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Intel Core i9-10900K testing with a Gigabyte Z490 AORUS MASTER (F21c BIOS) and Sapphire AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 6GB on Ubuntu 21.10 via the Phoronix Test Suite.

Automated Executive Summary

C had the most wins, coming in first place for 42% of the tests.

Based on the geometric mean of all complete results, the fastest (A) was 1.016x the speed of the slowest (C). B was 0.987x the speed of A and C was 0.997x the speed of B.

Test Systems:

A

B

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C

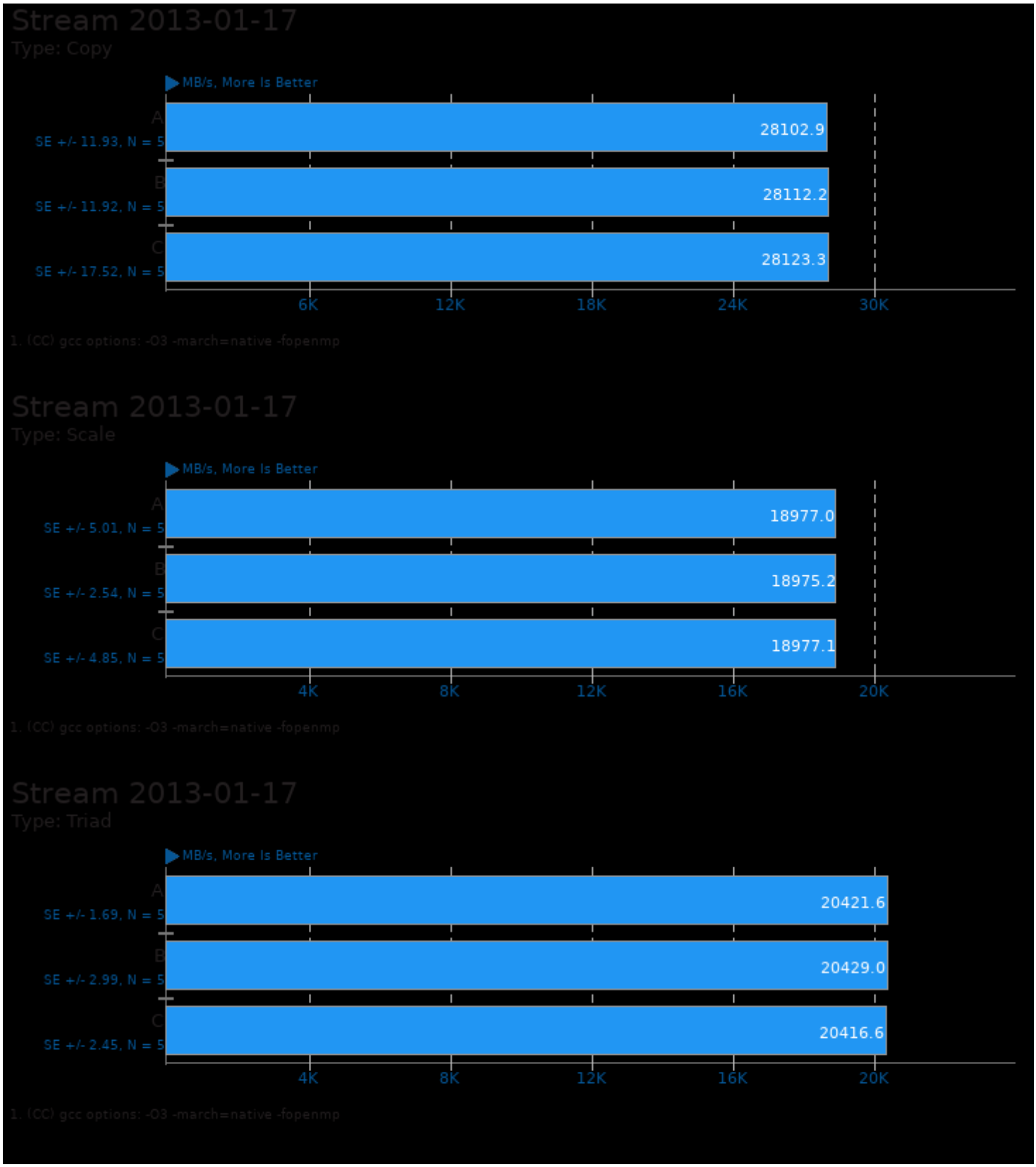
Processor: Intel Core i9-10900K @ 5.30GHz (10 Cores / 20 Threads), Motherboard: Gigabyte Z490 AORUS MASTER (F21c BIOS), Chipset: Intel Comet Lake PCH, Memory: 16GB, Disk: Samsung SSD 970 EVO 500GB, Graphics: Sapphire AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 6GB (1780/875MHz), Audio: Realtek ALC1220, Monitor: MX279, Network: Intel I225-V + Intel Comet Lake PCH CNVi WiFi

OS: Ubuntu 21.10, Kernel: 5.15.0-051500daily20211114-generic (x86_64), Desktop: GNOME Shell 40.5, Display Server: X Server 1.20.13 + Wayland, OpenGL: 4.6 Mesa 21.2.2 (LLVM 12.0.1), Vulkan: 1.2.182, Compiler: GCC 11.2.0, File-System: ext4, Screen Resolution: 1920x1080

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-ZPT0kp/gcc-11-11.2.0/debian/tmp-nvptx/usr,amdgcn-amdhsa=/build/gcc-11-ZPT0kp/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: intel_pstate powersave - CPU Microcode: 0xec - Thermald 2.4.6
Security Notes: itlb_multihit: KVM: Mitigation of VMX disabled + 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 Enhanced IBRS IBPB: conditional RSB filling + srbds: Not affected + tsx_async_abort: Not affected

	A	B	C
Stream - Copy (MB/s)	**28103**	28112	**28123**
Normalized	99.93%	99.96%	100%
Standard Deviation	0.1%	0.1%	0.1%
Stream - Scale (MB/s)	18977	**18975**	**18977**
Normalized	100%	99.99%	100%
Standard Deviation	0.1%	0%	0.1%
Stream - Triad (MB/s)	20422	**20429**	**20417**
Normalized	99.96%	100%	99.94%
Standard Deviation	0%	0%	0%
Stream - Add (MB/s)	20426	**20423**	**20431**
Normalized	99.98%	99.96%	100%
Standard Deviation	0.1%	0%	0%
Sockperf - Throughput (Messages/sec)	**821394**	819391	**802920**
Normalized	100%	99.76%	97.75%
Standard Deviation	1.3%	1.9%	2.4%
Sockperf - Latency Ping Pong (usec)	**2.898**	**3.158**	3.146
Normalized	100%	91.77%	92.12%
Standard Deviation	4.6%	1.1%	1.5%
Sockperf - Latency Under Load (usec)	**18.755**	18.794	**18.887**
Normalized	100%	99.79%	99.3%
Standard Deviation	1.2%	1.8%	1.7%

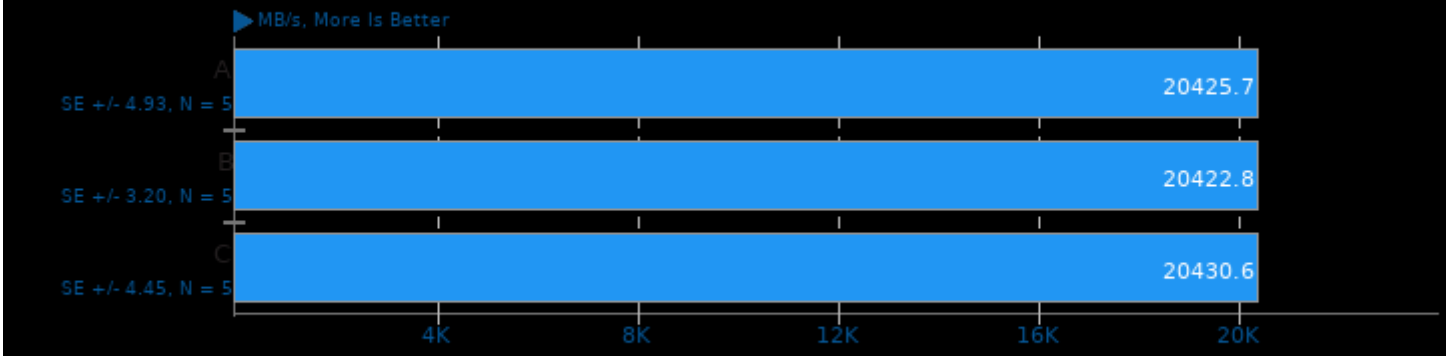
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Stream 2013-01-17
Type: Copy
MB/s, More Is Better
A
SE +/- 11.93, N = 5
28102.9
B
SE +/- 11.92, N = 5
28112.2
C
SE +/- 17.52, N = 5
28123.3
6K
12K
18K
24K
30K
1. (CC) gcc options: -O3 -march=native -fopenmp
Stream 2013-01-17
Type: Scale
MB/s, More Is Better
A
SE +/- 5.01, N = 5
18977.0
B
SE +/- 2.54, N = 5
18975.2
C
SE +/- 4.85, N = 5
18977.1
4K
8K
12K
16K
20K
1. (CC) gcc options: -O3 -march=native -fopenmp
Stream 2013-01-17
Type: Triad
MB/s, More Is Better
A
SE +/- 1.69, N = 5
20421.6
B
SE +/- 2.99, N = 5
20429.0
C
SE +/- 2.45, N = 5
20416.6
4K
8K
12K
16K
20K
1. (CC) gcc options: -O3 -march=native -fopenmp

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Stream 2013-01-17

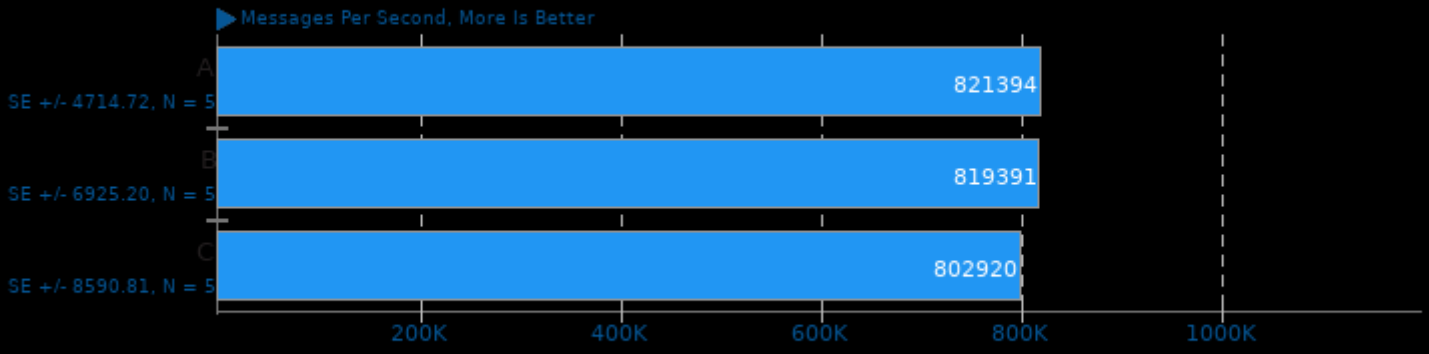
Type: Add



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

Sockperf 3.7

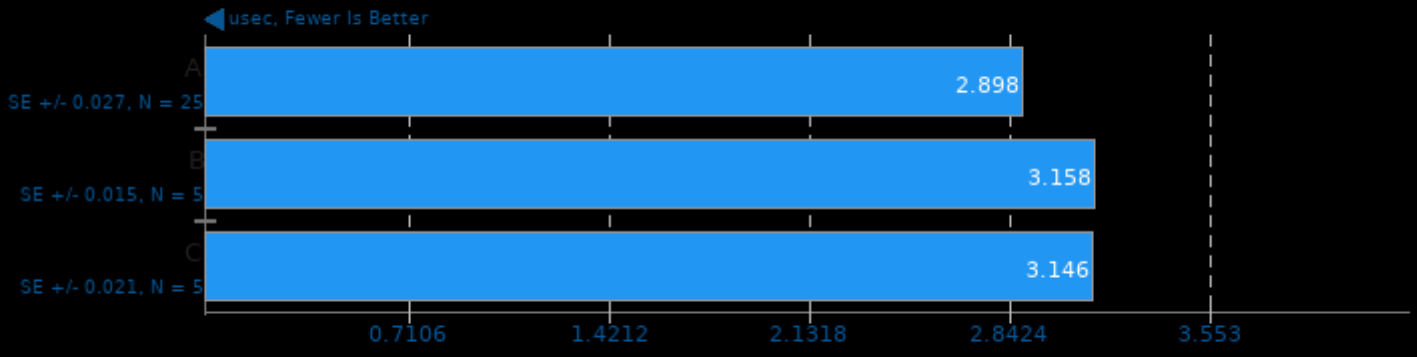
Test: Throughput



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

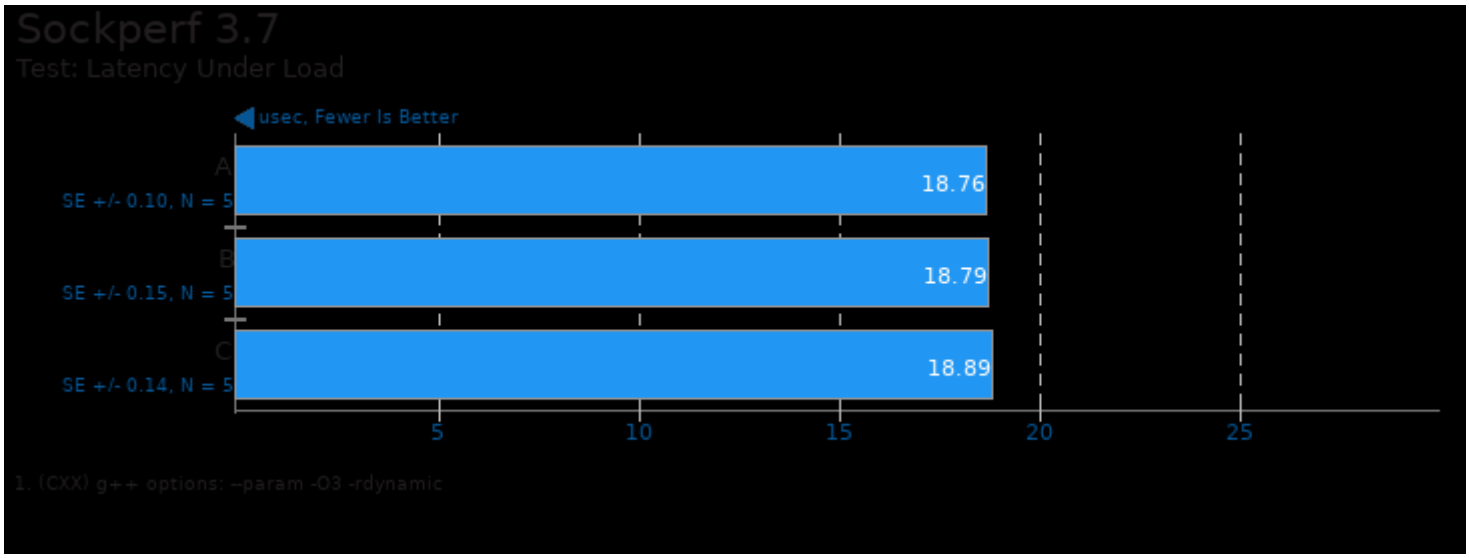
Sockperf 3.7

Test: Latency Ping Pong



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

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Sockperf 3.7
Test: Latency Under Load
usec, Fewer Is Better
A
SE +/- 0.10, N = 5
18.76
B
SE +/- 0.15, N = 5
18.79
C
SE +/- 0.14, N = 5
18.89
5
10
15
20
25
1. (CXX) g++ options: -param -O3 -rdynamic

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



Geometric mean based upon tests: pts/sockperf and pts/stream

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 17:50.