



Ivy Bridge

Intel Core i7-3517U testing with a ASUS UX32VDA v1.0 (UX32VDA.203 BIOS) and ASUS Intel Ivybridge Mobile 2GB on Ubuntu 20.04 via the Phoronix Test Suite.

Automated Executive Summary

Run 1 had the most wins, coming in first place for 74% of the tests.

Based on the geometric mean of all complete results, the fastest (Run 1) was 1.184x the speed of the slowest (Run 2). Run 3 was 0.844x the speed of Run 1 and Run 2 was 1x the speed of Run 3.

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

TensorFlow Lite (Model: NASNet Mobile) at 2.162x
ArrayFire (Test: BLAS CPU) at 2.061x
Intel Open Image Denoise (Scene: Memorial) at 1.829x
ArrayFire (Test: Conjugate Gradient CPU) at 1.502x
TensorFlow Lite (Model: Mobilenet Float) at 1.4x
TensorFlow Lite (Model: Mobilenet Quant) at 1.395x
TensorFlow Lite (Model: SqueezeNet) at 1.374x
OpenVKL (Benchmark: vkiBenchmark) at 1.358x
TensorFlow Lite (Model: Inception ResNet V2) at 1.357x

TensorFlow Lite (Model: Inception V4) at 1.35x.

Test Systems:

Run 1

Run 2

Run 3

Processor: Intel Core i7-3517U @ 3.00GHz (2 Cores / 4 Threads), Motherboard: ASUS UX32VDA v1.0 (UX32VDA.203 BIOS), Chipset: Intel 3rd Gen Core DRAM, Memory: 3584MB, Disk: 2 x 128GB SanDisk SD5SF212, Graphics: ASUS Intel Ivybridge Mobile 2GB (1150MHz), Audio: Realtek ALC269VB, Network: Intel Centrino Advanced-N 6235

OS: Ubuntu 20.04, Kernel: 5.4.0-12-generic (x86_64), Desktop: GNOME Shell 3.34.3, Display Server: X Server 1.20.7, Display Driver: modesetting 1.20.7, OpenGL: 4.2 Mesa 19.2.4, Compiler: GCC 9.2.1 20200123, File-System: ext4, Screen Resolution: 1920x1080

Compiler Notes: --build=x86_64-linux-gnu --disable-vtable-verify --disable-werror --enable-bootstrap --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-link-mutex --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-build-config=bootstrap-lto-lean --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v

Disk Notes: MQ-DEADLINE / errors=remount-ro,relatime,rw

Processor Notes: Scaling Governor: intel_pstate powersave - CPU Microcode: 0x21

Java Notes: OpenJDK Runtime Environment (build 11.0.6+10-post-Ubuntu-1ubuntu1)

Python Notes: Python 3.8.2

Security Notes: itlb_multihit: KVM: Mitigation of Split huge pages + 11tf: Mitigation of PTE Inversion; VMX: conditional cache flushes SMT vulnerable + mds: Mitigation of Clear buffers; SMT vulnerable + meltdown: Mitigation of PTI + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of userscopy/swaps barriers and __user pointer sanitization + spectre_v2: Mitigation of Full generic retpoline IBPB: conditional IBRS_FW STIBP: conditional RSB filling + tsx_async_abort: Not affected

	Run 1	Run 2	Run 3
PostMark - D.T.P (TPS)	3521	3142	3140
Normalized	100%	89.24%	89.18%
Standard Deviation		6.6%	5%
NAMD - ATPase Simulation - 327,506 Atoms (days/ns)	11.90217	15.12430	15.13133
Normalized	100%	78.7%	78.66%
Standard Deviation	0.2%	0.2%	0.8%
toyBrot Fractal Generator - TBB (ms)	761104	976209	978820
Normalized	100%	77.97%	77.76%
Standard Deviation	0.9%	0%	0.6%
toyBrot Fractal Generator - OpenMP (ms)	765791	981242	982992
Normalized	100%	78.04%	77.9%
Standard Deviation	0.8%	0.1%	0.5%
toyBrot Fractal Generator - C++ Tasks (ms)	783589	1001544	1000931

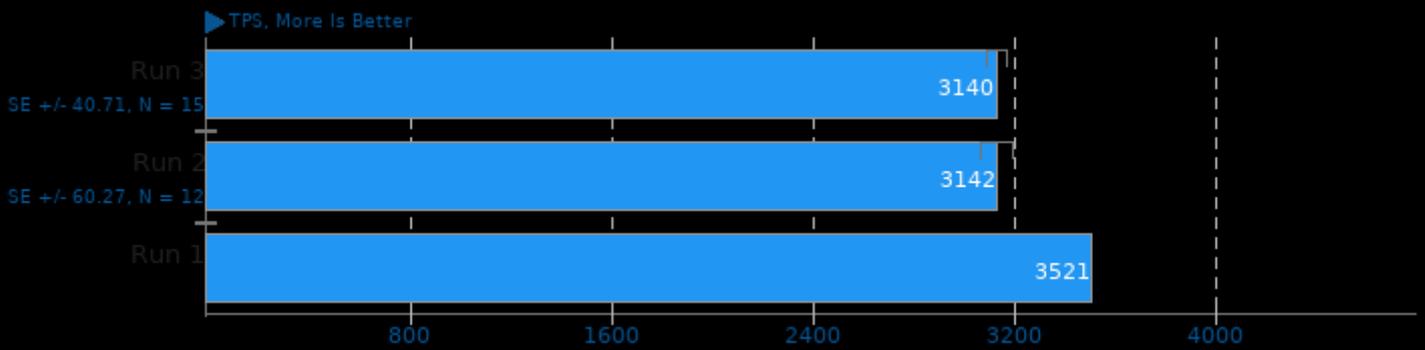
	Normalized	100%	78.24%	78.29%
	Standard Deviation	0%	0%	0.1%
toyBrot Fractal Generator - C++ Threads		775784	994575	993953
	Normalized	100%	78%	78.05%
	Standard Deviation	0%	0%	0%
Java Gradle Build - Reactor (sec)		410.607	514.172	514.384
	Normalized	100%	79.86%	79.82%
	Standard Deviation	6.3%	5.4%	4.7%
DaCapo Benchmark - H2 (msec)		5943	6998	7017
	Normalized	100%	84.92%	84.69%
	Standard Deviation	2.9%	4.7%	3.8%
DaCapo Benchmark - Jython (msec)		10630	13142	13051
	Normalized	100%	80.89%	81.45%
	Standard Deviation	3.5%	1.2%	1%
DaCapo Benchmark - Tradesoap (msec)		25036	31516	31282
	Normalized	100%	79.44%	80.03%
	Standard Deviation	0.4%		1.6%
ArrayFire - BLAS CPU (GFLOPS)		79.9046	40.2507	38.7728
	Normalized	100%	50.37%	48.52%
	Standard Deviation	0.7%	5.1%	0.1%
ArrayFire - C.G.C (ms)		45.75	67.12	68.73
	Normalized	100%	68.16%	66.56%
	Standard Deviation	2.9%	2.9%	1.3%
Embree - Pathtracer - Crown (FPS)		1.4812	1.1569	1.1640
	Normalized	100%	78.11%	78.58%
	Standard Deviation	0.4%	1.3%	0.8%
Embree - Pathtracer ISPC - Crown (FPS)		1.6410	1.2921	1.2929
	Normalized	100%	78.74%	78.79%
	Standard Deviation	0.1%	0.3%	0.2%
Embree - Pathtracer - Asian Dragon (FPS)		1.8670	1.4814	1.4844
	Normalized	100%	79.35%	79.51%
	Standard Deviation	0.2%	0.3%	0.4%
Embree - Pathtracer - Asian Dragon Obj		1.7171	1.3822	1.3575
	Normalized	100%	80.5%	79.06%
	Standard Deviation	0.4%	2.7%	0.5%
Embree - Pathtracer ISPC - Asian Dragon (FPS)		2.1977	1.7407	1.7524
	Normalized	100%	79.21%	79.74%
	Standard Deviation	0.5%	0.7%	1.1%
Embree - Pathtracer ISPC - Asian Dragon Obj (FPS)		1.9424	1.5128	1.5219
	Normalized	100%	77.88%	78.35%
	Standard Deviation	0.5%	0.8%	0.8%
Intel Open Image Denoise - Memorial (Images / Sec)		0.75	0.41	0.41
	Normalized	100%	54.67%	54.67%
	Standard Deviation	0%	1.9%	0.3%
OpenVKL - vkIBenchmark (Items / Sec)		17.14	12.625	13.042
	Normalized	100%	73.66%	76.09%
	Standard Deviation	0%	2.7%	1.5%
LuxCoreRender - DLSC (M samples/sec)		0.18	0.12	0.13
	Normalized	100%	66.67%	72.22%
	Standard Deviation	0.1%	15.4%	0.1%
LuxCoreRender - R.C.a.P (M samples/sec)		0.20	0.15	0.15
	Normalized	100%	75%	75%

	Standard Deviation	0.2%	0.6%	0.4%
Timed FFmpeg Compilation - Time To Compile (sec)		346.017	460.155	461.760
	Normalized	100%	75.2%	74.93%
	Standard Deviation	0.1%	0.1%	0%
Tachyon - Total Time (sec)		772.2773	1026	1023
	Normalized	100%	75.24%	75.5%
	Standard Deviation	0%	0.1%	0.2%
TensorFlow Lite - SqueezeNet (us)		1438267	1975480	1975220
	Normalized	100%	72.81%	72.82%
	Standard Deviation	0.1%	0.1%	0.1%
TensorFlow Lite - Inception V4 (us)		20846300	28115733	28134967
	Normalized	100%	74.14%	74.09%
	Standard Deviation	0.1%	0%	0%
TensorFlow Lite - NASNet Mobile (us)		1016310	2196300	2197057
	Normalized	100%	46.27%	46.26%
	Standard Deviation	0.1%	0.2%	0%
TensorFlow Lite - Mobilenet Float (us)		979754	1370547	1372120
	Normalized	100%	71.49%	71.4%
	Standard Deviation	0.1%	0.1%	0%
TensorFlow Lite - Mobilenet Quant (us)		1004737	1399523	1401850
	Normalized	100%	71.79%	71.67%
	Standard Deviation	0%	0.2%	0.1%
TensorFlow Lite - I.R.V (us)		18852100	25581900	25585200
	Normalized	100%	73.69%	73.68%
	Standard Deviation	0%	0.1%	0.1%
Basis Universal - ETC1S (sec)		167.820	208.817	208.292
	Normalized	100%	80.37%	80.57%
	Standard Deviation	0.2%	0.2%	0.5%
Basis Universal - UASTC Level 0 (sec)		21.058	25.300	25.359
	Normalized	100%	83.23%	83.04%
	Standard Deviation	0%	0%	0.3%
Basis Universal - UASTC Level 2 (sec)		211.951	274.358	275.414
	Normalized	100%	77.25%	76.96%
	Standard Deviation	0%	0%	0%
Basis Universal - UASTC Level 3 (sec)		428.082	556.457	558.884
	Normalized	100%	76.93%	76.6%
	Standard Deviation	0.2%	0%	0.1%
Basis Universal - U.L.2.R.P.P (sec)		2875	2915	2911
	Normalized	100%	98.62%	98.76%
	Standard Deviation	4%	0.3%	0.2%
G'MIC - 2.F.P.1.T (sec)		3326	3317	3276
	Normalized	98.49%	98.75%	100%
	Standard Deviation	0%	0.1%	0.1%
G'MIC - P.I.O.A.3.V.1.T (sec)		35.789	35.782	35.776
	Normalized	99.96%	99.98%	100%
	Standard Deviation	0.7%	1.1%	1.1%
G'MIC - 3.E.F.I.R.C.1.T (sec)		117.975	118.037	117.432
	Normalized	99.54%	99.49%	100%
	Standard Deviation	0.3%	0.1%	0.2%
Hugin - P.P.A.S.T (sec)		275.672	277.163	277.380
	Normalized	100%	99.46%	99.38%
	Standard Deviation	0.3%	1%	0.3%
OCRMyPDF - P.6.P.P.D (sec)		207.885	207.477	207.699
	Normalized	99.8%	100%	99.89%

	Standard Deviation	0.2%	0.3%	0.2%
GNU Octave Benchmark (sec)		13.244	13.259	13.264
	Normalized	100%	99.89%	99.85%
	Standard Deviation	0.6%	1.1%	0.8%
RawTherapee - T.B.T (sec)		316.876	316.545	316.603
	Normalized	99.9%	100%	99.98%
	Standard Deviation	0.1%	0%	0.1%
Chaos Group V-RAY - CPU (Ksamples)		1164	1181	1170
	Normalized	98.56%	100%	99.07%
	Standard Deviation	0.4%	1.1%	0.7%
PyPerformance - go (Milliseconds)		479	479	475
	Normalized	99.16%	99.16%	100%
	Standard Deviation	0.2%		
PyPerformance - 2to3 (Milliseconds)		729	731	732
	Normalized	100%	99.73%	99.59%
	Standard Deviation	0.1%		0.1%
PyPerformance - chaos (Milliseconds)		236	236	235
	Normalized	99.58%	99.58%	100%
	Standard Deviation	0.2%		
PyPerformance - float (Milliseconds)		222	222	222
PyPerformance - nbody (Milliseconds)		247	247	246
	Normalized	99.6%	99.6%	100%
	Standard Deviation	0.2%	0.2%	0.2%
PyPerformance - pathlib (Milliseconds)		46.0	46.1	46.3
	Normalized	100%	99.78%	99.35%
	Standard Deviation	0.1%	0.8%	0.2%
PyPerformance - raytrace (Milliseconds)		946	945	941
	Normalized	99.47%	99.58%	100%
	Standard Deviation	0.3%		0.1%
PyPerformance - json_loads (Milliseconds)		48.8	48.7	48.7
	Normalized	99.8%	100%	100%
	Standard Deviation	0.2%	0%	0.1%
PyPerformance - crypto_pyaes		201	201	200
	Normalized	99.5%	99.5%	100%
PyPerformance - regex_compile		325	325	324
	Normalized	99.69%	99.69%	100%
PyPerformance - python_startup		24.1	24.2	24.3
	Normalized	100%	99.59%	99.18%
	Standard Deviation	0%	0.2%	0%
PyPerformance - django_template (Milliseconds)		131	131	130
	Normalized	99.24%	99.24%	100%
PyPerformance - pickle_pure_python (Milliseconds)		1.02	1.02	1.02
	Standard Deviation	0%	0.6%	0.6%
NeatBench - CPU (FPS)		1.99	1.95	1.95
	Normalized	100%	97.99%	97.99%
	Standard Deviation	0.3%	2.1%	2.4%
Git - T.T.C.C.G.C (sec)		92.961	93.432	93.394
	Normalized	100%	99.5%	99.54%
	Standard Deviation	0.2%	0.5%	0.3%
Tesseract OCR - T.T.O.7.I (sec)		6141	6092	6042
	Normalized	98.39%	99.17%	100%
	Standard Deviation	1.2%	0.9%	0.4%

PostMark 1.51

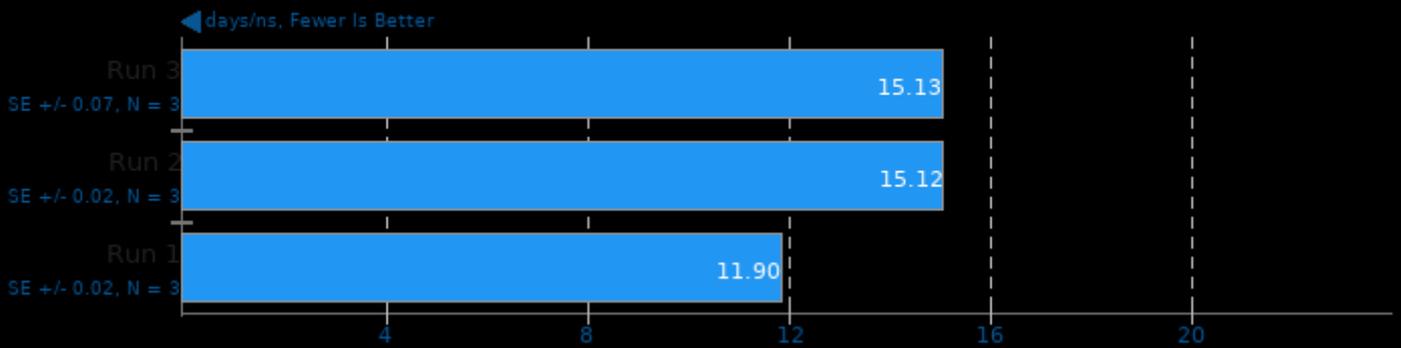
Disk Transaction Performance



1. (CC) gcc options: -O3

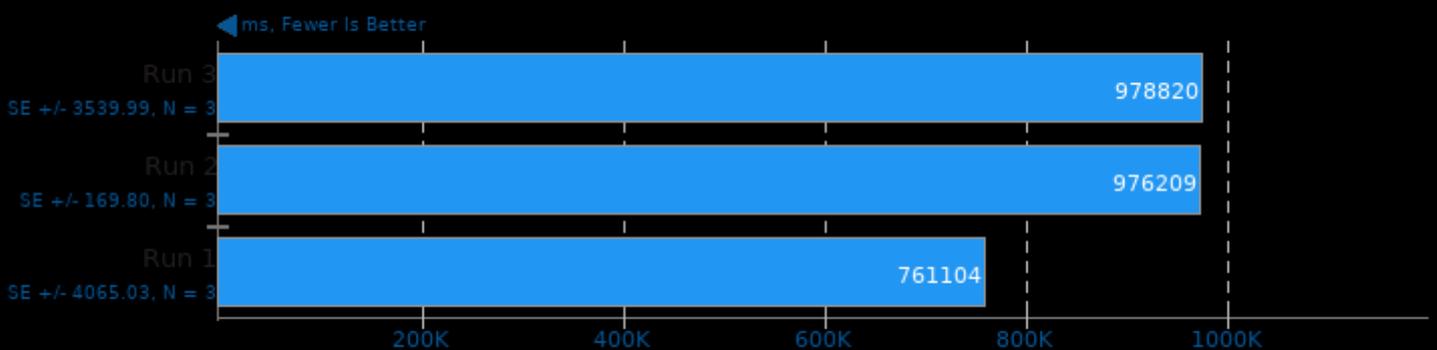
NAMD 2.14

ATPase Simulation - 327,506 Atoms



toyBrot Fractal Generator

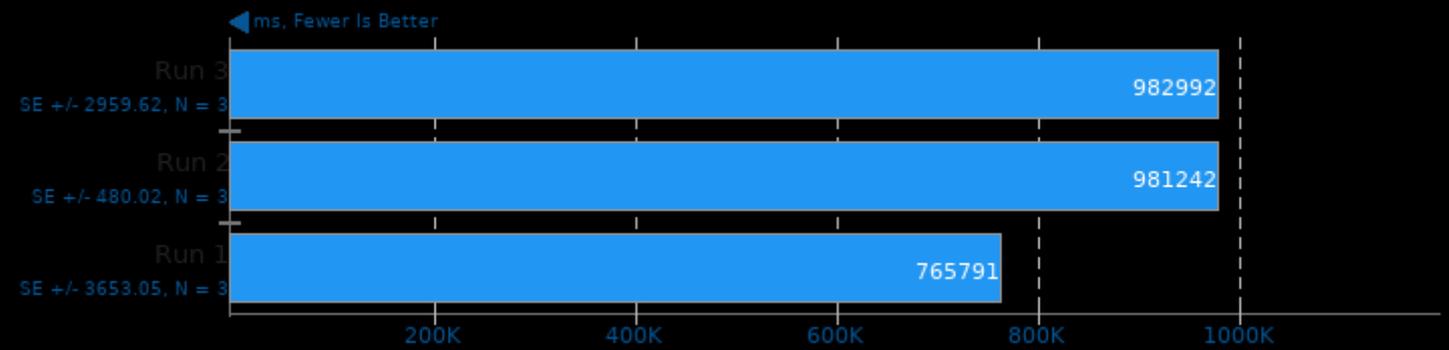
Implementation: TBB



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

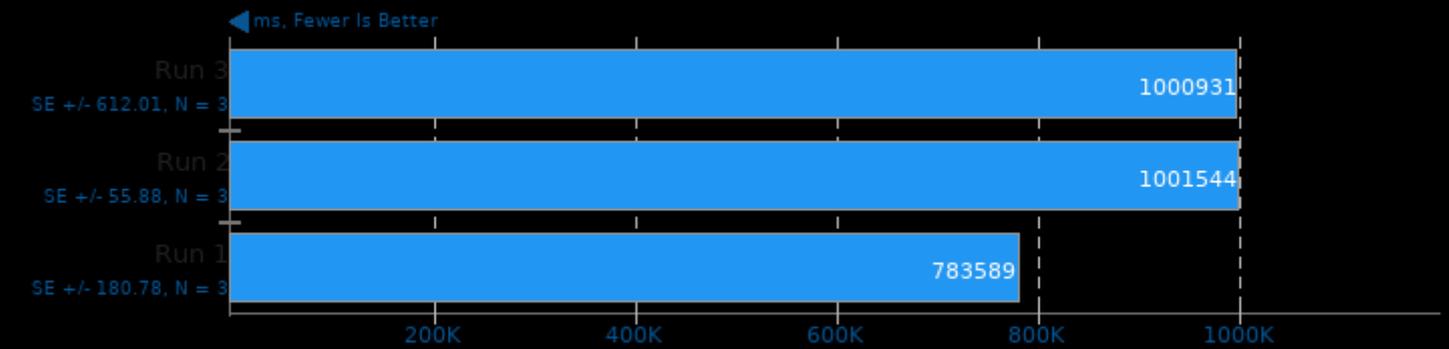
toyBrot Fractal Generator

Implementation: OpenMP



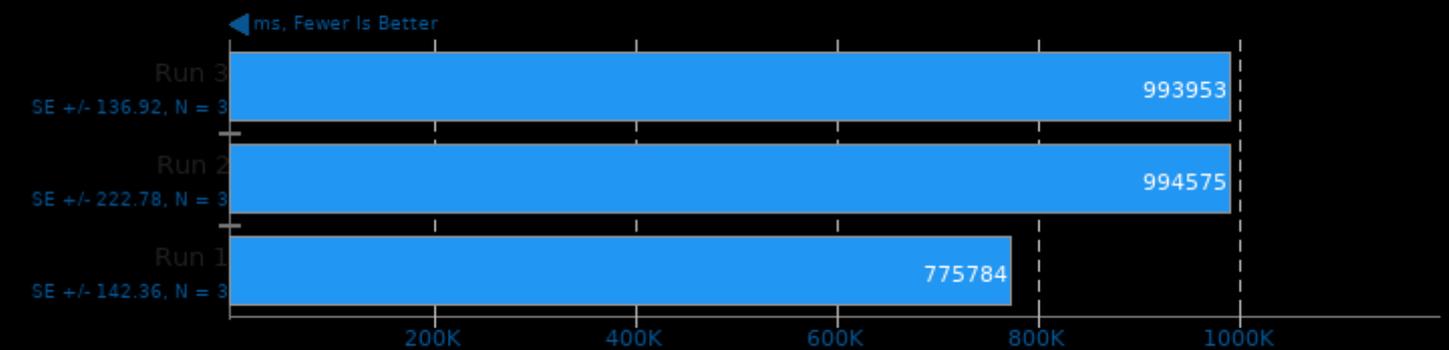
toyBrot Fractal Generator

Implementation: C++ Tasks



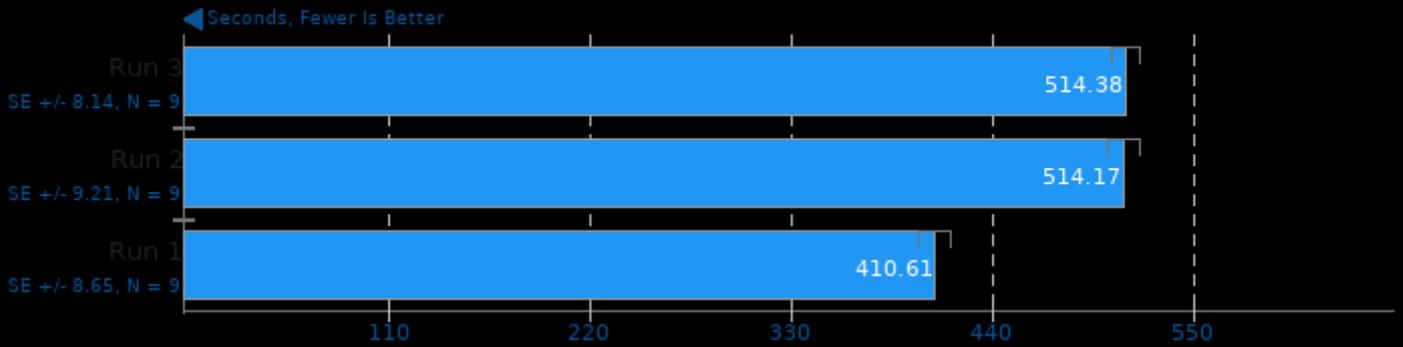
toyBrot Fractal Generator

Implementation: C++ Threads



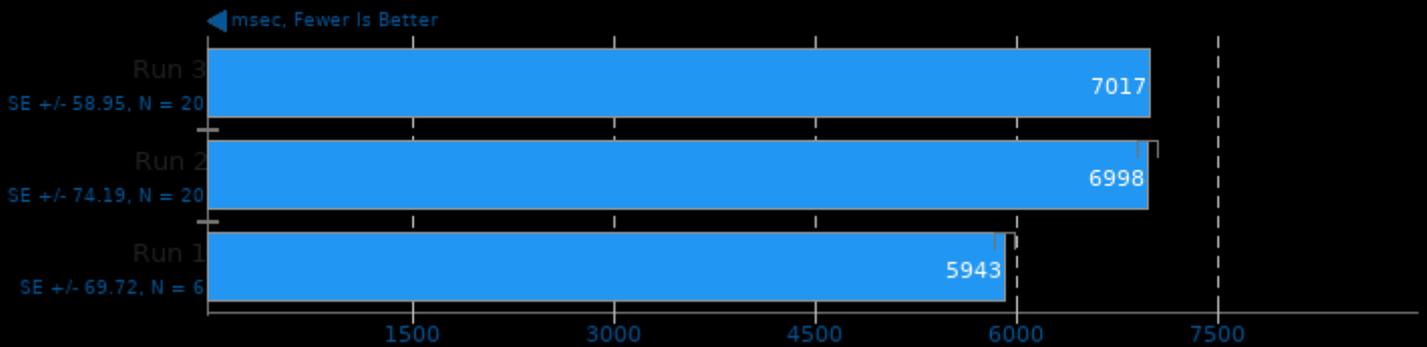
Java Gradle Build

Gradle Build: Reactor



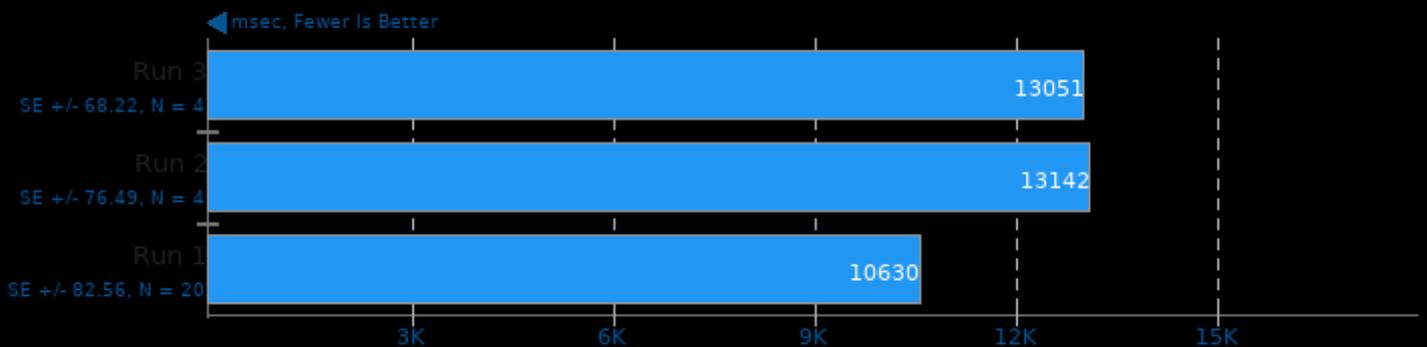
DaCapo Benchmark 9.12-MR1

Java Test: H2



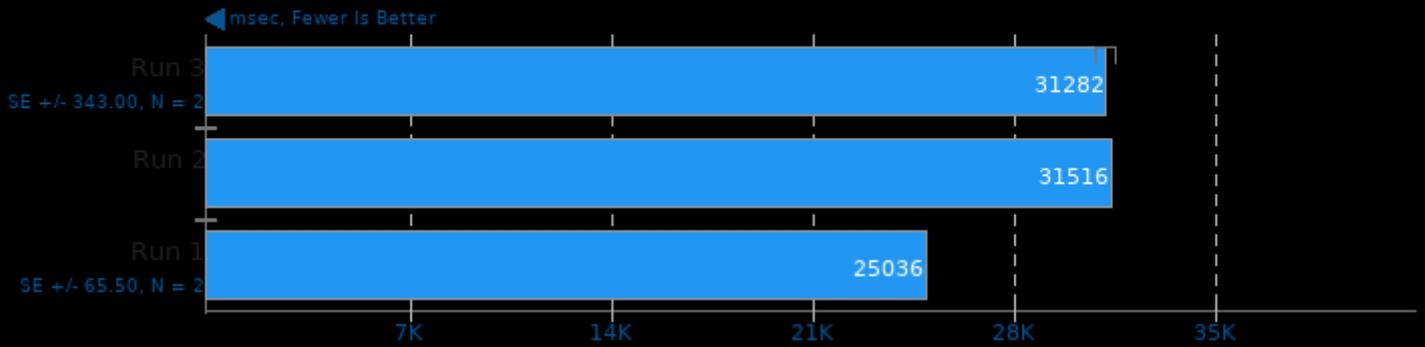
DaCapo Benchmark 9.12-MR1

Java Test: jython



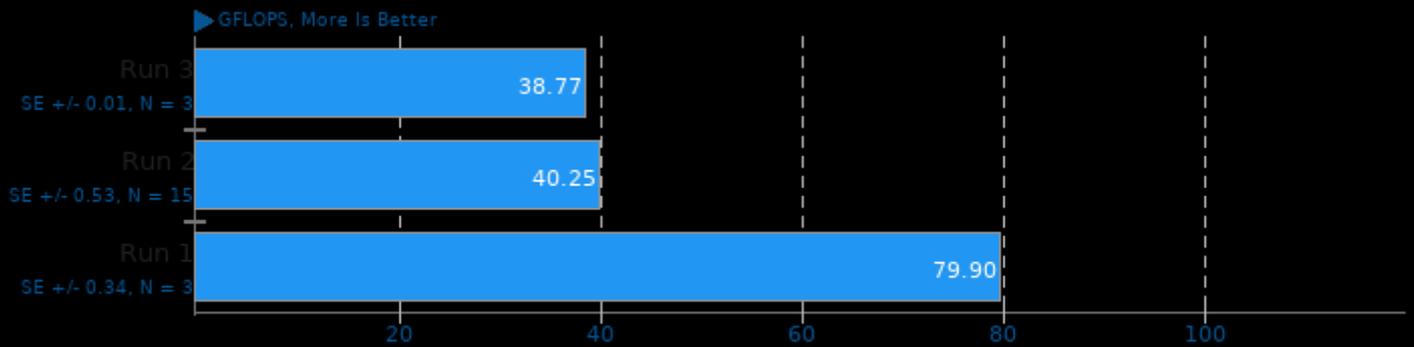
DaCapo Benchmark 9.12-MR1

Java Test: Tradesoap



ArrayFire 3.7

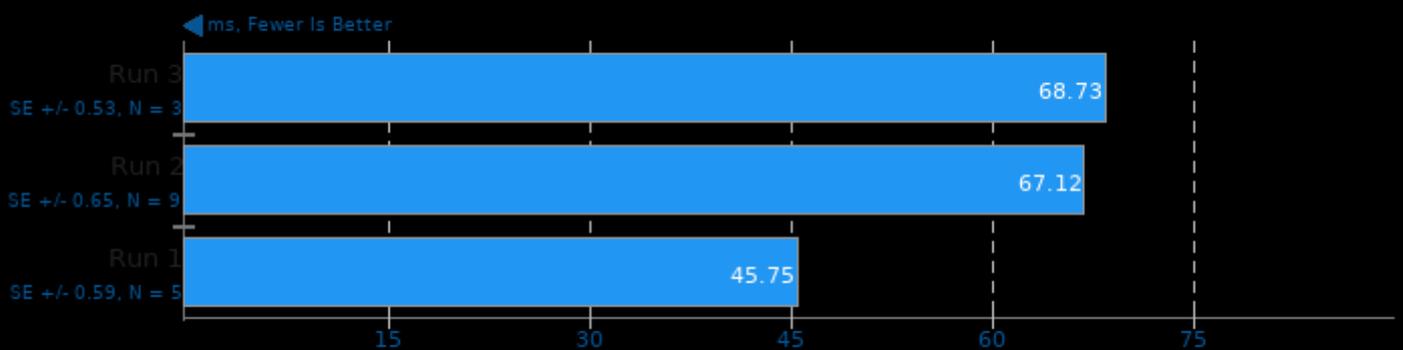
Test: BLAS CPU



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

ArrayFire 3.7

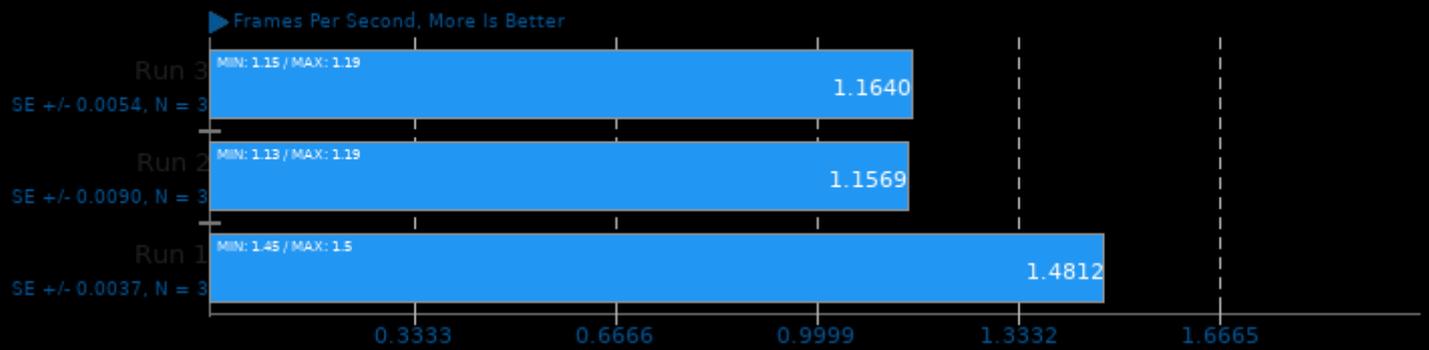
Test: Conjugate Gradient CPU



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

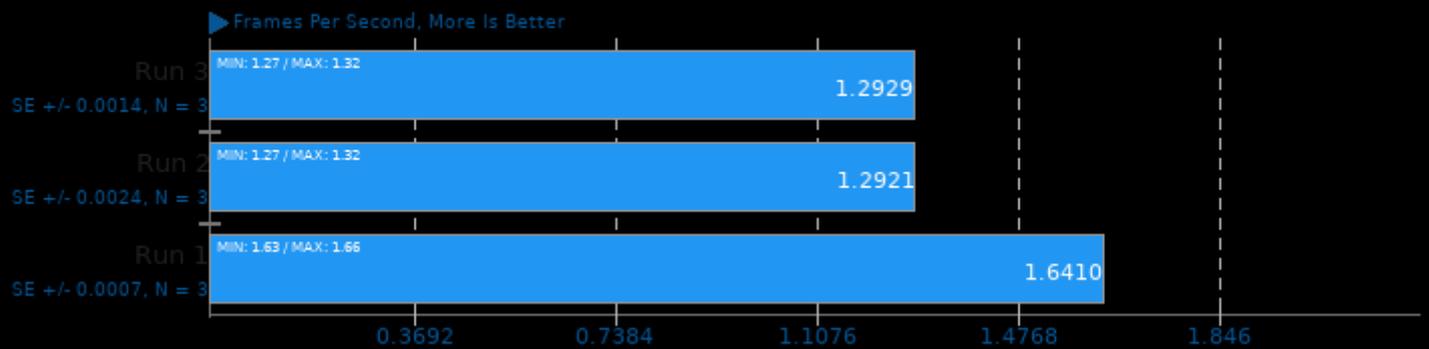
Embree 3.9.0

Binary: Pathtracer - Model: Crown



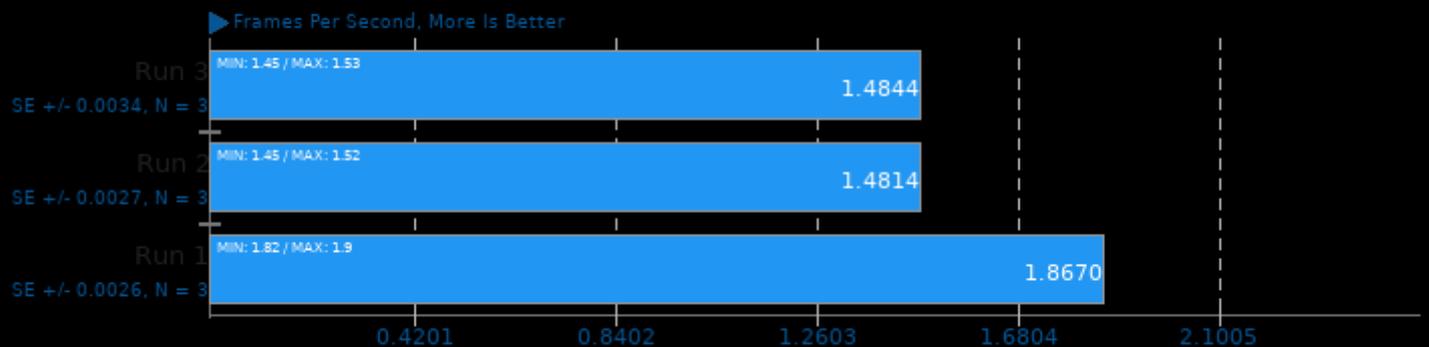
Embree 3.9.0

Binary: Pathtracer ISPC - Model: Crown



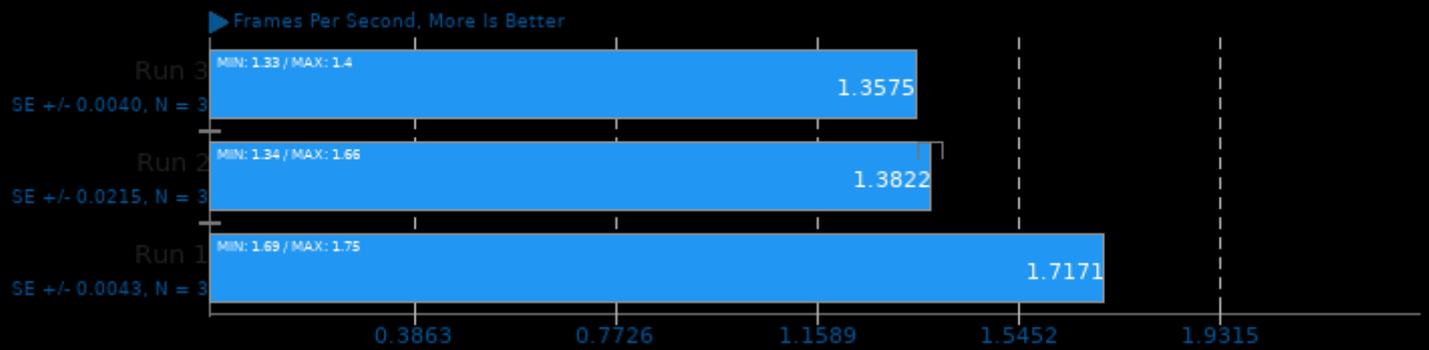
Embree 3.9.0

Binary: Pathtracer - Model: Asian Dragon



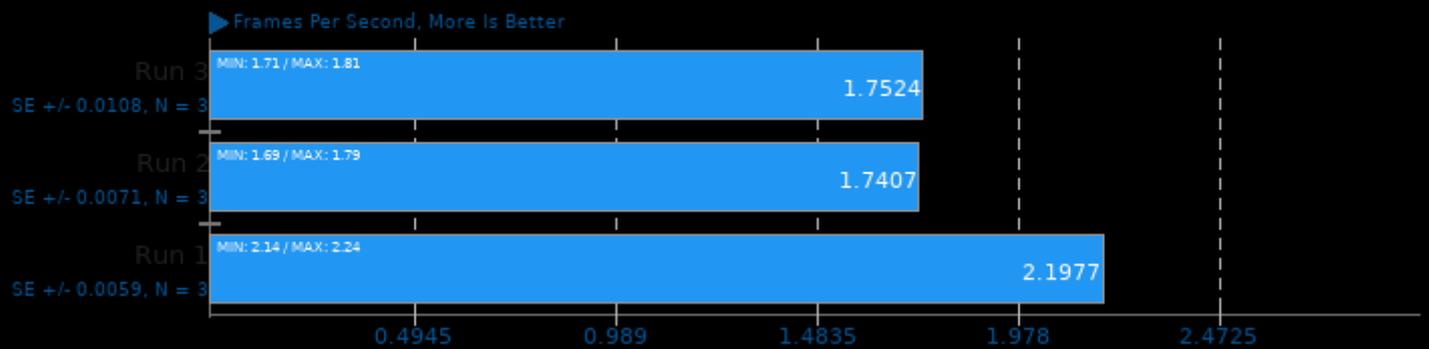
Embree 3.9.0

Binary: Pathtracer - Model: Asian Dragon Obj



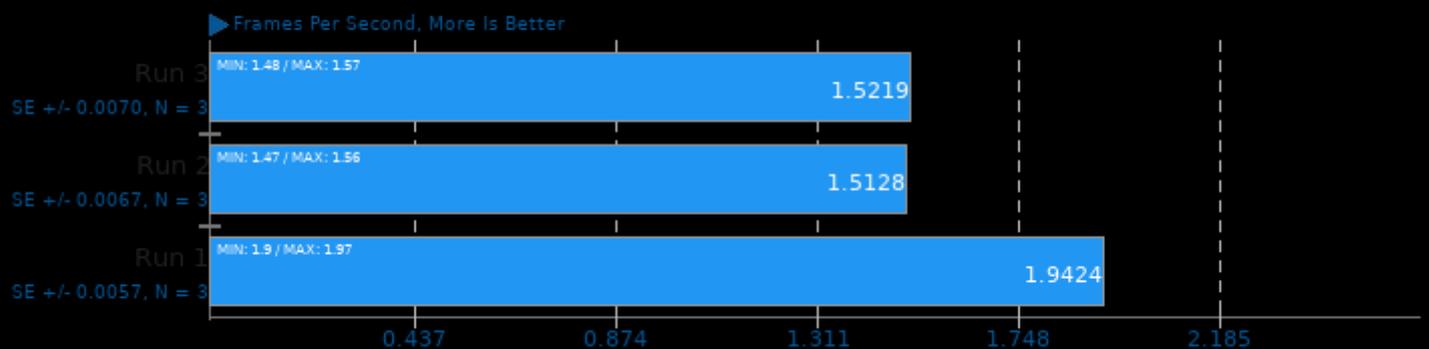
Embree 3.9.0

Binary: Pathtracer ISPC - Model: Asian Dragon



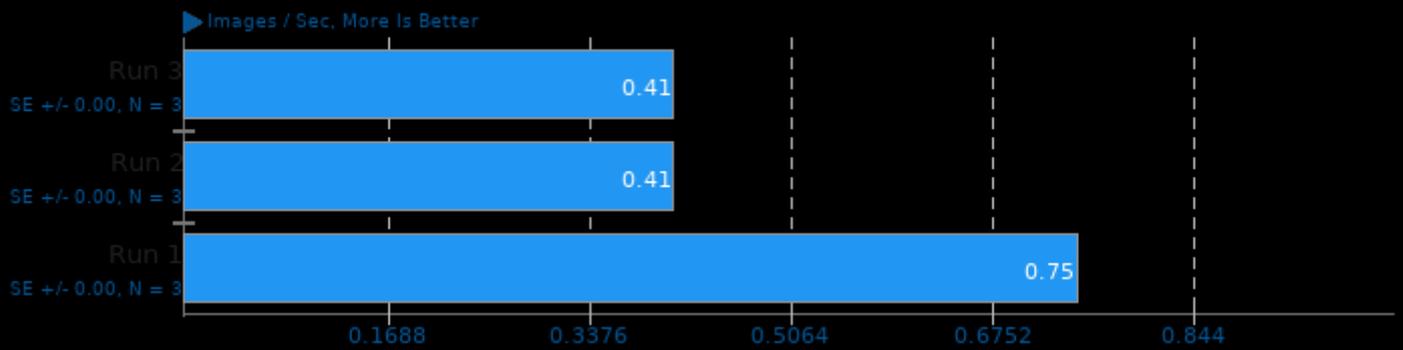
Embree 3.9.0

Binary: Pathtracer ISPC - Model: Asian Dragon Obj



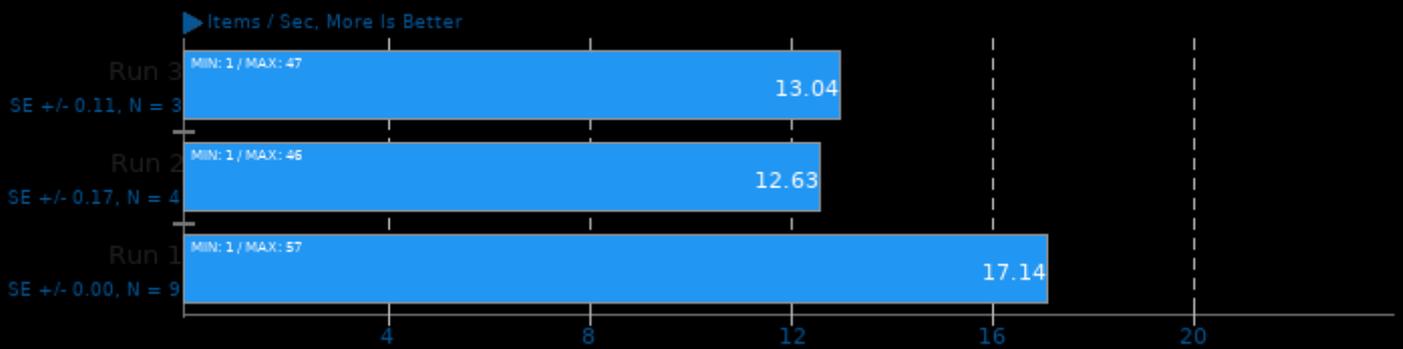
Intel Open Image Denoise 1.2.0

Scene: Memorial



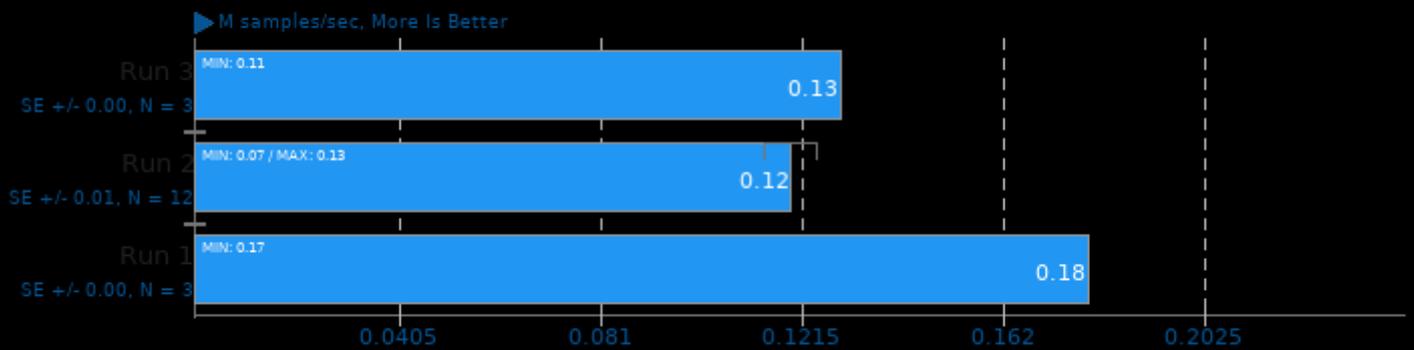
OpenVKL 0.9

Benchmark: vklBenchmark



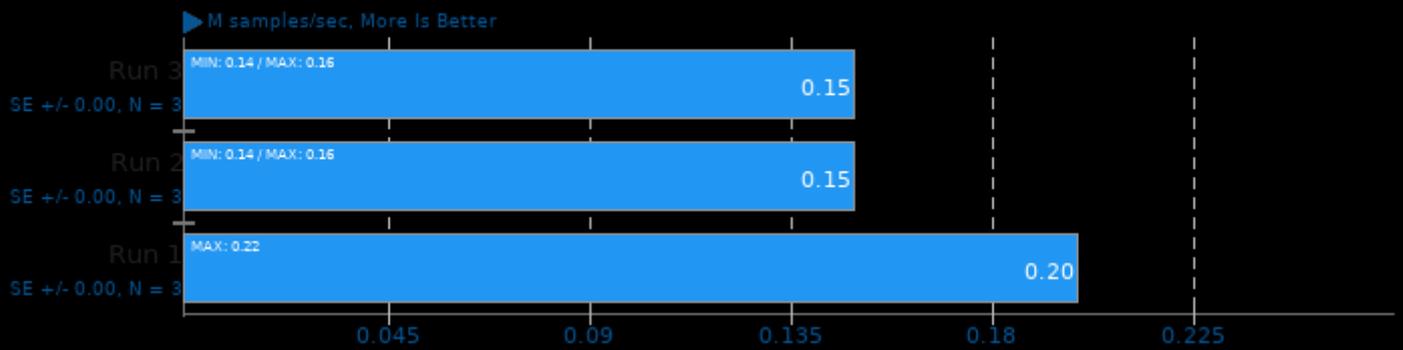
LuxCoreRender 2.3

Scene: DLSC



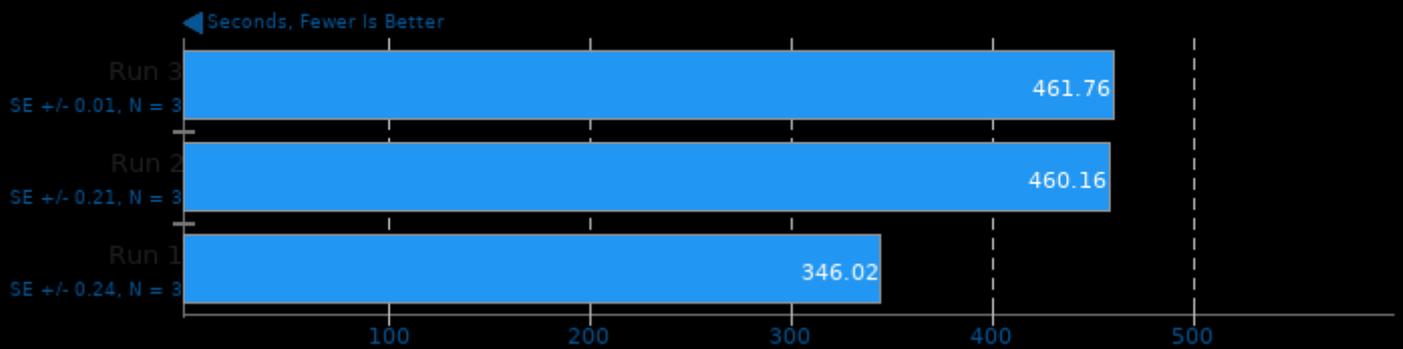
LuxCoreRender 2.3

Scene: Rainbow Colors and Prism



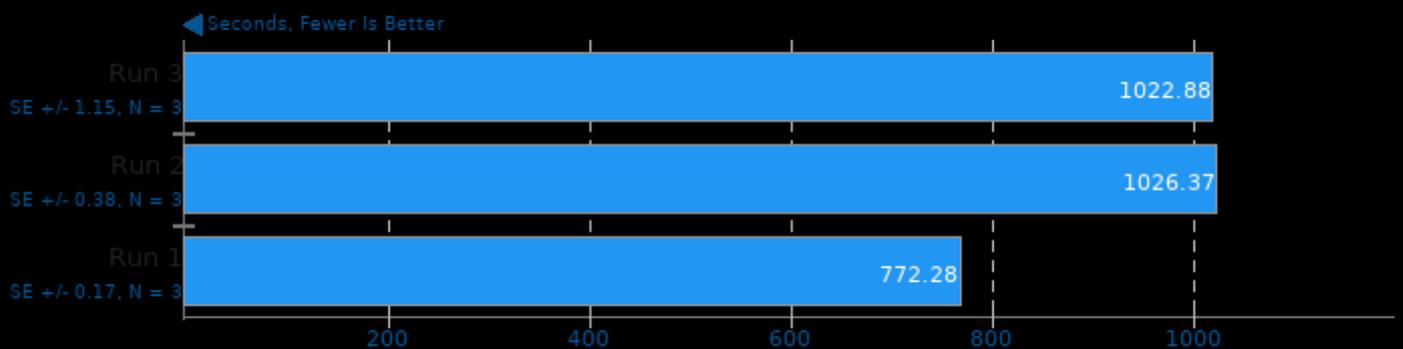
Timed FFmpeg Compilation 4.2.2

Time To Compile



Tachyon 0.99b6

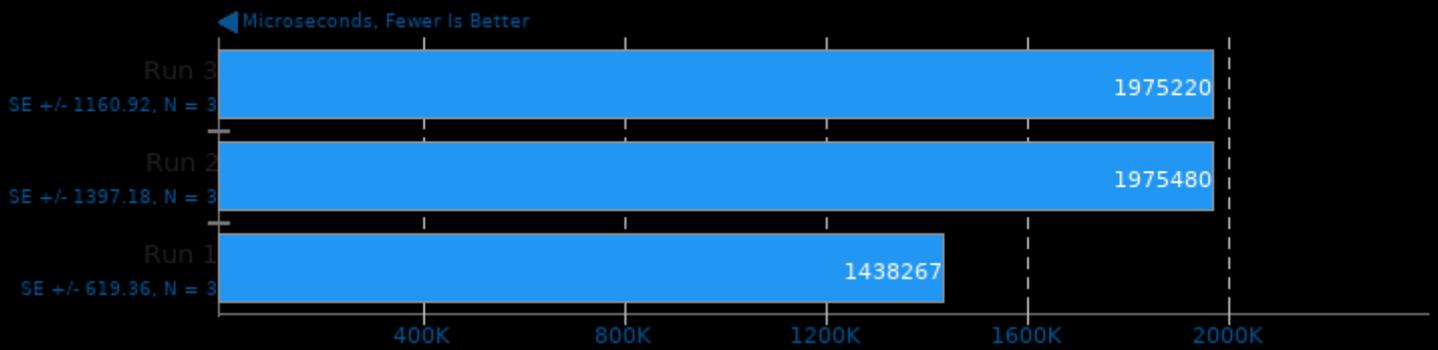
Total Time



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

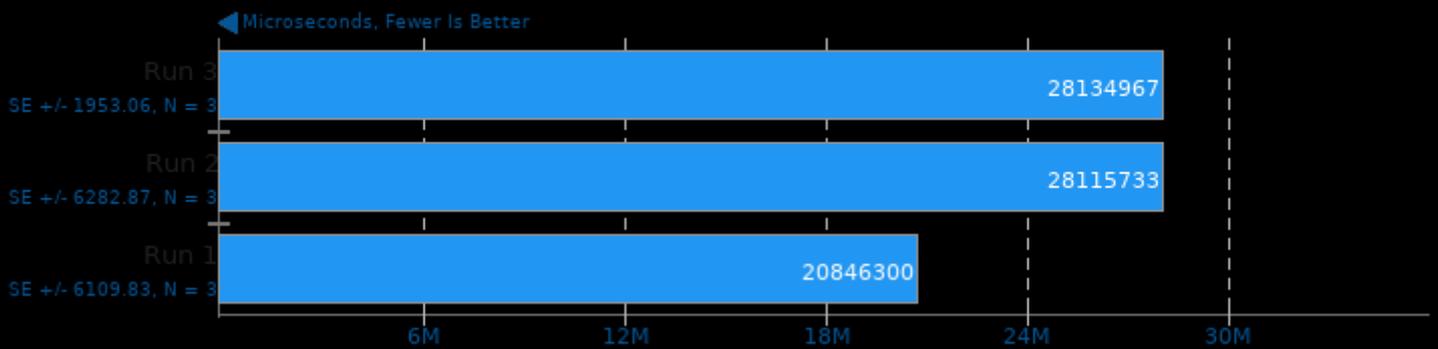
TensorFlow Lite 2020-08-23

Model: SqueezeNet



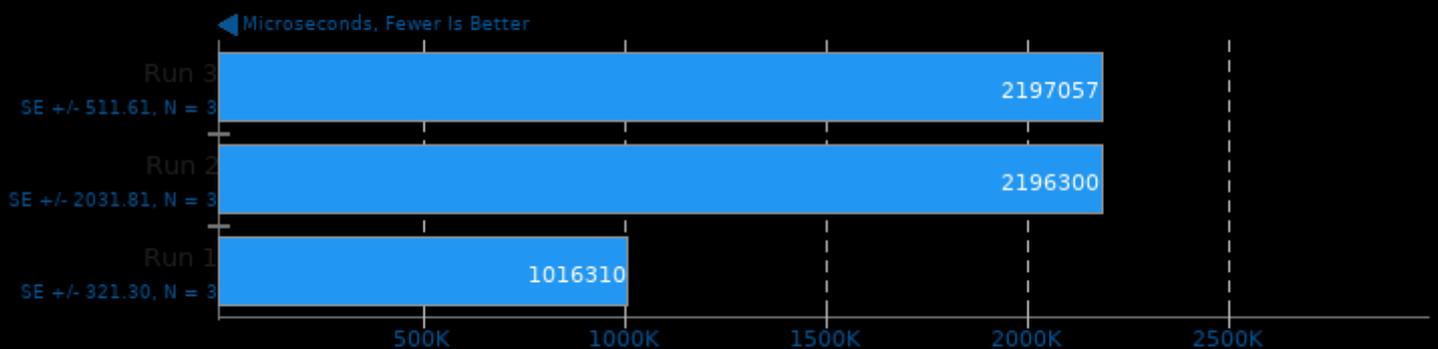
TensorFlow Lite 2020-08-23

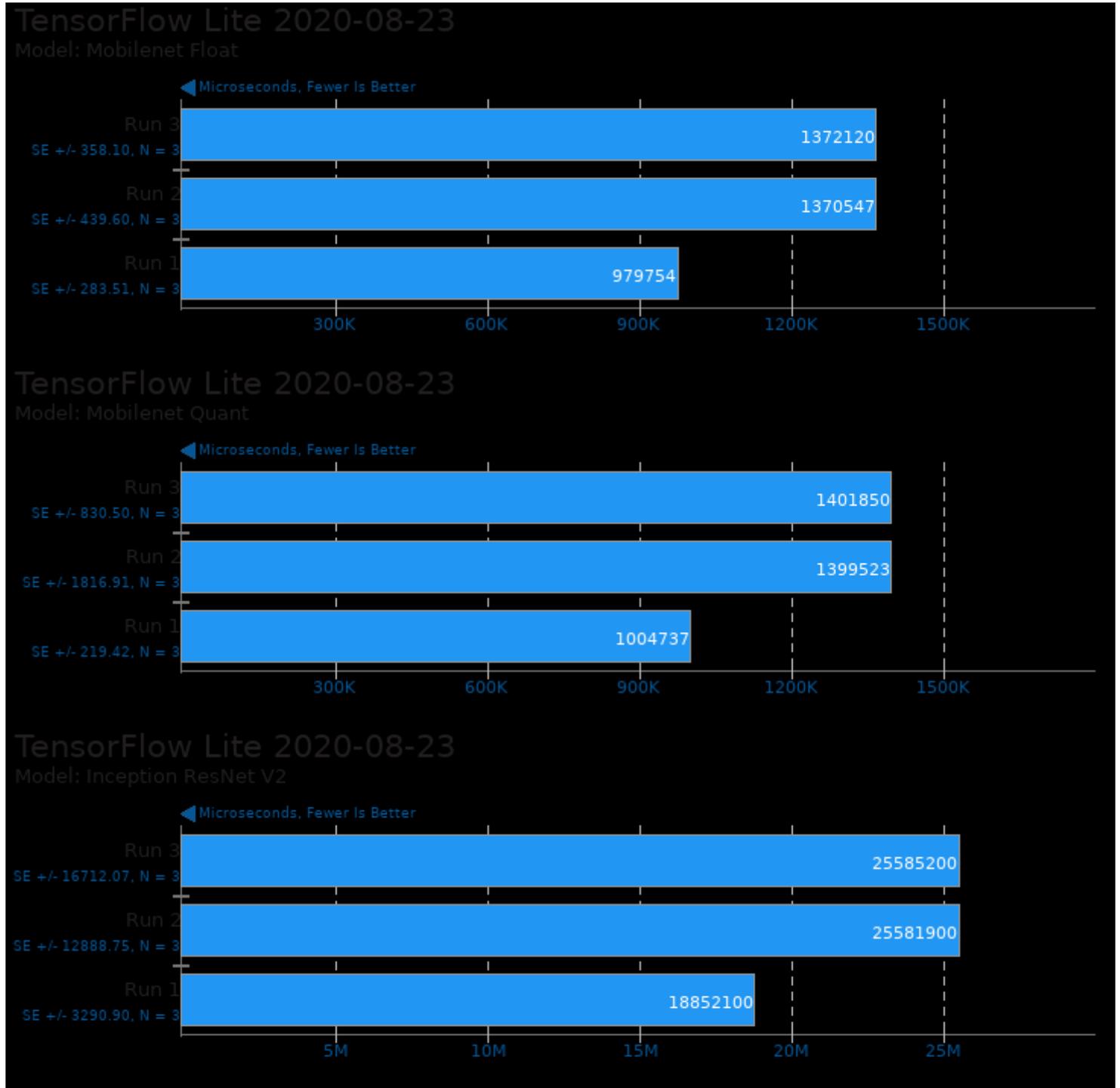
Model: Inception V4



TensorFlow Lite 2020-08-23

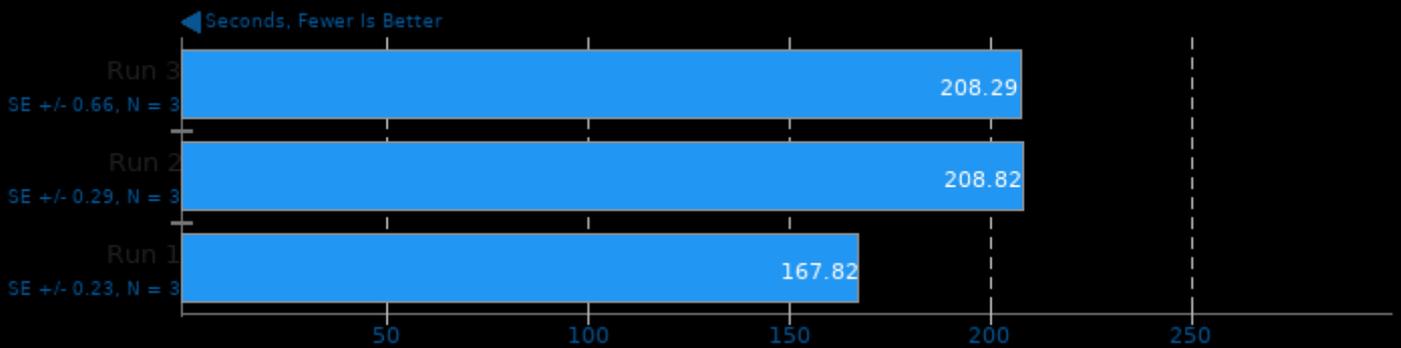
Model: NASNet Mobile





Basis Universal 1.12

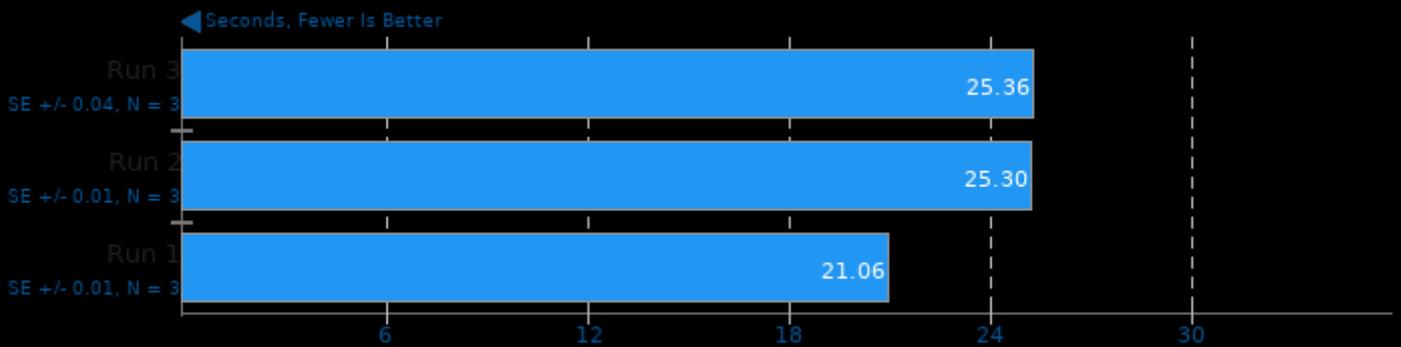
Settings: ETC1S



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

Basis Universal 1.12

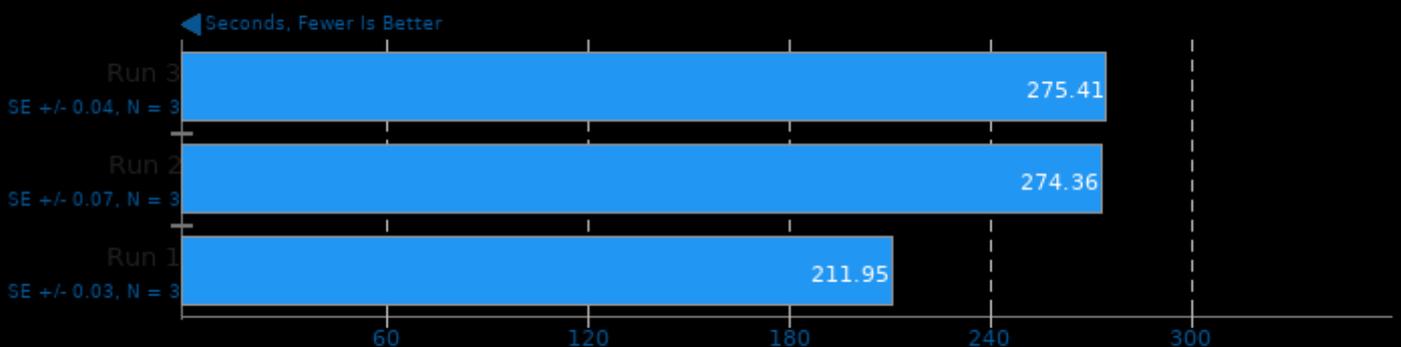
Settings: UASTC Level 0



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

Basis Universal 1.12

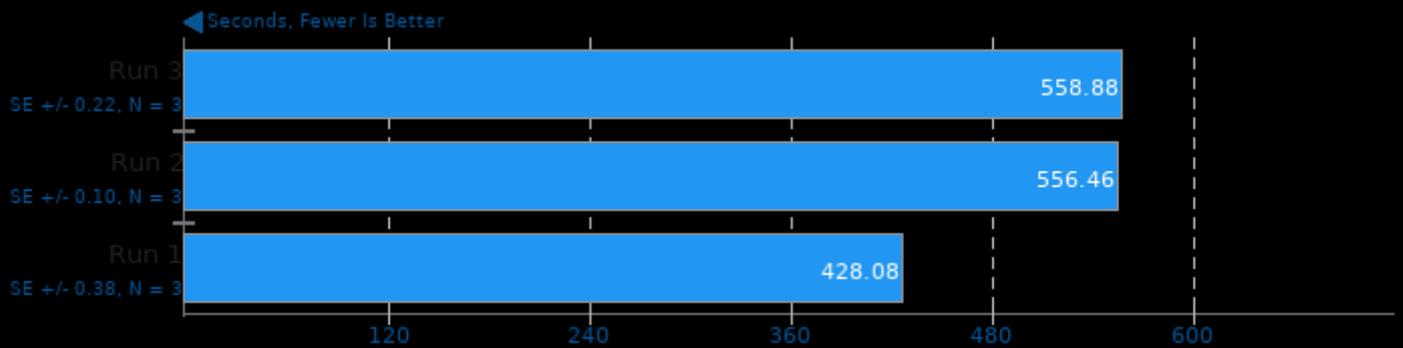
Settings: UASTC Level 2



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

Basis Universal 1.12

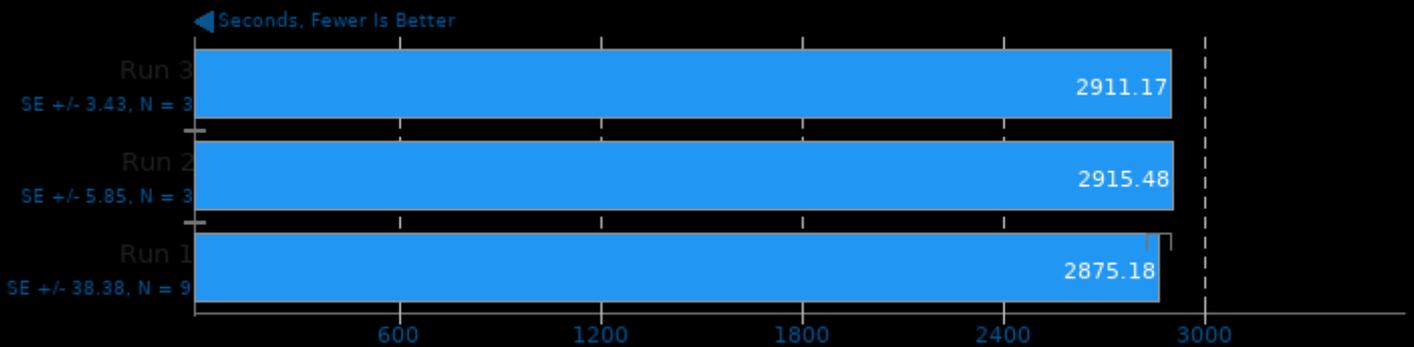
Settings: UASTC Level 3



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

Basis Universal 1.12

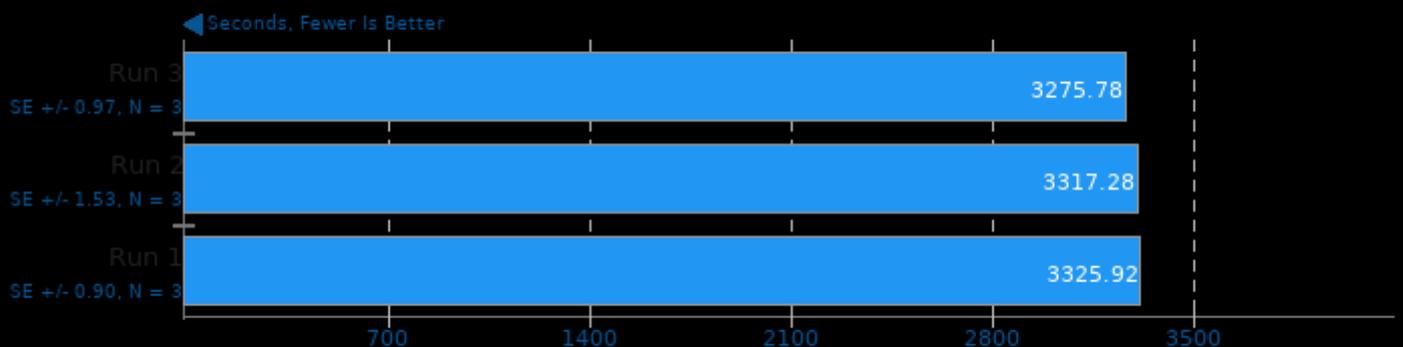
Settings: UASTC Level 2 + RDO Post-Processing



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

G'MIC

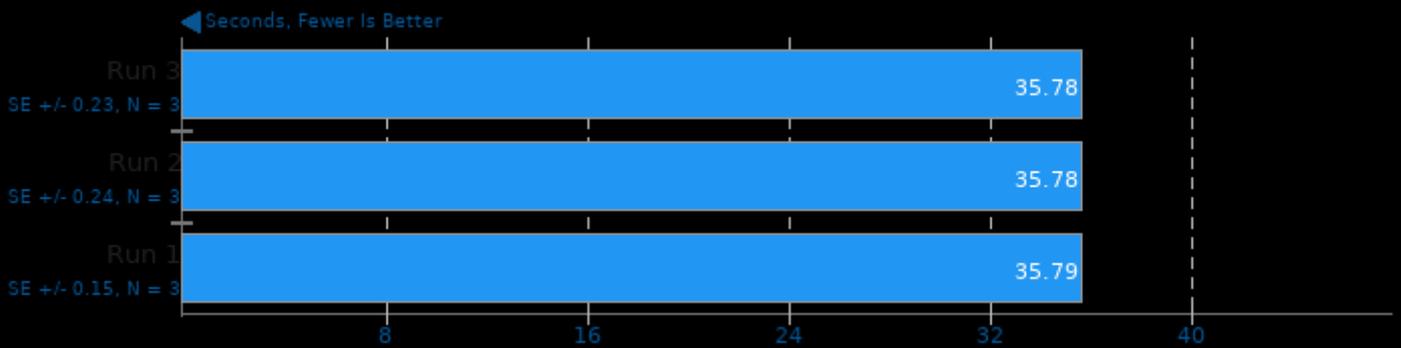
Test: 2D Function Plotting, 1000 Times



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

G'MIC

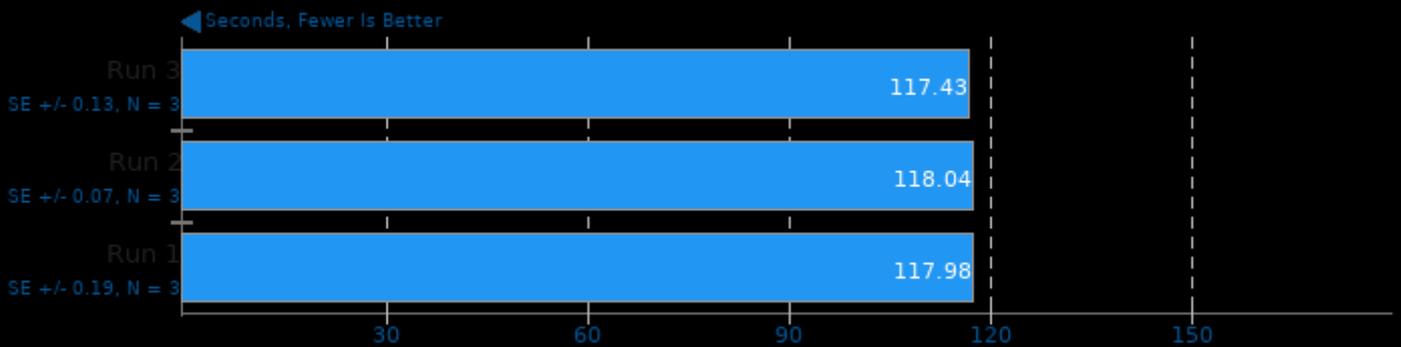
Test: Plotting Isosurface Of A 3D Volume, 1000 Times



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

G'MIC

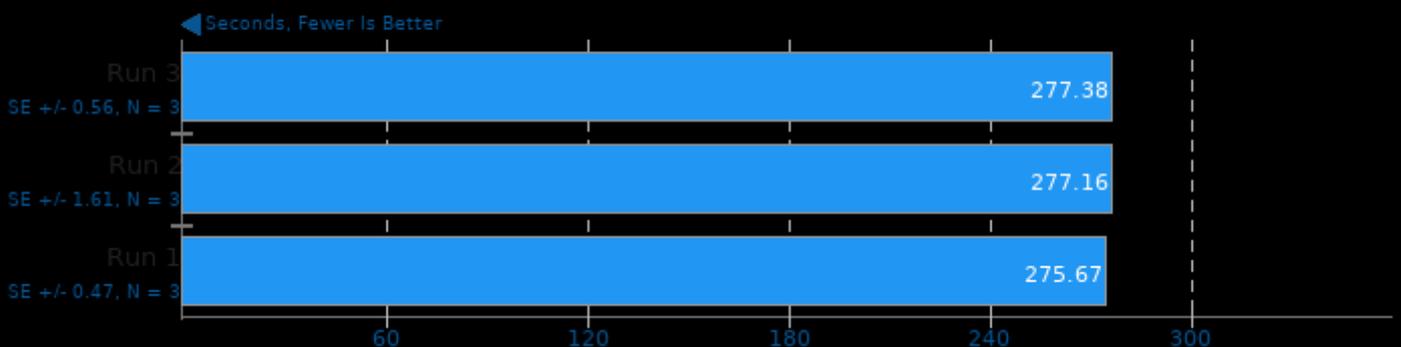
Test: 3D Elevated Function In Random Colors, 100 Times



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

Hugin

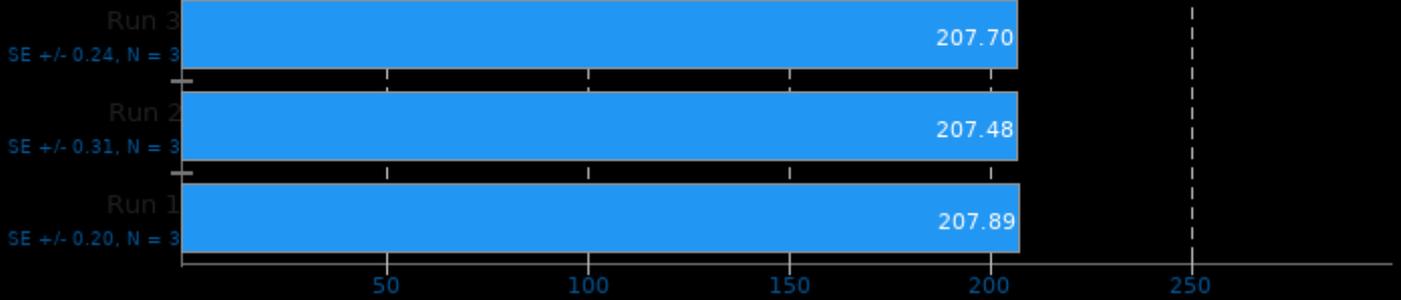
Test: Panorama Photo Assistant + Stitching Time



OCRMyPDF 9.6.0+dfsg

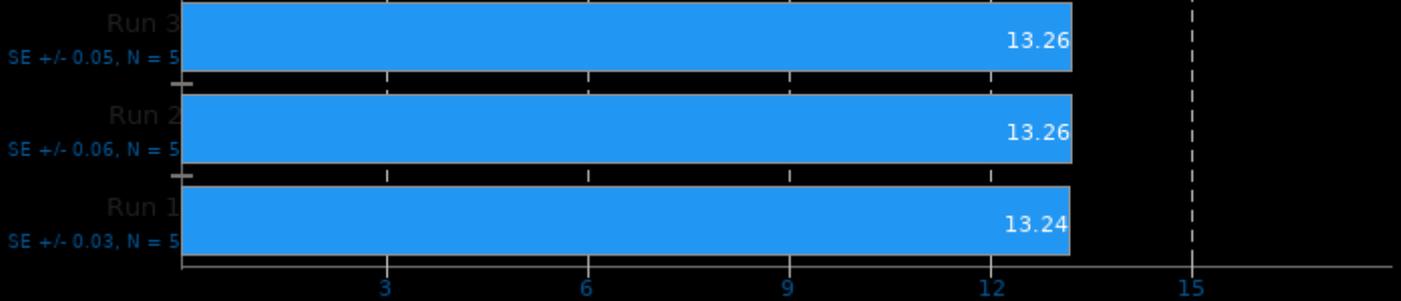
Processing 60 Page PDF Document

← Seconds, Fewer Is Better



GNU Octave Benchmark 5.1.0

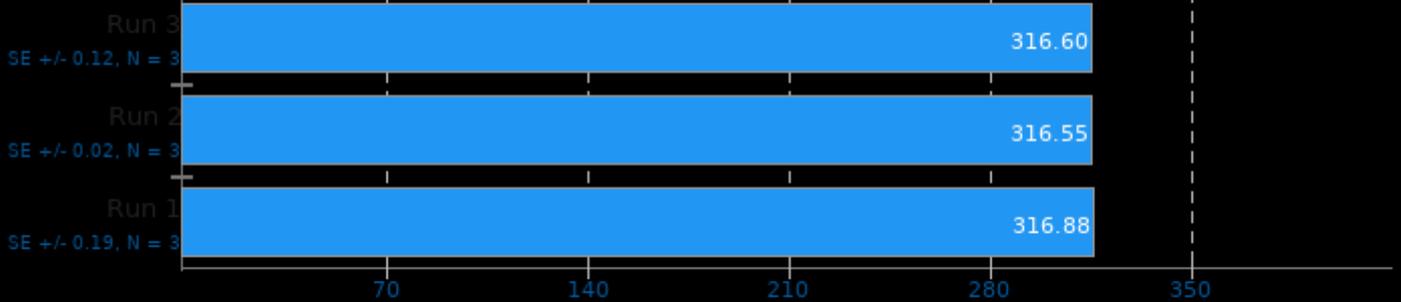
← Seconds, Fewer Is Better



RawTherapee

Total Benchmark Time

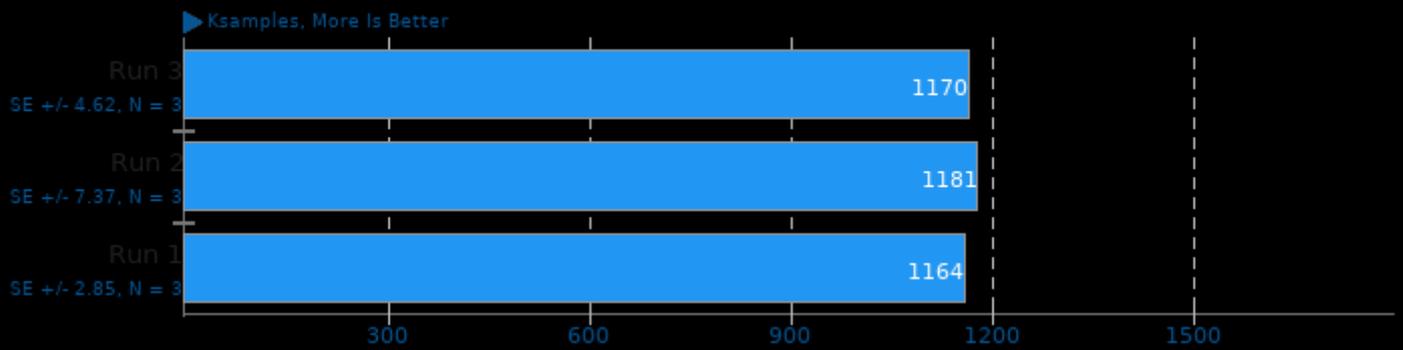
← Seconds, Fewer Is Better



1. RawTherapee, version 5.8, command line.

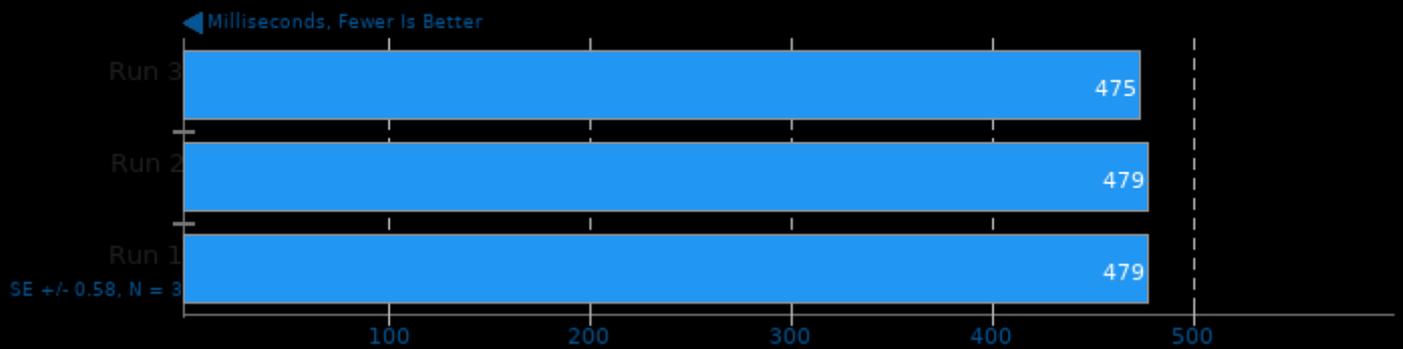
Chaos Group V-RAY 4.10.07

Mode: CPU



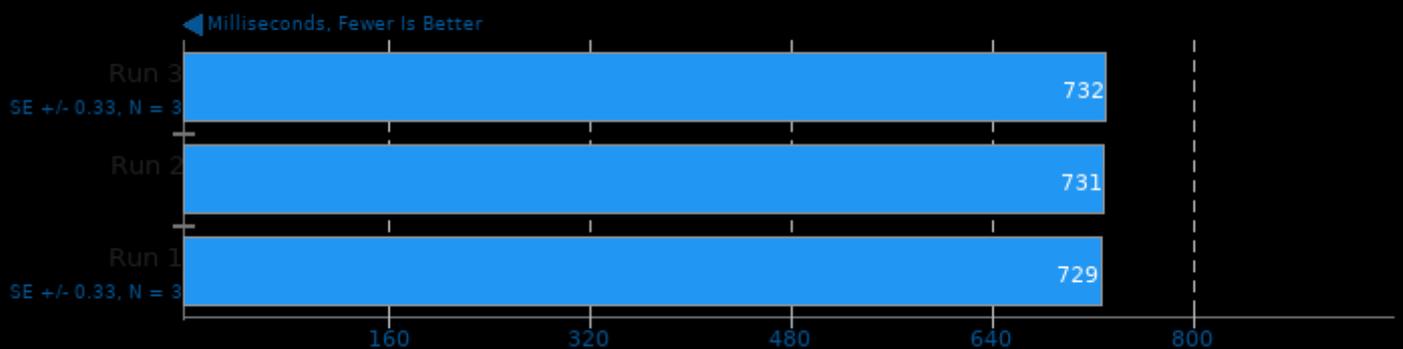
PyPerformance 1.0.0

Benchmark: go



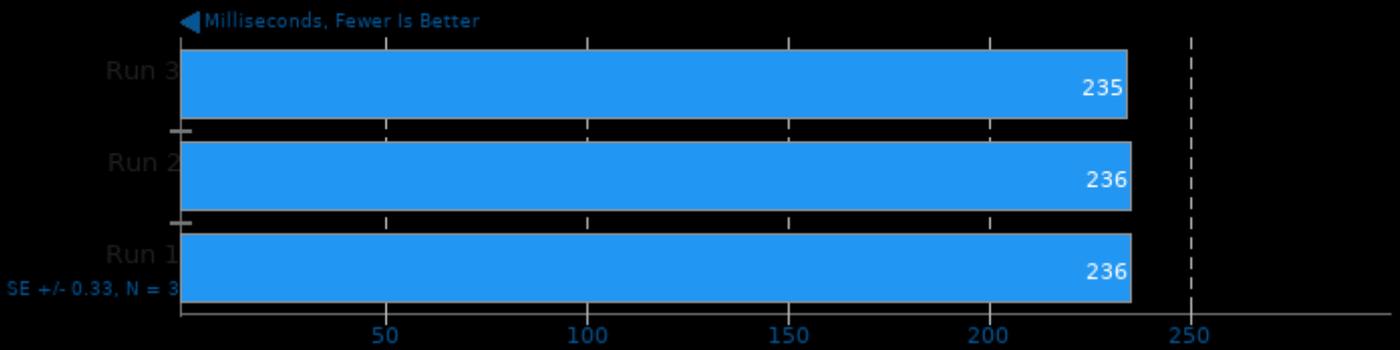
PyPerformance 1.0.0

Benchmark: 2to3



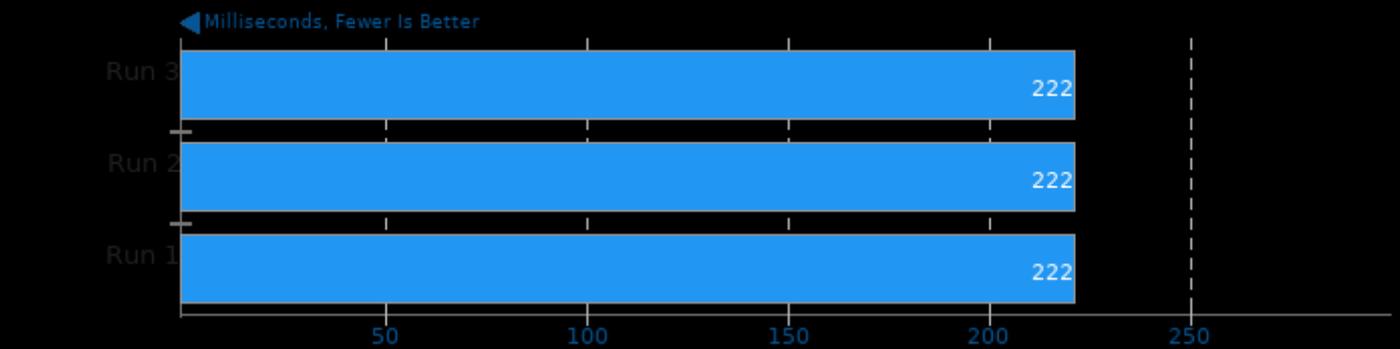
PyPerformance 1.0.0

Benchmark: chaos



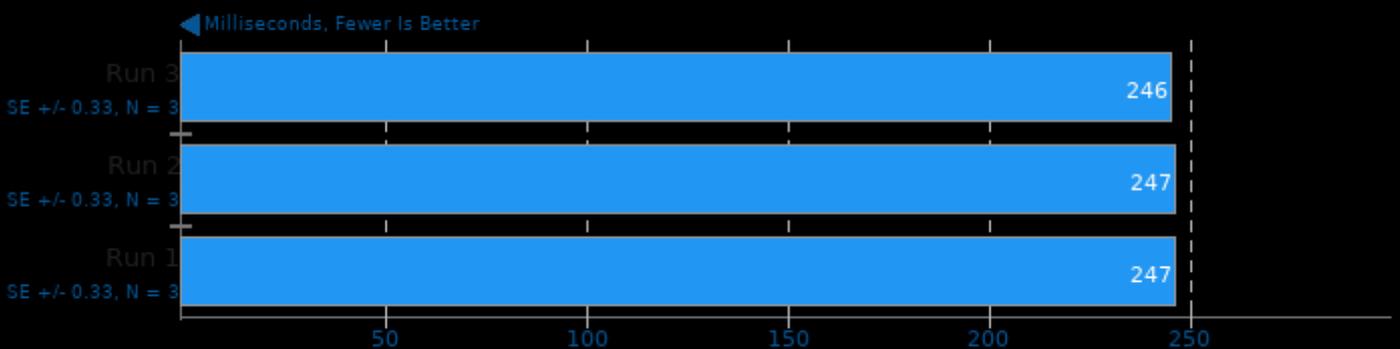
PyPerformance 1.0.0

Benchmark: float



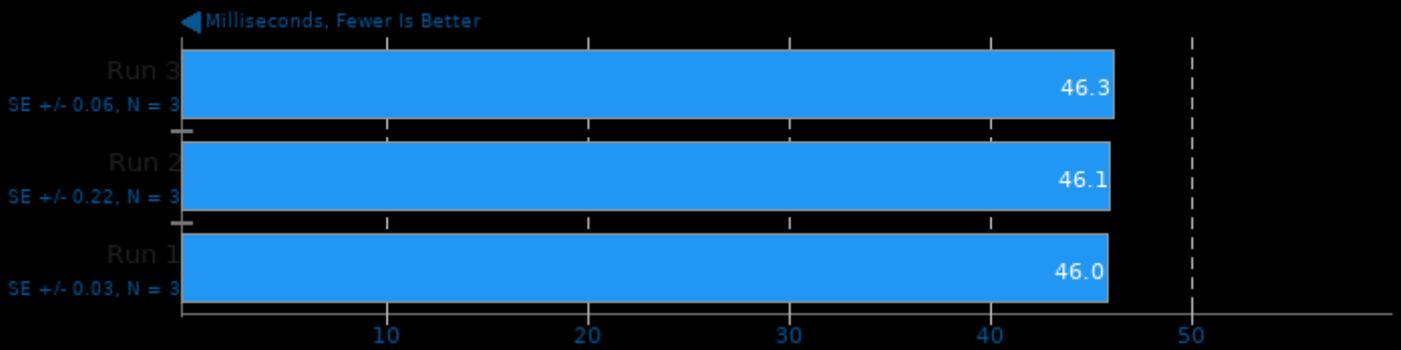
PyPerformance 1.0.0

Benchmark: nbody



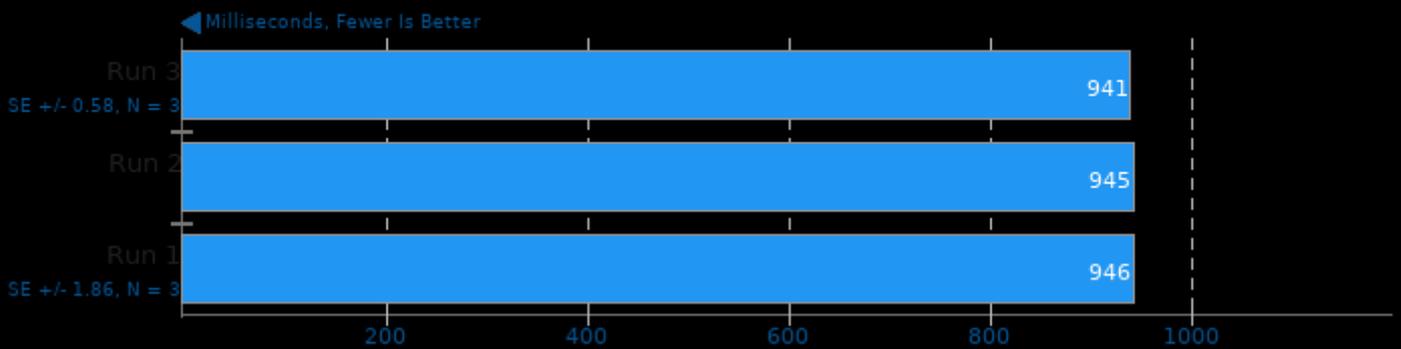
PyPerformance 1.0.0

Benchmark: pathlib



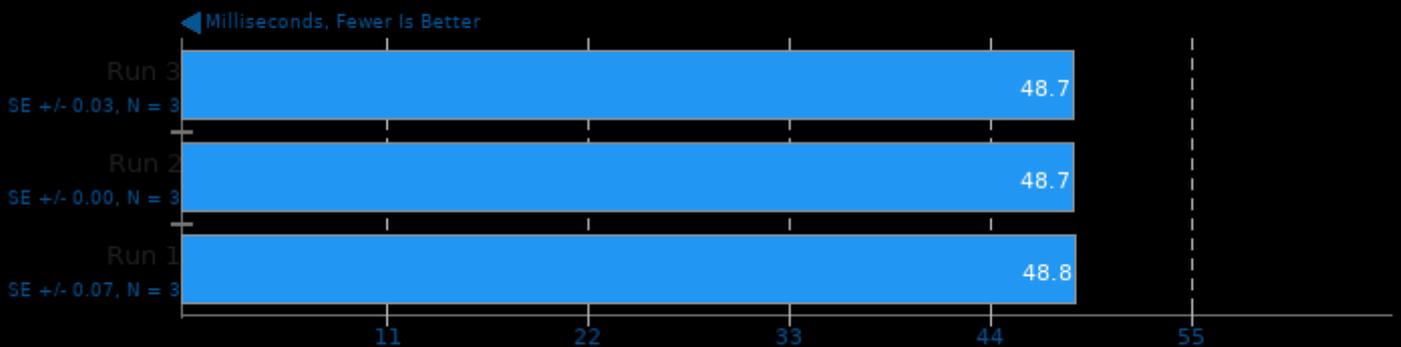
PyPerformance 1.0.0

Benchmark: raytrace



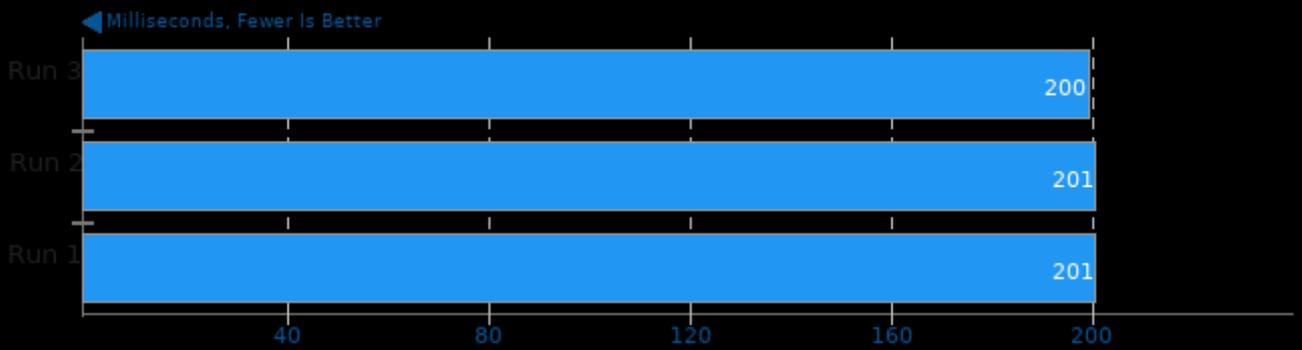
PyPerformance 1.0.0

Benchmark: json_loads



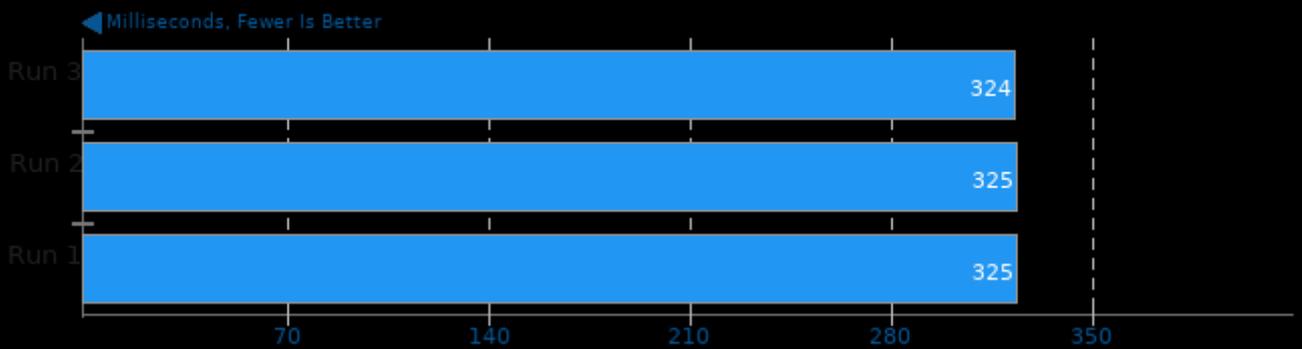
PyPerformance 1.0.0

Benchmark: crypto_pyaes



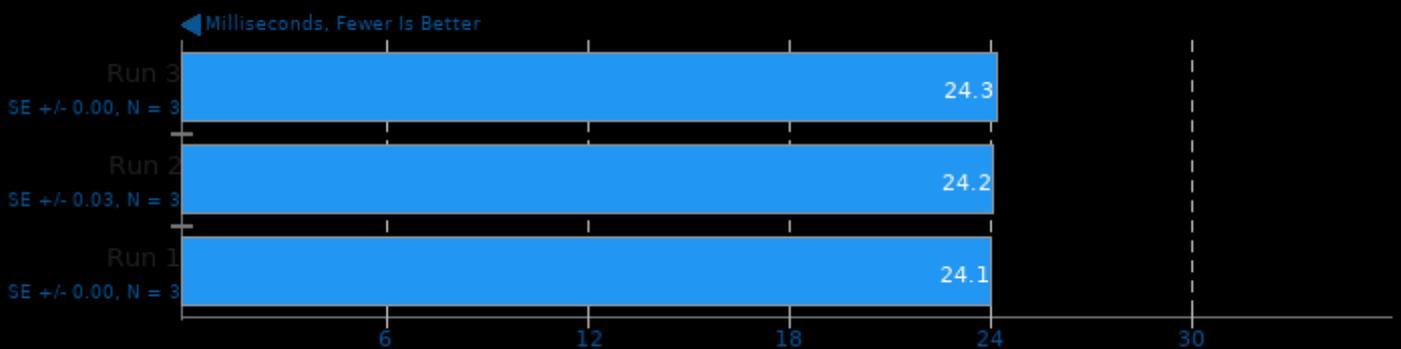
PyPerformance 1.0.0

Benchmark: regex_compile



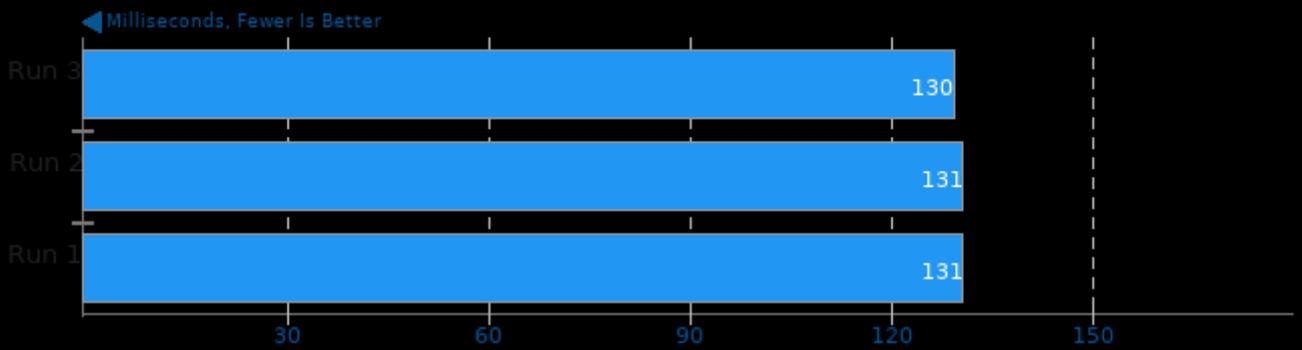
PyPerformance 1.0.0

Benchmark: python_startup



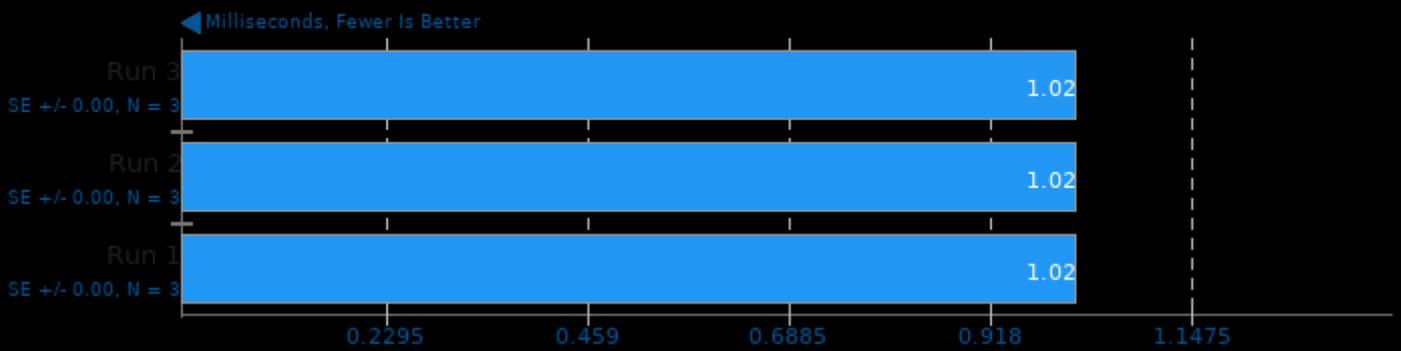
PyPerformance 1.0.0

Benchmark: django_template



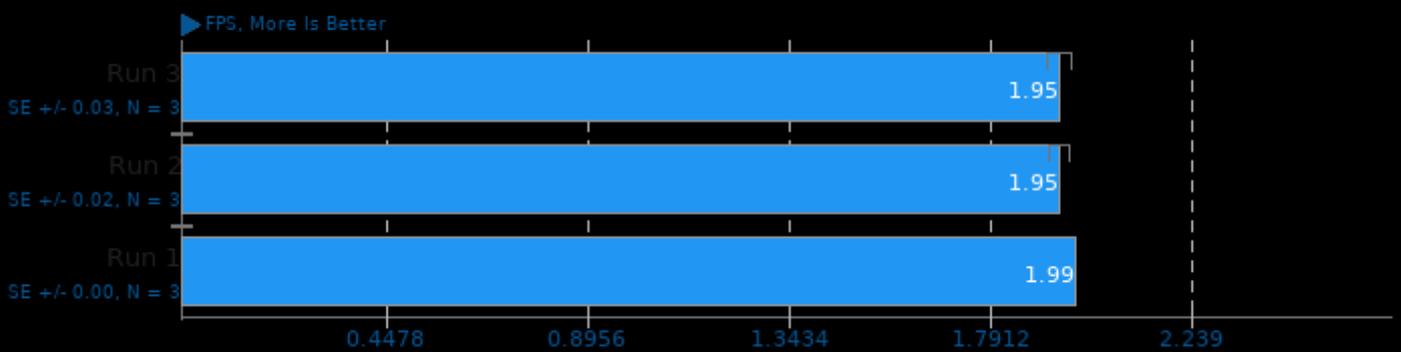
PyPerformance 1.0.0

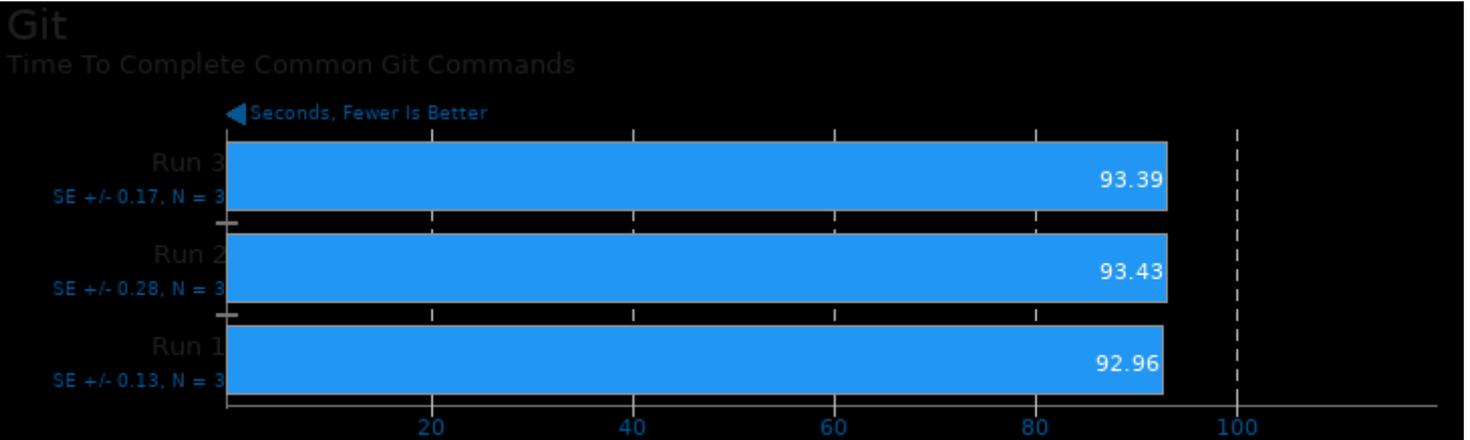
Benchmark: pickle_pure_python



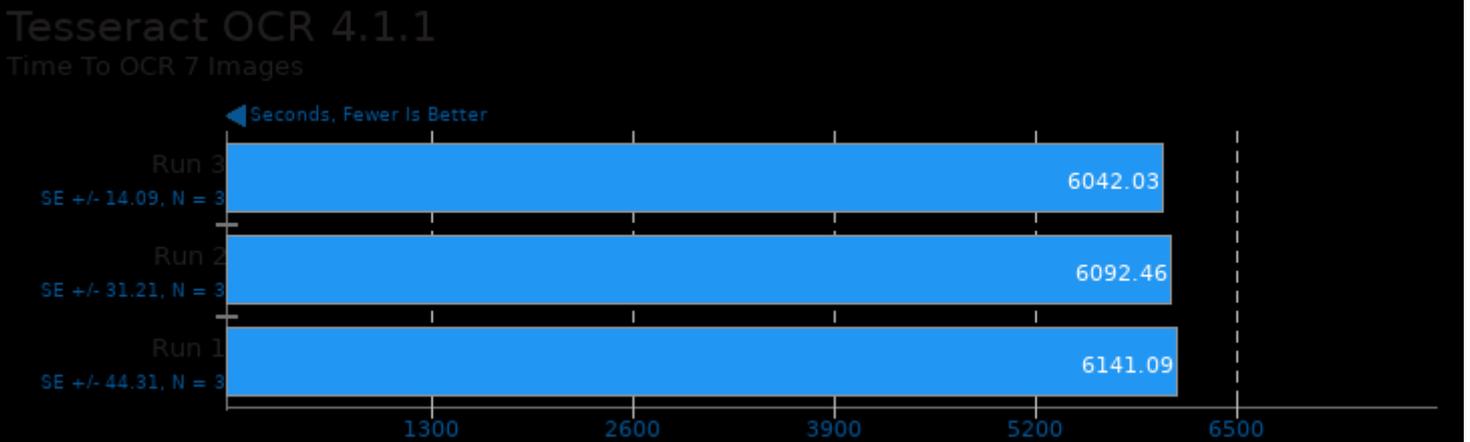
NeatBench 5

Acceleration: CPU





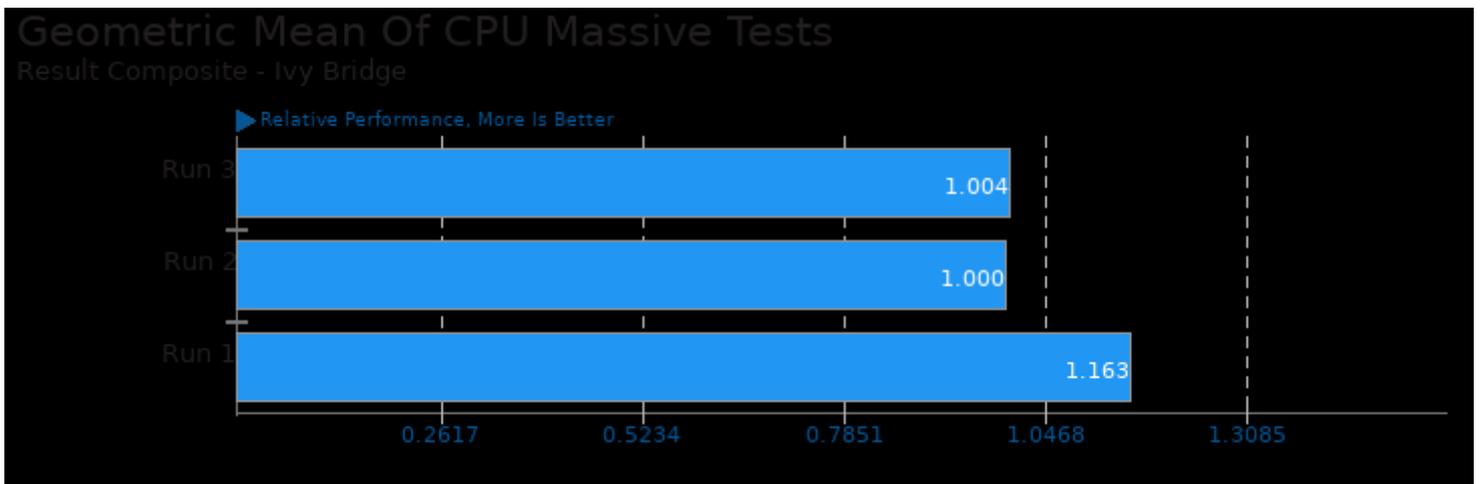
1. git version 2.24.0



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



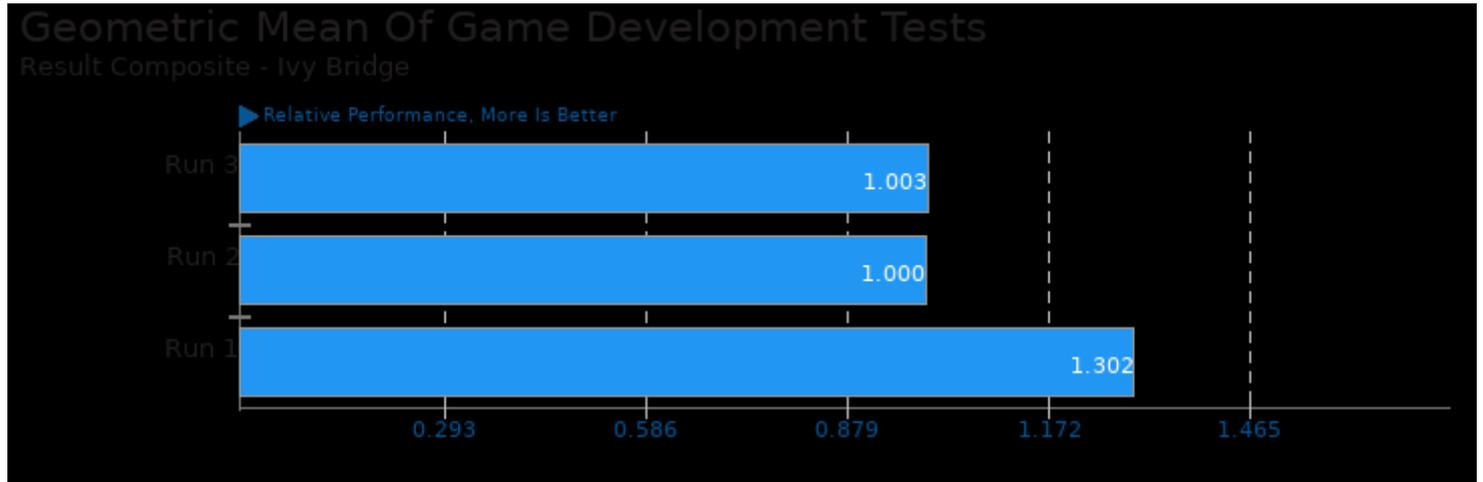
Geometric mean based upon tests: pts/build-ffmpeg, pts/tachyon, pts/toybrot and pts/basis



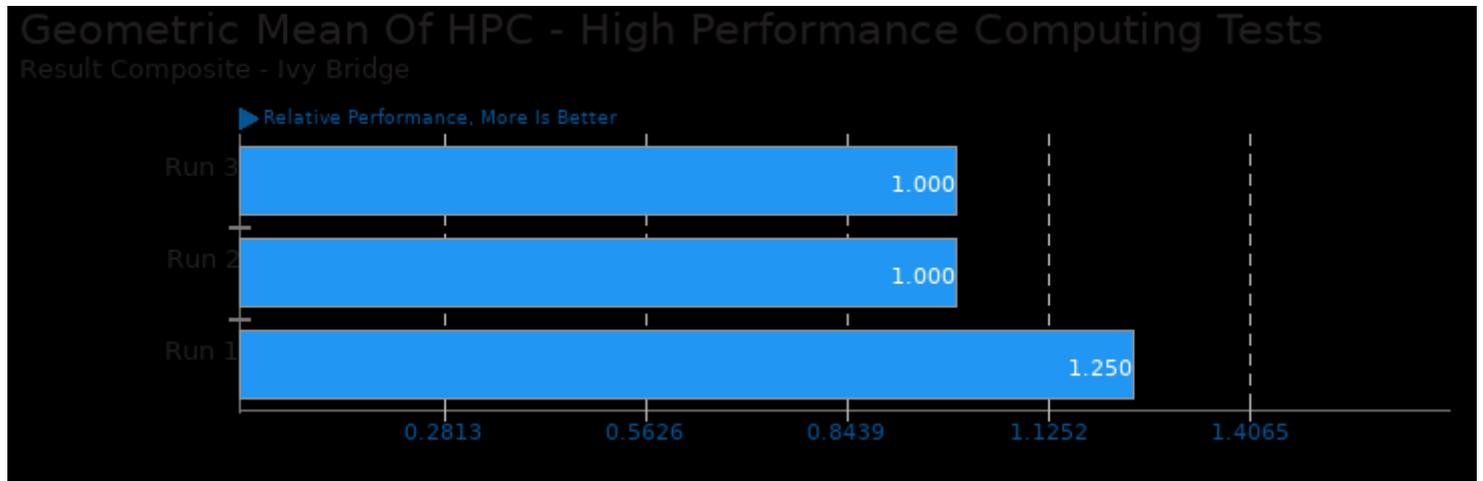
Geometric mean based upon tests: pts/dacapobench, pts/java-gradle-perf, pts/namd, pts/tachyon, pts/v-ray, system/octave-benchmark and system/tesseract-ocr



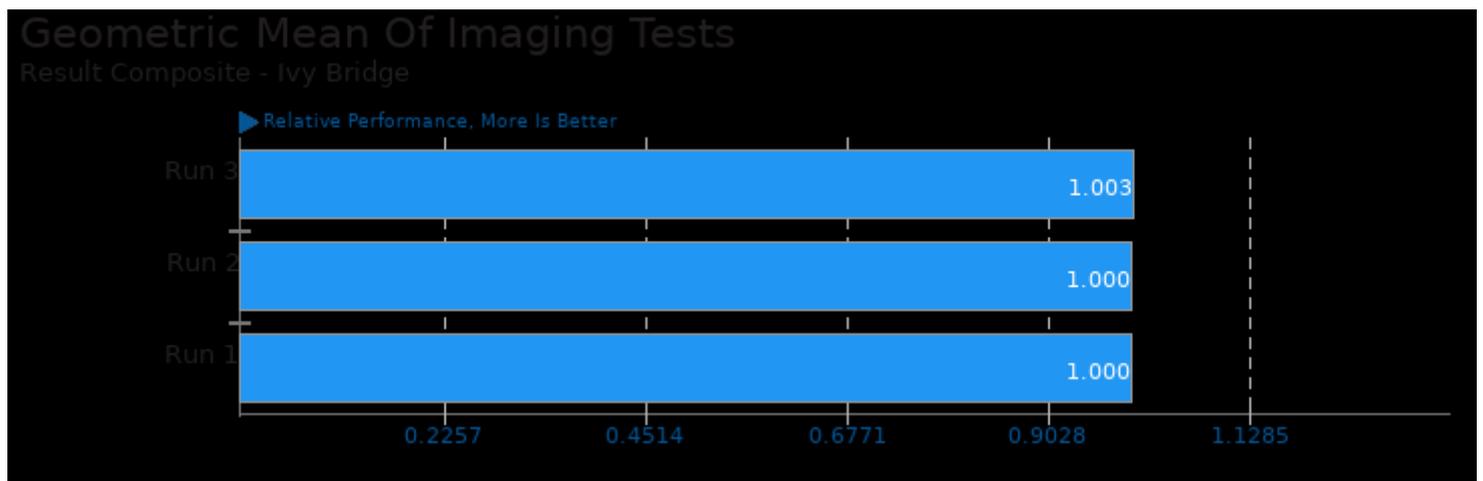
Geometric mean based upon tests: pts/tachyon, pts/luxcorerender, pts/v-ray, system/tesseract-ocr, system/ocrmypdf, system/gmrc, system/rawtherapee, system/hugin, pts/embree, pts/oidn, pts/opencv, pts/neatbench and pts/basis



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



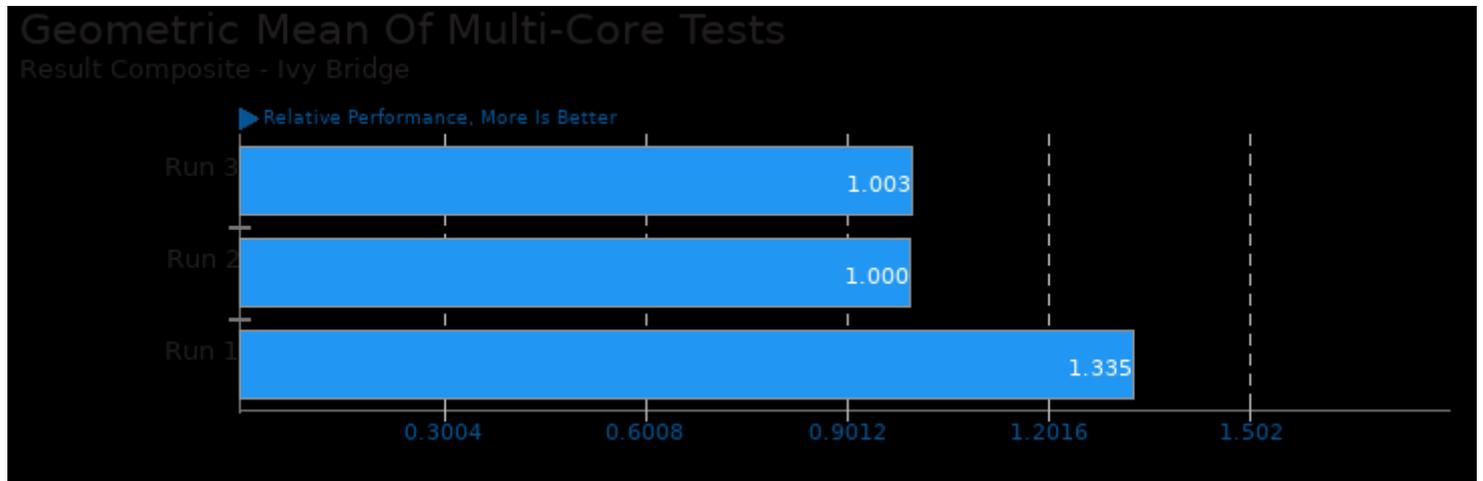
Geometric mean based upon tests: system/octave-benchmark, pts/arrayfire, pts/namd and pts/tensorflow-lite



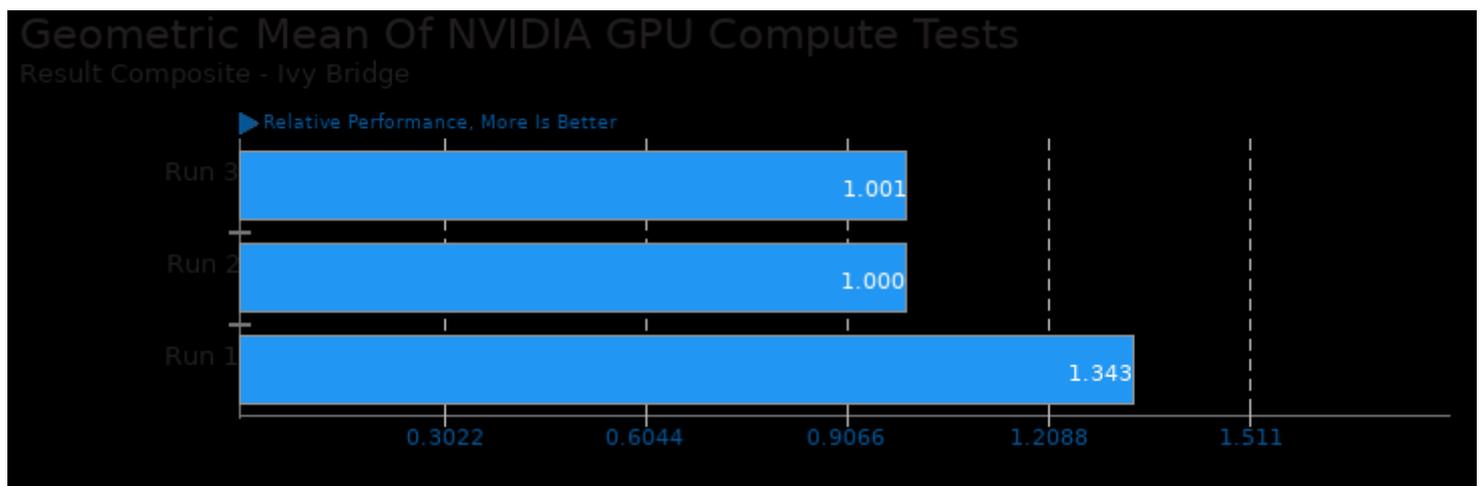
Geometric mean based upon tests: system/gmic, system/rawtherapee and system/hugin



Geometric mean based upon tests: pts/dacapobench and pts/java-gradle-perf



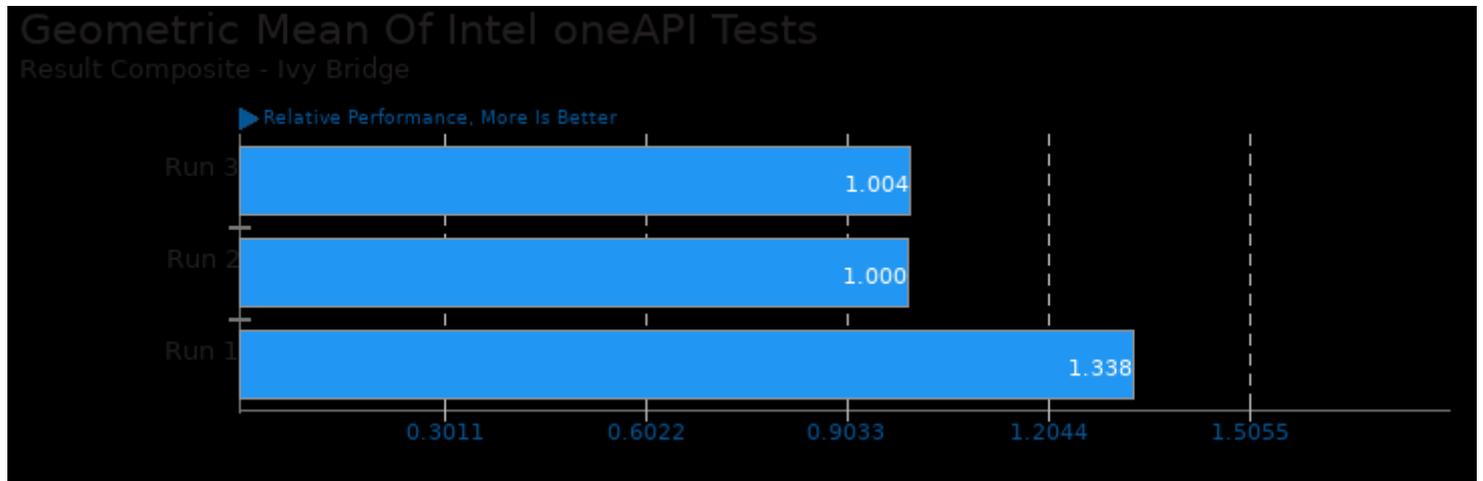
Geometric mean based upon tests: pts/arrayfire, pts/tachyon, pts/namd, pts/build-ffmpeg, pts/luxcorerender, pts/v-ray, pts/embree, pts/oidn, pts/opencv and pts/neatbench



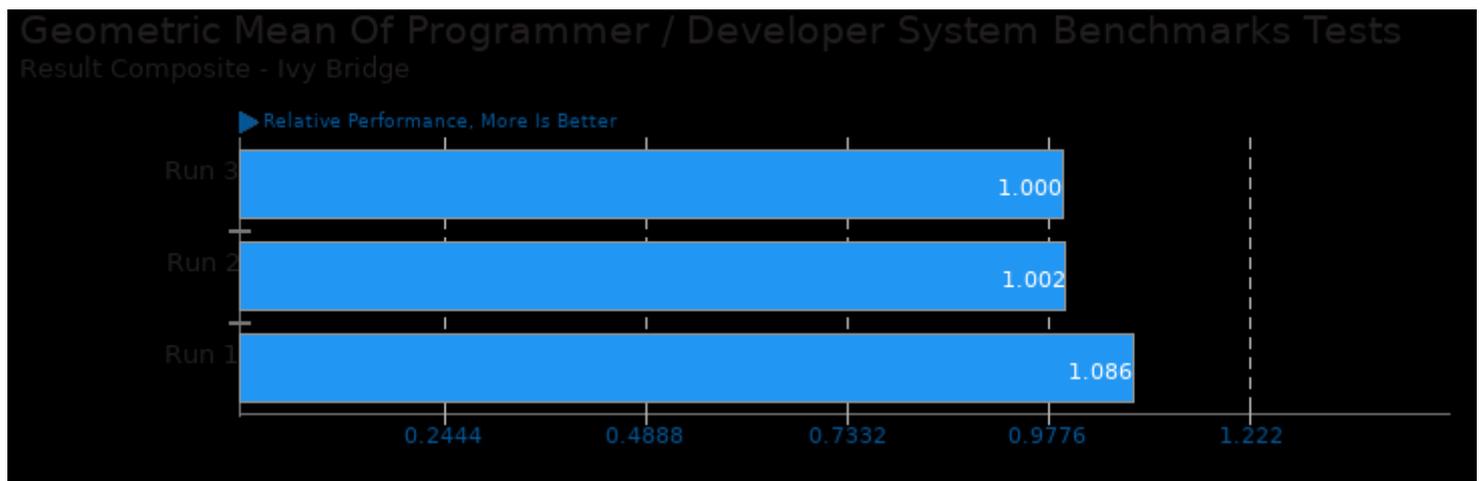
Geometric mean based upon tests: pts/luxcorerender, pts/arrayfire, pts/neatbench and pts/v-ray



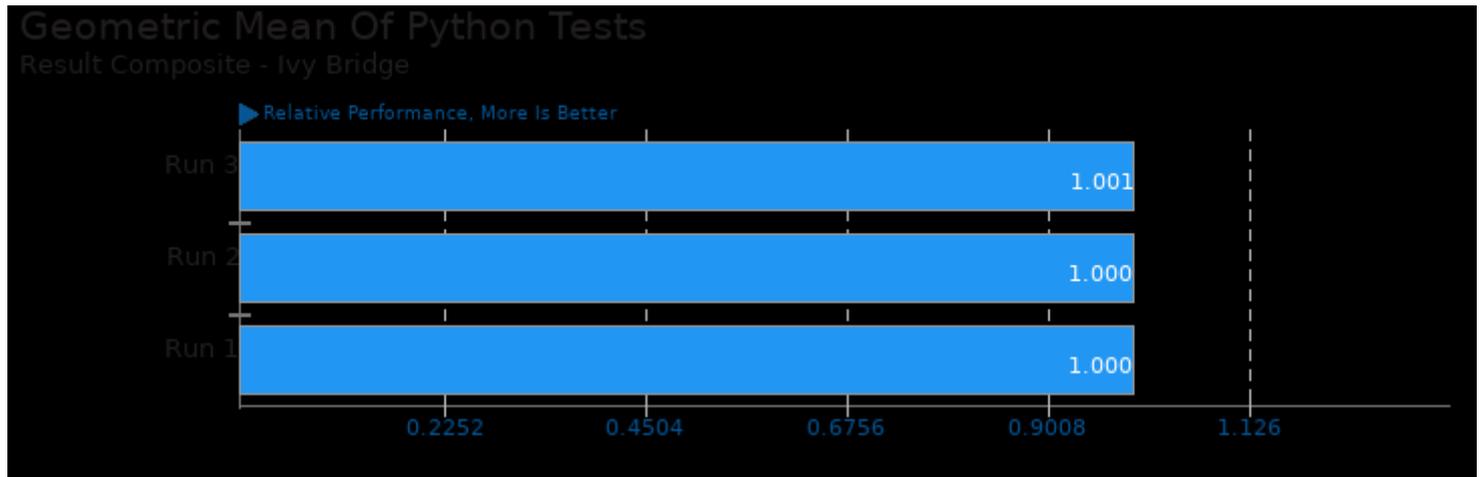
Geometric mean based upon tests: system/tesseract-ocr and system/ocrmypdf



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



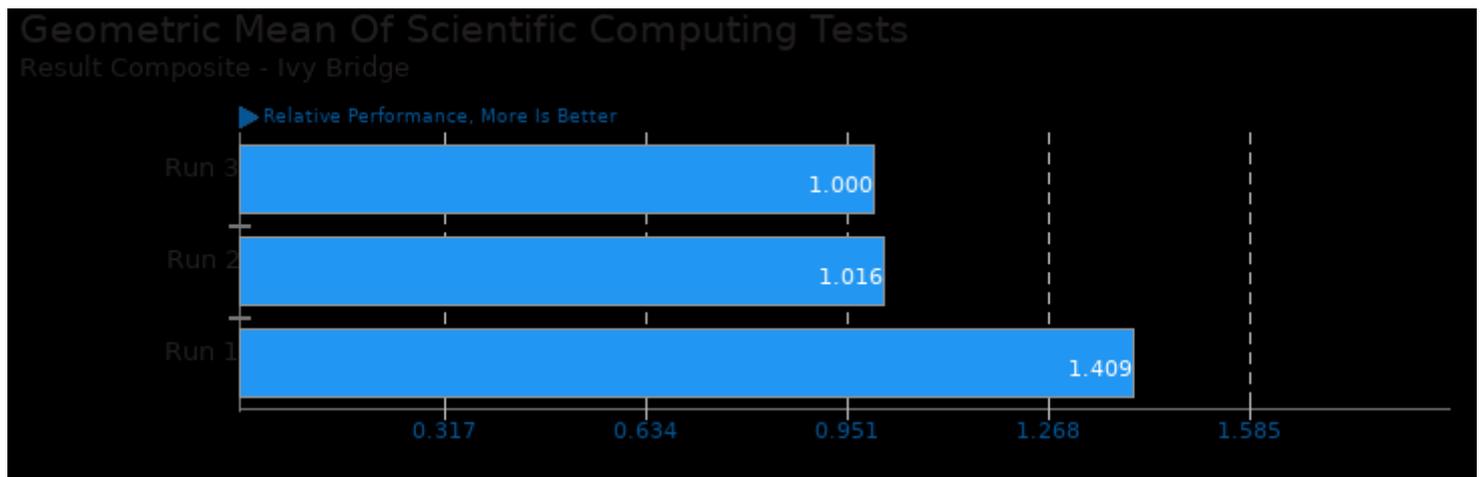
Geometric mean based upon tests: pts/git, pts/pyperformance, pts/build-ffmpeg and pts/arrayfire



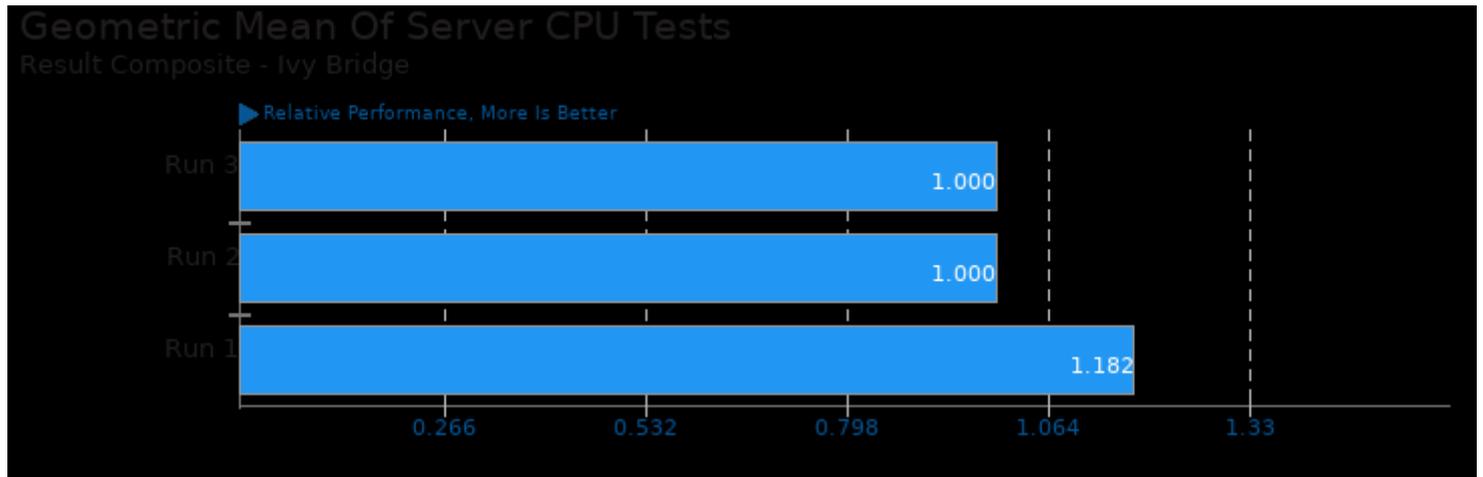
Geometric mean based upon tests: system/ocrmypdf and pts/pyperformance



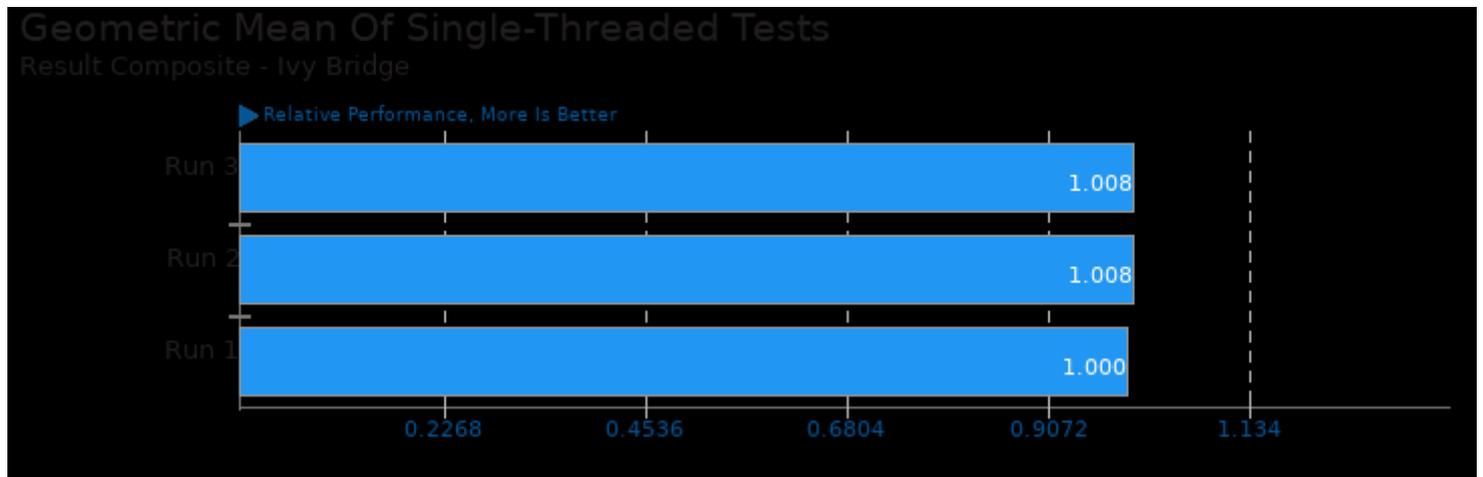
Geometric mean based upon tests: pts/tachyon, pts/luxcorerender and pts/v-ray



Geometric mean based upon tests: system/octave-benchmark, pts/arrayfire and pts/namd



Geometric mean based upon tests: pts/namd, pts/dacapobench and system/tesseract-ocr



Geometric mean based upon tests: pts/git and system/tesseract-ocr

This file was automatically generated via the Phoronix Test Suite benchmarking software on Thursday, 28 March 2024 22:24.