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5950X May

AMD Ryzen 9 5950X 16-Core testing with a ASUS ROG CROSSHAIR VIII HERO (WI-FI) (4006 BIOS) and AMD Radeon RX 6800 16GB on Ubuntu 22.04 via the Phoronix Test Suite.

Automated Executive Summary

B had the most wins, coming in first place for 44% of the tests.

Based on the geometric mean of all complete results, the fastest (B) was 1.025x the speed of the slowest (C). A was 0.997x the speed of B and C was 0.979x the speed of A.

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

WebP2 Image Encode (Encode Settings: Default) at 2.462x
Stress-NG (Test: Forking) at 1.296x
Stress-NG (Test: Futex) at 1.116x
Stress-NG (Test: CPU Cache) at 1.055x
Stress-NG (Test: Socket Activity) at 1.047x
WebP2 Image Encode (Encode Settings: Quality 75, Compression Effort 7) at 1.042x
Stress-NG (Test: Context Switching) at 1.042x
Stress-NG (Test: NUMA) at 1.031x
Stress-NG (Test: Glibc C String Functions) at 1.03x

WebP2 Image Encode (Encode Settings: Quality 95, Compression Effort 7) at 1.02x.

Test Systems:

A

B

C

Processor: AMD Ryzen 9 5950X 16-Core @ 3.40GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (4006 BIOS), Chipset: AMD Starship/Matisse, Memory: 32GB, Disk: 1000GB Sabrent Rocket 4.0 Plus, Graphics: AMD Radeon RX 6800 16GB (2475/1000MHz), Audio: AMD Navi 21 HDMI Audio, Monitor: ASUS MG28U, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 22.04, Kernel: 5.17.0-phx (x86_64), Desktop: GNOME Shell 42.0, Display Server: X Server + Wayland, OpenGL: 4.6 Mesa 22.0.1 (LLVM 13.0.1 DRM 3.44), Vulkan: 1.2.204, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: Transparent Huge Pages: madvise
Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --enable-cet --enable-checking=release --enable-clocale=gnu --enable-default-pie --enable-gnu-unique-object --enable-languages=c,ada,c++,go,brig,d,fortran,objc,obj-c++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-link-serialization=2 --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-11-gBFGDP/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-gBFGDP/gcc-11-11.2.0/debian/tmp-gcn/usr --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-build-config=bootstrap-lto-lean --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
Processor Notes: Scaling Governor: acpi-cpufreq schedutil (Boost: Enabled) - CPU Microcode: 0xa201016
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 IBRS_FW STIBP: always-on RSB filling + srbds: Not affected + tsx_async_abort: Not affected

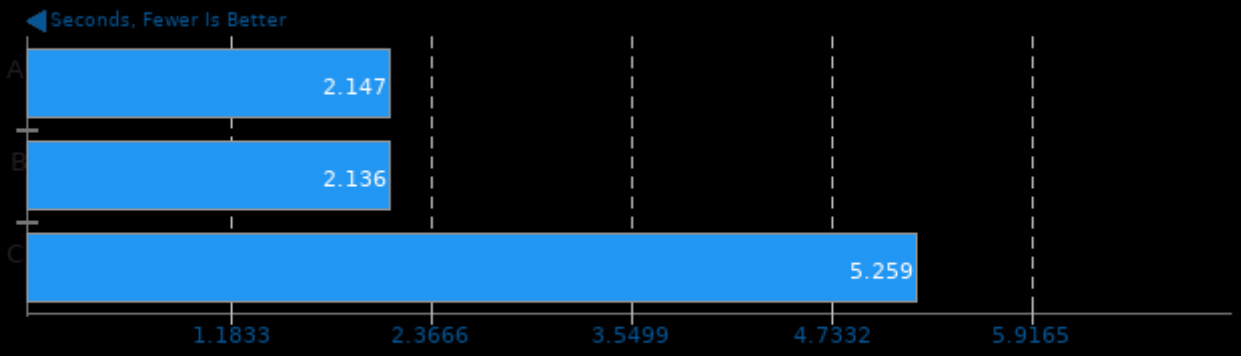
	A	B	C
WebP2 Image Encode - Default (sec)	2.147	**2.136**	**5.259**
Normalized	99.49%	100%	40.62%
Stress-NG - Forking (Bogo Ops/s)	**57422**	72092	**74425**
Normalized	77.15%	96.87%	100%
Stress-NG - Futex (Bogo Ops/s)	3415882	**3173613**	**3542041**
Normalized	96.44%	89.6%	100%
Stress-NG - CPU Cache (Bogo Ops/s)	124.16	**120.99**	**127.66**
Normalized	97.26%	94.78%	100%
Stress-NG - Socket Activity (Bogo Ops/s)	**14704**	**14048**	14515
Normalized	100%	95.54%	98.71%
WebP2 Image Encode - Q.7.C.E.7 (sec)	109.274	**108.556**	**113.09**
Normalized	99.34%	100%	95.99%
Stress-NG - Context Switching (Bogo Ops/s)	3373697	**3324388**	**3462521**

5950X May

Normalized	97.43%	96.01%	100%
Stress-NG - NUMA (Bogo Ops/s)	49.8	48.3	49.47
Normalized	100%	96.99%	99.34%
Stress-NG - G.C.S.F (Bogo Ops/s)	2559062	2595575	2635465
Normalized	97.1%	98.49%	100%
WebP2 Image Encode - Q.9.C.E.7 (sec)	235.283	230.73	233.613
Normalized	98.06%	100%	98.77%
WebP2 Image Encode - Q.1.L.C (sec)	526.943	525.029	534.802
Normalized	99.64%	100%	98.17%
Stress-NG - CPU Stress (Bogo Ops/s)	42666	43071	42354
Normalized	99.06%	100%	98.33%
WebP2 Image Encode - Q.1.C.E.5 (sec)	3.214	3.252	3.233
Normalized	100%	98.83%	99.41%
Stress-NG - Memory Copying (Bogo Ops/s)	2984	2981	2961
Normalized	100%	99.91%	99.25%
Stress-NG - G.Q.D.S (Bogo Ops/s)	240.67	242.37	240.93
Normalized	99.3%	100%	99.41%
Stress-NG - IO_uring (Bogo Ops/s)	25170	25101	25008
Normalized	100%	99.72%	99.35%
Stress-NG - Malloc (Bogo Ops/s)	34585714	34433231	34397000
Normalized	100%	99.56%	99.45%
Stress-NG - MMAP (Bogo Ops/s)	481.89	481.32	479.33
Normalized	100%	99.88%	99.47%
Stress-NG - Matrix Math (Bogo Ops/s)	75103	74819	74724
Normalized	100%	99.62%	99.5%
Blender - Classroom - CPU-Only (sec)	1645	1643	1647
Normalized	99.86%	100%	99.76%
Blender - Fishy Cat - CPU-Only (sec)	1721	1718	1721
Normalized	99.85%	100%	99.81%
Stress-NG - MEMFD (Bogo Ops/s)	1400	1399	1401
Normalized	99.89%	99.85%	100%
Stress-NG - Semaphores (Bogo Ops/s)	3424120	3419268	3422256
Normalized	100%	99.86%	99.95%
Stress-NG - Crypto (Bogo Ops/s)	31008	31040	30997
Normalized	99.9%	100%	99.86%
Stress-NG - SENDFILE (Bogo Ops/s)	381958	381572	381521
Normalized	100%	99.9%	99.89%
Stress-NG - Vector Math (Bogo Ops/s)	126377	126439	126310
Normalized	99.95%	100%	99.9%
Stress-NG - S.V.M.P (Bogo Ops/s)	12182449	12194409	12187969
Normalized	99.9%	100%	99.95%
Blender - BMW27 - CPU-Only (sec)	1339	1338	1339
Normalized	99.95%	100%	99.91%
Stress-NG - Atomic (Bogo Ops/s)	182968	183104	183001
Normalized	99.93%	100%	99.94%

WebP2 Image Encode 20220422

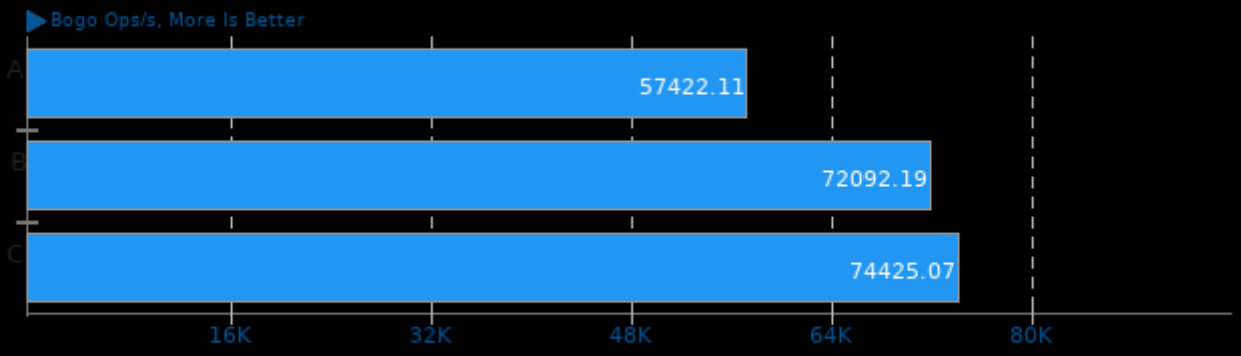
Encode Settings: Default



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl

Stress-NG 0.14

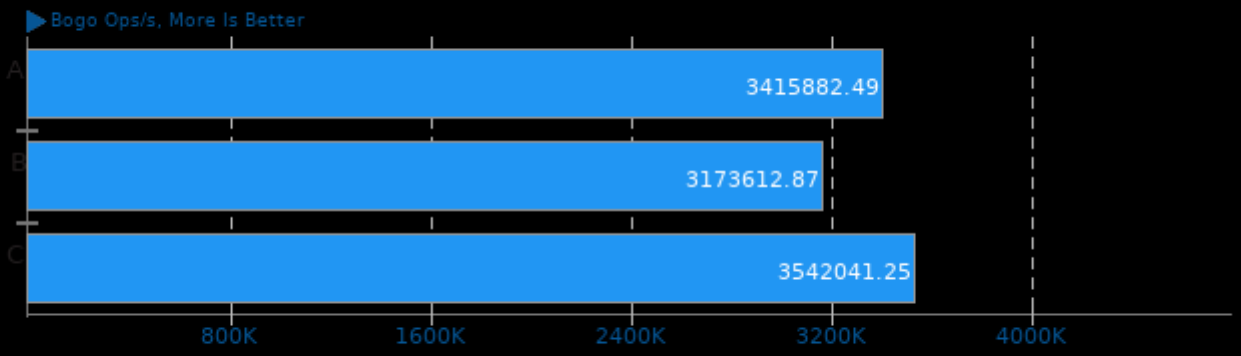
Test: Forking



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

Stress-NG 0.14

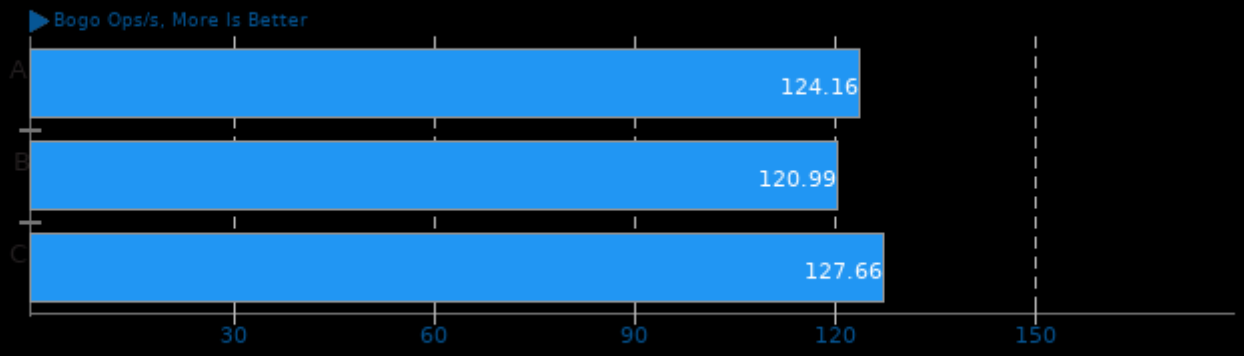
Test: Futex



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

Stress-NG 0.14

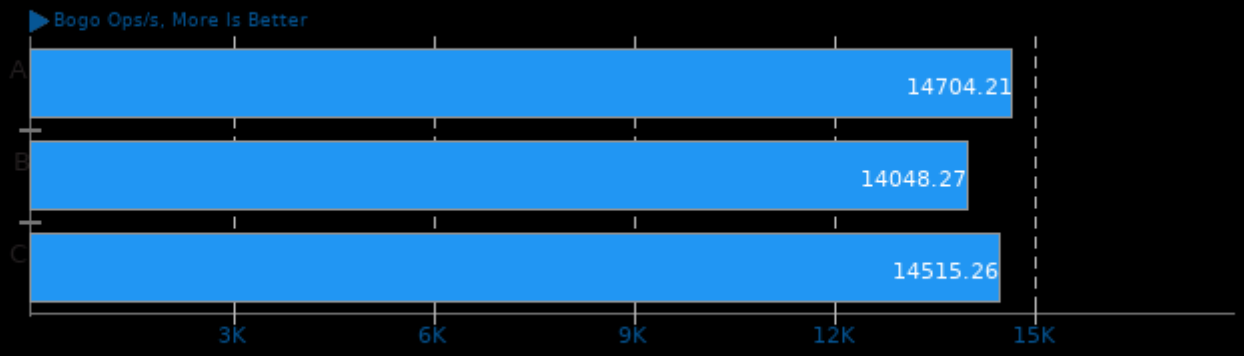
Test: CPU Cache



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

Stress-NG 0.14

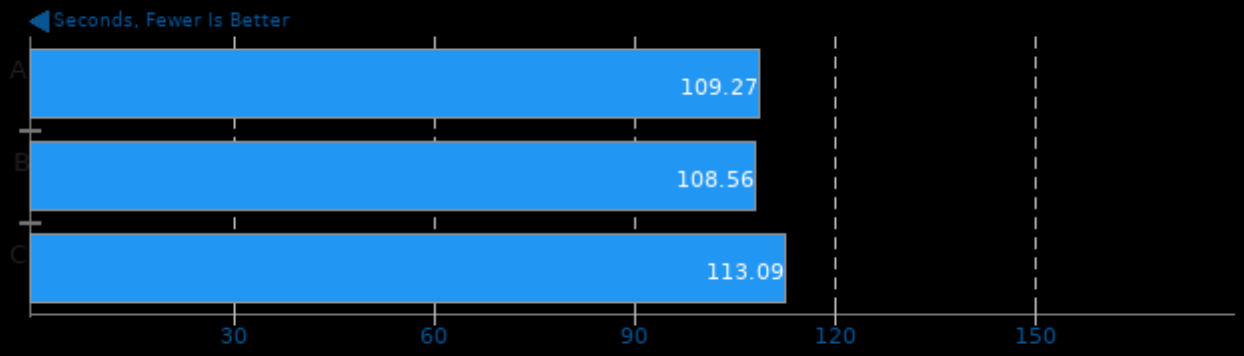
Test: Socket Activity



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

WebP2 Image Encode 20220422

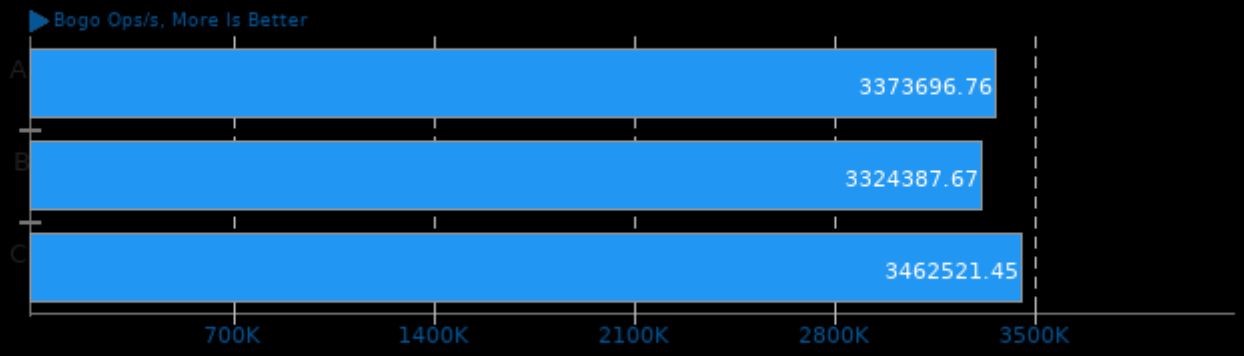
Encode Settings: Quality 75, Compression Effort 7



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl

Stress-NG 0.14

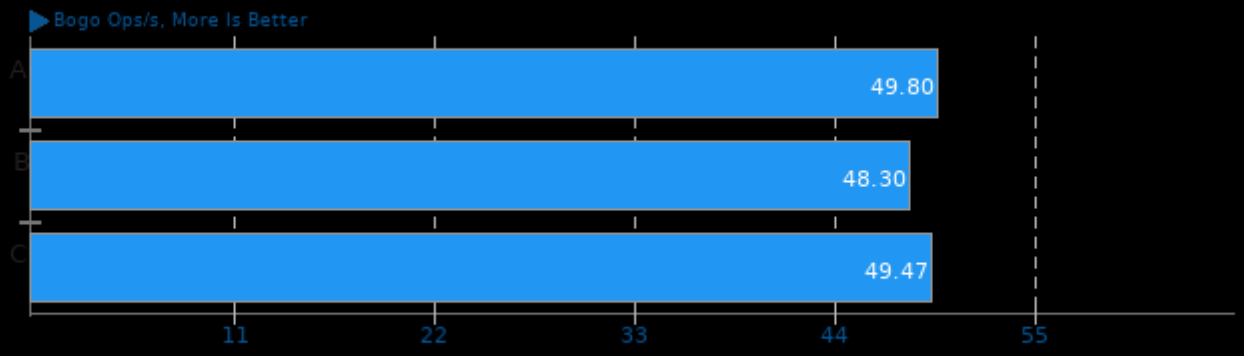
Test: Context Switching



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

Stress-NG 0.14

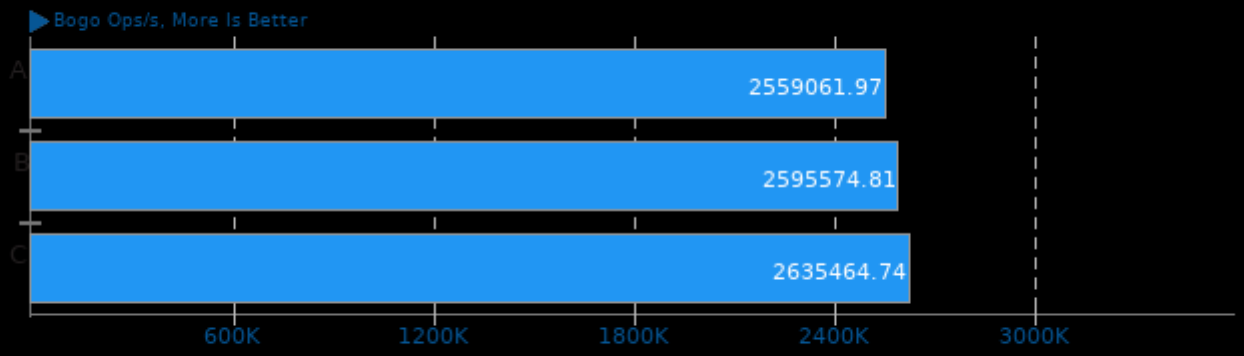
Test: NUMA



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

Stress-NG 0.14

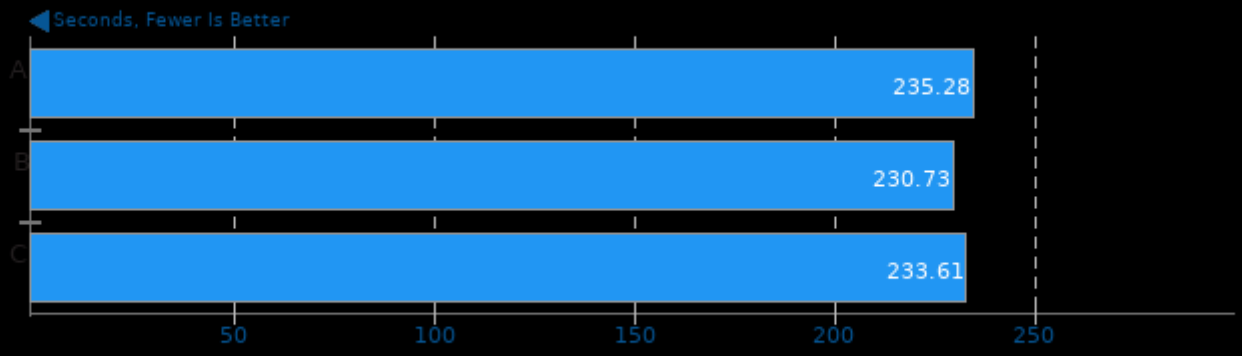
Test: Glibc C String Functions



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

WebP2 Image Encode 20220422

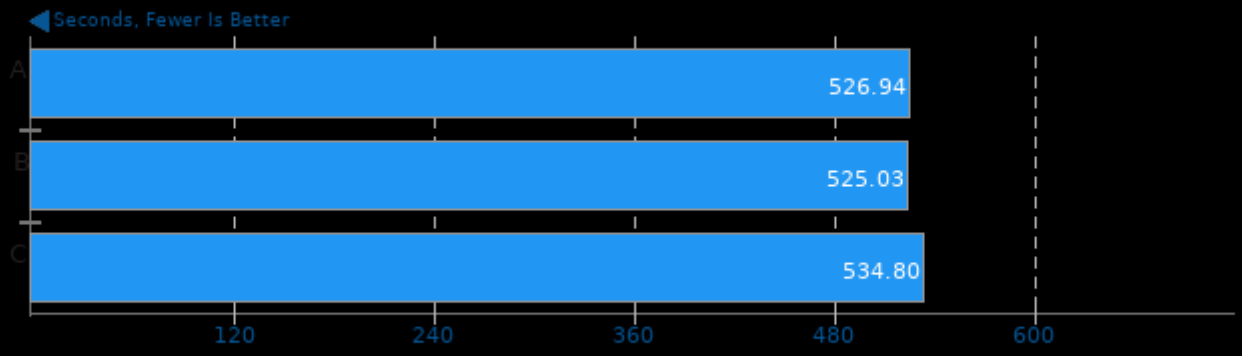
Encode Settings: Quality 95, Compression Effort 7



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl

WebP2 Image Encode 20220422

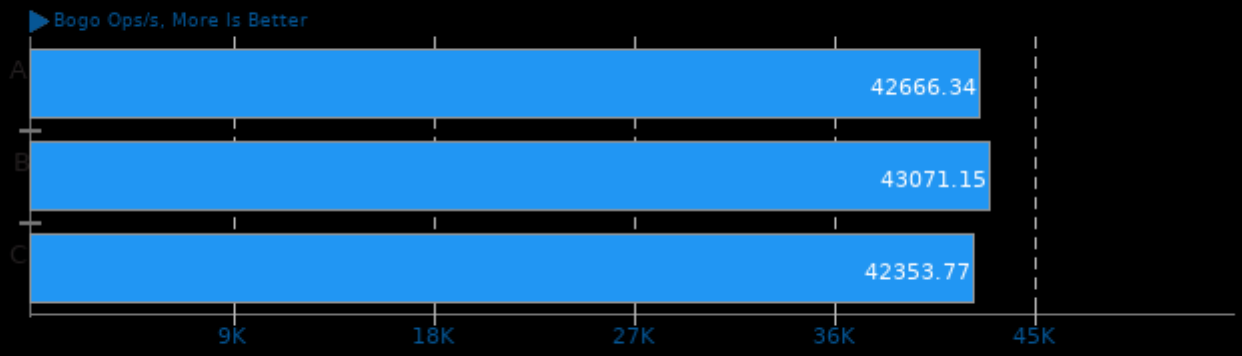
Encode Settings: Quality 100, Lossless Compression



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl

Stress-NG 0.14

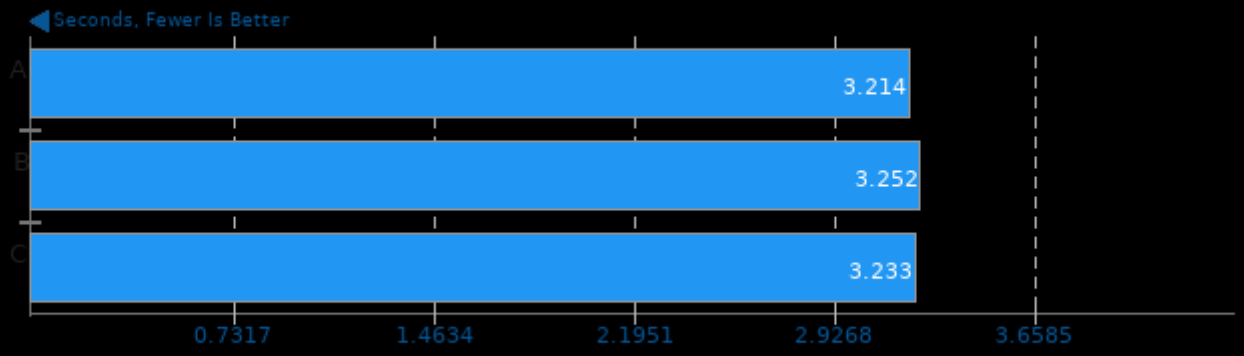
Test: CPU Stress



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

WebP2 Image Encode 20220422

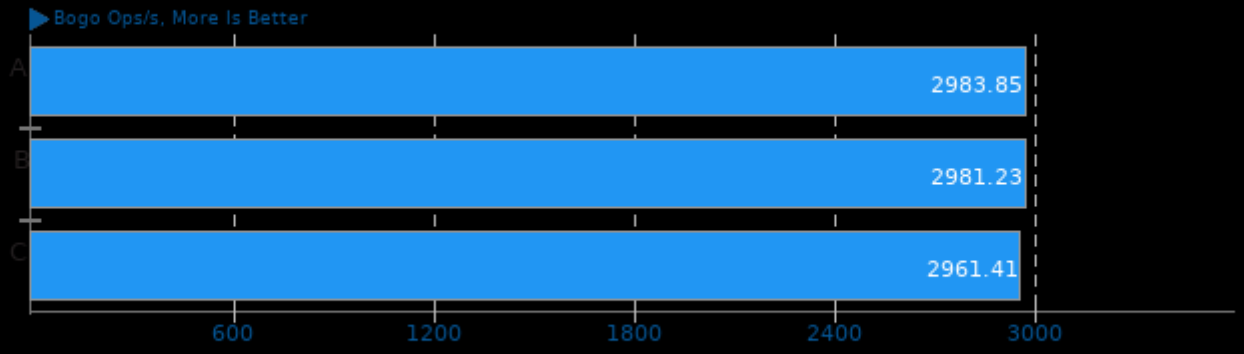
Encode Settings: Quality 100, Compression Effort 5



1. (CXX) g++ options: -msse4.2 -fno-rtti -O3 -ldl

Stress-NG 0.14

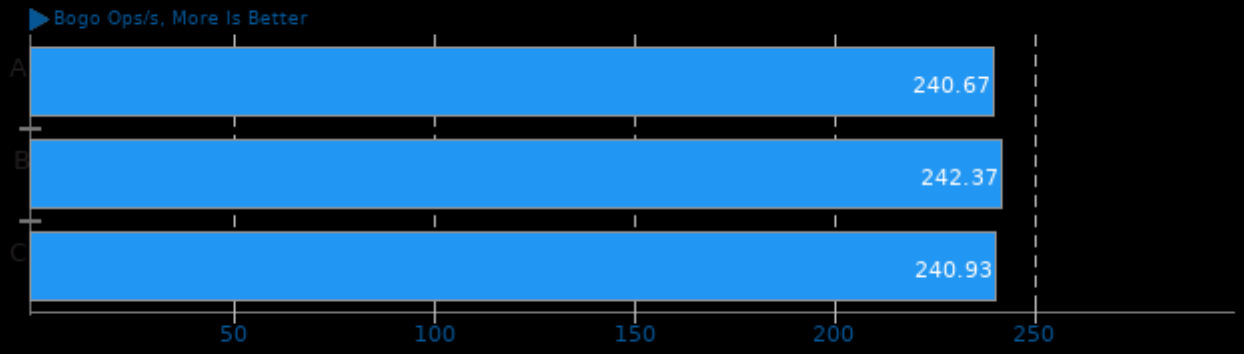
Test: Memory Copying



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

Stress-NG 0.14

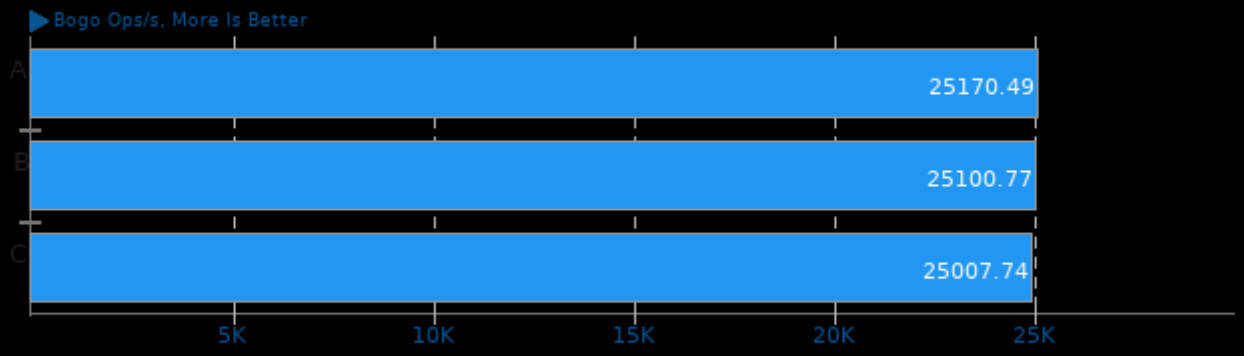
Test: Glibc Qsort Data Sorting



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

Stress-NG 0.14

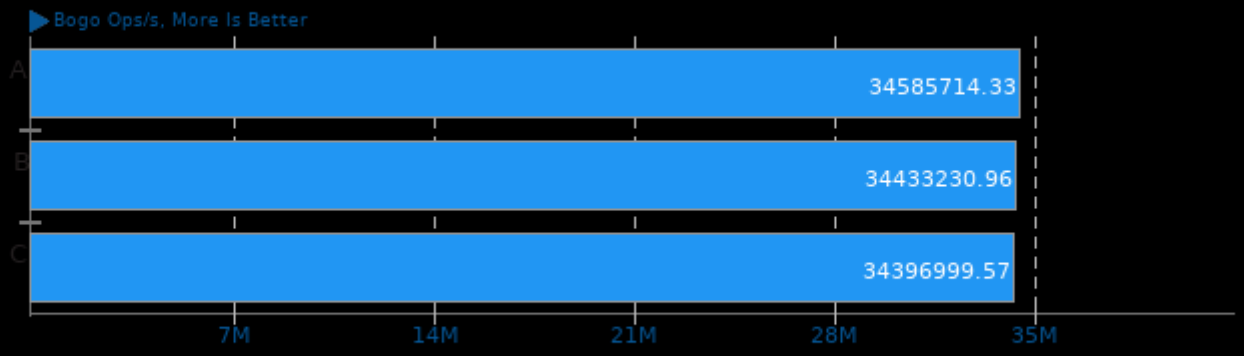
Test: IO_uring



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

Stress-NG 0.14

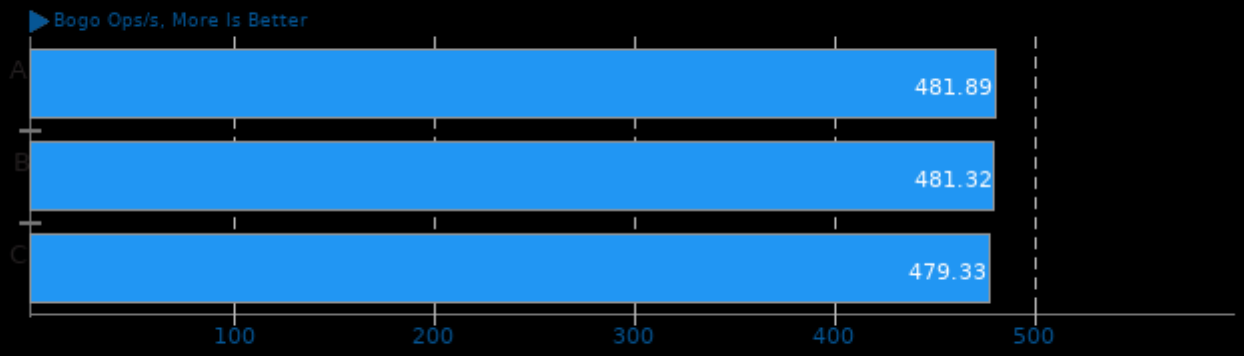
Test: Malloc



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

Stress-NG 0.14

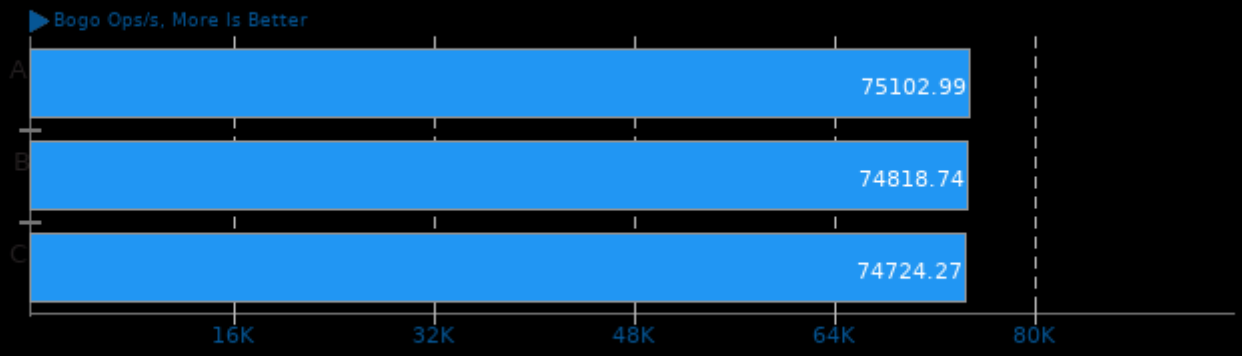
Test: MMAP



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

Stress-NG 0.14

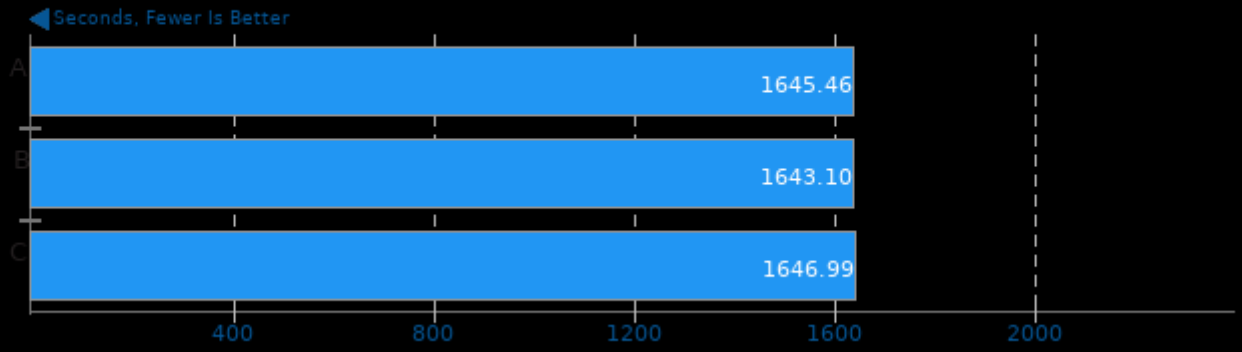
Test: Matrix Math



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

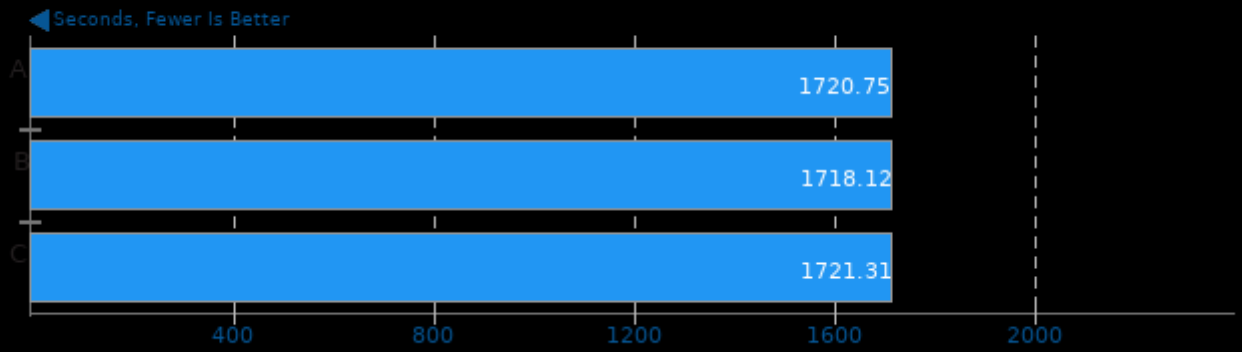
Blender

Blend File: Classroom - Compute: CPU-Only



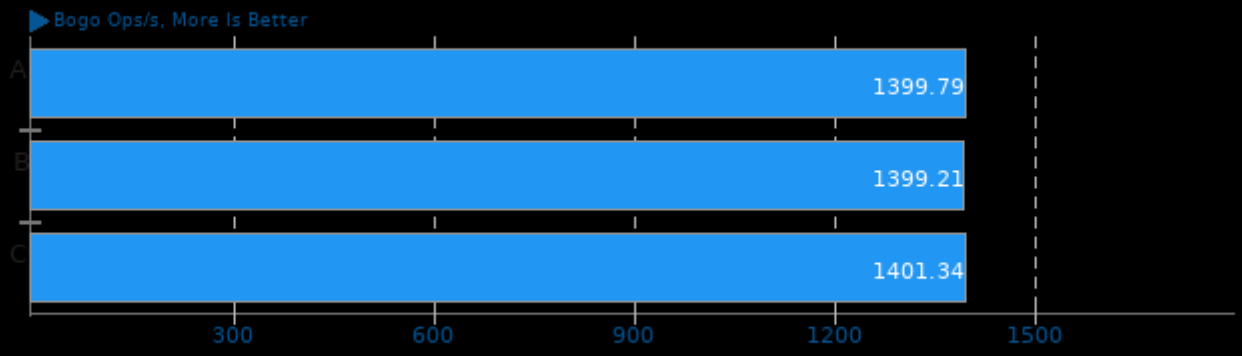
Blender

Blend File: Fishy Cat - Compute: CPU-Only



Stress-NG 0.14

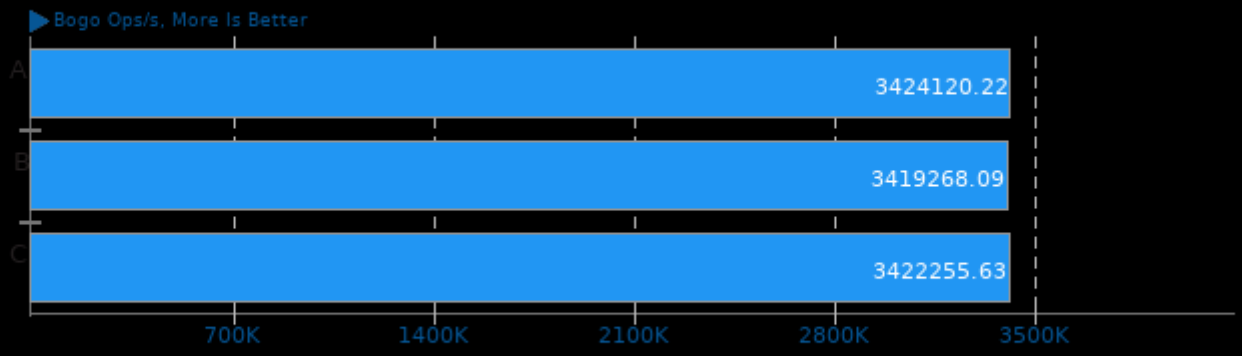
Test: MEMFD



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

Stress-NG 0.14

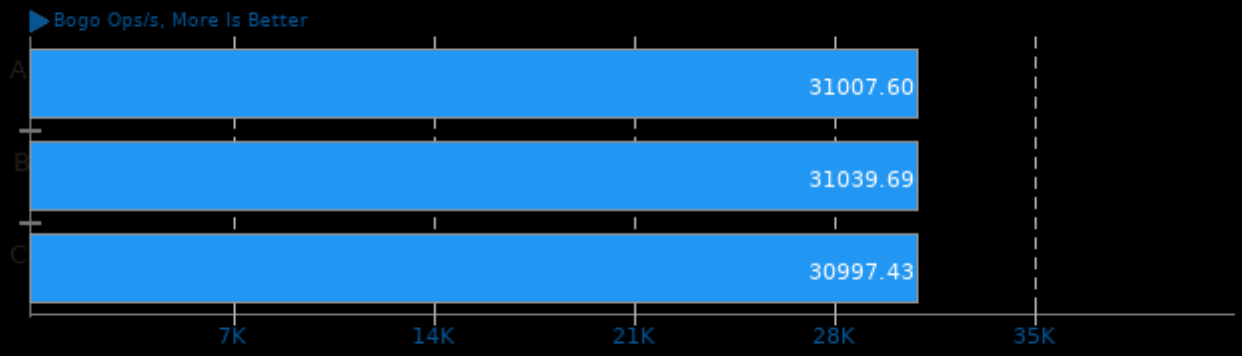
Test: Semaphores



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

Stress-NG 0.14

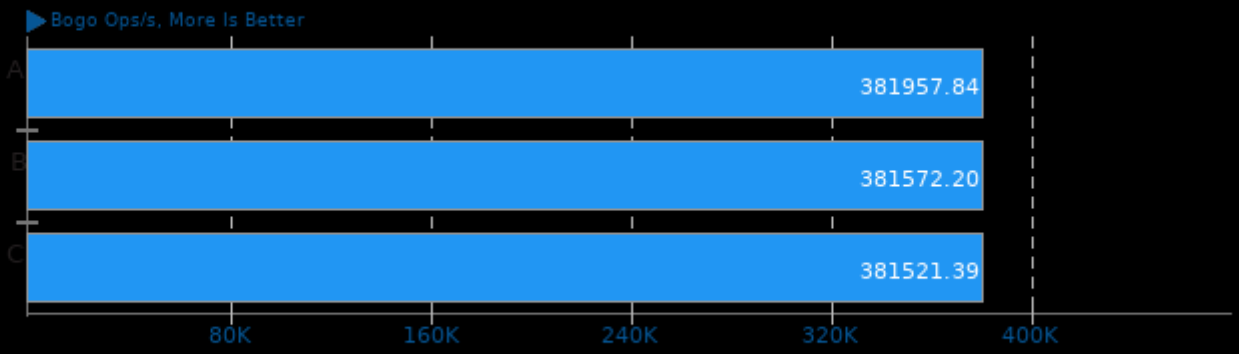
Test: Crypto



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

Stress-NG 0.14

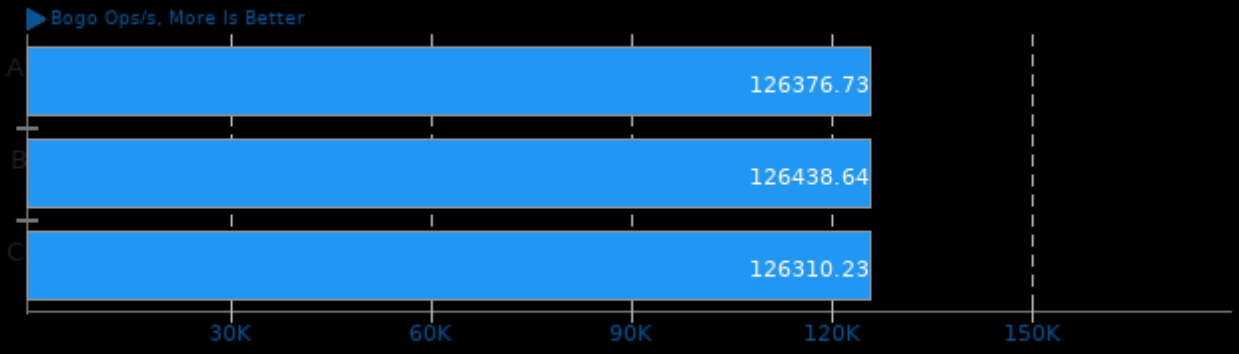
Test: SENDFILE



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

Stress-NG 0.14

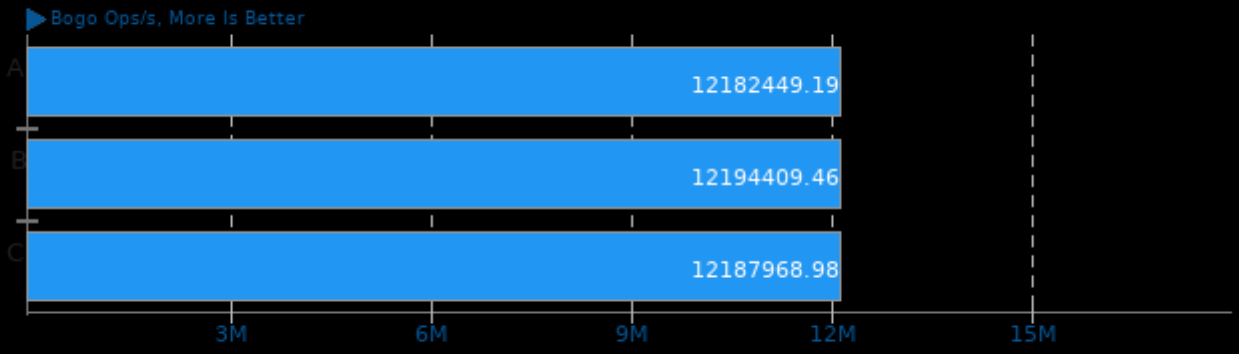
Test: Vector Math



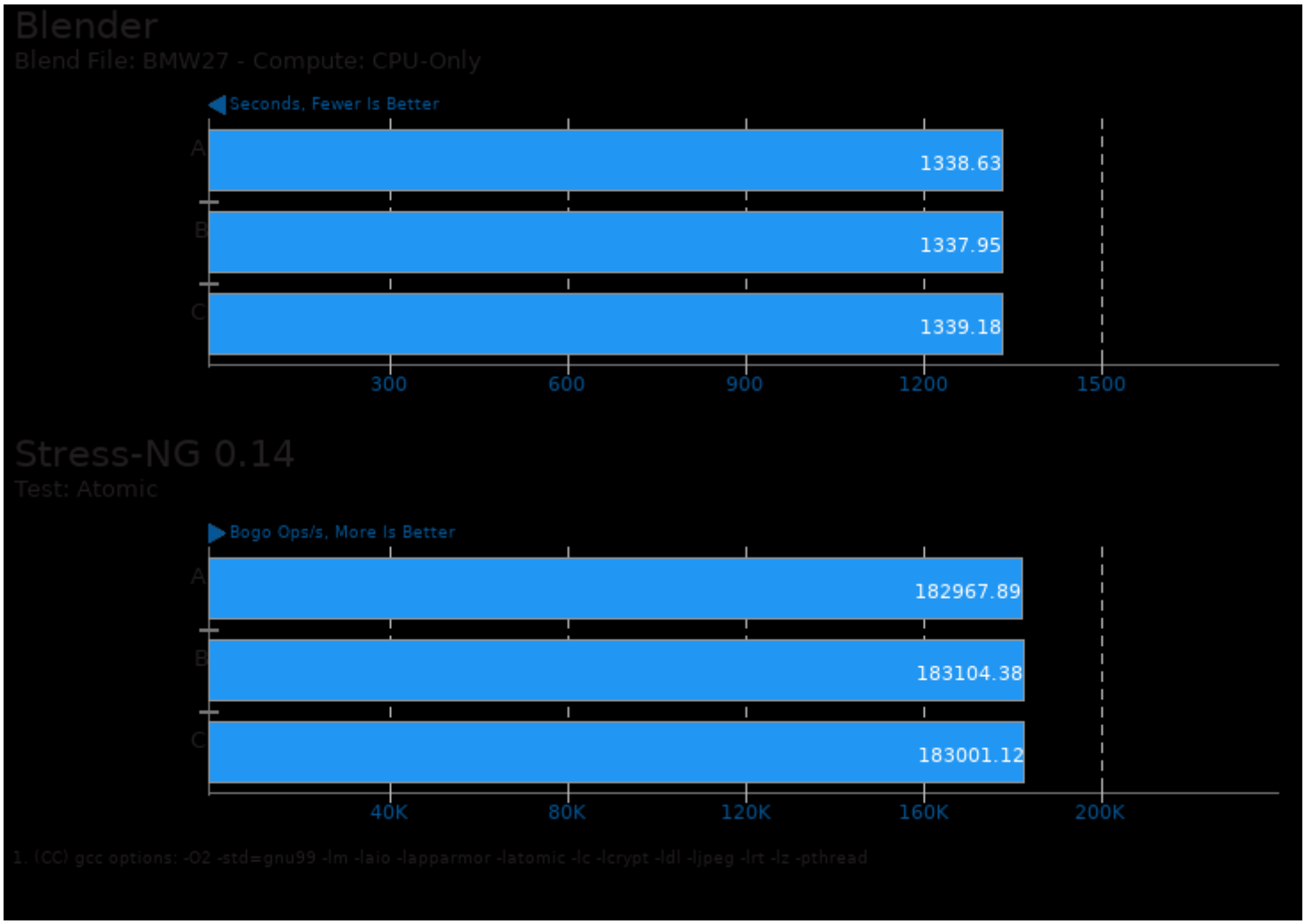
1. (CC) gcc options: -O2 -std=gnu99 -lm -laio -lapparmor -latomic -lc -lcrypt -ldl -ljpeg -lrt -lz -pthread

Stress-NG 0.14

Test: System V Message Passing



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



This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 15:31.