



## 3990X n

AMD Ryzen Threadripper 3990X 64-Core testing with a Gigabyte TRX40 AORUS PRO WIFI (F4p BIOS) and AMD Radeon RX 5700 8GB on Pop 22.04 via the Phoronix Test Suite.

### Automated Executive Summary

*C had the most wins, coming in first place for 80% of the tests.*

*Based on the geometric mean of all complete results, the fastest (C) was 1.008x the speed of the slowest (B). A was 0.998x the speed of C and B was 0.994x the speed of A.*

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

*Glibc Benchmarks (Benchmark: sqrt) at 1.107x  
x264 (Video Input: Bosphorus 4K) at 1.042x  
x264 (Video Input: Bosphorus 1080p) at 1.024x  
simdjson (Throughput Test: Kostya) at 1.015x  
Glibc Benchmarks (Benchmark: cos) at 1.013x  
simdjson (Throughput Test: LargeRandom) at 1.011x  
Glibc Benchmarks (Benchmark: exp) at 1.01x  
Glibc Benchmarks (Benchmark: modf) at 1.01x  
Glibc Benchmarks (Benchmark: sinh) at 1.009x*

Glibc Benchmarks (Benchmark: ffs) at 1.008x.

## Test Systems:

A

B

C

Processor: AMD Ryzen Threadripper 3990X 64-Core @ 2.90GHz (64 Cores / 128 Threads), Motherboard: Gigabyte TRX40 AORUS PRO WIFI (F4p BIOS), Chipset: AMD Starship/Matisse, Memory: 128GB, Disk: Samsung SSD 970 EVO Plus 500GB, Graphics: AMD Radeon RX 5700 8GB (1750/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: DELL P2415Q, Network: Intel I211 + Intel Wi-Fi 6 AX200

OS: Pop 22.04, Kernel: 5.17.5-76051705-generic (x86\_64), Desktop: GNOME Shell 42.0, Display Server: X Server 1.21.1.3, 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,amdgc-n-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: 0x8301039

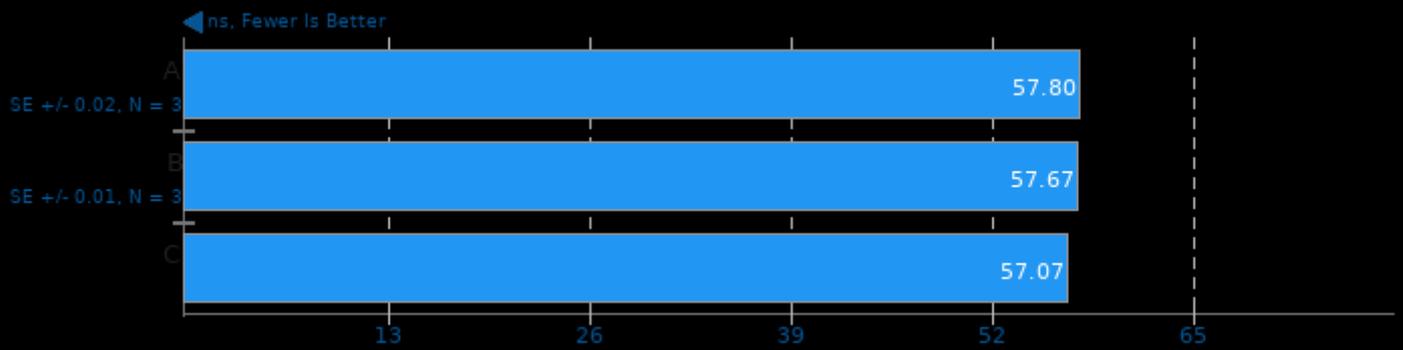
Security Notes: itlb\_multihit: Not affected + 11tf: Not affected + mds: Not affected + meltdown: Not affected + spec\_store\_bypass: Mitigation of SSB disabled via prctl + spectre\_v1: Mitigation of usercopy/swapgs barriers and \_\_user pointer sanitization + spectre\_v2: Mitigation of Retpolines IBPB: conditional STIBP: conditional RSB filling + srbds: Not affected + tsx\_async\_abort: Not affected

	A	B	C
<b>Glibc Benchmarks - cos (ns)</b>	<b>57.8035</b>	57.6731	<b>57.0721</b>
Normalized	98.73%	98.96%	100%
Standard Deviation	0%	0%	
<b>Glibc Benchmarks - exp (ns)</b>	<b>12.9251</b>	12.8920	<b>12.7934</b>
Normalized	98.98%	99.24%	100%
Standard Deviation	0.1%	0.1%	
<b>Glibc Benchmarks - ffs (ns)</b>	<b>4.79673</b>	4.79240	<b>4.75919</b>
Normalized	99.22%	99.31%	100%
Standard Deviation	0.1%	0%	
<b>Glibc Benchmarks - sin (ns)</b>	<b>51.0618</b>	51.0448	<b>50.6666</b>
Normalized	99.23%	99.26%	100%
Standard Deviation	0.1%	0%	
<b>Glibc Benchmarks - log2 (ns)</b>	16.3070	<b>16.3171</b>	<b>16.2187</b>
Normalized	99.46%	99.4%	100%

	Standard Deviation	0.1%	0.1%	
<b>Glibc Benchmarks - modf (ns)</b>		5.48393	<b>5.51182</b>	<b>5.45727</b>
	Normalized	99.51%	99.01%	100%
	Standard Deviation	0.1%	0.1%	
<b>Glibc Benchmarks - sinh (ns)</b>		21.0664	<b>21.1000</b>	<b>20.902</b>
	Normalized	99.22%	99.06%	100%
	Standard Deviation	0.2%	1.4%	
<b>Glibc Benchmarks - sqrt (ns)</b>		<b>6.14474</b>	<b>6.79954</b>	6.75482
	Normalized	100%	90.37%	90.97%
	Standard Deviation	0%	0%	
<b>Glibc Benchmarks - tanh (ns)</b>		30.0165	<b>30.0377</b>	<b>29.856</b>
	Normalized	99.47%	99.4%	100%
	Standard Deviation	0.1%	0.1%	
<b>Glibc Benchmarks - asinh (ns)</b>		24.7843	<b>24.8127</b>	<b>24.7199</b>
	Normalized	99.74%	99.63%	100%
	Standard Deviation	0.3%	0.3%	
<b>Glibc Benchmarks - atanh (ns)</b>		<b>29.3336</b>	29.3132	<b>29.2512</b>
	Normalized	99.72%	99.79%	100%
	Standard Deviation	0.1%	0%	
<b>Glibc Benchmarks - ffsll (ns)</b>		5.45401	<b>5.45914</b>	<b>5.42392</b>
	Normalized	99.45%	99.35%	100%
	Standard Deviation	0.3%	0.2%	
<b>Glibc Benchmarks - sincos (ns)</b>		<b>35.1009</b>	35.0996	<b>34.8575</b>
	Normalized	99.31%	99.31%	100%
	Standard Deviation	0.1%	0.2%	
<b>Glibc Benchmarks - pthread_once (ns)</b>		<b>4.76413</b>	4.76279	<b>4.75085</b>
	Normalized	99.72%	99.75%	100%
	Standard Deviation	0.1%	0%	
<b>simdjson - Kostya (GB/s)</b>		<b>2.69</b>	<b>2.69</b>	<b>2.73</b>
	Normalized	98.53%	98.53%	100%
	Standard Deviation	0.9%	1.3%	
<b>simdjson - TopTweet (GB/s)</b>		<b>4.27</b>	<b>4.26</b>	<b>4.26</b>
	Normalized	100%	99.77%	99.77%
	Standard Deviation	0%	0.2%	
<b>simdjson - LargeRand (GB/s)</b>		<b>0.95</b>	<b>0.95</b>	<b>0.94</b>
	Normalized	100%	100%	98.95%
	Standard Deviation	1.1%	0.6%	
<b>simdjson - PartialTweets (GB/s)</b>		<b>3.71</b>	<b>3.71</b>	<b>3.69</b>
	Normalized	100%	100%	99.46%
	Standard Deviation	0.3%	0.2%	
<b>simdjson - DistinctUserID (GB/s)</b>		<b>4.39</b>	<b>4.39</b>	<b>4.42</b>
	Normalized	99.32%	99.32%	100%
	Standard Deviation	0.5%	0.6%	
<b>x264 - Bosphorus 4K (FPS)</b>		62.15	<b>61.82</b>	<b>64.43</b>
	Normalized	96.46%	95.95%	100%
	Standard Deviation	4.2%	0.8%	
<b>x264 - Bosphorus 1080p (FPS)</b>		200.98	<b>198.92</b>	<b>203.76</b>
	Normalized	98.64%	97.62%	100%
	Standard Deviation	1.2%	1.5%	

## Glibc Benchmarks

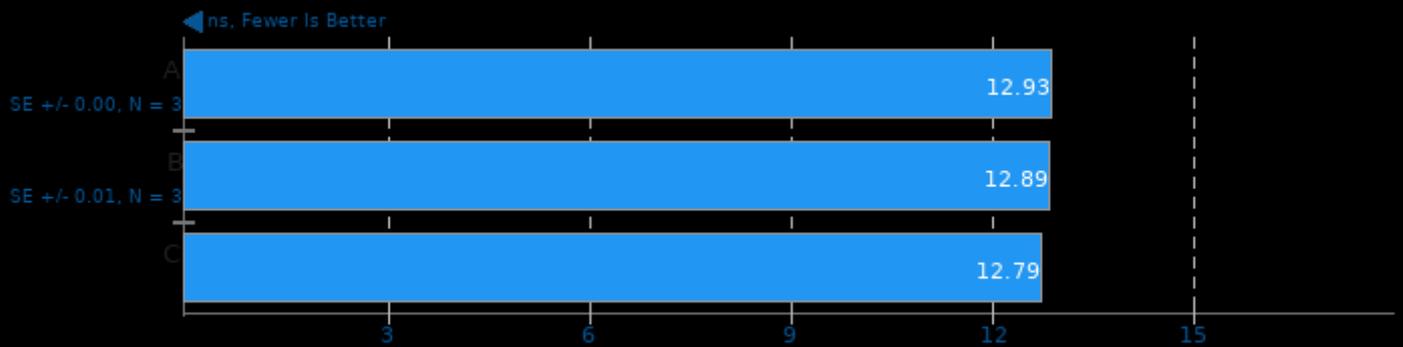
Benchmark: cos



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks

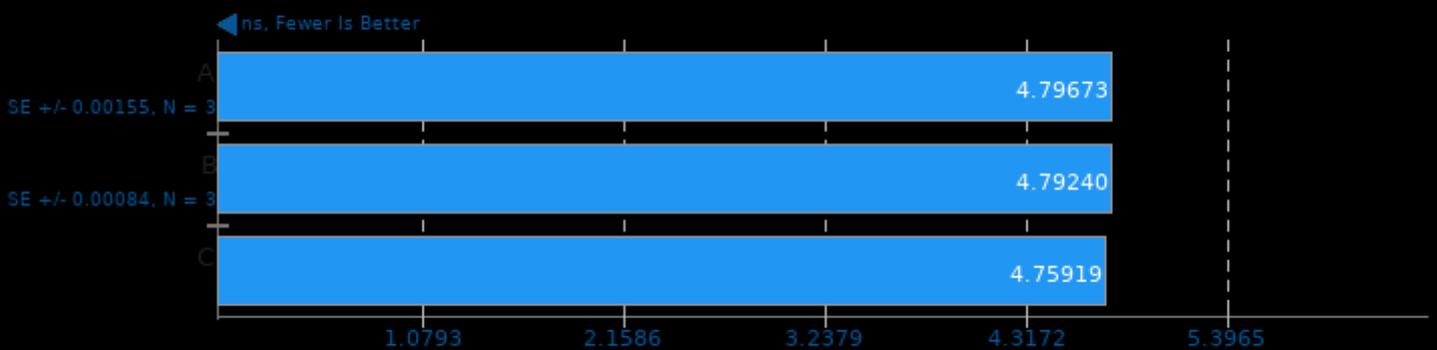
Benchmark: exp



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks

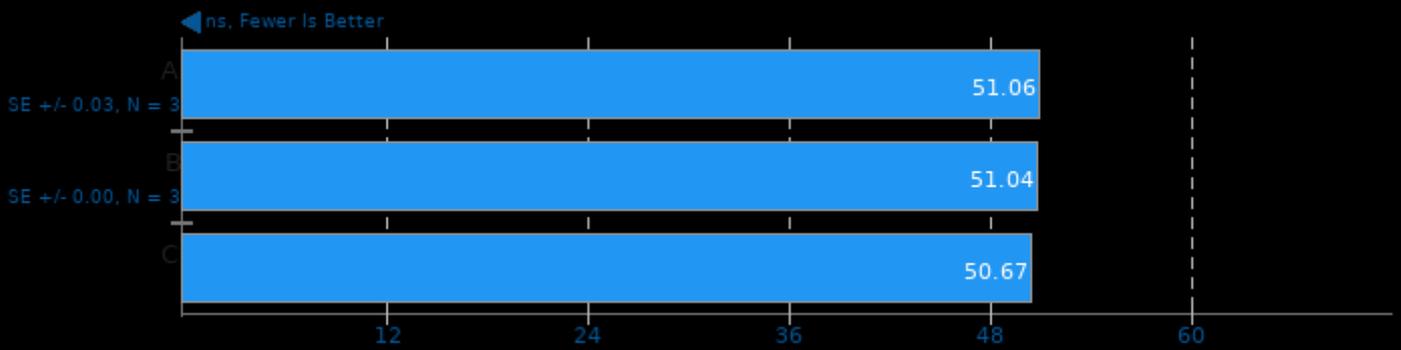
Benchmark: ffs



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks

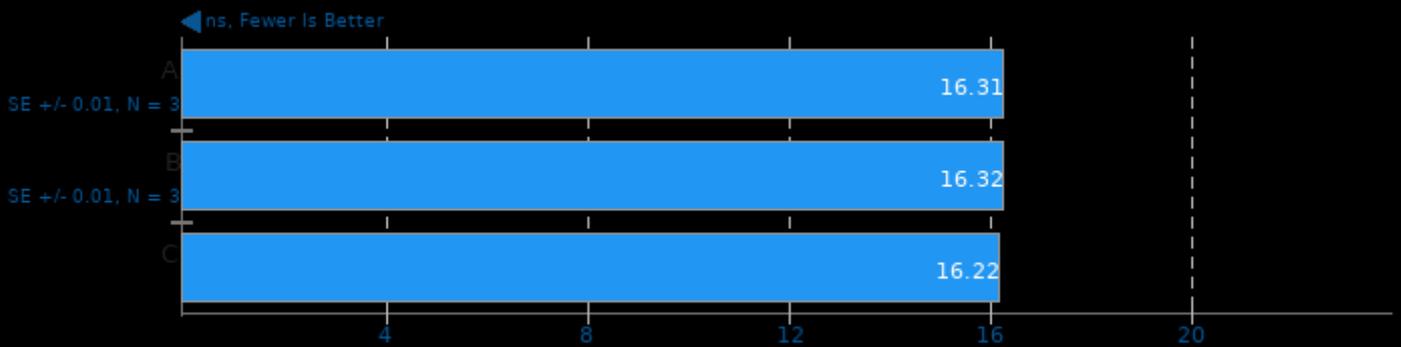
Benchmark: sin



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks

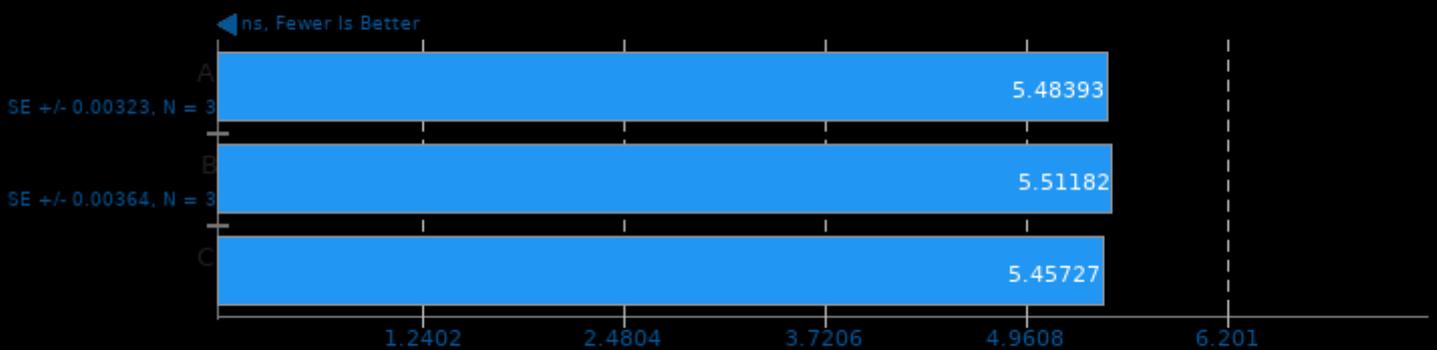
Benchmark: log2



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks

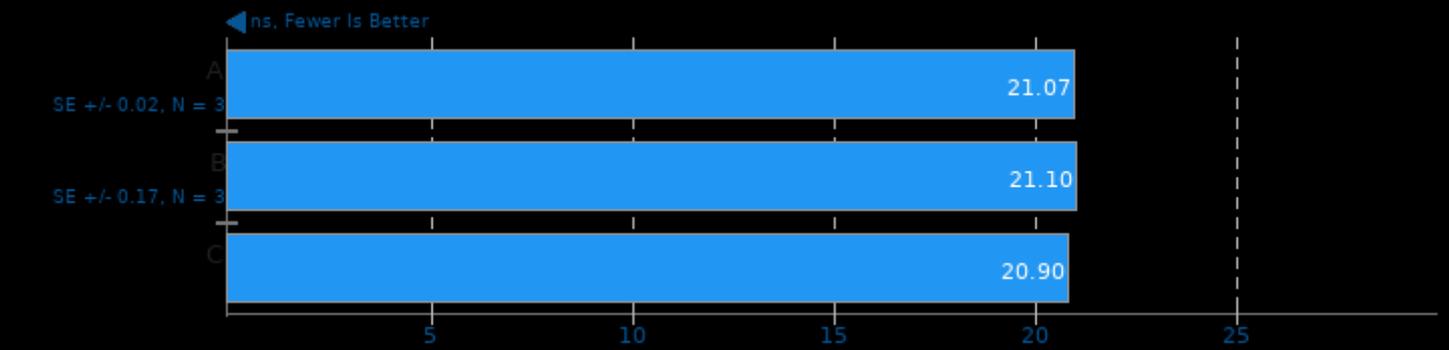
Benchmark: modf



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks

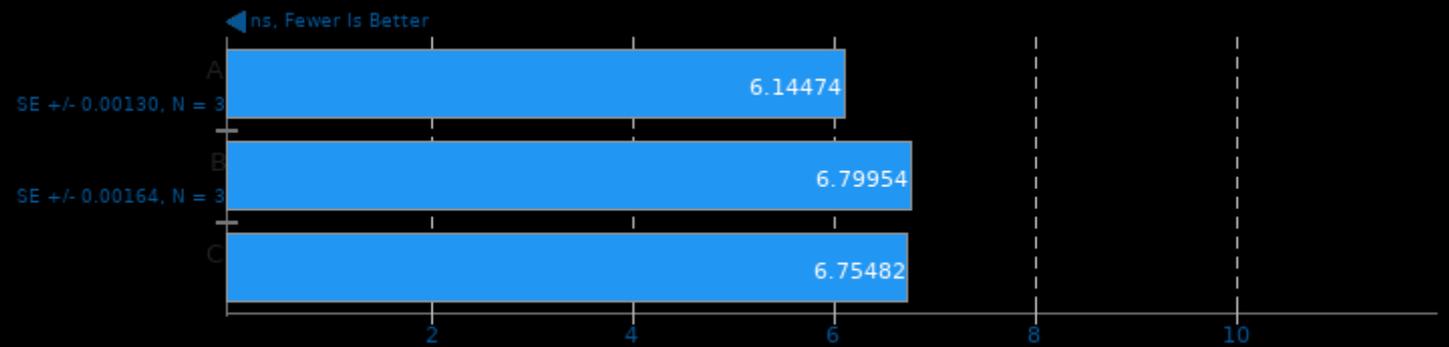
Benchmark: sinh



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks

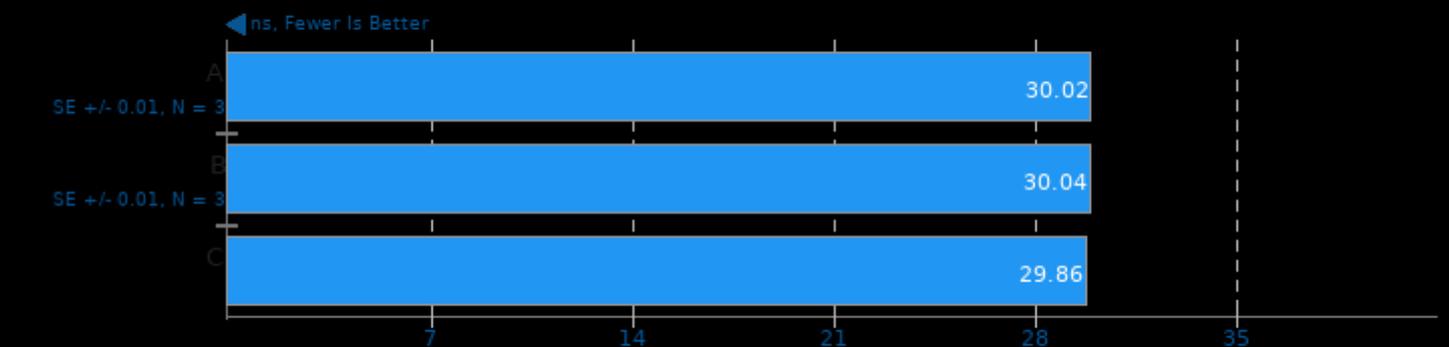
Benchmark: sqrt



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks

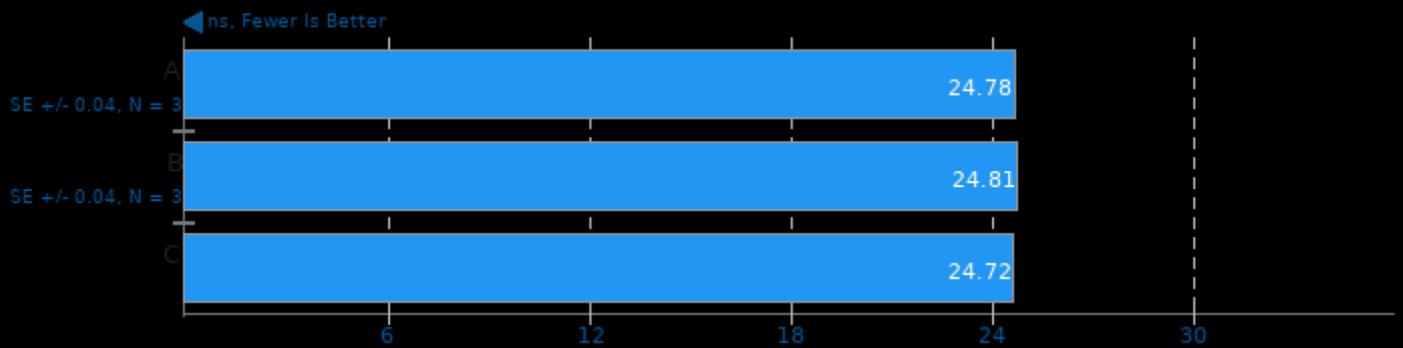
Benchmark: tanh



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks

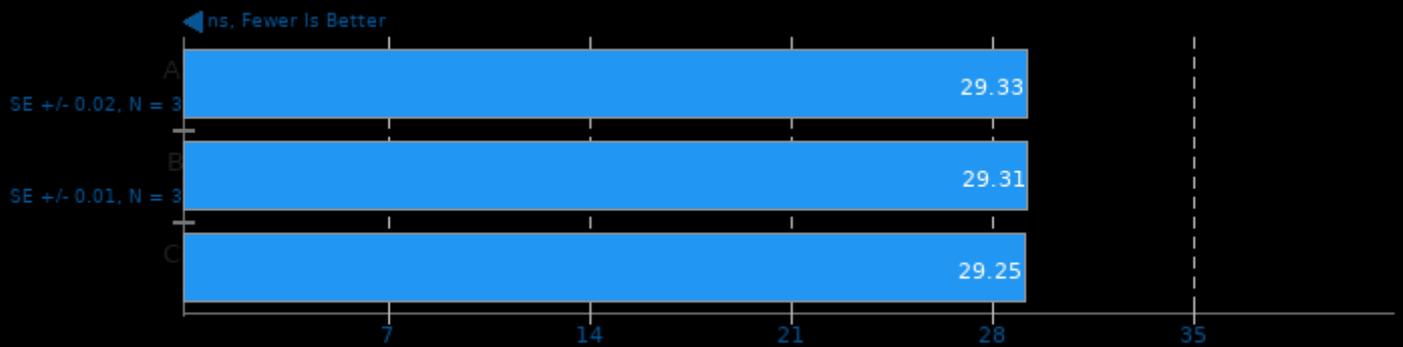
Benchmark: asinh



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks

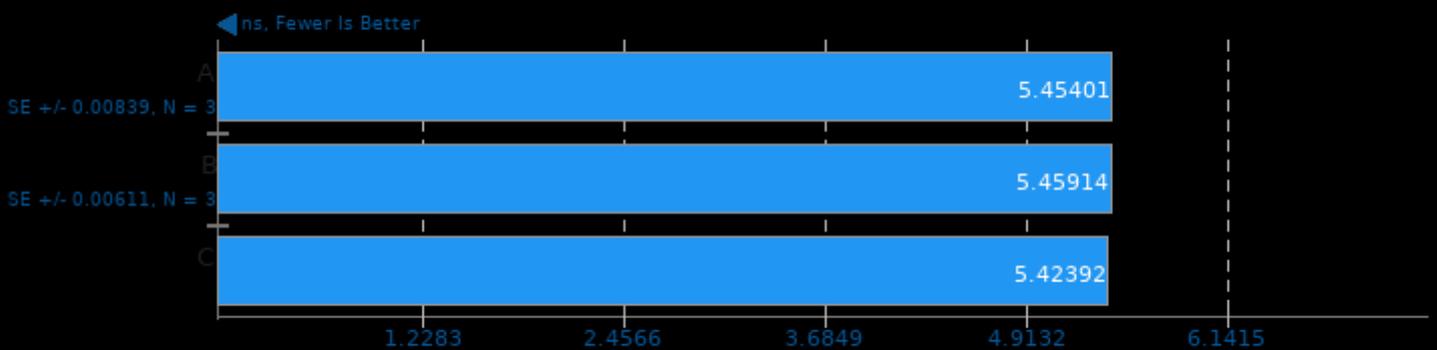
Benchmark: atanh



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks

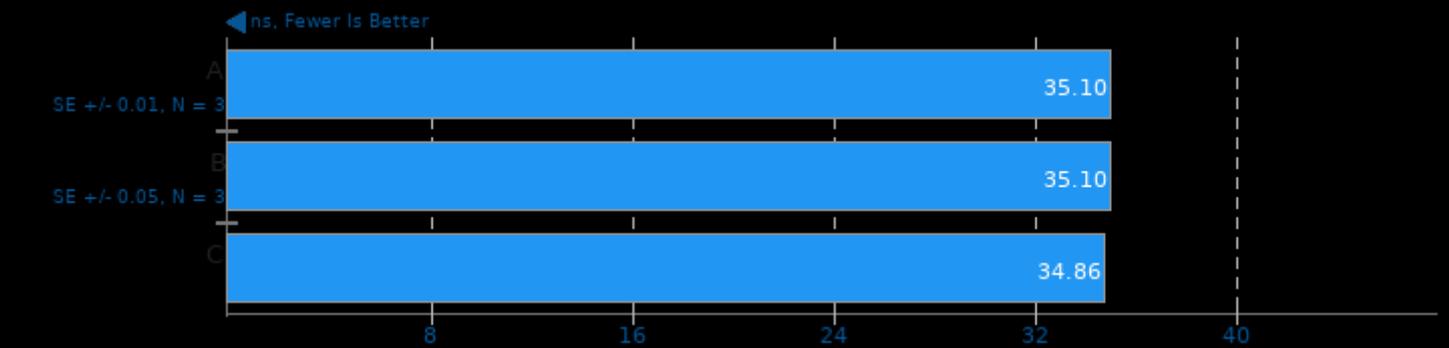
Benchmark: ffsll



1. (CC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks

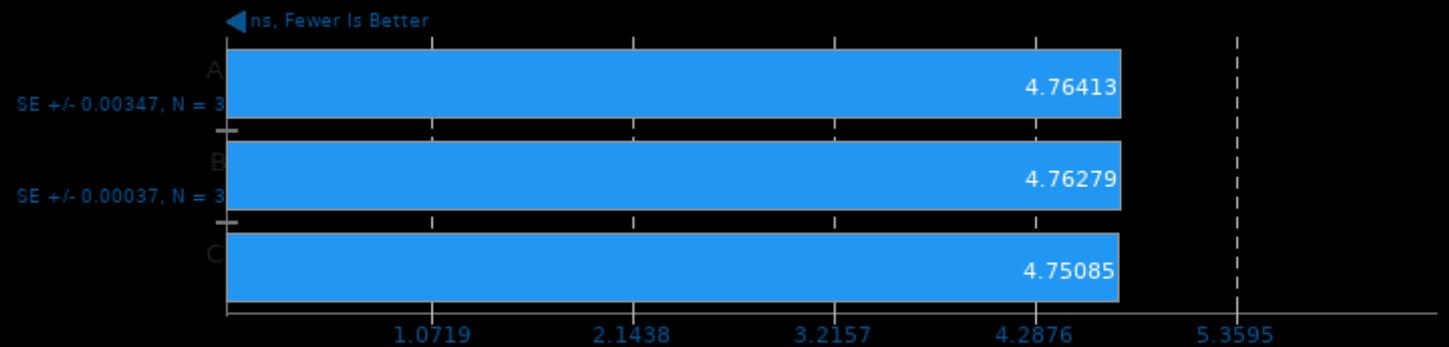
Benchmark: sincos



1. (GCC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## Glibc Benchmarks

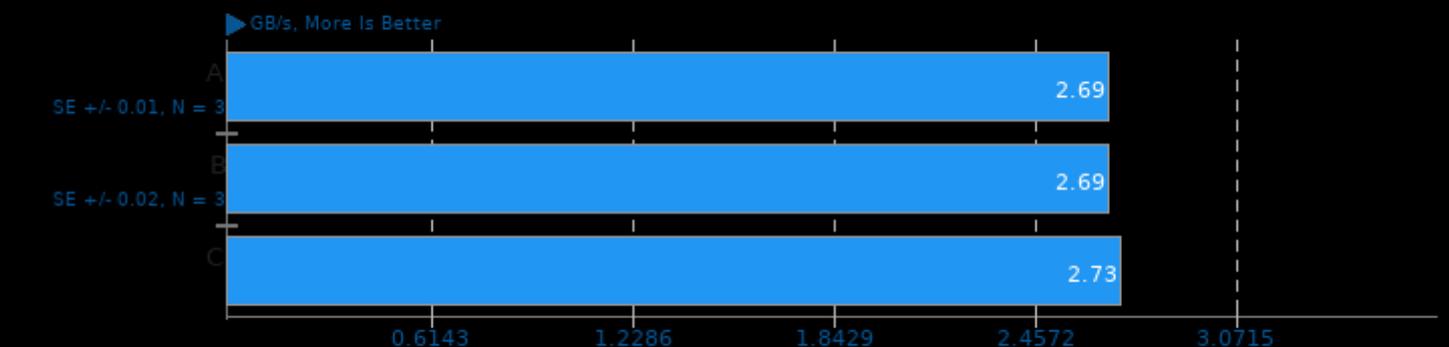
Benchmark: pthread\_once



1. (GCC) gcc options: -pie -nostdlib -nostartfiles -lgcc -lgcc\_s

## simdjson 2.0

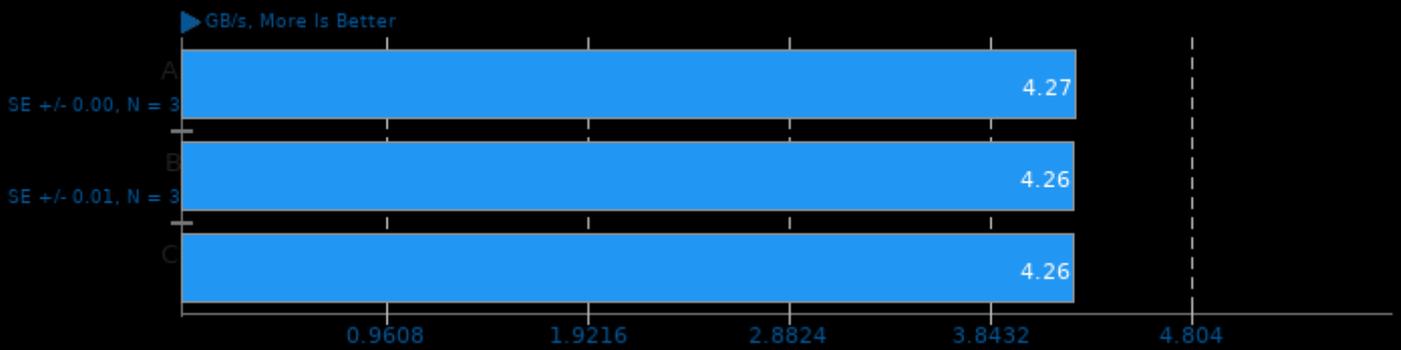
Throughput Test: Kostya



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

### simdjson 2.0

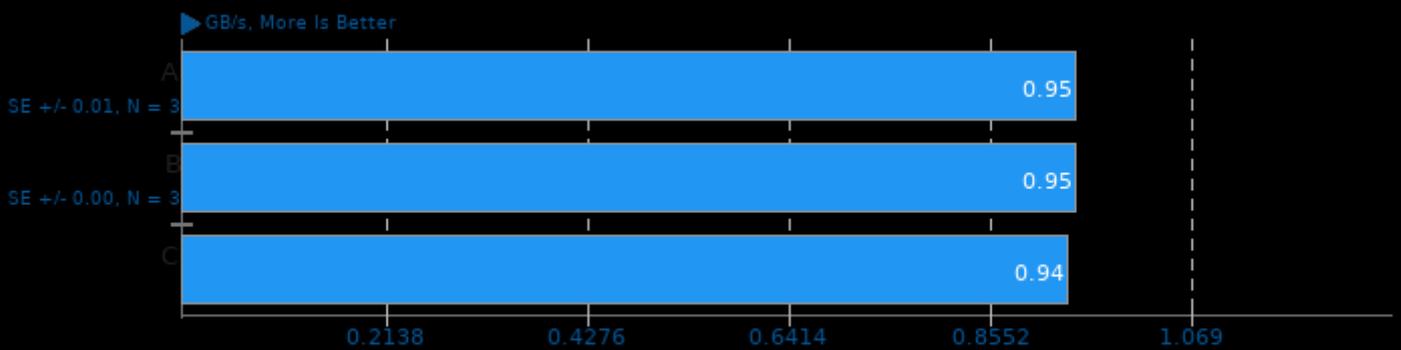
Throughput Test: TopTweet



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

### simdjson 2.0

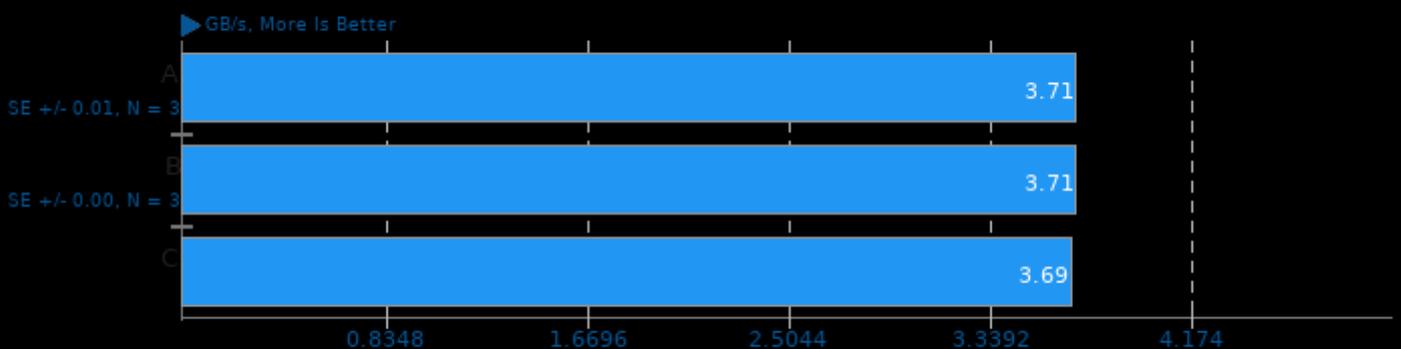
Throughput Test: LargeRandom



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

### simdjson 2.0

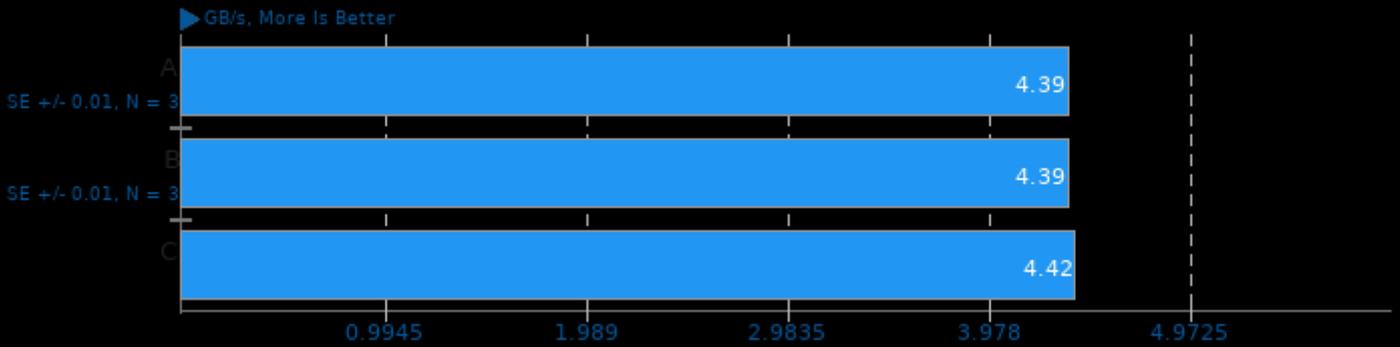
Throughput Test: PartialTweets



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

### simdjson 2.0

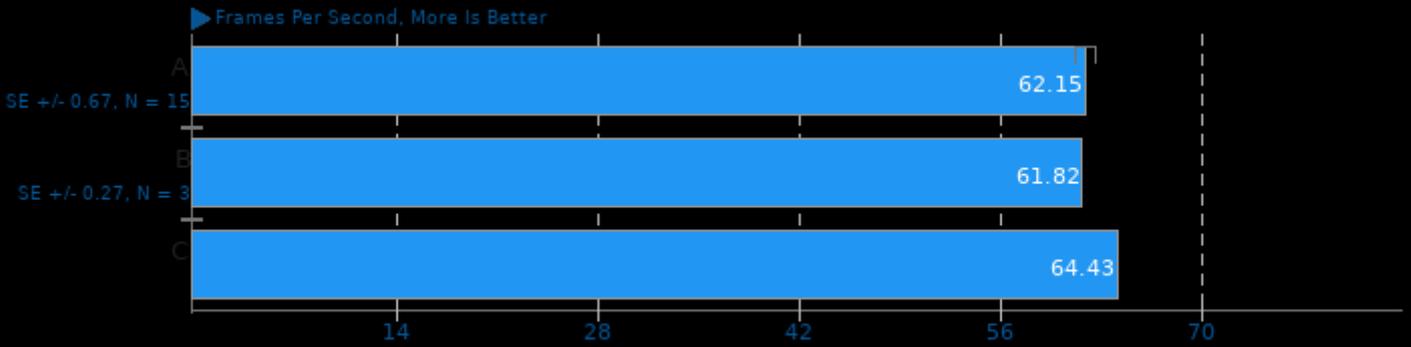
Throughput Test: DistinctUserID



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

### x264 2022-02-22

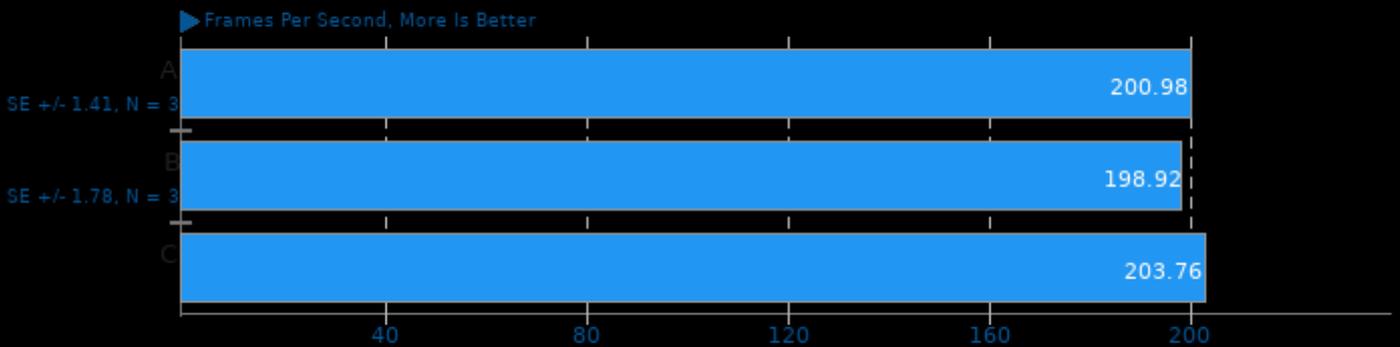
Video Input: Bosphorus 4K



1. (CC) gcc options: -ldl -m64 -lm -lpthread -O3 -fno

### x264 2022-02-22

Video Input: Bosphorus 1080p

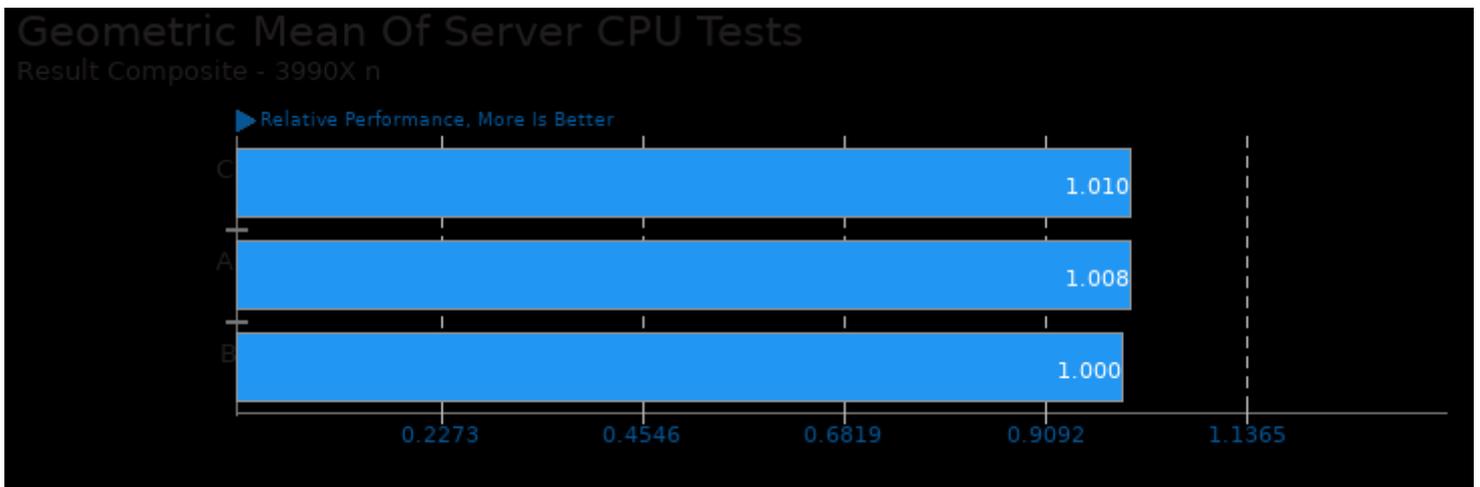


1. (CC) gcc options: -ldl -m64 -lm -lpthread -O3 -fno

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



Geometric mean based upon tests: pts/x264 and pts/glibc-bench



Geometric mean based upon tests: pts/x264 and pts/glibc-bench

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 05:45.