

www.phoronix-test-suite.com

cpu 3800

AMD Ryzen 9 3900X 12-Core testing with a ASUS TUF GAMING X570-PLUS (WI-FI) (1407 BIOS) and AMD Radeon RX 56/64 8GB on Arch rolling via the Phoronix Test Suite.

Automated Executive Summary

AMD Ryzen 9 3900X 12-Core had the most wins, coming in first place for 87% of the tests.

Based on the geometric mean of all complete results, the fastest (AMD Ryzen 9 3900X 12-Core) was 1.012x the speed of the slowest (cpu3600).

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

Timed Mesa Compilation (Time To Compile) at 1.041x
Timed MPlayer Compilation (Time To Compile) at 1.034x
Build2 (Time To Compile) at 1.026x
Timed Clash Compilation (Time To Compile) at 1.022x
Timed LLVM Compilation (Build System: Unix Makefiles) at 1.022x
Timed PHP Compilation (Time To Compile) at 1.016x
Timed FFmpeg Compilation (Time To Compile) at 1.016x
Timed ImageMagick Compilation (Time To Compile) at 1.015x
Timed GDB GNU Debugger Compilation (Time To Compile) at 1.01x

Timed LLVM Compilation (Build System: Ninja) at 1.009x.

Test Systems:

AMD Ryzen 9 3900X 12-Core

cpu3600

Processor: AMD Ryzen 9 3900X 12-Core @ 3.80GHz (12 Cores / 24 Threads), Motherboard: ASUS TUF GAMING X570-PLUS (WI-FI) (1407 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 1024GB INTEL SSDPEKNW010T8 + 3001GB TOSHIBA DT01ACA3 + 240GB INTEL SSDSC2CW24 + 6001GB Seagate ST6000DM001-1XY1 + 2000GB Seagate ST2000DL003-9VT1 + 500GB Western Digital WDS500G2B0A + 8002GB Seagate ST8000DM004-2CX1, Graphics: AMD Radeon RX 56/64 8GB (1630/945MHz), Audio: AMD Vega 10 HDMI Audio, Monitor: DUAL-DVI, Network: Realtek RTL8111/8168/8411 + Intel-AC 9260

OS: Arch rolling, Kernel: 5.17.9-arch1-1 (x86_64), Display Server: X Server 1.21.1.3, OpenGL: 4.6 Mesa 22.0.4 (LLVM 13.0.1 DRM 3.44), OpenCL: OpenCL 2.0 AMD-APP (3261.0) + OpenCL 1.1 Mesa 22.0.4, Compiler: GCC 12.1.0 + Clang 13.0.1 + LLVM 13.0.1, File-System: ext4, Screen Resolution: 2560x1440

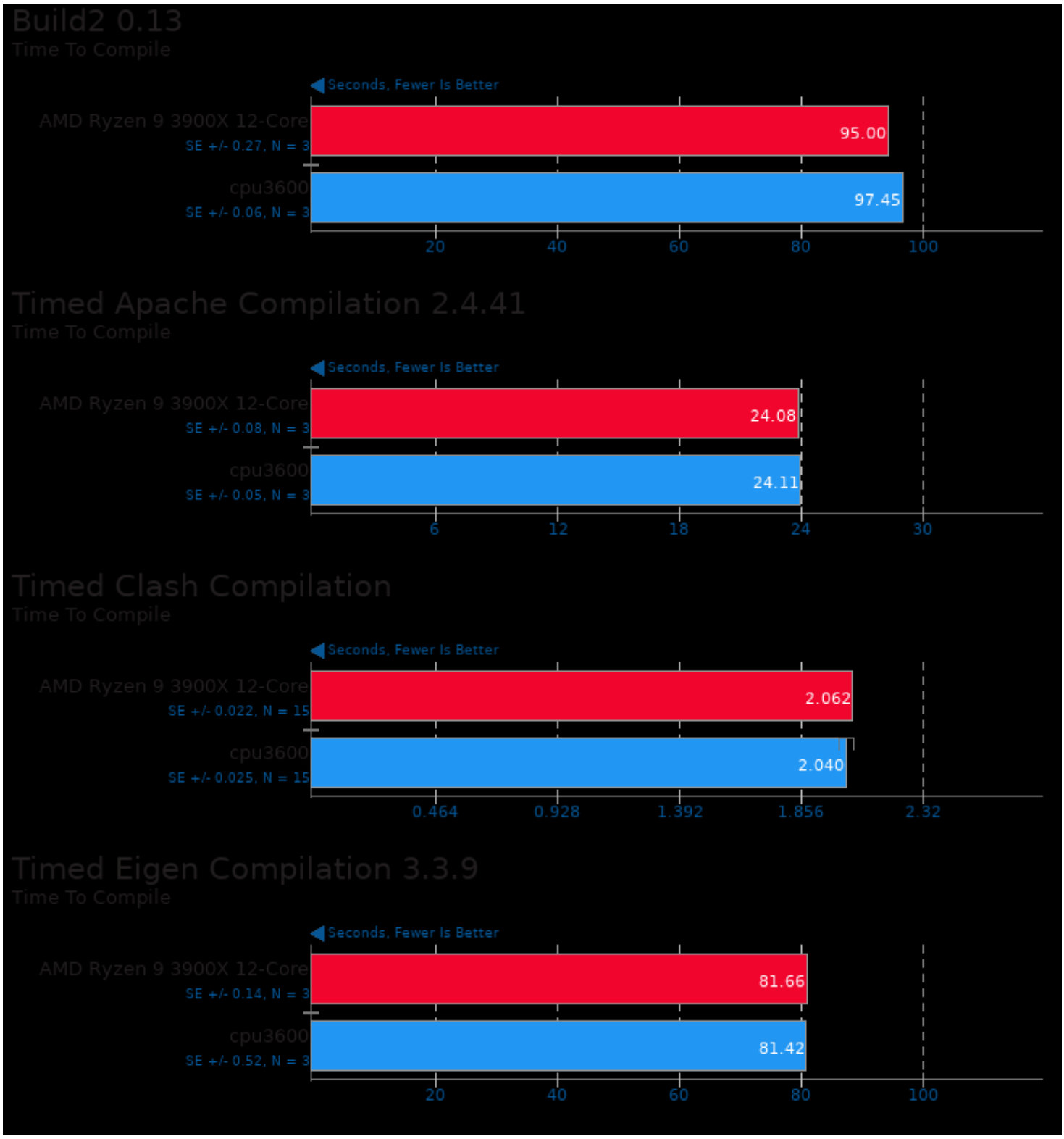
Kernel Notes: amdgpu.ppfeaturemask=0xffffffff - Transparent Huge Pages: madvise
Environment Notes: NVM_CD_FLAGS=-q
Compiler Notes: --disable-libssp --disable-libstdcxx-pch --disable-werror --enable-__cxa_atexit --enable-bootstrap --enable-cet=auto --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-default-ssp --enable-gnu-indirect-function --enable-gnu-unique-object --enable-languages=c,c++,ada,fortran,go,lto,objc,obj-c++ --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 schedutil (Boost: Enabled) - CPU Microcode: 0x8701013
Python Notes: Python 3.10.4
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: 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 STIBP: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	AMD Ryzen 9 3900X 12-Core	cpu3600
Build2 - Time To Compile (sec)	**95.158**	**97.445**
Normalized	99.83%	97.49%
Standard Deviation	0.1%	0.1%
Timed Apache Compilation - Time To Compile (sec)	**23.887**	**24.107**
Normalized	100%	99.09%
Standard Deviation	0.3%	0.4%
Timed Clash Compilation - Time To Compile (sec)	**2.017**	2.040
Normalized	100%	98.87%
Standard Deviation	0.3%	4.8%
Timed Eigen Compilation - Time To Compile (sec)	**81.110**	81.417
Normalized	100%	99.62%
Standard Deviation	0.4%	1.1%
Timed Erlang/OTP Compilation - Time To Compile (sec)	**133.877**	**133.281**

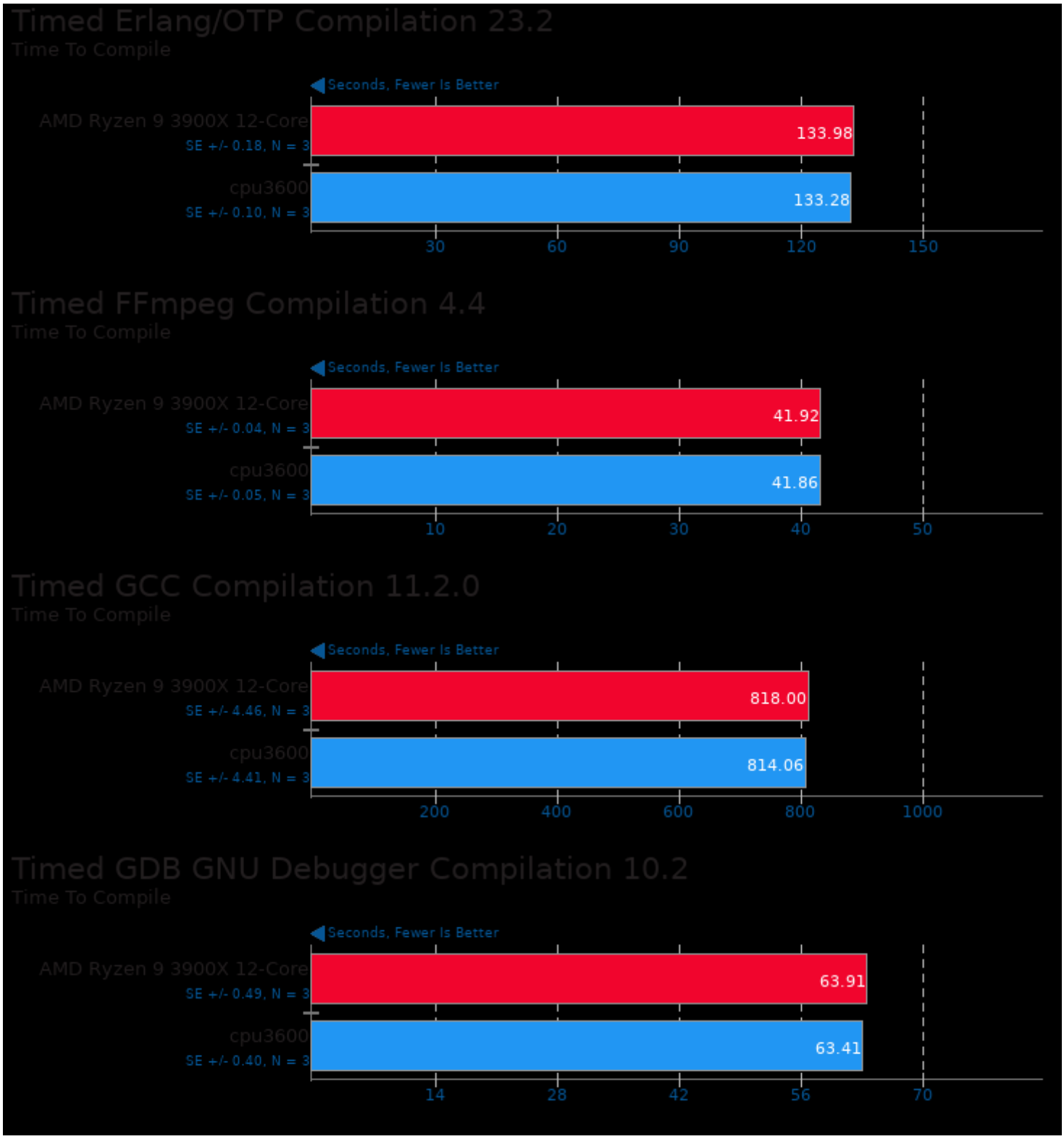
cpu 3800

Normalized	99.55%	100%
Standard Deviation	0.1%	0.1%
Timed FFmpeg Compilation - Time To Compile (sec)	**41.281**	41.855
Normalized	100%	98.63%
Standard Deviation	0.2%	0.2%
Timed GCC Compilation - Time To Compile (sec)	**814.701**	**814.056**
Normalized	99.92%	100%
Standard Deviation	1.1%	0.9%
Timed GDB GNU Debugger Compilation - Time To Compile (sec)	**63.276**	63.414
Normalized	100%	99.78%
Standard Deviation	0.3%	1.1%
Timed Godot Game Engine Compilation - Time To Compile (sec)	**96.598**	96.671
Normalized	100%	99.92%
Standard Deviation	0.4%	0.4%
Timed ImageMagick Compilation - Time To Compile	**23.937**	**24.213**
Normalized	99.63%	98.49%
Standard Deviation	0.4%	1.4%
Timed LLVM Compilation - Ninja (sec)	**472.882**	**477.307**
Normalized	100%	99.07%
Standard Deviation	0.1%	0.3%
Timed LLVM Compilation - Unix Makefiles (sec)	**509.545**	**520.650**
Normalized	100%	97.87%
Standard Deviation	1.4%	1.8%
Timed Mesa Compilation - Time To Compile (sec)	**41.655**	**43.187**
Normalized	99.6%	96.07%
Standard Deviation	0.2%	0.9%
Timed MPlayer Compilation - Time To Compile (sec)	**28.906**	**29.723**
Normalized	99.48%	96.75%
Standard Deviation	0.5%	0.2%
Timed PHP Compilation - Time To Compile (sec)	**54.322**	**55.148**
Normalized	99.94%	98.44%
Standard Deviation	0.5%	0.5%
Timed Wasmer Compilation - Time To Compile (sec)	**56.732**	**57.193**
Normalized	100%	99.19%
Standard Deviation	0.4%	2.2%

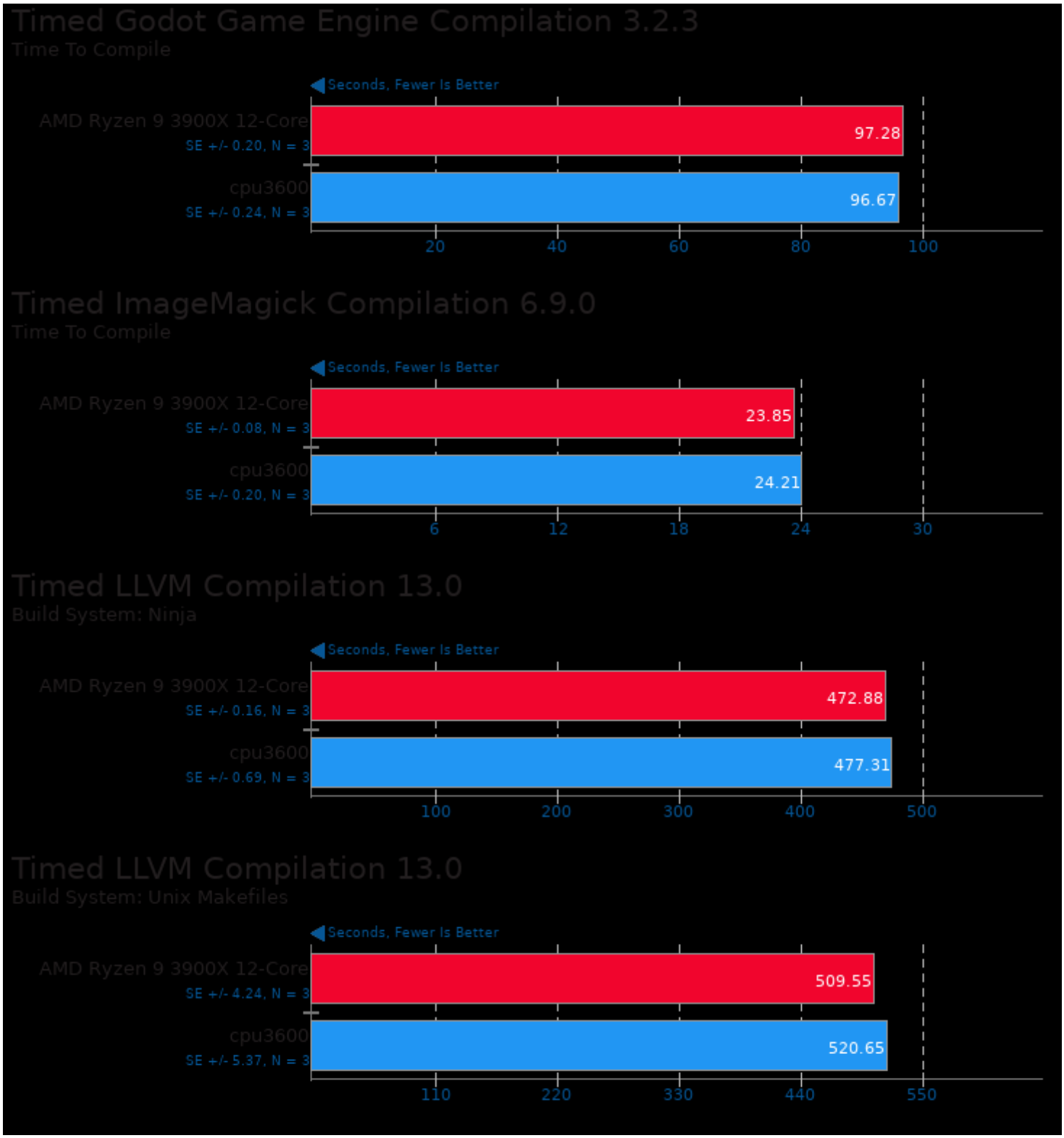
cpu 3800


Build2 0.13
Time To Compile
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 0.27, N = 3
95.00
cpu3600
SE +/- 0.06, N = 3
97.45
20
40
60
80
100
Timed Apache Compilation 2.4.41
Time To Compile
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 0.08, N = 3
24.08
cpu3600
SE +/- 0.05, N = 3
24.11
6
12
18
24
30
Timed Clash Compilation
Time To Compile
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 0.022, N = 15
2.062
cpu3600
SE +/- 0.025, N = 15
2.040
0.464
0.928
1.392
1.856
2.32
Timed Eigen Compilation 3.3.9
Time To Compile
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 0.14, N = 3
81.66
cpu3600
SE +/- 0.52, N = 3
81.42
20
40
60
80
100

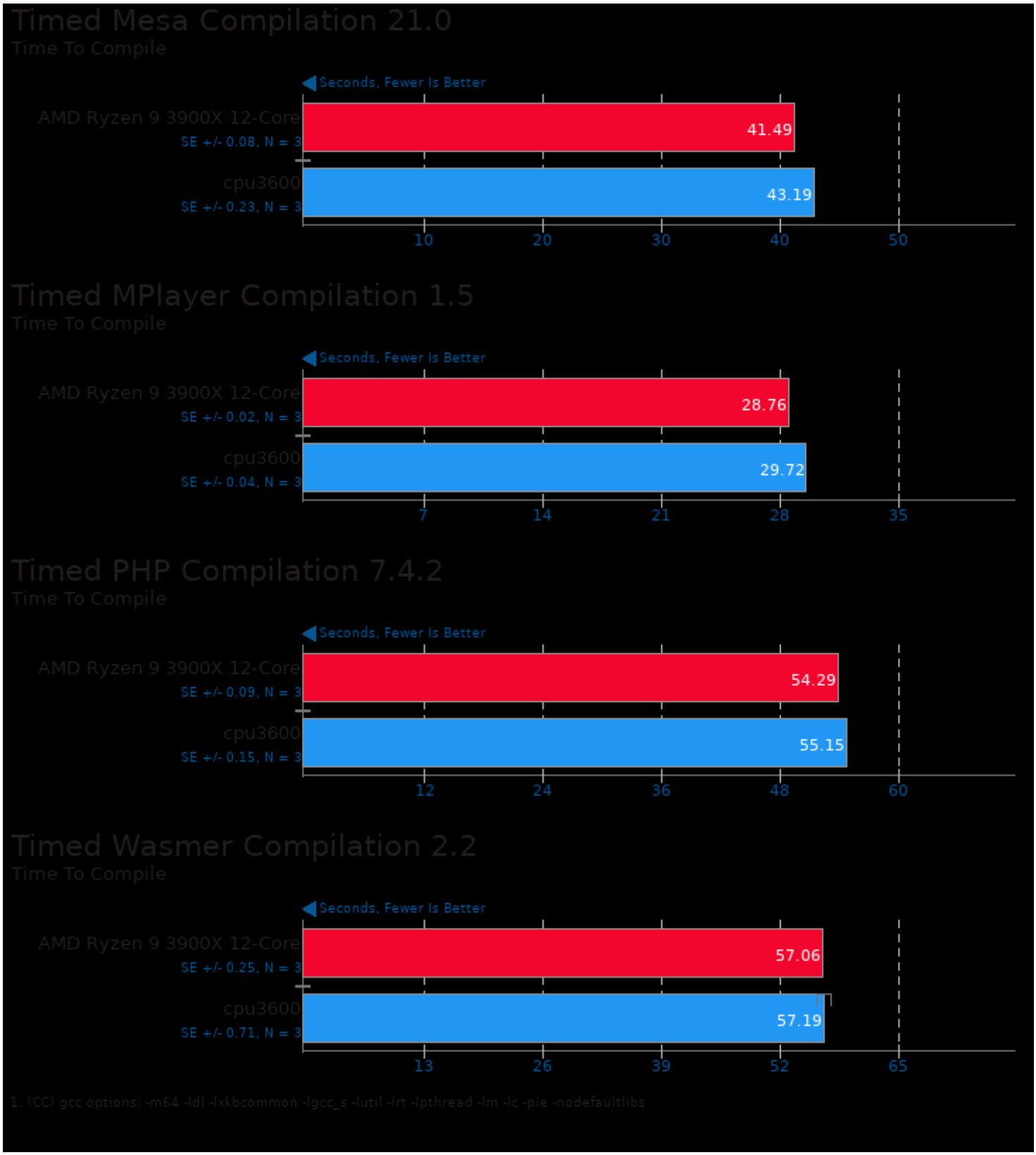
cpu 3800


Timed Erlang/OTP Compilation 23.2
Time To Compile
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 0.18, N = 3
133.98
cpu3600
SE +/- 0.10, N = 3
133.28
30
60
90
120
150
Timed FFmpeg Compilation 4.4
Time To Compile
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 0.04, N = 3
41.92
cpu3600
SE +/- 0.05, N = 3
41.86
10
20
30
40
50
Timed GCC Compilation 11.2.0
Time To Compile
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 4.46, N = 3
818.00
cpu3600
SE +/- 4.41, N = 3
814.06
200
400
600
800
1000
Timed GDB GNU Debugger Compilation 10.2
Time To Compile
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 0.49, N = 3
63.91
cpu3600
SE +/- 0.40, N = 3
63.41
14
28
42
56
70

cpu 3800

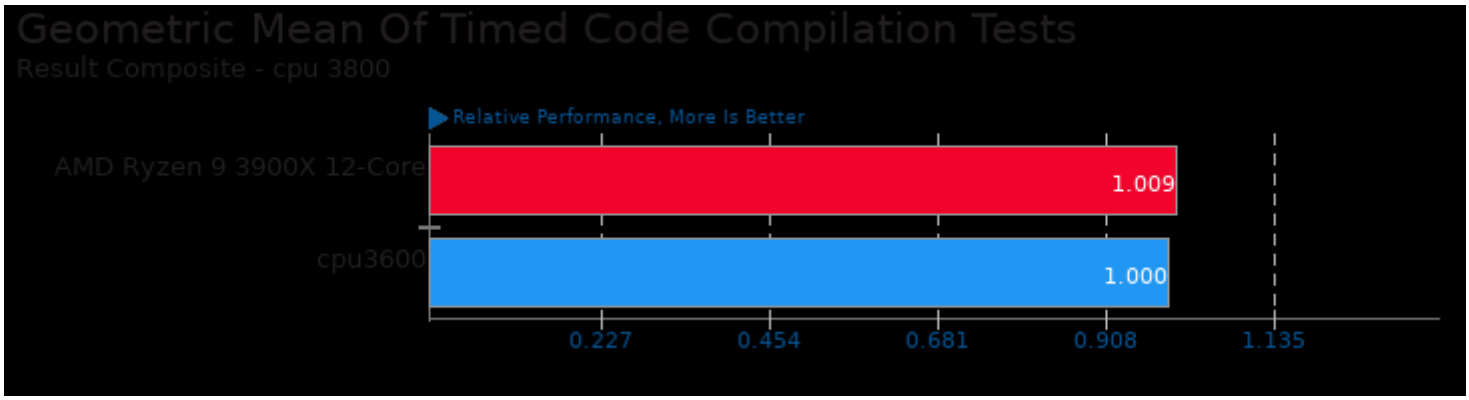

Timed Godot Game Engine Compilation 3.2.3
Time To Compile
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 0.20, N = 3
97.28
cpu3600
SE +/- 0.24, N = 3
96.67
20
40
60
80
100
Timed ImageMagick Compilation 6.9.0
Time To Compile
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 0.08, N = 3
23.85
cpu3600
SE +/- 0.20, N = 3
24.21
6
12
18
24
30
Timed LLVM Compilation 13.0
Build System: Ninja
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 0.16, N = 3
472.88
cpu3600
SE +/- 0.69, N = 3
477.31
100
200
300
400
500
Timed LLVM Compilation 13.0
Build System: Unix Makefiles
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 4.24, N = 3
509.55
cpu3600
SE +/- 5.37, N = 3
520.65
110
220
330
440
550

cpu 3800

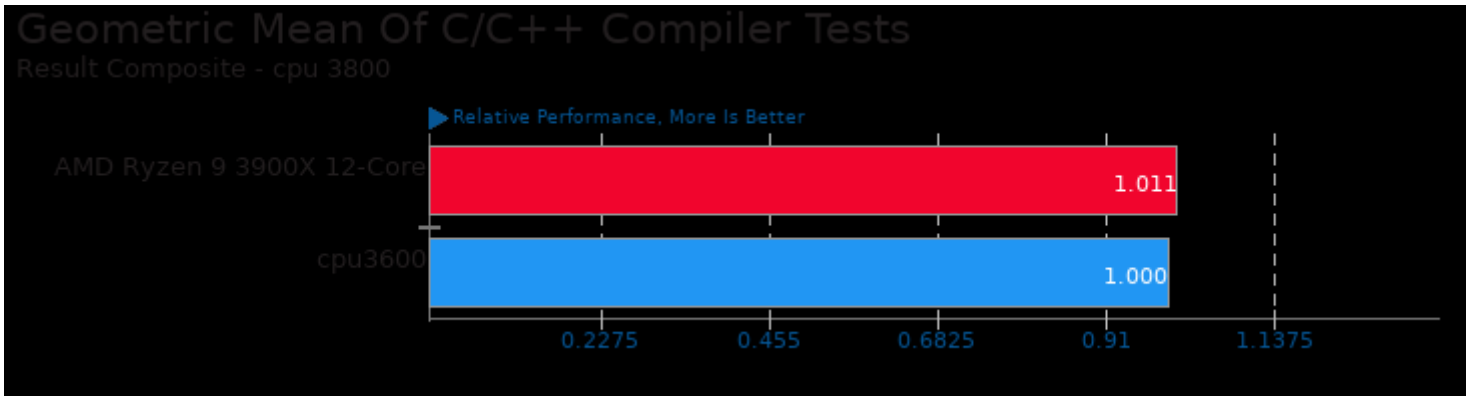

Timed Mesa Compilation 21.0
Time To Compile
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 0.08, N = 3
41.49
cpu3600
SE +/- 0.23, N = 3
43.19
10
20
30
40
50
Timed MPlayer Compilation 1.5
Time To Compile
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 0.02, N = 3
28.76
cpu3600
SE +/- 0.04, N = 3
29.72
7
14
21
28
35
Timed PHP Compilation 7.4.2
Time To Compile
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 0.09, N = 3
54.29
cpu3600
SE +/- 0.15, N = 3
55.15
12
24
36
48
60
Timed Wasmer Compilation 2.2
Time To Compile
Seconds, Fewer Is Better
AMD Ryzen 9 3900X 12-Core
SE +/- 0.25, N = 3
57.06
cpu3600
SE +/- 0.71, N = 3
57.19
13
26
39
52
65
1. (CC) gcc options: -m64 -ldl -lxkbcommon -lgcc_s -lutil -lrt -lpthread -lm -lc -pie -nodefaultlibs

cpu 3800

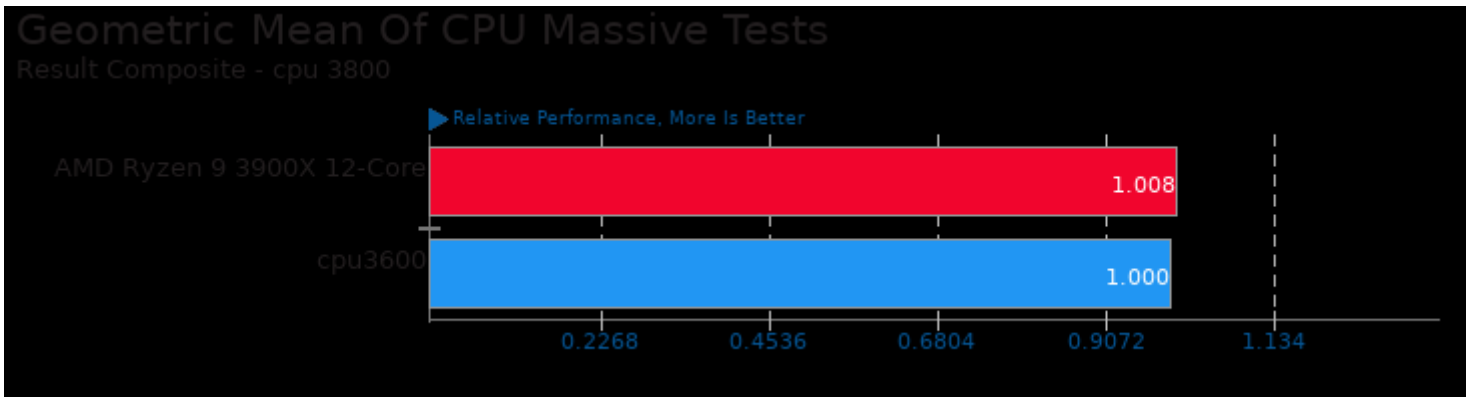
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/build-apache, pts/build-php, pts/build-eigen, pts/build-linux-kernel, pts/build-imagemagick, pts/build-gcc, pts/build-gdb, pts/build-llvm, pts/build-ffmpeg, pts/build-mplayer, pts/build2, pts/build-godot, pts/build-erlang, pts/build-wasmer, pts/build-nodejs, pts/build-mesa and pts/build-gem5

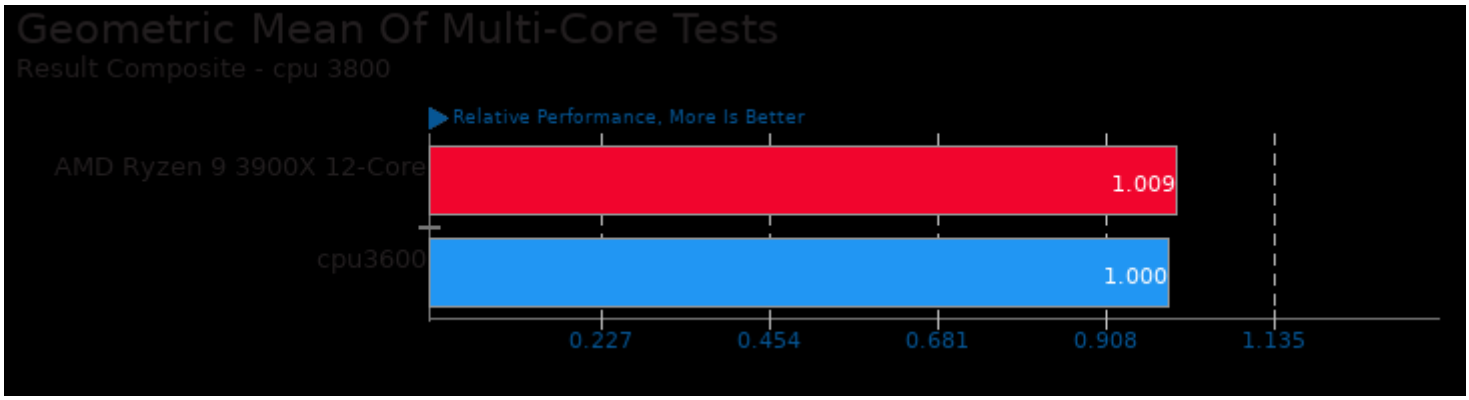


Geometric mean based upon tests: pts/build-php, pts/build-imagemagick, pts/build-llvm, pts/build-gdb, pts/build-ffmpeg, pts/build-apache and pts/build-mplayer

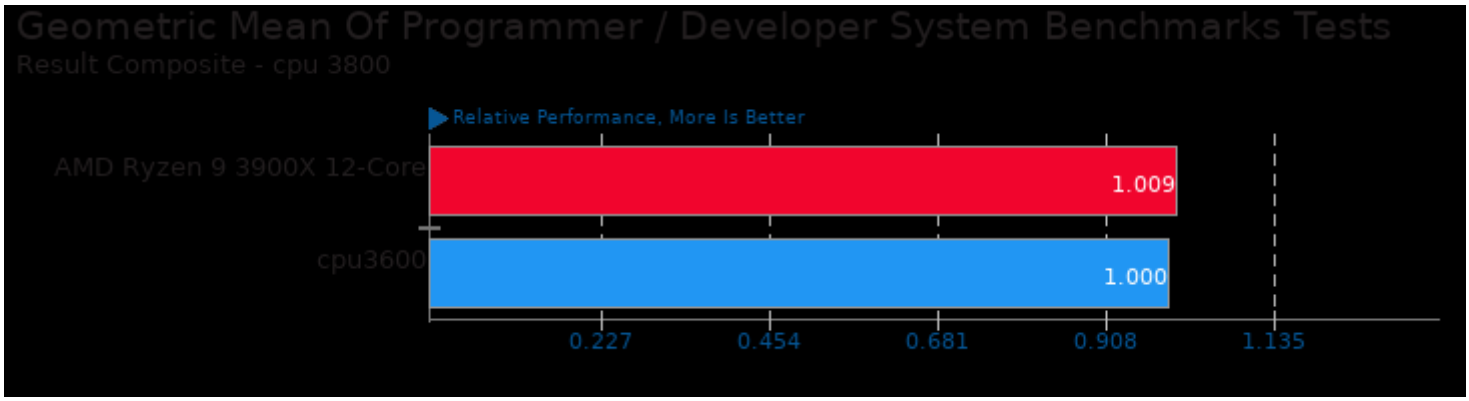


Geometric mean based upon tests: pts/build-apache, pts/build-gcc, pts/build-llvm, pts/build-linux-kernel and pts/build-php

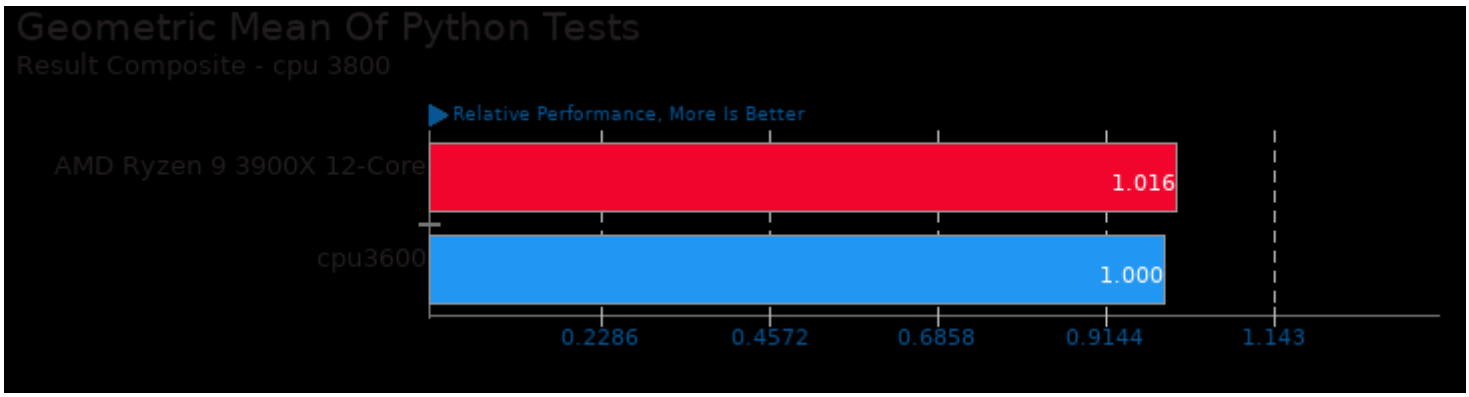
cpu 3800



Geometric mean based upon tests: pts/build-apache, pts/build-php, pts/build-eigen, pts/build-linux-kernel, pts/build-imagemagick, pts/build-gcc, pts/build-gdb, pts/build-llvm, pts/build-ffmpeg, pts/build-mplayer, pts/build2, pts/build-godot, pts/build-erlang, pts/build-wasmer, pts/build-nodejs, pts/build-mesa and pts/build-gem5

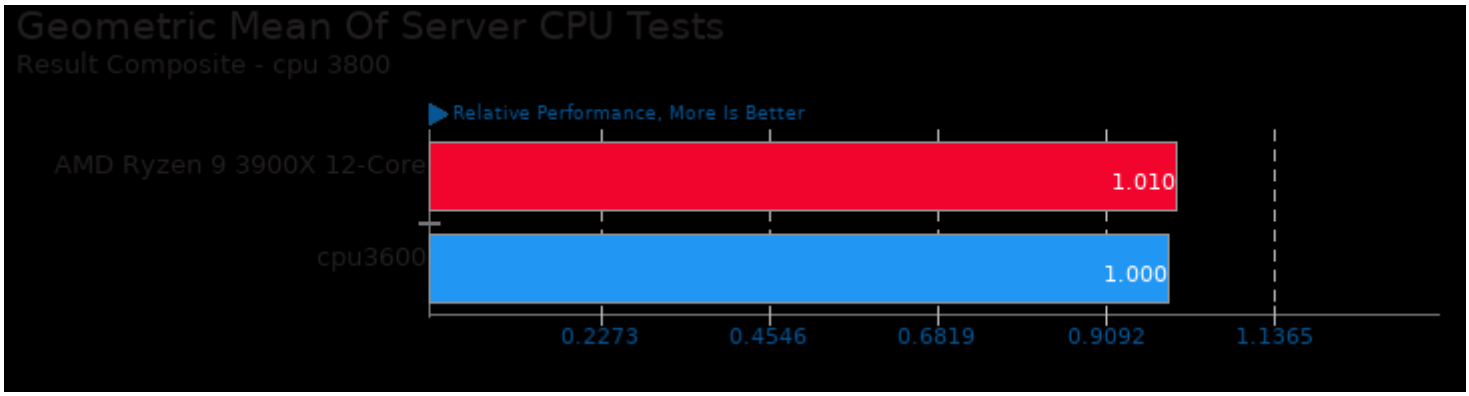


Geometric mean based upon tests: pts/build-apache, pts/build-php, pts/build-eigen, pts/build-linux-kernel, pts/build-imagemagick, pts/build-gcc, pts/build-gdb, pts/build-llvm, pts/build-ffmpeg, pts/build-mplayer, pts/build2, pts/build-godot, pts/build-erlang, pts/build-wasmer, pts/build-nodejs, pts/build-mesa and pts/build-gem5



Geometric mean based upon tests: pts/build-gem5, pts/build-godot, pts/build-llvm, pts/build-mesa and pts/build-nodejs

cpu 3800



Geometric mean based upon tests: pts/build-gcc, pts/build-linux-kernel, pts/build-php and pts/build-llvm

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 05:44.