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## **realsysprogrammerbench**

AMD Ryzen 7 5800X 8-Core testing with a ASRock X470 Taichi (P5.10 BIOS) and AMD Radeon RX 6700 XT 12GB on ManjaroLinux 22.0.0 via the Phoronix Test Suite.

### **Test Systems:**

#### **run1**

Processor: AMD Ryzen 7 5800X 8-Core @ 3.80GHz (8 Cores / 16 Threads), Motherboard: ASRock X470 Taichi (P5.10 BIOS), Chipset: AMD Starship/Matisse, Memory: 64GB, Disk: 500GB Samsung SSD 850 + 4001GB Western Digital WD40EZRX-00S + 3001GB TOSHIBA HDWD130 + 1000GB SHGS31-1000GS-2 + 2000GB CT2000BX500SSD1 + 128GB SAMSUNG SSD PM85, Graphics: AMD Radeon RX 6700 XT 12GB (2725/1000MHz), Audio: AMD Navi 21/23, Monitor: EB321HQU C + LG HDR 4K, Network: Intel I211 + Intel Dual Band-AC 3168NGW

OS: ManjaroLinux 22.0.0, Kernel: 6.0.8-1-MANJARO (x86\_64), Desktop: Xfce 4.16, Display Server: X Server 1.21.1.4, OpenGL: 4.6 Mesa 22.2.3 (LLVM 14.0.6 DRM 3.48), Compiler: GCC 12.2.0 + Clang 14.0.6 + LLVM 14.0.6, File-System: ext4, Screen Resolution: 6400x2160

Kernel Notes: Transparent Huge Pages: always  
 Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-werror --enable-\_cxa\_atexit --enable-bootstrap --enable-cet=auto --enable-checking=release --enable-clocale-gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++,d --enable-libstdcxx-backtrace --enable-link-serialization=1 --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --mandir=/usr/share/man --with-build-config=bootstrap-lto --with-linker-hash-style=gnu  
 Processor Notes: Scaling Governor: acpi-cpufreq performance (Boost: Enabled) - CPU Microcode: 0xa20120a  
 Python Notes: Python 3.10.8  
 Security Notes: itlb\_multithit: Not affected + I1tf: Not affected + mds: Not affected + meltdown: Not affected + mmio\_stale\_data: Not affected + retbleed: Not affected + spec\_store\_bypass: Mitigation of SSB disabled via prctl + spectre\_v1: Mitigation of usercopy/swapgs barriers and \_\_user pointer sanitization + spectre\_v2: Mitigation of Retpolines IBPB: conditional IBRS\_FW STIBP: always-on RSB filling PBRSB-eIBRS: Not affected + srbd: Not affected + tsx\_async\_abort: Not affected

## run1

<b>Timed CPython Compilation - R.B.P.L.O (sec)</b>	248.737
<b>Timed GDB GNU Debugger Compilation - Time To Compile (sec)</b>	73.875
Standard Deviation	0.3%
<b>Timed Eigen Compilation - Time To Compile (sec)</b>	67.609
Standard Deviation	0.8%
<b>simdjson - PartialTweets (GB/s)</b>	4.88
Standard Deviation	1.1%
<b>simdjson - DistinctUserID (GB/s)</b>	5.52
Standard Deviation	0.2%
<b>simdjson - TopTweet (GB/s)</b>	5.40
Standard Deviation	1%
<b>Timed PHP Compilation - Time To Compile (sec)</b>	61.891
Standard Deviation	0.6%
<b>Node.js V8 Web Tooling Benchmark (runs/s)</b>	17.53
Standard Deviation	1%
<b>PyPerformance - raytrace (Milliseconds)</b>	338
Standard Deviation	0.9%
<b>PyPerformance - python_startup (Milliseconds)</b>	6.75
Standard Deviation	0.1%
<b>simdjson - Kostya (GB/s)</b>	3.69
Standard Deviation	0.3%
<b>Timed Mesa Compilation - Time To Compile (sec)</b>	50.882
Standard Deviation	0.3%
<b>simdjson - LargeRand (GB/s)</b>	1.26
Standard Deviation	0.9%
<b>ACES DGEMM - S.F.P.R (GFLOP/s)</b>	6.292910
Standard Deviation	2.3%
<b>Zstd Compression - 19, Long Mode - D.S (MB/s)</b>	4353
Standard Deviation	0.8%
<b>Zstd Compression - 19, Long Mode - Compression Speed (MB/s)</b>	37.2
Standard Deviation	0.9%
<b>Zstd Compression - 19 - D.S (MB/s)</b>	4305
Standard Deviation	0.1%
<b>Zstd Compression - 19 - Compression Speed (MB/s)</b>	42.9
Standard Deviation	0.5%
<b>PyPerformance - 2to3 (Milliseconds)</b>	227
Standard Deviation	0.3%
<b>Timed MPlayer Compilation - Time To Compile (sec)</b>	36.885
Standard Deviation	0%
<b>Cryptsetup - T.X.5.D (MiB/s)</b>	513.4

<b>Cryptsetup - T.X.5.E (MiB/s)</b>	510.1	Standard Deviation 0.6%
<b>Cryptsetup - S.X.5.D (MiB/s)</b>	928.8	Standard Deviation 0.4%
<b>Cryptsetup - S.X.5.E (MiB/s)</b>	946.1	Standard Deviation 0.4%
<b>Cryptsetup - A.X.5.D (MiB/s)</b>	4464	Standard Deviation 0.5%
<b>Cryptsetup - A.X.5.E (MiB/s)</b>	4469	Standard Deviation 0.7%
<b>Cryptsetup - T.X.2.D (MiB/s)</b>	509.2	Standard Deviation 0%
<b>Cryptsetup - T.X.2.E (MiB/s)</b>	506.7	Standard Deviation 0.7%
<b>Cryptsetup - S.X.2.D (MiB/s)</b>	926.1	Standard Deviation 0.1%
<b>Cryptsetup - S.X.2.E (MiB/s)</b>	938.4	Standard Deviation 0.8%
<b>Cryptsetup - A.X.2.D (MiB/s)</b>	5274	Standard Deviation 0.3%
<b>Cryptsetup - A.X.2.E (MiB/s)</b>	5270	Standard Deviation 0.2%
<b>Cryptsetup - PBKDF2-whirlpool (Iterations/sec)</b>	850756	Standard Deviation 1.3%
<b>Cryptsetup - PBKDF2-sha512 (Iterations/sec)</b>	2293066	Standard Deviation 1.3%
<b>Zstd Compression - 8, Long Mode - D.S (MB/s)</b>	5225	Standard Deviation 0.3%
<b>Zstd Compression - 8, Long Mode - Compression Speed (MB/s)</b>	1004	Standard Deviation 0.3%
<b>PyPerformance - go (Milliseconds)</b>	167	Standard Deviation 1%
<b>C-Blosc - blosclz bitshuffle (MB/s)</b>	12698	Standard Deviation 9%
<b>Zstd Compression - 3 - D.S (MB/s)</b>	4705	Standard Deviation 0.4%
<b>Zstd Compression - 3 - Compression Speed (MB/s)</b>	3570	Standard Deviation 1.1%
<b>PyPerformance - pathlib (Milliseconds)</b>	12.2	Standard Deviation 0.5%
<b>Zstd Compression - 3, Long Mode - D.S (MB/s)</b>	5071	Standard Deviation 0%
<b>Zstd Compression - 3, Long Mode - Compression Speed (MB/s)</b>	1630	Standard Deviation 0.5%
<b>Zstd Compression - 8 - D.S (MB/s)</b>	4920	Standard Deviation 0.3%
<b>Zstd Compression - 8 - Compression Speed (MB/s)</b>	707.6	Standard Deviation 0.4%
<b>PyPerformance - nbody (Milliseconds)</b>	100.7	Standard Deviation 2%
<b>PyPerformance - json_loads (Milliseconds)</b>	18.1	Standard Deviation 0.6%

**PyPerformance - django\_template (Milliseconds)** 32.1  
Standard Deviation 0.5%

**PyPerformance - pickle\_pure\_python (Milliseconds)** 309  
Standard Deviation 0.2%

**PyPerformance - chaos (Milliseconds)** 79.4  
Standard Deviation 0.8%

**Timed ImageMagick Compilation - Time To Compile (sec)** 27.965  
Standard Deviation 0.7%

**PyPerformance - crypto\_pyaes (Milliseconds)** 79.7  
Standard Deviation 0.4%

**PyPerformance - float (Milliseconds)** 75.0  
Standard Deviation 0.4%

**PyPerformance - regex\_compile (Milliseconds)** 126  
Standard Deviation 0.9%

**Timed Apache Compilation - Time To Compile (sec)** 21.335  
Standard Deviation 0.6%

**PyBench - T.F.A.T.T (Milliseconds)** 776  
Standard Deviation 1.5%

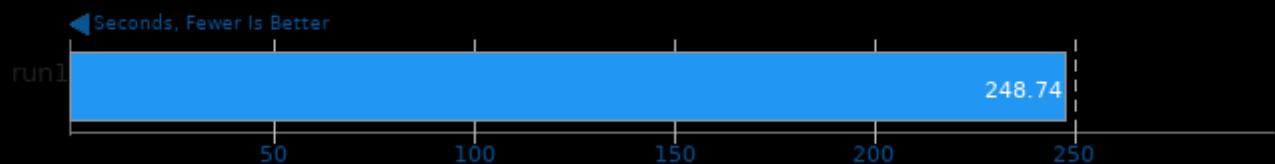
**Algebraic Multi-Grid Benchmark (Figure Of Merit)** 254272900  
Standard Deviation 0.2%

**Timed CPython Compilation - Default (sec)** 19.55

**C-Blosc - blosclz shuffle (MB/s)** 27016  
Standard Deviation 0.6%

## Timed CPython Compilation 3.10.6

Build Configuration: Released Build, PGO + LTO Optimized



## Timed GDB GNU Debugger Compilation 10.2

Time To Compile



## Timed Eigen Compilation 3.3.9

Time To Compile



## simdjson 2.0

Throughput Test: PartialTweets



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

## simdjson 2.0

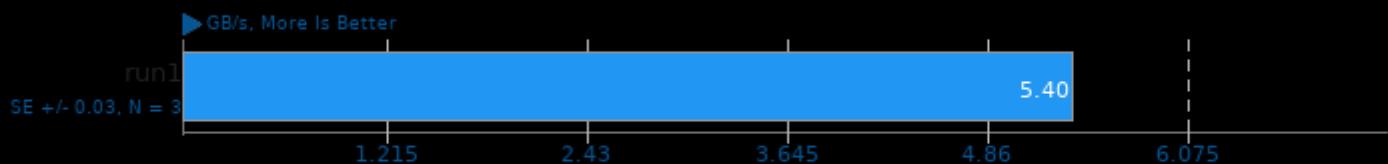
Throughput Test: DistinctUserID



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

## simdjson 2.0

Throughput Test: TopTweet



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

## Timed PHP Compilation 8.1.9

Time To Compile



## Node.js V8 Web Tooling Benchmark



## PyPerformance 1.0.0

Benchmark: raytrace



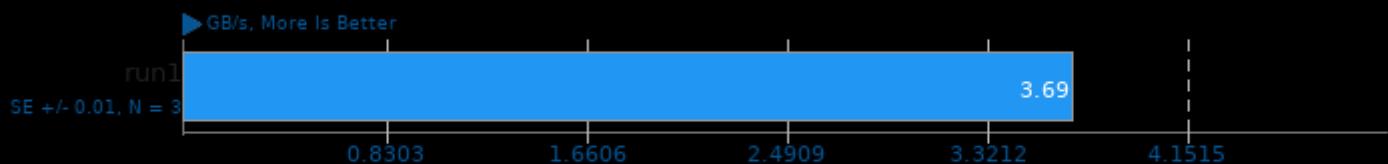
## PyPerformance 1.0.0

Benchmark: python\_startup



## simdjson 2.0

Throughput Test: Kostya



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

## Timed Mesa Compilation 21.0

Time To Compile



## simdjson 2.0

Throughput Test: LargeRandom



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

## ACES DGEMM 1.0

Sustained Floating-Point Rate



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

## Zstd Compression 1.5.0

Compression Level: 19, Long Mode - Decompression Speed



1. (CC) gcc options: -O3 -pthread -lz -lzma -lz4

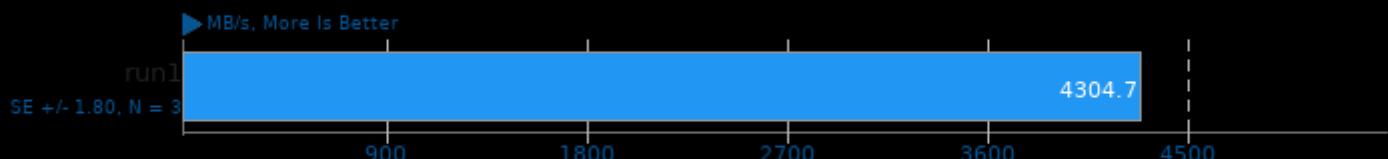
## Zstd Compression 1.5.0

Compression Level: 19, Long Mode - Compression Speed



## Zstd Compression 1.5.0

Compression Level: 19 - Decompression Speed



## Zstd Compression 1.5.0

Compression Level: 19 - Compression Speed



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

## PyPerformance 1.0.0

Benchmark: 2to3



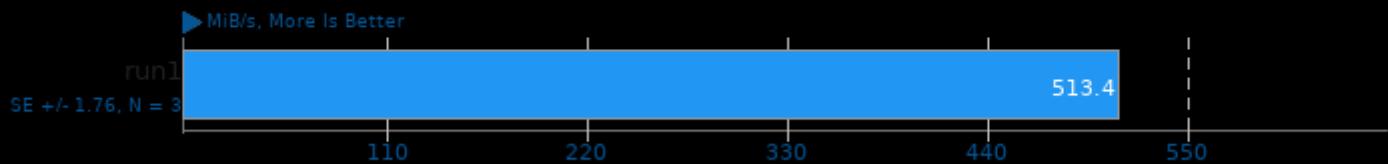
## Timed MPlayer Compilation 1.5

Time To Compile



## Cryptsetup

Twofish-XTS 512b Decryption



## Cryptsetup

Twofish-XTS 512b Encryption



## Cryptsetup

Serpent-XTS 512b Decryption



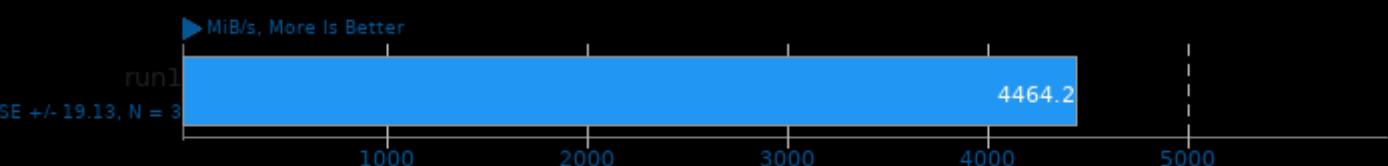
## Cryptsetup

Serpent-XTS 512b Encryption



## Cryptsetup

AES-XTS 512b Decryption



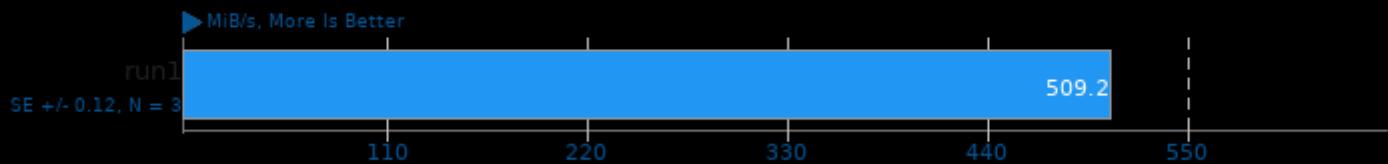
## Cryptsetup

AES-XTS 512b Encryption



## Cryptsetup

Twofish-XTS 256b Decryption



## Cryptsetup

Twofish-XTS 256b Encryption



## Cryptsetup

Serpent-XTS 256b Decryption



## Cryptsetup

Serpent-XTS 256b Encryption



## Cryptsetup

AES-XTS 256b Decryption



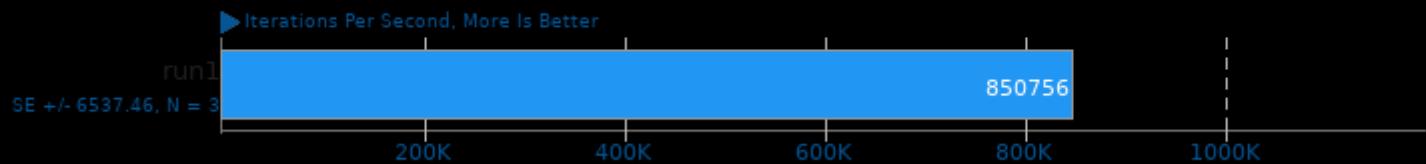
## Cryptsetup

AES-XTS 256b Encryption



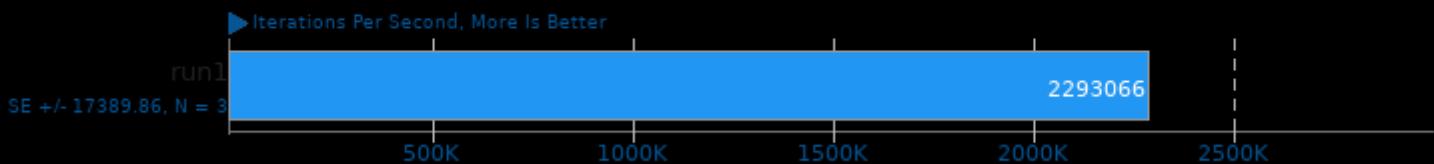
## Cryptsetup

PBKDF2-whirlpool



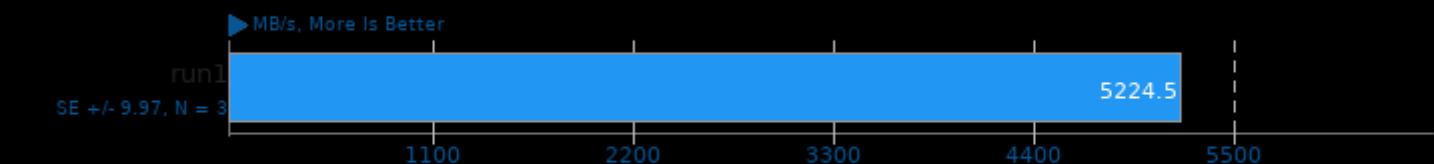
## Cryptsetup

PBKDF2-sha512



## Zstd Compression 1.5.0

Compression Level: 8, Long Mode - Decompression Speed



1. (CC) gcc options: -O3 -pthread -Iz -Izma -Ilz4

## Zstd Compression 1.5.0

Compression Level: 8, Long Mode - Compression Speed



1. (CC) gcc options: -O3 -pthread -Iz -Izma -Ilz4

## PyPerformance 1.0.0

Benchmark: go



## C-Blosc 2.3

Test: blosclz bitshuffle



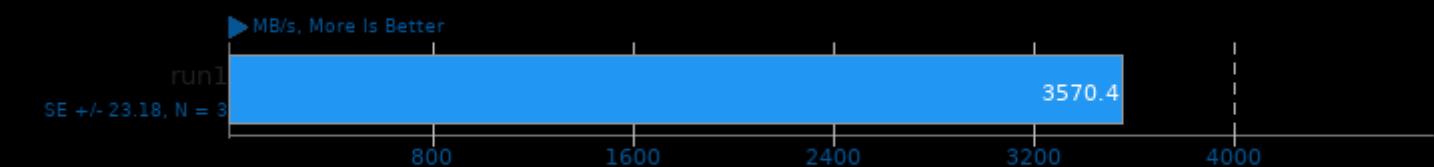
## Zstd Compression 1.5.0

Compression Level: 3 - Decompression Speed



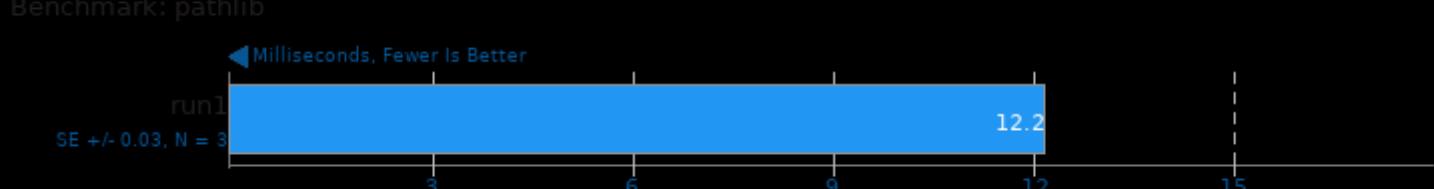
## Zstd Compression 1.5.0

Compression Level: 3 - Compression Speed



## PyPerformance 1.0.0

Benchmark: pathlib



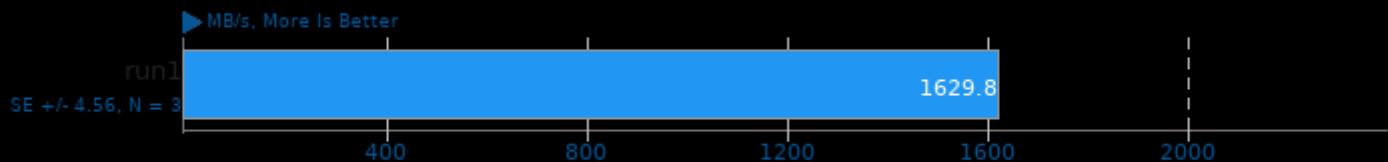
## Zstd Compression 1.5.0

Compression Level: 3, Long Mode - Decompression Speed



## Zstd Compression 1.5.0

Compression Level: 3, Long Mode - Compression Speed



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

## Zstd Compression 1.5.0

Compression Level: 8 - Decompression Speed



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

## Zstd Compression 1.5.0

Compression Level: 8 - Compression Speed



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

## PyPerformance 1.0.0

Benchmark: nbody



## PyPerformance 1.0.0

Benchmark: json.loads



## PyPerformance 1.0.0

Benchmark: django\_template



## PyPerformance 1.0.0

Benchmark: pickle\_pure\_python



## PyPerformance 1.0.0

Benchmark: chaos



## Timed ImageMagick Compilation 6.9.0

Time To Compile



## PyPerformance 1.0.0

Benchmark: crypto\_pyaes



## PyPerformance 1.0.0

Benchmark: float



## PyPerformance 1.0.0

Benchmark: regex\_compile



## Timed Apache Compilation 2.4.41

Time To Compile

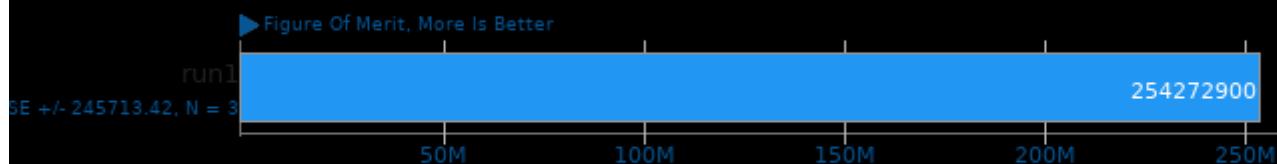


## PyBench 2018-02-16

Total For Average Test Times



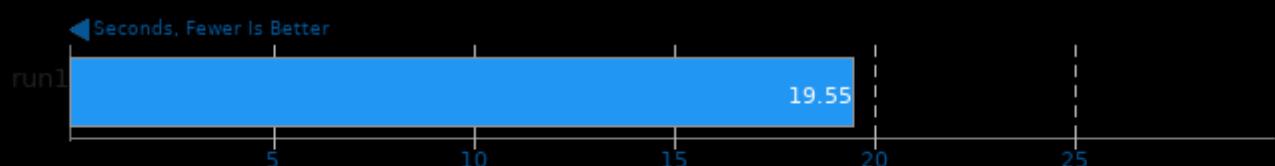
## Algebraic Multi-Grid Benchmark 1.2



1. (CC) gcc options: -lparcsr\_ls -lparcsr\_mv -lseq\_mv -lIJ\_mv -lkrylov -lHYPRE\_utilities -lm -fopenmp -lmpi

## Timed CPython Compilation 3.10.6

Build Configuration: Default



**C-Blosc 2.3**

Test: blosclz shuffle



1. (CC) gcc options: -std=gnu99 -O3 -frt -lm

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