99.42%
Standard Deviation	0.2%	0.1%
oneDNN - R.N.N.T - bf16bf16bf16 - CPU (ms)	1305	1272
Normalized	97.46%	100%
Standard Deviation	0.2%	1.3%
oneDNN - R.N.N.I - bf16bf16bf16 - CPU (ms)	597.481	563.247
Normalized	94.27%	100%
Standard Deviation	0.9%	0%
oneDNN - M.M.B.S.T - u8s8f32 - CPU (ms)	1.17258	1.15140
Normalized	98.19%	100%
Standard Deviation	0.7%	1%
FLAC Audio Encoding - WAV To FLAC (sec)	7.854	7.979
Normalized	100%	98.43%
Standard Deviation	0.2%	0.2%
LAME MP3 Encoding - WAV To MP3 (sec)	8.256	8.250
Normalized	99.93%	100%
Standard Deviation	0.1%	0.4%
Opus Codec Encoding - WAV To Opus	7.567	7.392
Encode (sec)		
Normalized	97.69%	100%
Standard Deviation	0.4%	0.1%
Gcrypt Library (sec)	236.924	240.205
Normalized	100%	98.63%
Standard Deviation	0.3%	0.2%
Ngspice - C2670 (sec)	118.870	103.826
Normalized	87.34%	100%
Standard Deviation	0.8%	0.1%
Ngspice - C7552 (sec)	95.956	90.527
Normalized	94.34%	100%
Standard Deviation	2.8%	2.6%
Tachyon - Total Time (sec)	16.0468	16.4099
Normalized	100%	97.79%
Standard Deviation	0.6%	0.2%
WebP2 Image Encode - Default (sec)	2.739	2.743
Normalized	100%	99.85%
Standard Deviation	1.7%	2%

EPYC 7763 LLVM Clang Compiler Tests

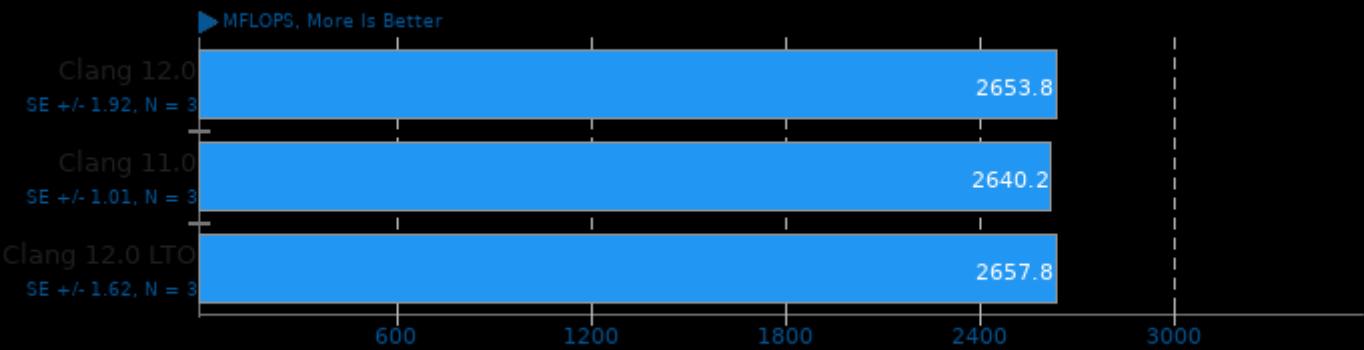
WebP2 Image Encode - Q.7.C.E.7 (sec)	109.525	109.636
Normalized	100%	99.9%
Standard Deviation	0.2%	0.2%
WebP2 Image Encode - Q.9.C.E.7 (sec)	207.008	203.634
Normalized	98.37%	100%
Standard Deviation	0.1%	0.6%
WebP2 Image Encode - Q.1.C.E.5 (sec)	6.690	7.366
Normalized	100%	90.82%
Standard Deviation	0.2%	0.5%
WebP2 Image Encode - Q.1.L.C (sec)	374.035	392.849
Normalized	100%	95.21%
Standard Deviation	0.2%	0.1%
Liquid-DSP - 1 - 256 - 57 (samples/s)	55663000	56307000
Normalized	98.86%	100%
Standard Deviation	2.5%	0.1%
Liquid-DSP - 32 - 256 - 57 (samples/s)	1564833333	1578400000
Normalized	99.14%	100%
Standard Deviation	0.2%	0.1%
Liquid-DSP - 64 - 256 - 57 (samples/s)	3070633333	3051366667
Normalized	100%	99.37%
Standard Deviation	0.3%	0.1%
Liquid-DSP - 128 - 256 - 57 (samples/s)	3643766667	3596533333
Normalized	100%	98.7%
Standard Deviation	0%	0.1%
FinanceBench - Repo OpenMP (ms)	33247	33178
Normalized	99.79%	100%
Standard Deviation	0.3%	0%
FinanceBench - Bonds OpenMP (ms)	51597	51900
Normalized	100%	99.42%
Standard Deviation	0%	0%
ViennaCL - CPU BLAS - sCOPY (GB/s)	471	495
Normalized	95.15%	100%
Standard Deviation	11.2%	28.6%
ViennaCL - CPU BLAS - sAXPY (GB/s)	357	412
Normalized	86.65%	100%
Standard Deviation	15.2%	32.4%
ViennaCL - CPU BLAS - sDOT (GB/s)	434	462
Normalized	93.94%	100%
Standard Deviation	28.1%	32.7%
ViennaCL - CPU BLAS - dCOPY (GB/s)	604	1877
Normalized	32.18%	100%
Standard Deviation	8.4%	1.7%
ViennaCL - CPU BLAS - dAXPY (GB/s)	878	1043
Normalized	84.18%	100%
Standard Deviation	7.9%	0.6%
ViennaCL - CPU BLAS - dDOT (GB/s)	819	933
Normalized	87.78%	100%
Standard Deviation	7.2%	0.6%
ViennaCL - CPU BLAS - dGEMV-N (GB/s)	69.1	51.2
Normalized	100%	74.1%
Standard Deviation	11.2%	27.6%
ViennaCL - CPU BLAS - dGEMV-T (GB/s)	626	677
Normalized	92.47%	100%
Standard Deviation	2.2%	0.8%

EPYC 7763 LLVM Clang Compiler Tests

ViennaCL - CPU BLAS - dGEMM-NN (GFLOPs/s)	48.6	83.6
Normalized	58.13%	100%
Standard Deviation	0.4%	0.3%
ViennaCL - CPU BLAS - dGEMM-NT (GFLOPs/s)	65.7	79.3
Normalized	82.85%	100%
Standard Deviation	3%	0.1%
ViennaCL - CPU BLAS - dGEMM-TN (GFLOPs/s)	51.9	88.3
Normalized	58.78%	100%
Standard Deviation	0.6%	0.1%
ViennaCL - CPU BLAS - dGEMM-TT (GFLOPs/s)	73.0	84.0
Normalized	86.9%	100%
Standard Deviation	0.3%	0.1%
ASTC Encoder - Medium (sec)	4.0058	3.9837
Normalized	99.45%	100%
Standard Deviation	0.5%	0.1%
ASTC Encoder - Thorough (sec)	6.7647	6.7674
Normalized	100%	99.96%
Standard Deviation	0.1%	0.1%
ASTC Encoder - Exhaustive (sec)	18.9936	19.0255
Normalized	100%	99.83%
Standard Deviation	0%	0.1%
ONNX Runtime - yolov4 - OpenMP CPU (Inferences/min)	333	346
Normalized	96.24%	100%
Standard Deviation	2.5%	0.7%
ONNX Runtime - bertsquad-10 - OpenMP CPU (Inferences/min)	498	471
Normalized	100%	94.58%
Standard Deviation	7.2%	2%
ONNX Runtime - fcn-resnet101-11 - OpenMP CPU (Inferences/min)	112	108
Normalized	100%	96.43%
Standard Deviation	0.8%	0.5%
ONNX Runtime - shufflenet-v2-10 - OpenMP CPU (Inferences/min)	9904	9797
Normalized	100%	98.92%
Standard Deviation	3.1%	3%
ONNX Runtime - super-resolution-10 - OpenMP CPU (Inferences/min)	4456	4523
Normalized	98.52%	100%
Standard Deviation	9.8%	11.3%
SecureMark - SecureMark-TLS (marks)	265204	260119
Normalized	100%	98.08%
Standard Deviation	1.2%	0.3%
PostgreSQL pgbench - 100 - 1 - Read Only (TPS)	24310	24943
Normalized	97.46%	100%
Standard Deviation	2.2%	2%

PostgreSQL pgbench - 100 - 1 - Read Only -	0.041	0.040
Average Latency (ms)		
Normalized	97.56%	100%
Standard Deviation	2.4%	2.5%
PostgreSQL pgbench - 100 - 1 - Read Write (TPS)		
Normalized	99.06%	100%
Standard Deviation	0.2%	0.8%
PostgreSQL pgbench - 100 - 1 - Read Write -		
0.305	0.302	
Average Latency (ms)		
Normalized	99.02%	100%
Standard Deviation	0.2%	0.9%
PostgreSQL pgbench - 100 - 100 - Read Only (TPS)		
Normalized	99.97%	100%
Standard Deviation	0.1%	0.3%
PostgreSQL pgbench - 100 - 100 - Read Only	0.094	0.094
- Average Latency (ms)		
Standard Deviation	0%	0.6%
PostgreSQL pgbench - 100 - 250 - Read Only (TPS)		
Normalized	100%	99.47%
Standard Deviation	1%	2.3%
PostgreSQL pgbench - 100 - 250 - Read Only		
0.234	0.235	
- Average Latency (ms)		
Normalized	100%	99.57%
Standard Deviation	1%	2.1%
PostgreSQL pgbench - 100 - 100 - Read Write (TPS)		
Normalized	100%	98.87%
Standard Deviation	0.5%	1.1%
PostgreSQL pgbench - 100 - 100 - Read Write - Average Latency (ms)	1.607	1.626
Normalized		
Standard Deviation	0.4%	1.1%
PostgreSQL pgbench - 100 - 250 - Read Write (TPS)		
Normalized	100%	96.13%
Standard Deviation	4.8%	2.8%
PostgreSQL pgbench - 100 - 250 - Read Write - Average Latency (ms)	4.431	4.603
Normalized		
Standard Deviation	4.8%	2.8%

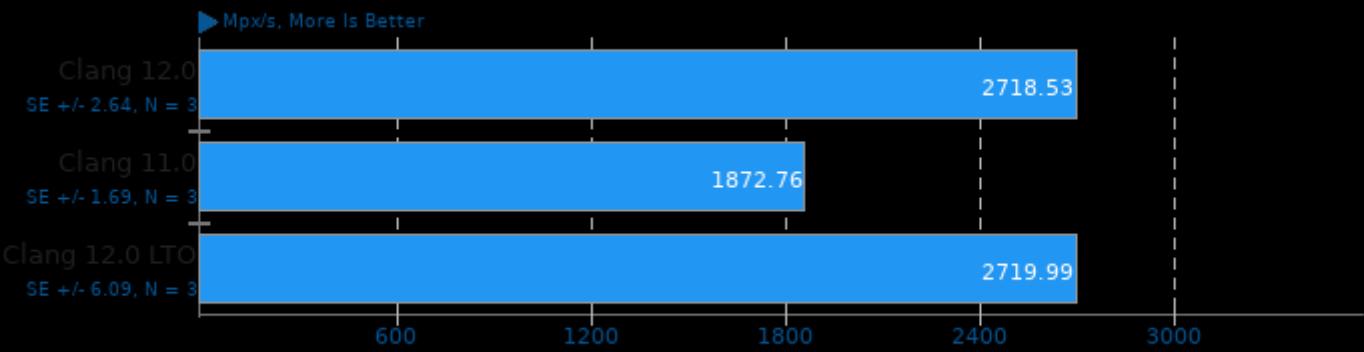
QuantLib 1.21



1. (CXX) g++ options: -O3 -march=native -rdynamic

EtcPak 0.7

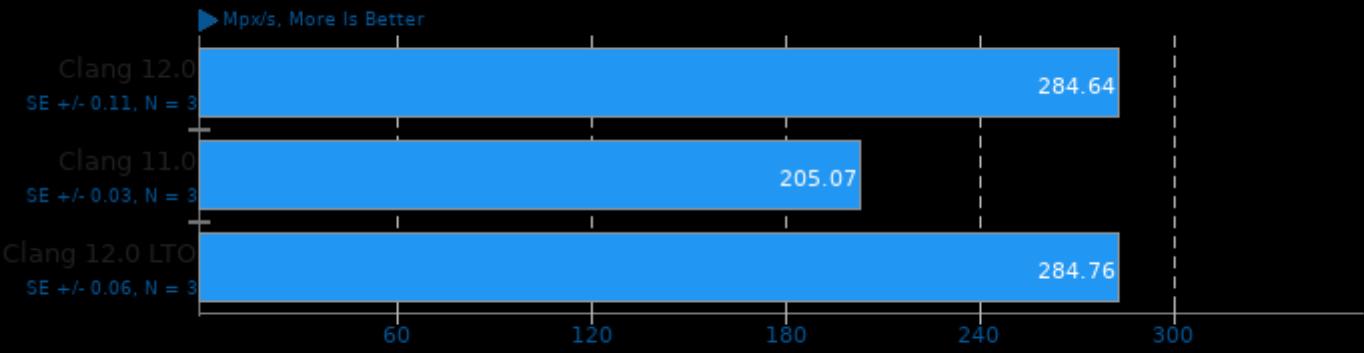
Configuration: DXT1



1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

EtcPak 0.7

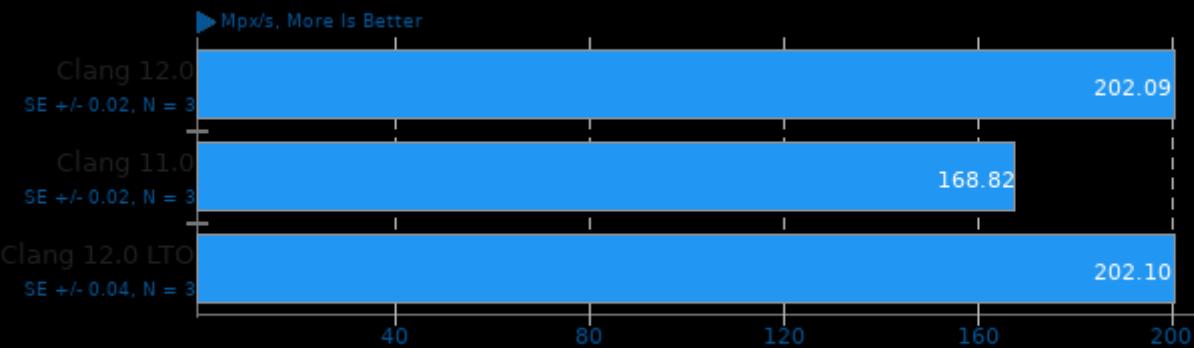
Configuration: ETC1



1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

EtcPak 0.7

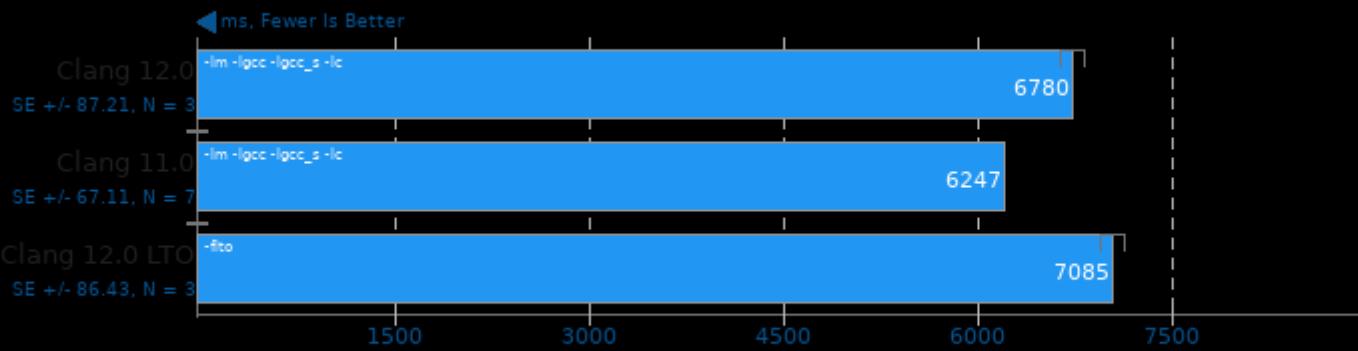
Configuration: ETC2



1. (CXX) g++ options: -O3 -march=native -std=c++11 -lpthread

toyBrot Fractal Generator 2020-11-18

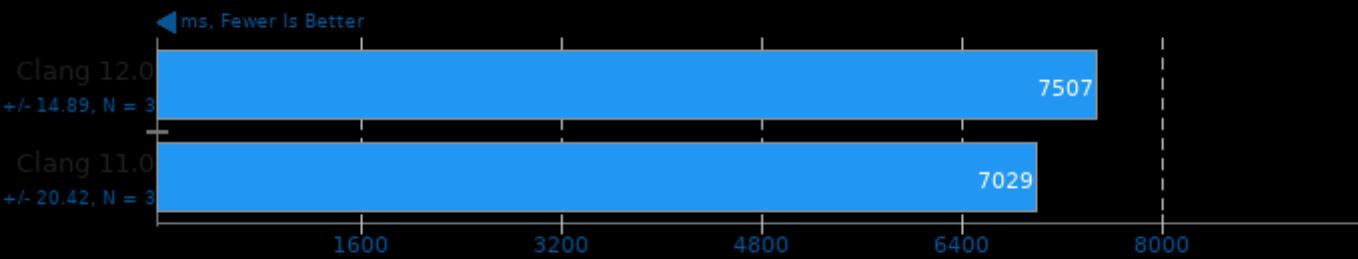
Implementation: TBB



1. (CXX) g++ options: -O3 -march=native -lpthread

toyBrot Fractal Generator 2020-11-18

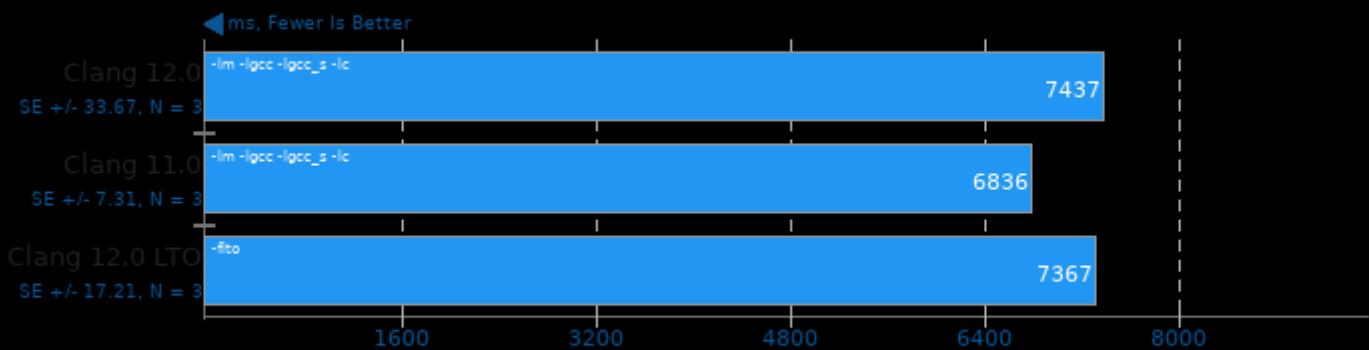
Implementation: OpenMP



1. (CXX) g++ options: -O3 -march=native -lpthread -fim -lgcc -lgcc_s -lc

toyBrot Fractal Generator 2020-11-18

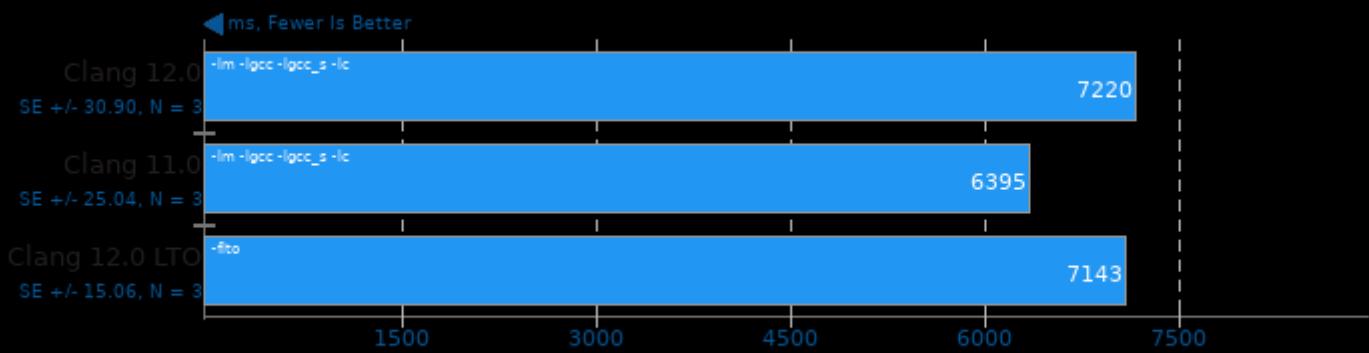
Implementation: C++ Tasks



1. (CXX) g++ options: -O3 -march=native -lpthread

toyBrot Fractal Generator 2020-11-18

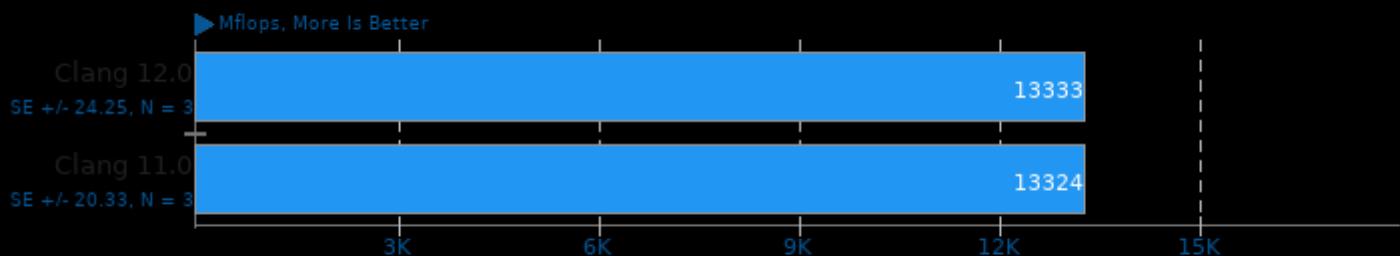
Implementation: C++ Threads



1. (CXX) g++ options: -O3 -march=native -lpthread

FFTW 3.3.6

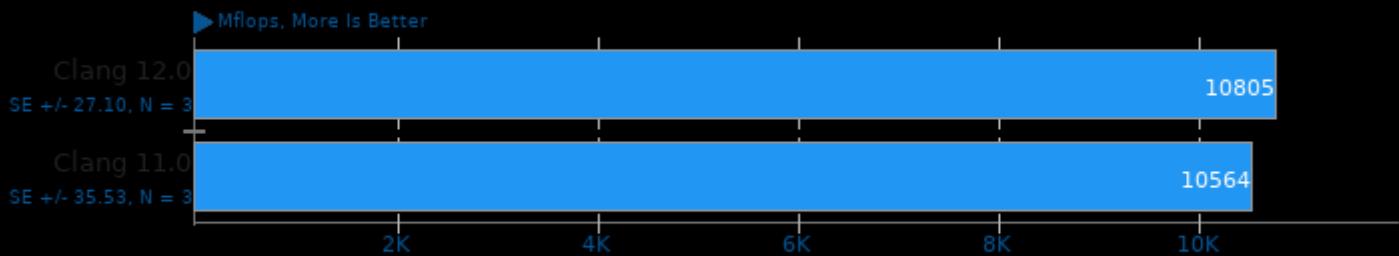
Build: Stock - Size: 1D FFT Size 32



1. (CC) gcc options: -pthread -O3 -march=native -lm

FFTW 3.3.6

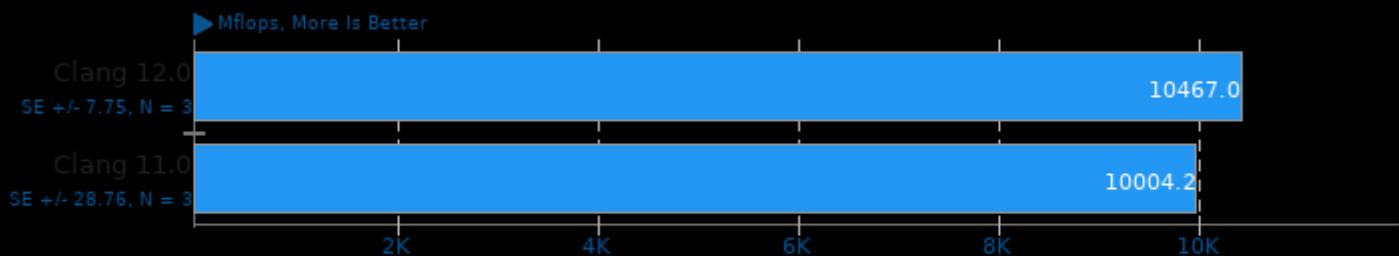
Build: Stock - Size: 1D FFT Size 1024



1. (CC) gcc options: -pthread -O3 -march=native -lm

FFTW 3.3.6

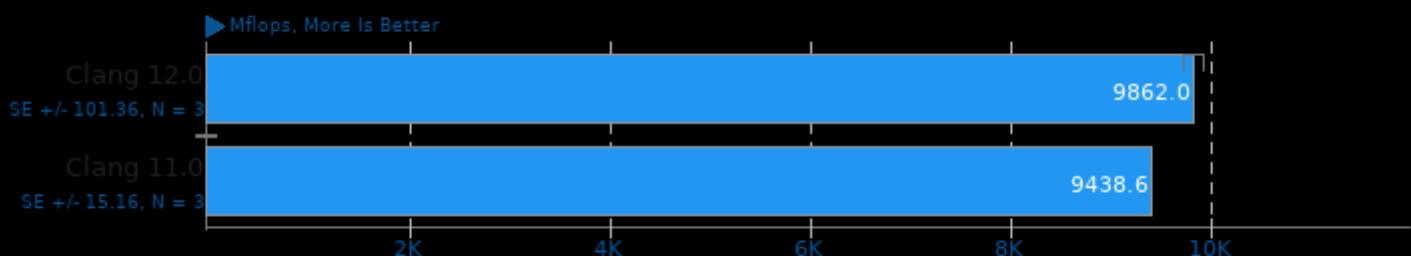
Build: Stock - Size: 1D FFT Size 2048



1. (CC) gcc options: -pthread -O3 -march=native -lm

FFTW 3.3.6

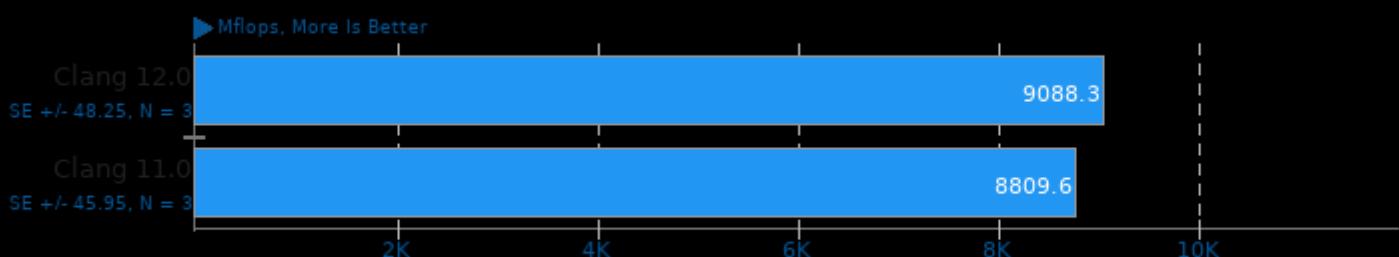
Build: Stock - Size: 1D FFT Size 4096



1. (CC) gcc options: -pthread -O3 -march=native -lm

FFTW 3.3.6

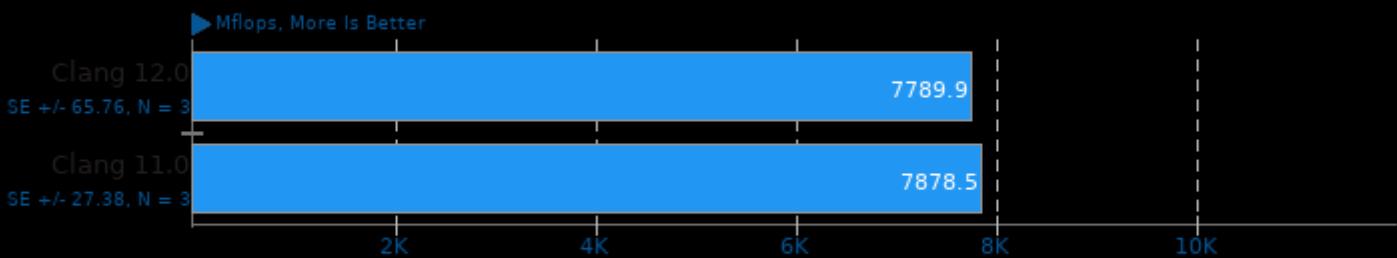
Build: Stock - Size: 2D FFT Size 1024



1. (CC) gcc options: -pthread -O3 -march=native -lm

FFTW 3.3.6

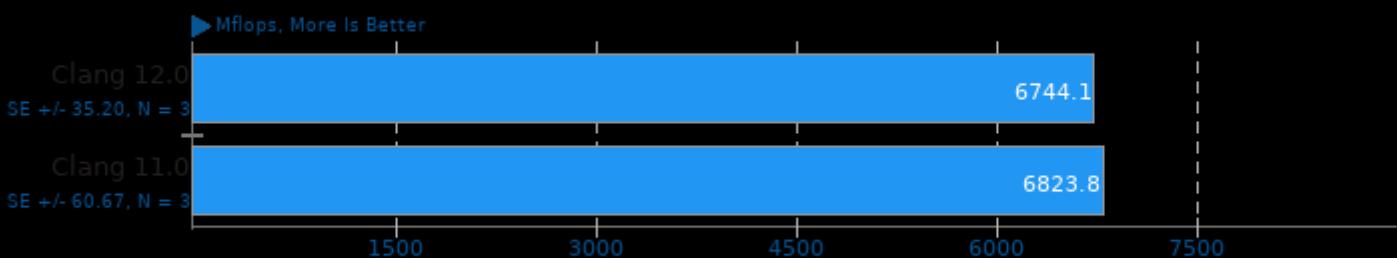
Build: Stock - Size: 2D FFT Size 2048



1. (CC) gcc options: -pthread -O3 -march=native -lm

FFTW 3.3.6

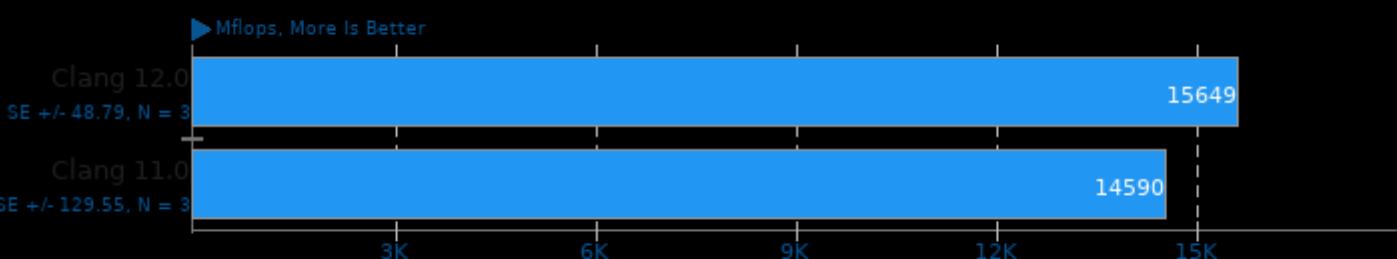
Build: Stock - Size: 2D FFT Size 4096



1. (CC) gcc options: -pthread -O3 -march=native -lm

FFTW 3.3.6

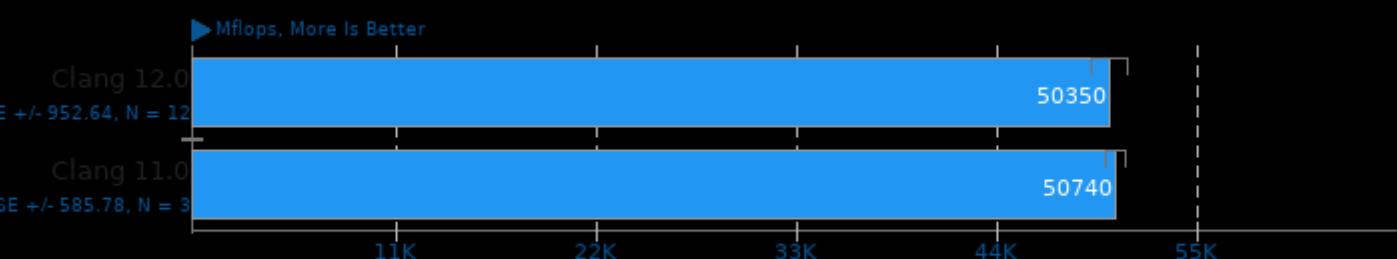
Build: Float + SSE - Size: 1D FFT Size 32



1. (CC) gcc options: -pthread -O3 -march=native -lm

FFTW 3.3.6

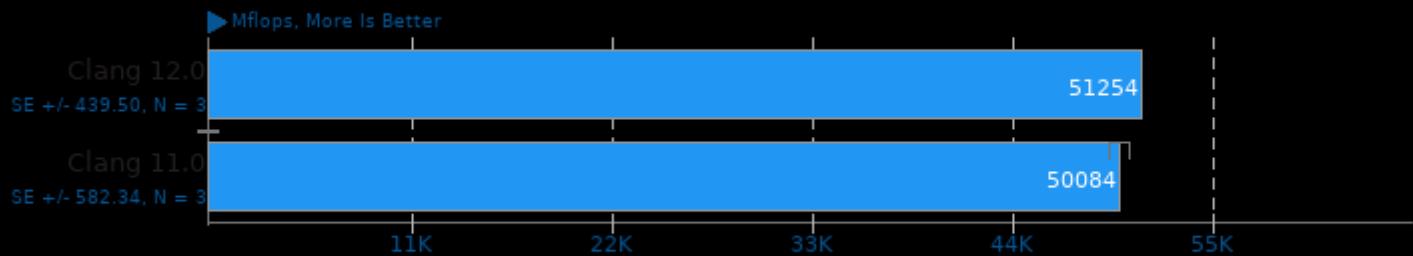
Build: Float + SSE - Size: 1D FFT Size 1024



1. (CC) gcc options: -pthread -O3 -march=native -lm

FFTW 3.3.6

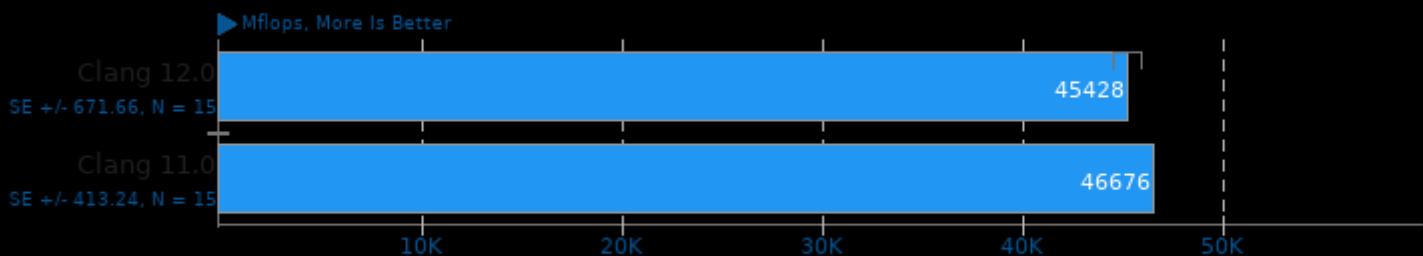
Build: Float + SSE - Size: 1D FFT Size 2048



1. (CC) gcc options: -pthread -O3 -march=native -lm

FFTW 3.3.6

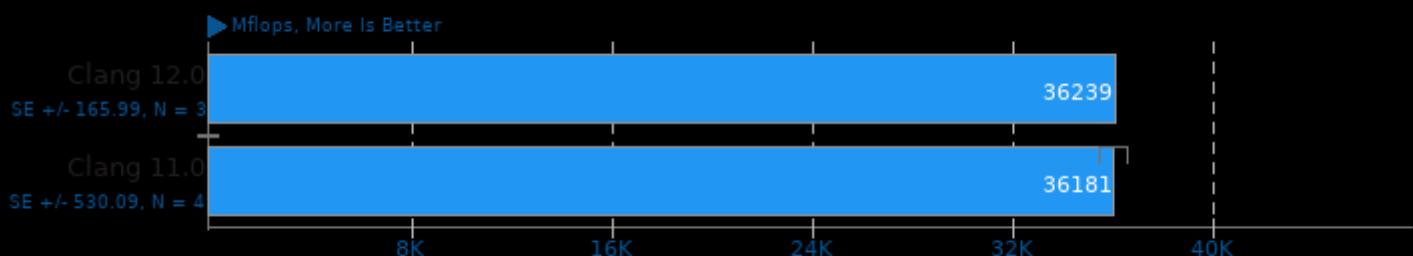
Build: Float + SSE - Size: 1D FFT Size 4096



1. (CC) gcc options: -pthread -O3 -march=native -lm

FFTW 3.3.6

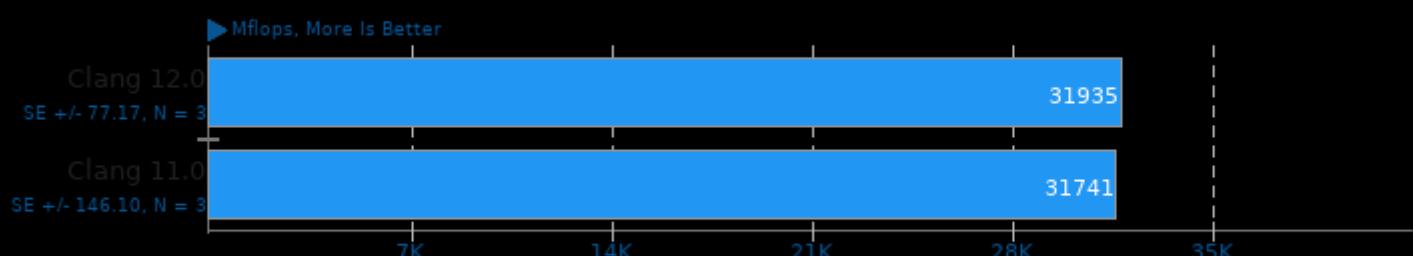
Build: Float + SSE - Size: 2D FFT Size 1024



1. (CC) gcc options: -pthread -O3 -march=native -lm

FFTW 3.3.6

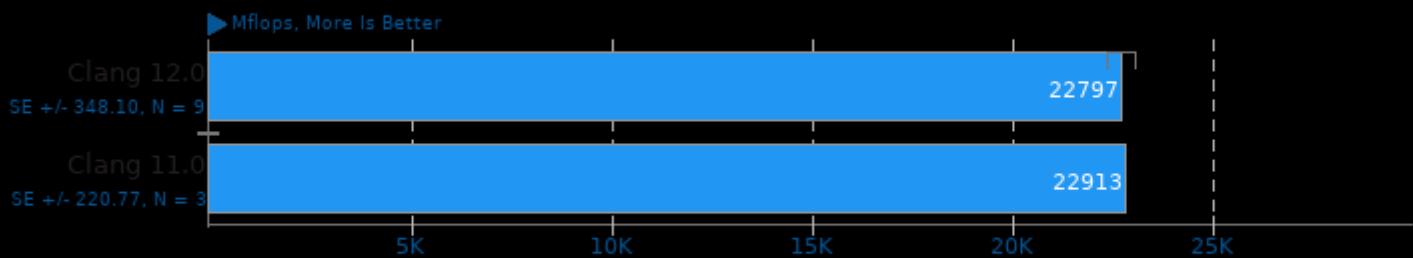
Build: Float + SSE - Size: 2D FFT Size 2048



1. (CC) gcc options: -pthread -O3 -march=native -lm

FFTW 3.3.6

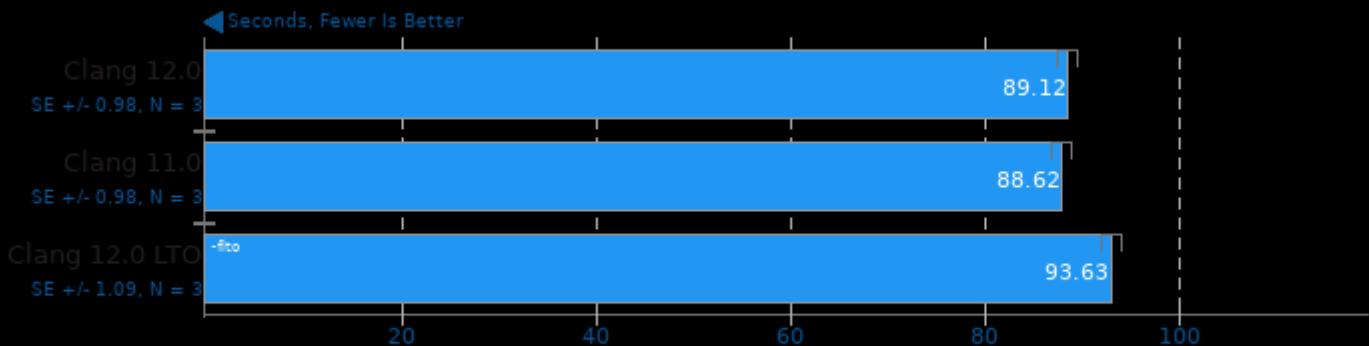
Build: Float + SSE - Size: 2D FFT Size 4096



1. (CC) gcc options: -pthread -O3 -march=native -lm

Timed MrBayes Analysis 3.2.7

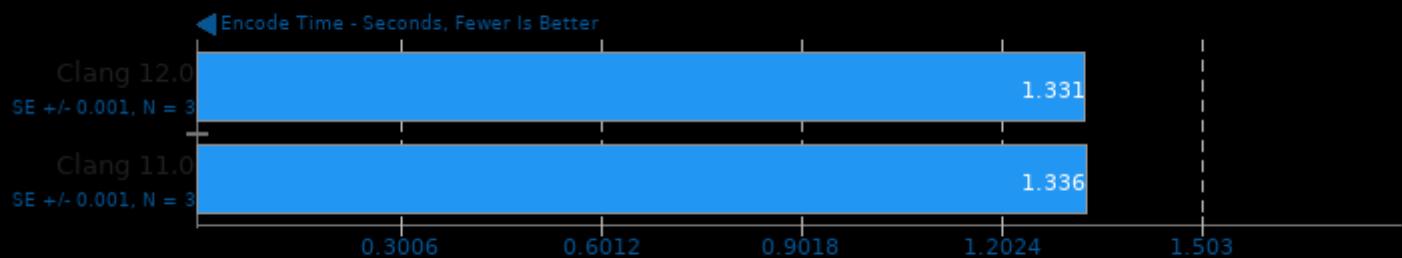
Primate Phylogeny Analysis



1. (CC) gcc options: -mmmx -msse -msse2 -msse3 -msse3 -msse4.1 -msse4.2 -msse4a -msha -maes -mavx -mfma -mavx2 -mrdrnd -mbmi -mbmi2 -madx

WebP Image Encode 1.1

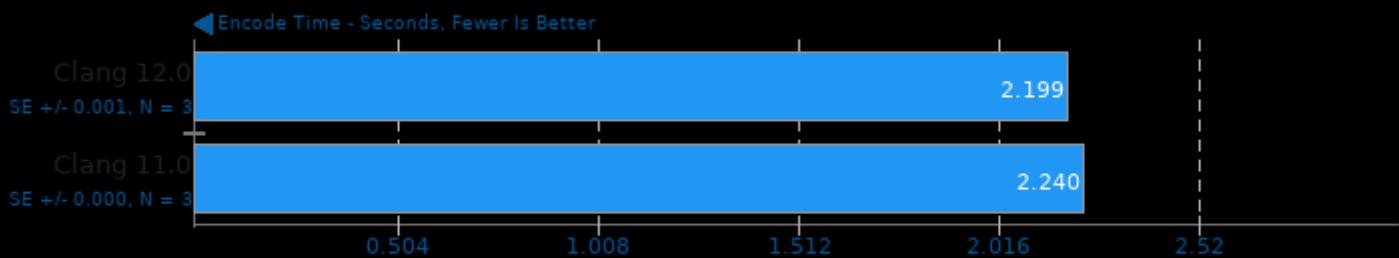
Encode Settings: Default



1. (CC) gcc options: -fvisibility=hidden -O3 -march=native -pthread -lm -lpng16 -jpeg

WebP Image Encode 1.1

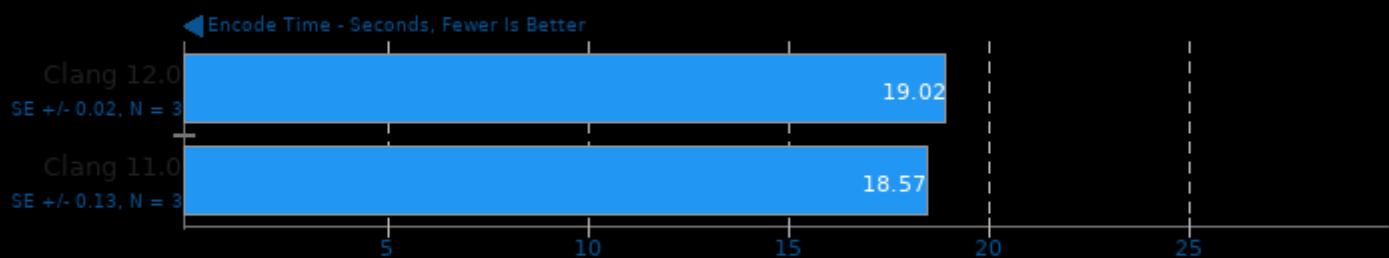
Encode Settings: Quality 100



1. (CC) gcc options: -fvisibility=hidden -O3 -march=native -pthread -lm -lpng16 -ljpeg

WebP Image Encode 1.1

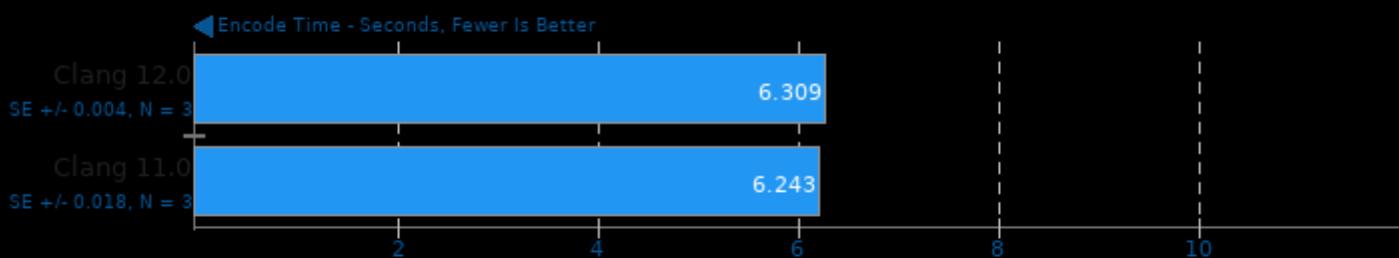
Encode Settings: Quality 100, Lossless



1. (CC) gcc options: -fvisibility=hidden -O3 -march=native -pthread -lm -lpng16 -ljpeg

WebP Image Encode 1.1

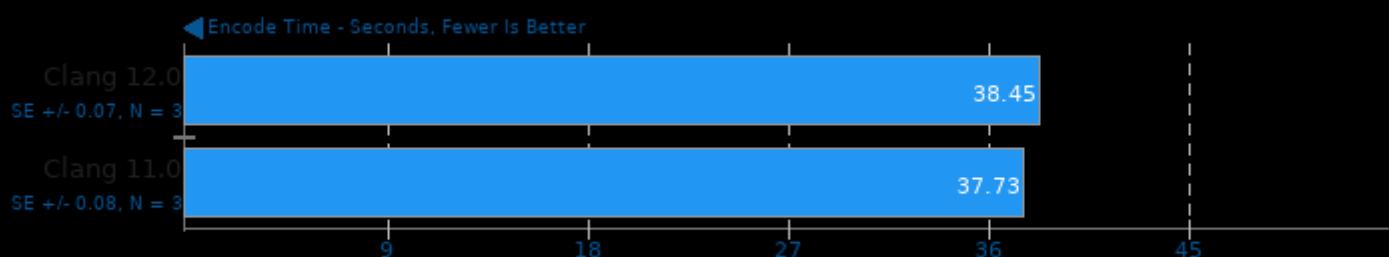
Encode Settings: Quality 100, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O3 -march=native -pthread -lm -lpng16 -ljpeg

WebP Image Encode 1.1

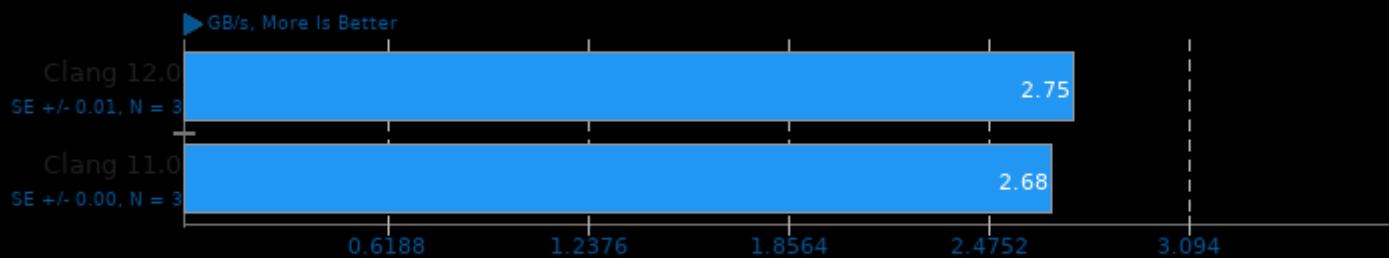
Encode Settings: Quality 100, Lossless, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O3 -march=native -pthread -lm -lpng16 -ljpeg

simdjson 0.8.2

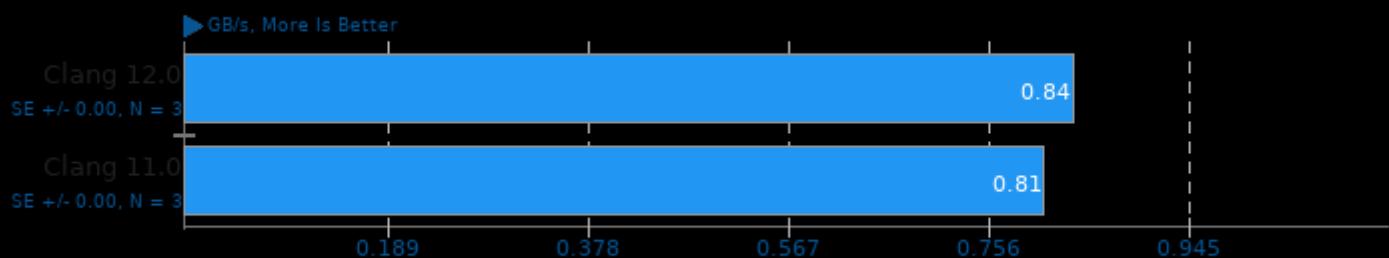
Throughput Test: Kostya



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

simdjson 0.8.2

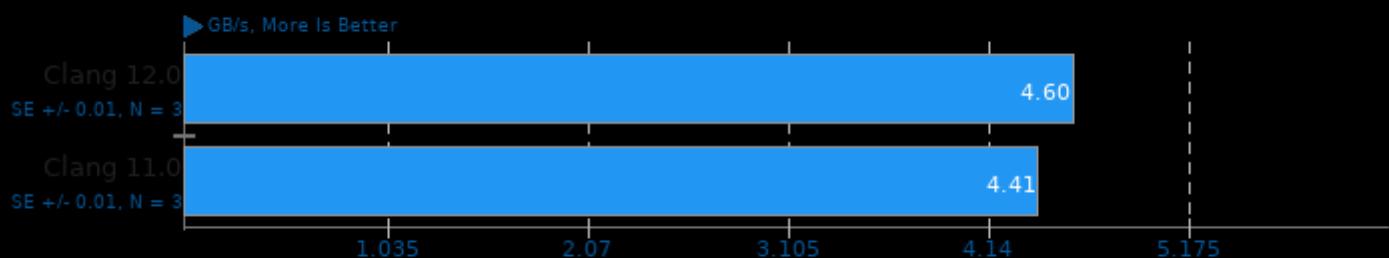
Throughput Test: LargeRandom



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

simdjson 0.8.2

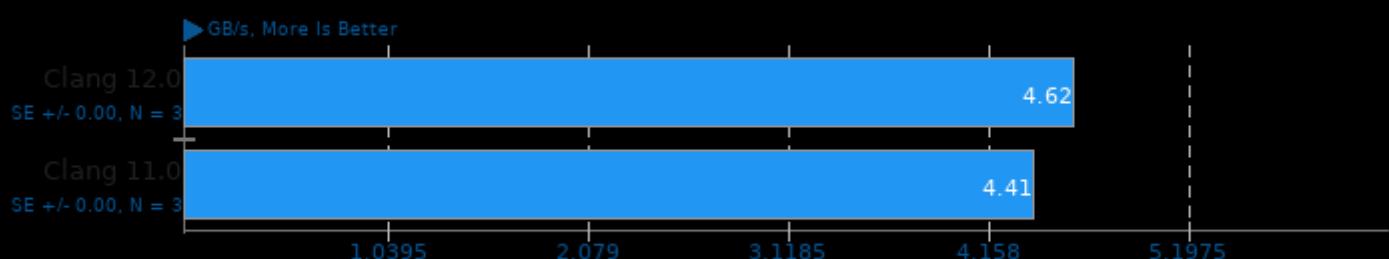
Throughput Test: PartialTweets



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

simdjson 0.8.2

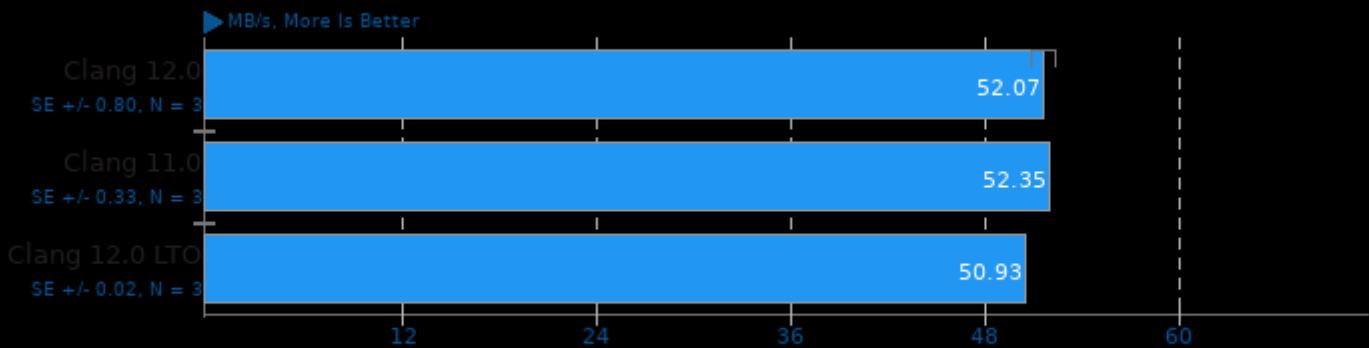
Throughput Test: DistinctUserID



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

LZ4 Compression 1.9.3

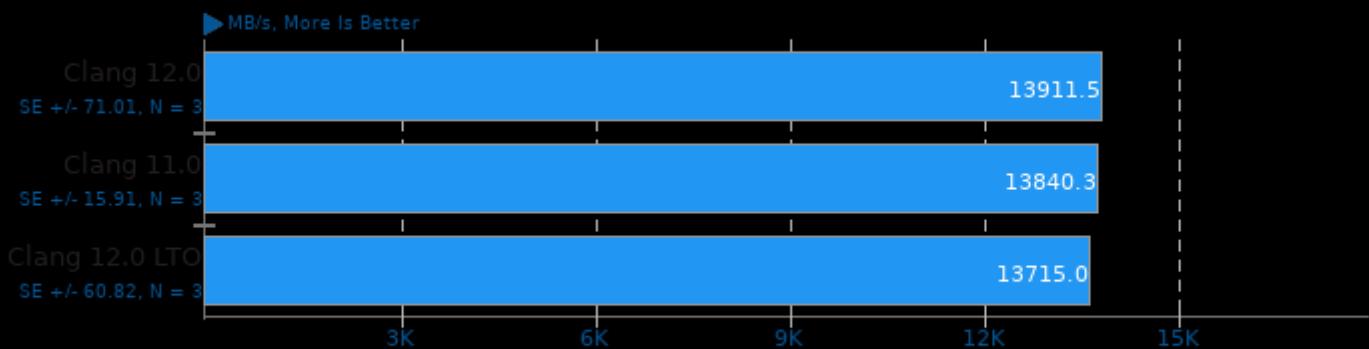
Compression Level: 3 - Compression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

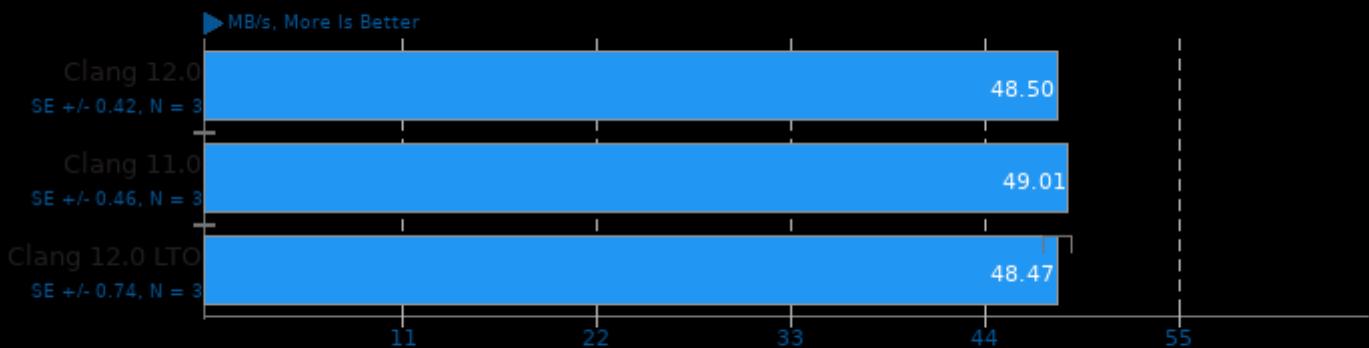
Compression Level: 3 - Decompression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

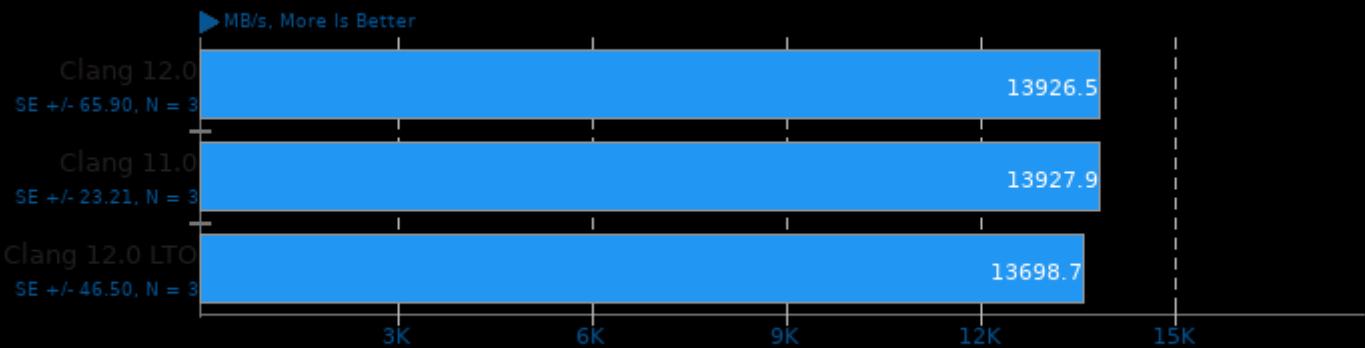
Compression Level: 9 - Compression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

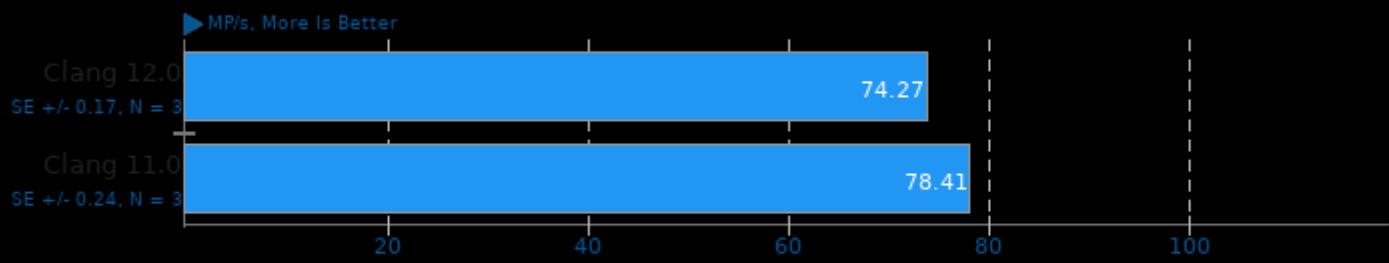
Compression Level: 9 - Decompression Speed



1. (CC) gcc options: -O3

JPEG XL 0.3.3

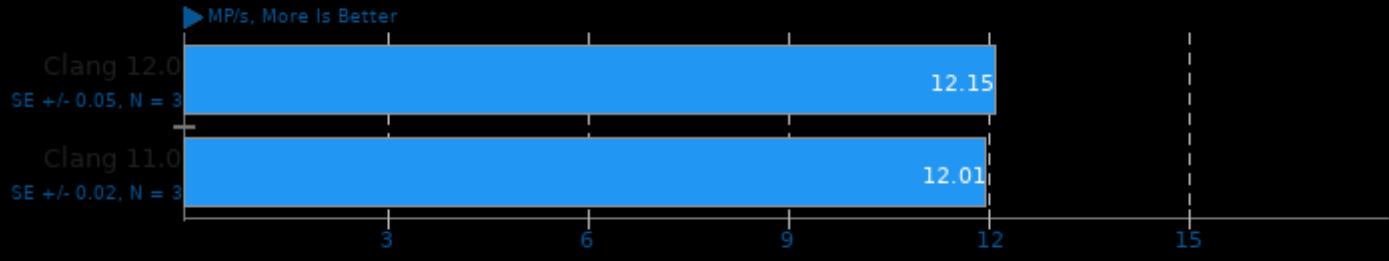
Input: PNG - Encode Speed: 5



1. (CXX) g++ options: -O3 -march=native -funwind-tables -Xclang -mrelax-all -O2 -fPIE -pie -pthread -ldl

JPEG XL 0.3.3

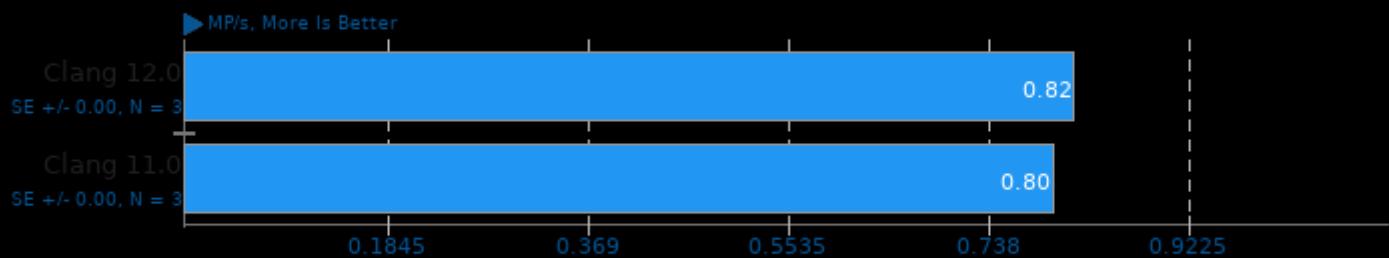
Input: PNG - Encode Speed: 7



1. (CXX) g++ options: -O3 -march=native -funwind-tables -Xclang -mrelax-all -O2 -fPIE -pie -pthread -ldl

JPEG XL 0.3.3

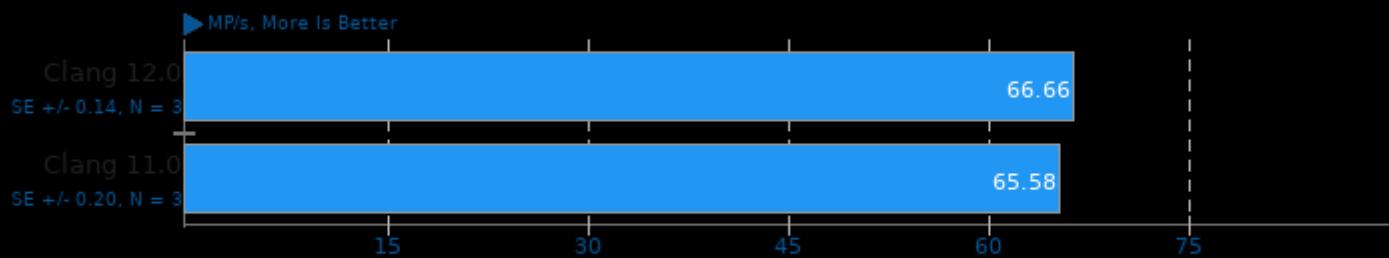
Input: PNG - Encode Speed: 8



1. (CXX) g++ options: -O3 -march=native -funwind-tables -Xclang -mrelax-all -O2 -fPIE -pie -pthread -ldl

JPEG XL 0.3.3

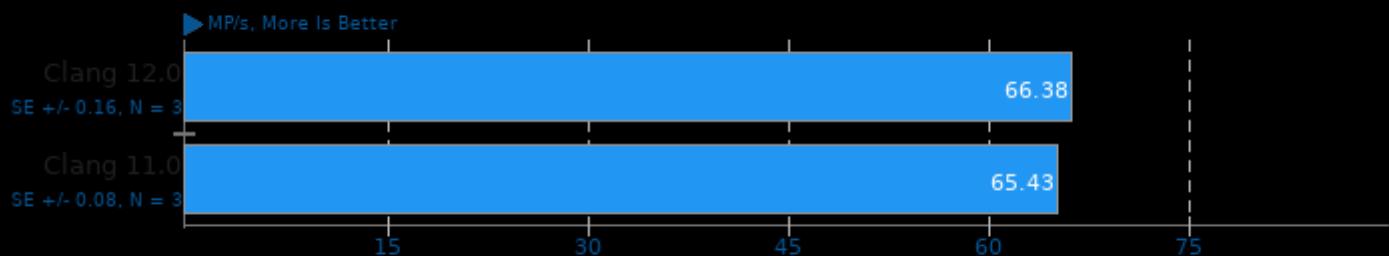
Input: JPEG - Encode Speed: 5



1. (CXX) g++ options: -O3 -march=native -funwind-tables -Xclang -mrelax-all -O2 -fPIE -pie -pthread -ldl

JPEG XL 0.3.3

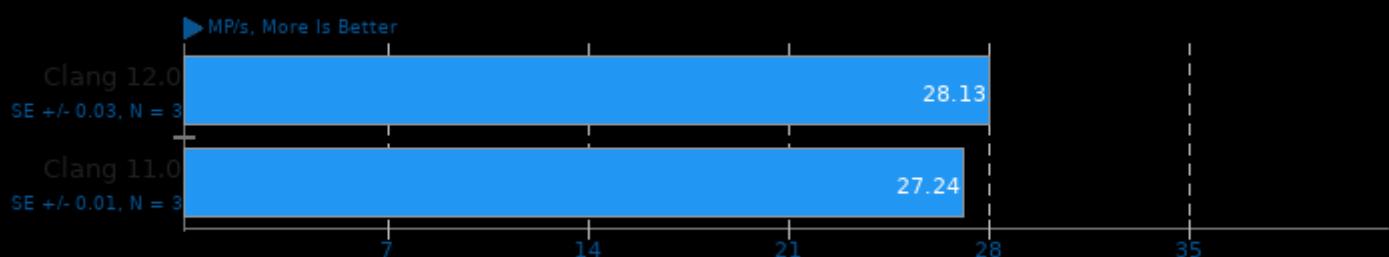
Input: JPEG - Encode Speed: 7



1. (CXX) g++ options: -O3 -march=native -funwind-tables -Xclang -mrelax-all -O2 -fPIE -pie -pthread -ldl

JPEG XL 0.3.3

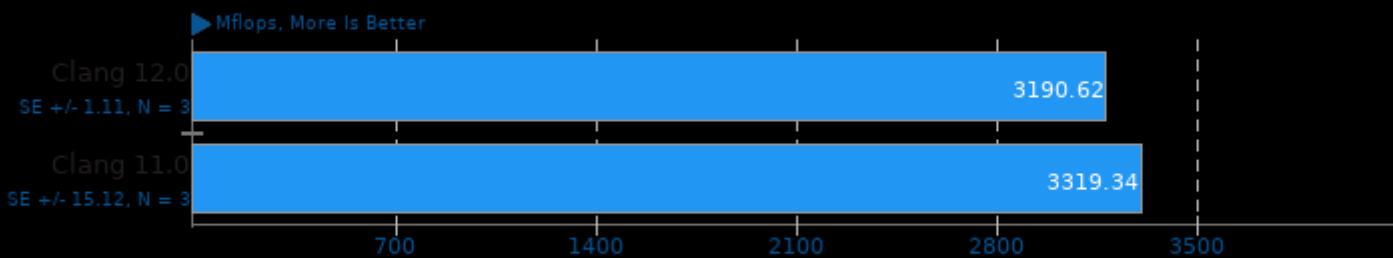
Input: JPEG - Encode Speed: 8



1. (CXX) g++ options: -O3 -march=native -funwind-tables -Xclang -mrelax-all -O2 -fPIE -pie -pthread -ldl

SciMark 2.0

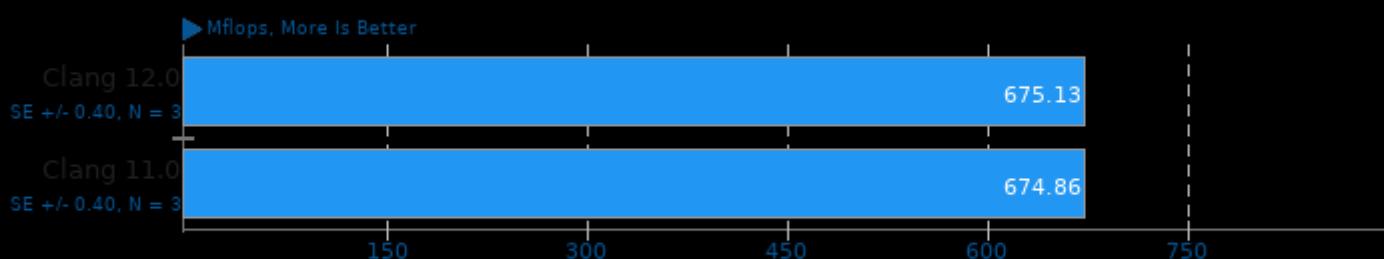
Computational Test: Composite



1. (CC) gcc options: -O3 -march=native -lm

SciMark 2.0

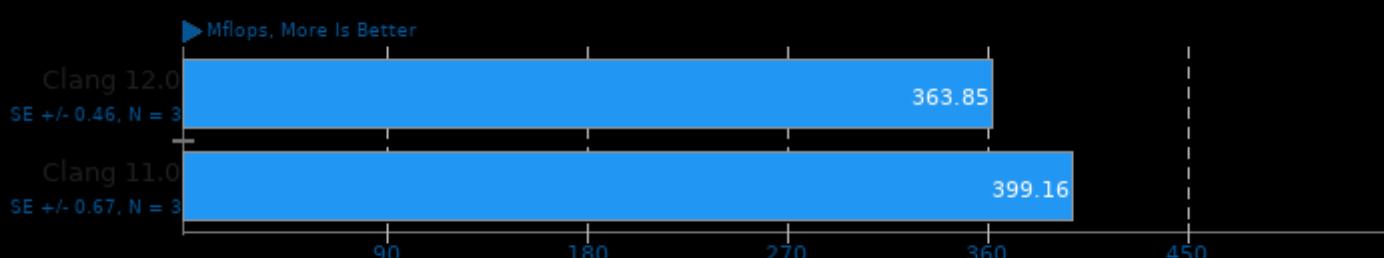
Computational Test: Monte Carlo



1. (CC) gcc options: -O3 -march=native -lm

SciMark 2.0

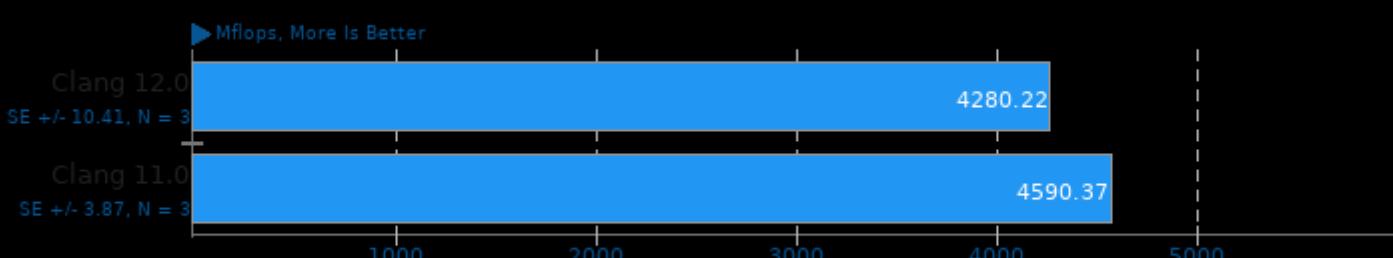
Computational Test: Fast Fourier Transform



1. (CC) gcc options: -O3 -march=native -lm

SciMark 2.0

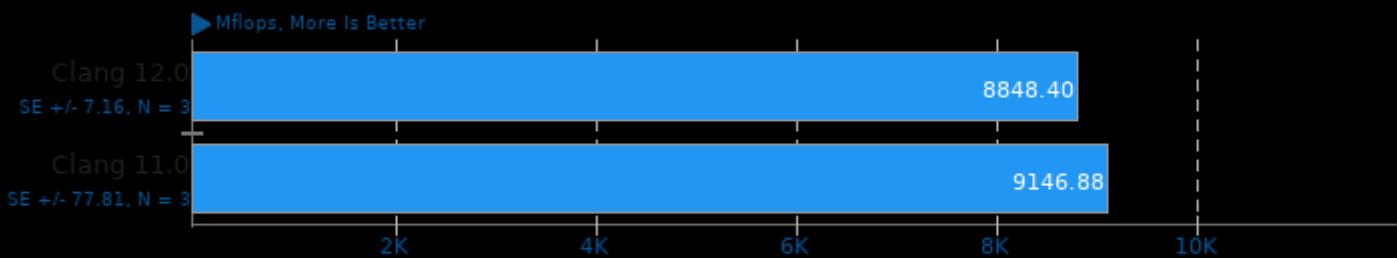
Computational Test: Sparse Matrix Multiply



1. (CC) gcc options: -O3 -march=native -lm

SciMark 2.0

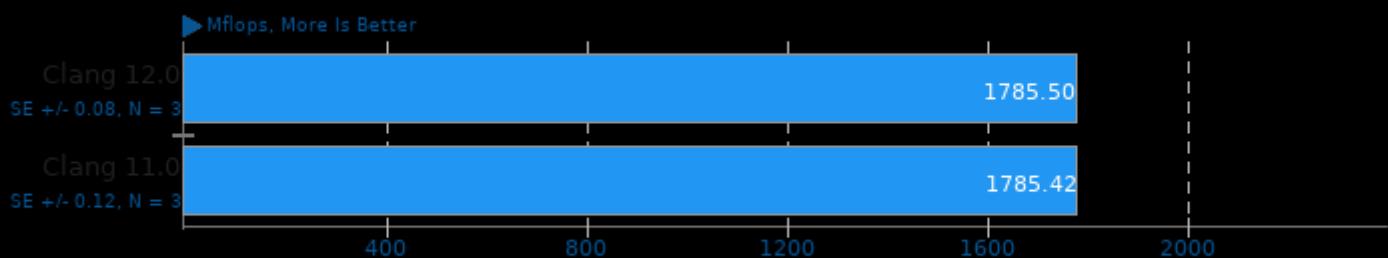
Computational Test: Dense LU Matrix Factorization



1. (CC) gcc options: -O3 -march=native -lm

SciMark 2.0

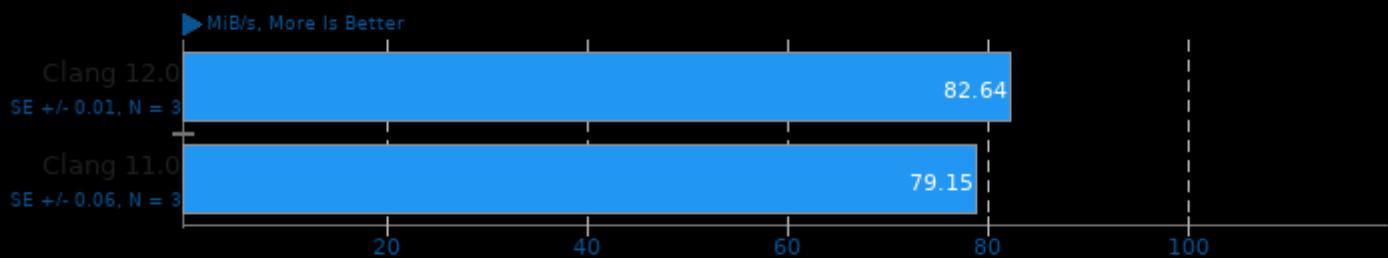
Computational Test: Jacobi Successive Over-Relaxation



1. (CC) gcc options: -O3 -march=native -lm

Botan 2.17.3

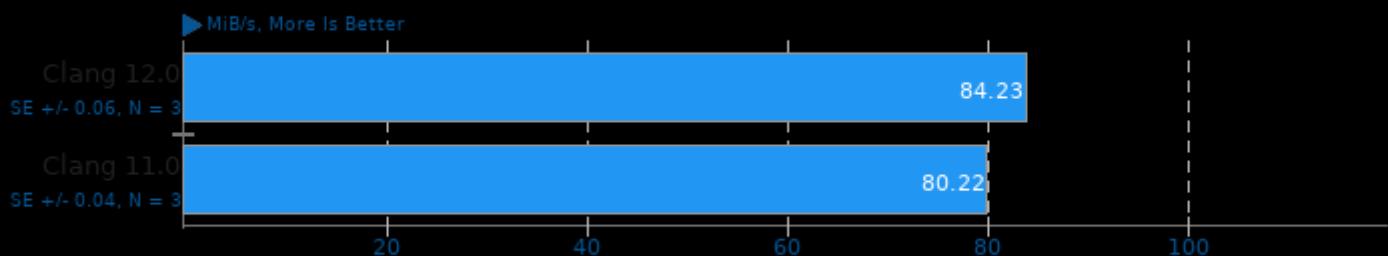
Test: KASUMI



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

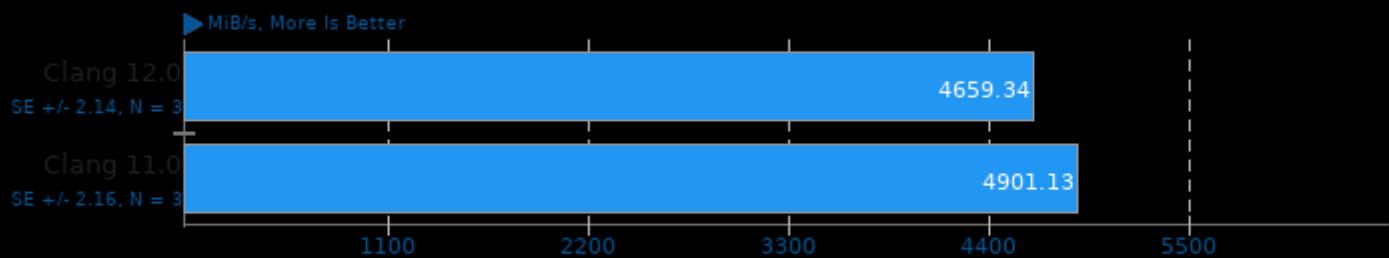
Test: KASUMI - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

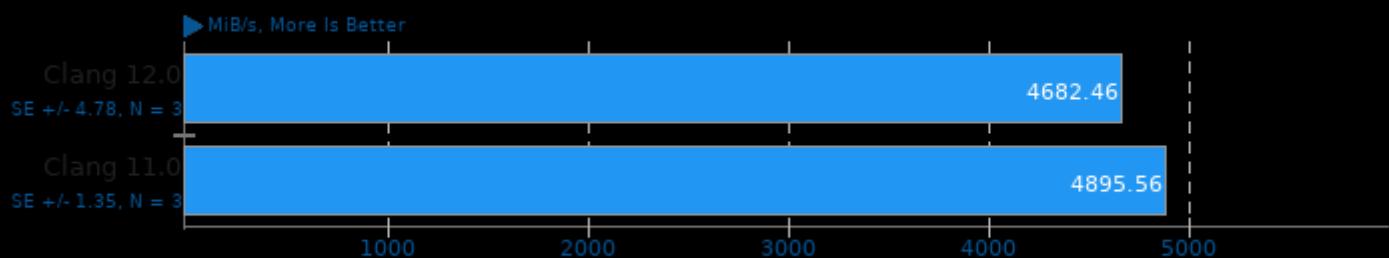
Test: AES-256



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

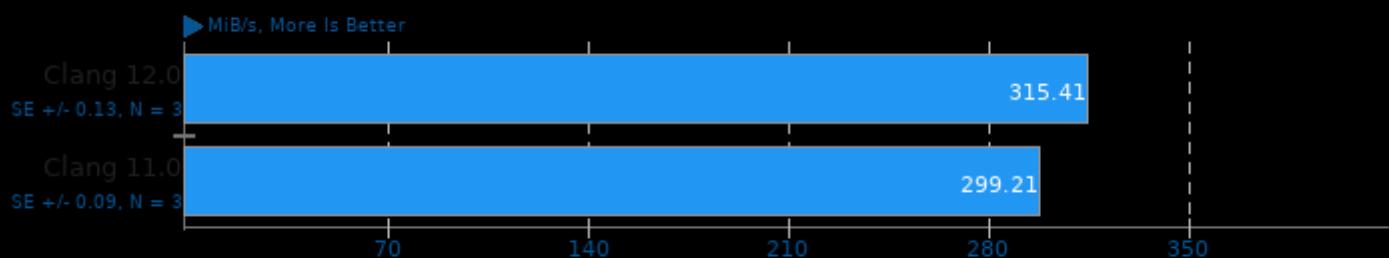
Test: AES-256 - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

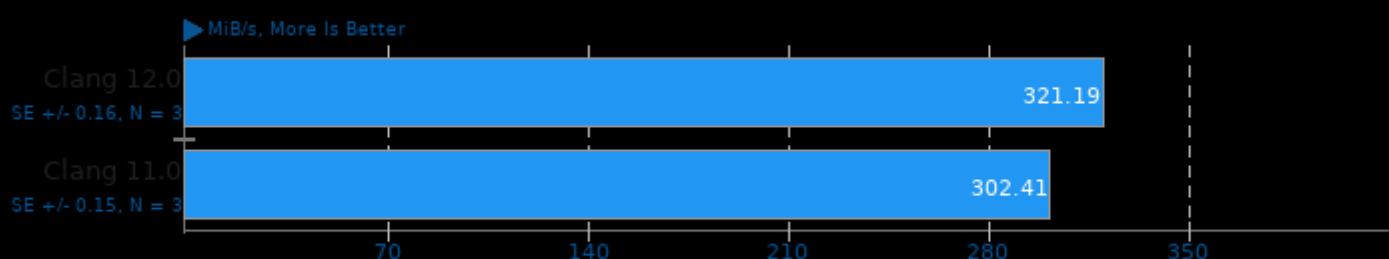
Test: Twofish



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

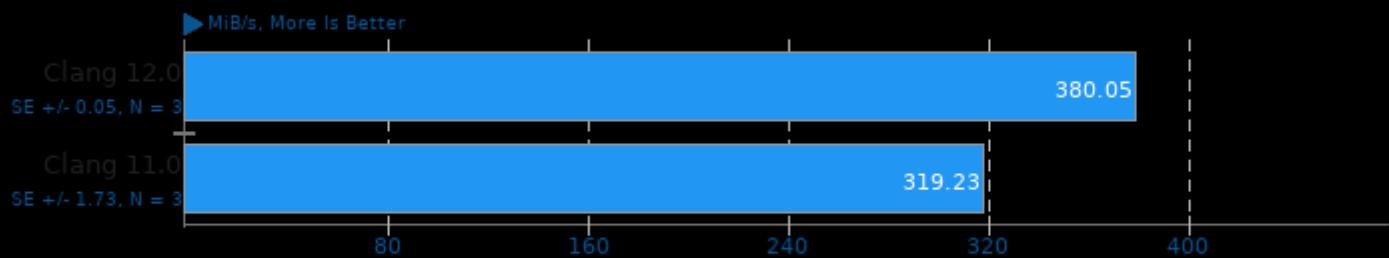
Test: Twofish - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

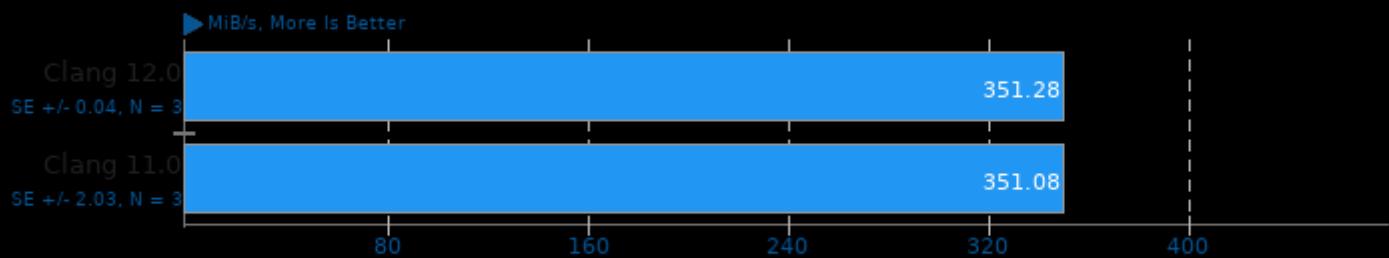
Test: Blowfish



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

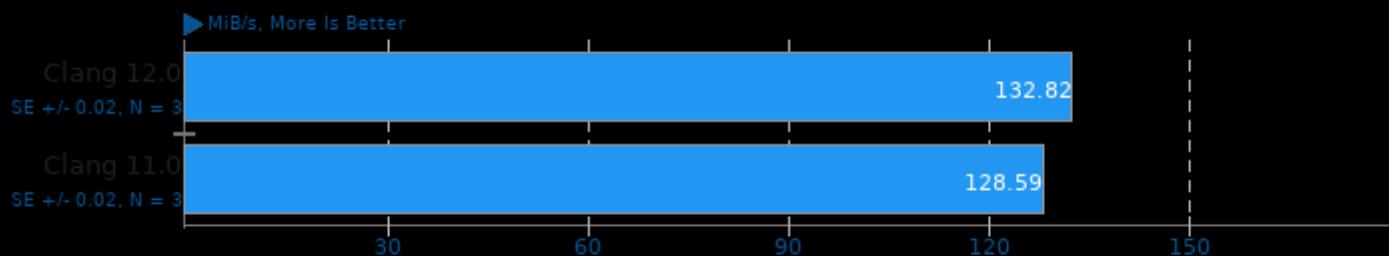
Test: Blowfish - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

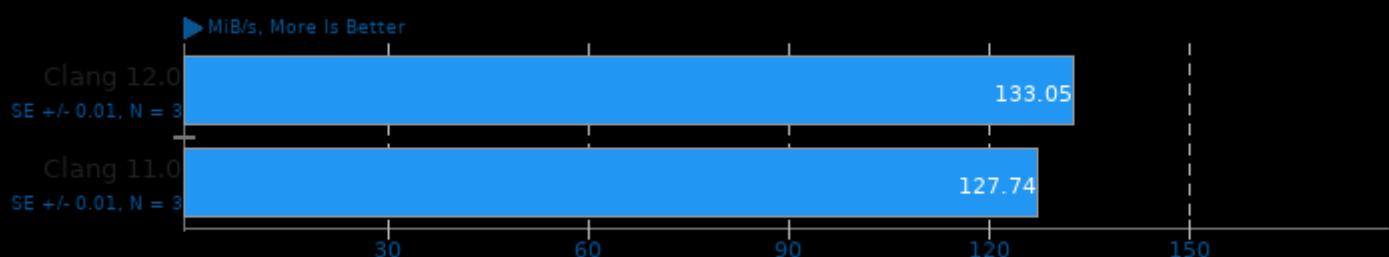
Test: CAST-256



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

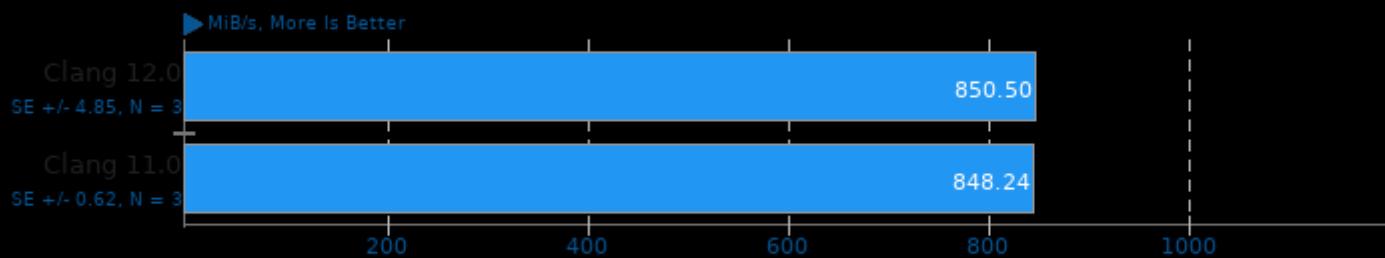
Test: CAST-256 - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

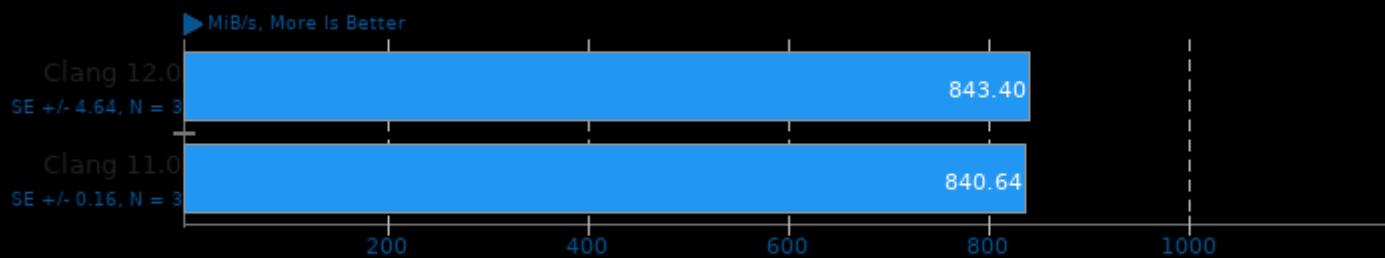
Test: ChaCha20Poly1305



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Botan 2.17.3

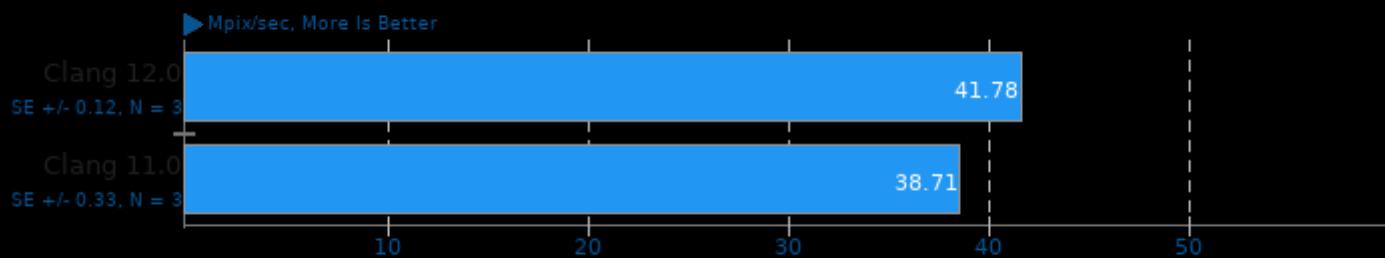
Test: ChaCha20Poly1305 - Decrypt



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

LibRaw 0.20

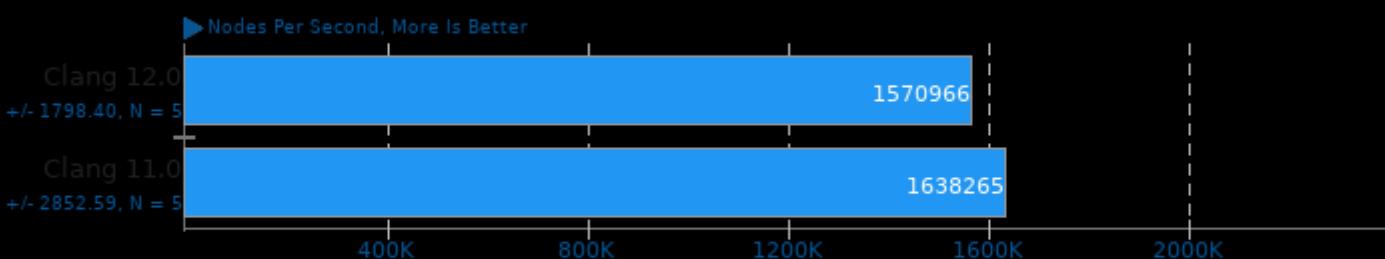
Post-Processing Benchmark



1. (CXX) g++ options: -O3 -march=native -fopenmp -ljpeg -lz -lm

TSCP 1.81

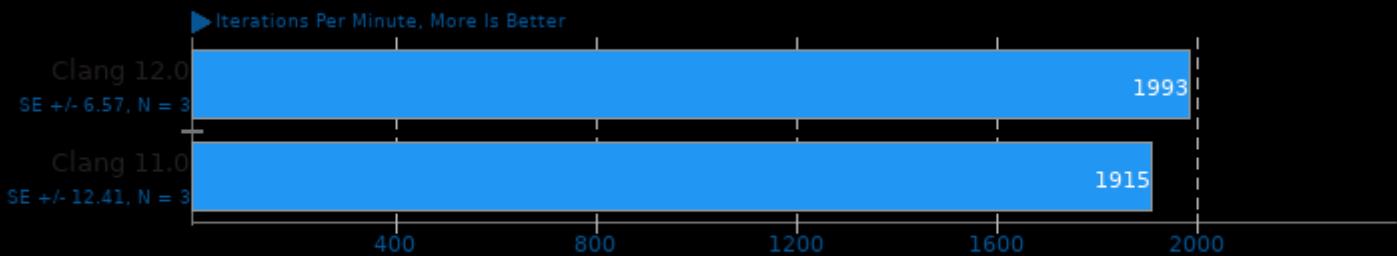
AI Chess Performance



1. (CC) gcc options: -O3 -march=native

GraphicsMagick 1.3.33

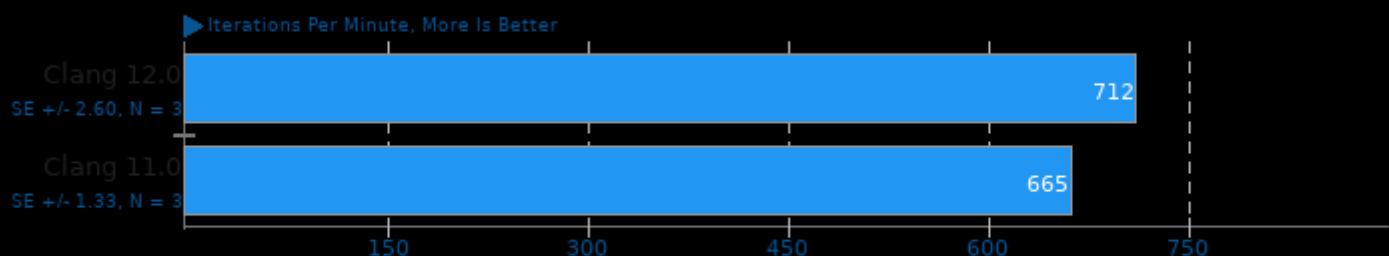
Operation: Swirl



1. (CC) gcc options: -fopenmp -O3 -march=native -pthread -ljbig -lwebp -lwebpmux -ltiff -freetype -ljpeg -lXext -lSM -ICE -lX11 -lZma -lbz2 -lxml2 -lz -lm

GraphicsMagick 1.3.33

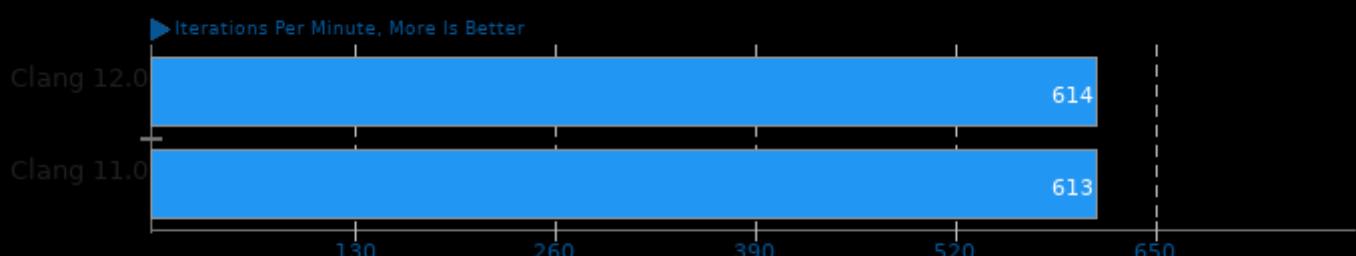
Operation: Rotate



1. (CC) gcc options: -fopenmp -O3 -march=native -pthread -ljbig -lwebp -lwebpmux -ltiff -freetype -ljpeg -lXext -lSM -ICE -lX11 -lZma -lbz2 -lxml2 -lz -lm

GraphicsMagick 1.3.33

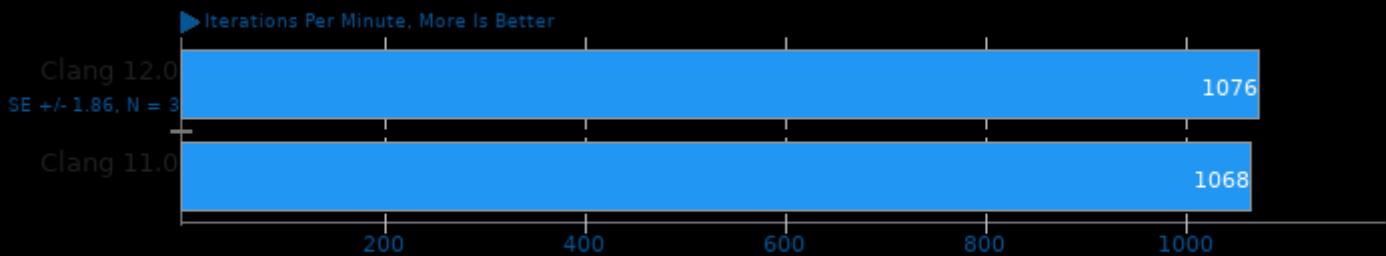
Operation: Sharpen



1. (CC) gcc options: -fopenmp -O3 -march=native -pthread -ljbig -lwebp -lwebpmux -ltiff -freetype -ljpeg -lXext -lSM -ICE -lX11 -lZma -lbz2 -lxml2 -lz -lm

GraphicsMagick 1.3.33

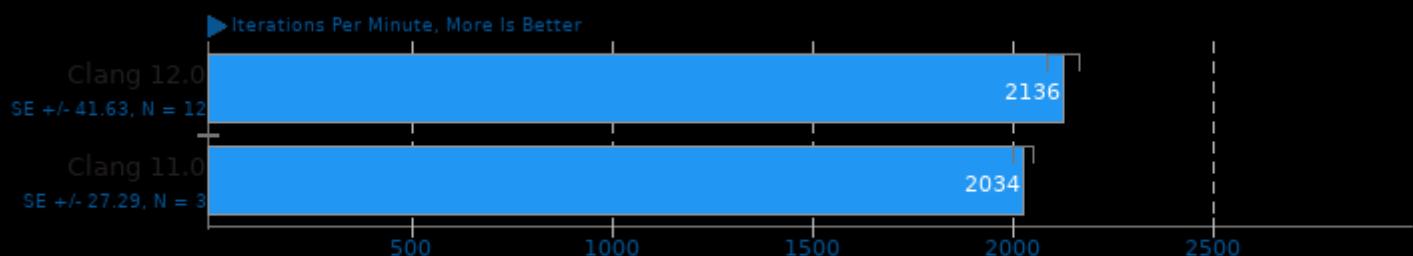
Operation: Enhanced



1. (CC) gcc options: -fopenmp -O3 -march=native -pthread -ljbig -lwebp -lwebpmux -ltiff -freetype -ljpeg -lXext -lSM -ICE -lX11 -lZma -lbz2 -lxml2 -lz -lm

GraphicsMagick 1.3.33

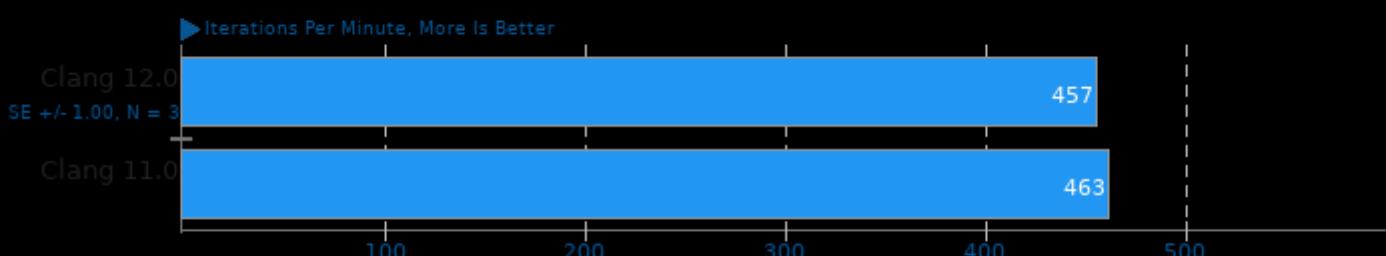
Operation: Resizing



1. (CC) gcc options: -fopenmp -O3 -march=native -pthread -ljbig -lwebp -lwebpmux -ltiff -freetype -ljpeg -lXext -lSM -ICE -lX11 -lZma -lbz2 -lxml2 -lz -lm

GraphicsMagick 1.3.33

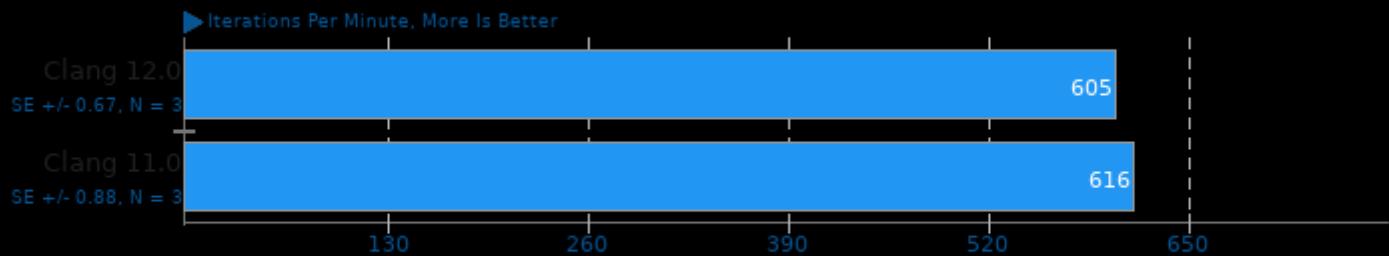
Operation: Noise-Gaussian



1. (CC) gcc options: -fopenmp -O3 -march=native -pthread -ljbig -lwebp -lwebpmux -ltiff -freetype -ljpeg -lXext -lSM -ICE -lX11 -lZma -lbz2 -lxml2 -lz -lm

GraphicsMagick 1.3.33

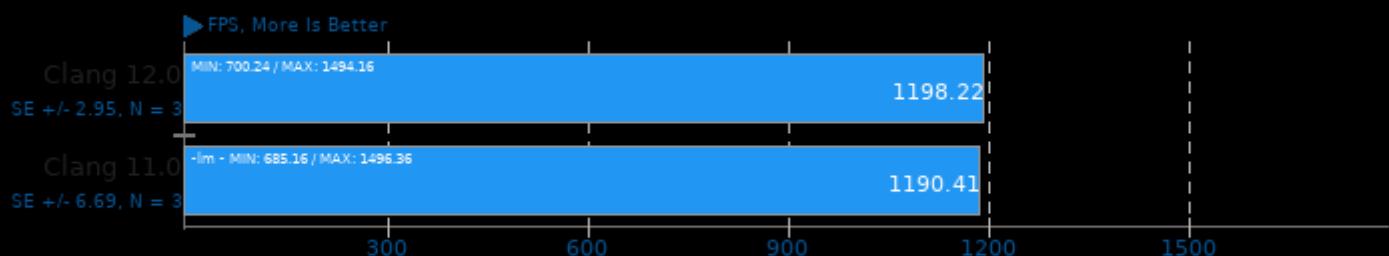
Operation: HWB Color Space



1. (CC) gcc options: -fopenmp -O3 -march=native -pthread -ljbig -lwebp -lwebpmux -ltiff -freetype -ljpeg -lXext -lSM -ICE -lX11 -lxml -lbz2 -lxml2 -lz -lm

dav1d 0.8.2

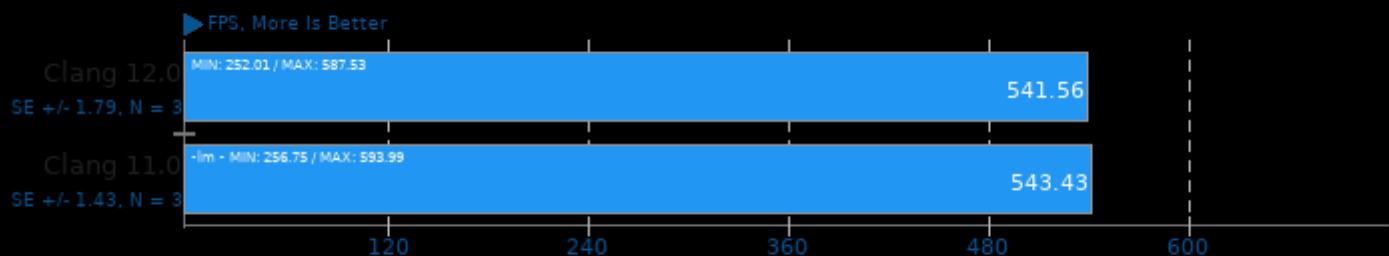
Video Input: Chimera 1080p



1. (CC) gcc options: -O3 -march=native -pthread

dav1d 0.8.2

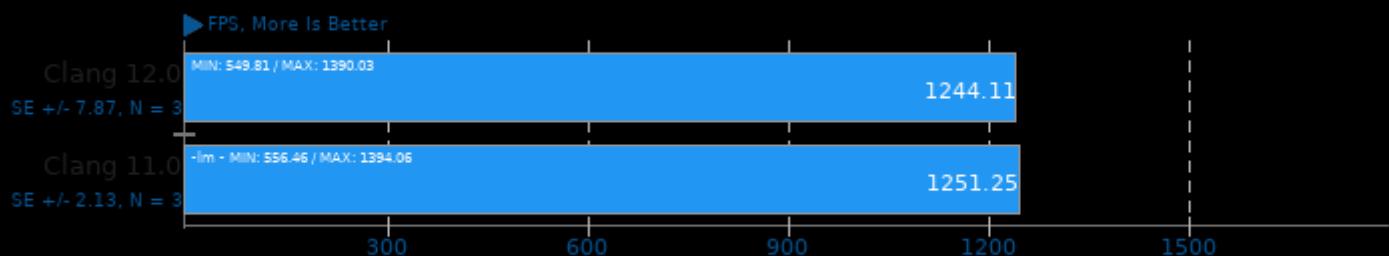
Video Input: Summer Nature 4K



1. (CC) gcc options: -O3 -march=native -pthread

dav1d 0.8.2

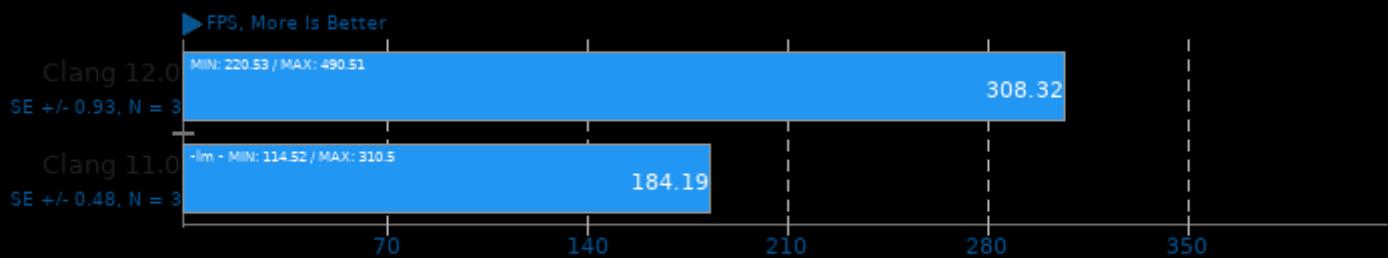
Video Input: Summer Nature 1080p



1. (CC) gcc options: -O3 -march=native -pthread

dav1d 0.8.2

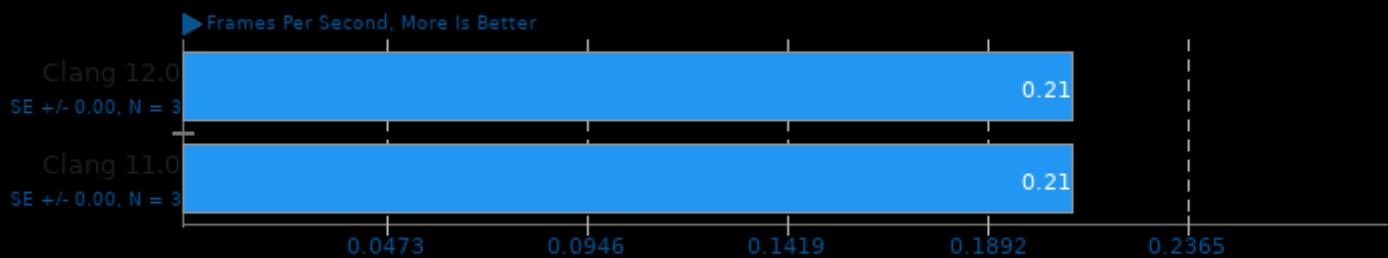
Video Input: Chimera 1080p 10-bit



1. (CC) gcc options: -O3 -march=native -pthread

AOM AV1 3.0

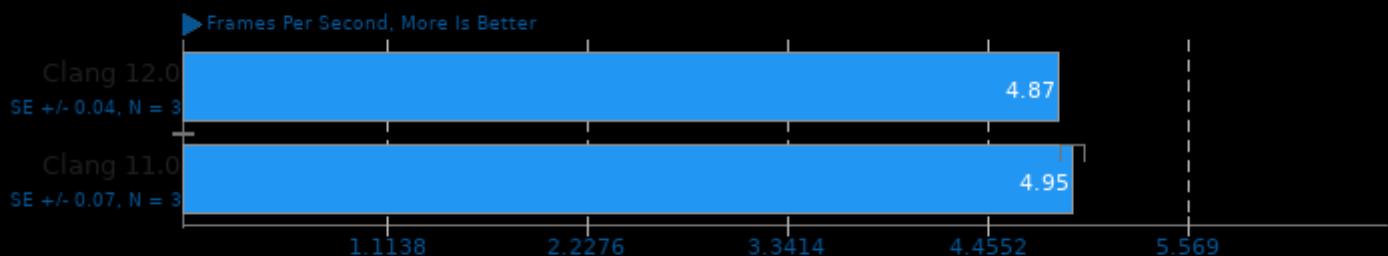
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -fim -pthread

AOM AV1 3.0

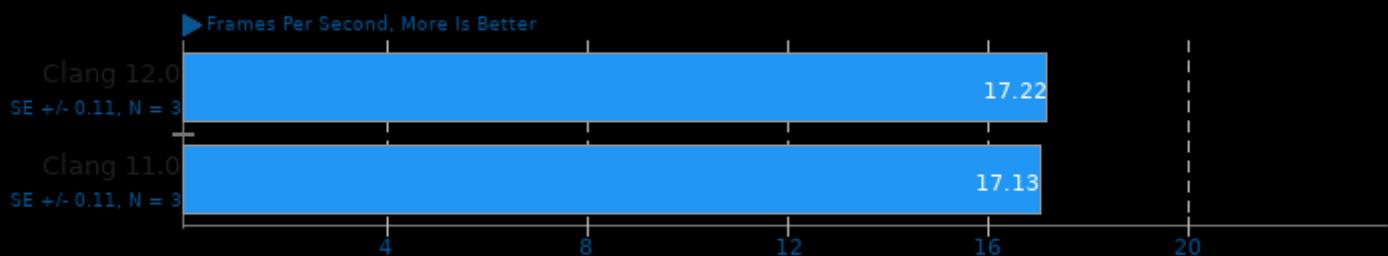
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -fim -pthread

AOM AV1 3.0

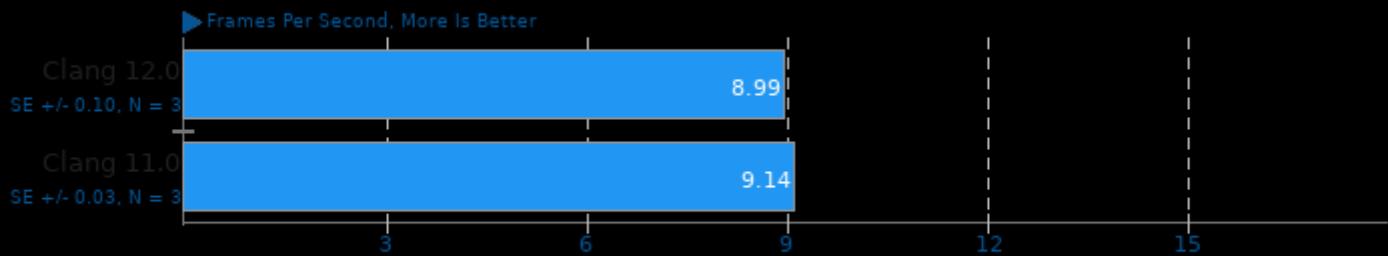
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -fim -pthread

AOM AV1 3.0

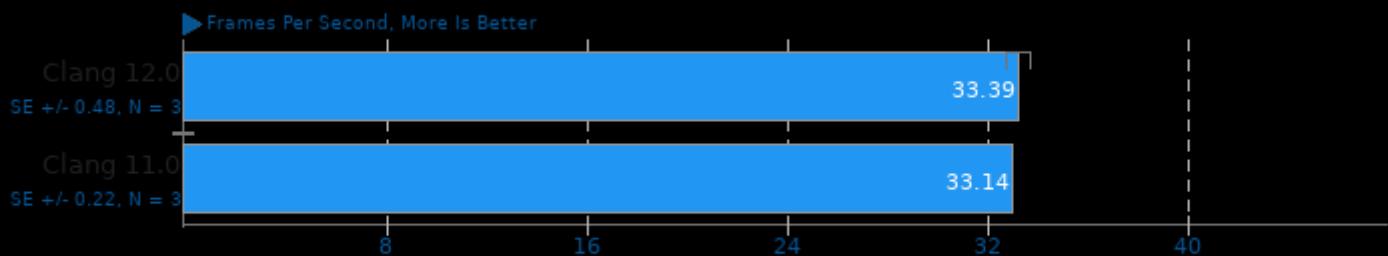
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.0

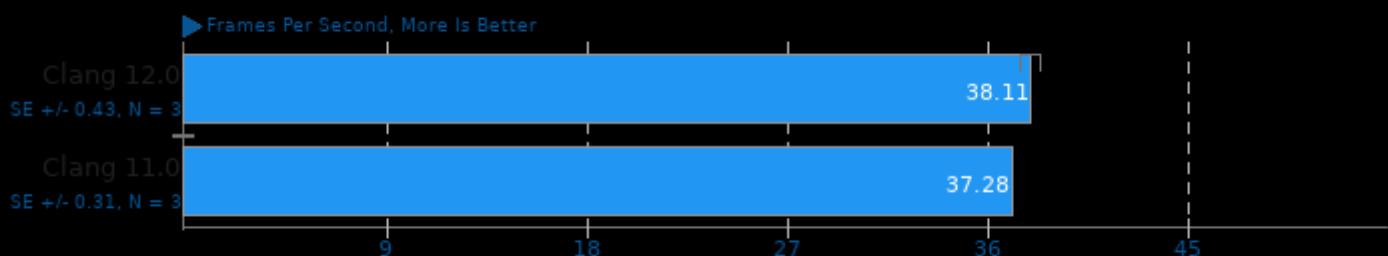
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.0

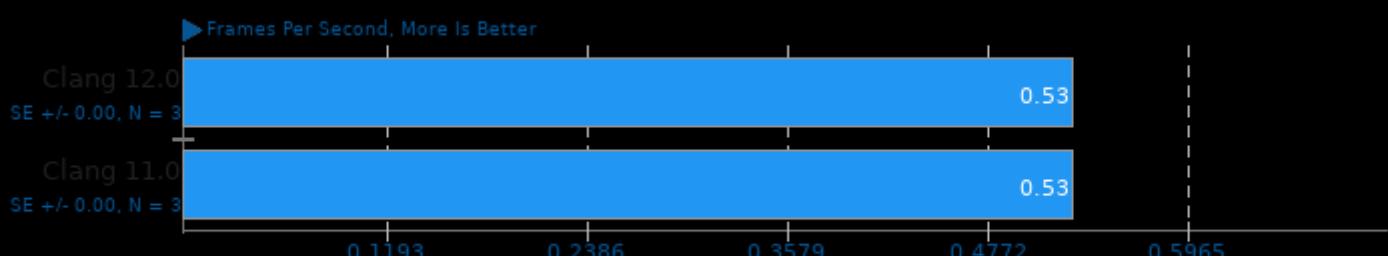
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.0

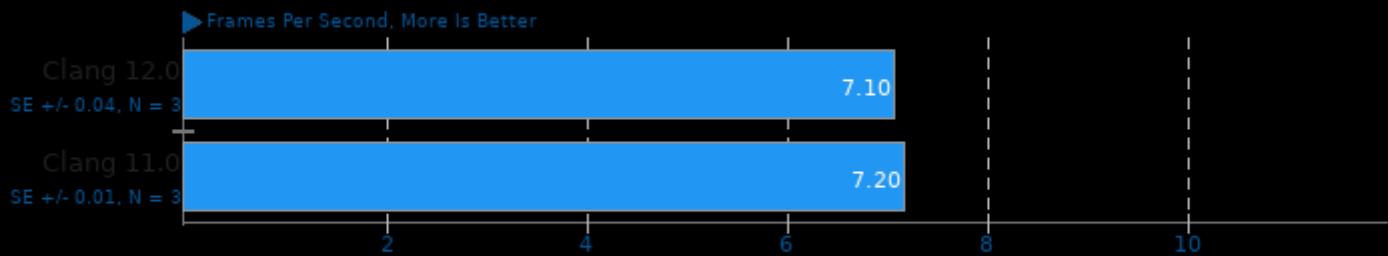
Encoder Mode: Speed 0 Two-Pass - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.0

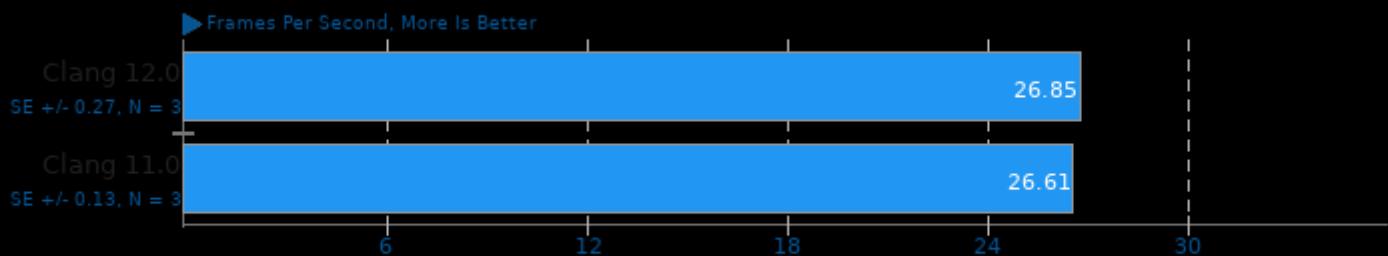
Encoder Mode: Speed 4 Two-Pass - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.0

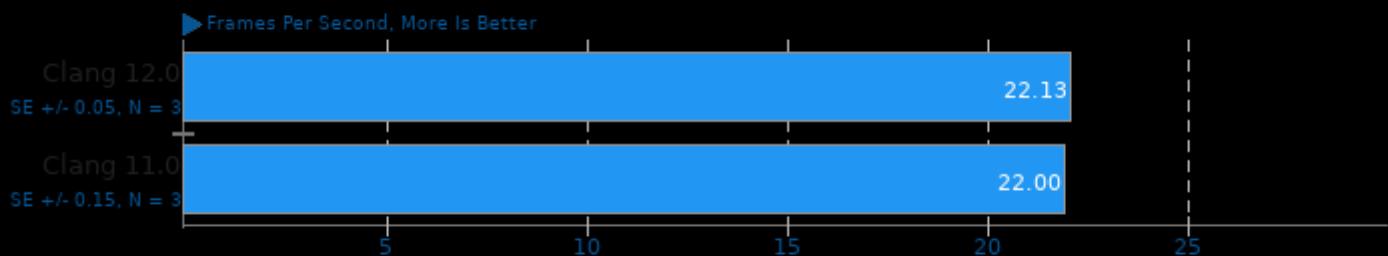
Encoder Mode: Speed 6 Realtime - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.0

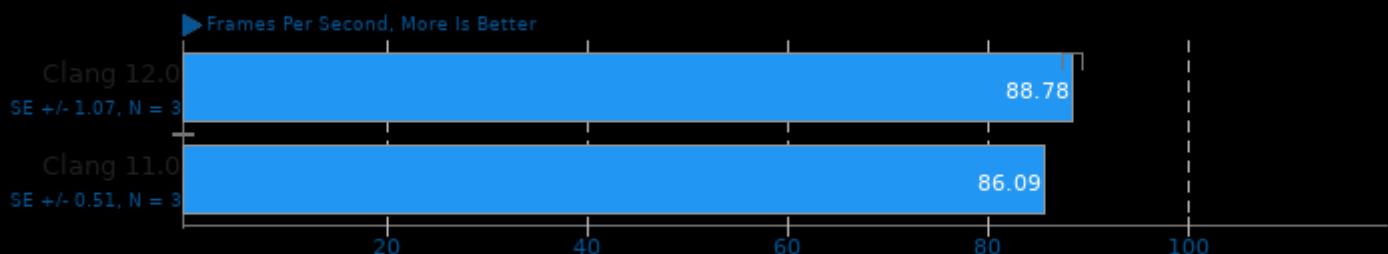
Encoder Mode: Speed 6 Two-Pass - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.0

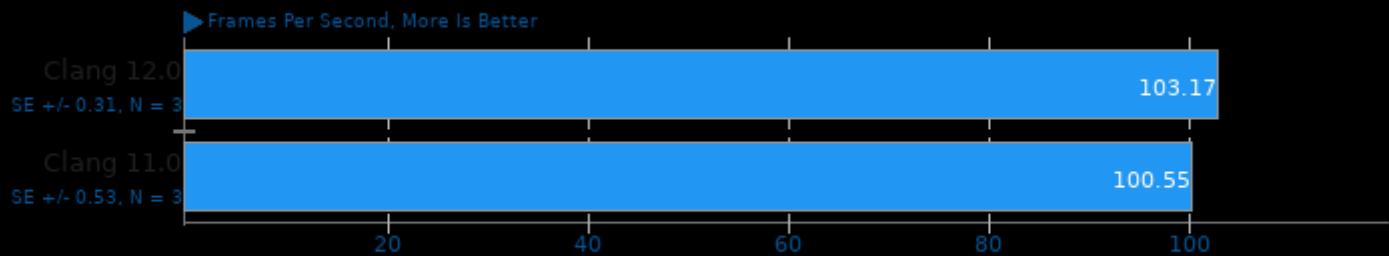
Encoder Mode: Speed 8 Realtime - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

AOM AV1 3.0

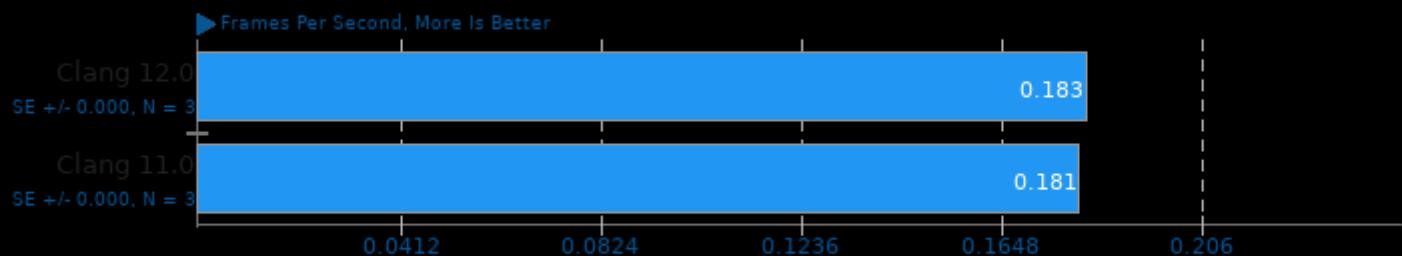
Encoder Mode: Speed 9 Realtime - Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -march=native -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

SVT-AV1 0.8

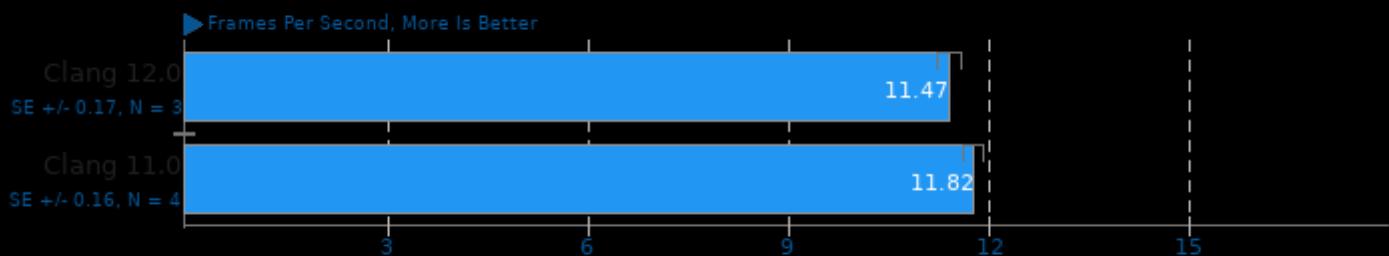
Encoder Mode: Enc Mode 0 - Input: 1080p



1. (CXX) g++ options: -O3 -fcommon -fPIE -fPIC -pie

SVT-AV1 0.8

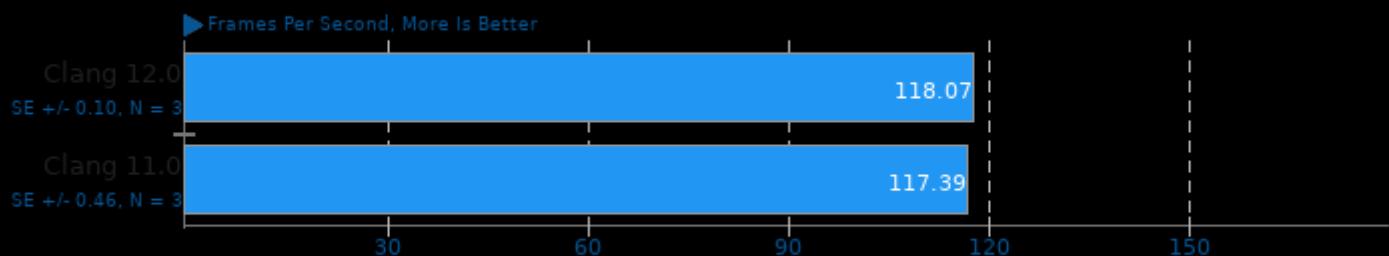
Encoder Mode: Enc Mode 4 - Input: 1080p



1. (CXX) g++ options: -O3 -fcommon -fPIE -fPIC -pie

SVT-AV1 0.8

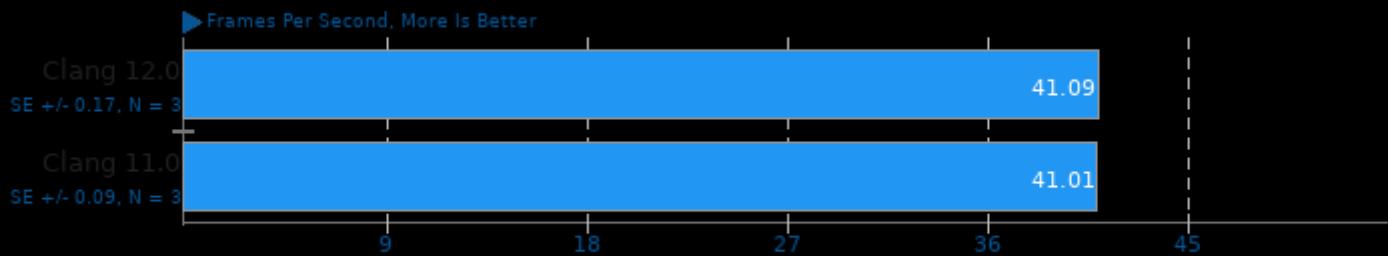
Encoder Mode: Enc Mode 8 - Input: 1080p



1. (CXX) g++ options: -O3 -fcommon -fPIE -fPIC -pie

SVT-HEVC 1.5.0

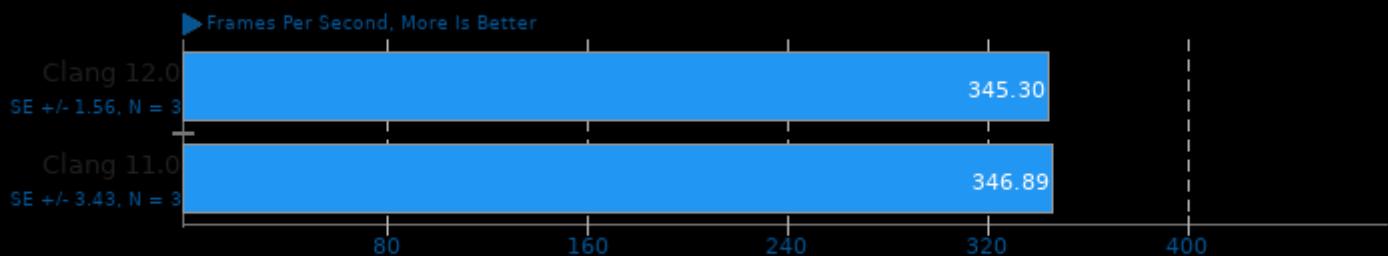
Tuning: 1 - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -march=native -fPIE -fPIC -O2 -pie -rdynamic -lpthread -lrt

SVT-HEVC 1.5.0

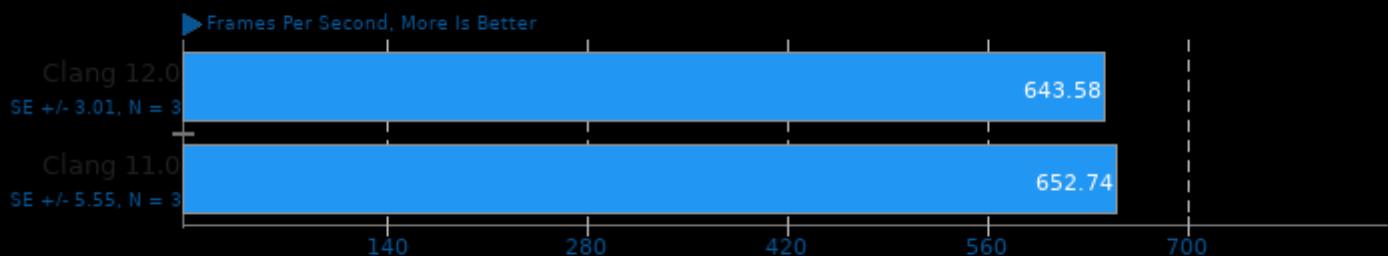
Tuning: 7 - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -march=native -fPIE -fPIC -O2 -pie -rdynamic -lpthread -lrt

SVT-HEVC 1.5.0

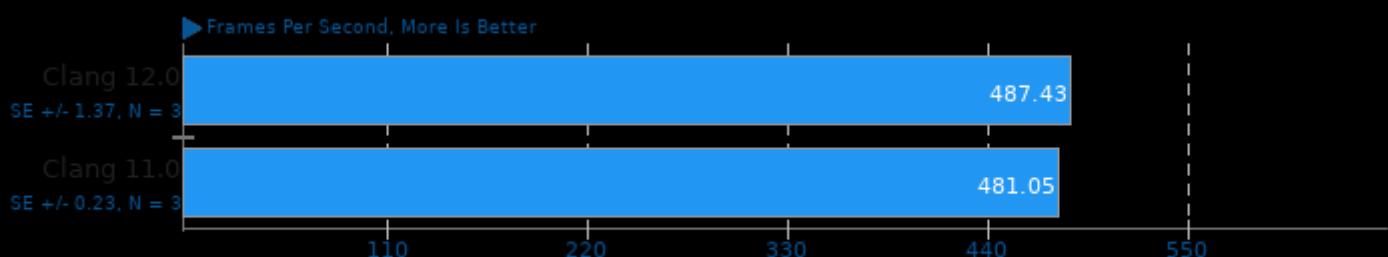
Tuning: 10 - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -march=native -fPIE -fPIC -O2 -pie -rdynamic -lpthread -lrt

SVT-VP9 0.3

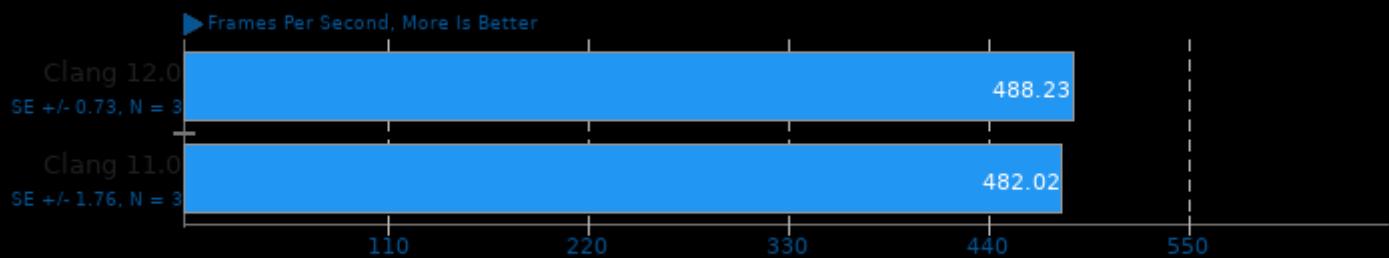
Tuning: VMAF Optimized - Input: Bosphorus 1080p



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

SVT-VP9 0.3

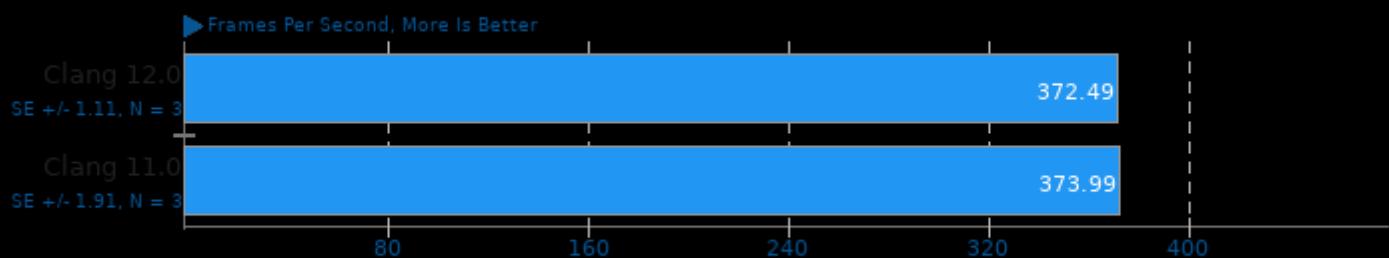
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 1080p



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

SVT-VP9 0.3

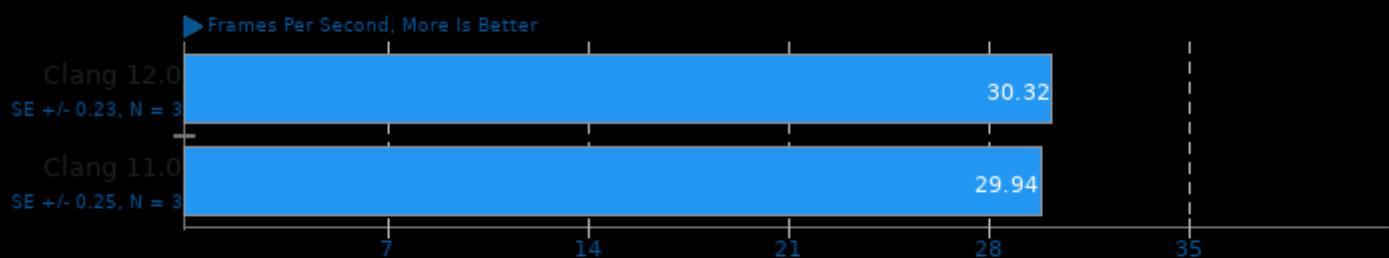
Tuning: Visual Quality Optimized - Input: Bosphorus 1080p



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

x265 3.4

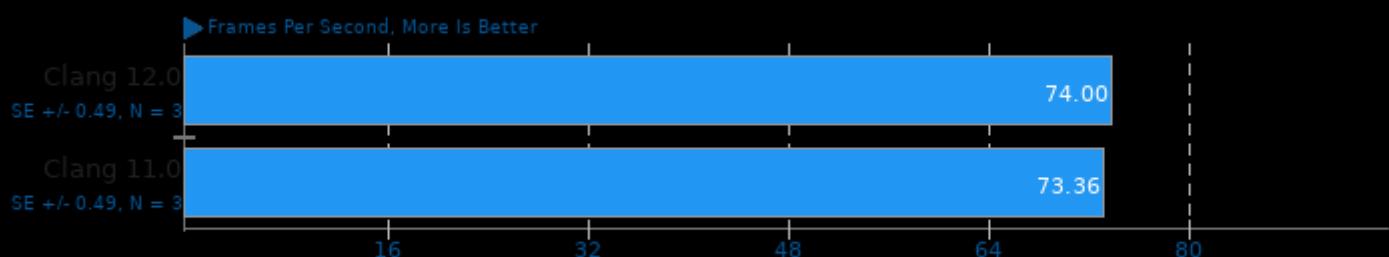
Video Input: Bosphorus 4K



1. (CXX) g++ options: -O3 -march=native -rdynamic -lpthread -lrt -ldl -lnuma

x265 3.4

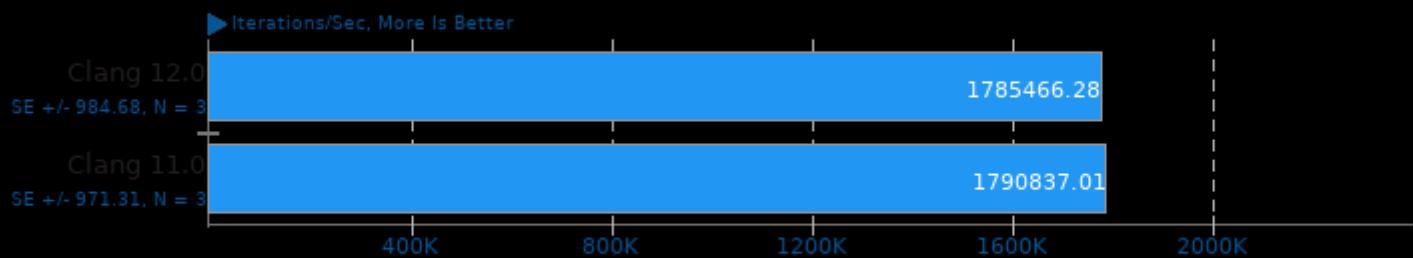
Video Input: Bosphorus 1080p



1. (CXX) g++ options: -O3 -march=native -rdynamic -lpthread -lrt -ldl -lnuma

Coremark 1.0

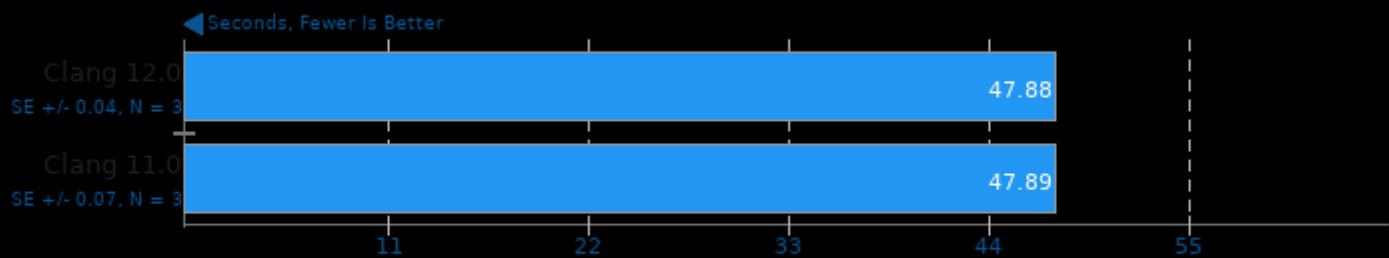
CoreMark Size 666 - Iterations Per Second



1. (CC) gcc options: -O2 -O3 -march=native -fPIE -fRTTI

libavif avifenc 0.9.0

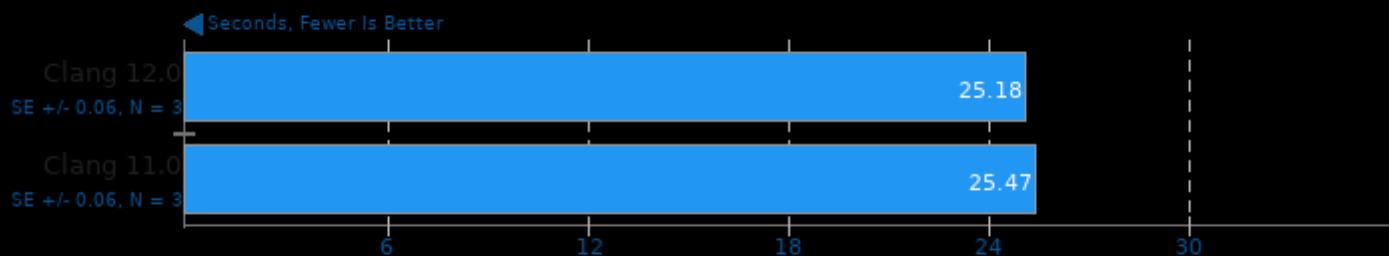
Encoder Speed: 0



1. (CXX) g++ options: -O3 -fPIC -fPIE

libavif avifenc 0.9.0

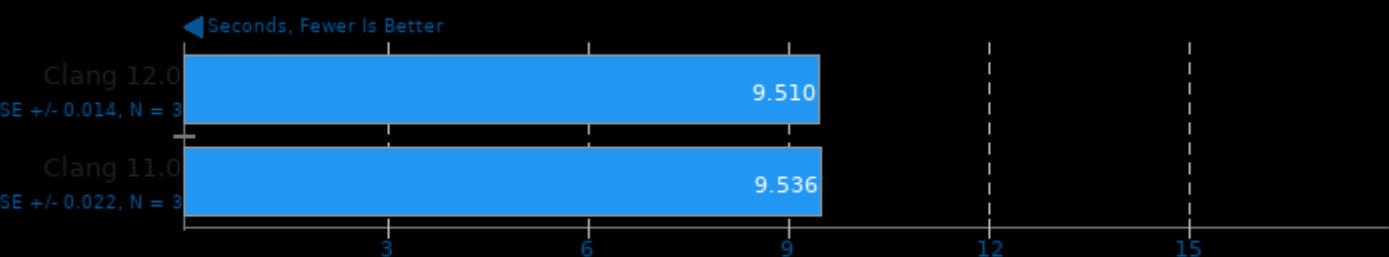
Encoder Speed: 2



1. (CXX) g++ options: -O3 -fPIC -fPIE

libavif avifenc 0.9.0

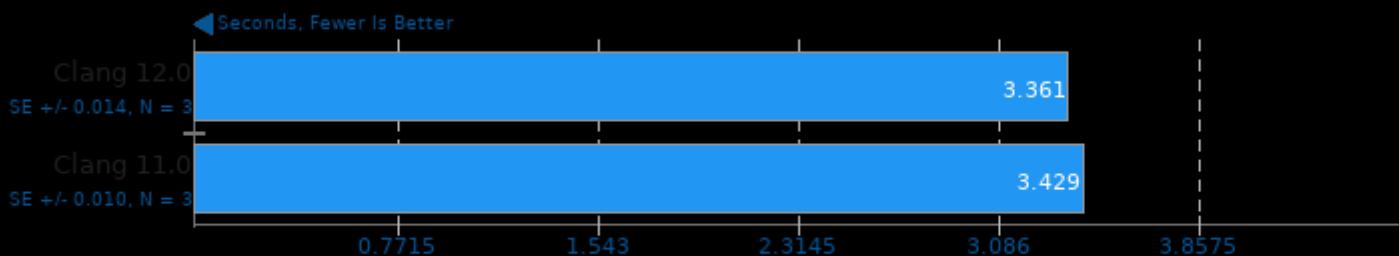
Encoder Speed: 6



1. (CXX) g++ options: -O3 -fPIC -fPIE

libavif avifenc 0.9.0

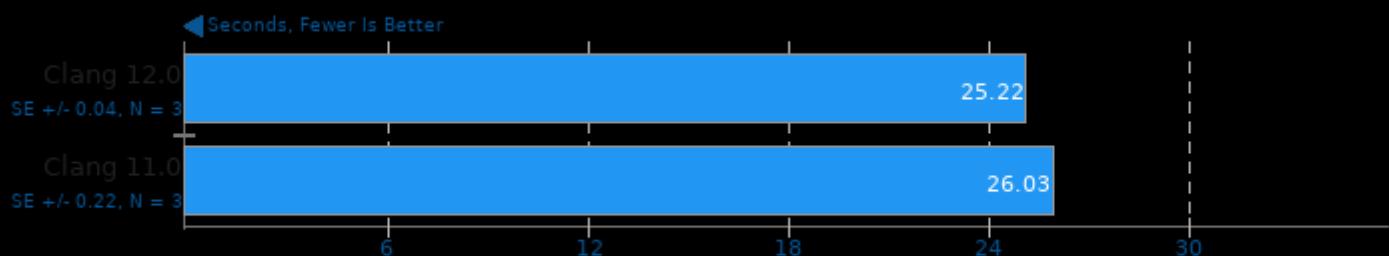
Encoder Speed: 10



1. (CXX) g++ options: -O3 -fPIC -lm

libavif avifenc 0.9.0

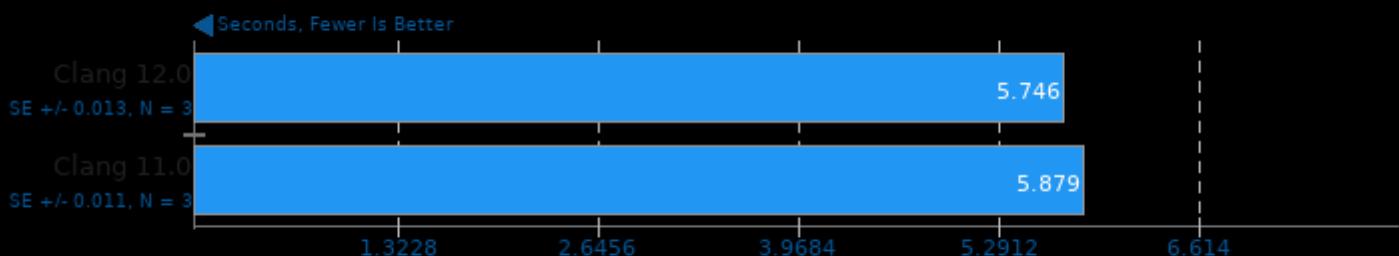
Encoder Speed: 6, Lossless



1. (CXX) g++ options: -O3 -fPIC -lm

libavif avifenc 0.9.0

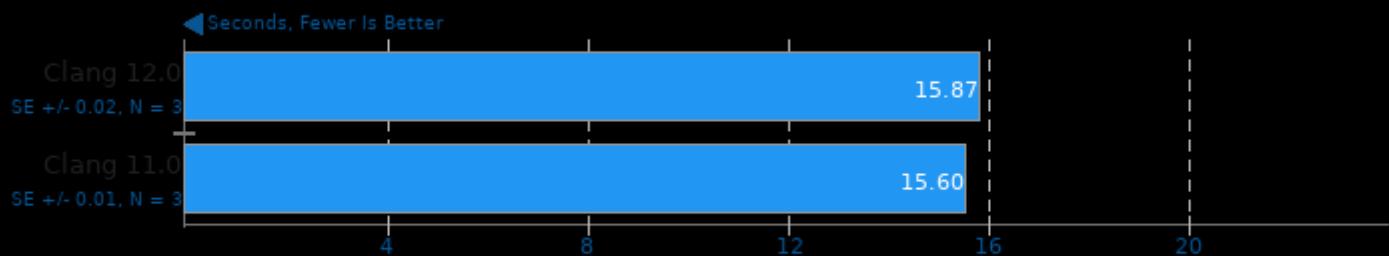
Encoder Speed: 10, Lossless



1. (CXX) g++ options: -O3 -fPIC -lm

C-Ray 1.1

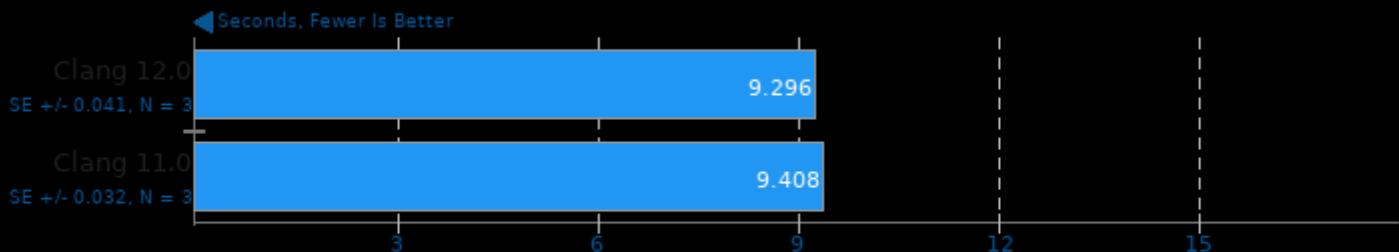
Total Time - 4K, 16 Rays Per Pixel



1. (CC) gcc options: -lm -lpthread -O3 -march=native

POV-Ray 3.7.0.7

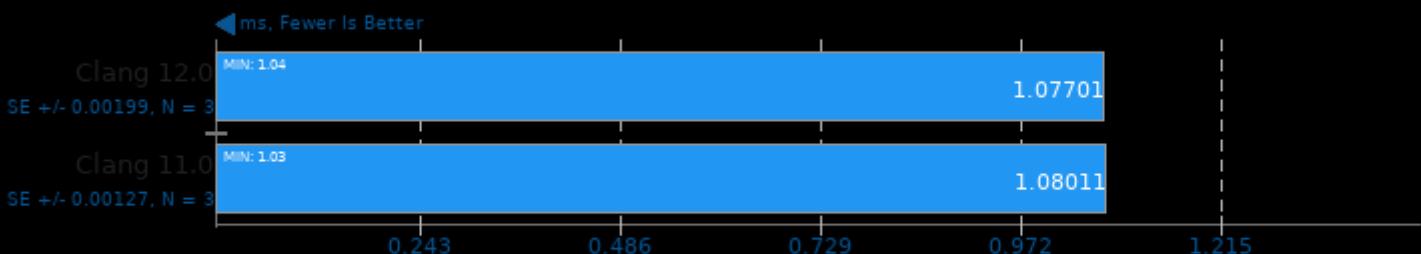
Trace Time



1. (CXX) g++ options: -pipe -O3 -ffast-math -march=native -pthread -lSDL -lXpm -lSM -lICE -lX11 -lXdmmp -lXmath -lHalf -llex -llexMath -lImThread -lpthread

oneDNN 2.1.2

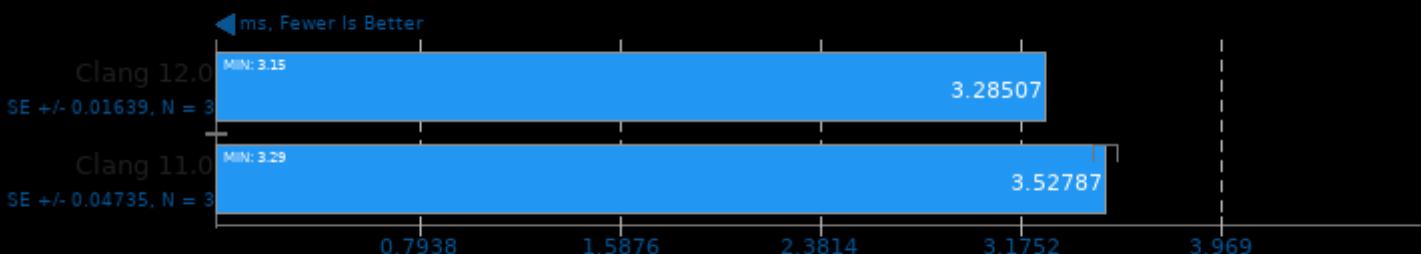
Harness: IP Shapes 1D - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -pthread -ldl

oneDNN 2.1.2

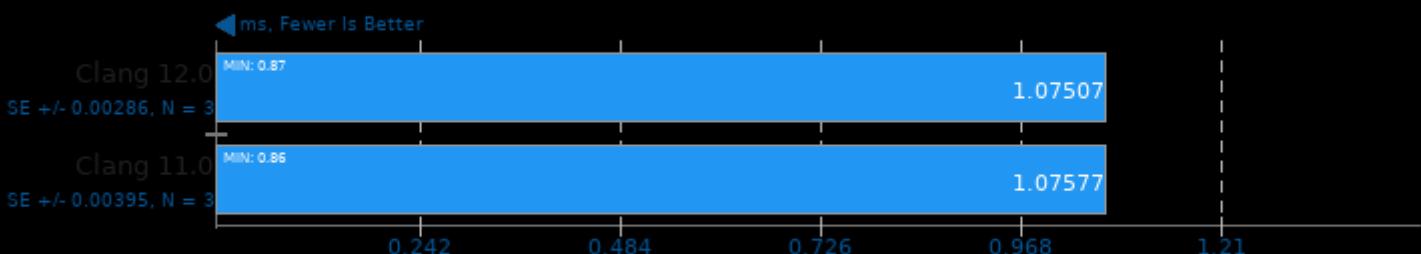
Harness: IP Shapes 3D - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -pthread -ldl

oneDNN 2.1.2

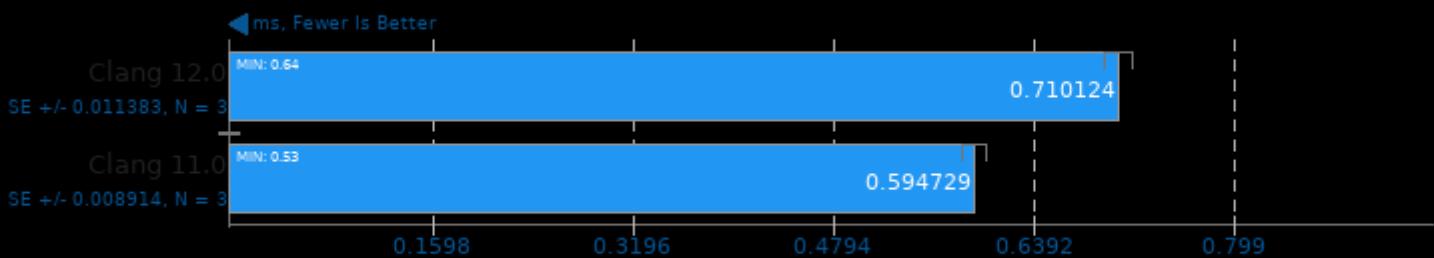
Harness: IP Shapes 1D - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -pthread -ldl

oneDNN 2.1.2

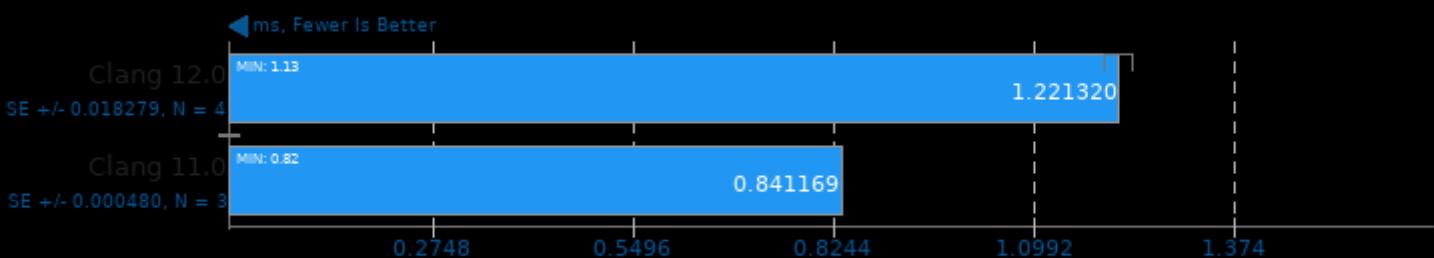
Harness: IP Shapes 3D - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.1.2

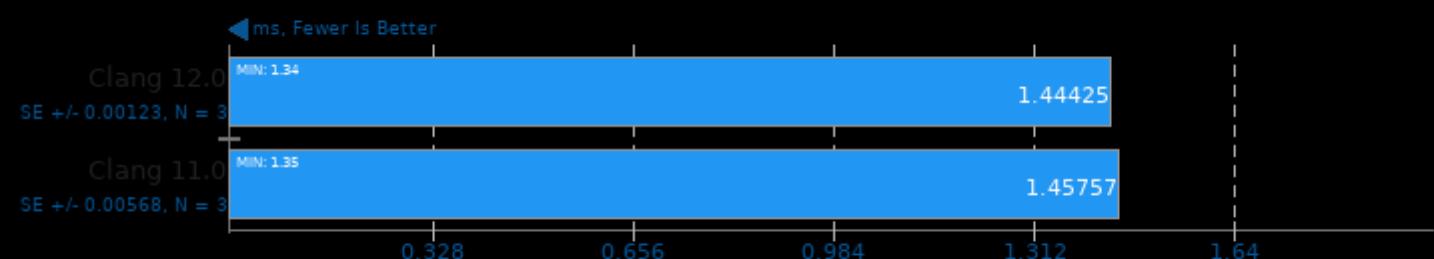
Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.1.2

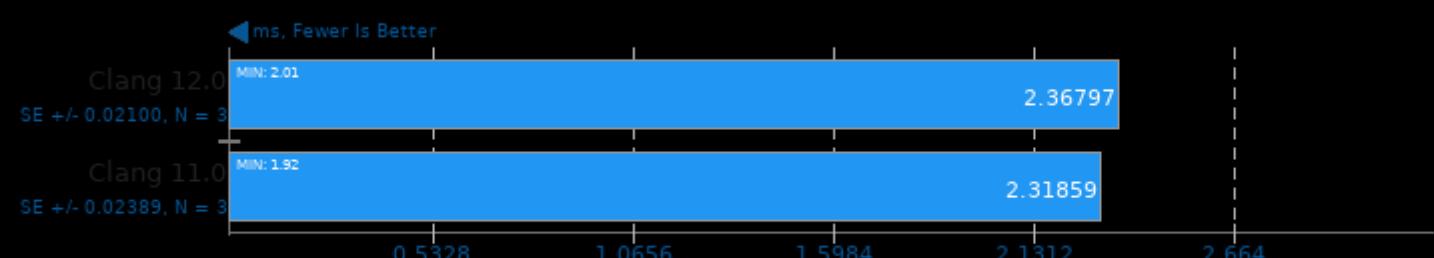
Harness: Deconvolution Batch shapes_1d - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.1.2

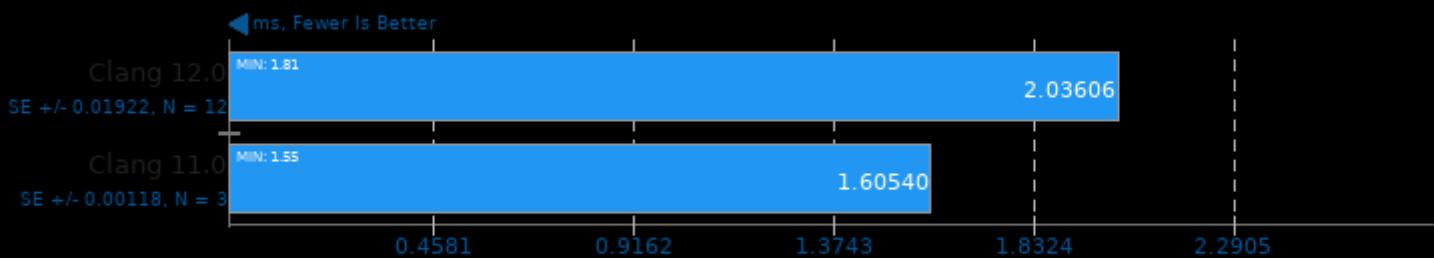
Harness: Deconvolution Batch shapes_3d - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.1.2

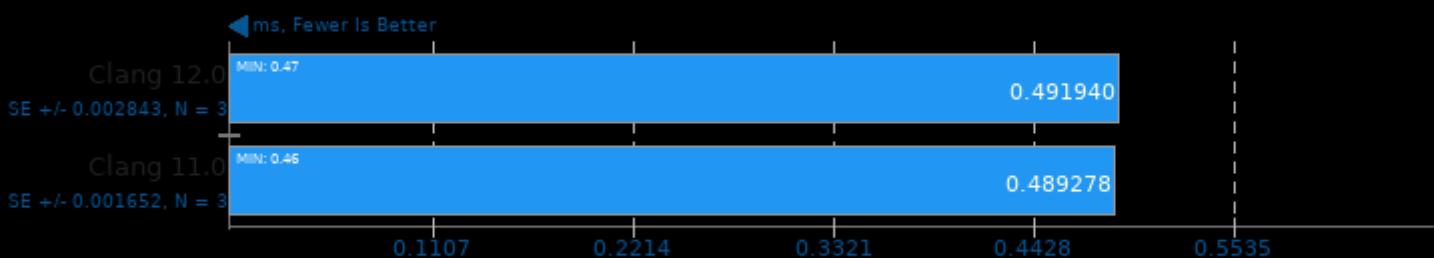
Harness: Convolution Batch Shapes Auto - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.1.2

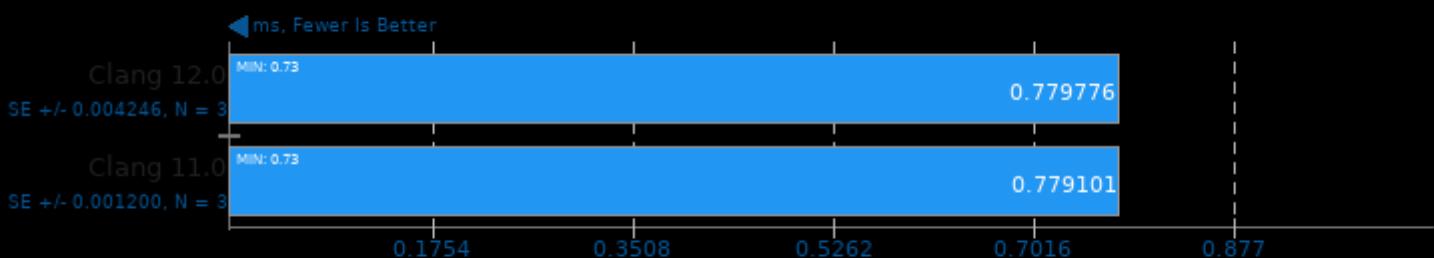
Harness: Deconvolution Batch shapes_1d - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.1.2

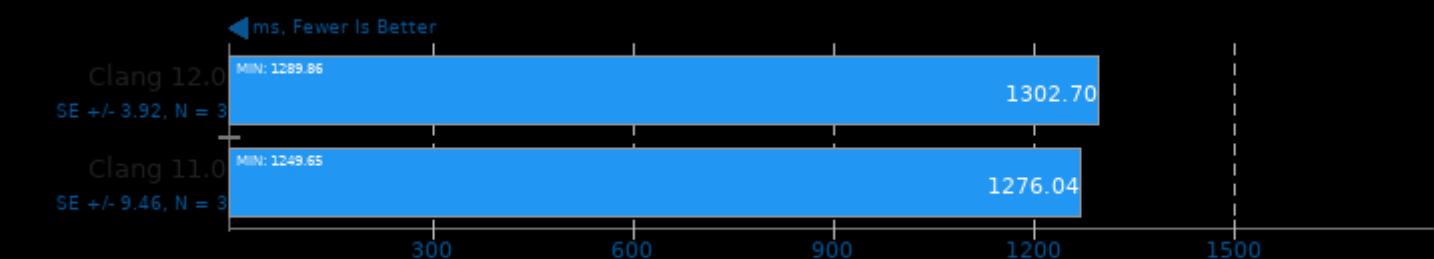
Harness: Deconvolution Batch shapes_3d - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.1.2

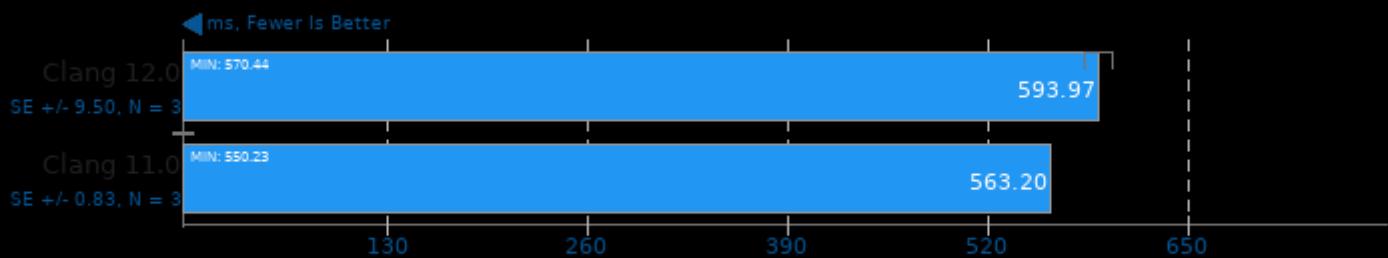
Harness: Recurrent Neural Network Training - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.1.2

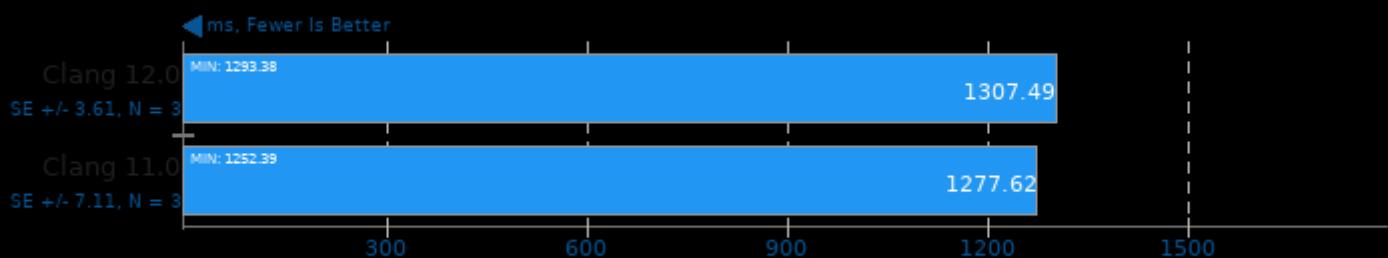
Harness: Recurrent Neural Network Inference - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.1.2

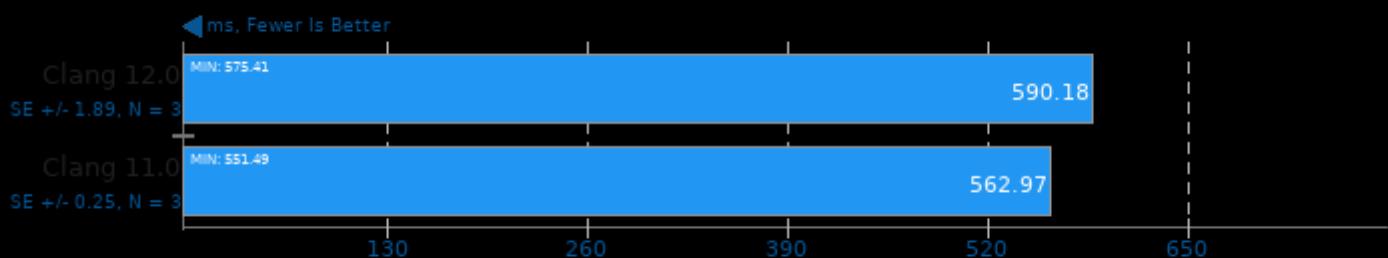
Harness: Recurrent Neural Network Training - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.1.2

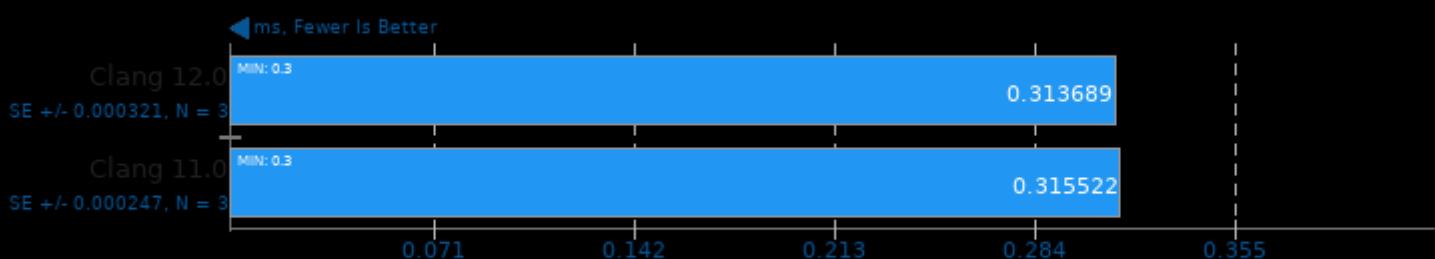
Harness: Recurrent Neural Network Inference - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.1.2

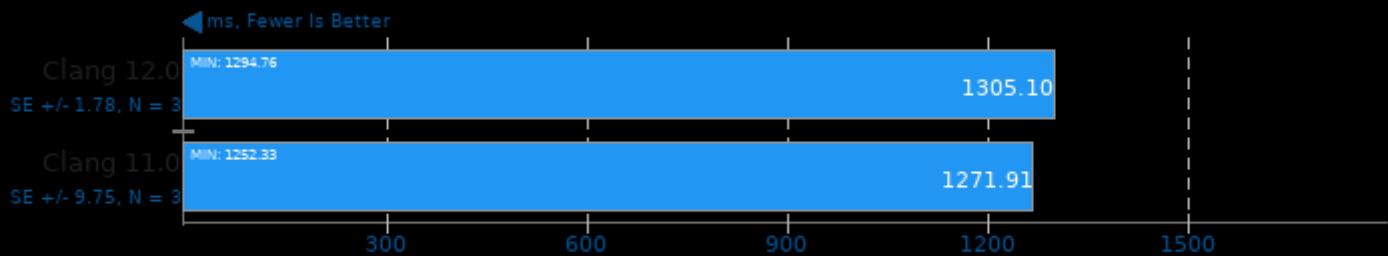
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.1.2

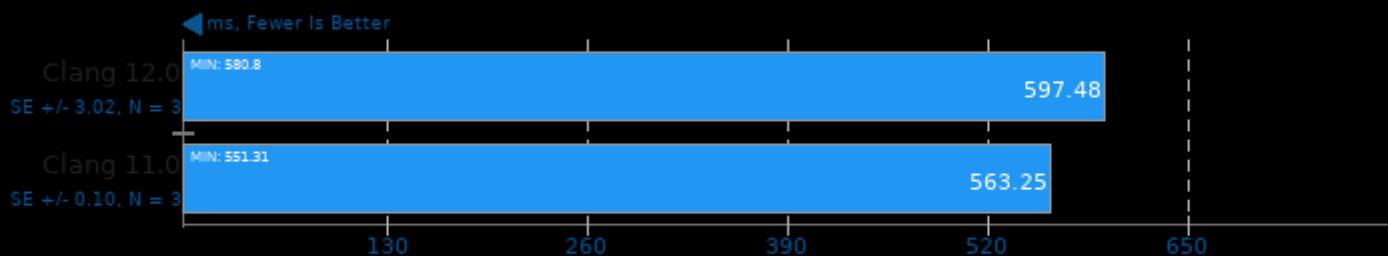
Harness: Recurrent Neural Network Training - Data Type: bf16bf16bf16 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.1.2

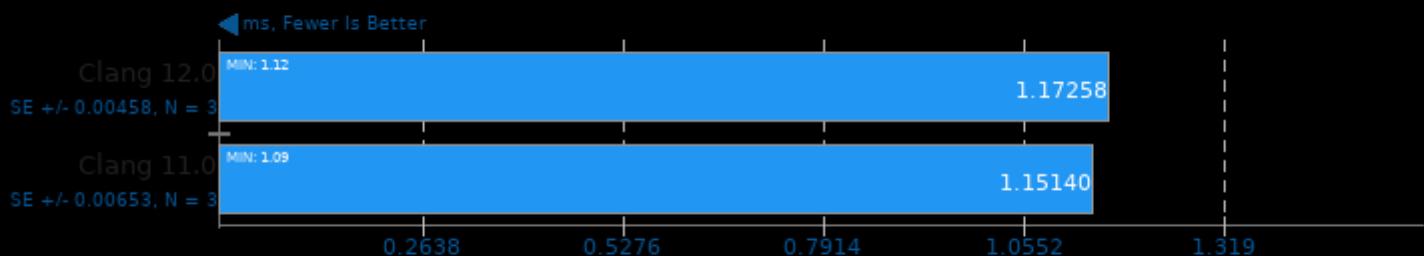
Harness: Recurrent Neural Network Inference - Data Type: bf16bf16bf16 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -lpthread -ldl

oneDNN 2.1.2

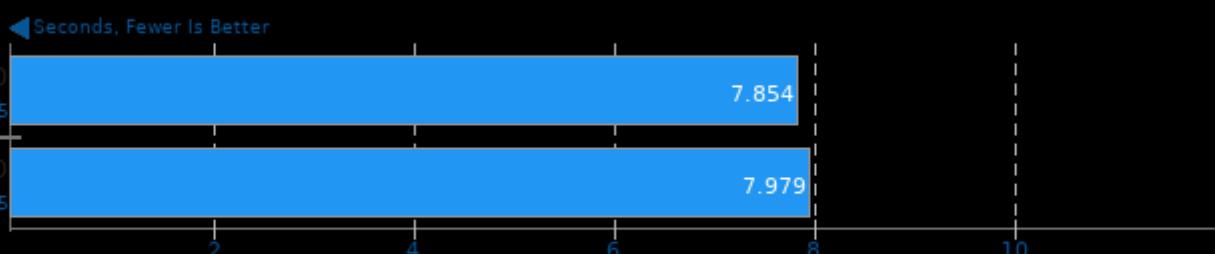
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: u8s8f32 - Engine: CPU



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fopenmp=libomp -msse4.1 -fPIC -pie -lpthread -ldl

FLAC Audio Encoding 1.3.2

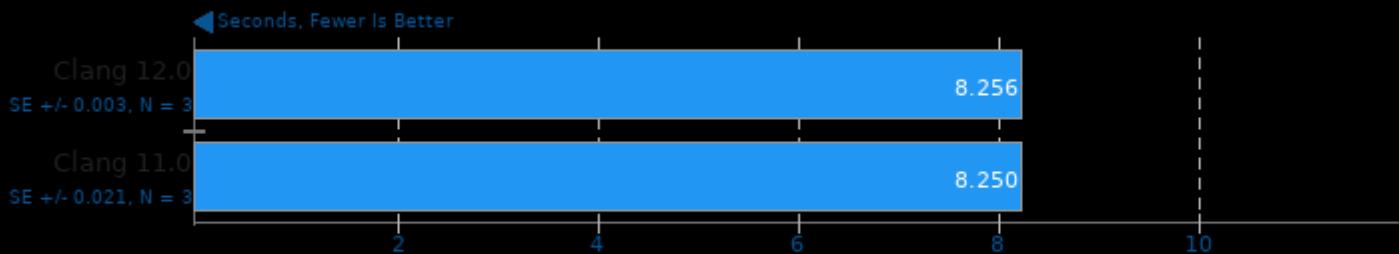
WAV To FLAC



1. (CXX) g++ options: -O3 -march=native -logg -lm

LAME MP3 Encoding 3.100

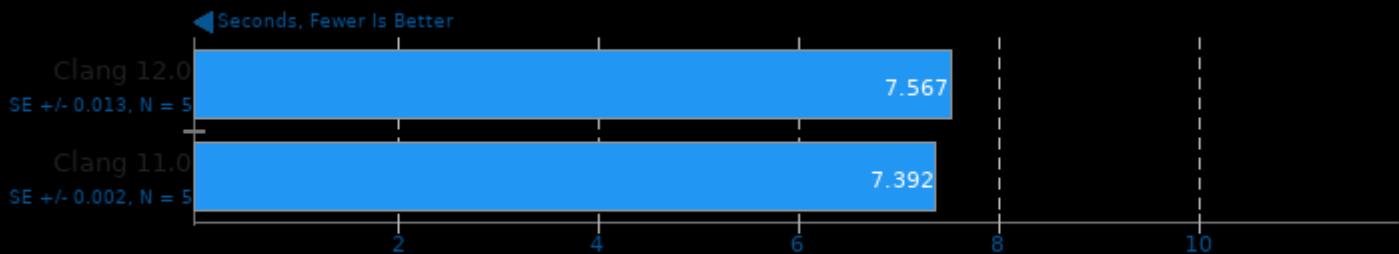
WAV To MP3



1. (CC) gcc options: -O3 -pipe -march=native -fincubate -lm

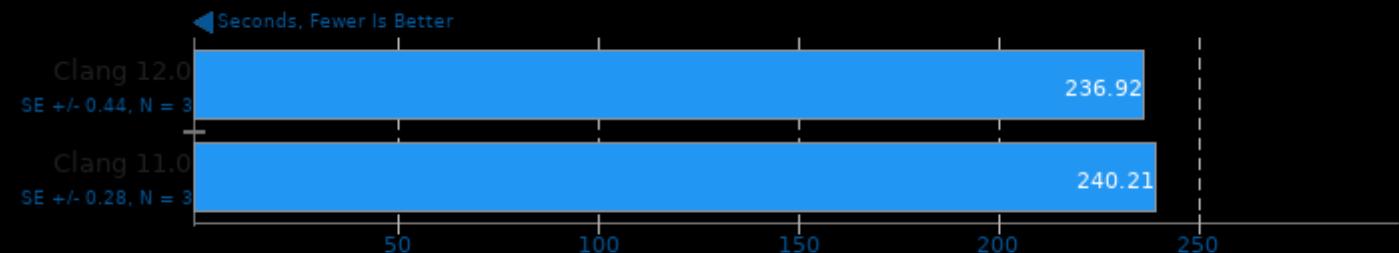
Opus Codec Encoding 1.3.1

WAV To Opus Encode



1. (CXX) g++ options: -O3 -march=native -fogg -lm

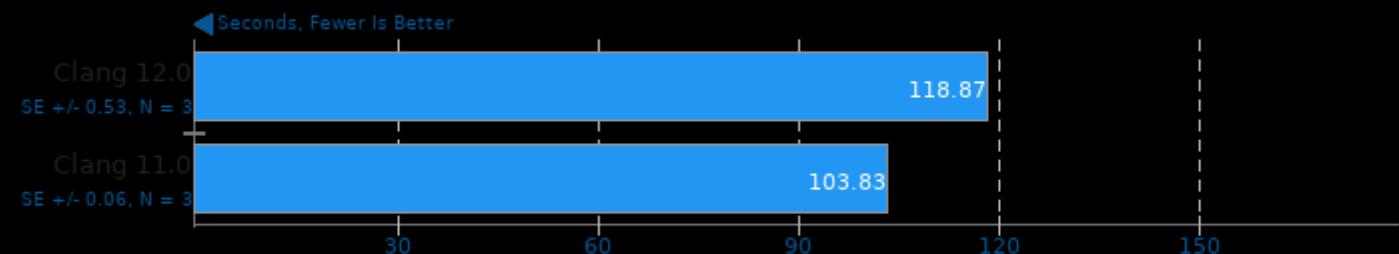
Gcrypt Library 1.9



1. (CC) gcc options: -O3 -march=native -fvisibility=hidden

Ngspice 34

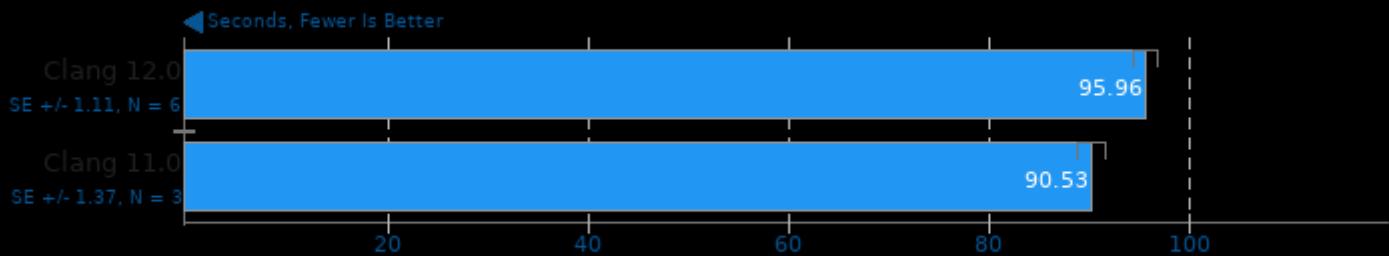
Circuit: C2670



1. (CC) gcc options: -O3 -march=native -fopenmp -lm -fstdc++ -fftw3 -lxaw -lxmu -xt -xext -x11 -fSM -fICE

Ngspice 34

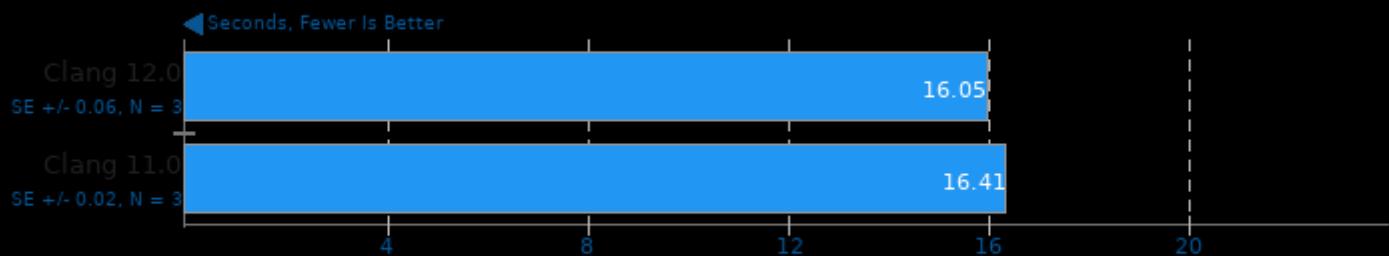
Circuit: C7552



1. (CC) gcc options: -O3 -march=native -fopenmp -lm -stdc++ -fftw3 -Ixaw -Ixmu -Xt -Xext -X11 -lSM -lICE

Tachyon 0.99b6

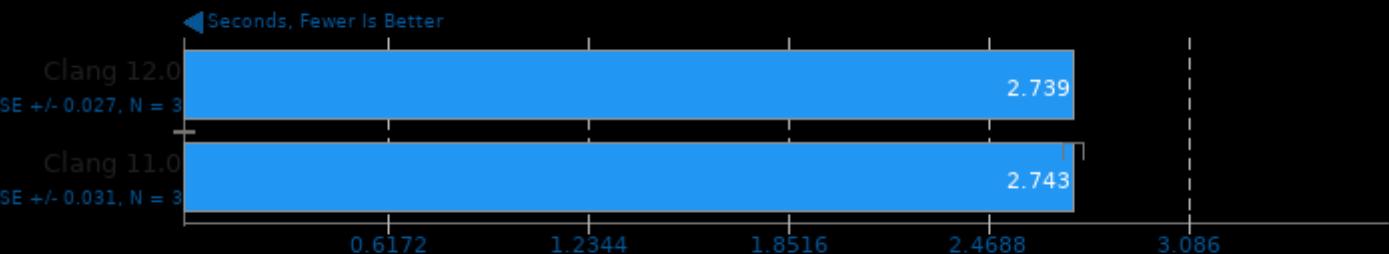
Total Time



1. (CC) gcc options: -m64 -O3 -fomit-frame-pointer -ffast-math -ltachyon -lm -lpthread

WebP2 Image Encode 20210126

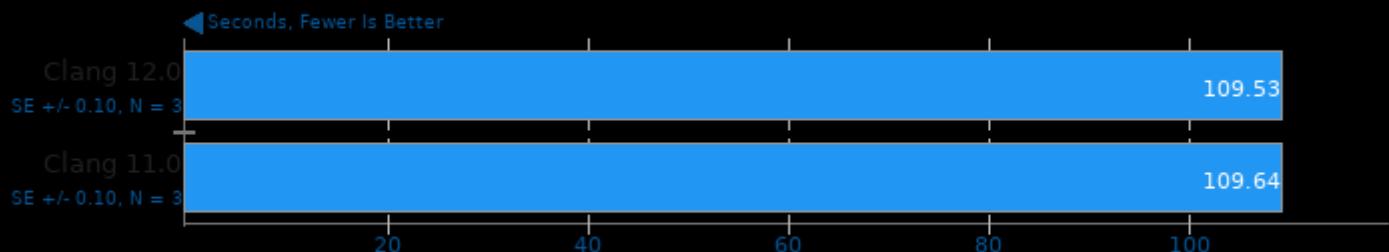
Encode Settings: Default



1. (CXX) g++ options: -O3 -march=native -fno-rtti -rdynamic -lpthread -ljpeg -lgif -lwebp -lwebpdemux

WebP2 Image Encode 20210126

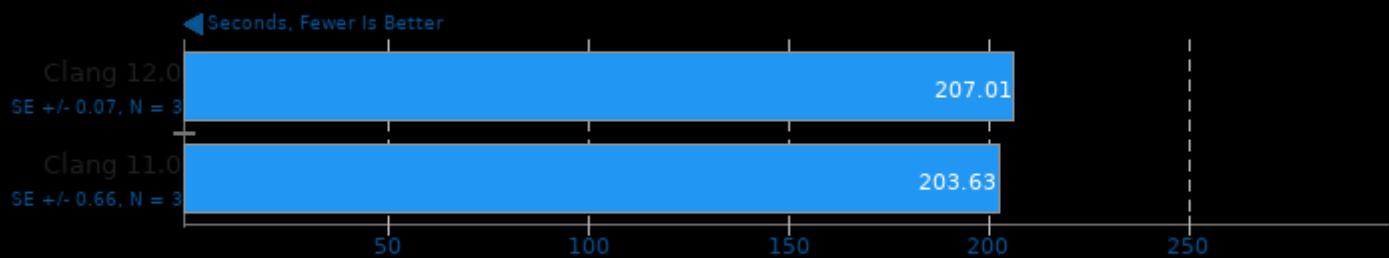
Encode Settings: Quality 75, Compression Effort 7



1. (CXX) g++ options: -O3 -march=native -fno-rtti -rdynamic -lpthread -ljpeg -lgif -lwebp -lwebpdemux

WebP2 Image Encode 20210126

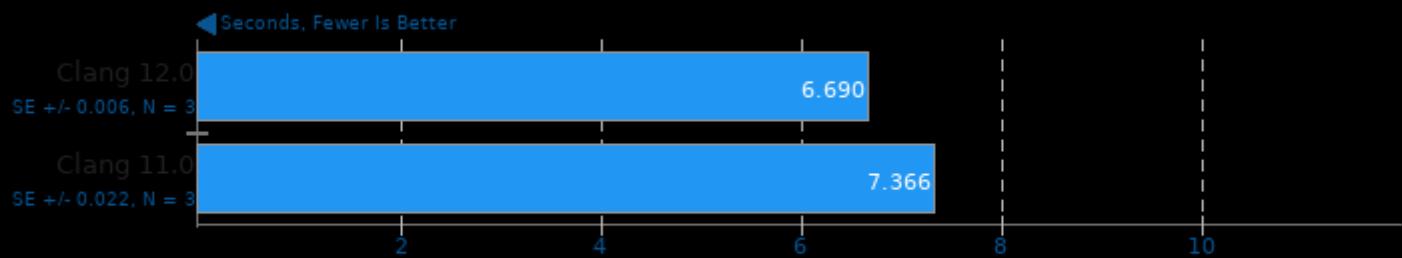
Encode Settings: Quality 95, Compression Effort 7



1. (CXX) g++ options: -O3 -march=native -fno-rtti -rdynamic -lpthread -ljpeg -lgif -lwebp -lwebpdemux

WebP2 Image Encode 20210126

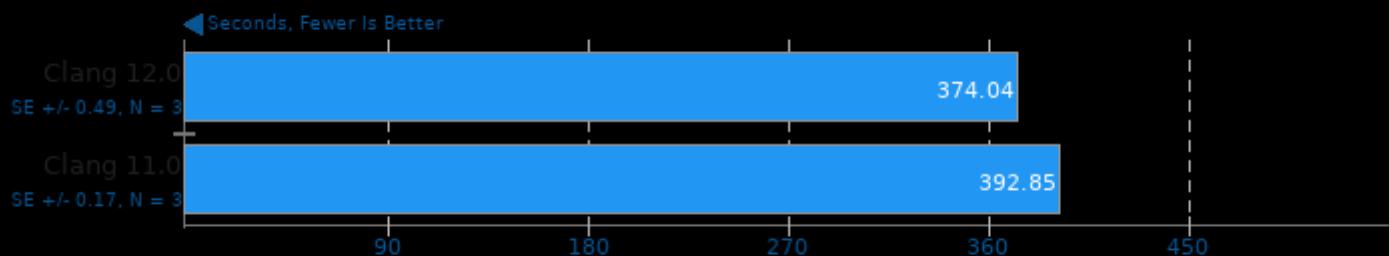
Encode Settings: Quality 100, Compression Effort 5



1. (CXX) g++ options: -O3 -march=native -fno-rtti -rdynamic -lpthread -ljpeg -lgif -lwebp -lwebpdemux

WebP2 Image Encode 20210126

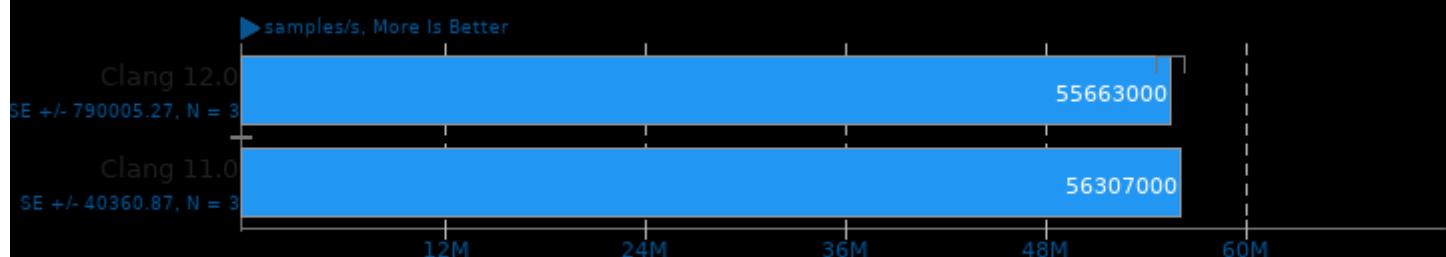
Encode Settings: Quality 100, Lossless Compression



1. (CXX) g++ options: -O3 -march=native -fno-rtti -rdynamic -lpthread -ljpeg -lgif -lwebp -lwebpdemux

Liquid-DSP 2021.01.31

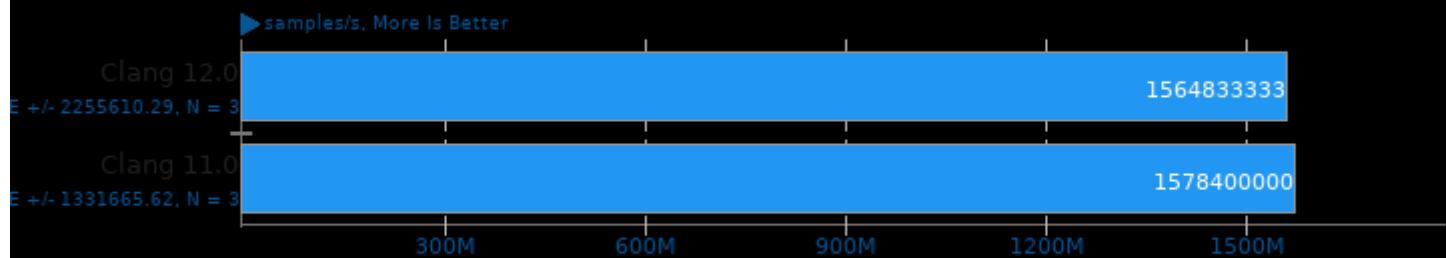
Threads: 1 - Buffer Length: 256 - Filter Length: 57



1. (CC) gcc options: -O3 -march=native -pthread -lm -lc -lliquid

Liquid-DSP 2021.01.31

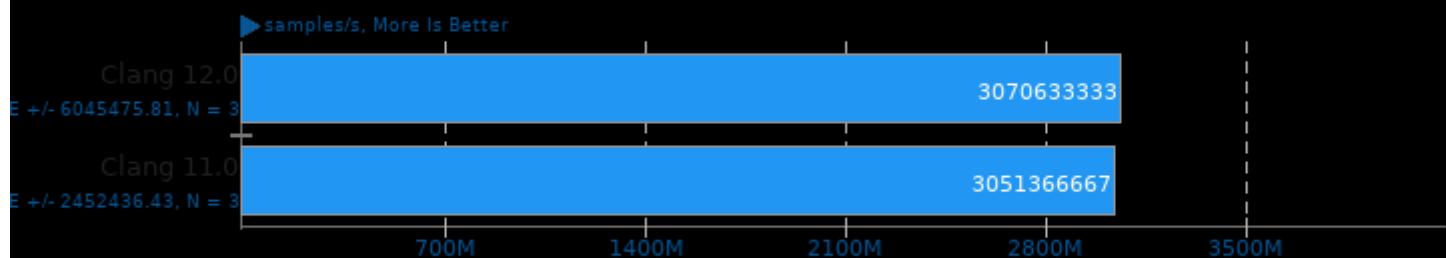
Threads: 32 - Buffer Length: 256 - Filter Length: 57



1. (CC) gcc options: -O3 -march=native -pthread -lm -lc -lliquid

Liquid-DSP 2021.01.31

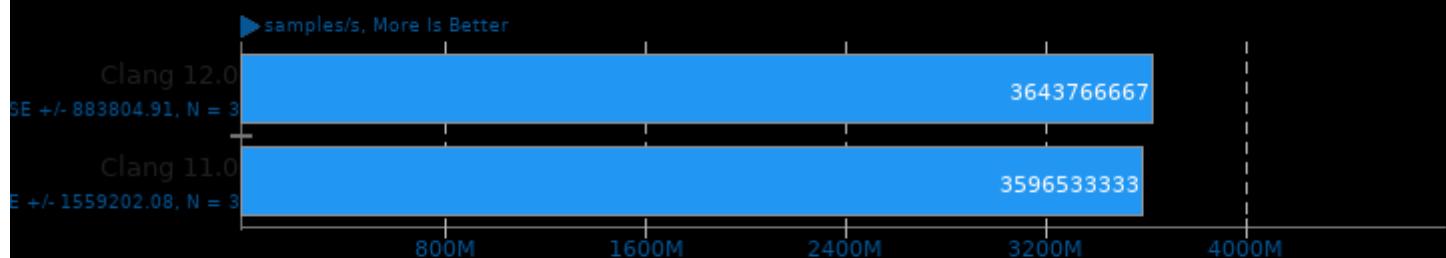
Threads: 64 - Buffer Length: 256 - Filter Length: 57



1. (CC) gcc options: -O3 -march=native -pthread -lm -lc -lliquid

Liquid-DSP 2021.01.31

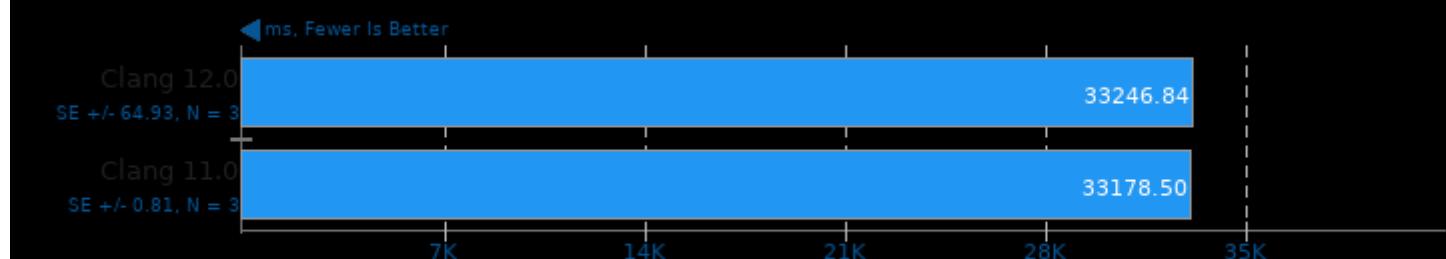
Threads: 128 - Buffer Length: 256 - Filter Length: 57



1. (CC) gcc options: -O3 -march=native -pthread -lm -lc -lliquid

FinanceBench 2016-07-25

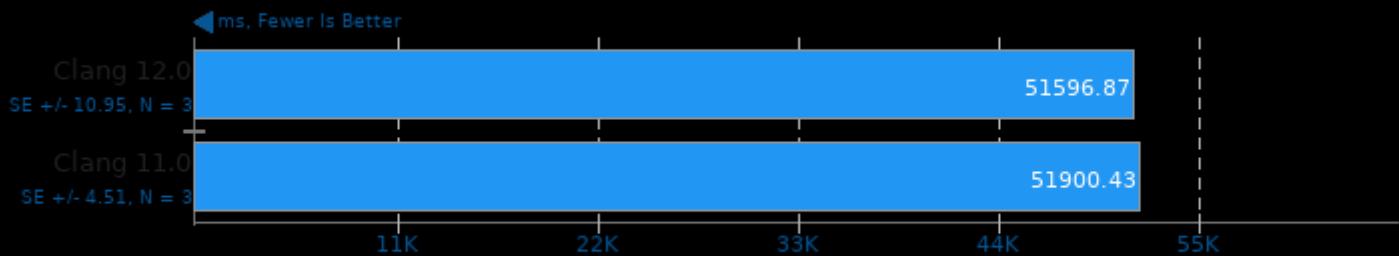
Benchmark: Repo OpenMP



1. (CXX) g++ options: -O3 -march=native -fopenmp

FinanceBench 2016-07-25

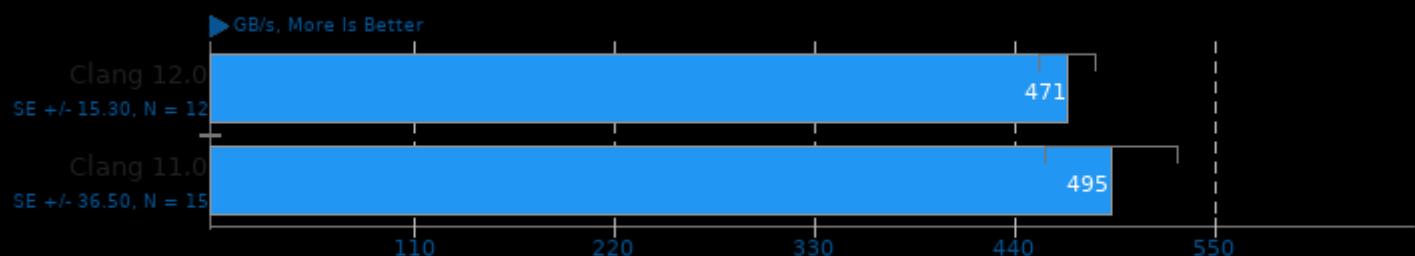
Benchmark: Bonds OpenMP



1. (CXX) g++ options: -O3 -march=native -fopenmp

ViennaCL 1.7.1

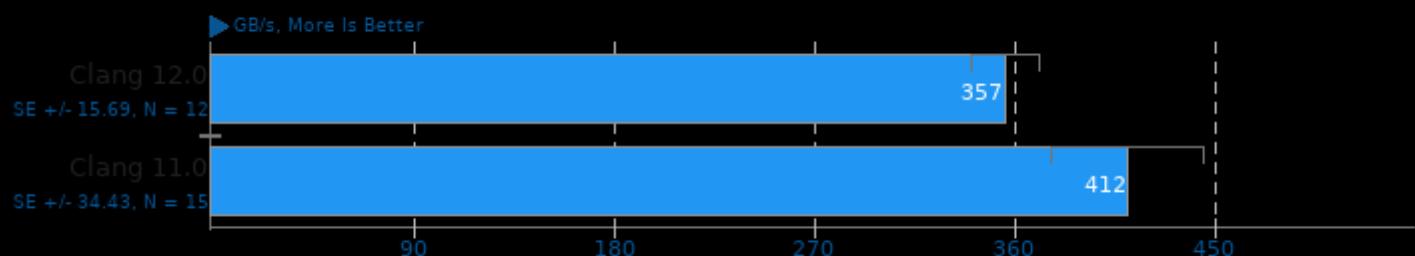
Test: CPU BLAS - sCOPY



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -rdynamic -lOpenCL

ViennaCL 1.7.1

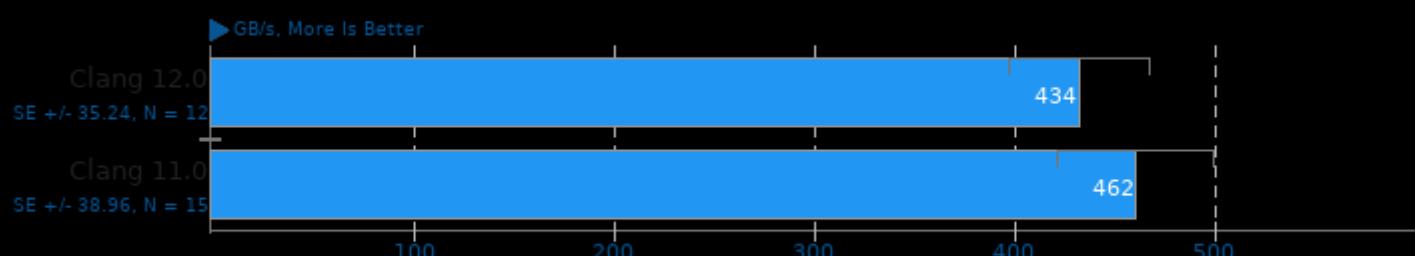
Test: CPU BLAS - sAXPY



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -rdynamic -lOpenCL

ViennaCL 1.7.1

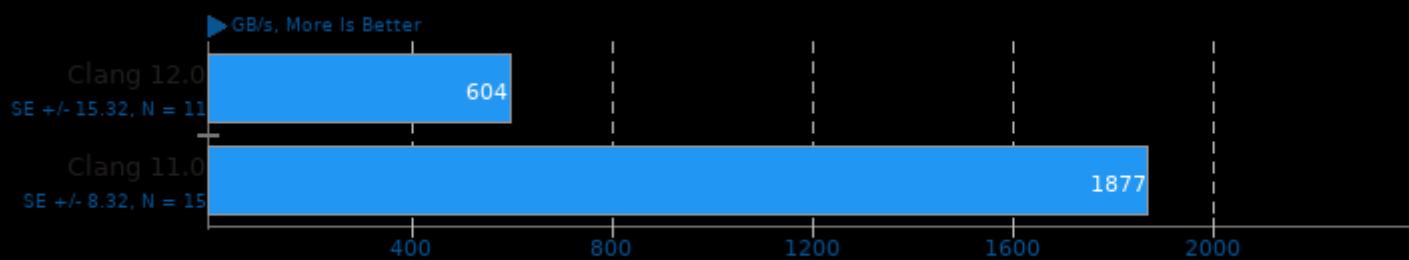
Test: CPU BLAS - sDOT



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -rdynamic -lOpenCL

ViennaCL 1.7.1

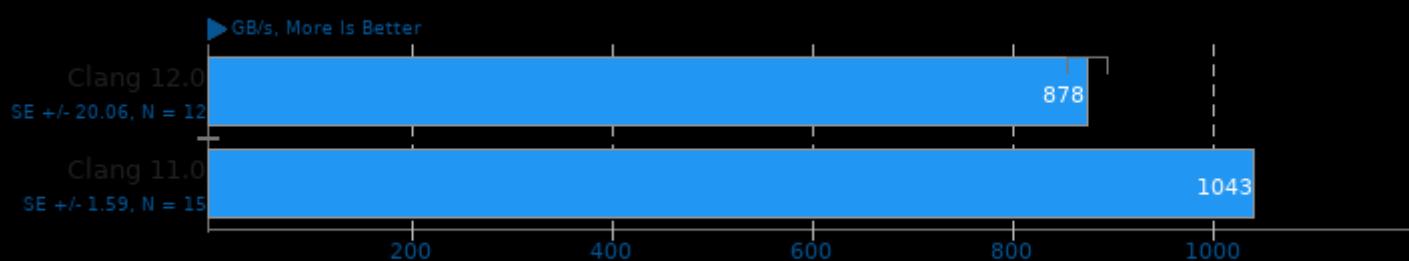
Test: CPU BLAS - dCOPY



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -rdynamic -lOpenCL

ViennaCL 1.7.1

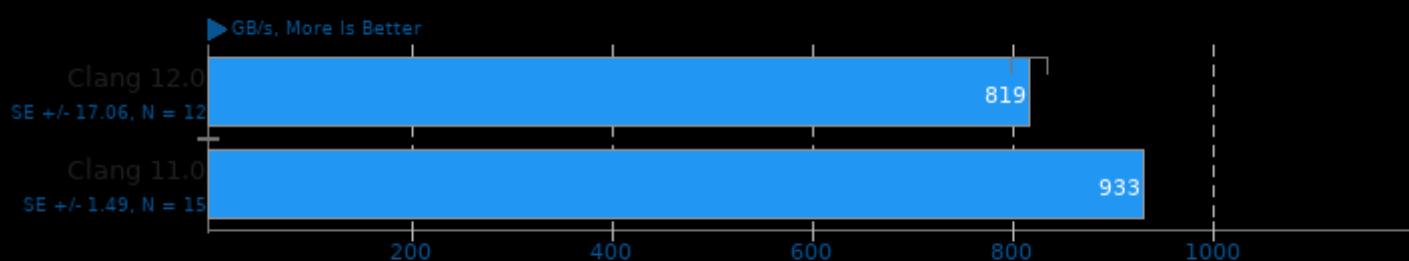
Test: CPU BLAS - dAXPY



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -rdynamic -lOpenCL

ViennaCL 1.7.1

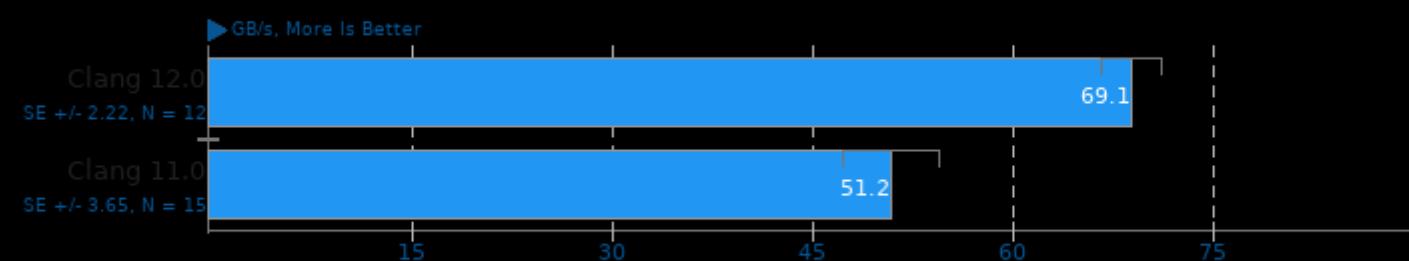
Test: CPU BLAS - dDOT



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -rdynamic -lOpenCL

ViennaCL 1.7.1

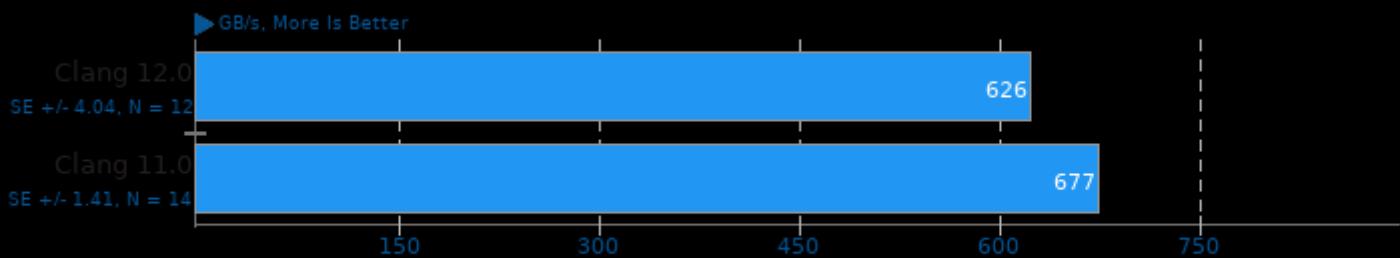
Test: CPU BLAS - dGEMV-N



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -rdynamic -lOpenCL

ViennaCL 1.7.1

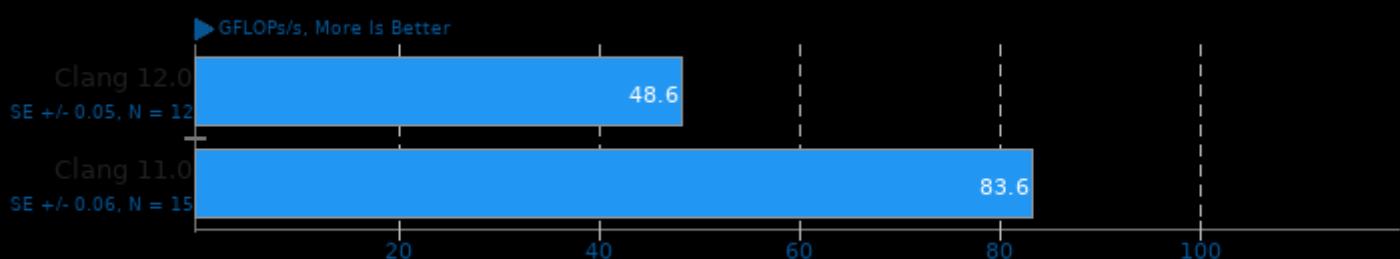
Test: CPU BLAS - dGEMV-T



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -rdynamic -lOpenCL

ViennaCL 1.7.1

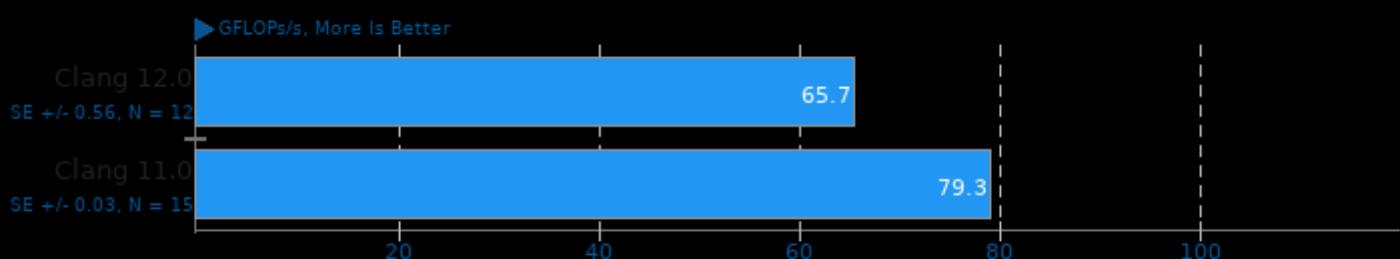
Test: CPU BLAS - dGEMM-NN



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -rdynamic -lOpenCL

ViennaCL 1.7.1

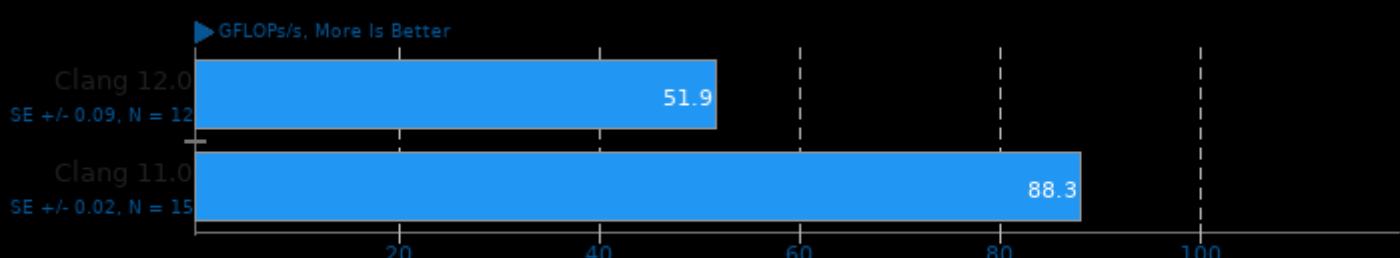
Test: CPU BLAS - dGEMM-NT



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -rdynamic -lOpenCL

ViennaCL 1.7.1

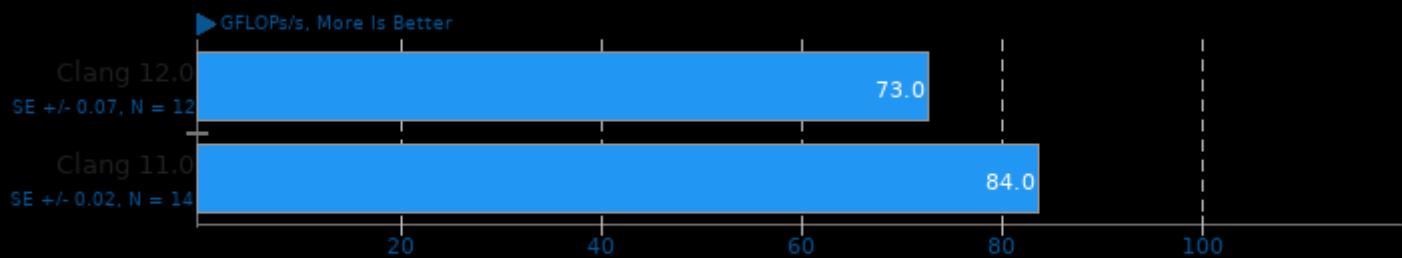
Test: CPU BLAS - dGEMM-TN



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -rdynamic -lOpenCL

ViennaCL 1.7.1

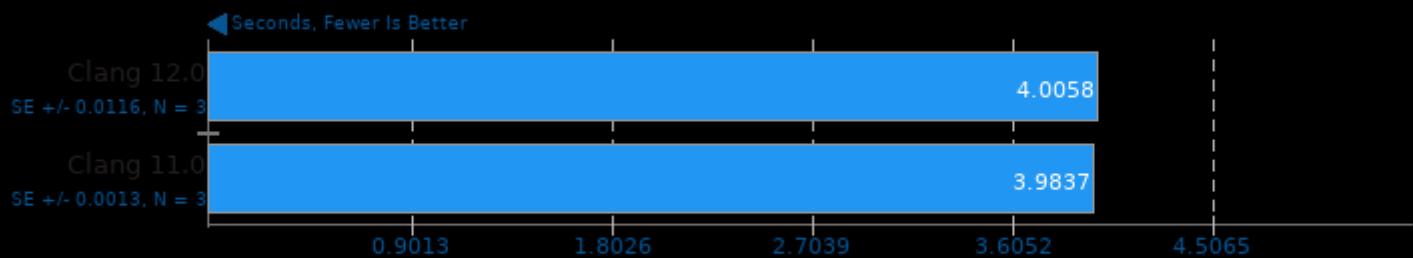
Test: CPU BLAS - dGEMM-TT



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -rdynamic -lOpenCL

ASTC Encoder 2.4

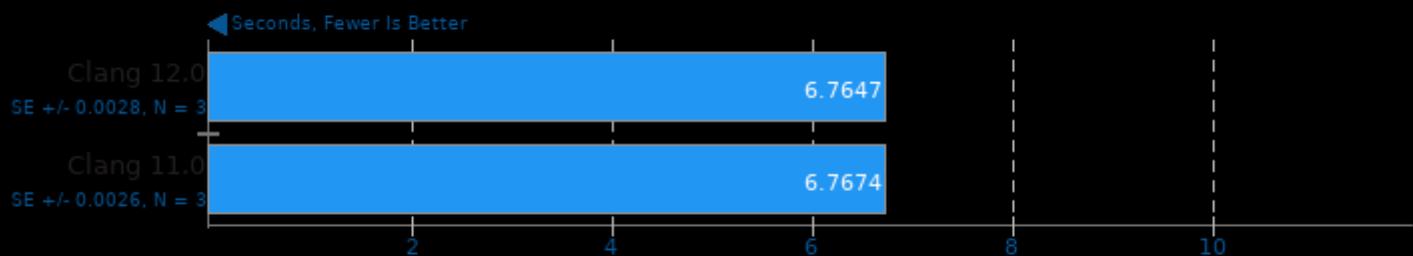
Preset: Medium



1. (CXX) g++ options: -O3 -march=native -fno -pthread

ASTC Encoder 2.4

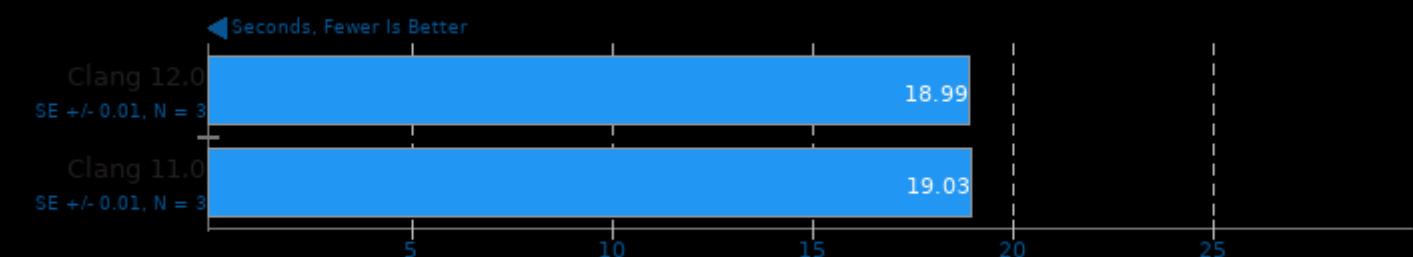
Preset: Thorough



1. (CXX) g++ options: -O3 -march=native -fno -pthread

ASTC Encoder 2.4

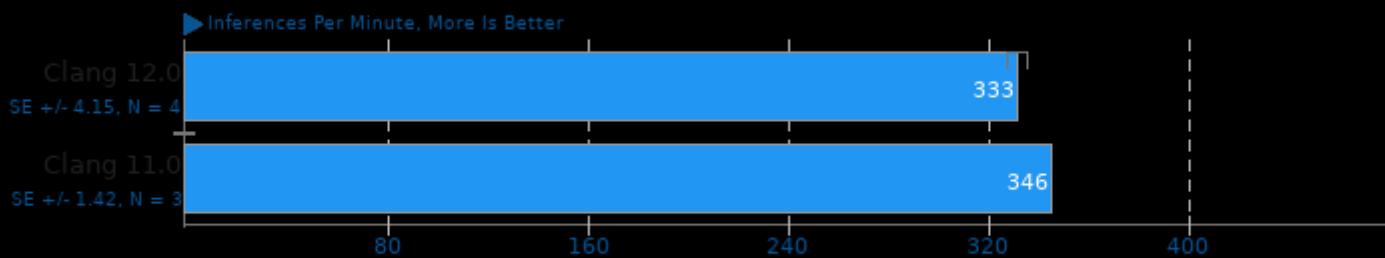
Preset: Exhaustive



1. (CXX) g++ options: -O3 -march=native -fno -pthread

ONNX Runtime 1.6

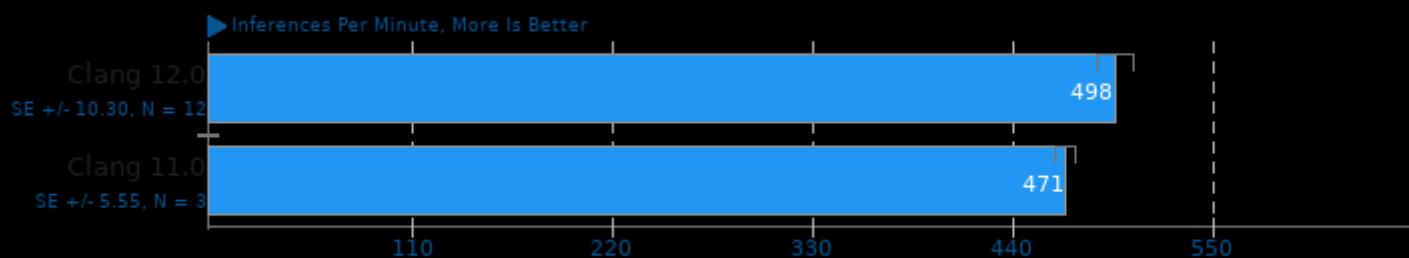
Model: yolov4 - Device: OpenMP CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -ffunction-sections -fdata-sections -ldl -lrt

ONNX Runtime 1.6

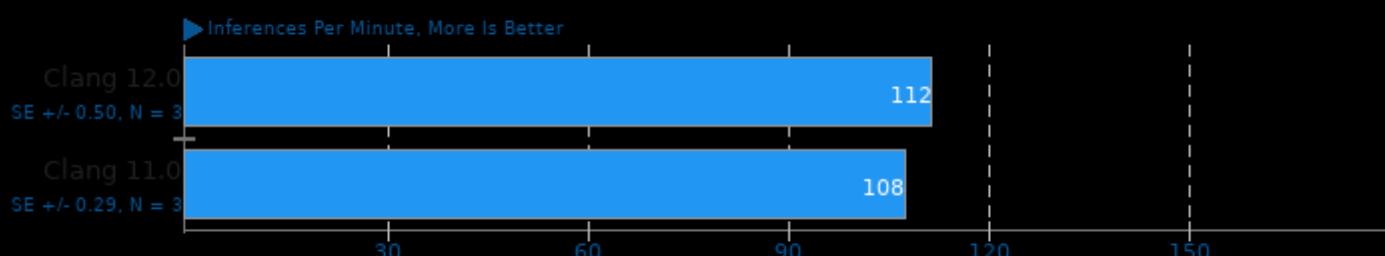
Model: bertsquad-10 - Device: OpenMP CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -ffunction-sections -fdata-sections -ldl -lrt

ONNX Runtime 1.6

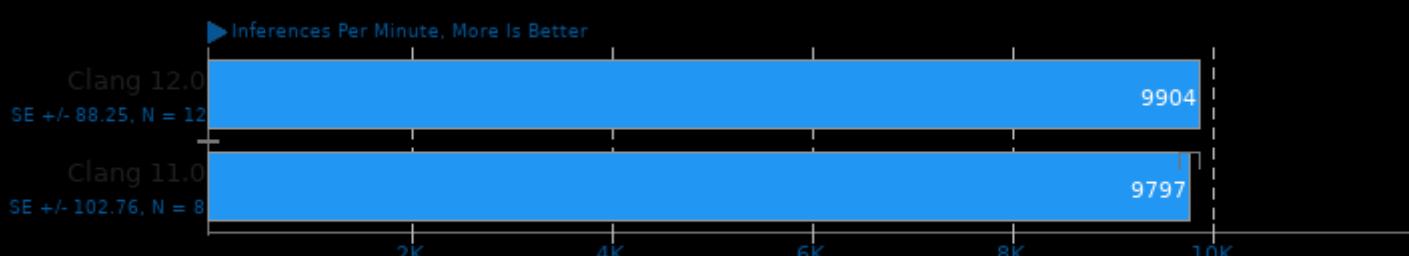
Model: fcn-resnet101-11 - Device: OpenMP CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -ffunction-sections -fdata-sections -ldl -lrt

ONNX Runtime 1.6

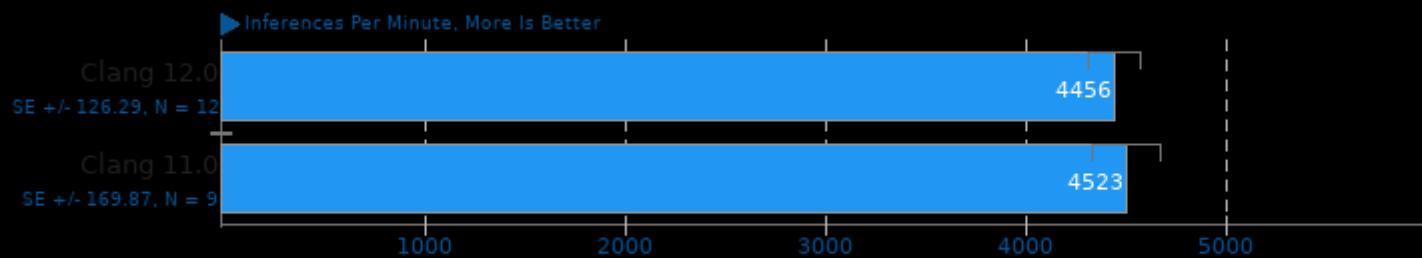
Model: shufflenet-v2-10 - Device: OpenMP CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -ffunction-sections -fdata-sections -ldl -lrt

ONNX Runtime 1.6

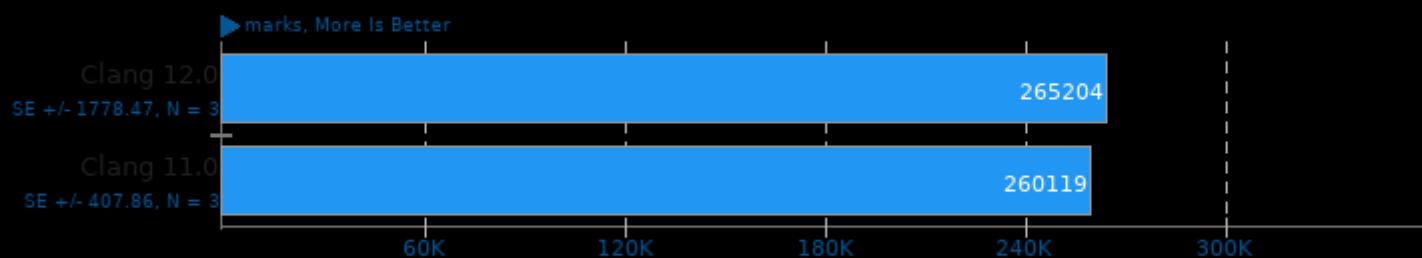
Model: super-resolution-10 - Device: OpenMP CPU



1. (CXX) g++ options: -O3 -march=native -fopenmp=libomp -ffunction-sections -fdata-sections -ldl -lrt

SecureMark 1.0.4

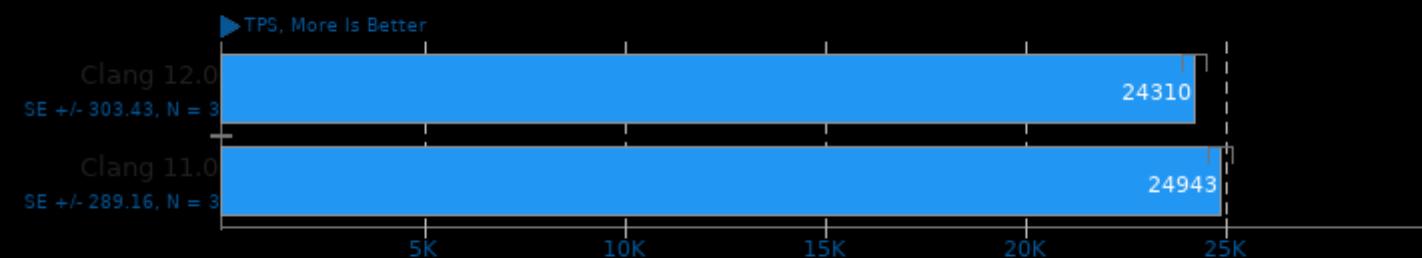
Benchmark: SecureMark-TLS



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

PostgreSQL pgbench 13.0

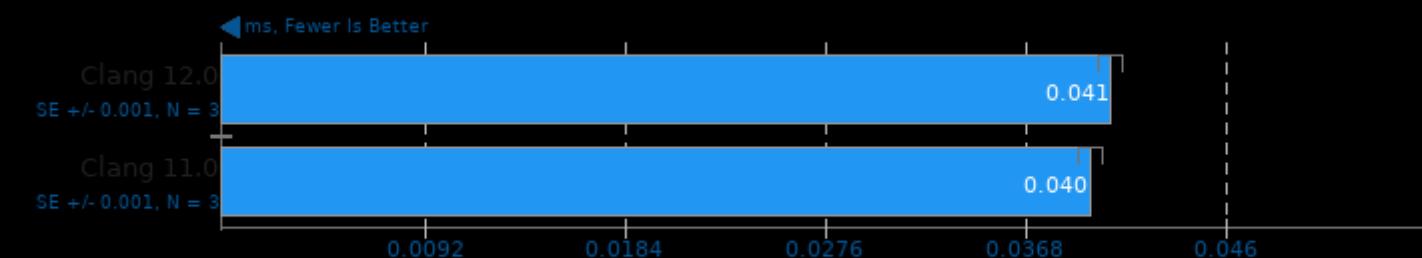
Scaling Factor: 100 - Clients: 1 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O3 -march=native -lpqcommon -lpqport -lpq -lpthread -lrt -ldl -lm

PostgreSQL pgbench 13.0

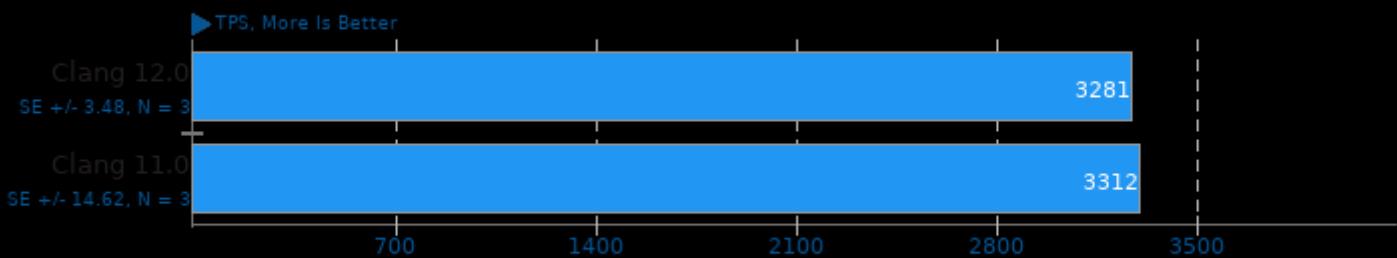
Scaling Factor: 100 - Clients: 1 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O3 -march=native -lpqcommon -lpqport -lpq -lpthread -lrt -ldl -lm

PostgreSQL pgbench 13.0

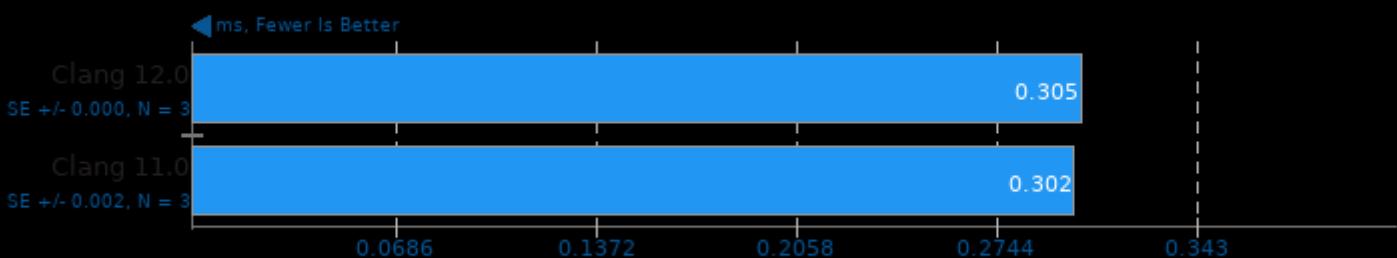
Scaling Factor: 100 - Clients: 1 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O3 -march=native -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

PostgreSQL pgbench 13.0

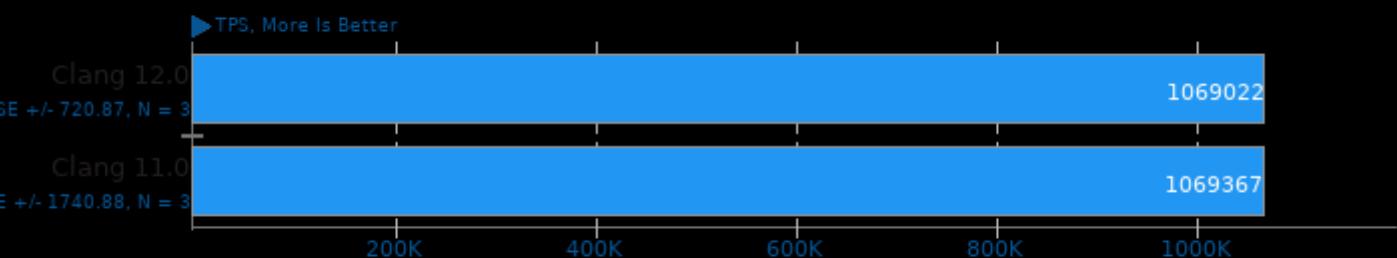
Scaling Factor: 100 - Clients: 1 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O3 -march=native -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

PostgreSQL pgbench 13.0

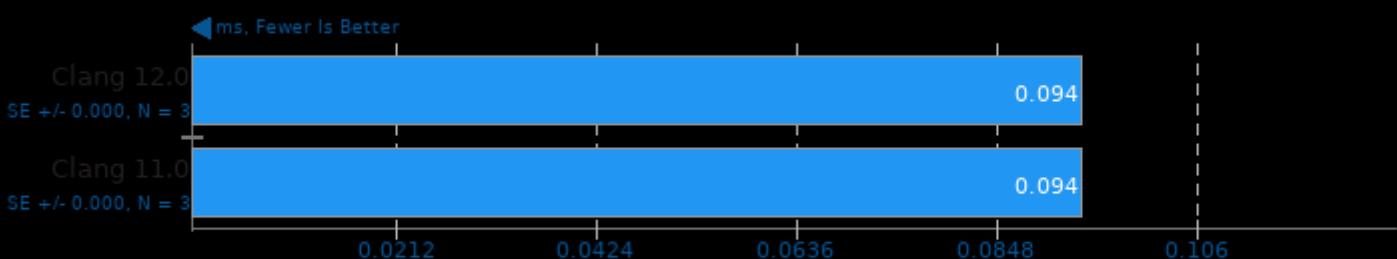
Scaling Factor: 100 - Clients: 100 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O3 -march=native -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

PostgreSQL pgbench 13.0

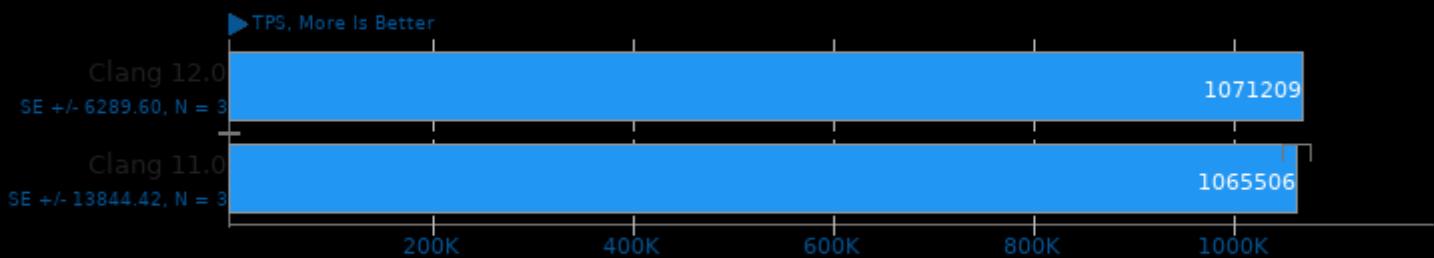
Scaling Factor: 100 - Clients: 100 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O3 -march=native -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

PostgreSQL pgbench 13.0

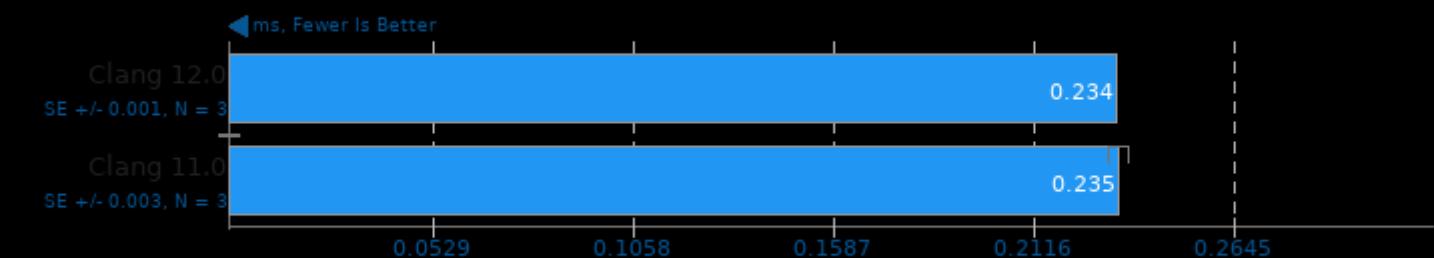
Scaling Factor: 100 - Clients: 250 - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O3 -march=native -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

PostgreSQL pgbench 13.0

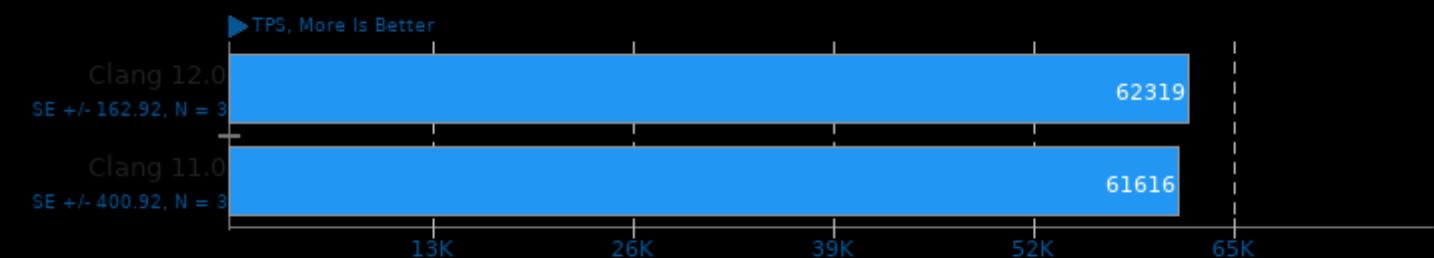
Scaling Factor: 100 - Clients: 250 - Mode: Read Only - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O3 -march=native -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

PostgreSQL pgbench 13.0

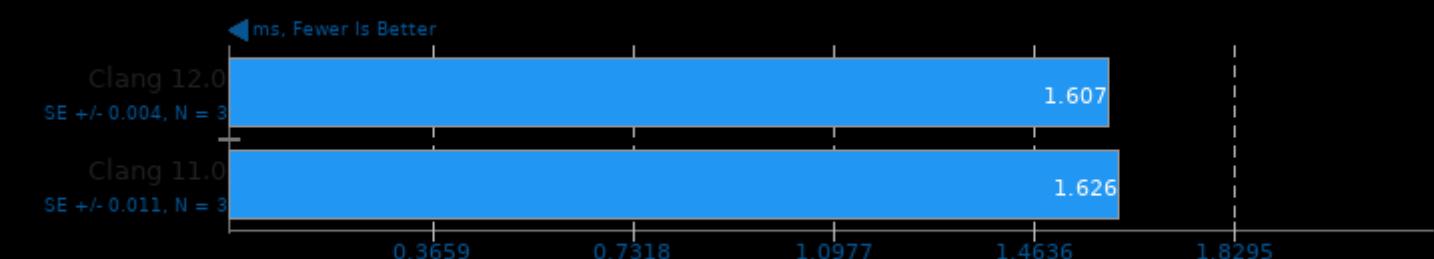
Scaling Factor: 100 - Clients: 100 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O3 -march=native -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

PostgreSQL pgbench 13.0

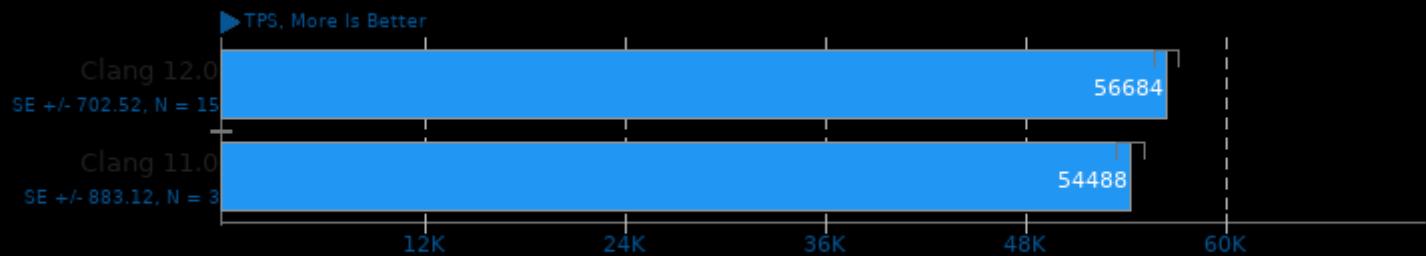
Scaling Factor: 100 - Clients: 100 - Mode: Read Write - Average Latency



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O3 -march=native -lpgcommon -lpgport -lpq -pthread -lrt -ldl -lm

PostgreSQL pgbench 13.0

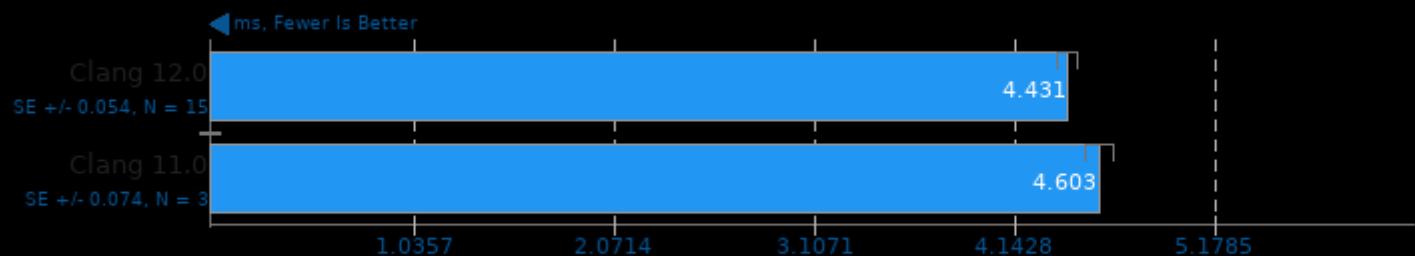
Scaling Factor: 100 - Clients: 250 - Mode: Read Write



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O3 -march=native -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

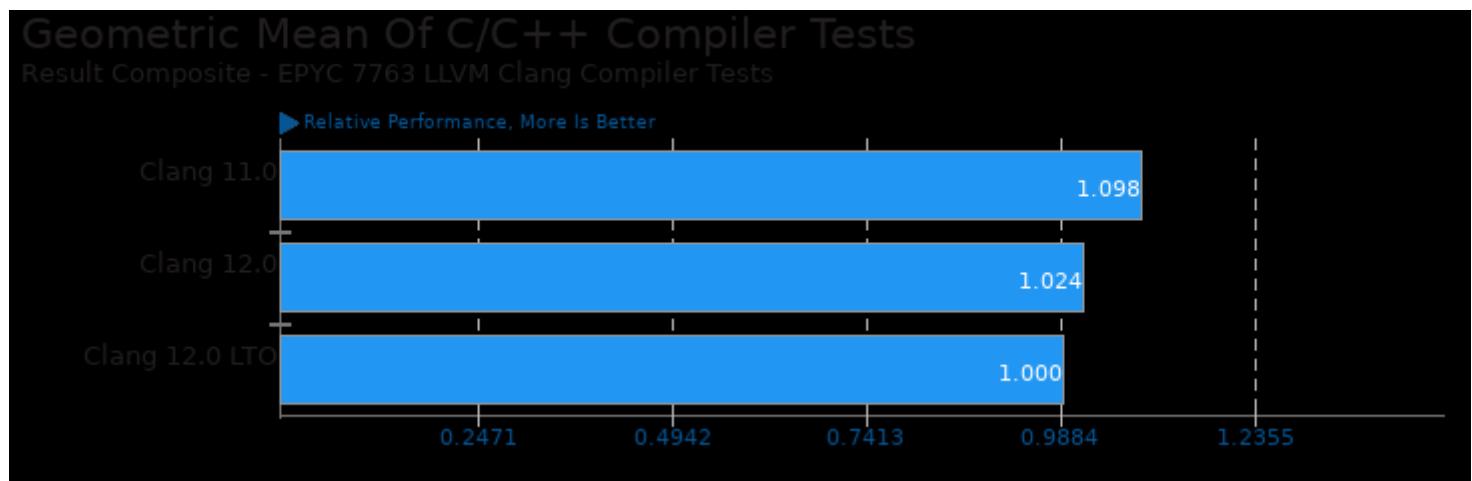
PostgreSQL pgbench 13.0

Scaling Factor: 100 - Clients: 250 - Mode: Read Write - Average Latency

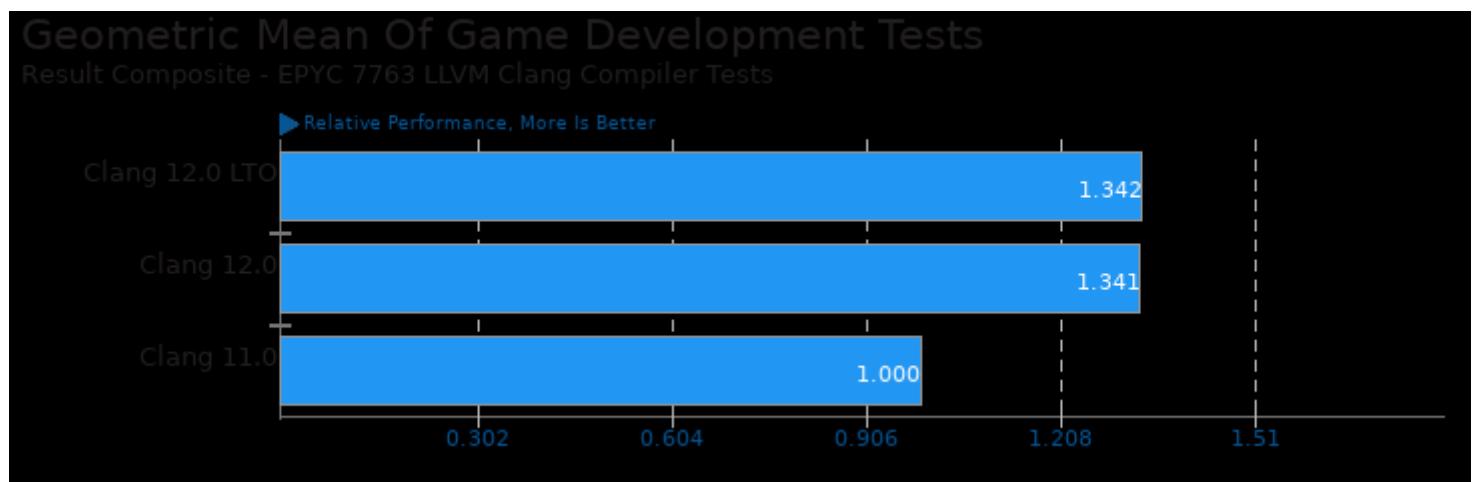


1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O3 -march=native -lpgcommon -lpgport -lpq -lpthread -lrt -ldl -lm

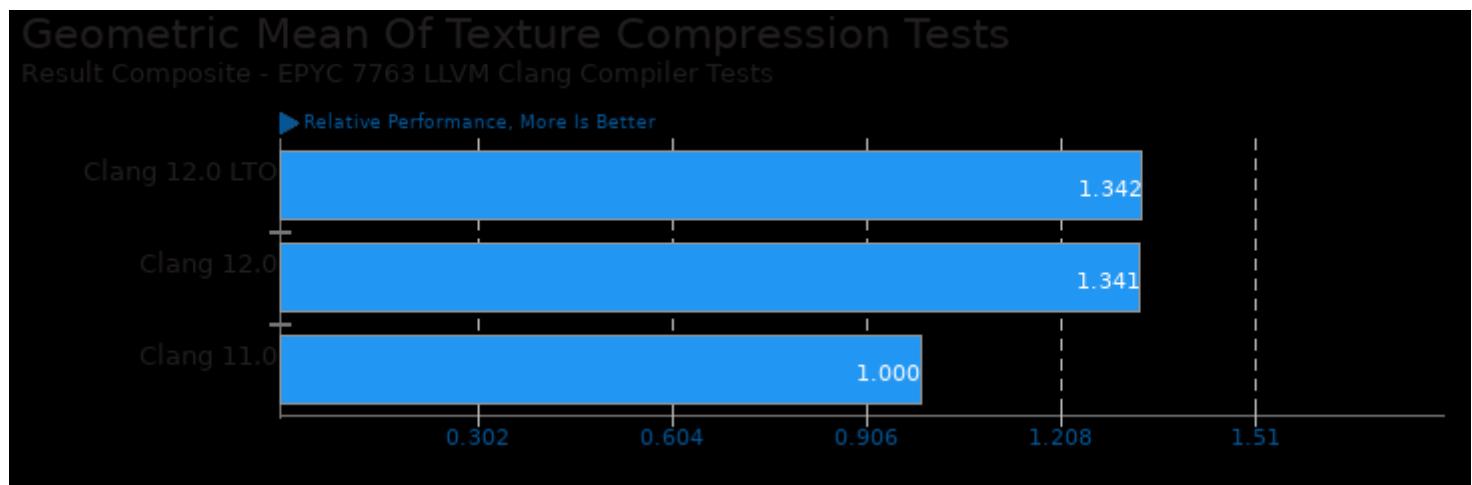
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/fftw, pts/scimark2, pts/tscp, pts/graphics-magick, pts/c-ray, pts/encode-mp3, pts/encode-flac, pts/pgbench, pts/mrbayes, pts/dav1d, pts/x265, pts/aom-av1, pts/svt-av1, pts/svt-vp9, pts/tachyon and pts/toybot



Geometric mean based upon tests: pts/astcenc and pts/etcpack



Geometric mean based upon tests: pts/astcenc and pts/etcpack

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 02:36.