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SiFive RISC-V HiFive Unmatched Benchmarks

SiFive HiFive Unmatched Ubuntu 21.04 for Baseline Performance Characterization

Automated Executive Summary

HiFive Unmatched - Ubuntu 21.10 had the most wins, coming in first place for 98% of the tests.

Based on the geometric mean of all complete results, the fastest (HiFive Unmatched - Ubuntu 21.10) was 1.216x the speed of the slowest (HiFive Unmatched: Baseline Performance). HiFive Unmatched - Ubuntu 21.04 was 0.832x the speed of HiFive Unmatched - Ubuntu 21.10, HiFive Unmatched - Ubuntu 21.04 - Baseline, No Context-Switching was 0.999x the speed of HiFive Unmatched - Ubuntu 21.04, HiFive Unmatched: Baseline Performance was 0.989x the speed of HiFive Unmatched - Ubuntu 21.04 - Baseline, No Context-Switching.

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

GraphicsMagick (Operation: Rotate) at 1.4x

Stress-NG (Test: Forking) at 1.348x

Stress-NG (Test: SENDFILE) at 1.344x

GraphicsMagick (Operation: Resizing) at 1.316x

Monkey Audio Encoding (WAV To APE) at 1.253x

PHPBench (PHP Benchmark Suite) at 1.24x

Coremark (CoreMark Size 666 - Iterations Per Second) at 1.227x

Stress-NG (*Test: Vector Math*) at 1.227x

Stress-NG (*Test: CPU Stress*) at 1.225x

SecureMark (*Benchmark: SecureMark-TLS*) at 1.225x.

Test Systems:

HiFive Unmatched - Ubuntu 21.04

Processor: SiFive RISC-V (4 Cores), Motherboard: SiFive HiFive Unmatched A00, Memory: 16GB, Disk: 1000GB Samsung SSD 980 1TB + 32GB SC32G, Graphics: Sapphire AMD Radeon HD 6770, Audio: AMD Juniper HDMI Audio, Monitor: LG Ultra HD

OS: Ubuntu 21.04, Kernel: 5.11.0-1018-generic (riscv64), Desktop: GNOME Shell 3.38.4, Display Server: X Server, Compiler: GCC 10.3.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=riscv64-linux-gnu --disable-libitm --disable-libquadmath --disable-libquadmath-support --disable-lbsanitizer --disable-multilib --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=riscv64-linux-gnu --program-prefix=riscv64-linux-gnu- --target=riscv64-linux-gnu --with-abi=lp64d --with-arch=rv64imafdc --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v
Python Notes: Python 3.9.5

HiFive Unmatched - Ubuntu 21.10

Processor: SiFive RISC-V (4 Cores), Motherboard: SiFive HiFive Unmatched A00, Chipset: SiFive FU740-C000 RISC-V SoC, Memory: 16GB, Disk: 1000GB Samsung SSD 980 1TB + 32GB SC32G, Graphics: Sapphire AMD Radeon HD 6770, Audio: AMD Juniper HDMI Audio, Monitor: LG Ultra HD

OS: Ubuntu 21.10, Kernel: 5.13.0-1002-generic (riscv64), Desktop: GNOME Shell 40.2, Display Server: X Server, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=riscv64-linux-gnu --disable-libitm --disable-libquadmath --disable-libquadmath-support --disable-multilib --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=4 --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=riscv64-linux-gnu --program-prefix=riscv64-linux-gnu- --target=riscv64-linux-gnu --with-abi=lp64d --with-arch=rv64imafdc --with-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v
Python Notes: Python 3.9.7

HiFive Unmatched: Baseline Performance

Processor: SiFive RISC-V (4 Cores), Motherboard: SiFive HiFive Unmatched A00, Memory: 16GB, Disk: Samsung SSD 980 PRO 500GB + 32GB SD32G, Network: Intel-AC 9260

OS: Ubuntu 21.04, Kernel: 5.11.0-1020-generic (riscv64), Compiler: GCC 10.3.0, File-System: ext4

Compiler Notes: --build=riscv64-linux-gnu --disable-libitm --disable-libquadmath --disable-libquadmath-support --disable-lbsanitizer --disable-multilib --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=riscv64-linux-gnu --program-prefix=riscv64-linux-gnu- --target=riscv64-linux-gnu --with-abi=lp64d --with-arch=rv64imafdc --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v
Python Notes: Python 3.9.5

HiFive Unmatched - Ubuntu 21.04 - Baseline, No Context-Switching

Processor: SiFive RISC-V (4 Cores), Motherboard: SiFive HiFive Unmatched A00, Memory: 16GB, Disk: Samsung SSD 980 PRO 500GB + 32GB SD32G, Network: Intel-AC 9260

OS: Ubuntu 21.04, Kernel: 5.11.0-1020-generic (riscv64), Display Server: X Server 1.20.11, Compiler: GCC 10.3.0, File-System: ext4

Compiler Notes: --build=riscv64-linux-gnu --disable-libitm --disable-libquadmath --disable-libquadmath-support --disable-lbsanitizer --disable-multilib --disable-werror --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-nls --enable-objc-gc=auto --enable-plugin --enable-shared --enable-threads=posix --host=riscv64-linux-gnu --program-prefix=riscv64-linux-gnu- --target=riscv64-linux-gnu --with-abi=lp64d --with-arch=rv64imafdc --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-target-system-zlib=auto -v
Python Notes: Python 3.9.5

	HiFive Unmatched - Ubuntu 21.04	HiFive Unmatched - Ubuntu 21.10	HiFive Unmatched: Baseline	HiFive Unmatched - Ubuntu 21.04 - Baseline, No Context-Switching
Coremark - CoreMark Size 666 - I.P.S	13033	15995	13058	13060
(Iterations/Sec)				
Normalized	81.48%	100%	81.64%	81.65%
Standard Deviation	0.3%	0.3%	0%	0%
OpenSSL - SHA256 (byte/s)	67880263	78055297	67691113	67770017
Normalized	86.96%	100%	86.72%	86.82%
Standard Deviation	0.1%	0.5%	0.3%	0.4%
OpenSSL - RSA4096 (sign/s)	27.2	32.4	27.2	27.2
Normalized	83.95%	100%	83.95%	83.95%
Standard Deviation	0.2%	0%	0%	0%
OpenSSL - RSA4096 (verify/s)	1991	2366	1993	1993
Normalized	84.15%	100%	84.24%	84.25%
Standard Deviation	0.1%	0%	0%	0%
Stress-NG - MMAP (Bogo Ops/s)	1.39	1.62	1.39	1.39
Normalized	85.8%	100%	85.8%	85.8%
Standard Deviation	2.2%	0.4%	2.3%	2.2%
Stress-NG - MEMFD (Bogo Ops/s)	6.76	7.49	6.71	6.75
Normalized	90.25%	100%	89.59%	90.12%
Standard Deviation	1%	0.1%	0.3%	0.5%
Stress-NG - Atomic (Bogo Ops/s)	46800	55091	46453	46428
Normalized	84.95%	100%	84.32%	84.28%
Standard Deviation	0.2%	0.2%	0.1%	0%
Stress-NG - Crypto (Bogo Ops/s)	75.48	90.34	75.02	75.16
Normalized	83.55%	100%	83.04%	83.2%
Standard Deviation	0.1%	0.1%	0.2%	0.2%
Stress-NG - Malloc (Bogo Ops/s)	1415782	1559514	1405947	1411897
Normalized	90.78%	100%	90.15%	90.53%
Standard Deviation	1%	0.6%	0.9%	0.5%
Stress-NG - Forking (Bogo Ops/s)	2341	3001	2226	2234
Normalized	78.02%	100%	74.17%	74.44%
Standard Deviation	1%	1.5%	0.3%	1.8%
Stress-NG - SENDFILE (Bogo Ops/s)	5664	7440	5535	5793
Normalized	76.13%	100%	74.4%	77.87%
Standard Deviation	0.3%	0.4%	0.7%	1%

Stress-NG - CPU Cache (Bogo Ops/s)	12.64	16.64	13.03	13.21
Normalized	75.96%	100%	78.31%	79.39%
Standard Deviation	6.2%	4.5%	7.5%	5.3%
Stress-NG - CPU Stress (Bogo Ops/s)	169.24	206.98	168.92	169.45
Normalized	81.77%	100%	81.61%	81.87%
Standard Deviation	0.3%	0.1%	0.3%	0.1%
Stress-NG - Semaphores (Bogo Ops/s)	109226	118296	110486	110275
Normalized	92.33%	100%	93.4%	93.22%
Standard Deviation	0.4%	0.3%	0.8%	0.5%
Stress-NG - Matrix Math (Bogo Ops/s)	518.49	618.44	518.20	517.14
Normalized	83.84%	100%	83.79%	83.62%
Standard Deviation	0.1%	0.1%	0.1%	0.3%
Stress-NG - Vector Math (Bogo Ops/s)	368.51	447.42	364.56	364.58
Normalized	82.36%	100%	81.48%	81.48%
Standard Deviation	0%	0.2%	0%	0%
Stress-NG - Memory Copying (Bogo Ops/s)	30.91	35.11	28.71	29.33
Normalized	88.04%	100%	81.77%	83.54%
Standard Deviation	5.3%	5.3%	0.1%	0.4%
Stress-NG - Socket Activity (Bogo Ops/s)	166.81	177.82	170.76	172.03
Normalized	93.81%	100%	96.03%	96.74%
Standard Deviation	3.7%	0.3%	3.9%	0.9%
Stress-NG - Context Switching (Bogo Ops/s)	107998	139323	102383	106051
Normalized	77.52%	100%	73.49%	76.12%
Standard Deviation	8.5%	4.5%	2.4%	3.9%
Stress-NG - G.C.S.F (Bogo Ops/s)	14527	17542	14692	14665
Normalized	82.81%	100%	83.75%	83.6%
Standard Deviation	0.4%	0.7%	0.4%	0.4%
Stress-NG - G.Q.D.S (Bogo Ops/s)	4.85	5.69	4.78	4.85
Normalized	85.24%	100%	84.01%	85.24%
Standard Deviation	0.8%	0.3%	1.1%	1.4%
Stress-NG - S.V.M.P (Bogo Ops/s)	260083	396601	242558	264096
Normalized	65.58%	100%	61.16%	66.59%
Standard Deviation	14.1%	4.5%	12.4%	12.3%
Monkey Audio Encoding - WAV To APE (sec)	514.784	416.016		521.129
Normalized	80.81%	100%		79.83%
Standard Deviation	0.1%	0%		0.1%
FLAC Audio Encoding - WAV To FLAC (sec)	438.153	366.640		437.807
Normalized	83.68%	100%		83.74%
Standard Deviation	0%	0.1%		0.1%
WavPack Audio Encoding - WAV To WavPack (sec)	838.977	704.991		856.389
Normalized	84.03%	100%		82.32%
Standard Deviation	0.4%	0.3%		0.3%
Smallpt - G.I.R.1.S (sec)	583.845	488.386		581.719
Normalized	83.65%	100%		83.96%
Standard Deviation	0.4%	0.5%		0.1%
eSpeak-NG Speech Engine - T.T.S.S (sec)	390.019	322.075		390.913
Normalized	82.58%	100%		82.39%
Standard Deviation	0.8%	0.8%		0.4%

SiFive RISC-V HiFive Unmatched Benchmarks

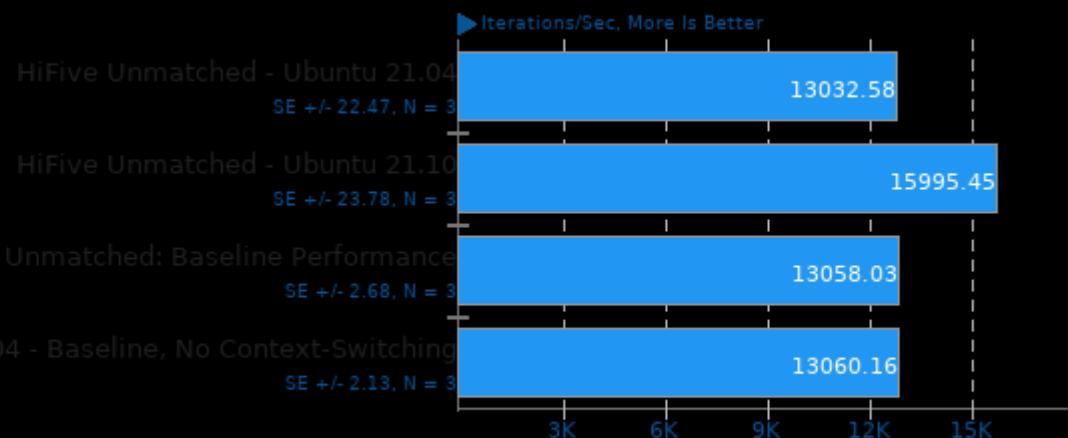
RNNNoise (sec)	216.383	180.065	216.287
Normalized	83.22%	100%	83.25%
Standard Deviation	0.1%	0.4%	0.2%
Google SynthMark - VoiceMark_100 (Voices)	52.4558	63.1188	52.7771
Normalized	83.11%	100%	83.62%
Standard Deviation	1.1%	1.6%	1.1%
SecureMark - SecureMark-TLS	16655	20389	16642
Normalized	81.69%	100%	81.62%
Standard Deviation	1.3%	0.6%	0.7%
Dolfyn - C.F.D (sec)	842.218	593.212	728.885
Normalized	70.43%	100%	81.39%
Standard Deviation	8.1%	5.9%	21.3%
WebP Image Encode - Default (Encode Time - sec)	39.747	34.028	40.396
Normalized	85.61%	100%	84.24%
Standard Deviation	0.6%	0.3%	0.8%
WebP Image Encode - Quality 100 (Encode Time - sec)	51.583	43.377	51.833
Normalized	84.09%	100%	83.69%
Standard Deviation	1.1%	2.5%	2.1%
WebP Image Encode - Q.1.L (Encode Time - sec)	255.980	215.380	254.840
Normalized	84.14%	100%	84.52%
Standard Deviation	0.2%	0.2%	0.5%
WebP Image Encode - Q.1.H.C (Encode Time - sec)	92.302	78.853	93.856
Normalized	85.43%	100%	84.01%
Standard Deviation	1.9%	2.3%	2.3%
LZ4 Compression - 1 - Compression Speed (MB/s)	113.69	127.34	113.74
Normalized	89.28%	100%	89.32%
Standard Deviation	0.2%	0.7%	0.5%
LZ4 Compression - 1 - D.S (MB/s)	110.4	121.5	110.4
Normalized	90.86%	100%	90.86%
Standard Deviation	0%	1.2%	0%
LZ4 Compression - 3 - Compression Speed (MB/s)	3.23	3.81	3.22
Normalized	84.78%	100%	84.51%
Standard Deviation	1.2%	0.9%	0.2%
LZ4 Compression - 3 - D.S (MB/s)	109.9	122.2	109.9
Normalized	89.93%	100%	89.93%
Standard Deviation	0.1%	0%	0.1%
LZ4 Compression - 9 - Compression Speed (MB/s)	3.10	3.70	3.12
Normalized	83.78%	100%	84.32%
Standard Deviation	0.5%	0.6%	0.9%
LZ4 Compression - 9 - D.S (MB/s)	109.9	122.3	109.9
Normalized	89.86%	100%	89.86%
Standard Deviation	0%	0%	0.1%
Zstd Compression - 3 - Compression Speed (MB/s)	36.8	39.7	36.7
Normalized	92.7%	100%	92.44%
Standard Deviation	2.3%	1.5%	2%

Zstd Compression - 3 - D.S (MB/s)	76.0	87.8	76.1
Normalized	86.56%	100%	86.67%
Standard Deviation	0.3%	0.3%	0.4%
Zstd Compression - 8 - Compression	8.12	8.84	8.14
Speed (MB/s)			
Normalized	91.86%	100%	92.08%
Standard Deviation	0.8%	1.4%	0.7%
Zstd Compression - 8 - D.S (MB/s)	77.9	89.4	78.1
Normalized	87.14%	100%	87.36%
Standard Deviation	0.1%	0.3%	0.6%
Zstd Compression - 19 - Compression	1.13	1.35	1.13
Speed (MB/s)			
Normalized	83.7%	100%	83.7%
Standard Deviation	0%	2.1%	0%
Zstd Compression - 19 - D.S (MB/s)	70.6	81.8	70.4
Normalized	86.31%	100%	86.06%
Standard Deviation	0.4%	0.1%	0.4%
Zstd Compression - 19, Long Mode -	0.92	1.09	0.93
Compression Speed (MB/s)			
Normalized	84.4%	100%	85.32%
Standard Deviation	0%	2.4%	2.5%
Zstd Compression - 19, Long Mode -	72.4	83.9	72.6
D.S (MB/s)			
Normalized	86.29%	100%	86.53%
Standard Deviation	0.2%	0.5%	0.4%
GraphicsMagick - Swirl	9	10	9
Normalized	90%	100%	90%
Standard Deviation	5.6%	0%	
GraphicsMagick - Rotate	25	28	20
Normalized	89.29%	100%	71.43%
Standard Deviation		0%	
GraphicsMagick - Sharpen	7	8	7
(Iterations/min)			
Normalized	87.5%	100%	87.5%
Standard Deviation		0%	
GraphicsMagick - Enhanced	3	3	3
(Iterations/min)			
Standard Deviation		0%	
GraphicsMagick - Resizing	20	25	19
(Iterations/min)			
Normalized	80%	100%	76%
Standard Deviation		0%	
GraphicsMagick - Noise-Gaussian	6	7	6
(Iterations/min)			
Normalized	85.71%	100%	85.71%
Standard Deviation		0%	
GraphicsMagick - HWB Color Space	21	24	21
(Iterations/min)			
Normalized	87.5%	100%	87.5%
Standard Deviation		0%	2.4%
x265 - Bosphorus 4K (FPS)		0.11	
Standard Deviation		0%	
7-Zip Compression - C.S.T (MIPS)	1432	1605	
Normalized	89.22%	100%	

Standard Deviation	0.6%	5.7%
libavif avifenc - 6 (sec)		1552
Standard Deviation	0.8%	
Gzip Compression - L.S.T.A.T.t.g (sec)	449.730	377.308
Normalized	83.9%	100%
Standard Deviation	0.4%	0.2%
OCRMypDF - P.6.P.P.D (sec)	1190	1009
Normalized	84.76%	100%
Standard Deviation	0.2%	0.2%
GNU Octave Benchmark (sec)	264.845	
Standard Deviation	0.3%	
PyBench - T.F.A.T.T (Milliseconds)	24919	21056
Normalized	84.5%	100%
Standard Deviation	2.1%	1.8%
PHPBench - P.B.S (Score)	33113	41058
Normalized	80.65%	100%
Standard Deviation	1%	1.7%
Timed GDB GNU Debugger	2115	1909
Compilation - Time To Compile (sec)		
Normalized	90.29%	100%
Standard Deviation	0.1%	0.1%
GNU Octave Benchmark (sec)		230.743
Standard Deviation		1.3%

Coremark 1.0

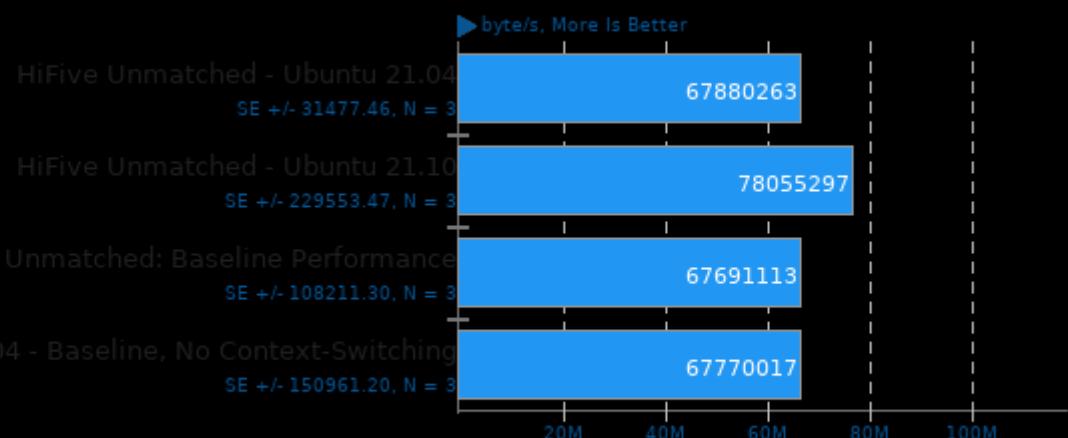
CoreMark Size 666 - Iterations Per Second



1. (CC) gcc options: -O2 -fintc -fintt

OpenSSL 3.0

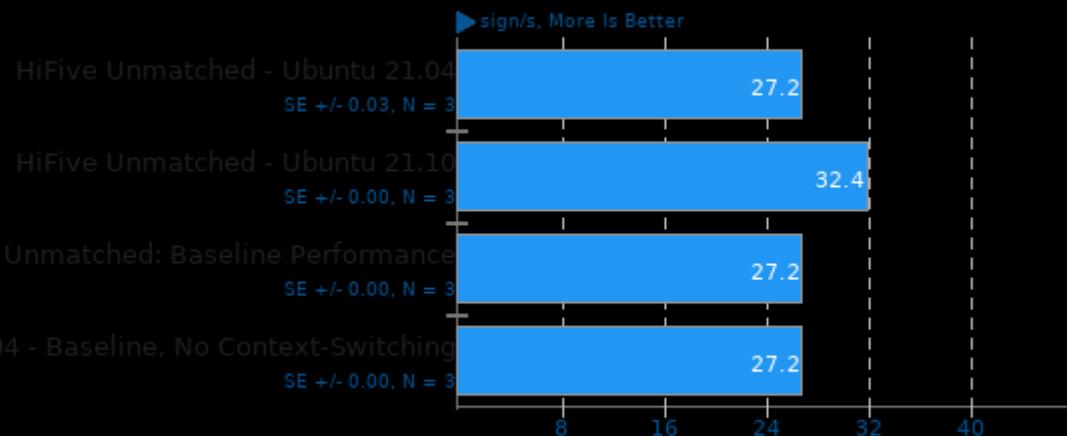
Algorithm: SHA256



1. (CC) gcc options: -pthread -O3 -lssl -lcrypto -ldl

OpenSSL 3.0

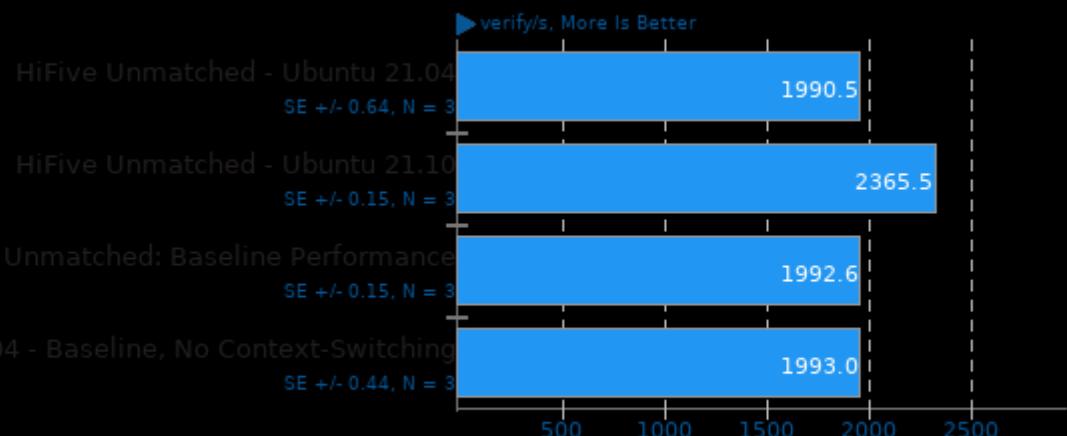
Algorithm: RSA4096



1. (CC) gcc options: -pthread -O3 -lssl -lcrypto -ldl

OpenSSL 3.0

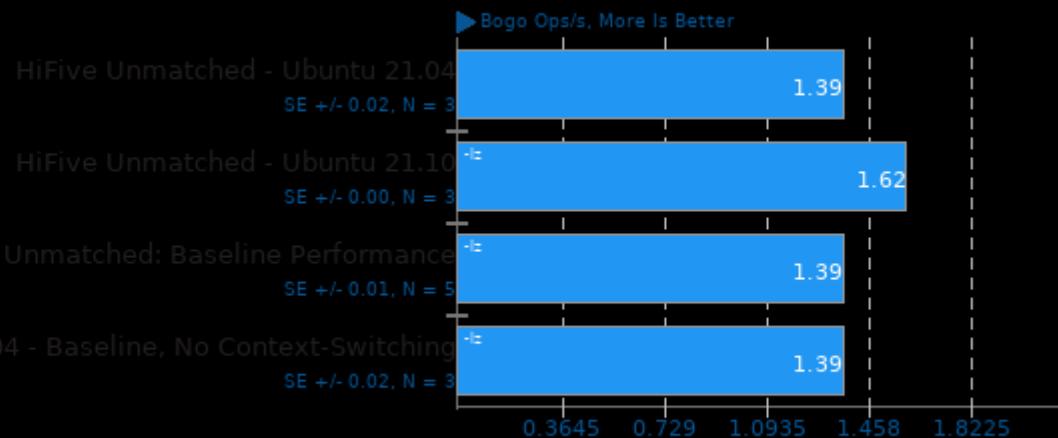
Algorithm: RSA4096



1. (CC) gcc options: -pthread -O3 -lssl -lcrypto -ldl

Stress-NG 0.13.02

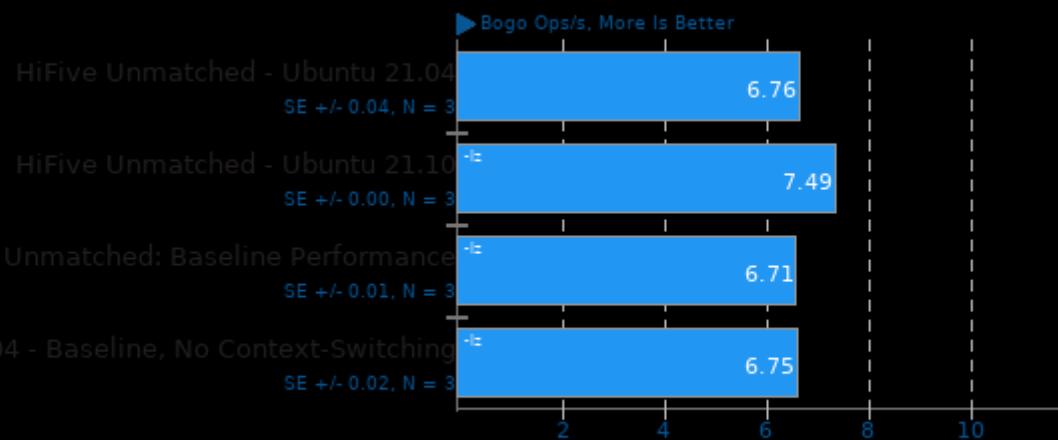
Test: MMAP



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

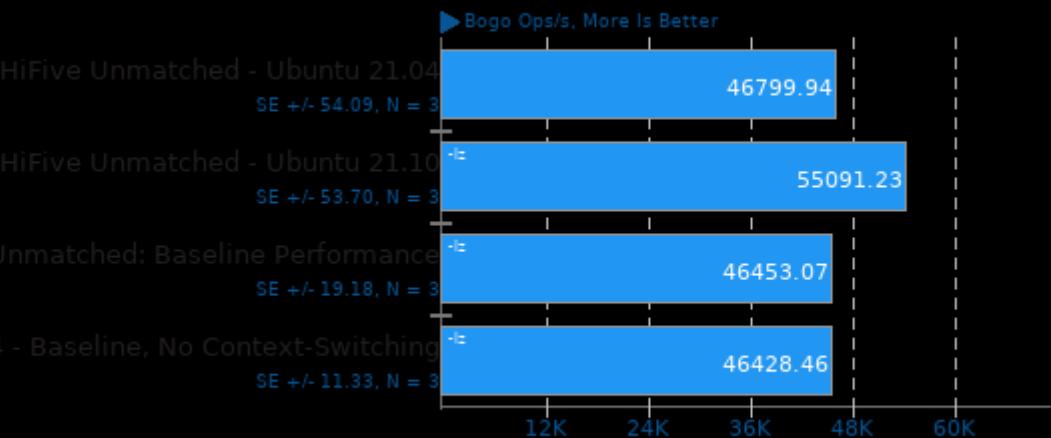
Test: MEMFD



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

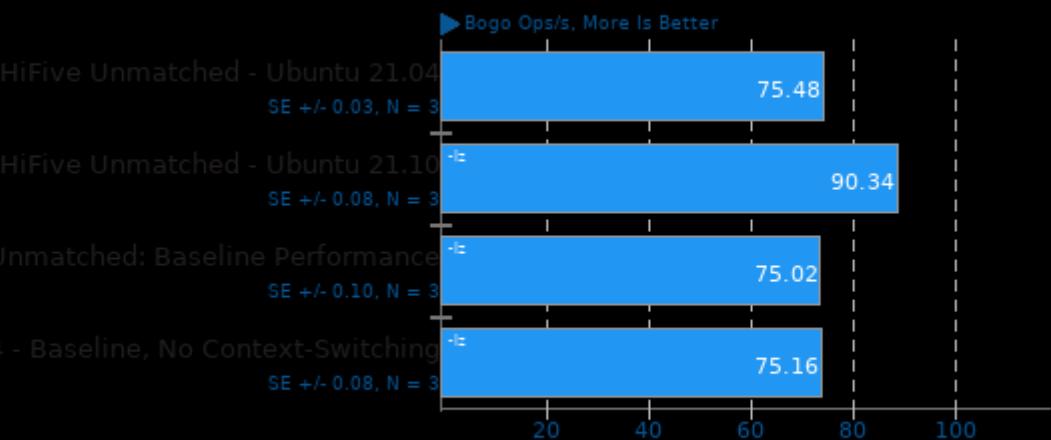
Test: Atomic



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

Test: Crypto



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

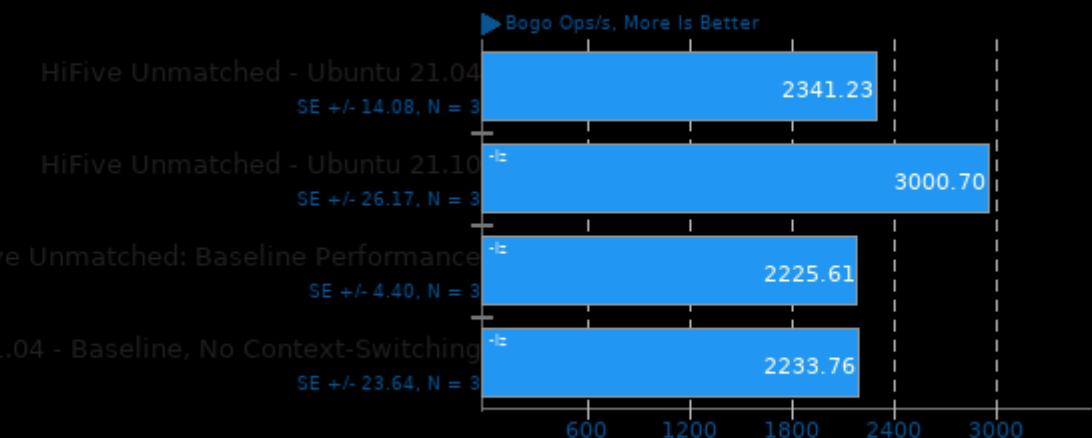
Test: Malloc



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

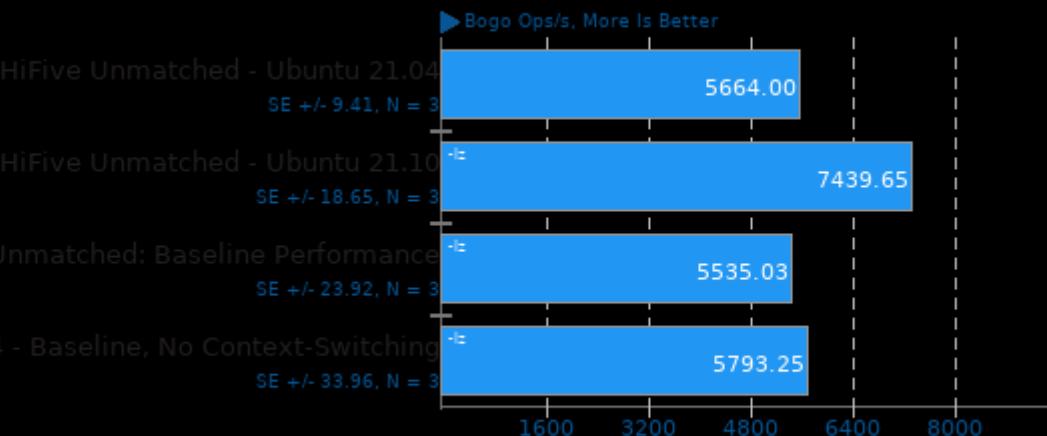
Test: Forking



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

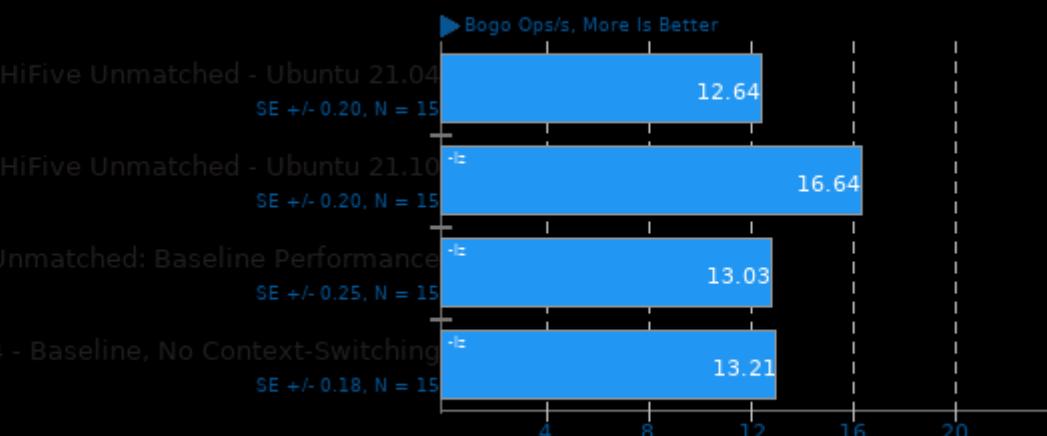
Test: SENDFILE



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

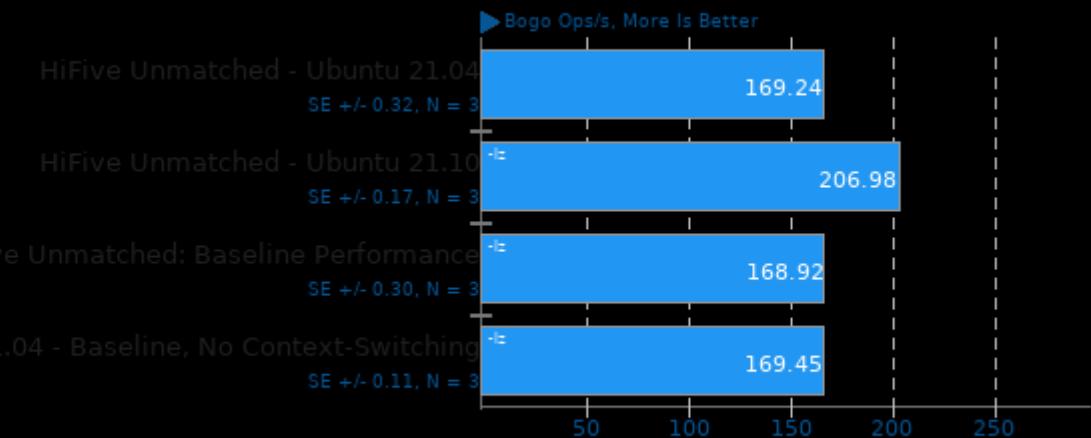
Test: CPU Cache



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

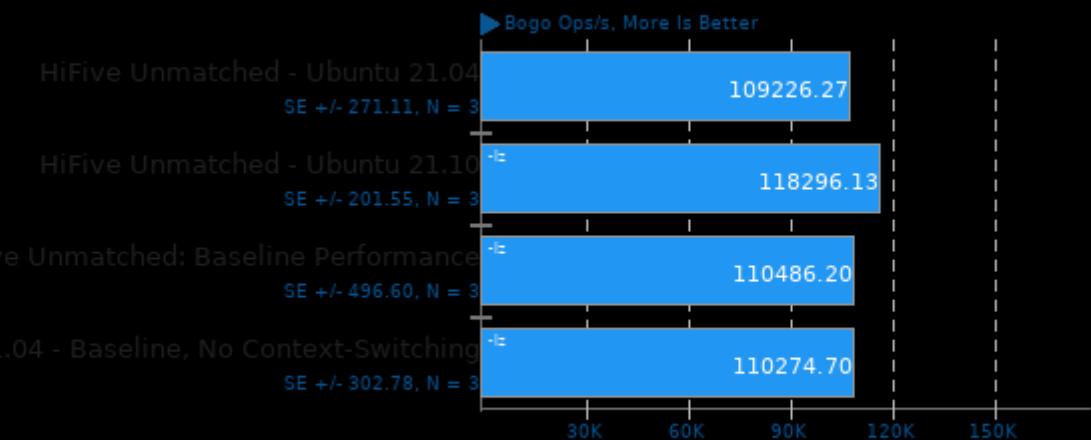
Test: CPU Stress



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

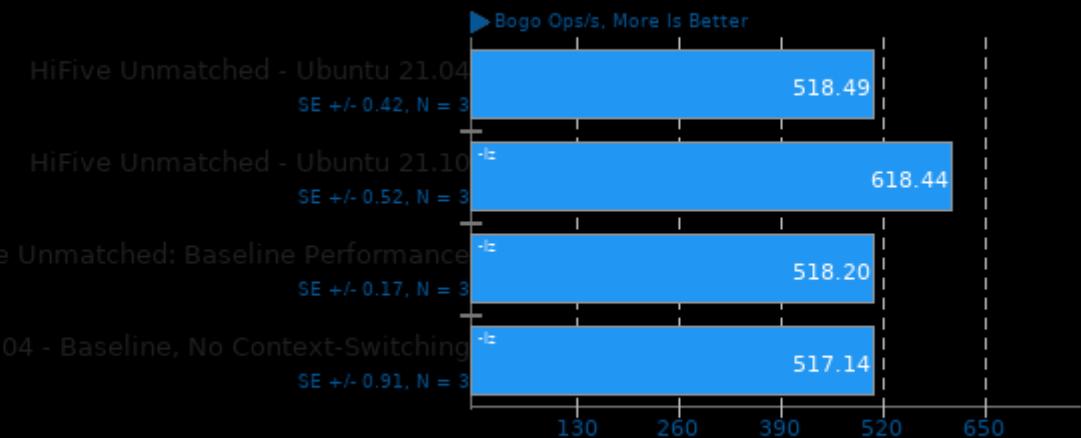
Test: Semaphores



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

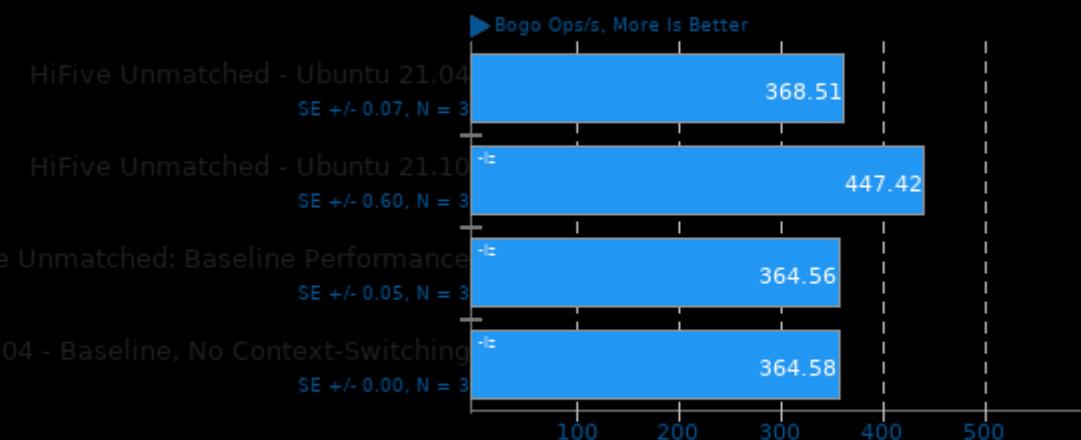
Test: Matrix Math



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

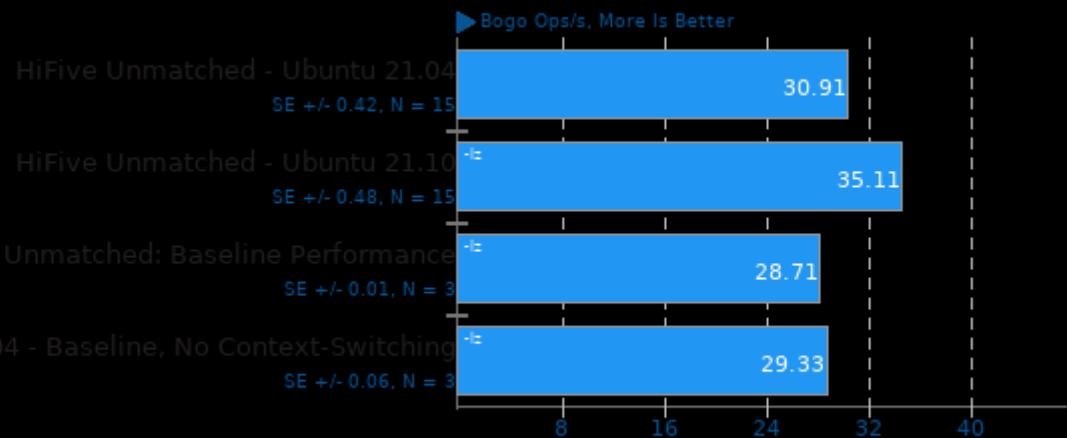
Test: Vector Math



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

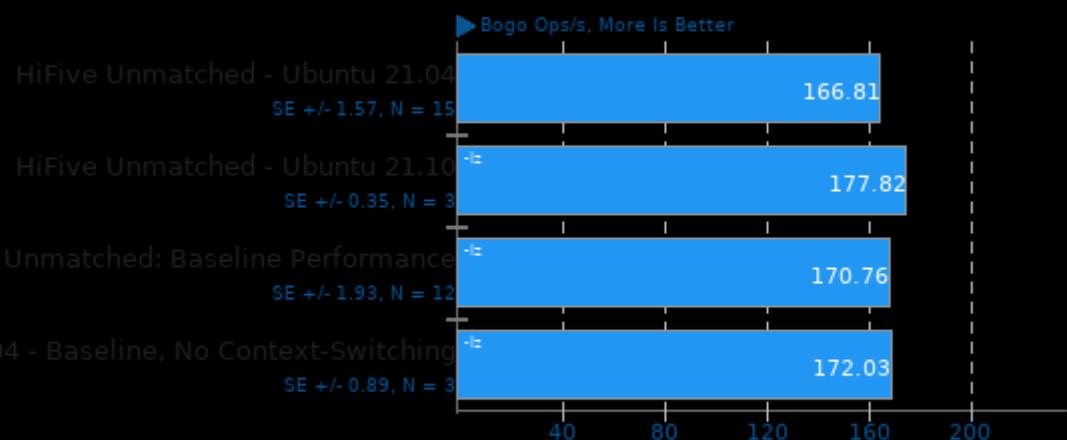
Test: Memory Copying



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

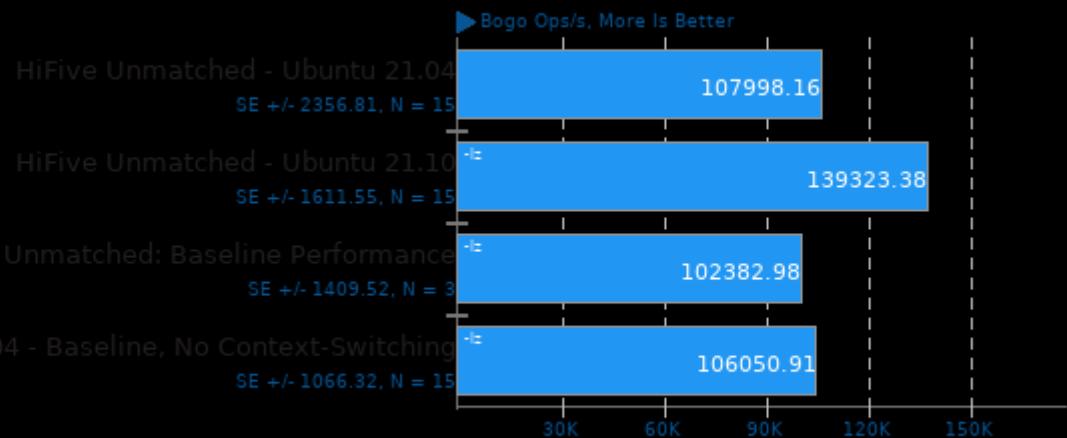
Test: Socket Activity



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

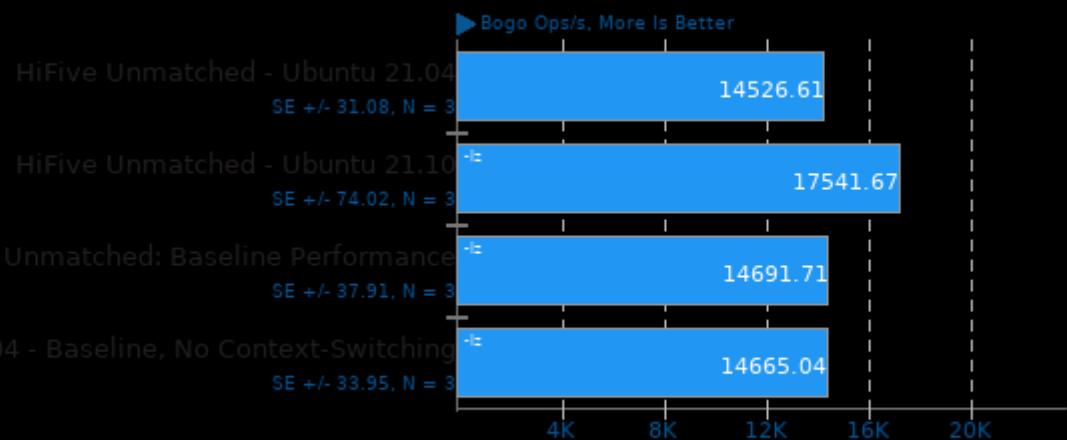
Test: Context Switching



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

Test: Glibc C String Functions

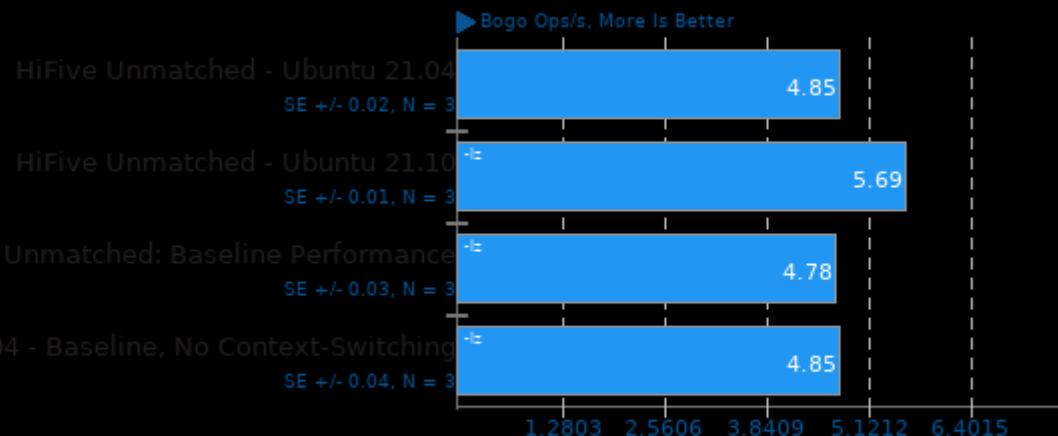


1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

SiFive RISC-V HiFive Unmatched Benchmarks

Stress-NG 0.13.02

Test: Glibc Qsort Data Sorting



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Stress-NG 0.13.02

Test: System V Message Passing



1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -ldl -pthread -lc -latomic

Monkey Audio Encoding 3.99.6

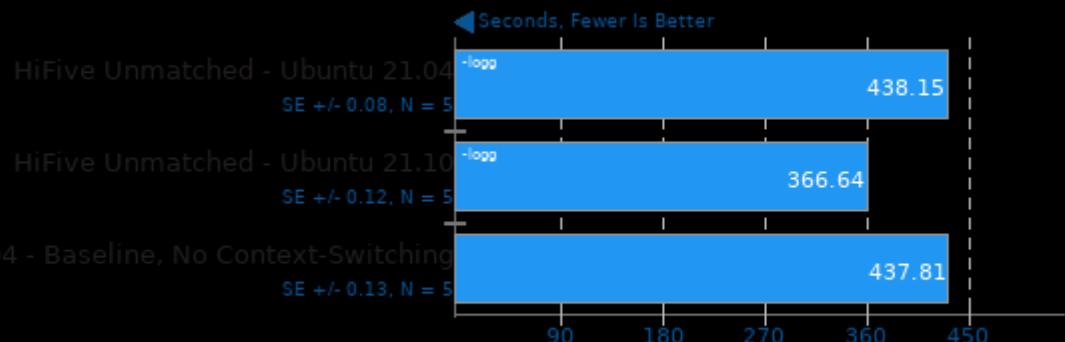
WAV To APE



1. (CXX) g++ options: -O3 -pedantic -rdynamic -lrt -latomic

FLAC Audio Encoding 1.3.2

WAV To FLAC



1. (CXX) g++ options: -O2 -fvisibility=hidden -fno-rtti

WavPack Audio Encoding 5.3

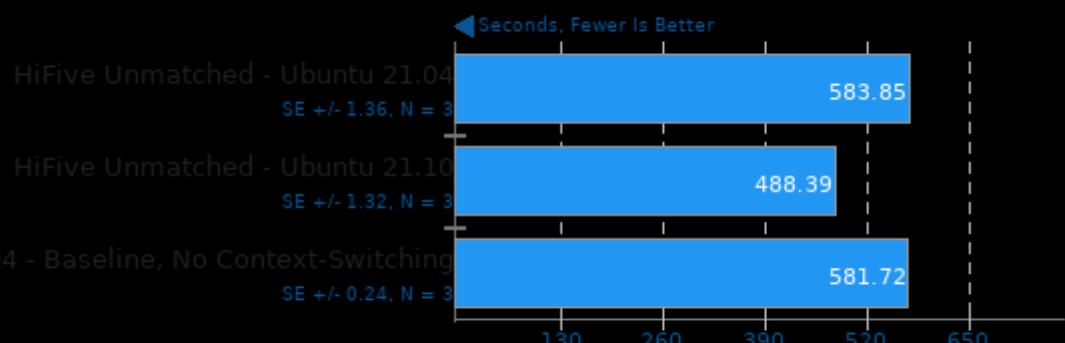
WAV To WavPack



1. (CXX) g++ options: -rdynamic -fatomic

Smallpt 1.0

Global Illumination Renderer; 128 Samples



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

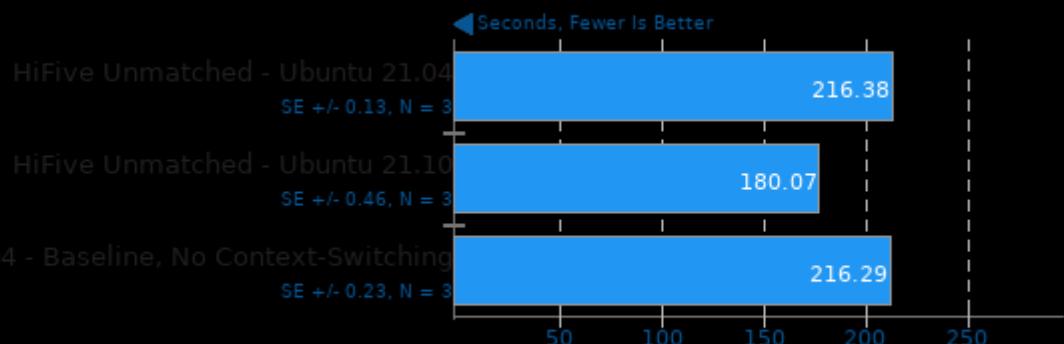
eSpeak-NG Speech Engine 20200907

Text-To-Speech Synthesis



1. (CC) gcc options: -O2 -std=c99

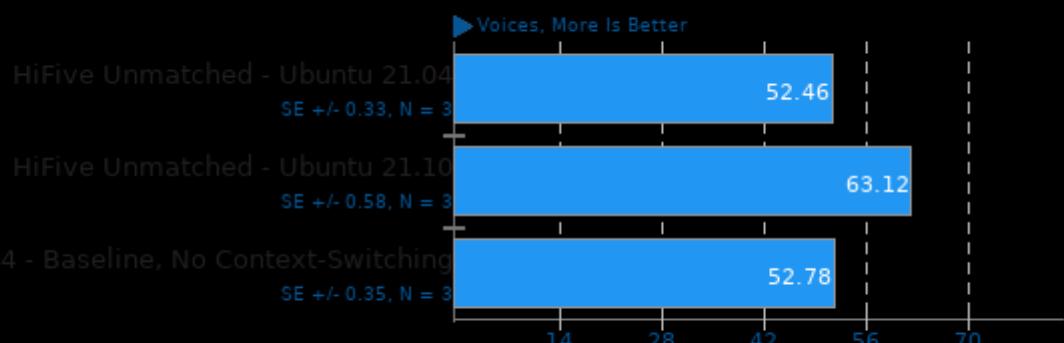
RNNoise 2020-06-28



1. (CC) gcc options: -O2 -pedantic -fvisibility=hidden

Google SynthMark 20201109

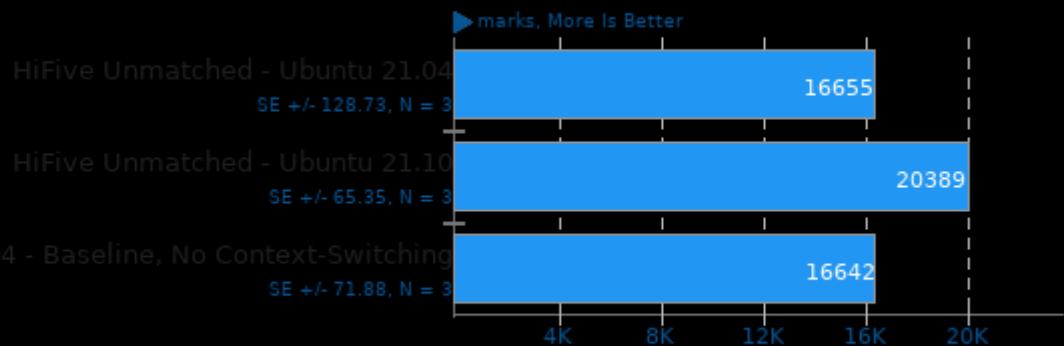
Test: VoiceMark_100



1. (CXX) g++ options: -lm -lpthread -std=c++11 -Ofast

SecureMark 1.0.4

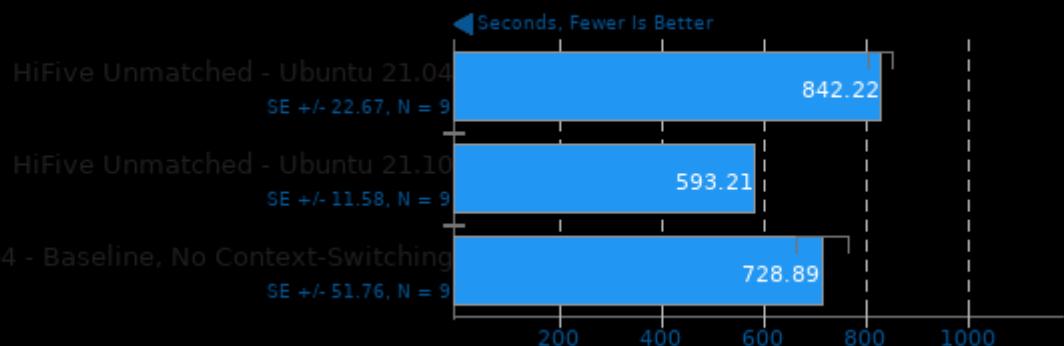
Benchmark: SecureMark-TLS



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

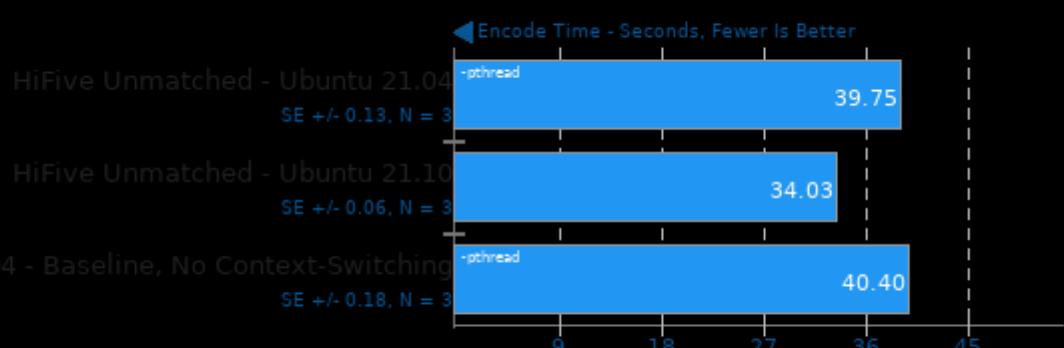
Dolfyn 0.527

Computational Fluid Dynamics



WebP Image Encode 1.1

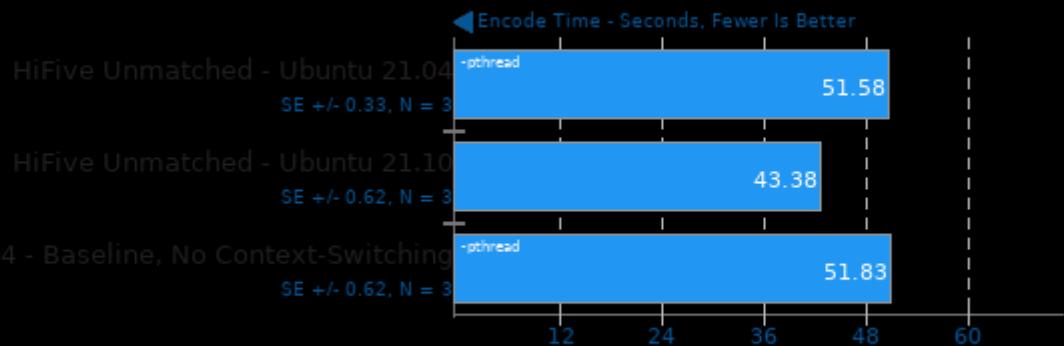
Encode Settings: Default



1. (CC) gcc options: -fvisibility=hidden -O2 -lm -ljpeg -lpng16

WebP Image Encode 1.1

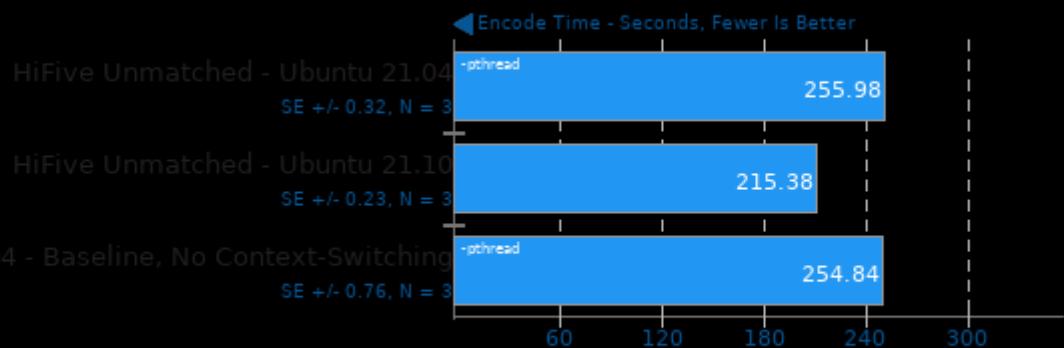
Encode Settings: Quality 100



1. (CC) gcc options: -fvisibility=hidden -O2 -lm -ljpeg -lpng16

WebP Image Encode 1.1

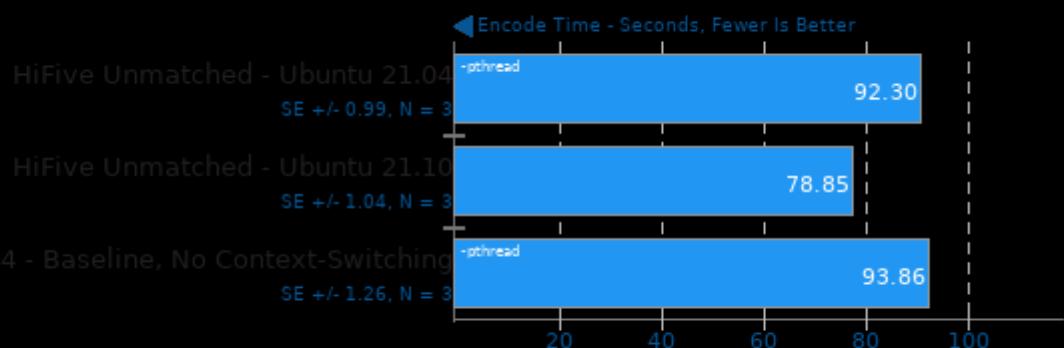
Encode Settings: Quality 100, Lossless



1. (CC) gcc options: -fvisibility=hidden -O2 -lm -ljpeg -lpng16

WebP Image Encode 1.1

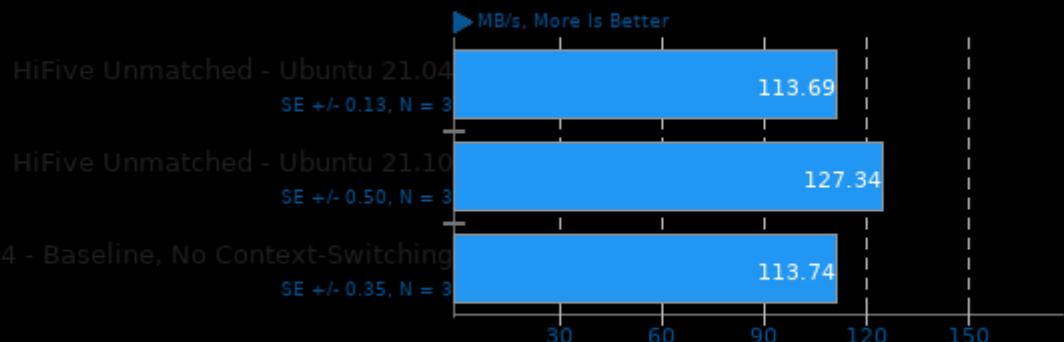
Encode Settings: Quality 100, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O2 -lm -ljpeg -lpng16

LZ4 Compression 1.9.3

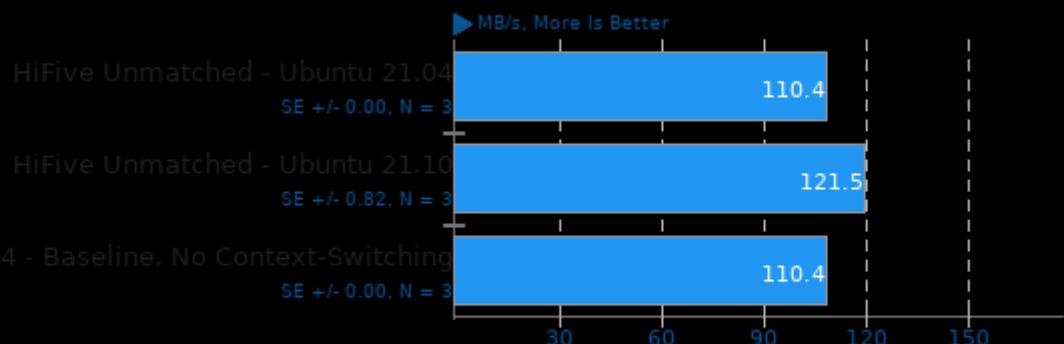
Compression Level: 1 - Compression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

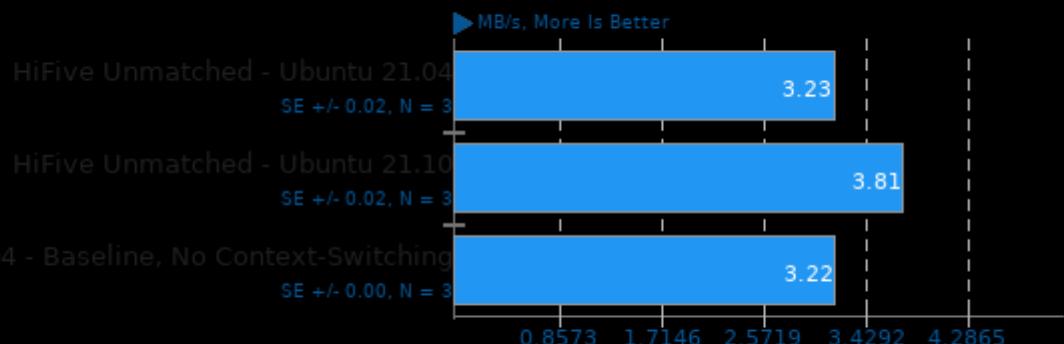
Compression Level: 1 - Decompression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

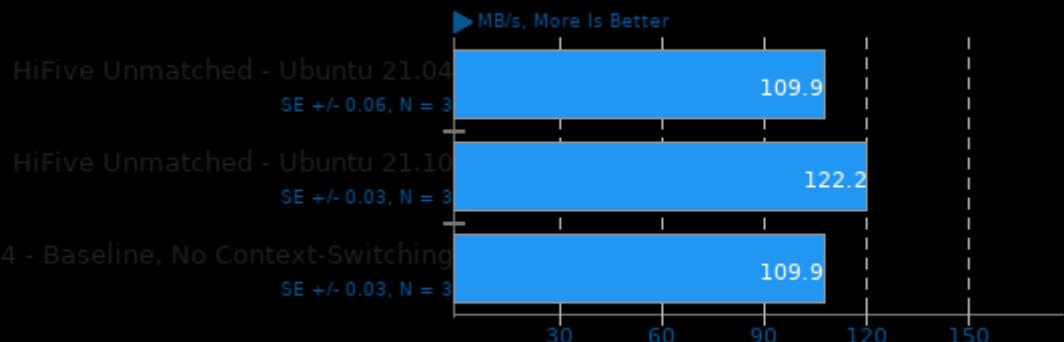
Compression Level: 3 - Compression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

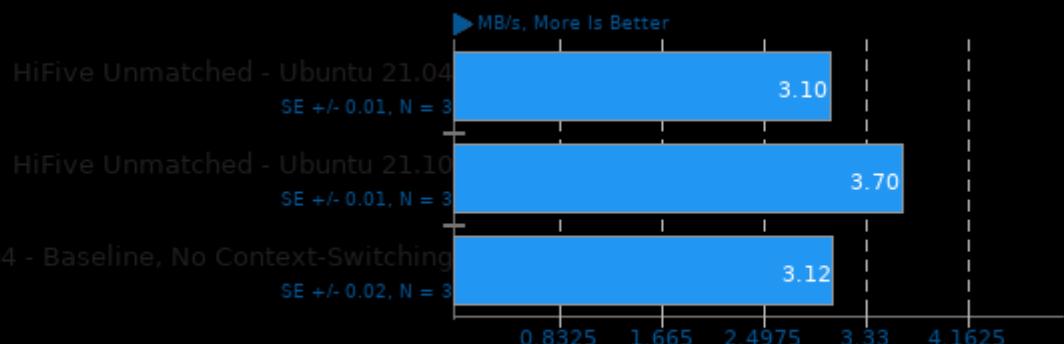
Compression Level: 3 - Decompression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

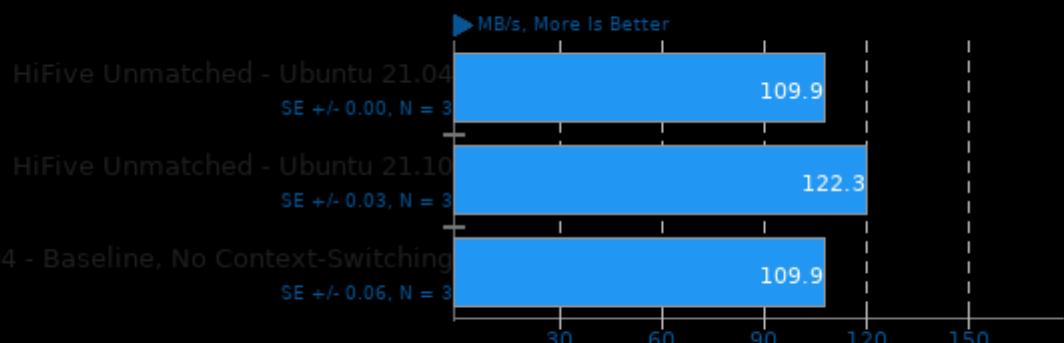
Compression Level: 9 - Compression Speed



1. (CC) gcc options: -O3

LZ4 Compression 1.9.3

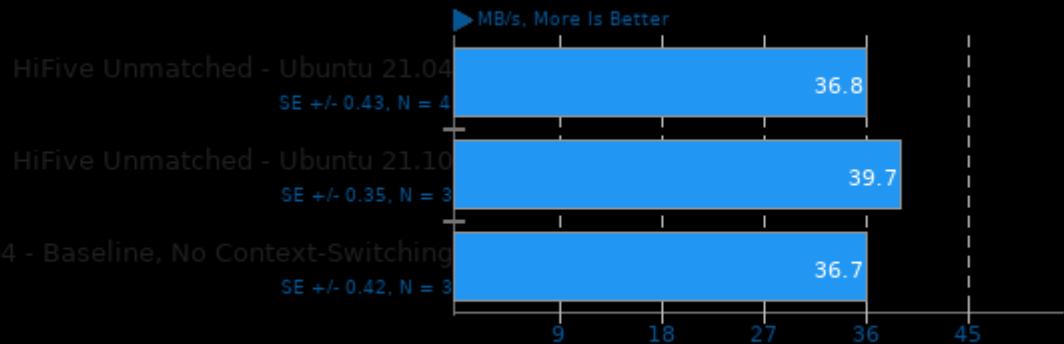
Compression Level: 9 - Decompression Speed



1. (CC) gcc options: -O3

Zstd Compression 1.5.0

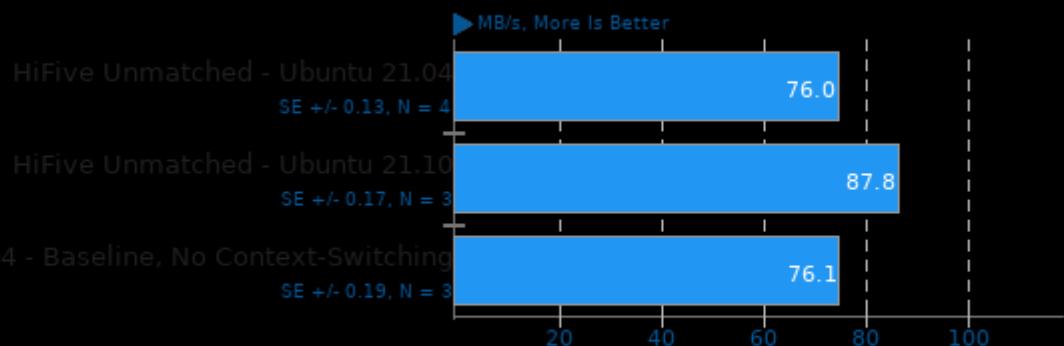
Compression Level: 3 - Compression Speed



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

Zstd Compression 1.5.0

Compression Level: 3 - Decompression Speed



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

Zstd Compression 1.5.0

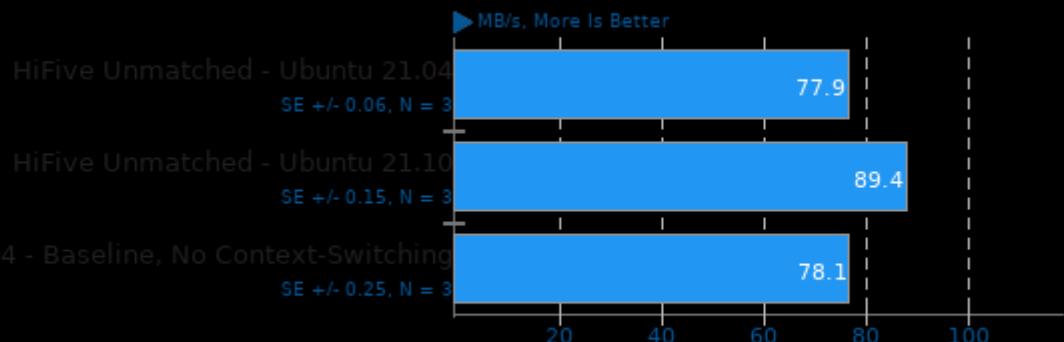
Compression Level: 8 - Compression Speed



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

Zstd Compression 1.5.0

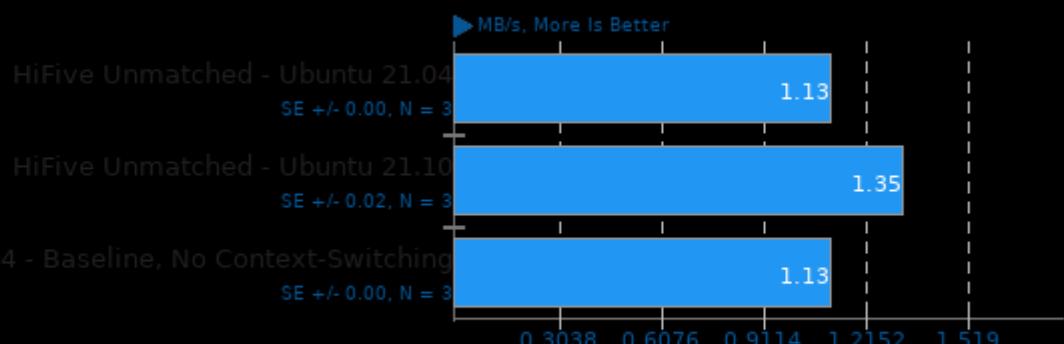
Compression Level: 8 - Decompression Speed



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

Zstd Compression 1.5.0

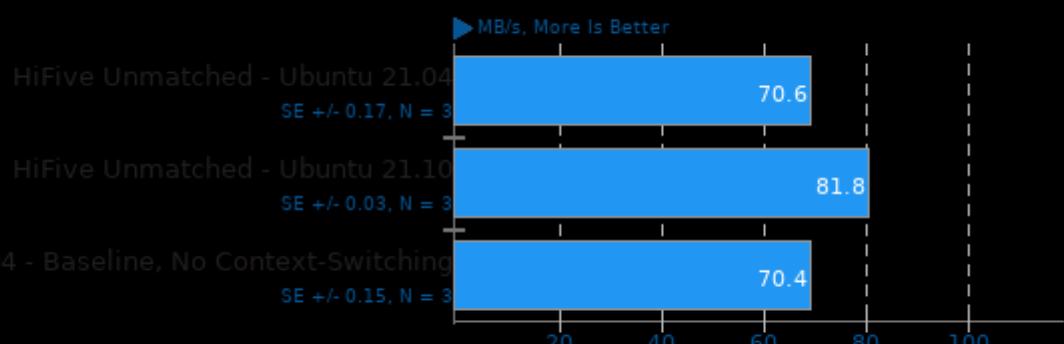
Compression Level: 19 - Compression Speed



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

Zstd Compression 1.5.0

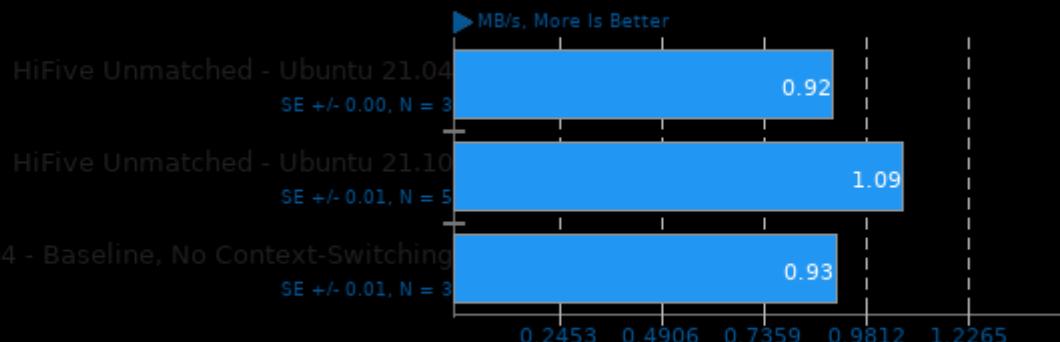
Compression Level: 19 - Decompression Speed



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

Zstd Compression 1.5.0

Compression Level: 19, Long Mode - Compression Speed



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

Zstd Compression 1.5.0

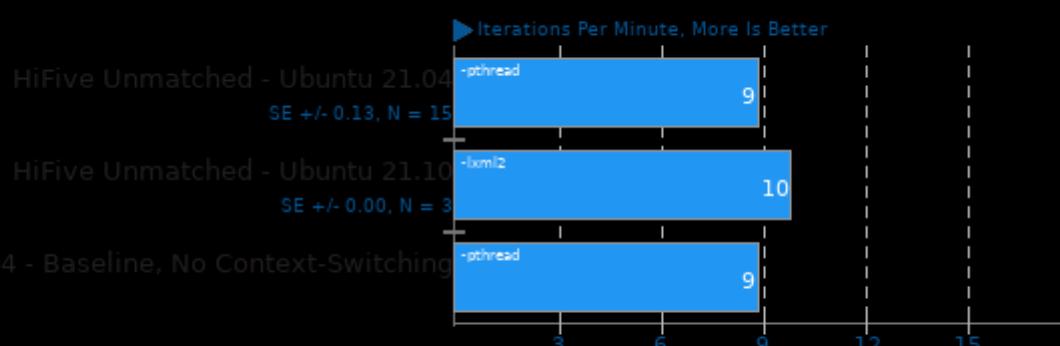
Compression Level: 19, Long Mode - Decompression Speed



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

GraphicsMagick 1.3.33

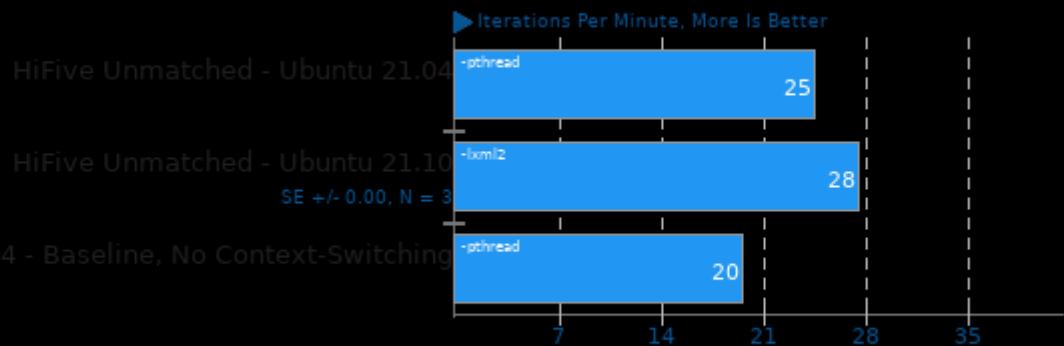
Operation: Swirl



1. (CC) gcc options: -fopenmp -O2 -ljpeg -lz -lm -pthread

GraphicsMagick 1.3.33

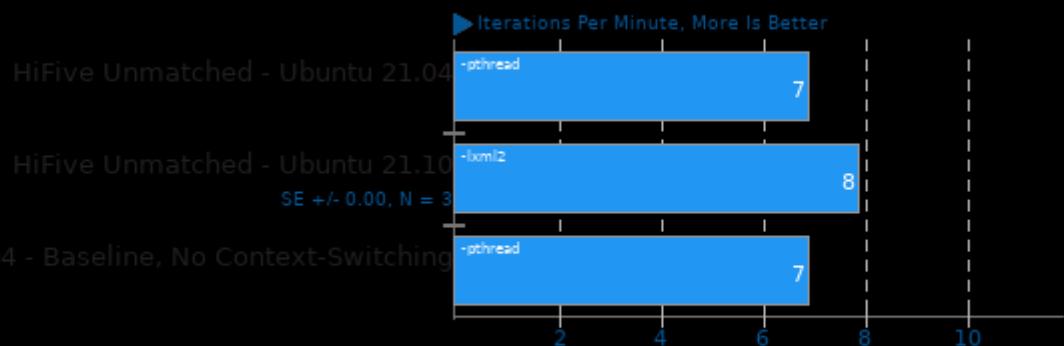
Operation: Rotate



1. (CC) gcc options: -fopenmp -O2 -ljpeg -lz -lm -lpthread

GraphicsMagick 1.3.33

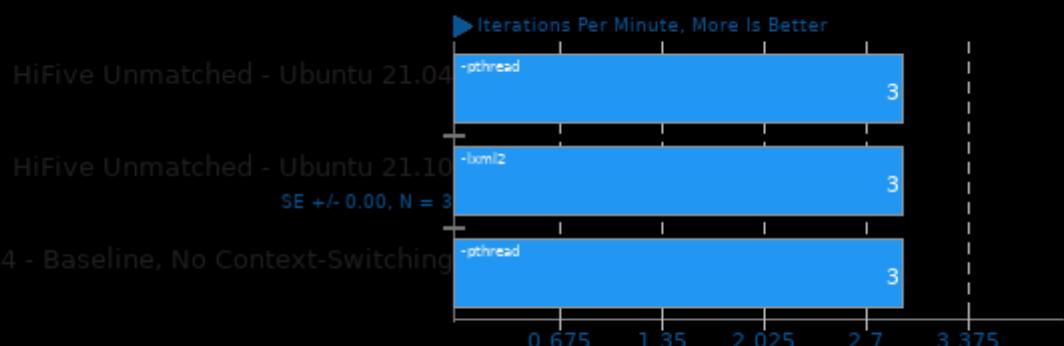
Operation: Sharpen



1. (CC) gcc options: -fopenmp -O2 -ljpeg -lz -lm -lpthread

GraphicsMagick 1.3.33

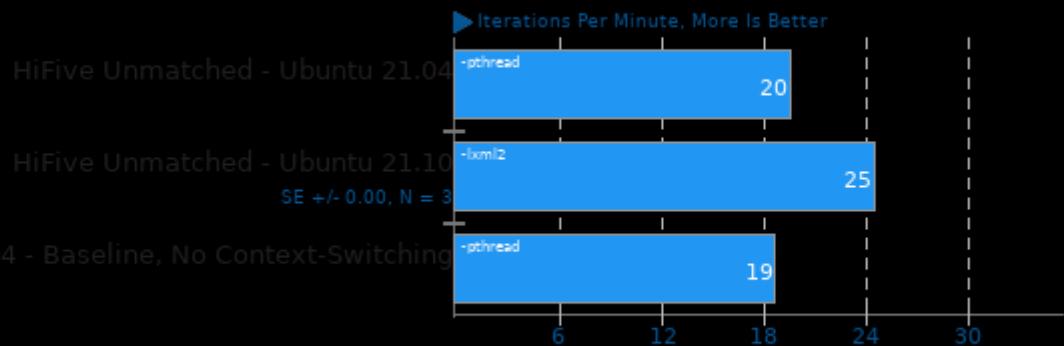
Operation: Enhanced



1. (CC) gcc options: -fopenmp -O2 -ljpeg -lz -lm -lpthread

GraphicsMagick 1.3.33

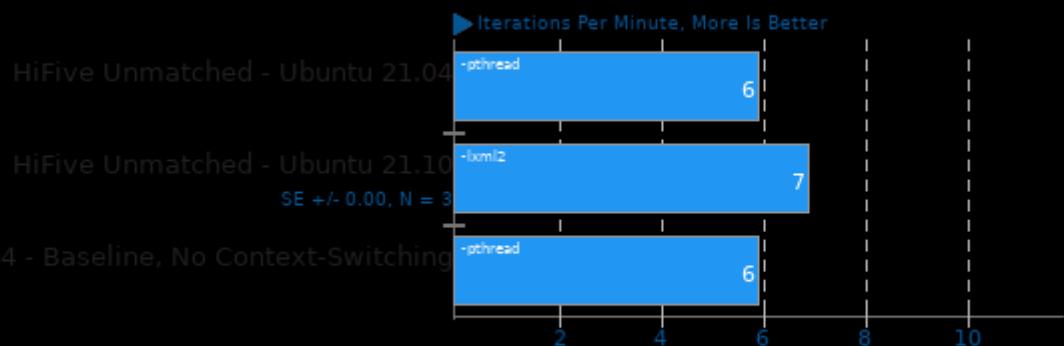
Operation: Resizing



1. (CC) gcc options: -fopenmp -O2 -ljpeg -lz -lm -lpthread

GraphicsMagick 1.3.33

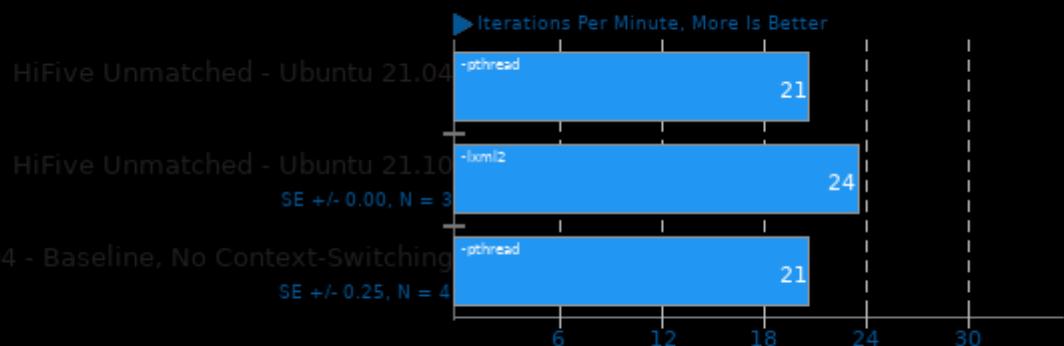
Operation: Noise-Gaussian



1. (CC) gcc options: -fopenmp -O2 -ljpeg -lz -lm -lpthread

GraphicsMagick 1.3.33

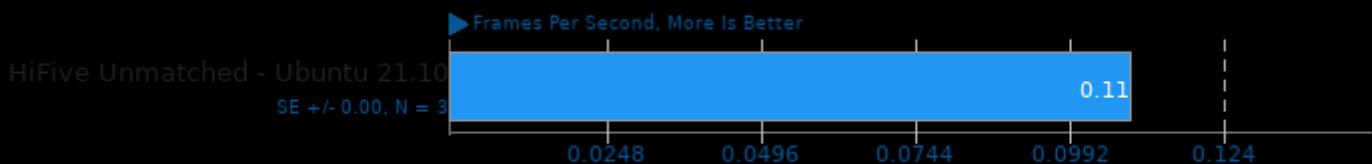
Operation: HWB Color Space



1. (CC) gcc options: -fopenmp -O2 -ljpeg -lz -lm -lpthread

x265 3.4

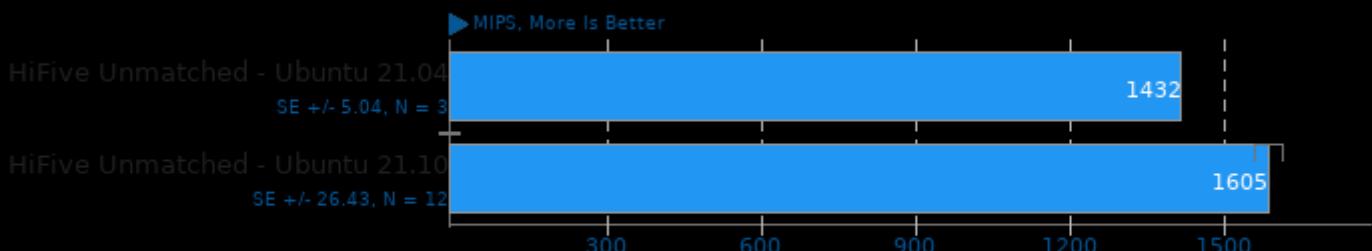
Video Input: Bosphorus 4K



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

7-Zip Compression 16.02

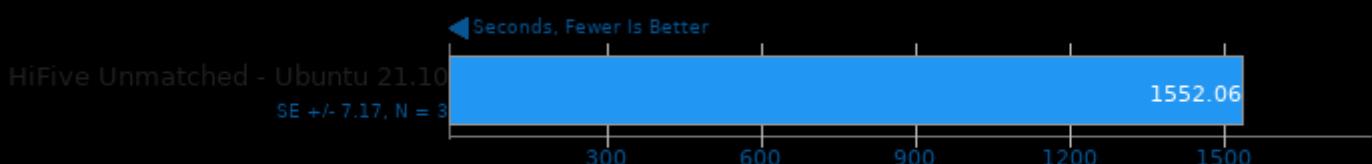
Compress Speed Test



1. (CXX) g++ options: -pipe -lpthread

libavif avifenc 0.9.0

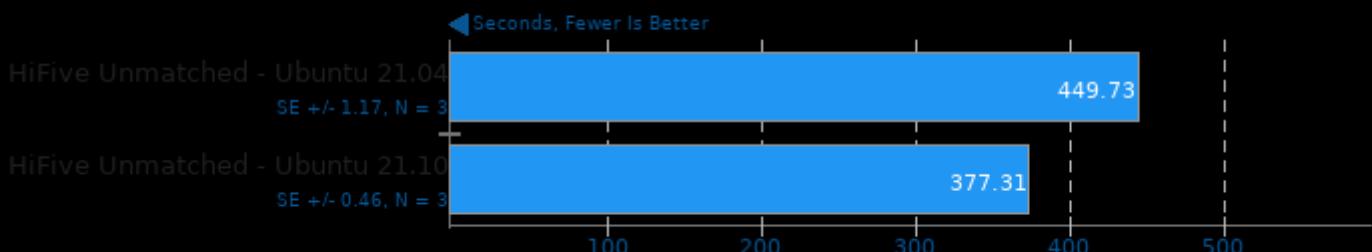
Encoder Speed: 6



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

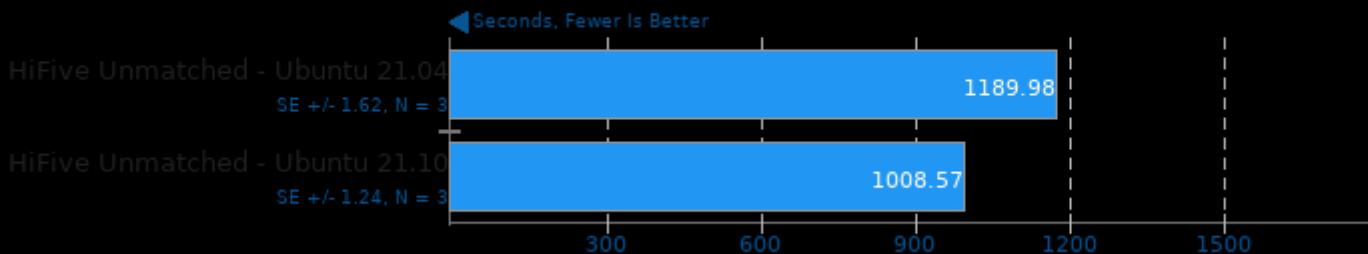
Gzip Compression

Linux Source Tree Archiving To .tar.gz

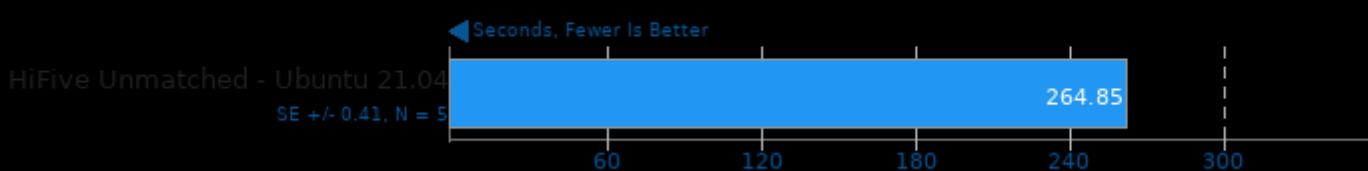


OCRMyPDF 10.3.1+dfsg

Processing 60 Page PDF Document

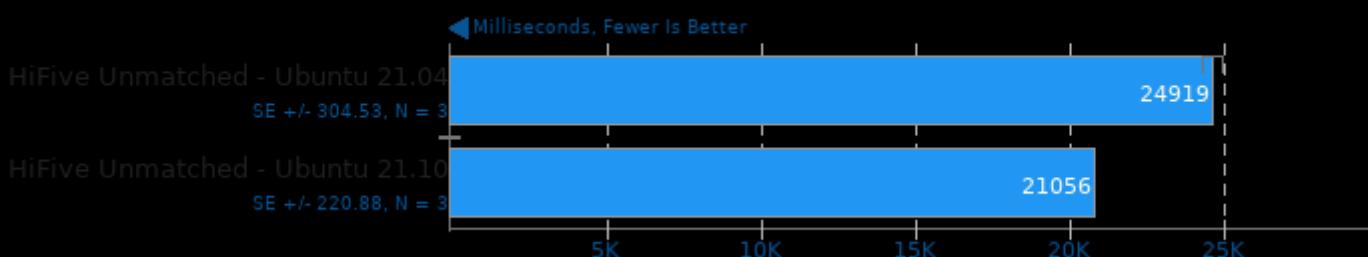


GNU Octave Benchmark 6.1.1~hg.2021.01.26



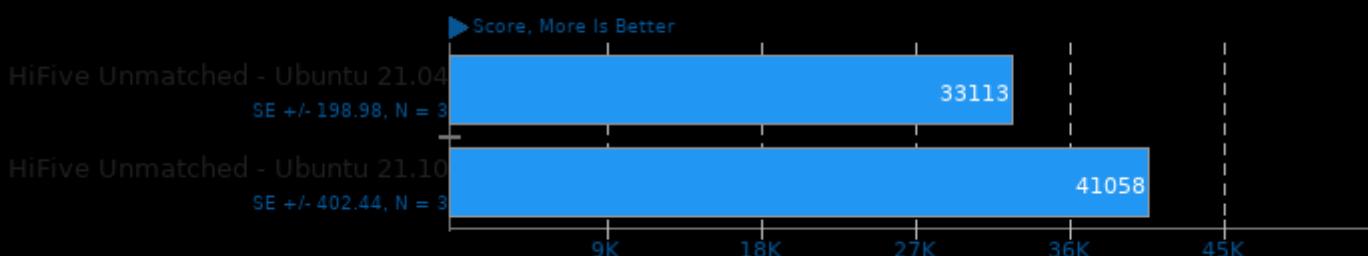
PyBench 2018-02-16

Total For Average Test Times



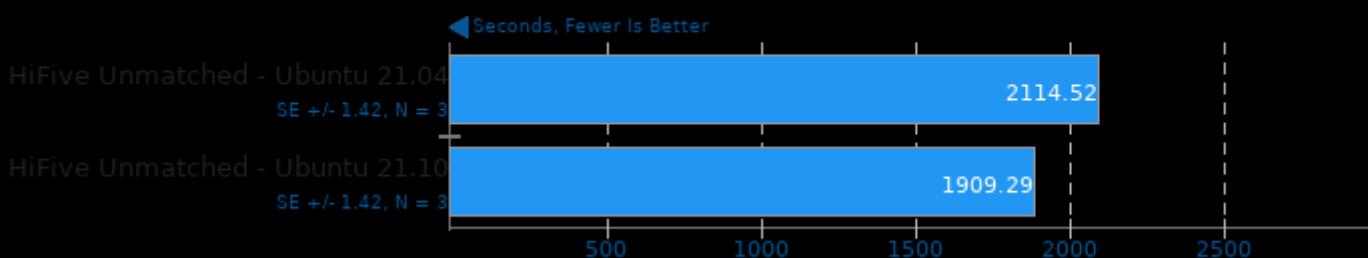
PHPBench 0.8.1

PHP Benchmark Suite

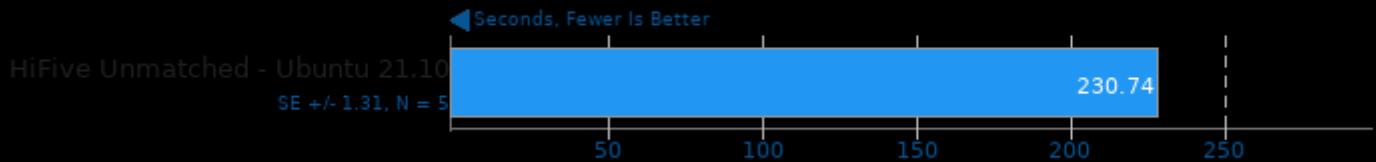


Timed GDB GNU Debugger Compilation 10.2

Time To Compile

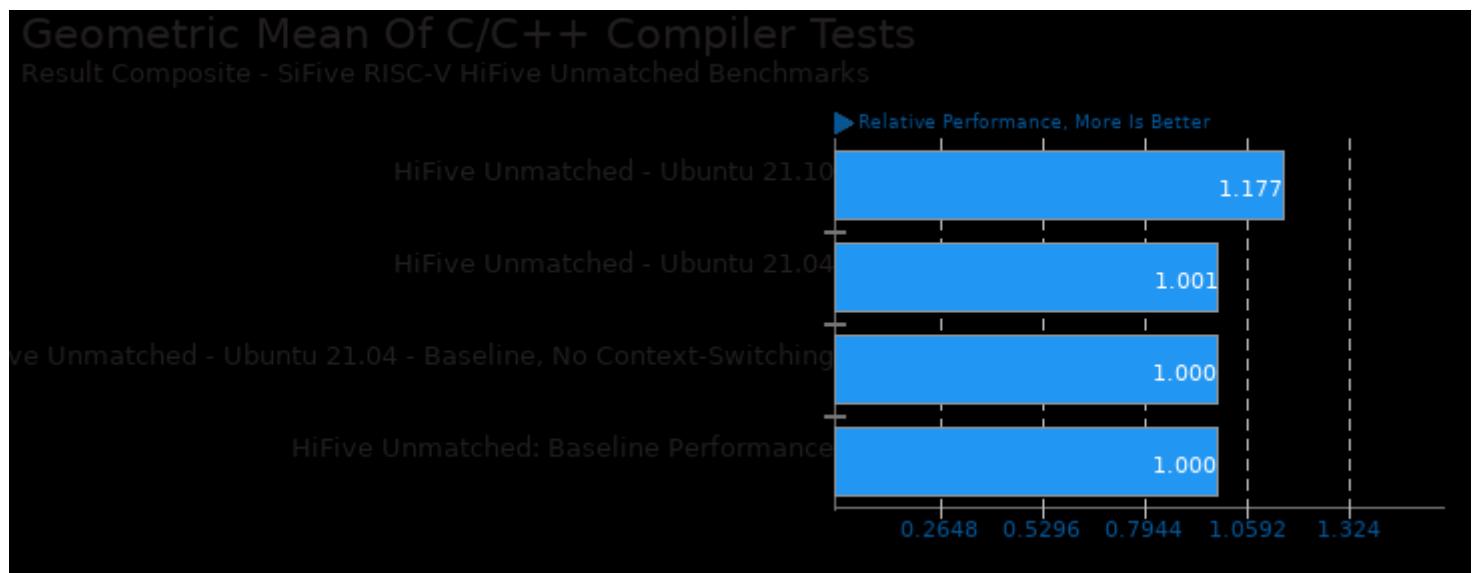


GNU Octave Benchmark 6.2.0

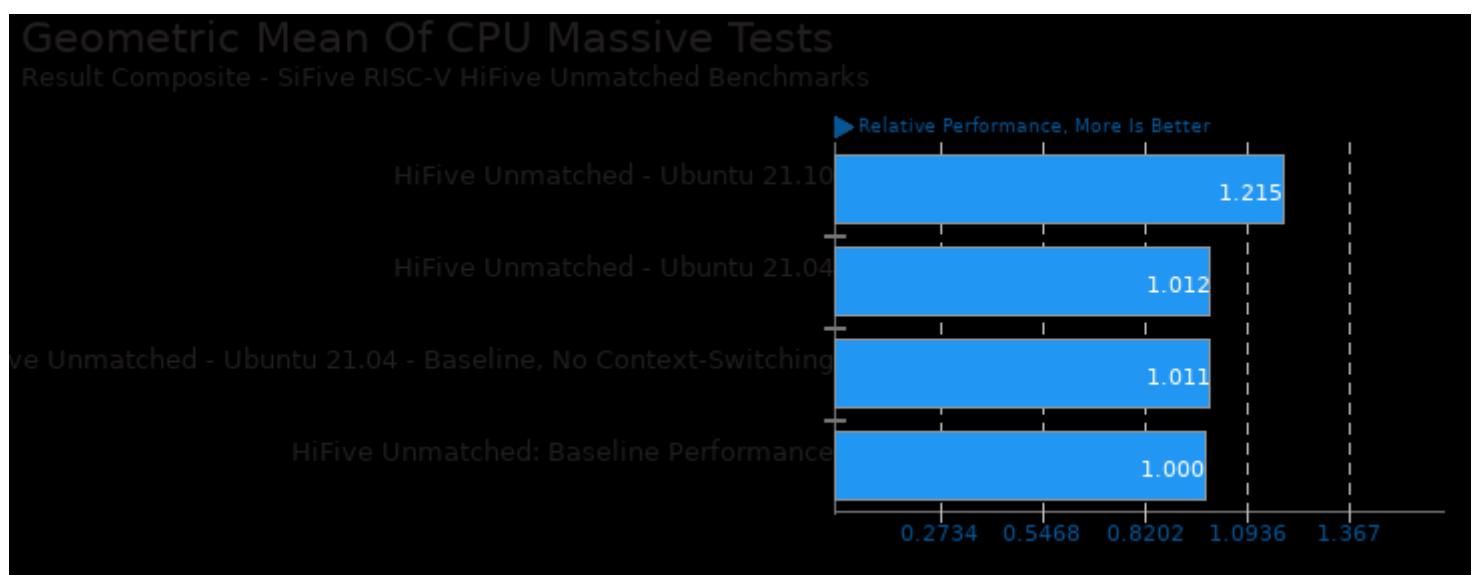


SiFive RISC-V HiFive Unmatched Benchmarks

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



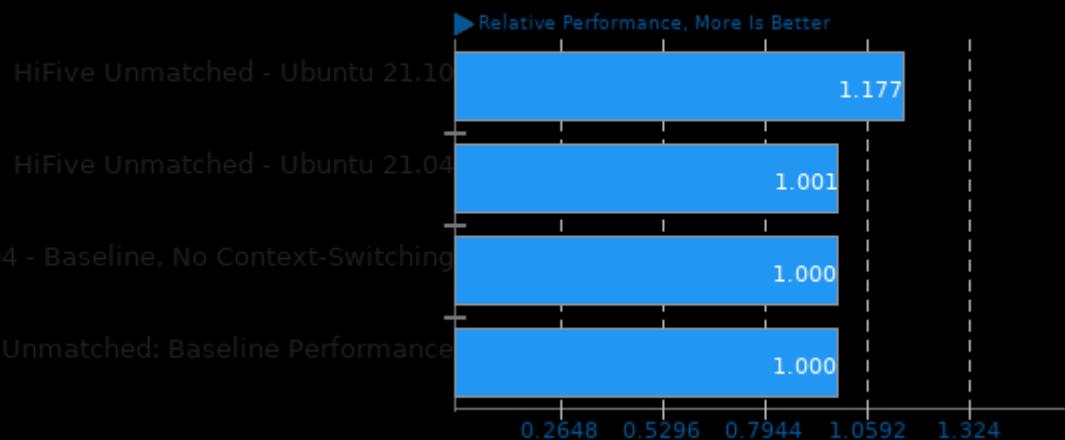
Geometric mean based upon tests: pts/graphics-magick, pts/compress-7zip, pts/encode-flac, pts/x265, pts/compress-zstd, pts/openssl and pts/build-gdb



Geometric mean based upon tests: pts/compress-7zip, pts/compress-zstd, pts/x265, pts/dolfyn, pts/encode-flac, pts/graphics-magick, pts/openssl, pts/phpbench, pts/stress-ng and system/octave-benchmark

Geometric Mean Of Cryptography Tests

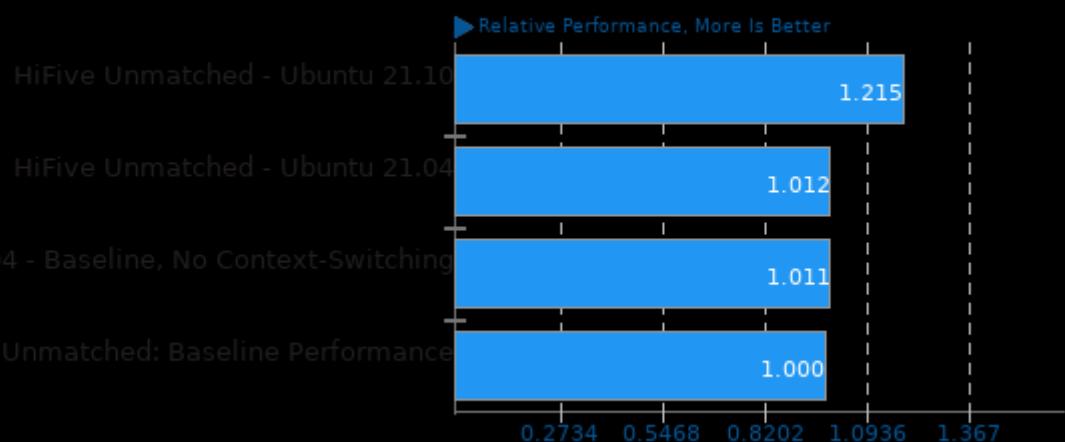
Result Composite - SiFive RISC-V HiFive Unmatched Benchmarks



Geometric mean based upon tests: pts/openssl and pts/securemark

Geometric Mean Of Common Kernel Benchmarks Tests

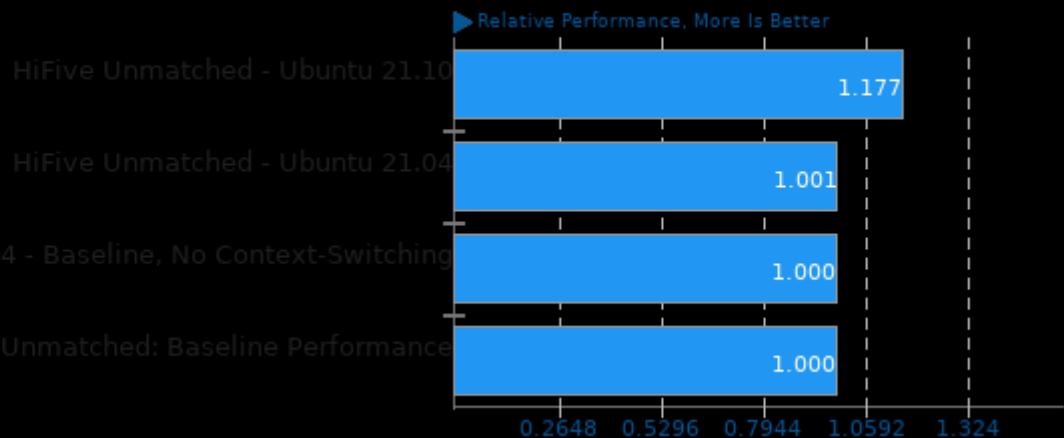
Result Composite - SiFive RISC-V HiFive Unmatched Benchmarks



Geometric mean based upon tests: pts/openssl and pts/stress-ng

Geometric Mean Of Server Tests

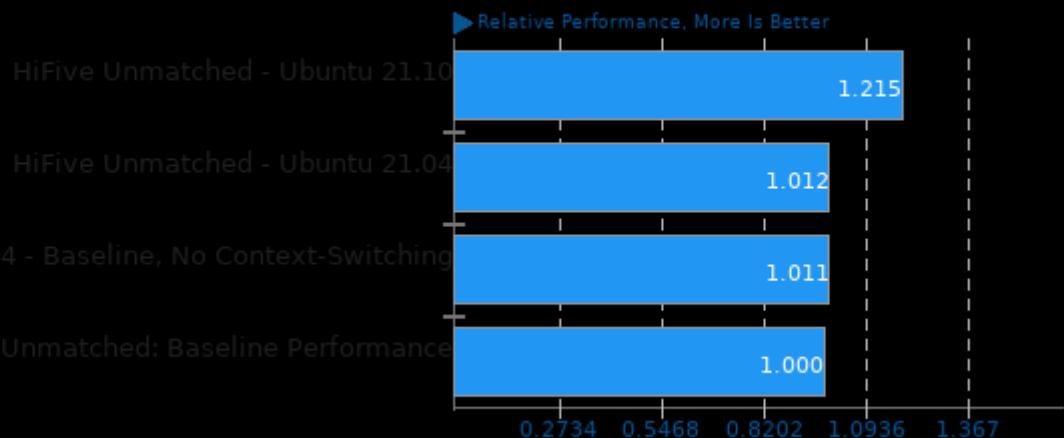
Result Composite - SiFive RISC-V HiFive Unmatched Benchmarks



Geometric mean based upon tests: pts/phpbench and pts/openssl

Geometric Mean Of Server CPU Tests

Result Composite - SiFive RISC-V HiFive Unmatched Benchmarks



Geometric mean based upon tests: pts/x265, pts/compress-7zip, pts/compress-zstd, pts/openssl, pts/stress-ng, pts/pybench and pts/phpbench

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 19:23.