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Xeon Broadwell December

Intel Xeon E5-2609 v4 testing with a MSI X99A RAIDER (MS-7885) v5.0 (P.50 BIOS) and llvmpipe on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

1 had the most wins, coming in first place for 46% of the tests.

Based on the geometric mean of all complete results, the fastest (3) was 1.003x the speed of the slowest (2). 1 was 0.997x the speed of 3 and 2 was 1x the speed of 1.

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

Compile Bench (Test: Compile) at 1.045x

Compile Bench (Test: Initial Create) at 1.044x

simdjson (Throughput Test: PartialTweets) at 1.042x

Flexible IO Tester (Type: Sequential Write - Engine: IO_uring - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory) at 1.028x

Flexible IO Tester (Type: Sequential Write - Engine: IO_uring - Buffered: No - Direct: Yes - Block Size: 4KB - Disk Target: Default Test Directory) at 1.026x

asmFish (1024 Hash Memory, 26 Depth) at 1.016x

oneDNN (Harness: IP Shapes 3D - Data Type: f32 - Engine: CPU) at 1.016x

Stockfish (Total Time) at 1.015x

Compile Bench (Test: Read Compiled Tree) at 1.014x

Timed MAFFT Alignment (Multiple Sequence Alignment - LSU RNA) at 1.011x.

Test Systems:

1

2

3

Processor: Intel Xeon E5-2609 v4 @ 1.70GHz (8 Cores), Motherboard: MSI X99A RAIDERS (MS-7885) v5.0 (P.50 BIOS), Chipset: Intel Xeon E7 v4/Xeon, Memory: 16GB, Disk: 256GB CORSAIR FORCE LX, Graphics: llvmpipe, Audio: Realtek ALC892, Network: Intel I218-V

OS: Ubuntu 20.04, Kernel: 5.9.0-050900rc6daily20200926-generic (x86_64) 20200925, Desktop: GNOME Shell 3.36.2, Display Server: X Server 1.20.8, Display Driver: modesetting 1.20.8, OpenGL: 3.3 Mesa 20.0.4 (LLVM 9.0.1 256 bits), Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1024x768

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,objc++-gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none,hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v

Disk Notes: MQ-DEADLINE / errors=remount-ro,relatime,rw / Block Size: 4096

Processor Notes: Scaling Governor: intel_cpfufreq ondemand - CPU Microcode: 0xb000038

Python Notes: Python 2.7.18rc1 + Python 3.8.2

Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + l1tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT disabled + mds: Mitigation of Clear buffers; SMT disabled + meltdown: Mitigation of PTI + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS_FW STIBP: disabled RSB filling + srbds: Not affected + tsx_async_abort: Mitigation of Clear buffers; SMT disabled

	1	2	3
Flexible IO Tester - Rand Read - IO_uring -	300	300	300
No - Yes - 4KB (MB/s)			
Flexible IO Tester - Rand Read - IO_uring -	76800	76800	76833
No - Yes - 4KB (IOPS)			
Normalized	99.96%	99.96%	100%
Standard Deviation			0.1%
Flexible IO Tester - Rand Write - IO_uring -	288	290	290
No - Yes - 4KB (MB/s)			
Normalized	99.31%	100%	100%
Standard Deviation			0.2%

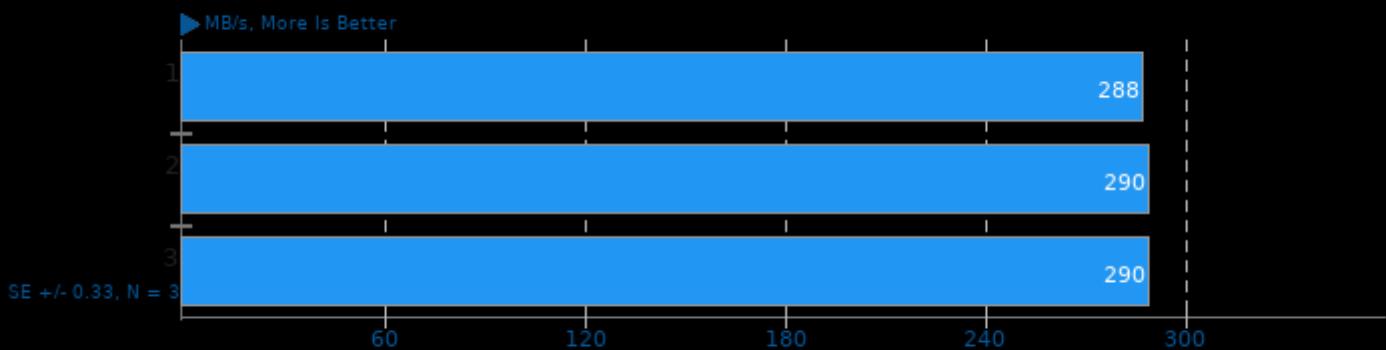
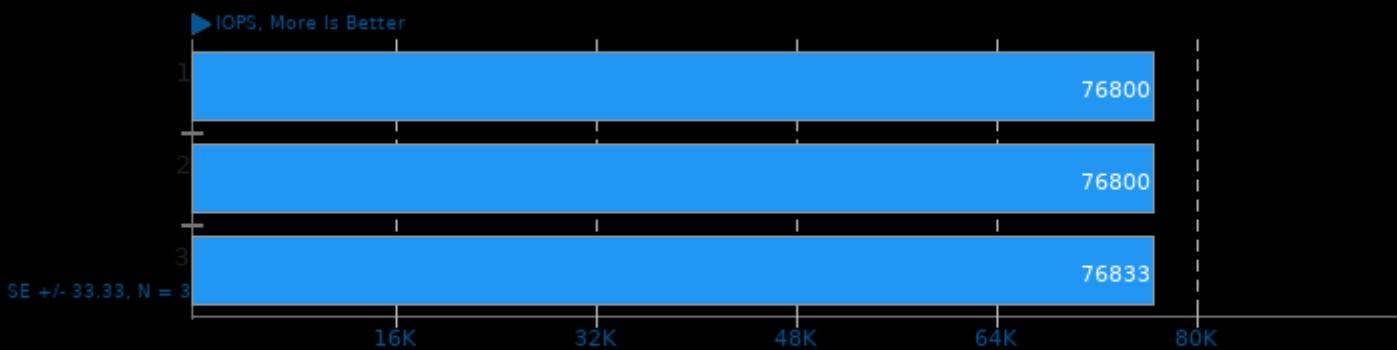
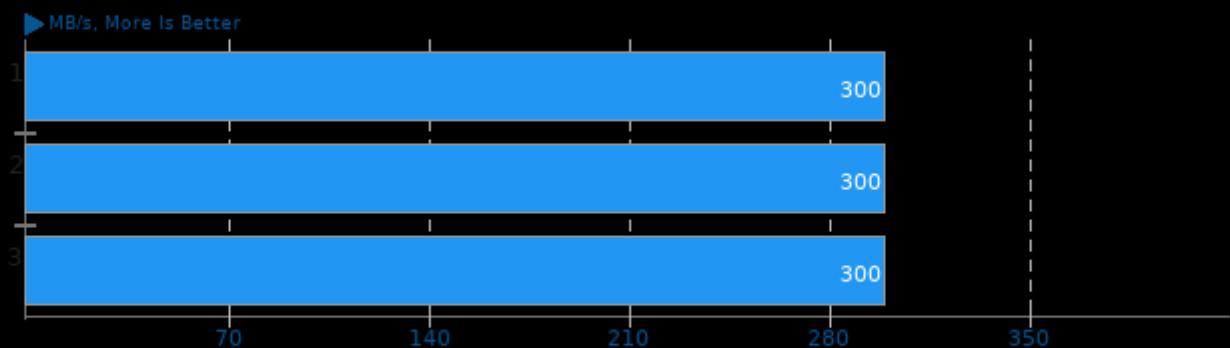
Flexible IO Tester - Rand Write - IO_uring - No - Yes - 4KB (IOPS)	73600	74233	74267
Normalized	99.1%	99.95%	100%
Standard Deviation	0.1%	0.2%	0.3%
Flexible IO Tester - Seq Read - IO_uring - No - Yes - 4KB (MB/s)	303	303	304
Normalized	99.67%	99.67%	100%
Standard Deviation		0.2%	0.5%
Flexible IO Tester - Seq Read - IO_uring - No - Yes - 4KB (IOPS)	77467	77500	77933
Normalized	99.4%	99.44%	100%
Standard Deviation	0.4%	0.2%	0.4%
Flexible IO Tester - Seq Write - IO_uring - No - Yes - 2MB (MB/s)	297		
Flexible IO Tester - Seq Write - IO_uring - No - Yes - 2MB (IOPS)	145		
Flexible IO Tester - Seq Write - IO_uring - No - Yes - 4KB (MB/s)	294	287	295
Normalized	99.66%	97.29%	100%
Standard Deviation		2.6%	
Flexible IO Tester - Seq Write - IO_uring - No - Yes - 4KB (IOPS)	75233	73567	75500
Normalized	99.65%	97.44%	100%
Standard Deviation	0.1%	2.7%	0.1%
Compile Bench - Compile (MB/s)	497.15	491.11	513.08
Normalized	96.9%	95.72%	100%
Standard Deviation	3%	0.3%	0.6%
Compile Bench - Initial Create (MB/s)	202.11	199.98	208.83
Normalized	96.78%	95.76%	100%
Standard Deviation	4.6%	1.7%	3.7%
Compile Bench - Read Compiled Tree (MB/s)	1164	1171	1180
Normalized	98.65%	99.29%	100%
Standard Deviation	2%	1.2%	0.7%
Timed HMMer Search - P.D.S (sec)	240.373	240.774	240.780
Normalized	100%	99.83%	99.83%
Standard Deviation	0.4%	0.1%	0.1%
Timed MAFFT Alignment - M.S.A - LSU RNA (sec)	19.791	19.702	19.569
Normalized	98.88%	99.32%	100%
Standard Deviation	1.4%	0.8%	0.9%
Crafty - Elapsed Time (Nodes/s)	3214097	3217989	3217443
Normalized	99.88%	100%	99.98%
Standard Deviation	0.1%	0.2%	0.1%
oneDNN - IP Shapes 1D - f32 - CPU (ms)	8.50682	8.47301	8.50788
Normalized	99.6%	100%	99.59%
Standard Deviation	0.3%	0.2%	0.3%
oneDNN - IP Shapes 3D - f32 - CPU (ms)	8.33622	8.23160	8.20556
Normalized	98.43%	99.68%	100%
Standard Deviation	2.3%	0.7%	0.3%
oneDNN - IP Shapes 1D - u8s8f32 - CPU (ms)	6.08337	6.07395	6.08108
Normalized	99.85%	100%	99.88%
Standard Deviation	0.4%	0.1%	0.1%
oneDNN - IP Shapes 3D - u8s8f32 - CPU (ms)	4.00038	3.99263	3.98625
Normalized	99.65%	99.84%	100%

	Standard Deviation	0.3%	0.5%	0.4%
oneDNN - C.B.S.A - f32 - CPU (ms)	Normalized	100%	99.97%	99.77%
	Standard Deviation	0.3%	0.4%	0.4%
oneDNN - D.B.s - f32 - CPU (ms)	Normalized	100%	99.95%	99.09%
	Standard Deviation	0%	0.1%	1.6%
oneDNN - D.B.s - f32 - CPU (ms)	Normalized	100%	100%	99.7%
	Standard Deviation	0.3%	0.3%	0.2%
oneDNN - C.B.S.A - u8s8f32 - CPU (ms)	Normalized	99.64%	100%	99.91%
	Standard Deviation	0.6%	0.3%	0.3%
oneDNN - D.B.s - u8s8f32 - CPU (ms)	Normalized	100%	99.94%	99.92%
	Standard Deviation	0.2%	0.1%	0.3%
oneDNN - D.B.s - u8s8f32 - CPU (ms)	Normalized	99.4%	99.82%	100%
	Standard Deviation	1.1%	0.5%	0.2%
oneDNN - R.N.N.T - f32 - CPU (ms)	Normalized	7901	7921	7904
	Standard Deviation	0%	0.4%	0.1%
oneDNN - R.N.N.I - f32 - CPU (ms)	Normalized	4135	4095	4098
	Standard Deviation	1.7%	0.1%	0.2%
oneDNN - R.N.N.T - u8s8f32 - CPU (ms)	Normalized	7911	7927	7909
	Standard Deviation	0.2%	0.3%	0.2%
oneDNN - R.N.N.I - u8s8f32 - CPU (ms)	Normalized	4117	4097	4096
	Standard Deviation	0.3%	0.1%	0.2%
oneDNN - M.M.B.S.T - f32 - CPU (ms)	Normalized	4.12538	4.13088	4.12906
	Standard Deviation	0.4%	0.5%	0.2%
oneDNN - R.N.N.T - bf16bf16bf16 - CPU (ms)	Normalized	7925	7902	7910
	Standard Deviation	0.4%	0.1%	0.2%
oneDNN - R.N.N.I - bf16bf16bf16 - CPU (ms)	Normalized	4097	4094	4097
	Standard Deviation	0.1%	0.1%	0.1%
oneDNN - M.M.B.S.T - u8s8f32 - CPU (ms)	Normalized	7.46562	7.45604	7.46147
	Standard Deviation	0.2%	0.1%	0.2%
rav1e - 1 (FPS)	0.139	0.139	0.139	
	Standard Deviation	0%	0.4%	0.4%
rav1e - 5 (FPS)	0.426	0.426	0.426	
	Standard Deviation	0.1%	0.2%	0.1%
rav1e - 6 (FPS)	0.575	0.575	0.575	
	Standard Deviation	0%	0.1%	0.1%
rav1e - 10 (FPS)	1.330	1.329	1.330	
	Normalized	100%	99.92%	100%
	Standard Deviation	0.2%	0.1%	0.1%

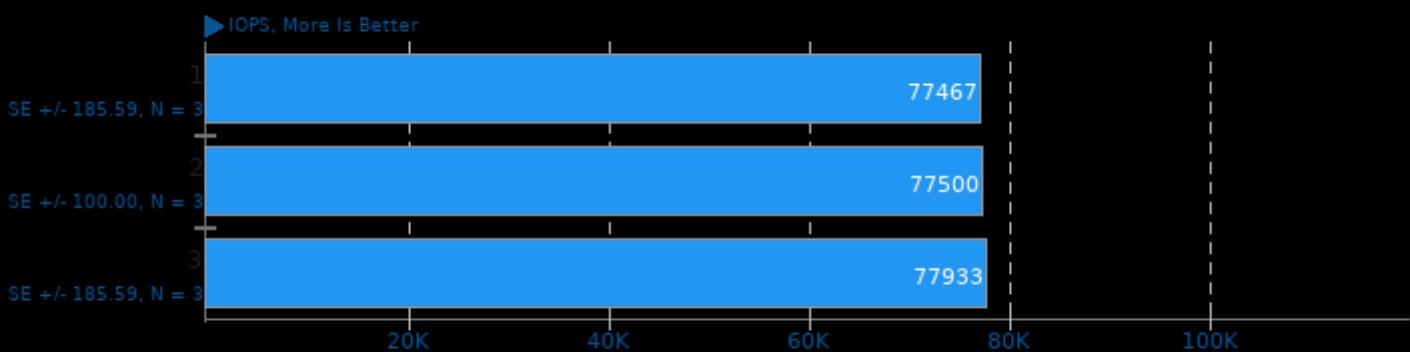
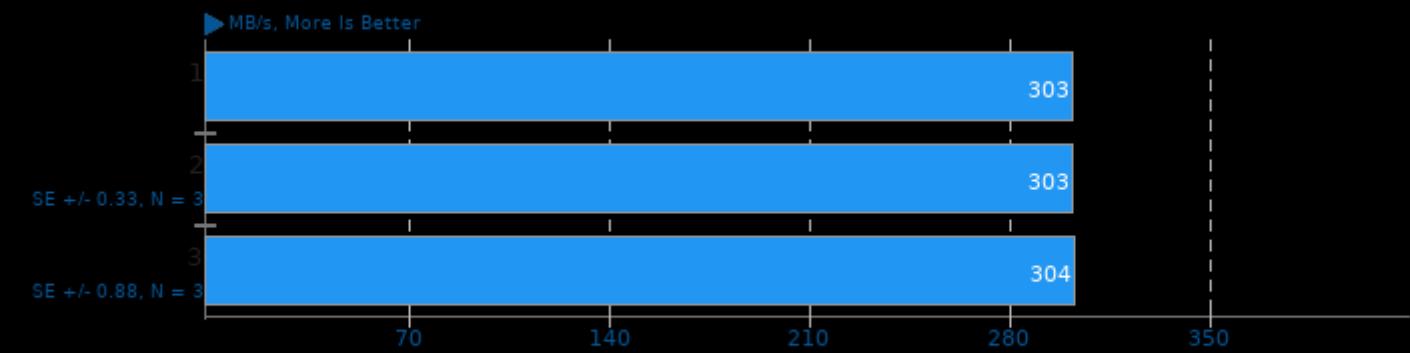
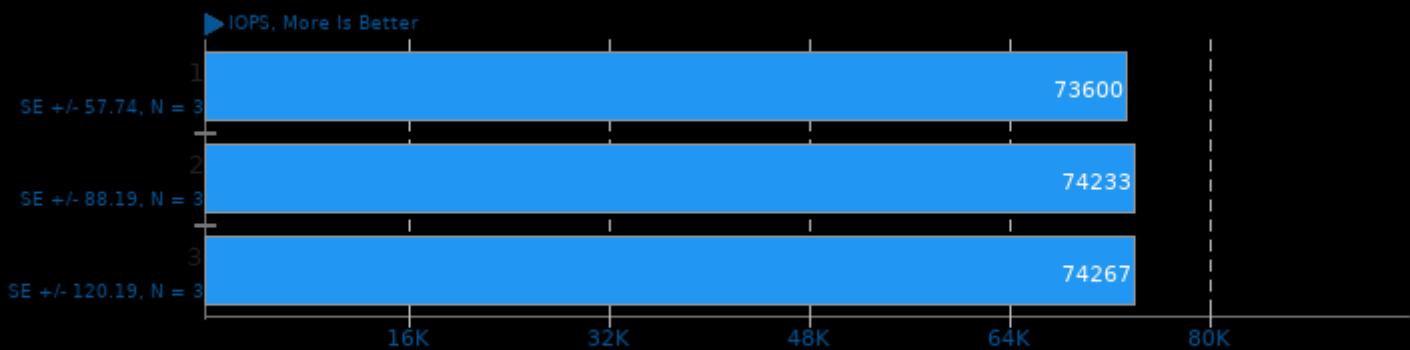
Coremark - CoreMark Size 666 - I.P.S	79681 (Iterations/Sec)	79528	80293
Normalized	99.24%	99.05%	100%
Standard Deviation	1%	1%	0.2%
Stockfish - Total Time (Nodes/s)	6068590	5980653	6065794
Normalized	100%	98.55%	99.95%
Standard Deviation	1.8%	1.4%	1.3%
asmFish - 1.H.M.2.D (Nodes/s)	9174090	9172776	9026826
Normalized	100%	99.99%	98.39%
Standard Deviation	2.1%	0.9%	1.7%
Timed Clash Compilation - Time To Compile	847.890 (sec)	847.398	846.563
Normalized	99.84%	99.9%	100%
Standard Deviation	0.3%	0.1%	0.3%
Timed FFmpeg Compilation - Time To	165.279 Compile (sec)	165.487	165.304
Normalized	100%	99.87%	99.98%
Standard Deviation	0.1%	0.2%	0.1%
ASTC Encoder - Fast (sec)	6.69	6.68	6.66
Normalized	99.55%	99.7%	100%
Standard Deviation	0.6%	0.2%	0.6%
ASTC Encoder - Medium (sec)	16.20	16.21	16.21
Normalized	100%	99.94%	99.94%
Standard Deviation	0.3%	0%	0.2%
ASTC Encoder - Thorough (sec)	100.77	100.77	100.82
Normalized	100%	100%	99.95%
Standard Deviation	0%	0%	0%
ASTC Encoder - Exhaustive (sec)	798.52	798.15	798.42
Normalized	99.95%	100%	99.97%
Standard Deviation	0%	0%	0%
SQLite Speedtest - Timed Time - Size 1,000	159.890 (sec)	160.312	160.264
Normalized	100%	99.74%	99.77%
Standard Deviation	0.2%	0.2%	0.3%
OpenVINO - F.D.O.F - CPU (FPS)	0.95	0.95	0.95
Standard Deviation	0%	0%	0.6%
OpenVINO - F.D.O.F - CPU (ms)	4196	4192	4200
Normalized	99.91%	100%	99.82%
Standard Deviation	0%	0.1%	0.2%
OpenVINO - F.D.O.F - CPU (FPS)	0.95	0.95	0.95
Standard Deviation	0%	0%	0%
OpenVINO - F.D.O.F - CPU (ms)	4192	4195	4196
Normalized	100%	99.92%	99.9%
Standard Deviation	0%	0%	0%
OpenVINO - P.D.O.F - CPU (FPS)	0.68	0.68	0.68
Standard Deviation	0%	0%	0%
OpenVINO - P.D.O.F - CPU (ms)	5835	5834	5835
Normalized	99.99%	100%	99.99%
Standard Deviation	0.2%	0%	0.2%
OpenVINO - P.D.O.F - CPU (FPS)	0.68	0.68	0.68
Standard Deviation	0%	0%	0%
OpenVINO - P.D.O.F - CPU (ms)	5831	5831	5831
Normalized	100%	99.99%	100%
Standard Deviation	0.1%	0.2%	0%

OpenVINO - A.G.R.R.O.F - CPU (FPS)	2692	2691	2690
Normalized	100%	99.97%	99.95%
Standard Deviation	0.1%	0.1%	0.2%
OpenVINO - A.G.R.R.O.F - CPU (ms)	1.47	1.47	1.47
Standard Deviation	0%	0%	0%
OpenVINO - A.G.R.R.O.F - CPU (FPS)	2692	2687	2691
Normalized	100%	99.82%	99.95%
Standard Deviation	0.2%	0.2%	0.1%
OpenVINO - A.G.R.R.O.F - CPU (ms)	1.47	1.47	1.47
Standard Deviation	0%	0%	0%
PHPBench - P.B.S (Score)	279280	280611	280977
Normalized	99.4%	99.87%	100%
Standard Deviation	0.3%	0.4%	0.1%
BRL-CAD - V.P.M (VGR Performance Metric)	40633	40684	40733
Normalized	99.75%	99.88%	100%
simdjson - Kostya (GB/s)	0.26	0.26	0.26
Standard Deviation	0%	0%	0%
simdjson - LargeRand (GB/s)	0.17	0.17	0.17
Standard Deviation	0%	0%	0%
simdjson - PartialTweets (GB/s)	0.24	0.24	0.25
Normalized	96%	96%	100%
Standard Deviation	2.9%	0%	5.9%
simdjson - DistinctUserID (GB/s)	0.25	0.25	0.25
Standard Deviation	0%	0%	0%

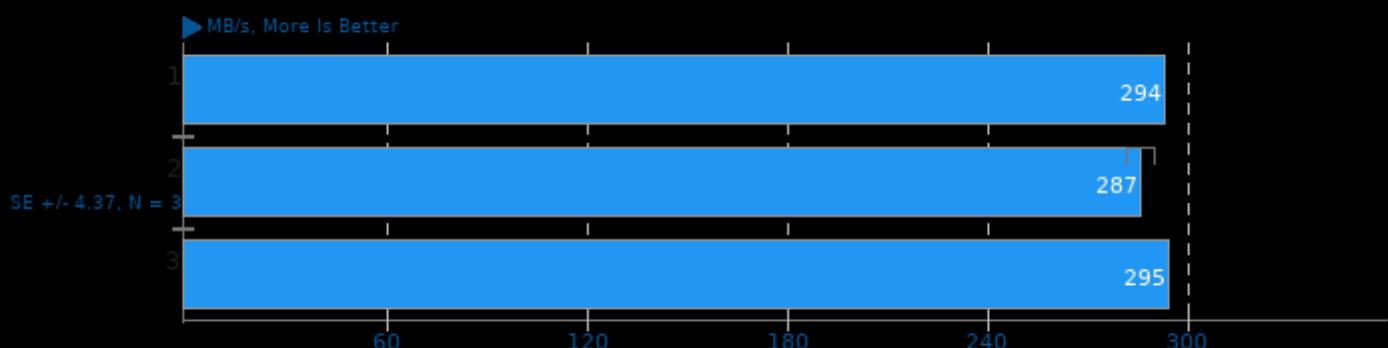
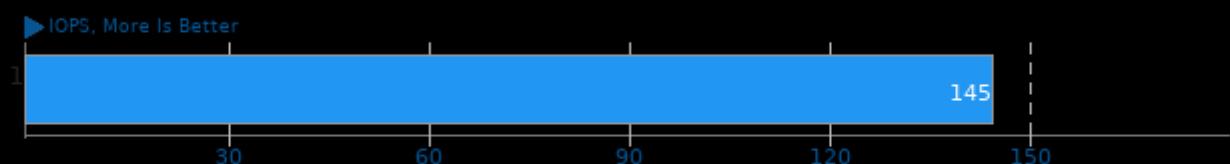
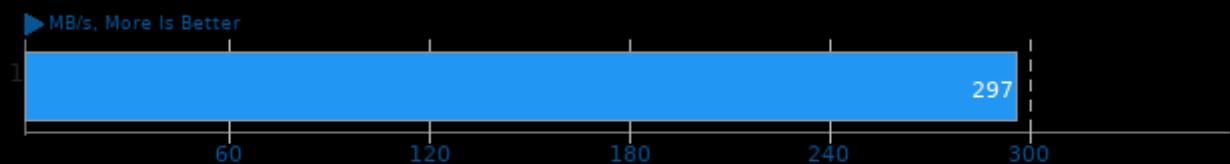
Flexible IO Tester 3.25



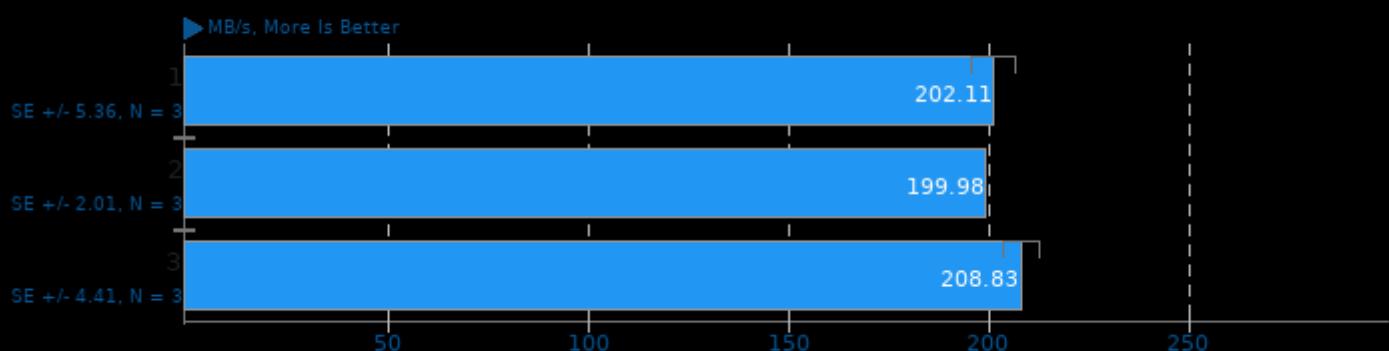
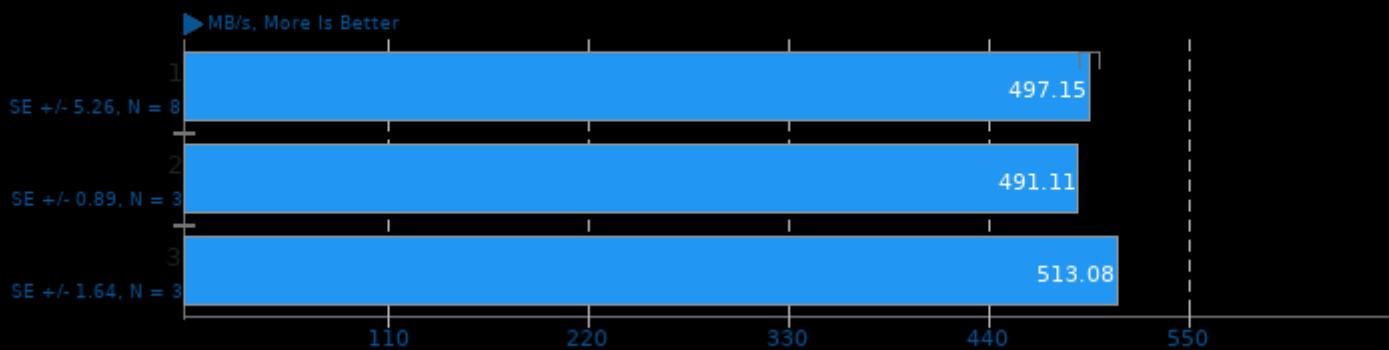
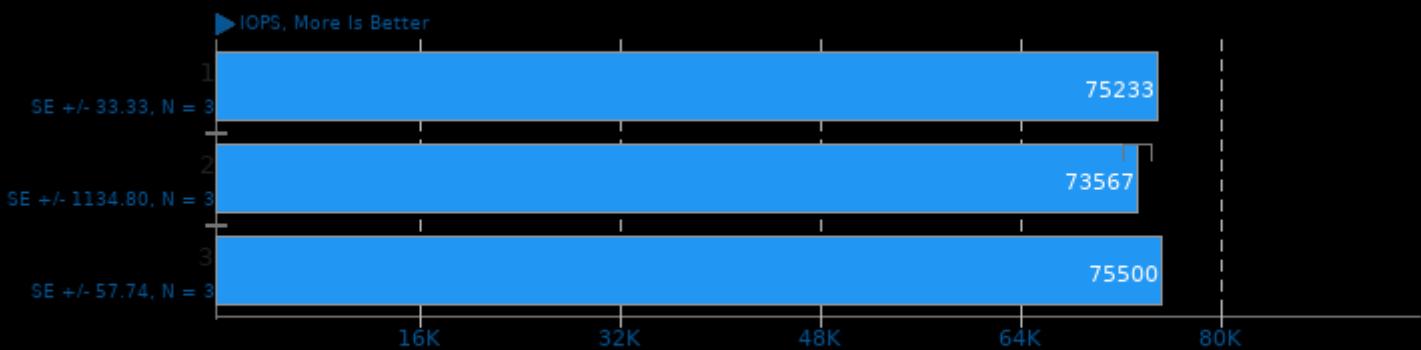
Flexible IO Tester 3.25



Flexible IO Tester 3.25

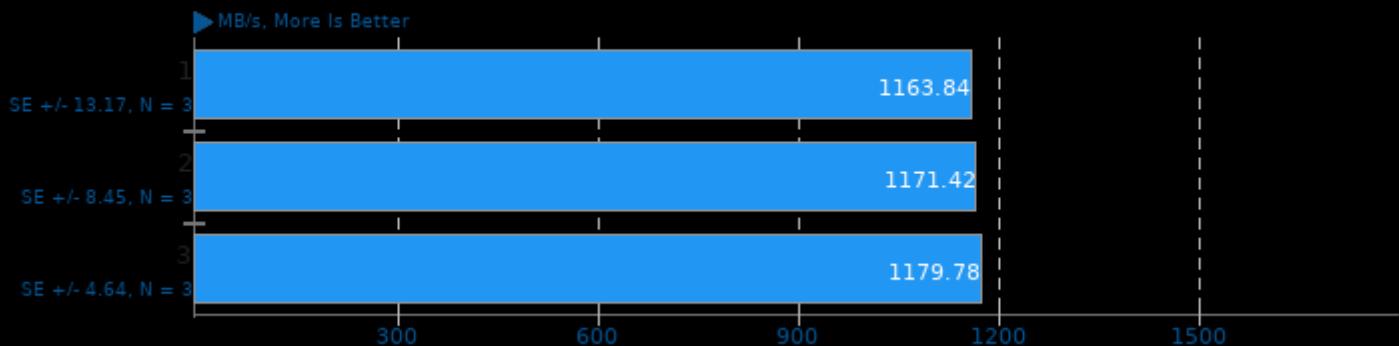


Flexible IO Tester 3.25



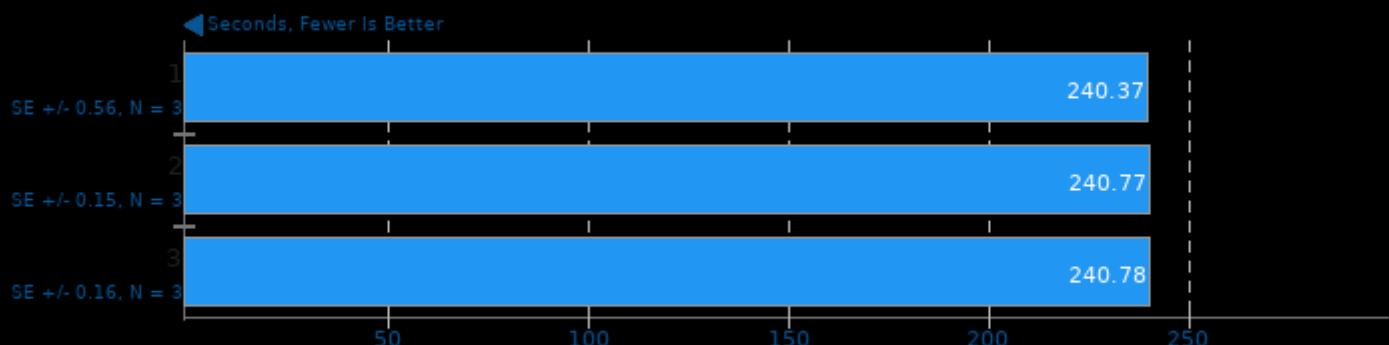
Compile Bench 0.6

Test: Read Compiled Tree



Timed HMMer Search 3.3.1

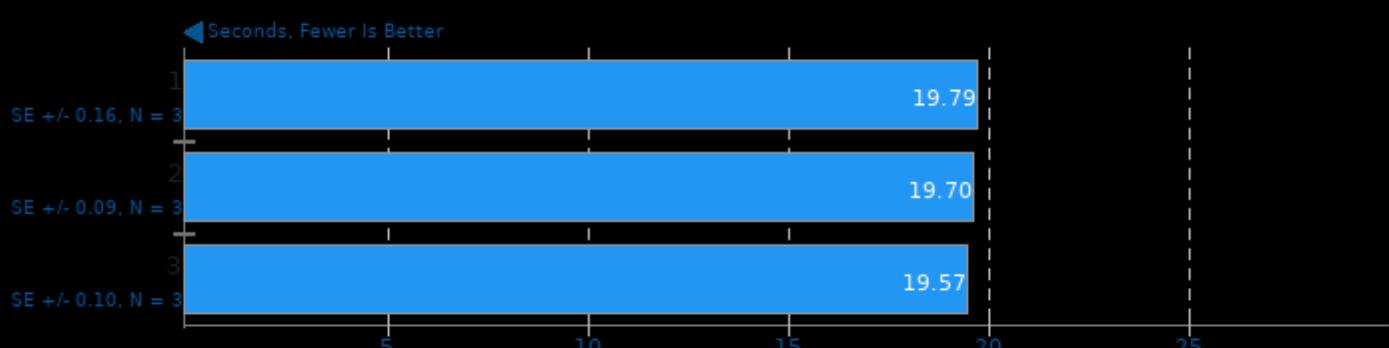
Pfam Database Search



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

Timed MAFFT Alignment 7.471

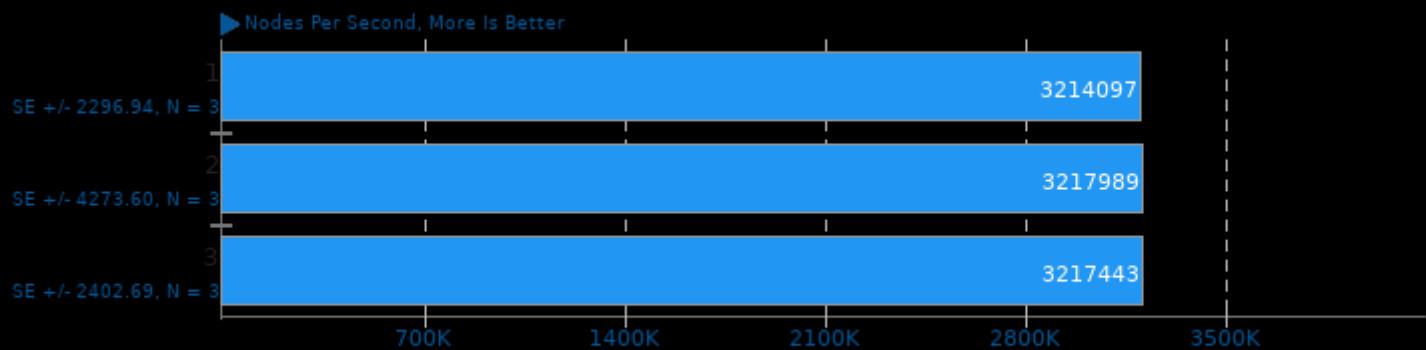
Multiple Sequence Alignment - LSU RNA



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

Crafty 25.2

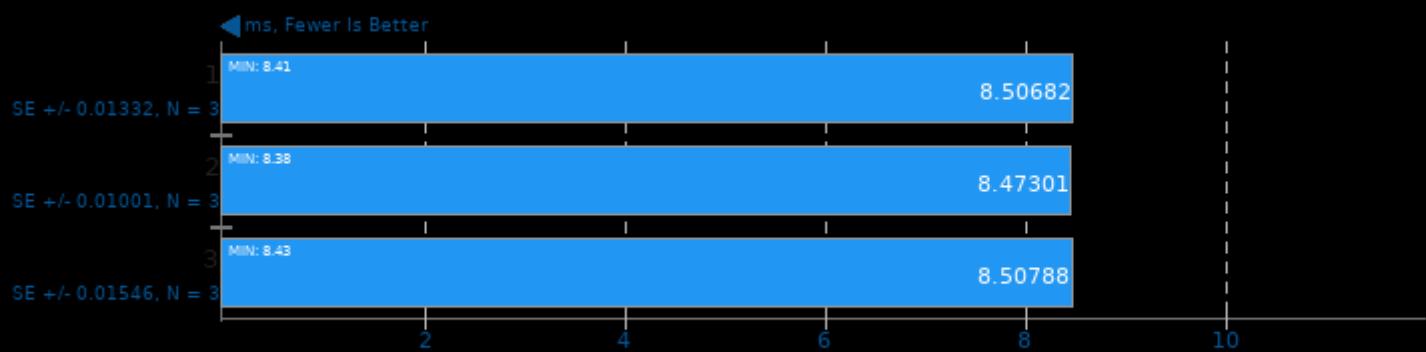
Elapsed Time



1. (CC) gcc options: -pthread -lstdc++ -fprofile-use -lm

oneDNN 2.0

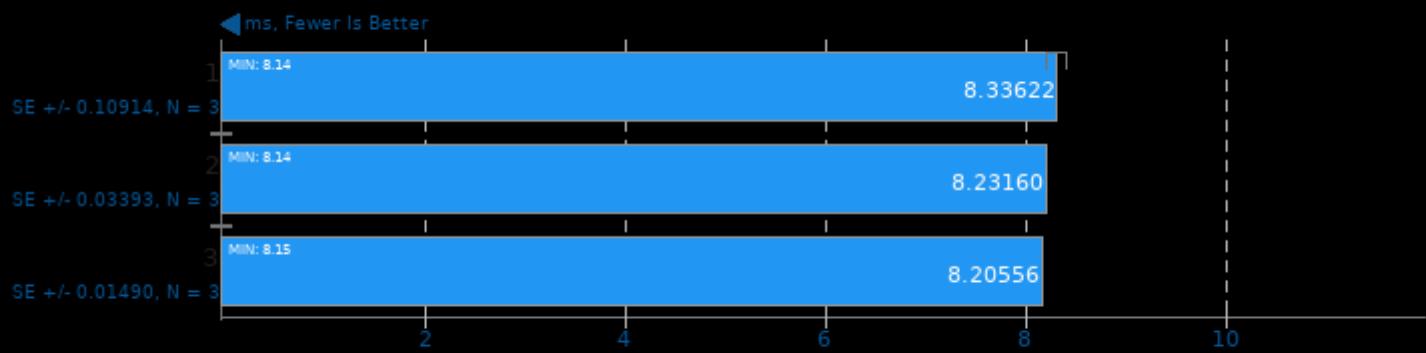
Harness: IP Shapes 1D - Data Type: f32 - Engine: CPU



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

oneDNN 2.0

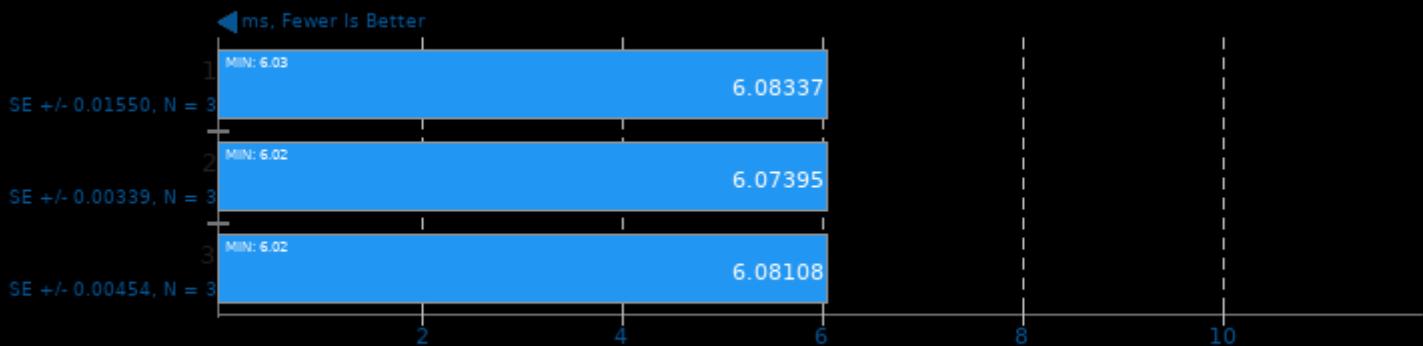
Harness: IP Shapes 3D - Data Type: f32 - Engine: CPU



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

oneDNN 2.0

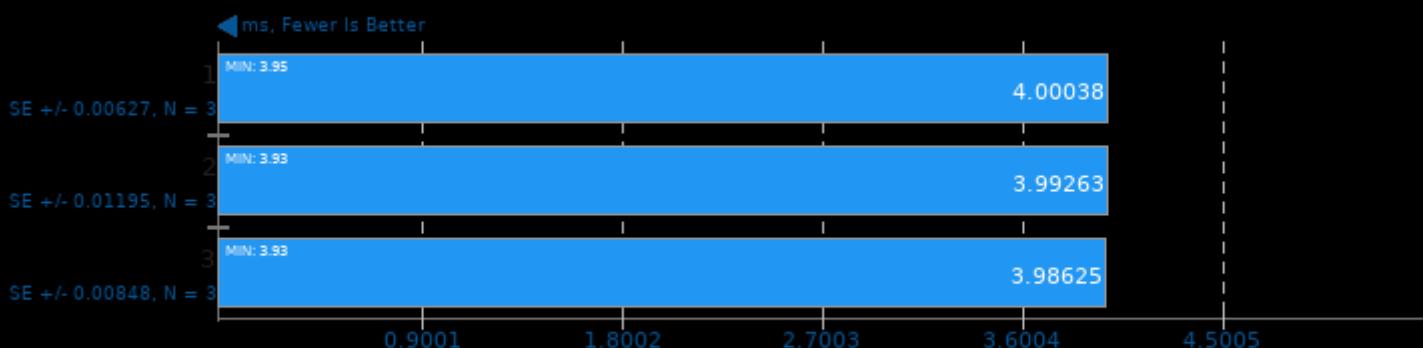
Harness: IP Shapes 1D - Data Type: u8s8f32 - Engine: CPU



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

oneDNN 2.0

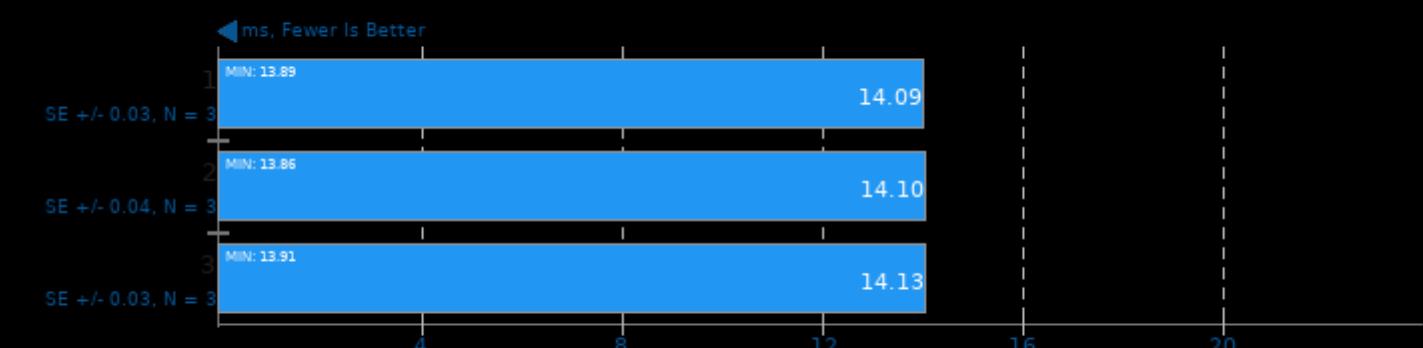
Harness: IP Shapes 3D - Data Type: u8s8f32 - Engine: CPU



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

oneDNN 2.0

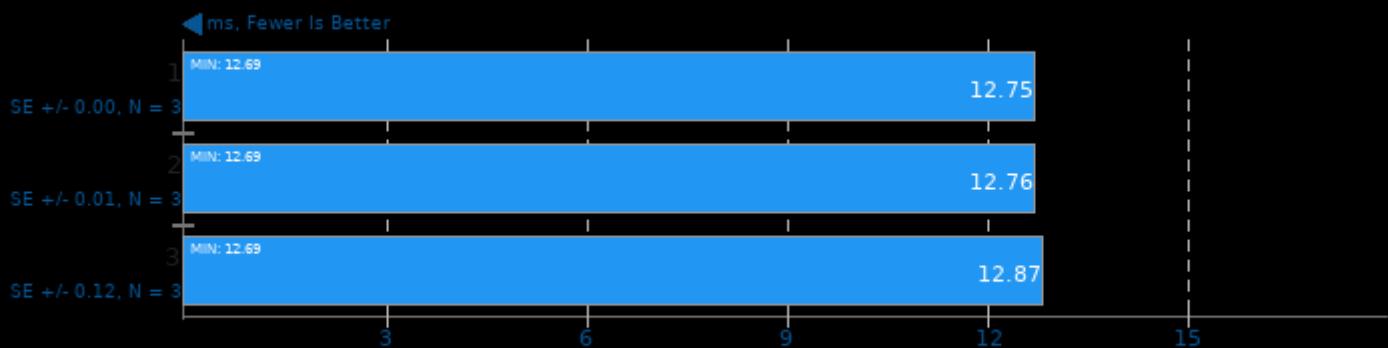
Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU



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

oneDNN 2.0

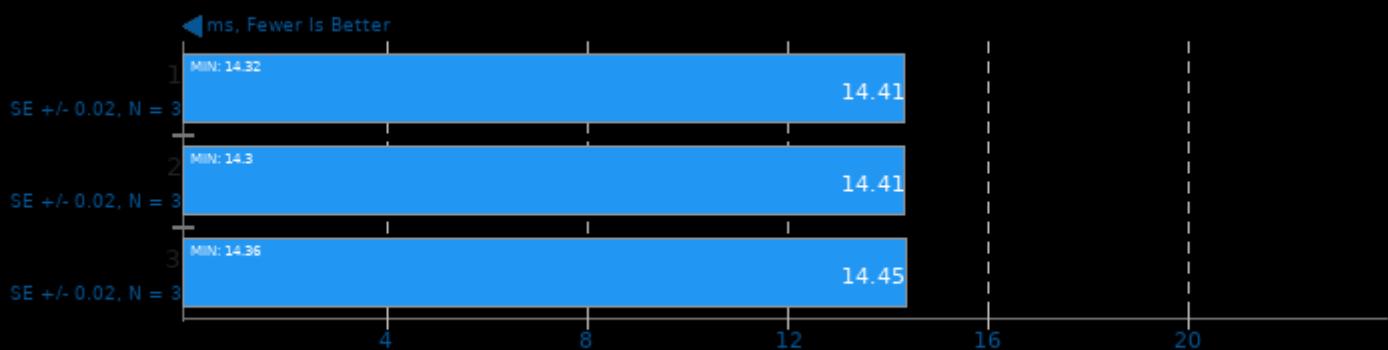
Harness: Deconvolution Batch shapes_1d - Data Type: f32 - Engine: CPU



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

oneDNN 2.0

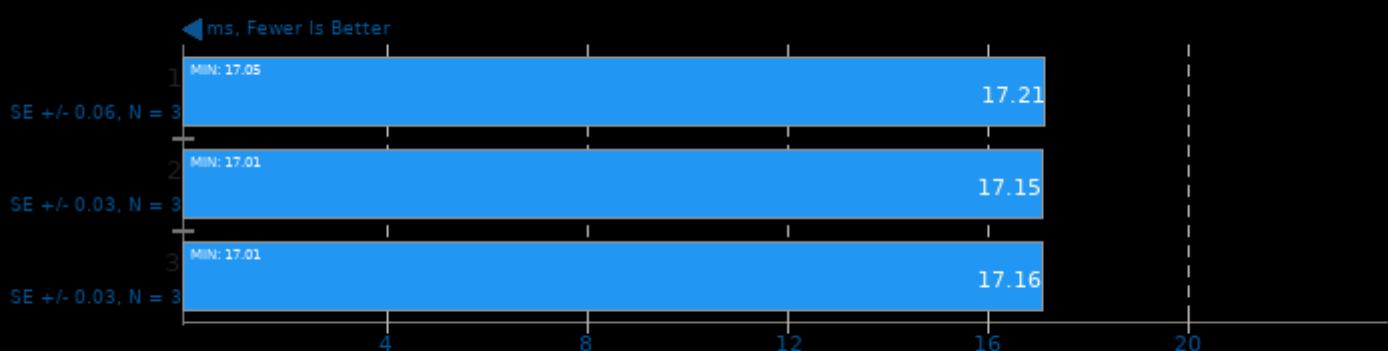
Harness: Deconvolution Batch shapes_3d - Data Type: f32 - Engine: CPU



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

oneDNN 2.0

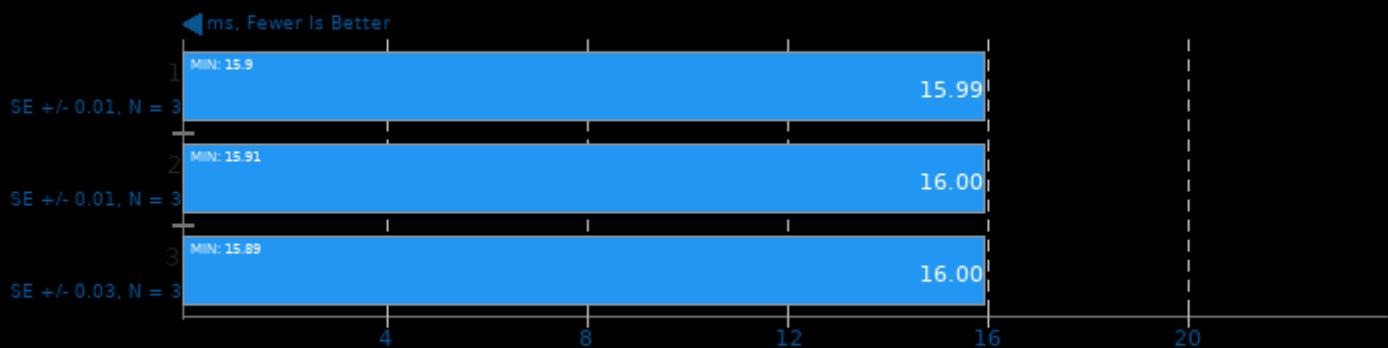
Harness: Convolution Batch Shapes Auto - Data Type: u8s8f32 - Engine: CPU



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

oneDNN 2.0

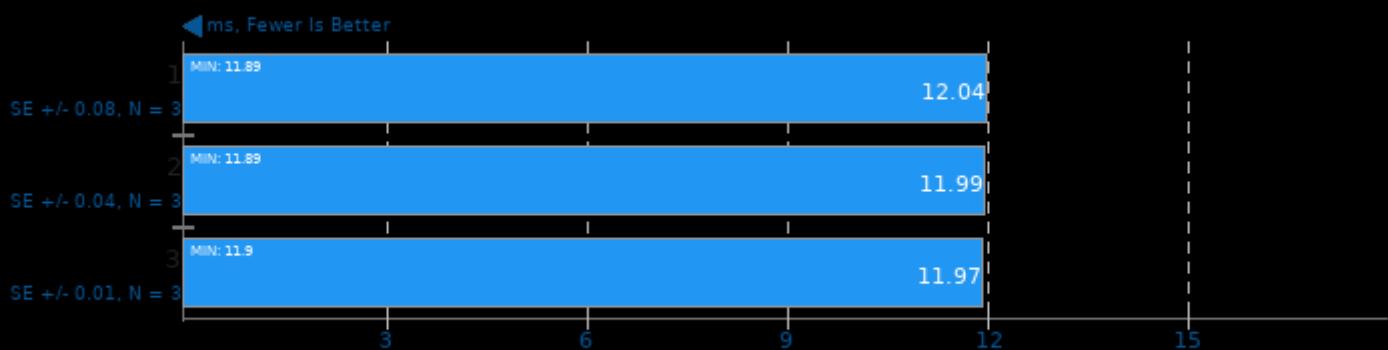
Harness: Deconvolution Batch shapes_1d - Data Type: u8s8f32 - Engine: CPU



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

oneDNN 2.0

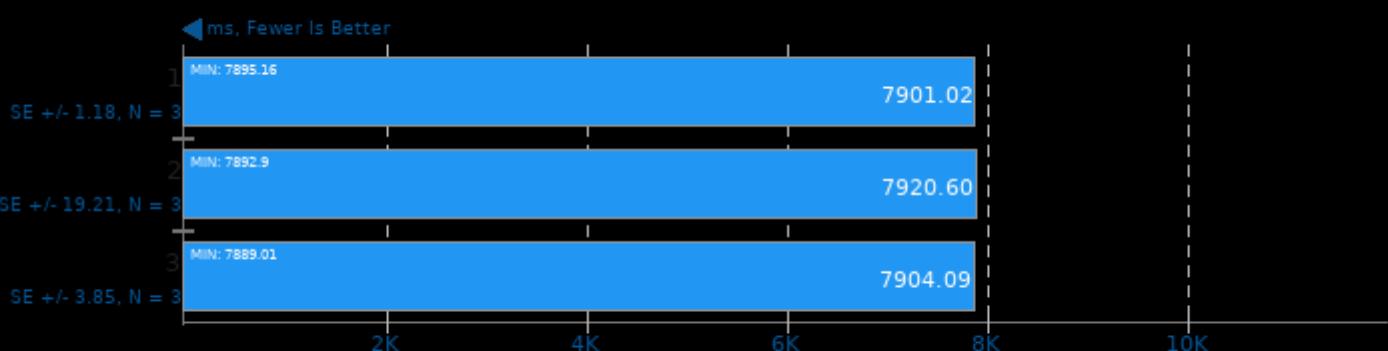
Harness: Deconvolution Batch shapes_3d - Data Type: u8s8f32 - Engine: CPU



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

oneDNN 2.0

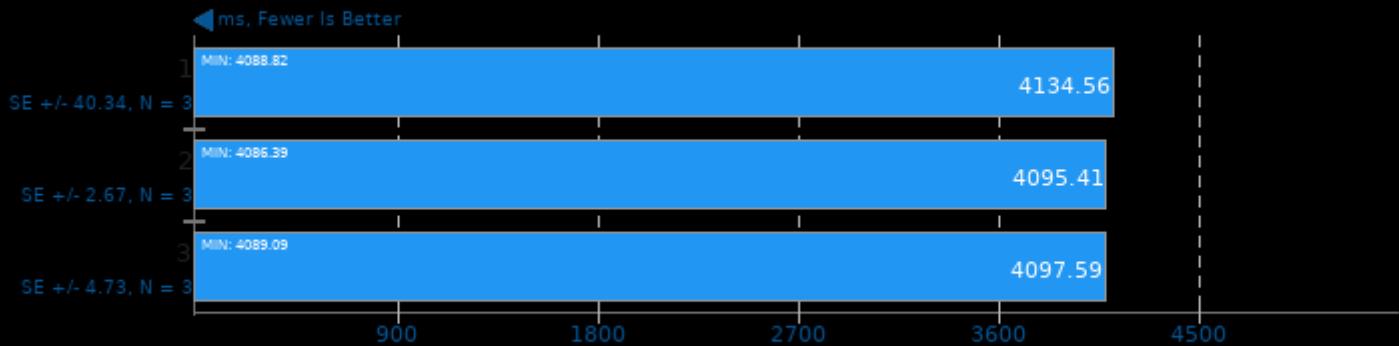
Harness: Recurrent Neural Network Training - Data Type: f32 - Engine: CPU



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

oneDNN 2.0

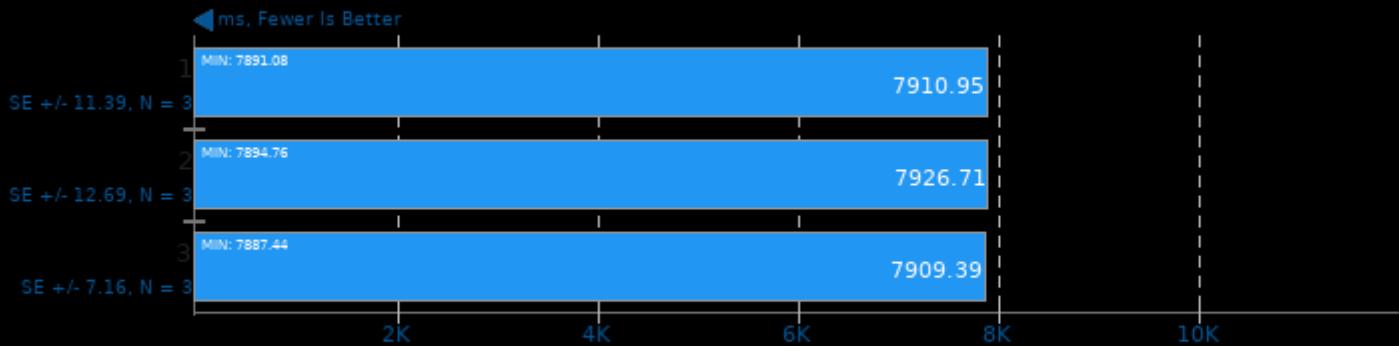
Harness: Recurrent Neural Network Inference - Data Type: f32 - Engine: CPU



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

oneDNN 2.0

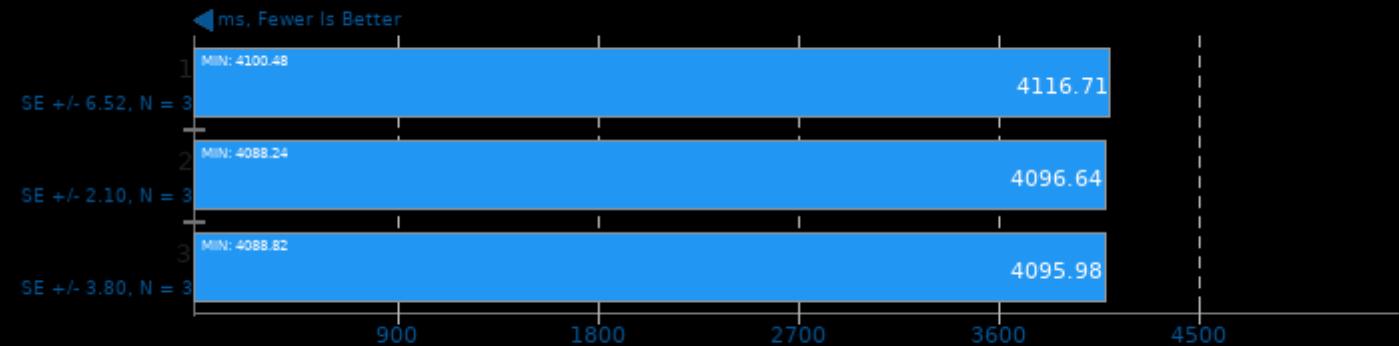
Harness: Recurrent Neural Network Training - Data Type: u8s8f32 - Engine: CPU



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

oneDNN 2.0

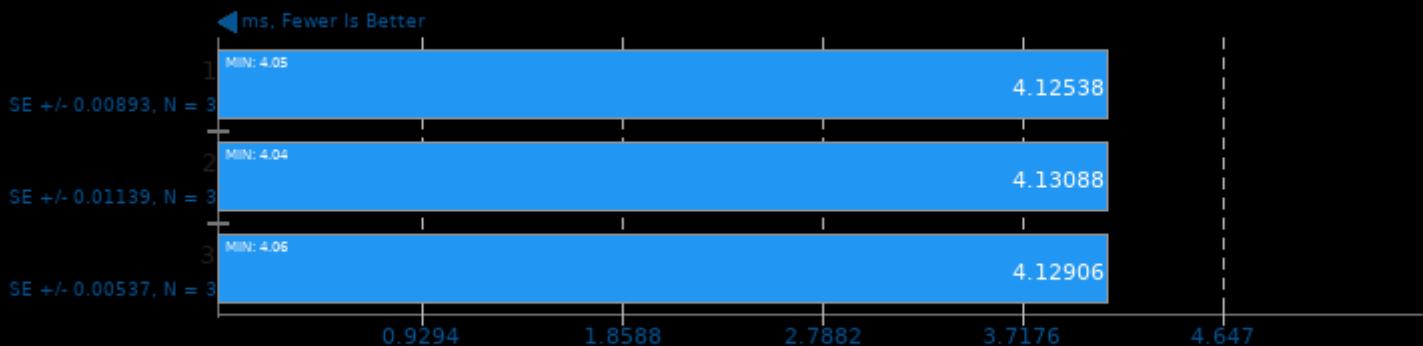
Harness: Recurrent Neural Network Inference - Data Type: u8s8f32 - Engine: CPU



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

oneDNN 2.0

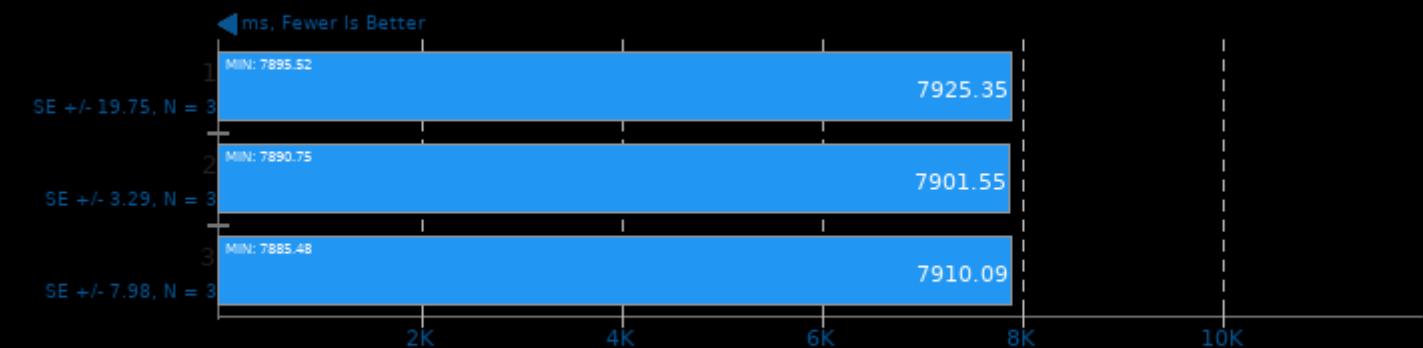
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: f32 - Engine: CPU



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

oneDNN 2.0

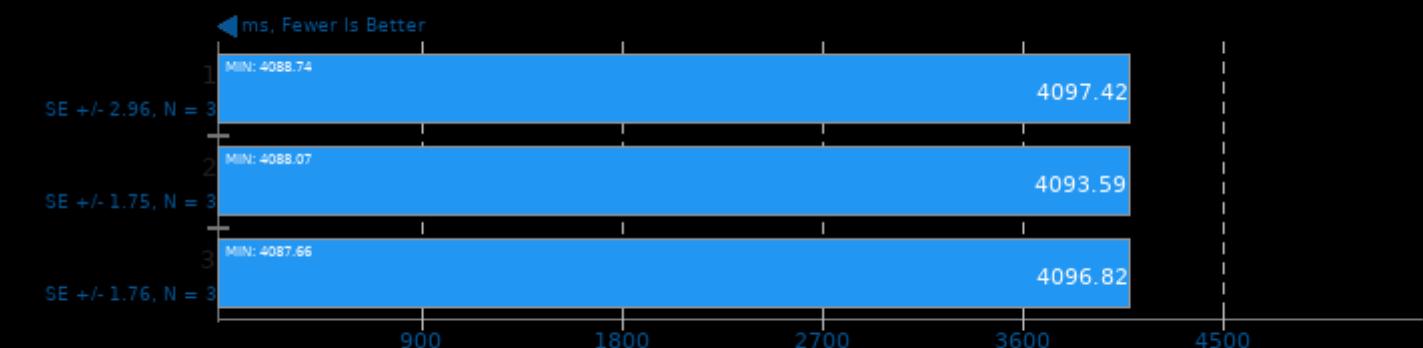
Harness: Recurrent Neural Network Training - Data Type: bf16bf16bf16 - Engine: CPU



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

oneDNN 2.0

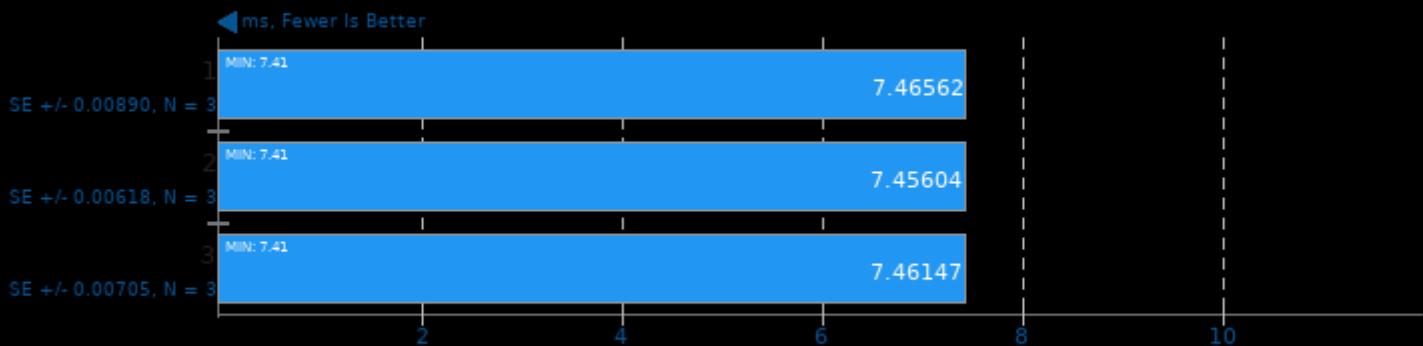
Harness: Recurrent Neural Network Inference - Data Type: bf16bf16bf16 - Engine: CPU



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

oneDNN 2.0

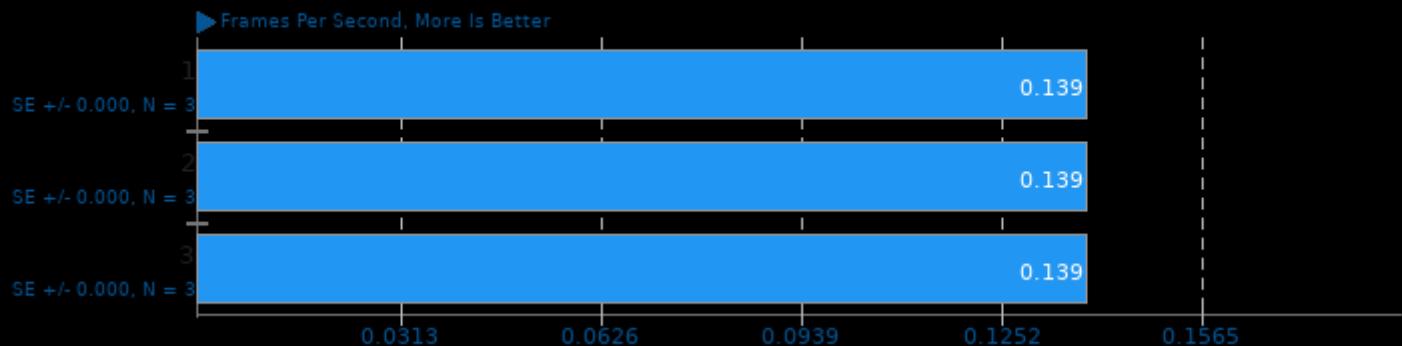
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: u8s8f32 - Engine: CPU



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

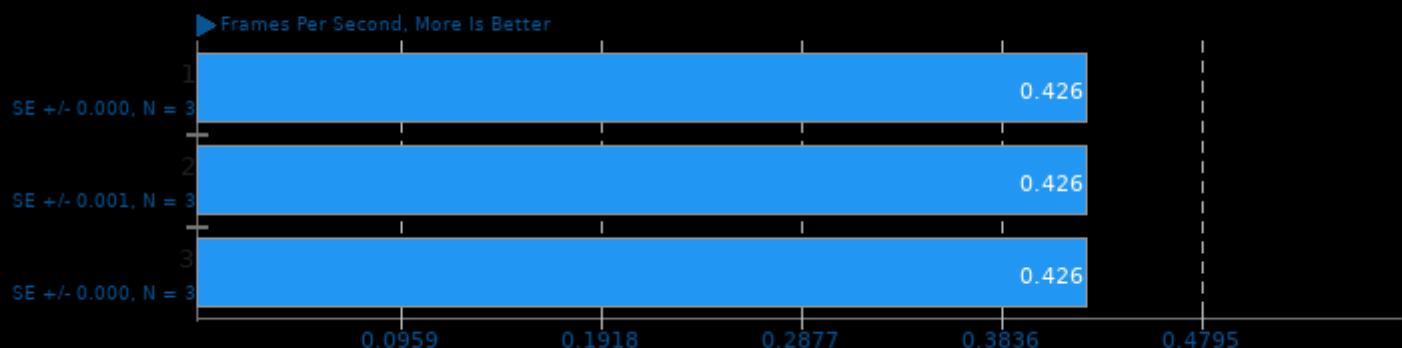
rav1e 0.4 Alpha

Speed: 1



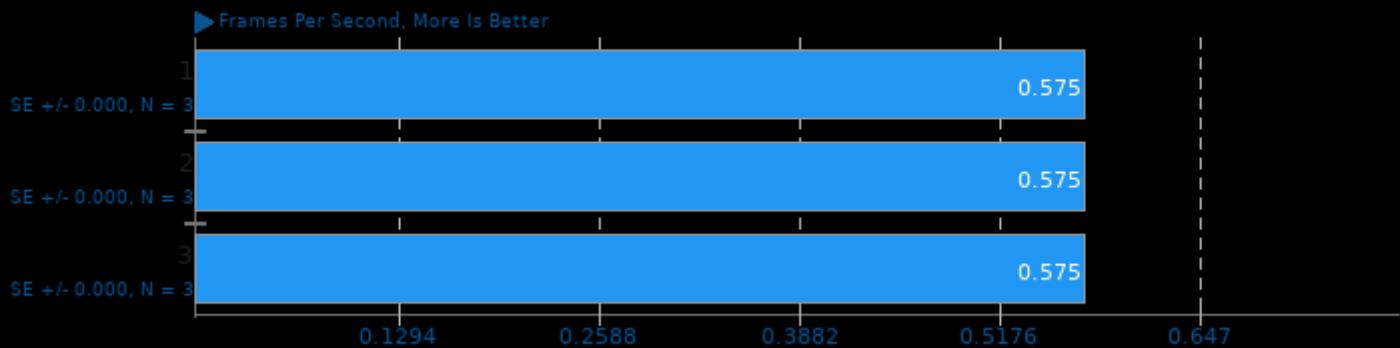
rav1e 0.4 Alpha

Speed: 5

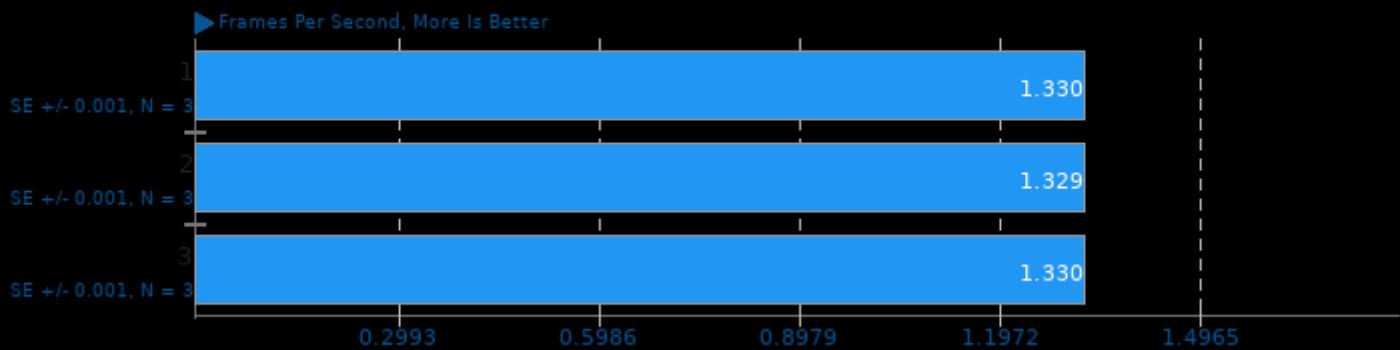


rav1e 0.4 Alpha

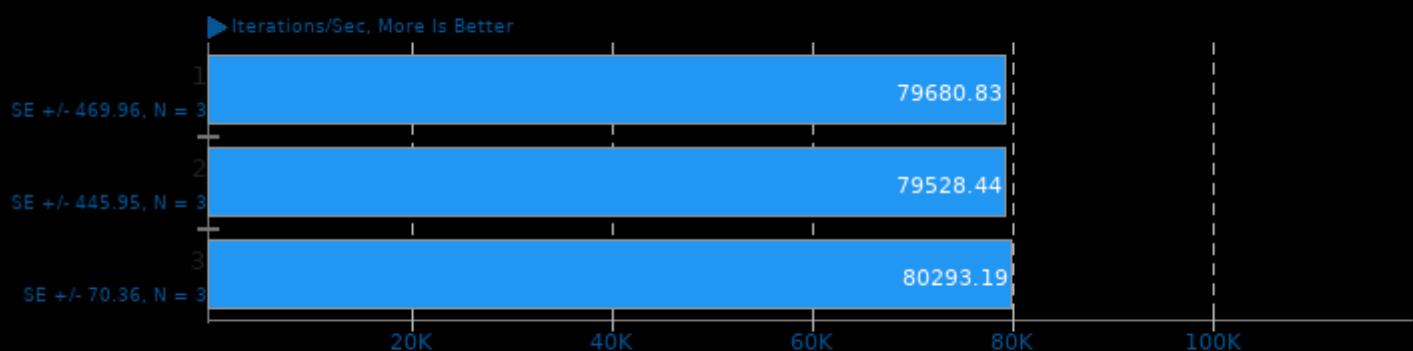
Speed: 6

**rav1e 0.4 Alpha**

Speed: 10

**Coremark 1.0**

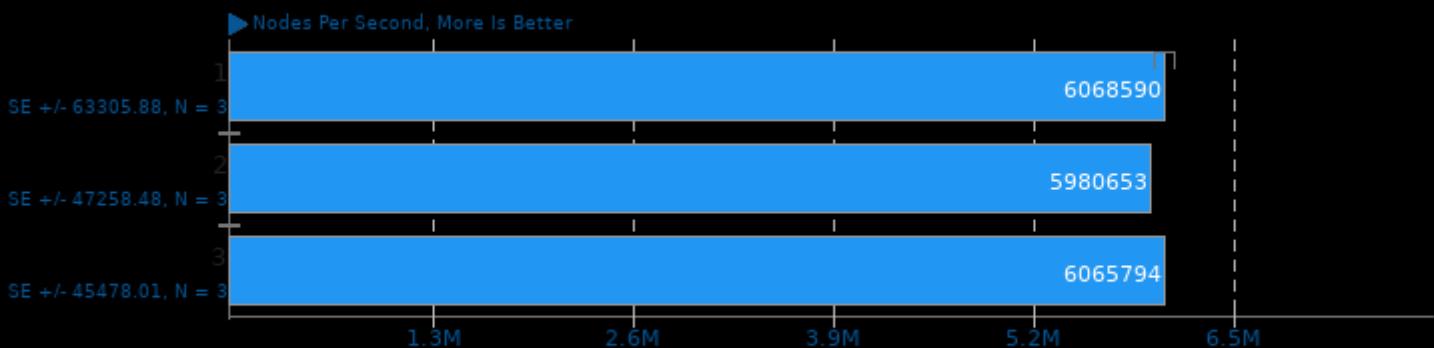
CoreMark Size 666 - Iterations Per Second



1. (CC) gcc options: -O2 -fipa -firt

Stockfish 12

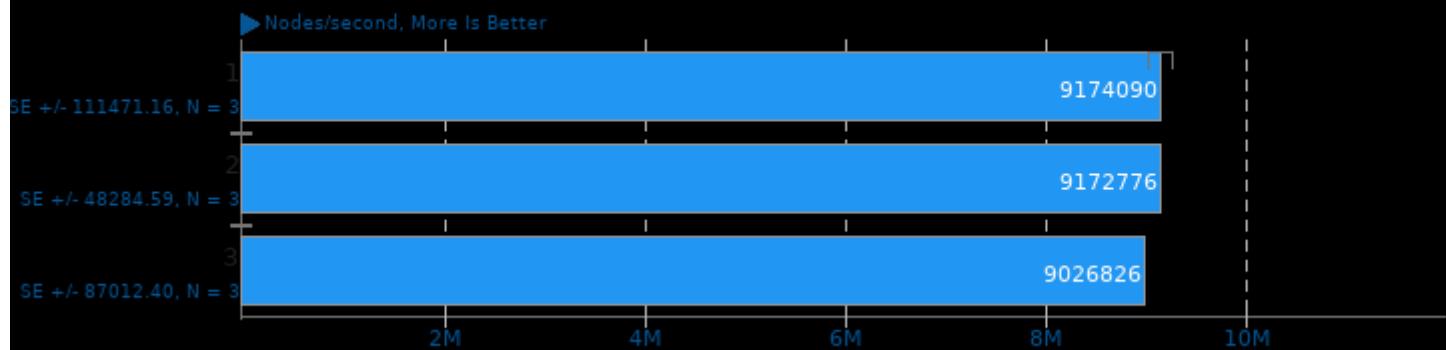
Total Time



1. (CXX) g++ options: -m64 -lpthread -fno-exceptions -std=c++17 -pedantic -O3 -msse -msse3 -mpopcnt -msse4.1 -msse3 -msse2 -fno -fno=jobserver

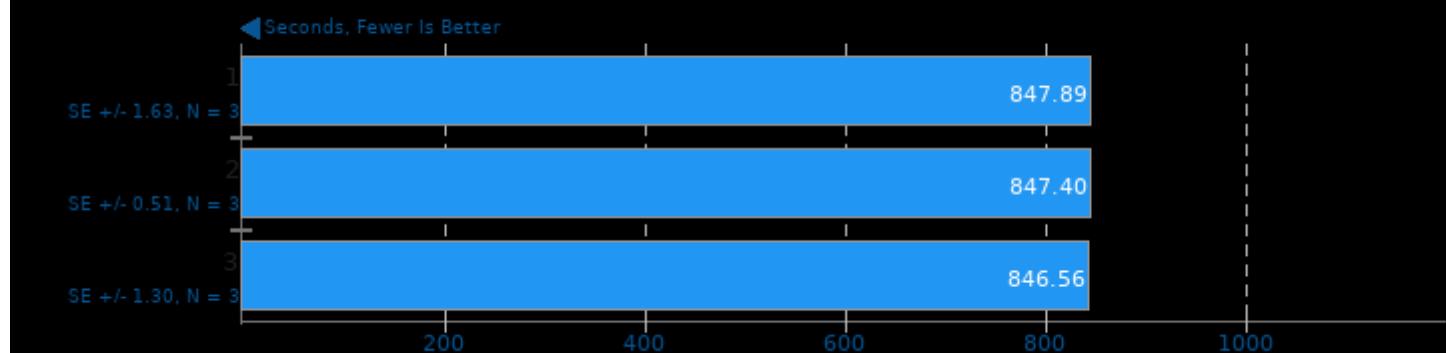
asmFish 2018-07-23

1024 Hash Memory, 26 Depth



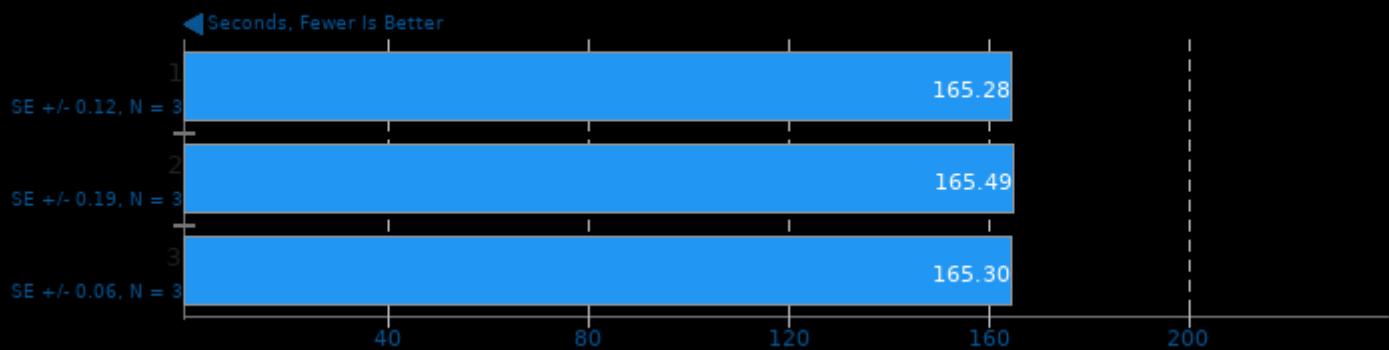
Timed Clash Compilation

Time To Compile



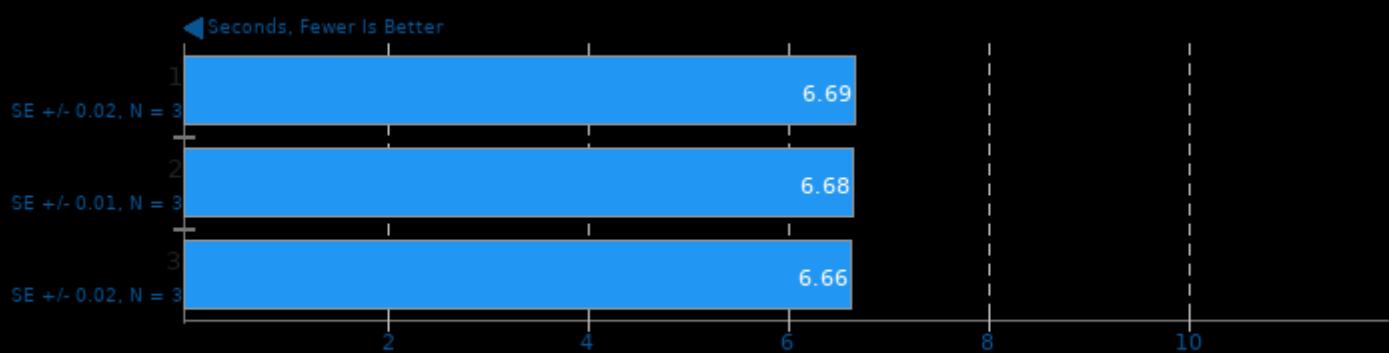
Timed FFmpeg Compilation 4.2.2

Time To Compile



ASTC Encoder 2.0

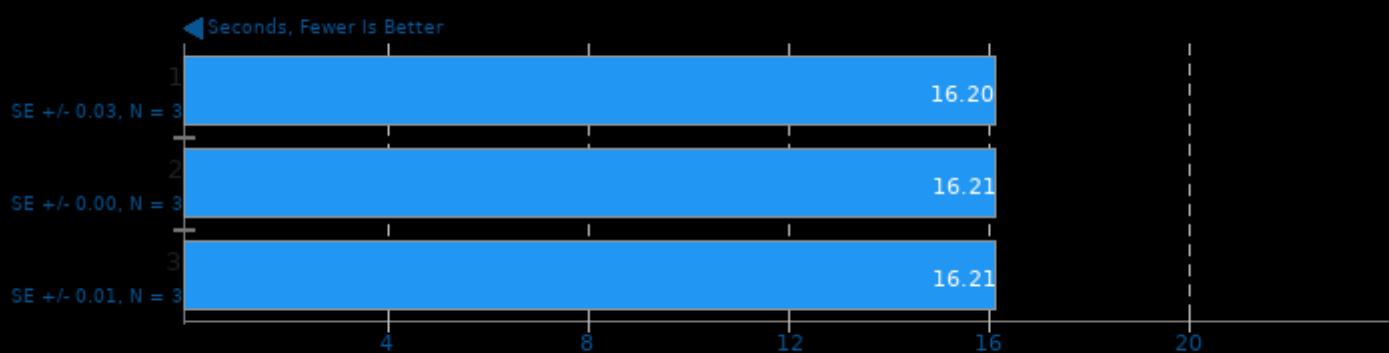
Preset: Fast



1. (CXX) g++ options: -std=c++14 -fvisibility=hidden -O3 -fno-math-errno -mfpmath=sse -mavx2 -mpopcnt -lpthread

ASTC Encoder 2.0

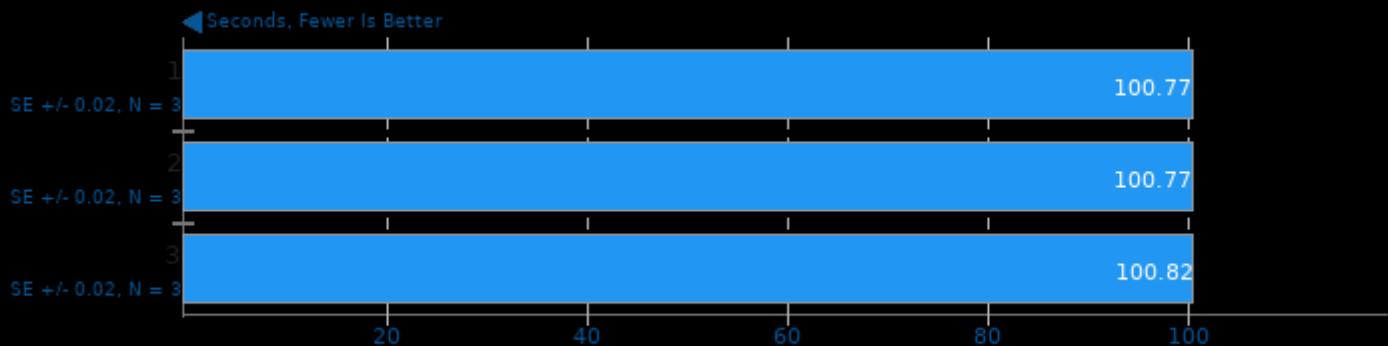
Preset: Medium



1. (CXX) g++ options: -std=c++14 -fvisibility=hidden -O3 -fno-math-errno -mfpmath=sse -mavx2 -mpopcnt -lpthread

ASTC Encoder 2.0

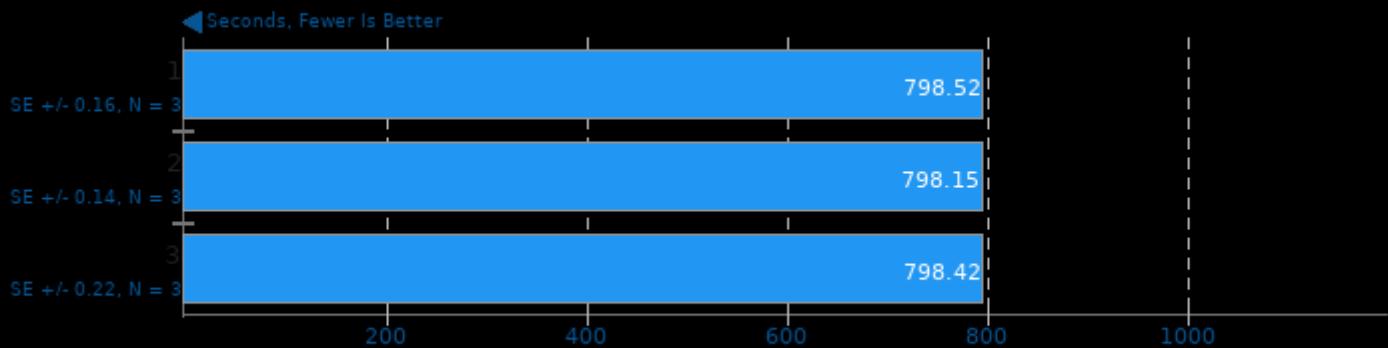
Preset: Thorough



1. (CXX) g++ options: -std=c++14 -fvisibility=hidden -O3 -fno-math-errno -mfpmath=sse -mavx2 -mpopcnt -lpthread

ASTC Encoder 2.0

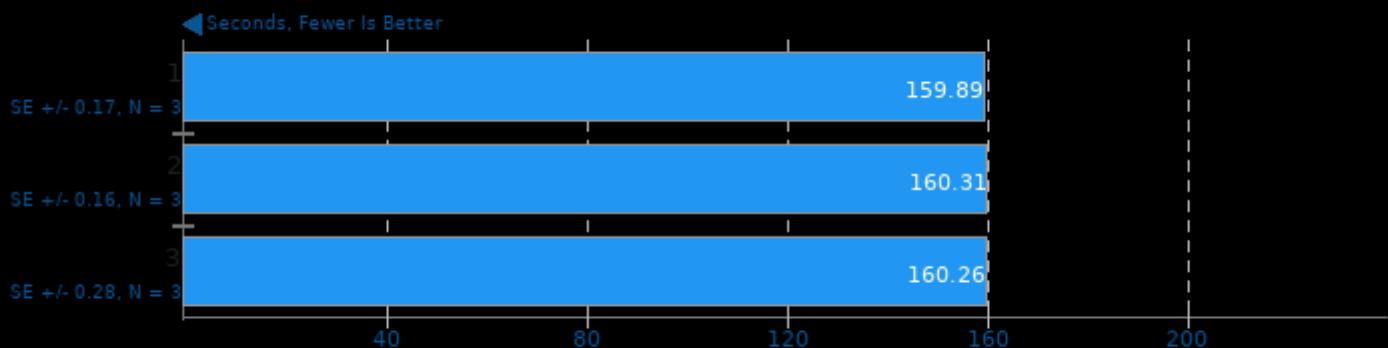
Preset: Exhaustive



1. (CXX) g++ options: -std=c++14 -fvisibility=hidden -O3 -fno-math-errno -mfpmath=sse -mavx2 -mpopcnt -lpthread

SQLite Speedtest 3.30

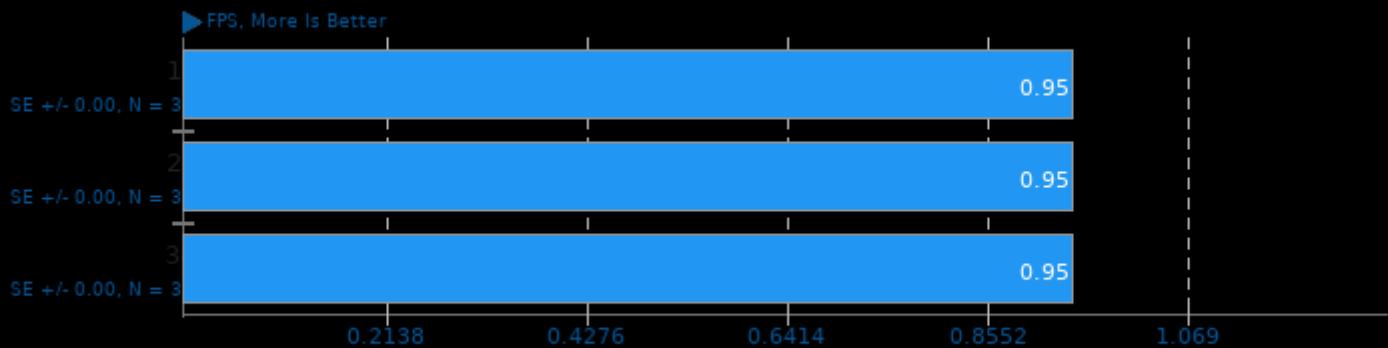
Timed Time - Size 1,000



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

OpenVINO 2021.1

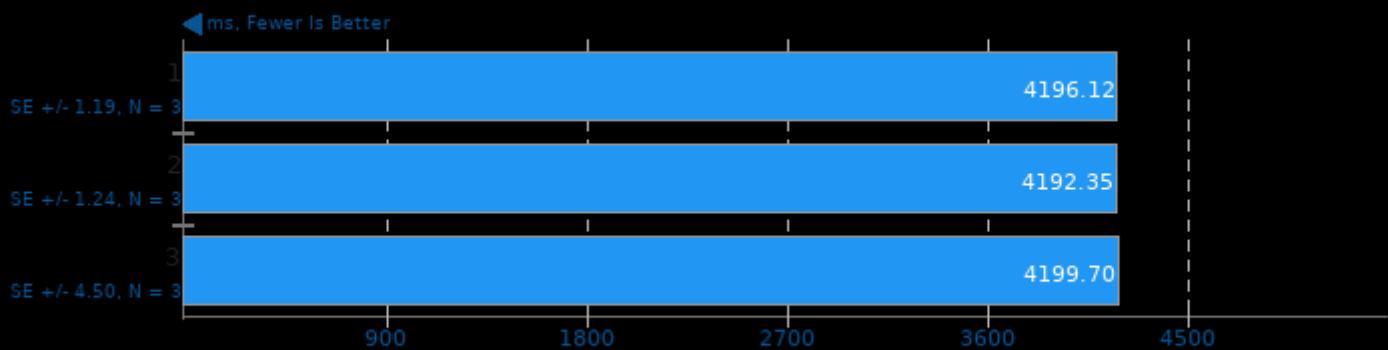
Model: Face Detection 0106 FP16 - Device: CPU



1. (CXX) g++ options: -fsigned-char -ffunction-sections -O3 -pie -pthread -lpthread

OpenVINO 2021.1

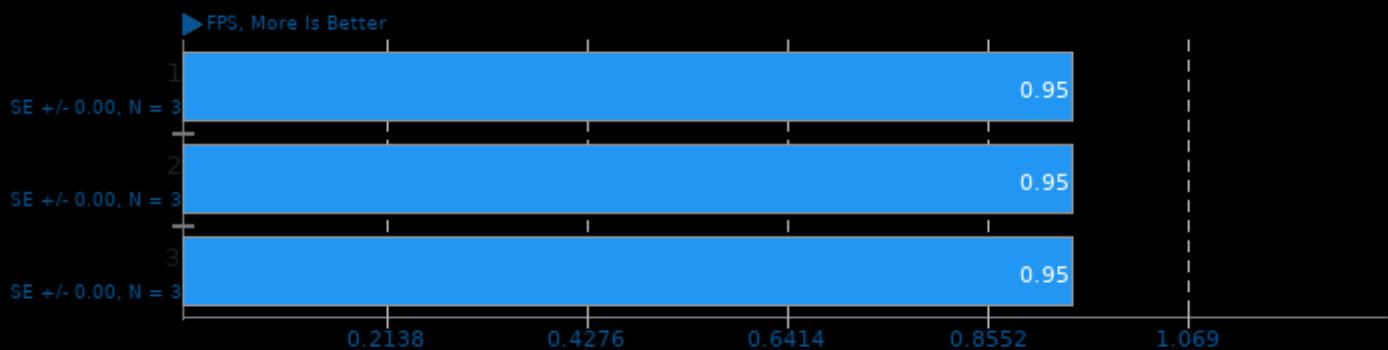
Model: Face Detection 0106 FP16 - Device: CPU



1. (CXX) g++ options: -fsigned-char -ffunction-sections -O3 -pie -pthread -lpthread

OpenVINO 2021.1

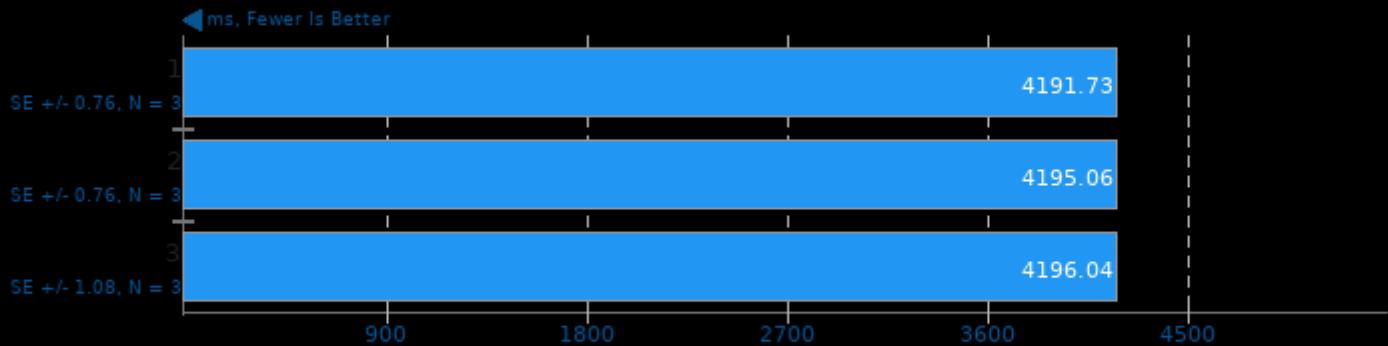
Model: Face Detection 0106 FP32 - Device: CPU



1. (CXX) g++ options: -fsigned-char -ffunction-sections -O3 -pie -pthread -lpthread

OpenVINO 2021.1

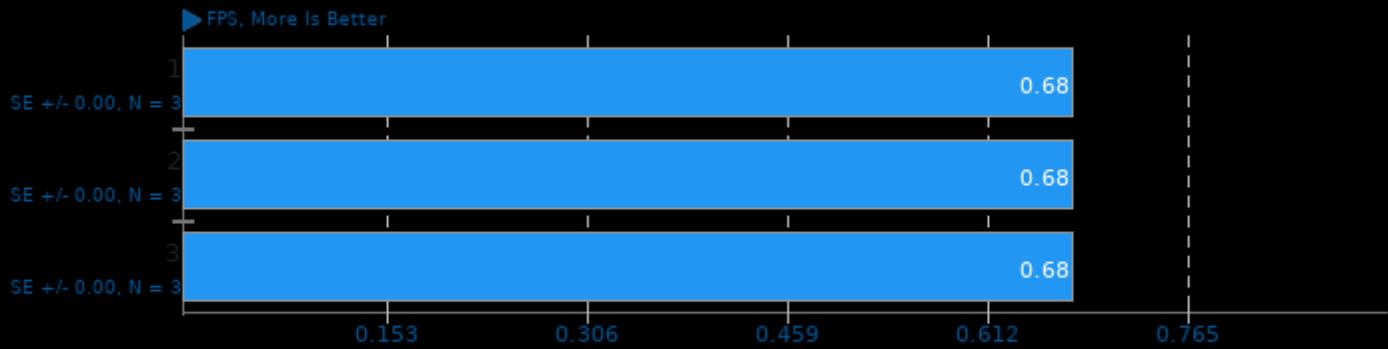
Model: Face Detection 0106 FP32 - Device: CPU



1. (CXX) g++ options: -fsigned-char -ffunction-sections -O3 -pie -pthread -lpthread

OpenVINO 2021.1

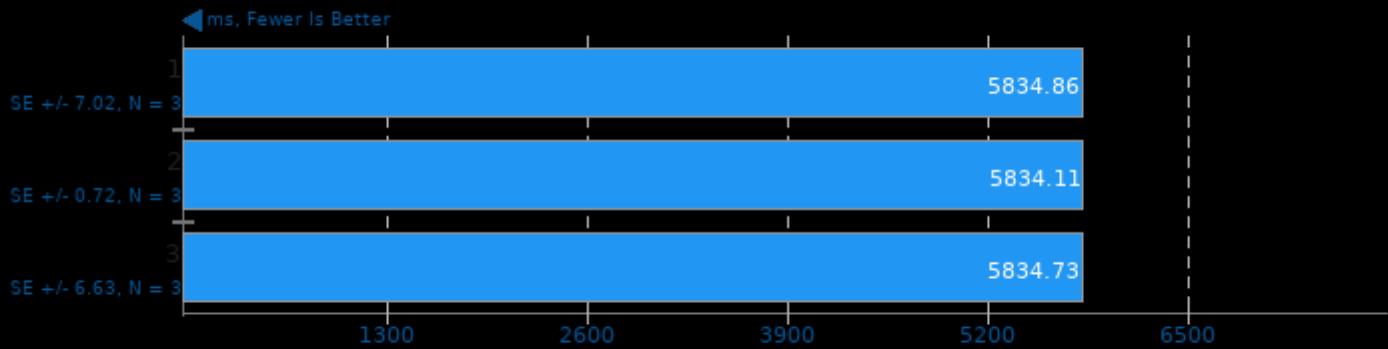
Model: Person Detection 0106 FP16 - Device: CPU



1. (CXX) g++ options: -fsigned-char -ffunction-sections -O3 -pie -pthread -lpthread

OpenVINO 2021.1

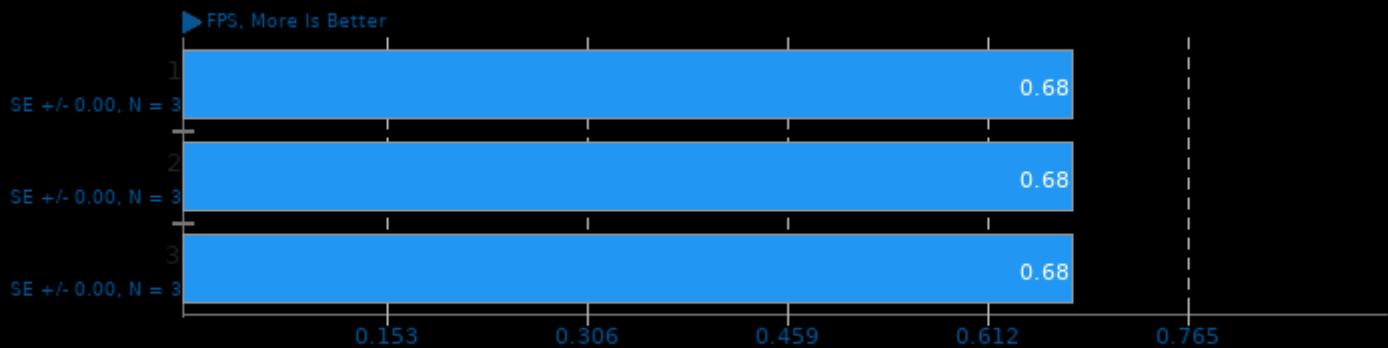
Model: Person Detection 0106 FP16 - Device: CPU



1. (CXX) g++ options: -fsigned-char -ffunction-sections -O3 -pie -pthread -lpthread

OpenVINO 2021.1

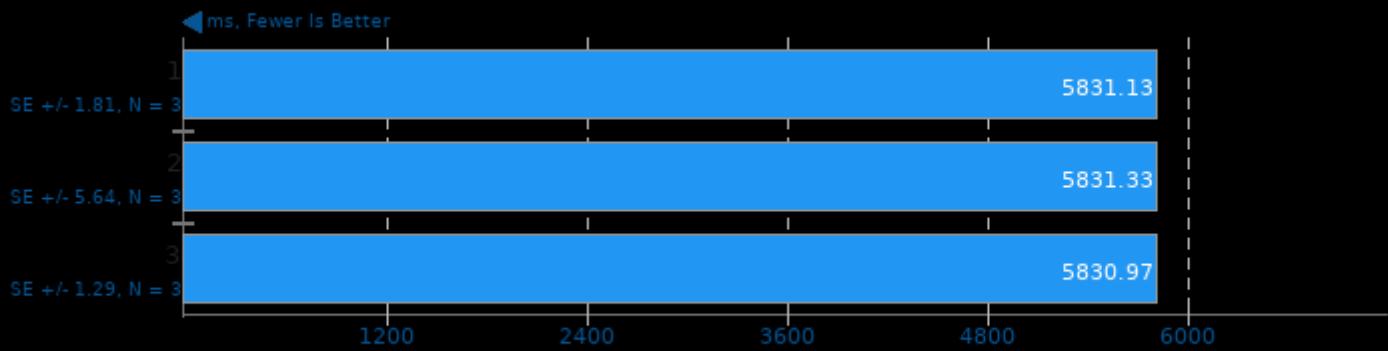
Model: Person Detection 0106 FP32 - Device: CPU



1. (CXX) g++ options: -fsigned-char -ffunction-sections -O3 -pie -pthread -lpthread

OpenVINO 2021.1

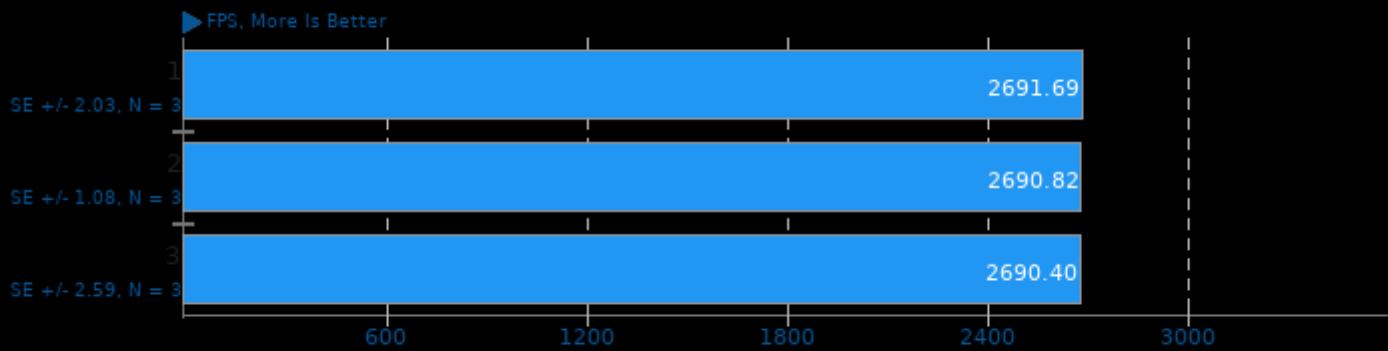
Model: Person Detection 0106 FP32 - Device: CPU



1. (CXX) g++ options: -fsigned-char -ffunction-sections -O3 -pie -pthread -lpthread

OpenVINO 2021.1

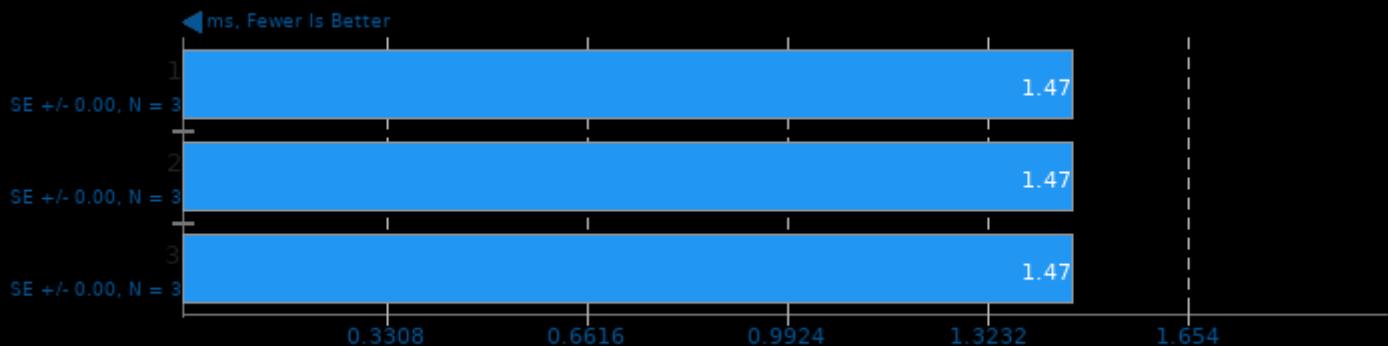
Model: Age Gender Recognition Retail 0013 FP16 - Device: CPU



1. (CXX) g++ options: -fsigned-char -ffunction-sections -O3 -pie -pthread -lpthread

OpenVINO 2021.1

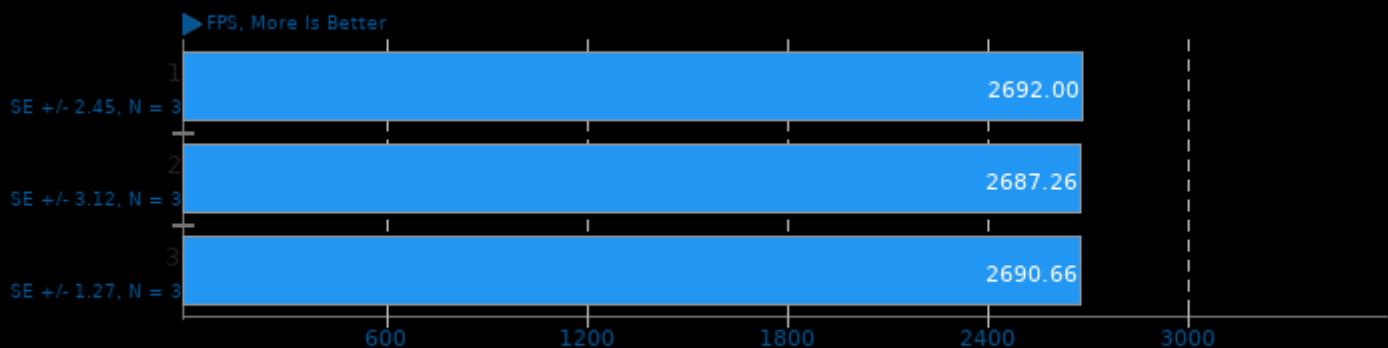
Model: Age Gender Recognition Retail 0013 FP16 - Device: CPU



1. (CXX) g++ options: -fsigned-char -ffunction-sections -O3 -pie -pthread -lpthread

OpenVINO 2021.1

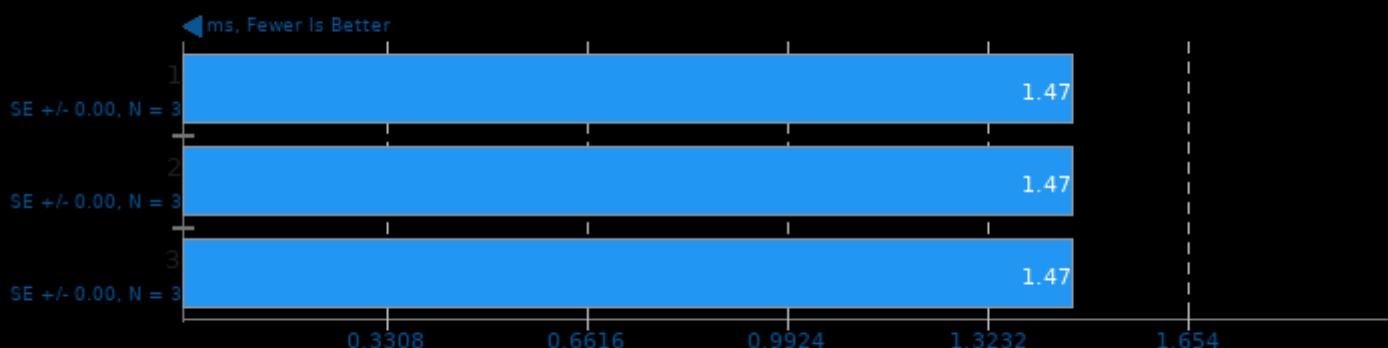
Model: Age Gender Recognition Retail 0013 FP32 - Device: CPU



1. (CXX) g++ options: -fsigned-char -ffunction-sections -O3 -pie -pthread -lpthread

OpenVINO 2021.1

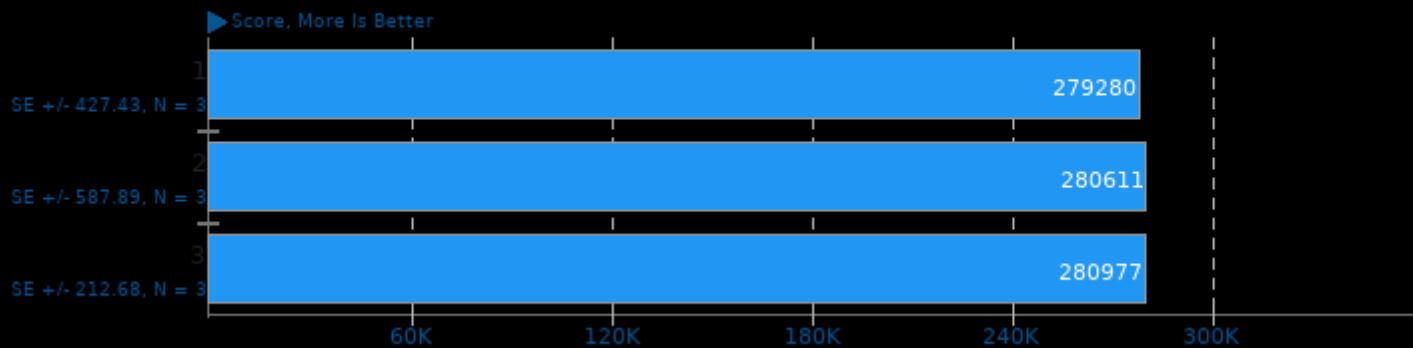
Model: Age Gender Recognition Retail 0013 FP32 - Device: CPU



1. (CXX) g++ options: -fsigned-char -ffunction-sections -O3 -pie -pthread -lpthread

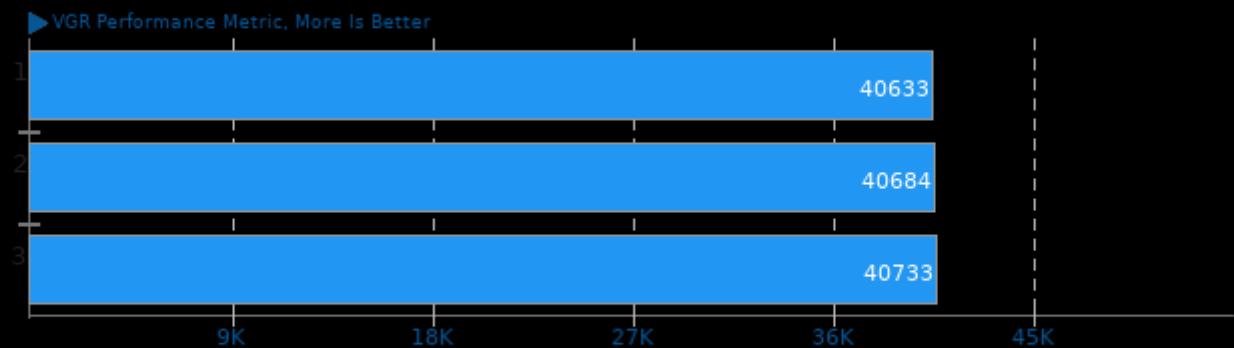
PHPBench 0.8.1

PHP Benchmark Suite



BRL-CAD 7.30.8

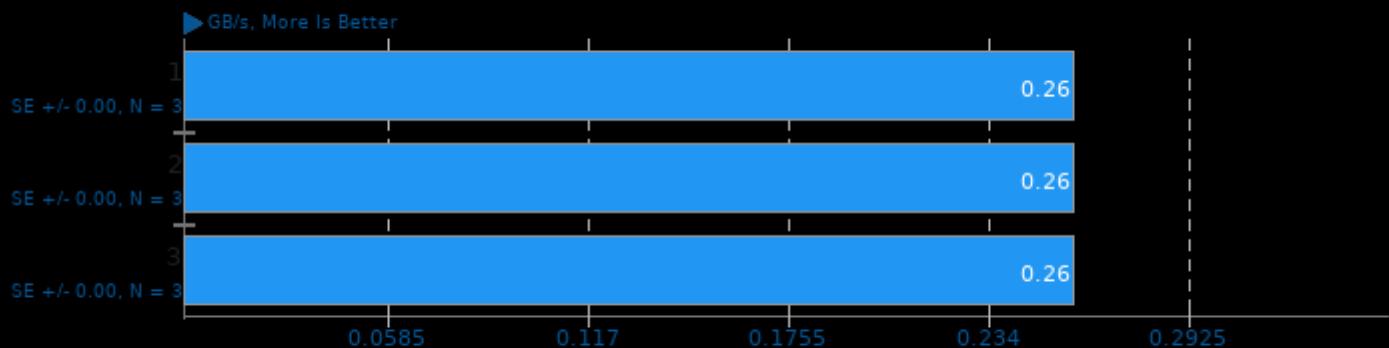
VGR Performance Metric



1. (CXX) g++ options: -std=c++11 -pipe -fno-strict-aliasing -fno-common -fexceptions -ftemplate-depth=128 -m64 -ggdb3 -O3 -fipa-ptx -fstrength-reduce

simdjson 0.7

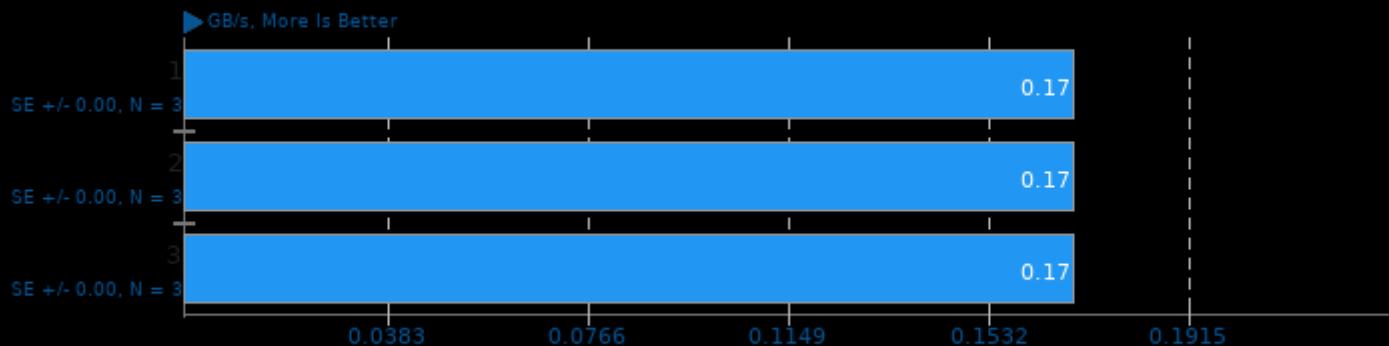
Throughput Test: Kostya



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

simdjson 0.7

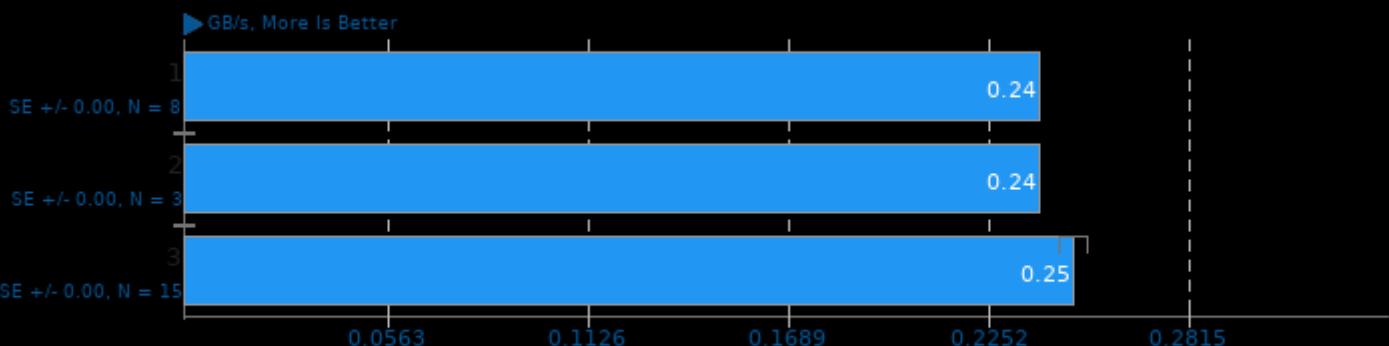
Throughput Test: LargeRandom



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

simdjson 0.7

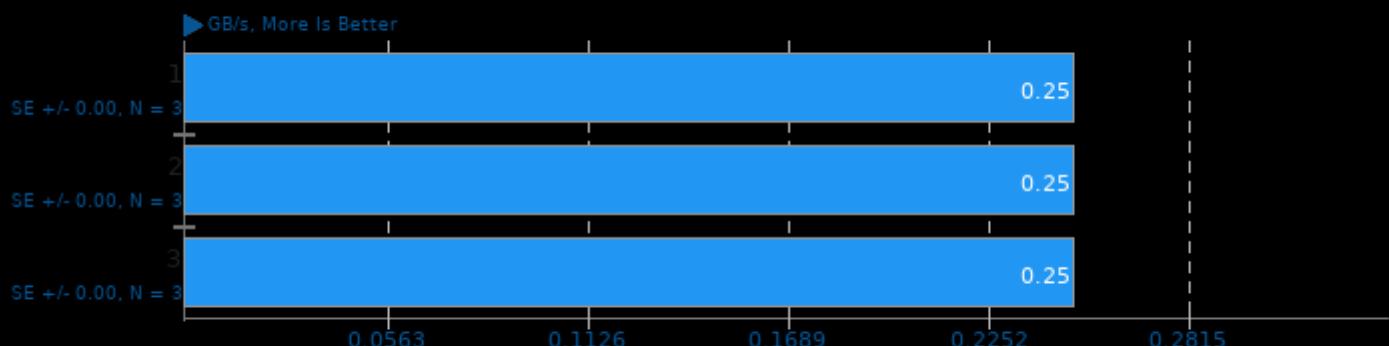
Throughput Test: PartialTweets



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

simdjson 0.7

Throughput Test: DistinctUserID

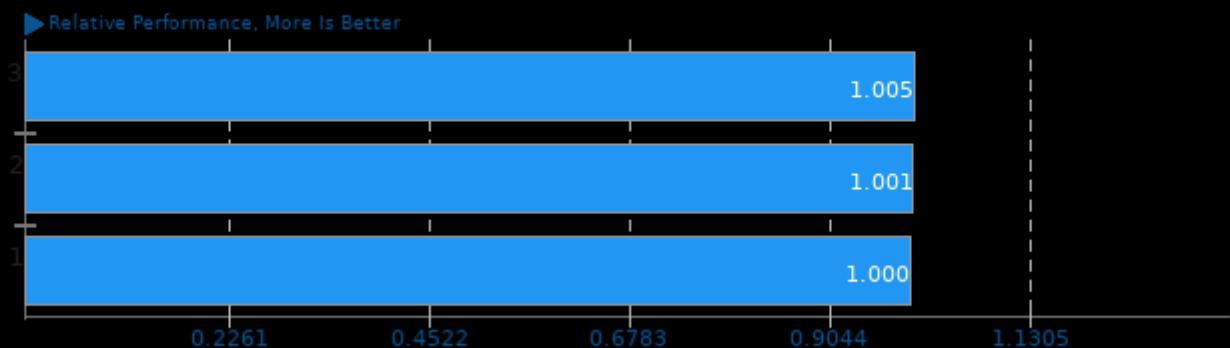


1. (CXX) g++ options: -O3 -pthread

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

Geometric Mean Of Bioinformatics Tests

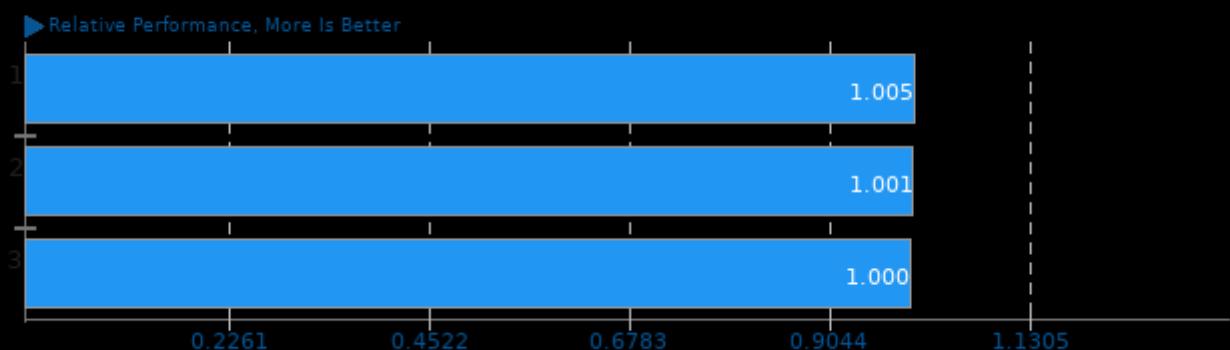
Result Composite - Xeon Broadwell December



Geometric mean based upon tests: pts/hmmer and pts/mafft

Geometric Mean Of Chess Test Suite

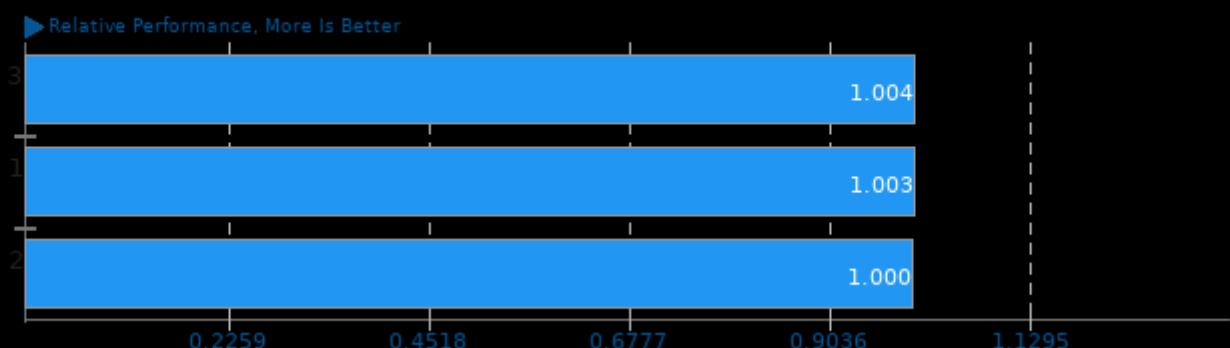
Result Composite - Xeon Broadwell December



Geometric mean based upon tests: pts/crafty, pts/stockfish and pts/asmfish

Geometric Mean Of C/C++ Compiler Tests

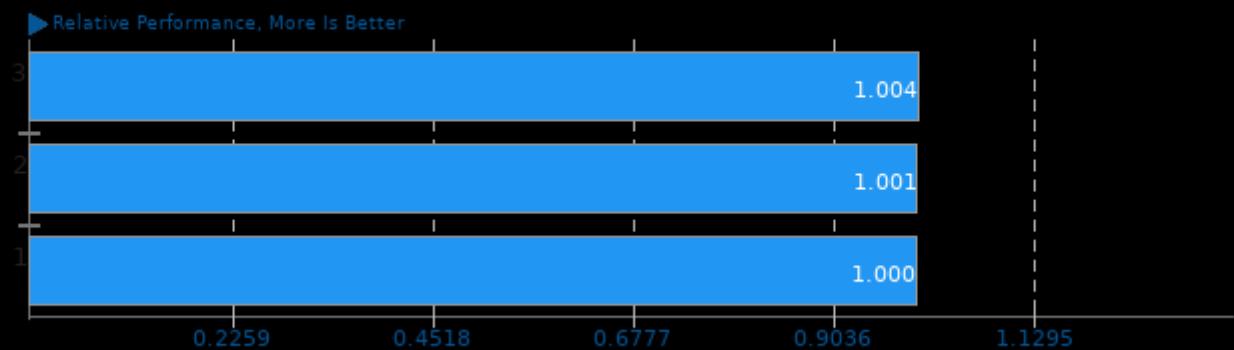
Result Composite - Xeon Broadwell December



Geometric mean based upon tests: pts/mafft, pts/stockfish, pts/hmmer, pts/sqlite-speedtest and pts/build-ffmpeg

Geometric Mean Of CPU Massive Tests

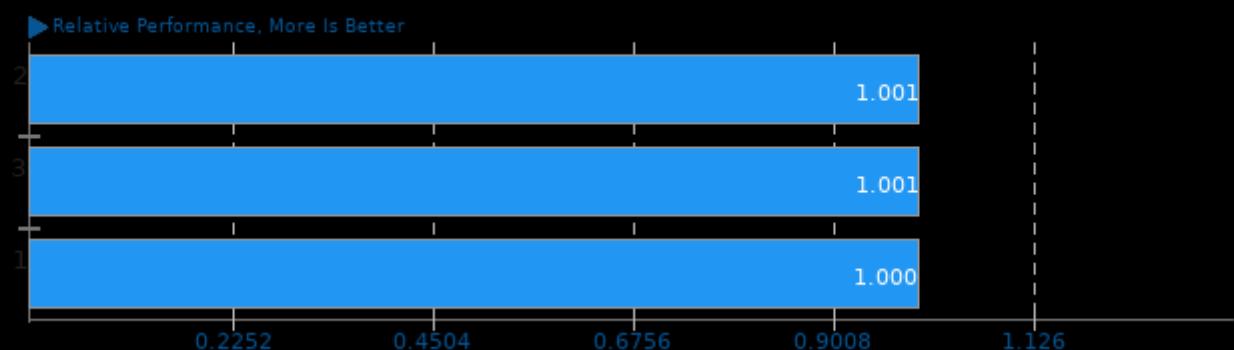
Result Composite - Xeon Broadwell December



Geometric mean based upon tests: pts/asmfish, pts/brl-cad, pts/compilebench, pts/crafty, pts/hammer, pts/mafft, pts/onnednn, pts/phpbench and pts/stockfish

Geometric Mean Of Creator Workloads Tests

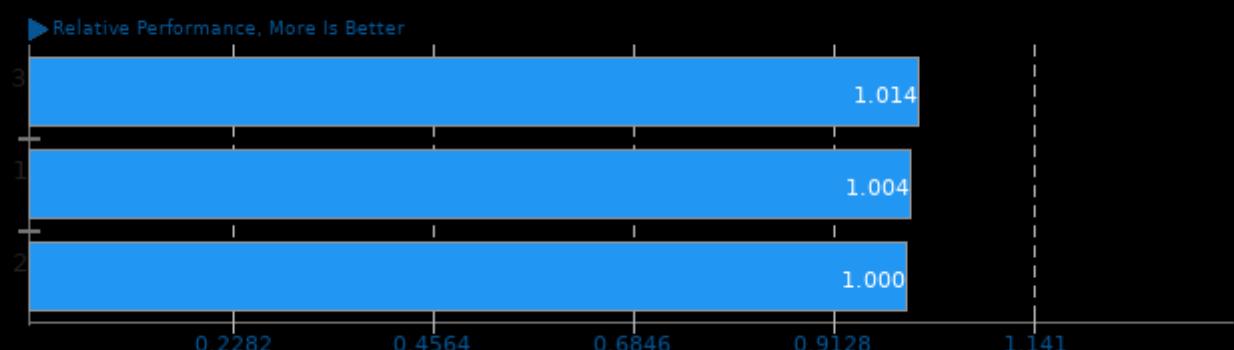
Result Composite - Xeon Broadwell December



Geometric mean based upon tests: pts/rav1e, pts/onnednn, pts/openvino, pts/astcenc and pts/brl-cad

Geometric Mean Of Disk Test Suite

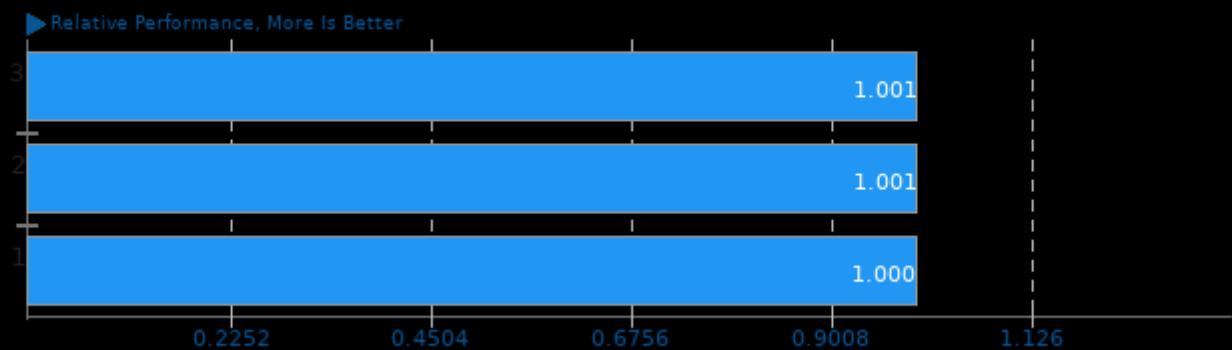
Result Composite - Xeon Broadwell December



Geometric mean based upon tests: pts/compilebench and pts/fio

Geometric Mean Of HPC - High Performance Computing Tests

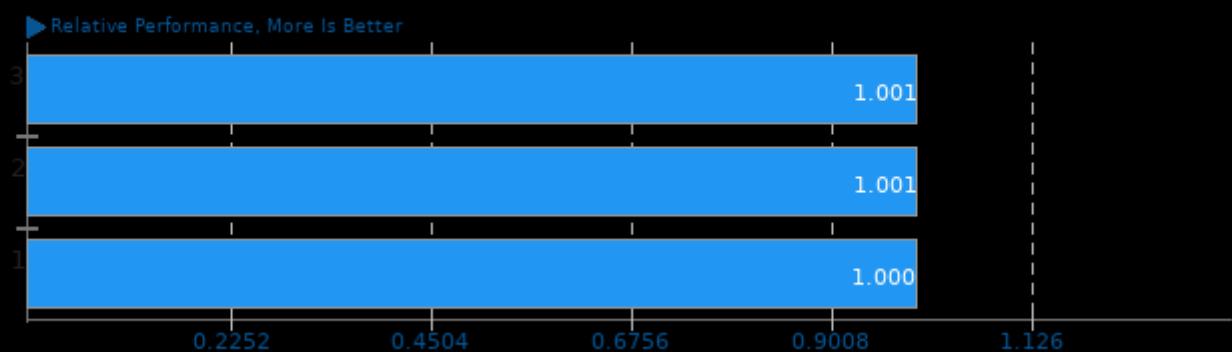
Result Composite - Xeon Broadwell December



Geometric mean based upon tests: pts/hmmer, pts/mafft, pts/onednn and pts/openvino

Geometric Mean Of Machine Learning Tests

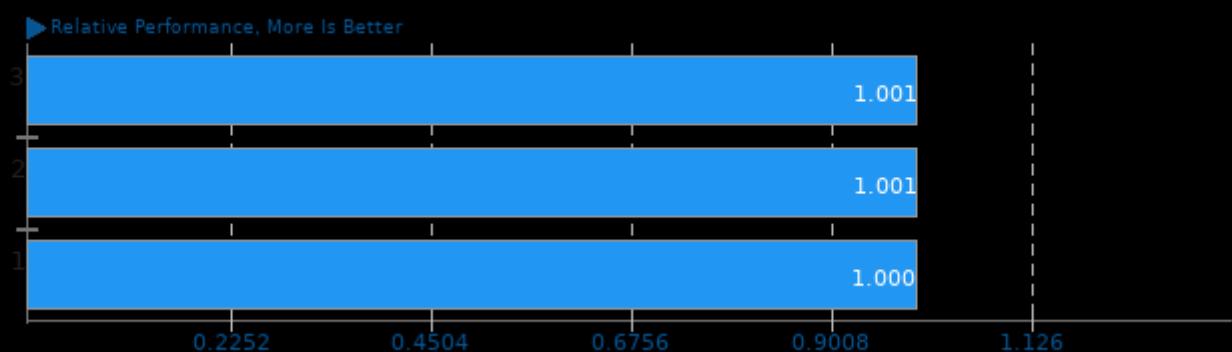
Result Composite - Xeon Broadwell December



Geometric mean based upon tests: pts/onednn and pts/openvino

Geometric Mean Of Multi-Core Tests

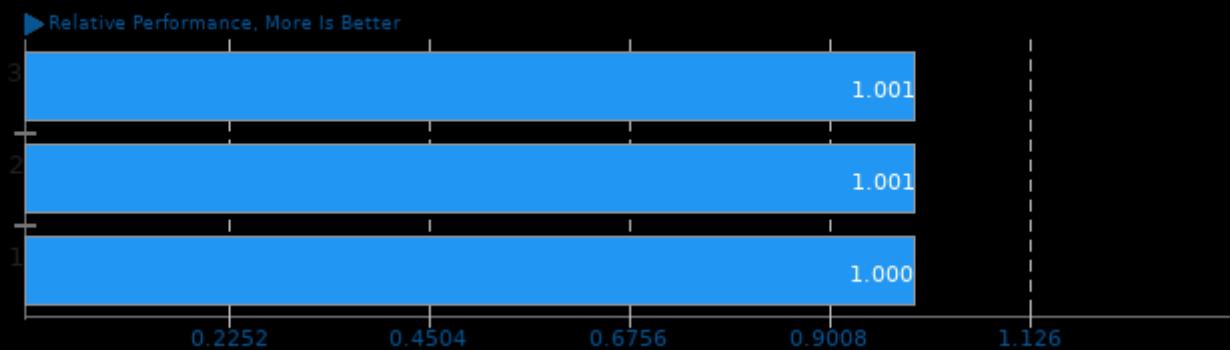
Result Composite - Xeon Broadwell December



Geometric mean based upon tests: pts/stockfish, pts/coremark, pts/rav1e, pts/asmfish, pts/onednn, pts/build-ffmpeg and pts/openvino

Geometric Mean Of Intel oneAPI Tests

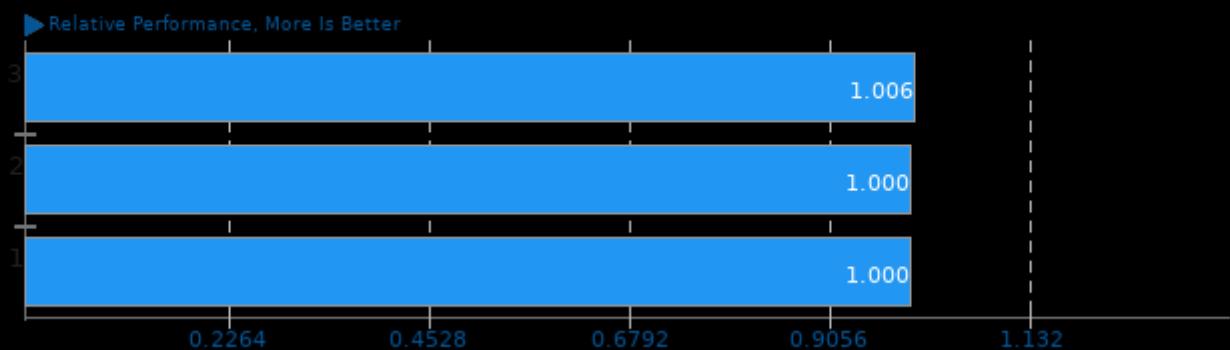
Result Composite - Xeon Broadwell December



Geometric mean based upon tests: pts/oneden and pts/openvino

Geometric Mean Of Programmer / Developer System Benchmarks Tests

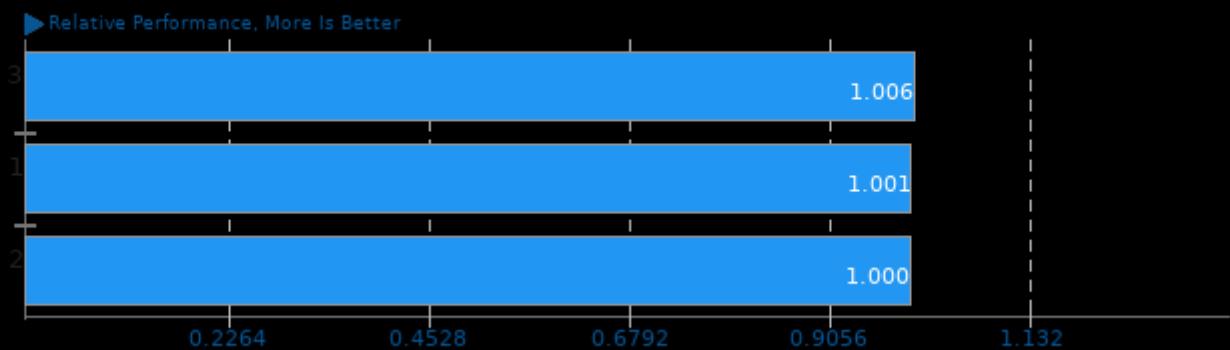
Result Composite - Xeon Broadwell December



Geometric mean based upon tests: pts/simdjson, pts/sqlite-speedtest and pts/build-ffmpeg

Geometric Mean Of Python Tests

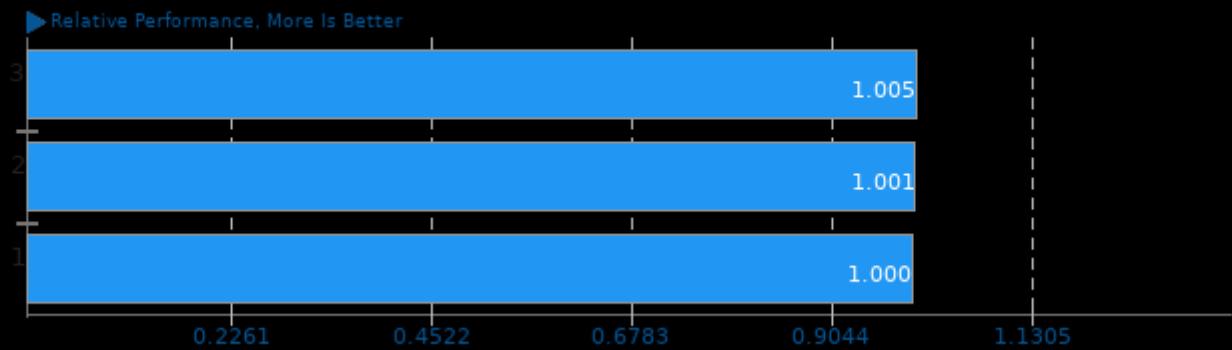
Result Composite - Xeon Broadwell December



Geometric mean based upon tests: pts/compilebench and pts/openvino

Geometric Mean Of Scientific Computing Tests

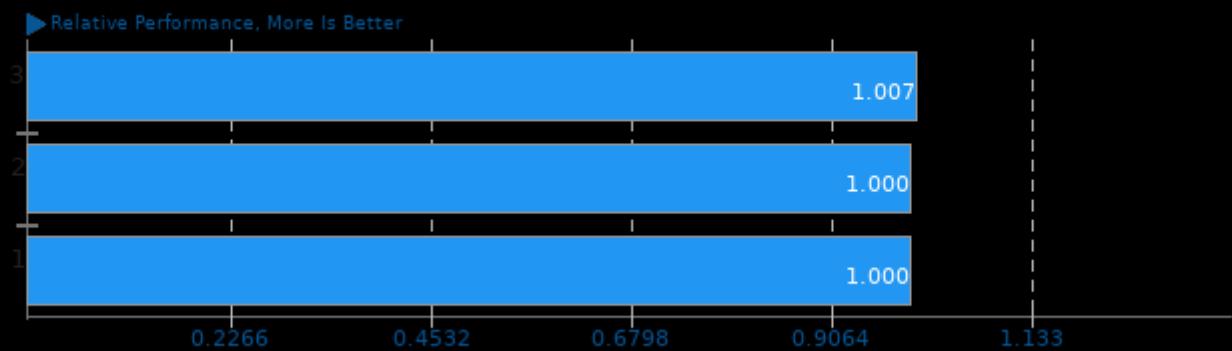
Result Composite - Xeon Broadwell December



Geometric mean based upon tests: pts/hmmer and pts/mafft

Geometric Mean Of Server Tests

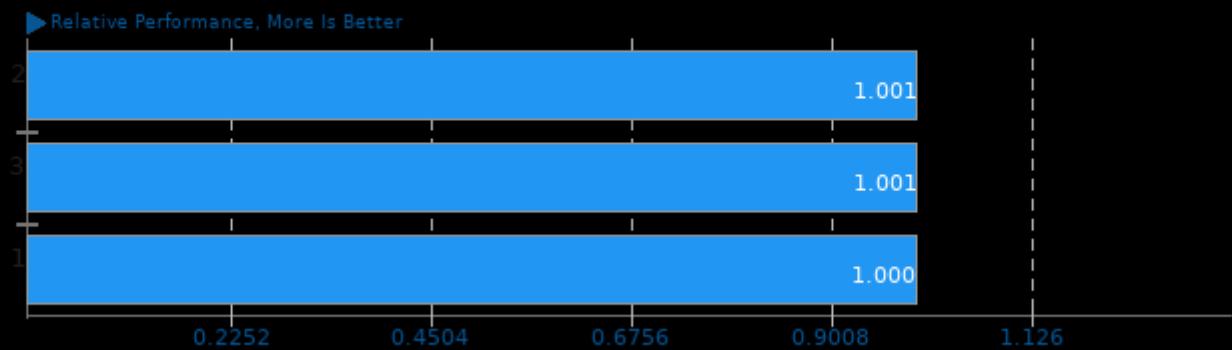
Result Composite - Xeon Broadwell December



Geometric mean based upon tests: pts/phpbench, pts/simjson and pts/sqlite-speedtest

Geometric Mean Of Server CPU Tests

Result Composite - Xeon Broadwell December



Geometric mean based upon tests: pts/onnednn, pts/stockfish, pts/asmfish and pts/phpbench

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