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2020-02-21-programmer-core

AMD Ryzen 5 3600 6-Core testing with a ASUS PRIME X470-PRO (5406 BIOS) and Gigabyte NVIDIA GeForce GTX 1660 SUPER 6GB on Arch rolling via the Phoronix Test Suite.

Test Systems:

Core Programmer Benchmark

Processor: AMD Ryzen 5 3600 6-Core @ 3.80GHz (6 Cores / 12 Threads), Motherboard: ASUS PRIME X470-PRO (5406 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 250GB Samsung SSD 850 + 120GB KINGSTON SH103S3 + 750GB Seagate ST3750528AS + 1000GB Western Digital WD10EZEX-00K + 0GB SD/MMC + 0GB Micro SD/M2, Graphics: Gigabyte NVIDIA GeForce GTX 1660 SUPER 6GB (1530/7000MHz), Audio: NVIDIA TU116 HD Audio, Monitor: ASUS PB278, Network: Intel I211

OS: Arch rolling, Kernel: 5.10.16-zen1-1-zen (x86_64), Display Server: X Server 1.20.10, Display Driver: NVIDIA 460.39, OpenGL: 4.6.0, Compiler: GCC 10.2.0 + Clang 11.1.0 + LLVM 11.1.0, File-System: ext4, Screen Resolution: 3640x1920

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Kernel Notes: Transparent Huge Pages: always
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-libunwind-exceptions --disable-werror --enable-__cxa_atexit --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-install-libiberty --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-isl --with-linker-hash-style=gnu
Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0x8701013
OpenCL Notes: GPU Compute Cores: 1408
Python Notes: Python 3.9.1
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 STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	Core Programmer Benchmark
C-Blosc - blosclz (MB/s)	9324
Standard Deviation	0.5%
Algebraic Multi-Grid Benchmark (Figure Of Merit)	178056067
Standard Deviation	0.6%
simdjson - Kostya (GB/s)	0.54
Standard Deviation	0%
simdjson - LargeRand (GB/s)	0.4
Standard Deviation	0%
simdjson - PartialTweets (GB/s)	0.67
Standard Deviation	0%
simdjson - DistinctUserID (GB/s)	0.69
Standard Deviation	1.4%
Zstd Compression - 3 (MB/s)	3742
Standard Deviation	0.7%
Zstd Compression - 19 (MB/s)	27.3
Standard Deviation	0%
ArrayFire - BLAS CPU (GFLOPS)	172.605
Standard Deviation	0.5%
ACES DGEMM - S.F.P.R (GFLOP/s)	0.925030
Standard Deviation	0.5%
Timed Apache Compilation - Time To Compile (sec)	28.847
Standard Deviation	0.5%
Timed Clash Compilation - Time To Compile (sec)	418.646
Standard Deviation	0.3%
Timed FFmpeg Compilation - Time To Compile (sec)	71.604
Standard Deviation	0.3%
Timed GCC Compilation - Time To Compile (sec)	1095
Standard Deviation	0.3%
Timed GDB GNU Debugger Compilation - Time To Compile (sec)	112.854
Standard Deviation	0.2%
Timed Godot Game Engine Compilation - Time To Compile (sec)	197.472
Standard Deviation	0.1%
Timed ImageMagick Compilation - Time To Compile (sec)	40.103
Standard Deviation	0.3%
Timed LLVM Compilation - Time To Compile (sec)	880.829
Standard Deviation	0.2%
Timed MPlayer Compilation - Time To Compile (sec)	50.536
Standard Deviation	0.2%
Timed PHP Compilation - Time To Compile (sec)	75.445
Standard Deviation	0.2%

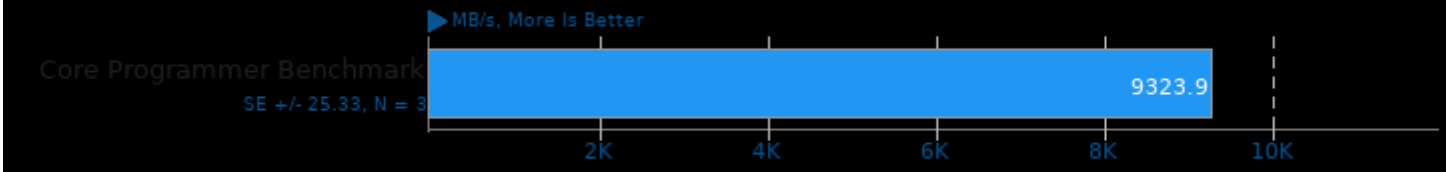
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Build2 - Time To Compile (sec)	191.193
Standard Deviation	0.8%
Timed Eigen Compilation - Time To Compile (sec)	86.499
Standard Deviation	0.2%
Node.js V8 Web Tooling Benchmark (runs/s)	10.91
Standard Deviation	0.6%
Cryptsetup - PBKDF2-sha512 (Iterations/sec)	1647955
Standard Deviation	1%
Cryptsetup - PBKDF2-whirlpool (Iterations/sec)	664786
Standard Deviation	0.4%
Cryptsetup - A.X.2.E (MiB/s)	1759
Standard Deviation	1.2%
Cryptsetup - A.X.2.D (MiB/s)	1707
Standard Deviation	1.2%
Cryptsetup - S.X.2.E (MiB/s)	644.6
Standard Deviation	0.2%
Cryptsetup - S.X.2.D (MiB/s)	632.3
Standard Deviation	0.4%
Cryptsetup - T.X.2.E (MiB/s)	376.3
Standard Deviation	0.4%
Cryptsetup - T.X.2.D (MiB/s)	374.4
Standard Deviation	0.6%
Cryptsetup - A.X.5.E (MiB/s)	1561
Standard Deviation	1%
Cryptsetup - A.X.5.D (MiB/s)	1544
Standard Deviation	1.4%
Cryptsetup - S.X.5.E (MiB/s)	646.1
Standard Deviation	0.1%
Cryptsetup - T.X.5.E (MiB/s)	376.3
Standard Deviation	0.6%
Cryptsetup - T.X.5.D (MiB/s)	374.7
Standard Deviation	0.7%
Cryptsetup - S.X.5.D (MiB/s)	631.4
Standard Deviation	0.6%
SQLite Speedtest - Timed Time - Size 1,000 (sec)	68.135
Standard Deviation	0.1%
PyBench - T.F.A.T.T (Milliseconds)	1081
Standard Deviation	0.5%
PyPerformance - go (Milliseconds)	258
Standard Deviation	0%
PyPerformance - 2to3 (Milliseconds)	320
Standard Deviation	0.2%
PyPerformance - chaos (Milliseconds)	118
Standard Deviation	0.5%
PyPerformance - float (Milliseconds)	120
Standard Deviation	0%
PyPerformance - nbody (Milliseconds)	122
Standard Deviation	0%
PyPerformance - pathlib (Milliseconds)	16.6
Standard Deviation	0%
PyPerformance - raytrace (Milliseconds)	498
Standard Deviation	0.1%
PyPerformance - json_loads (Milliseconds)	27.0

Standard Deviation	0.2%
PyPerformance - crypto_pyaes (Milliseconds)	114
Standard Deviation	0.5%
PyPerformance - regex_compile (Milliseconds)	178
Standard Deviation	0.3%
PyPerformance - python_startup (Milliseconds)	8.94
Standard Deviation	0.1%
PyPerformance - django_template (Milliseconds)	48.5
Standard Deviation	0.1%
PyPerformance - pickle_pure_python (Milliseconds)	476
Standard Deviation	0.2%
Git - T.T.C.C.G.C (sec)	51.879
Standard Deviation	0.1%

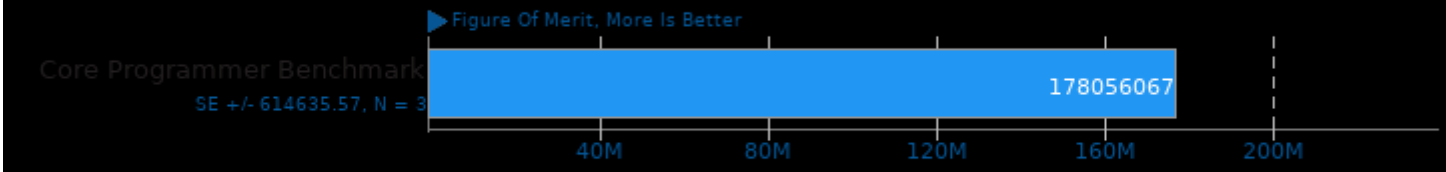
C-Blosc 2.0 Beta 5

Compressor: blosclz



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

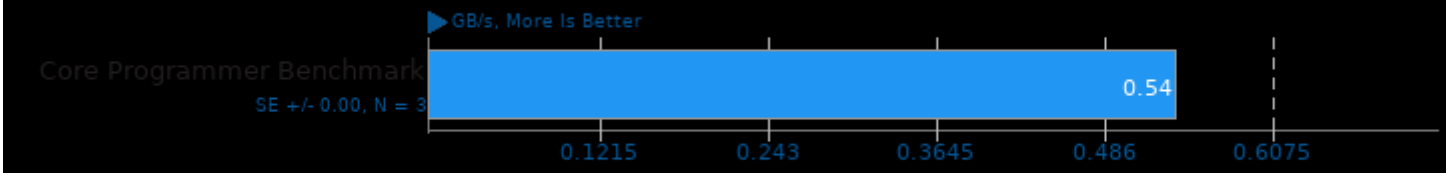
Algebraic Multi-Grid Benchmark 1.2



1. (CC) gcc options: -lparcsr_ls -lparcsr_mv -lseq_mv -lIJ_mv -lkrylov -lHYPRE_utilities -lm -fopenmp -pthread -lmpi

simdjson 0.7.1

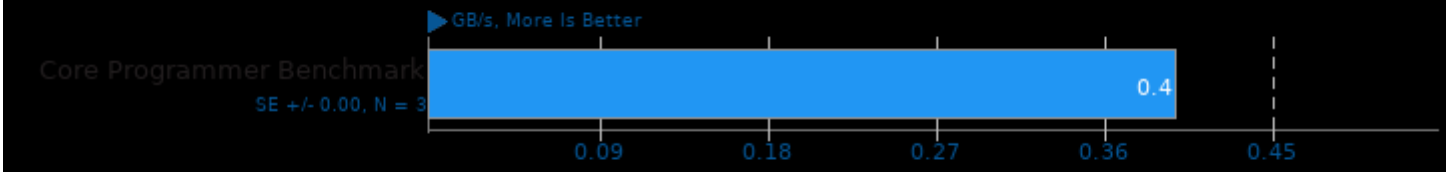
Throughput Test: Kostya



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

simdjson 0.7.1

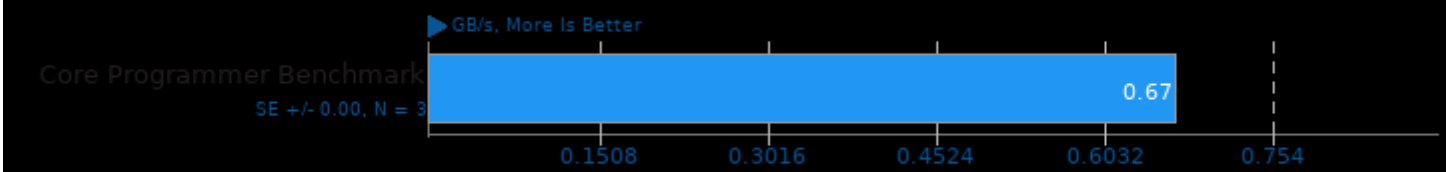
Throughput Test: LargeRandom



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

simdjson 0.7.1

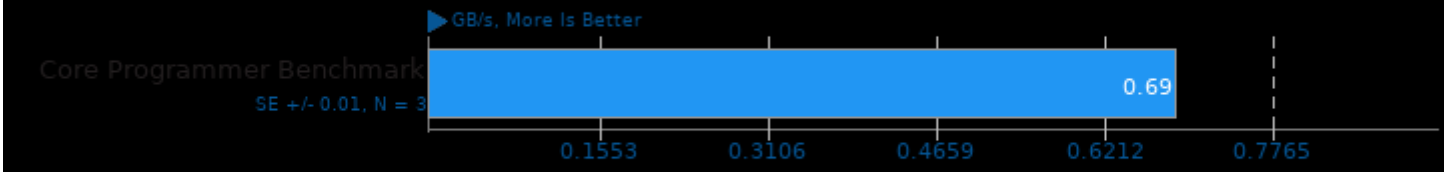
Throughput Test: PartialTweets



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

simdjson 0.7.1

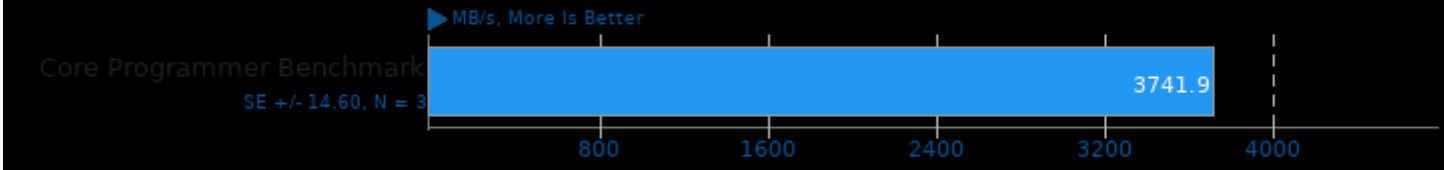
Throughput Test: DistinctUserID



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

Zstd Compression 1.4.5

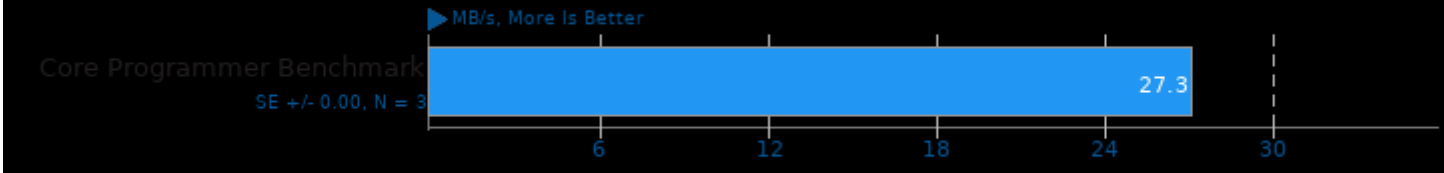
Compression Level: 3



1. (CC) gcc options: -O3 -pthread -lz -llzma -llz4

Zstd Compression 1.4.5

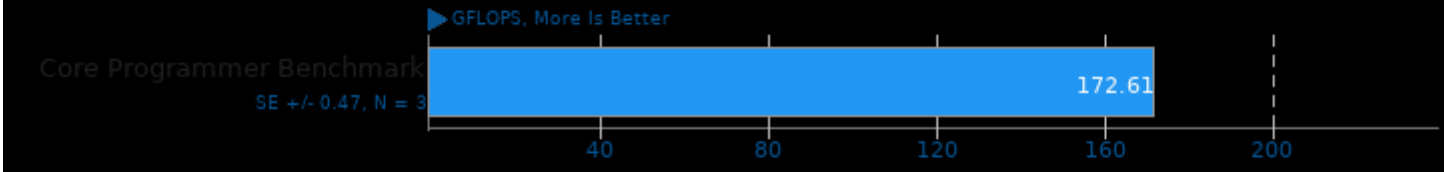
Compression Level: 19



1. (CC) gcc options: -O3 -pthread -lz -llzma -llz4

ArrayFire 3.7

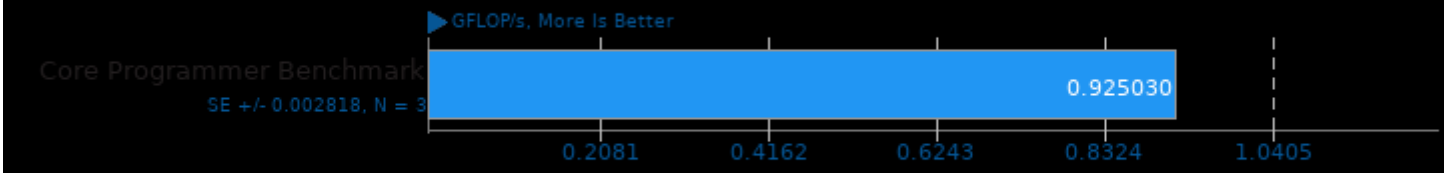
Test: BLAS CPU



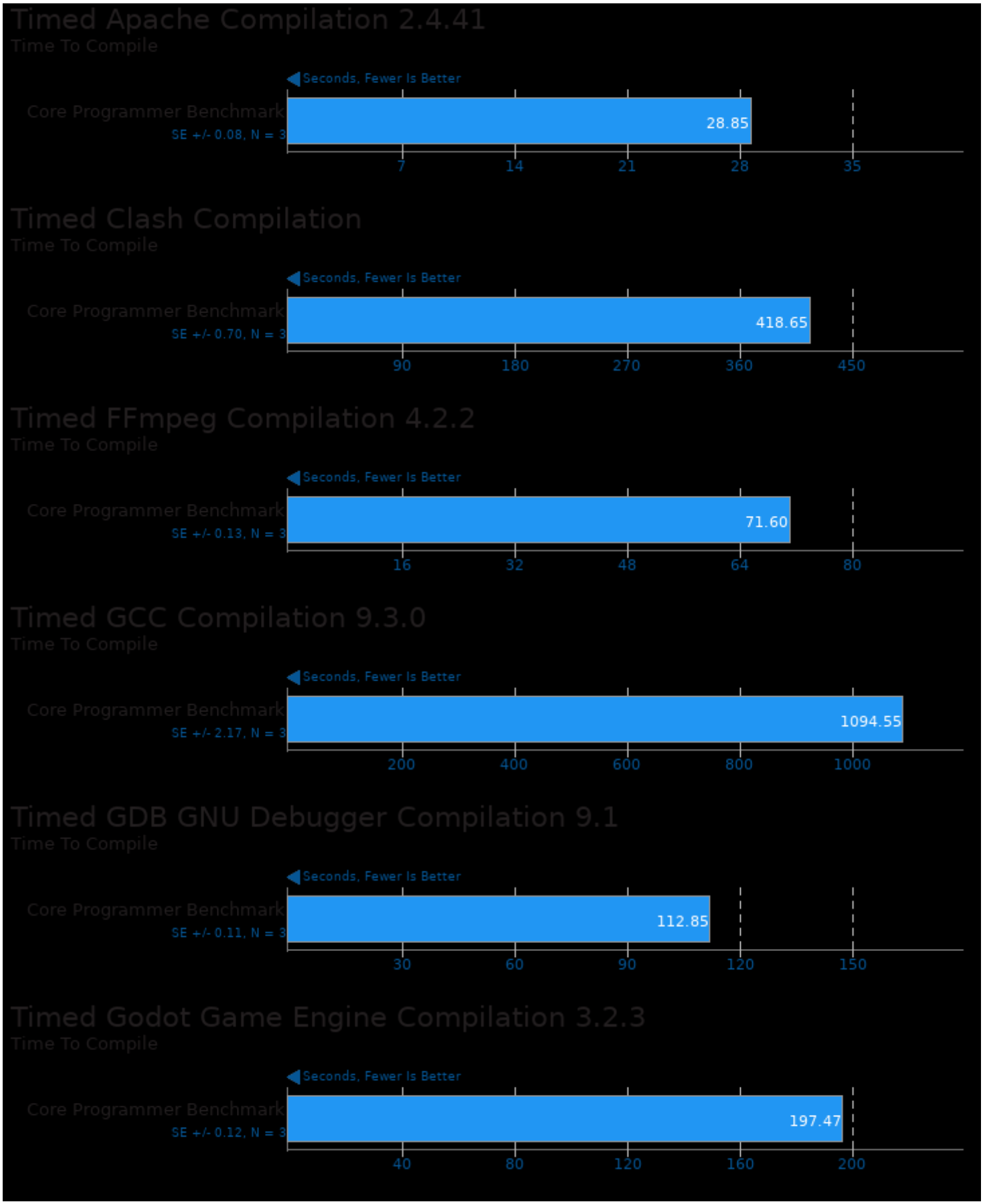
1. (CXX) g++ options: -rdynamic

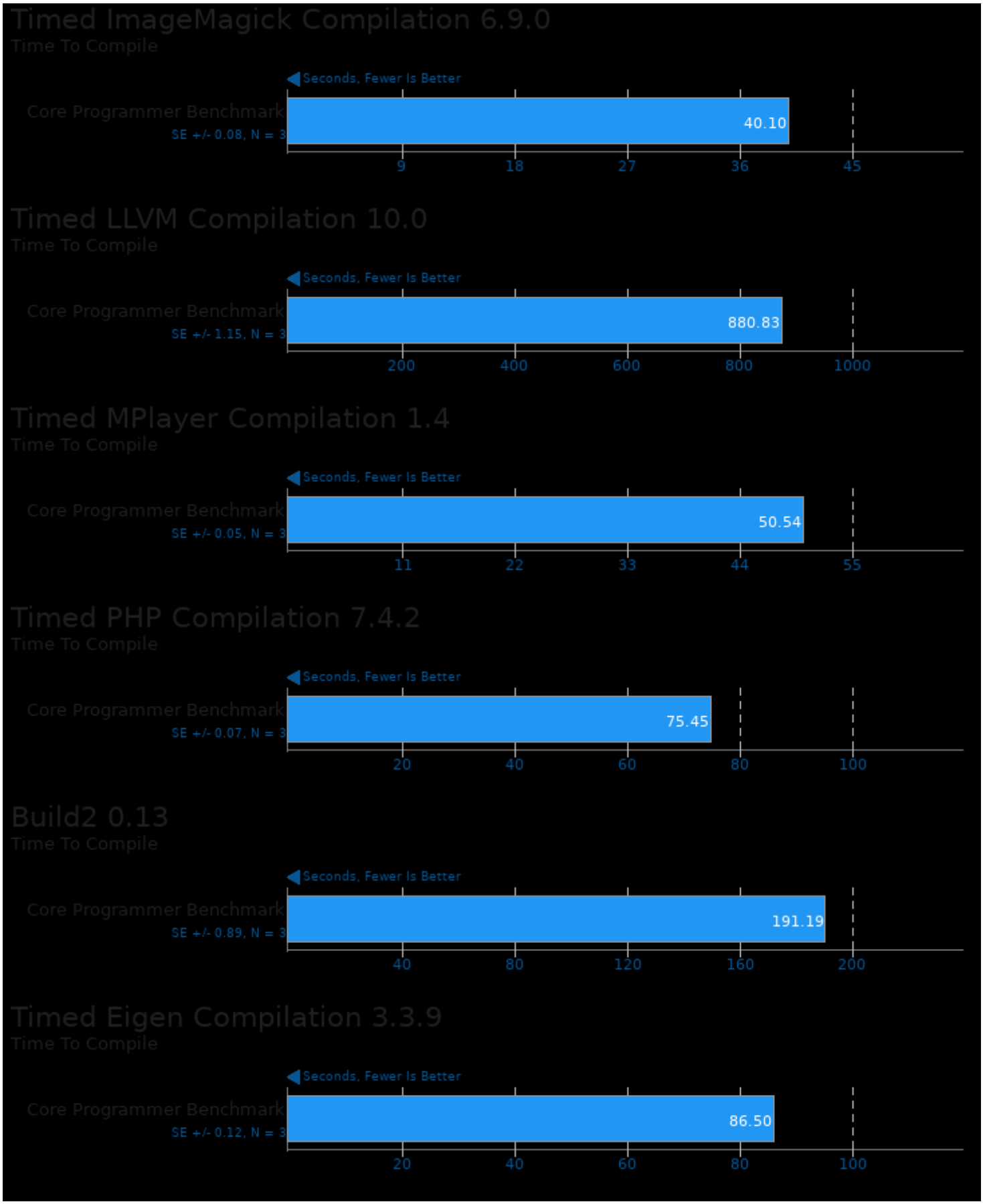
ACES DGEMM 1.0

Sustained Floating-Point Rate

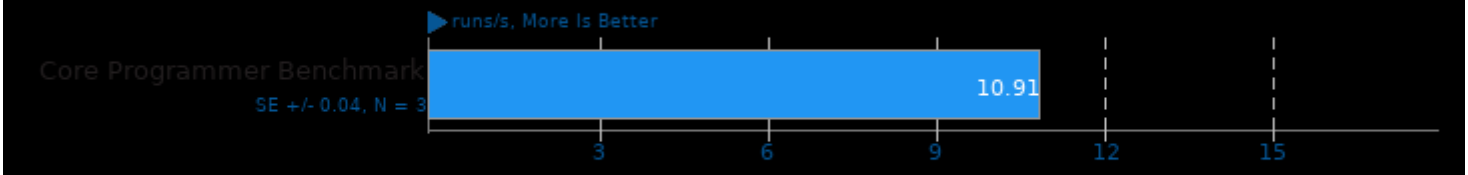


1. (CC) gcc options: -O3 -march=native -fopenmp


Timed Apache Compilation 2.4.41
Time To Compile
Seconds, Fewer Is Better
Core Programmer Benchmark
SE +/- 0.08, N = 3
28.85
7
14
21
28
35
Timed Clash Compilation
Time To Compile
Seconds, Fewer Is Better
Core Programmer Benchmark
SE +/- 0.70, N = 3
418.65
90
180
270
360
450
Timed FFmpeg Compilation 4.2.2
Time To Compile
Seconds, Fewer Is Better
Core Programmer Benchmark
SE +/- 0.13, N = 3
71.60
16
32
48
64
80
Timed GCC Compilation 9.3.0
Time To Compile
Seconds, Fewer Is Better
Core Programmer Benchmark
SE +/- 2.17, N = 3
1094.55
200
400
600
800
1000
Timed GDB GNU Debugger Compilation 9.1
Time To Compile
Seconds, Fewer Is Better
Core Programmer Benchmark
SE +/- 0.11, N = 3
112.85
30
60
90
120
150
Timed Godot Game Engine Compilation 3.2.3
Time To Compile
Seconds, Fewer Is Better
Core Programmer Benchmark
SE +/- 0.12, N = 3
197.47
40
80
120
160
200

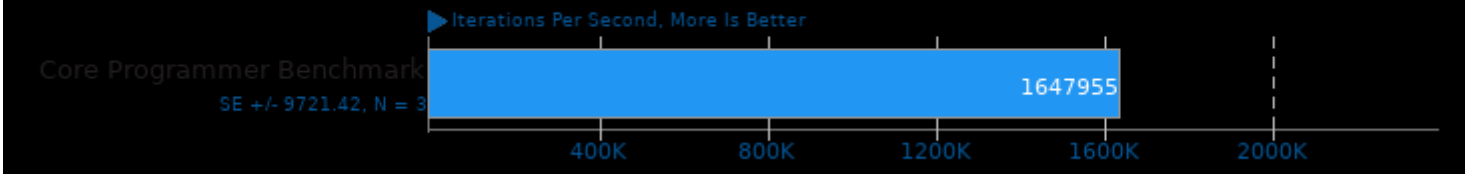

Timed ImageMagick Compilation 6.9.0
Time To Compile
Seconds, Fewer Is Better
Core Programmer Benchmark
SE +/- 0.08, N = 3
40.10
9
18
27
36
45
Timed LLVM Compilation 10.0
Time To Compile
Seconds, Fewer Is Better
Core Programmer Benchmark
SE +/- 1.15, N = 3
880.83
200
400
600
800
1000
Timed MPlayer Compilation 1.4
Time To Compile
Seconds, Fewer Is Better
Core Programmer Benchmark
SE +/- 0.05, N = 3
50.54
11
22
33
44
55
Timed PHP Compilation 7.4.2
Time To Compile
Seconds, Fewer Is Better
Core Programmer Benchmark
SE +/- 0.07, N = 3
75.45
20
40
60
80
100
Build2 0.13
Time To Compile
Seconds, Fewer Is Better
Core Programmer Benchmark
SE +/- 0.89, N = 3
191.19
40
80
120
160
200
Timed Eigen Compilation 3.3.9
Time To Compile
Seconds, Fewer Is Better
Core Programmer Benchmark
SE +/- 0.12, N = 3
86.50
20
40
60
80
100

Node.js V8 Web Tooling Benchmark

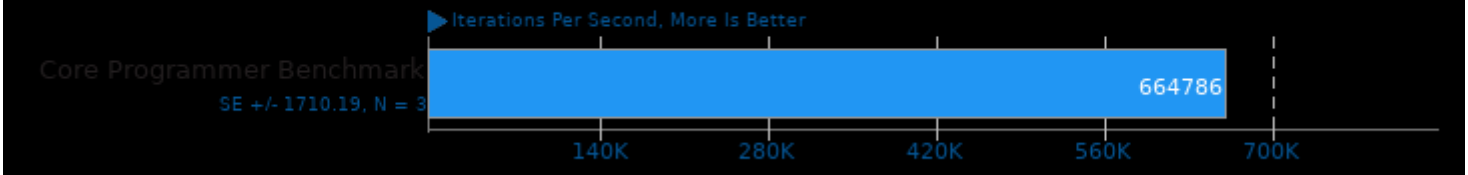


1. Nodejs v12.18.2

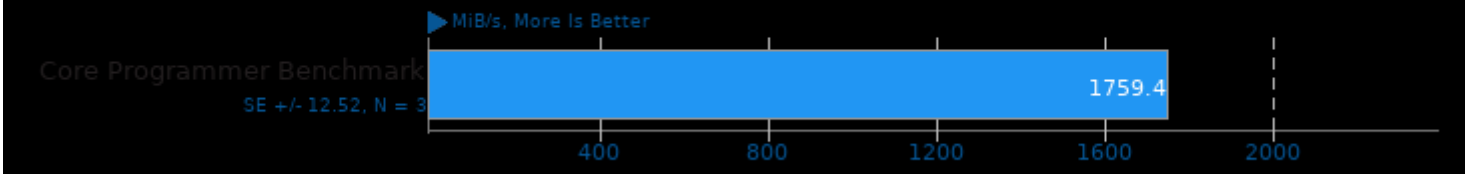
Cryptsetup PBKDF2-sha512



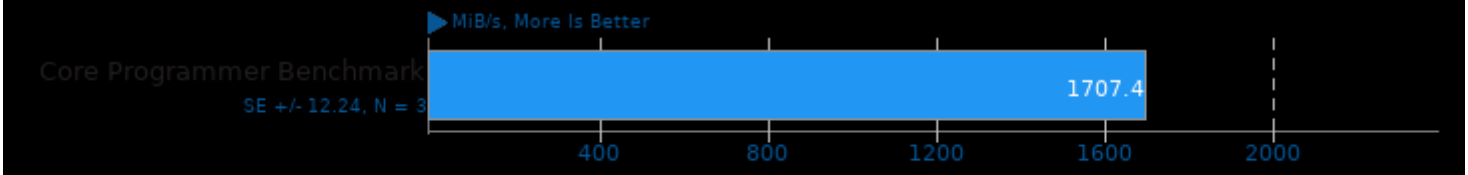
Cryptsetup PBKDF2-whirlpool



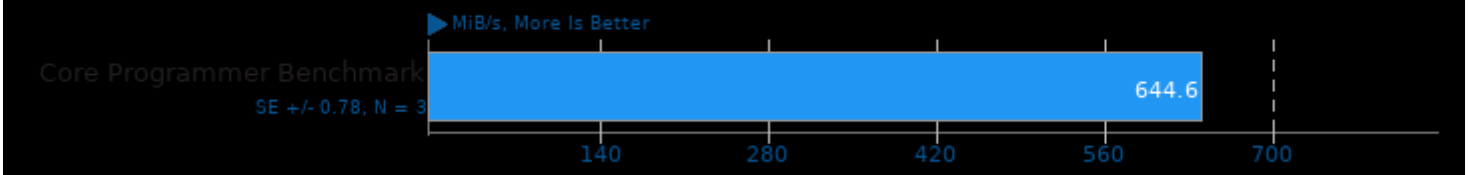
Cryptsetup AES-XTS 256b Encryption



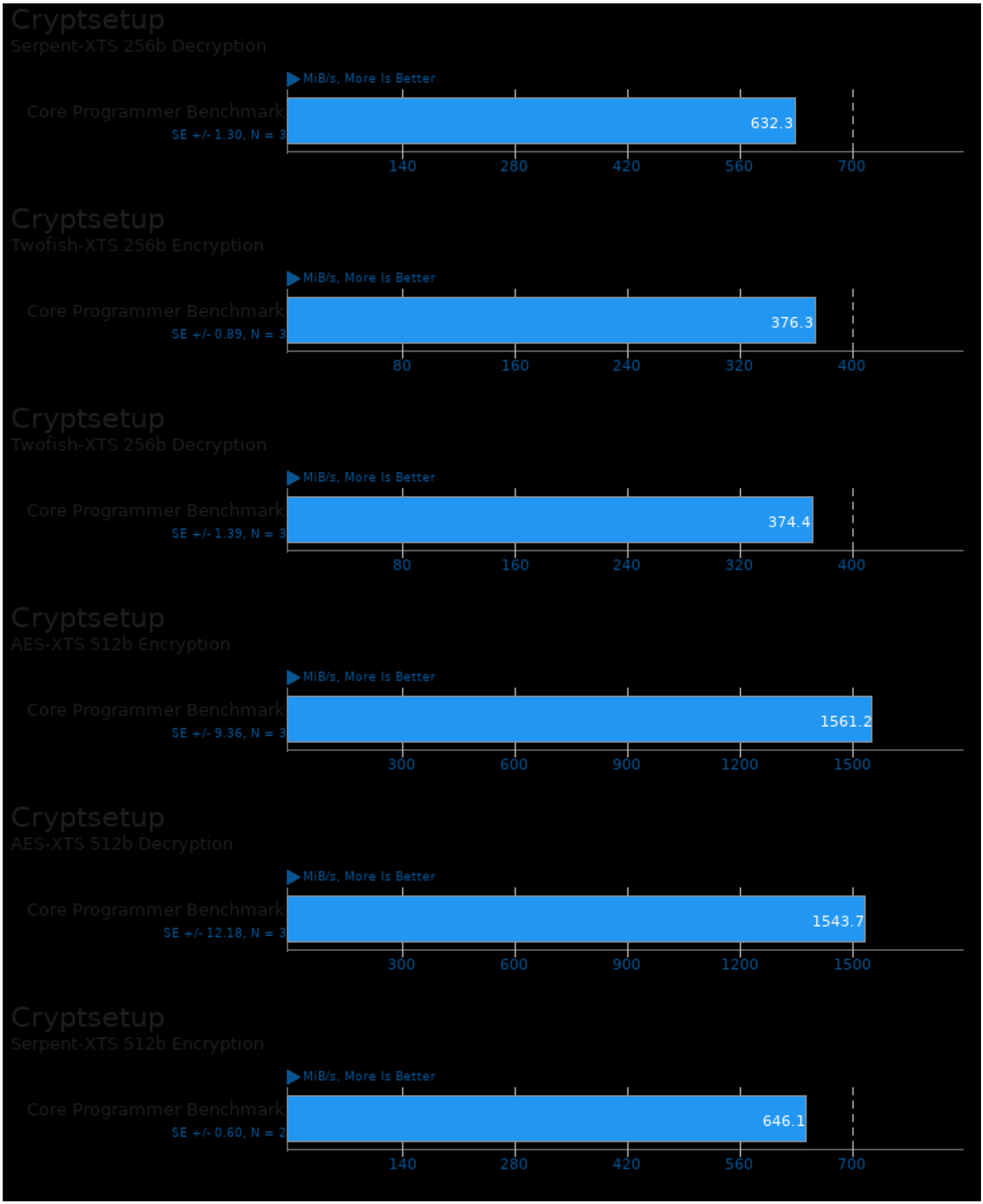
Cryptsetup AES-XTS 256b Decryption



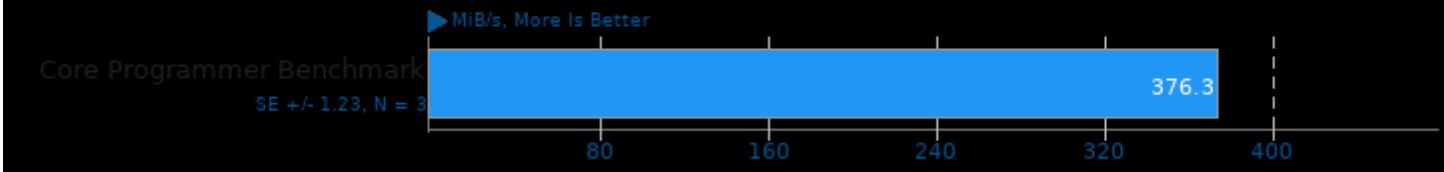
Cryptsetup Serpent-XTS 256b Encryption



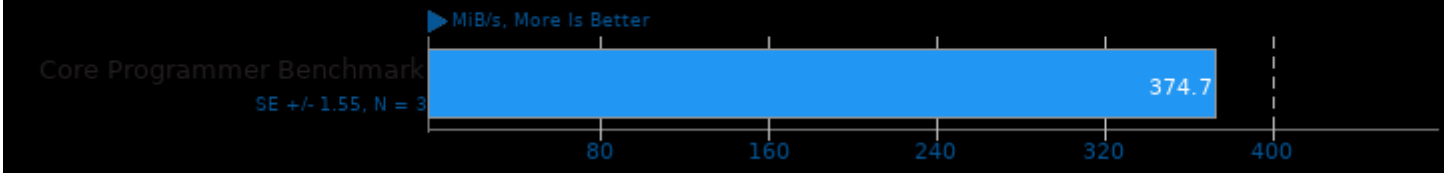
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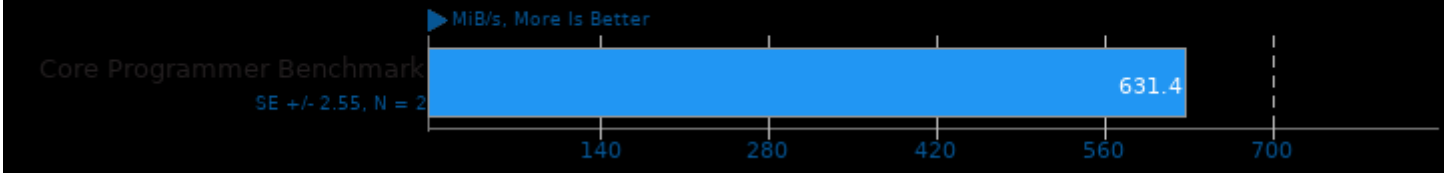
Cryptsetup
Twofish-XTS 512b Encryption



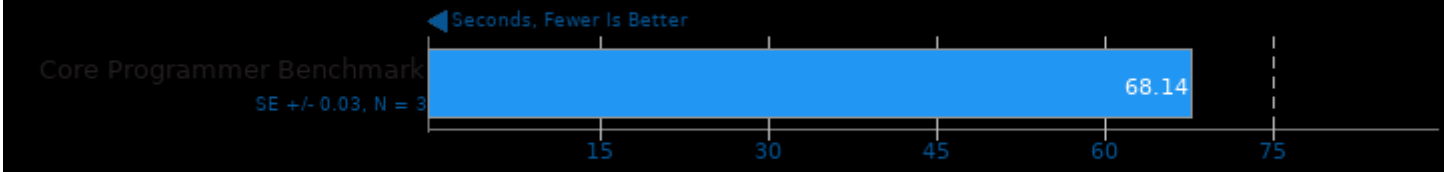
Cryptsetup
Twofish-XTS 512b Decryption



Cryptsetup
Serpent-XTS 512b Decryption

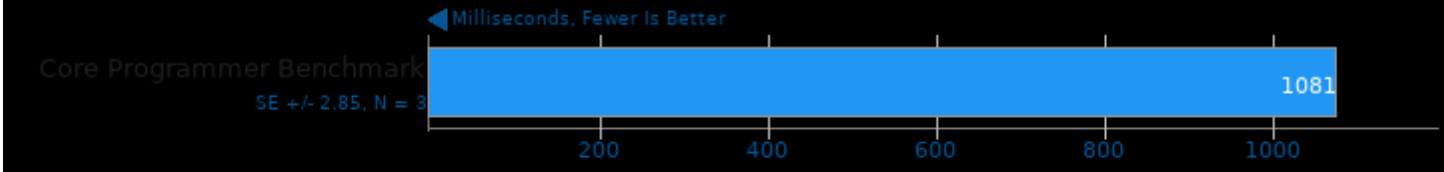


SQLite Speedtest 3.30
Timed Time - Size 1,000

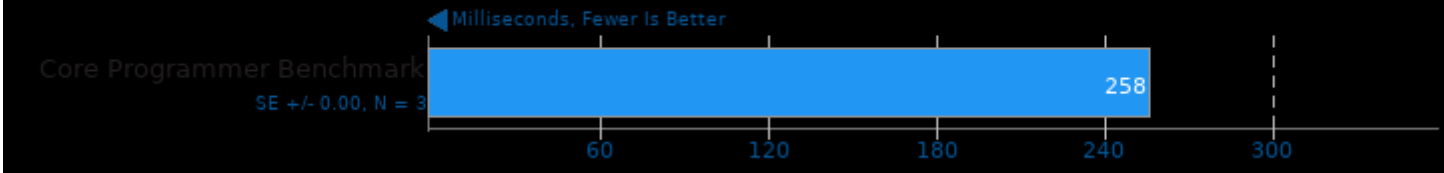


1. (CC) gcc options: -O2 -ldl -lz -lpthread

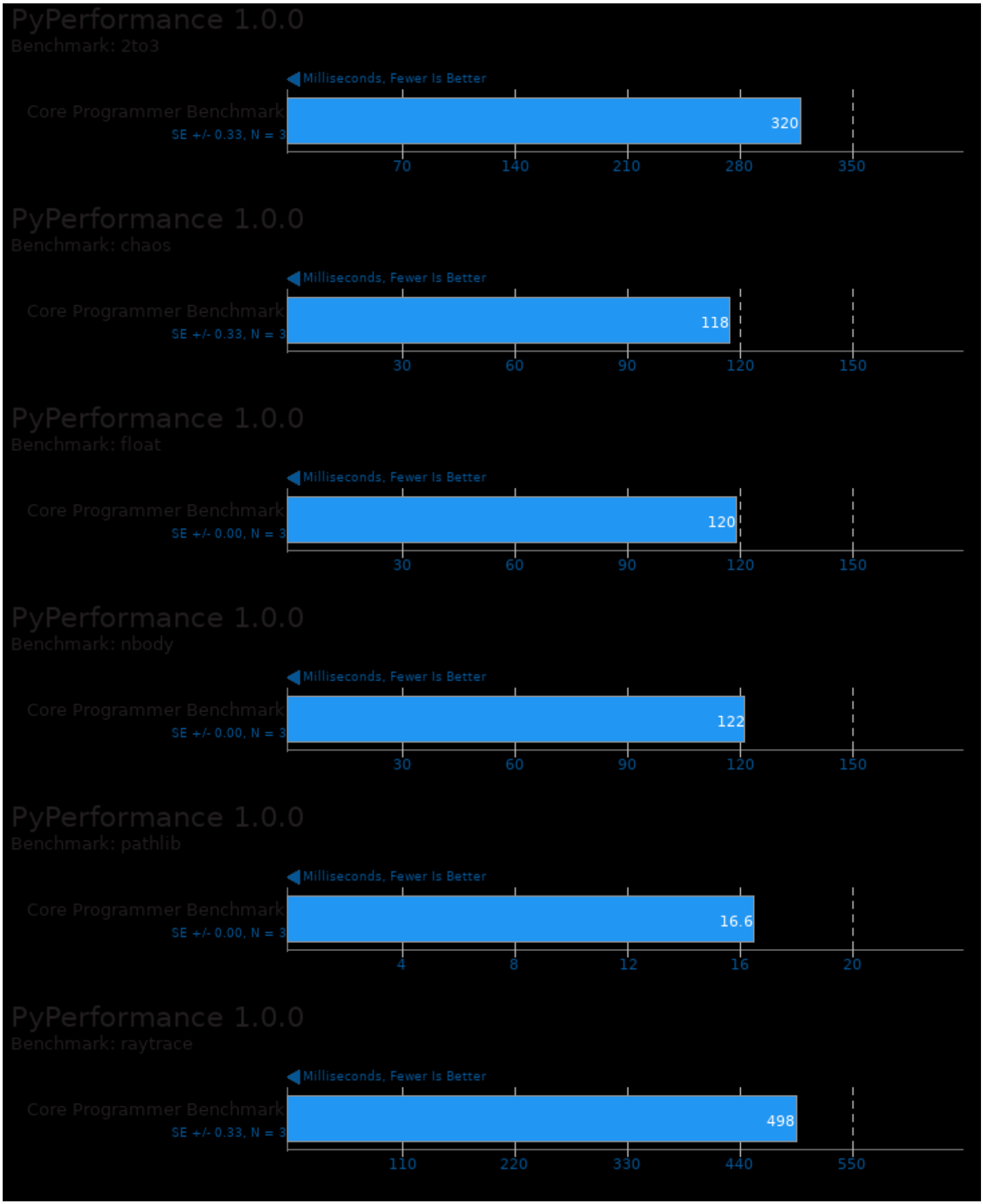
PyBench 2018-02-16
Total For Average Test Times



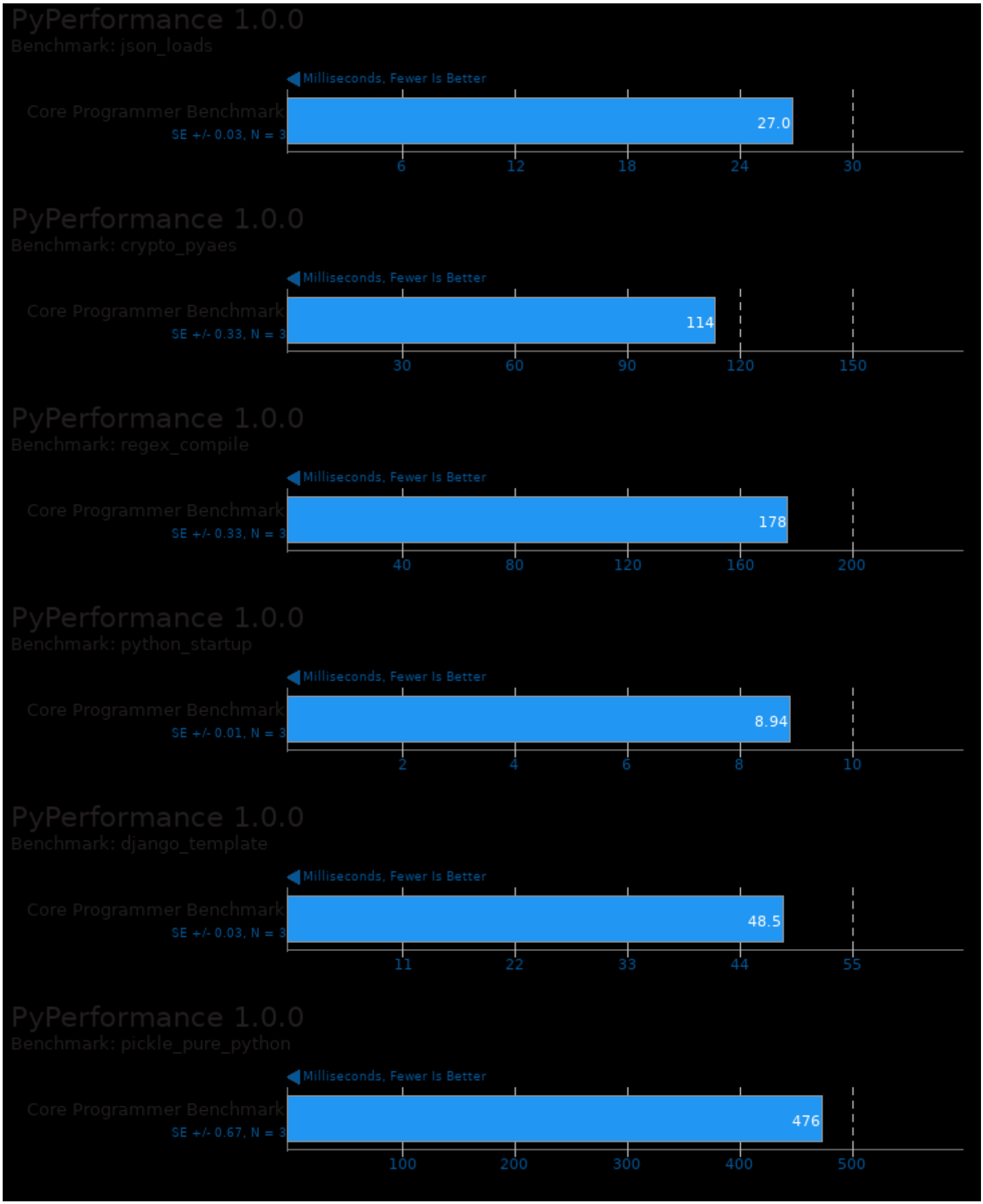
PyPerformance 1.0.0
Benchmark: go



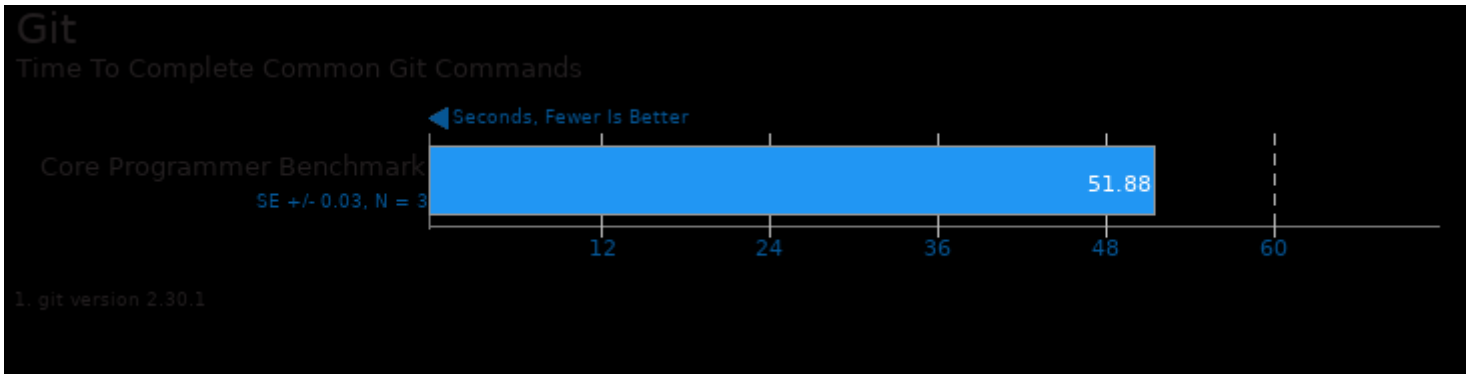
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2020-02-21-programmer-core



2020-02-21-programmer-core



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