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Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

Tests for a future article on Phoronix by Michael Larabel.

Automated Executive Summary

Core i9 10900K had the most wins, coming in first place for 55% of the tests.

Based on the geometric mean of all complete results, the fastest (Ryzen 9 3950X) was 1.014x the speed of the slowest (Core i9 10900K).

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

ebizzy at 2.769x

CP2K Molecular Dynamics (Fayalite-FIST Data) at 2.639x

ParaView (Test: Wavelet Volume - Resolution: 3840 x 2160) at 2.487x

ParaView (Test: Wavelet Volume - Resolution: 3840 x 2160) at 2.486x

Cpuminer-Opt (Algorithm: m7m) at 2.057x

Parboil (Test: OpenMP CUTCP) at 2.052x

Milpack Benchmark (Benchmark: scikit_linearridge_regression) at 1.985x

GraphicsMagick (Operation: Swirl) at 1.904x

BLAKE2 at 1.896x

Facebook RocksDB (Test: Random Fill Sync) at 1.791x.

Test Systems:

Core i9 10900K

Processor: Intel Core i9-10900K @ 5.30GHz (10 Cores / 20 Threads), Motherboard: Gigabyte Z490 AORUS MASTER (F3 BIOS), Chipset: Intel Comet Lake PCH, Memory: 16GB, Disk: Samsung SSD 970 EVO 250GB, Graphics: AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 8GB (2060/875MHz), Audio: Realtek ALC1220, Network: Intel Device 15f3 + Intel Wi-Fi 6 AX201

OS: Ubuntu 20.04, Kernel: 5.7.0-999-generic (x86_64) 20200519, Desktop: GNOME Shell 3.36.1, Display Server: X Server 1.20.8, Display Driver: amdgpu 19.1.0, OpenGL: 4.6 Mesa 20.0.4 (LLVM 9.0.1), Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 3840x2160

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --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++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none,hsa --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-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
 Disk Notes: NONE / errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0xc8

Java Notes: OpenJDK Runtime Environment (build 11.0.7+10-post-Ubuntu-3ubuntu1)

Python Notes: Python 2.7.18rc1 + Python 3.8.2

Security Notes: itlb_multihit: KVM: Mitigation of Split huge pages + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + tsx_async_abort: Not affected

Ryzen 9 3950X

Processor: AMD Ryzen 9 3950X 16-Core @ 3.50GHz (16 Cores / 32 Threads), Motherboard: ASUS ROG CROSSHAIR VIII HERO (WI-FI) (1201 BIOS), Chipset: AMD Starship/Matisse, Memory: 16GB, Disk: Samsung SSD 970 EVO 250GB, Graphics: AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 8GB (2060/875MHz), Audio: AMD Navi 10 HDMI Audio, Network: Realtek RTL8125 2.5GbE + Intel I211 + Intel Wi-Fi 6 AX200

OS: Ubuntu 20.04, Kernel: 5.7.0-999-generic (x86_64) 20200519, Desktop: GNOME Shell 3.36.1, Display Server: X Server 1.20.8, Display Driver: amdgpu 19.1.0, OpenGL: 4.6 Mesa 20.0.4 (LLVM 9.0.1), Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 3840x2160

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --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++,gm2 --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none,hsa --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-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
 Disk Notes: NONE / errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: acpi-cpufreq ondemand - CPU Microcode: 0x8701013

Graphics Notes: GLAMOR

Java Notes: OpenJDK Runtime Environment (build 11.0.7+10-post-Ubuntu-3ubuntu1)

Python Notes: Python 2.7.18rc1 + Python 3.8.2

Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retrpoline IBPB: conditional STIBP: conditional RSB filling + tsx_async_abort: Not affected

	Core i9 10900K	Ryzen 9 3950X
ebizzy (Records/s)	495906	1373026
Normalized	36.12%	100%
Standard Deviation	2.9%	0.8%

CP2K Molecular Dynamics - Fayalite-FIST Data (sec)	855.403	324.193
Normalized	37.9%	100%
ParaView - Wavelet Volume - 3840 x 2160 (Frames / sec)	81.60	202.90
Normalized	40.22%	100%
Standard Deviation	2.2%	4.1%
ParaView - Wavelet Volume - 3840 x 2160 (MiVoxels / sec)	1306	3246
Normalized	40.22%	100%
Standard Deviation	2.2%	4.1%
Cpuminer-Opt - m7m (kH/s - Hash Speed)	407.75	838.57
Normalized	48.62%	100%
Standard Deviation	0.1%	0.3%
Parboil - OpenMP CUTCP (sec)	2.718560	1.324664
Normalized	48.73%	100%
Standard Deviation	0.1%	0.5%
Mipack Benchmark - scikit_linearridge regression	4.05	2.04
Normalized	50.37%	100%
Standard Deviation	0.7%	0.5%
GraphicsMagick - Swirl (Iterations/min)	529	1007
Normalized	52.53%	100%
Standard Deviation	0.2%	0.1%
BLAKE2 (Cycles/Byte)	4.03	7.64
Normalized	100%	52.75%
Standard Deviation	0%	0.6%
Facebook RocksDB - Rand Fill Sync (Ops/s)	2875	5148
Normalized	55.85%	100%
Standard Deviation	1.5%	3.4%
Stress-NG - Crypto (Bogo Ops/s)	2678	4744
Normalized	56.45%	100%
Standard Deviation	0.1%	0.3%
m-queens - Time To Solve (sec)	59.649	34.304
Normalized	57.51%	100%
Standard Deviation	0%	0.1%
libgav1 - S.N.1 (FPS)	135.37	78.41
Normalized	100%	57.92%
Standard Deviation	0.6%	0.1%
toyBrot Fractal Generator - TBB (ms)	79924	46547
Normalized	58.24%	100%
Standard Deviation	1.5%	1.1%
toyBrot Fractal Generator - C++ Threads (ms)	79413	46331
Normalized	58.34%	100%
Standard Deviation	0.1%	0.3%
toyBrot Fractal Generator - C++ Tasks (ms)	79172	46370
Normalized	58.57%	100%
Standard Deviation	0.1%	0.3%
NAS Parallel Benchmarks - EP.C (Mop/s)	1829	1077
Normalized	100%	58.91%
Standard Deviation	0.4%	0.1%
OSBench - Create Processes (us/Event)	16.390483	27.797222
Normalized	100%	58.96%
Standard Deviation	1.7%	2.4%
toyBrot Fractal Generator - OpenMP (ms)	80088	47670
Normalized	59.52%	100%
Standard Deviation	0%	0.7%
Rodinia - OpenMP CFD Solver (sec)	18.283	10.914

	Normalized	59.69%	100%
	Standard Deviation	0.2%	0.3%
Bork File Encrypter - F.E.T (sec)	5.124	8.578	
	Normalized	100%	59.73%
	Standard Deviation	1.5%	2.9%
NAS Parallel Benchmarks - EP.D (Mop/s)	1792	1071	
	Normalized	100%	59.75%
	Standard Deviation	2.8%	0.2%
C-Ray - Total Time - 4.1.R.P.P (sec)	52.130	31.594	
	Normalized	60.61%	100%
	Standard Deviation	0%	0.1%
DaCapo Benchmark - Tradebeans (msec)	2478	4064	
	Normalized	100%	60.97%
	Standard Deviation	3.4%	0.9%
Stress-NG - CPU Cache (Bogo Ops/s)	22.76	37.15	
	Normalized	61.27%	100%
	Standard Deviation	0.6%	4.7%
Basemark GPU - OpenGL - 3840 x 2160 - Medium	304.94	187.04	
	Normalized	100%	61.34%
	Standard Deviation	1.4%	2.6%
Multichase Pointer Chaser - 2.A.2.B.S (ns)	41.813	67.194	
	Normalized	100%	62.23%
	Standard Deviation	0.1%	0.3%
NAS Parallel Benchmarks - SP.B (Mop/s)	5284	8390	
	Normalized	62.97%	100%
	Standard Deviation	0.2%	0.1%
FFmpeg - H.2.H.T.N.D (sec)	4.562	7.197	
	Normalized	100%	63.39%
	Standard Deviation	2.1%	1.5%
Stress-NG - Vector Math (Bogo Ops/s)	94531	148737	
	Normalized	63.56%	100%
	Standard Deviation	0%	0.1%
Core-Latency - A.L.B.C.C (ns)	97.21	152.54	
	Normalized	100%	63.73%
IPC_benchmark - Unnamed Pipe - 4096	1460097	2268105	
	Normalized	64.38%	100%
	Standard Deviation	0.8%	0.6%
IPC_benchmark - FIFO Named Pipe - 4096 (Messages/sec)	1462821	2260588	
	Normalized	64.71%	100%
	Standard Deviation	0.4%	1.3%
N-Queens - Elapsed Time (sec)	10.350	6.760	
	Normalized	65.31%	100%
	Standard Deviation	0%	0.2%
LeelaChessZero - Eigen (Nodes/s)	607	400	
	Normalized	100%	65.9%
	Standard Deviation	2.6%	1.8%
Multichase Pointer Chaser - 1.A.2.B.S (ns)	44.604	67.366	
	Normalized	100%	66.21%
	Standard Deviation	0.2%	0.1%
LuxCoreRender - DLSC (M samples/sec)	2.19	3.29	
	Normalized	66.57%	100%
	Standard Deviation	2%	1.3%
Smallpt - G.I.R.1.S (sec)	7.852	5.237	
	Normalized	66.7%	100%

	Standard Deviation	0.1%	0.1%
Blender - Classroom - CPU-Only (sec)	338.66	226.13	
Normalized	66.77%	100%	
Standard Deviation	0.2%	0.1%	
Blender - Pabellon Barcelona - CPU-Only (sec)	426.20	285.86	
Normalized	67.07%	100%	
Standard Deviation	0.2%	0.1%	
GraphicsMagick - Enhanced (Iterations/min)	269	400	
Normalized	67.25%	100%	
Tungsten Renderer - Hair (sec)	20.2258	13.6067	
Normalized	67.27%	100%	
Standard Deviation	0.4%	0.2%	
Polyhedron Fortran Benchmarks - induct2 (sec)	14.45	21.35	
Normalized	100%	67.68%	
libgav1 - C.1.1.b (FPS)	31.25	21.19	
Normalized	100%	67.81%	
Standard Deviation	0.3%	0.3%	
Rodinia - O.S (sec)	17.306	25.517	
Normalized	100%	67.82%	
Standard Deviation	0.1%	0.3%	
Multichase Pointer Chaser - 1.A.2.B.S.2.T (ns)	46.168	67.811	
Normalized	100%	68.08%	
Standard Deviation	0.2%	0%	
Blender - Fishy Cat - CPU-Only (sec)	179.55	123.52	
Normalized	68.79%	100%	
Standard Deviation	0.2%	0.1%	
Primesieve - 1.P.N.G (sec)	17.181	11.821	
Normalized	68.8%	100%	
Standard Deviation	0.6%	0.6%	
Redis - GET (Reqs/sec)	3788205	2609128	
Normalized	100%	68.88%	
Standard Deviation	1.1%	2.8%	
Redis - LPOP (Reqs/sec)	3942561	2716045	
Normalized	100%	68.89%	
Standard Deviation	1.2%	2.5%	
LuxCoreRender - R.C.a.P (M samples/sec)	2.47	3.56	
Normalized	69.38%	100%	
Standard Deviation	0.4%	0.1%	
libgav1 - Summer Nature 4K (FPS)	34.85	24.18	
Normalized	100%	69.38%	
Standard Deviation	1.3%	0.2%	
GraphicsMagick - Noise-Gaussian (Iterations/min)	317	455	
Normalized	69.67%	100%	
Standard Deviation	0.2%		
Appleseed - Disney Material (sec)	174.867928	121.874074	
Normalized	69.69%	100%	
NeatBench - CPU (FPS)	18.3	26.2	
Normalized	69.85%	100%	
Standard Deviation	0.3%	2.4%	
Tachyon - Total Time (sec)	65.7816	46.0091	
Normalized	69.94%	100%	
Standard Deviation	0.1%	0.3%	
Stockfish - Total Time (Nodes/s)	35260191	50373394	
Normalized	70%	100%	
Standard Deviation	1.7%	0.5%	

Basis Universal - UASTC Level 3 (sec)	46.509	32.607
Normalized	70.11%	100%
Standard Deviation	0%	0.3%
GraphicsMagick - Sharpen (Iterations/min)	175	248
Normalized	70.56%	100%
Standard Deviation	0%	0.2%
CacheBench - Read (MB/s)	4322	3052
Normalized	100%	70.62%
Standard Deviation	0%	2.9%
Zstd Compression - C.u.1.0.3.s.i.i.C.L.1 (sec)	21.925	15.514
Normalized	70.76%	100%
Standard Deviation	0.2%	0.7%
IndigoBench - Bedroom (M samples/s)	1.894	2.669
Normalized	70.96%	100%
Standard Deviation	0.2%	0.3%
GnuPG - 2.F.E (sec)	7.949	11.194
Normalized	100%	71.01%
Standard Deviation	0.4%	1.9%
Rodinia - OpenMP LavaMD (sec)	21.053	14.967
Normalized	71.09%	100%
Standard Deviation	0.8%	0.2%
Appleseed - Emily (sec)	299.753452	213.491346
Normalized	71.22%	100%
GraphicsMagick - Resizing (Iterations/min)	1266	1774
Normalized	71.36%	100%
Standard Deviation	0.2%	0.2%
Facebook RocksDB - Rand Read (Op/s)	68514144	95962407
Normalized	71.4%	100%
Standard Deviation	0.2%	1.1%
Multichase Pointer Chaser - 1.A.2.B.S.4.T (ns)	50.128	70.200
Normalized	100%	71.41%
Standard Deviation	0%	0.1%
Zstd Compression - 3 (MB/s)	2867	4014
Normalized	71.42%	100%
Standard Deviation	0.5%	1.6%
Stress-NG - CPU Stress (Bogo Ops/s)	4731	6621
Normalized	71.46%	100%
Standard Deviation	0.3%	0.2%
Timed MPlayer Compilation - Time To Compile (sec)	29.273	20.967
Normalized	71.63%	100%
Standard Deviation	0.2%	0.3%
Java SciMark - Monte Carlo (Mflops)	1259	1753
Normalized	71.8%	100%
Standard Deviation	0%	1.7%
Redis - SET (Reqs/sec)	2770463	1992291
Normalized	100%	71.91%
Standard Deviation	1.4%	5.4%
oneDNN MKL-DNN - IP Batch 1D - f32 (ms)	3.30905	4.58909
Normalized	100%	72.11%
Standard Deviation	0.6%	0.1%
7-Zip Compression - C.S.T (MIPS)	65002	90026
Normalized	72.2%	100%
Standard Deviation	0.6%	0.7%
Blender - Barbershop - CPU-Only (sec)	473.60	342.25
Normalized	72.27%	100%

	Standard Deviation	0.1%	0.1%
Timed LLVM Compilation - Time To Compile (sec)	505.431	365.636	
	Normalized	72.34%	100%
	Standard Deviation	1.1%	0.4%
Renaissance - G.A.U.J.F (ms)	1249	1725	
	Normalized	100%	72.43%
	Standard Deviation	4%	1.8%
OSBench - Launch Programs (us/Event)	26.023388	35.923322	
	Normalized	100%	72.44%
	Standard Deviation	0.3%	1.2%
Numenta Anomaly Benchmark - B.C (sec)	36.066	26.176	
	Normalized	72.58%	100%
	Standard Deviation	0.7%	2.9%
Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)	517909	711755	
	Normalized	72.77%	100%
	Standard Deviation	0.4%	0.2%
Nettle - poly1305-aes (Mbyte/s)	3726	2711	
	Normalized	100%	72.77%
	Standard Deviation	0.3%	0.2%
Redis - LPUSH (Reqs/sec)	2289561	1666745	
	Normalized	100%	72.8%
	Standard Deviation	2.8%	4.5%
Nettle - chacha (Mbyte/s)	1360	992.023	
	Normalized	100%	72.96%
	Standard Deviation	0%	0.1%
Timed Linux Kernel Compilation - Time To Compile	61.708	45.114	
	Normalized	73.11%	100%
	Standard Deviation	0.9%	2.9%
Stress-NG - Context Switching (Bogo Ops/s)	5661608	7734524	
	Normalized	73.2%	100%
	Standard Deviation	0.8%	2.7%
Stress-NG - Socket Activity (Bogo Ops/s)	8782	11945	
	Normalized	73.52%	100%
	Standard Deviation	1.5%	0.8%
Polyhedron Fortran Benchmarks - ac (sec)	4.34	5.89	
	Normalized	100%	73.68%
Embree - Pathtracer - Crown (FPS)	15.4524	20.8580	
	Normalized	74.08%	100%
	Standard Deviation	0.2%	0.3%
Blender - BMW27 - CPU-Only (sec)	114.39	84.77	
	Normalized	74.11%	100%
	Standard Deviation	0.3%	0.2%
dav1d - Chimera 1080p (FPS)	700.92	519.76	
	Normalized	100%	74.15%
	Standard Deviation	0.1%	0.5%
Hackbench - 1 - Thread (sec)	2.245	3.016	
	Normalized	100%	74.44%
	Standard Deviation	0.5%	1.1%
Hierarchical INTegration - FLOAT (QUIPs)	510613895	380487205	
	Normalized	100%	74.52%
	Standard Deviation	0.3%	0.3%
Java Gradle Build - Reactor (sec)	188.102	251.425	
	Normalized	100%	74.81%
	Standard Deviation	2.8%	4%
YafaRay - T.T.F.S.S (sec)	108.878	81.477	

	Normalized	74.83%	100%
	Standard Deviation	0.1%	0.9%
Hackbench - 1 - Process (sec)	2.029	2.711	
	Normalized	100%	74.84%
	Standard Deviation	0.2%	1.8%
Go Benchmarks - json (ns/op)	3100011	2321631	
	Normalized	74.89%	100%
	Standard Deviation	0.6%	0.1%
Nettle - aes256 (Mbyte/s)	8094	6114	
	Normalized	100%	75.54%
	Standard Deviation	0%	0.1%
rays1bench - Large Scene (mrays/s)	81.82	108.20	
	Normalized	75.62%	100%
	Standard Deviation	0%	0.1%
Basis Universal - UASTC Level 2 (sec)	25.170	19.048	
	Normalized	75.68%	100%
	Standard Deviation	0.4%	0.4%
Polyhedron Fortran Benchmarks - linpk (sec)	2.31	3.05	
	Normalized	100%	75.74%
Selenium - Maze Solver - Google Chrome (sec)	5.4	4.1	
	Normalized	75.93%	100%
	Standard Deviation	0%	1.4%
AOM AV1 - Speed 6 Realtime (FPS)	25.31	19.22	
	Normalized	100%	75.94%
	Standard Deviation	0.8%	0.7%
Zstd Compression - 19 (MB/s)	30.3	39.6	
	Normalized	76.52%	100%
	Standard Deviation	0.3%	0.1%
ASKAP - tConvolve MT - Gridding (Million Grid Points/sec)	1142	874.050	
	Normalized	100%	76.52%
	Standard Deviation	0%	0.3%
BRL-CAD - V.P.M (VGR Performance Metric)	192500	251130	
	Normalized	76.65%	100%
Unigine Superposition - 1920 x 1080 - Windowed - Low - OpenGL (FPS)	229.3	176.2	
	Normalized	100%	76.84%
	Standard Deviation	0.5%	0.1%
ASKAP - tConvolve MPI - Gridding (Million Grid Points/sec)	1161	892.666	
	Normalized	100%	76.88%
	Standard Deviation	0.2%	0%
Timed FFmpeg Compilation - Time To Compile (sec)	46.059	35.442	
	Normalized	76.95%	100%
	Standard Deviation	1.1%	1%
asmFish - 1.H.M.2.D (Nodes/s)	39969419	51867171	
	Normalized	77.06%	100%
	Standard Deviation	3%	0.6%
FFTW - Float + SSE - 2D FFT Size 4096 (Mflops)	27489	21239	
	Normalized	100%	77.26%
	Standard Deviation	1.6%	
SQLite Speedtest - Timed Time - Size 1,000 (sec)	44.924	58.132	
	Normalized	100%	77.28%
	Standard Deviation	0.1%	1.1%

Sysbench - CPU (Events/sec)	27066	34951
Normalized	77.44%	100%
Standard Deviation	0%	0.1%
NWChem - C240 Buckyball (sec)	12612	9795
Normalized	77.66%	100%
AOM AV1 - Speed 8 Realtime (FPS)	49.01	38.24
Normalized	100%	78.02%
Standard Deviation	0.5%	1.6%
PyPerformance - pickle_pure_python (Milliseconds)	331	424
Normalized	100%	78.07%
Standard Deviation	0.3%	
John The Ripper - MD5 (Real C/S)	1383667	1771667
Normalized	78.1%	100%
Standard Deviation	0%	0.2%
Polyhedron Fortran Benchmarks - fatigue2 (sec)	36.69	46.89
Normalized	100%	78.25%
Appleseed - Material Tester (sec)	164.002915	128.457773
Normalized	78.33%	100%
IndigoBench - Supercar (M samples/s)	4.435	5.660
Normalized	78.36%	100%
Standard Deviation	0.1%	0.1%
Optcarrot - O.B (FPS)	180.40	141.62
Normalized	100%	78.5%
Standard Deviation	0.3%	1.3%
Aircrack-ng (k/s)	45912	58218
Normalized	78.86%	100%
Standard Deviation	0%	0.1%
x264 - H.2.V.E (FPS)	126.49	159.92
Normalized	79.1%	100%
Standard Deviation	2.9%	2.9%
GROMACS - Water Benchmark (Ns/Day)	0.978	1.236
Normalized	79.13%	100%
Standard Deviation	0.1%	0.2%
Tungsten Renderer - Volumetric Caustic (sec)	6.98866	5.53479
Normalized	79.2%	100%
Standard Deviation	0.3%	1.6%
OpenSSL - R.4.b.P (Signs/sec)	3756	4707
Normalized	79.79%	100%
Standard Deviation	0.1%	0.1%
PyPerformance - chaos (Milliseconds)	79.8	100
Normalized	100%	79.8%
Standard Deviation	1.2%	
dav1d - S.N.1 (FPS)	735.61	587.62
Normalized	100%	79.88%
Standard Deviation	0.2%	0.3%
IOR - Read Test (MB/s)	867.37	1083
Normalized	80.06%	100%
Standard Deviation	4.7%	0.1%
dav1d - Chimera 1080p (FPS)	782.60	626.95
Normalized	100%	80.11%
Standard Deviation	0.3%	0.3%
LeelaChessZero - Rand (Nodes/s)	231501	185500
Normalized	100%	80.13%
Standard Deviation	0.4%	0%
Stress-NG - Matrix Math (Bogo Ops/s)	62671	77934

	Normalized	80.42%	100%
	Standard Deviation	2.8%	0.8%
Facebook RocksDB - Read While Writing (Ops/s)	2911882	3615702	
	Normalized	80.53%	100%
	Standard Deviation	3.1%	2.1%
Renaissance - Rand Forest (ms)	1465	1816	
	Normalized	100%	80.72%
	Standard Deviation	1.8%	4.1%
GIMP - unsharp-mask (sec)	11.946	14.776	
	Normalized	100%	80.85%
	Standard Deviation	0.1%	0.5%
PyPerformance - float (Milliseconds)	82.5	102	
	Normalized	100%	80.88%
	Standard Deviation	0.2%	
GraphicsMagick - HWB Color Space (Iterations/min)	1219	1507	
	Normalized	80.89%	100%
	Standard Deviation	0.2%	0.3%
Basemark GPU - OpenGL - 3840 x 2160 - High (FPS)	59.64	73.68	
	Normalized	80.94%	100%
	Standard Deviation	0.9%	0.4%
Selenium - W.c - Google Chrome (ms)	343.4547	278.3210	
	Normalized	81.04%	100%
	Standard Deviation	1.7%	1.8%
OSBench - Memory Allocations (Ns/Event)	56.163311	69.227616	
	Normalized	100%	81.13%
	Standard Deviation	0.2%	0.3%
Selenium - StyleBench - Firefox (Runs / Minute)	104	84.4	
	Normalized	100%	81.15%
	Standard Deviation		0.2%
TSCP - A.C.P (Nodes/s)	1623785	1320223	
	Normalized	100%	81.31%
	Standard Deviation	0.5%	0.7%
dav1d - S.N.1 (FPS)	671.39	547.69	
	Normalized	100%	81.58%
	Standard Deviation	0.2%	0.3%
Cpuminer-Opt - deep (kH/s - Hash Speed)	12397	15150	
	Normalized	81.83%	100%
	Standard Deviation	0%	0.1%
Embree - Pathtracer - Asian Dragon (FPS)	17.5550	21.4302	
	Normalized	81.92%	100%
	Standard Deviation	0.7%	0.2%
PyPerformance - go (Milliseconds)	187	228	
	Normalized	100%	82.02%
LULESH (z/s)	11.960647	9.8209433	
	Normalized	100%	82.11%
	Standard Deviation	1.6%	0.1%
GraphicsMagick - Rotate (Iterations/min)	888	730	
	Normalized	100%	82.21%
	Standard Deviation		2.9%
OpenVKL - vklBenchmark (Items / Sec)	192.83	234.25	
	Normalized	82.32%	100%
	Standard Deviation	0.4%	0.2%
Embree - Pathtracer - Asian Dragon Obj (FPS)	16.1775	19.6503	
	Normalized	82.33%	100%
	Standard Deviation	0.2%	0.3%

PlaidML - No - Inference - Inception V3 - CPU (FPS)	9.23	11.21
Normalized	82.34%	100%
Standard Deviation	0.4%	0.4%
PyPerformance - raytrace (Milliseconds)	352	427
Normalized	100%	82.44%
Standard Deviation	0.3%	
DeepSpeech - CPU (sec)	78.36647	64.61712
Normalized	82.46%	100%
Standard Deviation	1.9%	0.8%
PlaidML - No - Inference - VGG16 - CPU (FPS)	19.28	23.31
Normalized	82.71%	100%
Standard Deviation	0.9%	1.4%
DaCapo Benchmark - Jython (msec)	3319	4010
Normalized	100%	82.77%
Standard Deviation	0.8%	
Renaissance - A.U.C.T (ms)	9185	11097
Normalized	100%	82.77%
Standard Deviation	3.8%	1.8%
GIMP - auto-levels (sec)	9.693	11.692
Normalized	100%	82.9%
Standard Deviation	0.3%	0.4%
Cpuminer-Opt - Ibry (kH/s - Hash Speed)	38917	46910
Normalized	82.96%	100%
Standard Deviation	0.1%	0.7%
Perl Benchmarks - Pod2html (sec)	0.09327881	0.11237626
Normalized	100%	83.01%
Standard Deviation	0.4%	0.9%
Polyhedron Fortran Benchmarks - air (sec)	1.95	1.62
Normalized	83.08%	100%
ASKAP - tConvolve MT - Degridding (Million Grid Points/sec)	1946	1618
Normalized	100%	83.12%
Standard Deviation	0.1%	0.2%
PyPerformance - json.loads (Milliseconds)	18.3	22.0
Normalized	100%	83.18%
Standard Deviation	0%	0.3%
Build2 - Time To Compile (sec)	84.939	70.665
Normalized	83.19%	100%
Standard Deviation	1.6%	1.8%
Polyhedron Fortran Benchmarks - aermod (sec)	4.57	5.49
Normalized	100%	83.24%
Cpuminer-Opt - skein (kH/s - Hash Speed)	45343	54471
Normalized	83.24%	100%
Standard Deviation	0.5%	2.9%
Timed ImageMagick Compilation - Time To Compile	25.033	20.860
Normalized	83.33%	100%
Standard Deviation	0.8%	0.1%
Selenium - Maze Solver - Firefox (sec)	5.4	4.5
Normalized	83.33%	100%
Standard Deviation	1.1%	1.3%
John The Ripper - Blowfish (Real C/S)	23257	27740
Normalized	83.84%	100%
Standard Deviation	0%	0.4%
PlaidML - No - Inference - VGG19 - CPU (FPS)	16.09	19.19
Normalized	83.85%	100%

	Standard Deviation	0.7%	1%
Polyhedron Fortran Benchmarks - rnflow (sec)	Normalized	100%	83.87%
VP9 libvpx Encoding - Speed 5 (FPS)	Normalized	100%	83.9%
	Standard Deviation	0.3%	0.4%
DaCapo Benchmark - Tradesoap (msec)	Normalized	100%	83.93%
Botan - AES-256 (MiB/s)	Normalized	1.4%	1.5%
	Standard Deviation	83.98%	100%
Sockperf - Latency Ping Pong (usec)	Normalized	0%	0.1%
	Standard Deviation	1.3%	2.4%
Swet - Average (Operations/sec)	Normalized	972233554	816912713
	Standard Deviation	0.3%	1.9%
oneDNN MKL-DNN - D.B.d - f32 (ms)	Normalized	3.03768	2.55517
	Standard Deviation	0.2%	0.4%
Timed HMMer Search - P.D.S (sec)	Normalized	4.281	5.086
	Standard Deviation	0.4%	1.6%
PyPerformance - django_template (Milliseconds)	Normalized	38.3	45.5
	Standard Deviation	0.5%	0.4%
Izbench - XZ 0 - Compression (MB/s)	Normalized	51	43
	Standard Deviation	100%	84.31%
Izbench - Brotli 0 - Decompression (MB/s)	Normalized	783	661
	Standard Deviation	0.1%	2.7%
GEGL - Wavelet Blur (sec)	Normalized	52.123	61.585
	Standard Deviation	0.3%	1.2%
Tesseract - 3840 x 2160 (FPS)	Normalized	431.0337	364.8969
	Standard Deviation	2.8%	1.1%
TTSIOD 3D Renderer - P.R.W.S.S.M (FPS)	Normalized	706.616	834.379
	Standard Deviation	0.2%	0.2%
Renaissance - Apache Spark ALS (ms)	Normalized	1654	1950
	Standard Deviation	1.4%	0.8%
oneDNN MKL-DNN - D.B.d - u8s8f32 (ms)	Normalized	2.23525	2.63474
	Standard Deviation	0.4%	0.2%
ASKAP - tConvolve MPI - Degridding (Million Grid Points/sec)	Normalized	1953	1657
	Standard Deviation	0.1%	0.1%
GEGL - Tile Glass (sec)	Normalized	24.658	29.061
	Standard Deviation	0.1%	0.5%

Selenium - W.c - Firefox (ms)	414.4	351.9
Normalized	84.92%	100%
Standard Deviation	0.3%	0.7%
PyBench - T.F.A.T.T (Milliseconds)	760	894
Normalized	100%	85.01%
Standard Deviation	0.5%	2.1%
PyPerformance - 2to3 (Milliseconds)	241	283
Normalized	100%	85.16%
Standard Deviation		0.2%
G'MIC - P.I.O.A.3.V.1.T (sec)	16.006	18.735
Normalized	100%	85.43%
Standard Deviation	1.3%	3%
GEGL - Reflect (sec)	25.416	29.718
Normalized	100%	85.52%
Standard Deviation	0.2%	1.8%
PyPerformance - crypto_pyaes (Milliseconds)	83.2	97.2
Normalized	100%	85.6%
Standard Deviation	0%	0.3%
Tungsten Renderer - Non-Exponential (sec)	5.14902	4.40751
Normalized	85.6%	100%
Standard Deviation	0.2%	0.4%
Selenium - WebXPRT - Firefox (Score)	294	252
Normalized	100%	85.71%
Standard Deviation		0.8%
Selenium - ARES-6 - Firefox (ms)	36.73	42.85
Normalized	100%	85.72%
Standard Deviation	0.9%	0.1%
PyPerformance - regex_compile (Milliseconds)	133	155
Normalized	100%	85.81%
Standard Deviation	2.6%	
Cpuminer-Opt - sha256t (kH/s - Hash Speed)	102523	119460
Normalized	85.82%	100%
Standard Deviation	1.8%	2.6%
Izbench - Brotli 2 - Decompression (MB/s)	908	780
Normalized	100%	85.9%
Standard Deviation	0.1%	0.5%
GEGL - Rotate 90 Degrees (sec)	32.369	37.640
Normalized	100%	86%
Standard Deviation	1.2%	0.6%
GEGL - Antialias (sec)	32.111	37.298
Normalized	100%	86.09%
Standard Deviation	0.8%	0.6%
Botan - Blowfish (MiB/s)	556.522	479.252
Normalized	100%	86.12%
Standard Deviation	0.1%	0.1%
Crypto++ - I.E.C.P.K.A (MiB/s)	6378	5494
Normalized	100%	86.15%
Standard Deviation	0.1%	2.5%
dav1d - C.1.1.b (FPS)	132.44	114.24
Normalized	100%	86.26%
Standard Deviation	0.1%	0.2%
NAS Parallel Benchmarks - BT.C (Mop/s)	26329	22727
Normalized	100%	86.32%
Standard Deviation	0.1%	0.2%
IPC_benchmark - U.U.D.S - 4096 (Messages/sec)	1260891	1088654

	Normalized	100%	86.34%
	Standard Deviation	0.6%	1.1%
Gzip Compression - L.S.T.A.T.t.g (sec)	28.833	33.392	
	Normalized	100%	86.35%
	Standard Deviation	2.7%	3.3%
Numenta Anomaly Benchmark - Earthgecko Skyline	90.165	77.869	
	Normalized	86.36%	100%
	Standard Deviation	2.9%	0.4%
Izbench - Crush 0 - Decompression (MB/s)	612	529	
	Normalized	100%	86.44%
	Standard Deviation	0.2%	0.3%
dav1d - C.1.1.b (FPS)	131.44	113.65	
	Normalized	100%	86.47%
	Standard Deviation	0.1%	0.4%
Selenium - ARES-6 - Google Chrome (ms)	17.47	20.20	
	Normalized	100%	86.49%
	Standard Deviation	0.5%	1.1%
PlaidML - No - Inference - DenseNet 201 - CPU (FPS)	3.35	3.87	
	Normalized	86.56%	100%
	Standard Deviation	0.5%	1.1%
Fhourstones - C.C.4.S (Kpos / sec)	17312	14987	
	Normalized	100%	86.57%
	Standard Deviation	0.1%	0.2%
Timed GDB GNU Debugger Compilation - Time To Compile (sec)	77.059	88.759	
	Normalized	100%	86.82%
	Standard Deviation	0.2%	0.1%
x265 - H.2.1.V.E (FPS)	72.38	62.85	
	Normalized	100%	86.83%
	Standard Deviation	1%	0.8%
Numenta Anomaly Benchmark - Relative Entropy	16.561	14.391	
	Normalized	86.9%	100%
	Standard Deviation	1.5%	1%
Izbench - Crush 0 - Compression (MB/s)	131	114	
	Normalized	100%	87.02%
	Standard Deviation		1%
AOBench - 2048 x 2048 - Total Time (sec)	27.170	31.131	
	Normalized	100%	87.28%
	Standard Deviation	0.2%	0.6%
Numenta Anomaly Benchmark - Windowed Gaussian (sec)	7.665	6.695	
	Normalized	87.35%	100%
	Standard Deviation	0.7%	0.5%
Intel Open Image Denoise - Memorial (Images / Sec)	11.12	12.73	
	Normalized	87.35%	100%
	Standard Deviation	0%	0.3%
oneDNN MKL-DNN - IP Batch 1D - u8s8f32 (ms)	1.17466	1.34228	
	Normalized	100%	87.51%
	Standard Deviation	0%	0.2%
CacheBench - Write (MB/s)	36212	31703	
	Normalized	100%	87.55%
	Standard Deviation	0%	0.3%
Botan - KASUMI (MiB/s)	115.381	101.025	
	Normalized	100%	87.56%
	Standard Deviation	0.3%	0.3%

Izbench - Libdeflate 1 - Decompression (MB/s)	1482	1298
Normalized	100%	87.58%
GEGL - Cartoon (sec)	78.938	89.855
Normalized	100%	87.85%
Standard Deviation	1.1%	1.1%
Selenium - Jetstream - Google Chrome (Score)	258.92	227.80
Normalized	100%	87.98%
Standard Deviation	0.3%	0%
Izbench - Zstd 1 - Decompression (MB/s)	1776	1563
Normalized	100%	88.01%
Standard Deviation	0.3%	1%
Selenium - PSPDFKit WASM - Firefox (Score)	1148	1304
Normalized	100%	88.04%
Standard Deviation	0.6%	0.1%
Botan - Twofish (MiB/s)	446.240	393.003
Normalized	100%	88.07%
Standard Deviation	0.3%	0.1%
oneDNN MKL-DNN - IP Batch All - f32 (ms)	56.9110	50.1698
Normalized	88.15%	100%
Standard Deviation	0.2%	0.3%
Crypto++ - Keyed Algorithms (MiB/s)	789.168824	697.187580
Normalized	100%	88.34%
Standard Deviation	0%	0.3%
Embree - Pathtracer ISPC - Crown (FPS)	17.7342	20.0572
Normalized	88.42%	100%
Standard Deviation	0.2%	0.8%
Timed Apache Compilation - Time To Compile (sec)	17.907	20.240
Normalized	100%	88.47%
Standard Deviation	0.2%	0.4%
Himeno Benchmark - P.P.S (MFLOPS)	4395	4966
Normalized	88.49%	100%
Standard Deviation	0.1%	2.8%
Algebraic Multi-Grid Benchmark (Figure Of Merit)	23127	26110
Normalized	88.57%	100%
Standard Deviation	1.4%	0%
Botan - CAST-256 (MiB/s)	175.908	156.180
Normalized	100%	88.79%
Standard Deviation	0.1%	0.2%
ASKAP - tConvolve OpenMP - Degridding (Million Grid Points/sec)	2165	1925
Normalized	100%	88.91%
Standard Deviation	0.8%	0.4%
PyPerformance - nbody (Milliseconds)	89.9	101
Normalized	100%	89.01%
Standard Deviation	0.2%	0.6%
Selenium - Octane - Firefox (Geometric Mean)	38776	34528
Normalized	100%	89.04%
Standard Deviation	1.1%	1.3%
ASKAP - tConvolve OpenMP - Gridding (Million Grid Points/sec)	1307	1165
Normalized	100%	89.09%
Standard Deviation	0.8%	2%
oneDNN MKL-DNN - R.N.N.T - f32 (ms)	169.855	190.560
Normalized	100%	89.13%
Standard Deviation	0.9%	0.3%

AOM AV1 - Speed 6 Two-Pass (FPS)	4.66	4.16
Normalized	100%	89.27%
Standard Deviation	0.3%	0.8%
IOR - Write Test (MB/s)	249.66	279.04
Normalized	89.47%	100%
Standard Deviation	0.2%	1%
Timed PHP Compilation - Time To Compile (sec)	47.704	42.697
Normalized	89.5%	100%
Standard Deviation	0.8%	0.9%
GEGL - Crop (sec)	6.764	7.538
Normalized	100%	89.73%
Standard Deviation	1.4%	1.7%
Timed MrBayes Analysis - P.P.A (sec)	63.719	70.989
Normalized	100%	89.76%
Standard Deviation	0.1%	0.6%
OSBench - Create Files (us/Event)	10.474451	11.633563
Normalized	100%	90.04%
Standard Deviation	0.8%	0.4%
Facebook RocksDB - Seq Fill (Op/s)	1431900	1292441
Normalized	100%	90.26%
Standard Deviation	0.4%	0.5%
Tungsten Renderer - Water Caustic (sec)	23.6946	21.3900
Normalized	90.27%	100%
Standard Deviation	0.6%	0.5%
Java SciMark - F.F.T (Mflops)	1930	2134
Normalized	90.45%	100%
Standard Deviation	0.9%	2.1%
Basis Universal - UASTC Level 0 (sec)	6.514	7.197
Normalized	100%	90.51%
Standard Deviation	1.1%	1%
Hackbench - 32 - Process (sec)	49.161	54.263
Normalized	100%	90.6%
Standard Deviation	0.2%	2.7%
Polyhedron Fortran Benchmarks - mdbx (sec)	3.87	4.27
Normalized	100%	90.63%
Multichase Pointer Chaser - 4.A.6.B.S (ns)	5.206	4.720
Normalized	90.66%	100%
Standard Deviation	0.1%	0.3%
Mipack Benchmark - scikit_qda (sec)	62.50	68.93
Normalized	100%	90.67%
Standard Deviation	0.4%	1.3%
Cython benchmark (sec)	35.064	38.658
Normalized	100%	90.7%
Standard Deviation	0.6%	1.2%
dav1d - Summer Nature 4K (FPS)	185.20	204.01
Normalized	90.78%	100%
Standard Deviation	0.1%	0.1%
GIMP - rotate (sec)	9.573	10.542
Normalized	100%	90.81%
Standard Deviation	0.5%	0.7%
Selenium - Octane - Google Chrome (Geometric)	54153	49230
Normalized	100%	90.91%
Standard Deviation	0.2%	0.7%
CacheBench - R.M.W (MB/s)	55906	61492
Normalized	90.92%	100%

	Standard Deviation	0%	0.6%
Crypto++ - All Algorithms (MiB/s)	1962	1784	
	Normalized	100%	90.95%
	Standard Deviation	0%	0.1%
Izbench - Zstd 8 - Decompression (MB/s)	1884	1714	
	Normalized	100%	90.98%
	Standard Deviation	0.2%	0.5%
Unigine Valley - 1920 x 1080 - Windowed - OpenGL (FPS)	176.703	160.954	
	Normalized	100%	91.09%
	Standard Deviation	0.4%	0.3%
GEGL - Color Enhance (sec)	50.055	54.906	
	Normalized	100%	91.16%
	Standard Deviation	1.2%	0.4%
IPC_benchmark - TCP Socket - 4096 (Messages/sec)	1575932	1445302	
	Normalized	100%	91.71%
	Standard Deviation	0.5%	0.8%
GIMP - resize (sec)	6.135	6.689	
	Normalized	100%	91.72%
	Standard Deviation	1%	1.7%
oneDNN MKL-DNN - D.B.d - f32 (ms)	4.76923	4.37431	
	Normalized	91.72%	100%
	Standard Deviation	0.3%	0.3%
Git - T.T.C.C.G.C (sec)	41.515	45.230	
	Normalized	100%	91.79%
	Standard Deviation	0.1%	2.8%
Mipack Benchmark - scikit_svm (sec)	20.91	19.21	
	Normalized	91.87%	100%
	Standard Deviation	0.1%	0.6%
Selenium - PSPDFKit WASM - Google Chrome (Score)	1387	1509	
	Normalized	100%	91.92%
	Standard Deviation	0.7%	1.1%
Minion - Quasigroup (sec)	93.440554	101.658951	
	Normalized	100%	91.92%
	Standard Deviation	0.2%	0.6%
Selenium - Jetstream - Firefox (Score)	237.52	218.55	
	Normalized	100%	92.01%
	Standard Deviation	0.3%	0.1%
Parboil - OpenMP Stencil (sec)	16.403124	15.106023	
	Normalized	92.09%	100%
	Standard Deviation	1.1%	0.8%
Polyhedron Fortran Benchmarks - test_fpu2 (sec)	28.67	26.44	
	Normalized	92.22%	100%
Polyhedron Fortran Benchmarks - mp_prop_design	49.13	53.27	
	Normalized	100%	92.23%
rav1e - 6 (FPS)	1.622	1.497	
	Normalized	100%	92.29%
	Standard Deviation	0.1%	0.1%
Sockperf - Throughput (Messages/sec)	639629	590729	
	Normalized	100%	92.35%
	Standard Deviation	1.6%	3.5%
Izbench - Zstd 1 - Compression (MB/s)	615	568	
	Normalized	100%	92.36%
	Standard Deviation		1.3%
AOM AV1 - Speed 4 Two-Pass (FPS)	2.93	2.71	

	Normalized	100%	92.49%
	Standard Deviation	0.4%	0.2%
XZ Compression - C.u.1.0.3.s.i.C.L.9 (sec)	22.326	24.112	
	Normalized	100%	92.59%
	Standard Deviation	0.5%	0.3%
FFTW - Stock - 2D FFT Size 4096 (Mflops)	6969	6458	
	Normalized	100%	92.66%
	Standard Deviation	0.6%	0.5%
Selenium - Jetstream 2 - Google Chrome (Score)	149.132	138.227	
	Normalized	100%	92.69%
	Standard Deviation	2.1%	1.1%
Nebular Empirical Analysis Tool (sec)	13.970	12.957	
	Normalized	92.75%	100%
	Standard Deviation	0.1%	0.9%
NAMD - ATPase Simulation - 327,506 Atoms (days/ns)	1.20434	1.11719	
	Normalized	92.76%	100%
	Standard Deviation	0.4%	0.3%
PyPerformance - pathlib (Milliseconds)	14.4	15.5	
	Normalized	100%	92.9%
	Standard Deviation	0.4%	0.4%
Radiance Benchmark - Serial (sec)	577.884	538.599	
	Normalized	93.2%	100%
libjpeg-turbo tjbench - D.T (Megapixels/sec)	237.108141	221.087385	
	Normalized	100%	93.24%
	Standard Deviation	0.2%	0.2%
FLAC Audio Encoding - WAV To FLAC (sec)	7.699	8.250	
	Normalized	100%	93.32%
	Standard Deviation	2.6%	3.4%
Numpy Benchmark (Score)	444.12	414.61	
	Normalized	100%	93.36%
	Standard Deviation	1.3%	1.4%
Radiance Benchmark - SMP Parallel (sec)	182.363	170.288	
	Normalized	93.38%	100%
rav1e - 5 (FPS)	0.670	0.626	
	Normalized	100%	93.43%
	Standard Deviation	0.1%	0.1%
Polyhedron Fortran Benchmarks - doduc (sec)	6.13	6.56	
	Normalized	100%	93.45%
Izbench - Libdeflate 1 - Compression (MB/s)	290	271	
	Normalized	100%	93.45%
	Standard Deviation	0.4%	
PyPerformance - python_startup (Milliseconds)	6.04	6.46	
	Normalized	100%	93.5%
	Standard Deviation	0.1%	2.4%
Java SciMark - D.L.M.F (Mflops)	7302	6835	
	Normalized	100%	93.6%
	Standard Deviation	1%	2.9%
rav1e - 10 (FPS)	3.460	3.241	
	Normalized	100%	93.67%
	Standard Deviation	0.2%	0.2%
Selenium - Jetstream 2 - Firefox (Score)	102.083	95.645	
	Normalized	100%	93.69%
	Standard Deviation	0.6%	0.8%
Izbench - Zstd 8 - Compression (MB/s)	104	111	
	Normalized	93.69%	100%

	Standard Deviation	0.9%
Polyhedron Fortran Benchmarks - protein (sec)	11.62	12.37
	Normalized	100%
Bullet Physics Engine - 1000 Stack (sec)	3.810223	4.047731
	Normalized	93.94%
	Standard Deviation	94.13%
rav1e - 1 (FPS)	0.205	0.193
	Normalized	0.4%
	Standard Deviation	0.5%
Scikit-Learn (sec)	8.782	8.273
	Normalized	0%
	Standard Deviation	0.3%
Minion - Graceful (sec)	41.961286	39.558481
	Normalized	2.4%
	Standard Deviation	100%
Unigine Superposition - 1920 x 1080 - Windowed - High - OpenGL (FPS)	77.7	82.2
	Normalized	94.27%
	Standard Deviation	0.1%
dav1d - Summer Nature 4K (FPS)	177.43	187.35
	Normalized	100%
	Standard Deviation	0.1%
VP9 libvpx Encoding - Speed 0 (FPS)	8.20	7.79
	Normalized	0.5%
	Standard Deviation	0.1%
oneDNN MKL-DNN - R.N.N.I - f32 (ms)	28.0154	26.6223
	Normalized	95%
	Standard Deviation	0.6%
High Performance Conjugate Gradient (GFLOP/s)	4.36353	4.58602
	Normalized	0.1%
	Standard Deviation	0.2%
Go Benchmarks - garbage (ns/op)	788879	750702
	Normalized	95.03%
	Standard Deviation	0.3%
Pennant - leblancbig (Hydro Cycle Time - sec)	3918	4113
	Normalized	100%
	Standard Deviation	0.3%
Izbench - Brotli 2 - Compression (MB/s)	233	222
	Normalized	95.16%
	Standard Deviation	0.4%
Selenium - Kraken - Google Chrome (ms)	779.3	743.1
	Normalized	100%
	Standard Deviation	0.28%
Crypto++ - Unkeyed Algorithms (MiB/s)	407.907548	389.039005
	Normalized	95.35%
	Standard Deviation	1%
Selenium - Speedometer - Firefox (Runs/min)	104	99.34
	Normalized	100%
	Standard Deviation	0.37%
Embree - Pathtracer ISPC - Asian Dragon Obj (FPS)	18.2419	19.0858
	Normalized	95.52%
	Standard Deviation	0.4%
GEGL - Scale (sec)	4.822	5.042
	Normalized	95.58%
	Standard Deviation	0.2%
oneDNN MKL-DNN - IP Batch All - u8s8f32 (ms)	19.0225	19.8851
	Normalized	95.64%
	Standard Deviation	0.5%

	Normalized	100%	95.66%
	Standard Deviation	0.1%	0.2%
Renaissance - T.H.R (ms)	2004	2094	
	Normalized	100%	95.69%
	Standard Deviation	1.3%	0.9%
Bullet Physics Engine - 1000 Convex (sec)	3.584657	3.745295	
	Normalized	100%	95.71%
	Standard Deviation	0.1%	0.4%
Polyhedron Fortran Benchmarks - gas_dyn2 (sec)	39.99	41.78	
	Normalized	100%	95.72%
Minion - Solitaire (sec)	55.284448	57.688167	
	Normalized	100%	95.83%
	Standard Deviation	0.2%	0.1%
Embree - Pathtracer ISPC - Asian Dragon (FPS)	20.5126	21.3600	
	Normalized	96.03%	100%
	Standard Deviation	0.7%	0.2%
NAS Parallel Benchmarks - FT.C (Mops/s)	11106	11558	
	Normalized	96.09%	100%
	Standard Deviation	0.1%	0%
Unigine Superposition - 1920 x 1080 - Windowed - Medium - OpenGL (FPS)	113.6	118.2	
	Normalized	96.11%	100%
	Standard Deviation	0.8%	0%
Java SciMark - J.S.O.R (Mflops)	1994	2074	
	Normalized	96.15%	100%
	Standard Deviation	0.1%	1.4%
NAS Parallel Benchmarks - MG.C (Mops/s)	11256	10836	
	Normalized	100%	96.27%
	Standard Deviation	0.4%	0.1%
Bullet Physics Engine - 136 Ragdolls (sec)	2.233182	2.150808	
	Normalized	96.31%	100%
	Standard Deviation	0.8%	0.4%
Perl Benchmarks - Interpreter (sec)	0.00066725	0.00069115	
	Normalized	100%	96.54%
	Standard Deviation	1.4%	1.9%
ACES DGEMM - S.F.P.R (GFLOP/s)	5.351115	5.537606	
	Normalized	96.63%	100%
	Standard Deviation	1%	5.3%
C-Blosc - blosclz (MB/s)	10910	11288	
	Normalized	96.65%	100%
	Standard Deviation	0.3%	0.2%
Selenium - W.i - Firefox (ms)	27.1	26.2	
	Normalized	96.68%	100%
	Standard Deviation	0.7%	2.3%
Xonotic - 3840 x 2160 - Ultimate (FPS)	318.7844013	308.6831229	
	Normalized	100%	96.83%
	Standard Deviation	0.5%	0.1%
Numenta Anomaly Benchmark - EXPoSE (sec)	624.538	644.836	
	Normalized	100%	96.85%
	Standard Deviation	0.4%	1%
ParaView - Many Spheres - 3840 x 2160 (Frames / Sec)	63.28	65.30	
	Normalized	96.91%	100%
	Standard Deviation	4.6%	0.4%
ParaView - Many Spheres - 3840 x 2160 (MiPolys /	6344	6547	
	Normalized	96.91%	100%

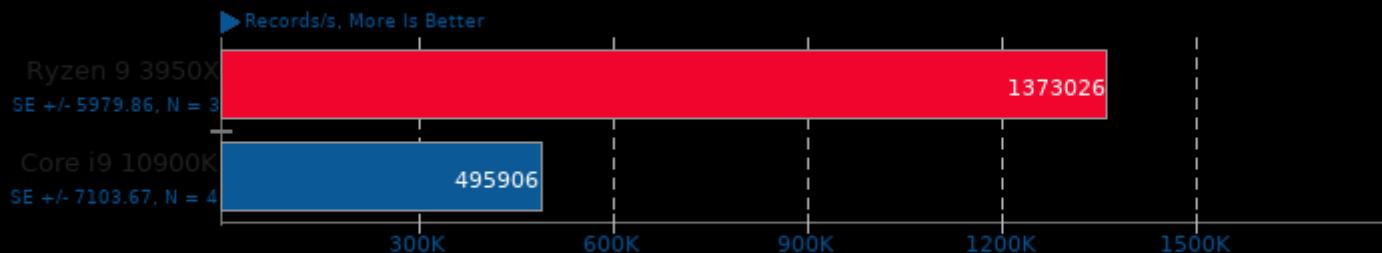
	Standard Deviation	4.6%	0.4%
LibreOffice - 2.D.T.P (sec)	6.403	6.605	
	Normalized	100%	96.94%
	Standard Deviation	2.7%	2.7%
AOM AV1 - Speed 0 Two-Pass (FPS)	0.35	0.34	
	Normalized	100%	97.14%
	Standard Deviation	1.6%	0%
ctx_clock - C.S.T (Clocks)	144	140	
	Normalized	97.22%	100%
Selenium - CanvasMark - Firefox (Score)	14181	13796	
	Normalized	100%	97.29%
	Standard Deviation	1.7%	4.2%
Basemark GPU - Vulkan - 3840 x 2160 - Medium (FPS)	404.07	415.32	
	Normalized	97.29%	100%
	Standard Deviation	0.1%	0.3%
Parboil - OpenMP LBM (sec)	165.151103	160.964244	
	Normalized	97.46%	100%
	Standard Deviation	0%	0.1%
Basis Universal - U.L.2.R.P.P (sec)	573.950	587.383	
	Normalized	100%	97.71%
	Standard Deviation	0.1%	0.2%
Selenium - WebXPRT - Google Chrome (Score)	264	258	
	Normalized	100%	97.73%
	Standard Deviation	0.8%	
Selenium - Speedometer - Google Chrome (Runs/min)	130	133	
	Normalized	97.74%	100%
	Standard Deviation	0.4%	
Xonotic - 3840 x 2160 - Low (FPS)	532.2734013	544.3905119	
	Normalized	97.77%	100%
	Standard Deviation	0.7%	0.5%
Izbench - Brotli 0 - Compression (MB/s)	543	555	
	Normalized	97.84%	100%
	Standard Deviation	0.2%	0.4%
Renaissance - Scala Dotty (ms)	1339	1368	
	Normalized	100%	97.93%
	Standard Deviation	2.3%	2.3%
Timed GCC Compilation - Time To Compile (sec)	716.255	731.029	
	Normalized	100%	97.98%
	Standard Deviation	0.2%	0.3%
Java SciMark - Composite (Mflops)	3053	3116	
	Normalized	97.98%	100%
	Standard Deviation	0.5%	2%
Bullet Physics Engine - Raytests (sec)	2.043963	2.084161	
	Normalized	100%	98.07%
	Standard Deviation	0.4%	0.4%
Polyhedron Fortran Benchmarks - channel2 (sec)	43.45	42.71	
	Normalized	98.3%	100%
Pennant - sedovbig (Hydro Cycle Time - sec)	4228	4298	
	Normalized	100%	98.38%
	Standard Deviation	0.1%	0%
Izbench - XZ 0 - Decompression (MB/s)	138	136	
	Normalized	100%	98.55%
Basis Universal - ETC1S (sec)	42.177	42.788	
	Normalized	100%	98.57%
	Standard Deviation	0.5%	0.7%

Selenium - Kraken - Firefox (ms)	715.7	725.2
Normalized	100%	98.69%
Standard Deviation	2.3%	0.4%
Xonotic - 3840 x 2160 - Ultra (FPS)	398.0959725	393.3117643
Normalized	100%	98.8%
Standard Deviation	0.5%	0.4%
Basemark GPU - Vulkan - 3840 x 2160 - High (FPS)	81.93	80.95
Normalized	100%	98.8%
Standard Deviation	0.2%	0.1%
Mipack Benchmark - scikit_ica (sec)	53.21	53.76
Normalized	100%	98.98%
Standard Deviation	1.7%	0.9%
Unigine Heaven - 1920 x 1080 - Windowed - OpenGL (FPS)	160.184	158.578
Normalized	100%	99%
Standard Deviation	0.1%	0.2%
RawTherapee - T.B.T (sec)	53.309	52.809
Normalized	99.06%	100%
Standard Deviation	0.2%	0.1%
Bullet Physics Engine - Prim Trimesh (sec)	0.782503	0.788758
Normalized	100%	99.21%
Standard Deviation	0.9%	0.4%
ParaView - Wavelet Contour - 3840 x 2160 (Frames / Sec)	188.23	189.67
Normalized	99.24%	100%
Standard Deviation	1.9%	1.3%
ParaView - Wavelet Contour - 3840 x 2160 (MiPolys / Sec)	1962	1977
Normalized	99.24%	100%
Standard Deviation	1.9%	1.3%
Xonotic - 3840 x 2160 - High (FPS)	438.9449334	442.1980742
Normalized	99.26%	100%
Standard Deviation	0.5%	0.5%
Bullet Physics Engine - Convex Trimesh (sec)	0.937118	0.943135
Normalized	100%	99.36%
Standard Deviation	0.8%	0.5%
PlaidML - No - Inference - Mobilenet - CPU (FPS)	17.18	17.28
Normalized	99.42%	100%
Standard Deviation	1.1%	1%
PlaidML - No - Inference - ResNet 50 - CPU (FPS)	7.38	7.34
Normalized	100%	99.46%
Standard Deviation	0.6%	1.1%
LeelaChessZero - BLAS (Nodes/s)	378	380
Normalized	99.47%	100%
Standard Deviation	0.7%	2.9%
Xsbench (Lookups/s)	2639580	2653413
Normalized	99.48%	100%
Standard Deviation	0%	0.1%
Selenium - W.i - Google Chrome (ms)	35.7272	35.8952
Normalized	100%	99.53%
Standard Deviation	0.5%	0.9%
Selenium - CanvasMark - Google Chrome (Score)	5033	5050
Normalized	99.66%	100%
Standard Deviation	0.5%	0.3%

LAME MP3 Encoding - WAV To MP3 (sec)	6.974	6.954
Normalized	99.71%	100%
Standard Deviation	0.2%	2.3%
Selenium - StyleBench - Google Chrome (Runs /	37.6	37.7
Normalized	99.73%	100%
Standard Deviation	0.7%	0.7%
Bullet Physics Engine - 3000 Fall (sec)	3.359547	3.367286
Normalized	100%	99.77%
Standard Deviation	1.1%	0.4%
Java SciMark - S.M.M (Mflops)	2780	2784
Normalized	99.85%	100%
Standard Deviation	0.3%	1.8%
Nettle - sha512 (Mbyte/s)	639.74	640.16
Normalized	99.93%	100%
Standard Deviation	0.4%	2.9%
Selenium - MotionMark - Google Chrome (Score)	1	1
Parallel BZIP2 Compression - 2.F.C (sec)	3.118	
Standard Deviation	2.5%	
SMHasher - t1ha0_aes_avx2 (cycles/hash)	32.315	
Standard Deviation	0.1%	
SMHasher - t1ha0_aes_avx2 (MiB/sec)	46159	
Standard Deviation	2.9%	
SMHasher - t1ha2_atonce (cycles/hash)	32.065	
Standard Deviation	0%	
SMHasher - t1ha2_atonce (MiB/sec)	17288	
Standard Deviation	0.8%	
SMHasher - fasthash32 (cycles/hash)	31.994	
Standard Deviation	0%	
SMHasher - fasthash32 (MiB/sec)	7843	
Standard Deviation	0.1%	
SMHasher - Spooky32 (cycles/hash)	41.073	
Standard Deviation	0%	
SMHasher - Spooky32 (MiB/sec)	15361	
Standard Deviation	1.8%	
SMHasher - MeowHash (cycles/hash)	51.813	
Standard Deviation	0.2%	
SMHasher - MeowHash (MiB/sec)	40765	
Standard Deviation	0.3%	
SMHasher - wyhash (cycles/hash)	24.548	
Standard Deviation	0%	
SMHasher - wyhash (MiB/sec)	18893	
Standard Deviation	1.7%	
Unigine Superposition - 1920 x 1080 - Windowed -	34.3	34.3
Ultra - OpenGL (FPS)		
Standard Deviation	0.2%	0.2%
OSBench - Create Threads (us/Event)	8.883476	12.243907
Normalized	100%	72.55%
Standard Deviation	0.6%	11.5%
Selenium - Basemark - Google Chrome (Overall)	1075	1387
Normalized	77.47%	100%
Standard Deviation	9.4%	7.8%
Selenium - MotionMark - Firefox (Score)	231.54	161.79
Normalized	100%	69.88%
Standard Deviation	28.2%	24.1%

Selenium - Basemark - Firefox (Overall Score)	759.91	757.95
Normalized	100%	99.74%
Standard Deviation	7.3%	4.8%
Facebook RocksDB - Rand Fill (Op/s)	656303	680458
Normalized	96.45%	100%
Standard Deviation	16.3%	15.2%
Stress-NG - Atomic (Bogo Ops/s)	230445	747139
Normalized	30.84%	100%
Standard Deviation	13.5%	0.3%
Redis - SADD (Reqs/sec)	3071108	2357410
Normalized	100%	76.76%
Standard Deviation	6.3%	2.2%
Cpuminer-Opt - myr-gr (kH/s - Hash Speed)	17627	9899
Normalized	100%	56.16%
Standard Deviation	0.1%	10.6%
oneDNN MKL-DNN - D.B.d - u8s8f32 (ms)	121.267	69.5926
Normalized	57.39%	100%
Standard Deviation	9.8%	0.1%
Renaissance - I.M.D.S (ms)	2968	3622
Normalized	100%	81.95%
Standard Deviation	12.2%	1.3%
Renaissance - A.S.P (ms)	2895	3302
Normalized	100%	87.68%
Standard Deviation	2%	6.7%
Renaissance - Savina Reactors.IO (ms)	15777	10636
Normalized	67.41%	100%
Standard Deviation	2%	6.1%
Renaissance - Apache Spark Bayes (ms)	1704	2728
Normalized	100%	62.47%
Standard Deviation	3%	19.6%
DaCapo Benchmark - H2 (msec)	2615	3293
Normalized	100%	79.41%
Standard Deviation	8.2%	1.7%
libgav1 - Chimera 1080p (FPS)	83.73	51.13
Normalized	100%	61.07%
Standard Deviation	8.7%	0%
Parboil - O.M.G (sec)	54.937194	31.274319
Normalized	56.93%	100%
Standard Deviation	6.5%	0.7%
Sockperf - Latency Under Load (usec)	17.423	14.949
Normalized	85.8%	100%
Standard Deviation	20.1%	27.8%
ET: Legacy - Renderer2 - 3840 x 2160 (FPS)	288.5	255.8
Normalized	100%	88.67%
Standard Deviation	6.5%	1.8%

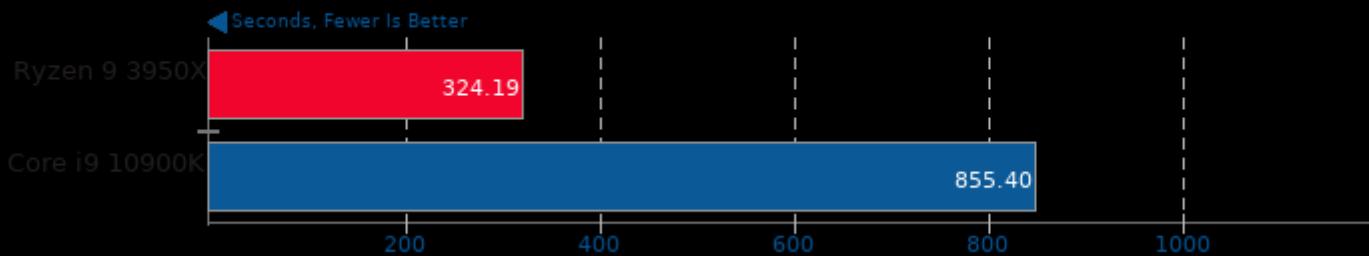
ebizzy 0.3



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

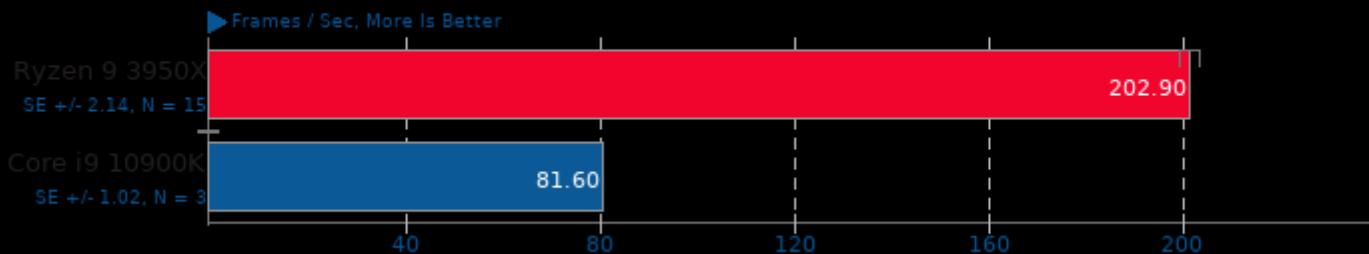
CP2K Molecular Dynamics 6.1

Fayalite-FIST Data



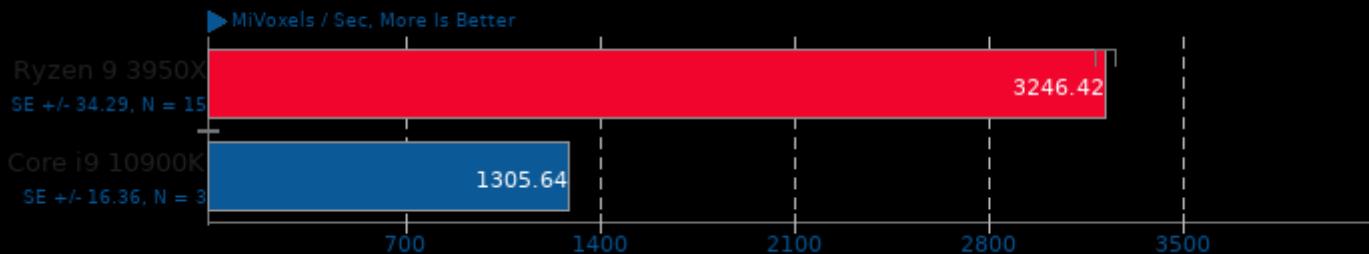
ParaView 5.4.1

Test: Wavelet Volume - Resolution: 3840 x 2160



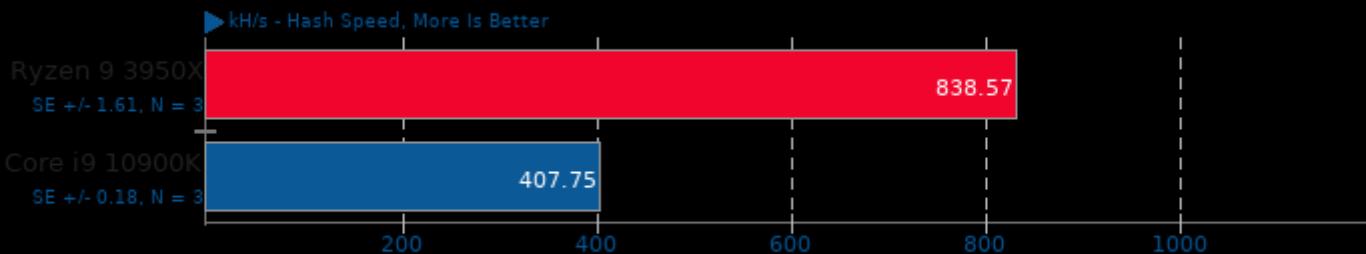
ParaView 5.4.1

Test: Wavelet Volume - Resolution: 3840 x 2160



Cpuminer-Opt 3.8.8.1

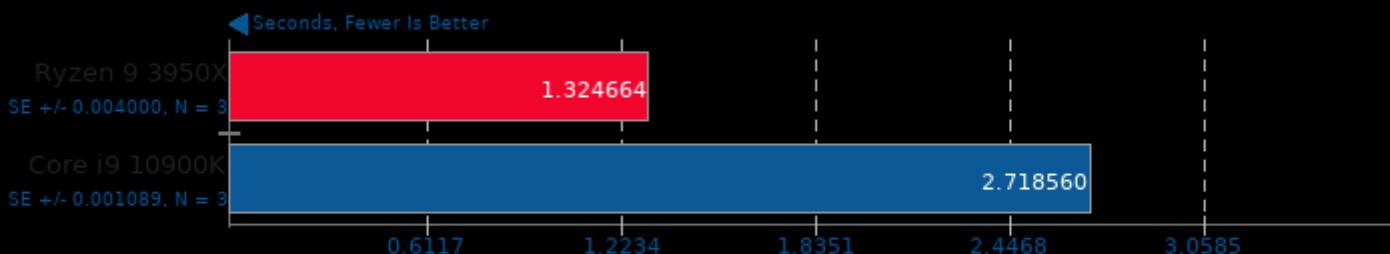
Algorithm: m7m



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Parboil 2.5

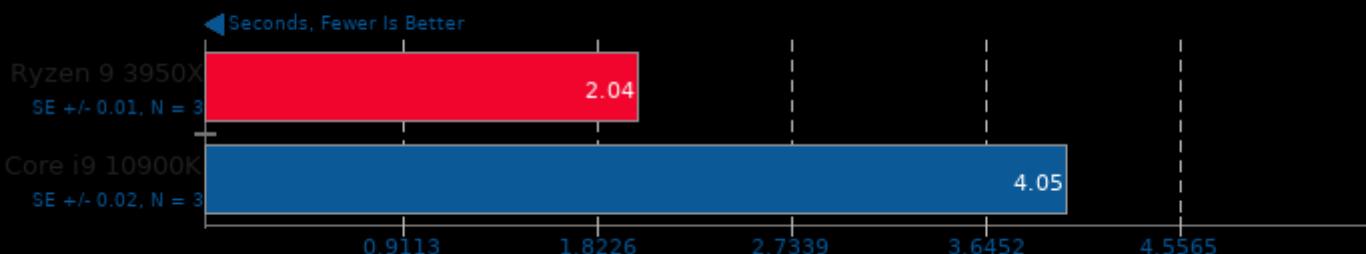
Test: OpenMP CUTCP



1. (CXX) g++ options: -lm -lpthread -lgomp -O3 -ffast-math -fopenmp

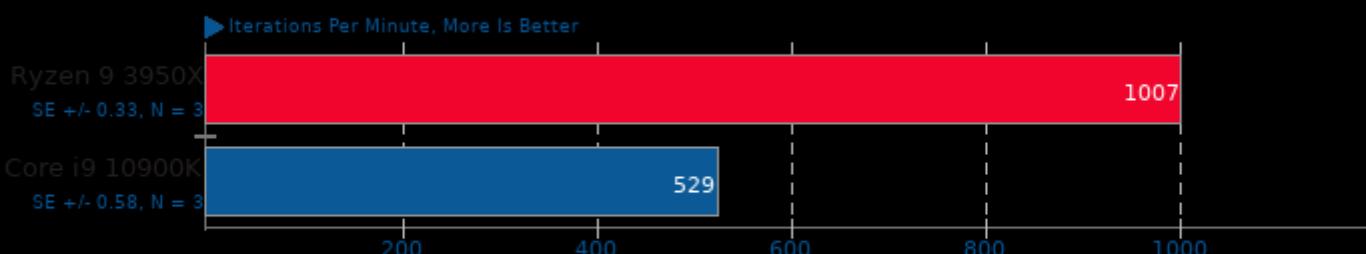
Milpack Benchmark

Benchmark: scikit_linearridge_regression



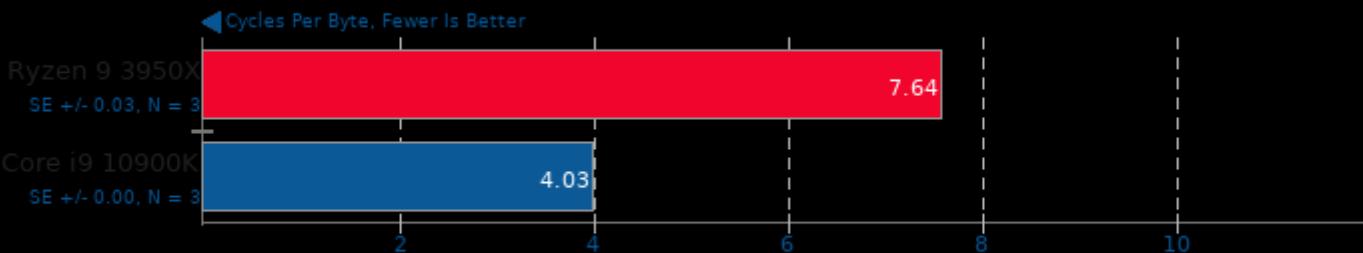
GraphicsMagick 1.3.33

Operation: Swirl



1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lxml -lsm -lICE -lX11 -lxml2 -lz -lm -lpthread

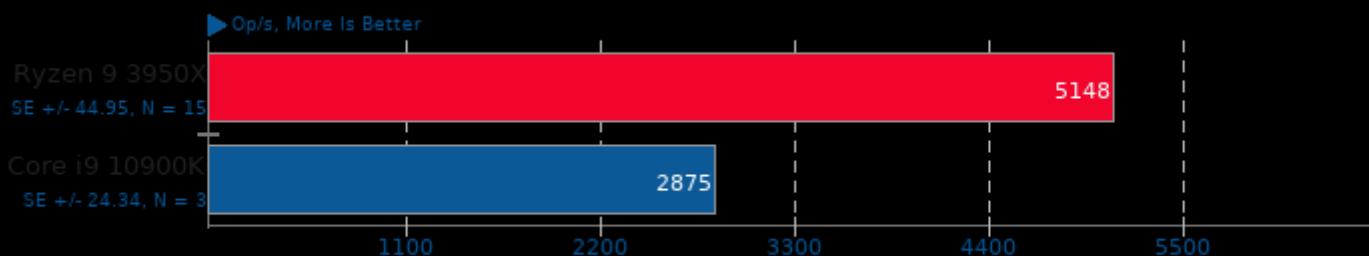
BLAKE2 20170307



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

Facebook RocksDB 6.3.6

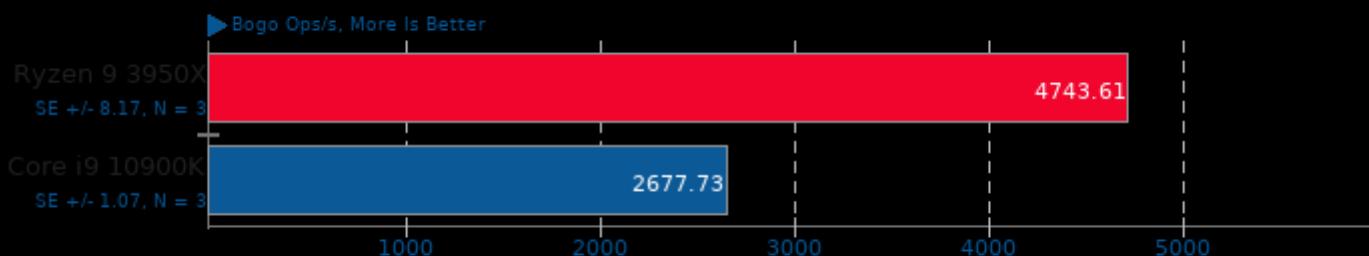
Test: Random Fill Sync



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fno-built-in-memcmp -fno-rtti -rdynamic -lpthread

Stress-NG 0.11.07

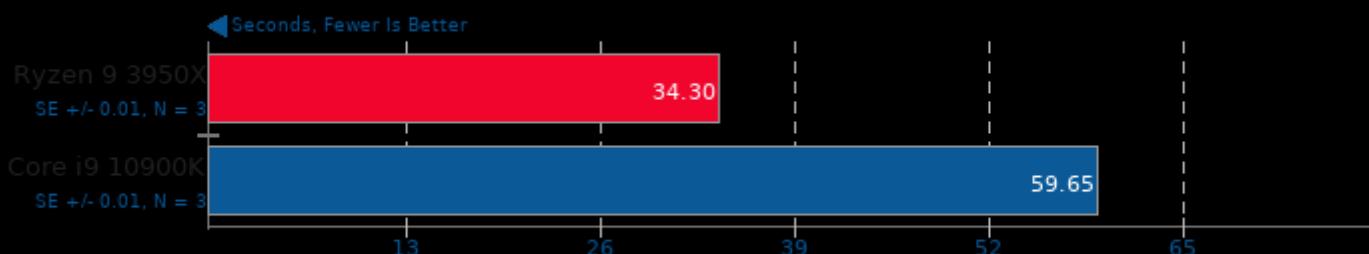
Test: Crypto



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

m-queens 1.2

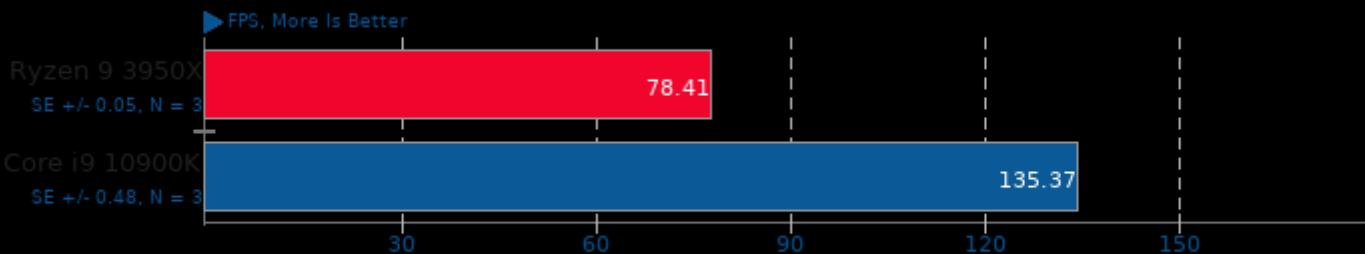
Time To Solve



1. (CXX) g++ options: -fopenmp -O2 -march=native

libgav1 2019-10-05

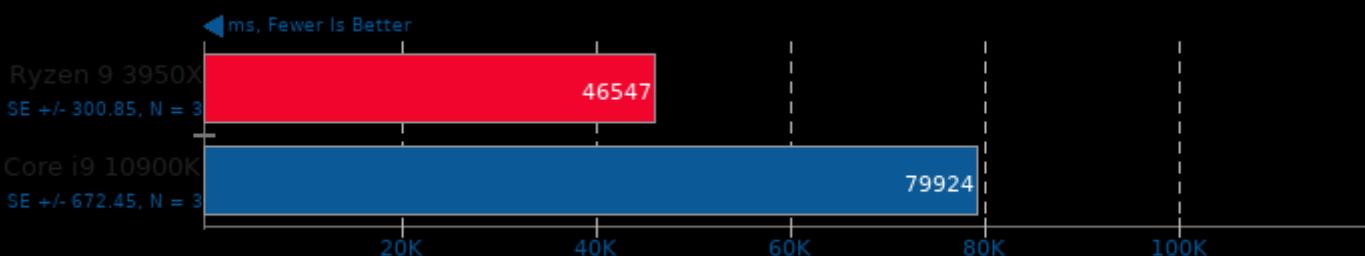
Video Input: Summer Nature 1080p



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

toyBrot Fractal Generator

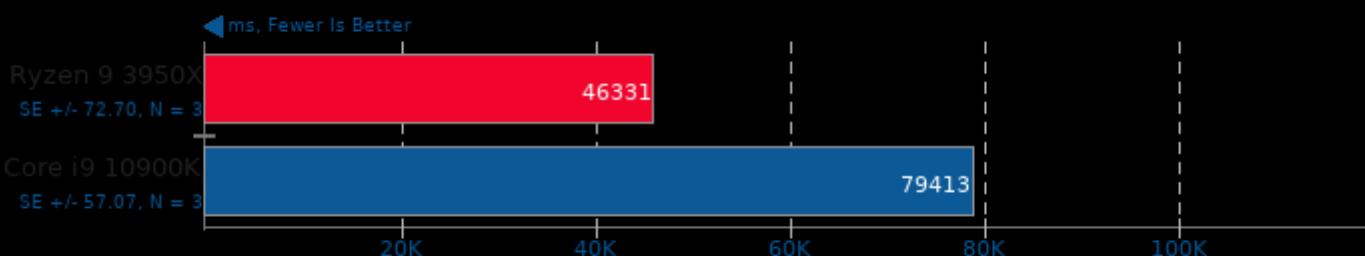
Implementation: TBB



1. (CXX) g++ options: -lpthread -fopenmp -std=c++14

toyBrot Fractal Generator

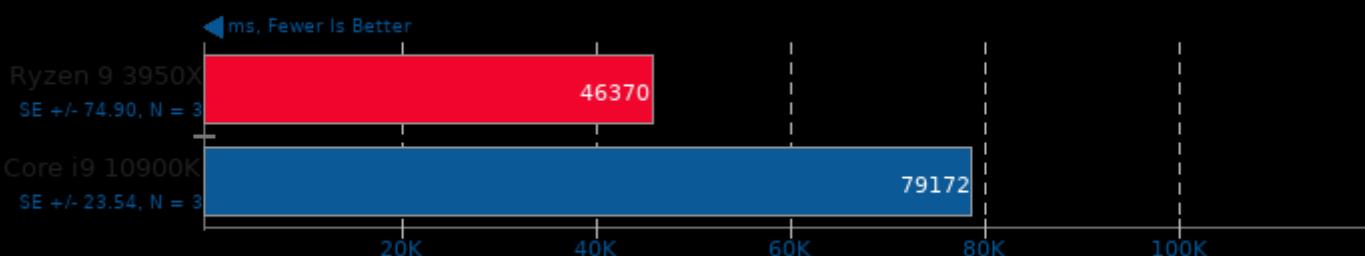
Implementation: C++ Threads



1. (CXX) g++ options: -lpthread -fopenmp -std=c++14

toyBrot Fractal Generator

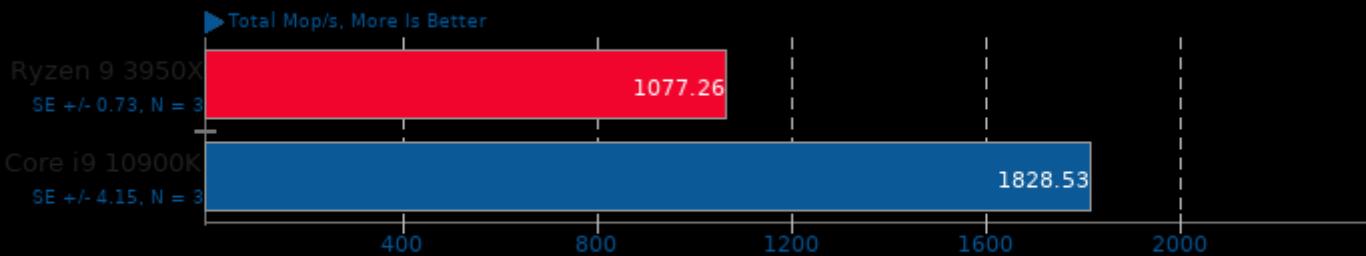
Implementation: C++ Tasks



1. (CXX) g++ options: -lpthread -fopenmp -std=c++14

NAS Parallel Benchmarks 3.4

Test / Class: EP.C

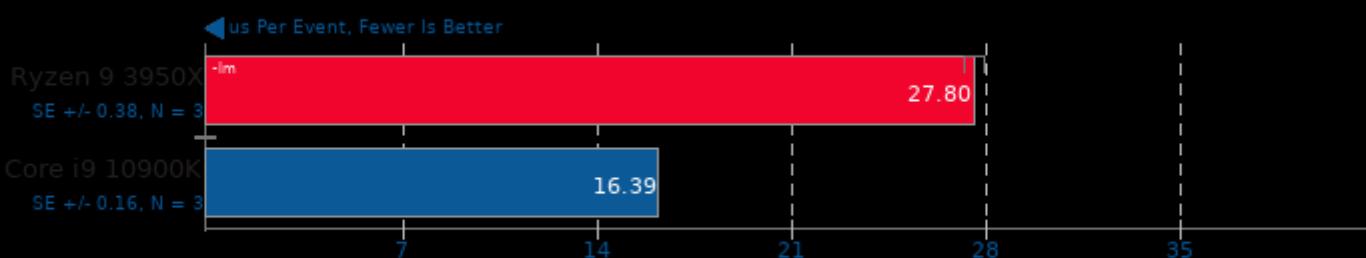


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi

2. Open MPI 4.0.3

OSBench

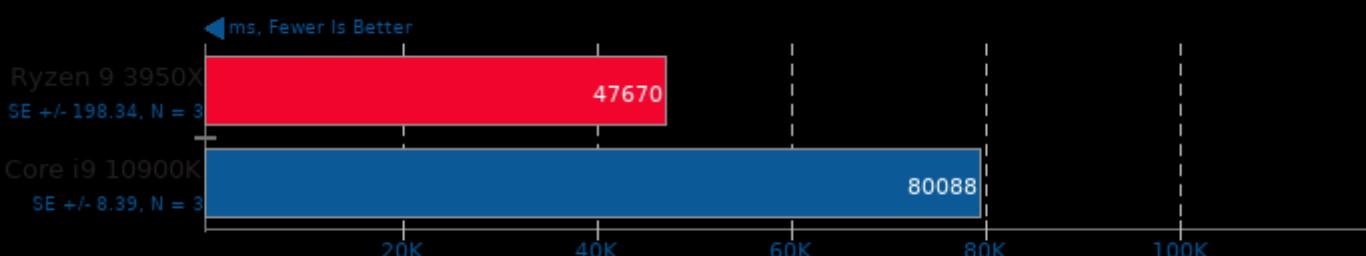
Test: Create Processes



1. (CC) gcc options:

toyBrot Fractal Generator

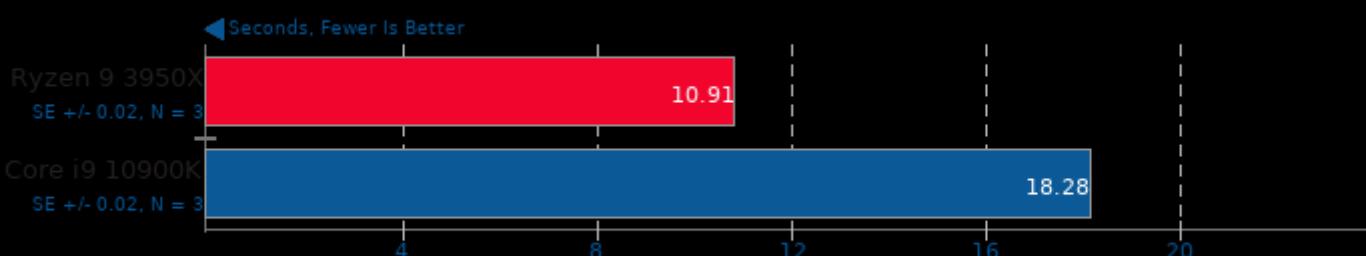
Implementation: OpenMP



1. (CXX) g++ options: -lpthread -isystem -fopenmp -std=c++14

Rodinia 2.4

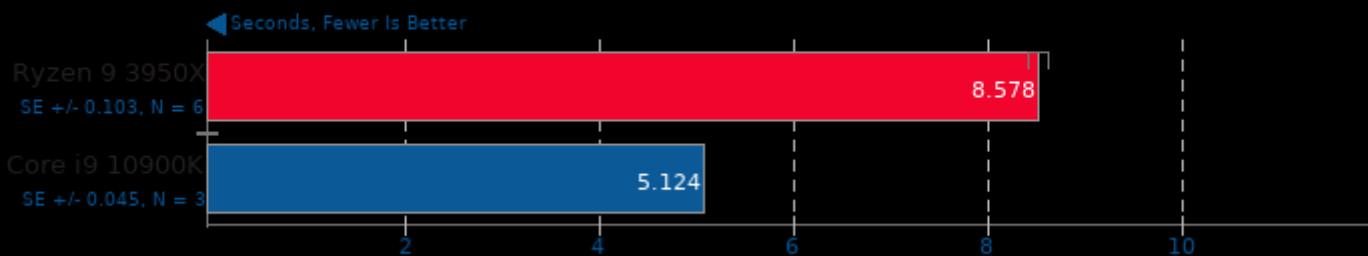
Test: OpenMP CFD Solver



1. (CXX) g++ options: -O2 -fOpenCL

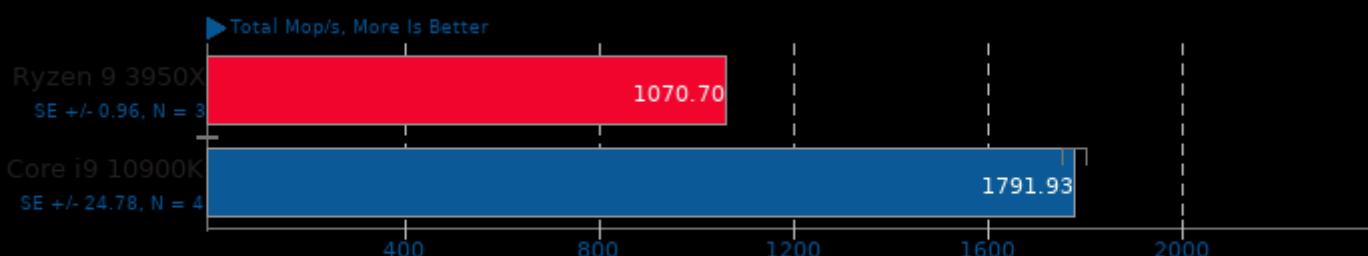
Bork File Encrypter 1.4

File Encryption Time



NAS Parallel Benchmarks 3.4

Test / Class: EP.D

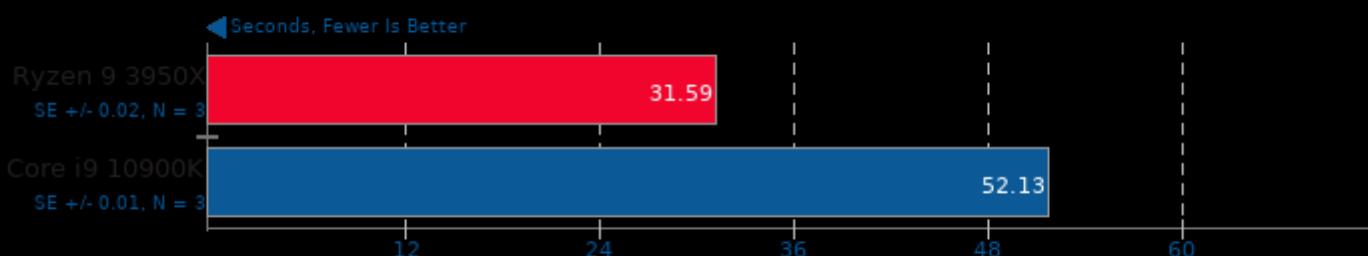


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi

2. Open MPI 4.0.3

C-Ray 1.1

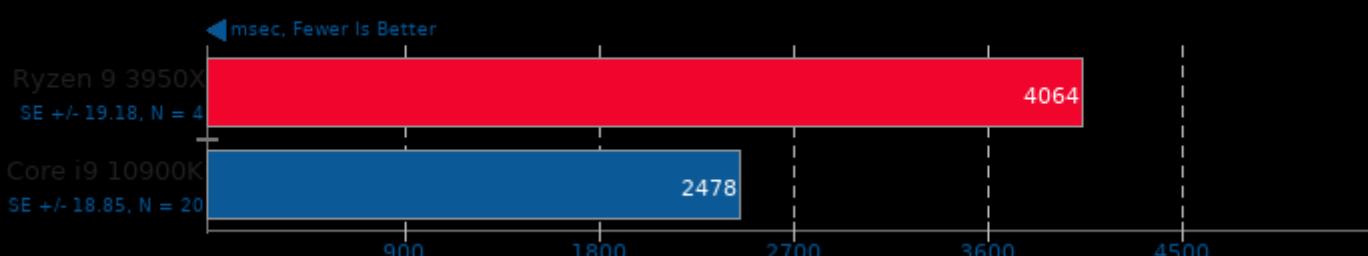
Total Time - 4K, 16 Rays Per Pixel



1. (CC) gcc options: -lm -pthread -O3

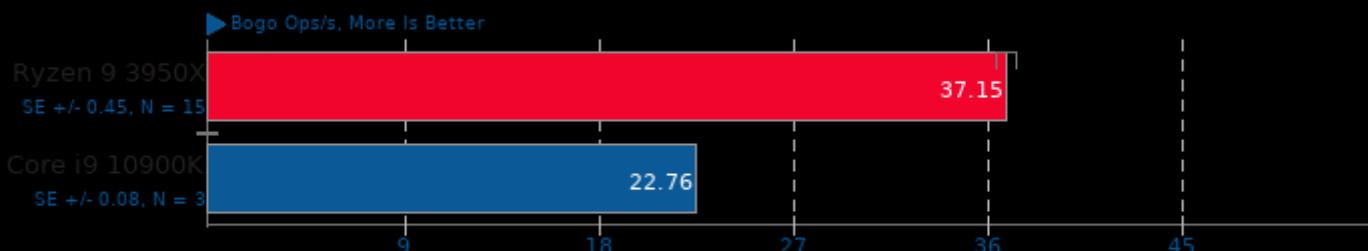
DaCapo Benchmark 9.12-MR1

Java Test: Tradebeans



Stress-NG 0.11.07

Test: CPU Cache



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

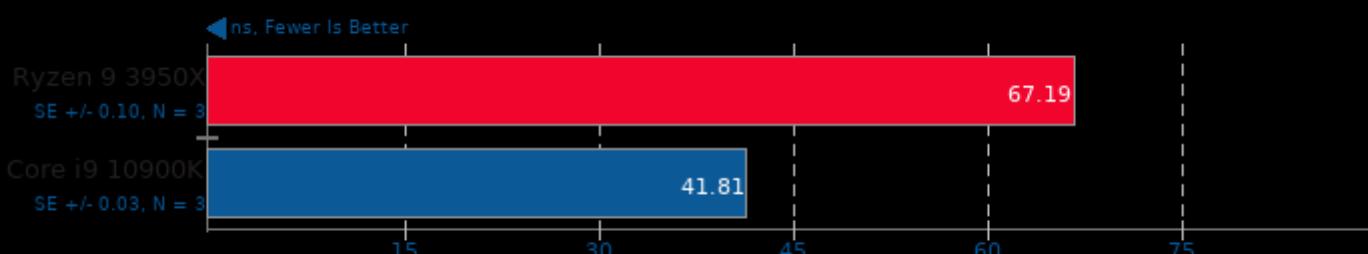
Basemark GPU 1.2

Renderer: OpenGL - Resolution: 3840 x 2160 - Graphics Preset: Medium



Multichase Pointer Chaser

Test: 256MB Array, 256 Byte Stride



1. (CC) gcc options: -O2 -static -pthread -lrt

NAS Parallel Benchmarks 3.4

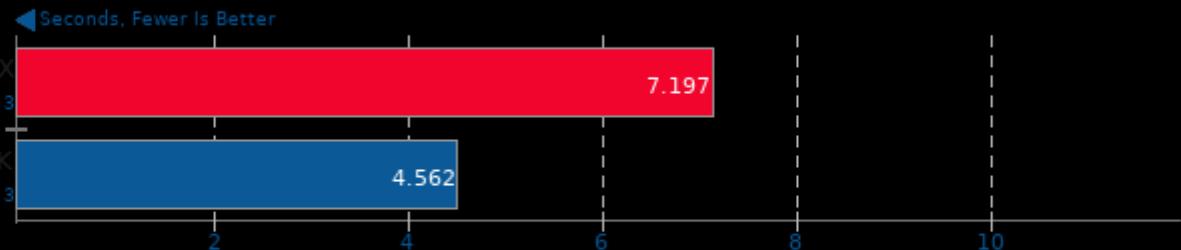
Test / Class: SP.B



1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi
2. Open MPI 4.0.3

FFmpeg 4.0.2

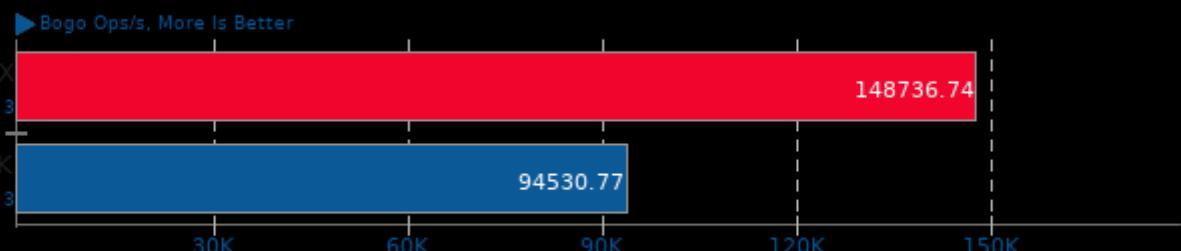
H.264 HD To NTSC DV



1. (CC) gcc options: -lavdevice -lavfilter -lavformat -lavcodec -lswresample -lswscale -lavutil -lxv -lx11 -lxext -lm -lxcb -lxcb-shm -lasound -lSDL2 -lstdio -l

Stress-NG 0.11.07

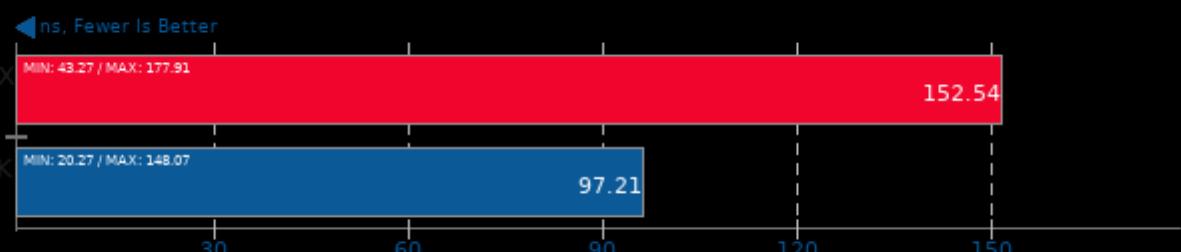
Test: Vector Math



1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lz -ldl -lpthread -lc

Core-Latency

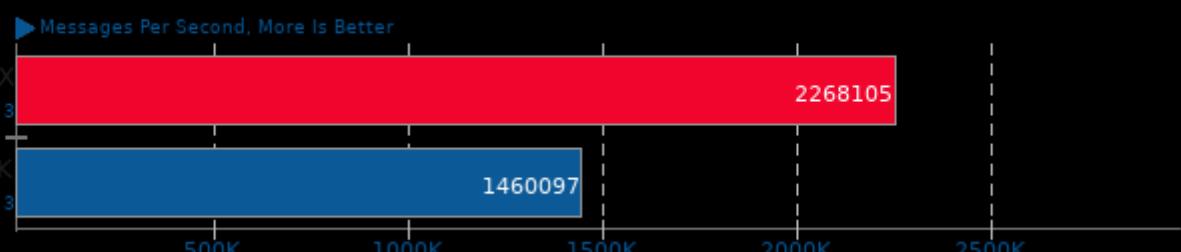
Average Latency Between CPU Cores



1. (CXX) g++ options: -std=c++11 -pthread -O3

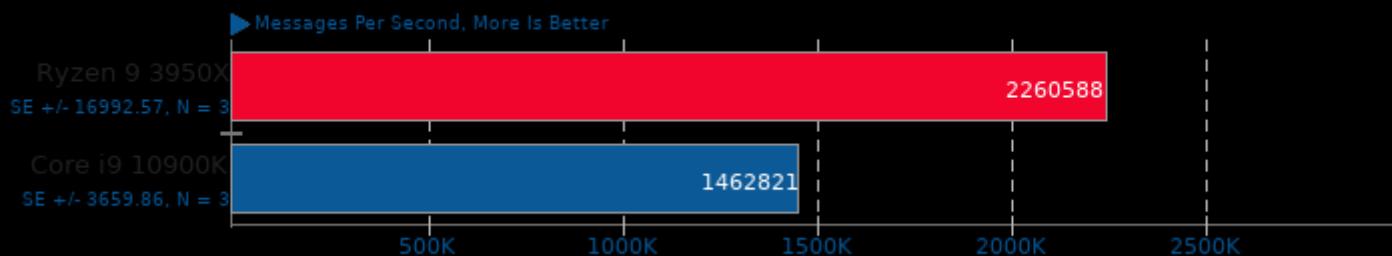
IPC_benchmark

Type: Unnamed Pipe - Message Bytes: 4096



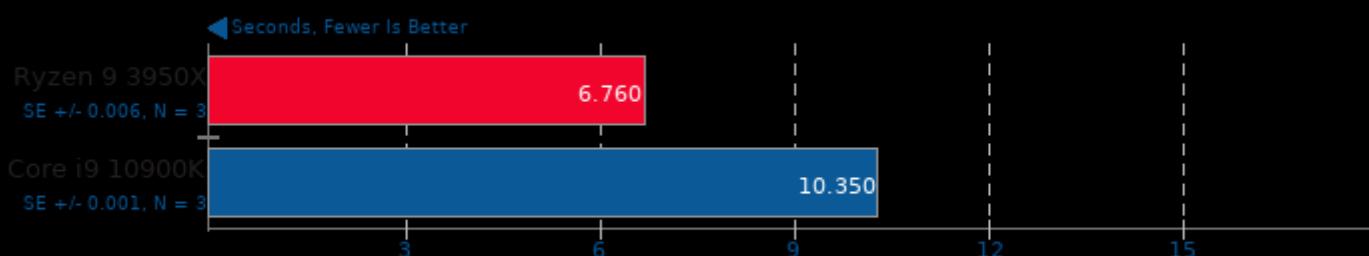
IPC_benchmark

Type: FIFO Named Pipe - Message Bytes: 4096



N-Queens 1.0

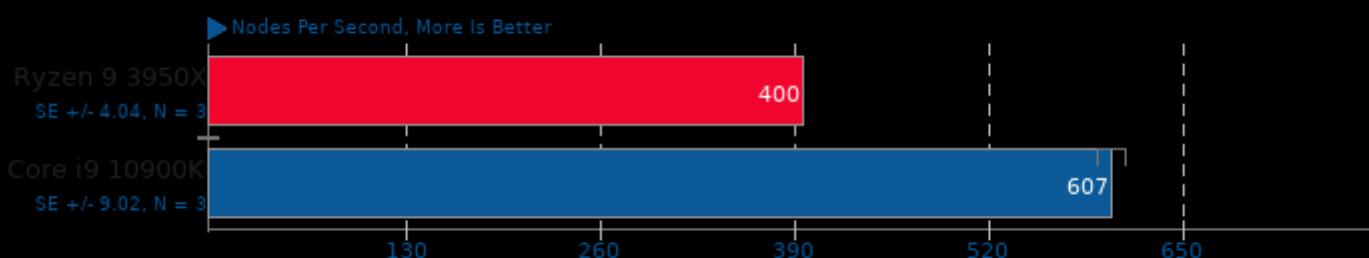
Elapsed Time



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

LeelaChessZero 0.25

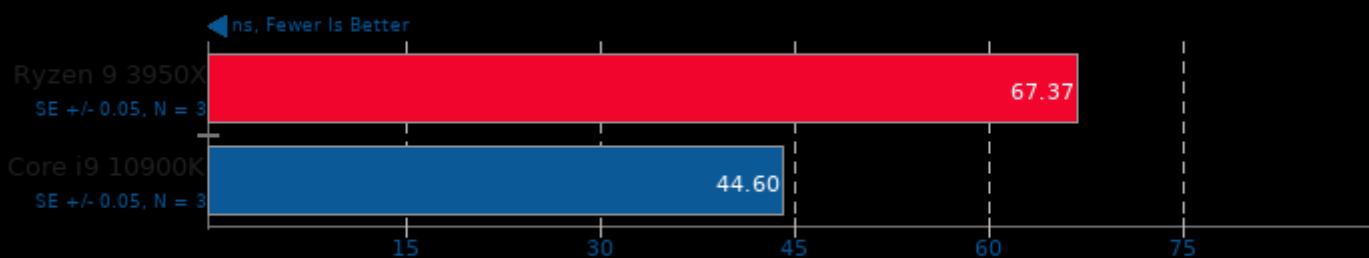
Backend: Eigen



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

Multichase Pointer Chaser

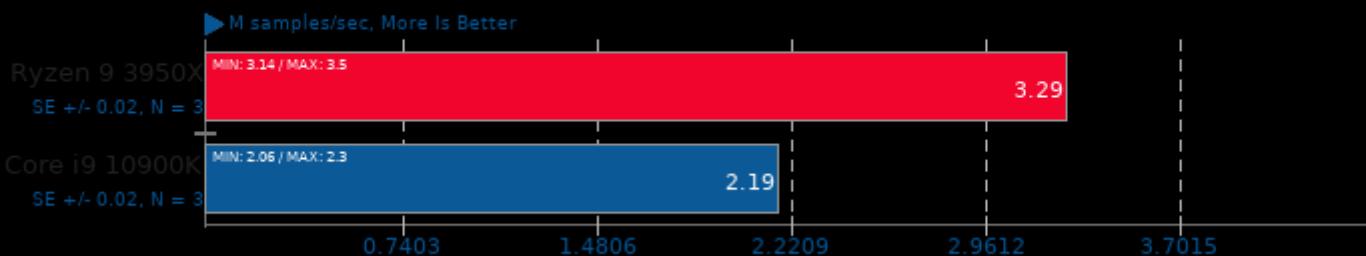
Test: 1GB Array, 256 Byte Stride



1. (CC) gcc options: -O2 -static -pthread -lrt

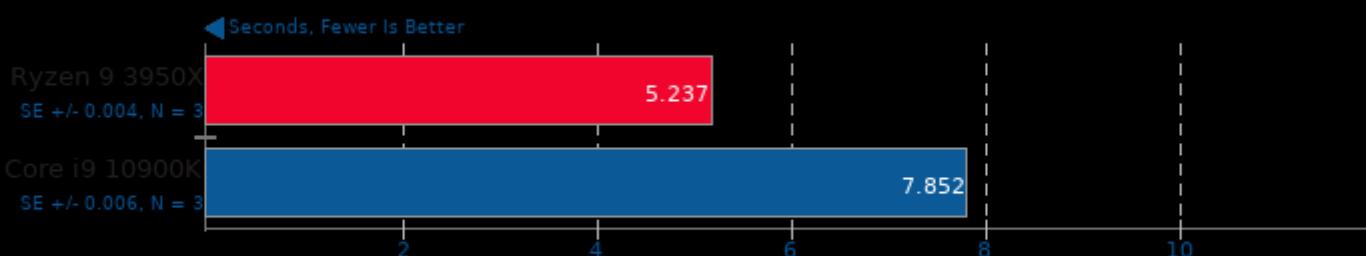
LuxCoreRender 2.3

Scene: DLSC



Smallpt 1.0

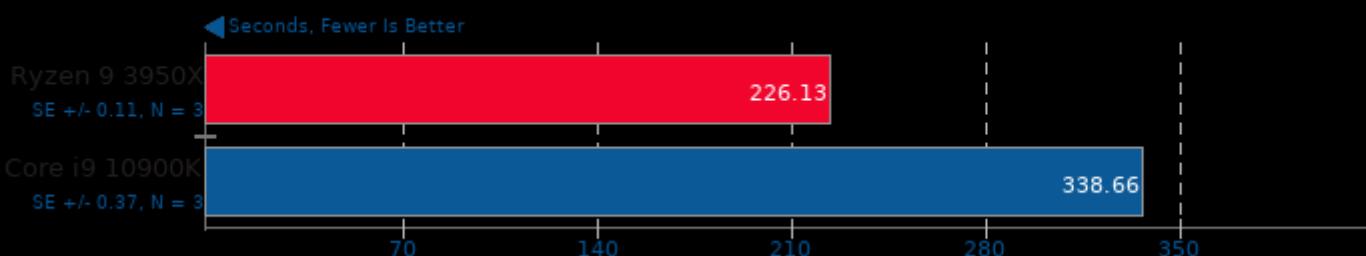
Global Illumination Renderer; 128 Samples



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

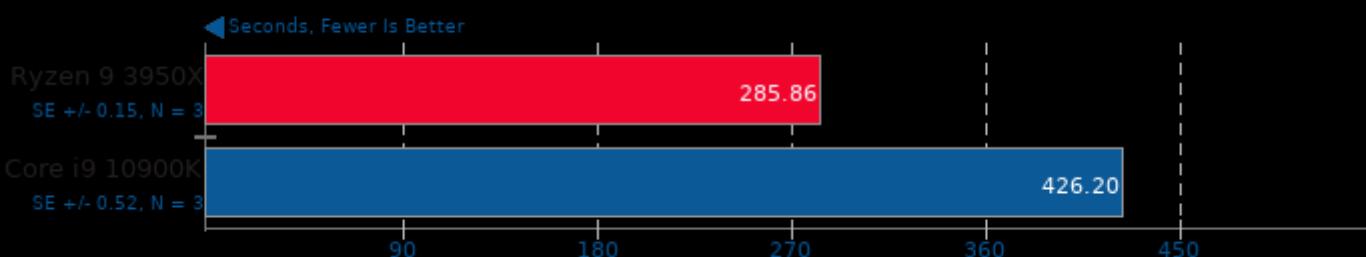
Blender 2.82

Blend File: Classroom - Compute: CPU-Only



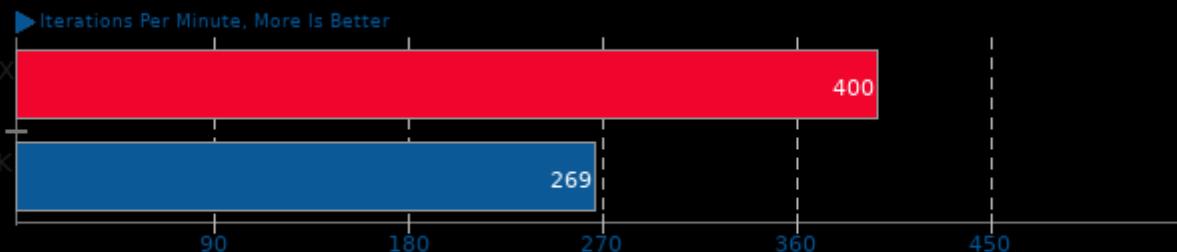
Blender 2.82

Blend File: Pabellon Barcelona - Compute: CPU-Only



GraphicsMagick 1.3.33

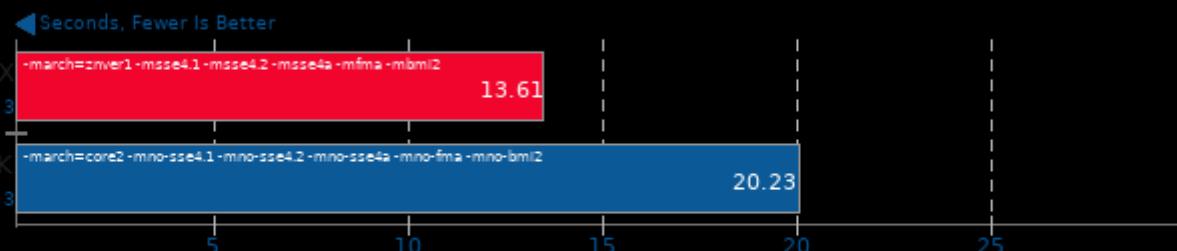
Operation: Enhanced



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -lwebp -lwebpdmux -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -lIzma -lbz2 -lxm12 -lz -lm -lpthread

Tungsten Renderer 0.2.2

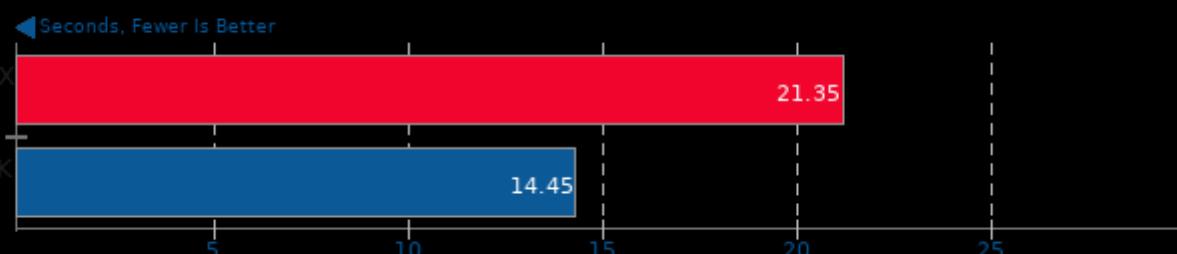
Scene: Hair



1. (CXX) g++ options: -std=c++0x -msse2 -msse3 -mssse3 -mno-avx -mno-avx2 -mno-xop -mno-fma4 -mno-avx512f -mno-avx512vl -mno-avx512pf -mno-

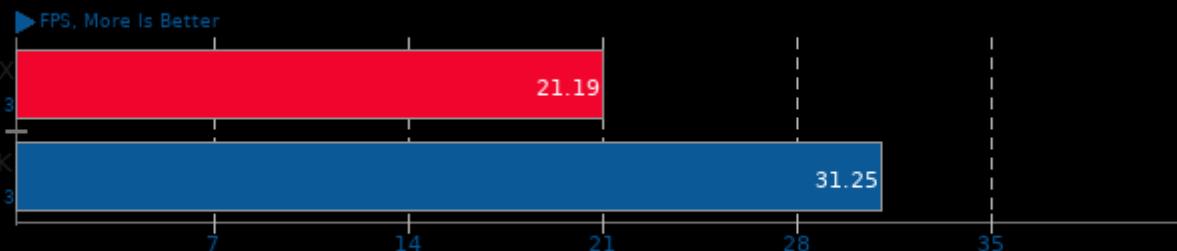
Polyhedron Fortran Benchmarks

Benchmark: induct2



libgav1 2019-10-05

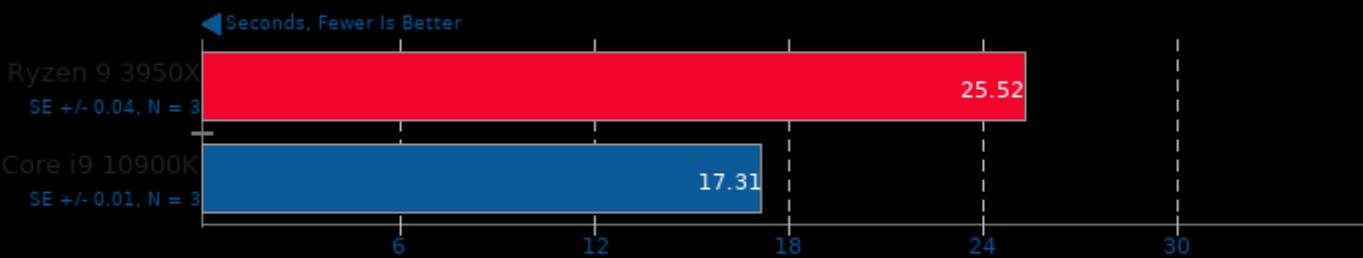
Video Input: Chimera 1080p 10-bit



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

Rodinia 2.4

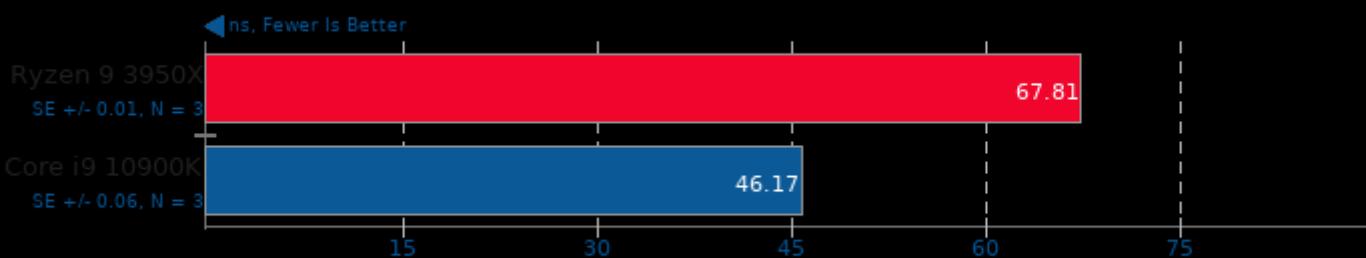
Test: OpenMP Streamcluster



1. (CXX) g++ options: -O2 -fOpenCL

Multichase Pointer Chaser

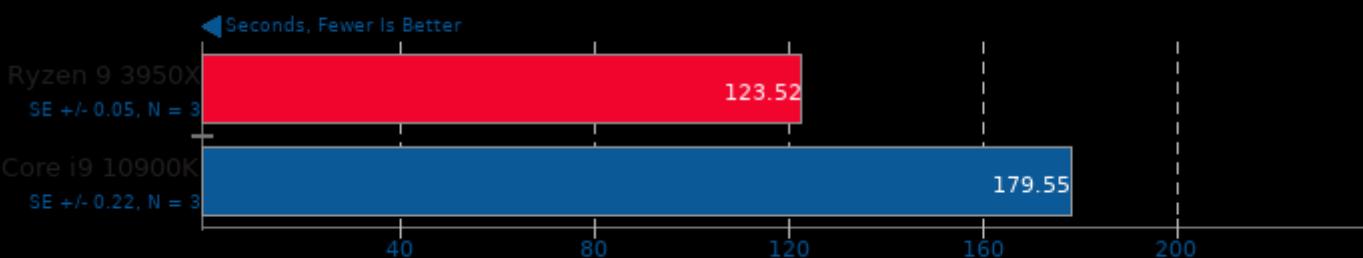
Test: 1GB Array, 256 Byte Stride, 2 Threads



1. (CC) gcc options: -O2 -fstatic -fthread -frt

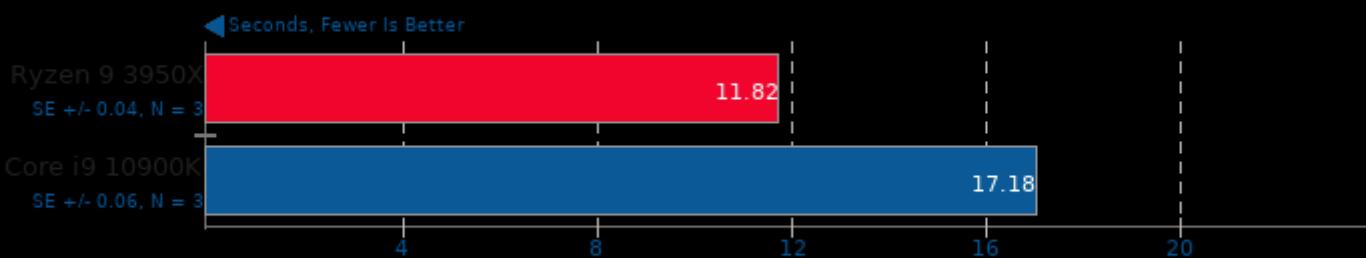
Blender 2.82

Blend File: Fishy Cat - Compute: CPU-Only



Primesieve 7.4

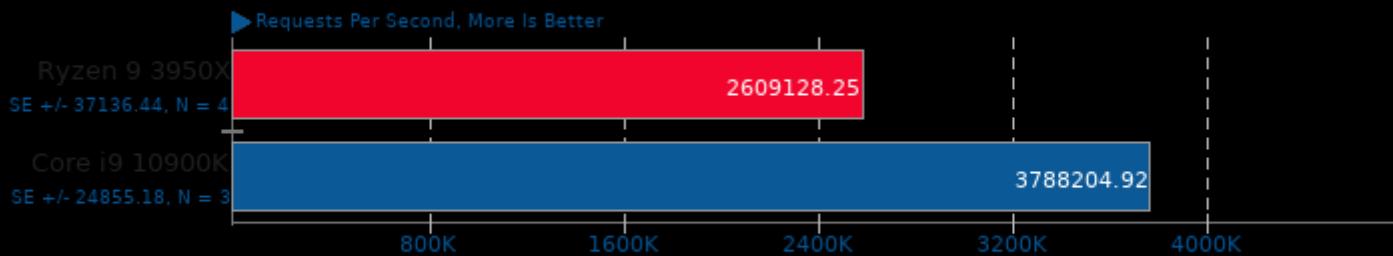
1e12 Prime Number Generation



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

Redis 5.0.5

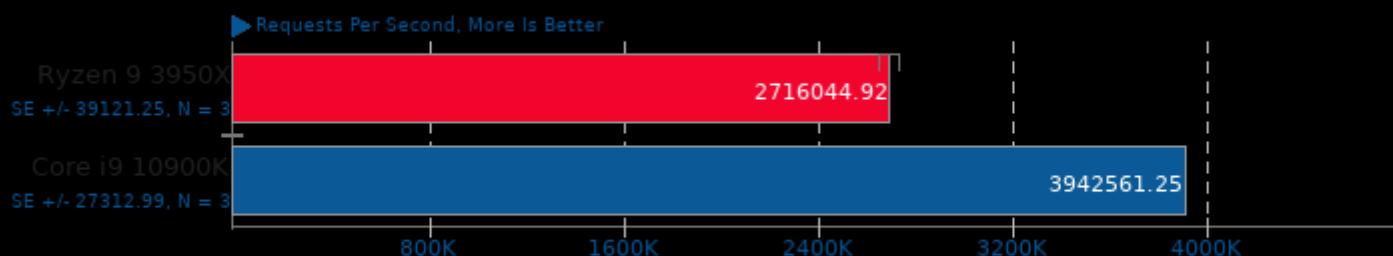
Test: GET



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

Redis 5.0.5

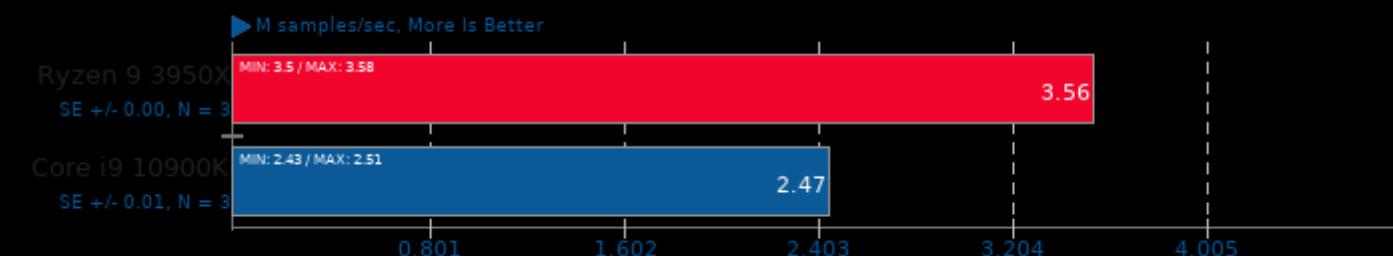
Test: LPOP



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

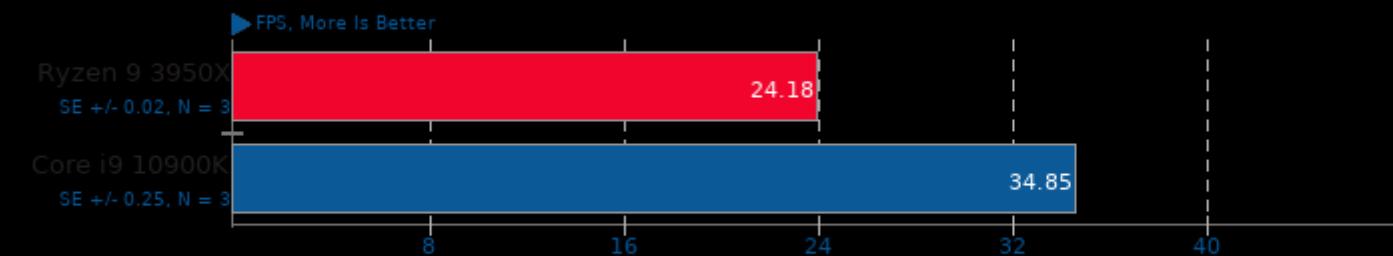
LuxCoreRender 2.3

Scene: Rainbow Colors and Prism



libgav1 2019-10-05

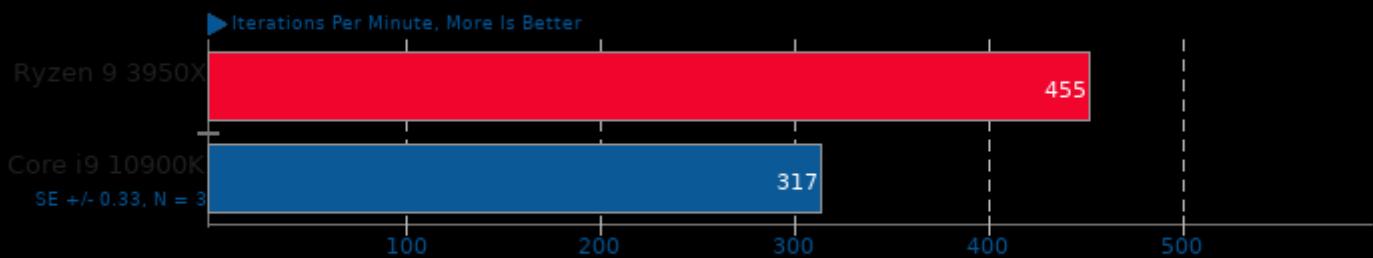
Video Input: Summer Nature 4K



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

GraphicsMagick 1.3.33

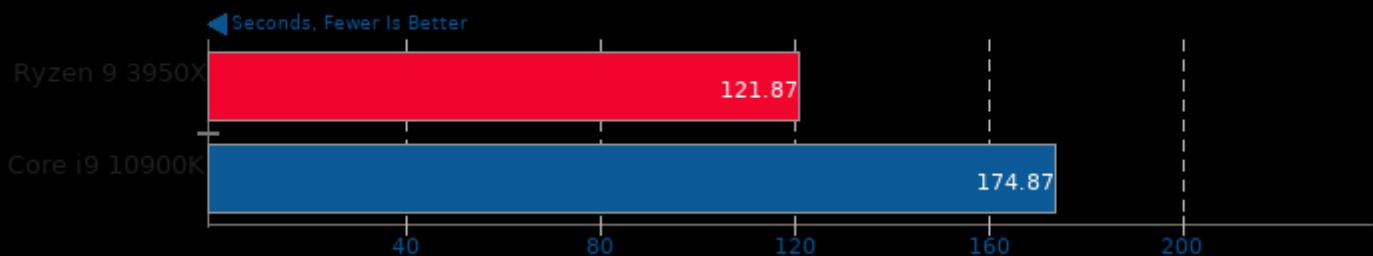
Operation: Noise-Gaussian



1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwevp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -llzma -lbz2 -lxml2 -lz -lm -lpthread

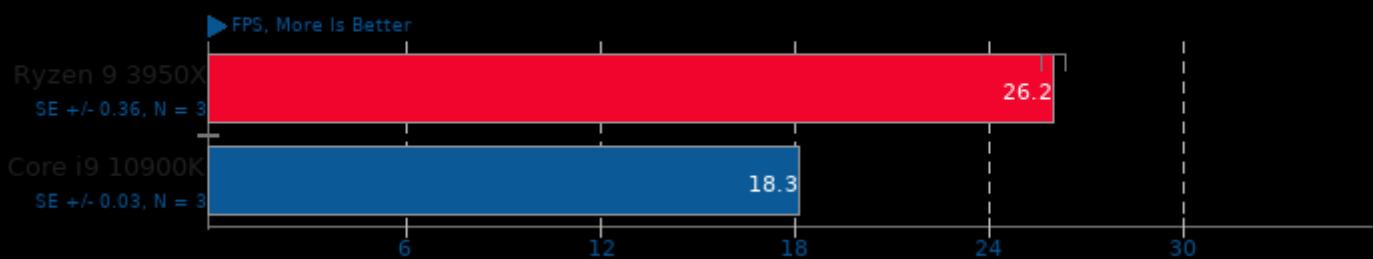
Appleseed 2.0 Beta

Scene: Disney Material



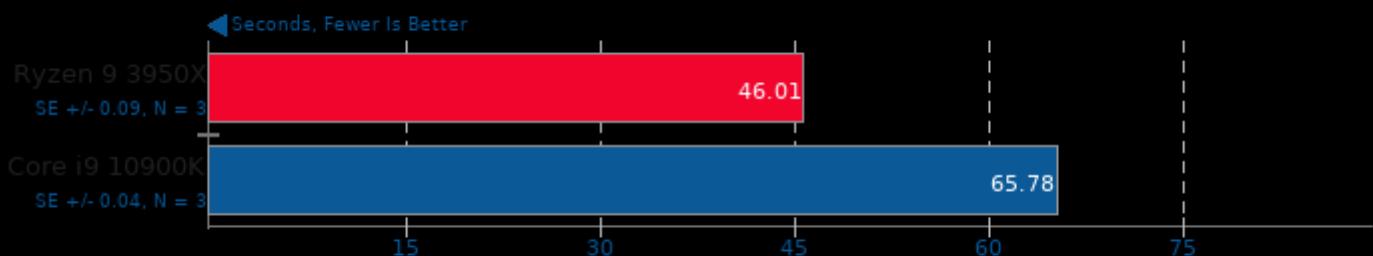
NeatBench 5

Acceleration: CPU



Tachyon 0.99b6

Total Time

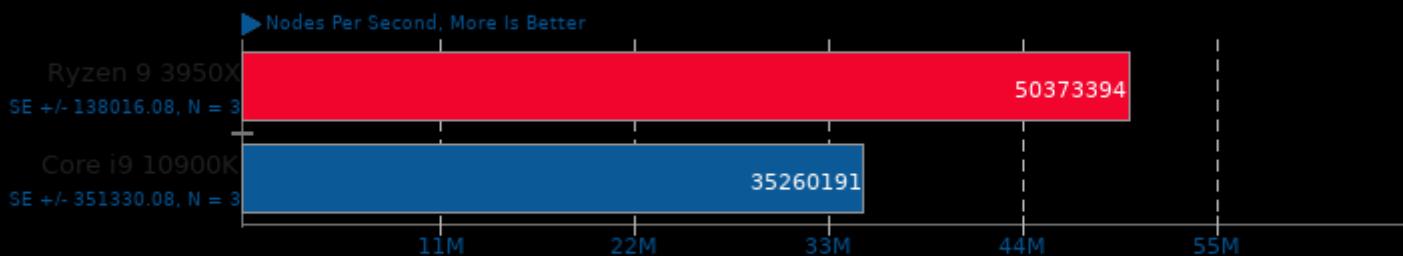


1. (CC) gcc options: -m64 -O3 -fomit-frame-pointer -ffast-math -ltachyon -lm -lpthread

Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

Stockfish 9

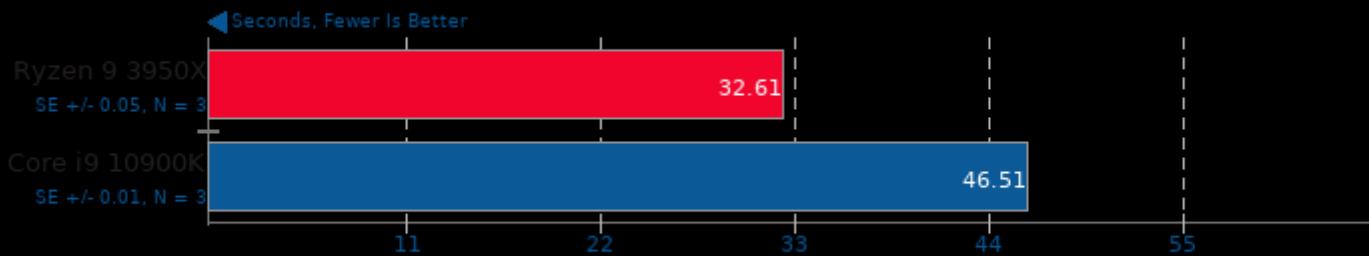
Total Time



1. (CXX) g++ options: -m64 -lpthread -fno-exceptions -std=c++11 -pedantic -O3 -msse -msse3 -mpopcnt -fno

Basis Universal 1.12

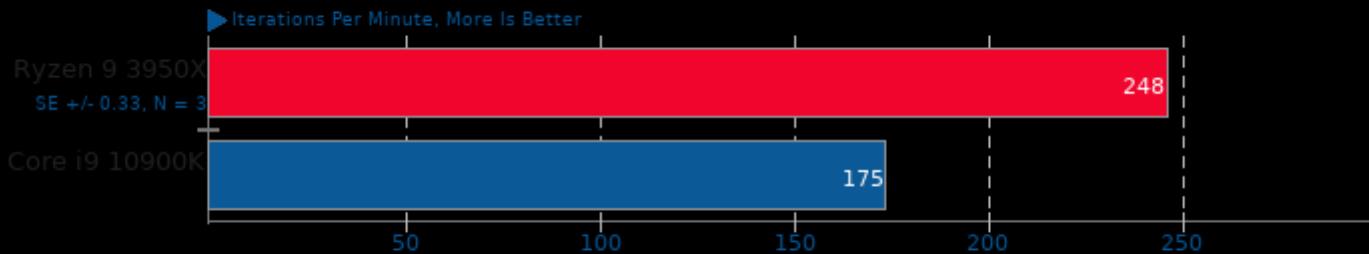
Settings: UASTC Level 3



1. (CXX) g++ options: -std=c++11 -fvisibility=hidden -fPIC -fno-strict-aliasing -O3 -rdynamic -lm -lpthread

GraphicsMagick 1.3.33

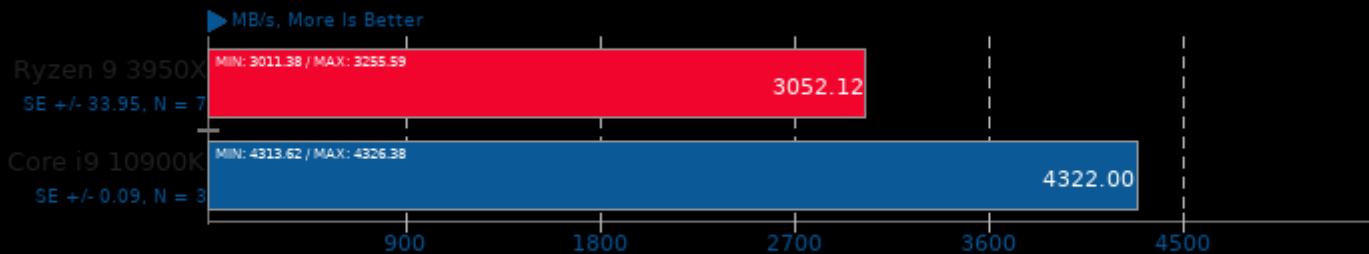
Operation: Sharpen



1. (CC) gcc options: -fopenmp -O2 -pthread -ljpeg -lwebp -lwebrtc -ltiff -lfreetype -ljpeg -lxml -lxml2 -lz -lpthread

CacheBench

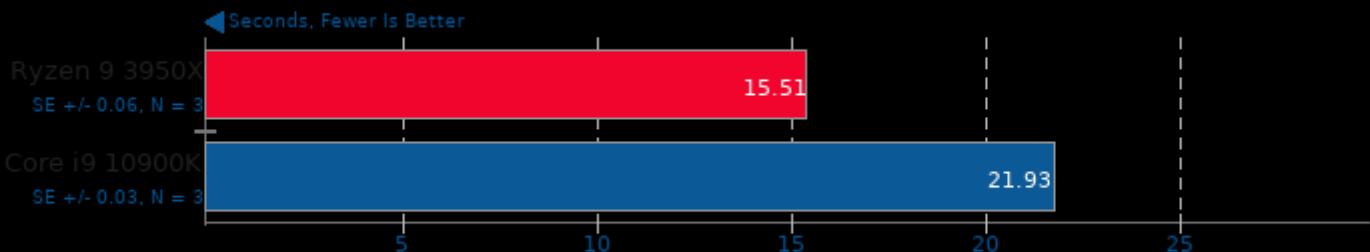
Test: Read



1. (CC) gcc options: -lrt

Zstd Compression 1.3.4

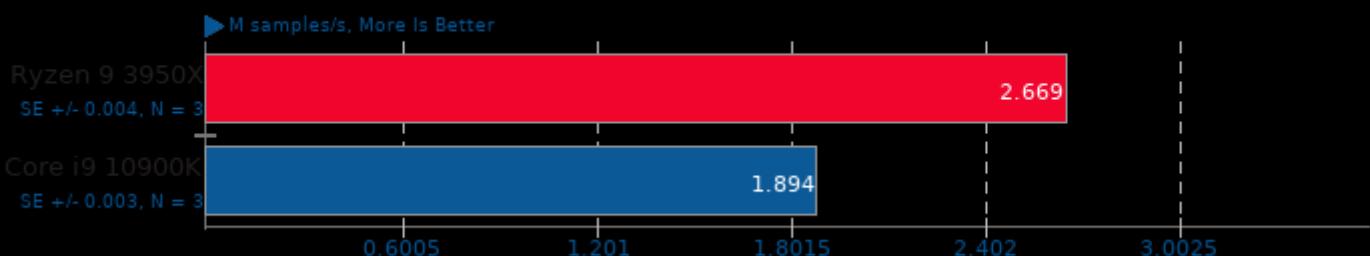
Compressing ubuntu-16.04.3-server-i386.img, Compression Level 19



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

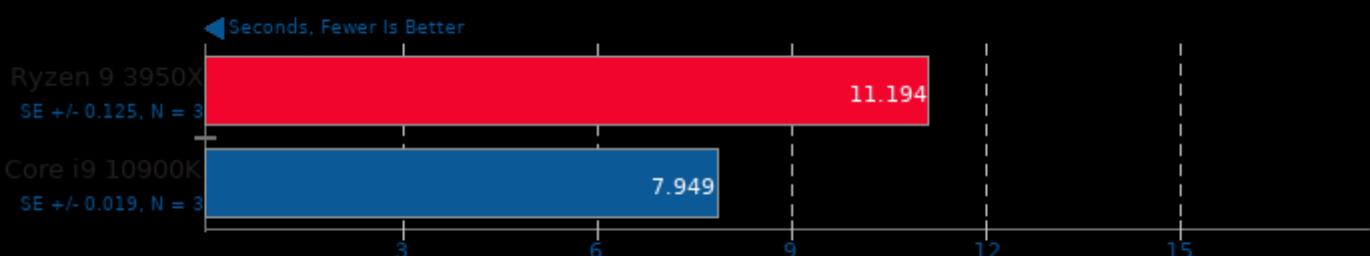
IndigoBench 4.0.64

Scene: Bedroom



GnuPG 1.4.22

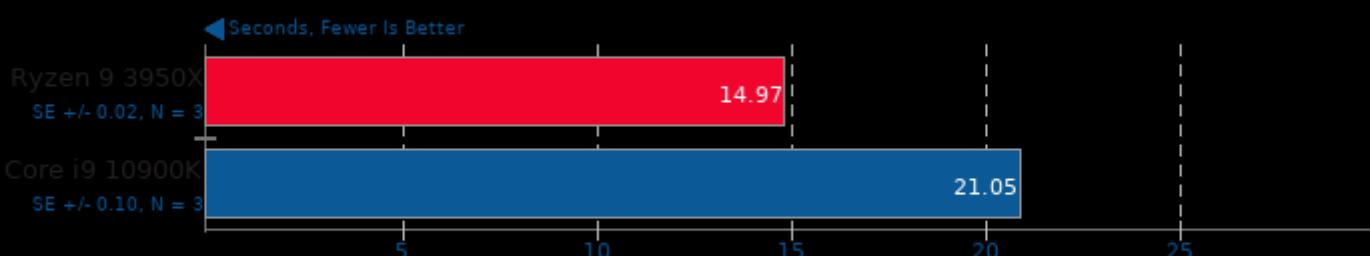
2GB File Encryption



1. (CC) gcc options: -O2 -MT -MD -MP -MF

Rodinia 2.4

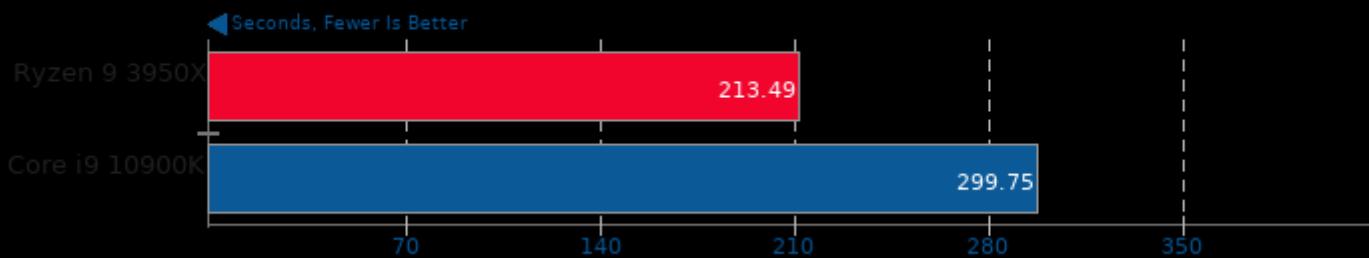
Test: OpenMP LavaMD



1. (CXX) g++ options: -O2 -fOpenCL

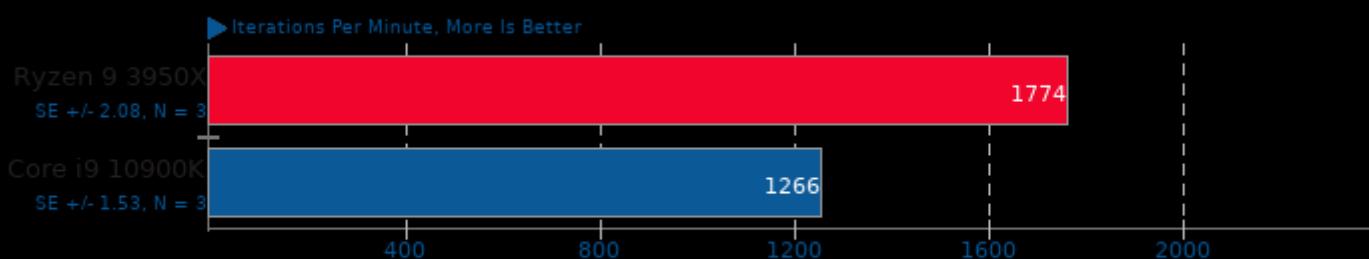
Appleseed 2.0 Beta

Scene: Emily



GraphicsMagick 1.3.33

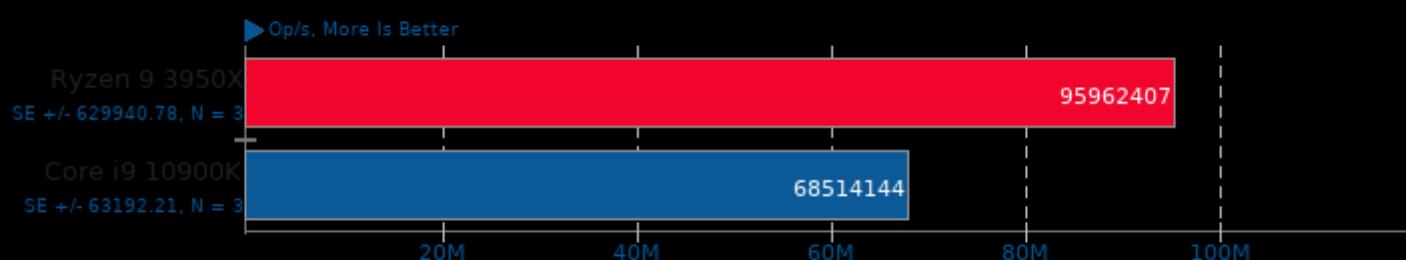
Operation: Resizing



1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwevp -lwebpmux -ltiff -lfreetype -jpeg -lXext -lSM -ICE -lX11 -lzma -lbz2 -lxml2 -lz -lm -pthread

Facebook RocksDB 6.3.6

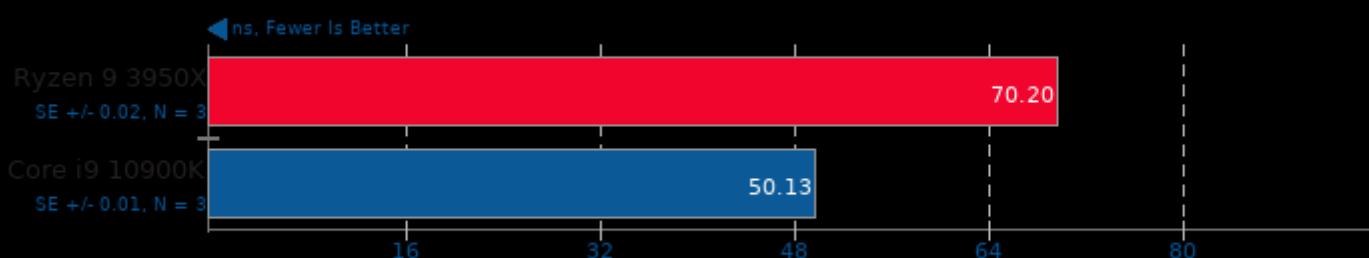
Test: Random Read



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fno-built-in-memcmp -fno-rtti -rdynamic -pthread

Multichase Pointer Chaser

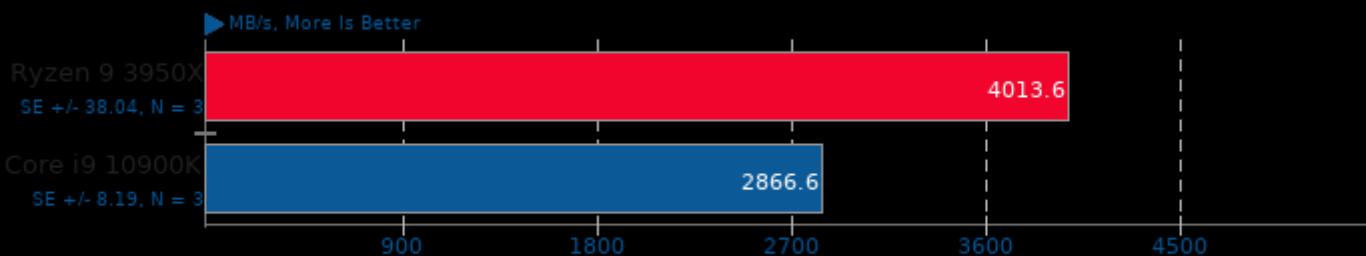
Test: 1GB Array, 256 Byte Stride, 4 Threads



1. (CC) gcc options: -O2 -static -pthread -lrt

Zstd Compression 1.4.5

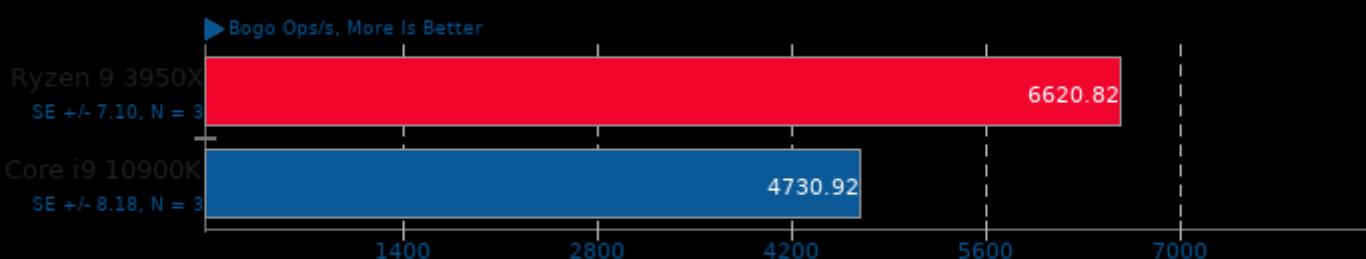
Compression Level: 3



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

Stress-NG 0.11.07

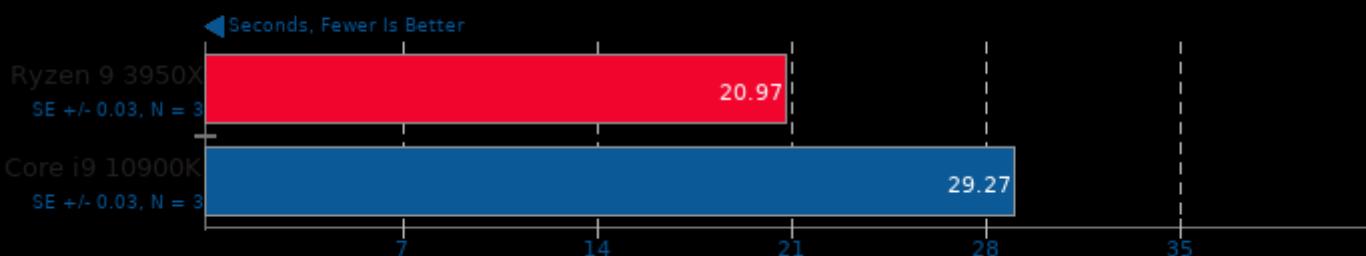
Test: CPU Stress



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

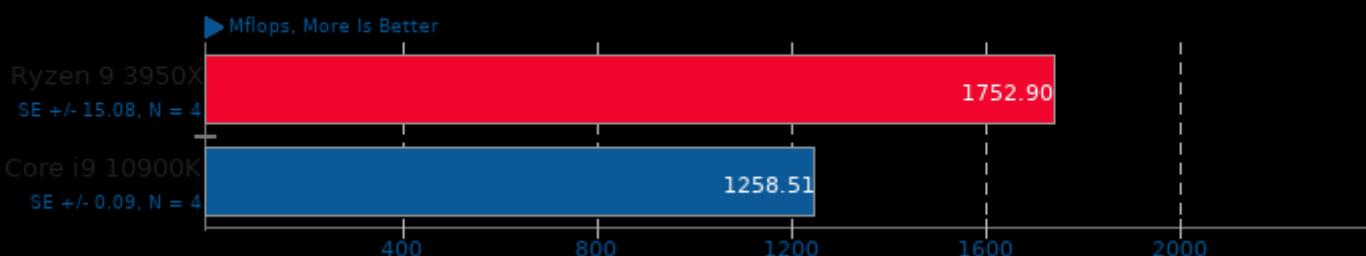
Timed MPlayer Compilation 1.4

Time To Compile



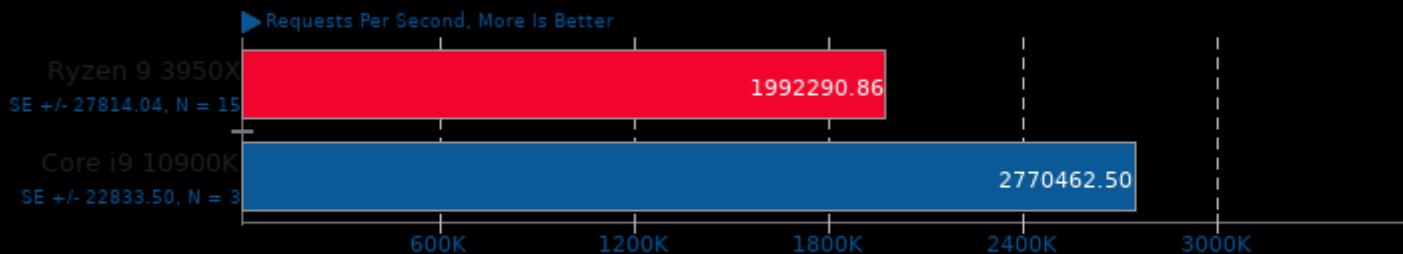
Java SciMark 2.0

Computational Test: Monte Carlo



Redis 5.0.5

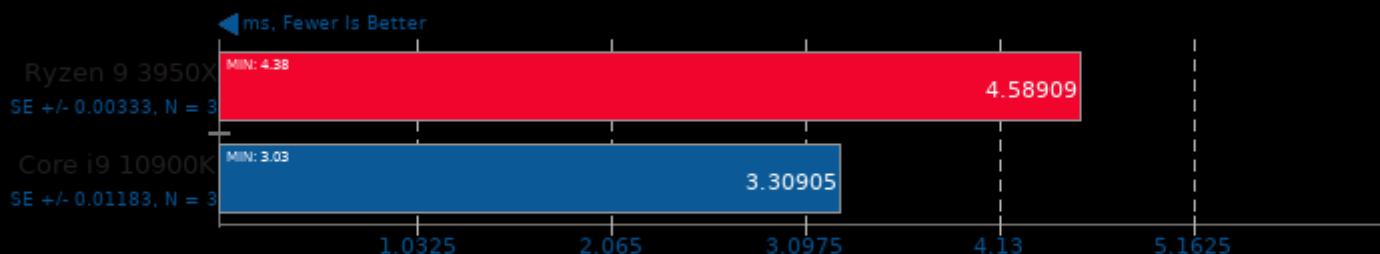
Test: SET



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

oneDNN MKL-DNN 1.3

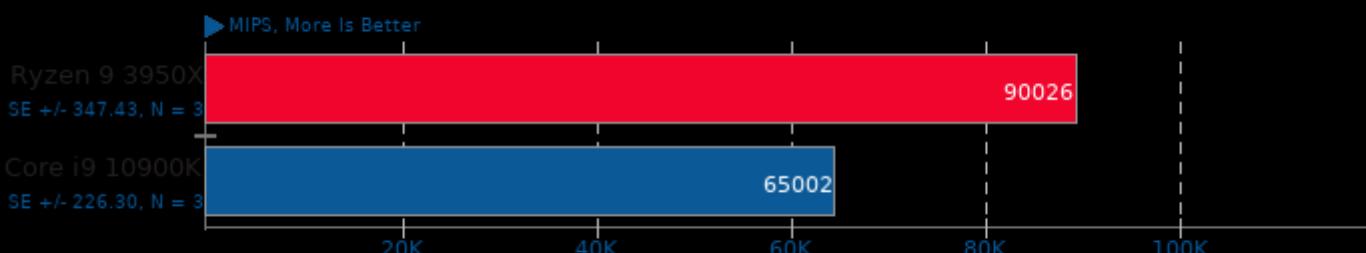
Harness: IP Batch 1D - Data Type: f32



1. (CXX) g++ options: -O3 -march=native -std=c++11 -msse4.1 -fPIC -fopenmp -pie -lpthread -ldl

7-Zip Compression 16.02

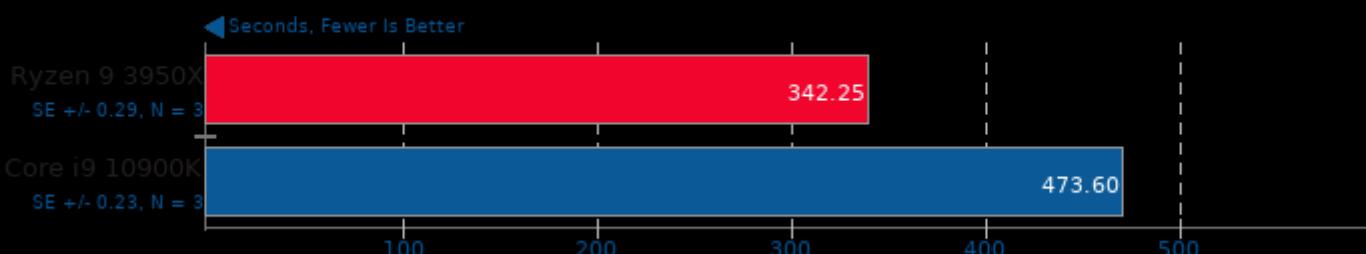
Compress Speed Test



1. (CXX) g++ options: -pipe -lpthread

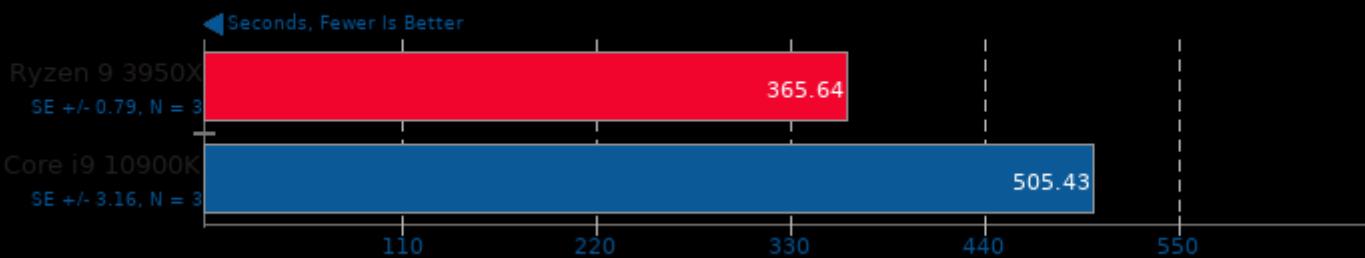
Blender 2.82

Blend File: Barbershop - Compute: CPU-Only



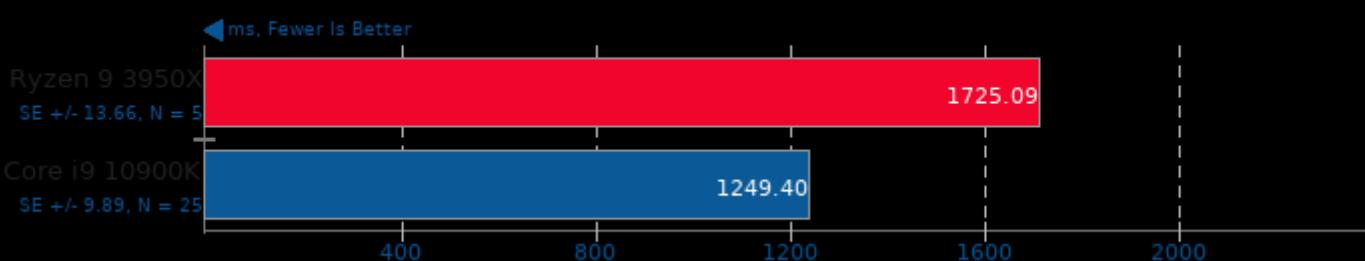
Timed LLVM Compilation 10.0

Time To Compile



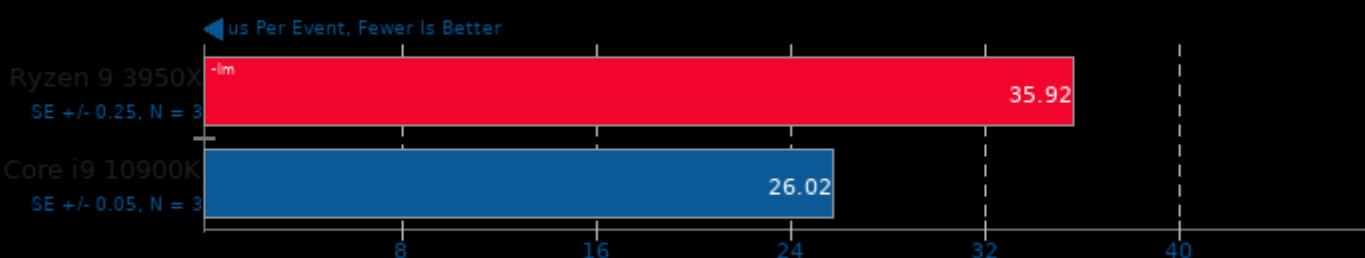
Renaissance 0.10.0

Test: Genetic Algorithm Using Jenetics + Futures



OSBench

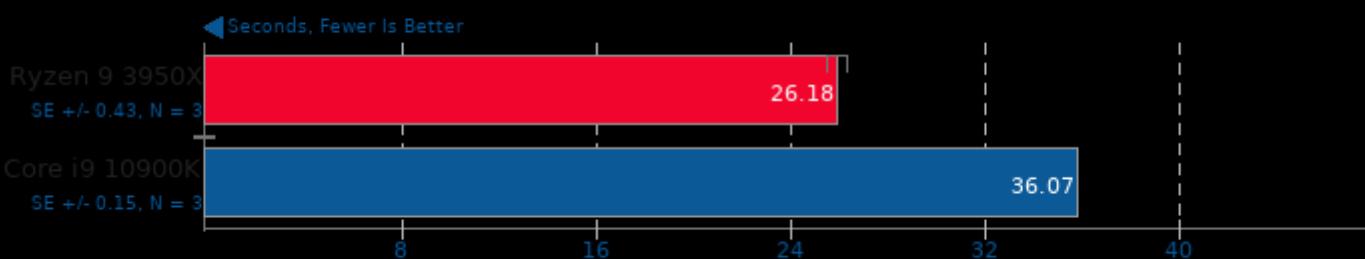
Test: Launch Programs



1. (CC) gcc options:

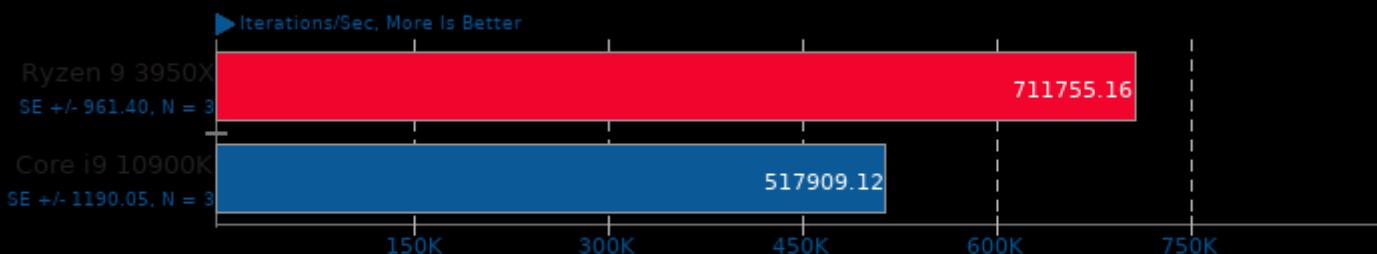
Numenta Anomaly Benchmark 1.1

Detector: Bayesian Changepoint



Coremark 1.0

CoreMark Size 666 - Iterations Per Second



1. (CC) gcc options: -O2 -fintc -fipa

Nettle 3.5.1

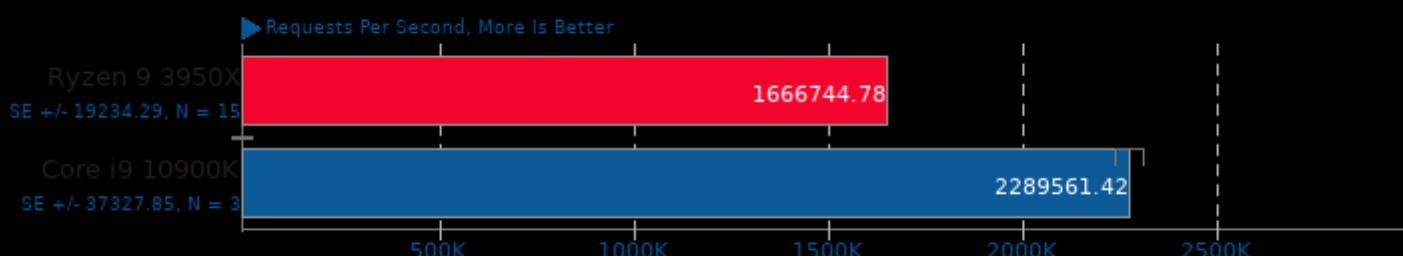
Test: poly1305-aes



1. (CC) gcc options: -O2 -ggdb3 -lnettle -lgmp -lm -lcrypto

Redis 5.0.5

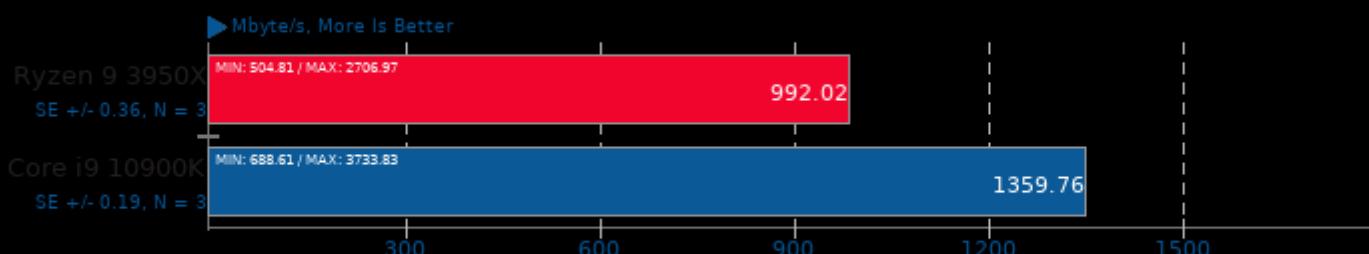
Test: LPUSH



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

Nettle 3.5.1

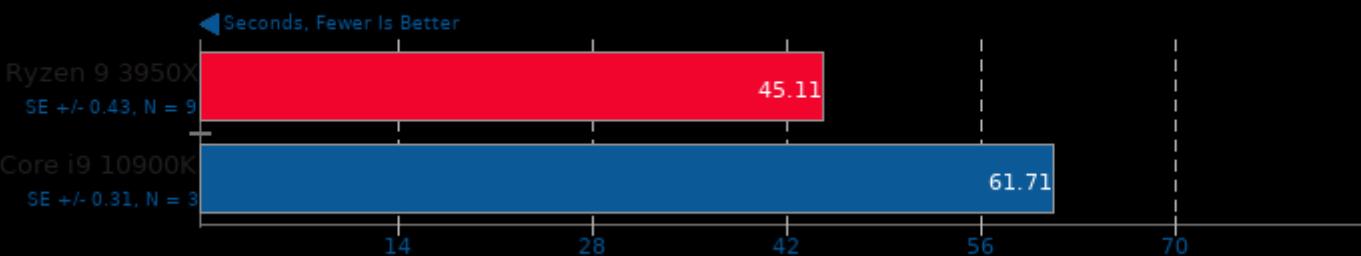
Test: chacha



1. (CC) gcc options: -O2 -ggdb3 -lnettle -lgmp -lm -lcrypto

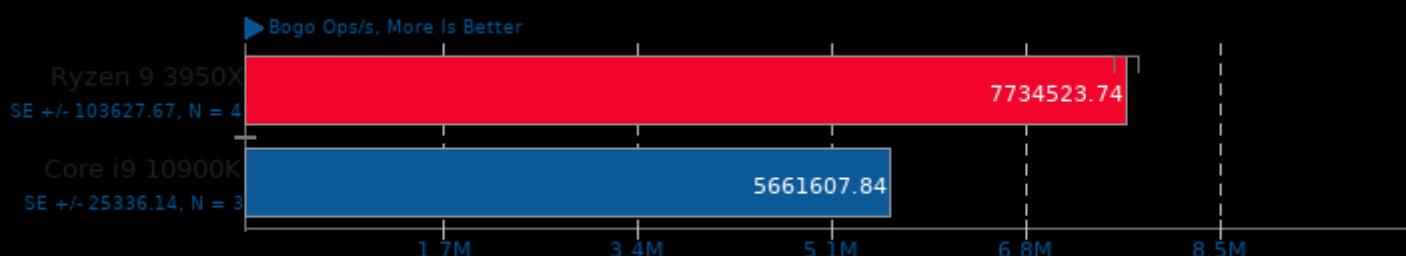
Timed Linux Kernel Compilation 5.4

Time To Compile



Stress-NG 0.11.07

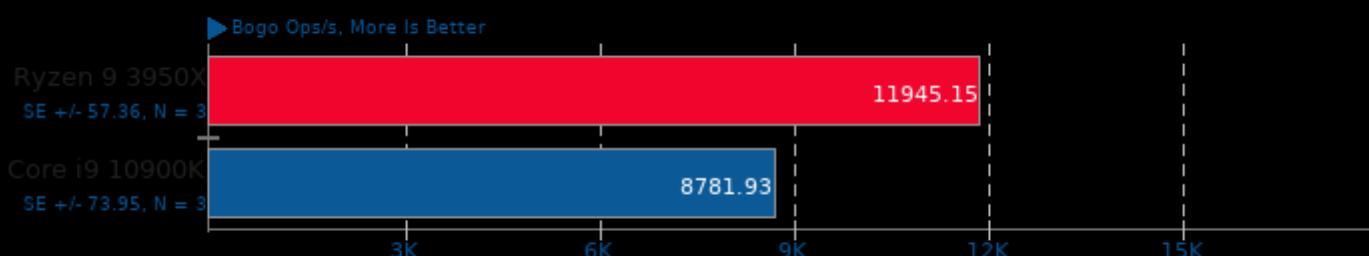
Test: Context Switching



1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lz -ldl -lpthread -lc

Stress-NG 0.11.07

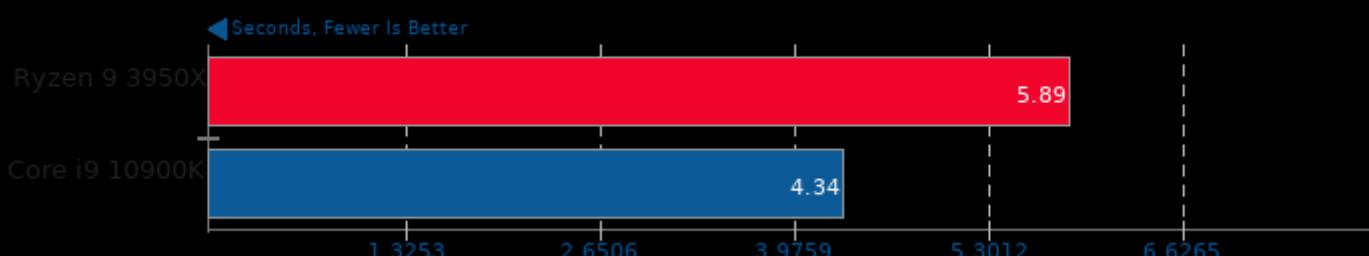
Test: Socket Activity



1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lz -ldl -lpthread -lc

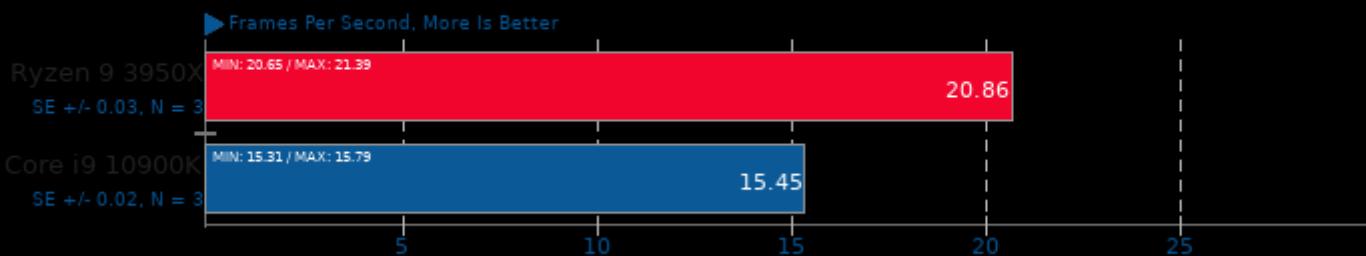
Polyhedron Fortran Benchmarks

Benchmark: ac



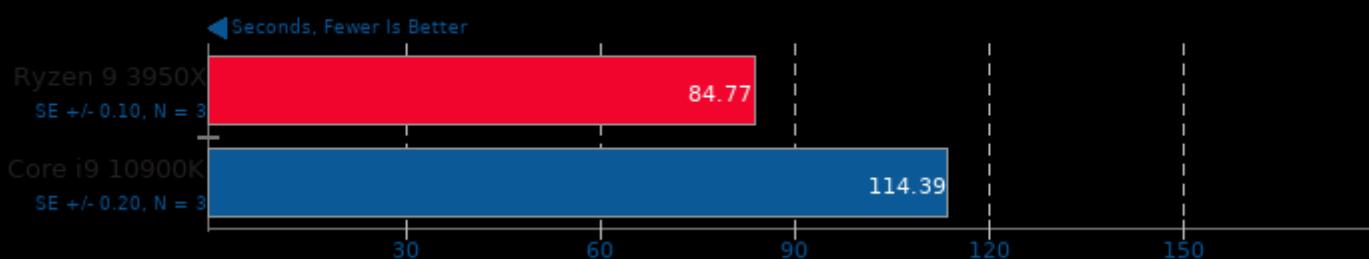
Embree 3.9.0

Binary: Pathtracer - Model: Crown



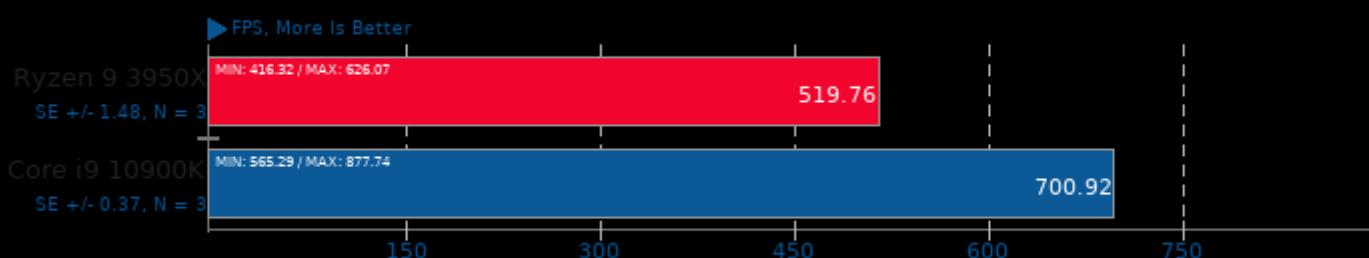
Blender 2.82

Blend File: BMW27 - Compute: CPU-Only



dav1d 0.6.0

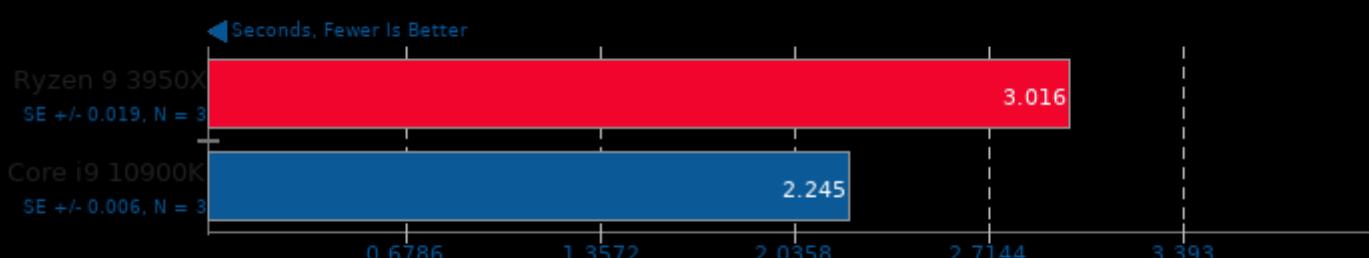
Video Input: Chimera 1080p



1. (CC) gcc options: -pthread

Hackbench

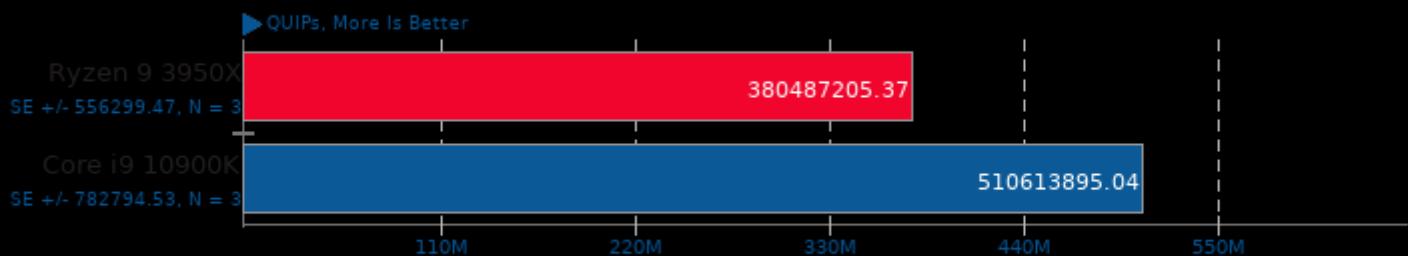
Count: 1 - Type: Thread



1. (CC) gcc options: -lpthread

Hierarchical INTegration 1.0

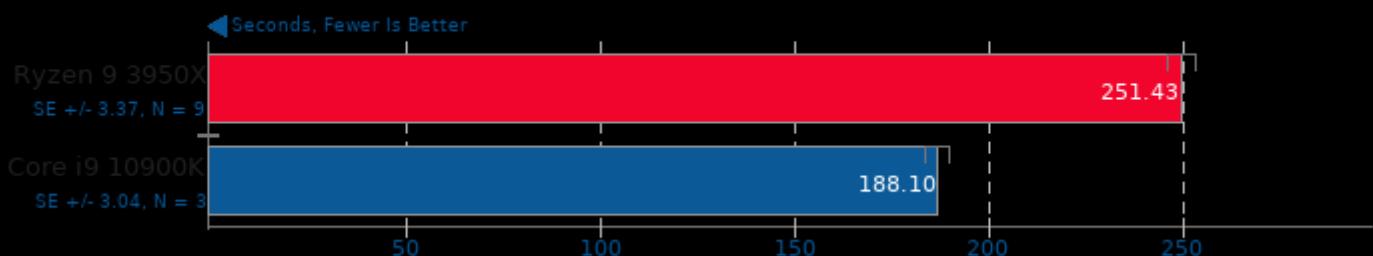
Test: FLOAT



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

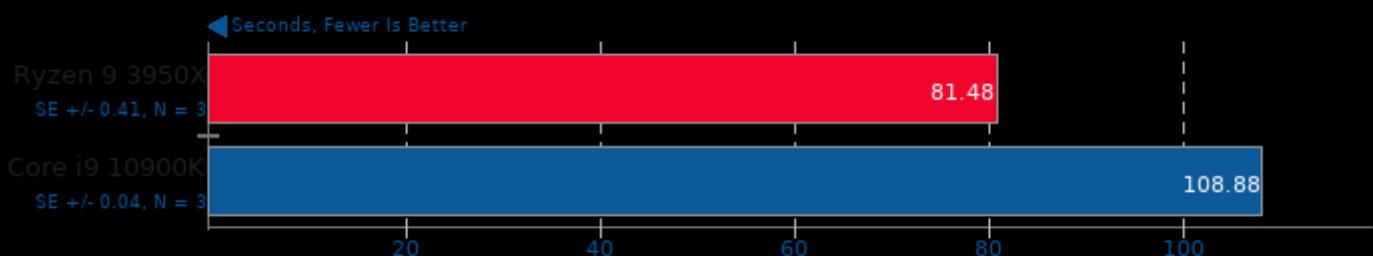
Java Gradle Build

Gradle Build: Reactor



YafaRay 3.4.1

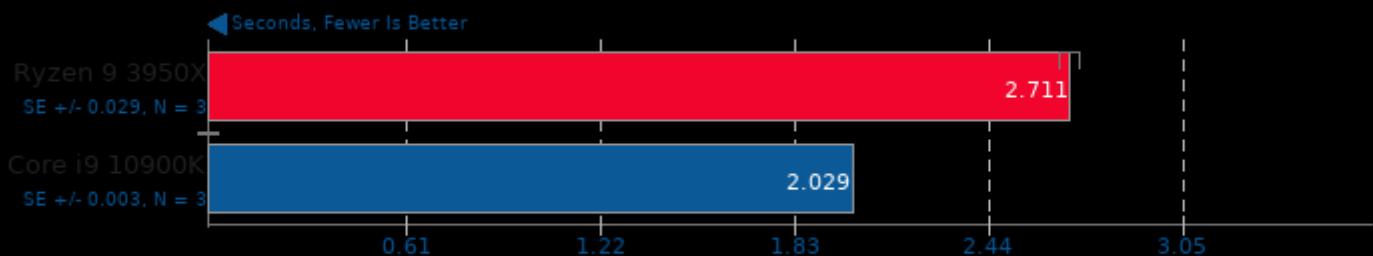
Total Time For Sample Scene



1. (CXX) g++ options: -std=c++11 -O3 -ffast-math -rdynamic -ldl -lmath -lxml -lex -lfat -lz -lxmlThread -lxm12 -freetype -lpthread

Hackbench

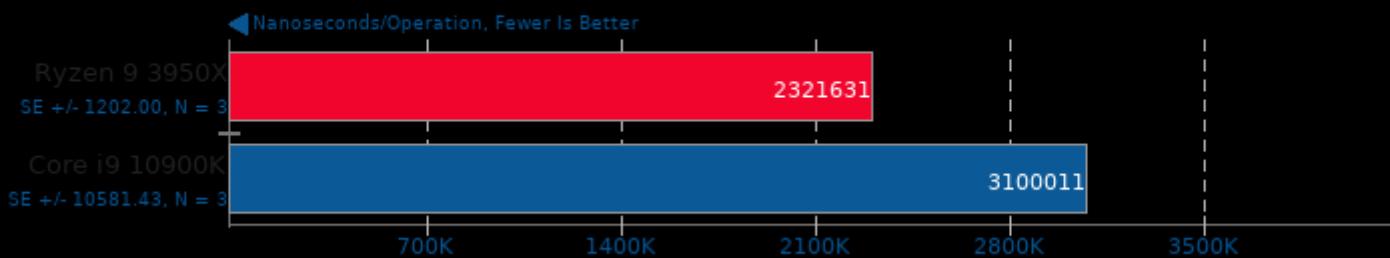
Count: 1 - Type: Process



1. (CC) gcc options: -lpthread

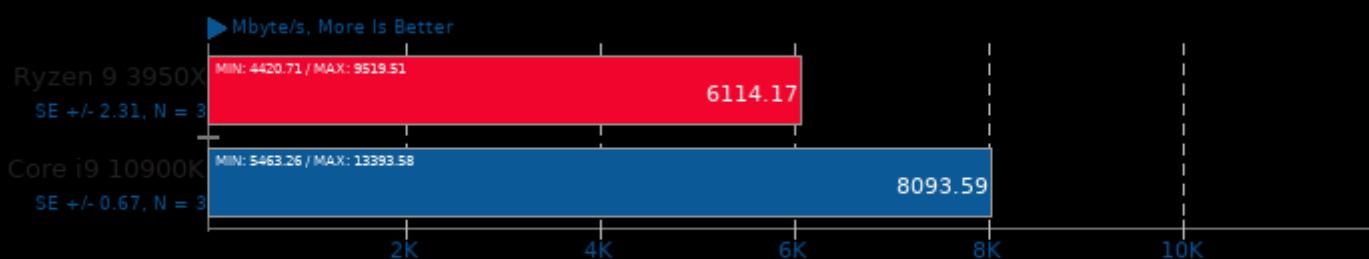
Go Benchmarks

Test: json



Nettle 3.5.1

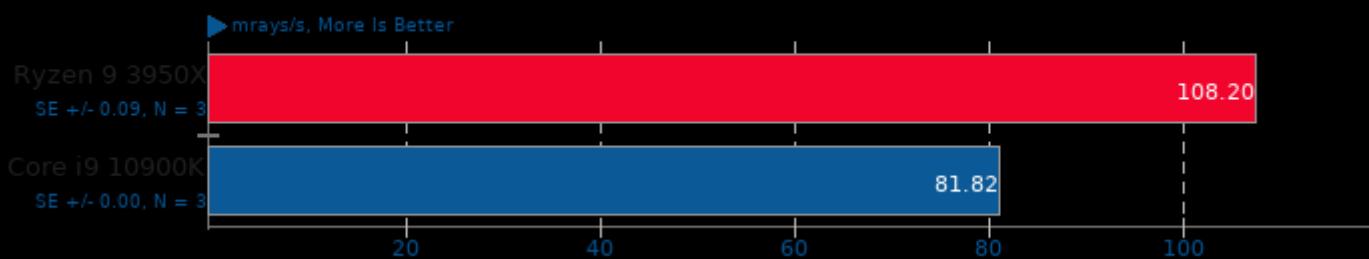
Test: aes256



1. (CC) gcc options: -O2 -ggdb3 -fnettle -lgmp -lm -lcrypto

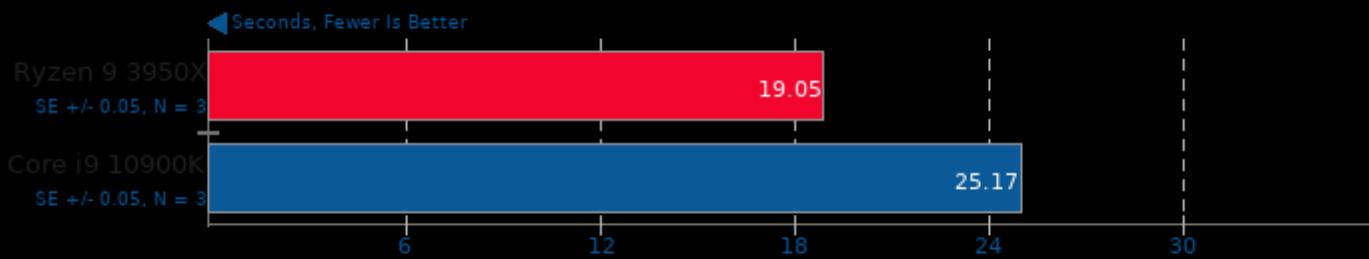
rays1bench 2020-01-09

Large Scene



Basis Universal 1.12

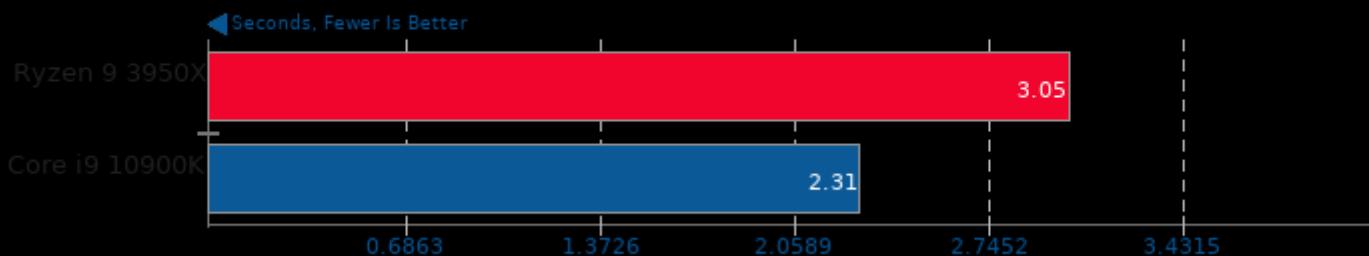
Settings: UASTC Level 2



1. (CXX) g++ options: -std=c++11 -fvisibility=hidden -fPIC -fno-strict-aliasing -O3 -rdynamic -lm -lpthread

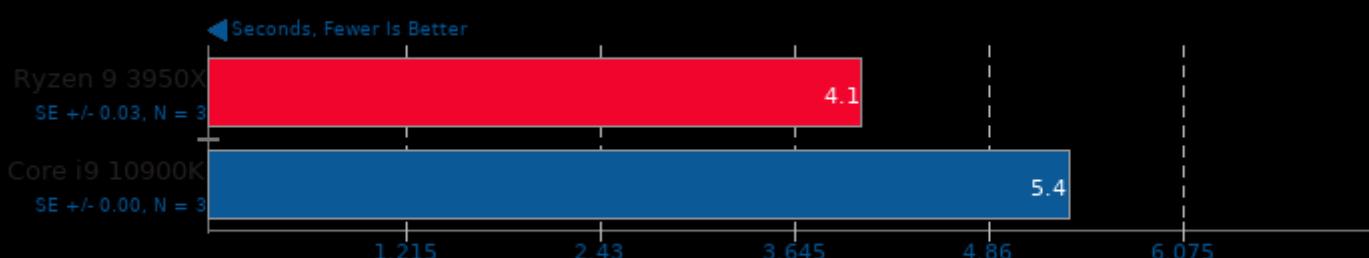
Polyhedron Fortran Benchmarks

Benchmark: linpk



Selenium

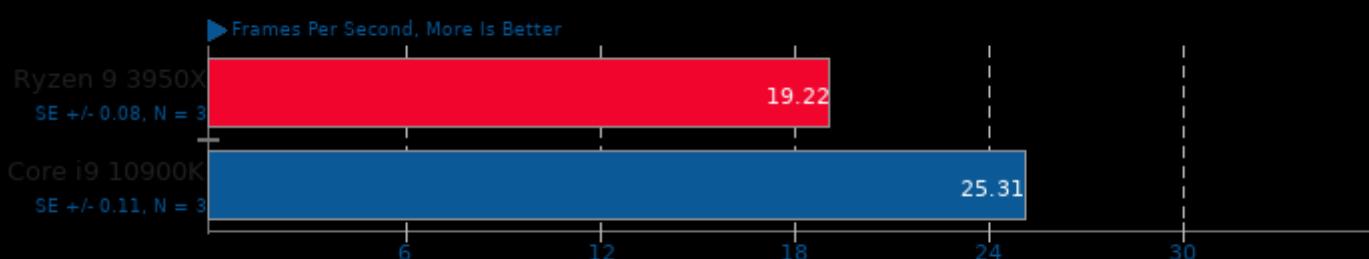
Benchmark: Maze Solver - Browser: Google Chrome



1. chrome 83.0.4103.61

AOM AV1 2.0

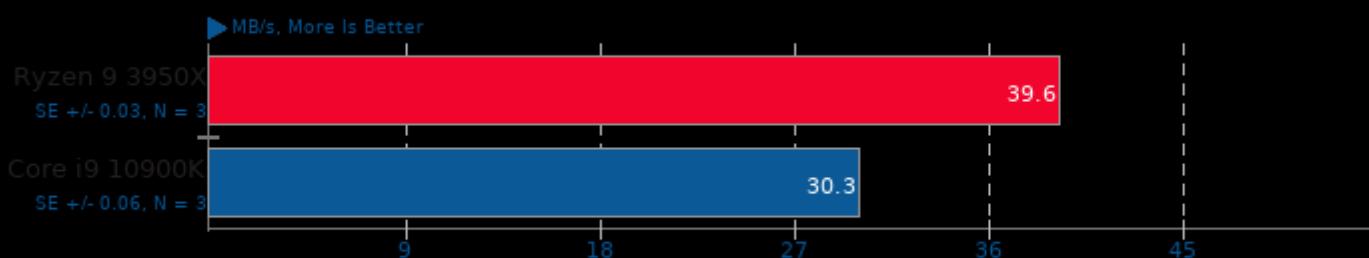
Encoder Mode: Speed 6 Realtime



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

Zstd Compression 1.4.5

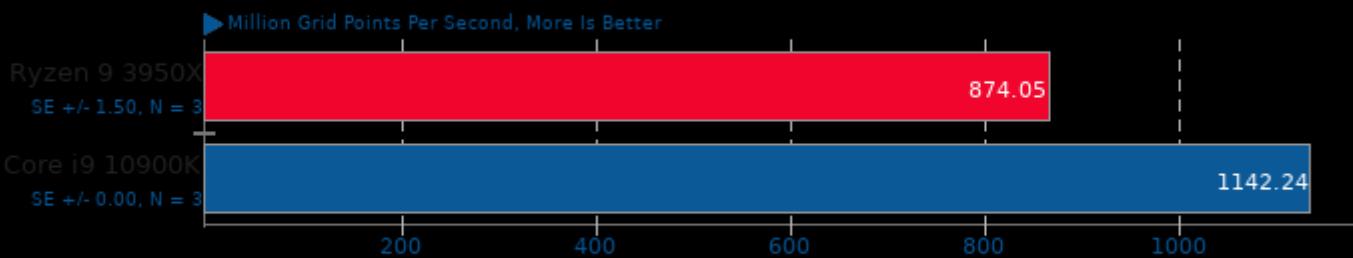
Compression Level: 19



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

ASKAP 2018-11-10

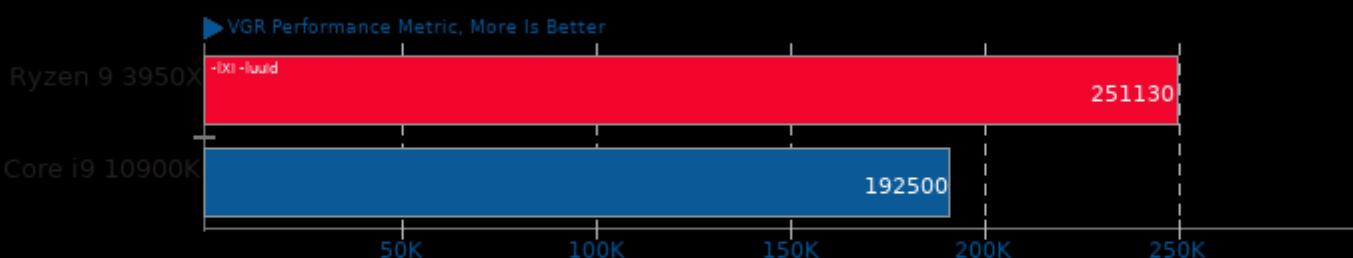
Test: tConvolve MT - Gridding



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

BRL-CAD 7.30.8

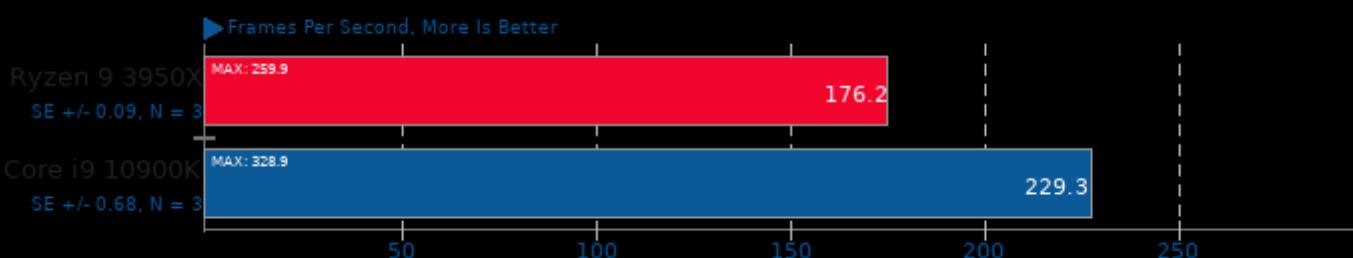
VGR Performance Metric



1. (CXX) g++ options: -std=c++11 -pipe -fno-strict-aliasing -fno-common -fexceptions -ftemplate-depth=128 -m64 -ggdb3 -O3 -fipa-pta -fstrength-reduce

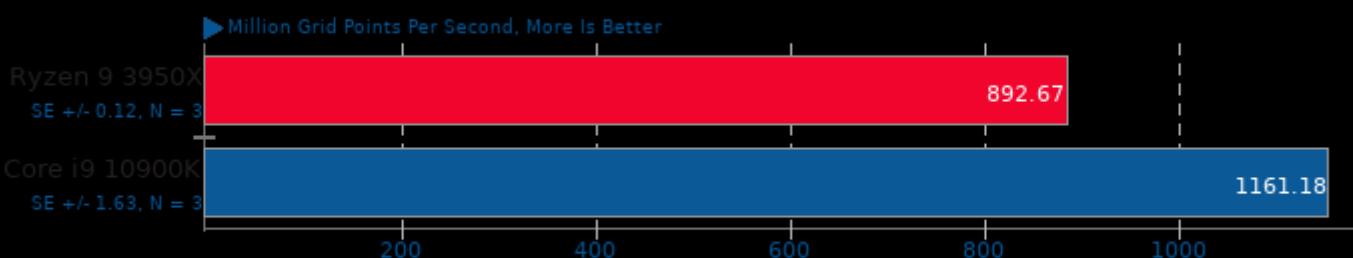
Unigine Superposition 1.0

Resolution: 1920 x 1080 - Mode: Windowed - Quality: Low - Renderer: OpenGL



ASKAP 2018-11-10

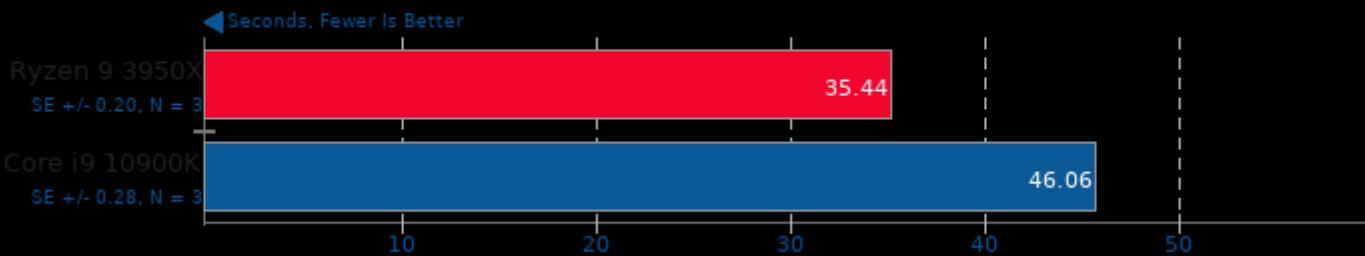
Test: tConvolve MPI - Gridding



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

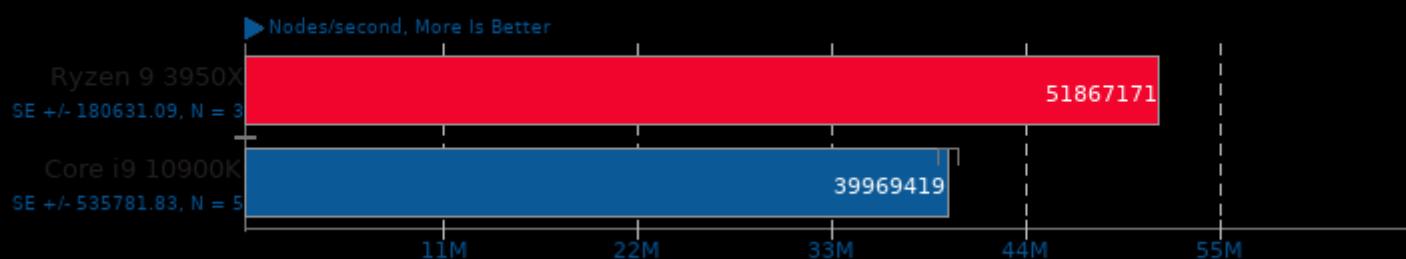
Timed FFmpeg Compilation 4.2.2

Time To Compile



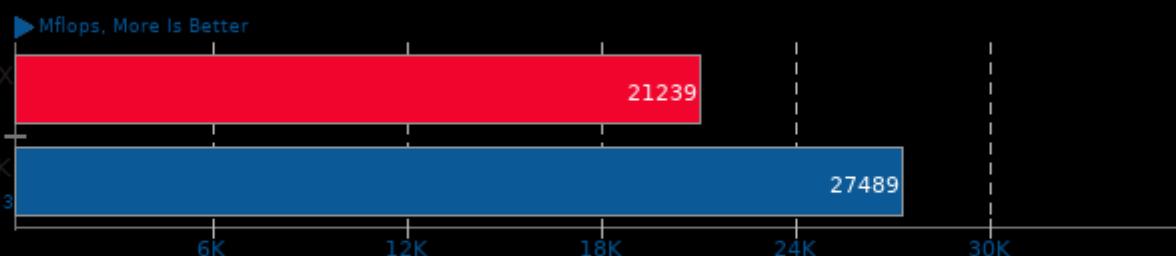
asmFish 2018-07-23

1024 Hash Memory, 26 Depth



FFTW 3.3.6

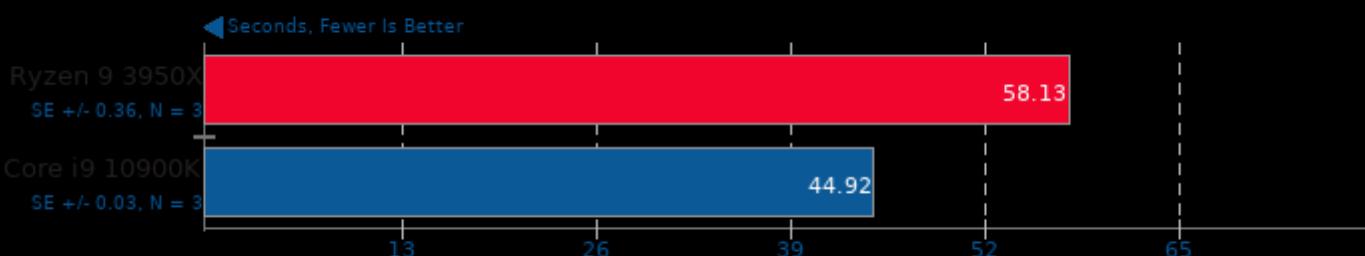
Build: Float + SSE - Size: 2D FFT Size 4096



1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm

SQLite Speedtest 3.30

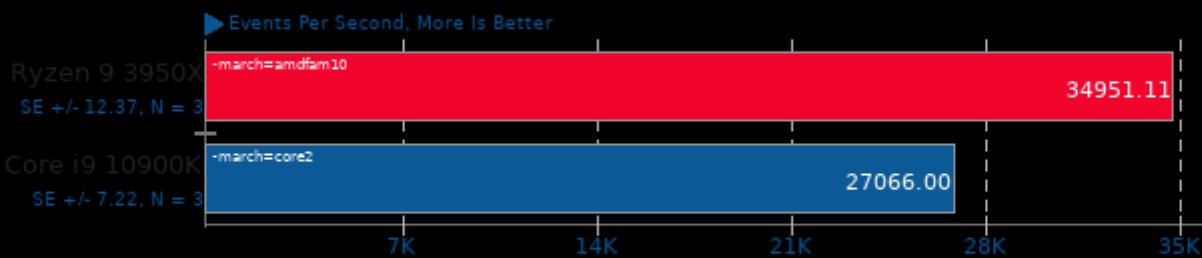
Timed Time - Size 1,000



1. (CC) gcc options: -O2 -ldl -lz -lpthread

Sysbench 2018-07-28

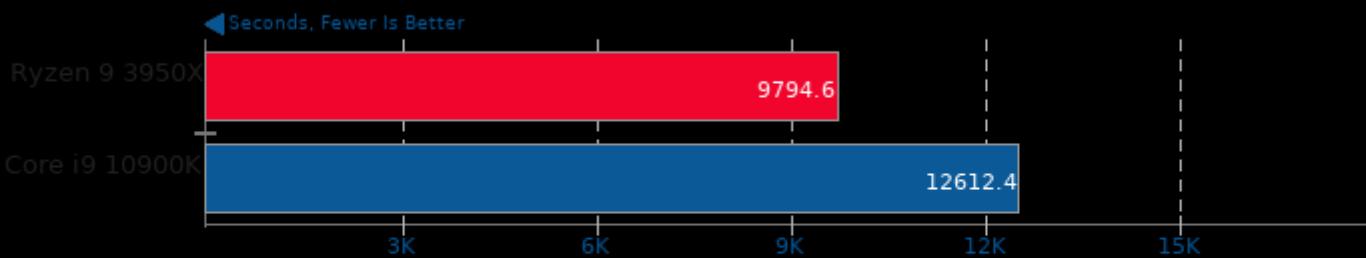
Test: CPU



1. (CC) gcc options: -pthread -O3 -funroll-loops -ggdb3 -rdynamic -ldl -lao -lm

NWChem 7.0

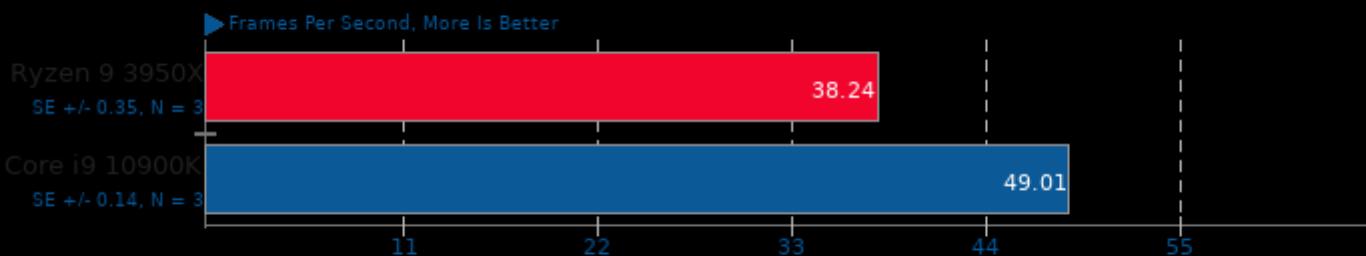
Input: C240 Buckyball



1. (F9X) gfortran options: -lnwctask -lccsd -lmcscf -lscfci -lmp2 -lmoints -lstepper -ldriver -loptim -lnwdft -igradients -lcphf -lesp -lddscf -ldangchang -lgue

AOM AV1 2.0

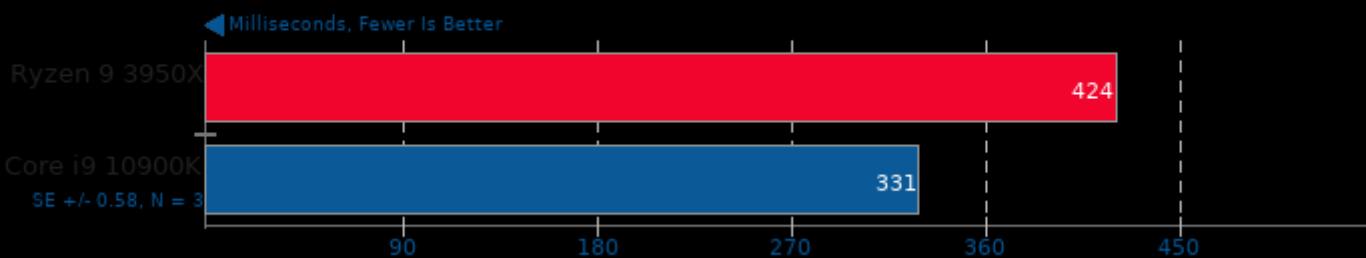
Encoder Mode: Speed 8 Realtime



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -pthread

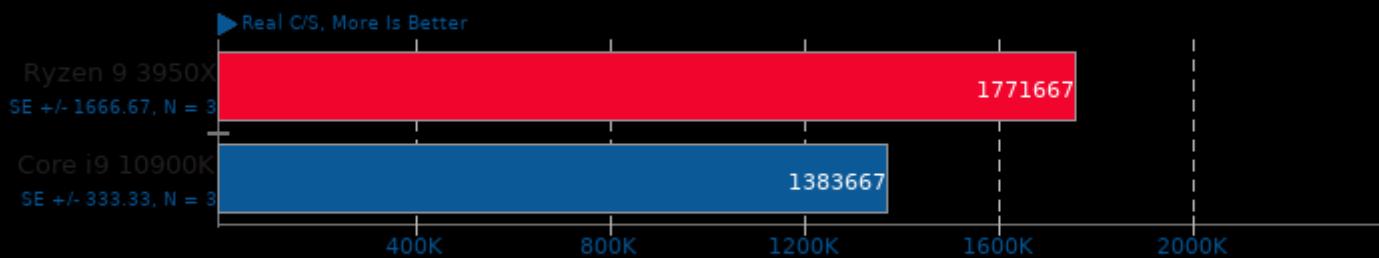
PyPerformance 1.0.0

Benchmark: pickle_pure_python



John The Ripper 1.9.0-jumbo-1

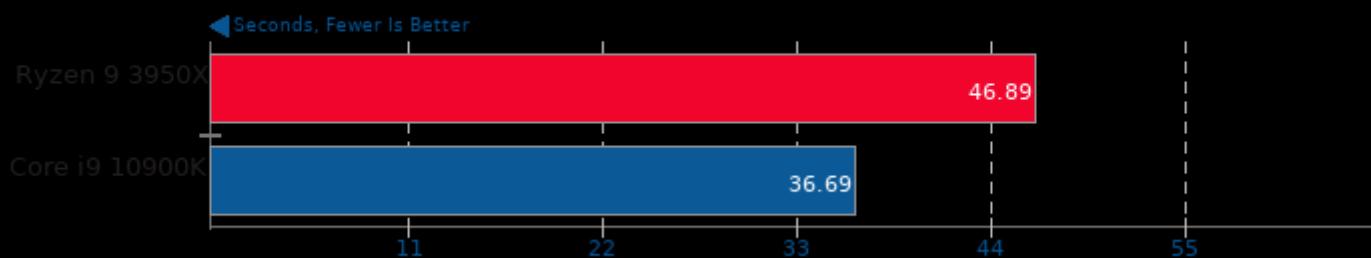
Test: MD5



1. (CC) gcc options: -m64 -lssl -lcrypto -fopenmp -lgmp -pthread -lm -lz -ldl -lcrypt -lbz2

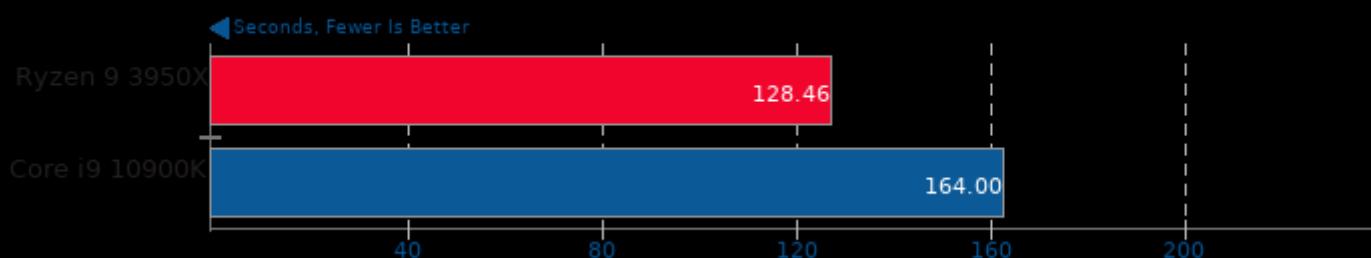
Polyhedron Fortran Benchmarks

Benchmark: fatigue2



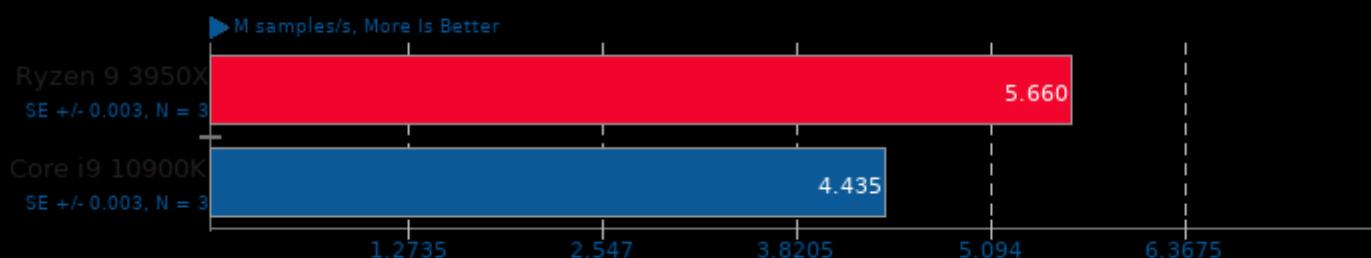
Appleseed 2.0 Beta

Scene: Material Tester



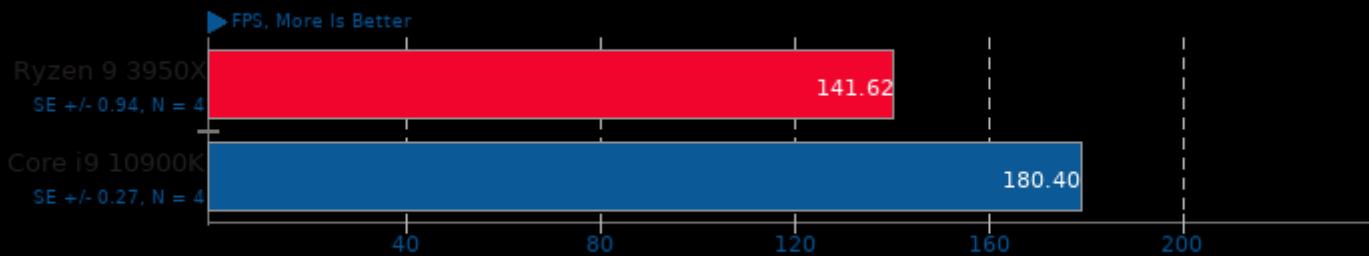
IndigoBench 4.0.64

Scene: Supercar



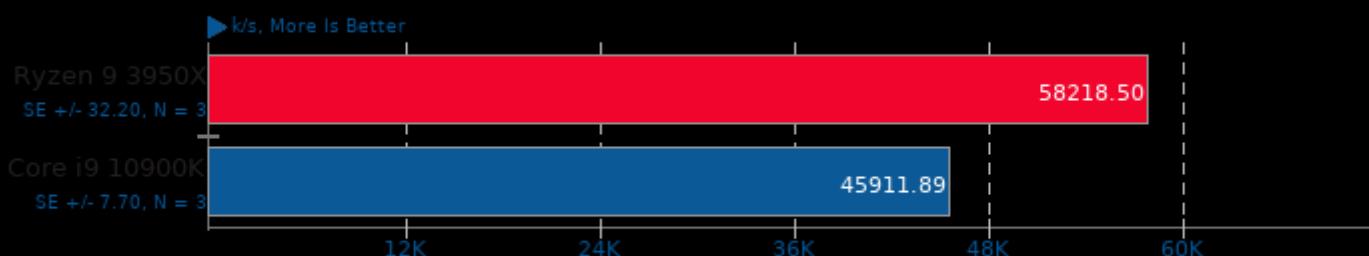
Optcarrot

Optimized Benchmark



1. ruby 2.7.0p0 (2019-12-25 revision 647ee6f091) [x86_64-linux-gnu]

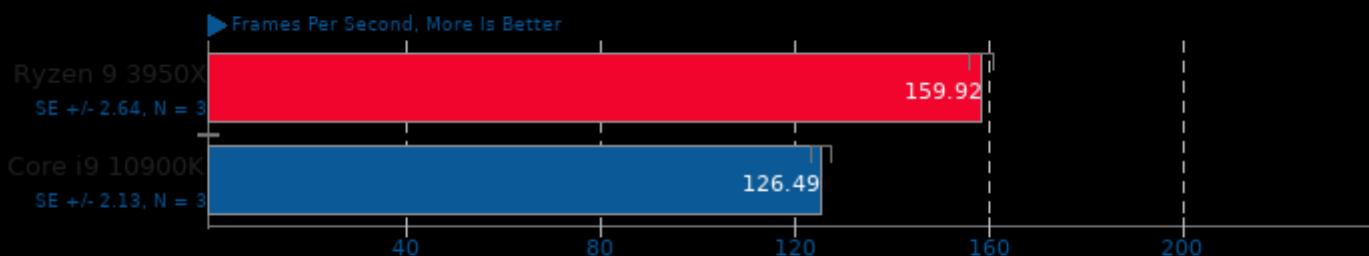
Aircrack-ng 1.5.2



1. (CXX) g++ options: -O3 -fvisibility=hidden -masm=intel -fcommon -rdynamic -lpthread -lz -lcrypto -lhwloc -ldl -lm -pthread

x264 2019-12-17

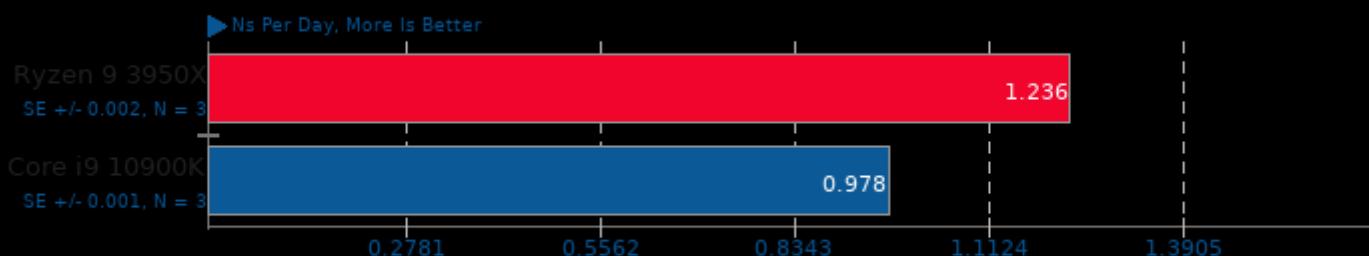
H.264 Video Encoding



1. (CC) gcc options: -ldl -lavformat -lavcodec -lavutil -lswscale -m64 -lm -lpthread -O3 -ffast-math -std=gnu99 -fPIC -fomit-frame-pointer -fno-tree-vectorize

GROMACS 2020.1

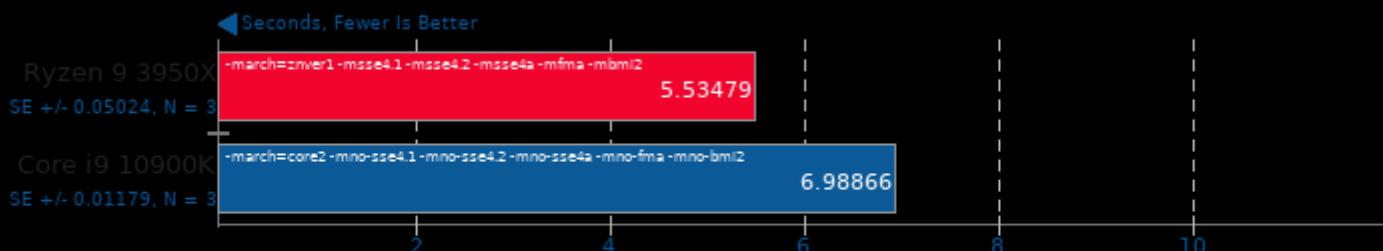
Water Benchmark



1. (CXX) g++ options: -O3 -pthread -lrt -lpthread -lm

Tungsten Renderer 0.2.2

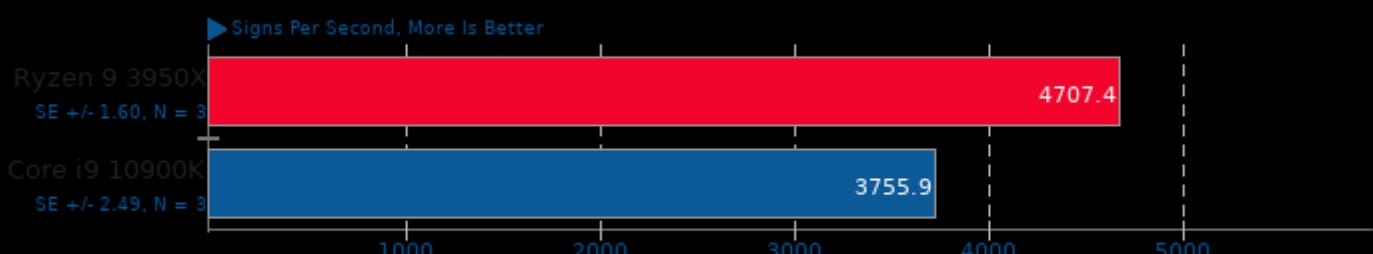
Scene: Volumetric Caustic



1. (CXX) g++ options: -std=c++0x -msse2 -msse3 -mssse3 -mno-avx -mno-avx2 -mno-xop -mno-fma4 -mno-avx512f -mno-avx512vl -mno-avx512pf -mno-

OpenSSL 1.1.1

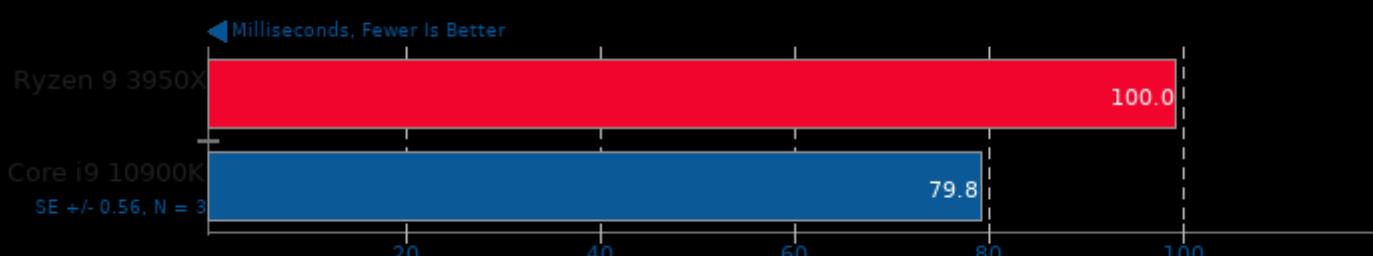
RSA 4096-bit Performance



1. (CC) gcc options: -pthread -m64 -O3 -lssl -lcrypto -ldl

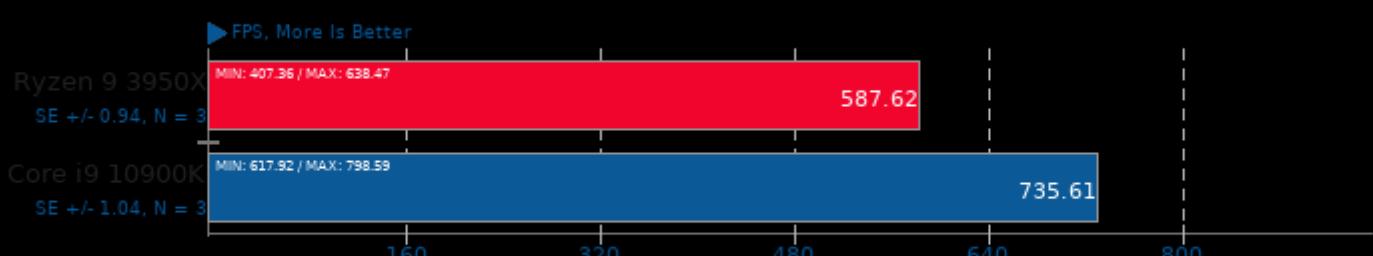
PyPerformance 1.0.0

Benchmark: chaos



dav1d 0.7.0

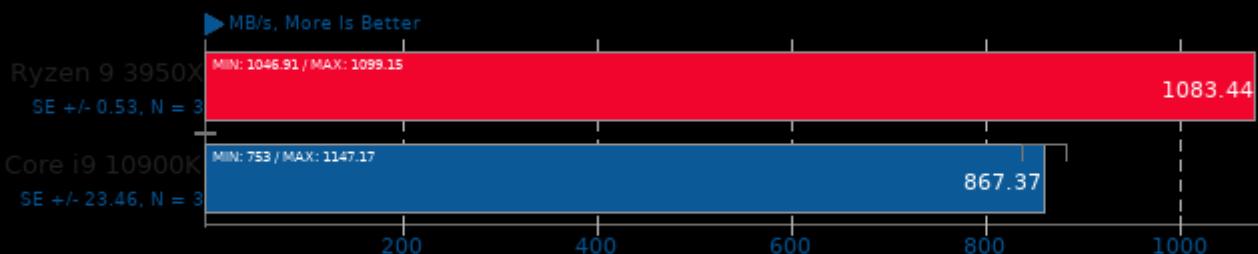
Video Input: Summer Nature 1080p



1. (CC) gcc options: -pthread

IOR 3.2.1

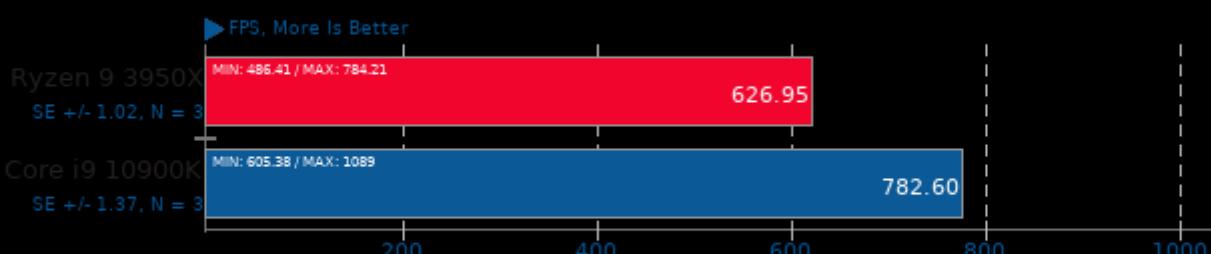
Read Test



1. (CC) gcc options: -O2 -lm -pthread -lmpi

dav1d 0.7.0

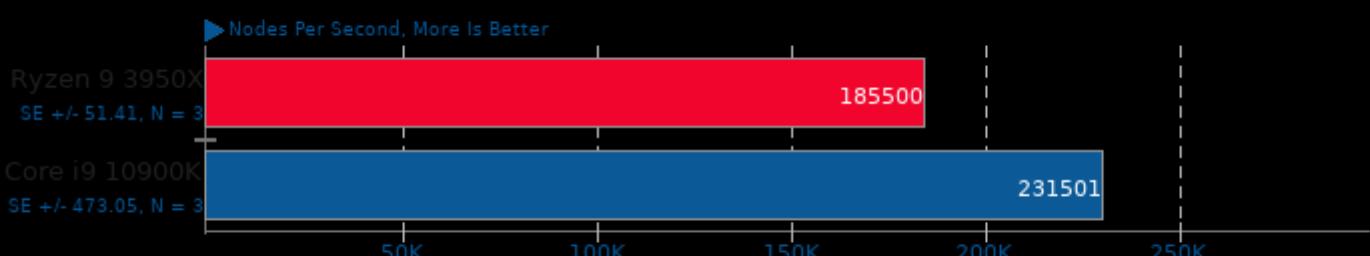
Video Input: Chimera 1080p



1. (CC) gcc options: -pthread

LeelaChessZero 0.25

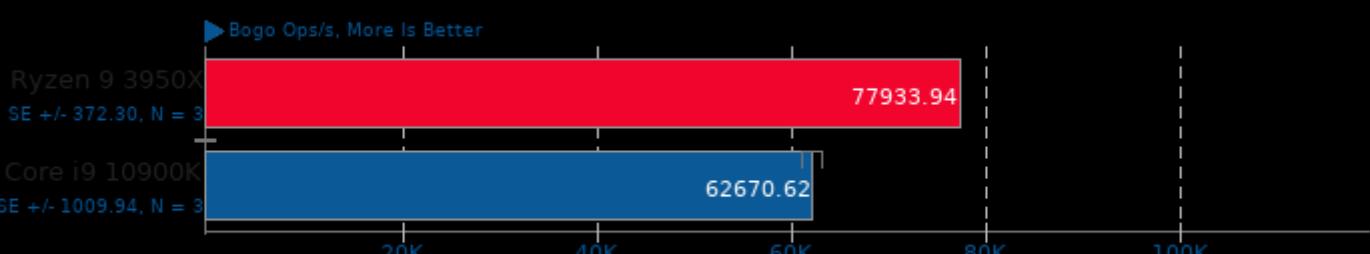
Backend: Random



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

Stress-NG 0.11.07

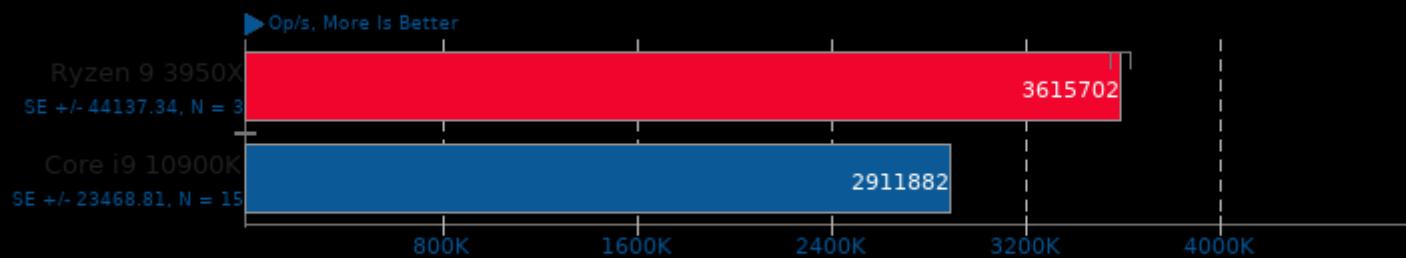
Test: Matrix Math



1. (CC) gcc options: -O2 -std=gnu99 -lm -lai0 -lcrypt -lrt -lz -ldl -lpthread -lc

Facebook RocksDB 6.3.6

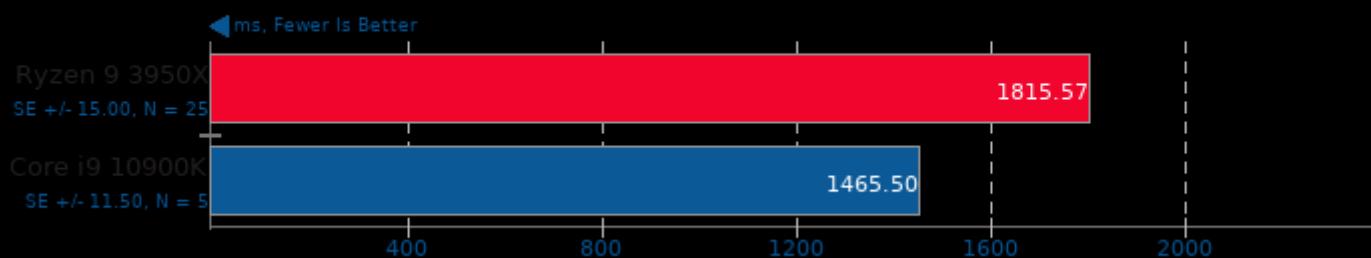
Test: Read While Writing



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fno-built-in-memcmp -fno-rtti -rdynamic -lpthread

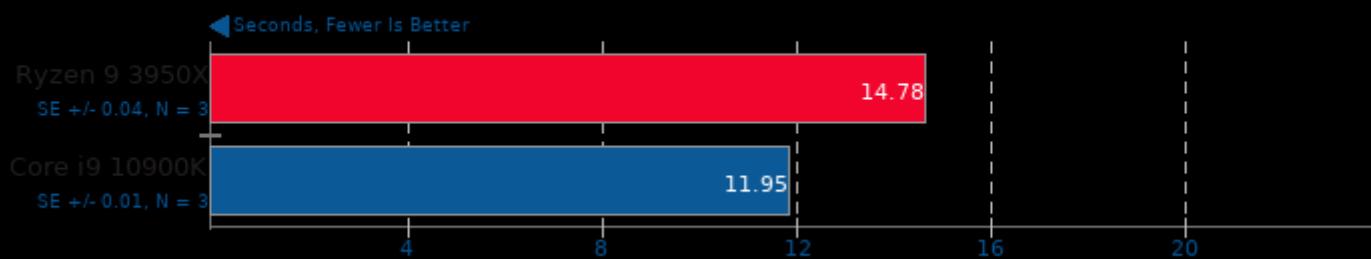
Renaissance 0.10.0

Test: Random Forest



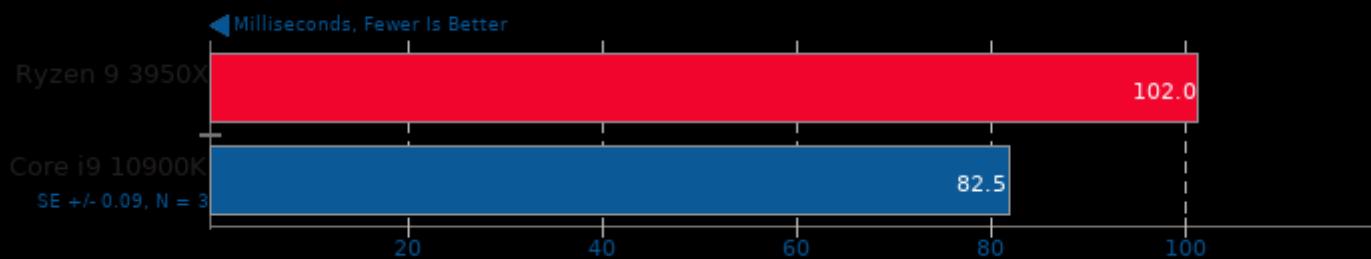
GIMP 2.10.18

Test: unsharp-mask



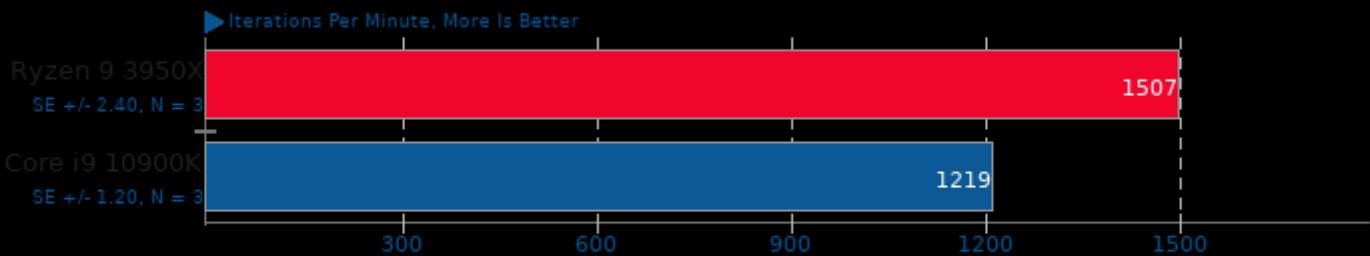
PyPerformance 1.0.0

Benchmark: float



GraphicsMagick 1.3.33

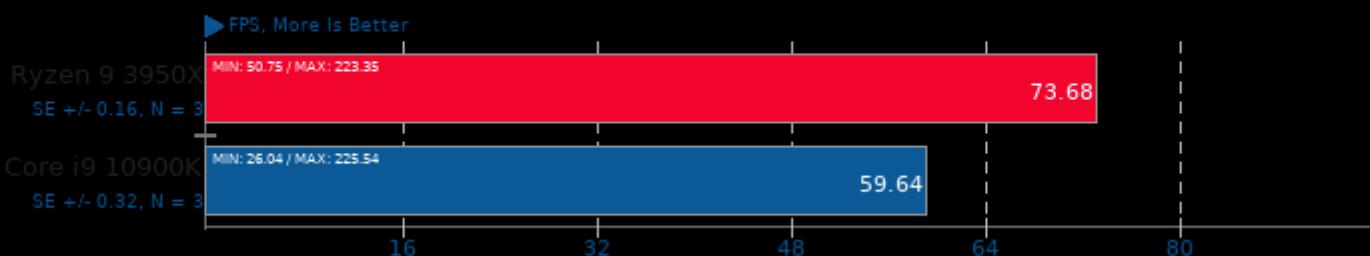
Operation: HWB Color Space



1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwevp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -lIzma -lbz2 -lxml2 -lz -lm -lpthread

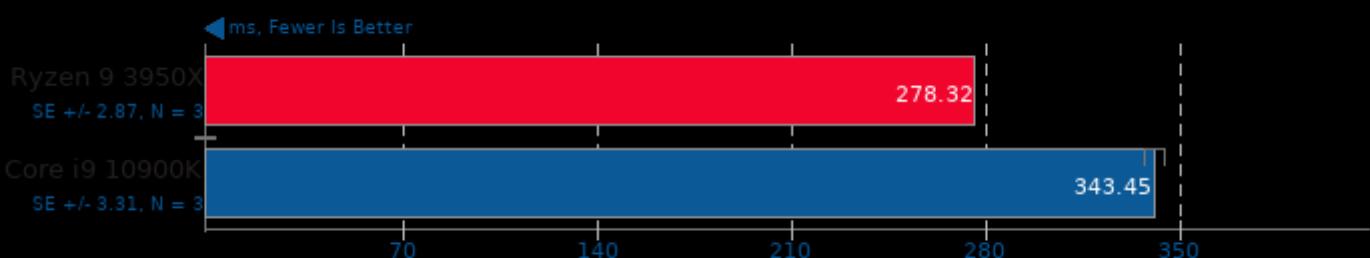
Basemark GPU 1.2

Renderer: OpenGL - Resolution: 3840 x 2160 - Graphics Preset: High



Selenium

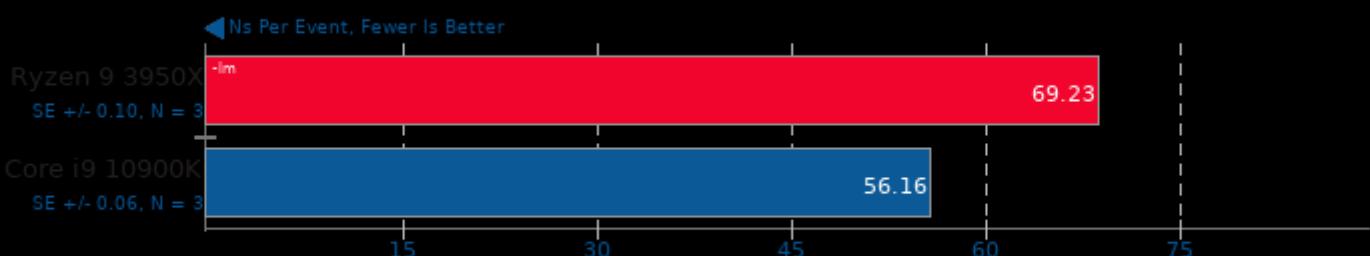
Benchmark: WASM collisionDetection - Browser: Google Chrome



1. chrome 83.0.4103.61

OSBench

Test: Memory Allocations

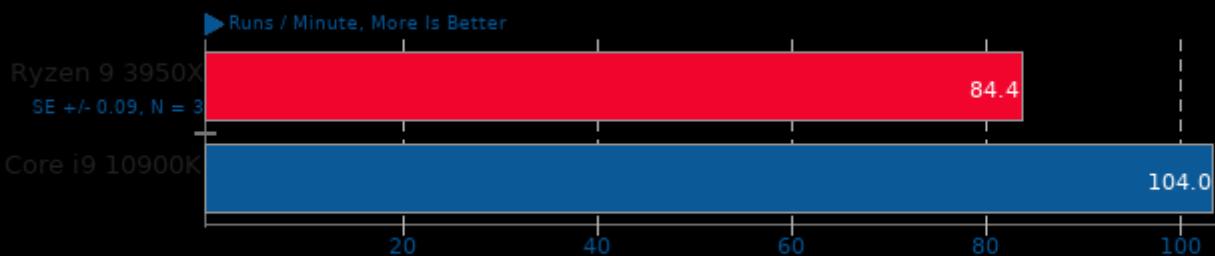


1. (CC) gcc options:

Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

Selenium

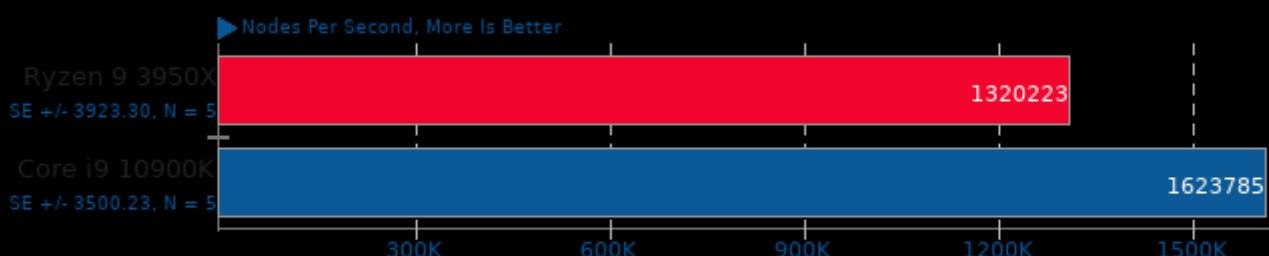
Benchmark: StyleBench - Browser: Firefox



1. firefox 76.0.1

TSCP 1.81

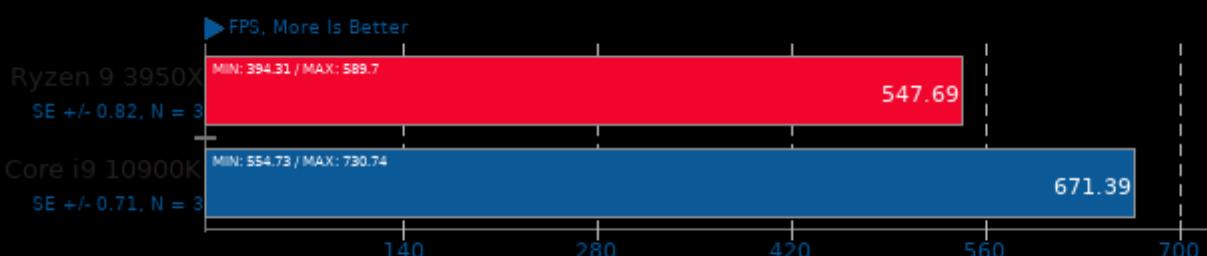
AI Chess Performance



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

dav1d 0.6.0

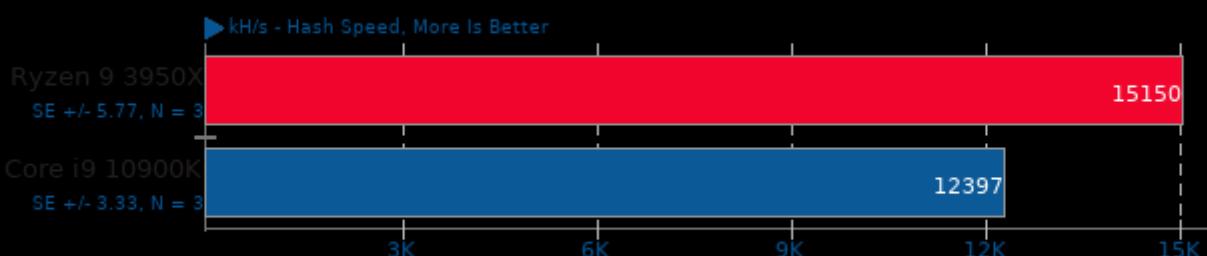
Video Input: Summer Nature 1080p



1. (CC) gcc options: -pthread

Cpuminer-Opt 3.8.8.1

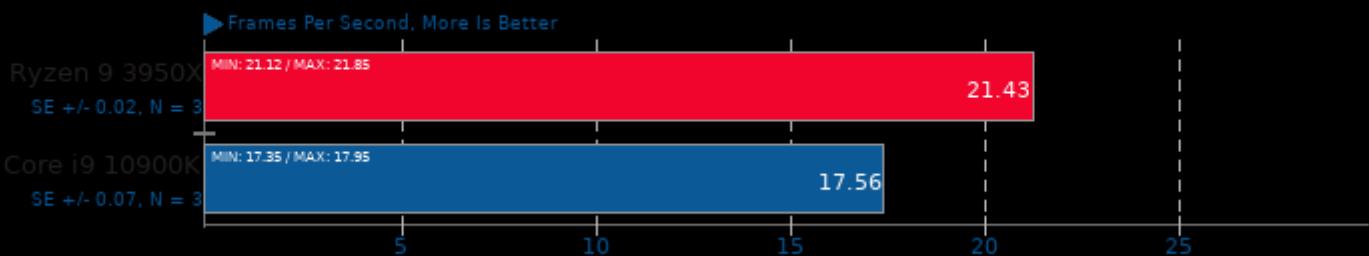
Algorithm: deep



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

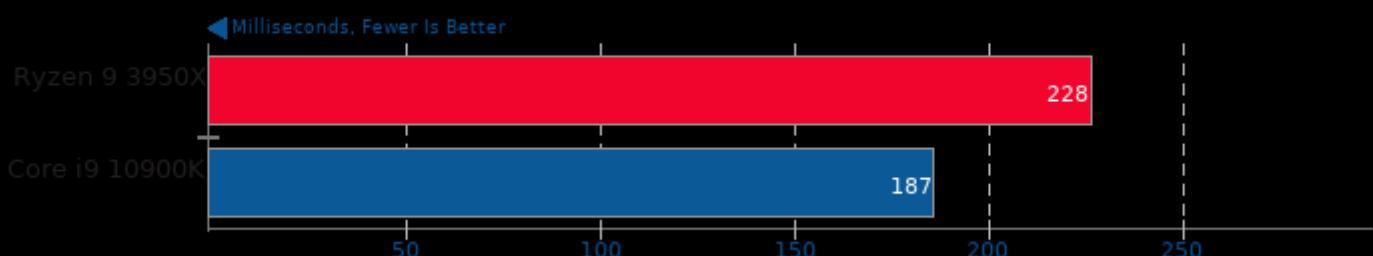
Embree 3.9.0

Binary: Pathtracer - Model: Asian Dragon



PyPerformance 1.0.0

Benchmark: go



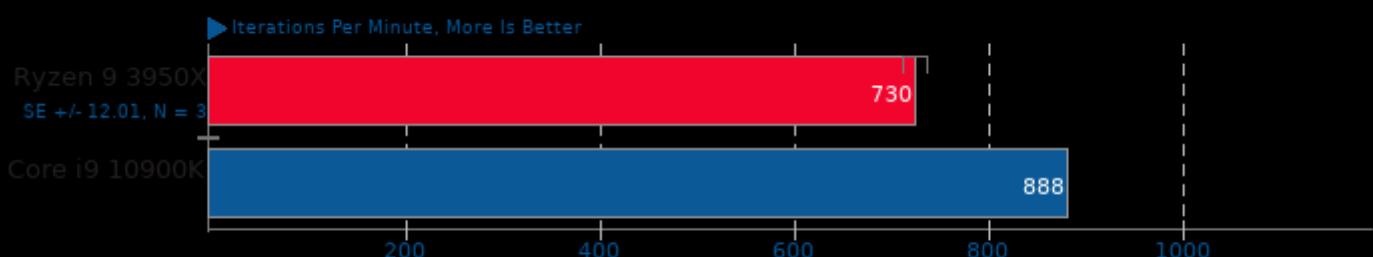
LULESH 2.0.3



1. (CXX) g++ options: -O3 -fopenmp -lm -pthread -lmpi_cxx -lmpi

GraphicsMagick 1.3.33

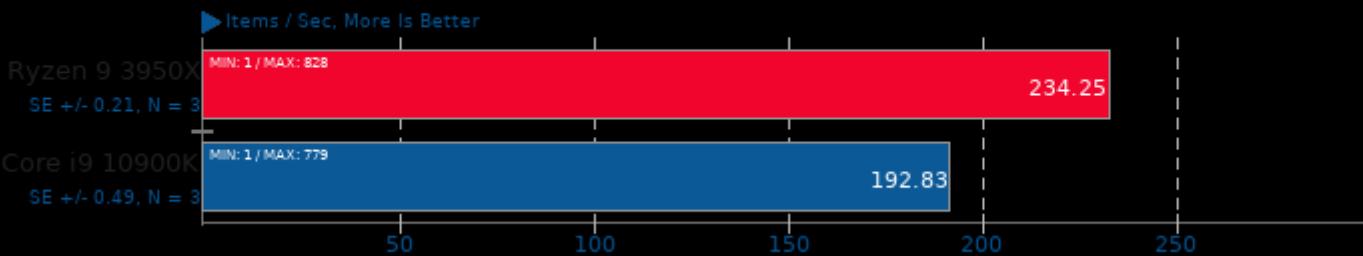
Operation: Rotate



1. (CC) gcc options: -fopenmp -O2 -pthread -ljbig -lwebp -lwebpmux -ltiff -lfreetype -ljpeg -lXext -lSM -lICE -lX11 -lzma -lbz2 -lxml2 -lz -lm -pthread

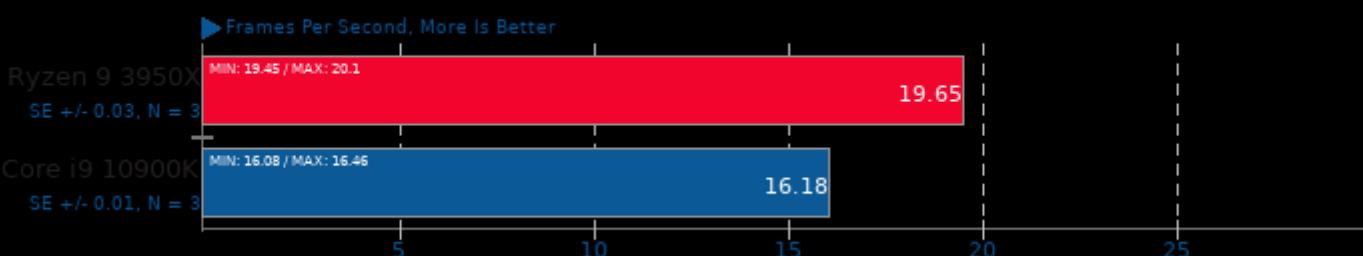
OpenVKL 0.9

Benchmark: vklBenchmark



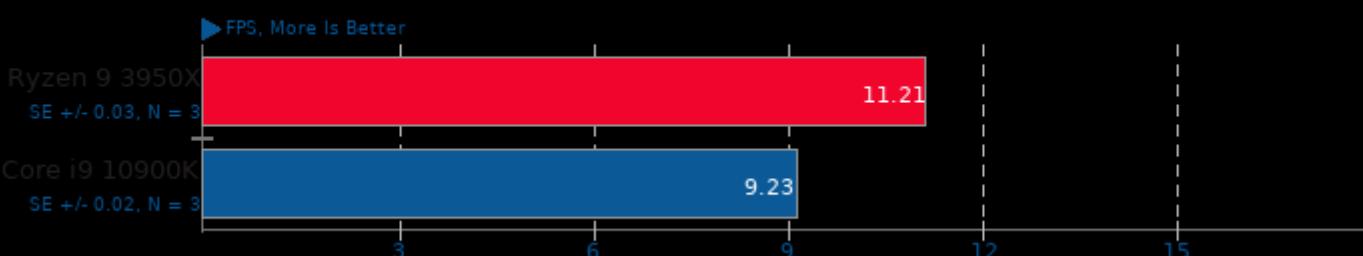
Embree 3.9.0

Binary: Pathtracer - Model: Asian Dragon Obj



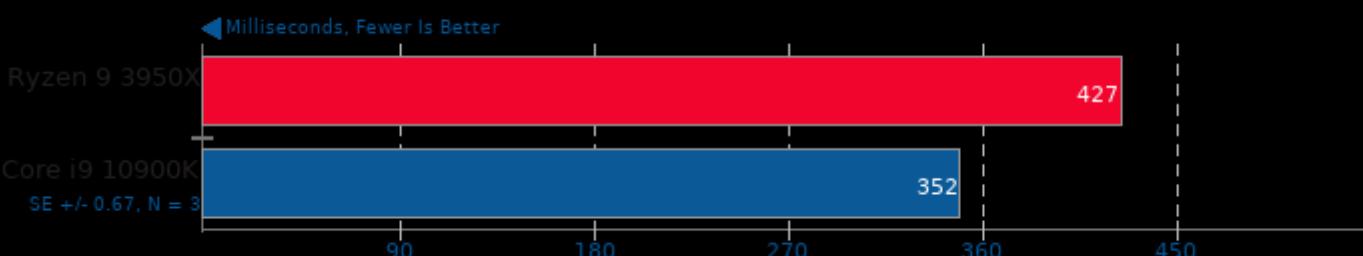
PlaidML

FP16: No - Mode: Inference - Network: Inception V3 - Device: CPU



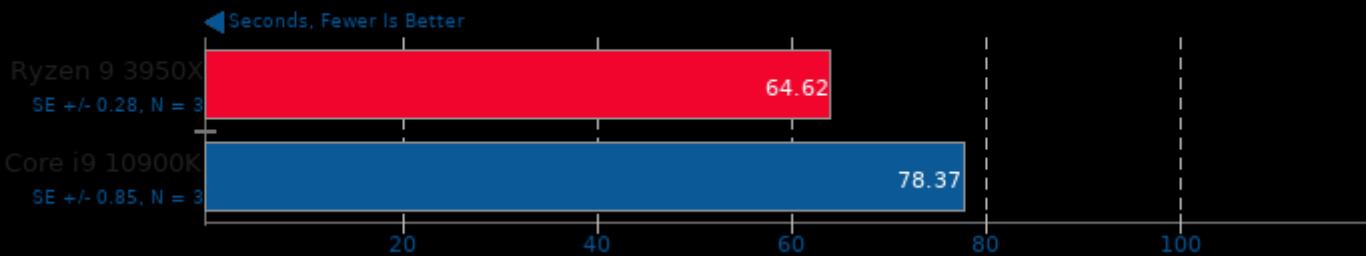
PyPerformance 1.0.0

Benchmark: raytrace



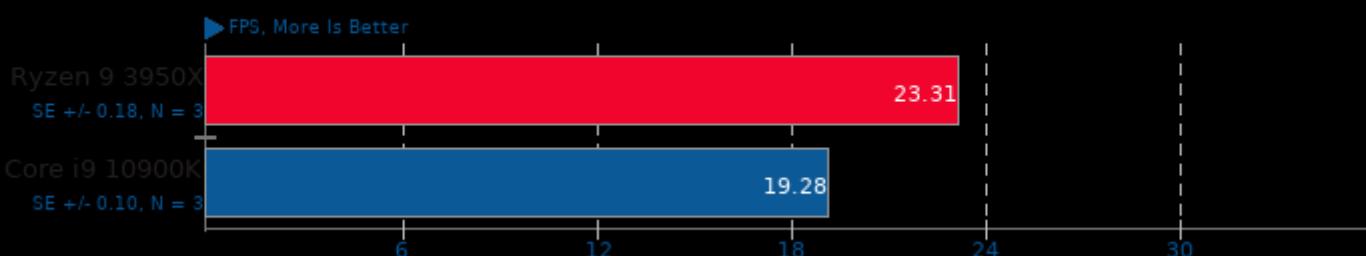
DeepSpeech 0.6

Acceleration: CPU



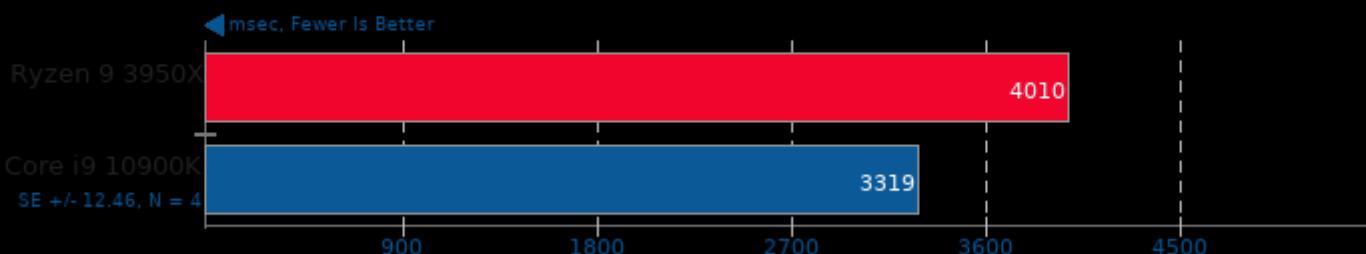
PlaidML

FP16: No - Mode: Inference - Network: VGG16 - Device: CPU



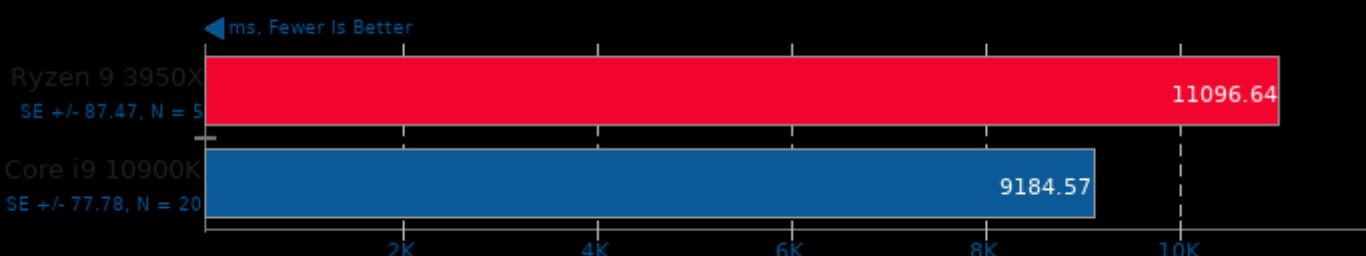
DaCapo Benchmark 9.12-MR1

Java Test: Jython



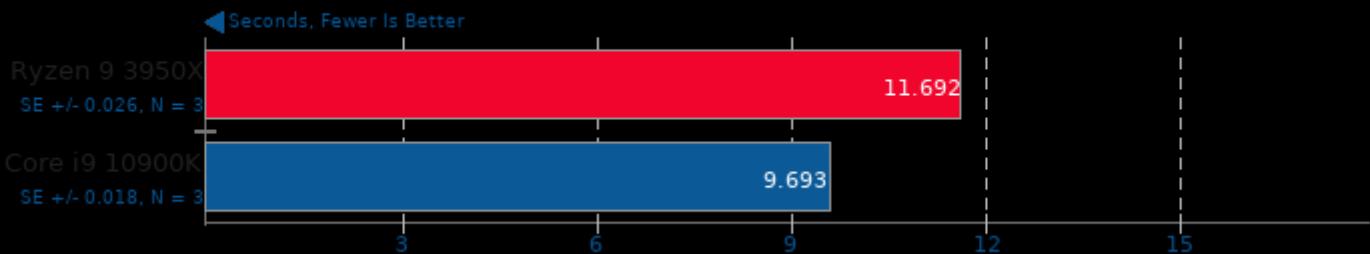
Renaissance 0.10.0

Test: Akka Unbalanced Cobwebbed Tree



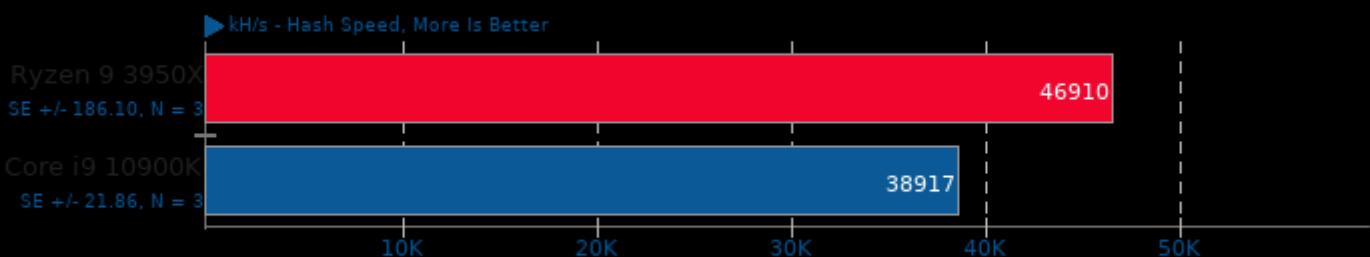
GIMP 2.10.18

Test: auto-levels



Cpuminer-Opt 3.8.8.1

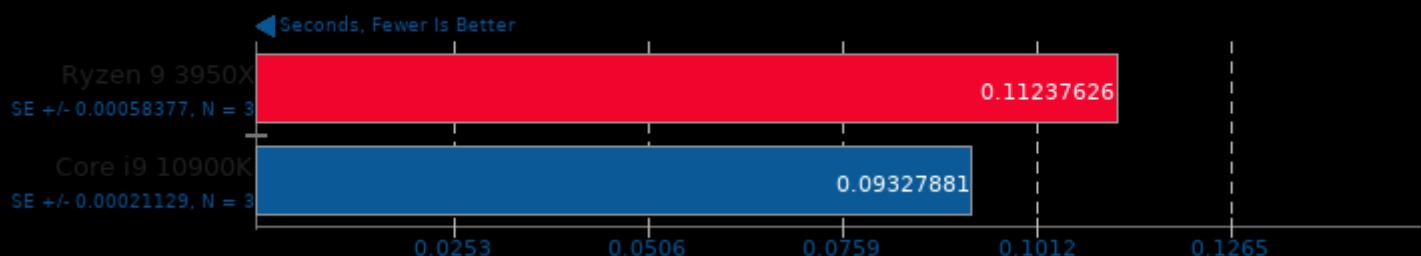
Algorithm: lbry



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

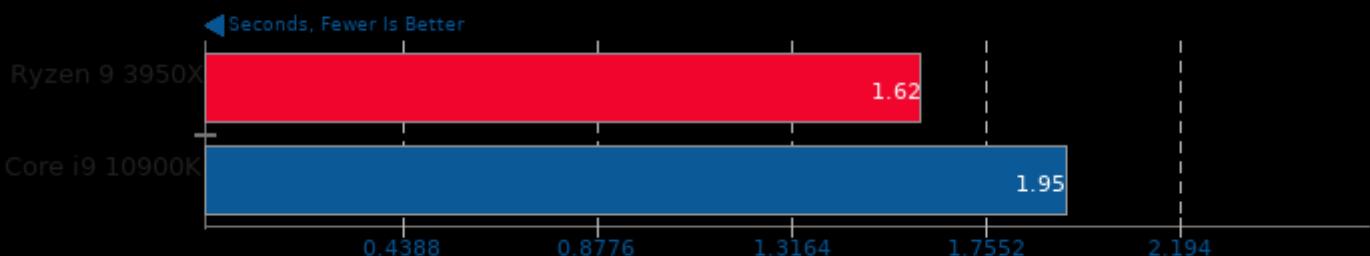
Perl Benchmarks

Test: Pod2html



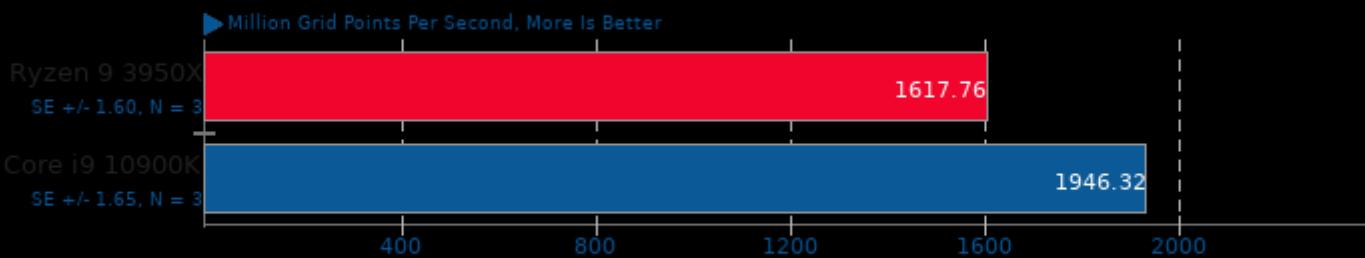
Polyhedron Fortran Benchmarks

Benchmark: air



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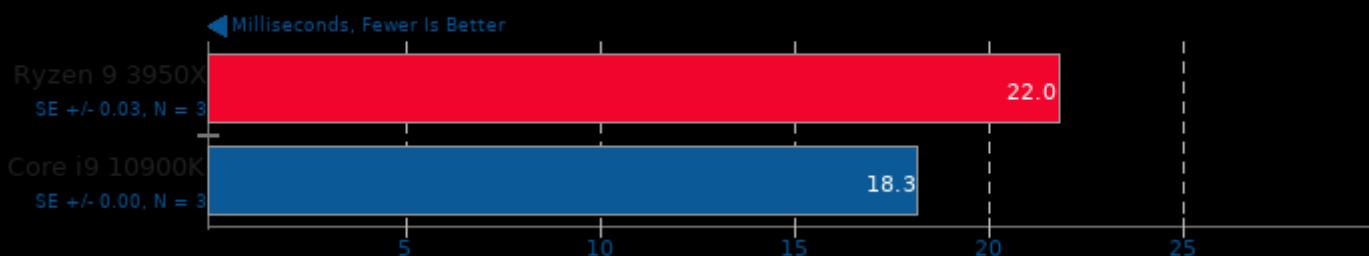
Test: tConvolve MT - Degridding



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

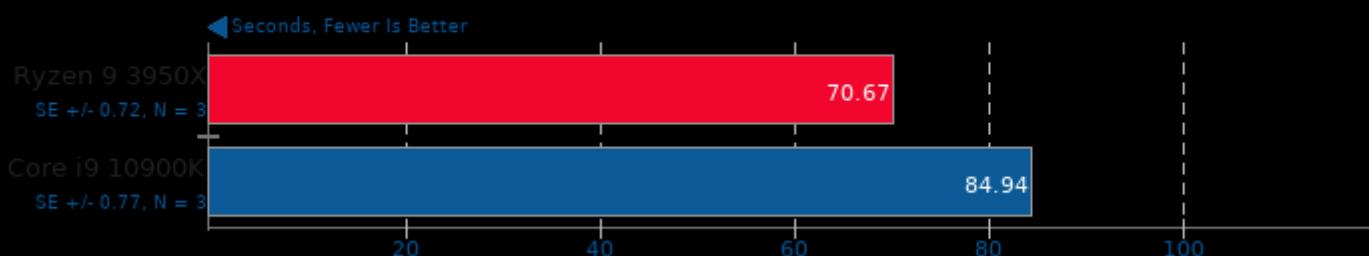
PyPerformance 1.0.0

Benchmark: json.loads



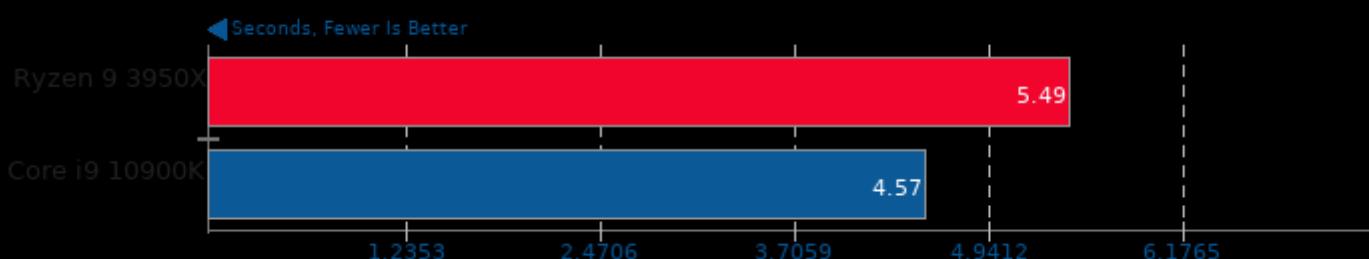
Build2 0.12

Time To Compile



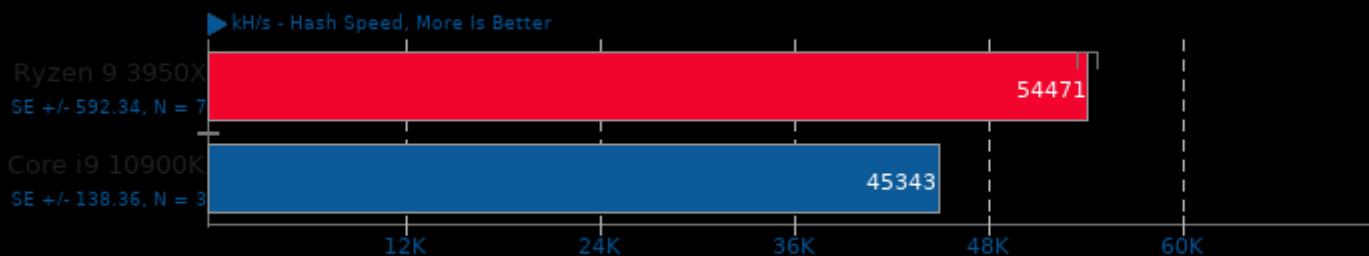
Polyhedron Fortran Benchmarks

Benchmark: aermod



Cpuminer-Opt 3.8.8.1

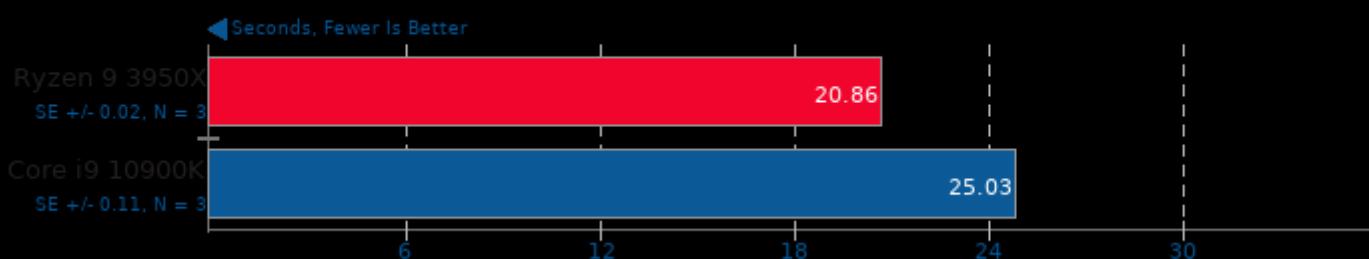
Algorithm: skein



1. (CXX) g++ options: -O2 -curl -lz -pthread -lssl -lcrypto -lgmp

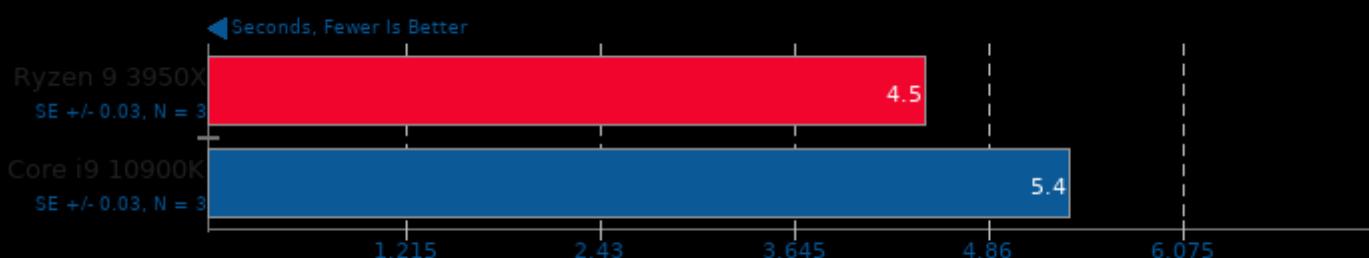
Timed ImageMagick Compilation 6.9.0

Time To Compile



Selenium

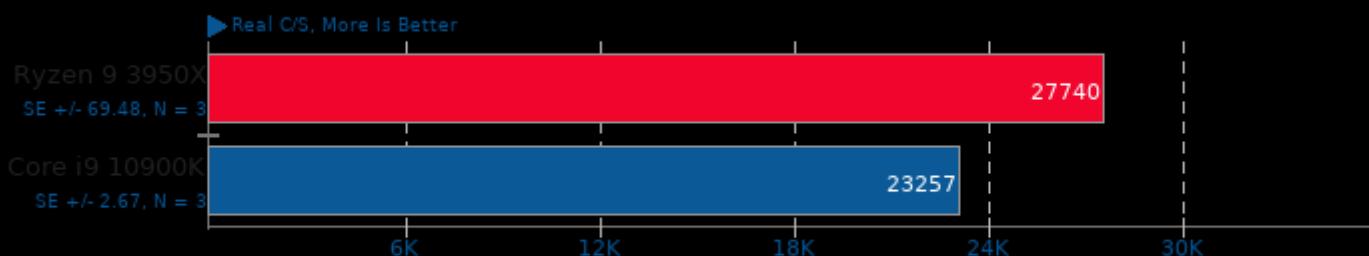
Benchmark: Maze Solver - Browser: Firefox



1. firefox 76.0.1

John The Ripper 1.9.0-jumbo-1

Test: Blowfish

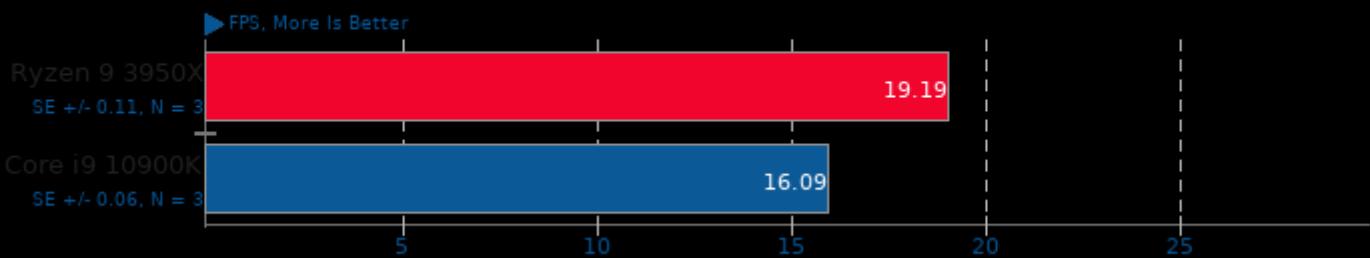


1. (CC) gcc options: -m64 -lssl -lcrypto -fopenmp -lgmp -pthread -lm -lz -ldl -lcrypt -lbz2

Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

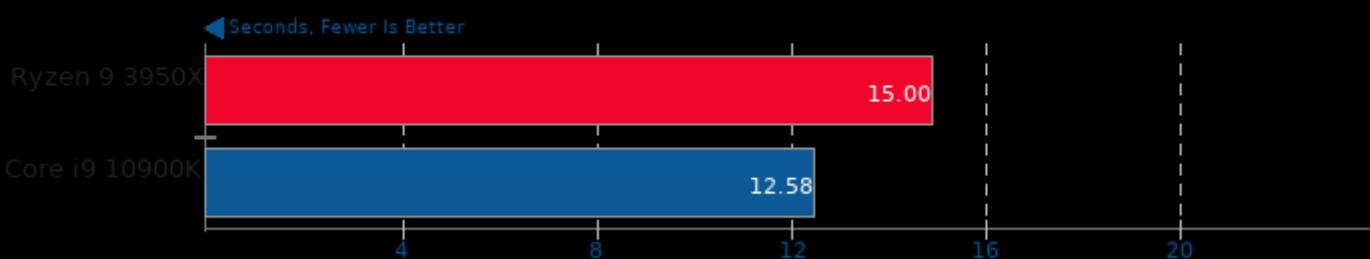
PlaidML

FP16: No - Mode: Inference - Network: VGG19 - Device: CPU



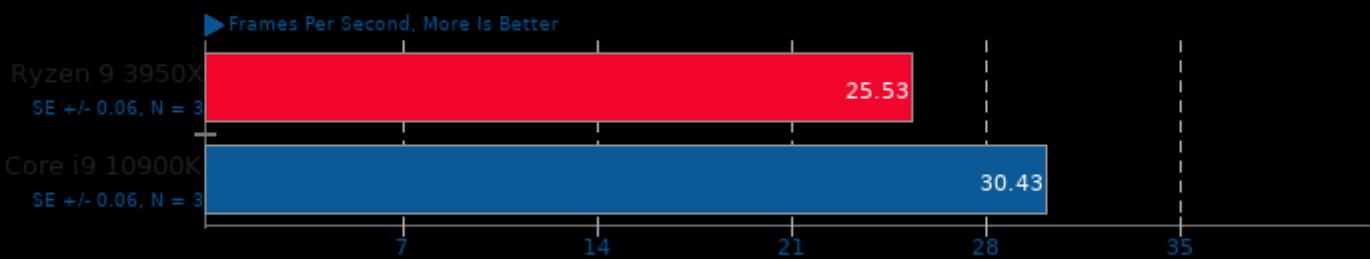
Polyhedron Fortran Benchmarks

Benchmark: rmflow



VP9 libvpx Encoding 1.8.2

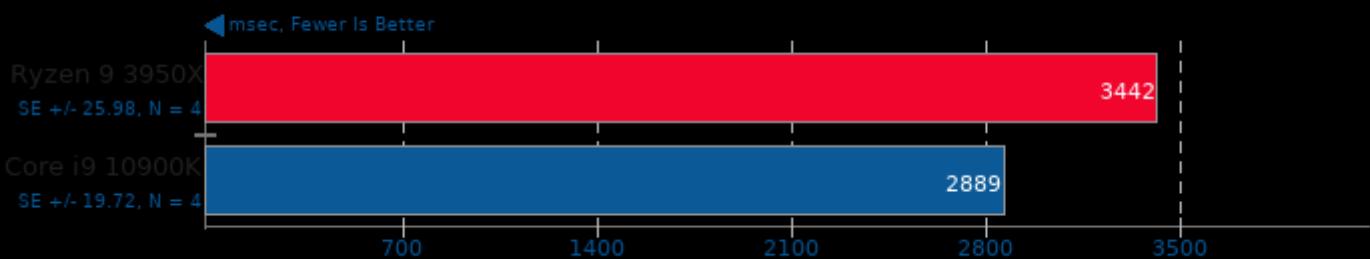
Speed: Speed 5



1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U_FORTIFY_SOURCE -std=c++11

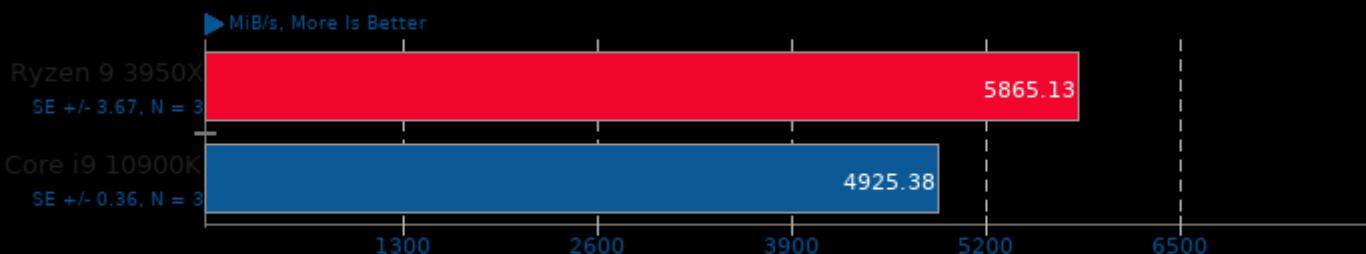
DaCapo Benchmark 9.12-MR1

Java Test: Tradesoap



Botan 2.13.0

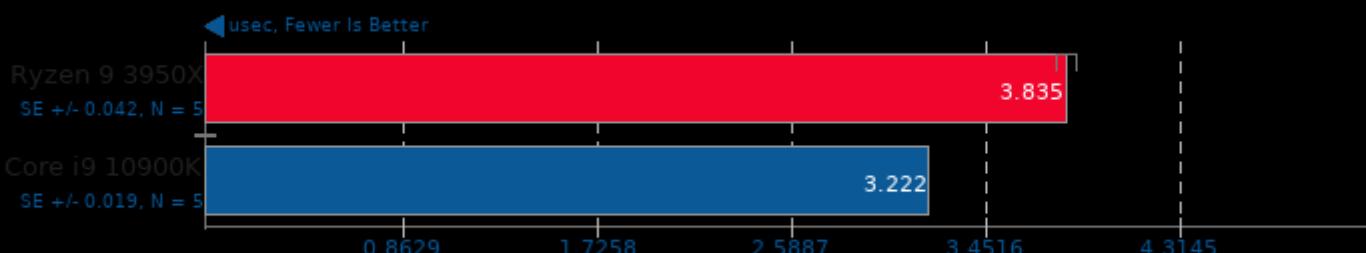
Test: AES-256



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Sockperf 3.4

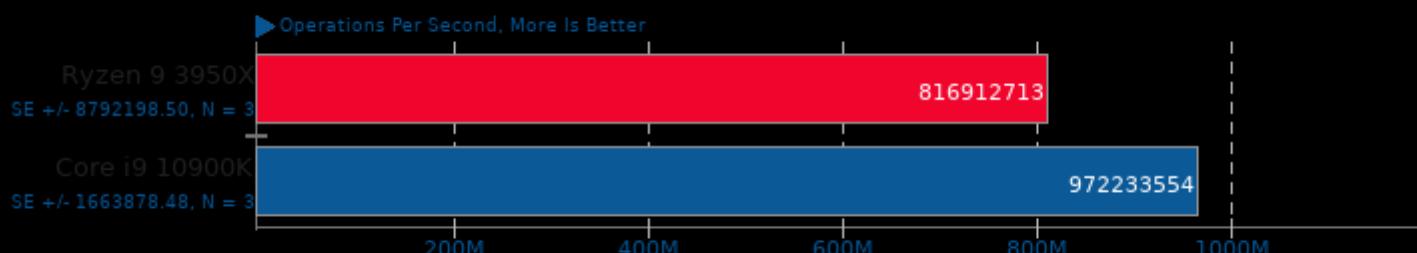
Test: Latency Ping Pong



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

Swet 1.5.16

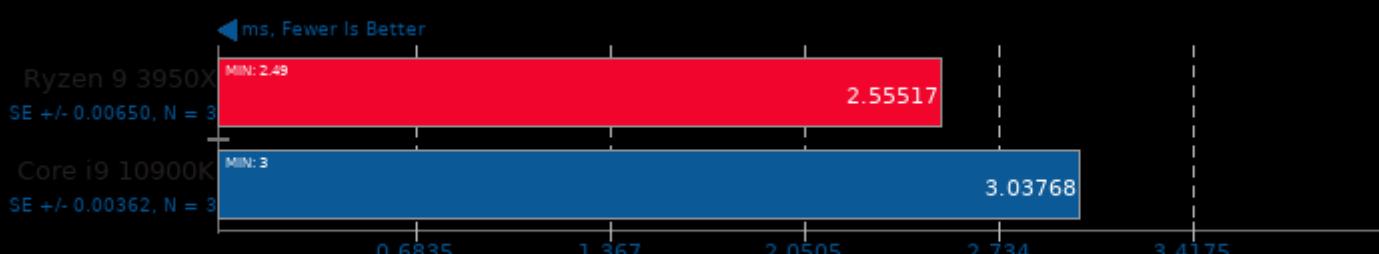
Average



1. (CC) gcc options: -lm -lpthread -lcurses -lrt

oneDNN MKL-DNN 1.3

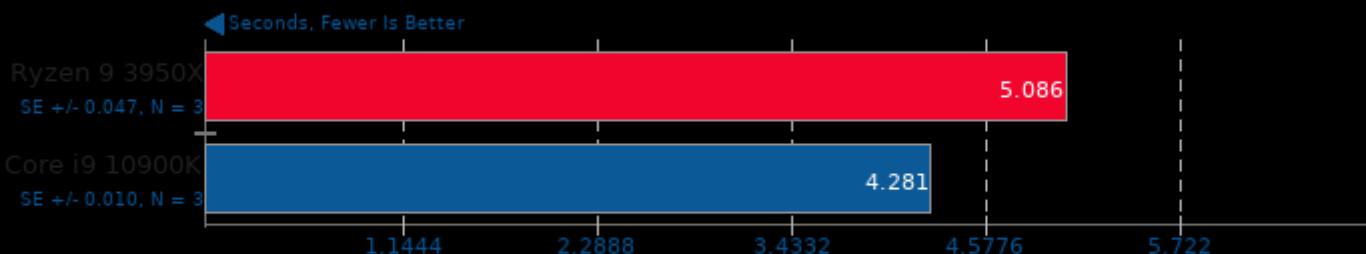
Harness: Deconvolution Batch deconv_1d - Data Type: f32



1. (CXX) g++ options: -O3 -march=native -std=c++11 -msse4.1 -fPIC -fopenmp -pie -lpthread -ldl

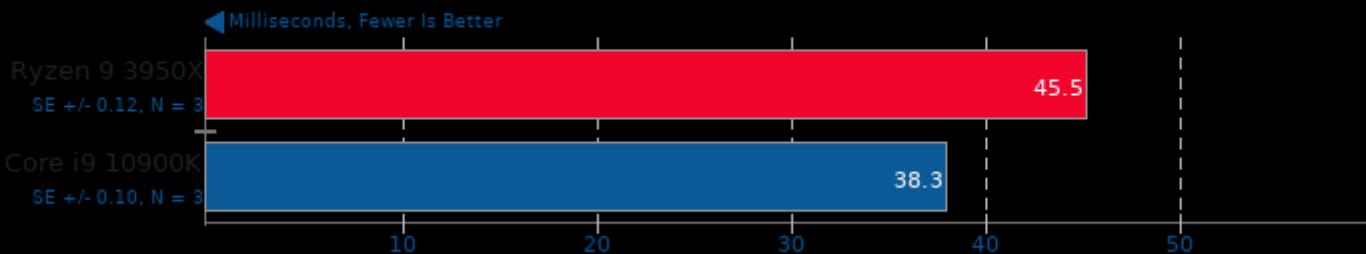
Timed HMMer Search 2.3.2

Pfam Database Search



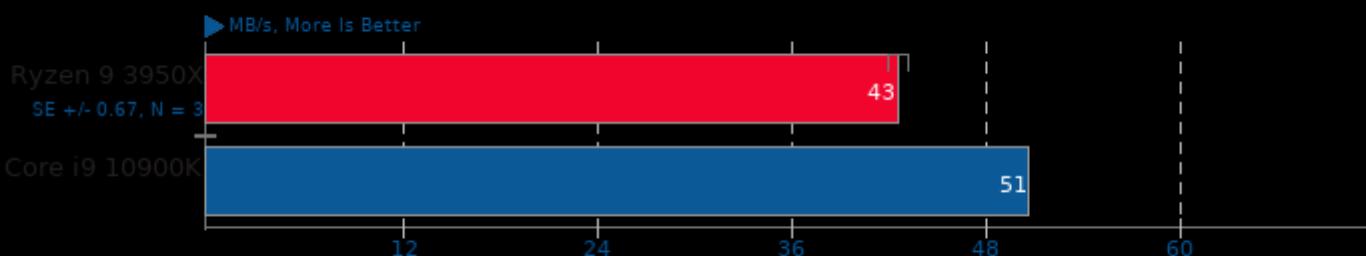
PyPerformance 1.0.0

Benchmark: django_template



Izbench 1.8

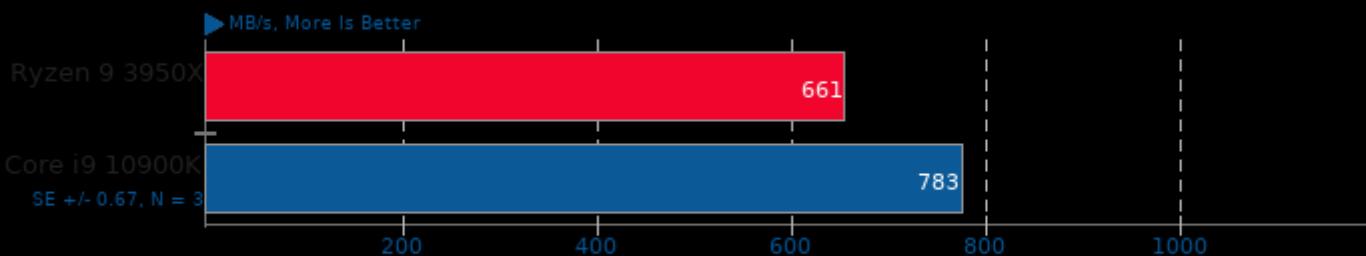
Test: XZ 0 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

Izbench 1.8

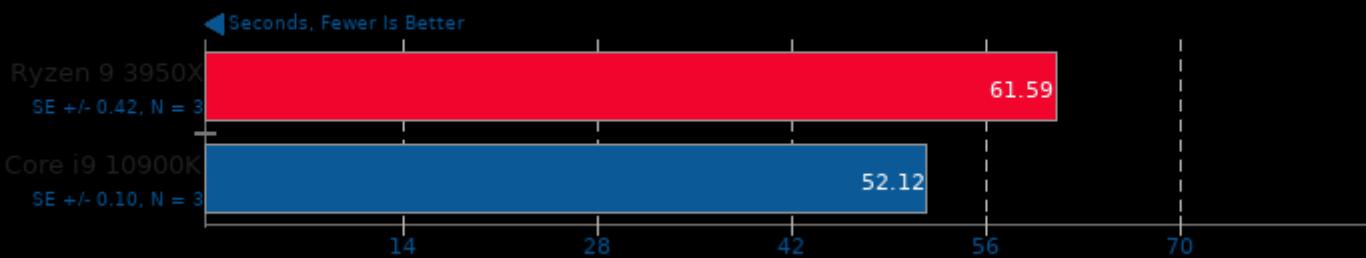
Test: Brotli 0 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

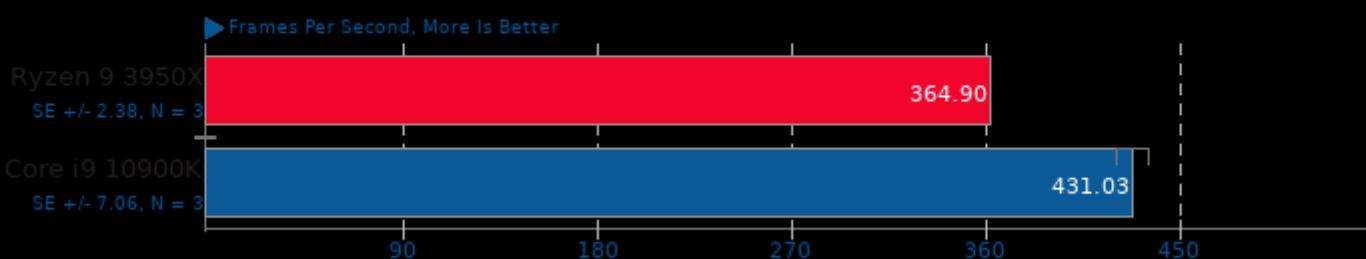
GEGL

Operation: Wavelet Blur



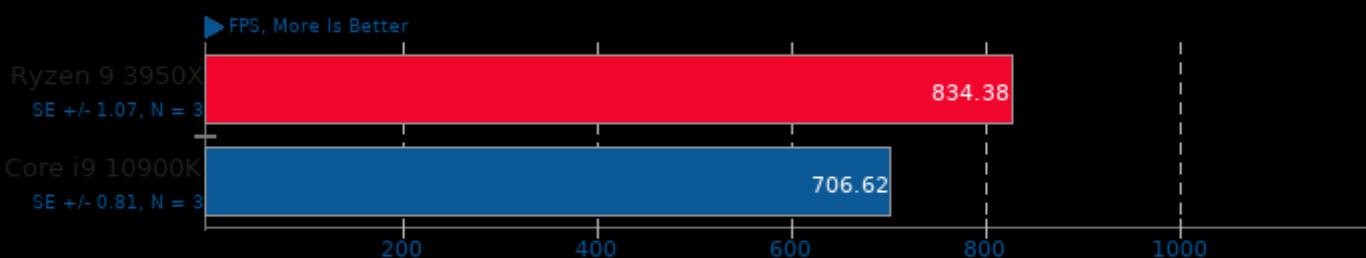
Tesseract 2014-05-12

Resolution: 3840 x 2160



TTSIOD 3D Renderer 2.3b

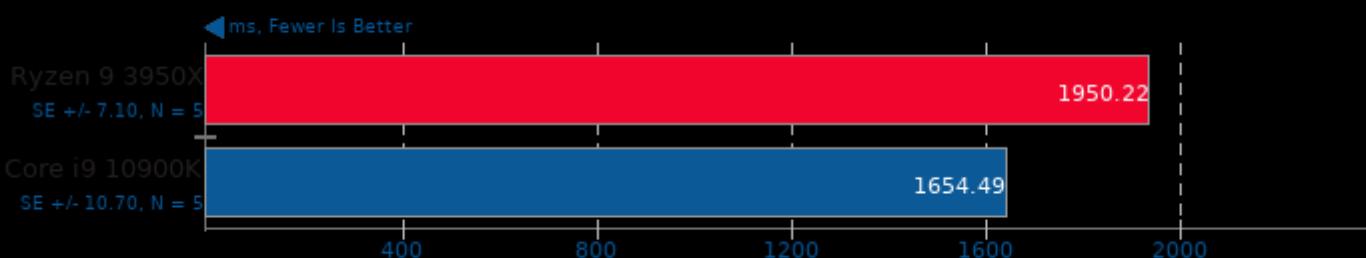
Phong Rendering With Soft-Shadow Mapping



1. (CXX) g++ options: -O3 -fomit-frame-pointer -ffast-math -mtune=native -fno -msse -mrecip -mfpmath=sse -msse2 -msse3 -fSDL -fopenmp -fwhole-pr

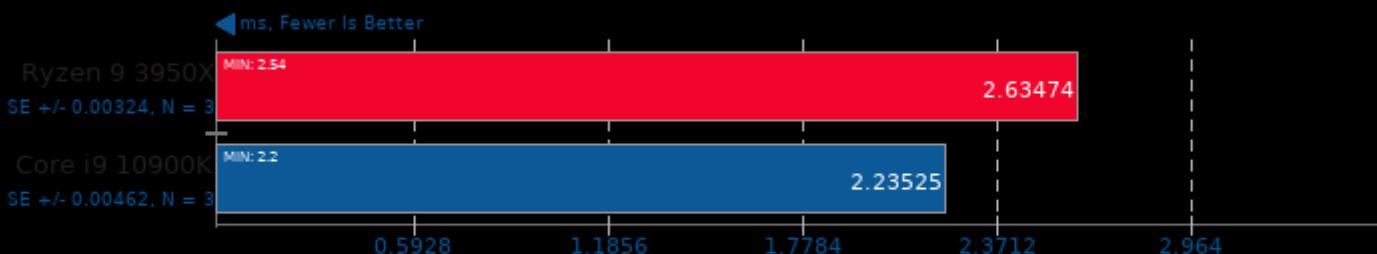
Renaissance 0.10.0

Test: Apache Spark ALS



oneDNN MKL-DNN 1.3

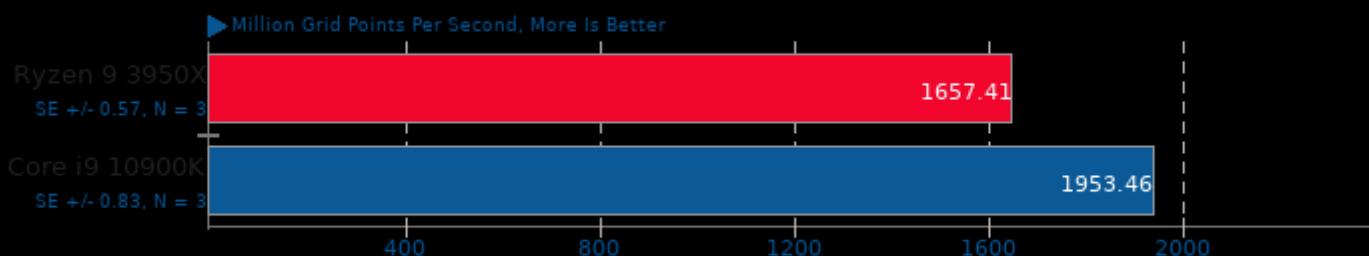
Harness: Deconvolution Batch deconv_3d - Data Type: u8s8f32



1. (CXX) g++ options: -O3 -march=native -std=c++11 -msse4.1 -fPIC -fopenmp -pie -lpthread -ldl

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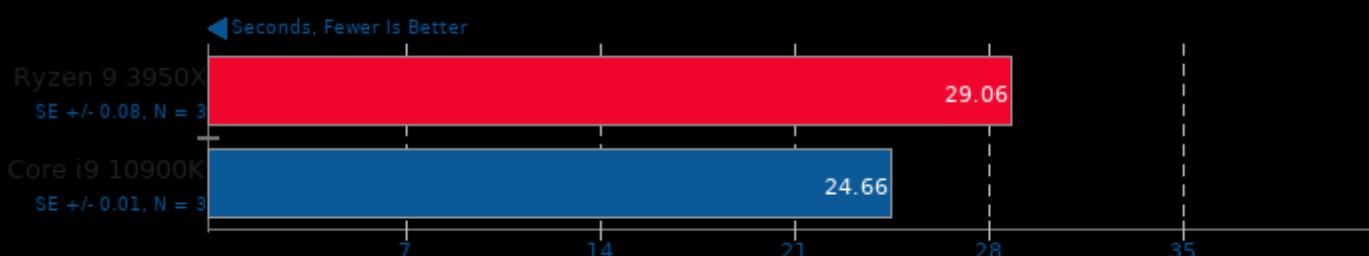
Test: tConvolve MPI - Degridding



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

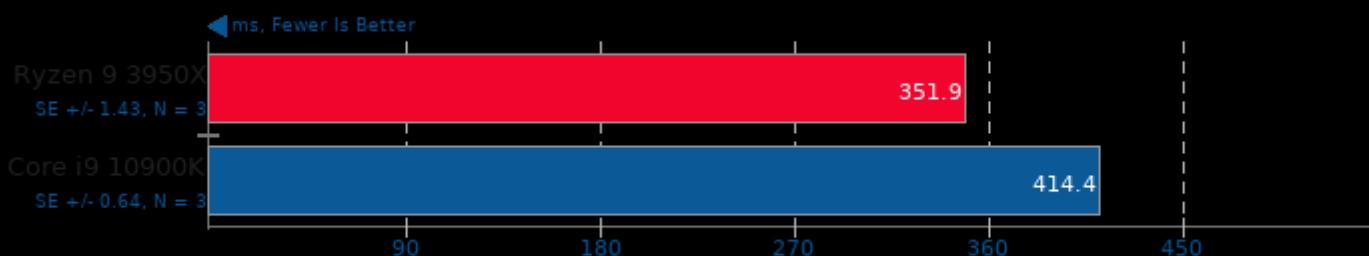
GEGL

Operation: Tile Glass



Selenium

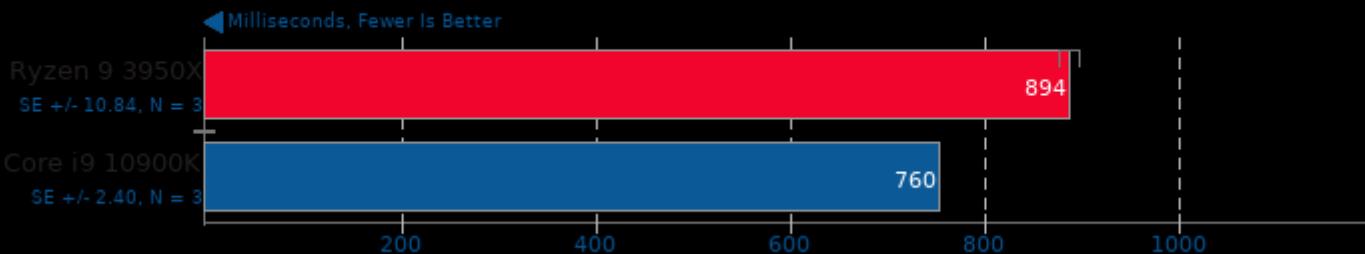
Benchmark: WASM collisionDetection - Browser: Firefox



1. firefox 76.0.1

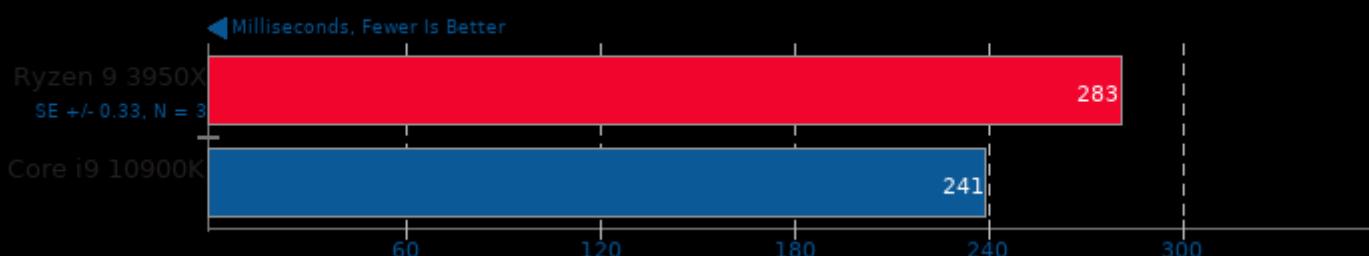
PyBench 2018-02-16

Total For Average Test Times



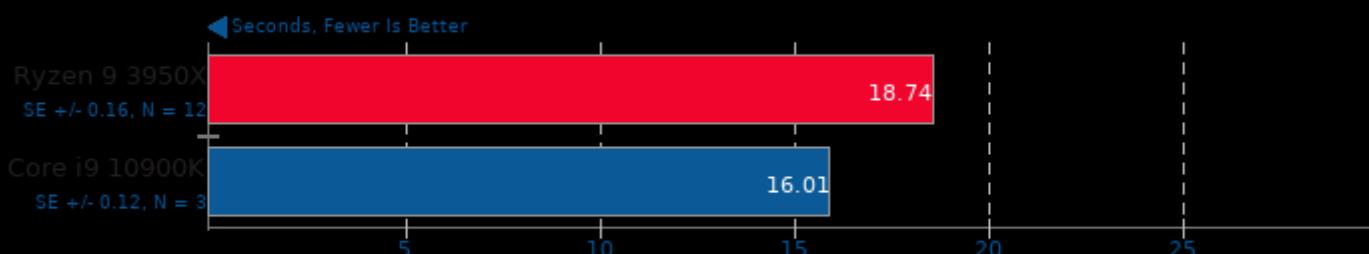
PyPerformance 1.0.0

Benchmark: 2to3



G'MIC

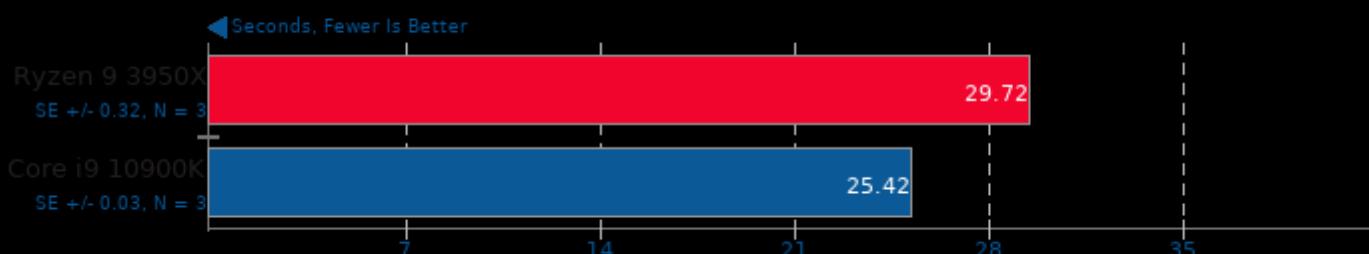
Test: Plotting Isosurface Of A 3D Volume, 1000 Times



1. Version 2.4.5, Copyright (c) 2008-2019, David Tschumperle.

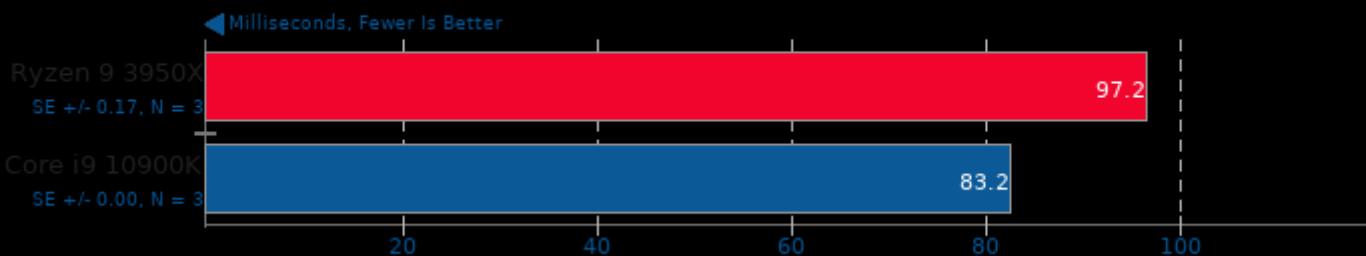
GEGL

Operation: Reflect



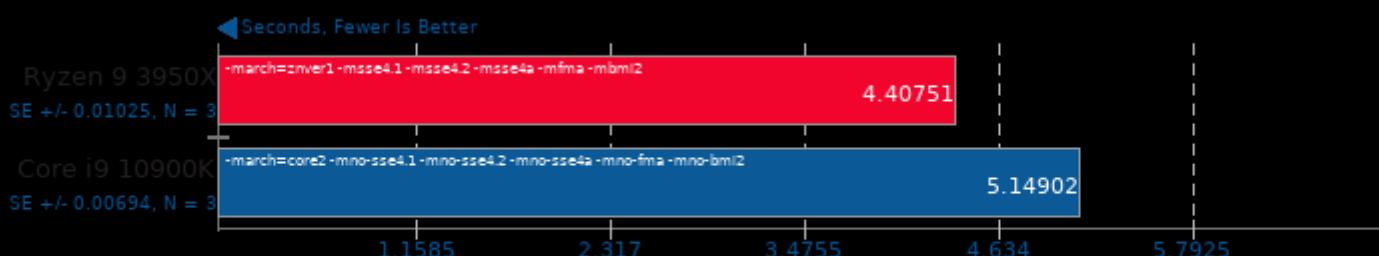
PyPerformance 1.0.0

Benchmark: crypto_pyaes



Tungsten Renderer 0.2.2

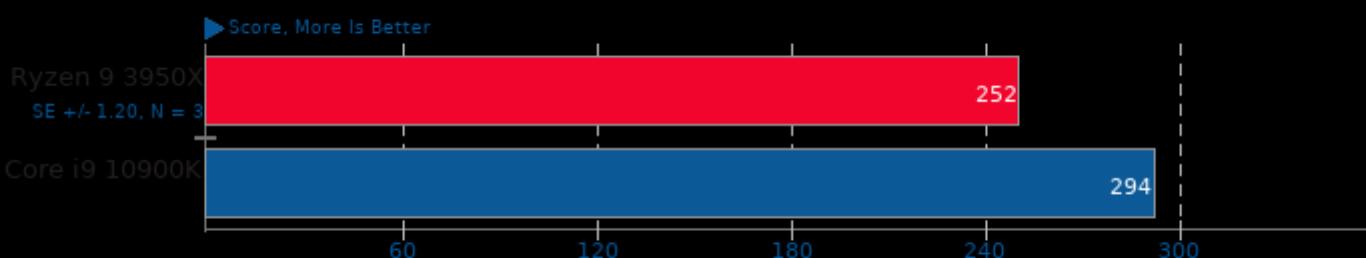
Scene: Non-Exponential



1. (CXX) g++ options: -std=c++0x -msse2 -msse3 -mssse3 -mno-avx -mno-avx2 -mno-xop -mno-fma4 -mno-avx512f -mno-avx512vl -mno-avx512pf -mno-avx512bw -mno-avx512vb

Selenium

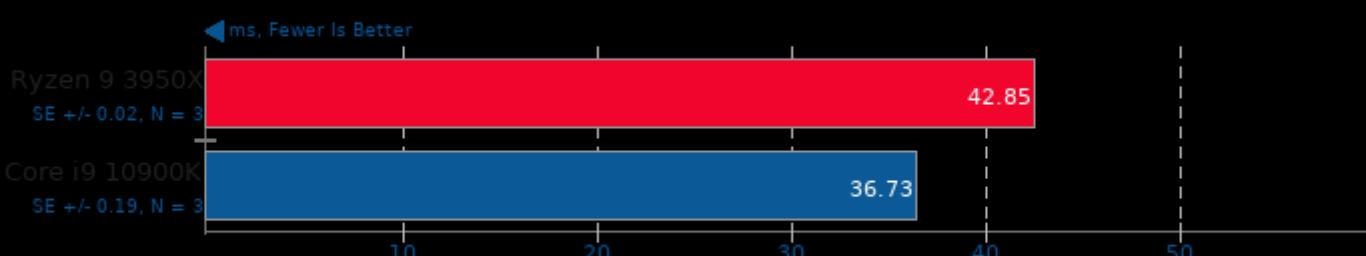
Benchmark: WebXPRT - Browser: Firefox



1. firefox 76.0.1

Selenium

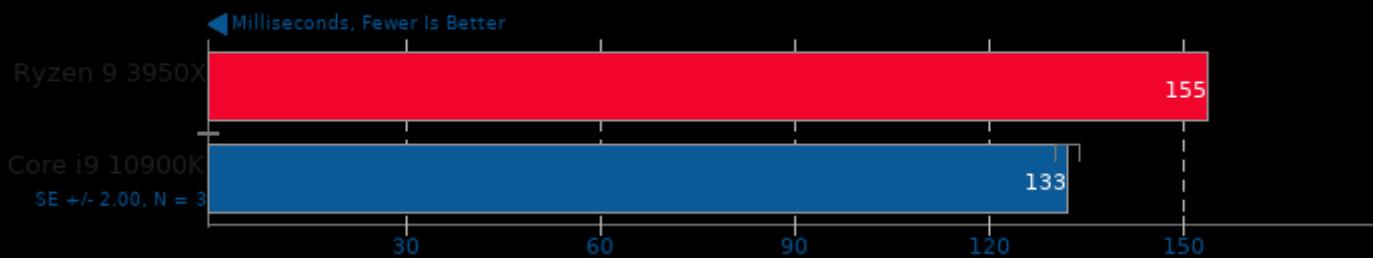
Benchmark: ARES-6 - Browser: Firefox



1. firefox 76.0.1

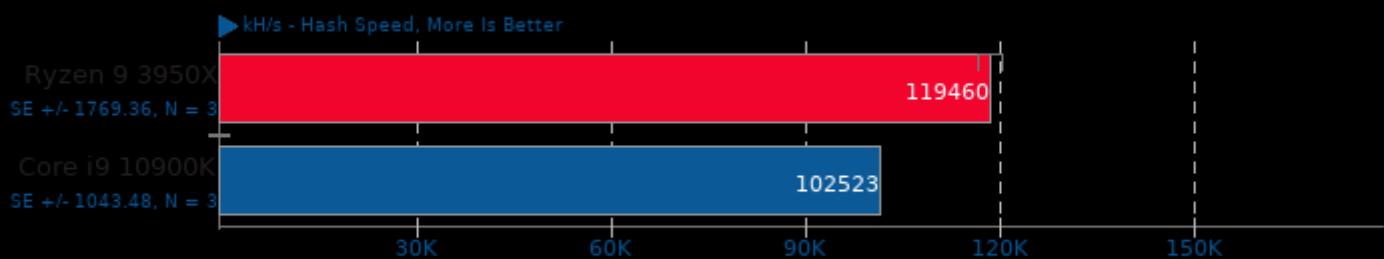
PyPerformance 1.0.0

Benchmark: regex_compile



Cpuminer-Opt 3.8.8.1

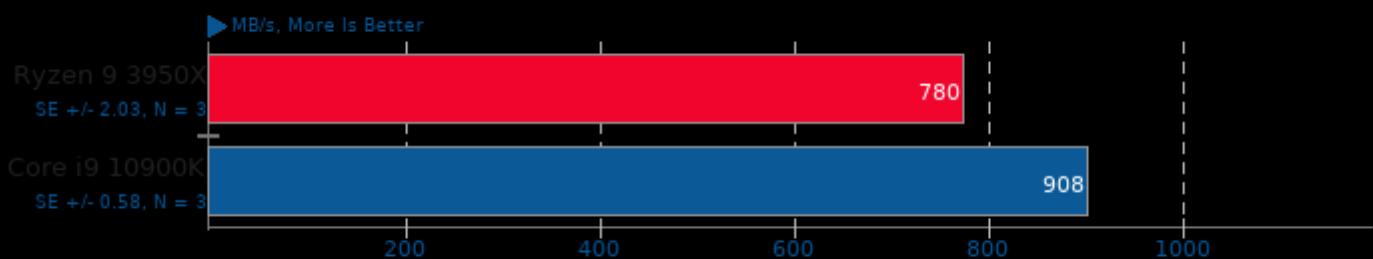
Algorithm: sha256t



1. (CXX) g++ options: -O2 -lcurl -lz -lpthread -lssl -lcrypto -lgmp

Izbench 1.8

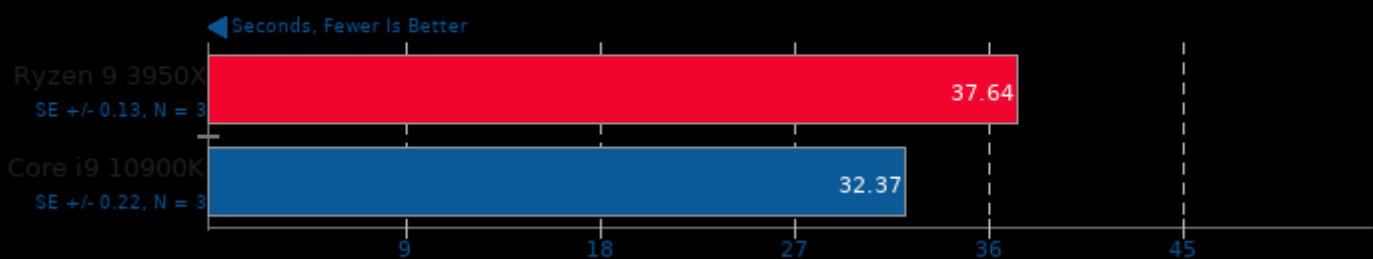
Test: Brotli 2 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

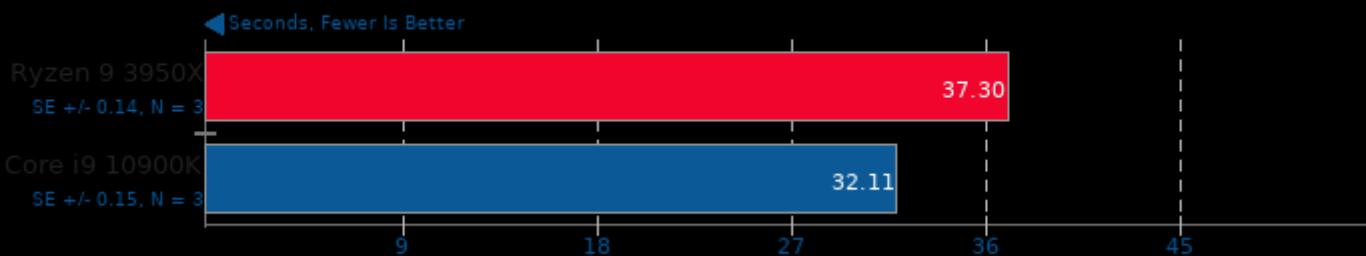
GEGL

Operation: Rotate 90 Degrees



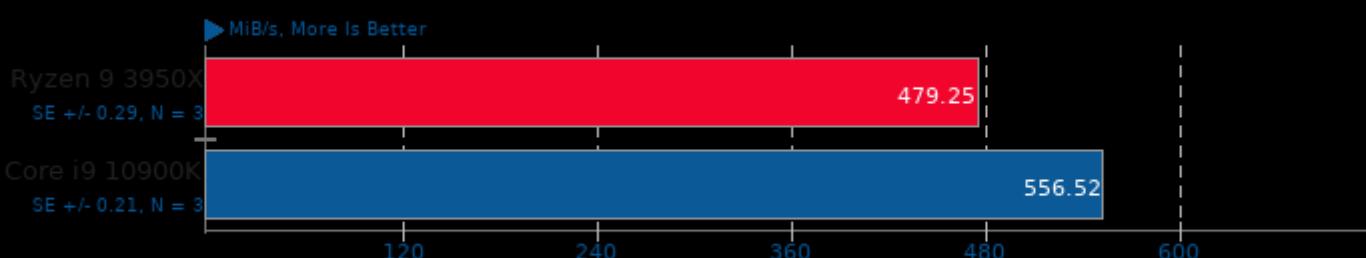
GEGL

Operation: Antialias



Botan 2.13.0

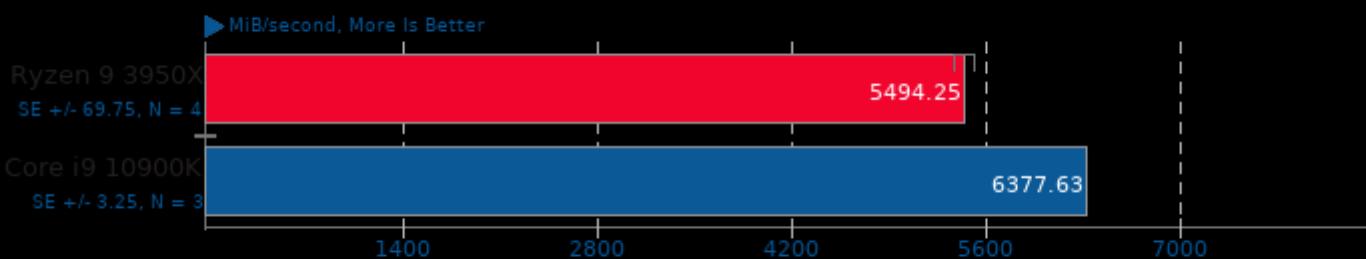
Test: Blowfish



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Crypto++ 8.2

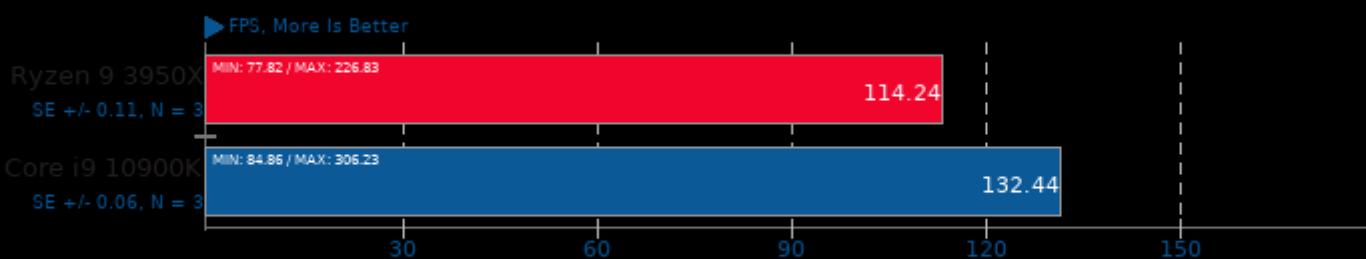
Test: Integer + Elliptic Curve Public Key Algorithms



1. (CXX) g++ options: -g2 -O3 -fPIC -pthread -pipe

dav1d 0.7.0

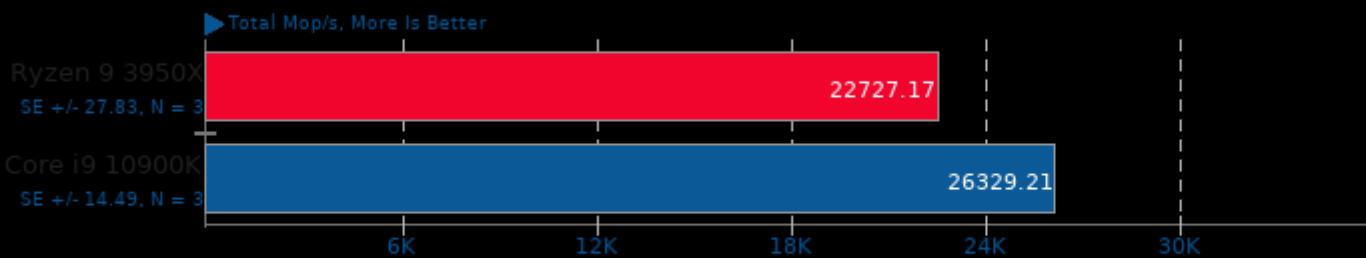
Video Input: Chimera 1080p 10-bit



1. (CC) gcc options: -pthread

NAS Parallel Benchmarks 3.4

Test / Class: BT.C

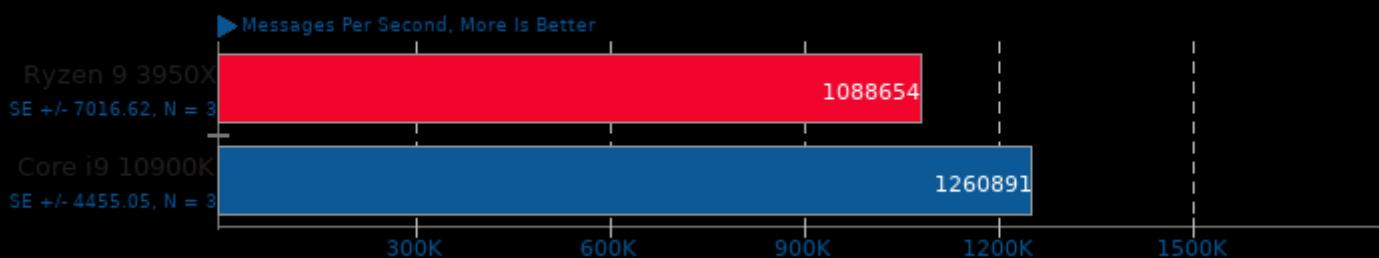


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi

2. Open MPI 4.0.3

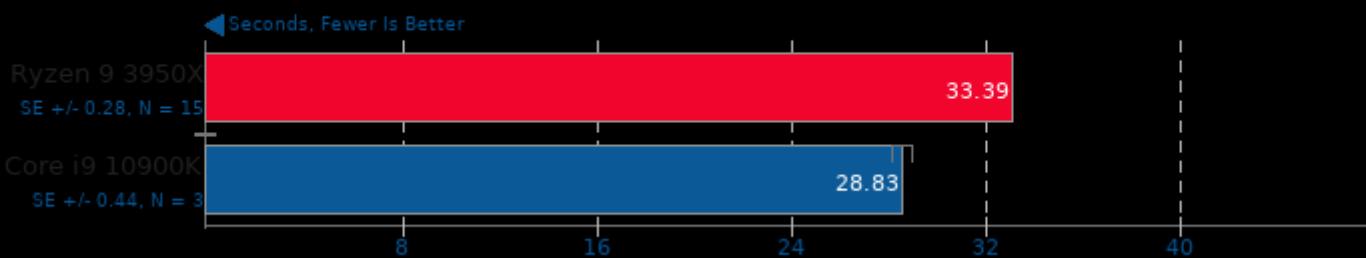
IPC_benchmark

Type: Unnamed Unix Domain Socket - Message Bytes: 4096



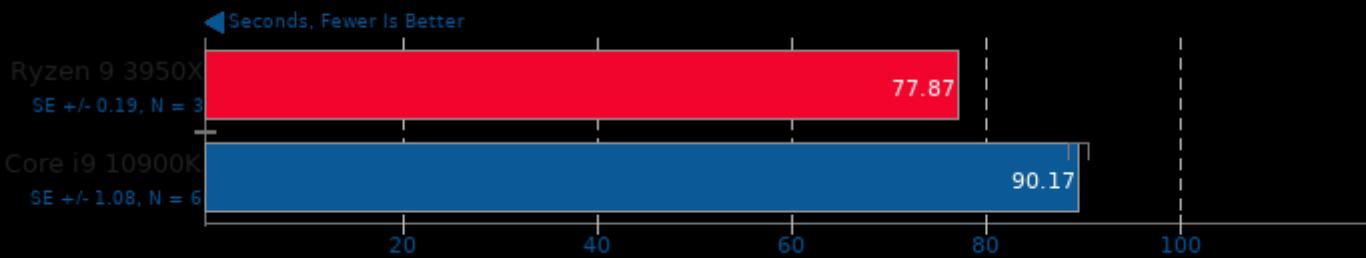
Gzip Compression

Linux Source Tree Archiving To .tar.gz



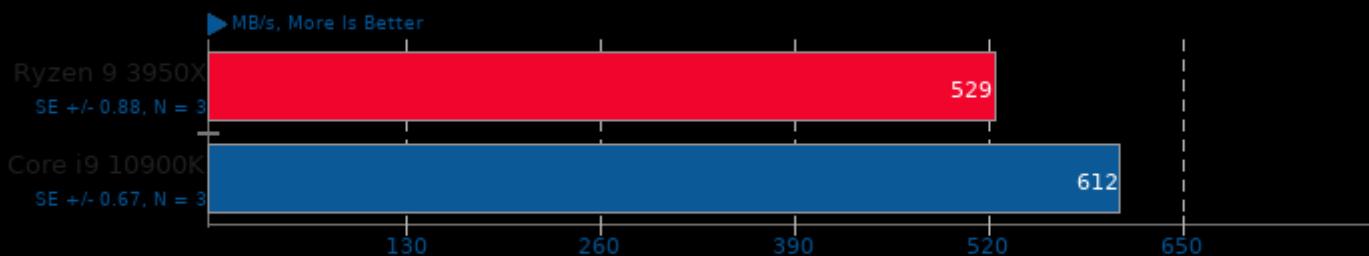
Numenta Anomaly Benchmark 1.1

Detector: Earthgecko Skyline



Izbench 1.8

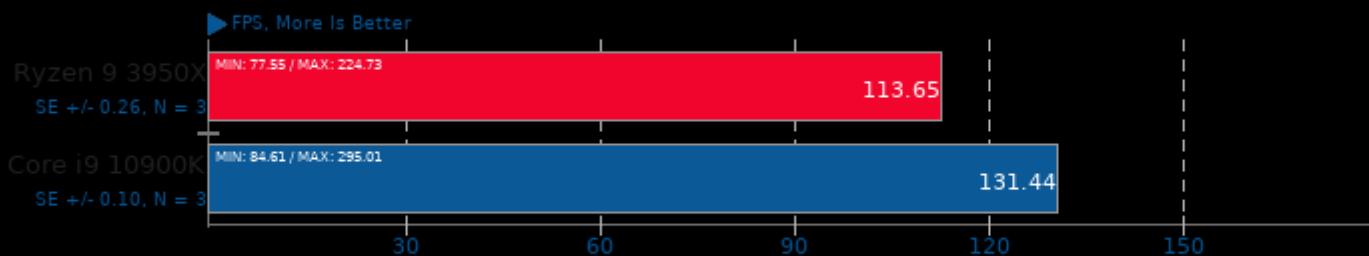
Test: Crush 0 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

dav1d 0.6.0

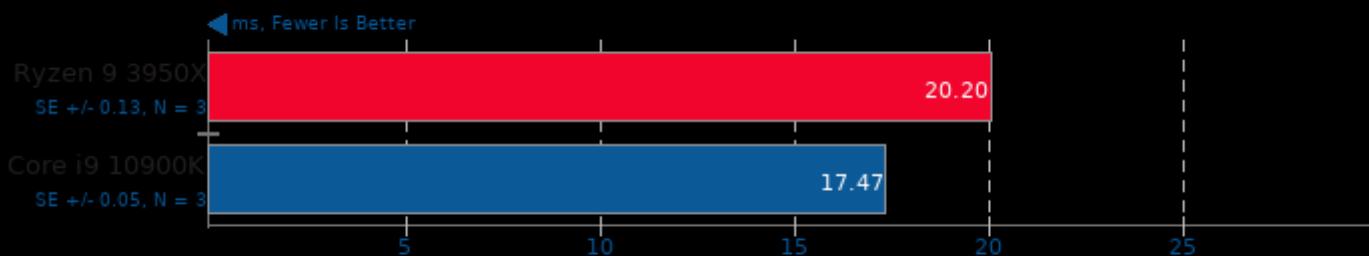
Video Input: Chimera 1080p 10-bit



1. (CC) gcc options: -pthread

Selenium

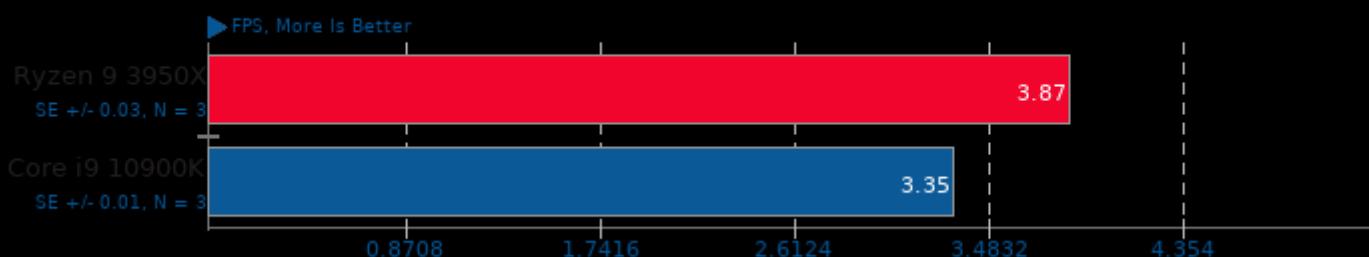
Benchmark: ARES-6 - Browser: Google Chrome



1. chrome 83.0.4103.61

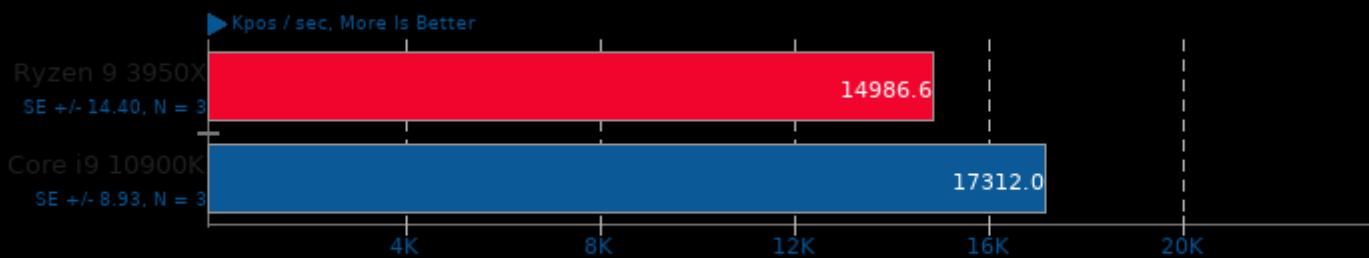
PlaidML

FP16: No - Mode: Inference - Network: DenseNet 201 - Device: CPU



Fhourstones 3.1

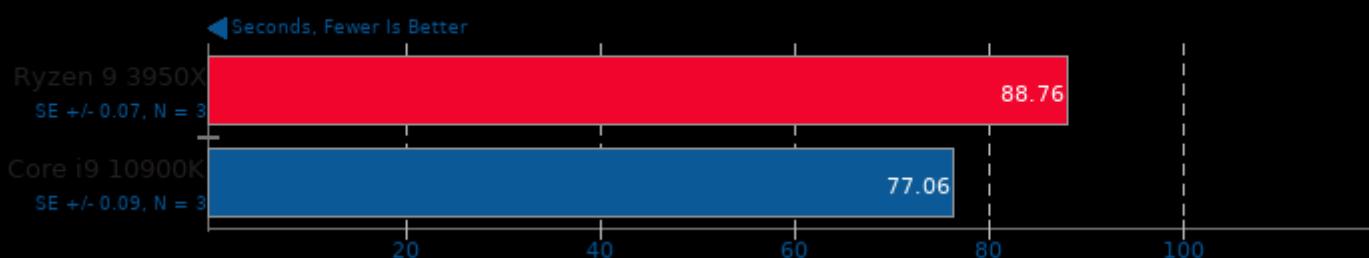
Complex Connect-4 Solving



1. (CC) gcc options: -O3

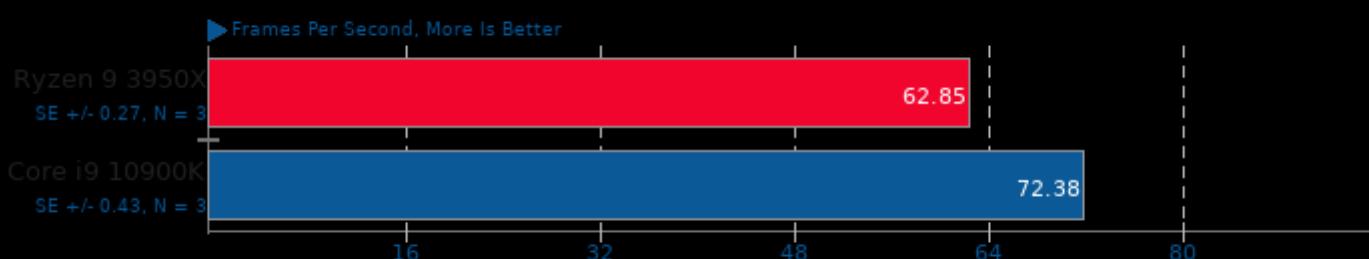
Timed GDB GNU Debugger Compilation 9.1

Time To Compile



x265 3.1.2

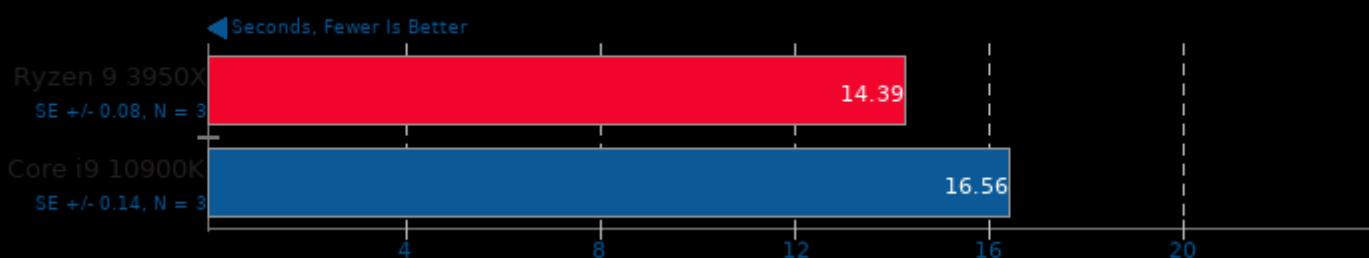
H.265 1080p Video Encoding



1. (CXX) g++ options: -O3 -rdynamic -lpthread -lrt -ldl -lnuma

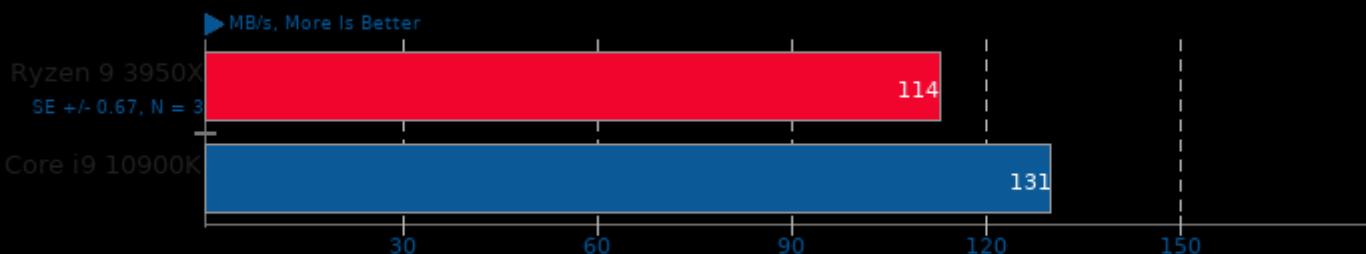
Numenta Anomaly Benchmark 1.1

Detector: Relative Entropy



Izbench 1.8

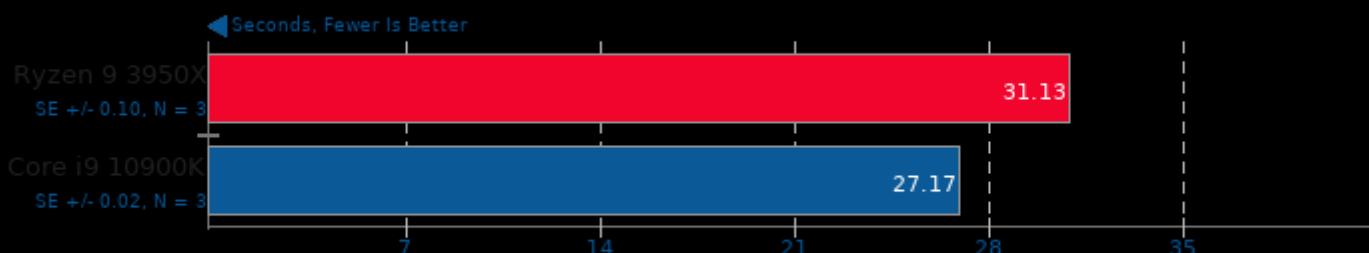
Test: Crush 0 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

AOBench

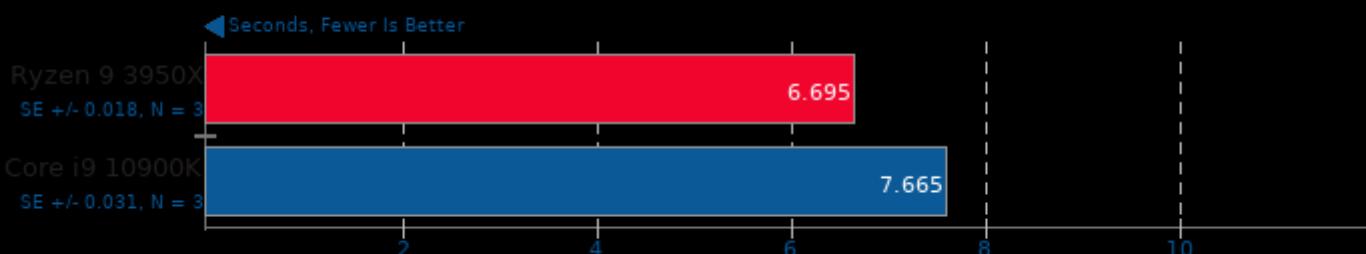
Size: 2048 x 2048 - Total Time



1. (CC) gcc options: -lm -O3

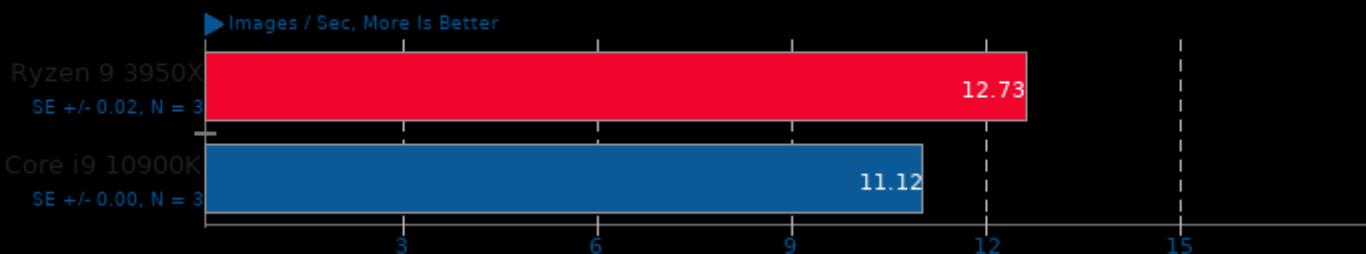
Numenta Anomaly Benchmark 1.1

Detector: Windowed Gaussian



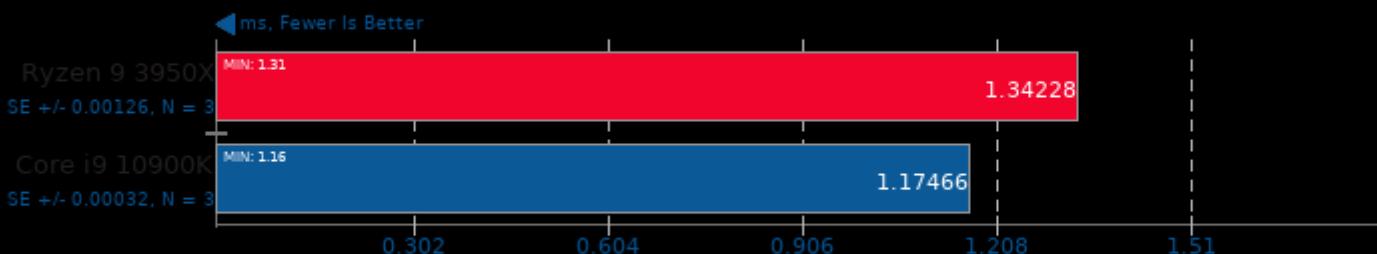
Intel Open Image Denoise 1.2.0

Scene: Memorial



oneDNN MKL-DNN 1.3

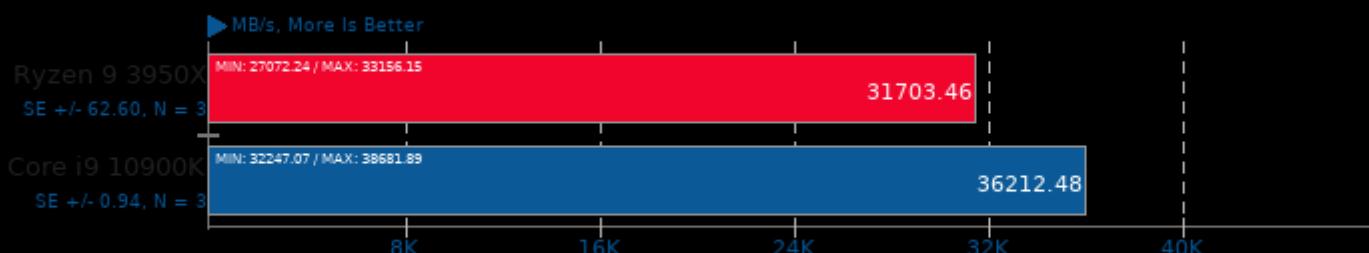
Harness: IP Batch 1D - Data Type: u8s8f32



1. (CXX) g++ options: -O3 -march=native -std=c++11 -msse4.1 -fPIC -fopenmp -pie -lpthread -ldl

CacheBench

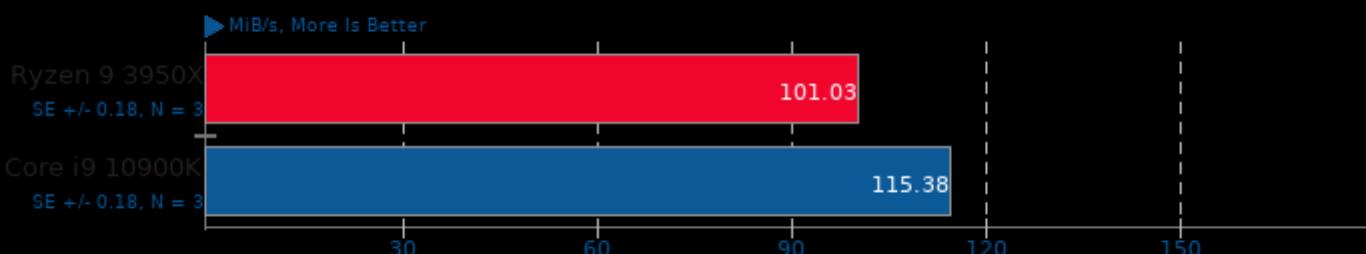
Test: Write



1. (CC) gcc options: -lrt

Botan 2.13.0

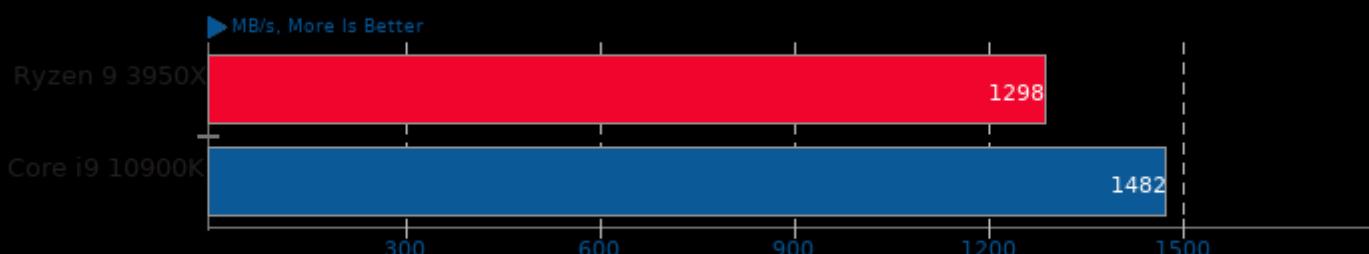
Test: KASUMI



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

Izbench 1.8

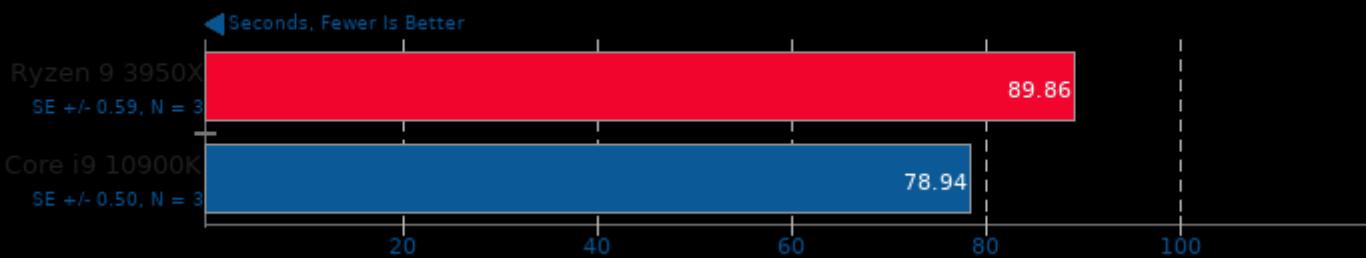
Test: Libdeflate 1 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

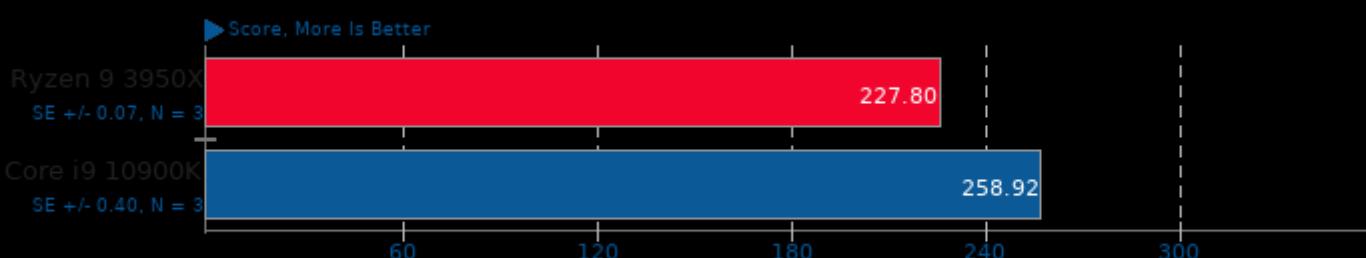
GEGL

Operation: Cartoon



Selenium

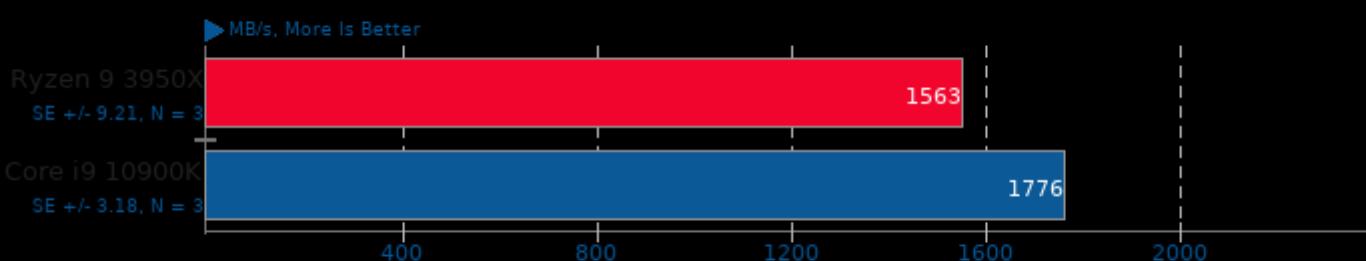
Benchmark: Jetstream - Browser: Google Chrome



1. chrome 83.0.4103.61

Izbench 1.8

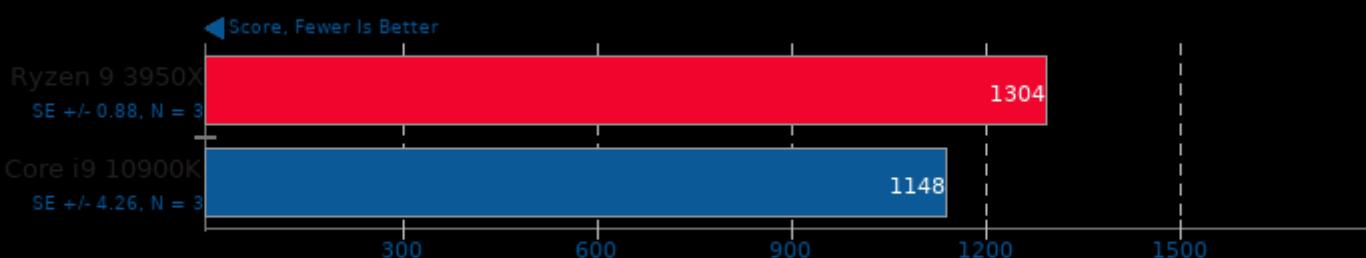
Test: Zstd 1 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

Selenium

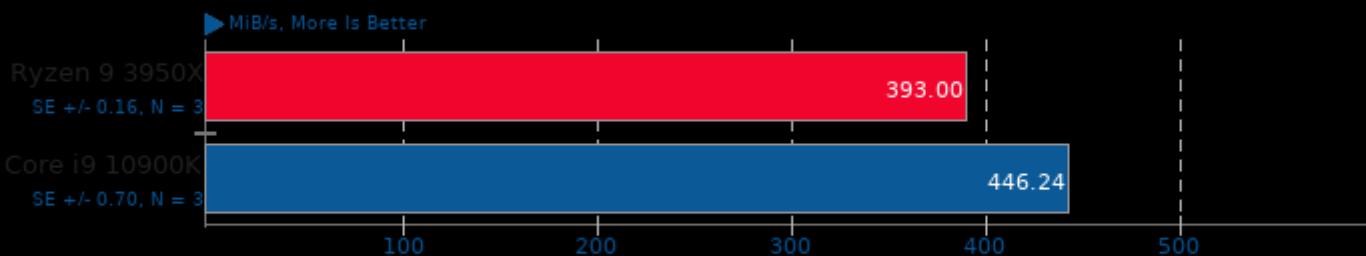
Benchmark: PSPDFKit WASM - Browser: Firefox



1. firefox 76.0.1

Botan 2.13.0

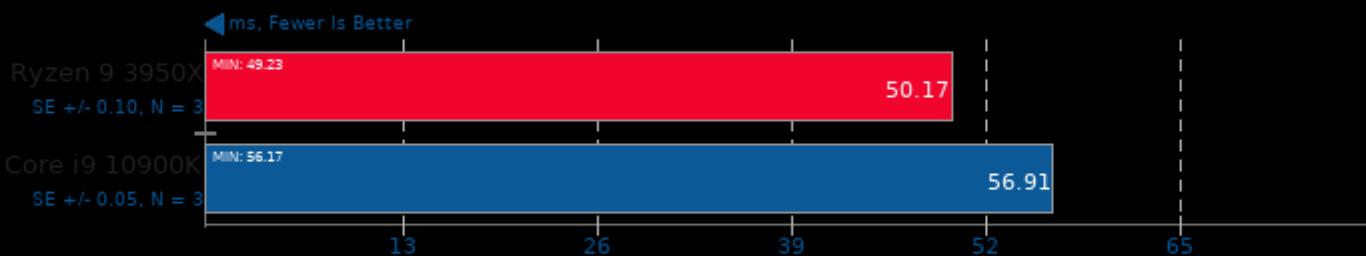
Test: Twofish



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

oneDNN MKL-DNN 1.3

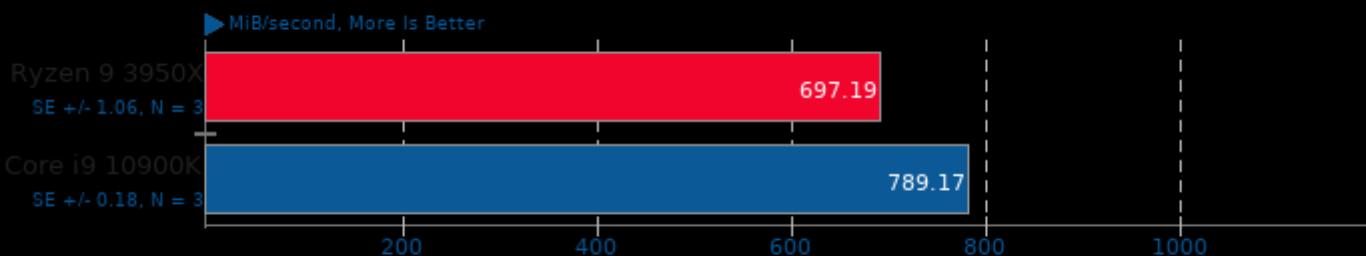
Harness: IP Batch All - Data Type: f32



1. (CXX) g++ options: -O3 -march=native -std=c++11 -msse4.1 -fPIC -fopenmp -pie -pthread -ldl

Crypto++ 8.2

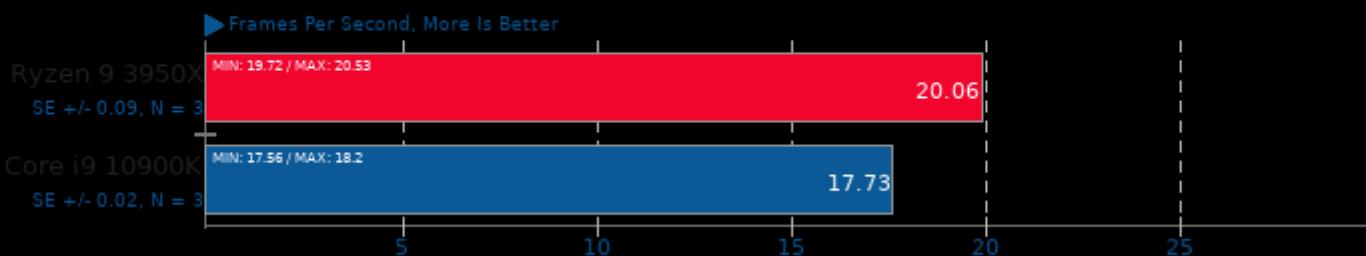
Test: Keyed Algorithms



1. (CXX) g++ options: -g2 -O3 -fPIC -pthread -pipe

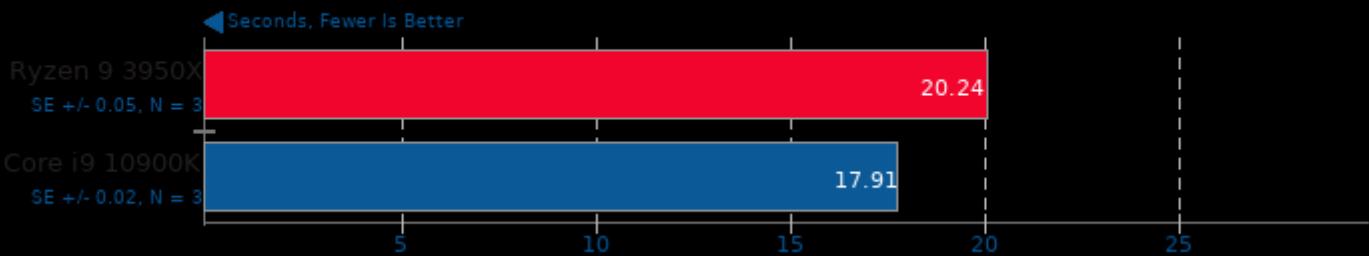
Embree 3.9.0

Binary: Pathtracer ISPC - Model: Crown



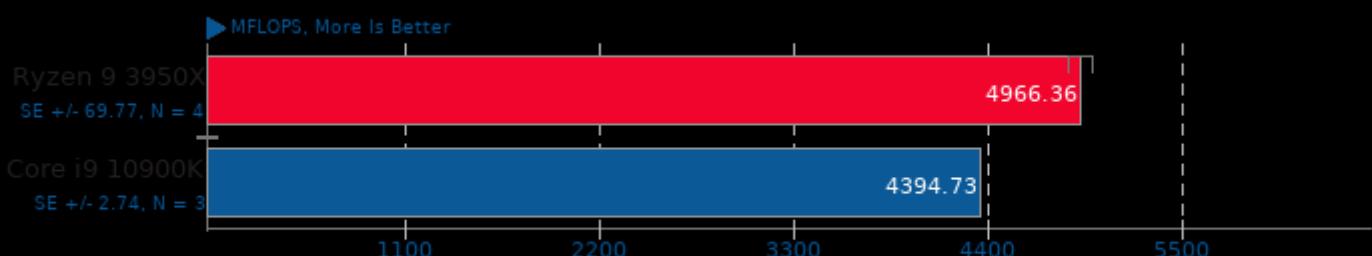
Timed Apache Compilation 2.4.41

Time To Compile



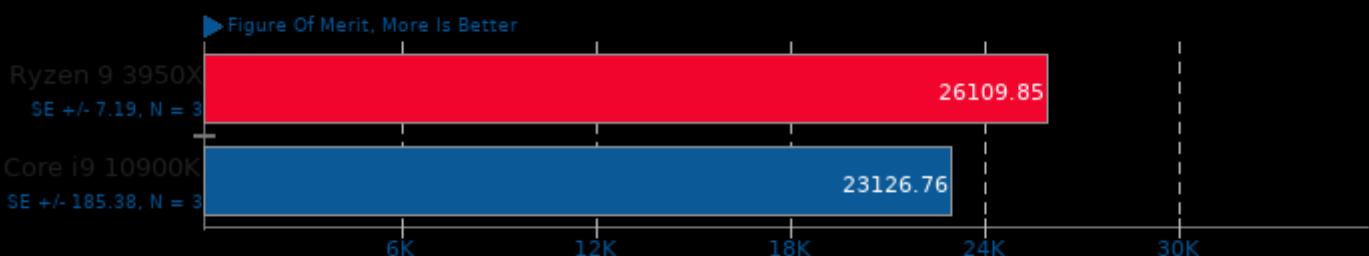
Himeno Benchmark 3.0

Poisson Pressure Solver



1. (CC) gcc options: -O3 -mavx2

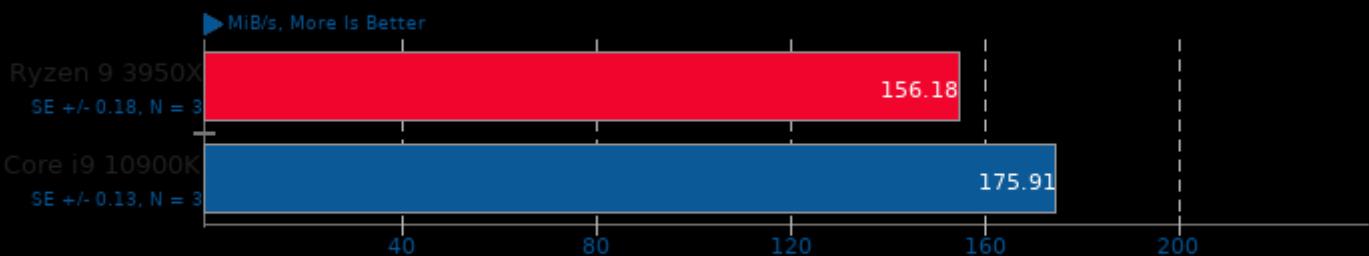
Algebraic Multi-Grid Benchmark



1. (CC) gcc options: -lparcsr_ls -lparcsr_mv -lseq_mv -ll_mv -lkrylov -lHYPRE_utilities -lm -fopenmp -pthread -lmpi

Botan 2.13.0

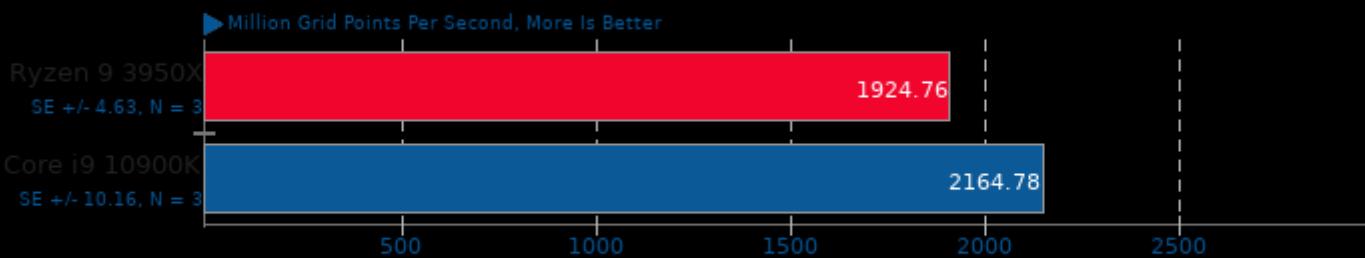
Test: CAST-256



1. (CXX) g++ options: -fstack-protector -m64 -pthread -lbotan-2 -ldl -lrt

ASKAP 2018-11-10

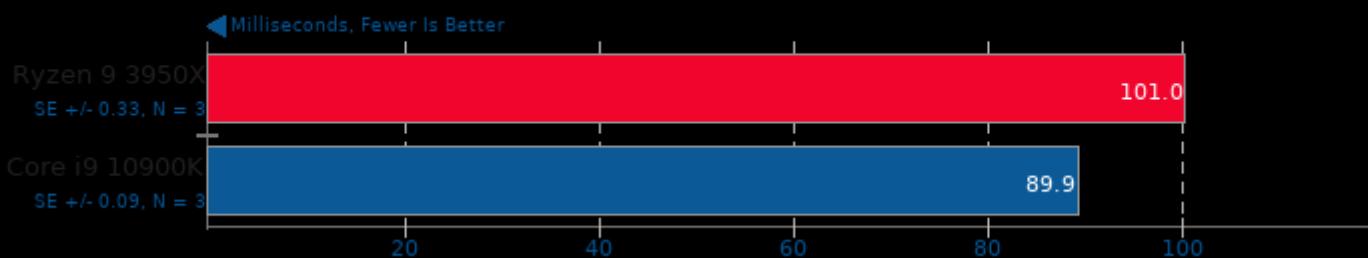
Test: tConvolve OpenMP - Degridding



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

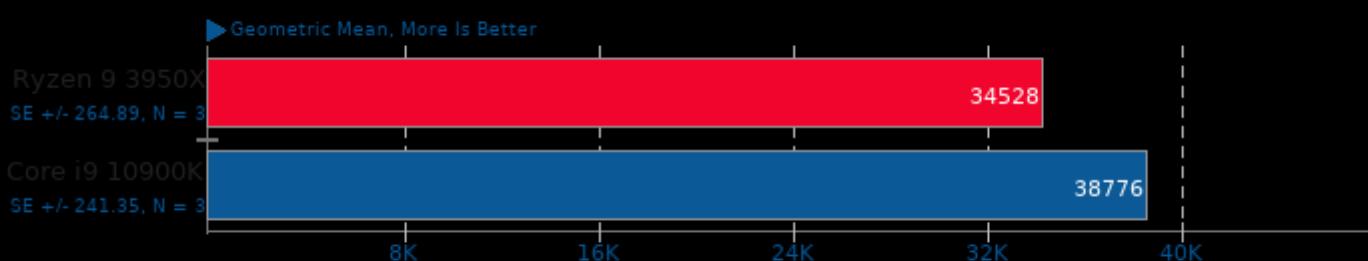
PyPerformance 1.0.0

Benchmark: nbody



Selenium

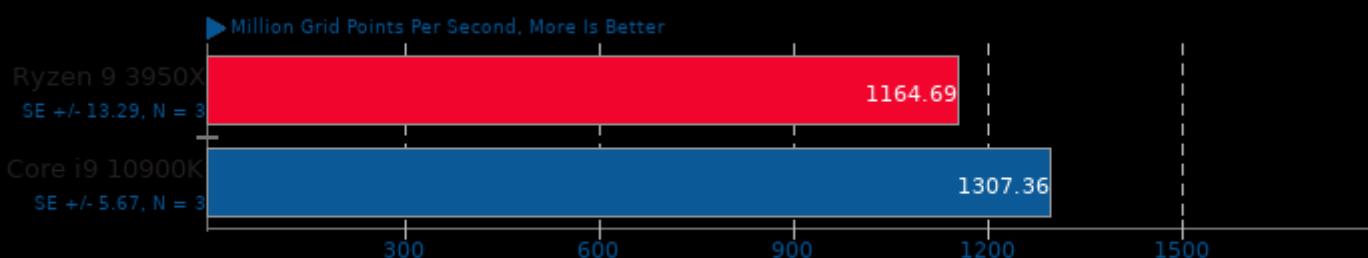
Benchmark: Octane - Browser: Firefox



1. firefox 76.0.1

ASKAP 2018-11-10

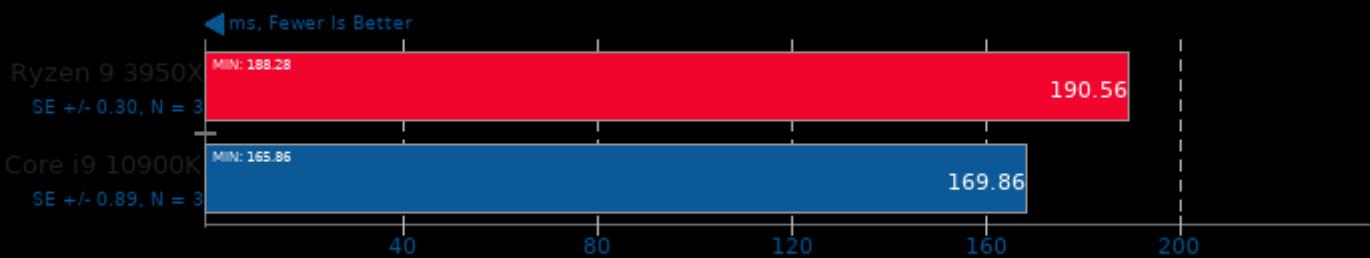
Test: tConvolve OpenMP - Gridding



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

oneDNN MKL-DNN 1.3

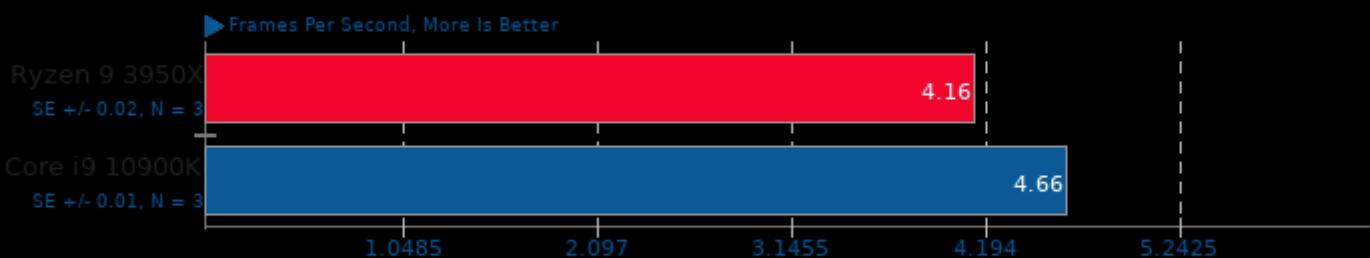
Harness: Recurrent Neural Network Training - Data Type: f32



1. (CXX) g++ options: -O3 -march=native -std=c++11 -msse4.1 -fPIC -fopenmp -pie -lpthread -ldl

AOM AV1 2.0

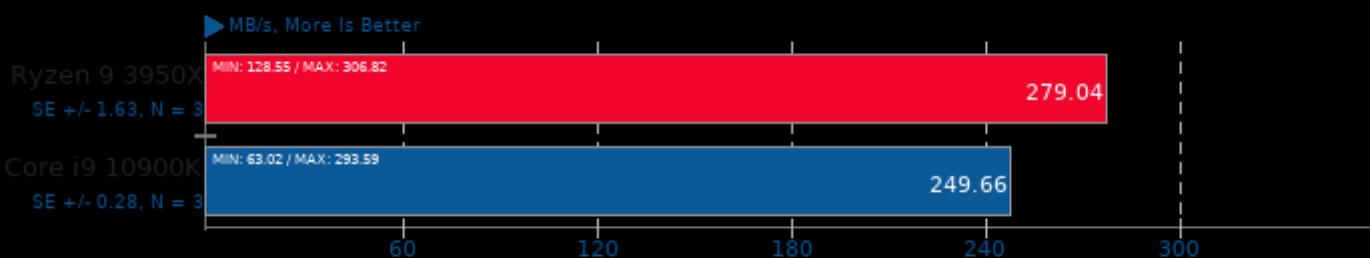
Encoder Mode: Speed 6 Two-Pass



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

IOR 3.2.1

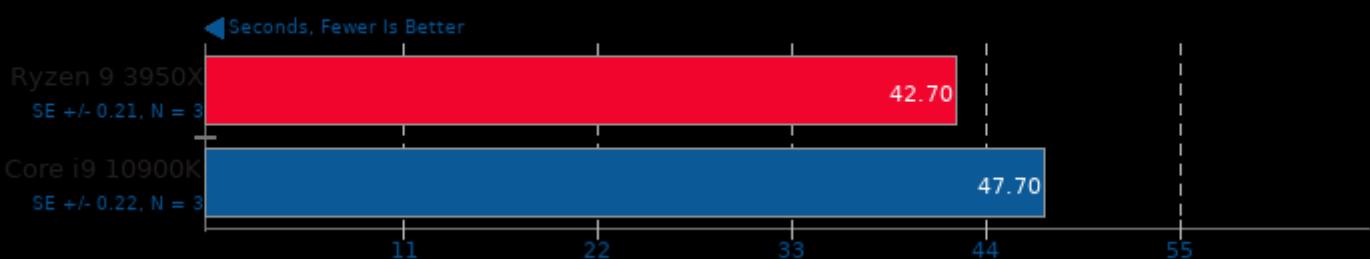
Write Test



1. (CC) gcc options: -O2 -lm -pthread -lmpi

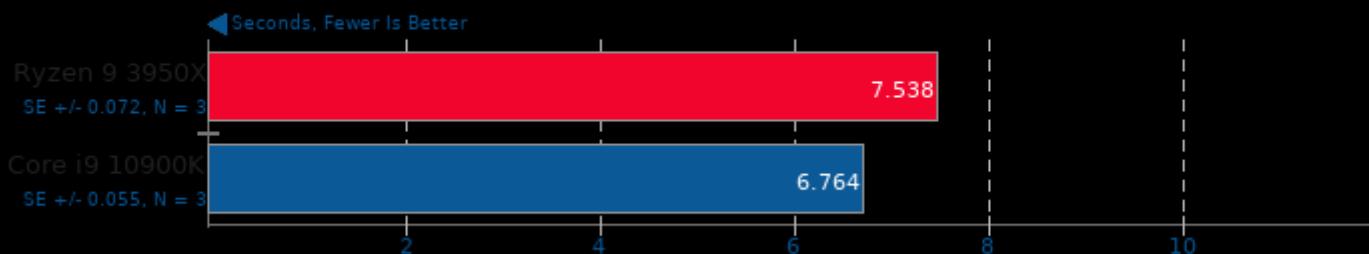
Timed PHP Compilation 7.4.2

Time To Compile



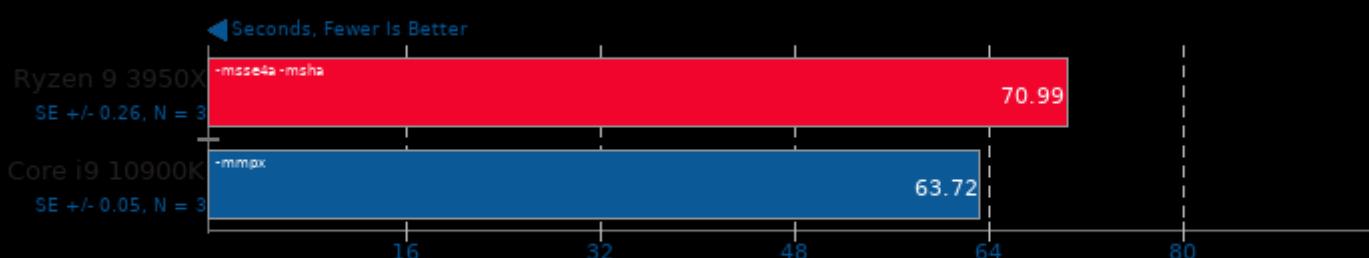
GEGL

Operation: Crop



Timed MrBayes Analysis 3.2.7

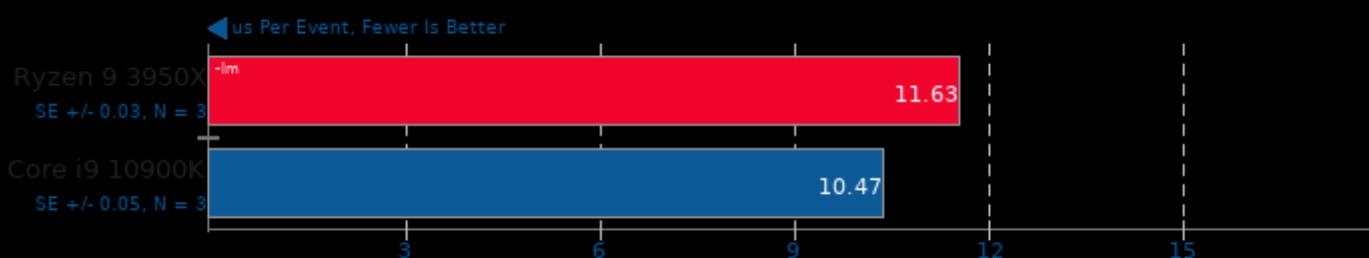
Primate Phylogeny Analysis



1. (CC) gcc options: -mmmx -msse -msse2 -msse3 -mssse3 -msse4.1 -msse4.2 -maes -mavx -mfma -mavx2 -mrdrnd -mbmi -mbmi2 -madx -mabm -O3 -std

OSBench

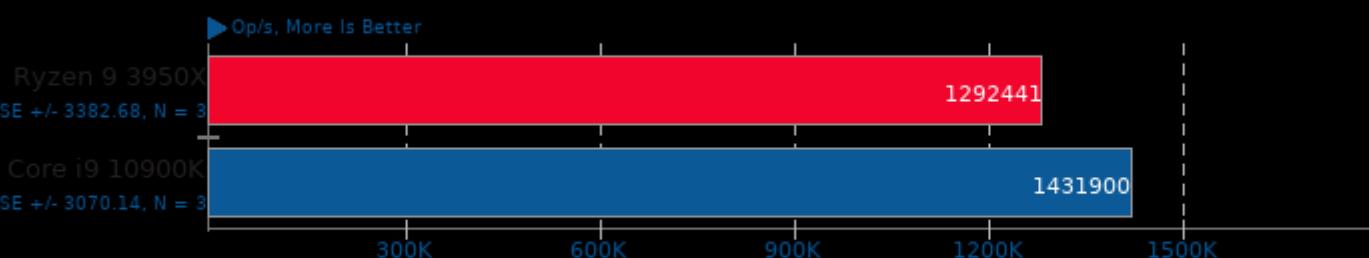
Test: Create Files



1. (CC) gcc options:

Facebook RocksDB 6.3.6

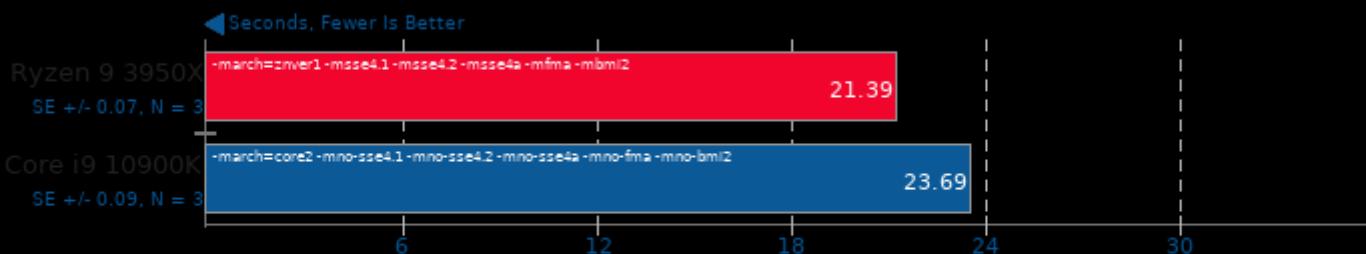
Test: Sequential Fill



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fno-builtin-memcmp -fno-rtti -rdynamic -lpthread

Tungsten Renderer 0.2.2

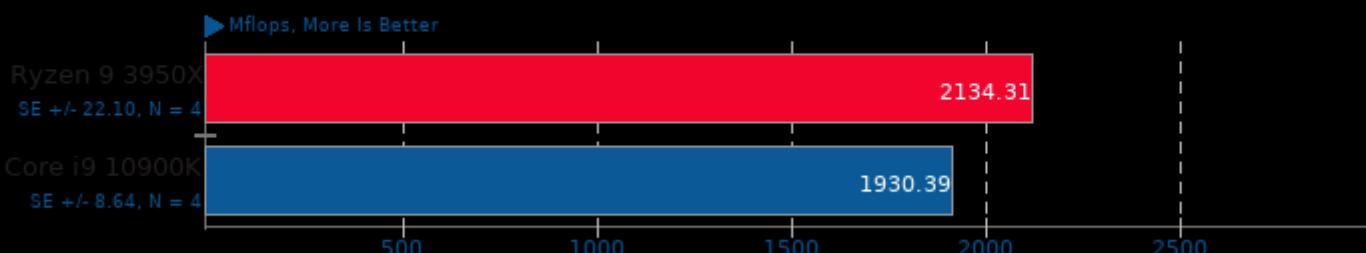
Scene: Water Caustic



1. (CXX) g++ options: -std=c++0x -msse2 -msse3 -mssse3 -mno-avx -mno-avx2 -mno-xop -mno-fma4 -mno-avx512f -mno-avx512vl -mno-avx512pf -mno-

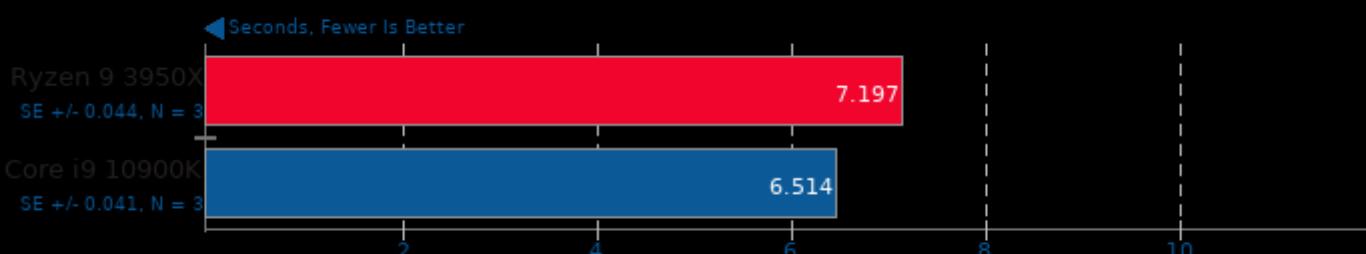
Java SciMark 2.0

Computational Test: Fast Fourier Transform



Basis Universal 1.12

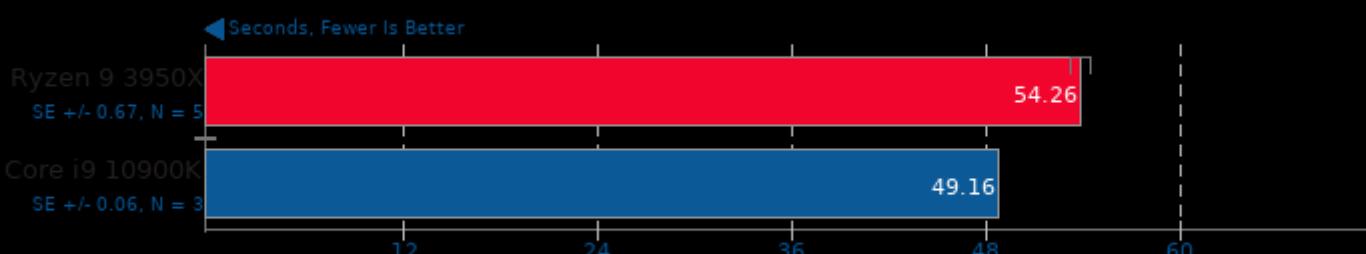
Settings: UASTC Level 0



1. (CXX) g++ options: -std=c++11 -fvisibility=hidden -fPIC -fno-strict-aliasing -O3 -rdynamic -lm -lpthread

Hackbench

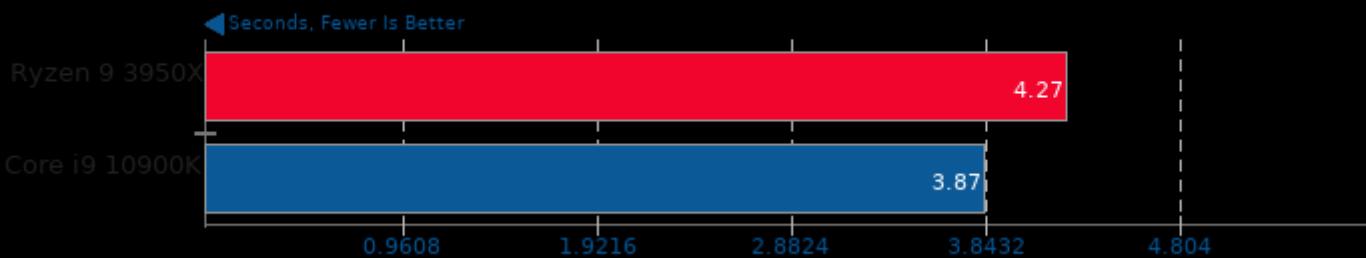
Count: 32 - Type: Process



1. (CC) gcc options: -lpthread

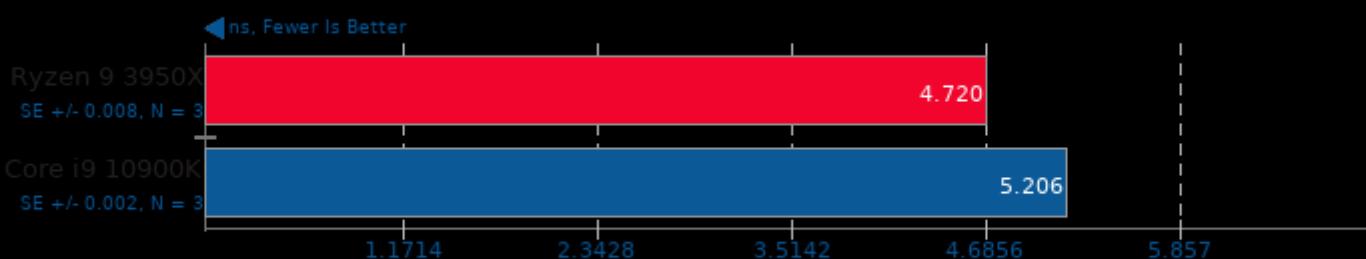
Polyhedron Fortran Benchmarks

Benchmark: mdbx



Multichase Pointer Chaser

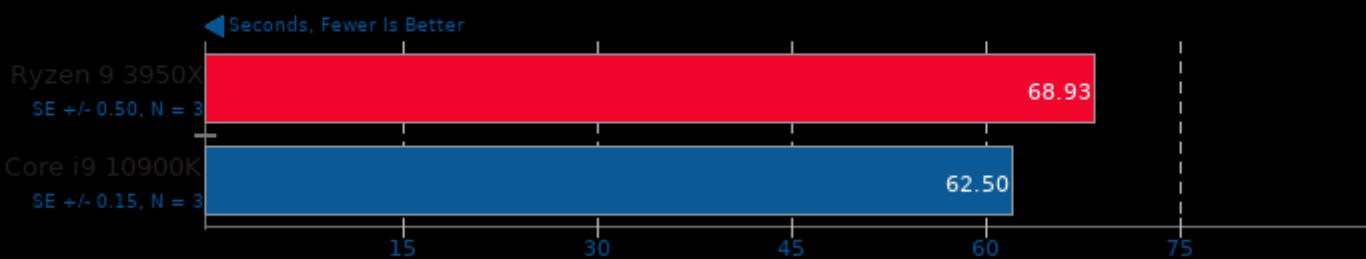
Test: 4MB Array, 64 Byte Stride



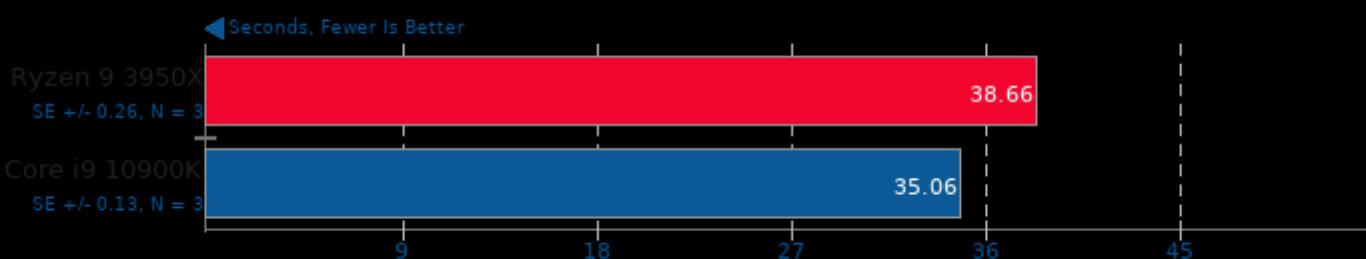
1. (CC) gcc options: -O2 -static -pthread -frt

MLpack Benchmark

Benchmark: scikit_qda

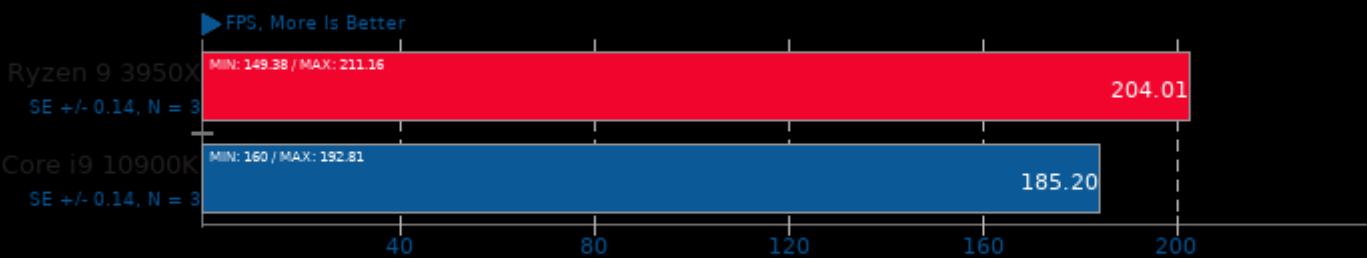


Cython benchmark 0.27



dav1d 0.7.0

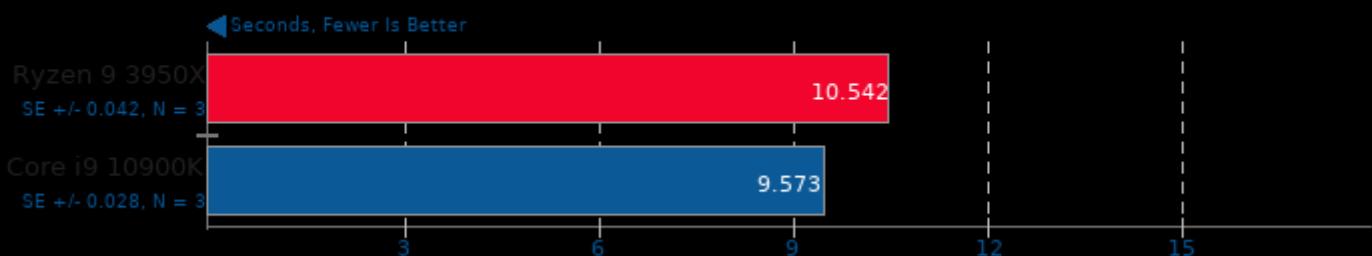
Video Input: Summer Nature 4K



1. (CC) gcc options: -pthread

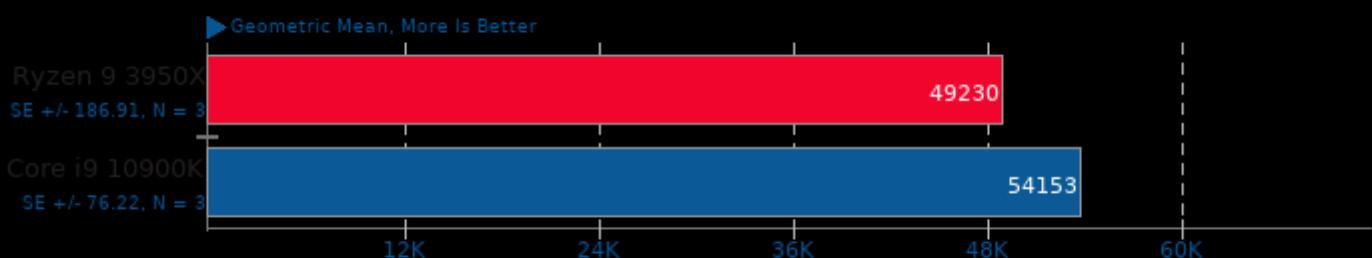
GIMP 2.10.18

Test: rotate



Selenium

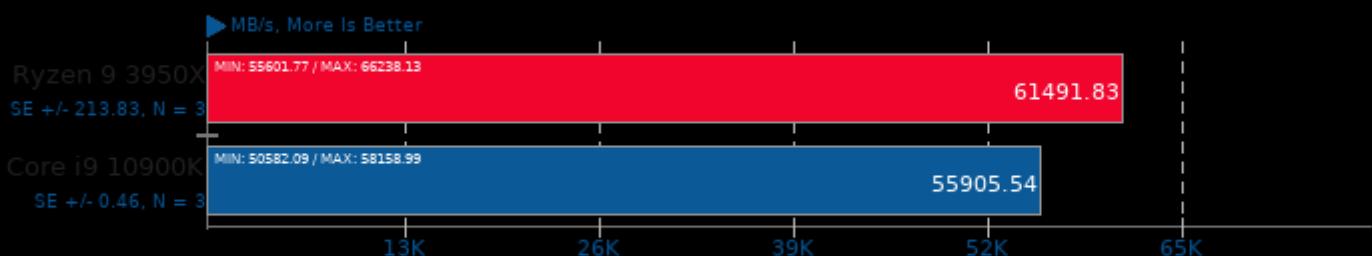
Benchmark: Octane - Browser: Google Chrome



1. chrome 83.0.4103.61

CacheBench

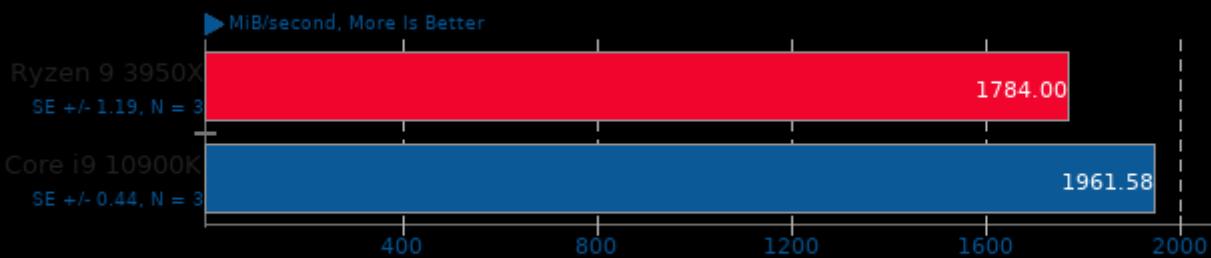
Test: Read / Modify / Write



1. (CC) gcc options: -lrt

Crypto++ 8.2

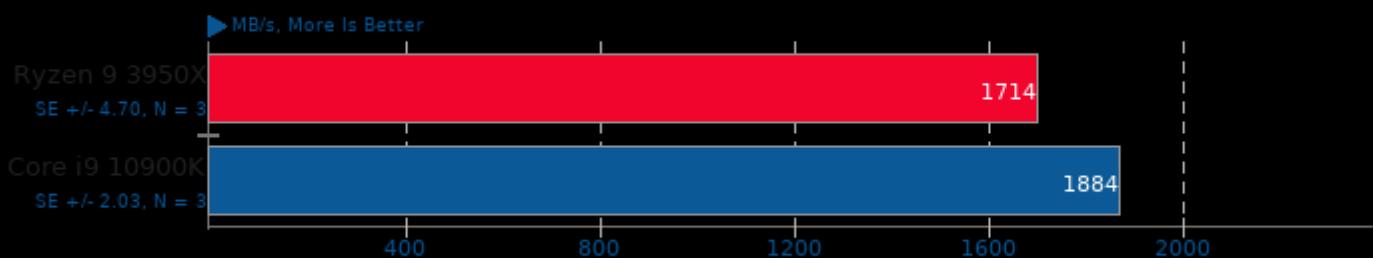
Test: All Algorithms



1. (CXX) g++ options: -g2 -O3 -fPIC -pthread -pipe

Izbench 1.8

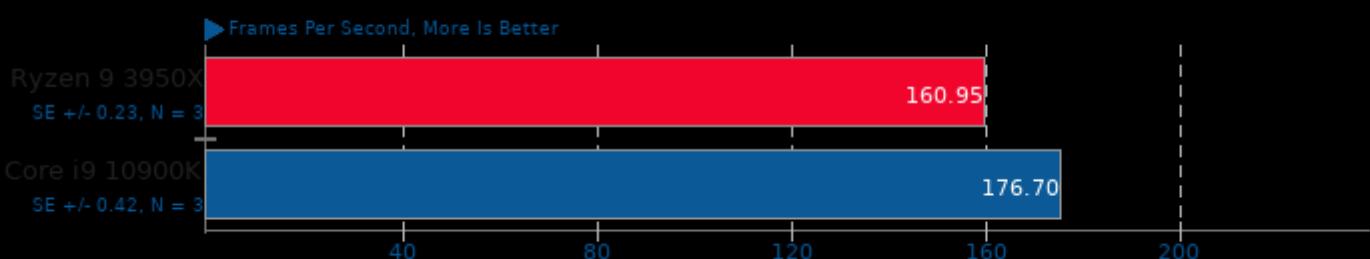
Test: Zstd 8 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

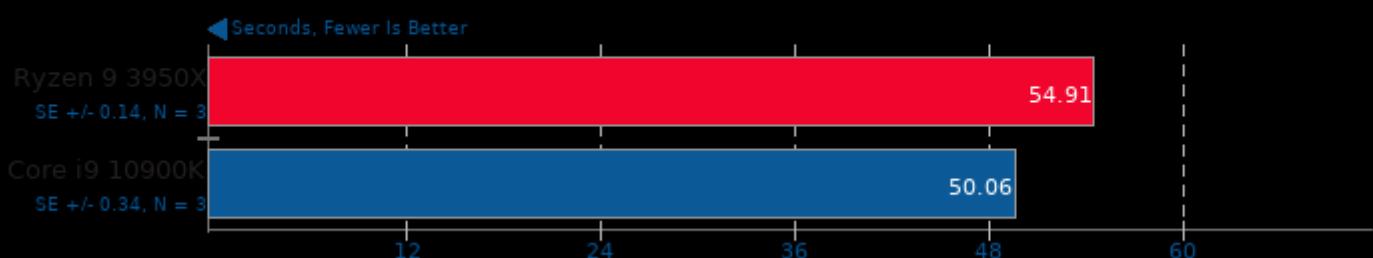
Unigine Valley 1.0

Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL



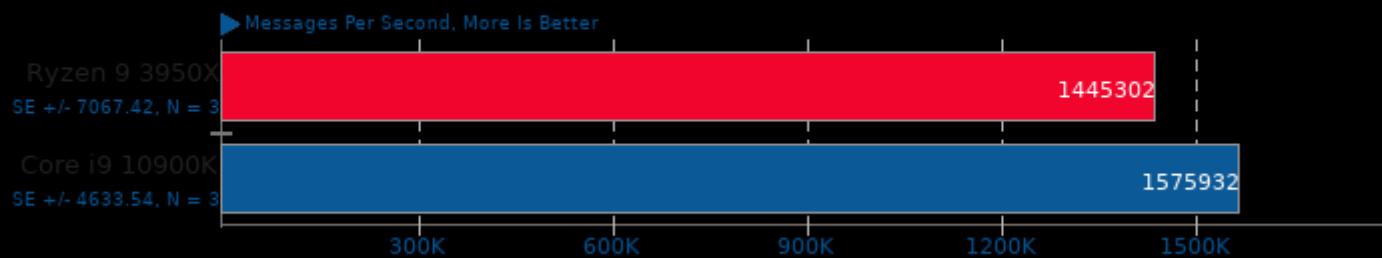
GEGL

Operation: Color Enhance



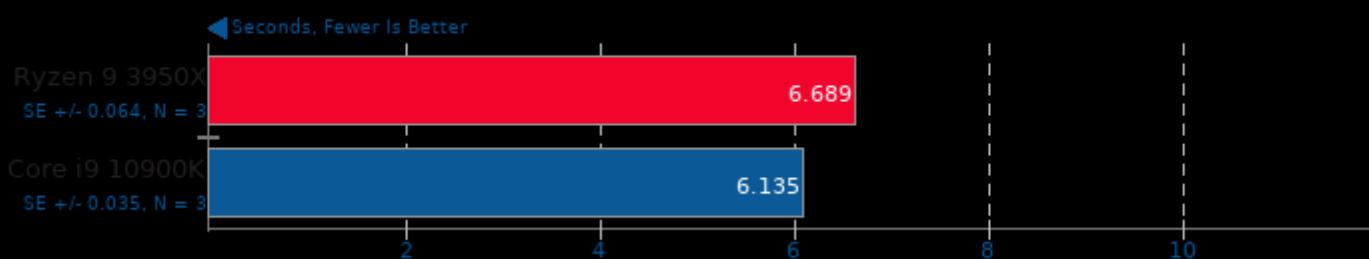
IPC_benchmark

Type: TCP Socket - Message Bytes: 4096



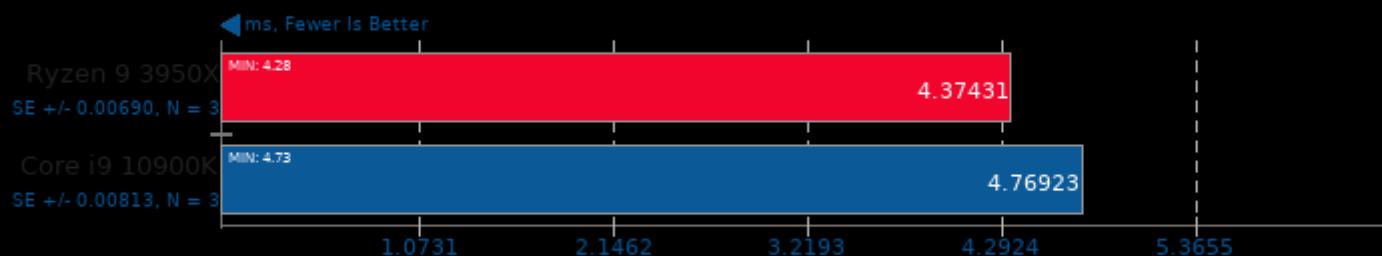
GIMP 2.10.18

Test: resize



oneDNN MKL-DNN 1.3

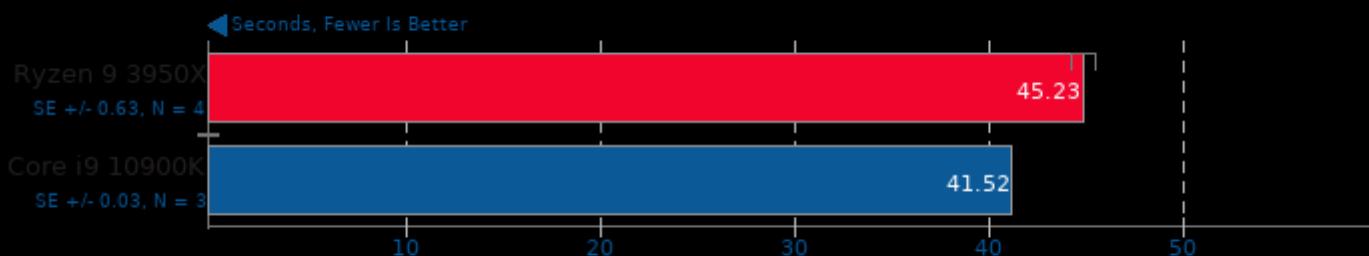
Harness: Deconvolution Batch deconv_3d - Data Type: f32



1. (CXX) g++ options: -O3 -march=native -std=c++11 -msse4.1 -fPIC -fopenmp -pie -lpthread -ldl

Git

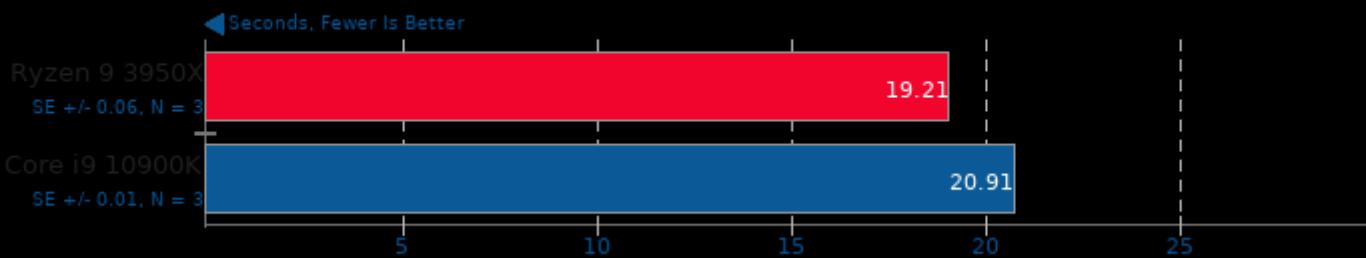
Time To Complete Common Git Commands



1. git version 2.25.1

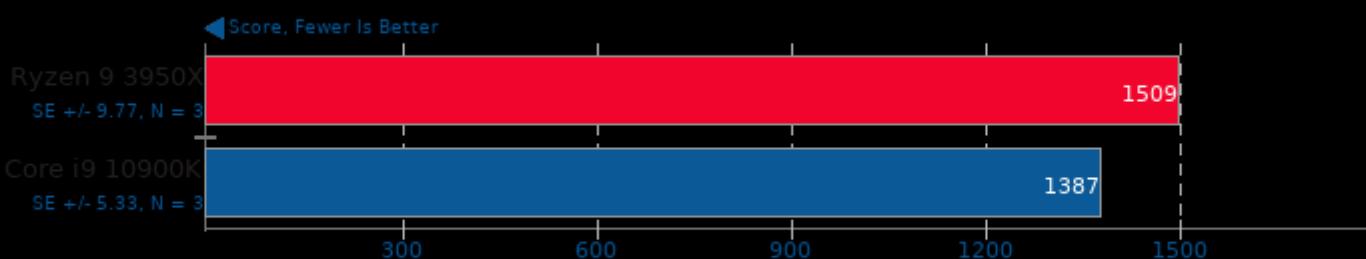
Mlpack Benchmark

Benchmark: scikit_svm



Selenium

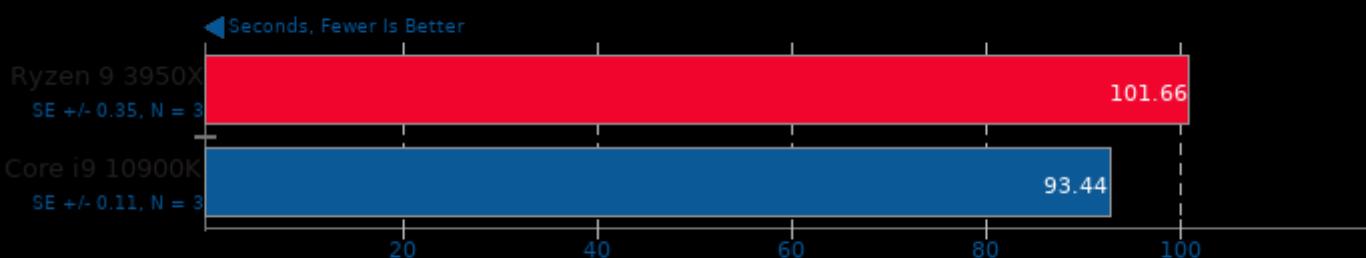
Benchmark: PSPDFKit WASM - Browser: Google Chrome



1. chrome 83.0.4103.61

Minion 1.8

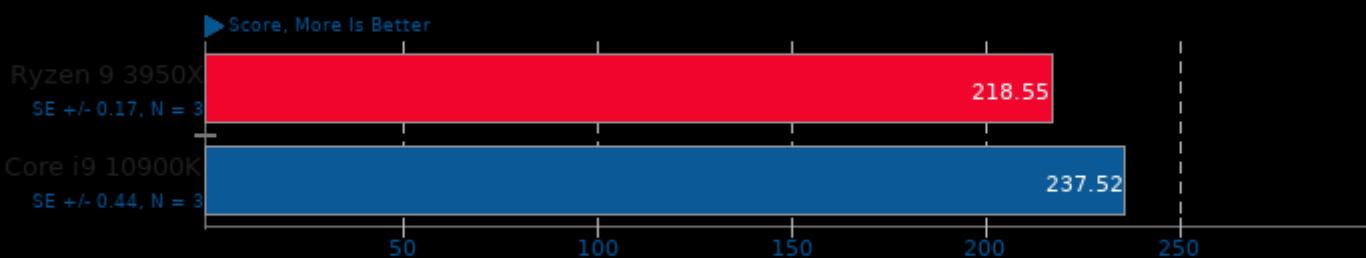
Benchmark: Quasigroup



1. (CXX) g++ options: -std=gnu++11 -O3 -fomit-frame-pointer -rdynamic

Selenium

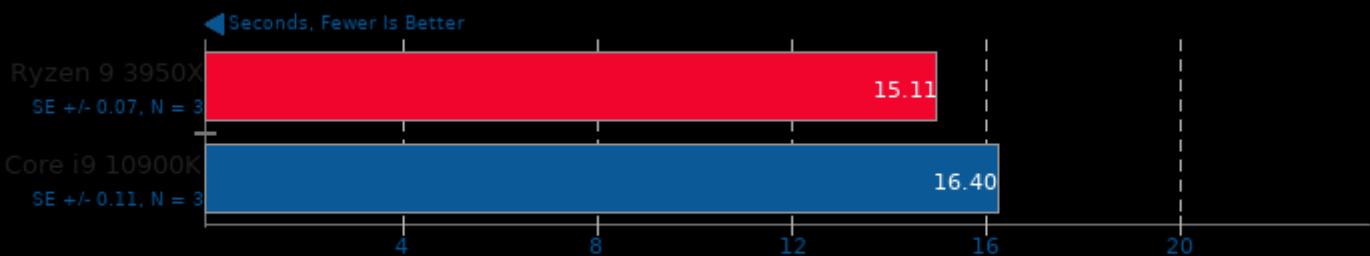
Benchmark: Jetstream - Browser: Firefox



1. firefox 76.0.1

Parboil 2.5

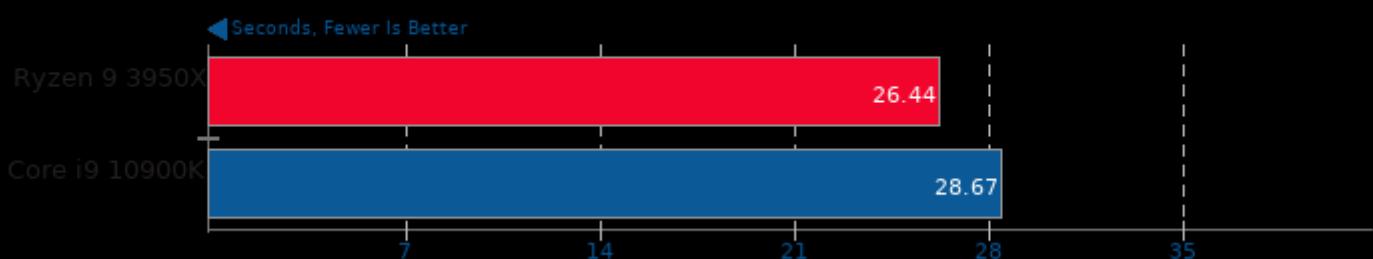
Test: OpenMP Stencil



1. (CXX) g++ options: -lm -lpthread -lgomp -O3 -ffast-math -fopenmp

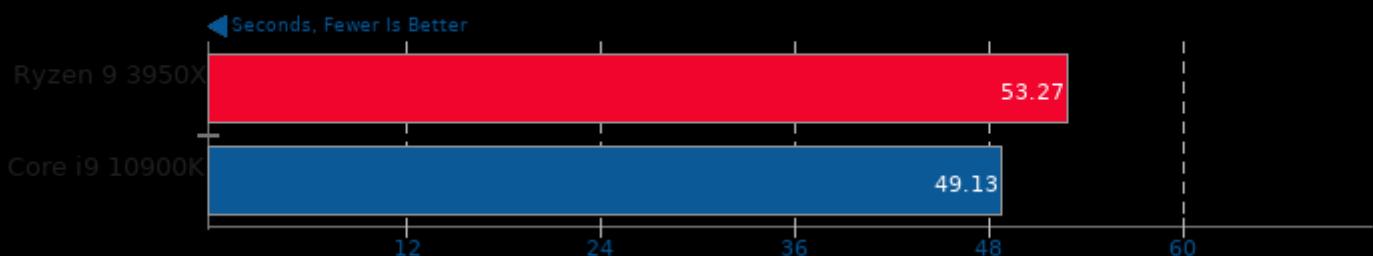
Polyhedron Fortran Benchmarks

Benchmark: test_fpu2



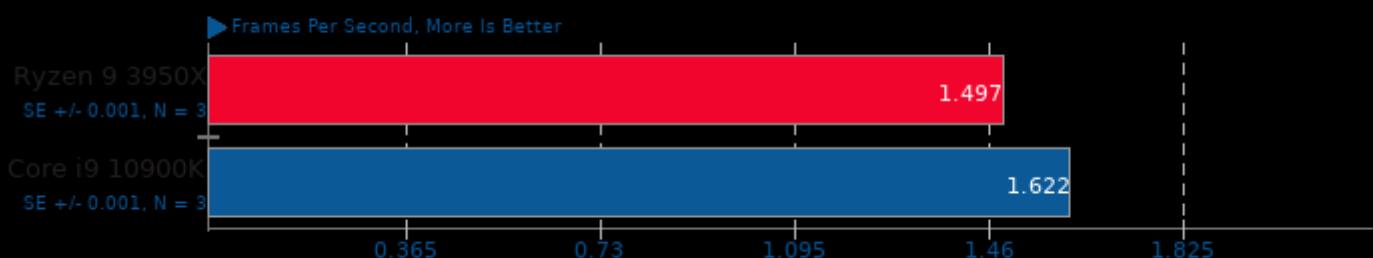
Polyhedron Fortran Benchmarks

Benchmark: mp_prop_design



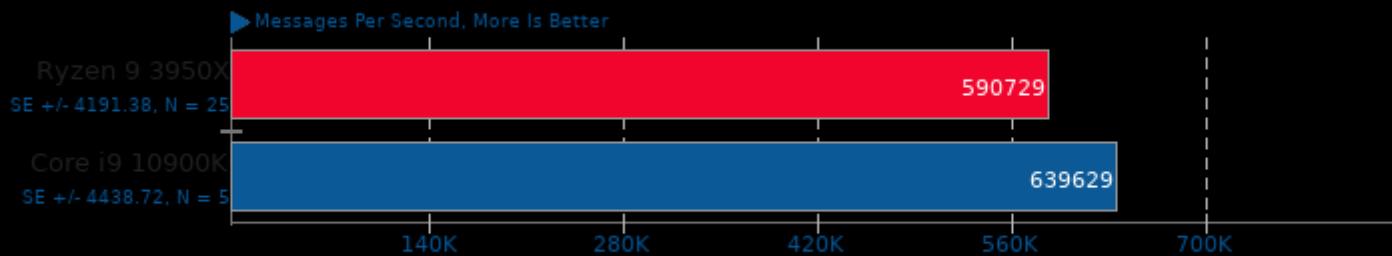
ravle 0.3.0

Speed: 6



Sockperf 3.4

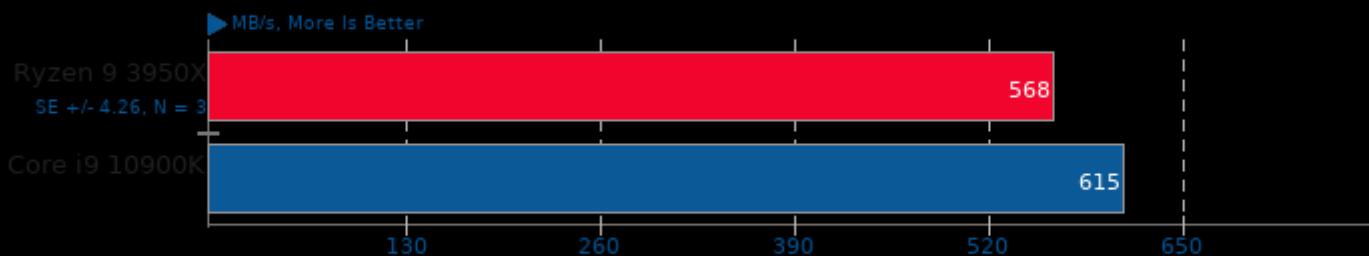
Test: Throughput



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

Izbench 1.8

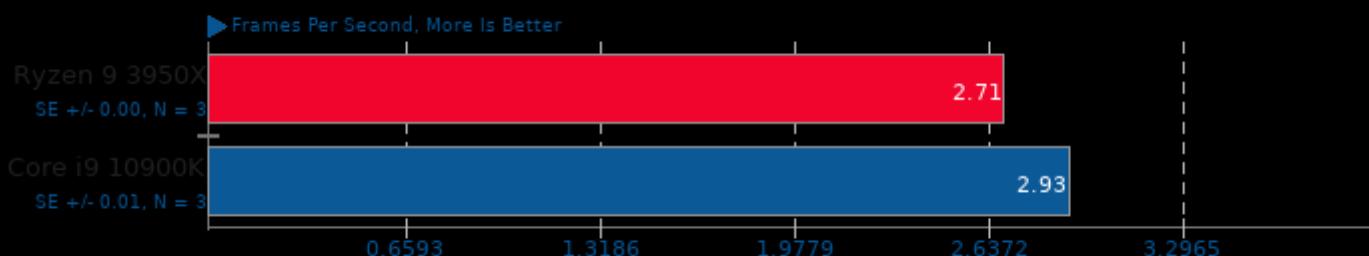
Test: Zstd 1 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

AOM AV1 2.0

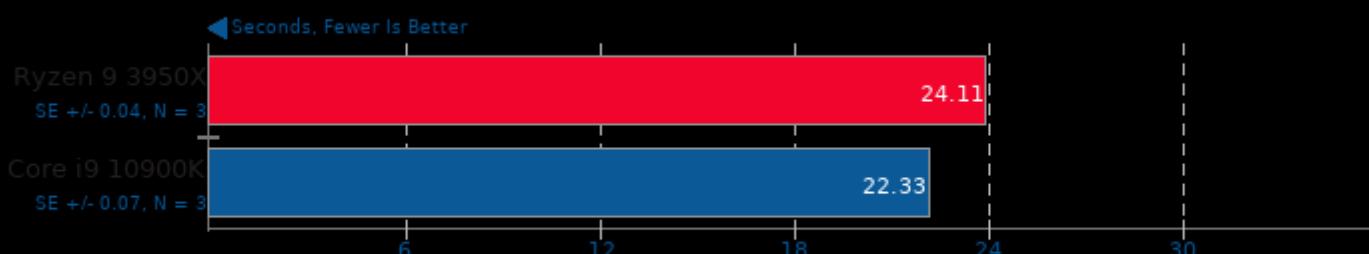
Encoder Mode: Speed 4 Two-Pass



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

XZ Compression 5.2.4

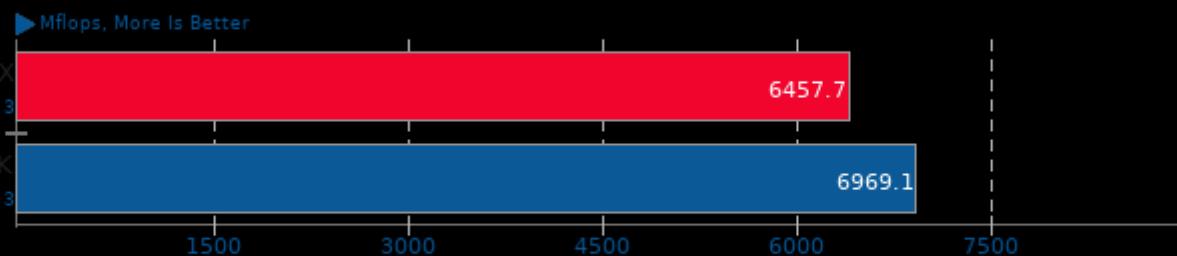
Compressing ubuntu-16.04.3-server-i386.img, Compression Level 9



1. (CC) gcc options: -pthread -fvisibility=hidden -O2

FFTW 3.3.6

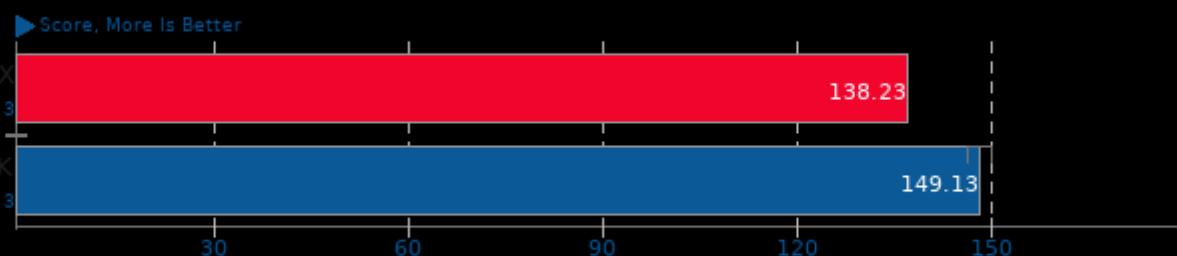
Build: Stock - Size: 2D FFT Size 4096



1. (CC) gcc options: -pthread -O3 -fomit-frame-pointer -mtune=native -malign-double -fstrict-aliasing -fno-schedule-insns -ffast-math -lm

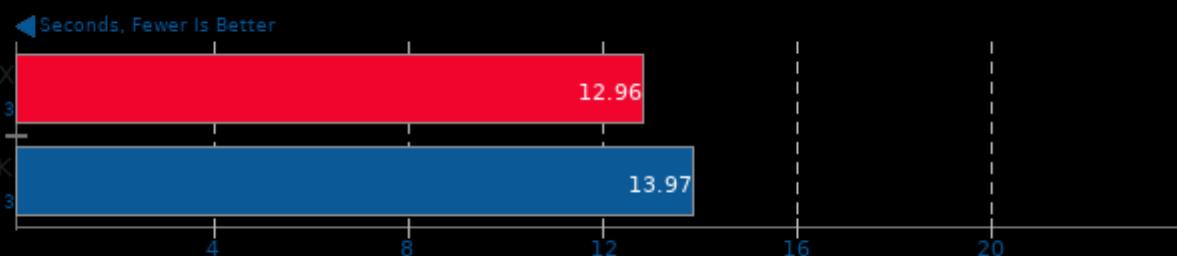
Selenium

Benchmark: Jetstream 2 - Browser: Google Chrome



1. chrome 83.0.4103.61

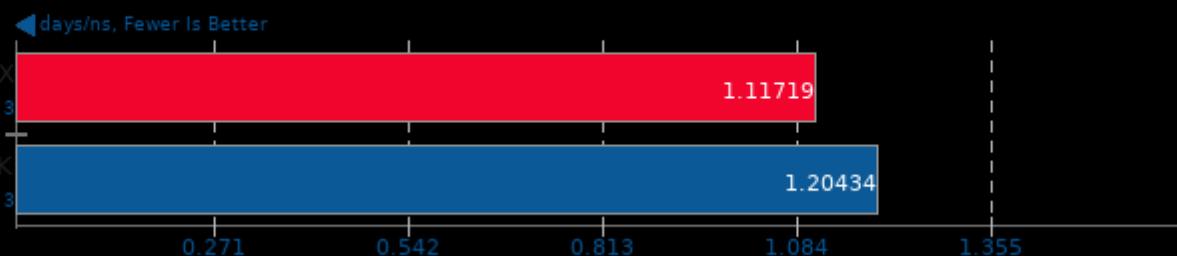
Nebular Empirical Analysis Tool 2020-02-29



1. (F9X) gfortran options: -cpp -ffree-line-length-0 -fsource/ -fopenmp -O3 -fno-backtrace

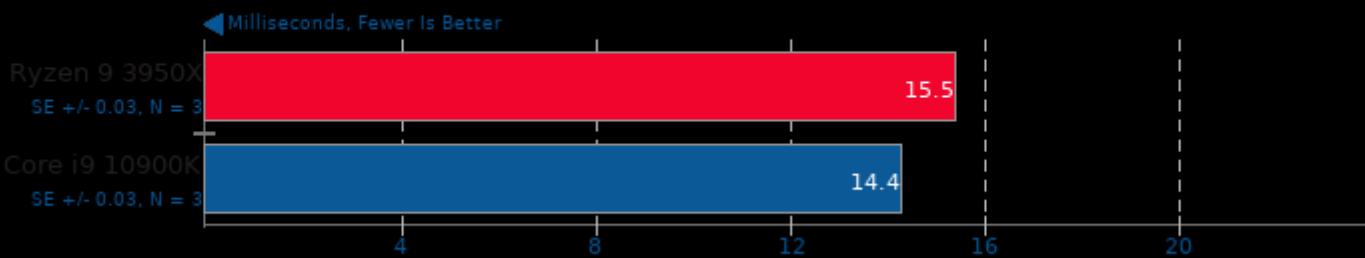
NAMD 2.13

ATPase Simulation - 327,506 Atoms



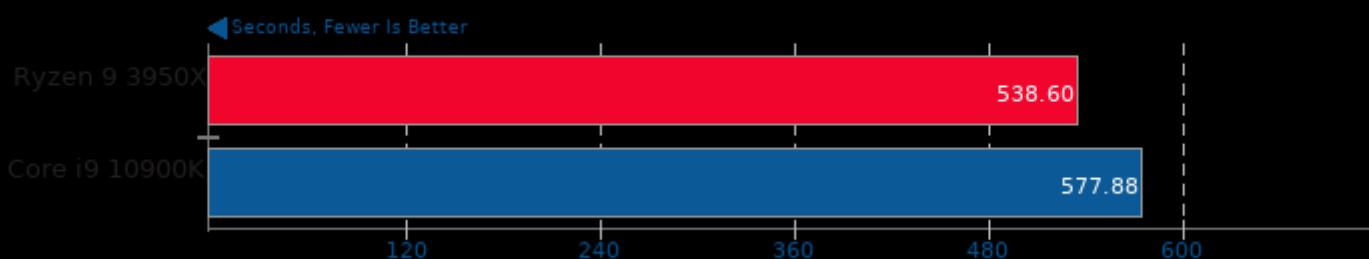
PyPerformance 1.0.0

Benchmark: pathlib



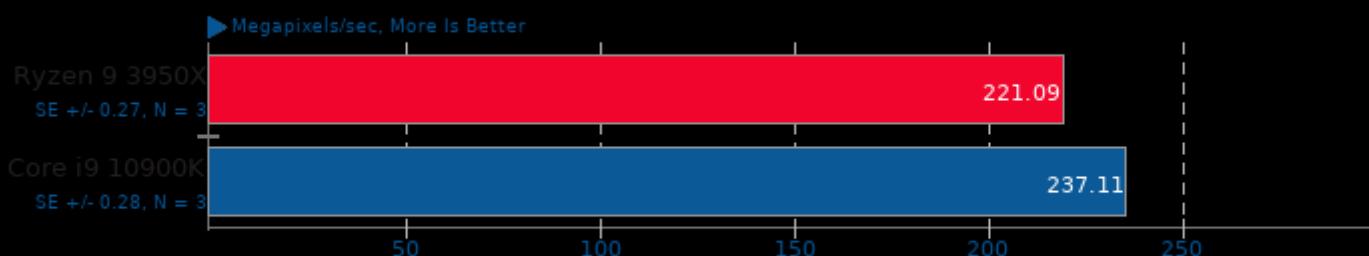
Radiance Benchmark 5.0

Test: Serial



libjpeg-turbo tjbench 2.0.2

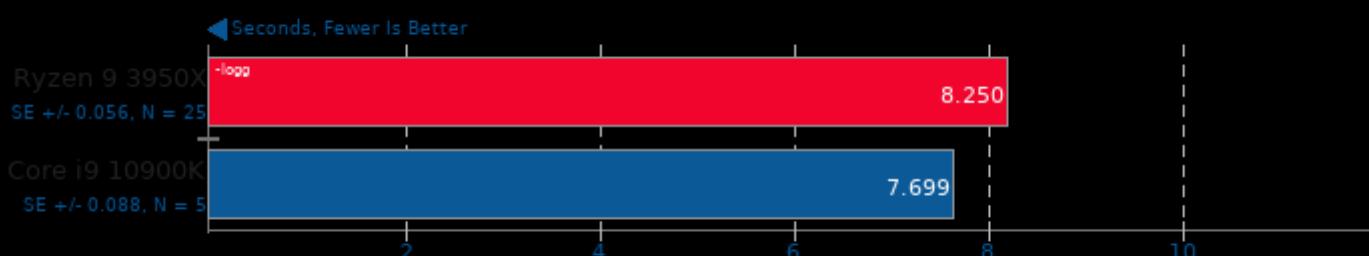
Test: Decompression Throughput



1. (CC) gcc options: -O3 -rdynamic

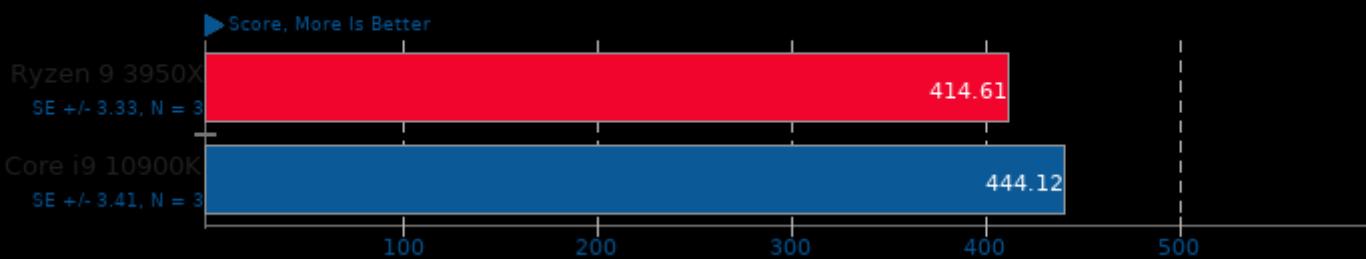
FLAC Audio Encoding 1.3.2

WAV To FLAC



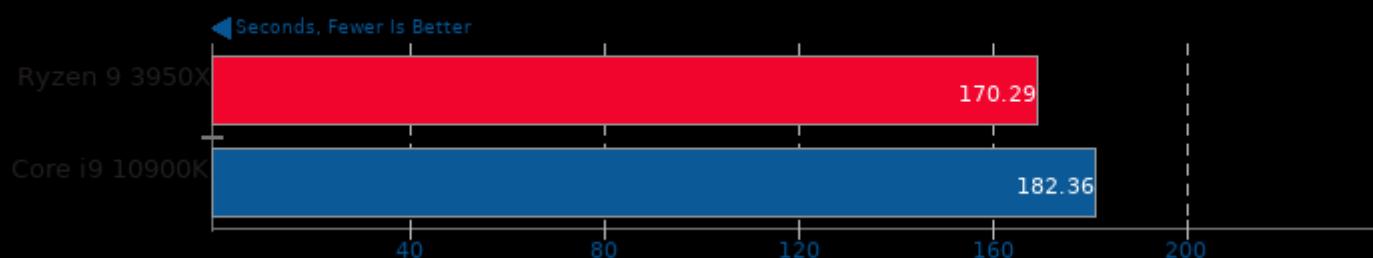
1. (CXX) g++ options: -O2 -fvisibility=hidden -fno-rtti

Numpy Benchmark



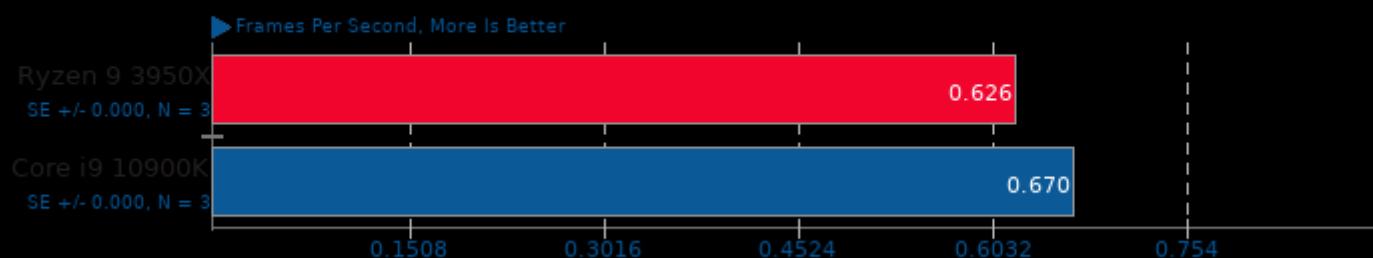
Radiance Benchmark 5.0

Test: SMP Parallel



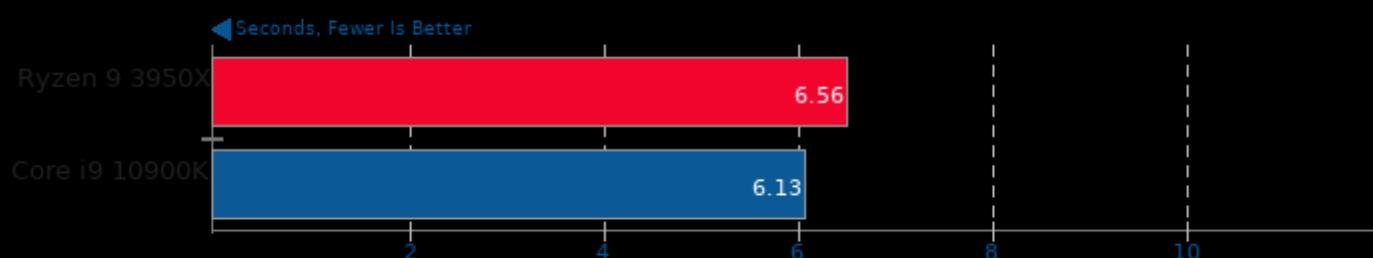
rav1e 0.3.0

Speed: 5



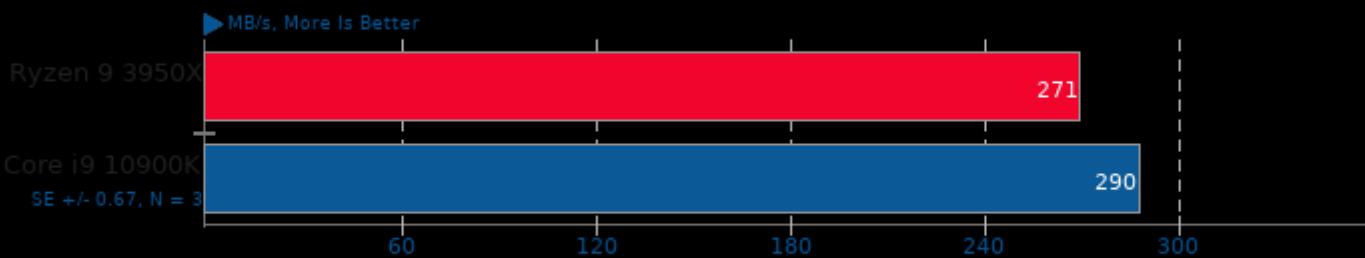
Polyhedron Fortran Benchmarks

Benchmark: doduc



Izbench 1.8

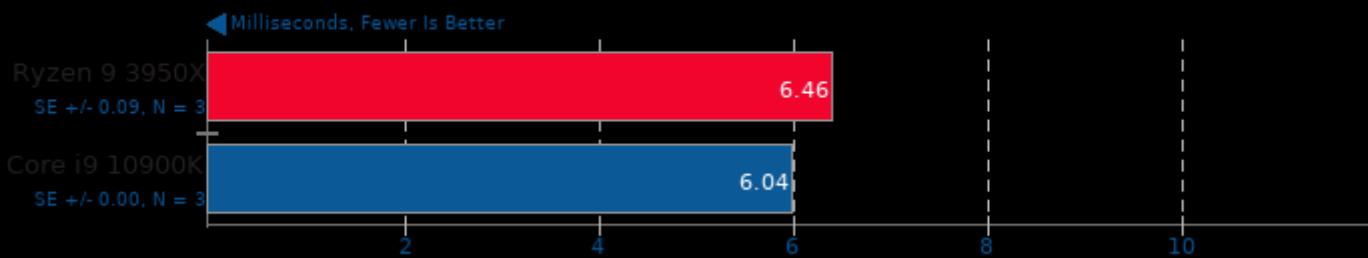
Test: Libdeflate 1 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

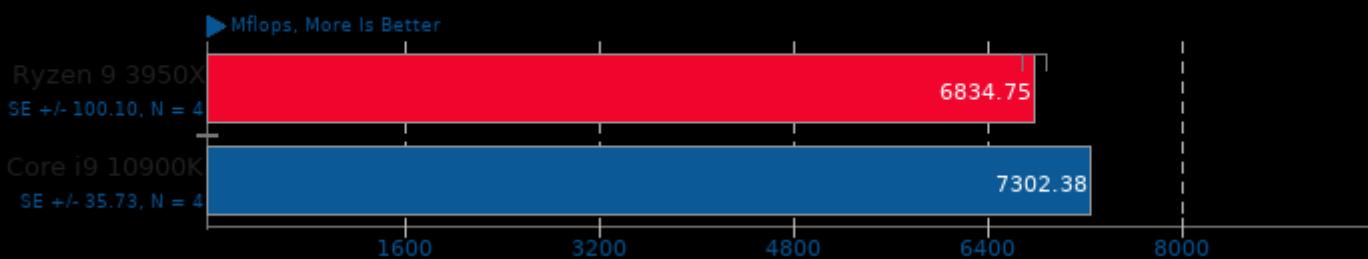
PyPerformance 1.0.0

Benchmark: python_startup



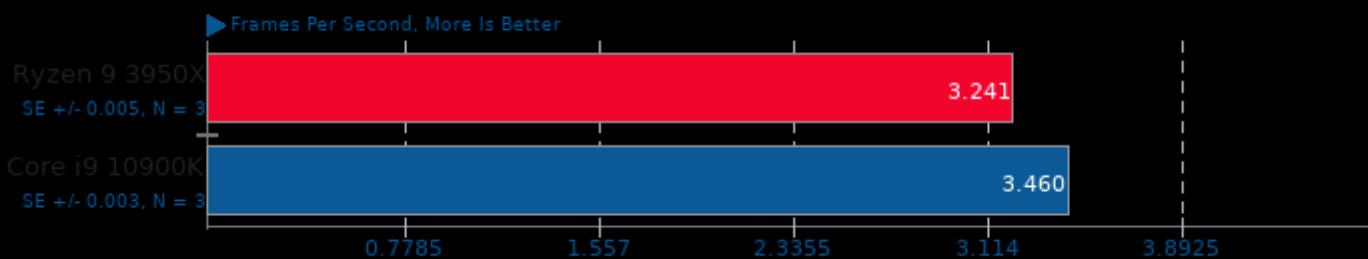
Java SciMark 2.0

Computational Test: Dense LU Matrix Factorization



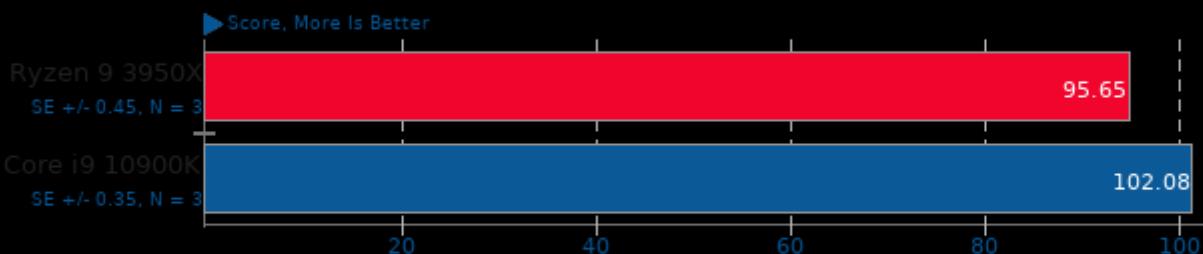
rav1e 0.3.0

Speed: 10



Selenium

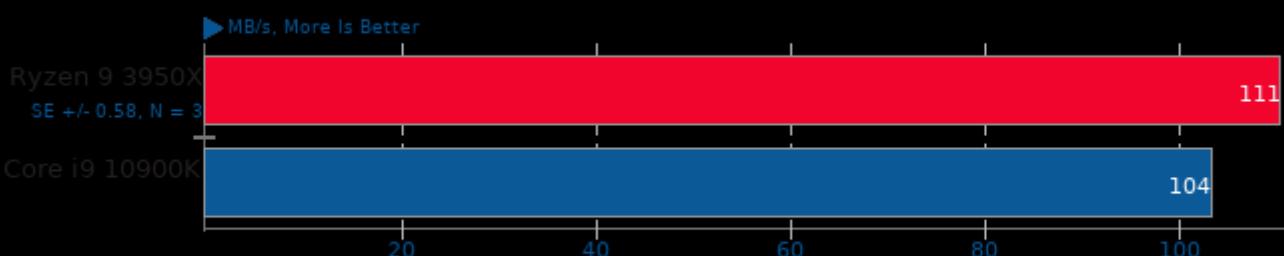
Benchmark: Jetstream 2 - Browser: Firefox



1. firefox 76.0.1

Izbench 1.8

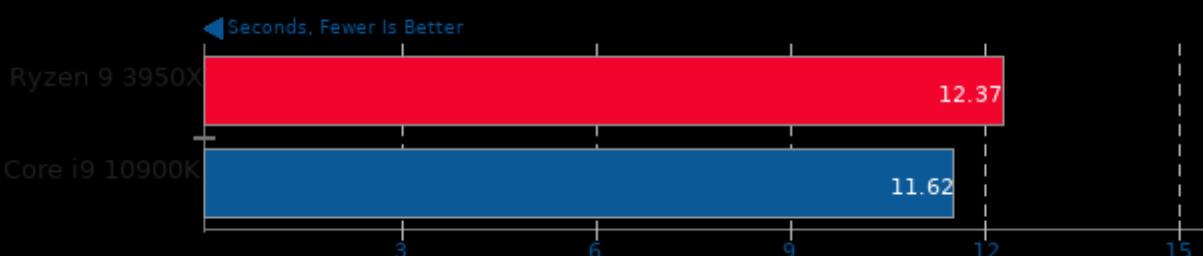
Test: Zstd 8 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

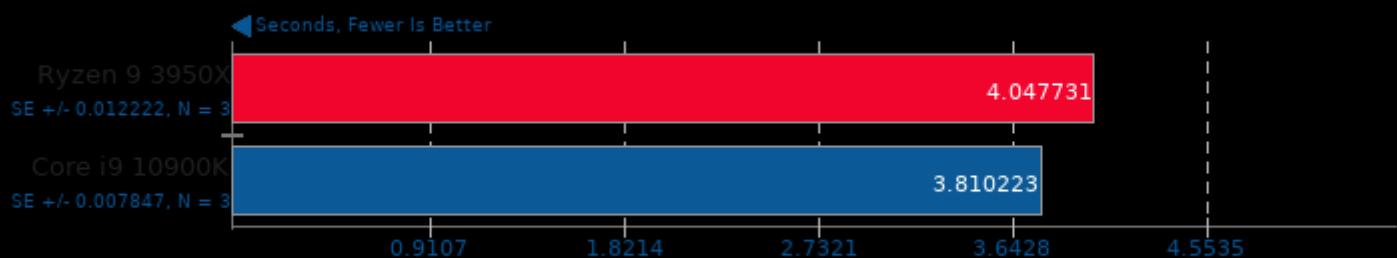
Polyhedron Fortran Benchmarks

Benchmark: protein



Bullet Physics Engine 2.81

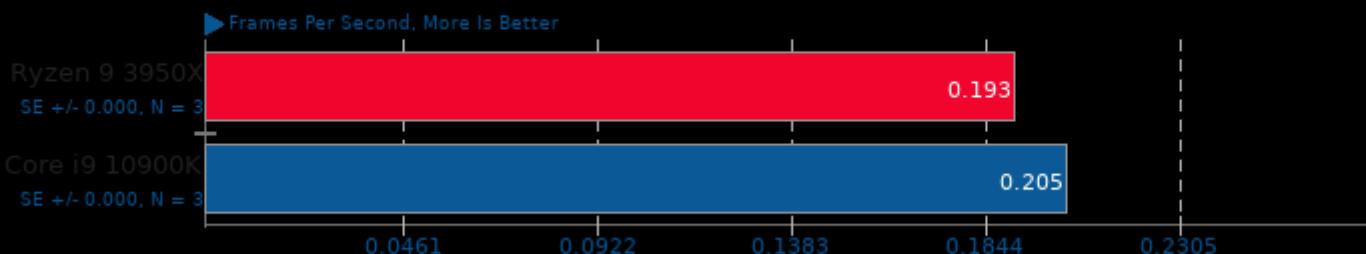
Test: 1000 Stack



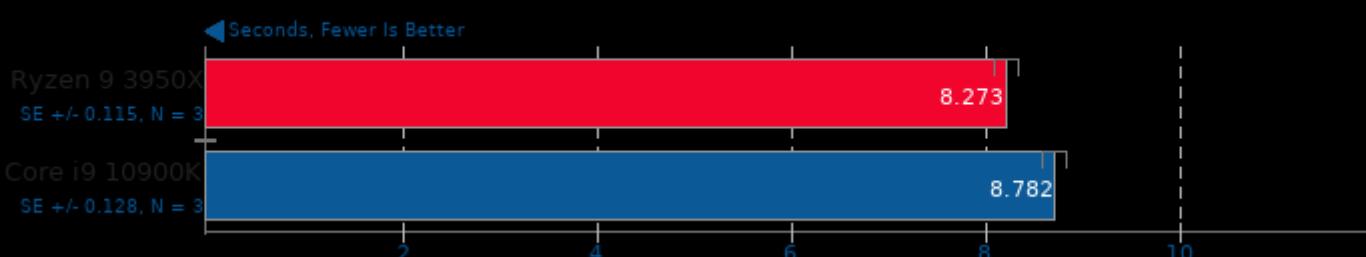
1. (CXX) g++ options: -O3 -rdynamic -lglut -IGL -IGLU

ravle 0.3.0

Speed: 1

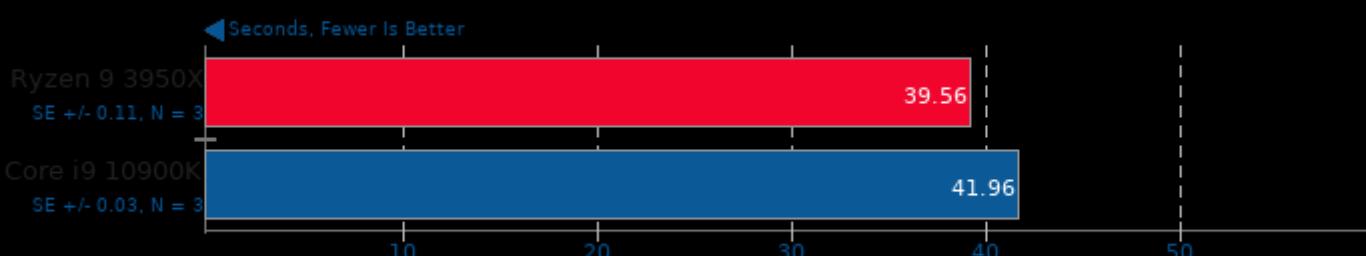


Scikit-Learn 0.22.1



Minion 1.8

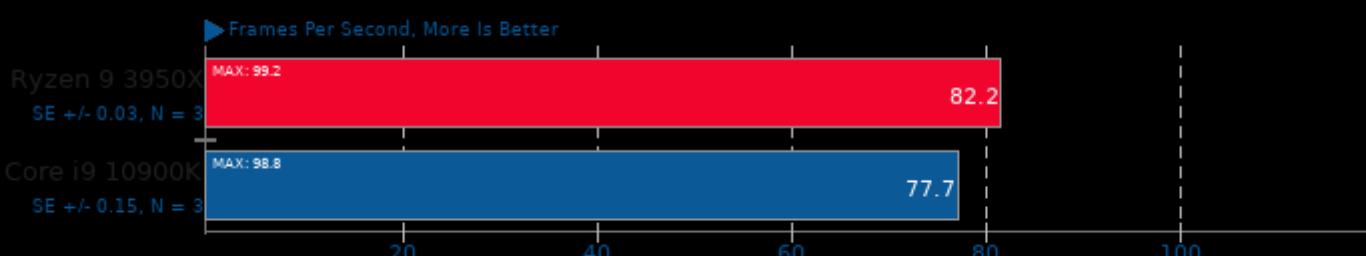
Benchmark: Graceful



1. (CXX) g++ options: -std=gnu++11 -O3 -fomit-frame-pointer -rdynamic

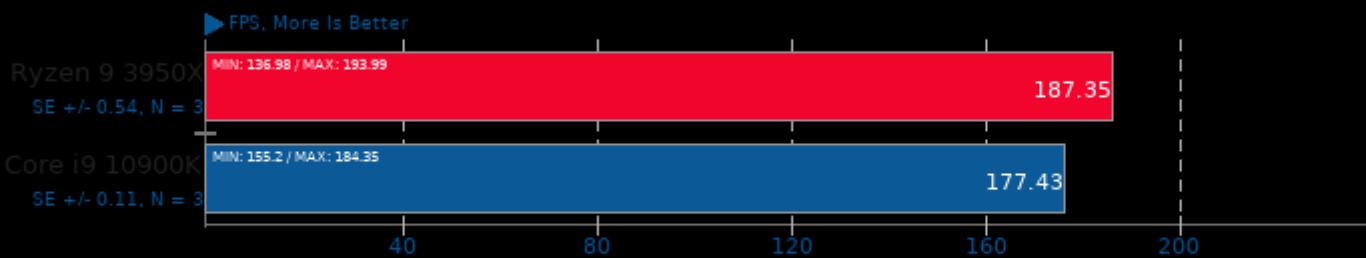
Unigine Superposition 1.0

Resolution: 1920 x 1080 - Mode: Windowed - Quality: High - Renderer: OpenGL



dav1d 0.6.0

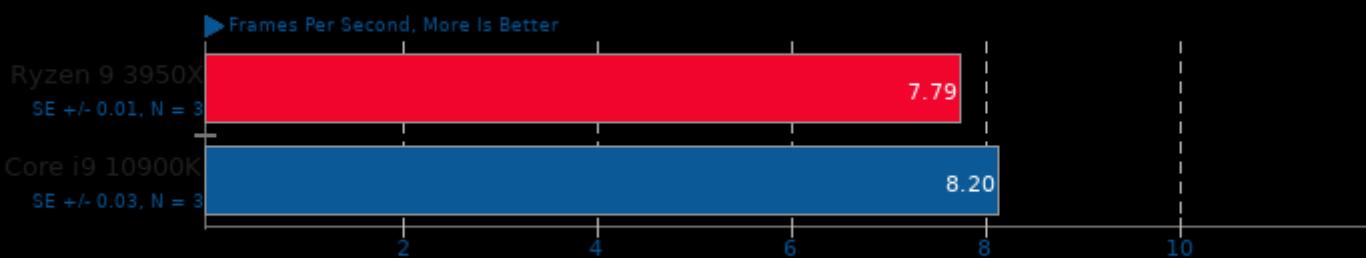
Video Input: Summer Nature 4K



1. (CC) gcc options: -pthread

VP9 libvpx Encoding 1.8.2

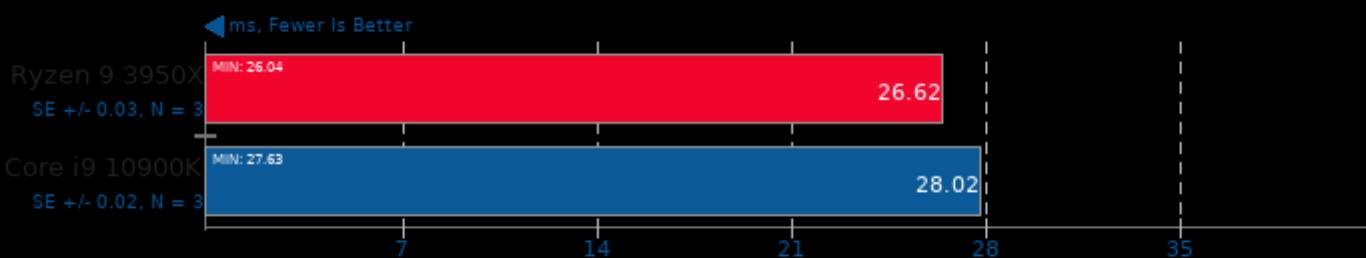
Speed: Speed 0



1. (CXX) g++ options: -m64 -lm -lpthread -O3 -fPIC -U_FORTIFY_SOURCE -std=c++11

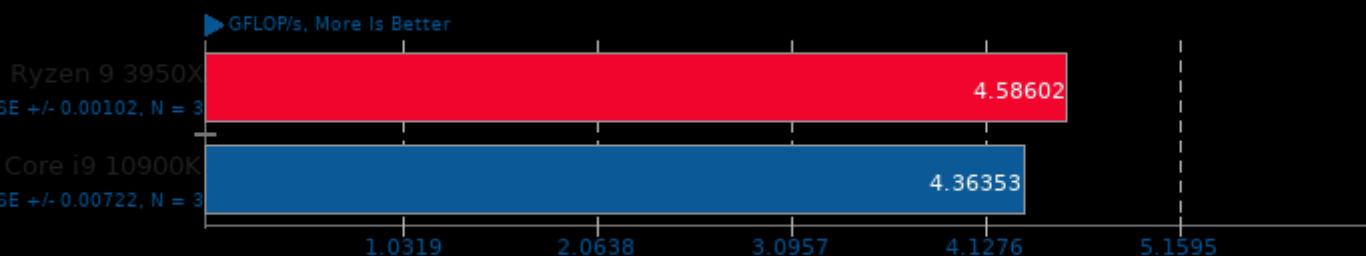
oneDNN MKL-DNN 1.3

Harness: Recurrent Neural Network Inference - Data Type: f32



1. (CXX) g++ options: -O3 -march=native -std=c++11 -msse4.1 -fPIC -fopenmp -pie -lpthread -ldl

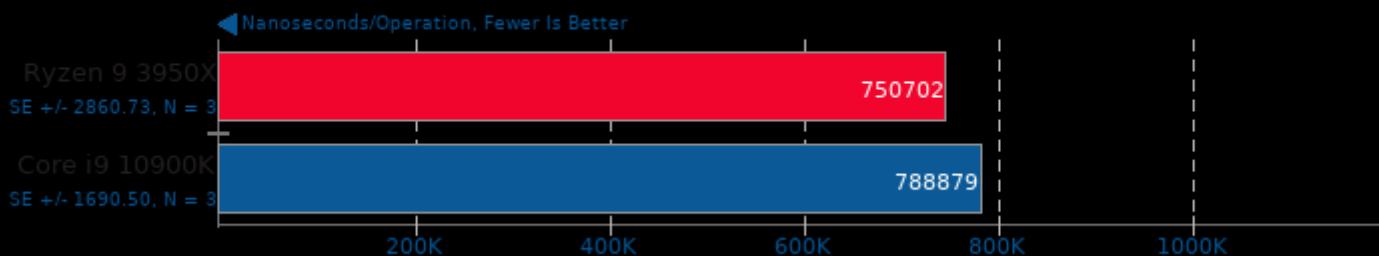
High Performance Conjugate Gradient 3.1



1. (CXX) g++ options: -O3 -ffast-math -fno-tree-vectorize -pthread -lmpi_cxx -lmpi

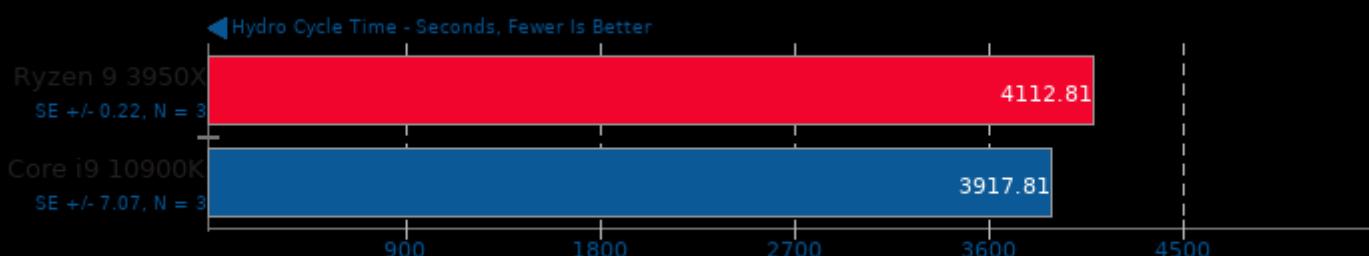
Go Benchmarks

Test: garbage



Pennant 1.0.1

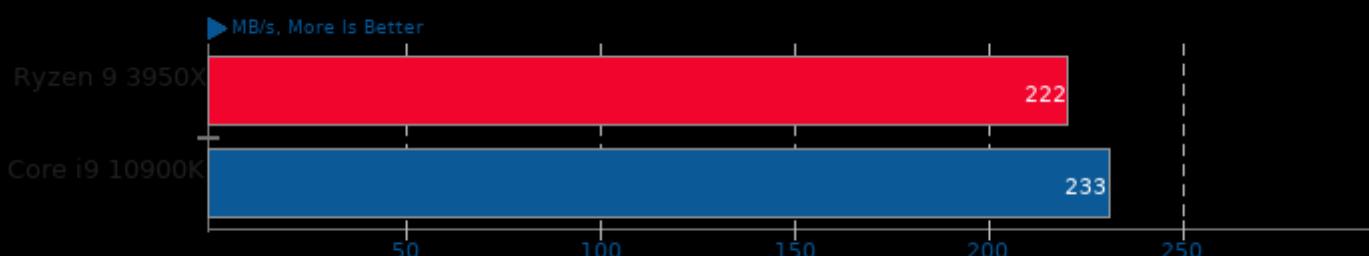
Test: leblancbig



1. (CXX) g++ options: -fopenmp -pthread -lmpi_cxx -lmpi

Izbench 1.8

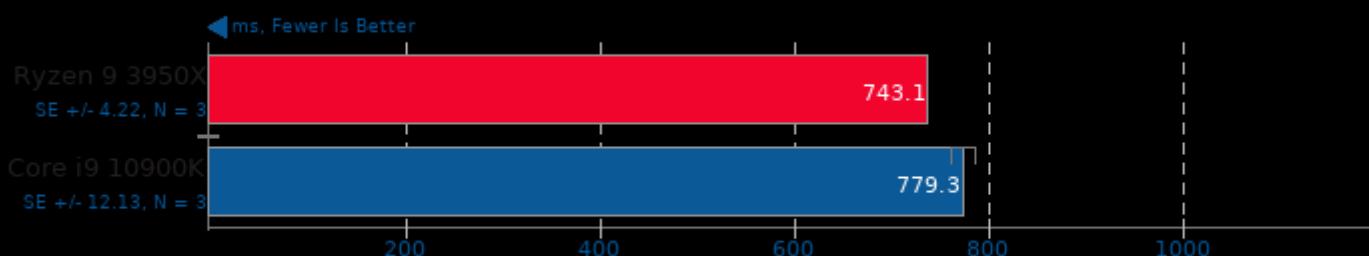
Test: Brotli 2 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

Selenium

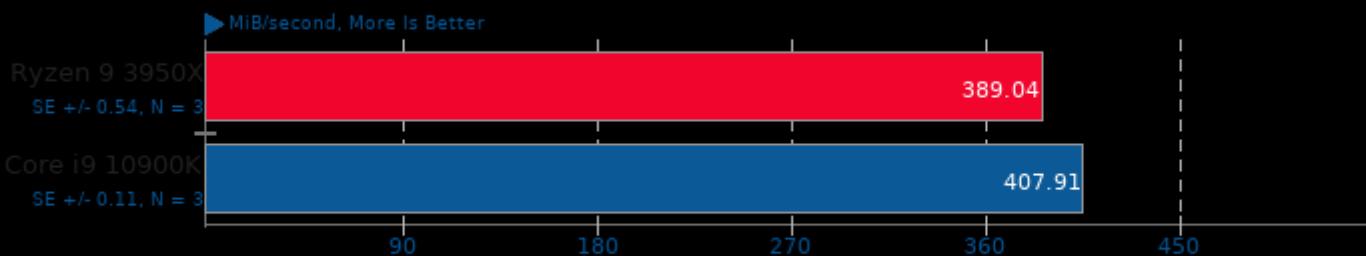
Benchmark: Kraken - Browser: Google Chrome



1. chrome 83.0.4103.61

Crypto++ 8.2

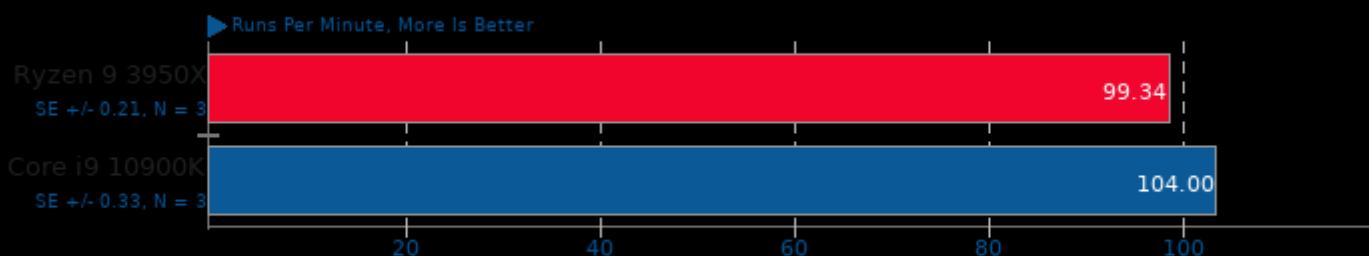
Test: Unkeyed Algorithms



1. (CXX) g++ options: -g2 -O3 -fPIC -pthread -pipe

Selenium

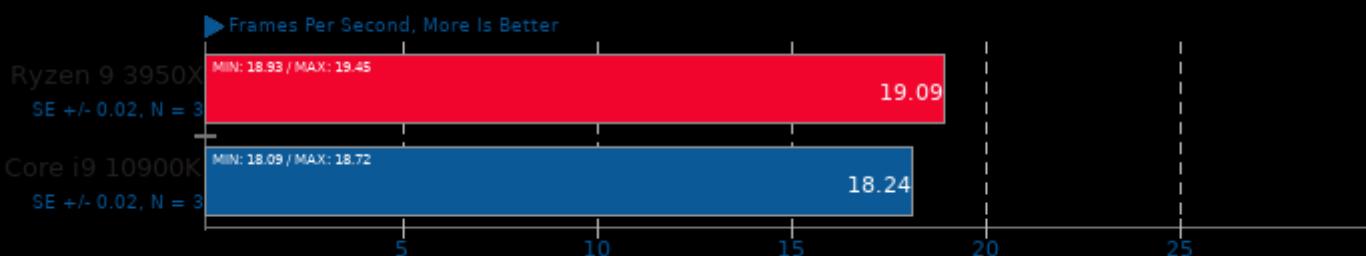
Benchmark: Speedometer - Browser: Firefox



1. firefox 76.0.1

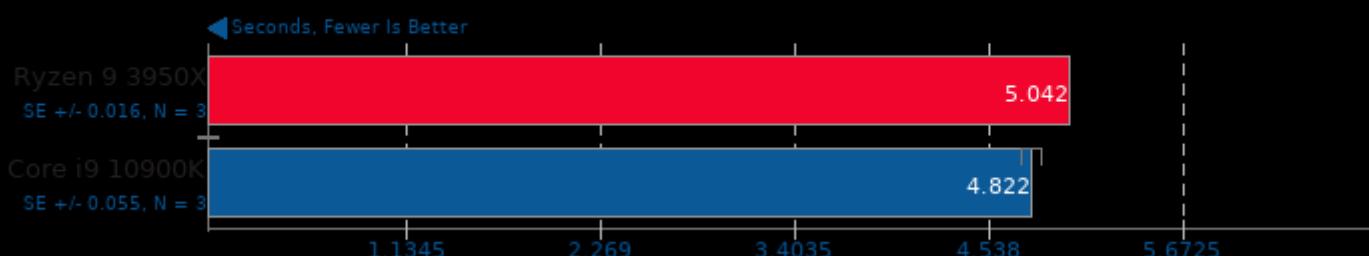
Embree 3.9.0

Binary: Pathtracer ISPC - Model: Asian Dragon Obj



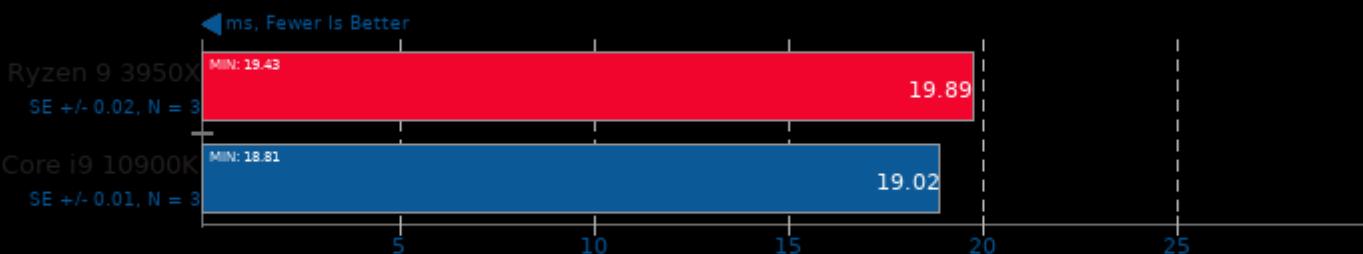
GEGL

Operation: Scale



oneDNN MKL-DNN 1.3

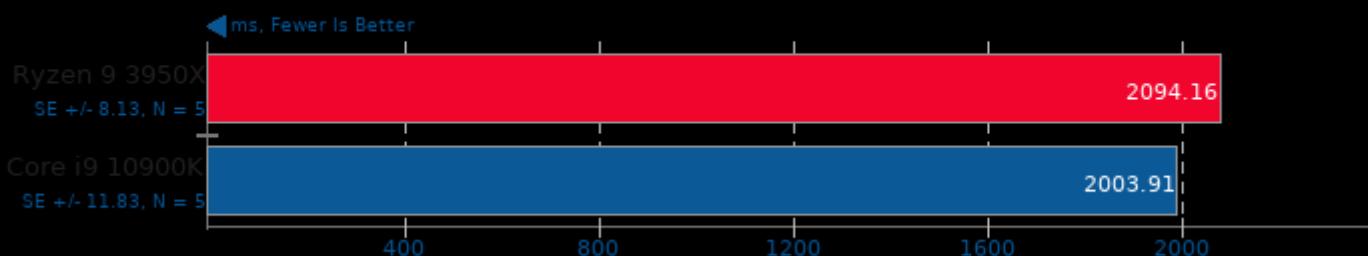
Harness: IP Batch All - Data Type: u8s8f32



1. (CXX) g++ options: -O3 -march=native -std=c++11 -msse4.1 -fPIC -fopenmp -pie -lpthread -ldl

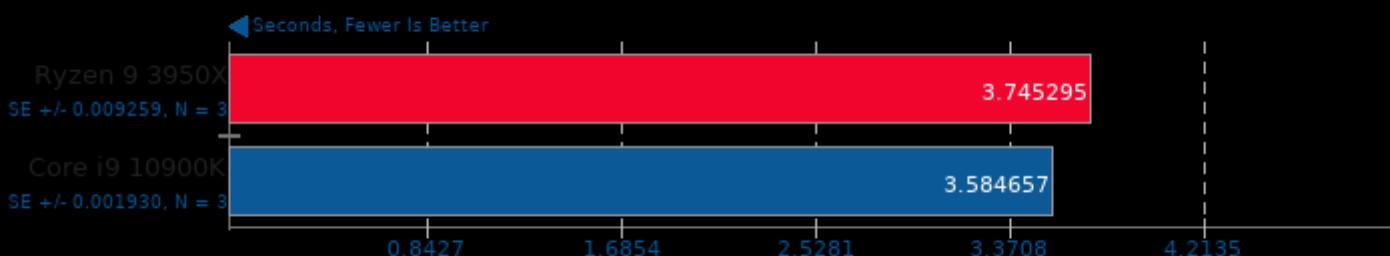
Renaissance 0.10.0

Test: Twitter HTTP Requests



Bullet Physics Engine 2.81

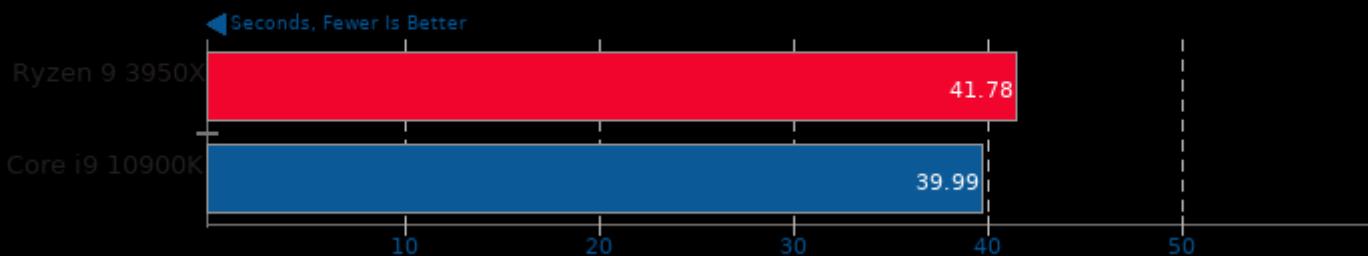
Test: 1000 Convex



1. (CXX) g++ options: -O3 -rdynamic -lglut -lGL -lGLU

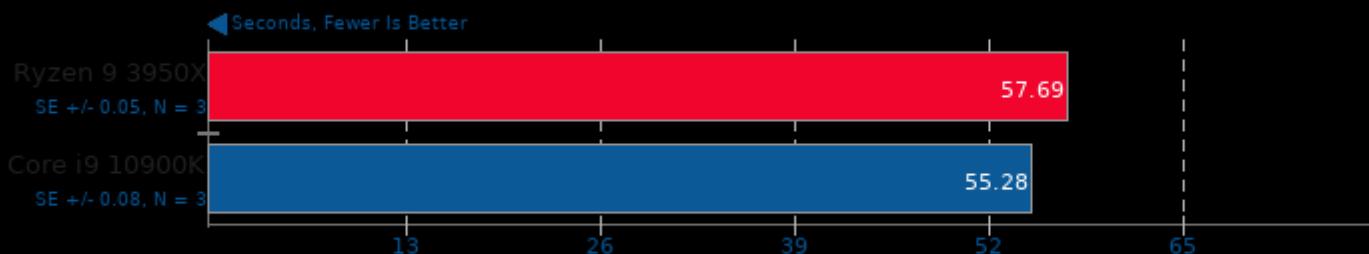
Polyhedron Fortran Benchmarks

Benchmark: gas_dyn2



Minion 1.8

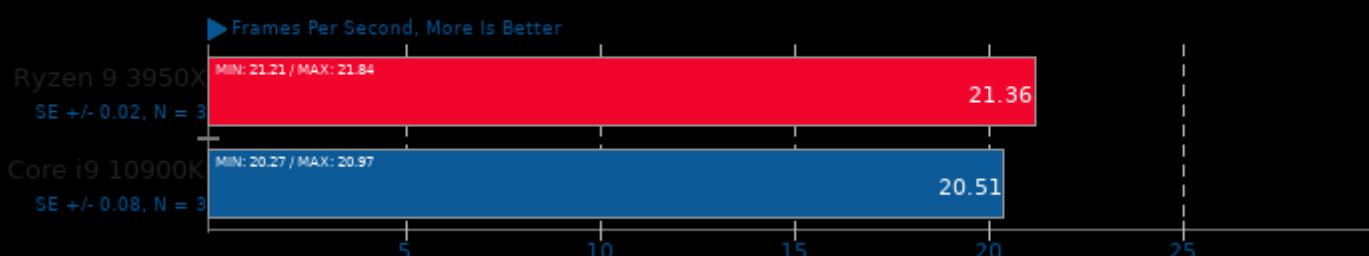
Benchmark: Solitaire



1. (CXX) g++ options: -std=gnu++11 -O3 -fomit-frame-pointer -rdynamic

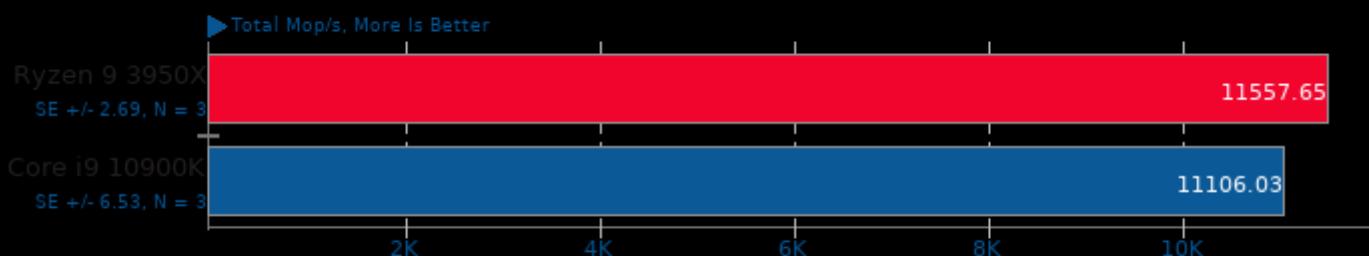
Embree 3.9.0

Binary: Pathtracer ISPC - Model: Asian Dragon



NAS Parallel Benchmarks 3.4

Test / Class: FT.C

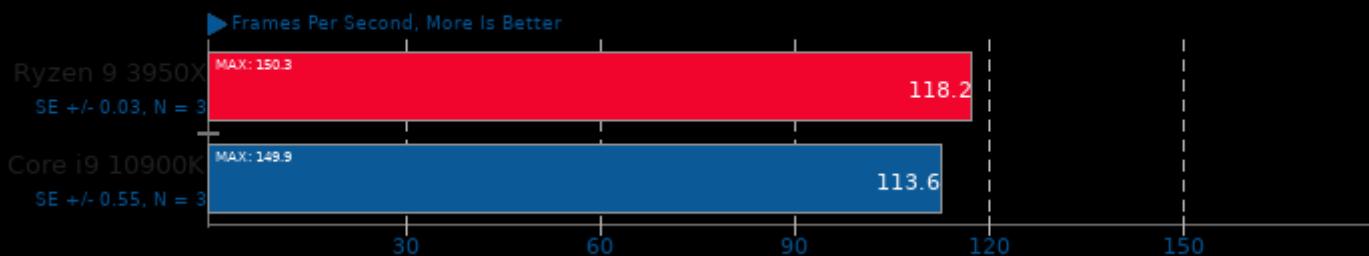


1. (F9X) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi

2. Open MPI 4.0.3

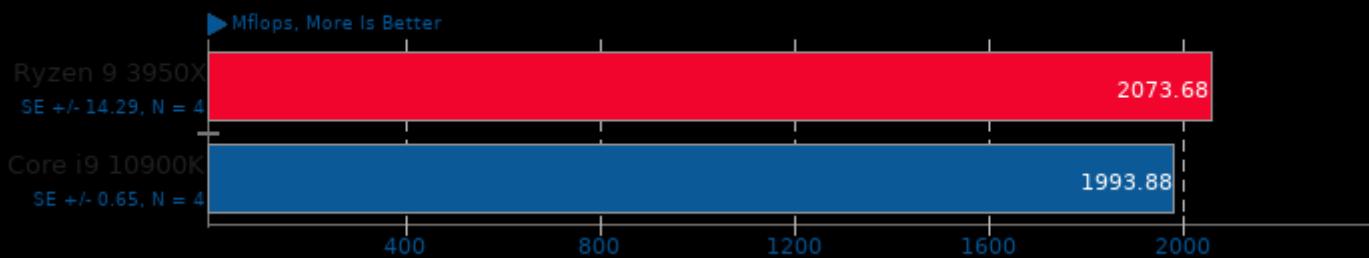
Unigine Superposition 1.0

Resolution: 1920 x 1080 - Mode: Windowed - Quality: Medium - Renderer: OpenGL



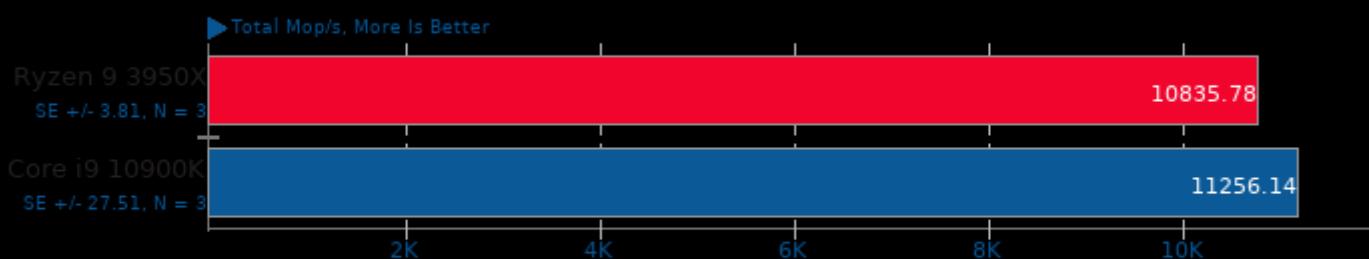
Java SciMark 2.0

Computational Test: Jacobi Successive Over-Relaxation



NAS Parallel Benchmarks 3.4

Test / Class: MG.C

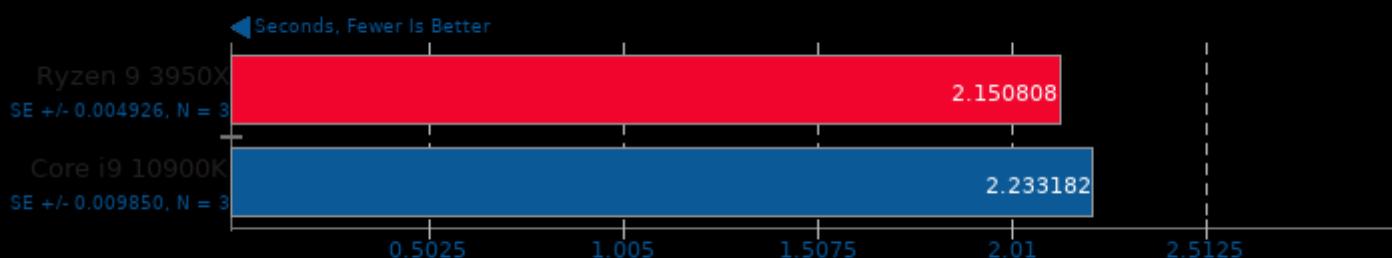


1. (F90) gfortran options: -O3 -march=native -pthread -lmpi_usempif08 -lmpi_mpifh -lmpi

2. Open MPI 4.0.3

Bullet Physics Engine 2.81

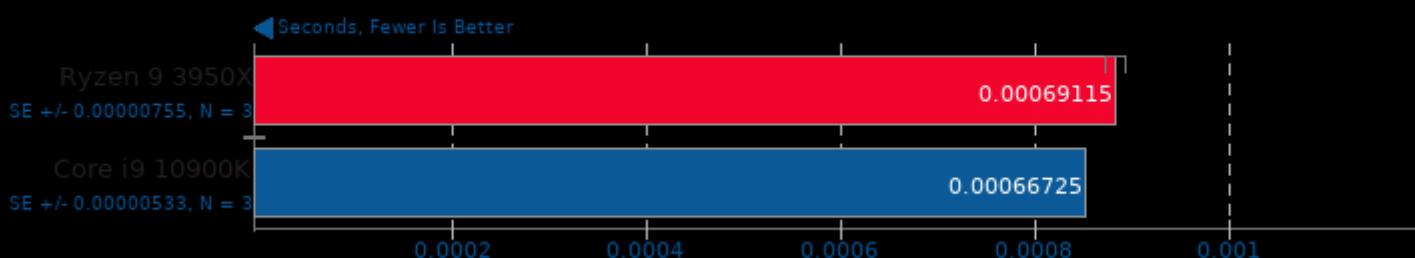
Test: 136 Ragdolls



1. (CXX) g++ options: -O3 -rdynamic -lglut -IGL -IGLU

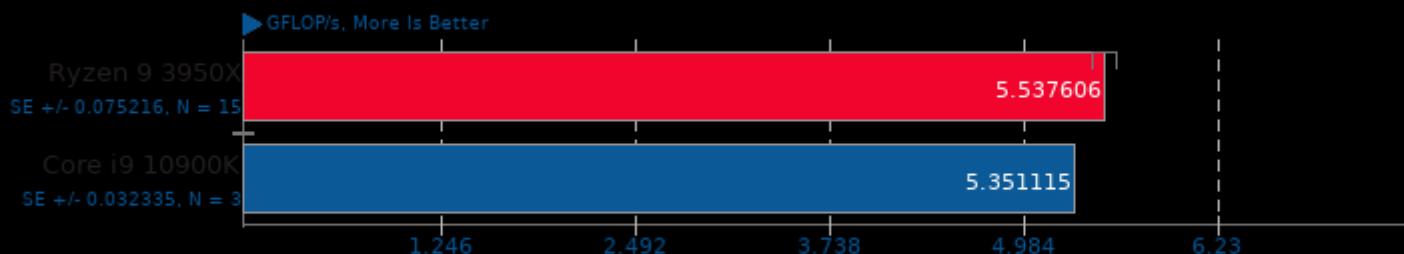
Perl Benchmarks

Test: Interpreter



ACES DGEMM 1.0

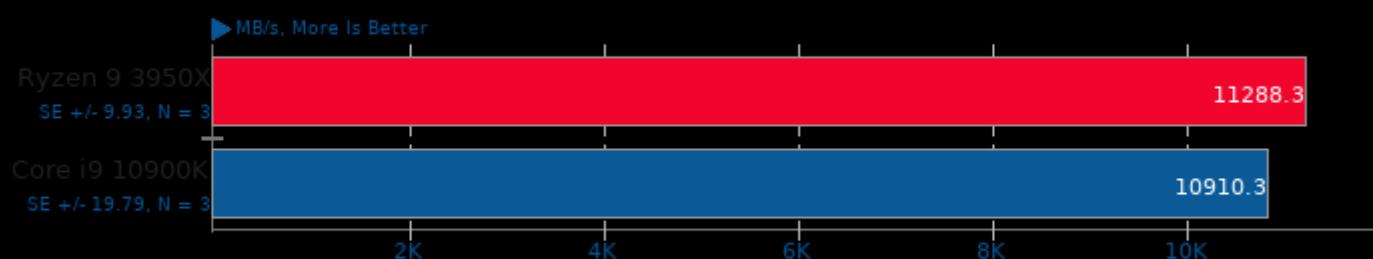
Sustained Floating-Point Rate



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

C-Blosc 2.0 Beta 5

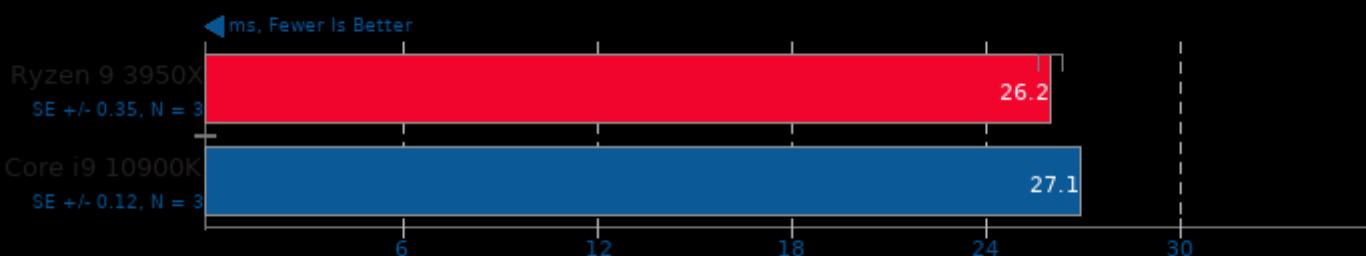
Compressor: blosclz



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

Selenium

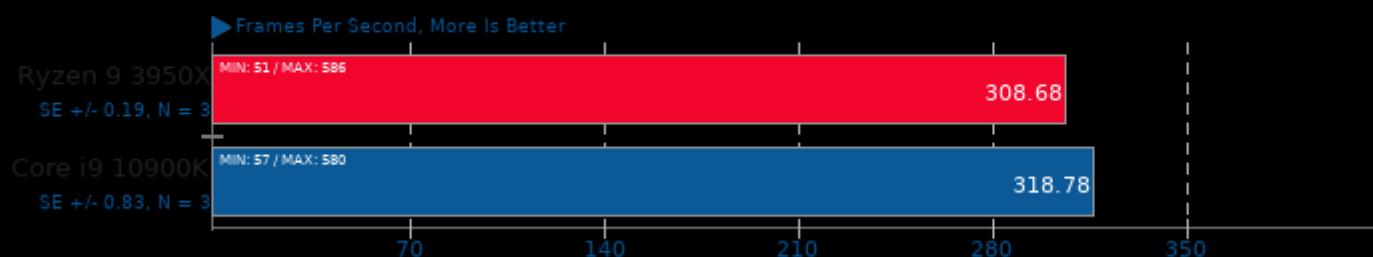
Benchmark: WASM imageConvolute - Browser: Firefox



1. firefox 76.0.1

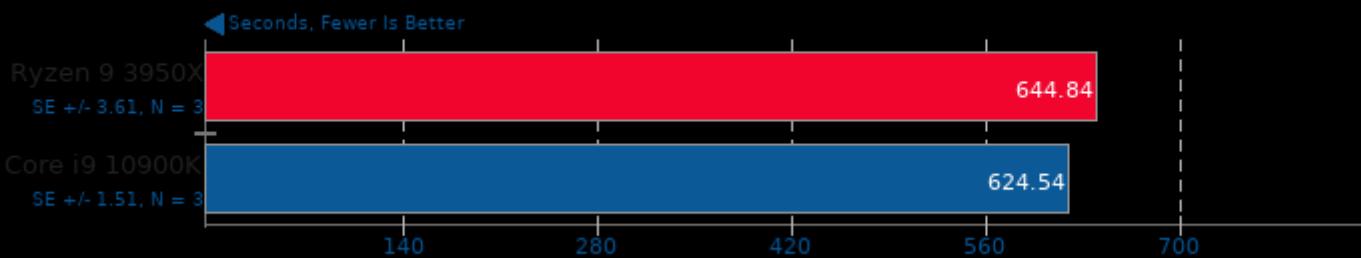
Xonotic 0.8.2

Resolution: 3840 x 2160 - Effects Quality: Ultimate



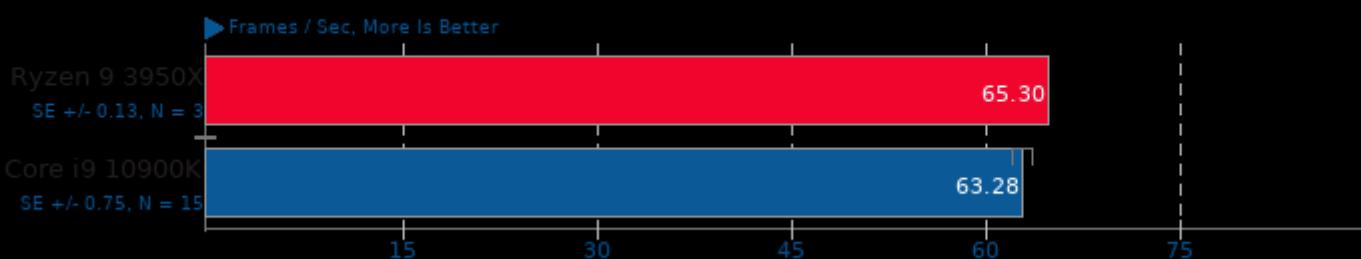
Numenta Anomaly Benchmark 1.1

Detector: EXPoSE



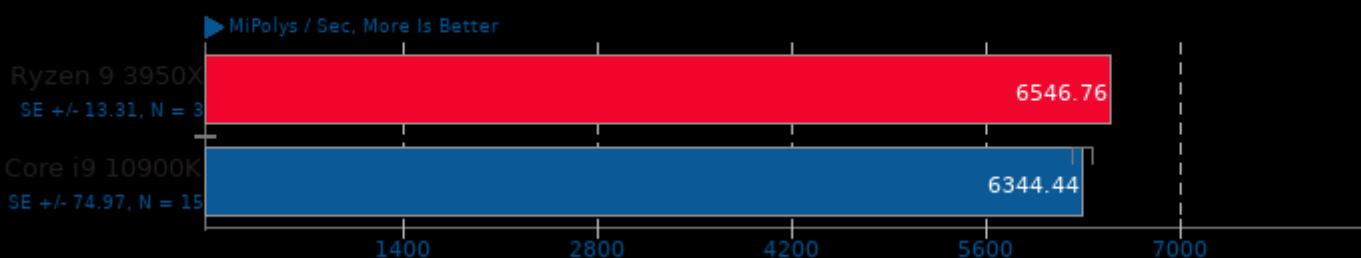
ParaView 5.4.1

Test: Many Spheres - Resolution: 3840 x 2160



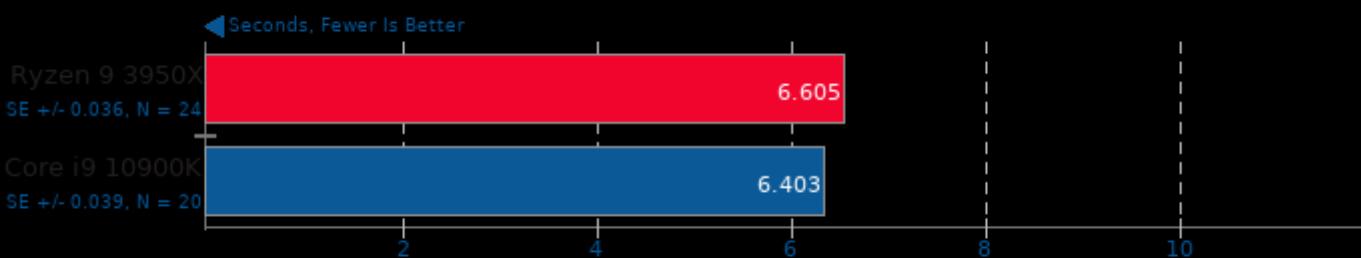
ParaView 5.4.1

Test: Many Spheres - Resolution: 3840 x 2160



LibreOffice

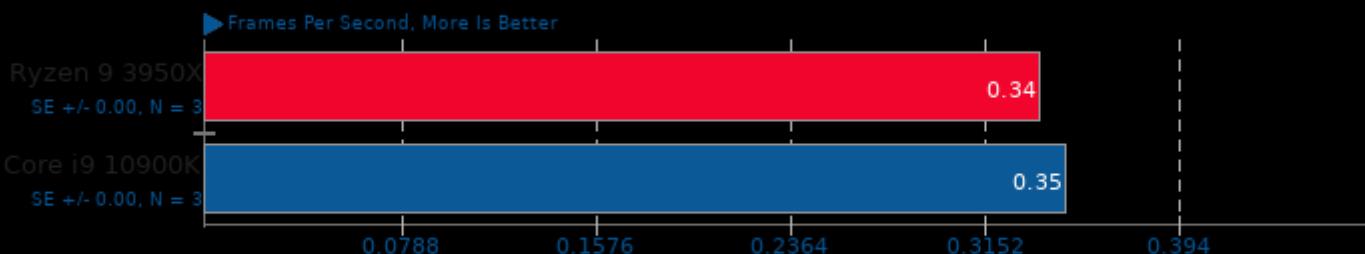
Test: 20 Documents To PDF



1. LibreOffice 6.4.3.2 40(Build:2)

AOM AV1 2.0

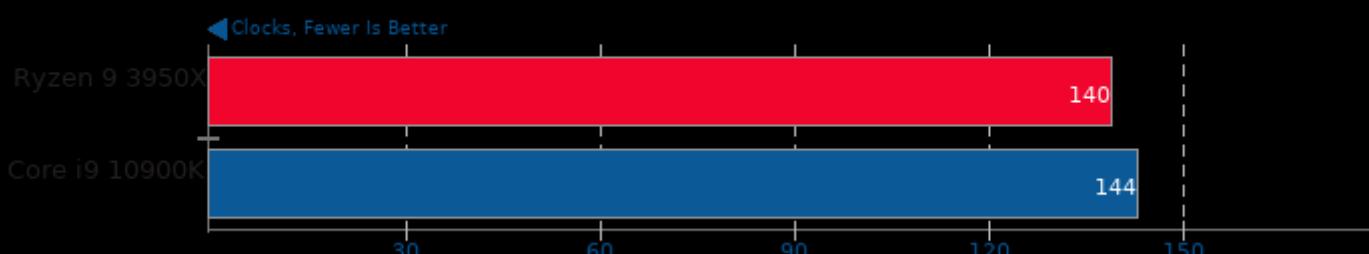
Encoder Mode: Speed 0 Two-Pass



1. (CXX) g++ options: -O3 -std=c++11 -U_FORTIFY_SOURCE -lm -lpthread

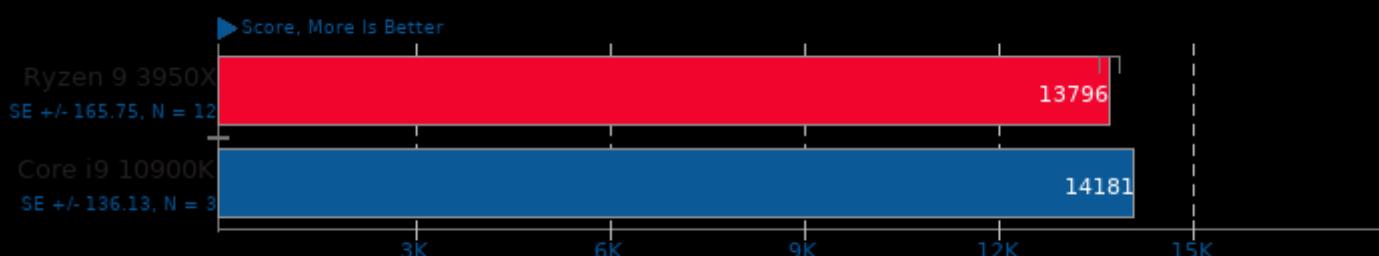
ctx_clock

Context Switch Time



Selenium

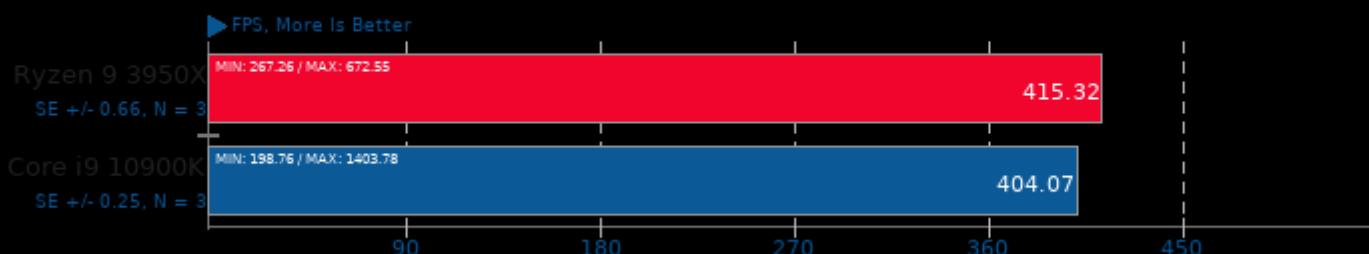
Benchmark: CanvasMark - Browser: Firefox



1. firefox 76.0.1

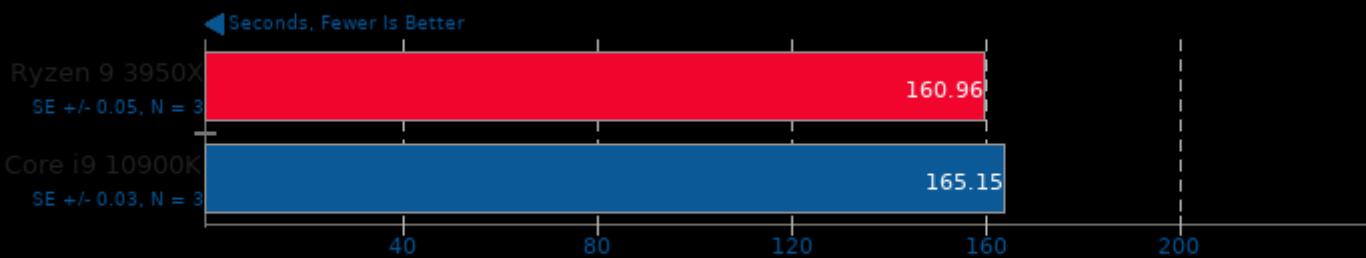
Basemark GPU 1.2

Renderer: Vulkan - Resolution: 3840 x 2160 - Graphics Preset: Medium



Parboil 2.5

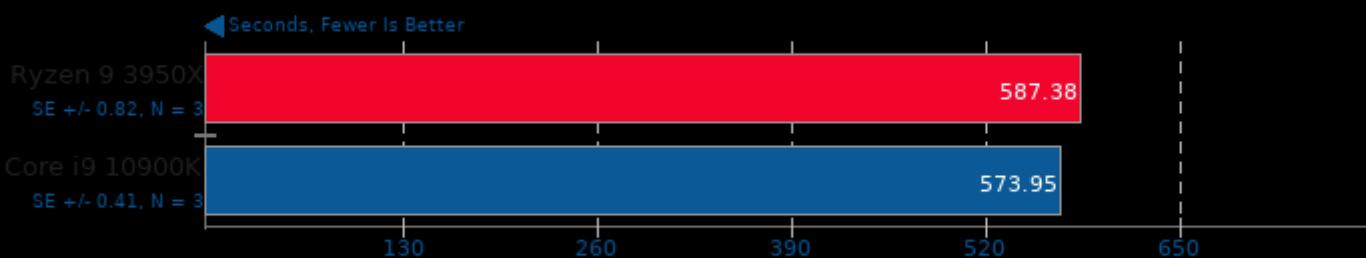
Test: OpenMP LBM



1. (CXX) g++ options: -lm -lpthread -lgomp -O3 -ffast-math -fopenmp

Basis Universal 1.12

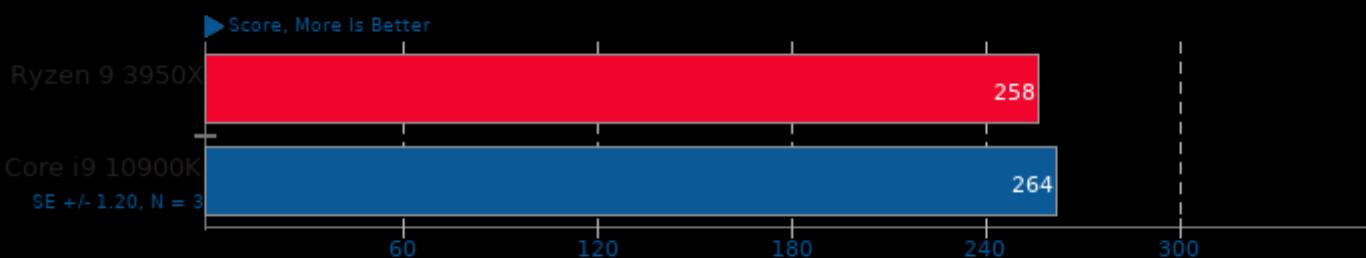
Settings: UASTC Level 2 + RDO Post-Processing



1. (CXX) g++ options: -std=c++11 -fvisibility=hidden -fPIC -fno-strict-aliasing -O3 -rdynamic -lm -lpthread

Selenium

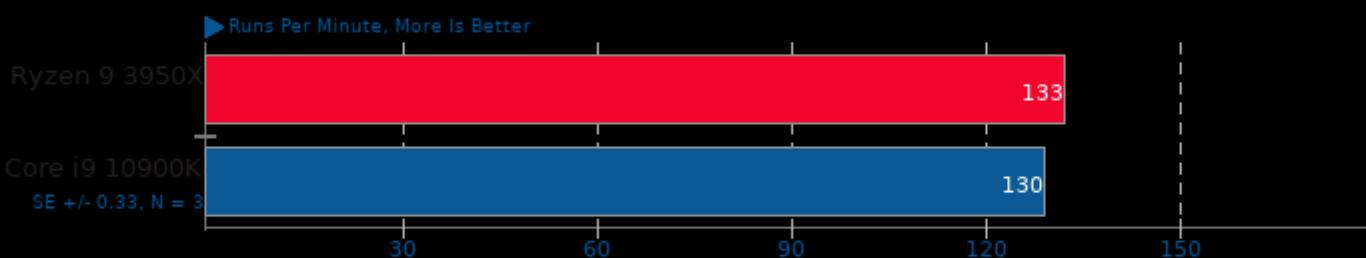
Benchmark: WebXPRT - Browser: Google Chrome



1. chrome 83.0.4103.61

Selenium

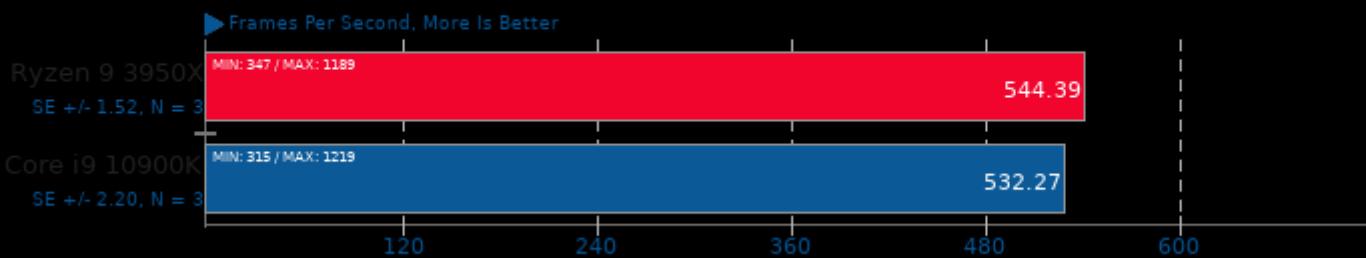
Benchmark: Speedometer - Browser: Google Chrome



1. chrome 83.0.4103.61

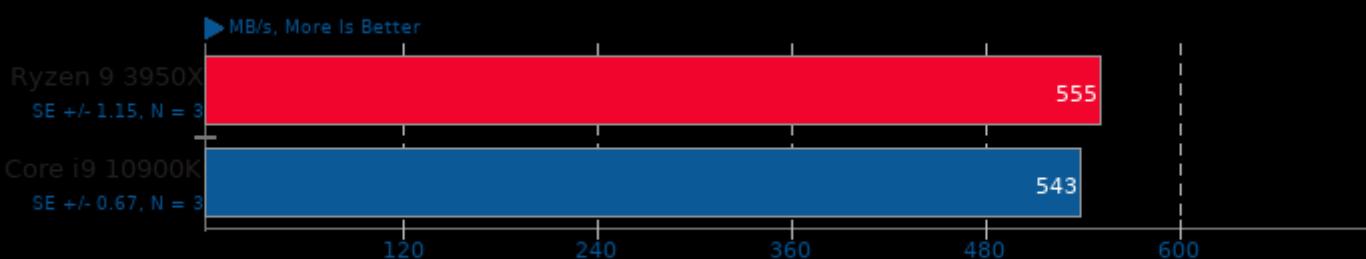
Xonotic 0.8.2

Resolution: 3840 x 2160 - Effects Quality: Low



Izbench 1.8

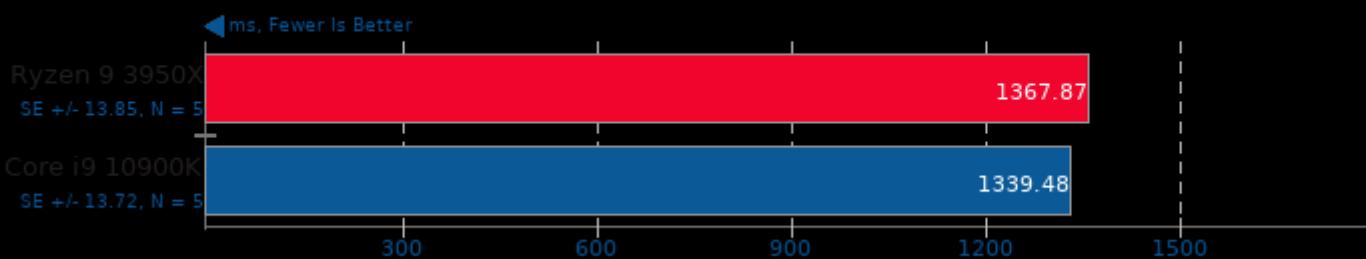
Test: Brotli 0 - Process: Compression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

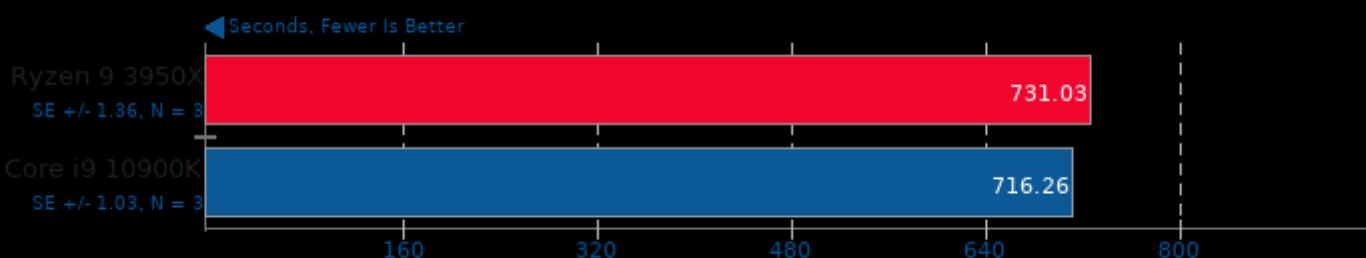
Renaissance 0.10.0

Test: Scala Dotty



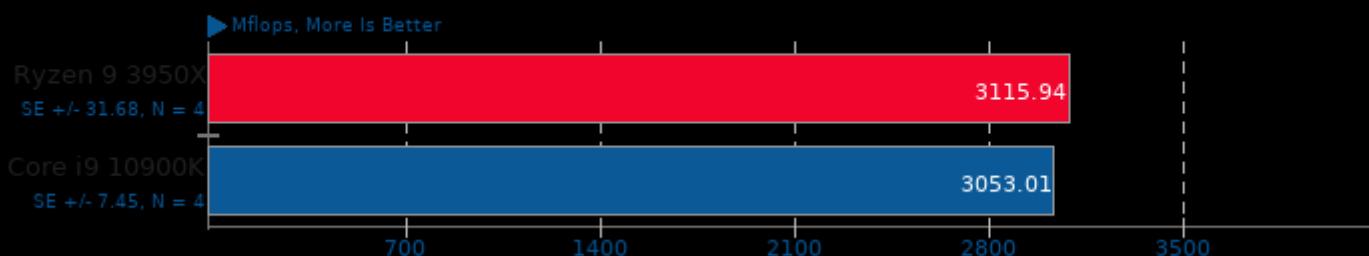
Timed GCC Compilation 9.3.0

Time To Compile



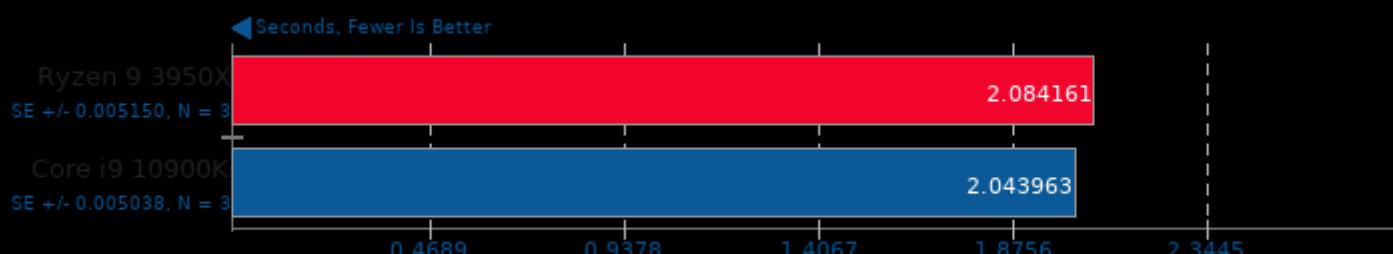
Java SciMark 2.0

Computational Test: Composite



Bullet Physics Engine 2.81

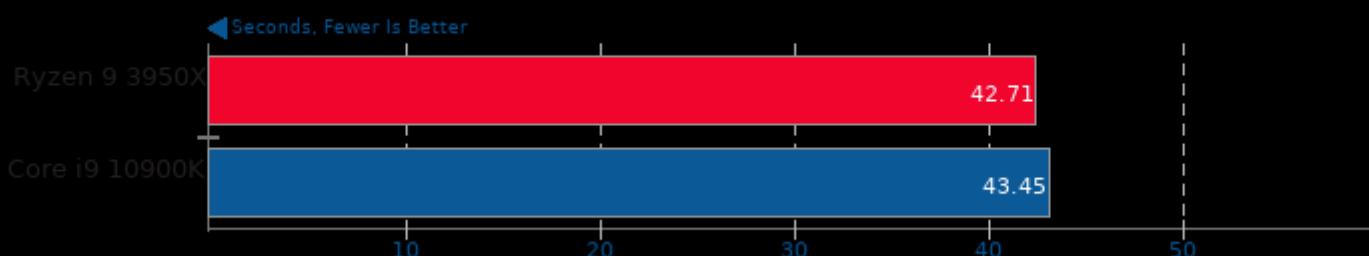
Test: Raytests



1. (CXX) g++ options: -O3 -rdynamic -lglut -lGL -lGLU

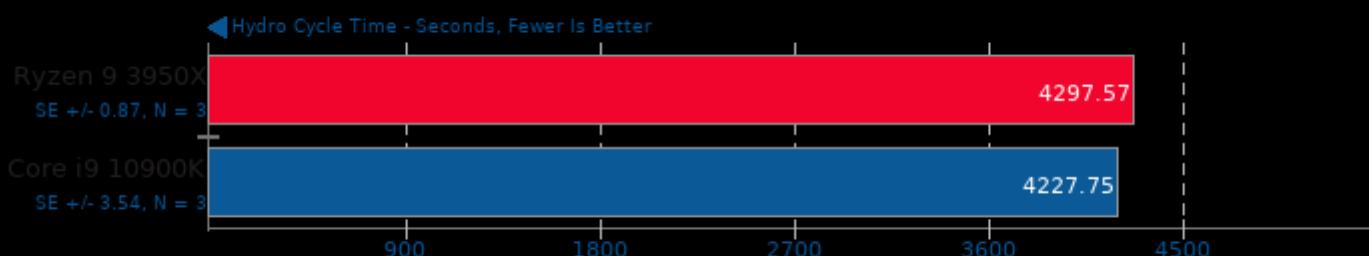
Polyhedron Fortran Benchmarks

Benchmark: channel2



Pennant 1.0.1

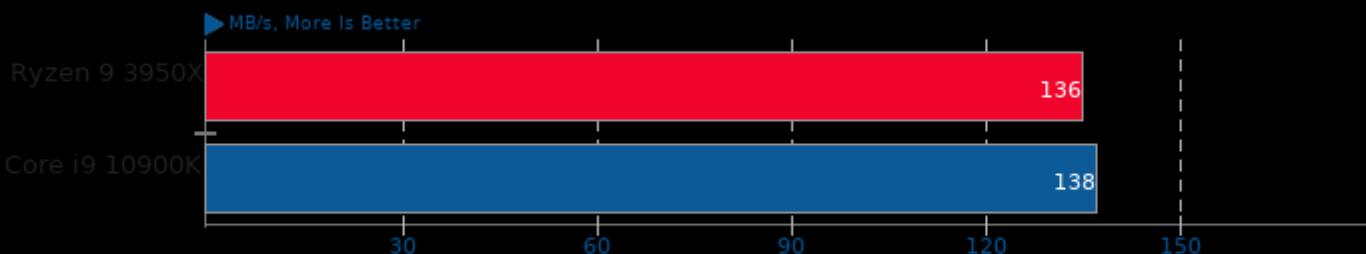
Test: sedovbig



1. (CXX) g++ options: -fopenmp -pthread -lmpi_cxx -lmpi

Izbench 1.8

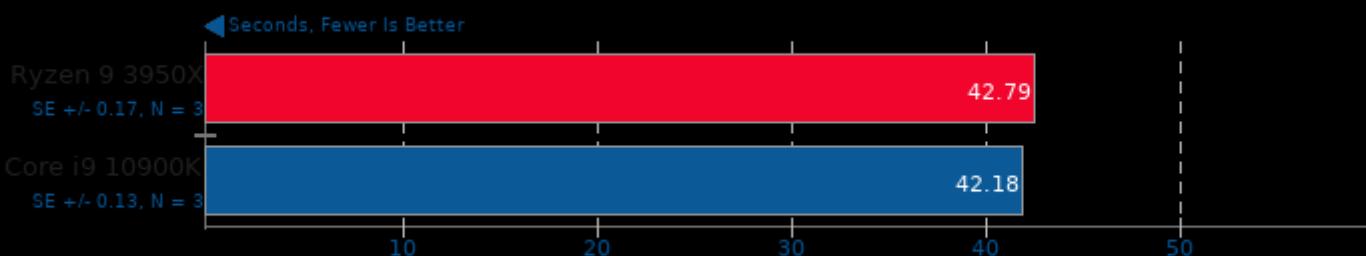
Test: XZ 0 - Process: Decompression



1. (CXX) g++ options: -pthread -fomit-frame-pointer -fstrict-aliasing -ffast-math -O3

Basis Universal 1.12

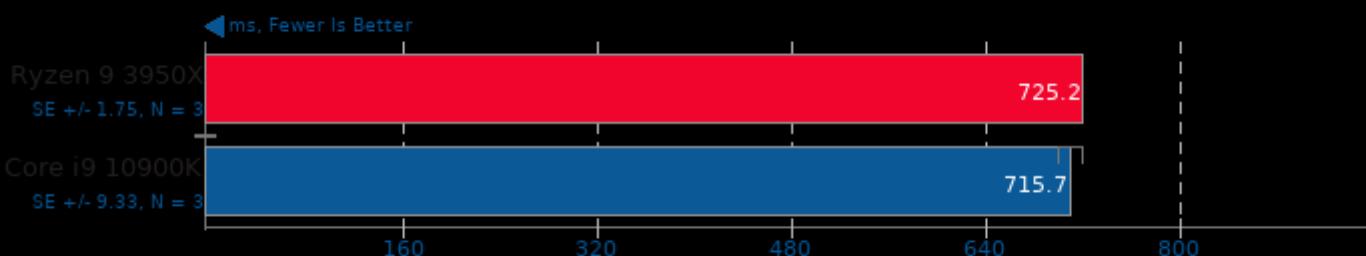
Settings: ETC1S



1. (CXX) g++ options: -std=c++11 -fvisibility=hidden -fPIC -fno-strict-aliasing -O3 -rdynamic -lm -lpthread

Selenium

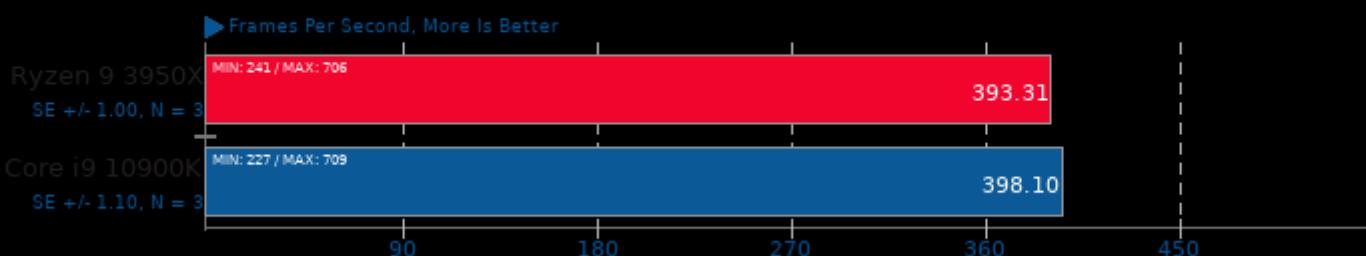
Benchmark: Kraken - Browser: Firefox



1. firefox 76.0.1

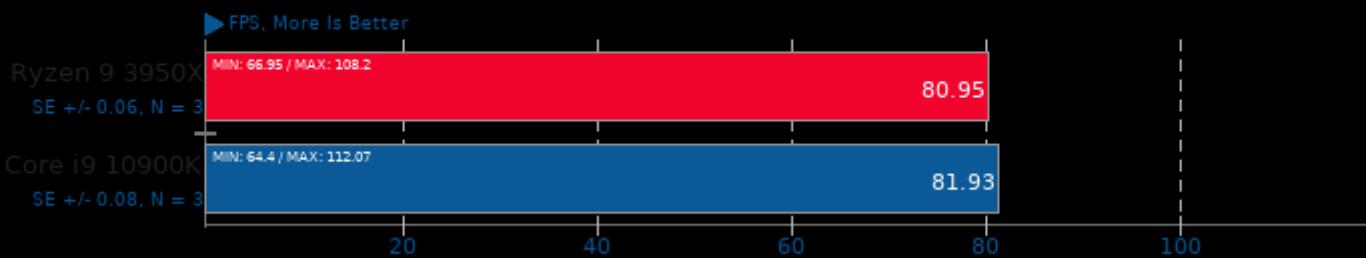
Xonotic 0.8.2

Resolution: 3840 x 2160 - Effects Quality: Ultra



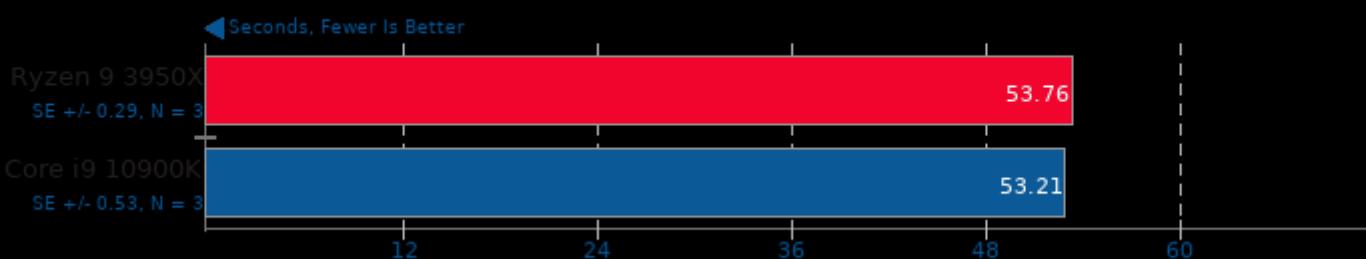
Basemark GPU 1.2

Renderer: Vulkan - Resolution: 3840 x 2160 - Graphics Preset: High



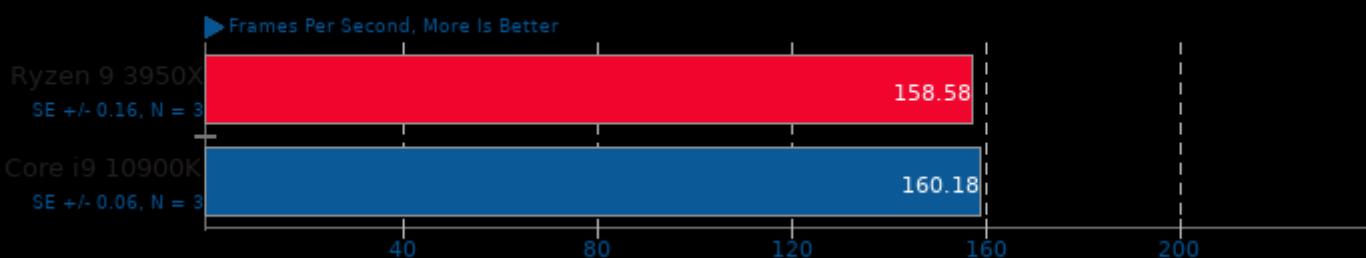
Milpack Benchmark

Benchmark: scikit_ica



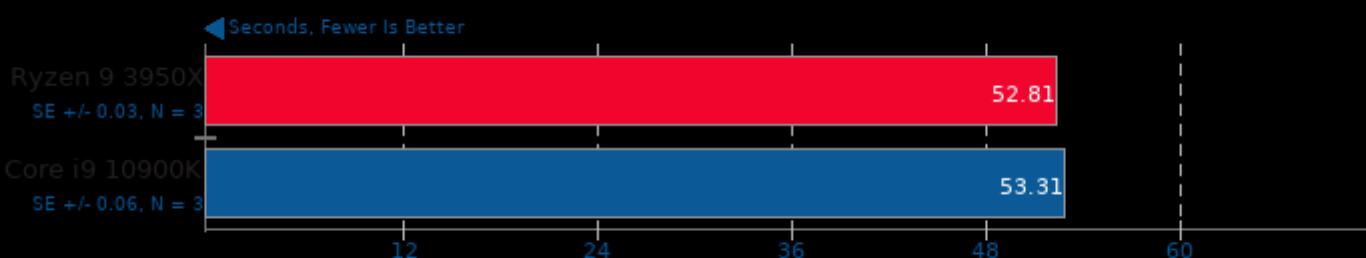
Unigine Heaven 4.0

Resolution: 1920 x 1080 - Mode: Windowed - Renderer: OpenGL



RawTherapee

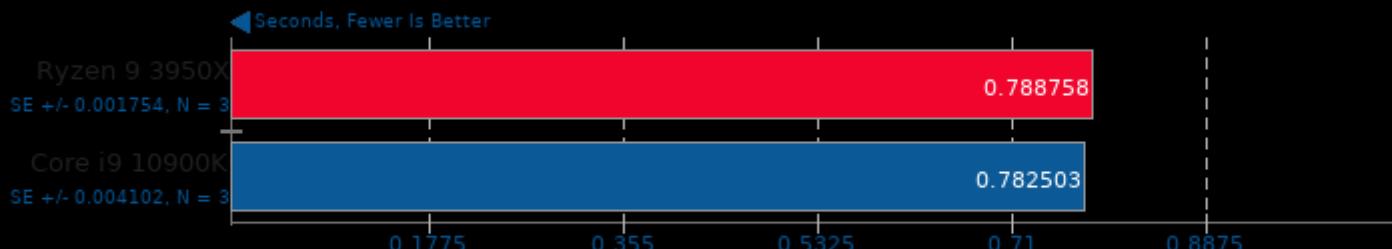
Total Benchmark Time



1. RawTherapee, version 5.8, command line.

Bullet Physics Engine 2.81

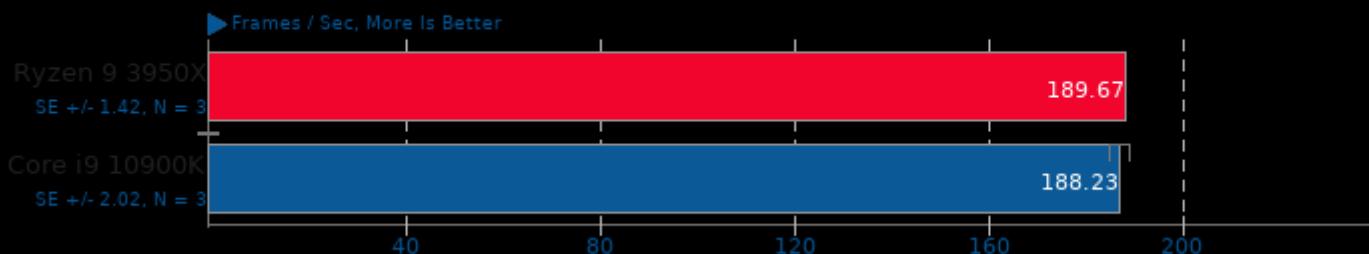
Test: Prim Trimesh



1. (CXX) g++ options: -O3 -rdynamic -lglut -IGL -IGLU

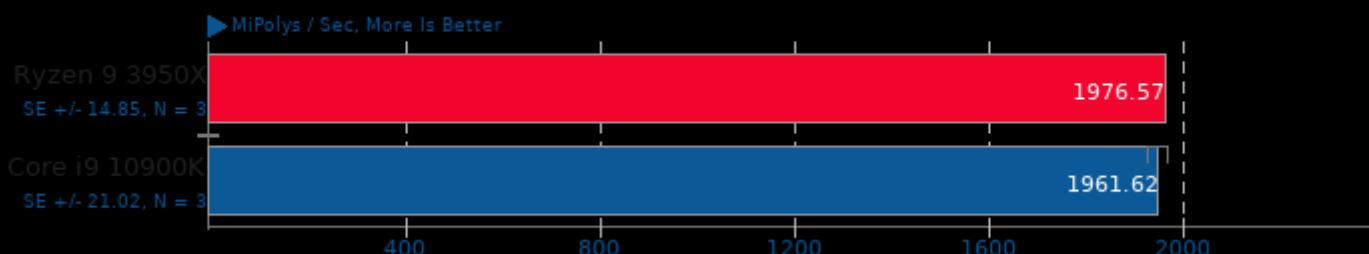
ParaView 5.4.1

Test: Wavelet Contour - Resolution: 3840 x 2160



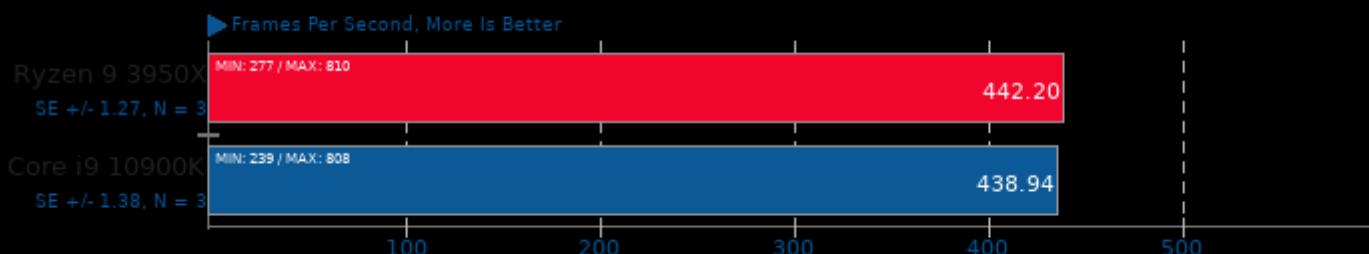
ParaView 5.4.1

Test: Wavelet Contour - Resolution: 3840 x 2160



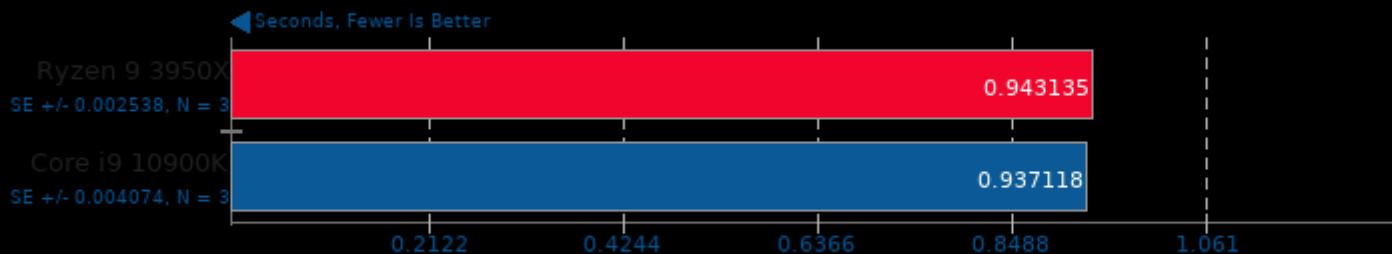
Xonotic 0.8.2

Resolution: 3840 x 2160 - Effects Quality: High



Bullet Physics Engine 2.81

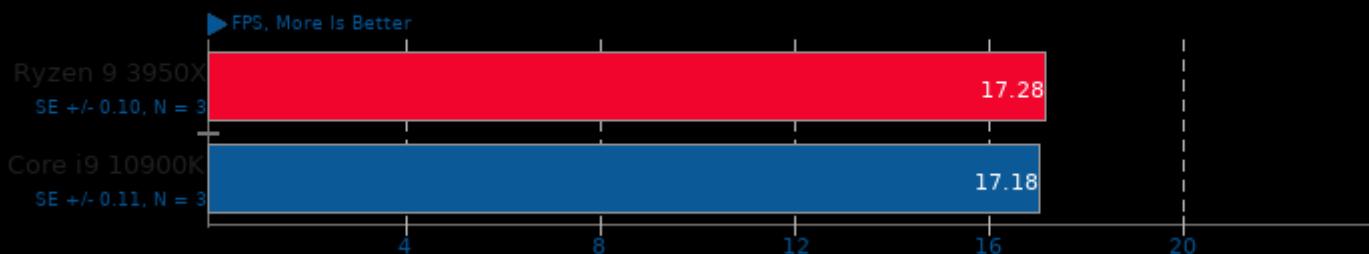
Test: Convex Trimesh



1. (CXX) g++ options: -O3 -rdynamic -lglut -lGL -lGLU

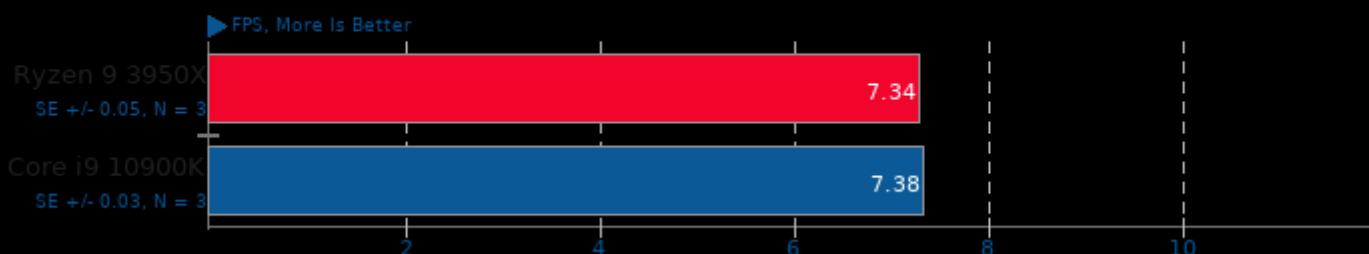
PlaidML

FP16: No - Mode: Inference - Network: Mobilenet - Device: CPU



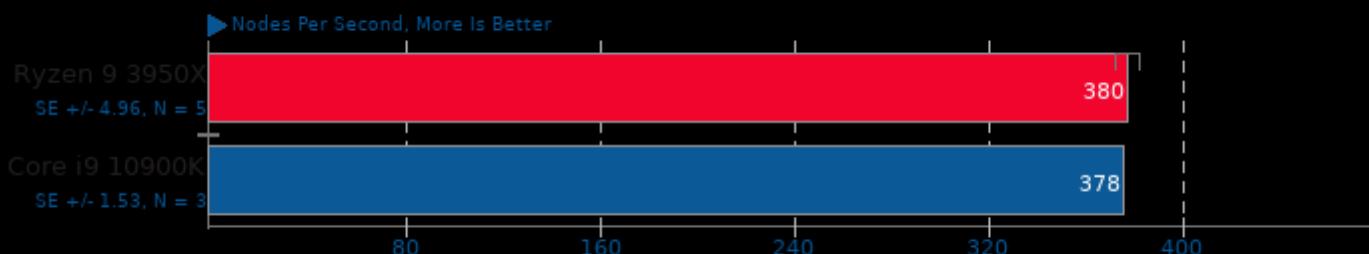
PlaidML

FP16: No - Mode: Inference - Network: ResNet 50 - Device: CPU



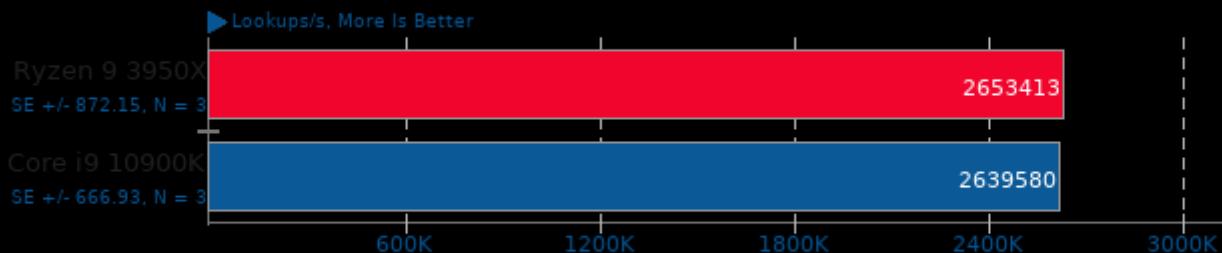
LeelaChessZero 0.25

Backend: BLAS



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

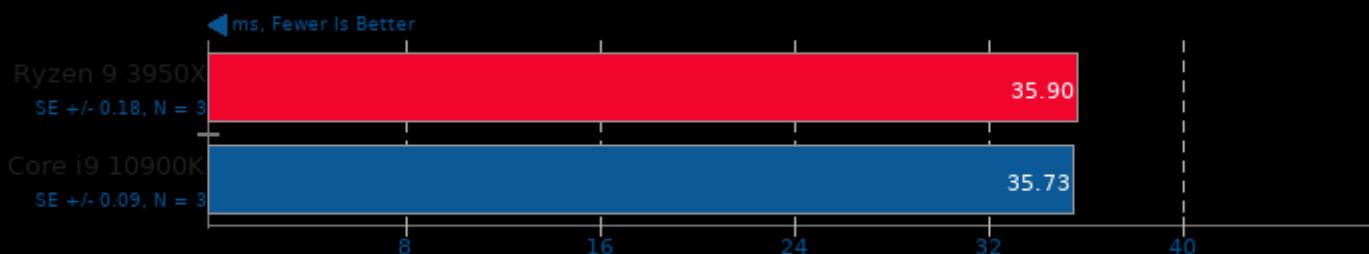
Xsbench 2017-07-06



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

Selenium

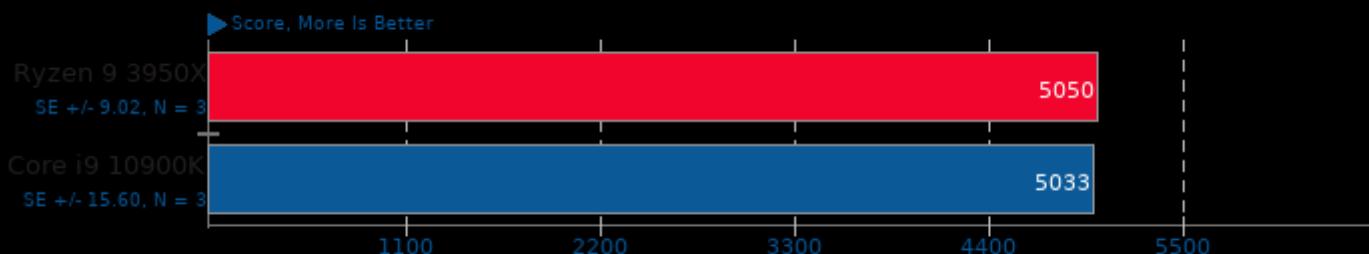
Benchmark: WASM imageConvolute - Browser: Google Chrome



1. chrome 83.0.4103.61

Selenium

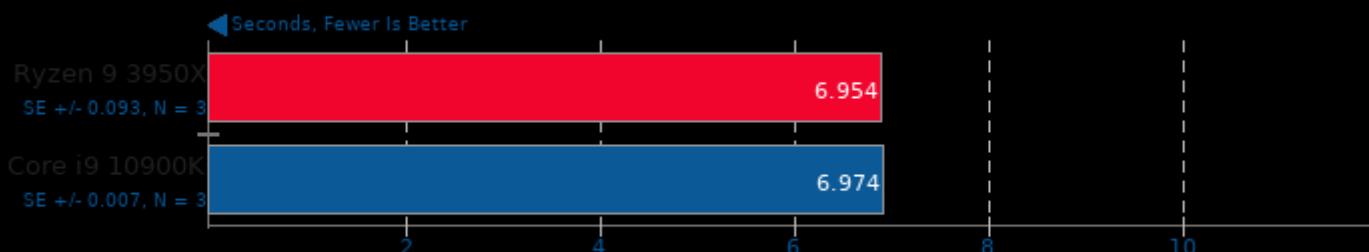
Benchmark: CanvasMark - Browser: Google Chrome



1. chrome 83.0.4103.61

LAME MP3 Encoding 3.100

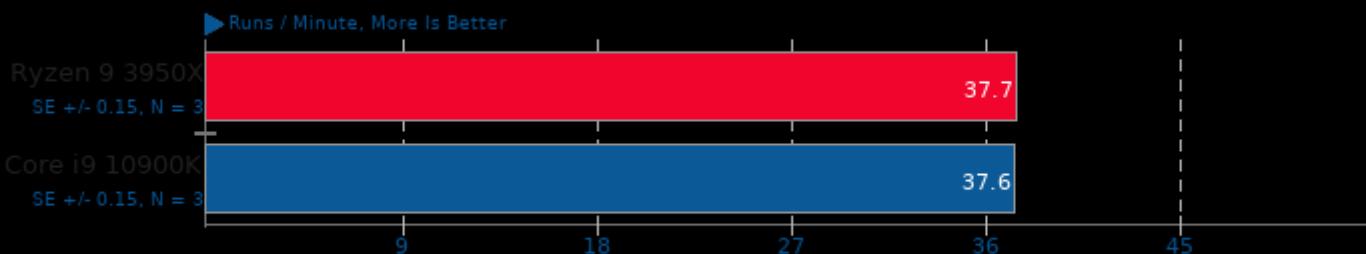
WAV To MP3



1. (CC) gcc options: -O3 -ffast-math -funroll-loops -fschedule-insns2 -fbranch-count-reg -fforce-addr -pipe -lncurses -lm

Selenium

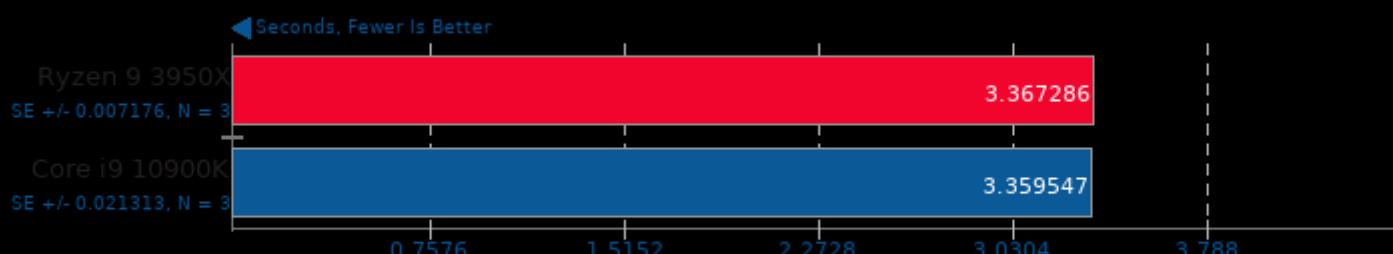
Benchmark: StyleBench - Browser: Google Chrome



1. chrome 83.0.4103.61

Bullet Physics Engine 2.81

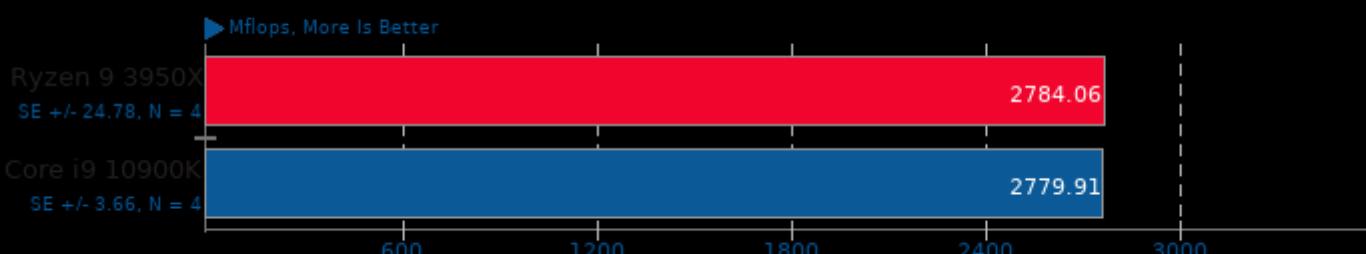
Test: 3000 Fall



1. (CXX) g++ options: -O3 -rdynamic -lglut -IGL -IGLU

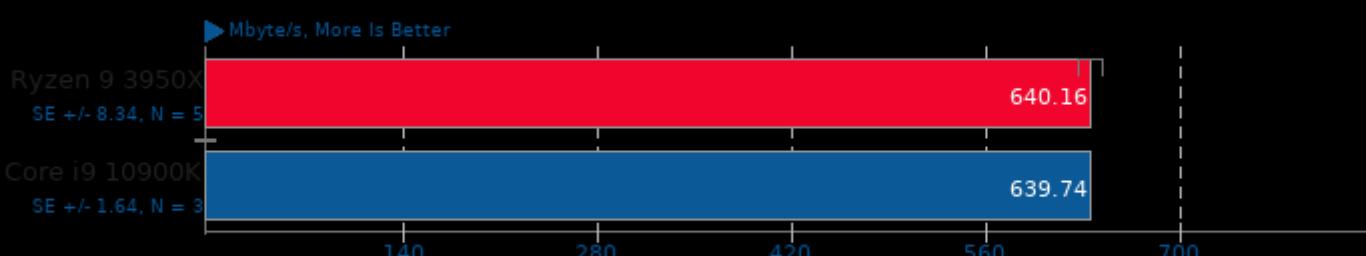
Java SciMark 2.0

Computational Test: Sparse Matrix Multiply



Nettle 3.5.1

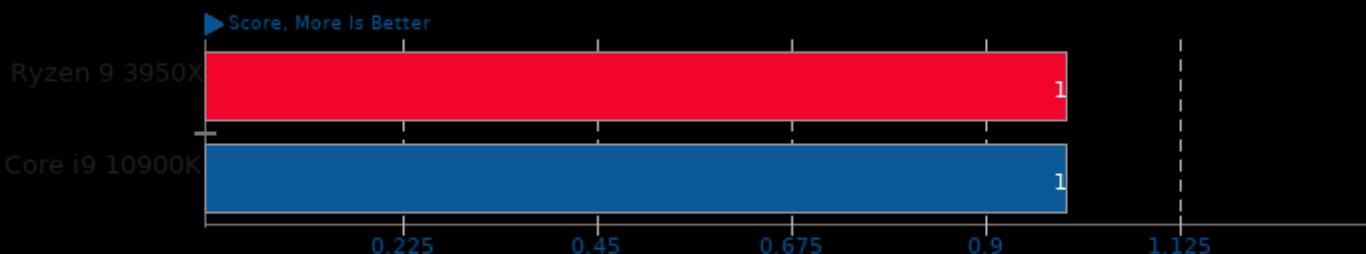
Test: sha512



1. (CC) gcc options: -O2 -ggdb3 -lnettle -lgmp -lm -lcrypto

Selenium

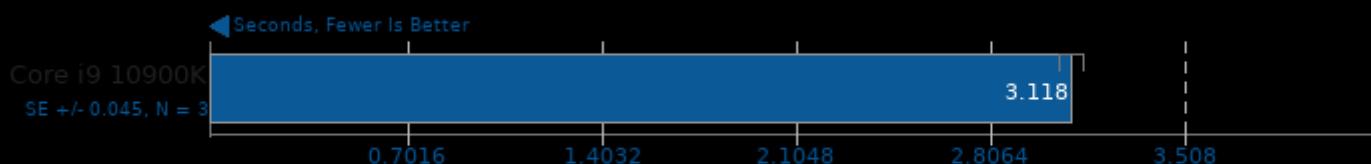
Benchmark: MotionMark - Browser: Google Chrome



1. chrome 83.0.4103.61

Parallel BZIP2 Compression 1.1.12

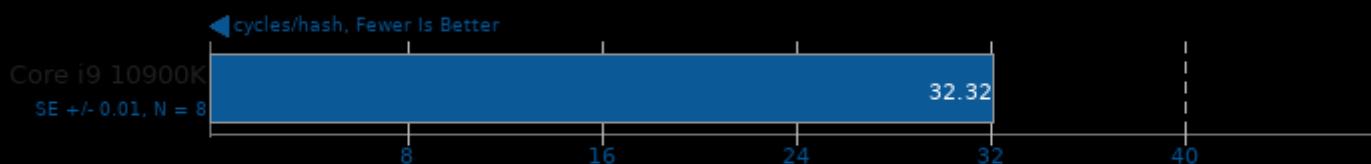
256MB File Compression



1. (CXX) g++ options: -O2 -pthread -lbz2 -lpthread

SMHasher 2020-02-29

Hash: t1ha0_aes_avx2



1. (CXX) g++ options: -march=native -O3 -lpthread

SMHasher 2020-02-29

Hash: t1ha0_aes_avx2



1. (CXX) g++ options: -march=native -O3 -lpthread

SMHasher 2020-02-29

Hash: tlha2_atonce



1. (CXX) g++ options: -march=native -O3 -lpthread

SMHasher 2020-02-29

Hash: tlha2_atonce



1. (CXX) g++ options: -march=native -O3 -lpthread

SMHasher 2020-02-29

Hash: fasthash32



1. (CXX) g++ options: -march=native -O3 -lpthread

SMHasher 2020-02-29

Hash: fasthash32



1. (CXX) g++ options: -march=native -O3 -lpthread

SMHasher 2020-02-29

Hash: Spooky32



1. (CXX) g++ options: -march=native -O3 -lpthread

SMHasher 2020-02-29

Hash: Spooky32



1. (CXX) g++ options: -march=native -O3 -lpthread

SMHasher 2020-02-29

Hash: MeowHash



1. (CXX) g++ options: -march=native -O3 -lpthread

SMHasher 2020-02-29

Hash: MeowHash



1. (CXX) g++ options: -march=native -O3 -lpthread

SMHasher 2020-02-29

Hash: wyhash



1. (CXX) g++ options: -march=native -O3 -lpthread

SMHasher 2020-02-29

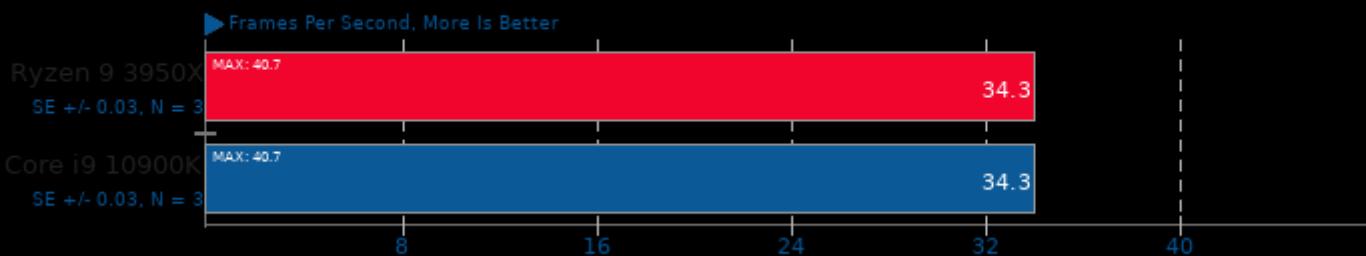
Hash: wyhash



1. (CXX) g++ options: -march=native -O3 -lpthread

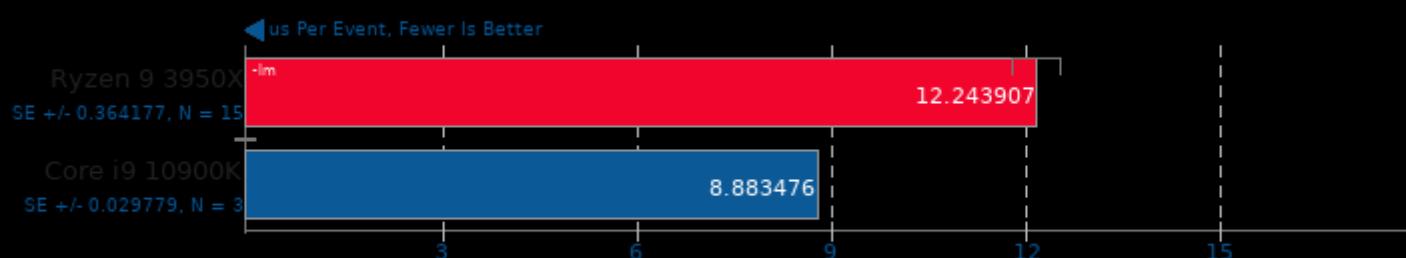
Unigine Superposition 1.0

Resolution: 1920 x 1080 - Mode: Windowed - Quality: Ultra - Renderer: OpenGL



OSBench

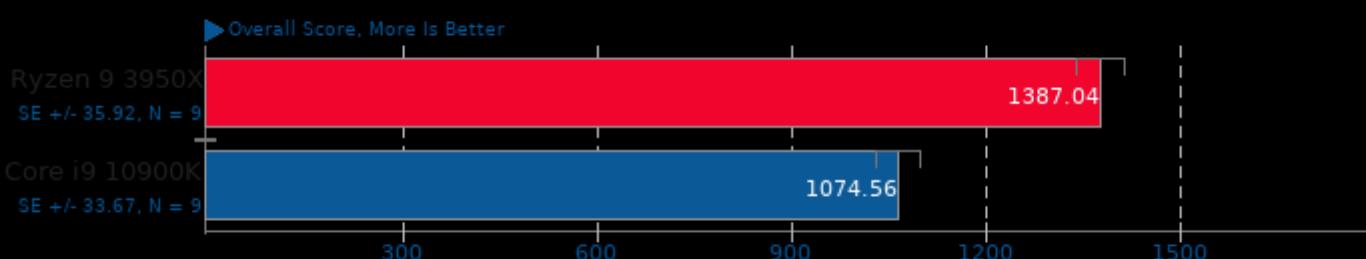
Test: Create Threads



1. (CC) gcc options:

Selenium

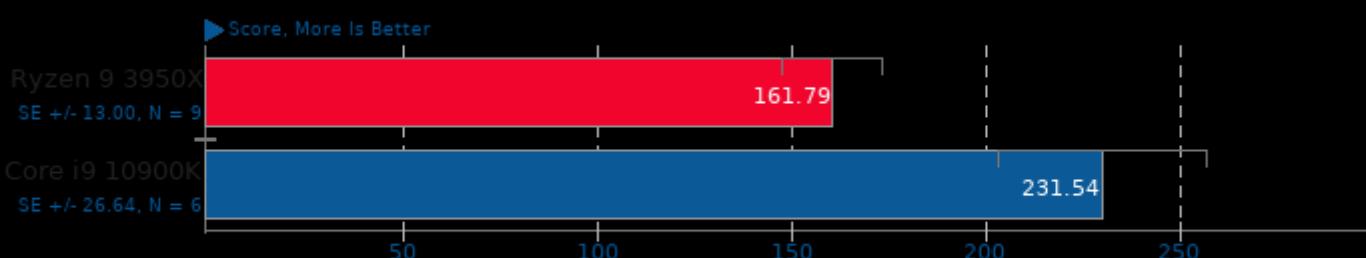
Benchmark: Basemark - Browser: Google Chrome



1. chrome 83.0.4103.61

Selenium

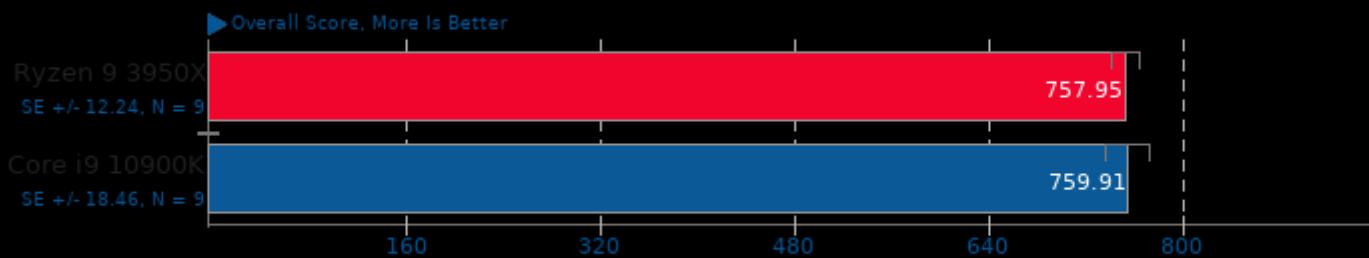
Benchmark: MotionMark - Browser: Firefox



1. firefox 76.0.1

Selenium

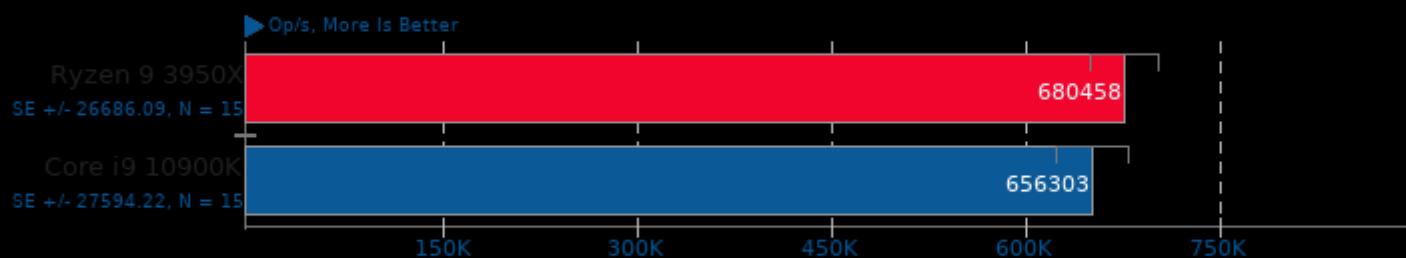
Benchmark: Basemark - Browser: Firefox



1. firefox 76.0.1

Facebook RocksDB 6.3.6

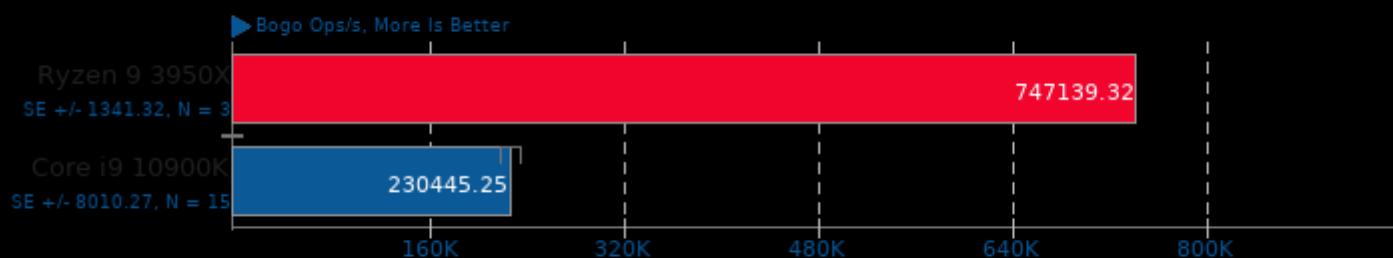
Test: Random Fill



1. (CXX) g++ options: -O3 -march=native -std=c++11 -fno-builtin-memcmp -fno-rtti -rdynamic -lpthread

Stress-NG 0.11.07

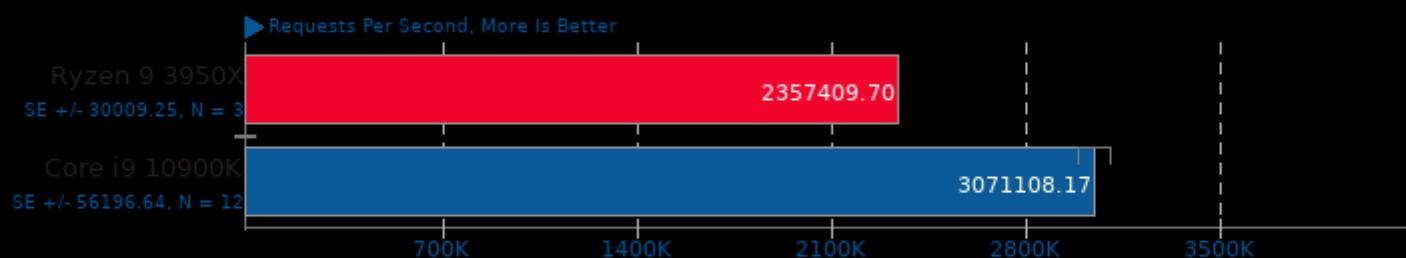
Test: Atomic



1. (CC) gcc options: -O2 -std=gnu99 -lm -lao -lcrypt -lrt -lz -ldl -lpthread -lc

Redis 5.0.5

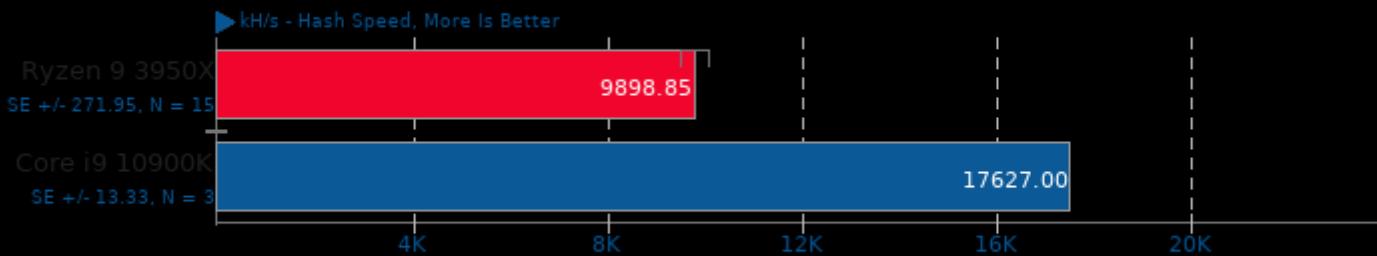
Test: SADD



1. (CXX) g++ options: -MM -MT -g3 -fvisibility=hidden -O3

Cpuminer-Opt 3.8.8.1

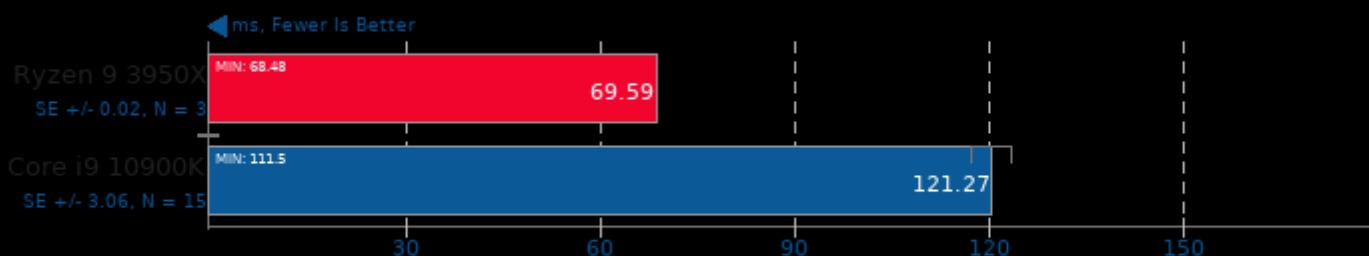
Algorithm: myr-gr



1. (CXX) g++ options: -O2 -curl -lz -pthread -lssl -lcrypto -lgmp

oneDNN MKL-DNN 1.3

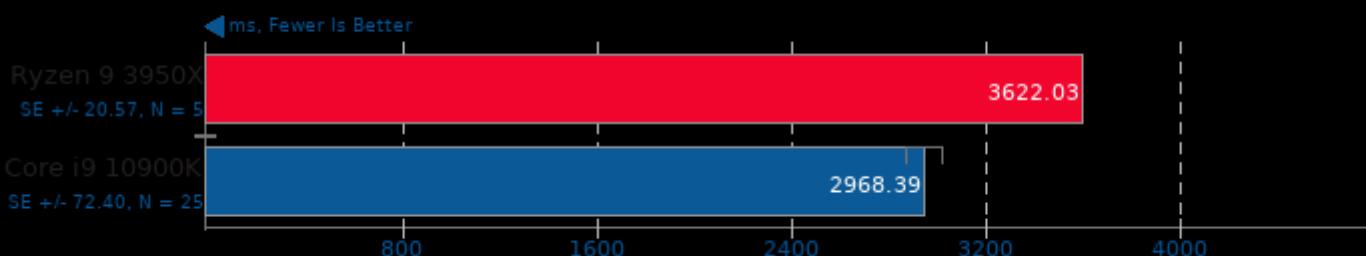
Harness: Deconvolution Batch deconv_1d - Data Type: u8s8f32



1. (CXX) g++ options: -O3 -march=native -std=c++11 -msse4.1 -fPIC -fopenmp -pie -pthread -ldl

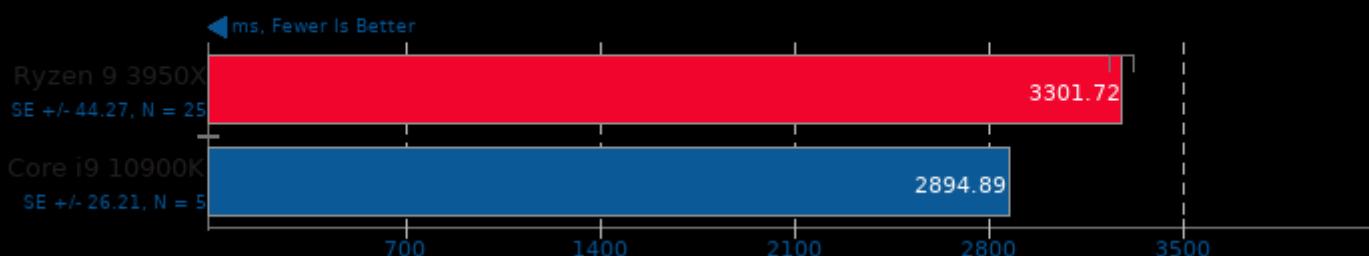
Renaissance 0.10.0

Test: In-Memory Database Shootout



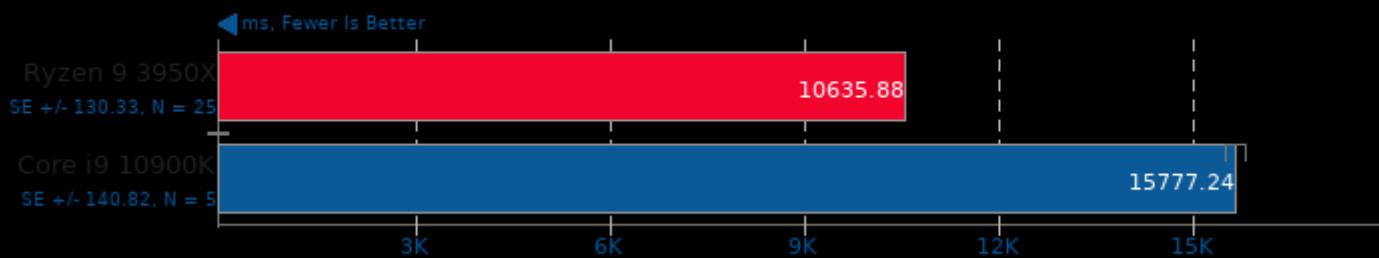
Renaissance 0.10.0

Test: Apache Spark PageRank



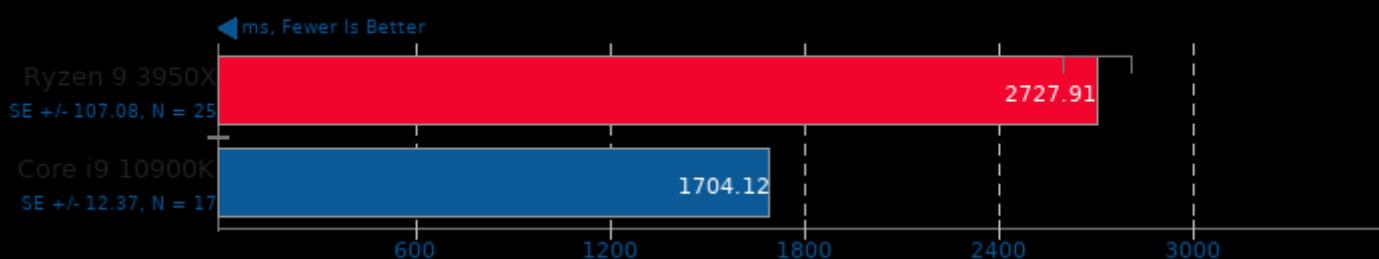
Renaissance 0.10.0

Test: Savina Reactors.IO



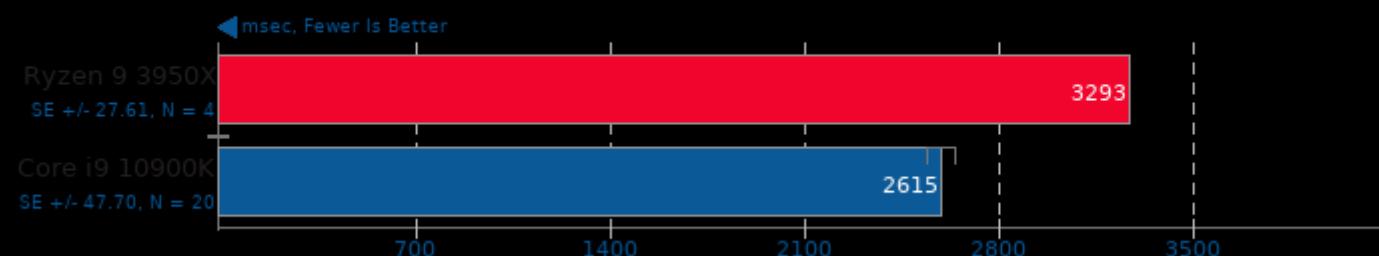
Renaissance 0.10.0

Test: Apache Spark Bayes



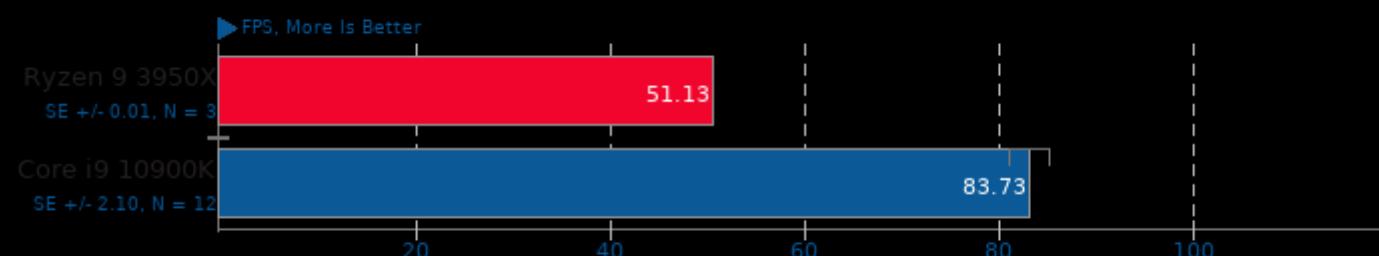
DaCapo Benchmark 9.12-MR1

Java Test: H2



libgav1 2019-10-05

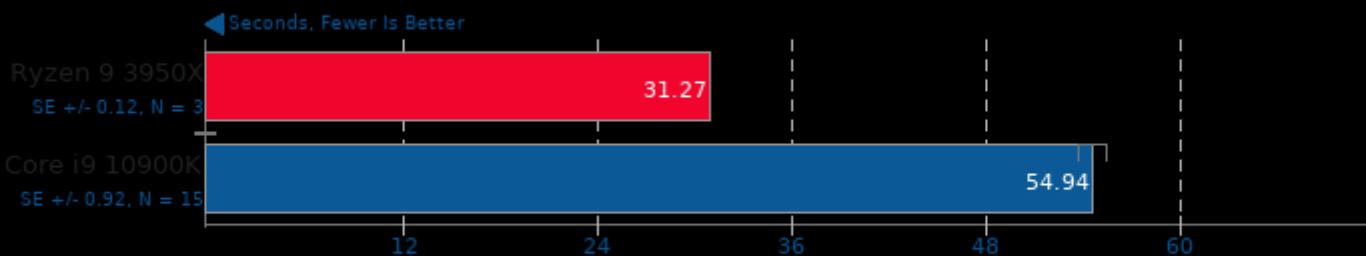
Video Input: Chimera 1080p



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

Parboil 2.5

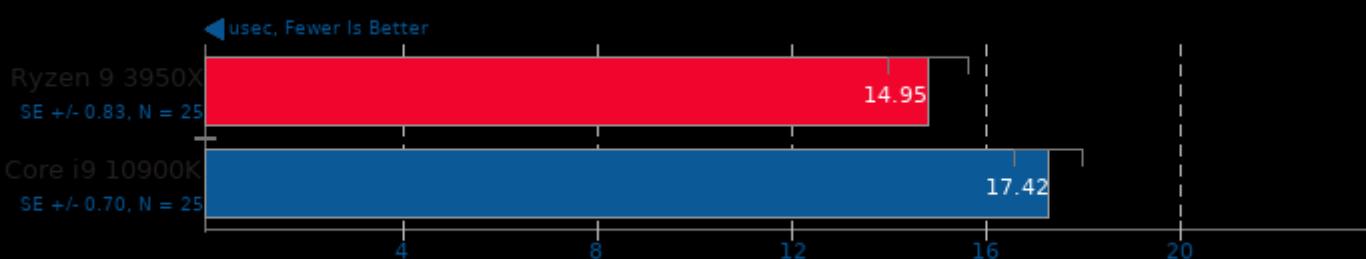
Test: OpenMP MRI Gridding



1. (CXX) g++ options: -lm -lpthread -lgomp -O3 -ffast-math -fopenmp

Sockperf 3.4

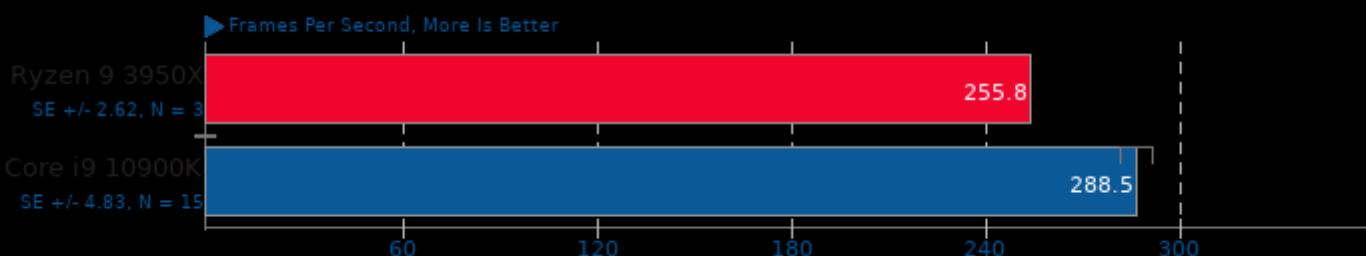
Test: Latency Under Load



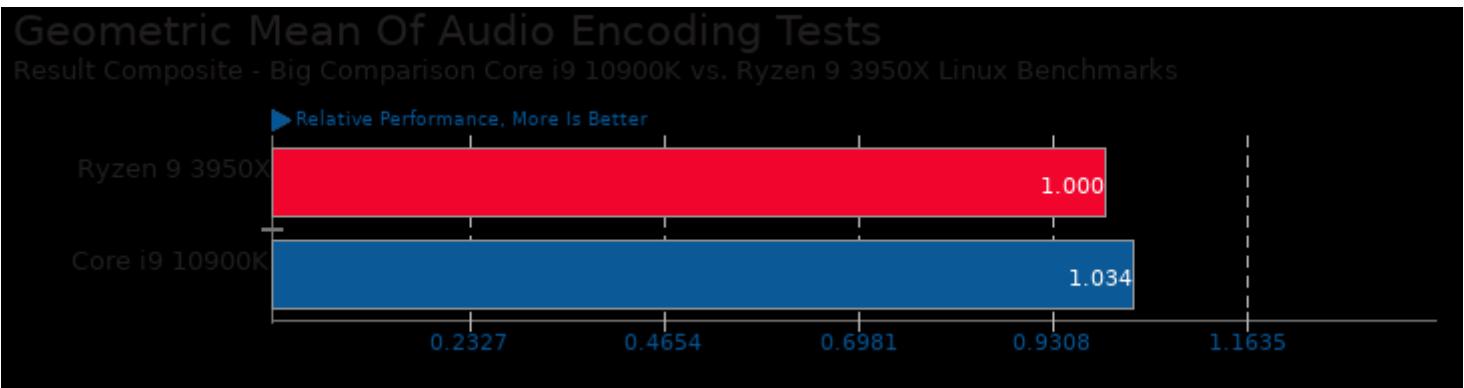
1. (CXX) g++ options: -param -O3 -rdynamic -ldl -lpthread

ET: Legacy 2.75

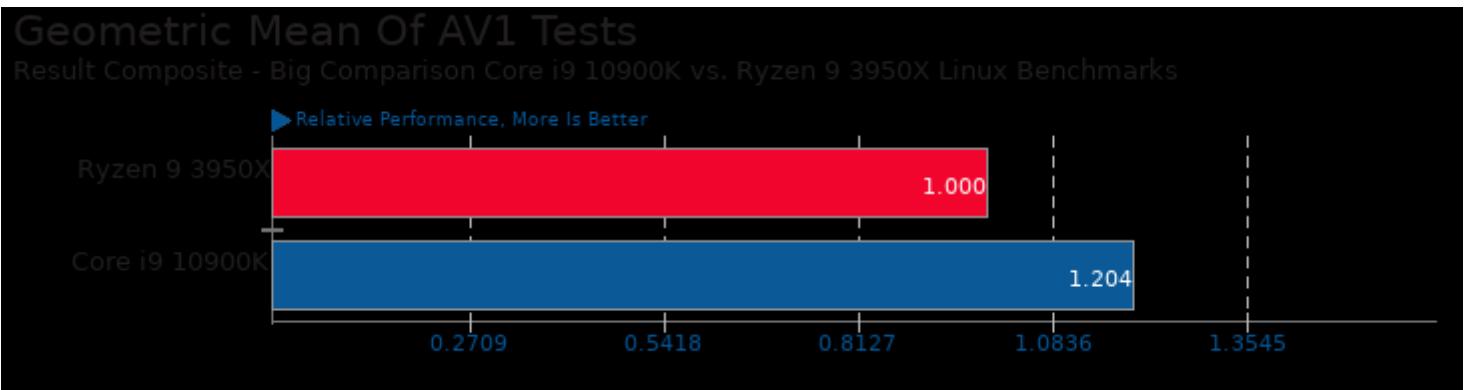
Renderer: Renderer2 - Resolution: 3840 x 2160



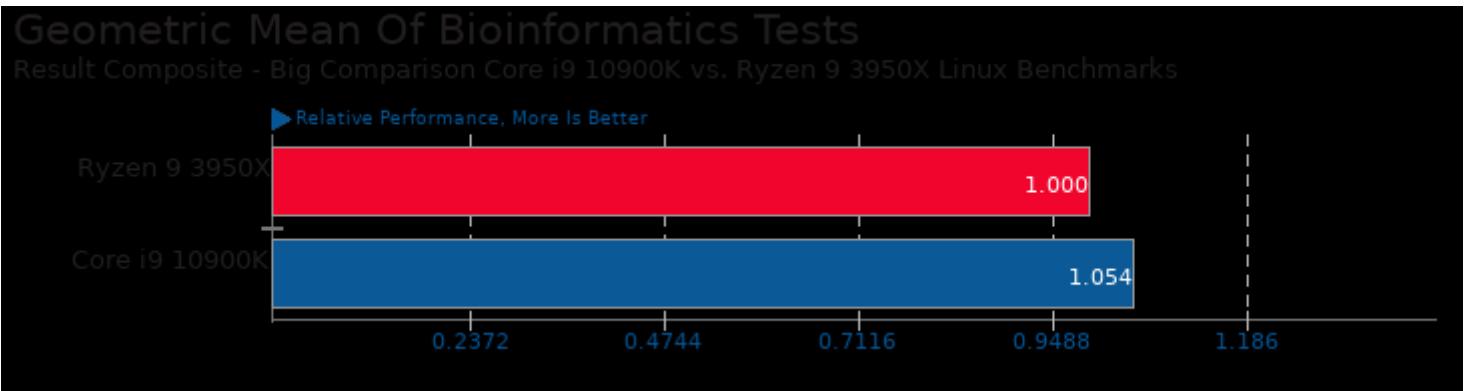
These geometric means are based upon test groupings / test suites for this result file.



Geometric mean based upon tests: pts/encode-mp3 and pts/encode-flac



Geometric mean based upon tests: pts/dav1d, pts/aom-av1, pts/libgav1 and pts/rav1e

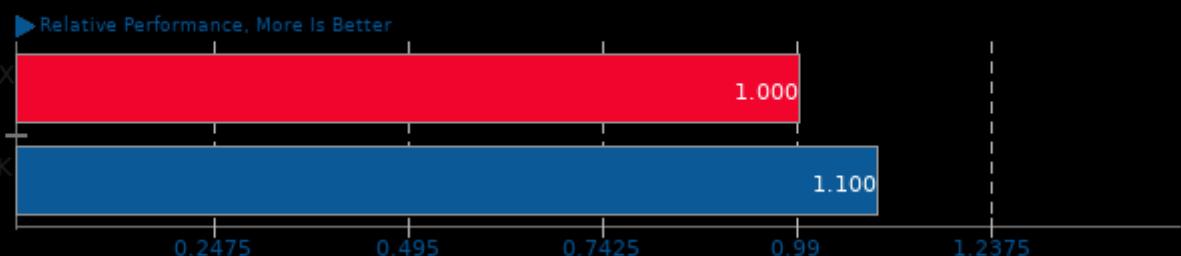


Geometric mean based upon tests: pts/himeno, pts/mrbayes and pts/hmmer

Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

Geometric Mean Of BLAS (Basic Linear Algebra Sub-Routine) Tests

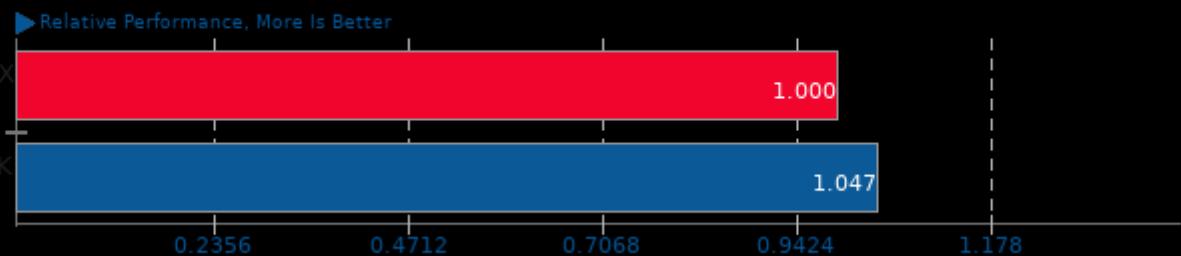
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/lczero and pts/nwchem

Geometric Mean Of C++ Boost Tests

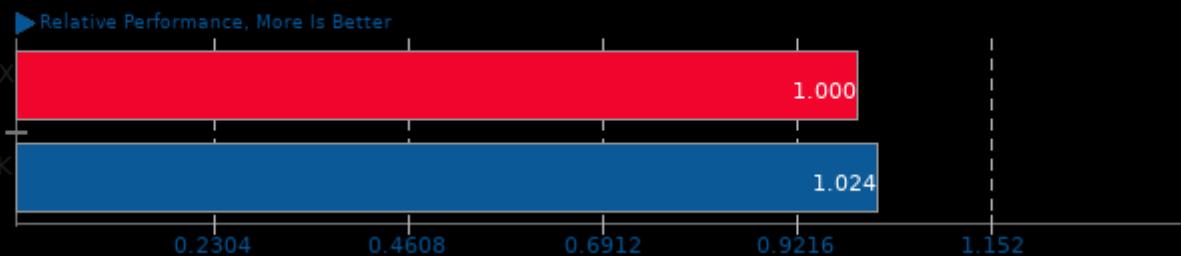
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/core-latency, pts/yafaray and pts/minion

Geometric Mean Of Web Browsers Tests

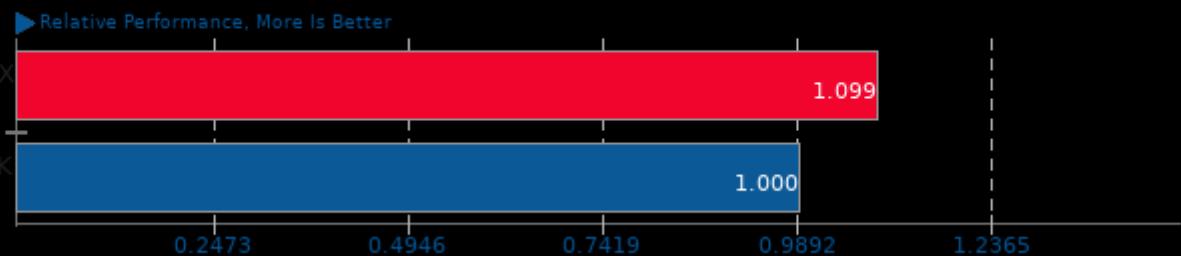
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: system/selenium

Geometric Mean Of Chess Test Suite

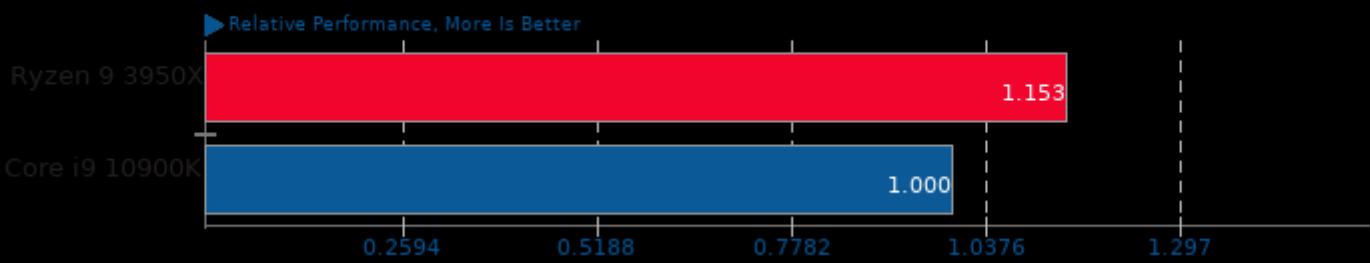
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/tscp, pts/lczero, pts/stockfish, pts/asmfish, pts/n-queens and pts/m-queens

Geometric Mean Of Timed Code Compilation Tests

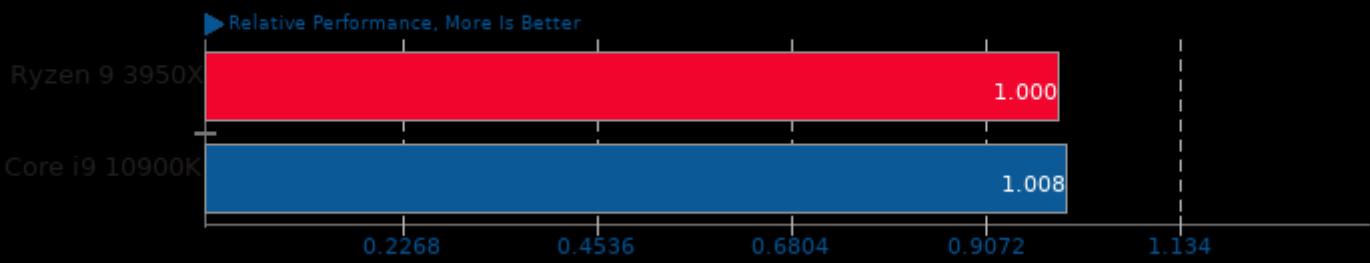
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/build-apache, pts/build-php, pts/build-linux-kernel, pts/build-imagemagick, pts/build-gcc, pts/build-gdb, pts/build-llvm, pts/build-ffmpeg, pts/build-mplayer and pts/build2

Geometric Mean Of Compression Tests

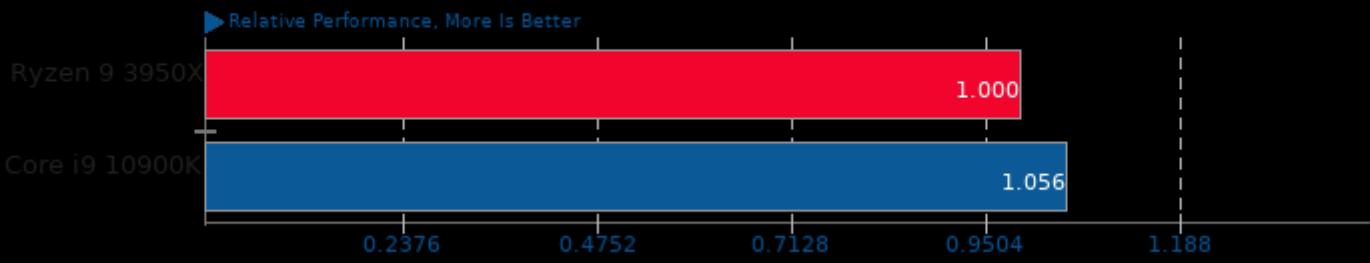
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/compress-7zip, pts/compress-gzip, pts/compress-pbzip2, pts/compress-zstd, pts/compress-xz, pts/lzbench and pts/blosc

Geometric Mean Of Cryptography Tests

Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

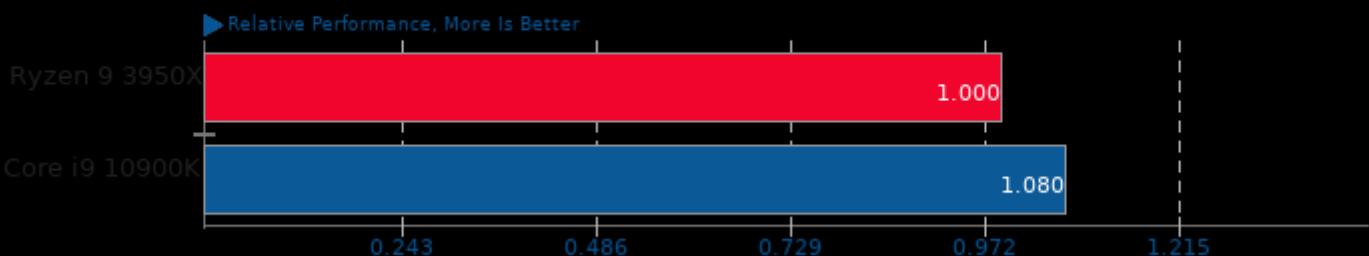


Geometric mean based upon tests: pts/gnupg, pts/openssl, pts/blake2, pts/john-the-ripper, pts/smhasher, pts/botan, pts/cryptopp, pts/bork, pts/nettle, pts/aircrack-ng and pts/cpuminer-opt

Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

Geometric Mean Of Database Test Suite

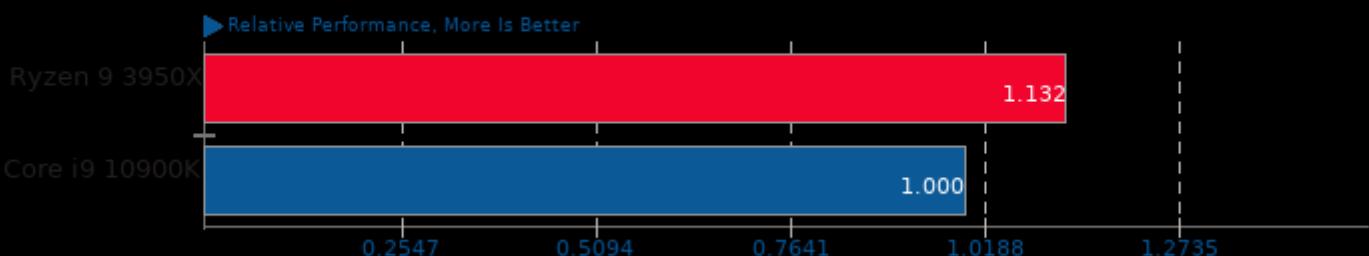
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/sqlite-speedtest, pts/redis and pts/rocksdb

Geometric Mean Of Desktop Graphics Tests

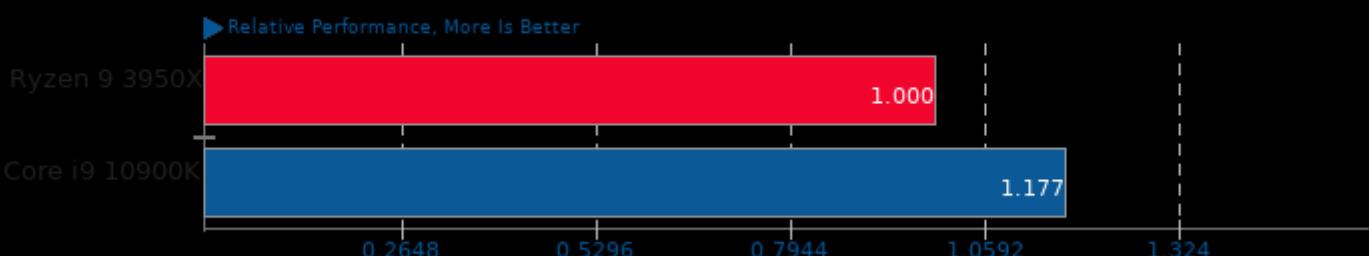
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/xonotic, pts/tesseract, pts/paraview, pts/unigine-valley and pts/unigine-heaven

Geometric Mean Of Encoding Tests

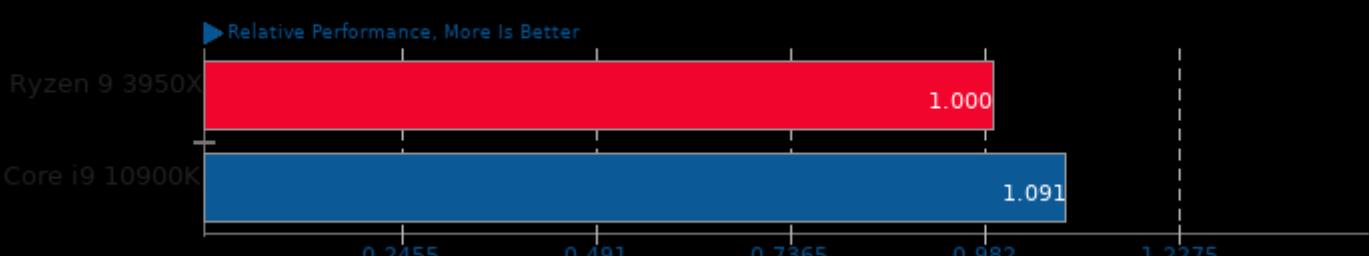
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/encode-mp3, pts/encode-flac, pts/x264, pts/x265, pts/ffmpeg, pts/vpxenc, pts/dav1d, pts/aom-av1, pts/libgav1 and pts/rav1e

Geometric Mean Of Fortran Tests

Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

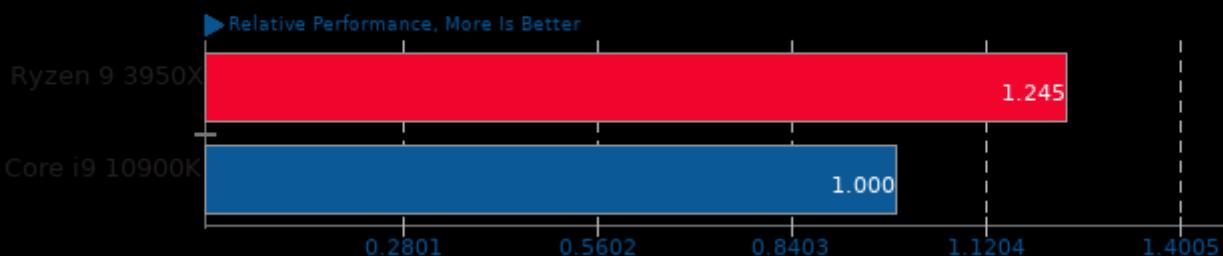


Geometric mean based upon tests: pts/npb, pts/polyhedron, pts/nwchem, pts/neat and pts/hpcg

Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

Geometric Mean Of Game Development Tests

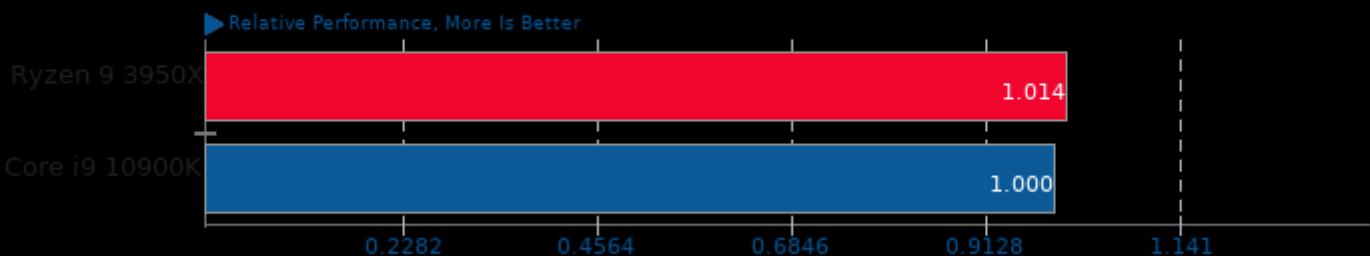
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/basis, pts/blender, pts/oidn and pts/openvkl

Geometric Mean Of Imaging Tests

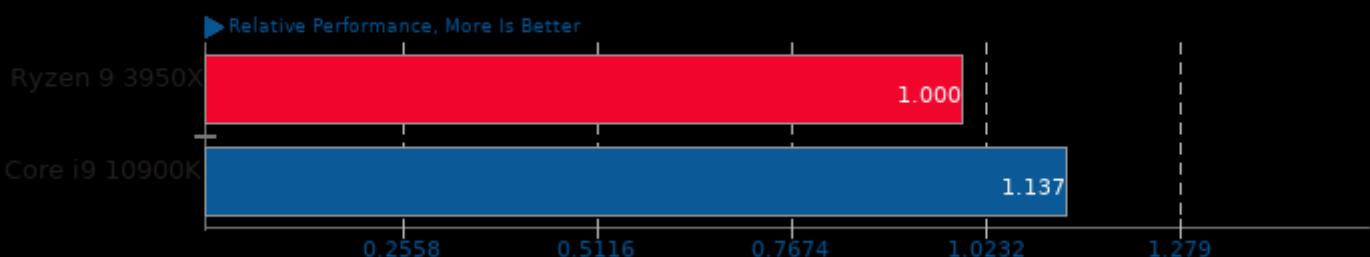
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/graphics-magick, system/rawtherapee, pts/tjbench, system/gimp and system/gegl

Geometric Mean Of Java Tests

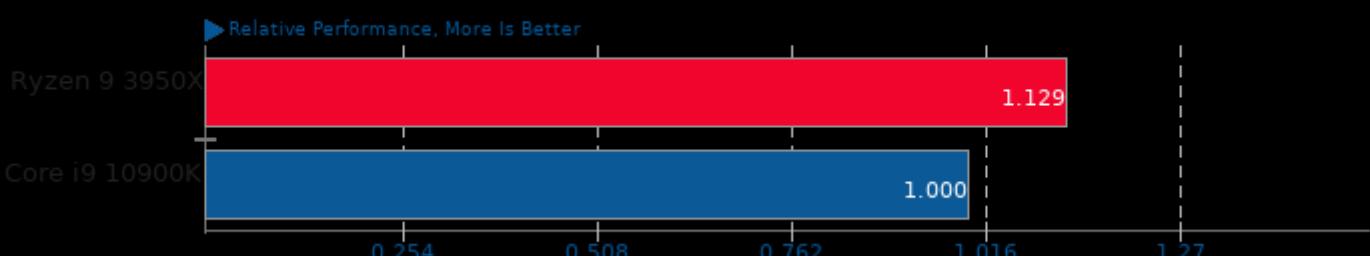
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/bork, pts/java-scimark2, pts/dacapobench, pts/java-gradle-perf and pts/renaissance

Geometric Mean Of Common Kernel Benchmarks Tests

Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

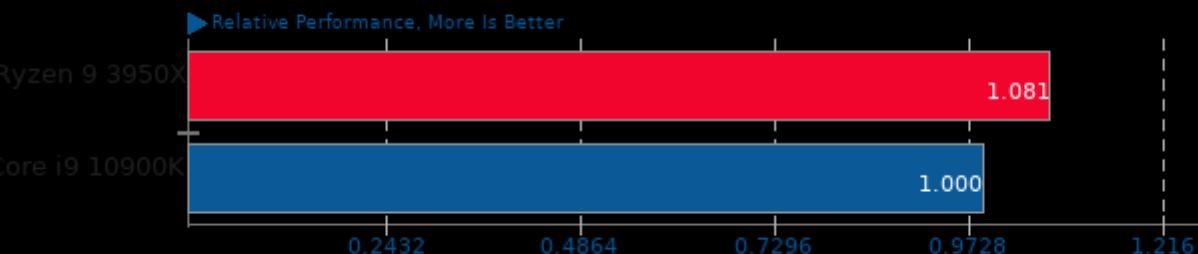


Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

Geometric mean based upon tests: pts/sqlite-speedtest, pts/openssl, pts/ctx-clock, pts/hackbench, pts/ipc-benchmark, pts/stress-ng, pts/osbench and pts/rocksdb

Geometric Mean Of Linear Algebra Tests

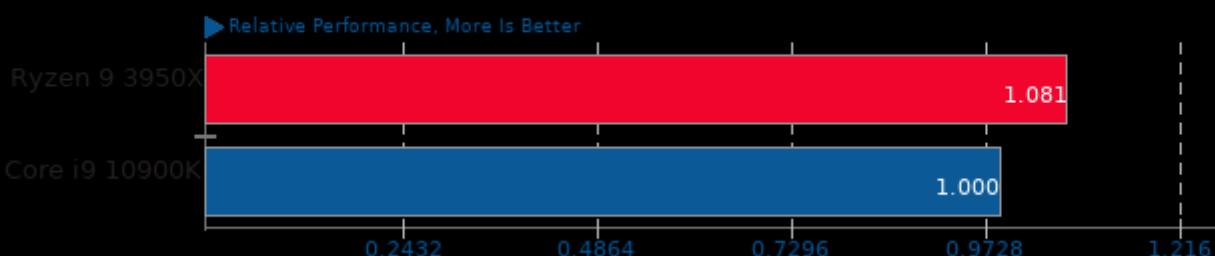
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/mt-dgemm and pts/amg

Geometric Mean Of Machine Learning Tests

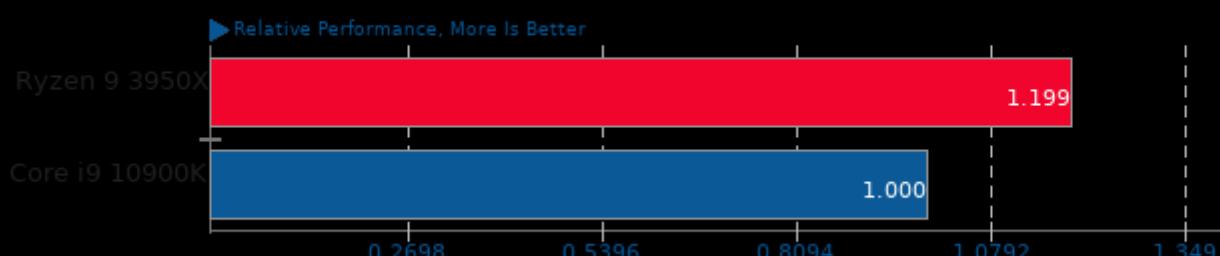
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/numpy, pts/deepspeech, pts/scikit-learn, pts/mlpack, pts/numenta-nab, pts/plaidml and pts/lczero

Geometric Mean Of Molecular Dynamics Tests

Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

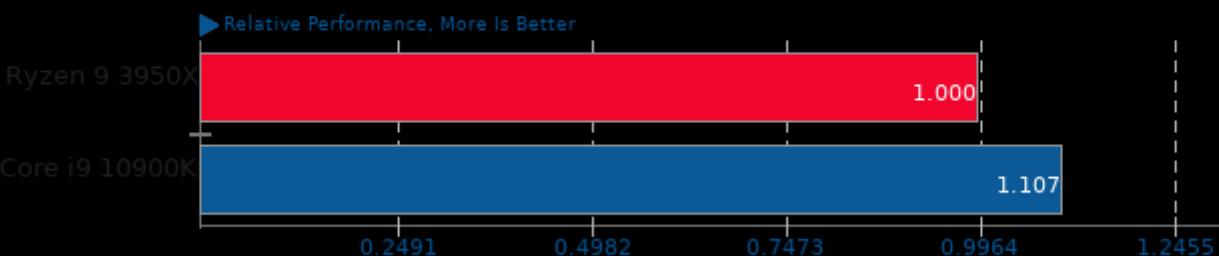


Geometric mean based upon tests: pts/namd, pts/gromacs, pts/cp2k, pts/nwchem, pts/lulesh and pts/pennant

Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

Geometric Mean Of MPI Benchmarks Tests

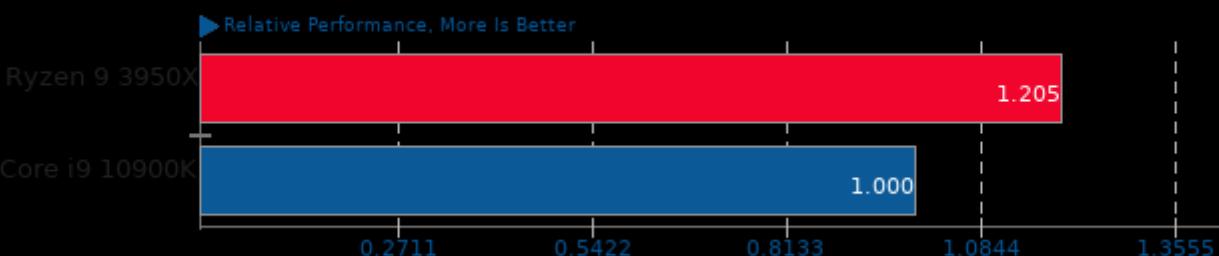
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/askap, pts/gromacs, pts/pennant, pts/hpcg, pts/mrbayes and pts/npb

Geometric Mean Of NVIDIA GPU Compute Tests

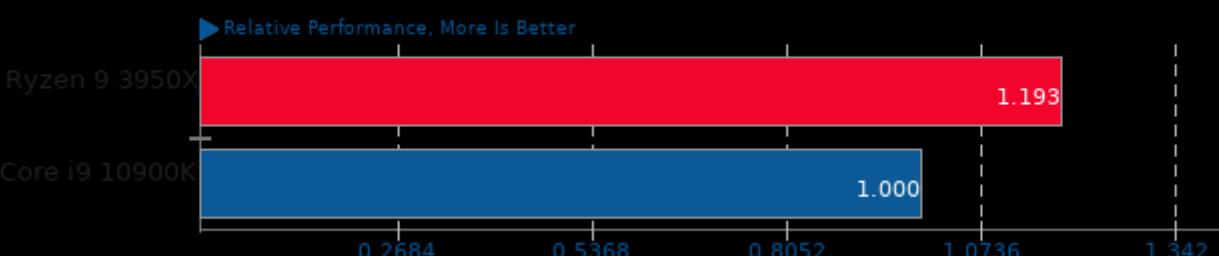
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/gromacs, pts/luxcorerender, pts/rodinia, pts/neatbench, pts/plaidml, pts/lcero, pts/indigobench and pts/blender

Geometric Mean Of Intel oneAPI Tests

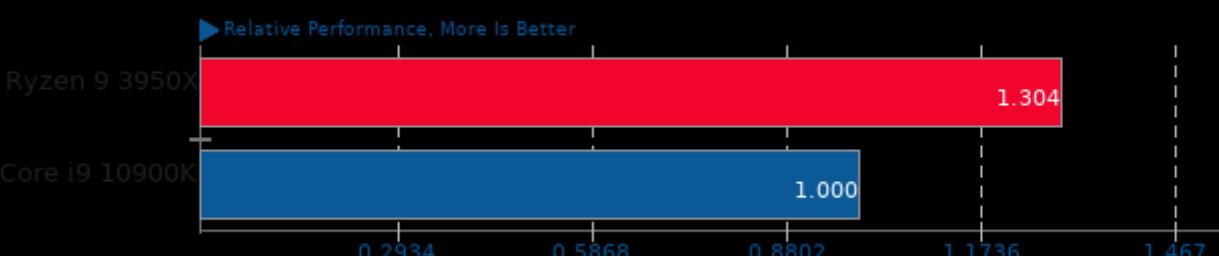
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/embree, pts/oidn, pts/tungsten and pts/openvkl

Geometric Mean Of OpenCL Tests

Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

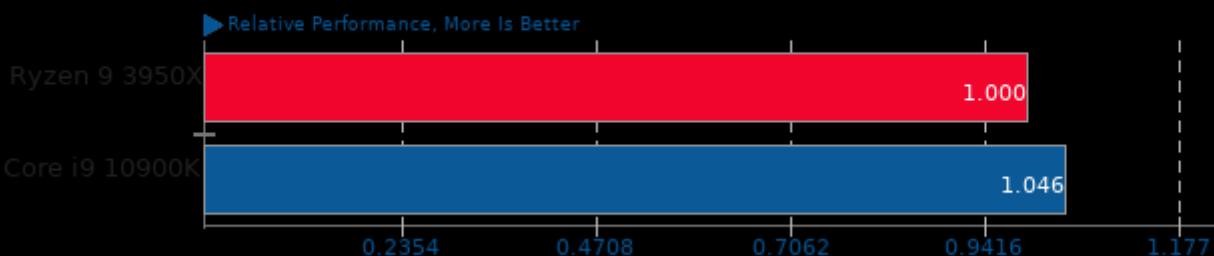


Geometric mean based upon tests: pts/rodinia and pts/parboil

Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

Geometric Mean Of OpenGL Demos Test Suite

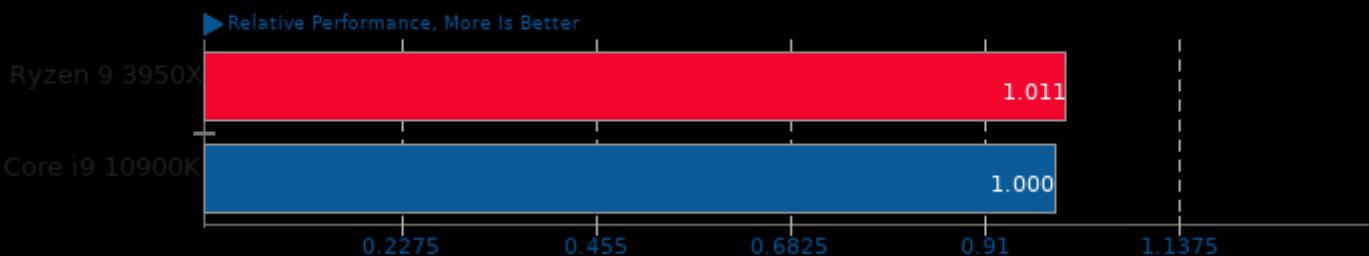
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/unigine-valley, pts/unigine-heaven and pts/unigine-super

Geometric Mean Of OpenMPI Tests

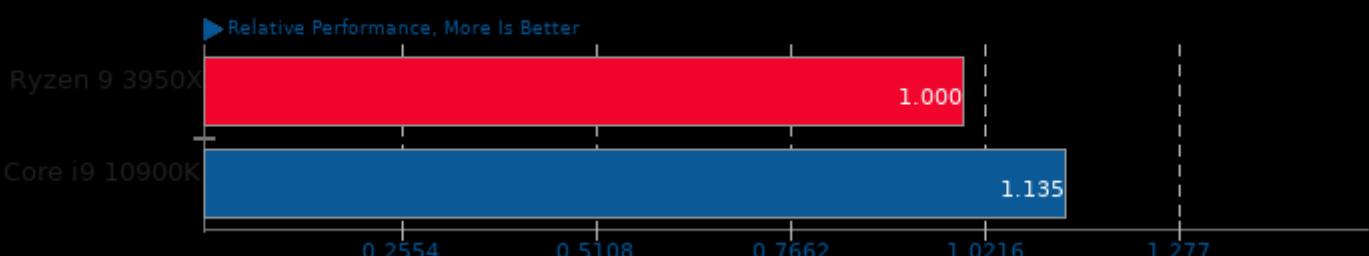
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/parboil, pts/npb, pts/rodinia, pts/askap, pts/nwchem, pts/gromacs, pts/lulesh, pts/amg, pts/mrbayes, pts/hpcg and pts/pennant

Geometric Mean Of Productivity Tests

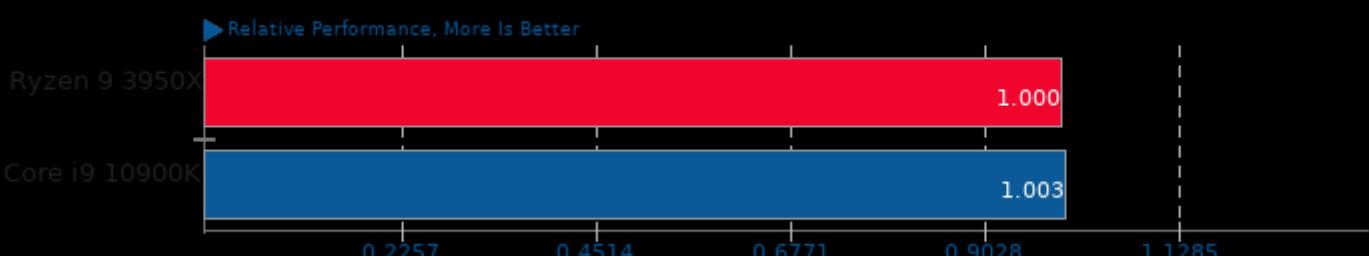
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: system/libreoffice, system/gimp and system/gegl

Geometric Mean Of Programmer / Developer System Benchmarks Tests

Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



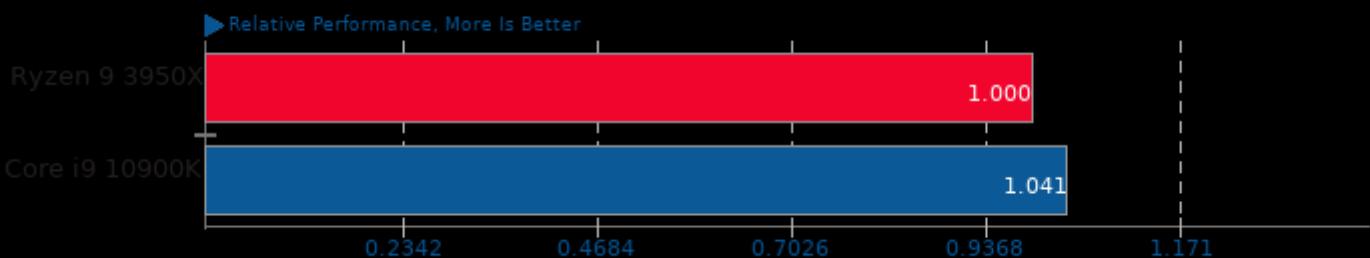
Geometric mean based upon tests: pts/sqlite-speedtest, pts/git, pts/blosc, pts/compress-zstd, pts/pyperformance,

Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

pts/pybench, pts/build-apache, pts/build-php, 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/mt-dgemm and pts/amg

Geometric Mean Of Python Tests

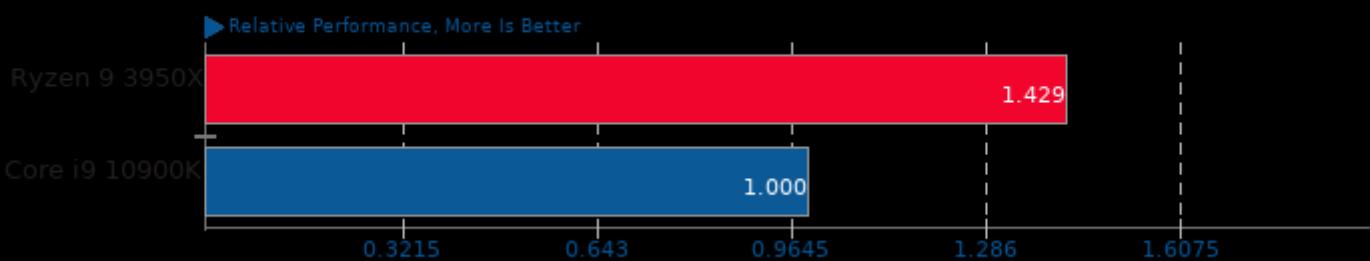
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/pybench, pts/numenta-nab, pts/cython-bench, pts(numpy, pts/mlpack, pts/scikit-learn and pts/pyperformance

Geometric Mean Of Raytracing Tests

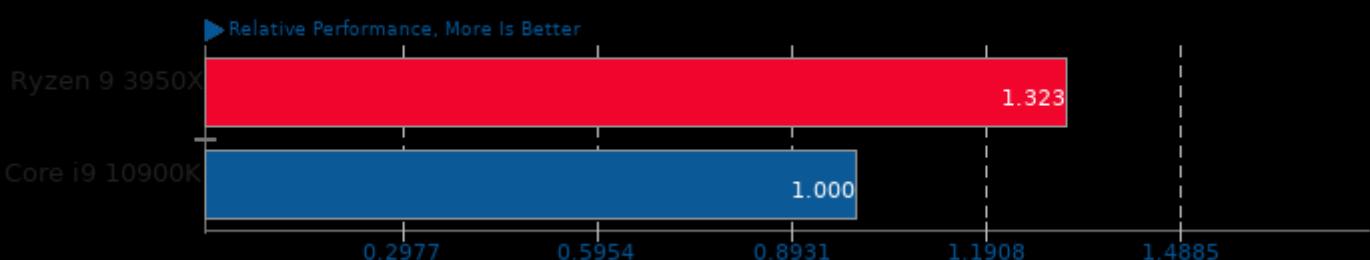
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/c-ray, pts/tachyon, pts/rays1bench and pts/yafaray

Geometric Mean Of Renderers Tests

Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

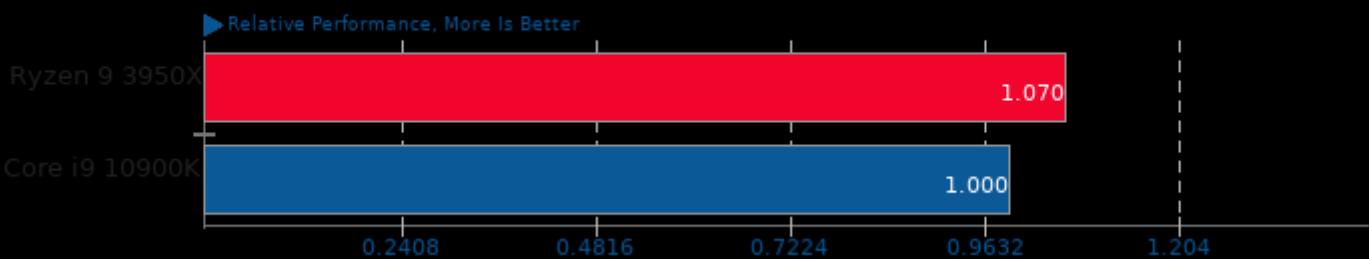


Geometric mean based upon tests: pts/c-ray, pts/tachyon, pts/rays1bench, pts/yafaray, pts/blender, pts/tungsten, pts/appleseed, pts/radiance, pts/aobench, pts/luxcorerender, pts/smallpt, pts/ttsiod-renderer and pts/indigobench

Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks

Geometric Mean Of Scientific Computing Tests

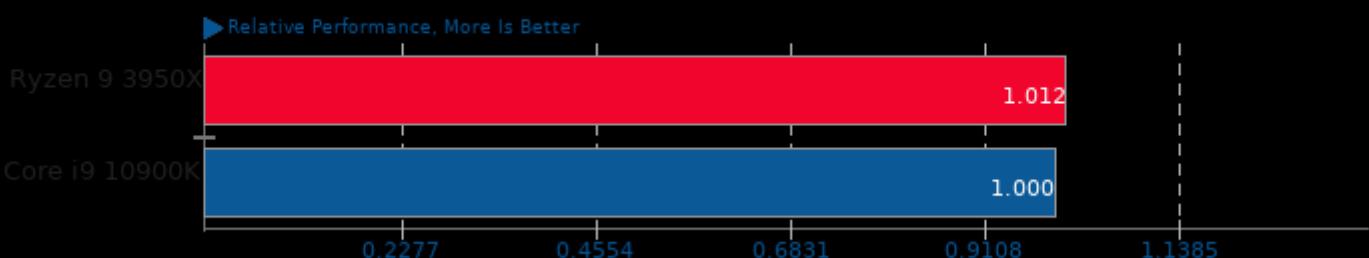
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/fftw, pts/neat, pts/mt-dgemm, pts/amg, pts/namd, pts/gromacs, pts/cp2k, pts/nwchem, pts/lulesh, pts/pennant, pts/himeno, pts/mrbayes and pts/hmmer

Geometric Mean Of Server Tests

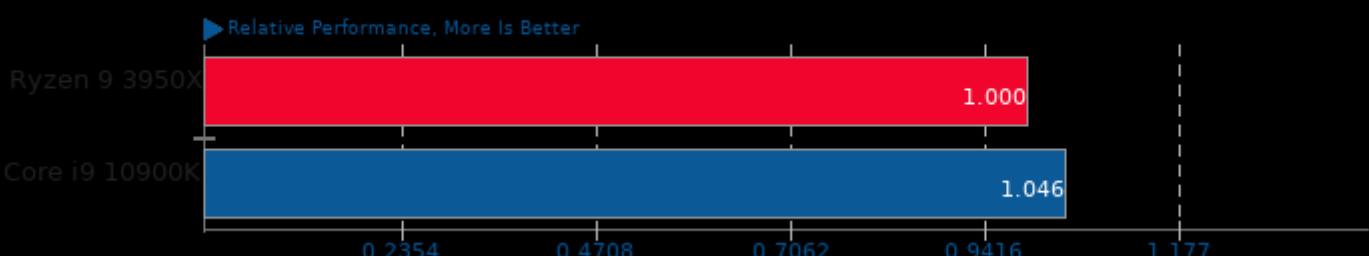
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/ebizzy, pts/redis, pts/rocksdb, pts/openssl, pts/perl-benchmark and pts/sqlite-speedtest

Geometric Mean Of Unigine Test Suite

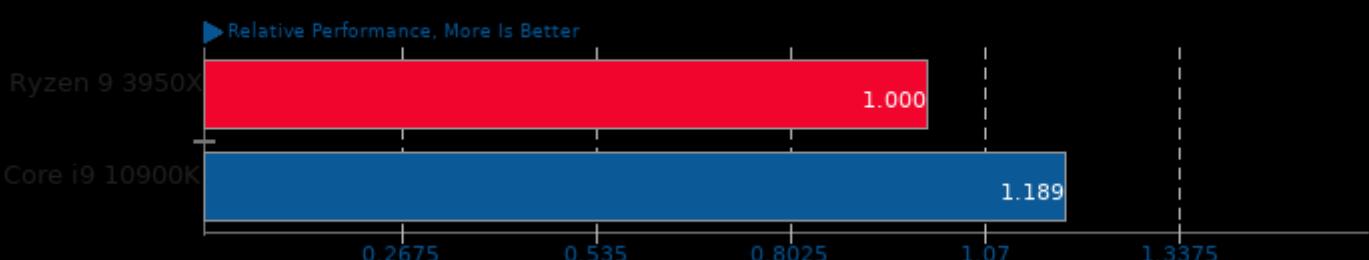
Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



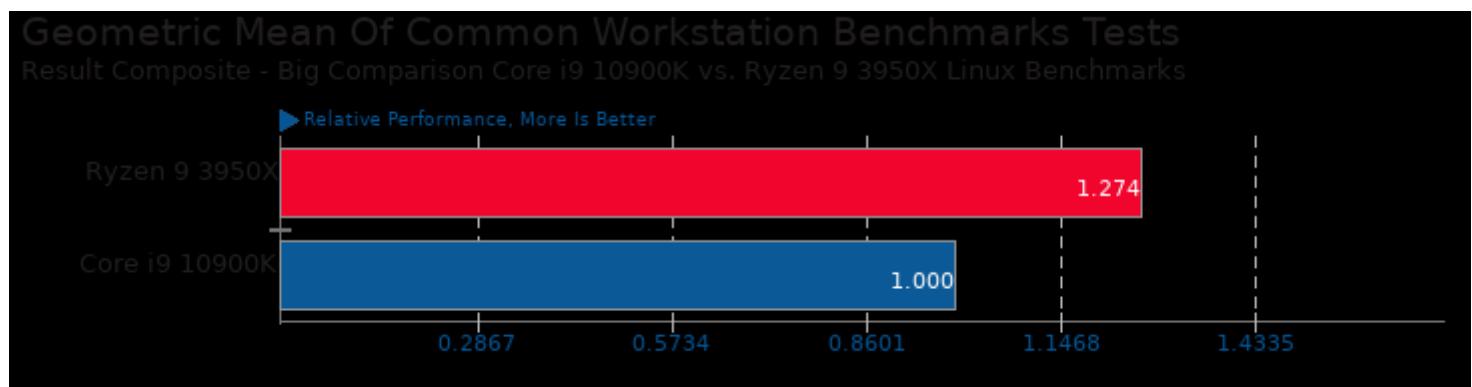
Geometric mean based upon tests: pts/unigine-valley, pts/unigine-heaven and pts/unigine-super

Geometric Mean Of Video Encoding Tests

Result Composite - Big Comparison Core i9 10900K vs. Ryzen 9 3950X Linux Benchmarks



Geometric mean based upon tests: pts/x264, pts/x265, pts/ffmpeg, pts/vpxenc, pts/dav1d, pts/aom-av1, pts/libgav1 and pts/rav1e



Geometric mean based upon tests: pts/blender, pts/rodinia, pts/parboil, pts/himeno, pts/brl-cad, pts/x265, pts/paraview, pts/swet, pts/sysbench and pts/git

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