

www.phoronix-test-suite.com

Ice Lake

Intel Core i7-1065G7 testing with a Dell 06CDVY (1.0.9 BIOS) and Intel Iris Plus G7 3GB on Ubuntu 20.04 via the Phoronix Test Suite.

Test Systems:

Core i7 1065G7

Processor: Intel Core i7-1065G7 @ 3.90GHz (4 Cores / 8 Threads), Motherboard: Dell 06CDVY (1.0.9 BIOS), Chipset: Intel Device 34ef, Memory: 16GB, Disk: KBG40ZPZ512G NVMe TOSHIBA 512GB, Graphics: Intel Iris Plus G7 3GB (1100MHz), Audio: Realtek ALC289, Network: Intel Killer Wi-Fi 6 AX1650i 160MHz

OS: Ubuntu 20.04, Kernel: 5.4.0-40-generic (x86_64), Desktop: GNOME Shell 3.36.2, Display Server: X Server 1.20.8, Display Driver: modesetting 1.20.8, OpenGL: 4.6 Mesa 20.0.4, Vulkan: 1.2.131, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 1920x1200

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

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--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
Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0x78
Python Notes: 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 + srbds: Not affected + tsx_async_abort: Not affected

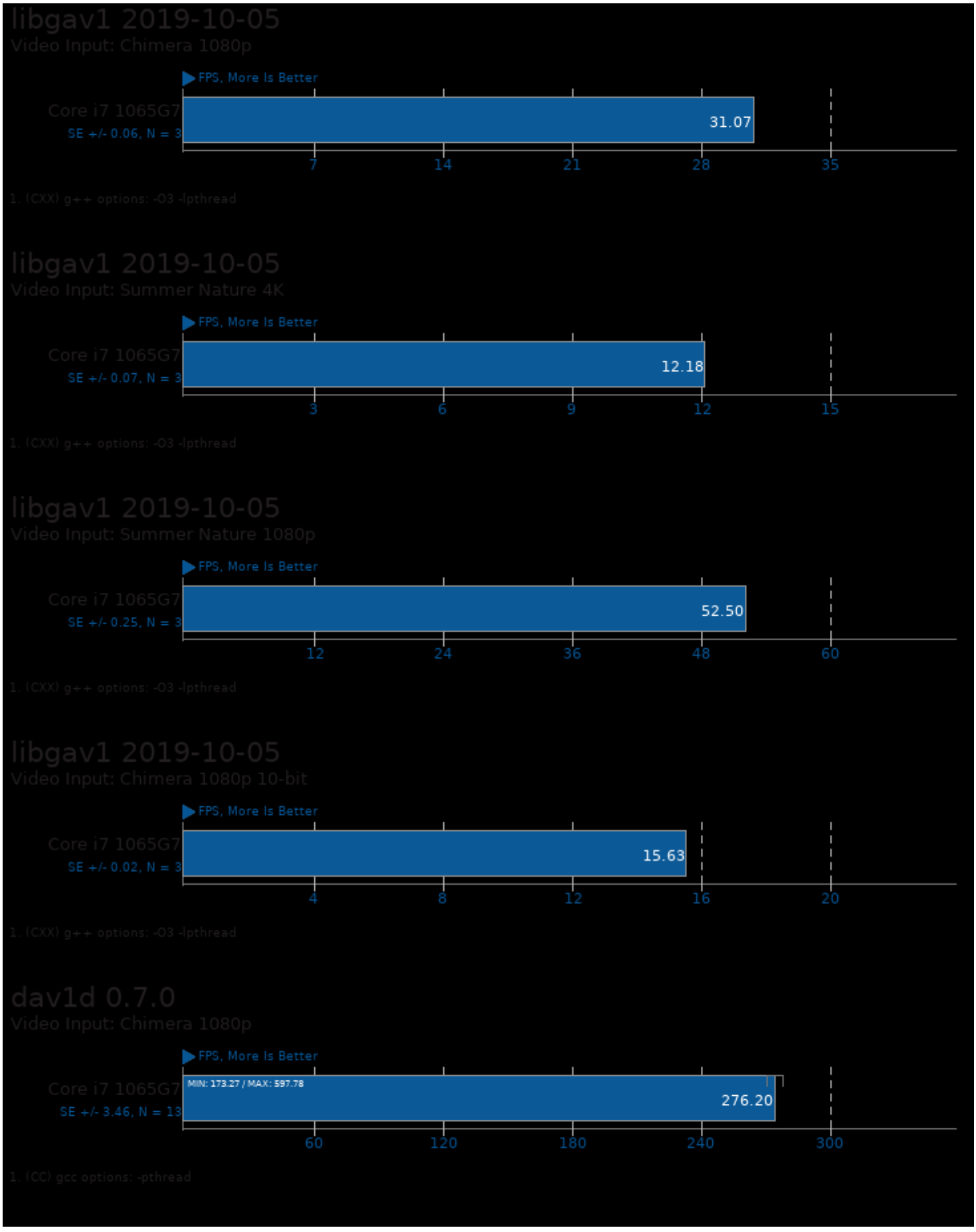
	Core i7 1065G7
libgav1 - Chimera 1080p (FPS)	31.07
Standard Deviation	0.3%
libgav1 - Summer Nature 4K (FPS)	12.18
Standard Deviation	1%
libgav1 - S.N.1 (FPS)	52.50
Standard Deviation	0.8%
libgav1 - C.1.1.b (FPS)	15.63
Standard Deviation	0.2%
dav1d - Chimera 1080p (FPS)	276.20
Standard Deviation	4.5%
dav1d - Summer Nature 4K (FPS)	66.74
Standard Deviation	2.9%
dav1d - S.N.1 (FPS)	262.07
Standard Deviation	2.9%
dav1d - C.1.1.b (FPS)	56.04
Standard Deviation	2.2%
AOM AV1 - Speed 0 Two-Pass (FPS)	0.19
Standard Deviation	3%
AOM AV1 - Speed 4 Two-Pass (FPS)	1.71
Standard Deviation	2.7%
AOM AV1 - Speed 6 Realtime (FPS)	11.76
Standard Deviation	2%
AOM AV1 - Speed 6 Two-Pass (FPS)	2.70
Standard Deviation	2.3%
AOM AV1 - Speed 8 Realtime (FPS)	36.20
Standard Deviation	2.9%
SVT-AV1 - Enc Mode 0 - 1080p (FPS)	0.064
Standard Deviation	0.9%
SVT-AV1 - Enc Mode 4 - 1080p (FPS)	1.030
Standard Deviation	0.8%
SVT-AV1 - Enc Mode 8 - 1080p (FPS)	9.205
Standard Deviation	2.1%
SVT-HEVC - 1.8.b.Y.T.H.V.E (FPS)	13.94
Standard Deviation	1%
SVT-VP9 - VMAF Optimized - Bosphorus 1080p (FPS)	69.84
Standard Deviation	4.7%
SVT-VP9 - P.S.O - Bosphorus 1080p (FPS)	69.90
Standard Deviation	5.7%
SVT-VP9 - V.Q.O - Bosphorus 1080p (FPS)	51.23
Standard Deviation	3.7%
VP9 libvpx Encoding - Speed 0 (FPS)	4.32
Standard Deviation	0.5%

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VP9 libvpx Encoding - Speed 5 (FPS)	16.77
Standard Deviation	1.6%
x264 - H.2.V.E (FPS)	28.24
Standard Deviation	2.2%
x265 - H.2.1.V.E (FPS)	22.07
Standard Deviation	2.2%
Crafty - Elapsed Time (Nodes/s)	8124816
Standard Deviation	0%
TSCP - A.C.P (Nodes/s)	1418819
Standard Deviation	0.4%
Stockfish - Total Time (Nodes/s)	6566753
Standard Deviation	2.1%
asmFish - 1.H.M.2.D (Nodes/s)	7419868
Standard Deviation	1.2%
AI Benchmark Alpha - D.I.S (Score)	455
AI Benchmark Alpha - D.T.S (Score)	566
AI Benchmark Alpha - Device AI Score (Score)	1021
Rodinia - OpenMP LavaMD (sec)	836.535
Standard Deviation	0.9%
Rodinia - OpenMP HotSpot3D (sec)	112.329
Standard Deviation	0.7%
Rodinia - OpenMP Leukocyte (sec)	330.545
Standard Deviation	0.6%
Rodinia - OpenMP CFD Solver (sec)	54.657
Standard Deviation	1.7%
Rodinia - O.S (sec)	28.005
Standard Deviation	2.8%
libavif avifenc - 0 (sec)	260.010
Standard Deviation	0.4%
libavif avifenc - 2 (sec)	154.336
Standard Deviation	0.6%
libavif avifenc - 8 (sec)	8.492
Standard Deviation	4.3%
libavif avifenc - 10 (sec)	7.497
Standard Deviation	3%
Open Porous Media - Flow MPI Norne - 1 (sec)	331.630
Standard Deviation	0.1%
Open Porous Media - Flow MPI Norne - 2 (sec)	239.194
Standard Deviation	0.2%
Open Porous Media - Flow MPI Norne - 4 (sec)	331.487
Standard Deviation	0.1%
FLAC Audio Encoding - WAV To FLAC (sec)	8.937
Standard Deviation	0.5%
LAME MP3 Encoding - WAV To MP3 (sec)	7.937
Standard Deviation	0.6%
Ogg Encoding - WAV To Ogg (sec)	5.613
Standard Deviation	0.1%
FFmpeg - H.2.H.T.N.D (sec)	7.438
Standard Deviation	7%
m-queens - Time To Solve (sec)	265.549
Standard Deviation	0.3%
N-Queens - Elapsed Time (sec)	48.105
Standard Deviation	1.9%

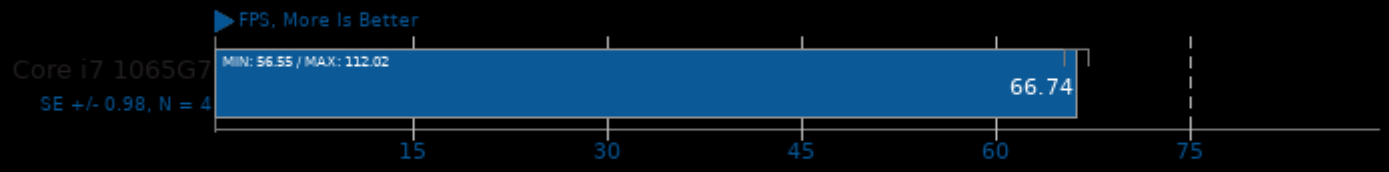
Ice Lake

Sudokut - Total Time (sec)	10.144
Standard Deviation	0.7%
Hugin - P.P.A.S.T (sec)	79.623
Standard Deviation	1.1%
OCRMyPDF - P.6.P.P.D (sec)	65.836
Standard Deviation	0.7%
ECP-CANDLE - P1B2 (sec)	39.472
ECP-CANDLE - P3B1 (sec)	1191
ECP-CANDLE - P3B2 (sec)	725.17
Tesseract OCR - T.T.O.7.I (sec)	23.819
Standard Deviation	0.7%


libgav1 2019-10-05
Video Input: Chimera 1080p
FPS, More Is Better
Core i7 1065G7
SE +/- 0.06, N = 3
31.07
7
14
21
28
35
1. (CXX) g++ options: -O3 -lpthread
libgav1 2019-10-05
Video Input: Summer Nature 4K
FPS, More Is Better
Core i7 1065G7
SE +/- 0.07, N = 3
12.18
3
6
9
12
15
1. (CXX) g++ options: -O3 -lpthread
libgav1 2019-10-05
Video Input: Summer Nature 1080p
FPS, More Is Better
Core i7 1065G7
SE +/- 0.25, N = 3
52.50
12
24
36
48
60
1. (CXX) g++ options: -O3 -lpthread
libgav1 2019-10-05
Video Input: Chimera 1080p 10-bit
FPS, More Is Better
Core i7 1065G7
SE +/- 0.02, N = 3
15.63
4
8
12
16
20
1. (CXX) g++ options: -O3 -lpthread
dav1d 0.7.0
Video Input: Chimera 1080p
FPS, More Is Better
Core i7 1065G7
SE +/- 3.46, N = 13
MIN: 173.27 / MAX: 597.78
276.20
60
120
180
240
300
1. (CC) gcc options: -pthread

dav1d 0.7.0

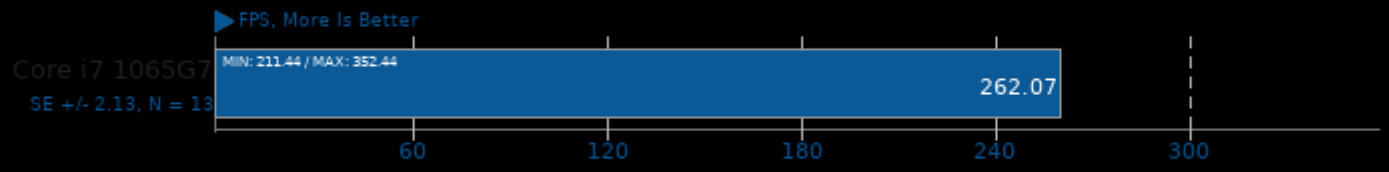
Video Input: Summer Nature 4K



1. (CC) gcc options: -pthread

dav1d 0.7.0

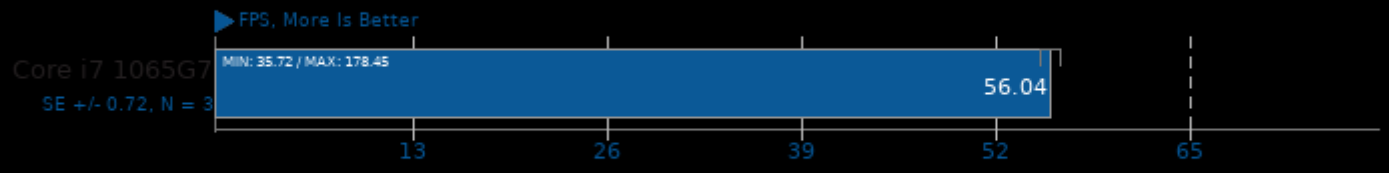
Video Input: Summer Nature 1080p



1. (CC) gcc options: -pthread

dav1d 0.7.0

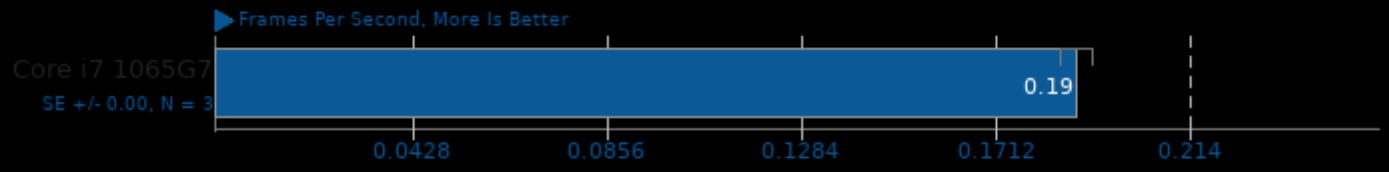
Video Input: Chimera 1080p 10-bit



1. (CC) gcc options: -pthread

AOM AV1 2.0

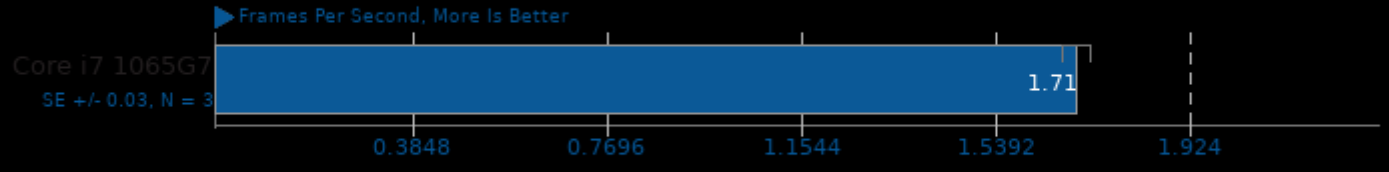
Encoder Mode: Speed 0 Two-Pass



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

AOM AV1 2.0

Encoder Mode: Speed 4 Two-Pass



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

AOM AV1 2.0

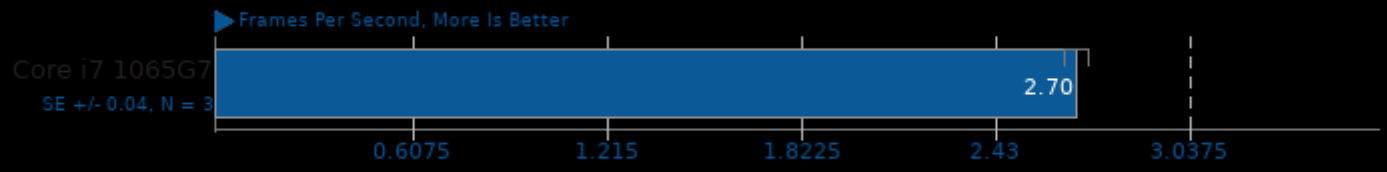
Encoder Mode: Speed 6 Realtime



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

AOM AV1 2.0

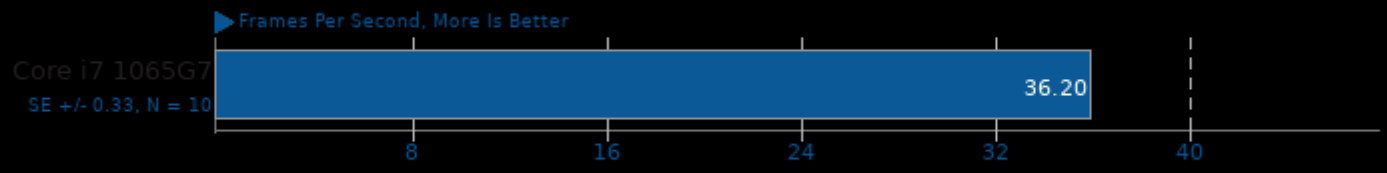
Encoder Mode: Speed 6 Two-Pass



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

AOM AV1 2.0

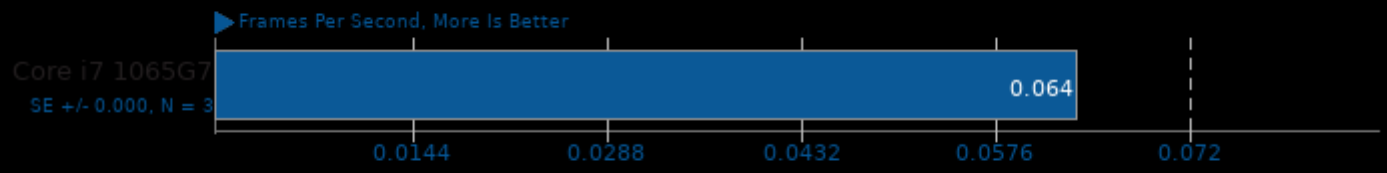
Encoder Mode: Speed 8 Realtime



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

SVT-AV1 0.8

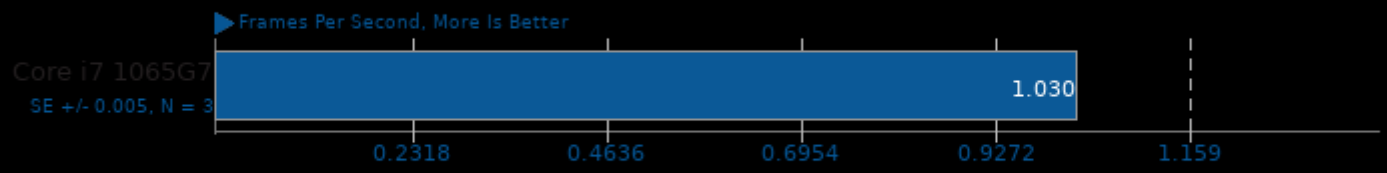
Encoder Mode: Enc Mode 0 - Input: 1080p



1. (CXX) g++ options: -O3 -fcommon -fPIE -fPIC -pie

SVT-AV1 0.8

Encoder Mode: Enc Mode 4 - Input: 1080p



1. (CXX) g++ options: -O3 -fcommon -fPIE -fPIC -pie

SVT-AV1 0.8

Encoder Mode: Enc Mode 8 - Input: 1080p



1. (CXX) g++ options: -O3 -fcommon -fPIE -fPIC -pie

SVT-HEVC 1.4.1

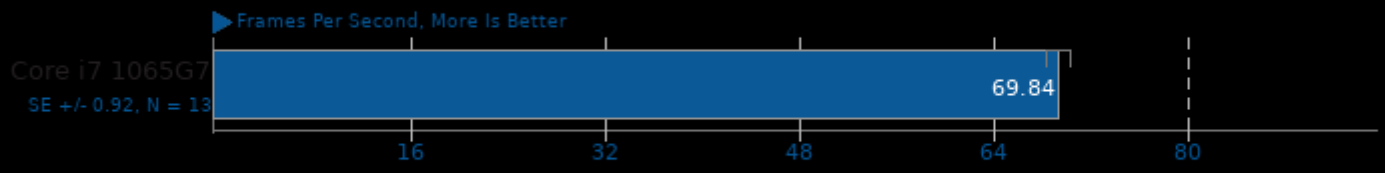
1080p 8-bit YUV To HEVC Video Encode



1. (CC) gcc options: -fPIE -fPIC -O3 -O2 -pie -rdynamic -lpthread -lrt

SVT-VP9 0.1

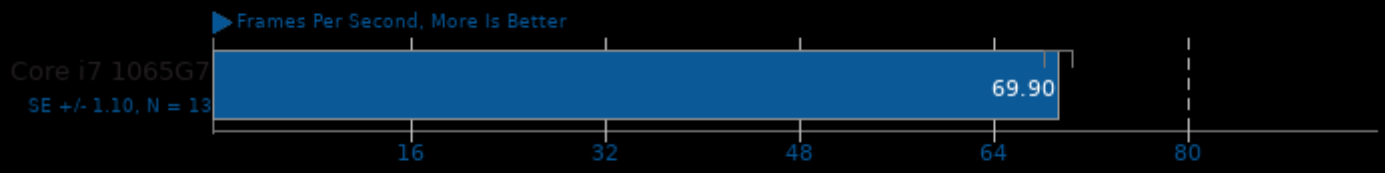
Tuning: VMAF Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

SVT-VP9 0.1

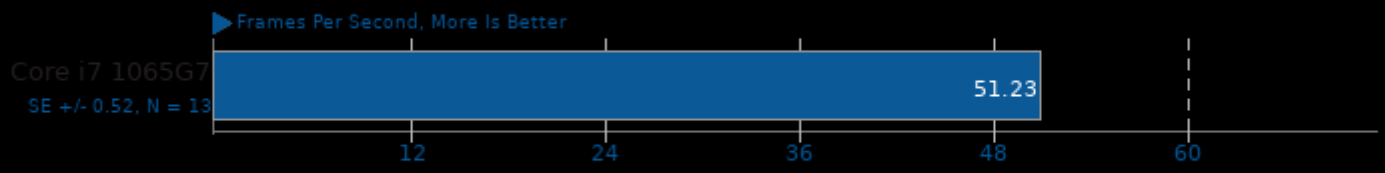
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

SVT-VP9 0.1

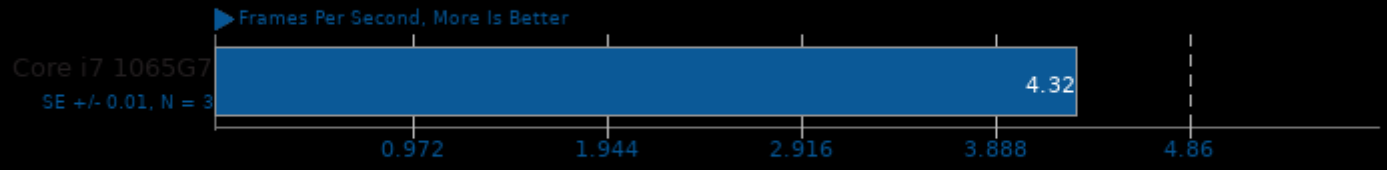
Tuning: Visual Quality Optimized - Input: Bosphorus 1080p



1. (CC) gcc options: -O3 -fcommon -fPIE -fPIC -fvisibility=hidden -pie -rdynamic -lpthread -lrt -lm

VP9 libvpx Encoding 1.8.2

Speed: Speed 0



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

VP9 libvpx Encoding 1.8.2

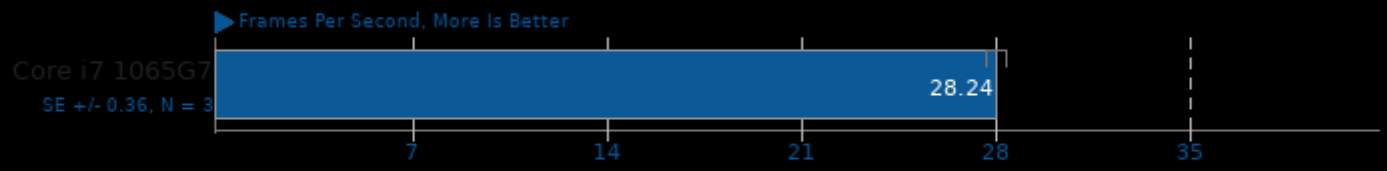
Speed: Speed 5



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

x264 2019-12-17

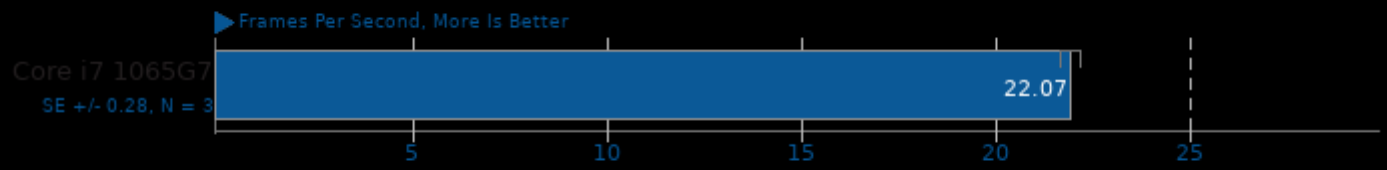
H.264 Video Encoding



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

x265 3.1.2

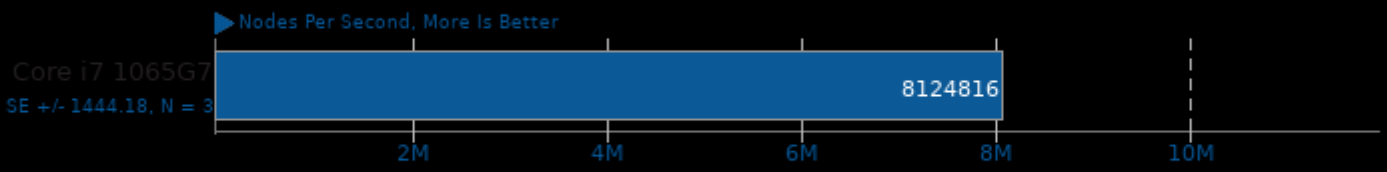
H.265 1080p Video Encoding



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

Crafty 25.2

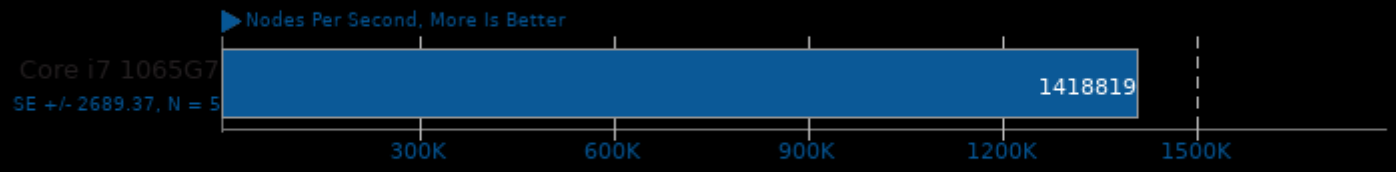
Elapsed Time



1. (CC) gcc options: -pthread -lstdc++ -fprofile-use -lm

TSCP 1.81

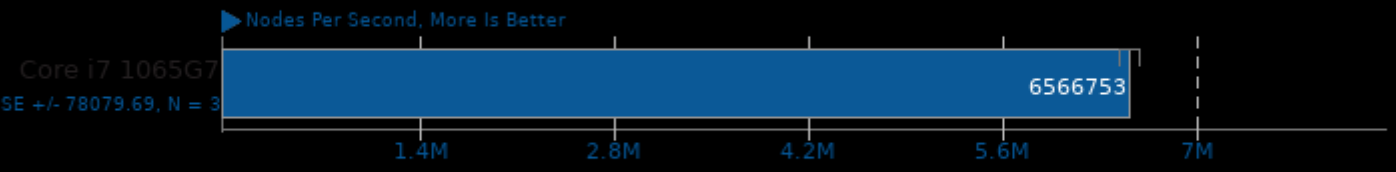
AI Chess Performance



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

Stockfish 9

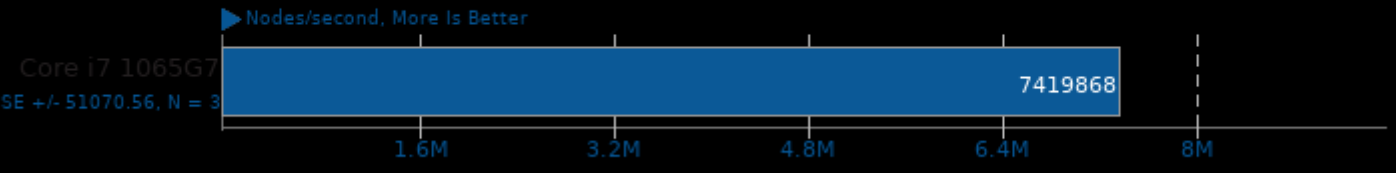
Total Time



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

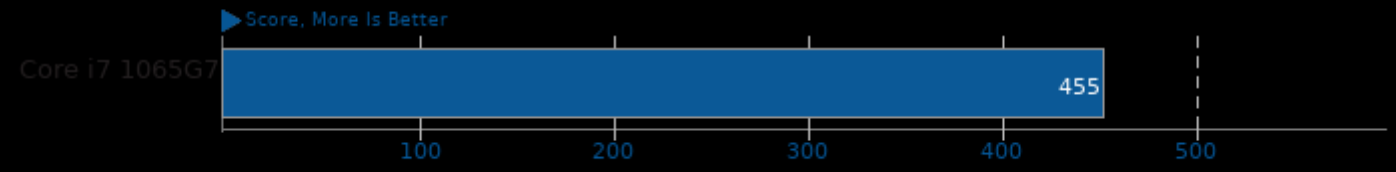
asmFish 2018-07-23

1024 Hash Memory, 26 Depth



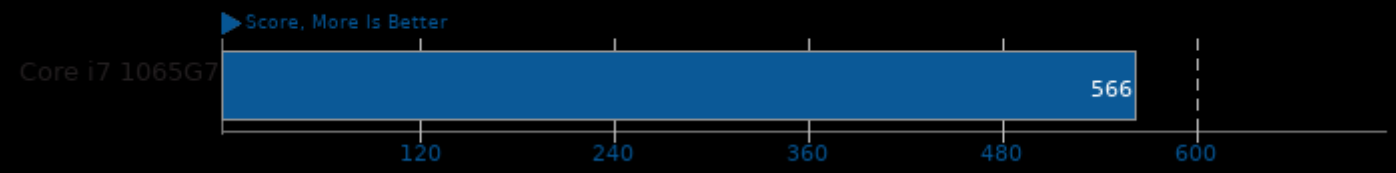
AI Benchmark Alpha 0.1.2

Device Inference Score



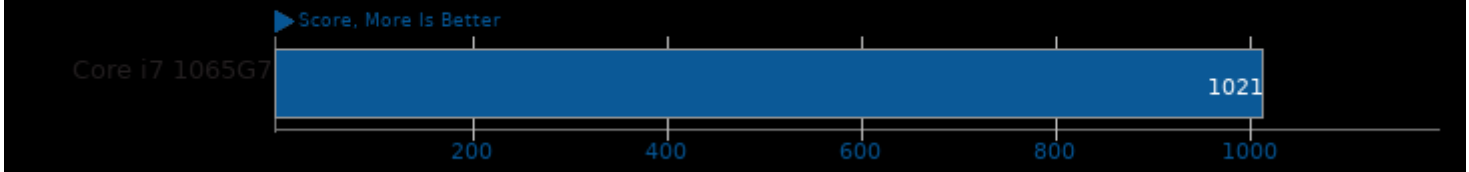
AI Benchmark Alpha 0.1.2

Device Training Score



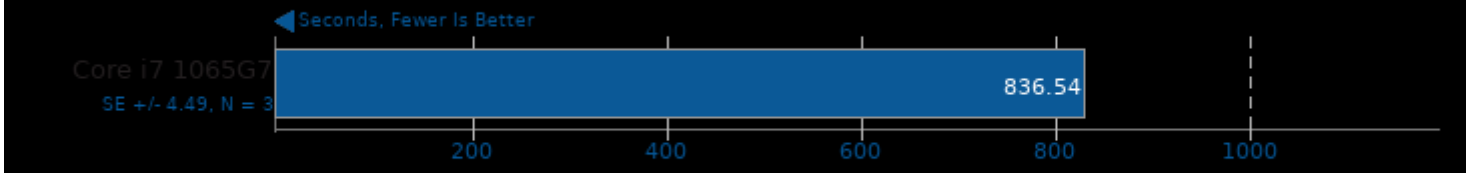
AI Benchmark Alpha 0.1.2

Device AI Score



Rodinia 3.1

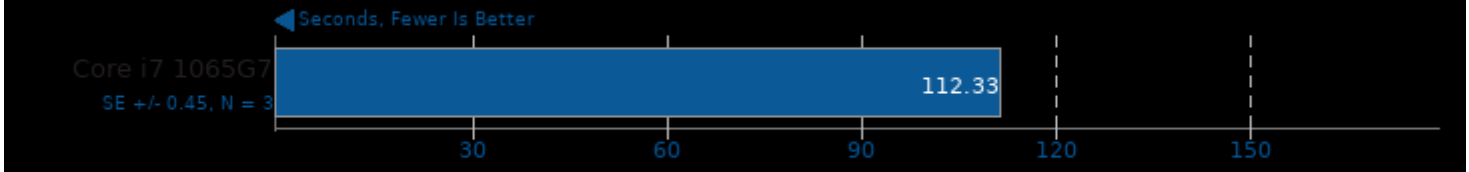
Test: OpenMP LavaMD



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

Rodinia 3.1

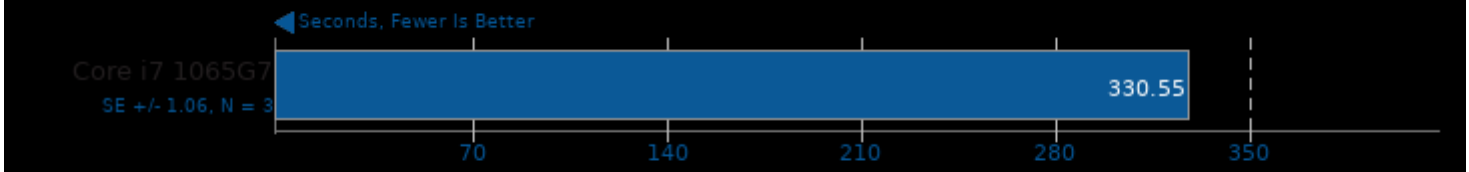
Test: OpenMP HotSpot3D



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

Rodinia 3.1

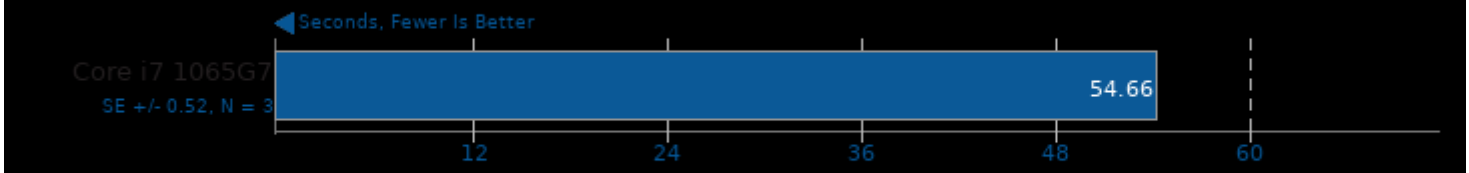
Test: OpenMP Leukocyte



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

Rodinia 3.1

Test: OpenMP CFD Solver



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

Rodinia 3.1

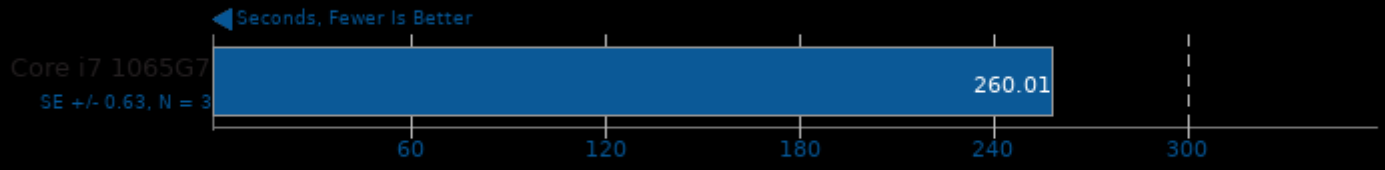
Test: OpenMP Streamcluster



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

libavif avifenc 0.7.3

Encoder Speed: 0



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

libavif avifenc 0.7.3

Encoder Speed: 2



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

libavif avifenc 0.7.3

Encoder Speed: 8



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

libavif avifenc 0.7.3

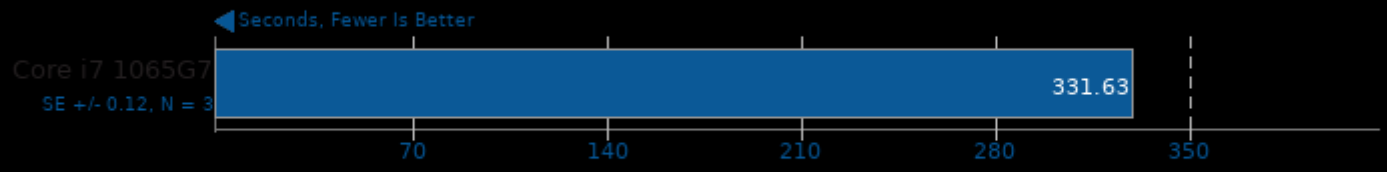
Encoder Speed: 10



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

Open Porous Media

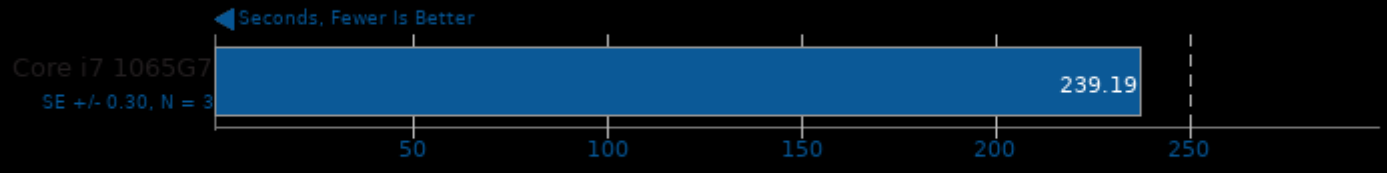
OPM Benchmark: Flow MPI Norne - Threads: 1



1. flow 2020.04

Open Porous Media

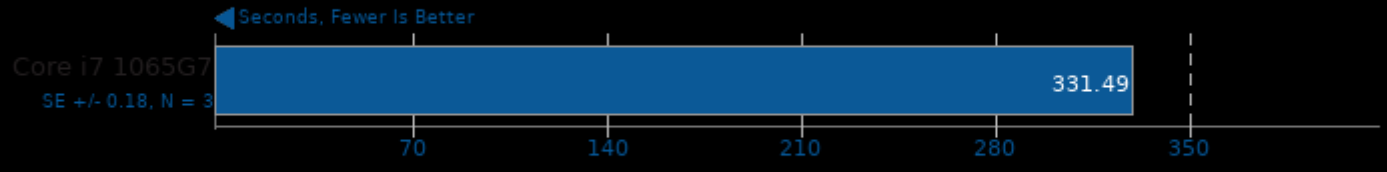
OPM Benchmark: Flow MPI Norne - Threads: 2



1. flow 2020.04

Open Porous Media

OPM Benchmark: Flow MPI Norne - Threads: 4



1. flow 2020.04

FLAC Audio Encoding 1.3.2

WAV To FLAC



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

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

Ogg Encoding 1.3.3

WAV To Ogg



1. (CC) gcc options: -O2 -ffast-math -fsigned-char -logg

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 -lasound -lSDL2 -lsndio -pthread -l

m-queens 1.2

Time To Solve



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

N-Queens 1.0

Elapsed Time

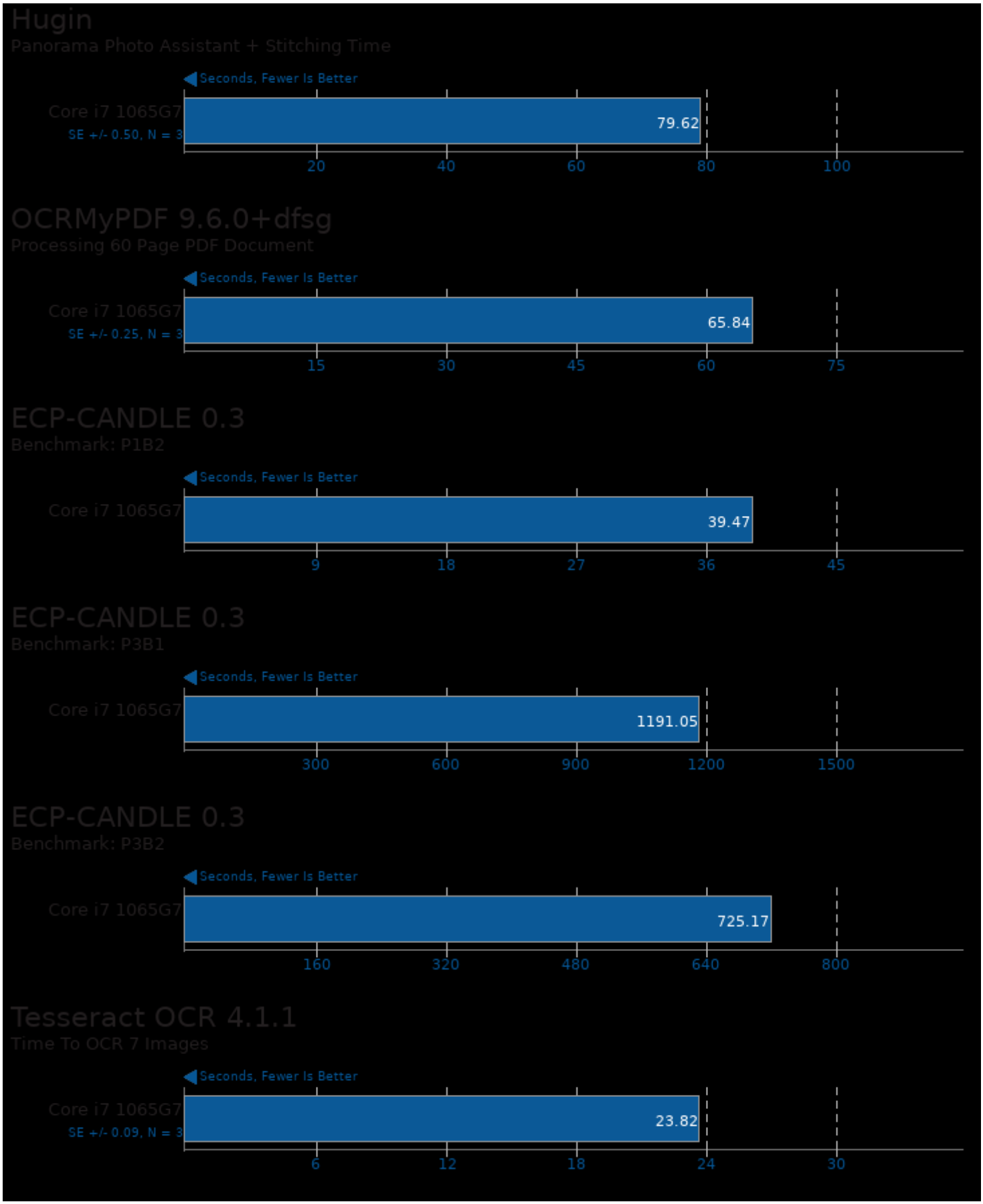


1. (CC) gcc options: -static -fopenmp -O3 -march=native

Sudokut 0.4

Total Time





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10:44.