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## Core i9 10980XE Friday

Intel Core i9-10980XE testing with a Gigabyte X299X DESIGNARE 10G (F1 BIOS) and MSI AMD Radeon RX 470/480/570/570X/580/580X 8GB on Clear Linux OS 32050 via the Phoronix Test Suite.

### Test Systems:

#### Core i9 10980XE

Processor: Intel Core i9-10980XE @ 4.60GHz (18 Cores / 36 Threads), Motherboard: Gigabyte X299X DESIGNARE 10G (F1 BIOS), Chipset: Intel Sky Lake-E DMI3 Registers, Memory: 32GB, Disk: Samsung SSD 970 PRO 512GB, Graphics: MSI AMD Radeon RX 470/480/570/570X/580/580X 8GB (1366/2000MHz), Audio: Realtek ALC1220, Monitor: ASUS VP28U, Network: 2 x Intel 10G X550T + Intel Device 2723

OS: Clear Linux OS 32050, Kernel: 5.4.8-886.native (x86\_64), Desktop: GNOME Shell 3.34.3, Display Server: X Server 1.20.5, Display Driver: modesetting 1.20.5, OpenGL: 4.6 Mesa 20.0.0-devel (LLVM 9.0.0), Vulkan: 1.1.107, Compiler: GCC 9.2.1 20200108 gcc-9-branch@279985 + Clang 9.0.0 + LLVM 9.0.0, File-System: ext4, Screen Resolution: 3840x2160

## Core i9 10980XE Friday

Environment Notes: CFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -fstack-protector --param=ssp-buffer-size=32 -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z -WI,no -WI,-z -WI,relo -malign-data=abi -fno-semantic-interposition -ffree-vectorize -ffree-loop-vectorize -WI,-sort-common -WI,--enable-new-dtags" FFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -fstack-protector --param=ssp-buffer-size=32 -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z -WI,no -WI,-z -WI,relo -malign-data=abi -fno-semantic-interposition -ffree-vectorize -ffree-loop-vectorize -WI,--enable-new-dtags -Wa,-mbranches-within-32B-boundaries" CXXFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -fstack-protector --param=ssp-buffer-size=32 -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z -WI,no -WI,-z -WI,relo -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,--enable-new-dtags -mtune=skylake -Wa,-mbranches-within-32B-boundaries -fvisibility-inlines-hidden -WI,--enable-new-dtags" MESA\_GLSL\_CACHE\_DISABLE=0 CFLAGS="-g -O3 -feliminate-unused-debug-types -pipe -Wall -Wp,-D\_FORTIFY\_SOURCE=2 -fexceptions -fstack-protector --param=ssp-buffer-size=32 -Wformat -Wformat-security -m64 -fasynchronous-unwind-tables -Wp,-D\_REENTRANT -ffree-loop-distribute-patterns -WI,-z -WI,no -WI,-z -WI,relo -fno-semantic-interposition -ffat-lto-objects -fno-trapping-math -WI,-sort-common -WI,--enable-new-dtags -mtune=skylake -Wa,-mbranches-within-32B-boundaries" THEANO\_FLAGS="floatX=float32,openmp=true,gcc.cxxflags=-ffree-vectorize -maxv" Compiler Notes: --build=x86\_64-generic-linux --disable-libmpx --disable-libunwind-exceptions --disable-multiarch --disable-vtable-verify --disable-werror --enable\_\_cxa\_atexit --enable-bootstrap --enable-cet --enable-clocale-gnu --enable-default-pie --enable-gnu-indirect-function --enable-languages=c,c++,fortran,go --enable-ld=default --enable-libstdcxx-pch --enable-lto --enable-multilib --enable-plugin --enable-shared --enable-threads=posix --exec-prefix=/usr --includedir=/usr/include --target=x86\_64-generic-linux --with-arch=westmere --with-gcc-major-version-only --with-glibc-version=2.19 --with-gnu-ld --with-isl --with-ppl=yes --with-tune=haswell Disk Notes: MQ-DEADLINE / relatime,rw Processor Notes: Scaling Governor: intel\_pstate performance - CPU Microcode: 0x500002c Java Notes: OpenJDK Runtime Environment (build 1.8.0-u232-ga-b00) Python Notes: Python 3.8.1 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/swaps barriers and \_\_user pointer sanitization + spectre\_v2: Mitigation of Enhanced IBRS IBPB: conditional RSB filling + tsx\_async\_abort: Mitigation of TSX disabled

### Core i9 10980XE

<b>SQLite - 1 (sec)</b>	47.604
Standard Deviation	0.4%
<b>SQLite - 8 (sec)</b>	175.816
Standard Deviation	0.2%
<b>RAMspeed SMP - Add - Integer (MB/s)</b>	27742
<b>RAMspeed SMP - Copy - Integer (MB/s)</b>	28815
<b>RAMspeed SMP - Scale - Integer (MB/s)</b>	28241
<b>RAMspeed SMP - Average - Integer (MB/s)</b>	28377
<b>RAMspeed SMP - Add - Floating Point (MB/s)</b>	27779
<b>RAMspeed SMP - Copy - Floating Point (MB/s)</b>	28618
<b>RAMspeed SMP - Scale - Floating Point (MB/s)</b>	28873
<b>RAMspeed SMP - Average - Floating Point (MB/s)</b>	28262
<b>Stream - Copy (MB/s)</b>	45353
Standard Deviation	0.1%
<b>Stream - Scale (MB/s)</b>	34477
Standard Deviation	0%
<b>Stream - Triad (MB/s)</b>	37595
Standard Deviation	0.1%
<b>Stream - Add (MB/s)</b>	37367
Standard Deviation	0.1%
<b>Tinymembench - Standard Memcpy (MB/s)</b>	9373
Standard Deviation	2.8%
<b>Tinymembench - Standard Memset (MB/s)</b>	26467
Standard Deviation	2.2%
<b>MBW - Memory Copy - 4096 MiB (MiB/s)</b>	8621
Standard Deviation	3%
<b>MBW - M.C.F.B.S - 4096 MiB (MiB/s)</b>	7737
Standard Deviation	2.9%
<b>NAS Parallel Benchmarks - BT.C (Mop/s)</b>	42073
Standard Deviation	0.3%

<b>NAS Parallel Benchmarks - EP.D (Mop/s)</b>	2494
Standard Deviation	2.9%
<b>NAS Parallel Benchmarks - FT.C (Mop/s)</b>	19370
Standard Deviation	0.1%
<b>NAS Parallel Benchmarks - LU.C (Mop/s)</b>	43110
Standard Deviation	0.1%
<b>NAS Parallel Benchmarks - MG.C (Mop/s)</b>	17416
Standard Deviation	0.4%
<b>NAS Parallel Benchmarks - SP.B (Mop/s)</b>	12215
Standard Deviation	0.4%
<b>CloverLeaf - L.E.H (sec)</b>	2.54
Standard Deviation	0.3%
<b>CP2K Molecular Dynamics - Fayalite-FIST Data (sec)</b>	733.974
Rodinia - OpenMP LavaMD (sec)	15.080
Standard Deviation	0%
Rodinia - OpenMP CFD Solver (sec)	11.337
Standard Deviation	1.6%
Rodinia - O.S (sec)	14.842
Standard Deviation	3.3%
<b>NAMD - ATPase Simulation - 327,506 Atoms (days/ns)</b>	0.96937
Standard Deviation	0.4%
<b>Timed MrBayes Analysis - P.P.A (sec)</b>	111.283
Standard Deviation	0.3%
<b>DaCapo Benchmark - H2 (msec)</b>	3332
Standard Deviation	2.1%
<b>DaCapo Benchmark - Jython (msec)</b>	3337
Standard Deviation	0.5%
<b>DaCapo Benchmark - Tradesoap (msec)</b>	3099
Standard Deviation	2.7%
<b>DaCapo Benchmark - Tradebeans (msec)</b>	2756
Standard Deviation	0.6%
<b>Renaissance - Scala Dotty (ms)</b>	5196
Standard Deviation	0.9%
<b>Renaissance - Savina Reactors.IO (ms)</b>	19748
Standard Deviation	8.1%
<b>Renaissance - A.S.P (ms)</b>	24412
Standard Deviation	4.3%
<b>John The Ripper - Blowfish (Real C/S)</b>	32533
Standard Deviation	0%
<b>Node.js Express HTTP Load Test (Req/s/sec)</b>	13433
Standard Deviation	0.3%
<b>GraphicsMagick - Swirl (Iterations/min)</b>	747
Standard Deviation	2.3%
<b>GraphicsMagick - Rotate (Iterations/min)</b>	988
Standard Deviation	3%
<b>GraphicsMagick - Sharpen (Iterations/min)</b>	237
Standard Deviation	0.2%
<b>GraphicsMagick - Enhanced (Iterations/min)</b>	368
<b>GraphicsMagick - Resizing (Iterations/min)</b>	1472
Standard Deviation	3%
<b>GraphicsMagick - Noise-Gaussian (Iterations/min)</b>	411
Standard Deviation	0.1%
<b>GraphicsMagick - HWB Color Space (Iterations/min)</b>	1459

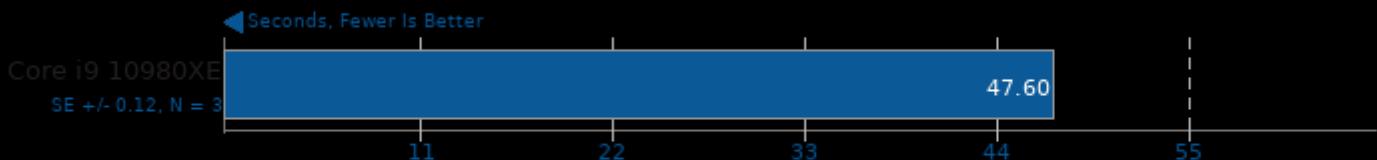
	Standard Deviation	0.8%
<b>MKL-DNN - D.B.d - f32 (ms)</b>	36.1764	
	Standard Deviation	3%
<b>MKL-DNN - C.B.c - f32 (ms)</b>	1955	
	Standard Deviation	2.8%
<b>MKL-DNN - C.B.c - f32 (ms)</b>	984.881	
	Standard Deviation	1.4%
<b>OSPray - XFrog Forest - SciVis (FPS)</b>	4.57	
	Standard Deviation	0.2%
<b>OSPray - M.R - SciVis (FPS)</b>	30.30	
	Standard Deviation	0%
<b>Embree - Pathtracer - Crown (FPS)</b>	19.6358	
	Standard Deviation	0.4%
<b>rav1e - 6 (FPS)</b>	1.153	
	Standard Deviation	0.1%
<b>rav1e - 9 (FPS)</b>	1.467	
	Standard Deviation	0.1%
<b>SVT-AV1 - 1.8.b.Y.T.A.V.E (FPS)</b>	54.707	
	Standard Deviation	0.7%
<b>SVT-AV1 - Enc Mode 4 - 1080p (FPS)</b>	6.489	
	Standard Deviation	1.4%
<b>SVT-AV1 - Enc Mode 8 - 1080p (FPS)</b>	53.569	
	Standard Deviation	0.3%
<b>SVT-HEVC - 1.8.b.Y.T.H.V.E (FPS)</b>	297.98	
	Standard Deviation	1%
<b>SVT-VP9 - 1.8.b.Y.T.V.V.E (FPS)</b>	329.19	
	Standard Deviation	2.8%
<b>SVT-VP9 - P.S.O - Bosphorus 1080p (FPS)</b>	325.51	
	Standard Deviation	2.9%
<b>SVT-VP9 - V.Q.O - Bosphorus 1080p (FPS)</b>	273.48	
	Standard Deviation	0.3%
<b>VP9 libvpx Encoding - Speed 0 (FPS)</b>	7.01	
	Standard Deviation	0.2%
<b>VP9 libvpx Encoding - Speed 5 (FPS)</b>	25.86	
	Standard Deviation	1.8%
<b>x264 - H.2.V.E (FPS)</b>	145.71	
	Standard Deviation	0.7%
<b>x265 - H.2.1.V.E (FPS)</b>	59.41	
	Standard Deviation	0.5%
<b>x265 - H.2.1.V.E (FPS)</b>	72.07	
	Standard Deviation	0.2%
<b>ACES DGEMM - S.F.P.R (GFLOP/s)</b>	5.725821	
	Standard Deviation	5.4%
<b>Intel Open Image Denoise - Memorial (Images / Sec)</b>	22.03	
	Standard Deviation	0.2%
<b>Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)</b>	709827	
	Standard Deviation	0.2%
<b>Himeno Benchmark - P.P.S (MFLOPS)</b>	3323	
	Standard Deviation	0.4%
<b>Himeno Benchmark - P.P.S (MFLOPS)</b>	4153	
	Standard Deviation	0.1%
<b>7-Zip Compression - C.S.T (MIPS)</b>	103598	
	Standard Deviation	0.9%

<b>Stockfish - Total Time (Nodes/s)</b>	49855902
Standard Deviation	1%
<b>asmFish - 1.H.M.2.D (Nodes/s)</b>	55311394
Standard Deviation	1.1%
<b>Swet - Average (Operations/sec)</b>	5258706868
Standard Deviation	2.9%
<b>ebizzy (Records/s)</b>	633972
Standard Deviation	4.6%
<b>Timed GCC Compilation - Time To Compile (sec)</b>	477.907
Standard Deviation	0.1%
<b>Timed Linux Kernel Compilation - Time To Compile (sec)</b>	40.629
Standard Deviation	2.2%
<b>Timed Linux Kernel Compilation - Time To Compile (sec)</b>	35.344
Standard Deviation	2.8%
<b>Timed PHP Compilation - Time To Compile (sec)</b>	81.021
Standard Deviation	0.6%
<b>C-Ray - Total Time - 4.1.R.P.P (sec)</b>	38.006
Standard Deviation	0.1%
<b>POV-Ray - Trace Time (sec)</b>	51.056
Standard Deviation	78.2%
<b>Rust Mandelbrot - T.T.C.S.P.M (sec)</b>	38.875
Standard Deviation	0%
<b>Tungsten Renderer - Hair (sec)</b>	13.9952
Standard Deviation	0.2%
<b>Tungsten Renderer - Water Caustic (sec)</b>	20.4144
Standard Deviation	0.4%
<b>Tungsten Renderer - Non-Exponential (sec)</b>	6.01810
Standard Deviation	2.4%
<b>Tungsten Renderer - Volumetric Caustic (sec)</b>	7.39468
Standard Deviation	1.3%
<b>rays1bench - Large Scene (mrays/s)</b>	99.65
Standard Deviation	0.1%
<b>XZ Compression - C.u.1.0.3.s.i.i.C.L.9 (sec)</b>	17.164
Standard Deviation	0.7%
<b>Zstd Compression - C.u.1.0.3.s.i.i.C.L.1 (sec)</b>	10.864
Standard Deviation	0.3%
<b>Cython benchmark (sec)</b>	22.130
Standard Deviation	1%
<b>dav1d - Summer Nature 4K (sec)</b>	18.867
Standard Deviation	0.4%
<b>dav1d - S.N.1 (sec)</b>	6.615
Standard Deviation	0.7%
<b>DeepSpeech - CPU (sec)</b>	105.66224
Standard Deviation	0.2%
<b>Hackbench - 32 - Process (sec)</b>	38.290
Standard Deviation	0.1%
<b>m-queens - Time To Solve (sec)</b>	42.751
Standard Deviation	0%
<b>OpenCV Benchmark (sec)</b>	62.048
Standard Deviation	0.3%
<b>Radiance Benchmark - Serial (sec)</b>	619.113
<b>Radiance Benchmark - SMP Parallel (sec)</b>	209.111
<b>OpenSSL - R.4.b.P (Signs/sec)</b>	5220

Standard Deviation 0.4%  
**glibc bench - cos (nanoseconds)** 36.2880  
Standard Deviation 0%  
**glibc bench - sin (nanoseconds)** 36.1245  
Standard Deviation 0.1%  
**glibc bench - sqrt (nanoseconds)** 1.60407  
Standard Deviation 0.1%  
**glibc bench - pthread\_once (nanoseconds)** 1.40894  
Standard Deviation 0.3%  
**libjpeg-turbo tjbench - D.T (Megapixels/sec)** 219.098116  
Standard Deviation 0.2%  
**GROMACS - Water Benchmark (Ns/Day)** 1.624  
Standard Deviation 0.1%  
**MariaDB - 64 (Queries/sec)** 219  
Standard Deviation 0.2%

## SQLite 3.30.1

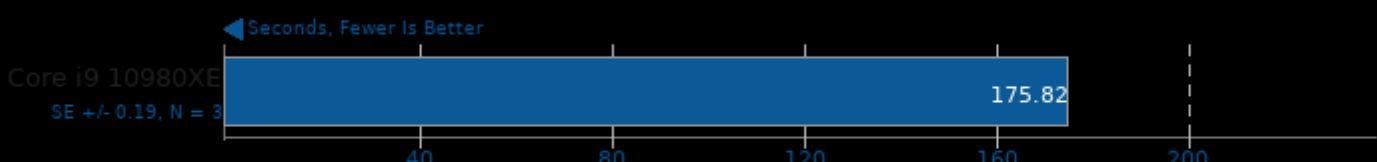
Threads / Copies: 1



1. (CC) gcc options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -lz -lm -ldl -lpthread

## SQLite 3.30.1

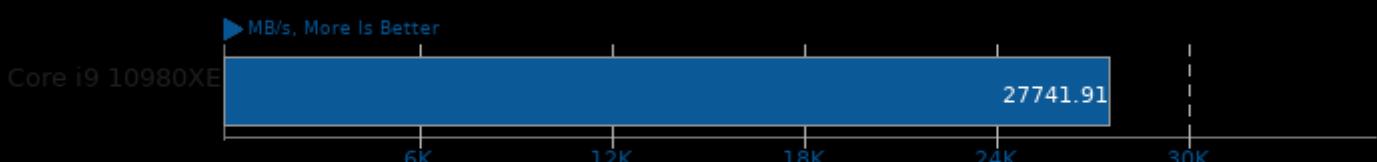
Threads / Copies: 8



1. (CC) gcc options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -lz -lm -ldl -lpthread

## RAMspeed SMP 3.5.0

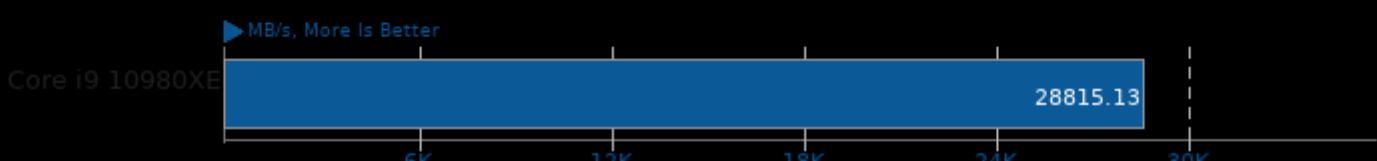
Type: Add - Benchmark: Integer



1. (CC) gcc options: -O3 -march=native -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake

## RAMspeed SMP 3.5.0

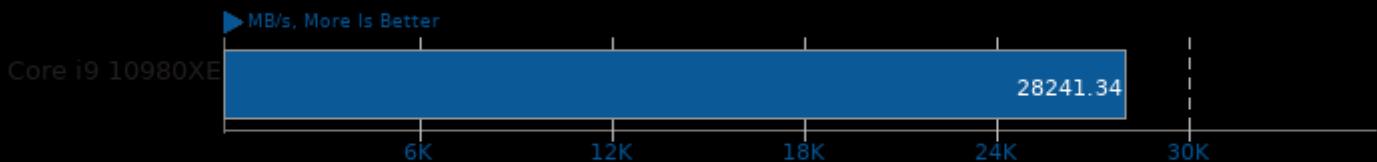
Type: Copy - Benchmark: Integer



1. (CC) gcc options: -O3 -march=native -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake

**RAMspeed SMP 3.5.0**

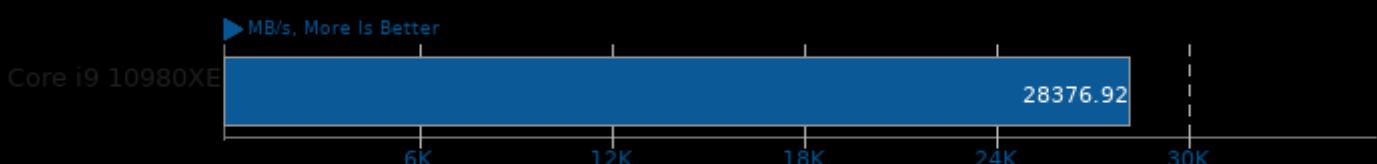
Type: Scale - Benchmark: Integer



1. (CC) gcc options: -O3 -march=native -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake

**RAMspeed SMP 3.5.0**

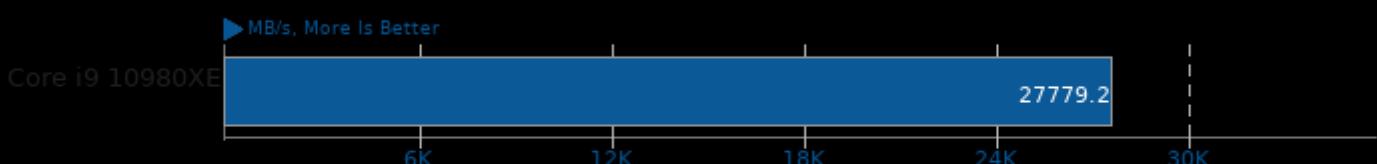
Type: Average - Benchmark: Integer



1. (CC) gcc options: -O3 -march=native -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake

**RAMspeed SMP 3.5.0**

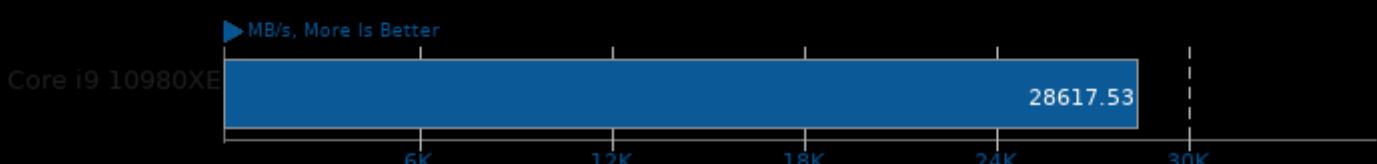
Type: Add - Benchmark: Floating Point



1. (CC) gcc options: -O3 -march=native -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake

**RAMspeed SMP 3.5.0**

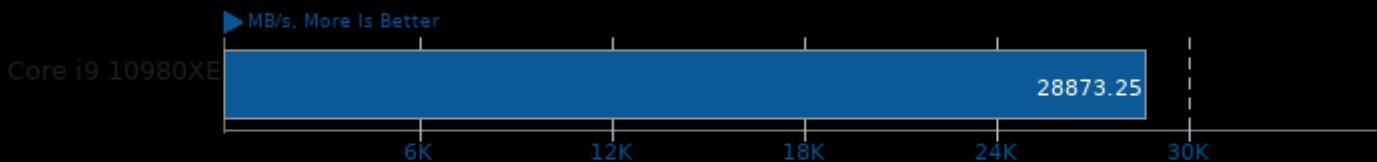
Type: Copy - Benchmark: Floating Point



1. (CC) gcc options: -O3 -march=native -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake

## RAMspeed SMP 3.5.0

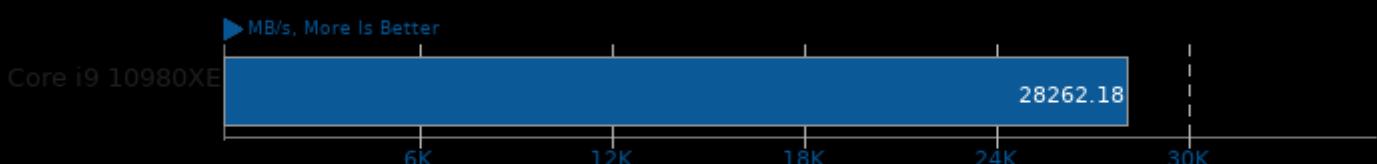
Type: Scale - Benchmark: Floating Point



1. (CC) gcc options: -O3 -march=native -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake

## RAMspeed SMP 3.5.0

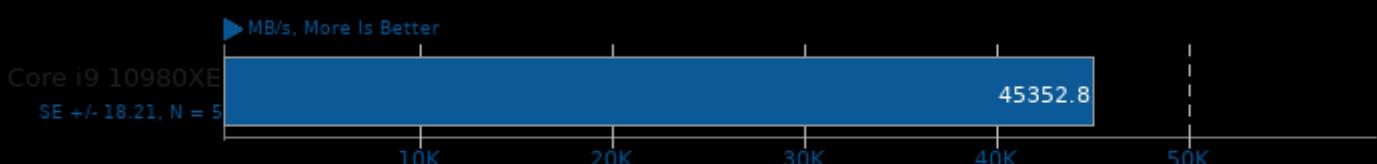
Type: Average - Benchmark: Floating Point



1. (CC) gcc options: -O3 -march=native -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake

## Stream 2013-01-17

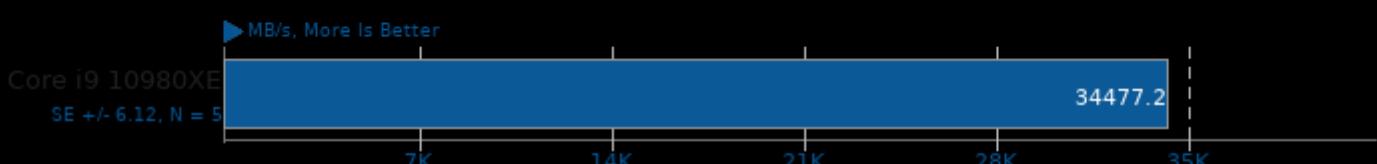
Type: Copy



1. (CC) gcc options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -march=native -fopenmp

## Stream 2013-01-17

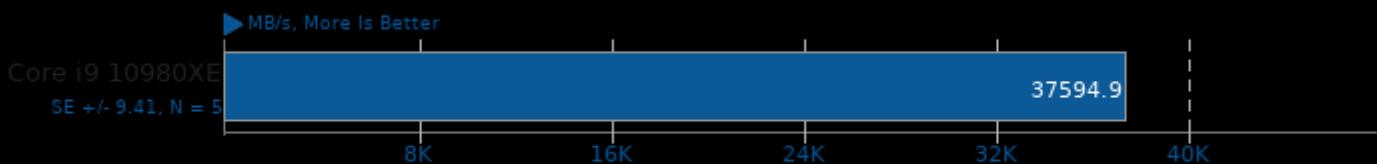
Type: Scale



1. (CC) gcc options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -march=native -fopenmp

## Stream 2013-01-17

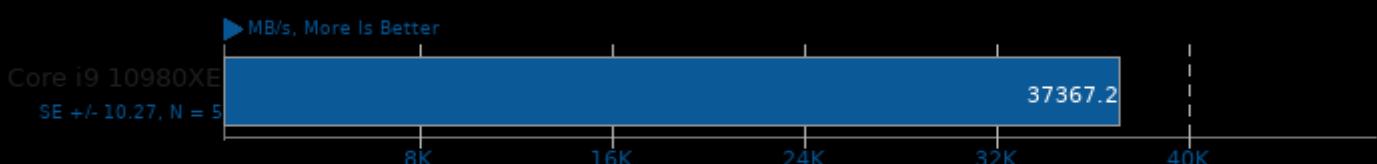
Type: Triad



```
1. (CC) gcc options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -march=native -fopenmp
```

## Stream 2013-01-17

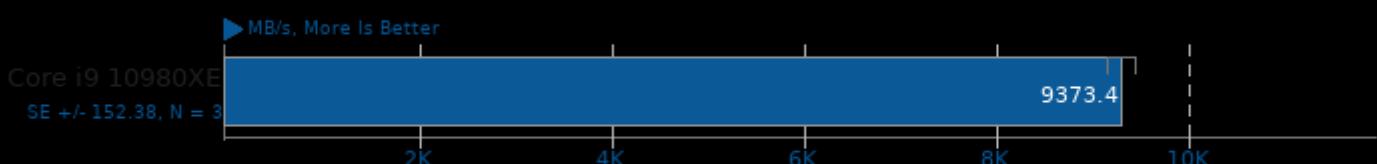
Type: Add



```
1. (CC) gcc options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -march=native -fopenmp
```

## Tinymembench 2018-05-28

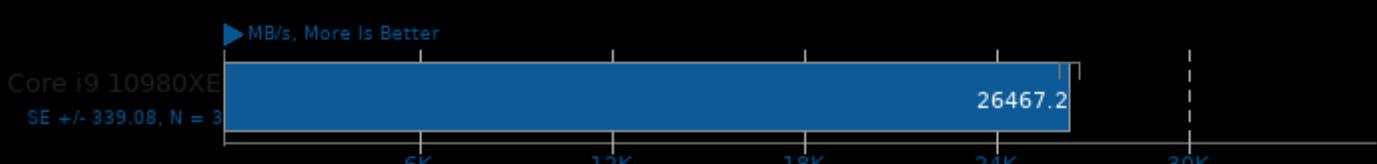
Standard Memcpy



```
1. (CC) gcc options: -O2 -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -lm
```

## Tinymembench 2018-05-28

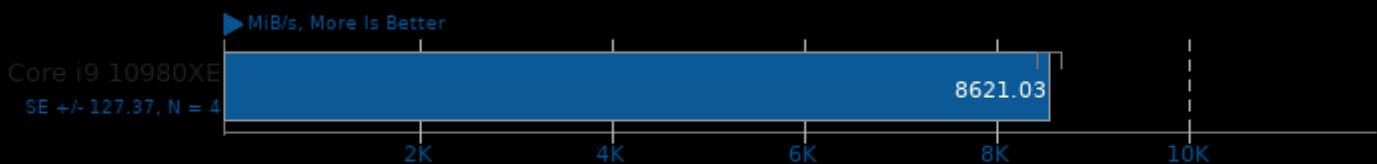
Standard Memset



```
1. (CC) gcc options: -O2 -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -lm
```

## MBW 2018-09-08

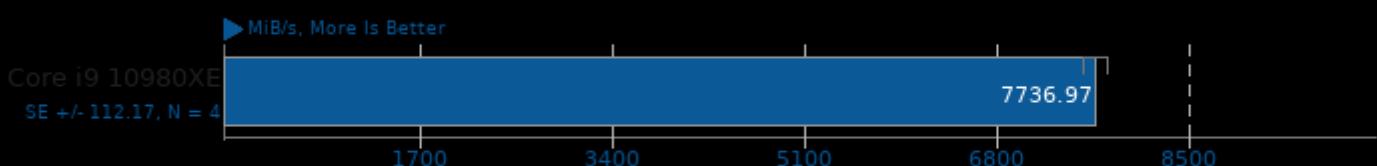
Test: Memory Copy - Array Size: 4096 MiB



1. (CC) gcc options: -O3 -march=native -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake

## MBW 2018-09-08

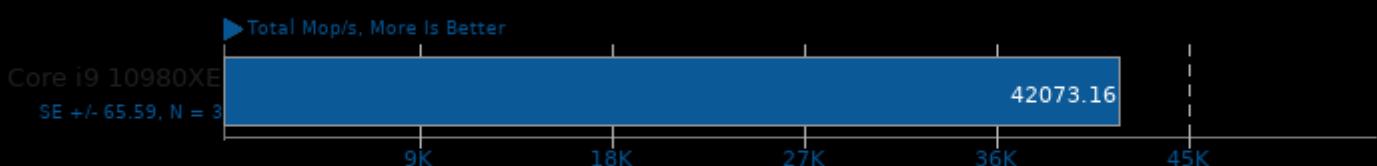
Test: Memory Copy, Fixed Block Size - Array Size: 4096 MiB



1. (CC) gcc options: -O3 -march=native -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake

## NAS Parallel Benchmarks 3.4

Test / Class: BT.C

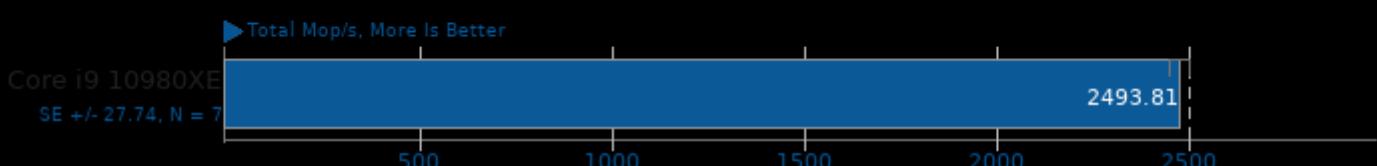


1. (F9X) gfortran options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -march=native -pthread -lm

2. 3.2

## NAS Parallel Benchmarks 3.4

Test / Class: EP.D

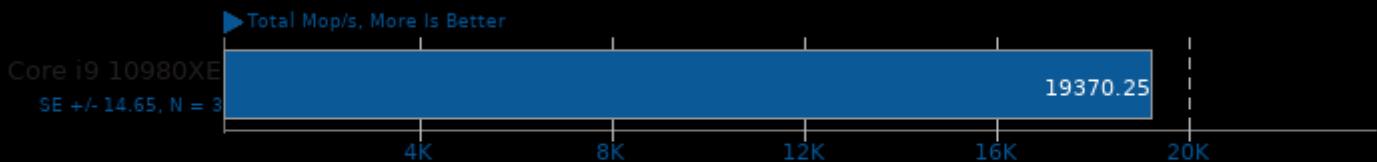


1. (F9X) gfortran options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -march=native -pthread -lm

2. 3.2

## NAS Parallel Benchmarks 3.4

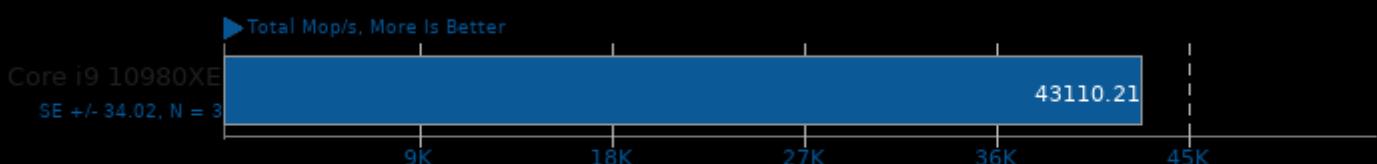
Test / Class: FT.C



1. (F9X) gfortran options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -march=native -pthread -lm  
2. 3.2

## NAS Parallel Benchmarks 3.4

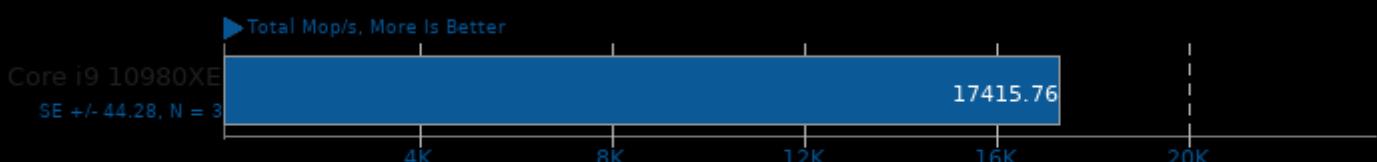
Test / Class: LU.C



1. (F9X) gfortran options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -march=native -pthread -lm  
2. 3.2

## NAS Parallel Benchmarks 3.4

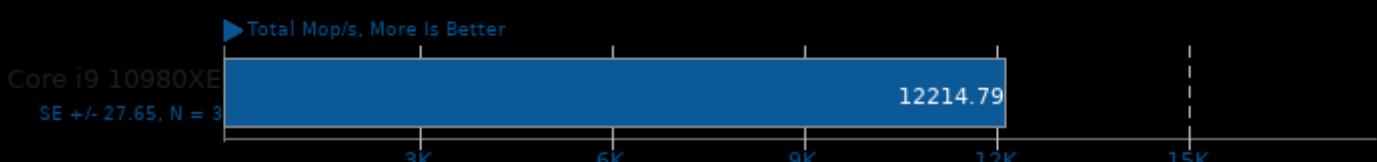
Test / Class: MG.C



1. (F9X) gfortran options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -march=native -pthread -lm  
2. 3.2

## NAS Parallel Benchmarks 3.4

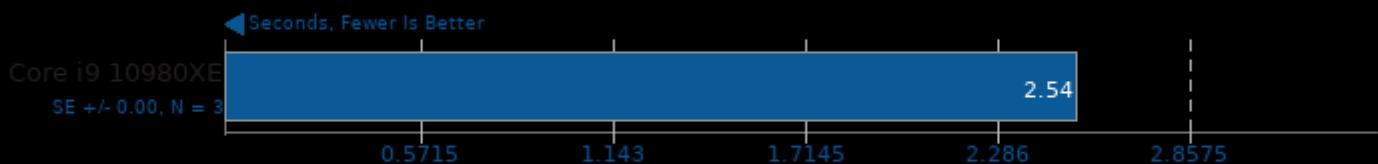
Test / Class: SP.B



1. (F9X) gfortran options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -march=native -pthread -lm  
2. 3.2

## CloverLeaf

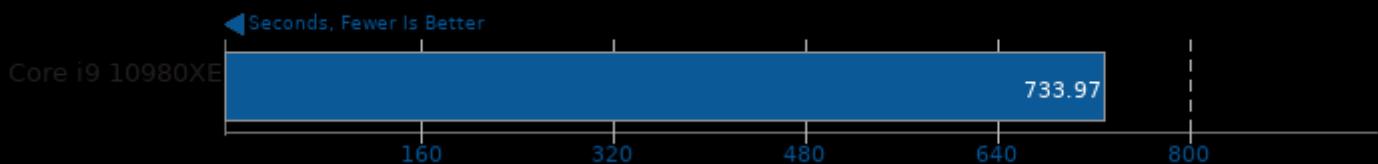
Lagrangian-Eulerian Hydrodynamics



1. (F9X) gfortran options: -O3 -march=native -funroll-loops -fopenmp

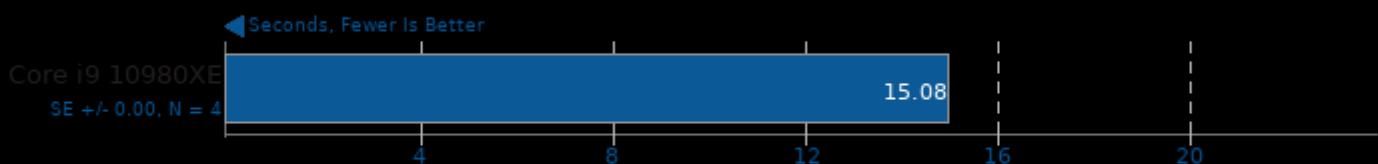
## CP2K Molecular Dynamics 6.1

Fayalite-FIST Data



## Rodinia 2.4

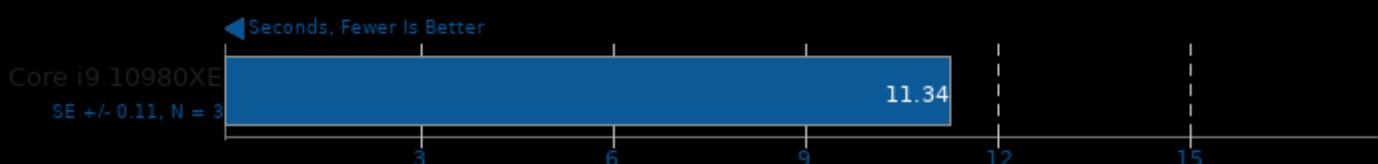
Test: OpenMP LavaMD



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

## Rodinia 2.4

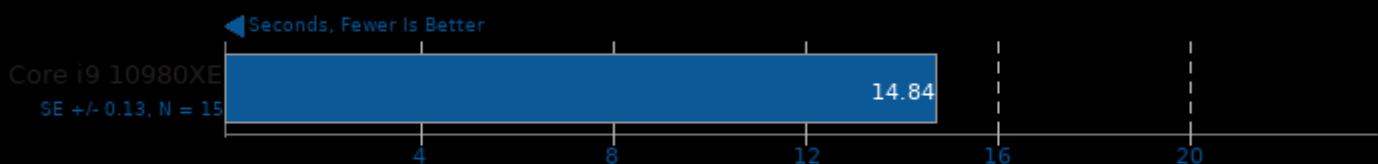
Test: OpenMP CFD Solver



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

## Rodinia 2.4

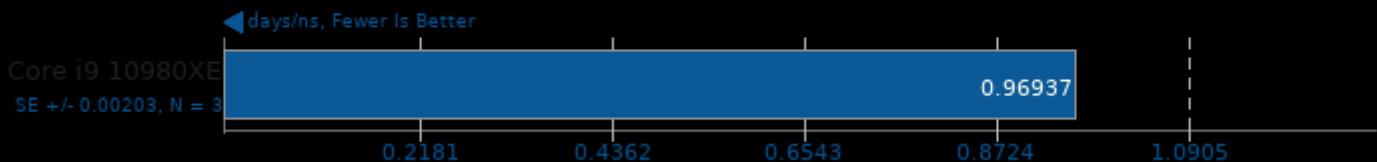
Test: OpenMP Streamcluster



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

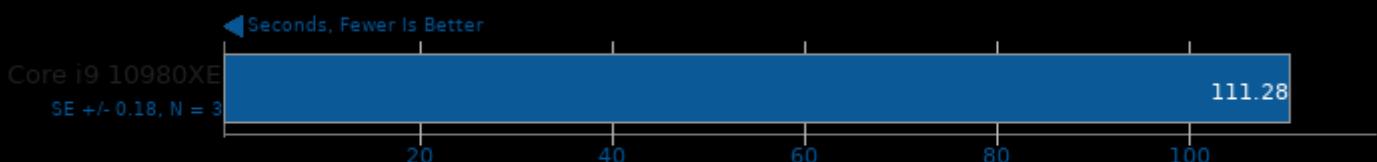
## NAMD 2.13b1

ATPase Simulation - 327,506 Atoms



## Timed MrBayes Analysis 3.2.7

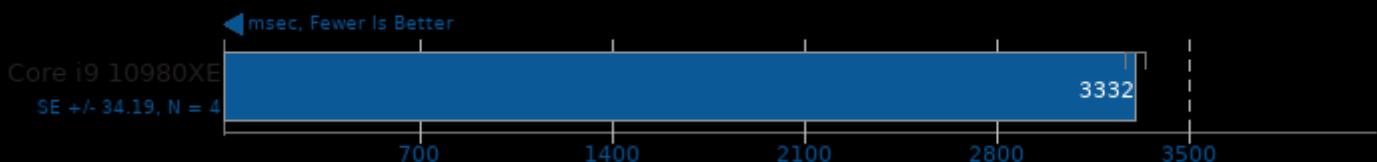
Primate Phylogeny Analysis



1. (CC) gcc options: -mmmx -msse -msse2 -msse3 -mssse3 -msse4.1 -msse4.2 -maes -mavx -mfma -mavx2 -mavx512f -mavx512cd -mavx512vl -mavx512vle

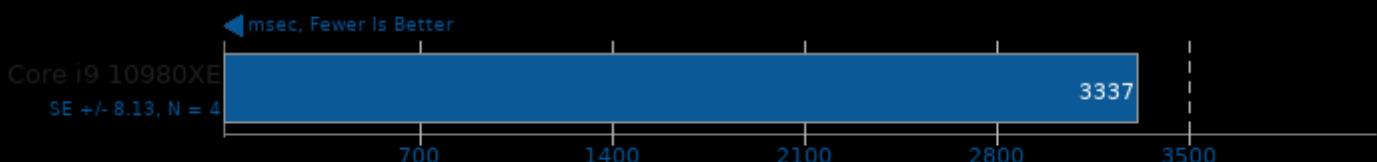
## DaCapo Benchmark 9.12-MR1

Java Test: H2



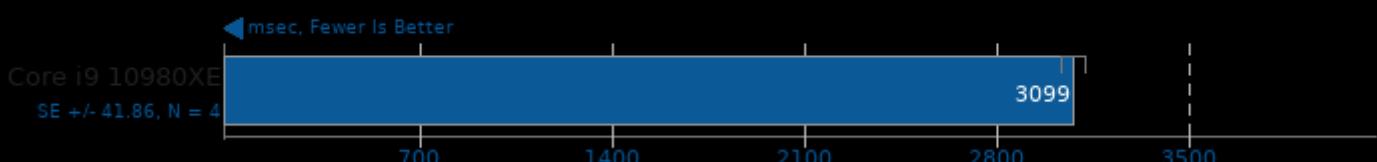
## DaCapo Benchmark 9.12-MR1

Java Test: Jython



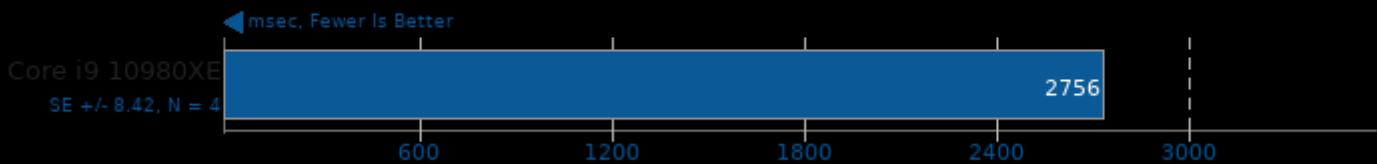
## DaCapo Benchmark 9.12-MR1

Java Test: Tradesoap



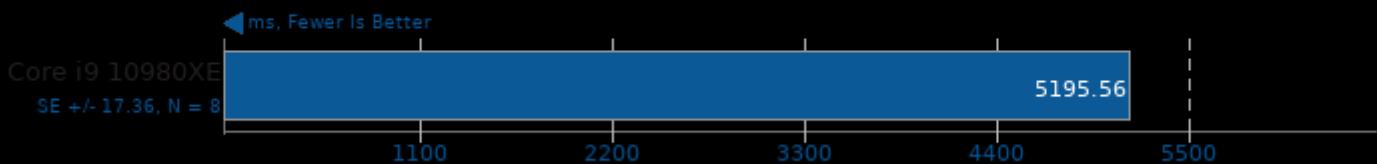
## DaCapo Benchmark 9.12-MR1

Java Test: Tradebeans



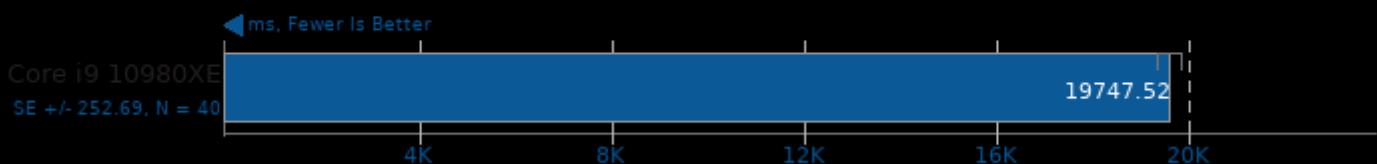
## Renaissance 0.9.0

Test: Scala Dotty



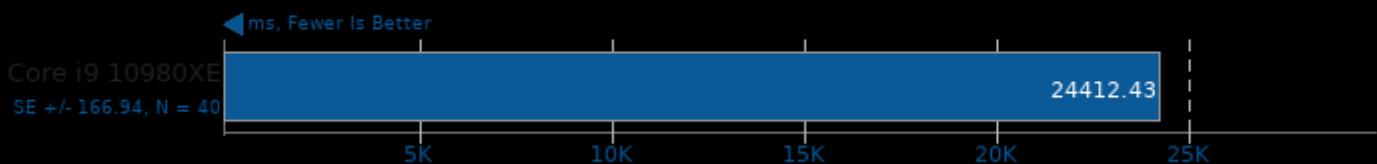
## Renaissance 0.9.0

Test: Savina Reactors.IO



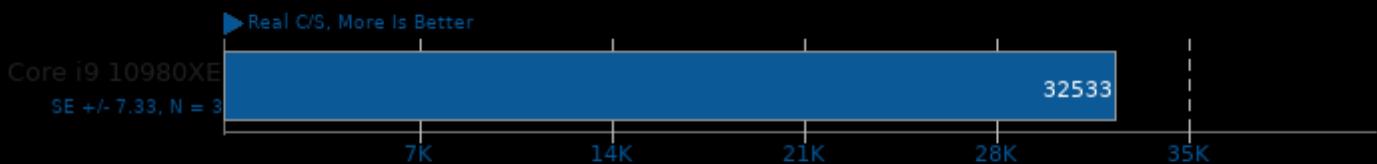
## Renaissance 0.9.0

Test: Apache Spark PageRank



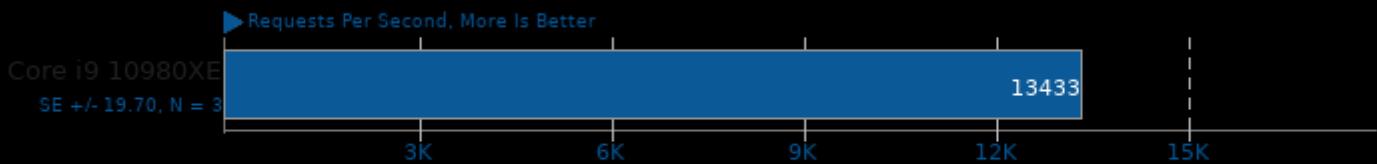
## John The Ripper 1.9.0-jumbo-1

Test: Blowfish



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

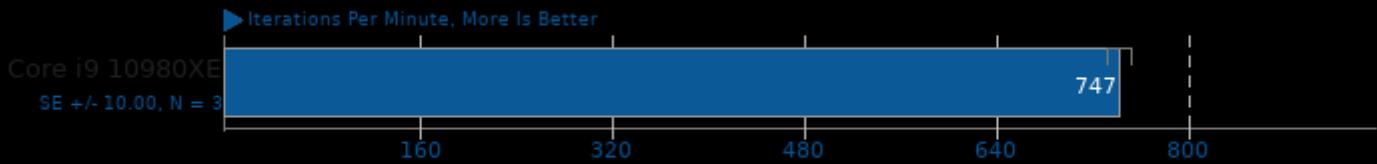
## Node.js Express HTTP Load Test



1. Nodejs

## GraphicsMagick 1.3.33

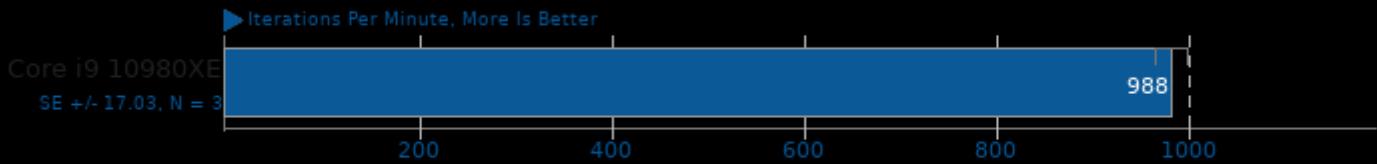
Operation: Swirl



1. (CC) gcc options: -fopenmp -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -pthread -lcms2 -ltiff -lf

## GraphicsMagick 1.3.33

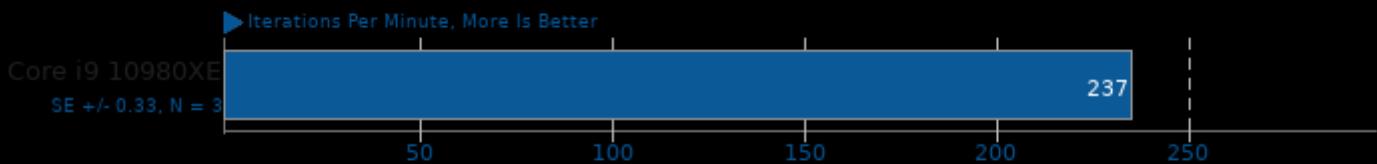
Operation: Rotate



1. (CC) gcc options: -fopenmp -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -pthread -lcms2 -ltiff -lf

## GraphicsMagick 1.3.33

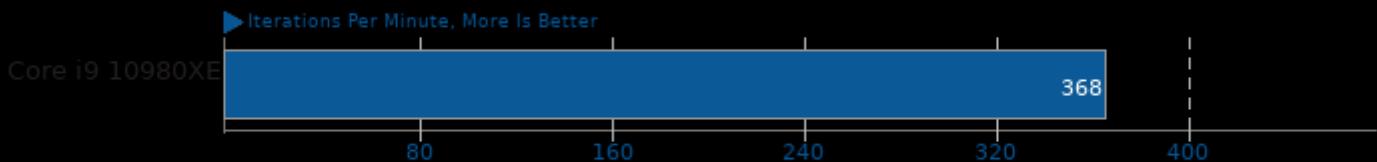
Operation: Sharpen



1. (CC) gcc options: -fopenmp -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -pthread -lcms2 -ltiff -lf

## GraphicsMagick 1.3.33

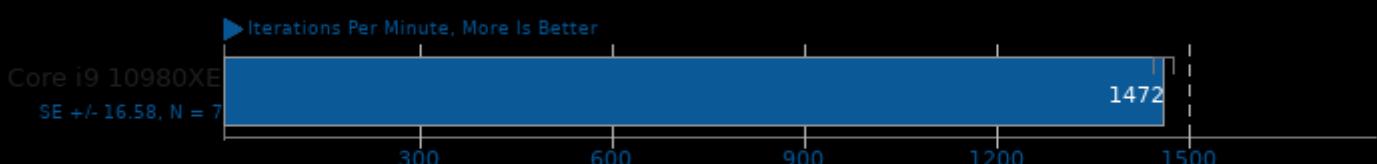
Operation: Enhanced



1. (CC) gcc options: -fopenmp -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -pthread -lIcms2 -ltiff -lf

## GraphicsMagick 1.3.33

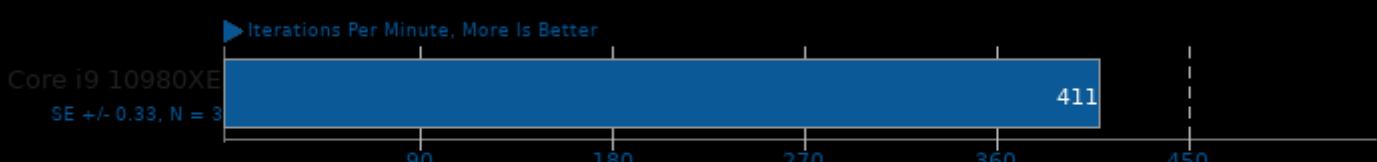
Operation: Resizing



1. (CC) gcc options: -fopenmp -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -pthread -lIcms2 -ltiff -lf

## GraphicsMagick 1.3.33

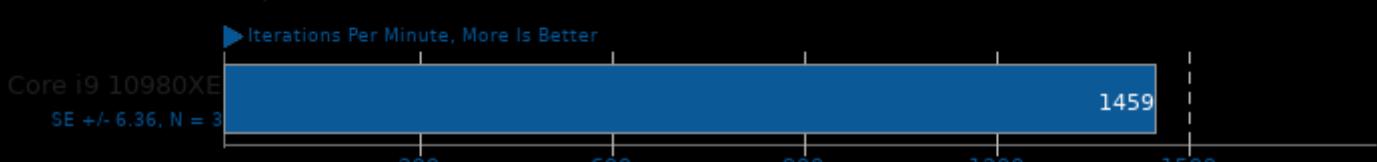
Operation: Noise-Gaussian



1. (CC) gcc options: -fopenmp -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -pthread -lIcms2 -ltiff -lf

## GraphicsMagick 1.3.33

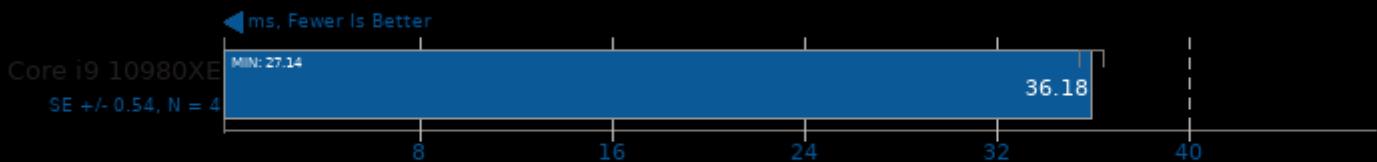
Operation: HWB Color Space



1. (CC) gcc options: -fopenmp -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -pthread -lIcms2 -ltiff -lf

### MKL-DNN 2019-04-16

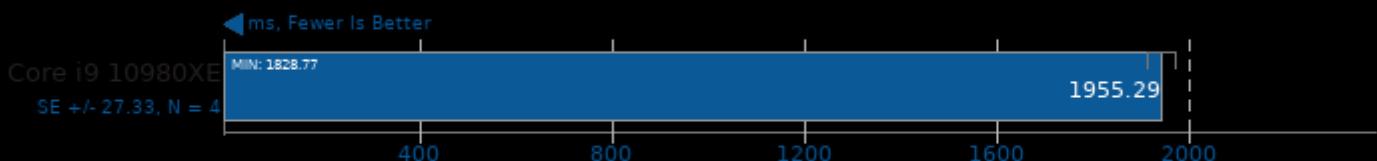
Harness: Deconvolution Batch deconv\_1d - Data Type: f32



1. (CXX) g++ options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -std=c++11 -march=native -mt

### MKL-DNN 2019-04-16

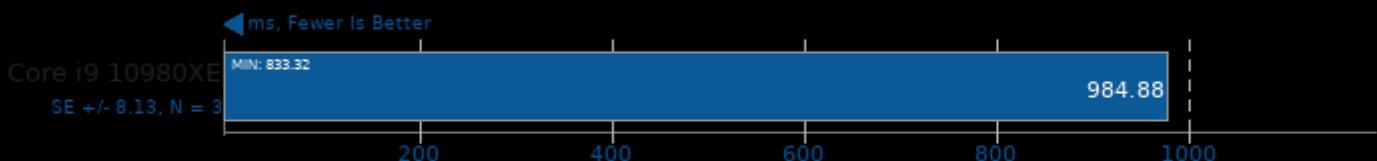
Harness: Convolution Batch conv\_alexnet - Data Type: f32



1. (CXX) g++ options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -std=c++11 -march=native -mt

### MKL-DNN 2019-04-16

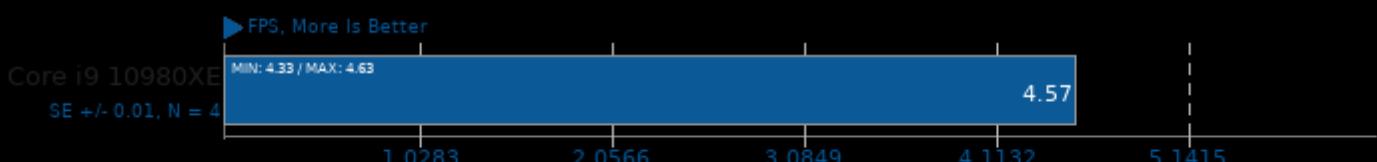
Harness: Convolution Batch conv\_googlenet\_v3 - Data Type: f32



1. (CXX) g++ options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -std=c++11 -march=native -mt

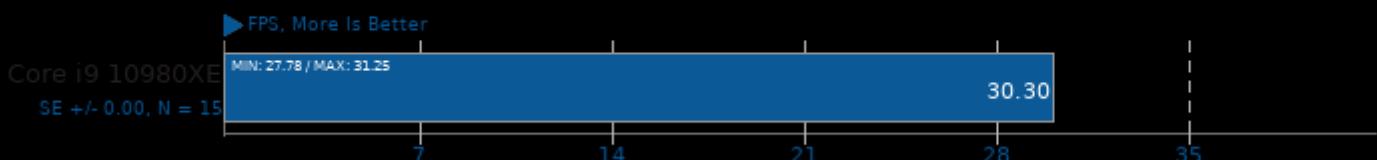
### OSpray 1.8.5

Demo: XFrog Forest - Renderer: SciVis



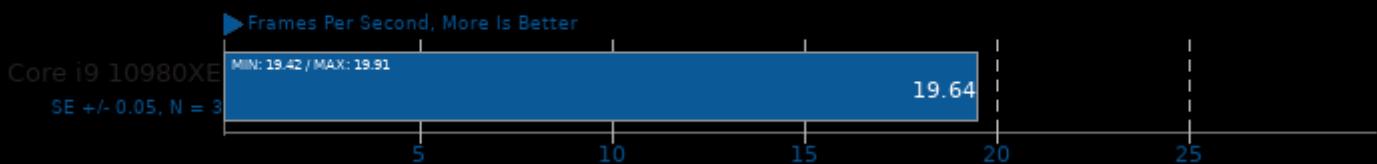
### OSpray 1.8.5

Demo: Magnetic Reconnection - Renderer: SciVis



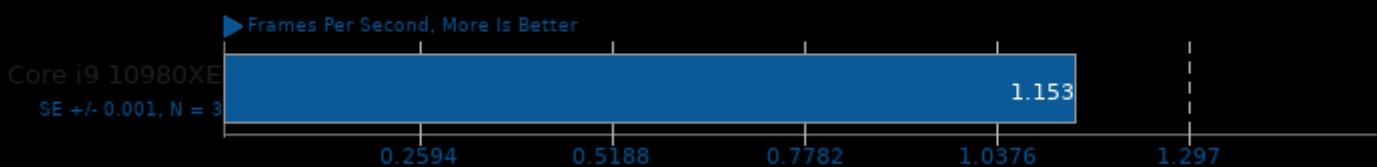
## Embree 3.6.1

Binary: Pathtracer - Model: Crown



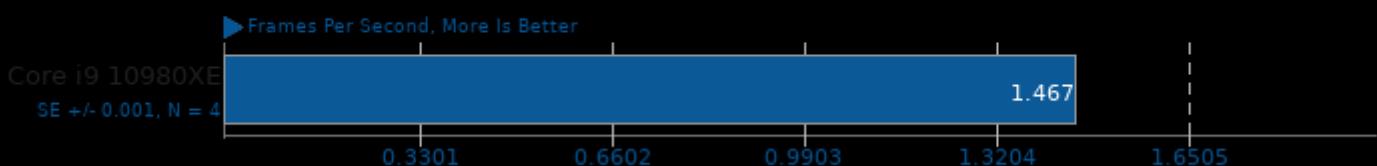
## ravle 0.2.0

Speed: 6



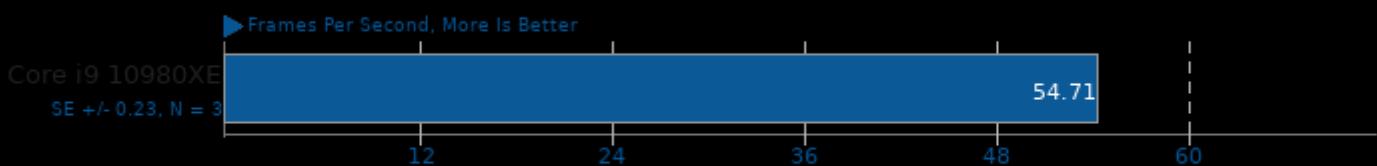
## ravle 0.2.0

Speed: 9



## SVT-AV1 0.5

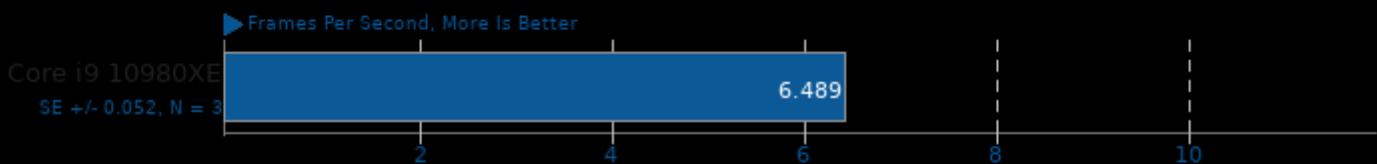
1080p 8-bit YUV To AV1 Video Encode



1. (CXX) g++ options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -pie -lpthread -lm

## SVT-AV1 0.8

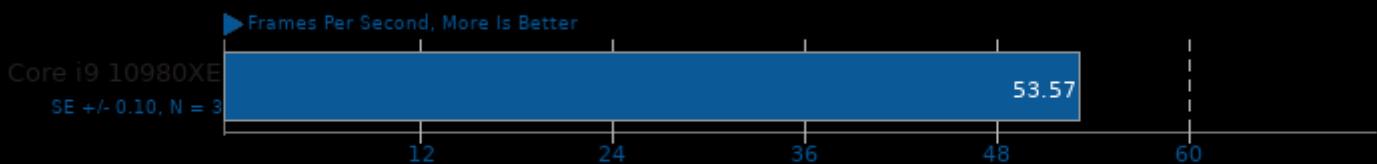
Encoder Mode: Enc Mode 4 - Input: 1080p



1. (CXX) g++ options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -fPIE -fPIC -pie

## SVT-AV1 0.8

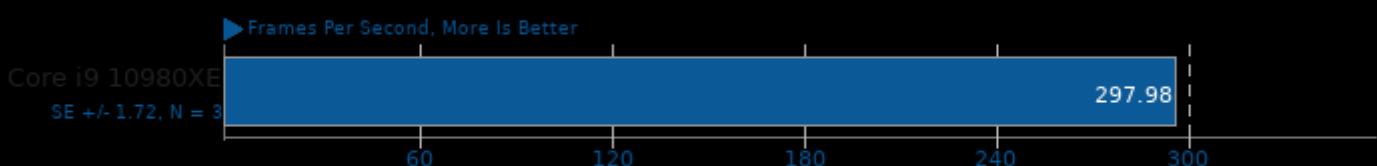
Encoder Mode: Enc Mode 8 - Input: 1080p



1. (CXX) g++ options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -fPIE -fPIC -pie

## SVT-HEVC 2019-02-03

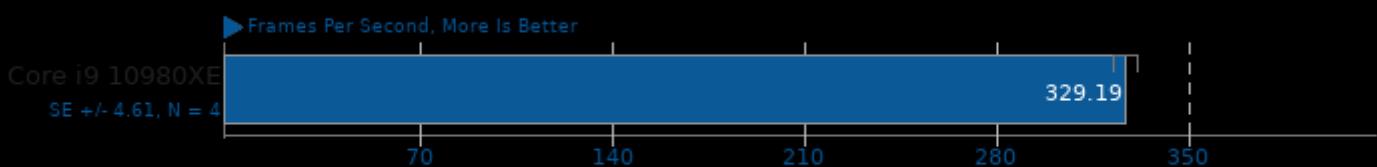
1080p 8-bit YUV To HEVC Video Encode



1. (CC) gcc options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -fPIE -fPIC -O2 -flto -fvisibility=hidden

## SVT-VP9 2019-02-17

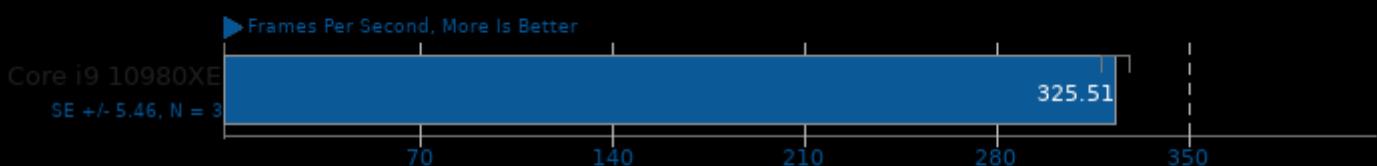
1080p 8-bit YUV To VP9 Video Encode



1. (CC) gcc options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -fPIE -fPIC -O2 -flto -fvisibility=hidden

## SVT-VP9 0.1

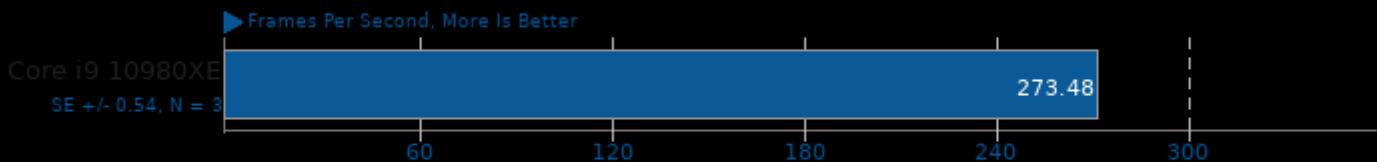
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -fPIE -fPIC -fvisibility=hidden -pie -

## SVT-VP9 0.1

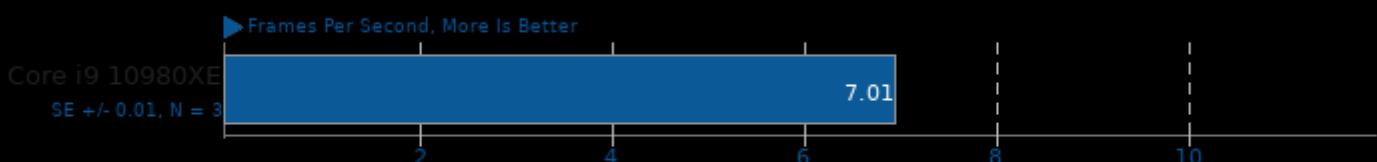
Tuning: Visual Quality Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -fPIE -fPIC -fvisibility=hidden -pie -fno-pie

## VP9 libvpx Encoding 1.8.2

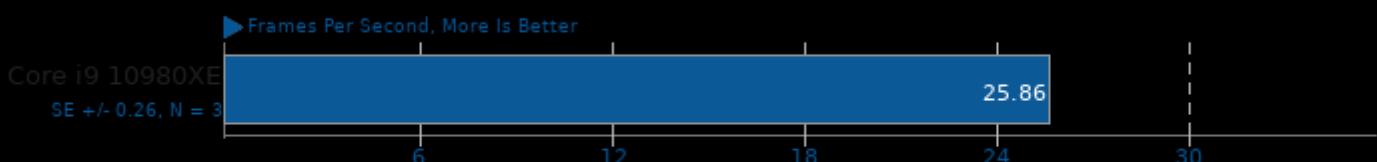
Speed: Speed 0



1. (CXX) g++ options: -m64 -lstdc++ -lpthread -O3 -pipe -fexceptions -fstack-protector -ffat-lto-objects -fno-trapping-math -mtune=skylake -fPIC -std=c++11

## VP9 libvpx Encoding 1.8.2

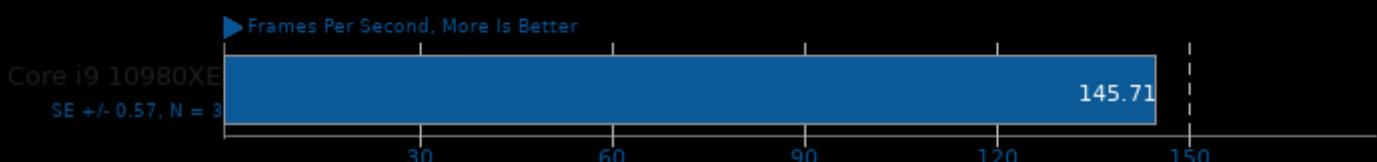
Speed: Speed 5



1. (CXX) g++ options: -m64 -lstdc++ -lpthread -O3 -pipe -fexceptions -fstack-protector -ffat-lto-objects -fno-trapping-math -mtune=skylake -fPIC -std=c++11

## x264 2018-09-25

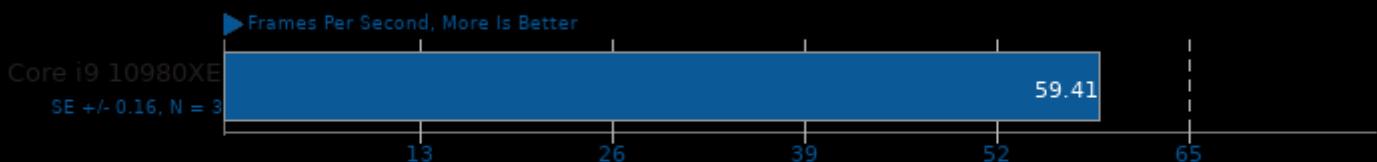
H.264 Video Encoding



1. (CC) gcc options: -ldl -m64 -lstdc++ -lpthread -O3 -ffast-math -pipe -fexceptions -fstack-protector -ffat-lto-objects -fno-trapping-math -mtune=skylake -std=c++11

## x265 3.0

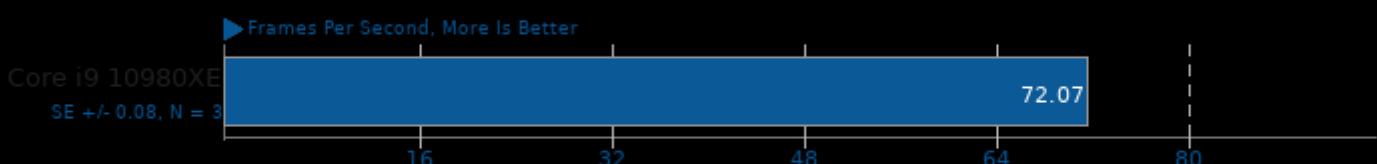
H.265 1080p Video Encoding



1. (CXX) g++ options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -rdynamic -lpthread -lrt -ldl -lnu

## x265 3.1.2

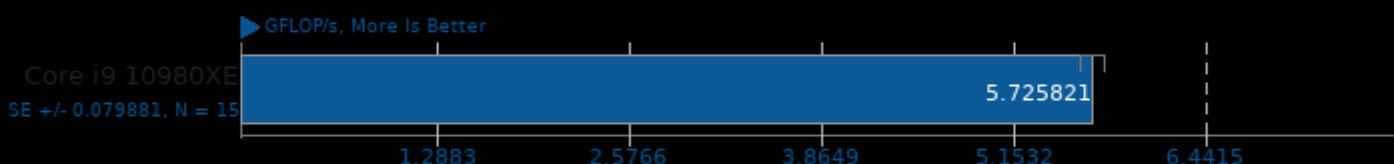
H.265 1080p Video Encoding



1. (CXX) g++ options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -rdynamic -lpthread -lrt -ldl -lnu

## ACES DGEMM 1.0

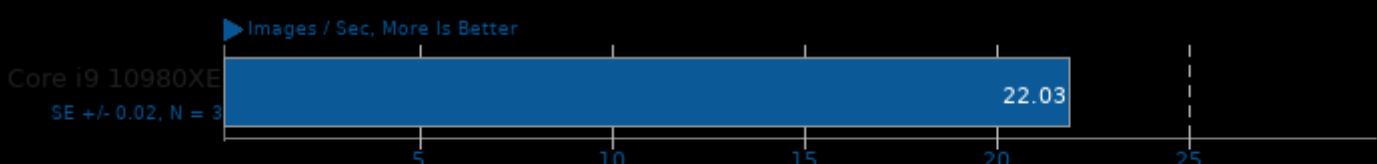
Sustained Floating-Point Rate



1. (CC) gcc options: -O3 -march=native -fopenmp -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake

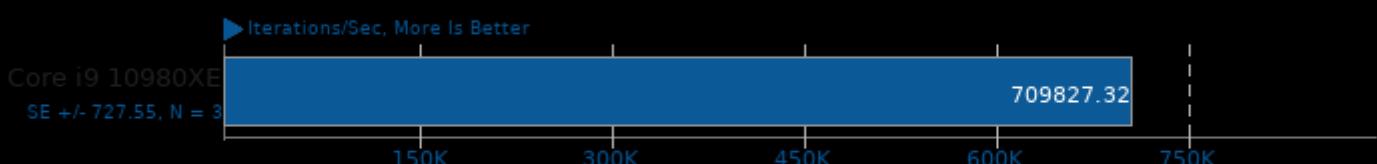
## Intel Open Image Denoise 1.0.0

Scene: Memorial



## Coremark 1.0

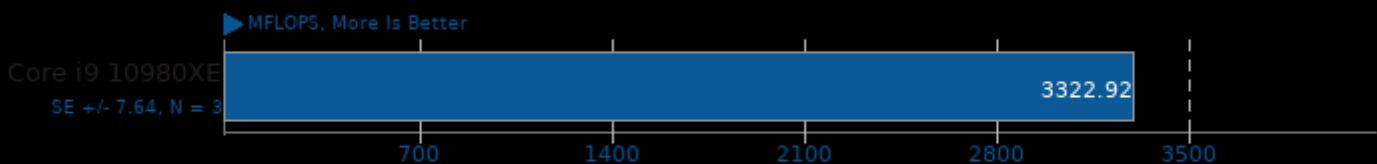
CoreMark Size 666 - Iterations Per Second



1. (CC) gcc options: -O2 -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -lrt\* -lrt

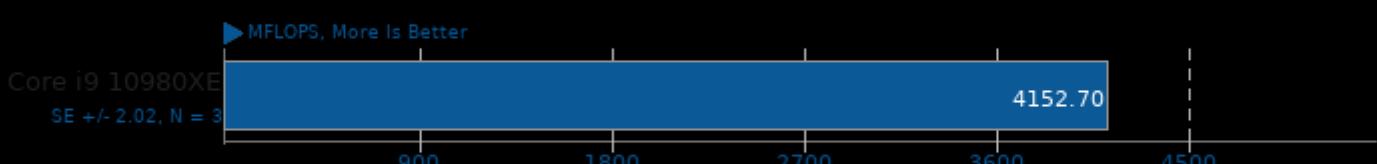
## Himeno Benchmark 3.0

Poisson Pressure Solver



## Himeno Benchmark 3.0

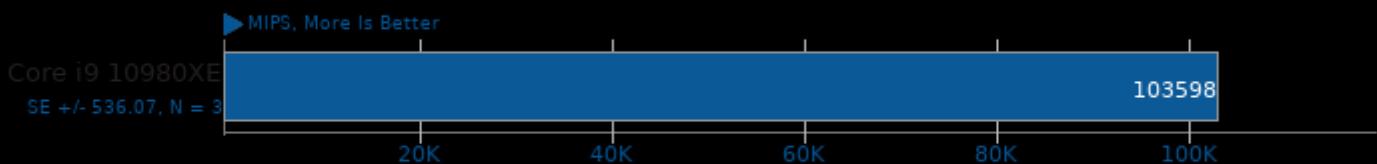
Poisson Pressure Solver



1. (CC) gcc options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -mavx2

## 7-Zip Compression 16.02

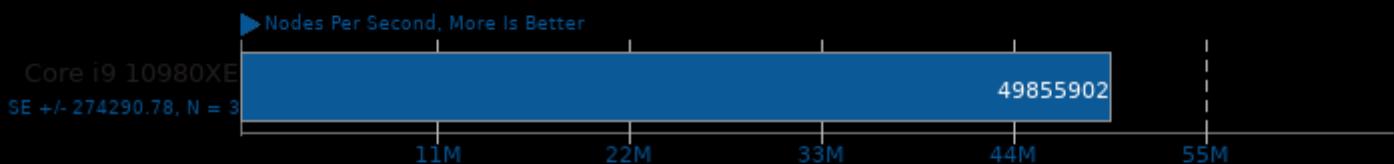
Compress Speed Test



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

## Stockfish 9

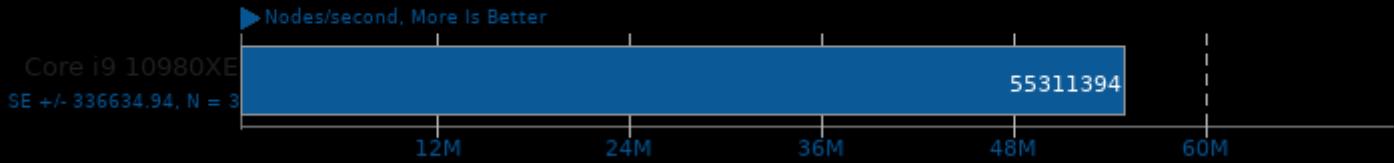
Total Time



1. (CXX) g++ options: -m64 -lpthread -O3 -pipe -fexceptions -fstack-protector -ffat-lto-objects -fno-trapping-math -mtune=skylake -fno-exceptions -std=c++11

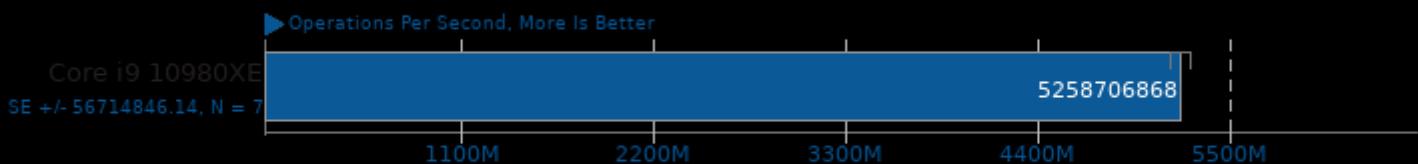
## asmFish 2018-07-23

1024 Hash Memory, 26 Depth

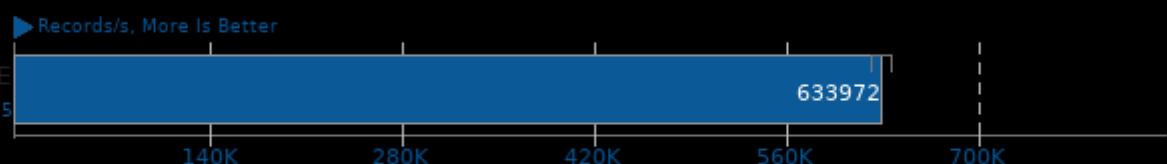


## Swet 1.5.16

Average

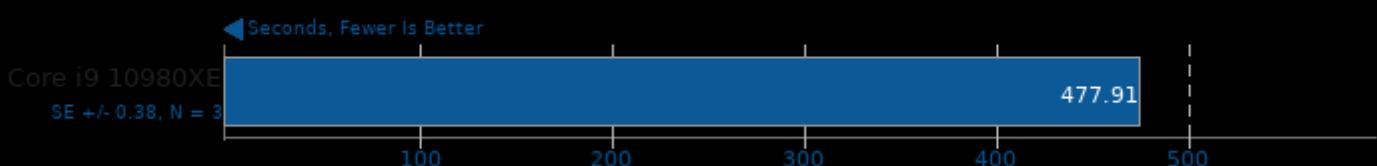


## ebizzy 0.3



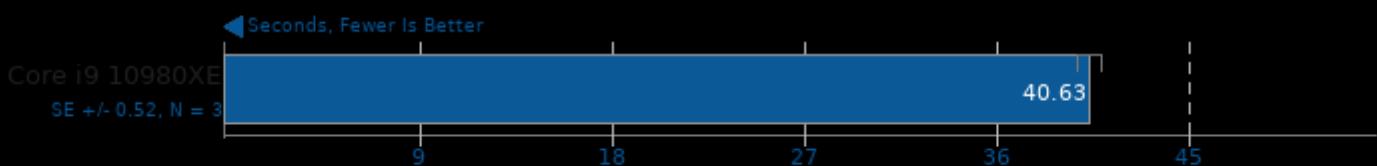
## Timed GCC Compilation 8.2

Time To Compile



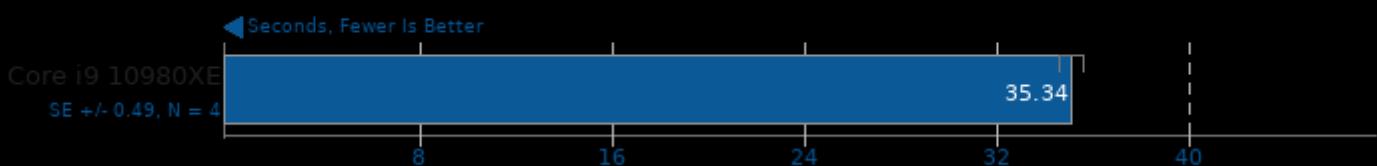
## Timed Linux Kernel Compilation 5.4

Time To Compile



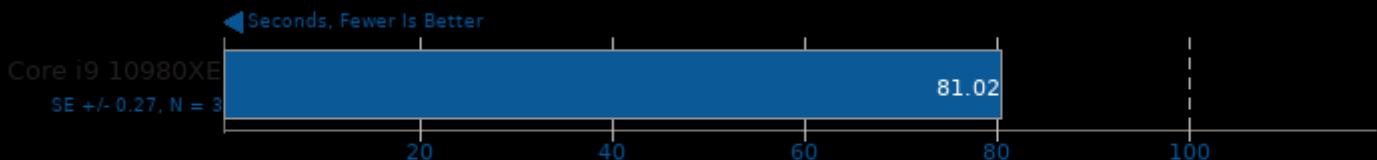
## Timed Linux Kernel Compilation 4.18

Time To Compile



## Timed PHP Compilation 7.1.9

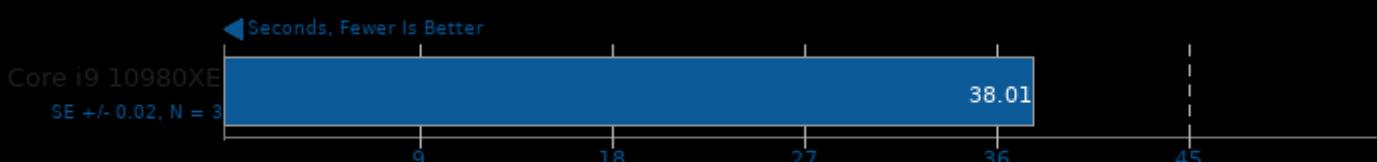
Time To Compile



1. (CC) gcc options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -pedantic -ldl -lz -lm

## C-Ray 1.1

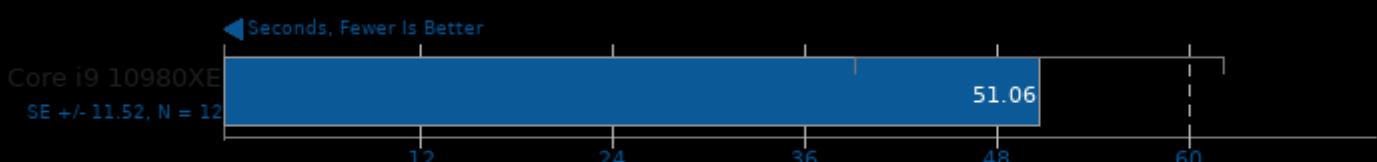
Total Time - 4K, 16 Rays Per Pixel



1. (CC) gcc options: -lm -lpthread -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake

## POV-Ray 3.7.0.7

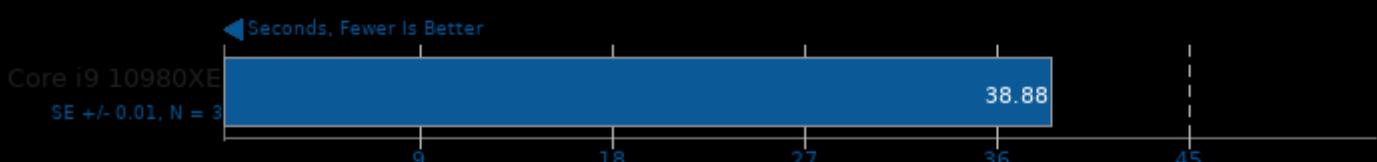
Trace Time



1. (CXX) g++ options: -pipe -O3 -ffast-math -march=native -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -pthread

## Rust Mandelbrot

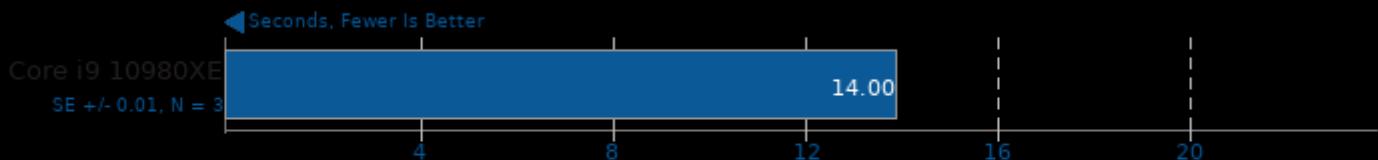
Time To Complete Serial/Parallel Mandelbrot



1. (CC) gcc options: -m64 -pie -nodefaultlibs -lutil -ldl -lrt -lpthread -lgcc\_s -lc -lm

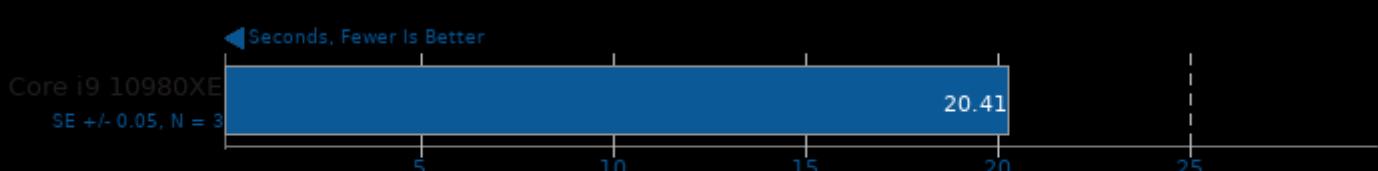
## Tungsten Renderer 0.2.2

Scene: Hair



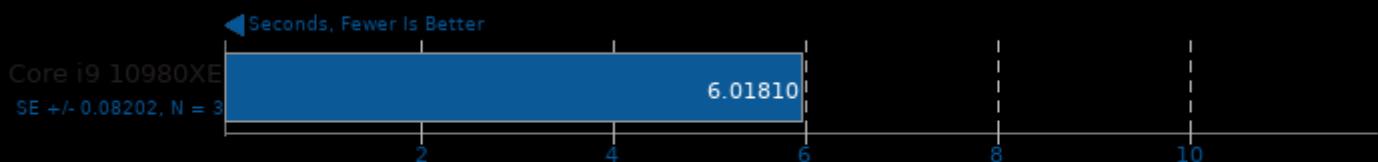
## Tungsten Renderer 0.2.2

Scene: Water Caustic



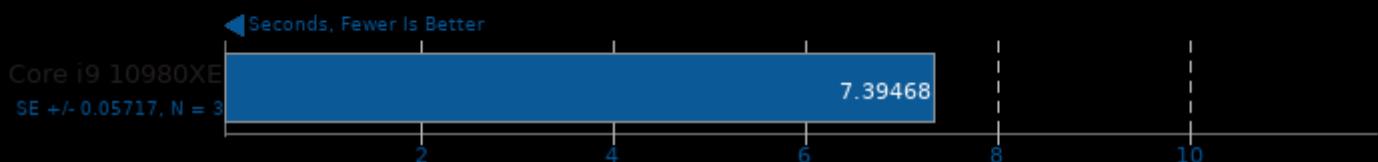
## Tungsten Renderer 0.2.2

Scene: Non-Exponential



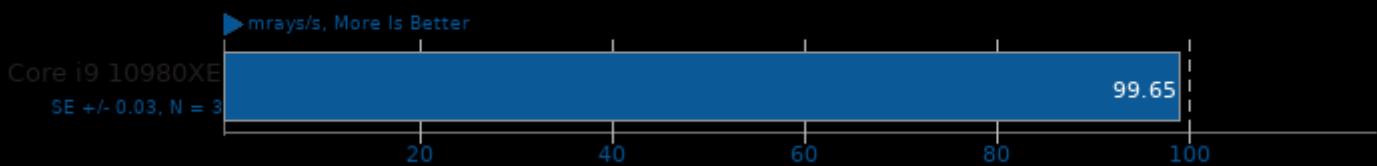
## Tungsten Renderer 0.2.2

Scene: Volumetric Caustic



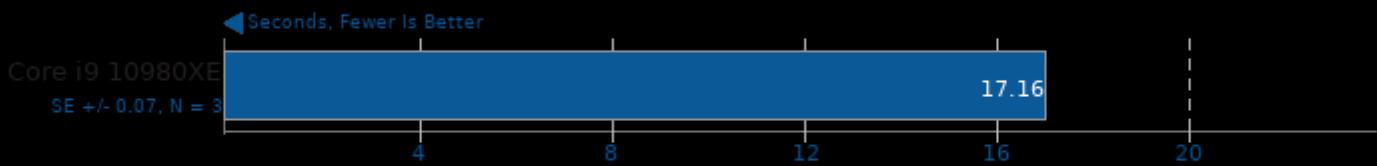
## rays1bench 2020-01-09

Large Scene



## XZ Compression 5.2.4

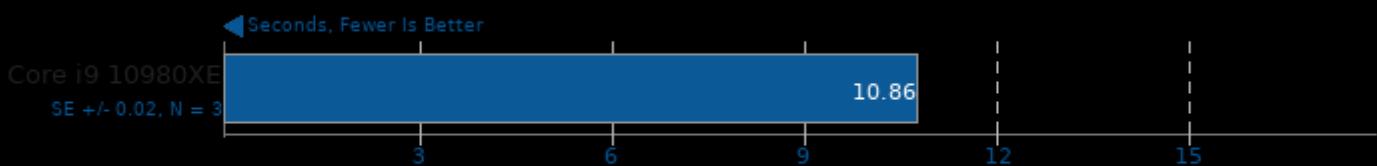
Compressing ubuntu-16.04.3-server-i386.img, Compression Level 9



1. (CC) gcc options: -pthread -fvisibility=hidden -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake

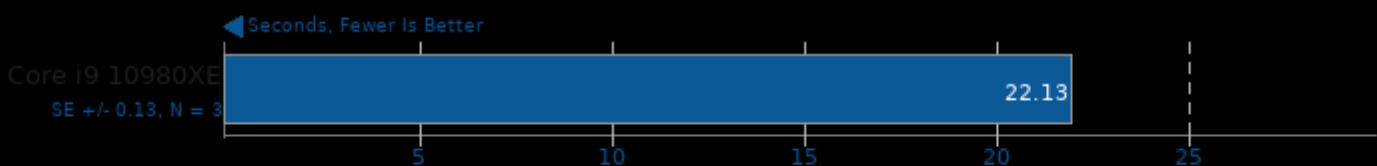
## Zstd Compression 1.3.4

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



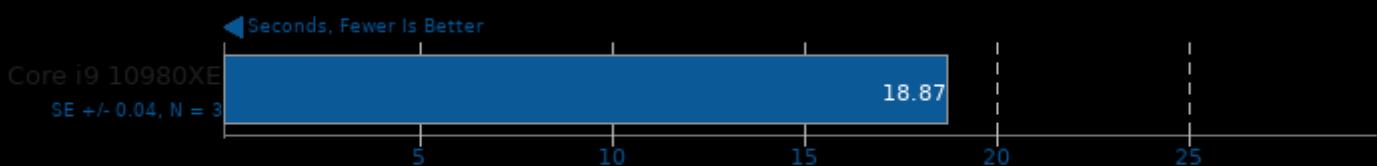
1. (CC) gcc options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -pthread -lz

## Cython benchmark 0.27



## dav1d 0.3

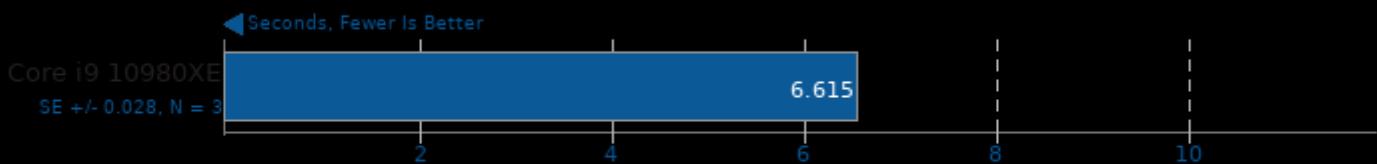
Video Input: Summer Nature 4K



1. (CC) gcc options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -pthread

## dav1d 0.3

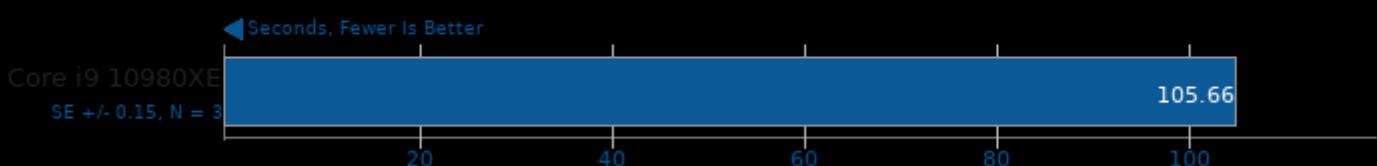
Video Input: Summer Nature 1080p



1. (CC) gcc options: -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -pthread

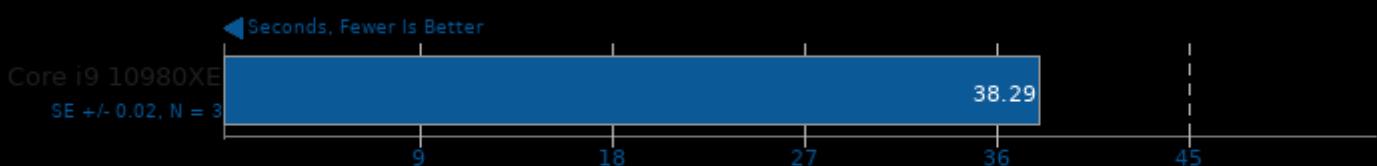
## DeepSpeech 0.6

Acceleration: CPU



## Hackbench

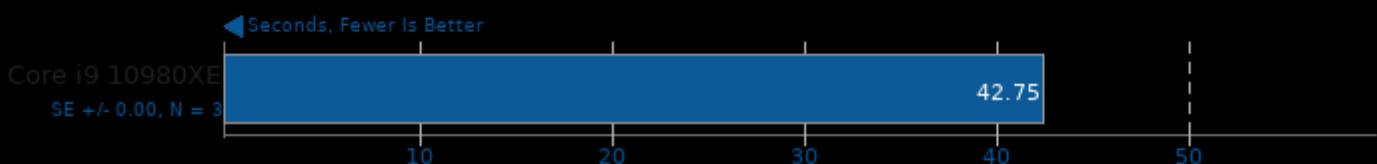
Count: 32 - Type: Process



1. (CC) gcc options: -lpthread -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake

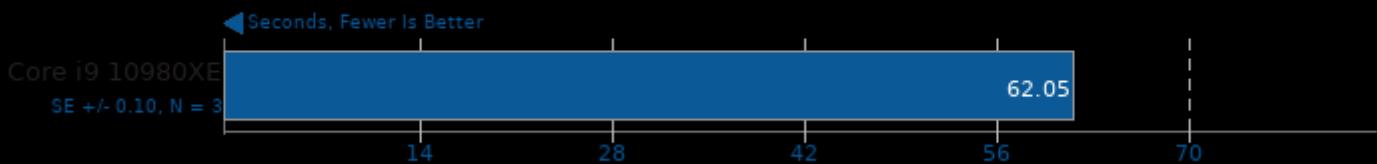
## m-queens 1.2

Time To Solve



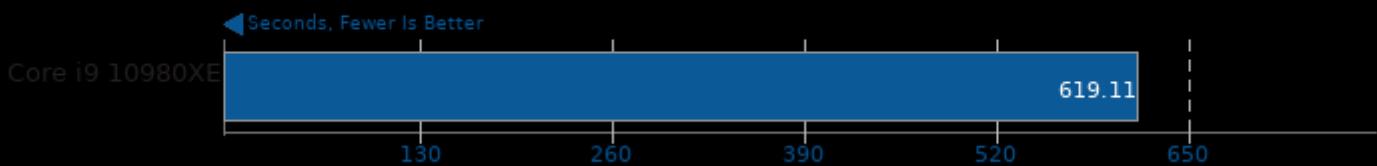
1. (CXX) g++ options: -fopenmp -O3 -pipe -fexceptions -fstack-protector -m64 -ffat-lto-objects -fno-trapping-math -mtune=skylake -O2 -march=native

## OpenCV Benchmark 3.3.0



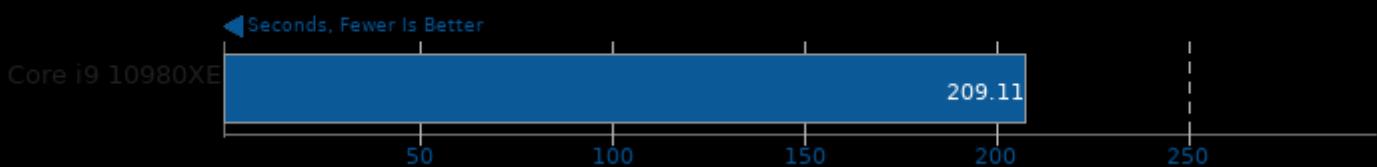
## Radiance Benchmark 5.0

Test: Serial



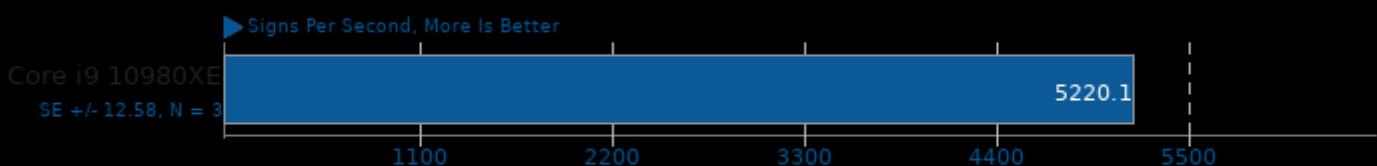
## Radiance Benchmark 5.0

Test: SMP Parallel



## OpenSSL 1.1.1

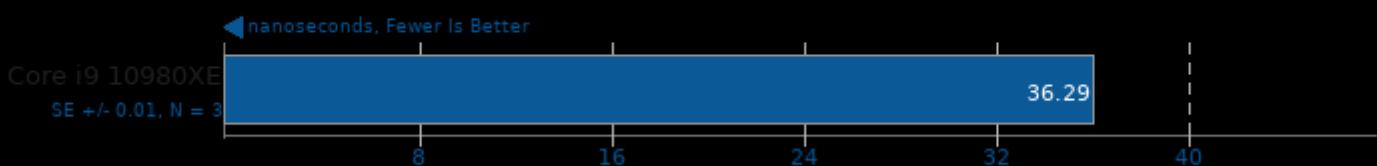
RSA 4096-bit Performance



1. (CC) gcc options: -pthread -m64 -O3 -pipe -fexceptions -fstack-protector -ffat-lto-objects -fno-trapping-math -mtune=skylake -lssl -lcrypto -ldl

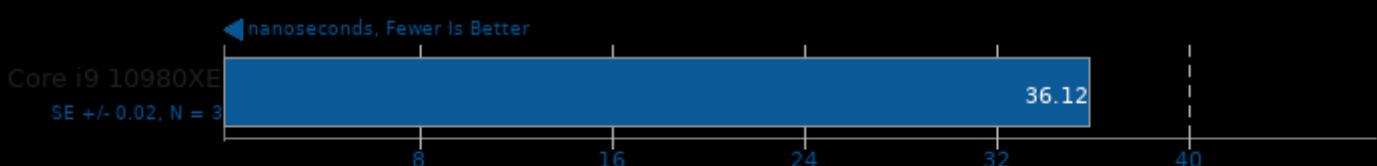
## glibc bench 1.0

Benchmark: cos

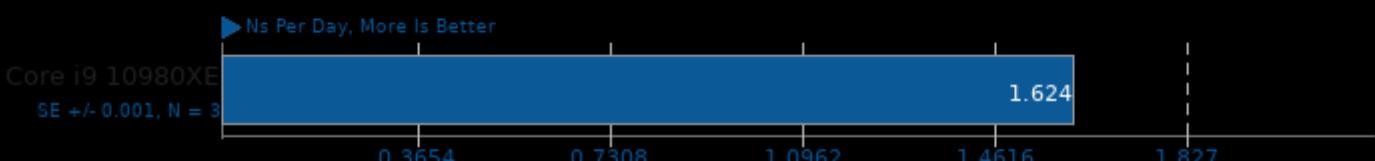
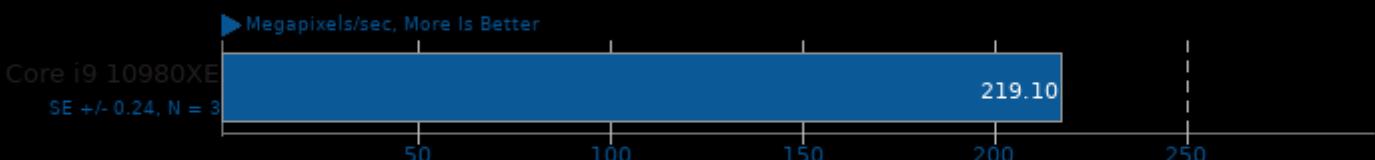
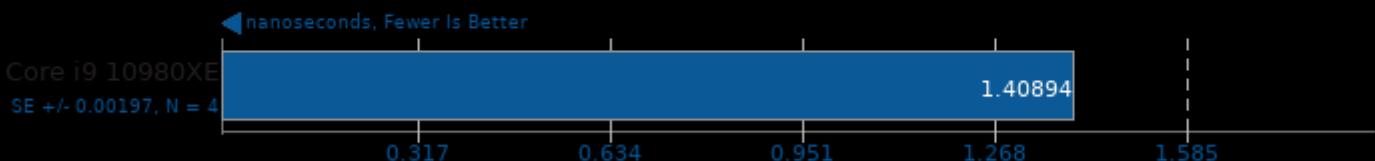
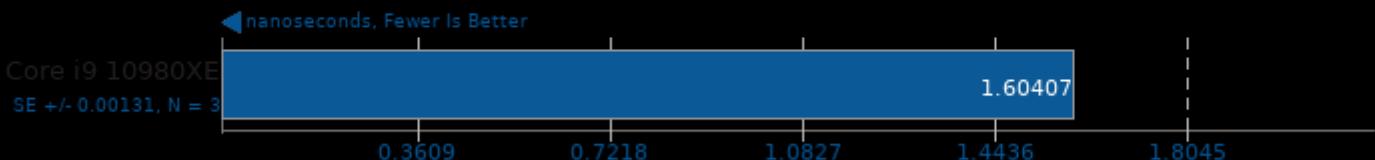


## glibc bench 1.0

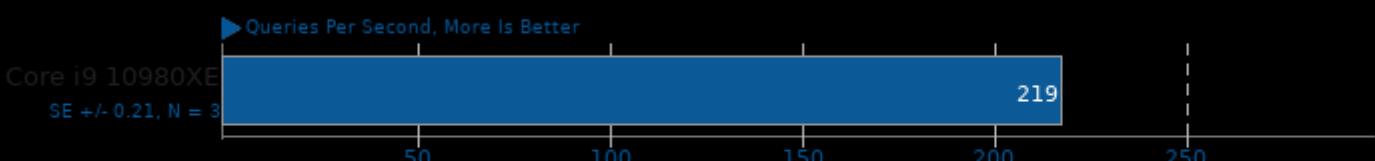
Benchmark: sin



## glibc bench 1.0



1. (CXX) g++ options: -fmaxsplat-width=128 -funsafe-math-optimizations -fthreadsafe-math -O3 -fno-exceptions -fstack-protector -m64 -ffast-lto-objects -fno-trapping-math -mtune=skylake -std=c++11



*This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024  
07:56*