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Clang 10 AMD EPYC Rome Tests Znver2

AMD EPYC compiler benchmarks by Michael Larabel.

Automated Executive Summary

Clang 10.0 2020-01-13 had the most wins, coming in first place for 58% of the tests.

Based on the geometric mean of all complete results, the fastest (Clang 10.0 2020-01-13) was 1.002x the speed of the slowest (Clang 9.0.1).

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

GraphicsMagick (Operation: HWB Color Space) at 1.493x
OpenSSL (RSA 4096-bit Performance) at 1.317x
Timed PHP Compilation (Time To Compile) at 1.122x
libgav1 (Video Input: Chimera 1080p) at 1.111x
libgav1 (Video Input: Summer Nature 4K) at 1.105x
Timed MrBayes Analysis (Primate Phylogeny Analysis) at 1.091x
Timed LLVM Compilation (Time To Compile) at 1.077x
SciMark (Computational Test: Sparse Matrix Multiply) at 1.076x
Tungsten Renderer (Scene: Hair) at 1.073x
GraphicsMagick (Operation: Rotate) at 1.064x.

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Test Systems:

Clang 10.0 2020-01-13

Processor: 2 x AMD EPYC 7742 64-Core @ 2.25GHz (128 Cores / 256 Threads), Motherboard: AMD DAYTONA_X (RDY1001C BIOS), Chipset: AMD Starship/Matisse, Memory: 504GB, Disk: 280GB INTEL SSDPE21D280GA + 256GB Micron_1100_MTFD, Graphics: llvmpipe 504GB, Monitor: VE228, Network: 2 x Mellanox MT27710

OS: Ubuntu 19.10, Kernel: 5.5.0-rc3-pts (x86_64) 20191229, Desktop: GNOME Shell 3.34.1, Display Server: X Server 1.20.5, Display Driver: modesetting 1.20.5, OpenGL: 3.3 Mesa 20.0.0-devel (git-2d971cc 2019-12-22 eoan-oibaf-ppa) (LLVM 9.0.1 128 bits), Compiler: Clang 10.0.0, File-System: ext4, Screen Resolution: 1920x1080

Environment Notes: CXXFLAGS="-O3 -march=znver2" CFLAGS="-O3 -march=znver2"
Compiler Notes: Optimized build; Default target: x86_64-unknown-linux-gnu; Host CPU: znver2
Processor Notes: Scaling Governor: acpi-cpufreq ondemand - CPU Microcode: 0x830101c
Python Notes: Python 2.7.17 + Python 3.7.5
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + tsx_async_abort: Not affected

Clang 9.0.1

Processor: 2 x AMD EPYC 7742 64-Core @ 2.25GHz (128 Cores / 256 Threads), Motherboard: AMD DAYTONA_X (RDY1001C BIOS), Chipset: AMD Starship/Matisse, Memory: 504GB, Disk: 280GB INTEL SSDPE21D280GA + 256GB Micron_1100_MTFD, Graphics: llvmpipe 504GB, Monitor: VE228, Network: 2 x Mellanox MT27710

OS: Ubuntu 19.10, Kernel: 5.5.0-rc3-pts (x86_64) 20191229, Desktop: GNOME Shell 3.34.1, Display Server: X Server 1.20.5, Display Driver: modesetting 1.20.5, OpenGL: 3.3 Mesa 20.0.0-devel (git-2d971cc 2019-12-22 eoan-oibaf-ppa) (LLVM 9.0.1 128 bits), Compiler: Clang 9.0.1 + LLVM 9.0.1, File-System: ext4, Screen Resolution: 1920x1080

Environment Notes: CXXFLAGS="-O3 -march=znver2" CFLAGS="-O3 -march=znver2"
Compiler Notes: Optimized build; Default target: x86_64-unknown-linux-gnu; Host CPU: znver2
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	Clang 10.0 2020-01-13	Clang 9.0.1
Timed MrBayes Analysis - P.P.A (sec)	**112.675**	**103.249**
Normalized	91.63%	100%
Standard Deviation	0.4%	0.3%
Timed HMMer Search - P.D.S (sec)	**6.968**	**6.902**
Normalized	99.05%	100%
Standard Deviation	2.1%	1.7%
Timed MAFFT Alignment - M.S.A (sec)	**2.709**	**2.701**
Normalized	99.7%	100%
Standard Deviation	9.6%	4.6%
LAMMPS Molecular Dynamics Simulator - Rhodopsin Protein (ns/day)	**30.459**	**30.842**
Normalized	98.76%	100%
Standard Deviation	0.6%	1%

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libgav1 - Chimera 1080p (FPS)	**32.13**	**35.71**
Normalized	89.97%	100%
Standard Deviation	3.2%	1.5%
libgav1 - Summer Nature 4K (FPS)	**14.08**	**15.56**
Normalized	90.49%	100%
Standard Deviation	1.4%	0.5%
libgav1 - S.N.1 (FPS)	**45.84**	**48.67**
Normalized	94.19%	100%
Standard Deviation	0.2%	3%
libgav1 - C.1.1.b (FPS)	**16.70**	**16.28**
Normalized	100%	97.49%
Standard Deviation	0.2%	1.7%
SciMark - Composite (Mflops)	**2838**	**2788**
Normalized	100%	98.25%
Standard Deviation	0.4%	0.5%
SciMark - Monte Carlo (Mflops)	**621.05**	**621.20**
Normalized	99.98%	100%
Standard Deviation	0%	0%
SciMark - F.F.T (Mflops)	**212.94**	**205.14**
Normalized	100%	96.34%
Standard Deviation	2%	0.7%
SciMark - S.M.M (Mflops)	**3172**	**2949**
Normalized	100%	92.98%
Standard Deviation	1%	1.3%
SciMark - D.L.M.F (Mflops)	**8528**	**8510**
Normalized	100%	99.79%
Standard Deviation	0.2%	0.4%
SciMark - J.S.O.R (Mflops)	**1656**	**1656**
Normalized	100%	100%
Standard Deviation	0%	0%
TSCP - A.C.P (Nodes/s)	**1172910**	**1149851**
Normalized	100%	98.03%
Standard Deviation	0.7%	0.1%
John The Ripper - Blowfish (Real C/S)	1511	1511
Standard Deviation	0%	0%
John The Ripper - MD5 (Real C/S)	**65161**	**64570**
Normalized	100%	99.09%
Standard Deviation	0%	0%
GraphicsMagick - Swirl (Iterations/min)	**45**	**46**
Normalized	97.83%	100%
Standard Deviation		2.9%
GraphicsMagick - Rotate (Iterations/min)	**535**	**503**
Normalized	100%	94.02%
Standard Deviation	0.8%	0.1%
GraphicsMagick - Sharpen (Iterations/min)	14	14
GraphicsMagick - Enhanced (Iterations/min)	22	22
GraphicsMagick - Resizing (Iterations/min)	**116**	**117**
Normalized	99.15%	100%
GraphicsMagick - Noise-Gaussian (Iterations/min)	25	25
GraphicsMagick - HWB Color Space (Iterations/min)	**209**	**140**
Normalized	100%	66.99%
Standard Deviation	0.8%	1.1%
dav1d - Chimera 1080p (FPS)	**728.56**	**732.35**
Normalized	99.48%	100%
Standard Deviation	0.1%	1.3%

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dav1d - Summer Nature 4K (FPS)	**309.30**	**306.90**
Normalized	100%	99.22%
Standard Deviation	2.4%	0.2%
dav1d - S.N.1 (FPS)	**719.07**	**715.90**
Normalized	100%	99.56%
Standard Deviation	1.4%	2.8%
dav1d - C.1.1.b (FPS)	**104.09**	**103.87**
Normalized	100%	99.79%
Standard Deviation	0.1%	0.3%
AOM AV1 - Speed 4 Realtime (FPS)	0.69	0.69
Standard Deviation	0%	0%
AOM AV1 - Speed 5 Two-Pass (FPS)	**0.97**	**0.96**
Normalized	100%	98.97%
Standard Deviation	0.6%	0.6%
AOM AV1 - Speed 8 Realtime (FPS)	**28.09**	**27.33**
Normalized	100%	97.29%
Standard Deviation	1%	2.7%
SVT-AV1 - Enc Mode 4 - 1080p (FPS)	**11.438**	**11.343**
Normalized	100%	99.17%
Standard Deviation	1.1%	1.5%
SVT-AV1 - Enc Mode 8 - 1080p (FPS)	**109.492**	**105.347**
Normalized	100%	96.21%
Standard Deviation	1.5%	1.9%
SVT-VP9 - P.S.O - Bosphorus 1080p (FPS)	**319.82**	**311.83**
Normalized	100%	97.5%
Standard Deviation	2.2%	3%
SVT-VP9 - V.Q.O - Bosphorus 1080p (FPS)	**259.53**	**255.34**
Normalized	100%	98.39%
Standard Deviation	1%	3.3%
VP9 libvpx Encoding - Speed 0 (FPS)	**6.48**	**6.37**
Normalized	100%	98.3%
Standard Deviation	1.7%	0.5%
VP9 libvpx Encoding - Speed 5 (FPS)	**19.73**	**19.63**
Normalized	100%	99.49%
Standard Deviation	2.8%	0.6%
x264 - H.2.V.E (FPS)	**142.95**	**150.31**
Normalized	95.1%	100%
Standard Deviation	1.2%	1.9%
x265 - H.2.1.V.E (FPS)	**48.69**	**48.66**
Normalized	100%	99.94%
Standard Deviation	0.5%	0.7%
Himeno Benchmark - P.P.S (MFLOPS)	**3367**	**3376**
Normalized	99.72%	100%
Standard Deviation	11.6%	5.1%
Timed LLVM Compilation - Time To Compile (sec)	**90.753**	**84.297**
Normalized	92.89%	100%
Timed PHP Compilation - Time To Compile (sec)	**100.415**	**89.471**
Normalized	89.1%	100%
Standard Deviation	0.2%	0.1%
C-Ray - Total Time - 4.1.R.P.P (sec)	**8.893**	**8.987**
Normalized	100%	98.95%
Standard Deviation	1.5%	2.9%
Tungsten Renderer - Hair (sec)	**5.08467**	**5.45661**
Normalized	100%	93.18%
Standard Deviation	1.7%	1%

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Tungsten Renderer - Water Caustic (sec)	**23.2186**	**23.6886**
Normalized	100%	98.02%
Standard Deviation	3%	3.8%
Tungsten Renderer - Non-Exponential (sec)	**1.48624**	**1.48972**
Normalized	100%	99.77%
Standard Deviation	2.1%	2.6%
Tungsten Renderer - Volumetric Caustic (sec)	**4.27817**	**4.14480**
Normalized	96.88%	100%
Standard Deviation	0.4%	1.1%
AOBench - 2048 x 2048 - Total Time (sec)	**40.634**	**40.509**
Normalized	99.69%	100%
Standard Deviation	0.2%	0.8%
Bullet Physics Engine - Raytests (sec)	**2.718107**	**2.692623**
Normalized	99.06%	100%
Standard Deviation	0.7%	0.9%
Bullet Physics Engine - 3000 Fall (sec)	**4.420226**	**4.424567**
Normalized	100%	99.9%
Standard Deviation	0.7%	0.7%
Bullet Physics Engine - 1000 Stack (sec)	**5.266326**	**5.294185**
Normalized	100%	99.47%
Standard Deviation	0.6%	0.3%
Bullet Physics Engine - 1000 Convex (sec)	**4.534685**	**4.579873**
Normalized	100%	99.01%
Standard Deviation	0.2%	0%
Bullet Physics Engine - 136 Ragdolls (sec)	**2.906147**	**2.906627**
Normalized	100%	99.98%
Standard Deviation	0%	0%
Bullet Physics Engine - Prim Trimesh (sec)	**1.032531**	**1.019573**
Normalized	98.75%	100%
Standard Deviation	2.3%	0%
Bullet Physics Engine - Convex Trimesh (sec)	**1.176975**	**1.182357**
Normalized	100%	99.54%
Standard Deviation	0.1%	0%
XZ Compression - C.u.1.0.3.s.i.i.C.L.9 (sec)	**27.244**	**27.758**
Normalized	100%	98.15%
Standard Deviation	0.7%	4.3%
Zstd Compression - C.u.1.0.3.s.i.i.C.L.1 (sec)	**10.999**	**10.764**
Normalized	97.86%	100%
Standard Deviation	4.5%	3.3%
FLAC Audio Encoding - WAV To FLAC (sec)	**9.218**	**9.193**
Normalized	99.73%	100%
Standard Deviation	0.3%	0.7%
LAME MP3 Encoding - WAV To MP3 (sec)	**9.988**	**10.180**
Normalized	100%	98.11%
Standard Deviation	0%	0.1%
OpenSSL - R.4.b.P (Signs/sec)	**18960**	**24965**
Normalized	75.95%	100%
Standard Deviation	0.2%	0.1%
Aircrack-ng (k/s)	**316244**	**316610**
Normalized	99.88%	100%
Standard Deviation	0.1%	0.1%
PostgreSQL pgbench - Buffer Test - Normal Load - Read Only (TPS)	**944709**	**971995**
Normalized	97.19%	100%
Standard Deviation	2.9%	3.1%

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PostgreSQL pgbench - Buffer Test - Normal Load - Read Write (TPS)	**16182**	**13645**
Normalized	100%	84.32%
Standard Deviation	19%	8.5%
CppPerformanceBenchmarks - Atol (sec)	**74.903**	**74.411**
Normalized	99.34%	100%
Standard Deviation	0.2%	0.9%
CppPerformanceBenchmarks - Ctype (sec)	**38.499**	**37.096**
Normalized	96.36%	100%
Standard Deviation	0%	0%
CppPerformanceBenchmarks - Math Library (sec)	**333.069**	**332.301**
Normalized	99.77%	100%
Standard Deviation	0.2%	0.3%
CppPerformanceBenchmarks - Rand Numbers (sec)	**1660**	**1675**
Normalized	100%	99.1%
Standard Deviation	0.1%	0.1%
CppPerformanceBenchmarks - Stepanov Vector (sec)	**86.134**	**86.279**
Normalized	100%	99.83%
Standard Deviation	0.1%	0.3%
CppPerformanceBenchmarks - Function Objects (sec)	**19.026**	**18.934**
Normalized	99.52%	100%
Standard Deviation	0%	0.1%
CppPerformanceBenchmarks - S.A (sec)	**33.573**	**33.511**
Normalized	99.82%	100%
Standard Deviation	0%	0%
SQLite Speedtest - Timed Time - Size 1,000 (sec)	**73.962**	**77.538**
Normalized	100%	95.39%
Standard Deviation	0.5%	2.9%
NGINX Benchmark - S.W.P.S (Reqs/sec)	**26738**	**25759**
Normalized	100%	96.34%
Standard Deviation	10.4%	11.6%
Apache Benchmark - S.W.P.S (Reqs/sec)	**21502**	**21253**
Normalized	100%	98.84%
Standard Deviation	2.9%	2.2%

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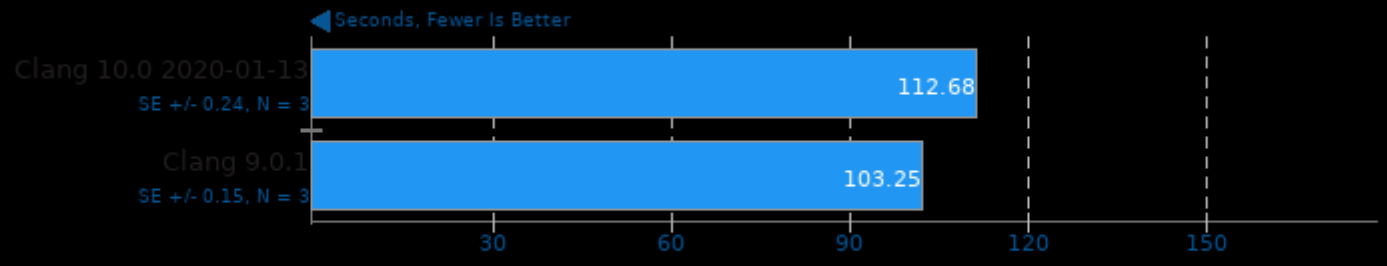
Timed MrBayes Analysis 3.2.7

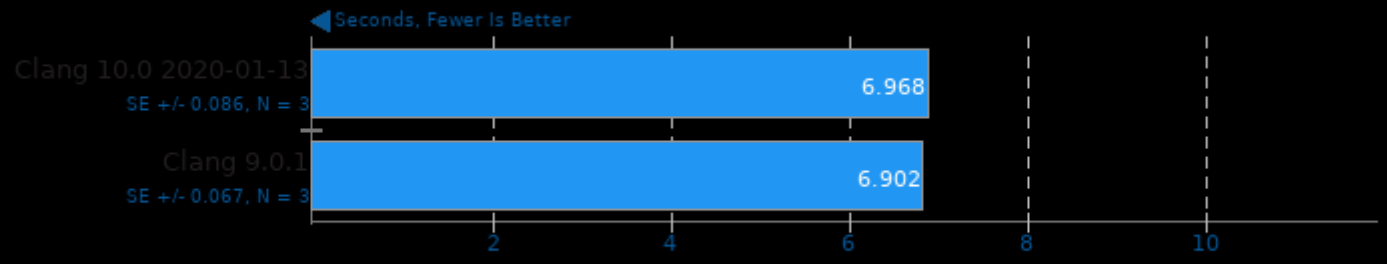
Primate Phylogeny Analysis



1. (CC) gcc options: -mmmx -msse -msse2 -msse3 -mssse3 -msse4.1 -msse4.2 -msse4a -msha -maes -mavx -mfma -mavx2 -mrdrnd -mbmi -mbmi2 -madx

Timed HMMer Search 2.3.2

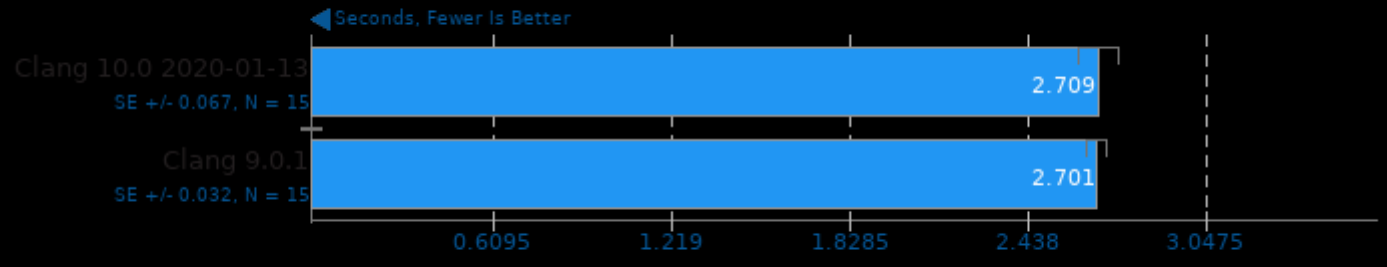
Pfam Database Search



1. (CC) gcc options: -O3 -march=znver2 -pthread -lhmmer -lsquid -lm

Timed MAFFT Alignment 7.392

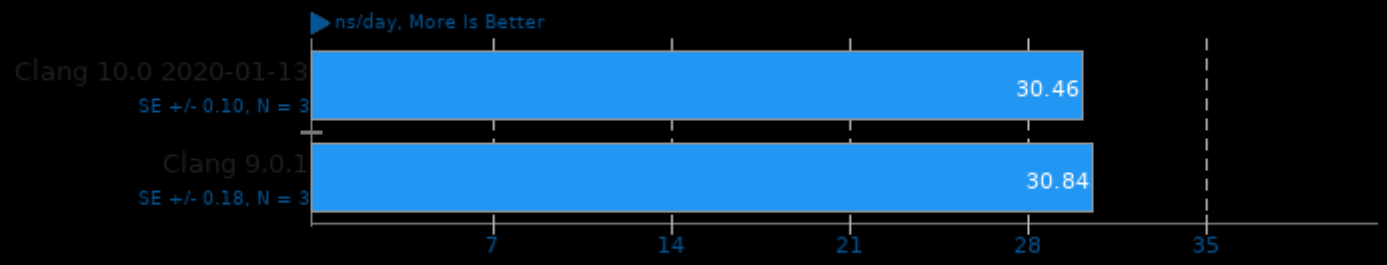
Multiple Sequence Alignment



1. (CC) gcc options: -std=c99 -O3 -lm -lpthread

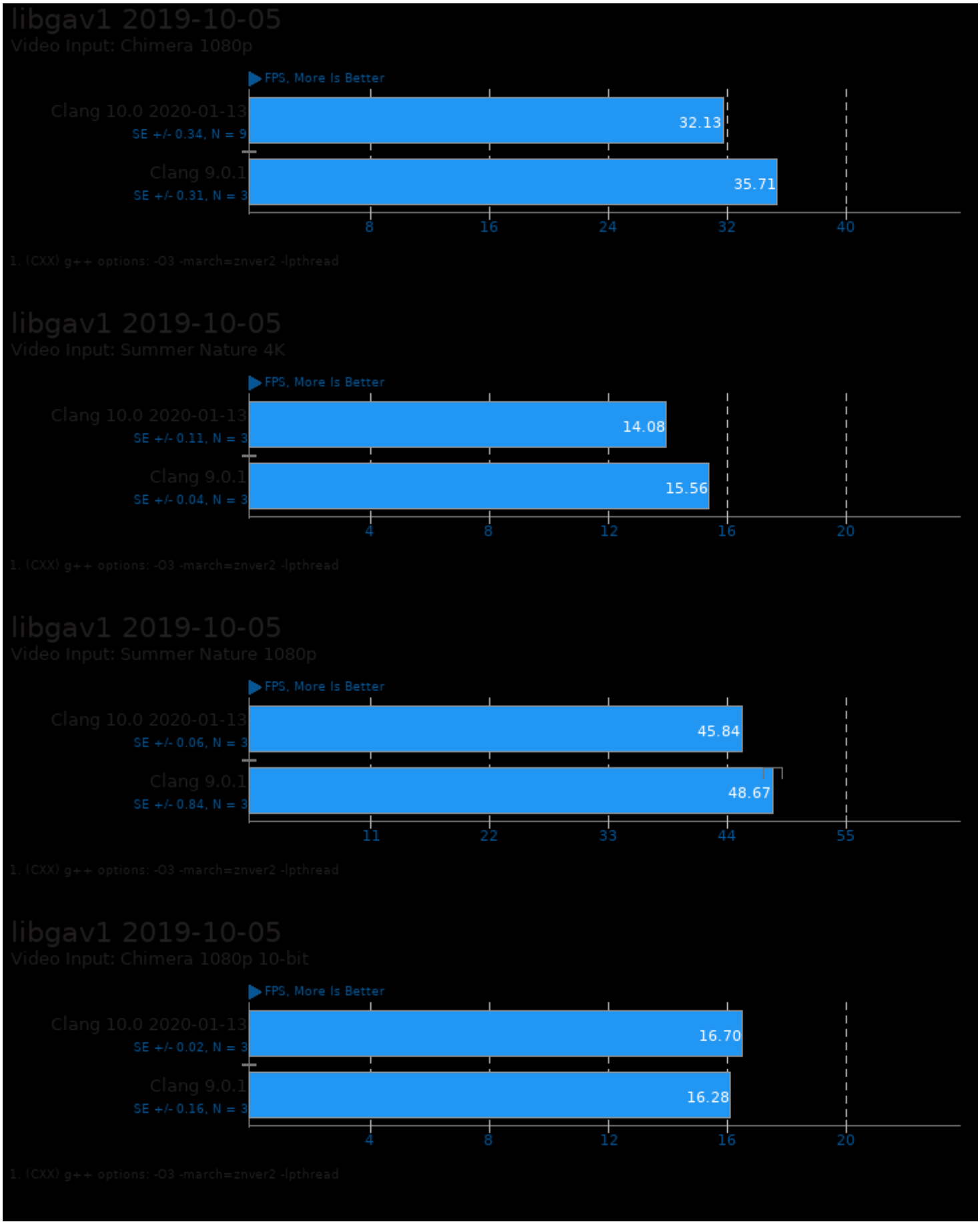
LAMMPS Molecular Dynamics Simulator 9Jan2020

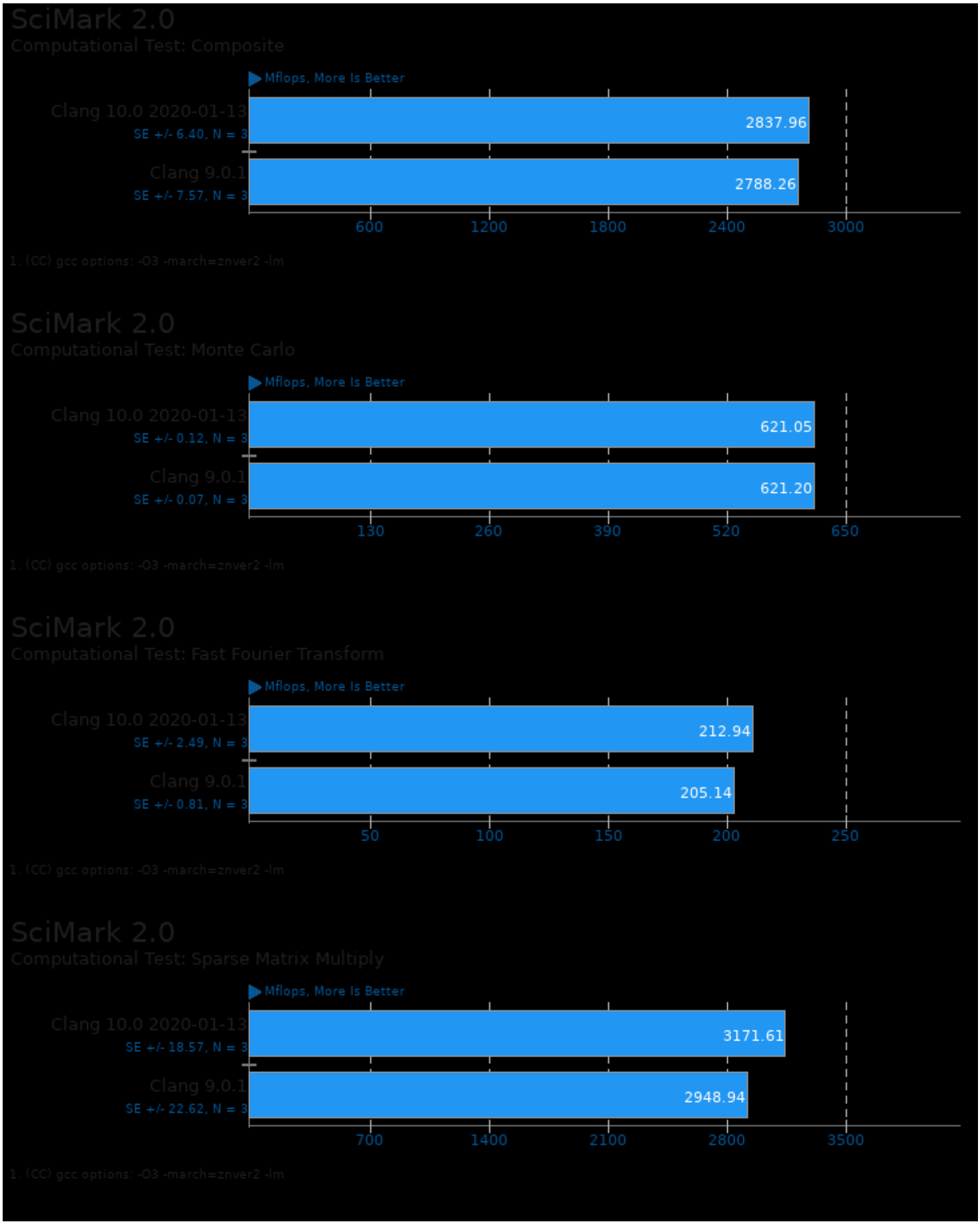
Model: Rhodopsin Protein



1. (CXX) g++ options: -O3 -march=znver2 -rdynamic -ljpeg -lpng -lz -lfftw3 -lm

Clang 10 AMD EPYC Rome Tests Znver2




SciMark 2.0
Computational Test: Composite
Mflops, More Is Better
Clang 10.0 2020-01-13
SE +/- 6.40, N = 3
2837.96
Clang 9.0.1
SE +/- 7.57, N = 3
2788.26
600
1200
1800
2400
3000
1. (CC) gcc options: -O3 -march=znver2 -lm
SciMark 2.0
Computational Test: Monte Carlo
Mflops, More Is Better
Clang 10.0 2020-01-13
SE +/- 0.12, N = 3
621.05
Clang 9.0.1
SE +/- 0.07, N = 3
621.20
130
260
390
520
650
1. (CC) gcc options: -O3 -march=znver2 -lm
SciMark 2.0
Computational Test: Fast Fourier Transform
Mflops, More Is Better
Clang 10.0 2020-01-13
SE +/- 2.49, N = 3
212.94
Clang 9.0.1
SE +/- 0.81, N = 3
205.14
50
100
150
200
250
1. (CC) gcc options: -O3 -march=znver2 -lm
SciMark 2.0
Computational Test: Sparse Matrix Multiply
Mflops, More Is Better
Clang 10.0 2020-01-13
SE +/- 18.57, N = 3
3171.61
Clang 9.0.1
SE +/- 22.62, N = 3
2948.94
700
1400
2100
2800
3500
1. (CC) gcc options: -O3 -march=znver2 -lm

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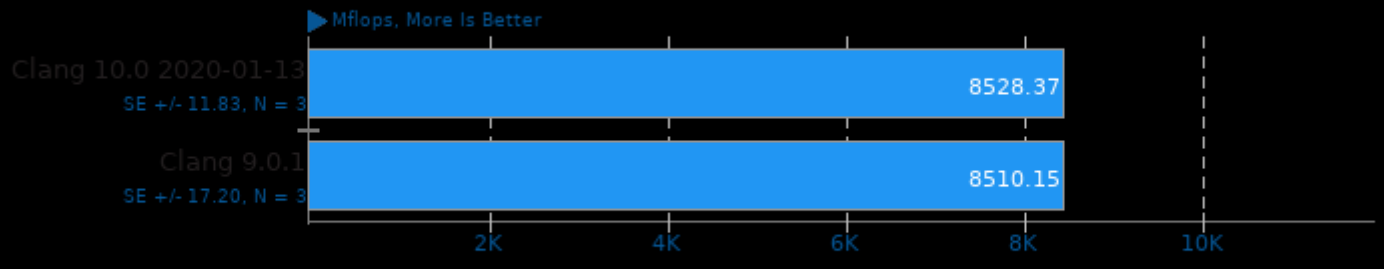
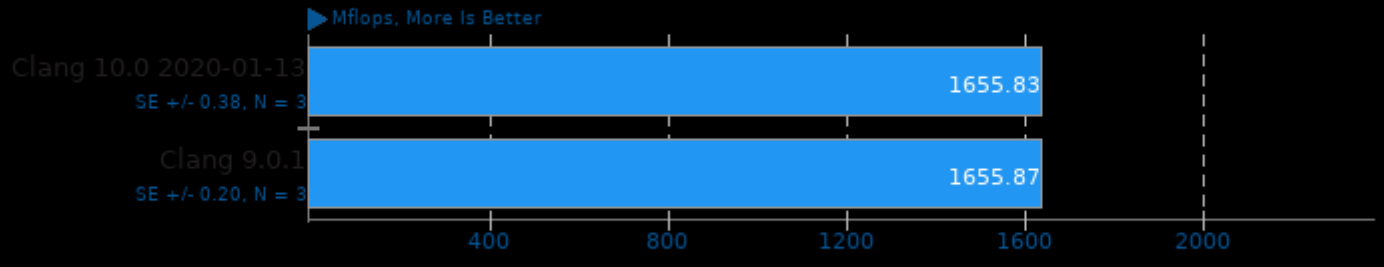
SciMark 2.0
Computational Test: Dense LU Matrix Factorization



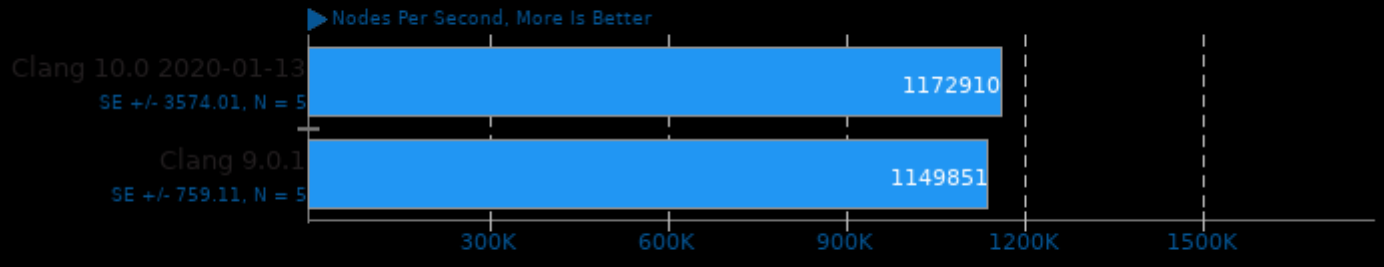
1. (CC) gcc options: -O3 -march=znver2 -lm

SciMark 2.0
Computational Test: Jacobi Successive Over-Relaxation



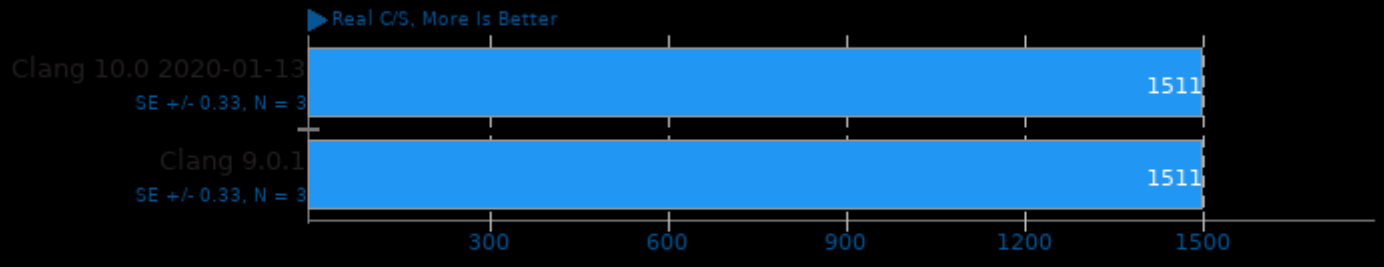
1. (CC) gcc options: -O3 -march=znver2 -lm

TSCP 1.81
AI Chess Performance



1. (CC) gcc options: -O3 -march=znver2 -march=native

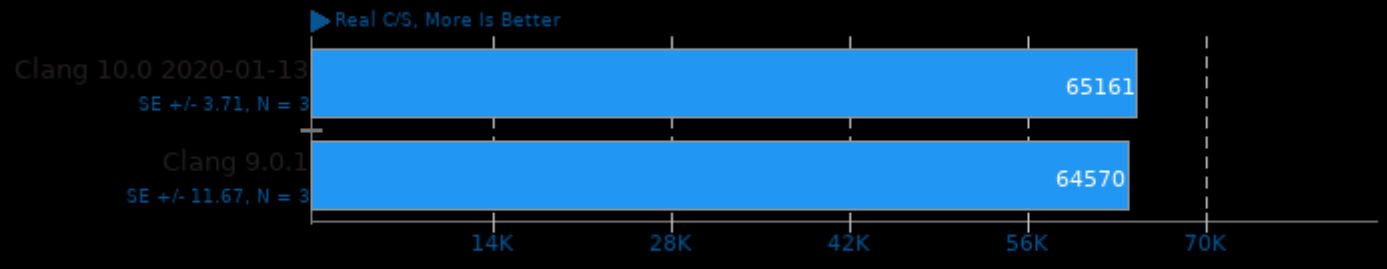
John The Ripper 1.9.0-jumbo-1
Test: Blowfish



1. (CC) gcc options: -m64 -lssl -lcrypto -pthread -lm -lz -ldl -lcrypt -lbz2 -mavx2 -O3 -march=native -march=znver2 -std=gnu89 -Qunused-arguments -fun

John The Ripper 1.9.0-jumbo-1

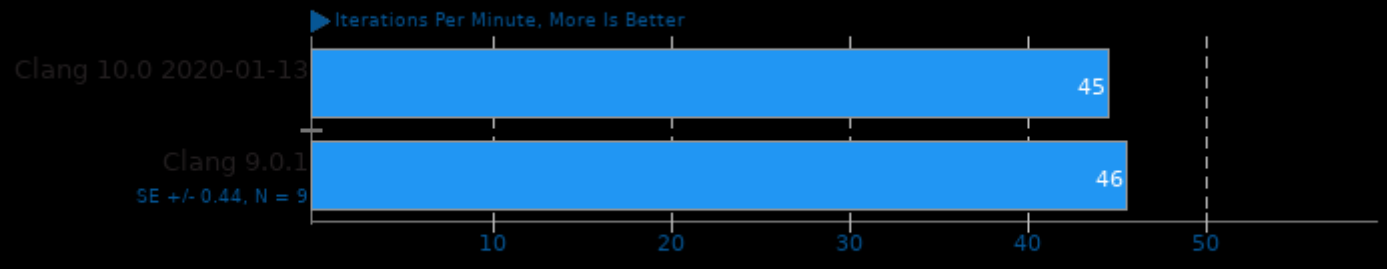
Test: MD5



1. (CC) gcc options: -m64 -lssl -lcrypto -pthread -lm -lz -ldl -lcrypt -lbz2 -mavx2 -O3 -march=native -march=znver2 -std=gnu89 -Qunused-arguments -fun

GraphicsMagick 1.3.33

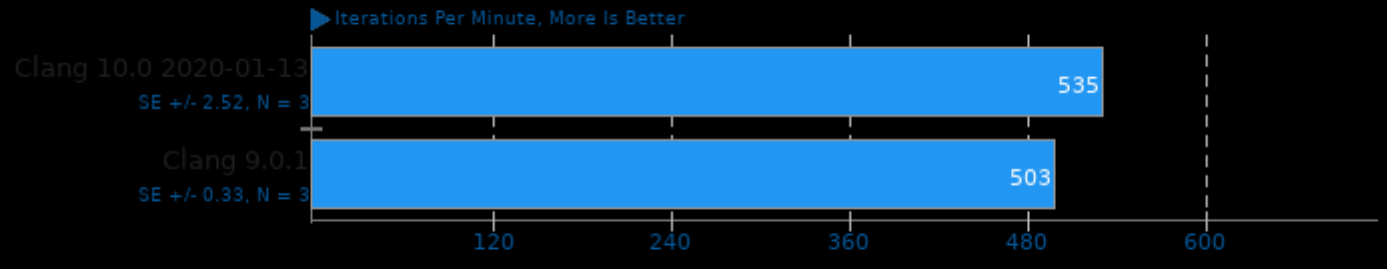
Operation: Swirl



1. (CC) gcc options: -O3 -march=znver2 -pthread -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -lbz2 -lxml2 -lz -lm -lpthread

GraphicsMagick 1.3.33

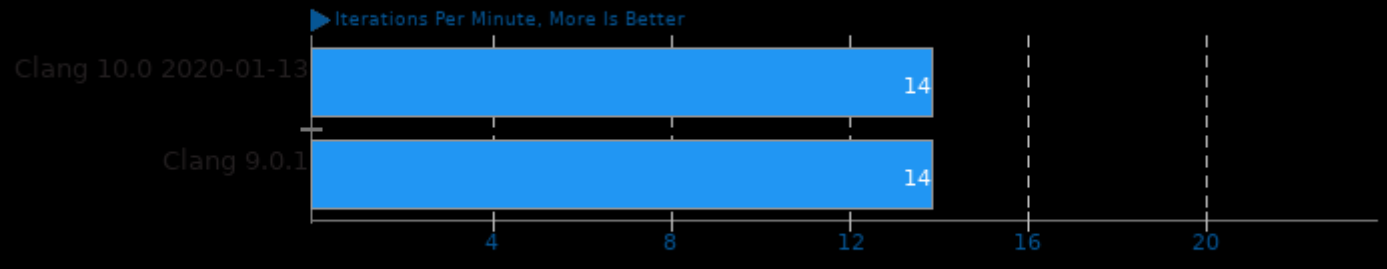
Operation: Rotate



1. (CC) gcc options: -O3 -march=znver2 -pthread -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -lbz2 -lxml2 -lz -lm -lpthread

GraphicsMagick 1.3.33

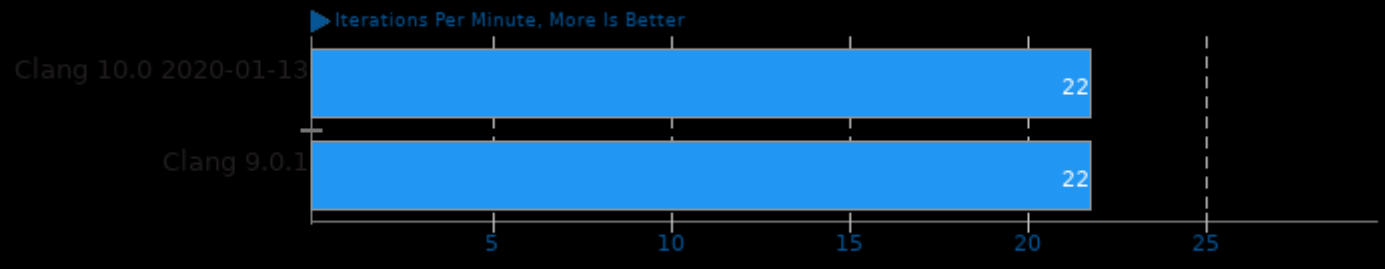
Operation: Sharpen



1. (CC) gcc options: -O3 -march=znver2 -pthread -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -lbz2 -lxml2 -lz -lm -lpthread

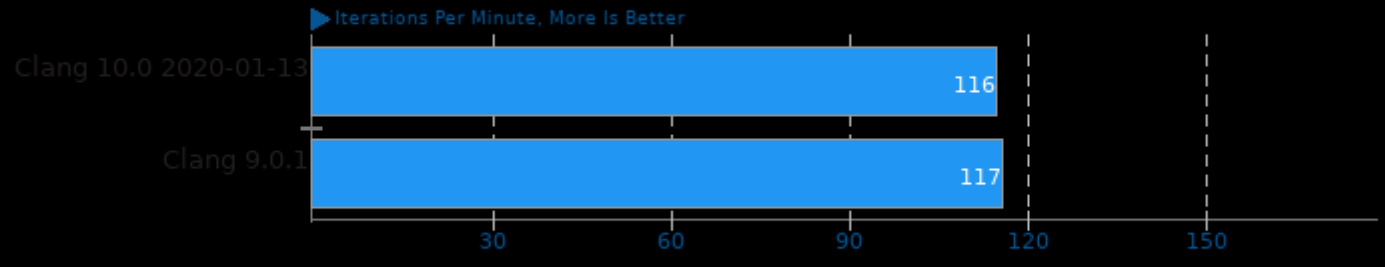
Clang 10 AMD EPYC Rome Tests Znver2

GraphicsMagick 1.3.33
Operation: Enhanced



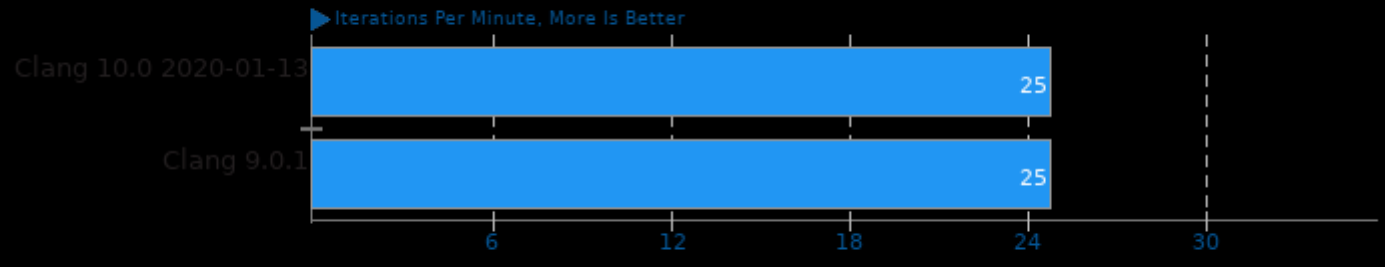
1. (CC) gcc options: -O3 -march=znver2 -pthread -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -lbz2 -lxml2 -lz -lm -lpthread

GraphicsMagick 1.3.33
Operation: Resizing



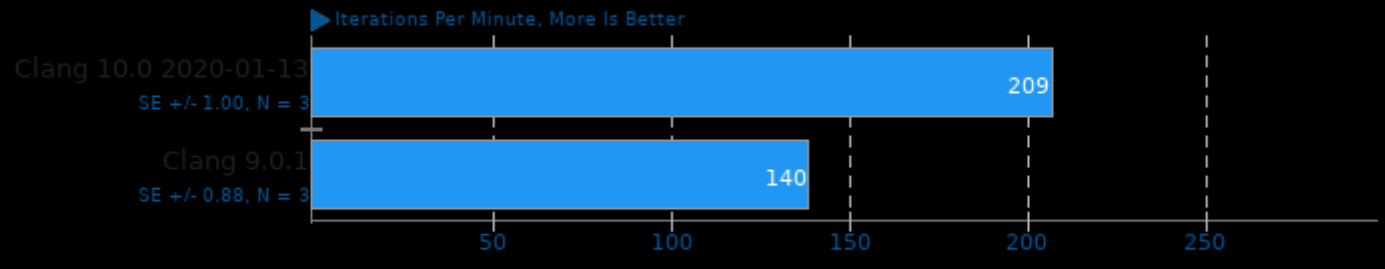
1. (CC) gcc options: -O3 -march=znver2 -pthread -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -lbz2 -lxml2 -lz -lm -lpthread

GraphicsMagick 1.3.33
Operation: Noise-Gaussian

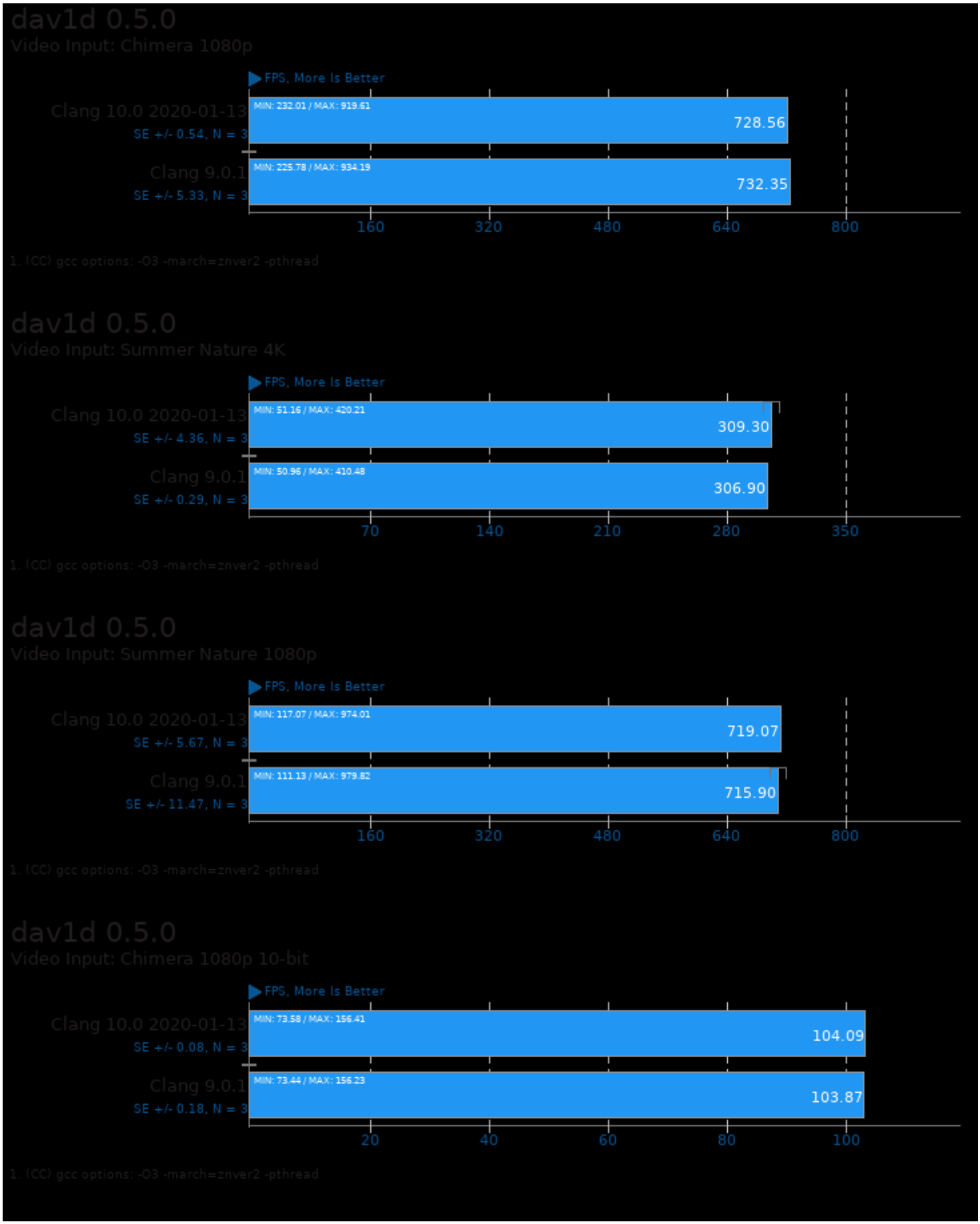


1. (CC) gcc options: -O3 -march=znver2 -pthread -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -lbz2 -lxml2 -lz -lm -lpthread

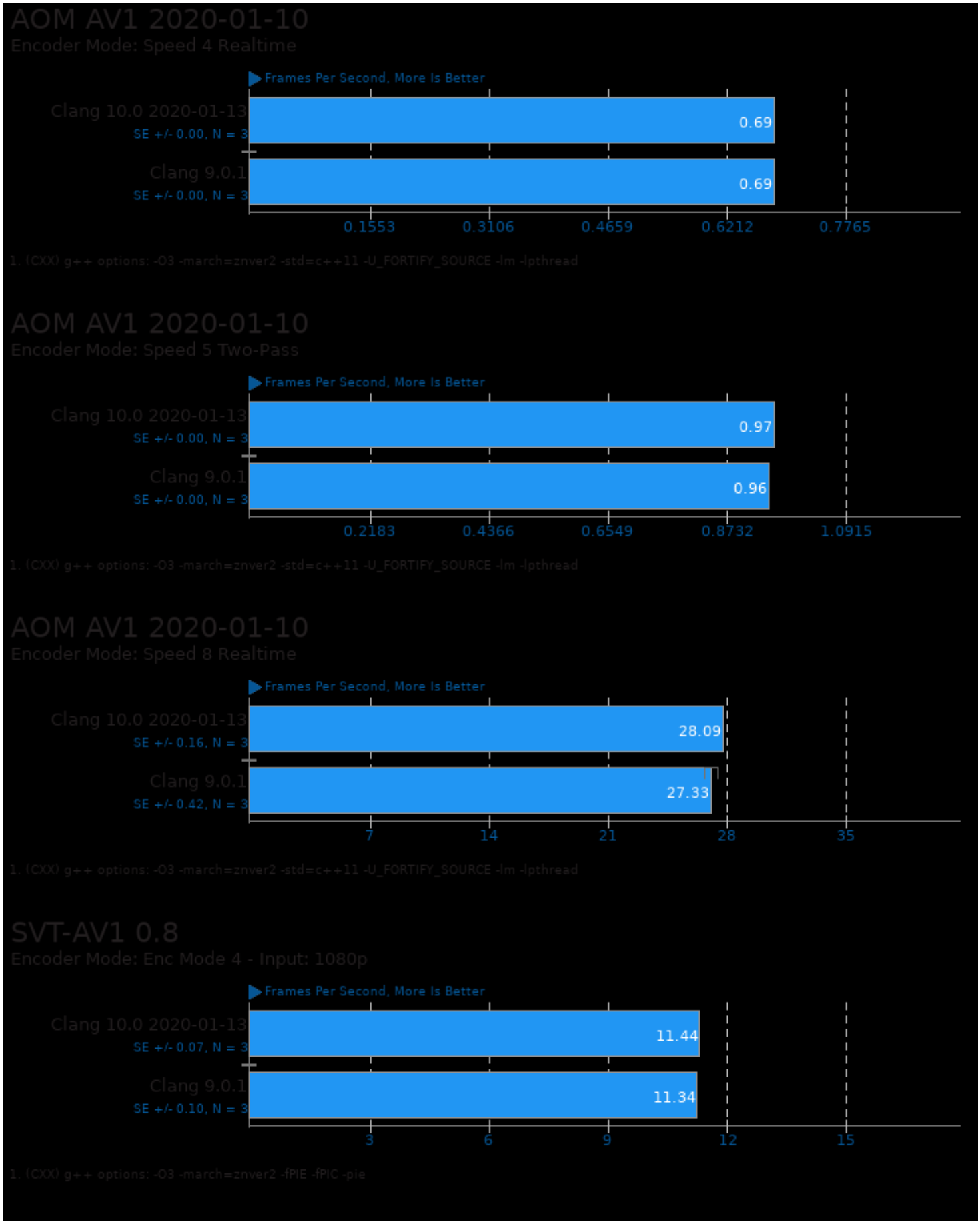
GraphicsMagick 1.3.33
Operation: HWB Color Space



1. (CC) gcc options: -O3 -march=znver2 -pthread -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -lbz2 -lxml2 -lz -lm -lpthread


dav1d 0.5.0
Video Input: Chimera 1080p
FPS, More Is Better
Clang 10.0 2020-01-13
MIN: 232.01 / MAX: 919.61
728.56
SE +/- 0.54, N = 3
Clang 9.0.1
MIN: 225.78 / MAX: 934.19
732.35
SE +/- 5.33, N = 3
160
320
480
640
800
1. (CC) gcc options: -O3 -march=znver2 -pthread
dav1d 0.5.0
Video Input: Summer Nature 4K
FPS, More Is Better
Clang 10.0 2020-01-13
MIN: 51.16 / MAX: 420.21
309.30
SE +/- 4.36, N = 3
Clang 9.0.1
MIN: 50.96 / MAX: 410.48
306.90
SE +/- 0.29, N = 3
70
140
210
280
350
1. (CC) gcc options: -O3 -march=znver2 -pthread
dav1d 0.5.0
Video Input: Summer Nature 1080p
FPS, More Is Better
Clang 10.0 2020-01-13
MIN: 117.07 / MAX: 974.01
719.07
SE +/- 5.67, N = 3
Clang 9.0.1
MIN: 111.13 / MAX: 979.82
715.90
SE +/- 11.47, N = 3
160
320
480
640
800
1. (CC) gcc options: -O3 -march=znver2 -pthread
dav1d 0.5.0
Video Input: Chimera 1080p 10-bit
FPS, More Is Better
Clang 10.0 2020-01-13
MIN: 73.58 / MAX: 156.41
104.09
SE +/- 0.08, N = 3
Clang 9.0.1
MIN: 73.44 / MAX: 156.23
103.87
SE +/- 0.18, N = 3
20
40
60
80
100
1. (CC) gcc options: -O3 -march=znver2 -pthread

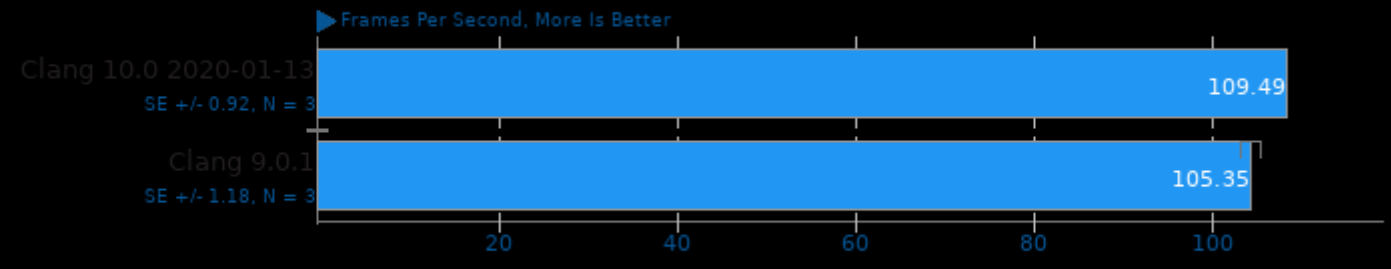
Clang 10 AMD EPYC Rome Tests Znver2



Clang 10 AMD EPYC Rome Tests Znver2

SVT-AV1 0.8

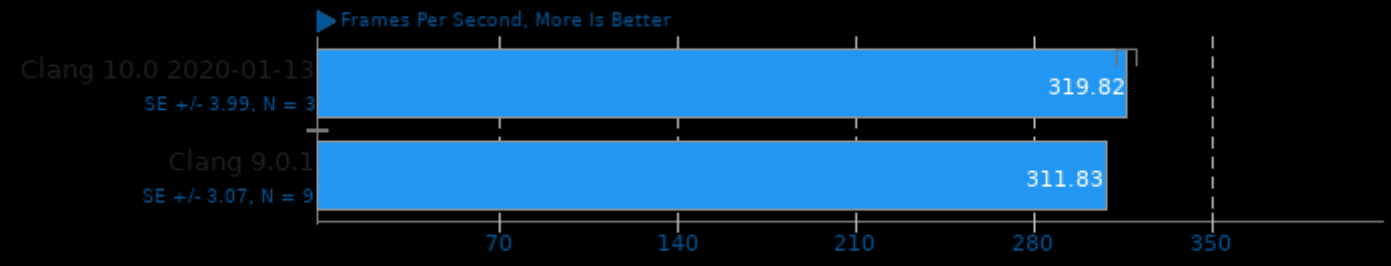
Encoder Mode: Enc Mode 8 - Input: 1080p



1. (CXX) g++ options: -O3 -march=znver2 -fPIE -fPIC -pie

SVT-VP9 0.1

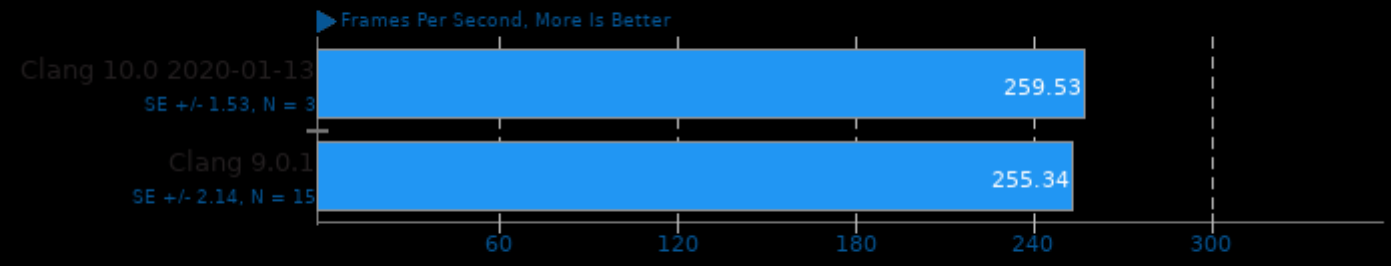
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -march=znver2 -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

SVT-VP9 0.1

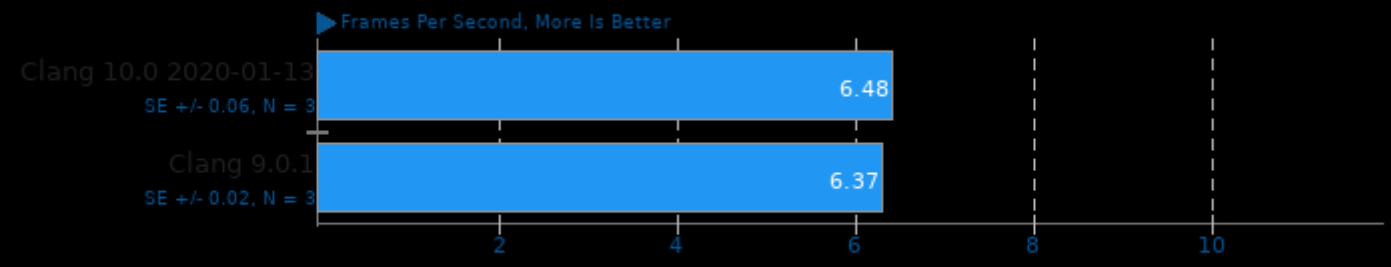
Tuning: Visual Quality Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -march=znver2 -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

VP9 libvpx Encoding 1.8.2

Speed: Speed 0

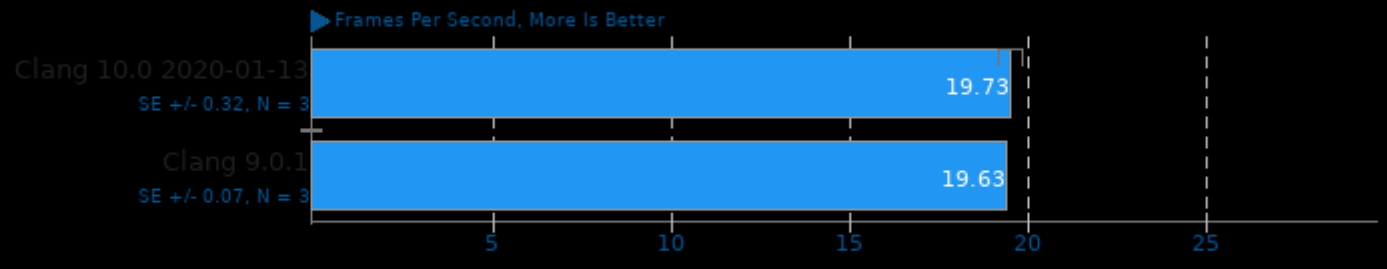


1. (CXX) g++ options: -m64 -lm -lpthread -O3 -march=znver2 -fPIC -U_FORTIFY_SOURCE -std=c++11

Clang 10 AMD EPYC Rome Tests Znver2

VP9 libvpx Encoding 1.8.2

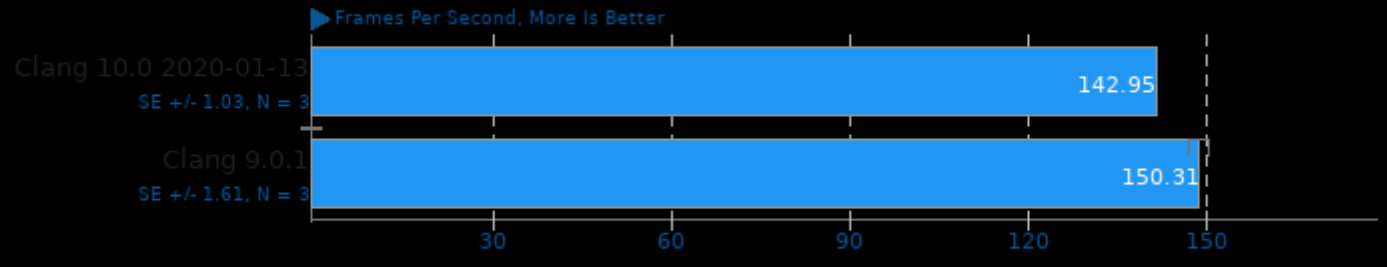
Speed: Speed 5



1. (CXX) g++ options: -m64 -lm -lpthread -O3 -march=znver2 -fPIC -U_FORTIFY_SOURCE -std=c++11

x264 2018-09-25

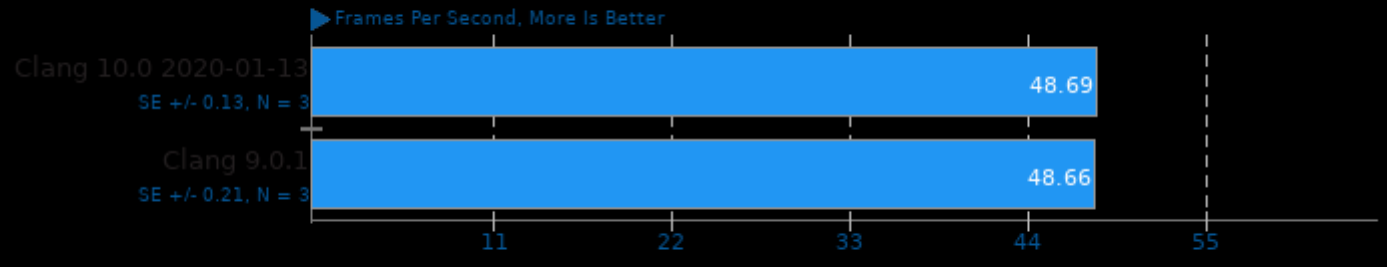
H.264 Video Encoding



1. (CC) gcc options: -ldl -m64 -lm -lpthread -O3 -ffast-math -march=znver2 -std=gnu99 -mstack-alignment=64 -fPIC -fomit-frame-pointer -fno-tree-vector

x265 3.1.2

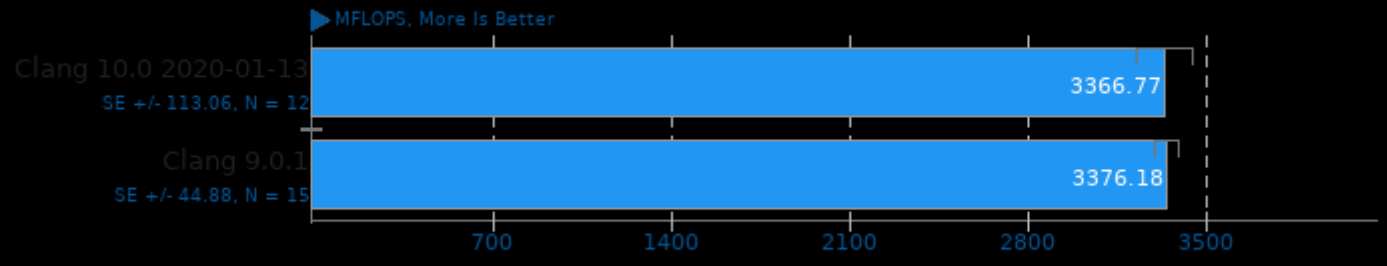
H.265 1080p Video Encoding



1. (CXX) g++ options: -O3 -march=znver2 -rdynamic -lpthread -lrt -ldl -lnuma

Himeno Benchmark 3.0

Poisson Pressure Solver

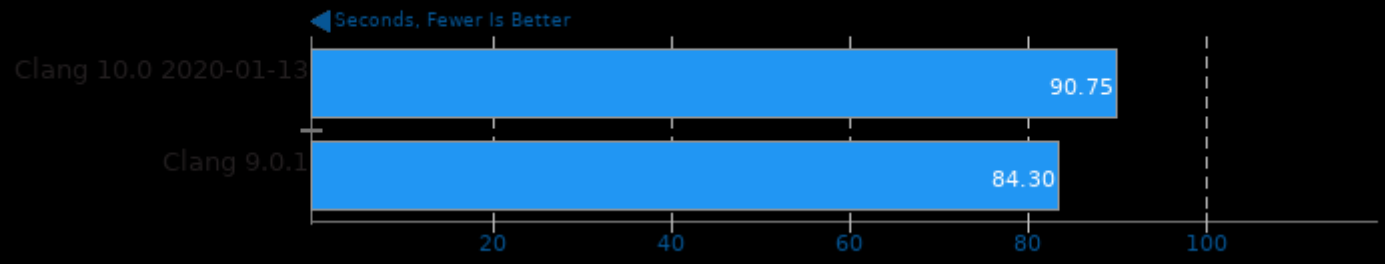


1. (CC) gcc options: -O3 -march=znver2 -mavx2

Clang 10 AMD EPYC Rome Tests Znver2

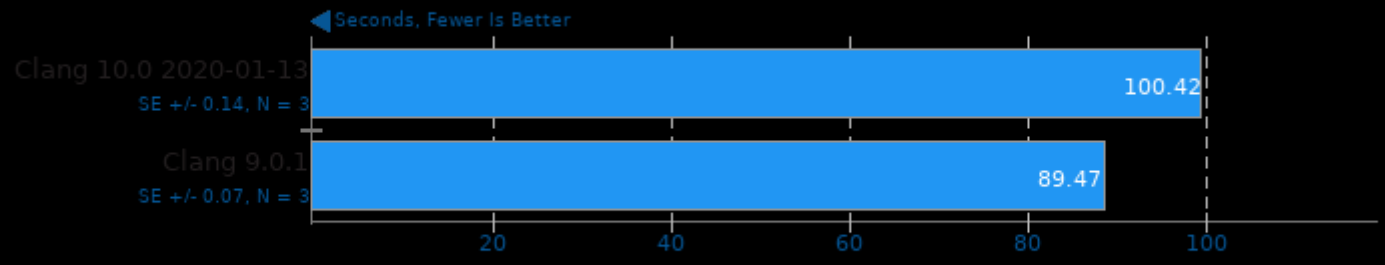
Timed LLVM Compilation 6.0.1

Time To Compile



Timed PHP Compilation 7.1.9

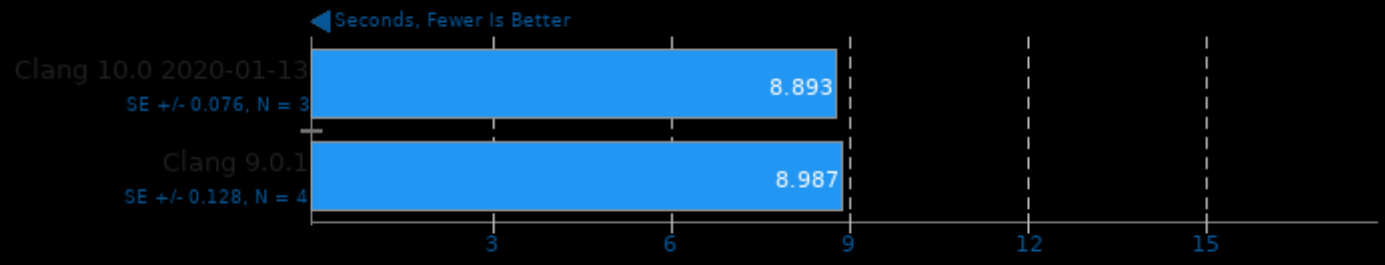
Time To Compile



1. (CC) gcc options: -O3 -march=znver2 -pedantic -ldl -lz -lm

C-Ray 1.1

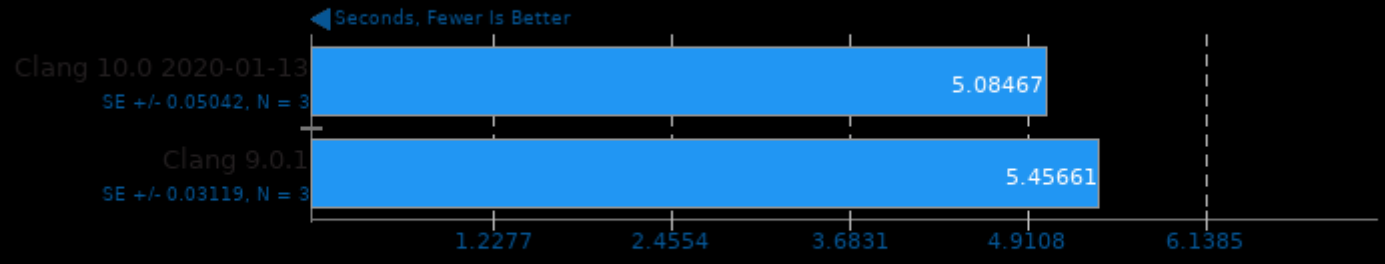
Total Time - 4K, 16 Rays Per Pixel



1. (CC) gcc options: -lm -lpthread -O3 -march=znver2

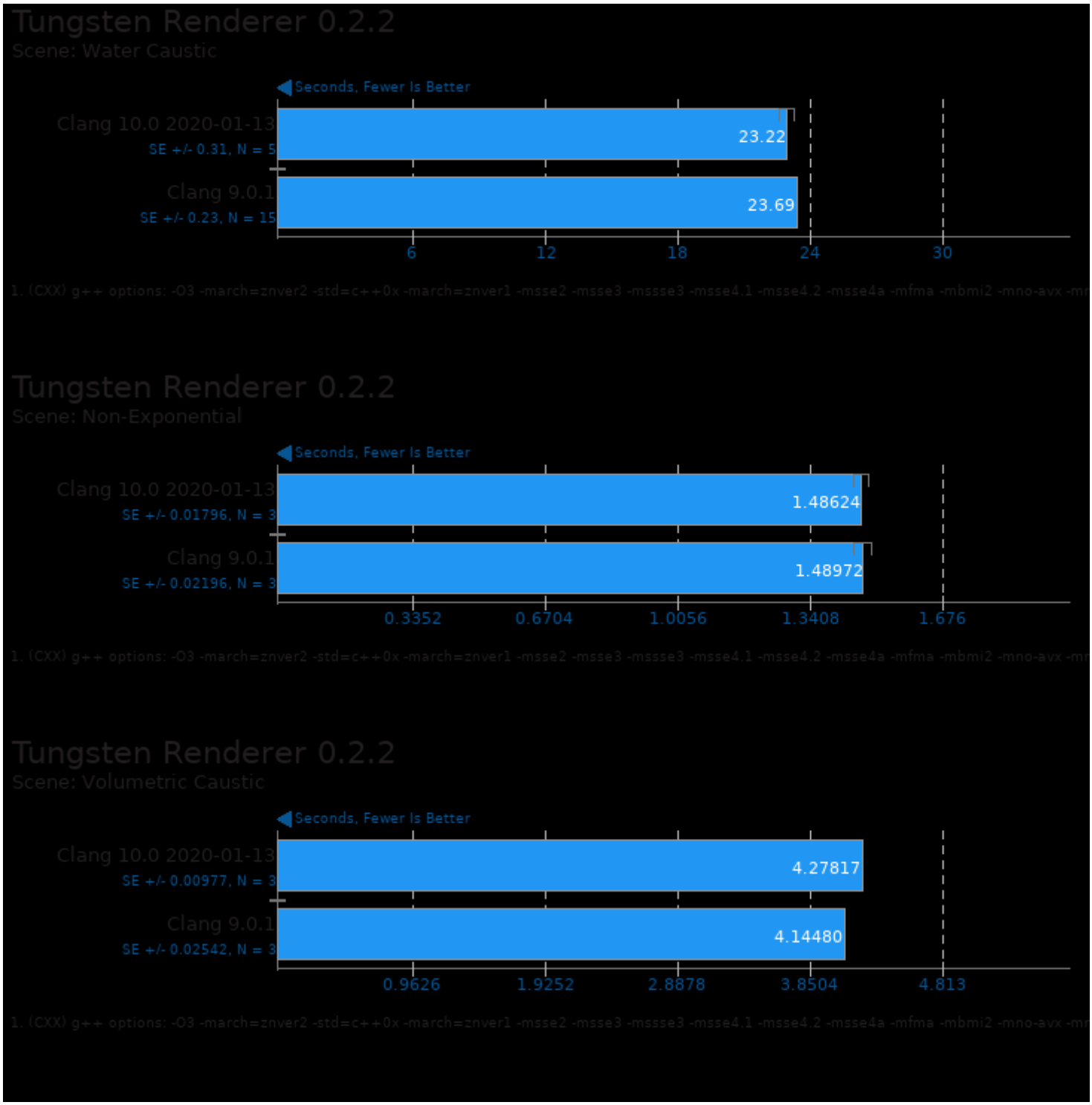
Tungsten Renderer 0.2.2

Scene: Hair



1. (CXX) g++ options: -O3 -march=znver2 -std=c++0x -march=znver1 -msse2 -msse3 -mssse3 -msse4.1 -msse4.2 -msse4a -mfma -mbmi2 -mno-avx -m

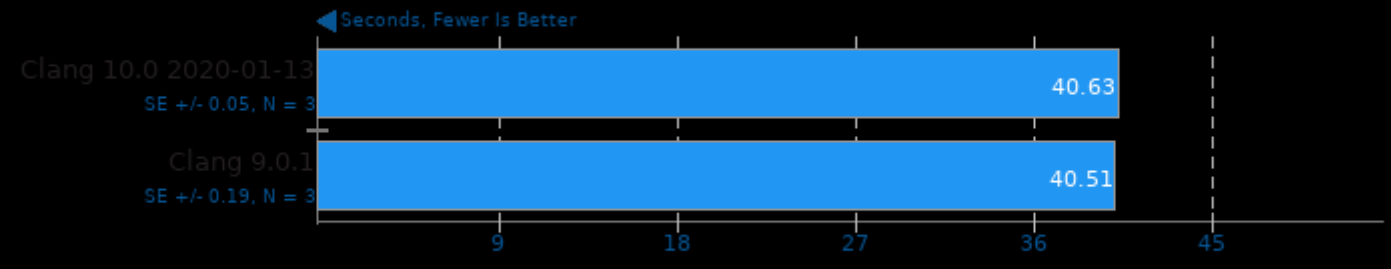
Clang 10 AMD EPYC Rome Tests Znver2



Clang 10 AMD EPYC Rome Tests Znver2

AOBench

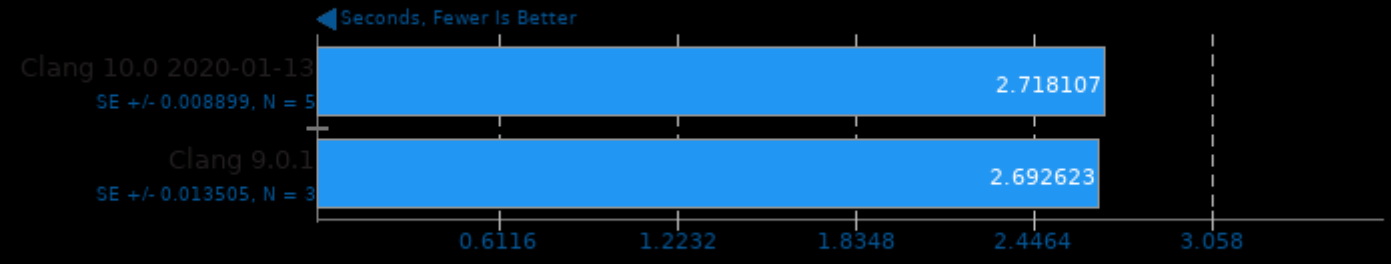
Size: 2048 x 2048 - Total Time



1. (CC) gcc options: -lm -O3 -march=znver2

Bullet Physics Engine 2.81

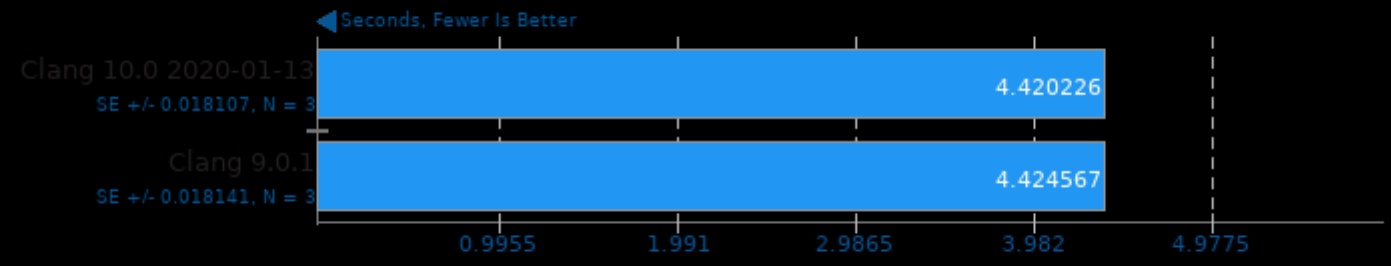
Test: Raytests



1. (CXX) g++ options: -O3 -march=znver2 -rdynamic

Bullet Physics Engine 2.81

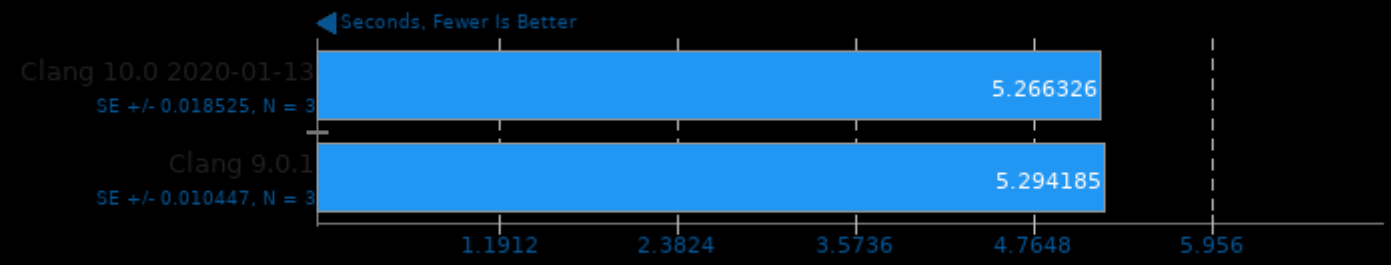
Test: 3000 Fall



1. (CXX) g++ options: -O3 -march=znver2 -rdynamic

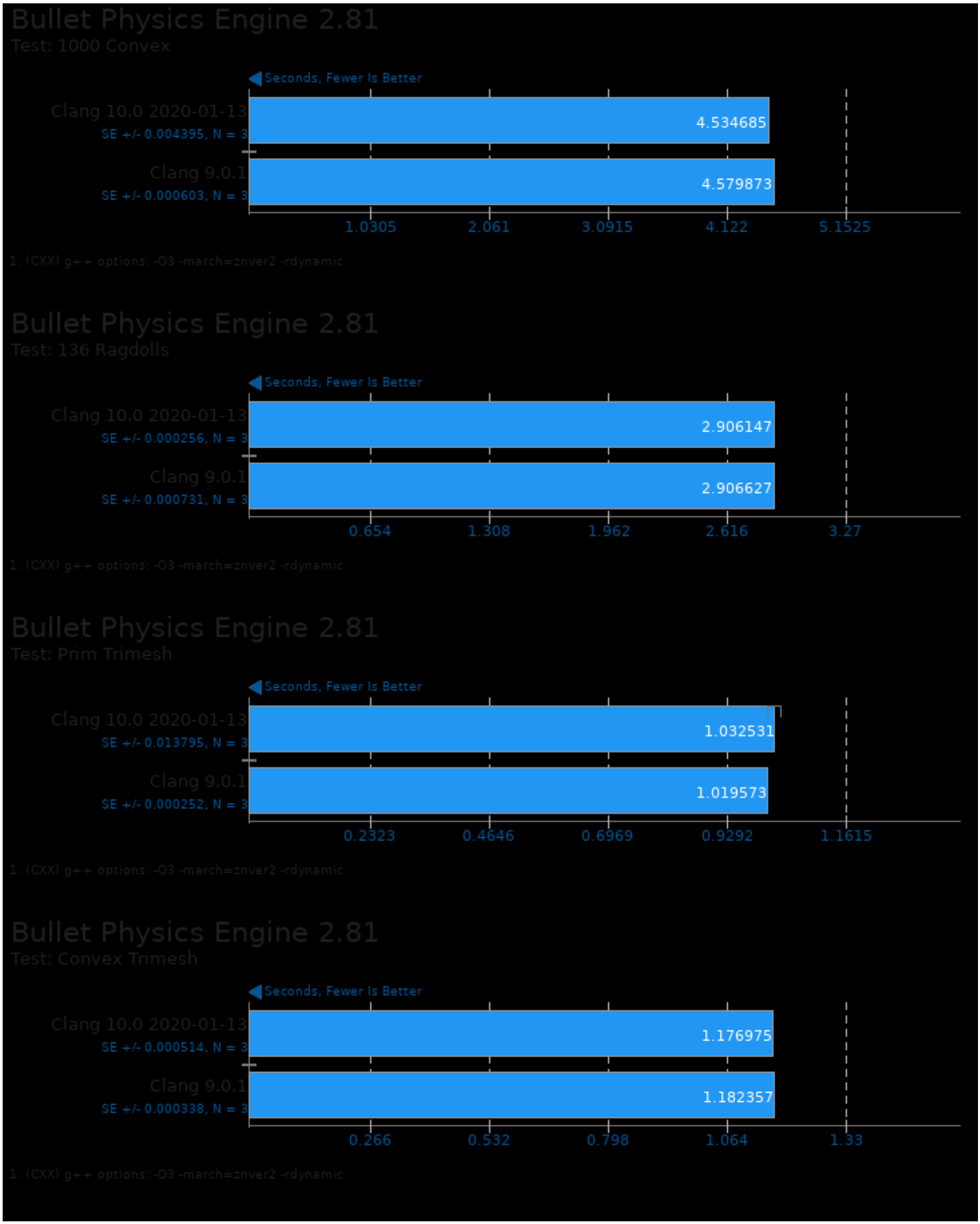
Bullet Physics Engine 2.81

Test: 1000 Stack



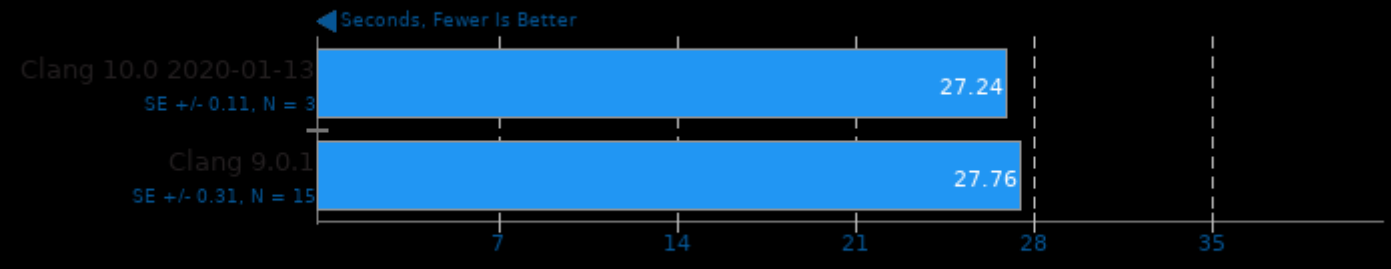
1. (CXX) g++ options: -O3 -march=znver2 -rdynamic

Clang 10 AMD EPYC Rome Tests Znver2



XZ Compression 5.2.4

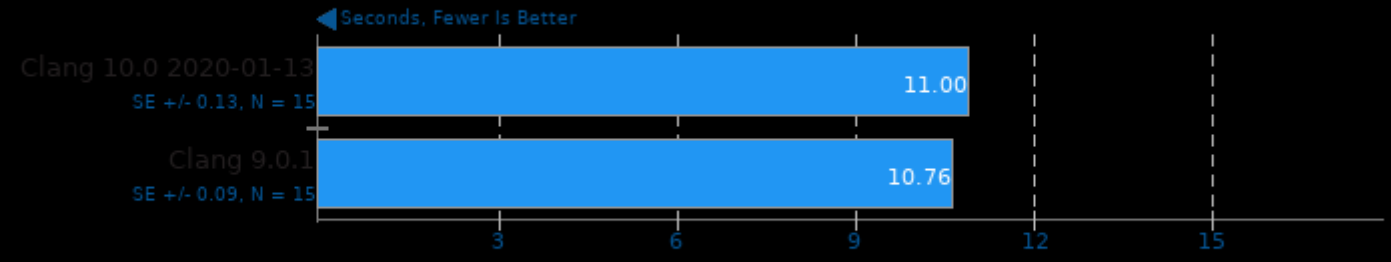
Compressing ubuntu-16.04.3-server-i386.img, Compression Level 9



1. (CC) gcc options: -pthread -fvisibility=hidden -O3 -march=znver2

Zstd Compression 1.3.4

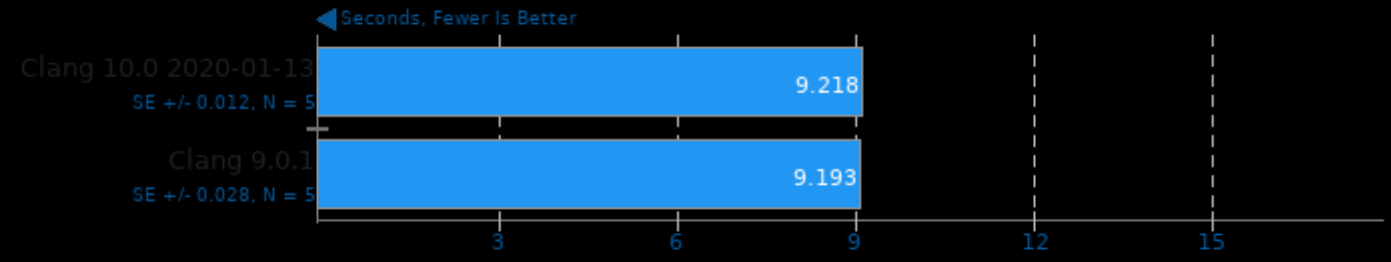
Compressing ubuntu-16.04.3-server-i386.img, Compression Level 19



1. (CC) gcc options: -O3 -march=znver2 -pthread -lz

FLAC Audio Encoding 1.3.2

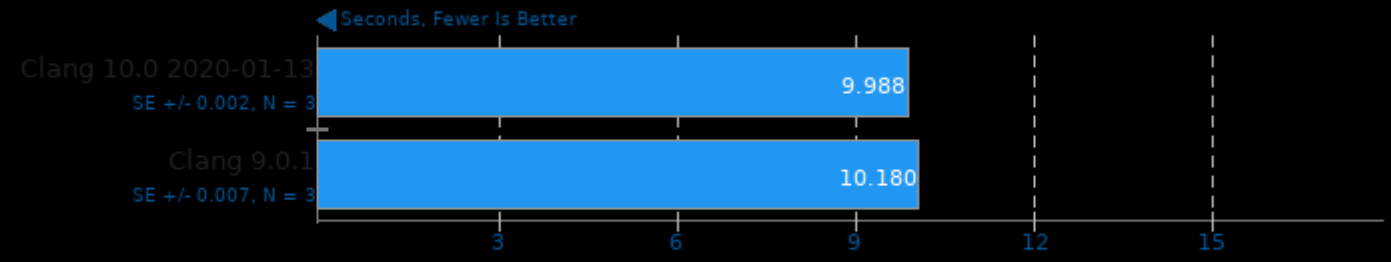
WAV To FLAC



1. (CXX) g++ options: -O3 -march=znver2 -lm

LAME MP3 Encoding 3.100

WAV To MP3

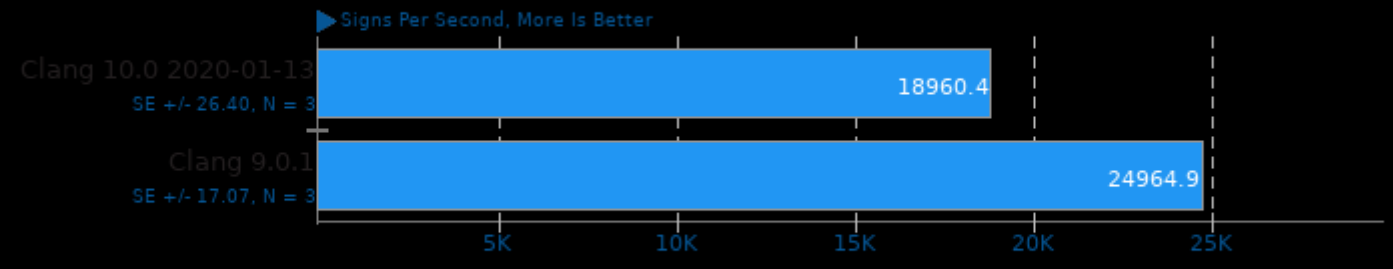


1. (CC) gcc options: -O3 -pipe -march=znver2 -lncurses -lm

Clang 10 AMD EPYC Rome Tests Znver2

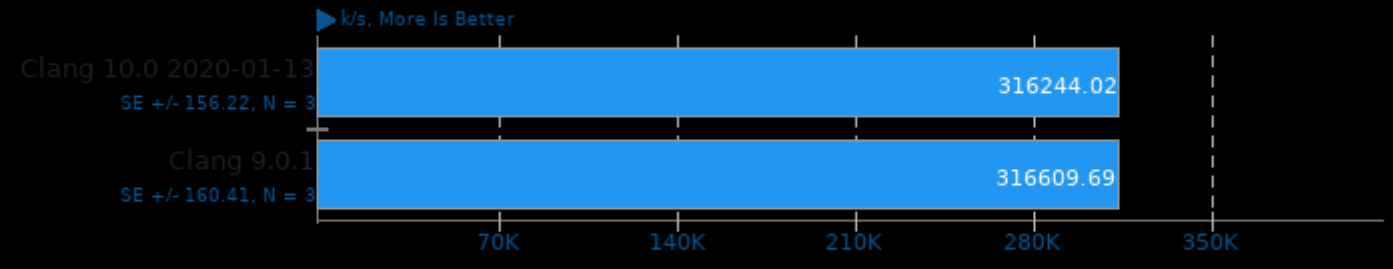
OpenSSL 1.1.1

RSA 4096-bit Performance



1. (CC) gcc options: -pthread -m64 -Qunused-arguments -O3 -march=znver2 -lssl -lcrypto -ldl

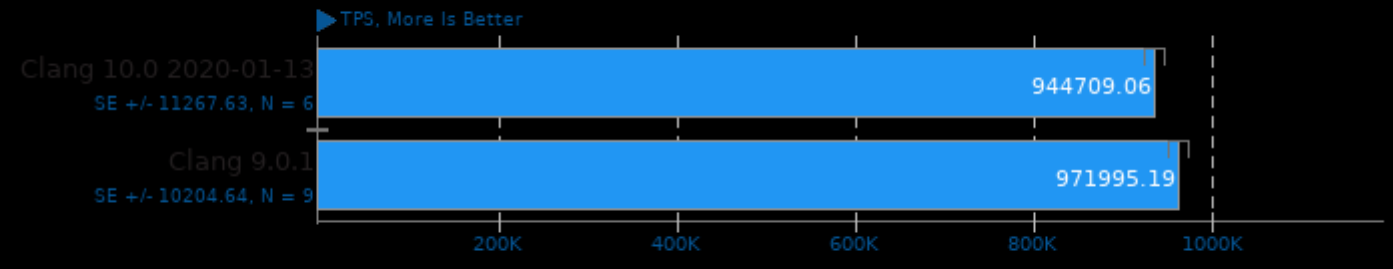
Aircrack-ng 1.5.2



1. (CXX) g++ options: -O3 -fvisibility=hidden -masm=intel -march=znver2 -rdynamic -lpthread -lz -lcrypto -lhwloc -ldl -lm -pthread

PostgreSQL pgbench 12.0

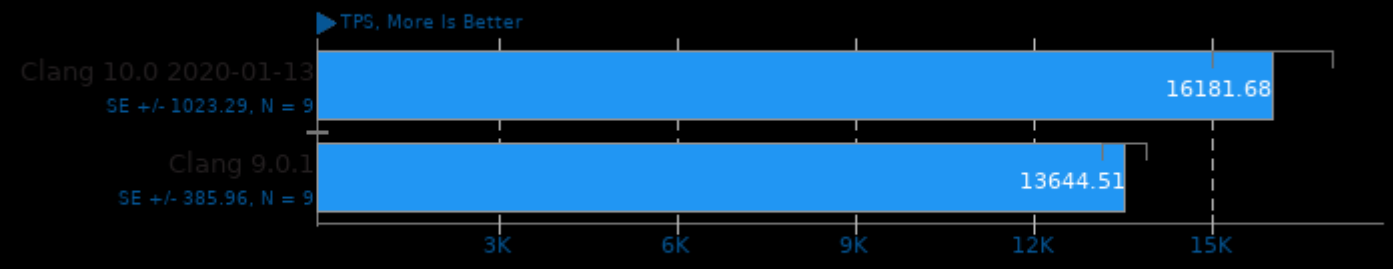
Scaling: Buffer Test - Test: Normal Load - Mode: Read Only



1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O3 -march=znver2 -lpgcommon -lpgport -lpq -lpthread -lrt -lcrypt -ldl -lm

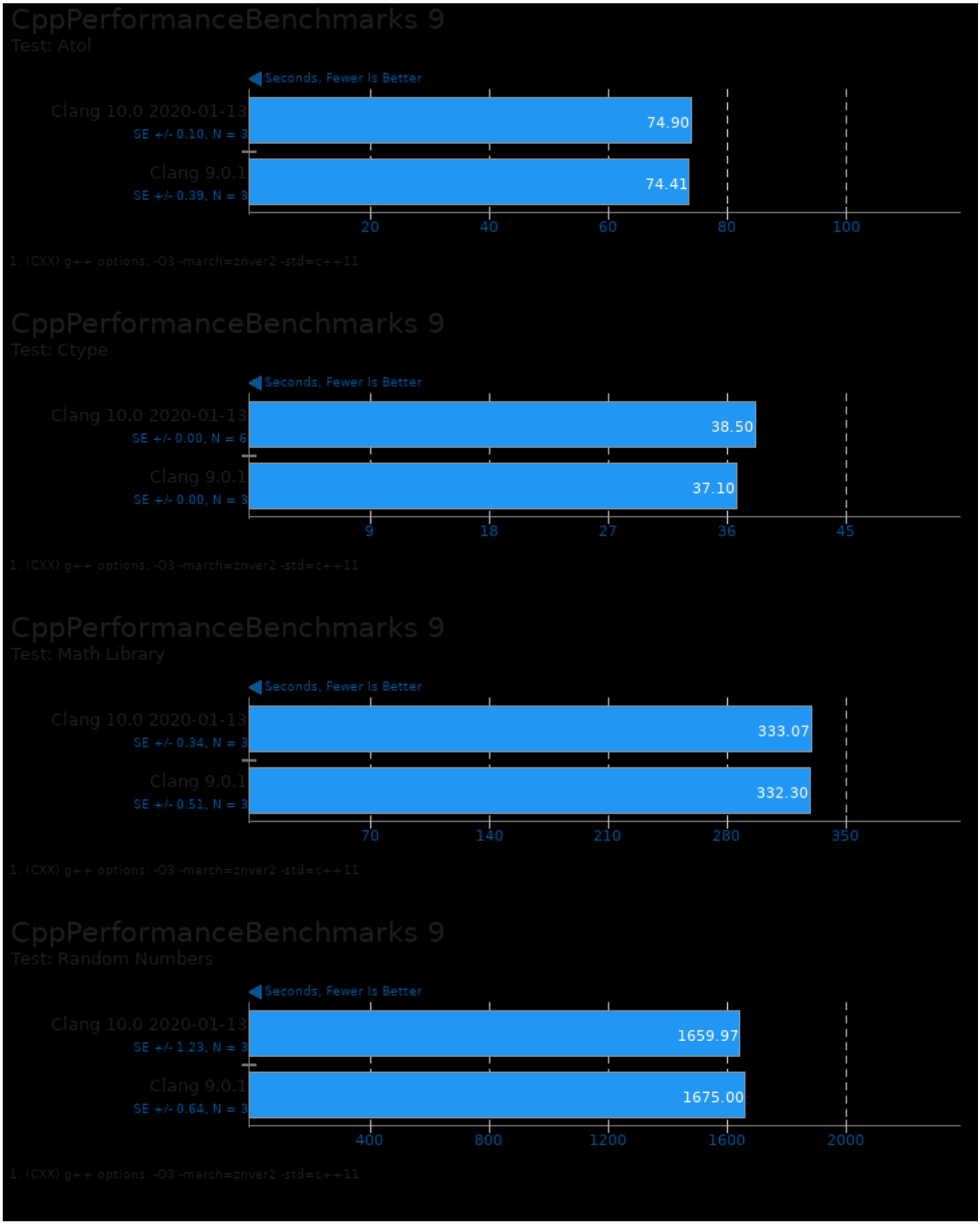
PostgreSQL pgbench 12.0

Scaling: Buffer Test - Test: Normal Load - Mode: Read Write

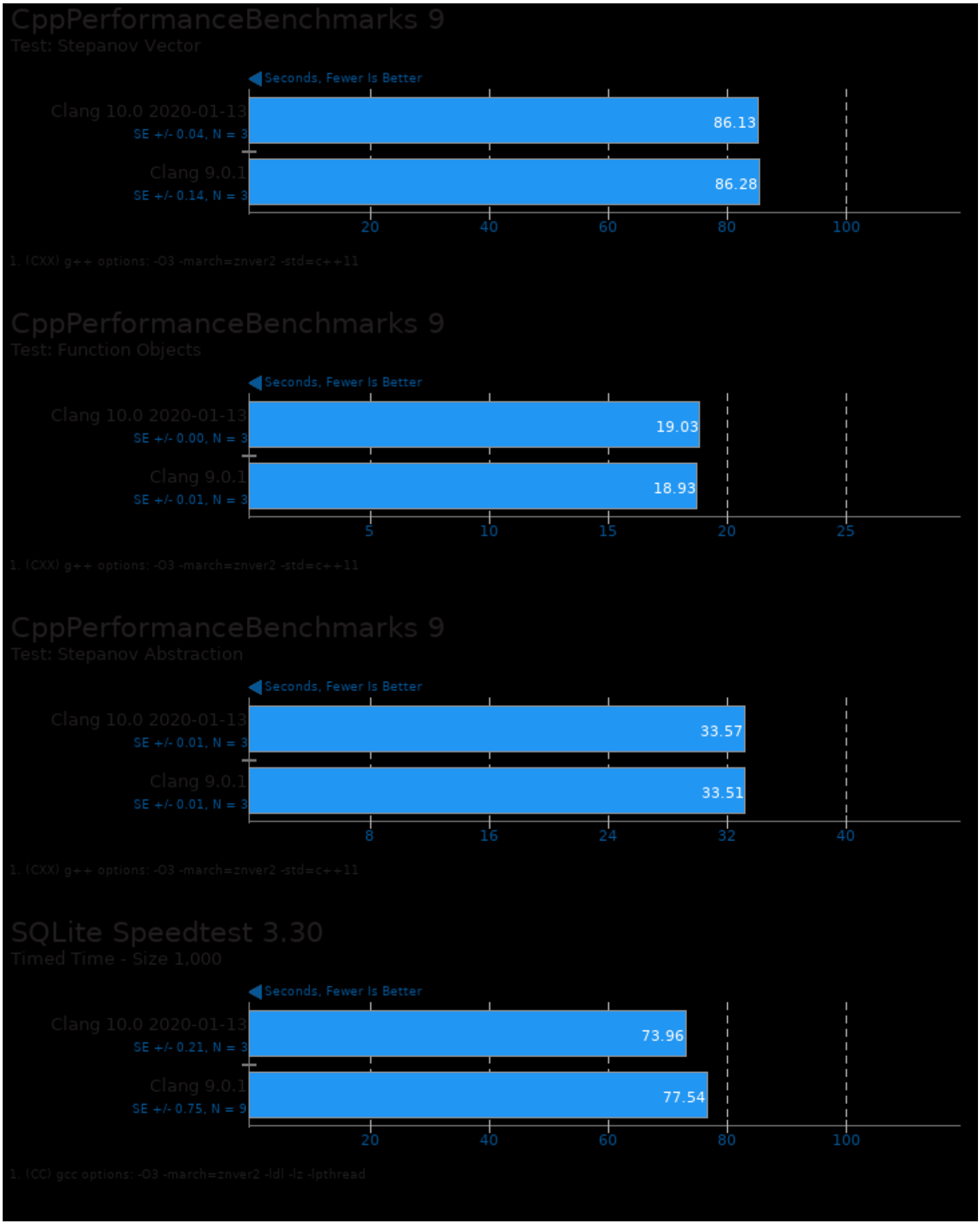


1. (CC) gcc options: -fno-strict-aliasing -fwrapv -O3 -march=znver2 -lpgcommon -lpgport -lpq -lpthread -lrt -lcrypt -ldl -lm

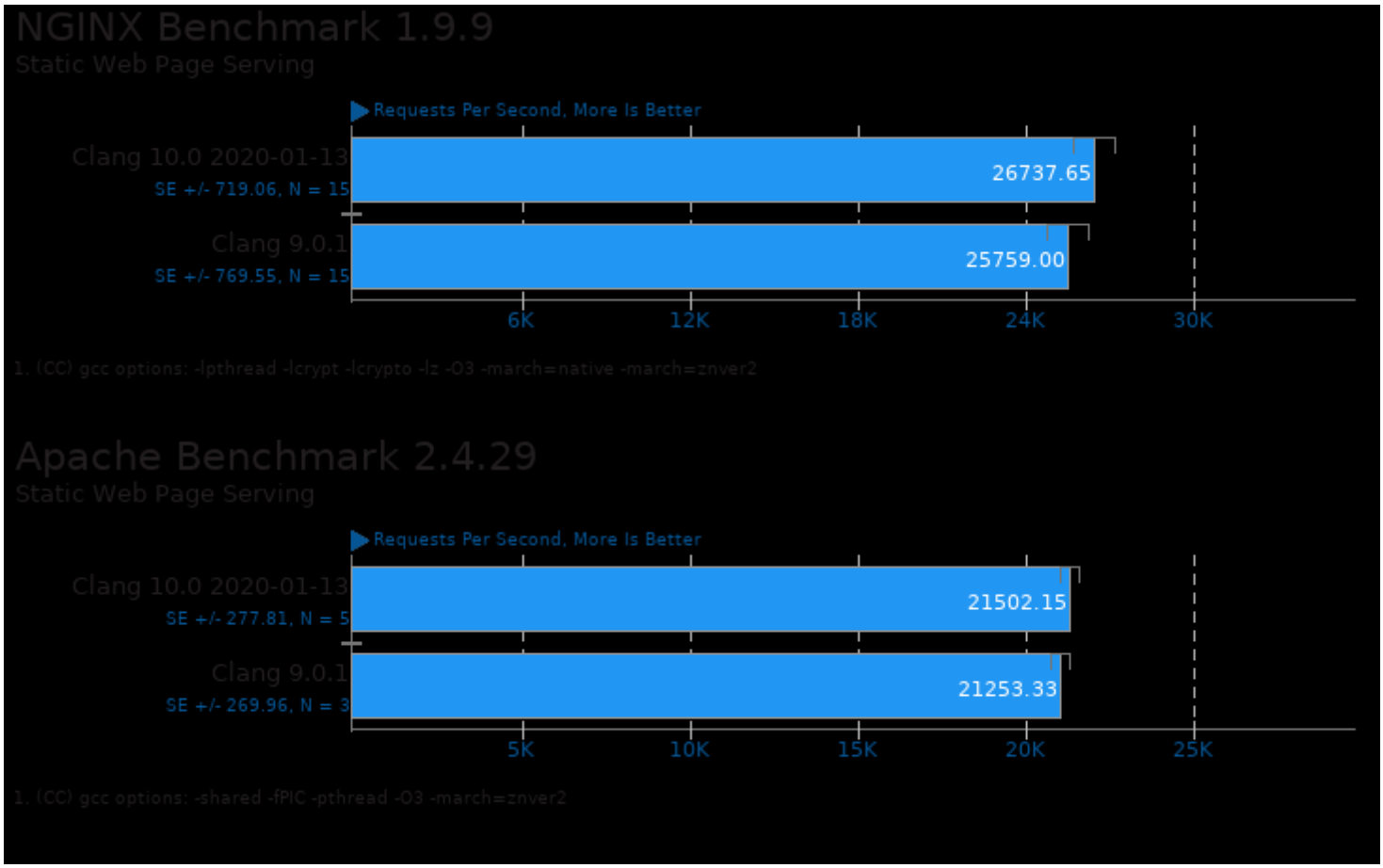
Clang 10 AMD EPYC Rome Tests Znver2



Clang 10 AMD EPYC Rome Tests Znver2

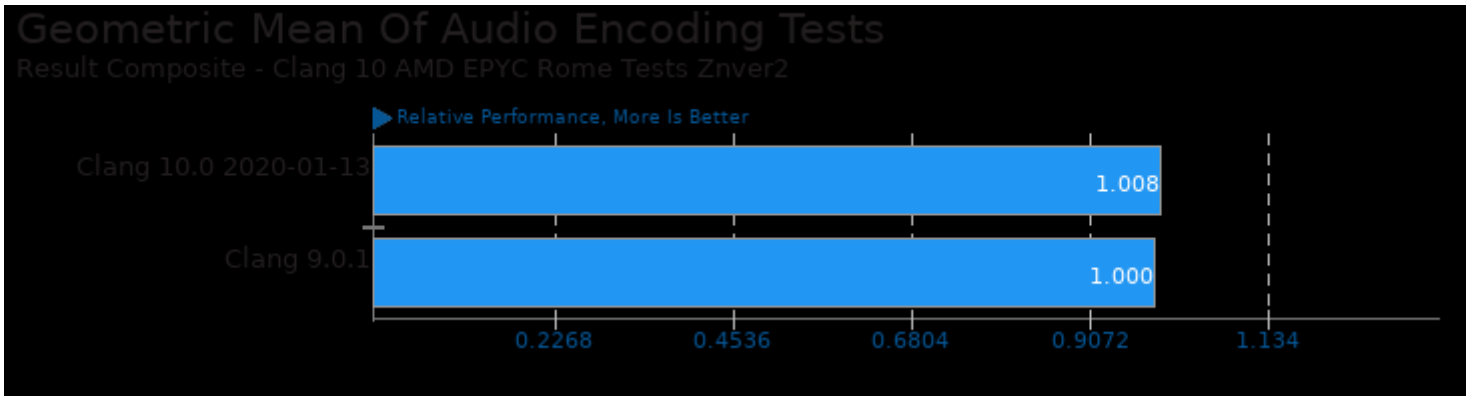


Clang 10 AMD EPYC Rome Tests Znver2

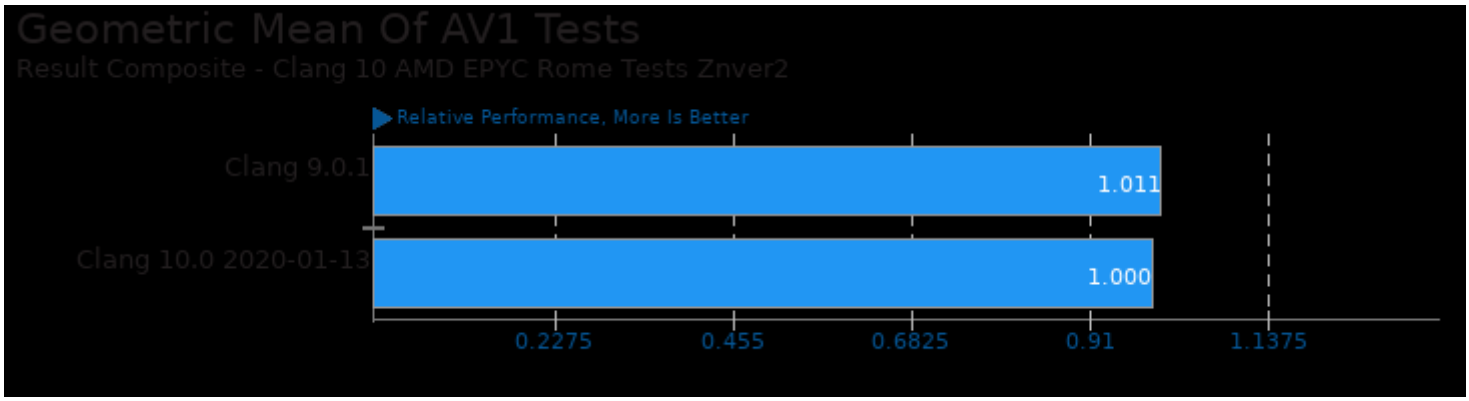


Clang 10 AMD EPYC Rome Tests Znver2

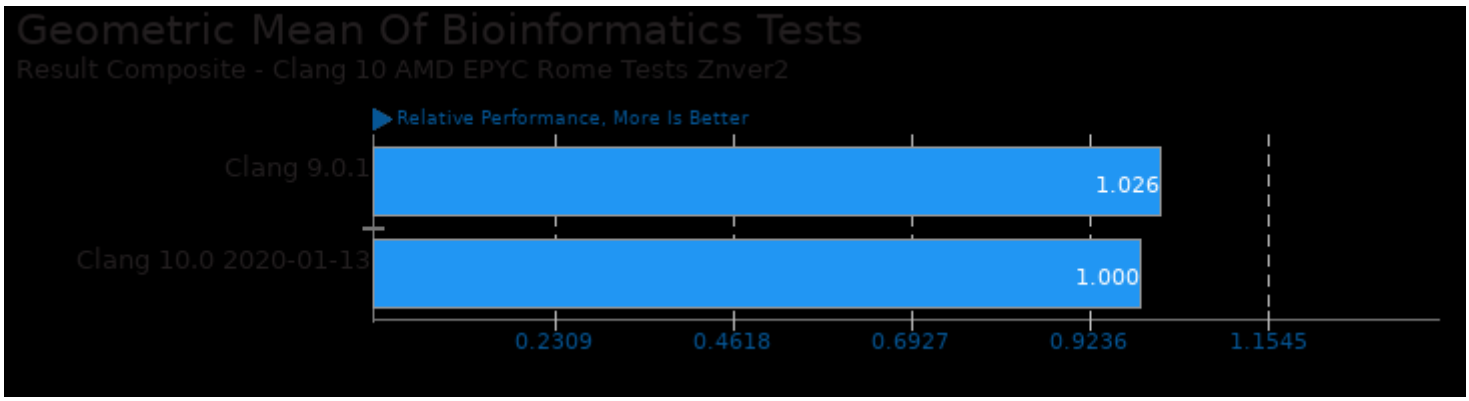
These geometric means are based upon test groupings / test suites for this result file.



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

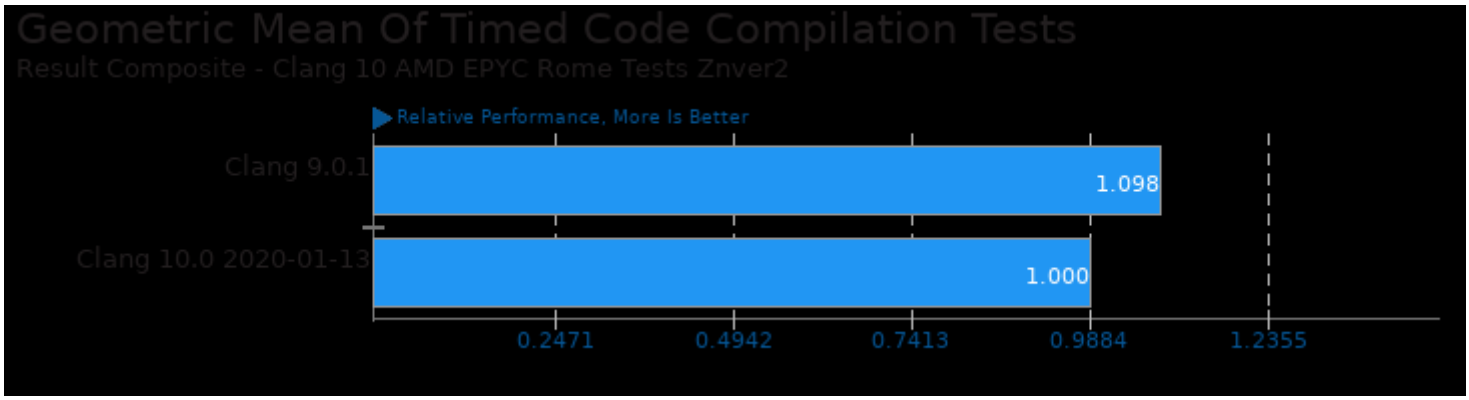


Geometric mean based upon tests: pts/dav1d, pts/aom-av1, pts/svt-av1 and pts/libgav1

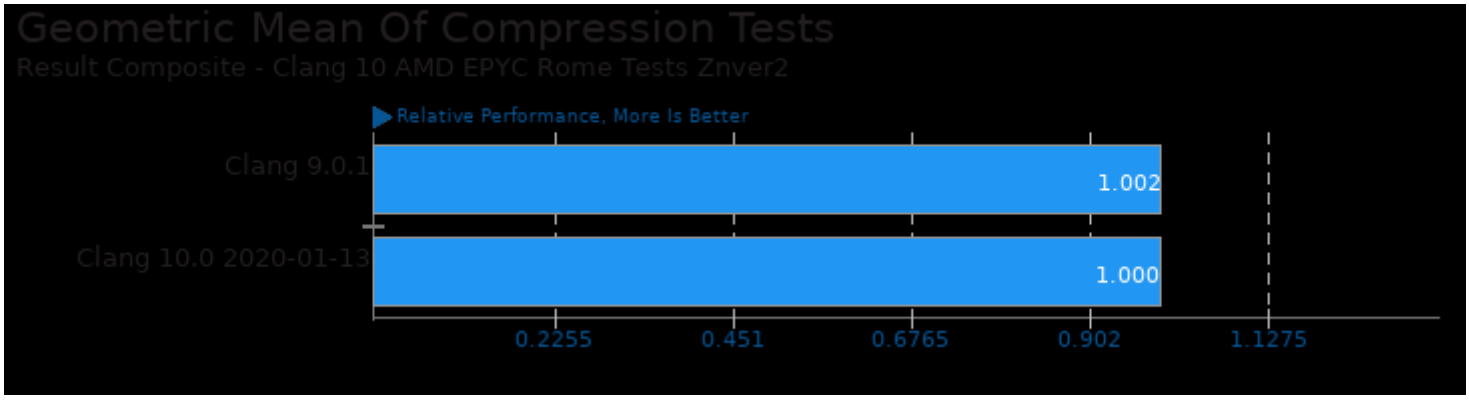


Geometric mean based upon tests: pts/himeno, pts/mrbayes, pts/hmmer and pts/mafft

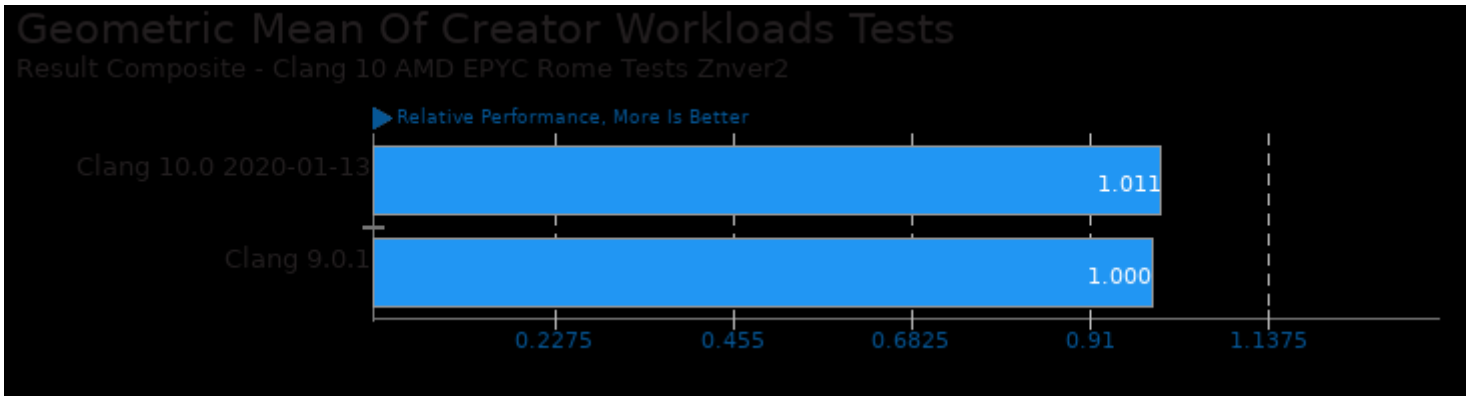
Clang 10 AMD EPYC Rome Tests Znver2



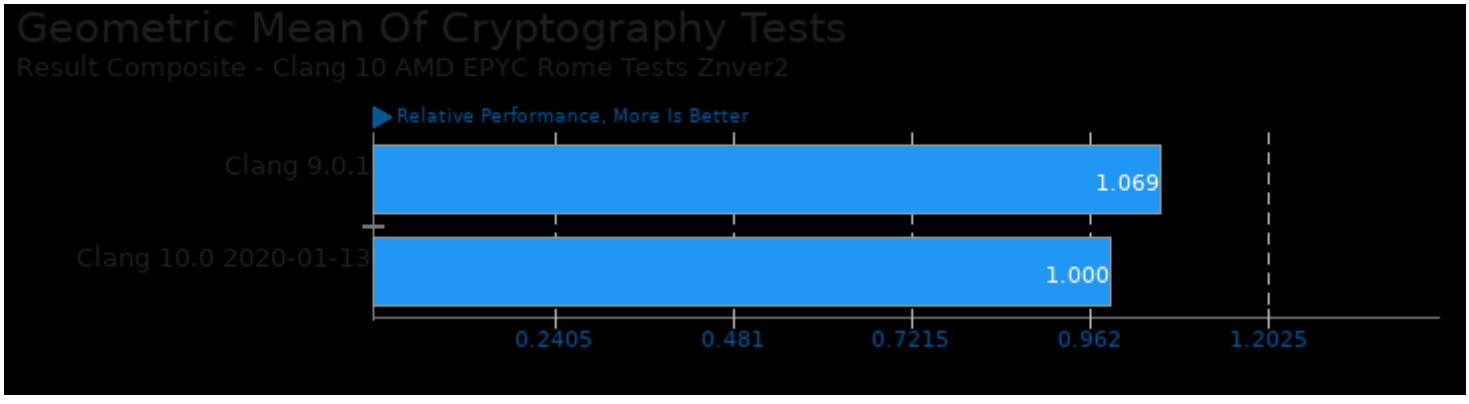
Geometric mean based upon tests: pts/build-php and pts/build-llvm



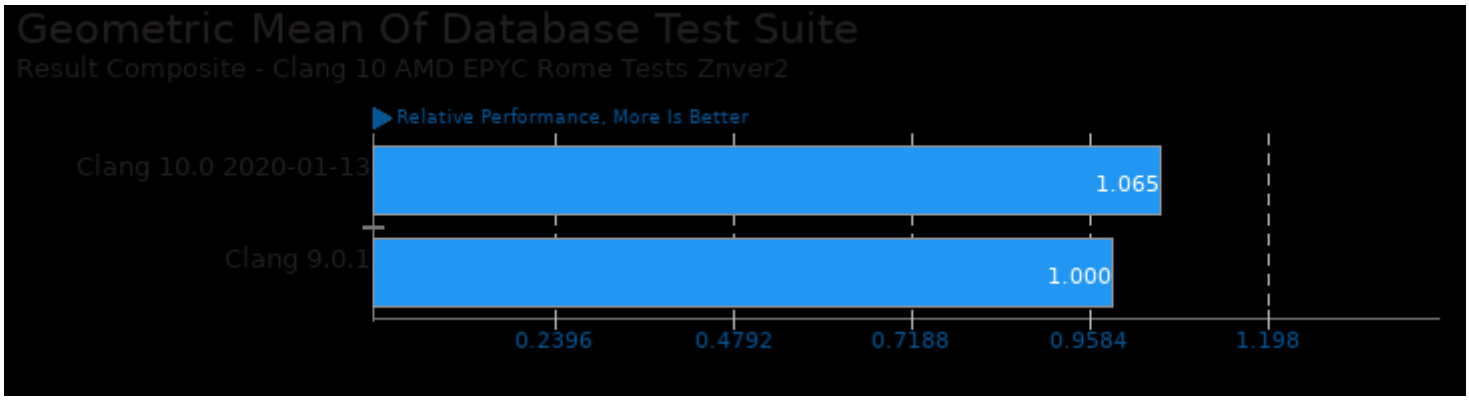
Geometric mean based upon tests: pts/compress-zstd and pts/compress-xz



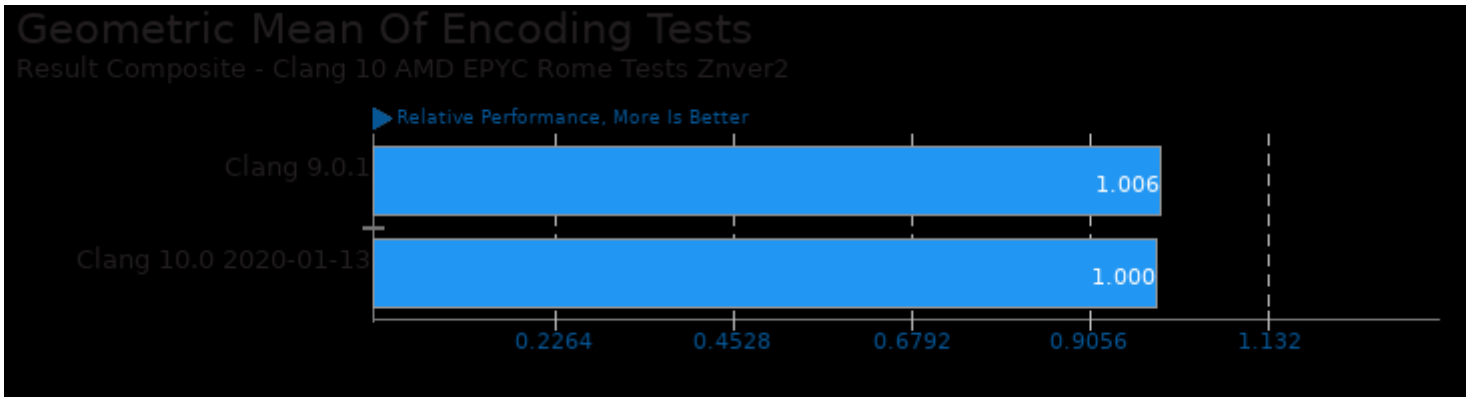
Geometric mean based upon tests: pts/c-ray, pts/tungsten, pts/aobench, pts/svt-vp9, pts/x264, pts/x265, pts/vpxenc, pts/dav1d, pts/aom-av1, pts/svt-av1, pts/libgav1, pts/encode-mp3, pts/encode-flac and pts/graphics-magick



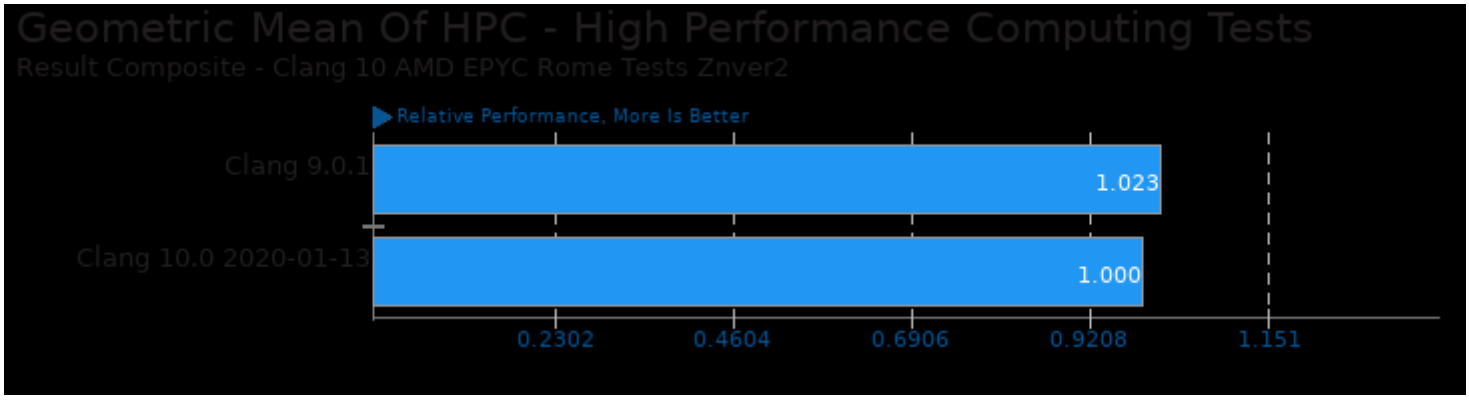
Geometric mean based upon tests: pts/openssl, pts/john-the-ripper and pts/aircrack-ng



Geometric mean based upon tests: pts/sqlite-speedtest and pts/pgbench

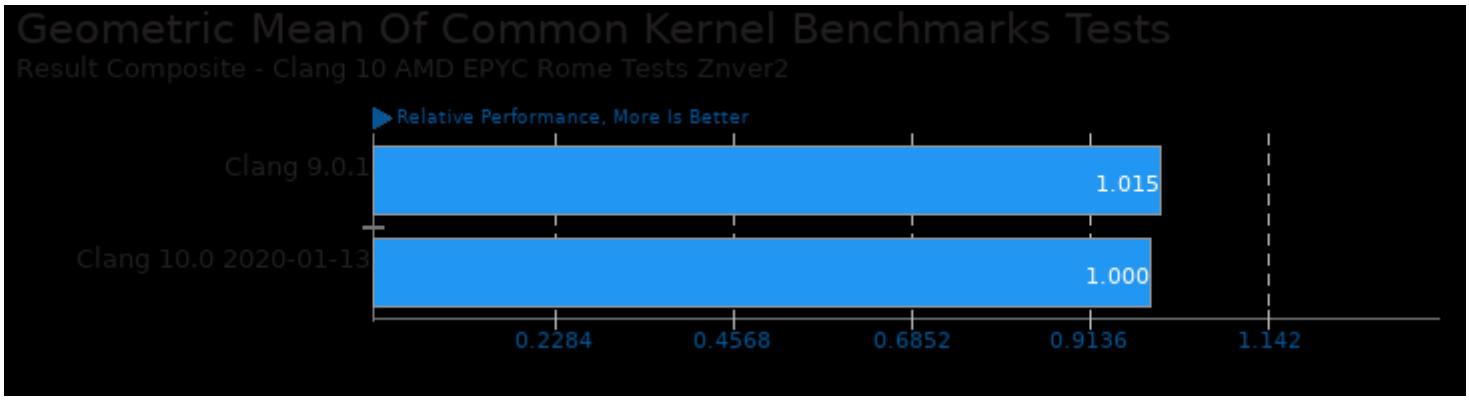


Geometric mean based upon tests: pts/encode-mp3, pts/encode-flac, pts/svt-vp9, pts/x264, pts/x265, pts/vpxenc, pts/dav1d, pts/aom-av1, pts/svt-av1 and pts/libgav1

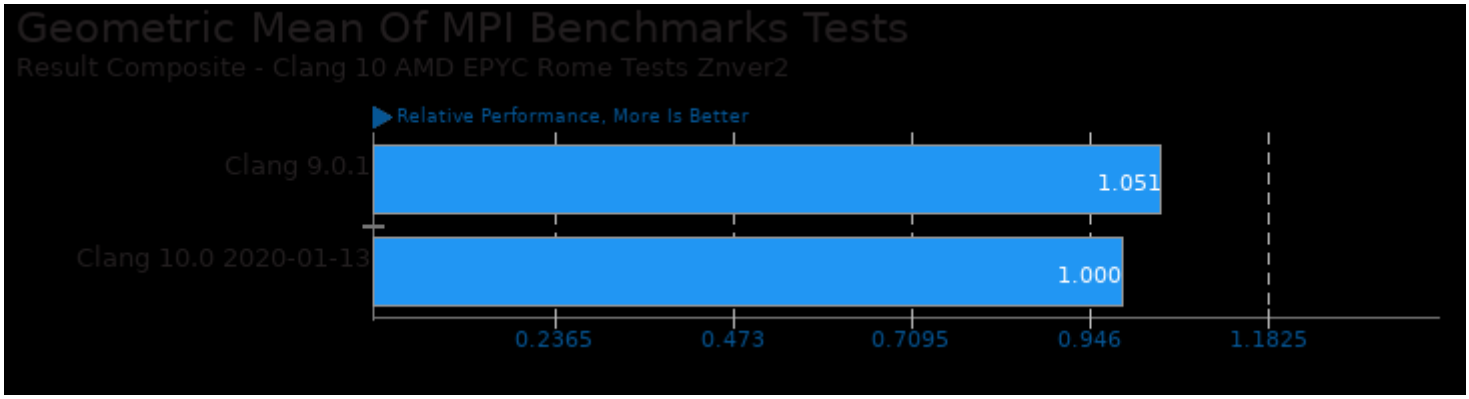


Geometric mean based upon tests: pts/lammps, pts/himeno, pts/mrbayes, pts/hmmer and pts/mafft

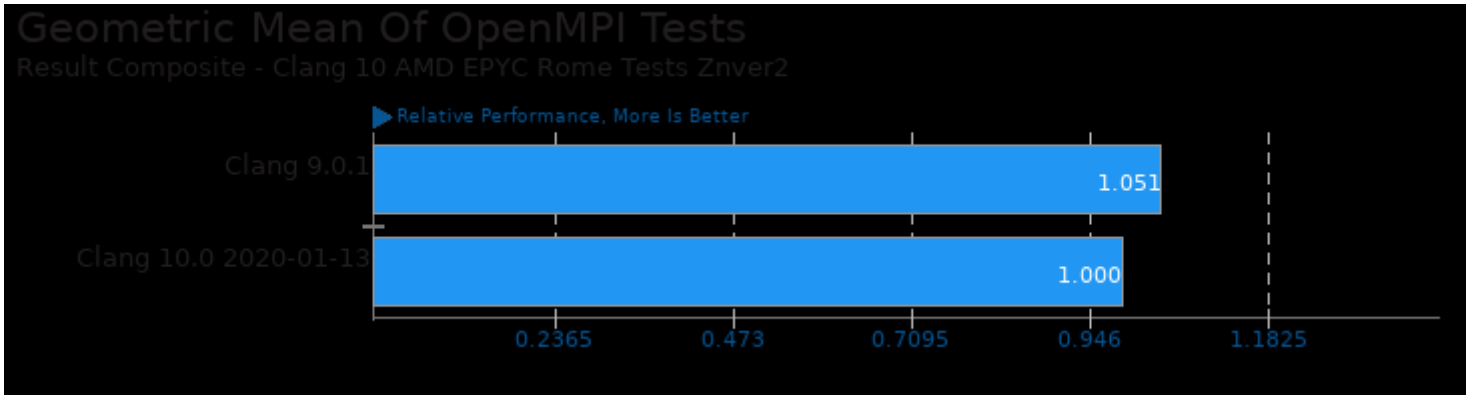
Clang 10 AMD EPYC Rome Tests Znver2



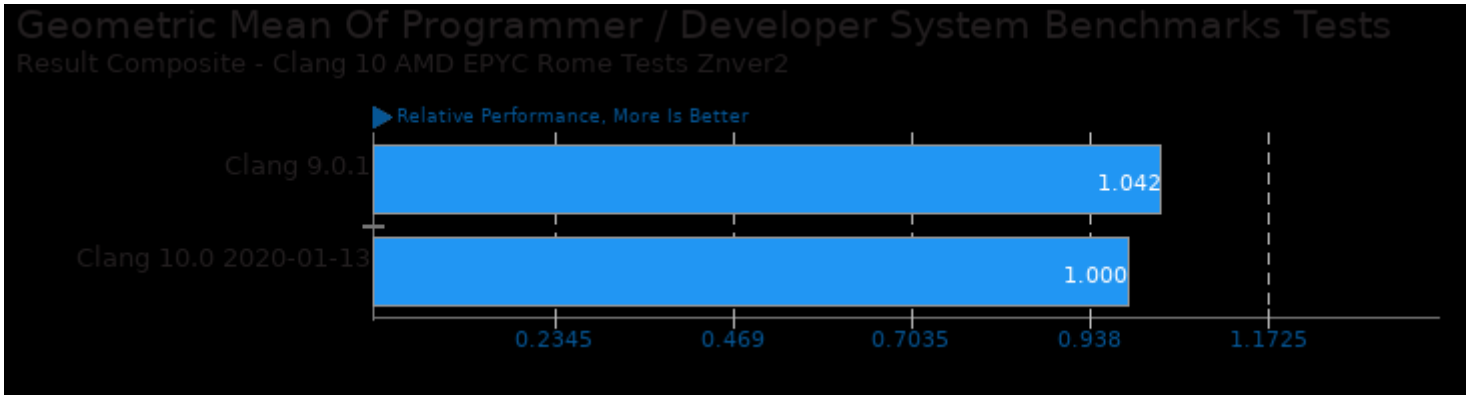
Geometric mean based upon tests: pts/apache, pts/sqlite-speedtest, pts/pgbench and pts/openssl



Geometric mean based upon tests: pts/lammps and pts/mrbayes

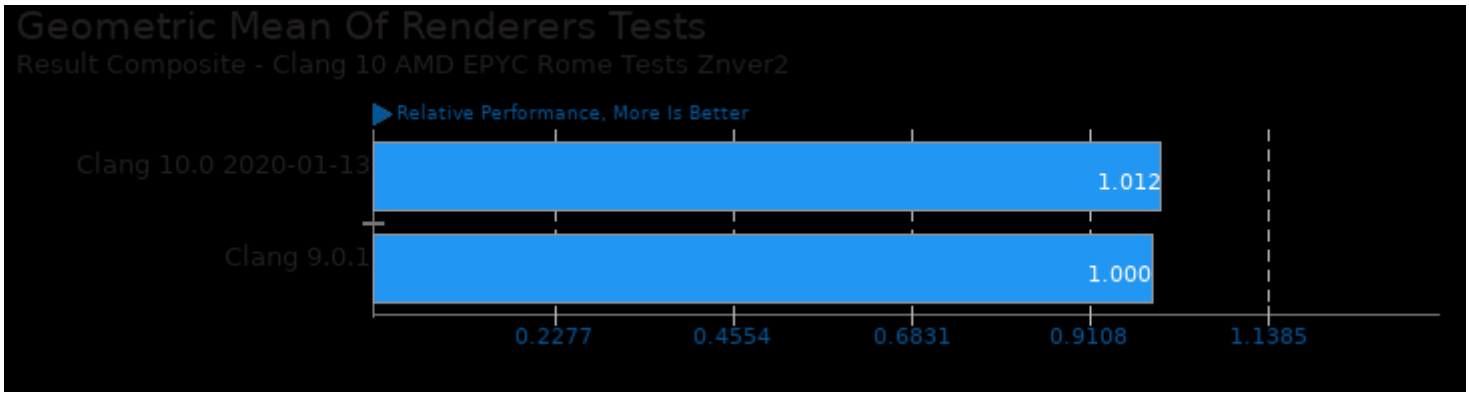


Geometric mean based upon tests: pts/mrbayes and pts/lammps

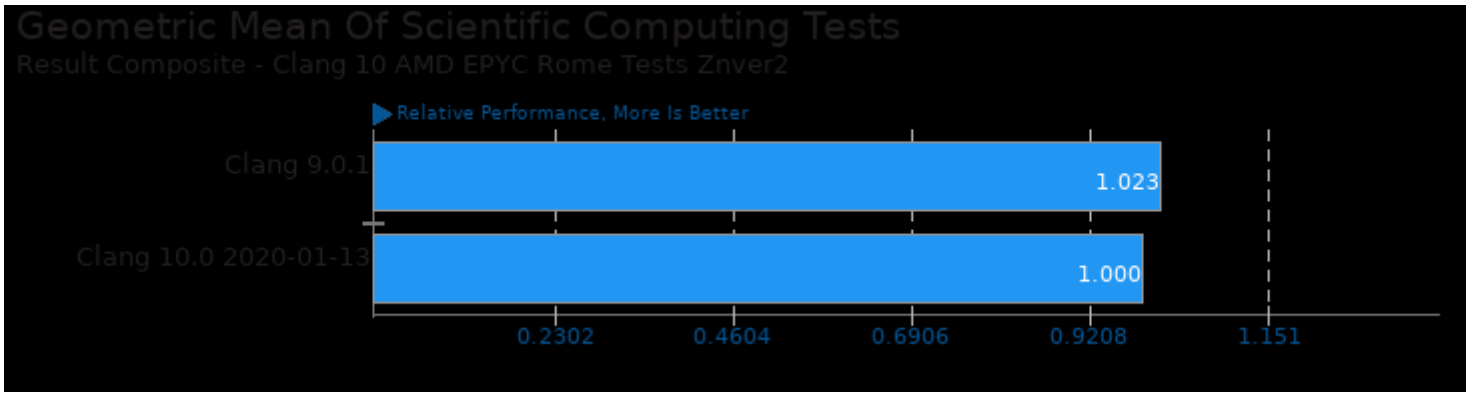


Geometric mean based upon tests: pts/sqlite-speedtest, pts/compress-zstd, pts/build-php and pts/build-llvm

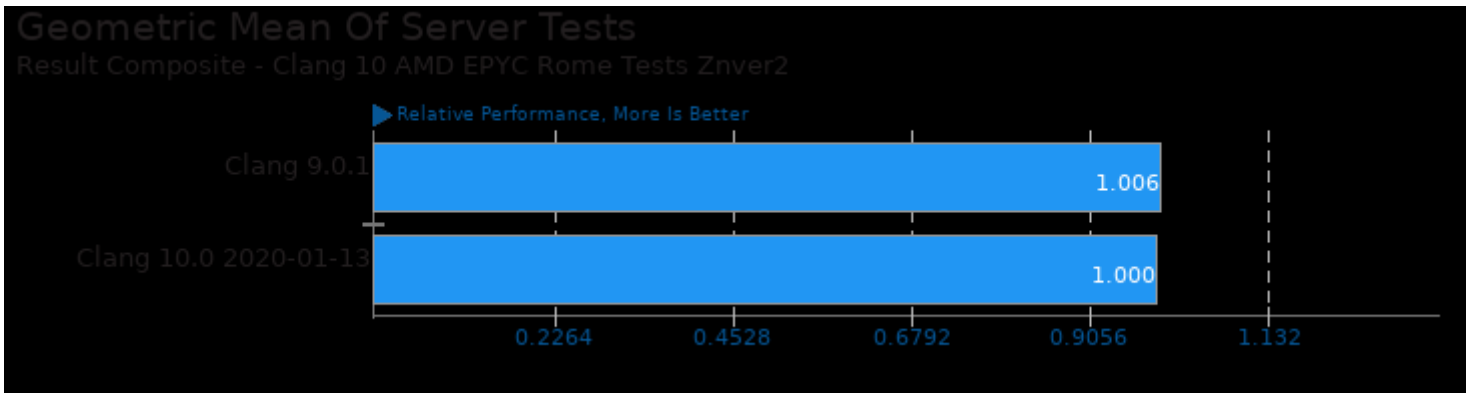
Clang 10 AMD EPYC Rome Tests Znver2



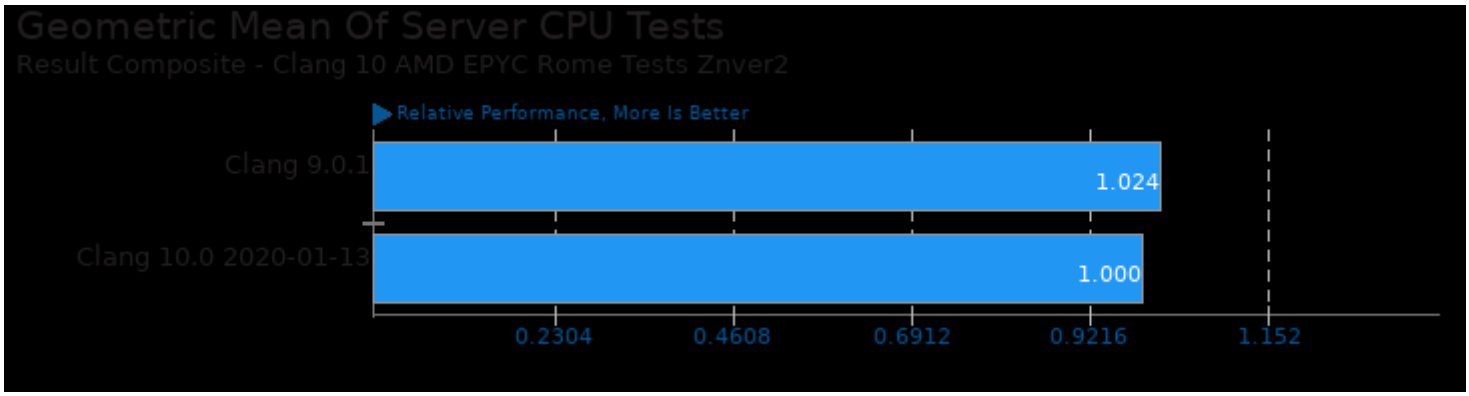
Geometric mean based upon tests: pts/c-ray, pts/tungsten and pts/aobench



Geometric mean based upon tests: pts/lammps, pts/himeno, pts/mrbayes, pts/hmmer and pts/mafft

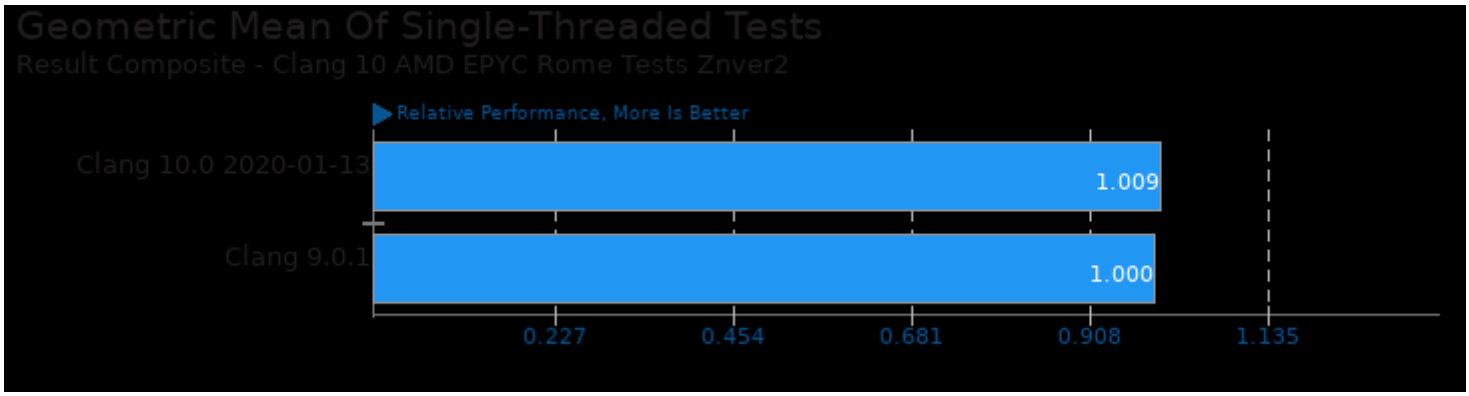


Geometric mean based upon tests: pts/apache, pts/nginx, pts/pgbench, pts/openssl and pts/sqlite-speedtest

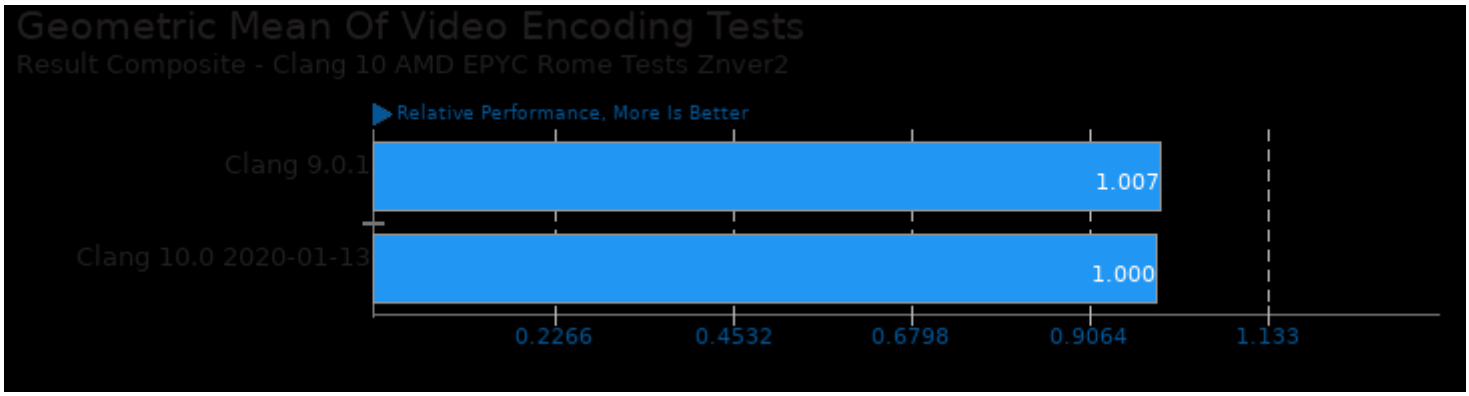


Geometric mean based upon tests: pts/john-the-ripper, pts/svt-av1, pts/svt-vp9, pts/x264, pts/x265, pts/dav1d, pts/himeno, pts/build-php, pts/build-llvm, pts/c-ray, pts/compress-zstd and pts/openssl

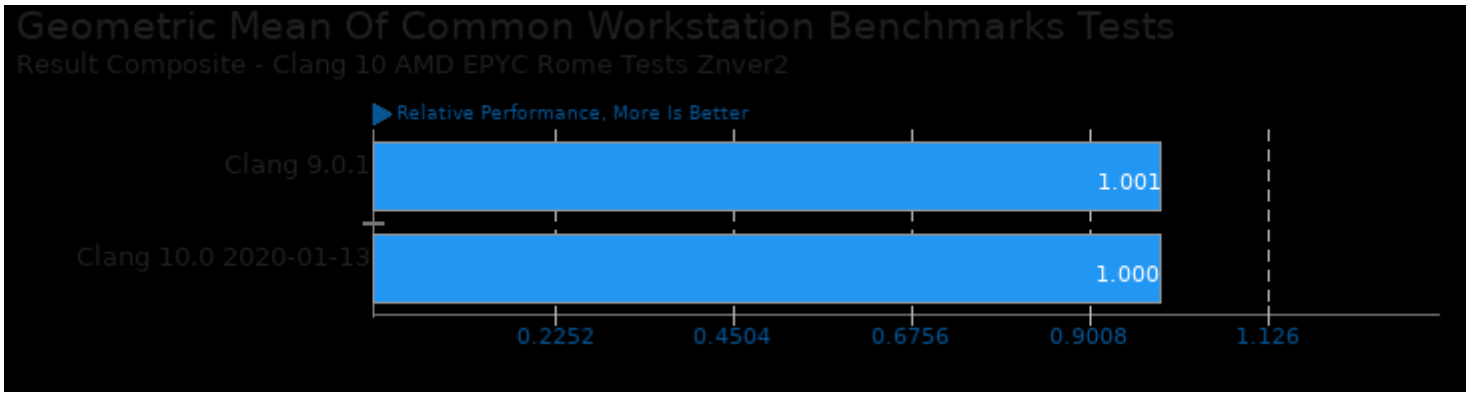
Clang 10 AMD EPYC Rome Tests Znver2



Geometric mean based upon tests: pts/scimark2, pts/encode-flac, pts/encode-mp3, pts/cpp-perf-bench and pts/nginx



Geometric mean based upon tests: pts/svt-vp9, pts/x264, pts/x265, pts/vpxenc, pts/dav1d, pts/aom-av1, pts/svt-av1 and pts/libgav1



Geometric mean based upon tests: pts/himeno and pts/x265

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 06:02.