



www.phoronix-test-suite.com

System76 Thelio Major 3990X Pop OS

AMD Ryzen Threadripper 3990X benchmarking of Pop OS 20.10 by Michael Larabel for a future article.

Automated Executive Summary

Pop OS 20.10 had the most wins, coming in first place for 58% of the tests.

Based on the geometric mean of all complete results, the fastest (Pop OS 20.10) was 1.097x the speed of the slowest (Pop OS 20.04).

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

NCNN (Target: Vulkan GPU - Model: vgg16) at 4.322x

Polyhedron Fortran Benchmarks (Benchmark: tfft2) at 2.618x

NCNN (Target: Vulkan GPU-v3-v3 - Model: mobilenet-v3) at 2.567x

NCNN (Target: Vulkan GPU-v2-v2 - Model: mobilenet-v2) at 1.974x

NCNN (Target: Vulkan GPU - Model: mnasnet) at 1.918x

RealSR-NCNN (Scale: 4x - TAA: Yes) at 1.914x

NCNN (Target: Vulkan GPU - Model: googlenet) at 1.866x

NCNN (Target: Vulkan GPU - Model: resnet50) at 1.859x

PyPerformance (Benchmark: python_startup) at 1.813x

NCNN (Target: Vulkan GPU - Model: resnet18) at 1.722x.

Test Systems:

Pop OS 20.04

Processor: AMD Ryzen Threadripper 3990X 64-Core @ 2.90GHz (64 Cores / 128 Threads), Motherboard: System76 Thelio Major (F4c Z5 BIOS), Chipset: AMD Starship/Matisse, Memory: 126GB, Disk: Samsung SSD 970 EVO Plus 500GB, Graphics: AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 8GB (1750/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: DELL P2415Q, Network: Intel I211 + Intel Wi-Fi 6 AX200

OS: Pop 20.04, Kernel: 5.4.0-7642-generic (x86_64), Desktop: GNOME Shell 3.36.4, Display Server: X Server 1.20.8, Display Driver: amdgpu 19.1.0, OpenGL: 4.6 Mesa 20.0.8 (LLVM 10.0.0), Vulkan: 1.2.128, Compiler: GCC 9.3.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: snd_usb_audio.ignore_ctl_error=1
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=/build/gcc-9-HskZEa/gcc-9-9.3.0/debian/tmp-nvptx/usr.hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Disk Notes: NONE / errors=remount-ro,noatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq ondemand - CPU Microcode: 0x8301025
Graphics Notes: GLAMOR
Java Notes: OpenJDK Runtime Environment (build 11.0.8+10-post-Ubuntu-0ubuntu120.04)
Python Notes: Python 3.8.5
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional STIBP: conditional RSB filling + srbs: Not affected + tsx_async_abort: Not affected

Pop OS 20.10

Processor: AMD Ryzen Threadripper 3990X 64-Core @ 2.90GHz (64 Cores / 128 Threads), Motherboard: System76 Thelio Major (F4c Z5 BIOS), Chipset: AMD Starship/Matisse, Memory: 126GB, Disk: Samsung SSD 970 EVO Plus 500GB + 32GB Flash Disk, Graphics: AMD Radeon RX 5600 OEM/5600 XT / 5700/5700 8GB (1750/875MHz), Audio: AMD Navi 10 HDMI Audio, Monitor: DELL P2415Q, Network: Intel I211 + Intel Wi-Fi 6 AX200

OS: Pop 20.10, Kernel: 5.8.0-7625-generic (x86_64), Desktop: GNOME Shell 3.38.1, Display Server: X Server 1.20.8, Display Driver: amdgpu 19.1.0, OpenGL: 4.6 Mesa 20.2.1 (LLVM 11.0.0), Vulkan: 1.2.131, Compiler: GCC 10.2.0, File-System: ext4, Screen Resolution: 3840x2160

Kernel Notes: snd_usb_audio.ignore_ctl_error=1
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++,m2 --enable-libphobos-checking=release --enable-libstdcxx-debug --enable-libstdcxx-time=yes --enable-multiarch --enable-multilib --enable-nls --enable-objc-gc=auto --enable-offload-targets=nvptx-none=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-nvptx/usr,amdgn-amdhsa=/build/gcc-10-JvwpWM/gcc-10-10.2.0/debian/tmp-gcn/usr.hsa --enable-plugin --enable-shared --enable-threads=posix --host=x86_64-linux-gnu --program-prefix=x86_64-linux-gnu- --target=x86_64-linux-gnu --with-abi=m64 --with-arch-32=i686 --with-default-libstdcxx-abi=new --with-gcc-major-version-only --with-multilib-list=m32,m64,mx32 --with-target-system-zlib=auto --with-tune=generic --without-cuda-driver -v
Disk Notes: NONE / errors=remount-ro,noatime,rw
Processor Notes: Scaling Governor: acpi-cpufreq ondemand - CPU Microcode: 0x8301025
Graphics Notes: GLAMOR
Java Notes: OpenJDK Runtime Environment (build 11.0.9+10-post-Ubuntu-0ubuntu1)
Python Notes: Python 3.8.6
Security Notes: itlb_multihit: Not affected + l1tf: Not affected + mds: Not affected + meltdown: Not affected + spec_store_bypass: Mitigation of SSB disabled via prctl and seccomp + spectre_v1: Mitigation of usercopy/swapgs barriers and __user pointer sanitization + spectre_v2: Mitigation of Full AMD retpoline IBPB: conditional STIBP: conditional RSB filling + srbs: Not affected + tsx_async_abort: Not affected

System76 Thelio Major 3990X Pop OS

	Pop OS 20.04	Pop OS 20.10
NCNN - Vulkan GPU - vgg16 (ms)	84.36	19.52
Normalized	23.14%	100%
Standard Deviation	0.1%	2.2%
Polyhedron Fortran Benchmarks - tfft2 (sec)	49.08	18.75
Normalized	38.2%	100%
NCNN - Vulkan GPU-v3-v3 - mobilenet-v3 (ms)	8.47	3.30
Normalized	38.96%	100%
Standard Deviation	5%	0.3%
NCNN - Vulkan GPU-v2-v2 - mobilenet-v2 (ms)	4.60	2.33
Normalized	50.65%	100%
Standard Deviation	0.3%	0.6%
NCNN - Vulkan GPU - mnasnet (ms)	4.66	2.43
Normalized	52.15%	100%
Standard Deviation	0.3%	0.6%
RealSR-NCNN - 4x - Yes (sec)	114.444	59.796
Normalized	52.25%	100%
Standard Deviation	0.2%	0.3%
NCNN - Vulkan GPU - googlenet (ms)	8.51	4.56
Normalized	53.58%	100%
Standard Deviation	0.5%	0.8%
NCNN - Vulkan GPU - resnet50 (ms)	9.65	5.19
Normalized	53.78%	100%
Standard Deviation	1.4%	0.5%
PyPerformance - python_startup (Milliseconds)	12.8	7.06
Normalized	55.16%	100%
Standard Deviation	0%	0.1%
NCNN - Vulkan GPU - resnet18 (ms)	3.34	1.94
Normalized	58.08%	100%
Standard Deviation	0.3%	2.6%
RealSR-NCNN - 4x - No (sec)	16.512	9.768
Normalized	59.16%	100%
Standard Deviation	0.6%	0.4%
NCNN - Vulkan GPU - shufflenet-v2 (ms)	3.48	2.07
Normalized	59.48%	100%
Standard Deviation	0.2%	0.2%
Waifu2x-NCNN Vulkan - 2x - 3 - Yes (sec)	9.101	5.815
Normalized	63.89%	100%
Standard Deviation	0.2%	0.4%
NCNN - Vulkan GPU - yolov4-tiny (ms)	15.04	10.12
Normalized	67.29%	100%
Standard Deviation	0.2%	0.8%
oneDNN - C.B.S.A - f32 - CPU (ms)	2.12789	1.50837
Normalized	70.89%	100%
Standard Deviation	2.9%	2.5%
NCNN - Vulkan GPU - mobilenet (ms)	9.98	7.25
Normalized	72.65%	100%
Standard Deviation	2.7%	0.1%
NCNN - Vulkan GPU - squeezenet (ms)	5.82	4.28
Normalized	73.54%	100%
Standard Deviation	1.5%	2.6%
oneDNN - M.M.B.S.T - f32 - CPU (ms)	0.508544	0.409650
Normalized	80.55%	100%
Standard Deviation	2.6%	0.5%
G'MIC - 2.F.P.1.T (sec)	222.556	273.268

	Normalized	100%	81.44%
	Standard Deviation	1.2%	0.8%
Polyhedron Fortran Benchmarks - air (sec)	1.71	1.43	
	Normalized	83.63%	100%
Stress-NG - Socket Activity (Bogo Ops/s)	21460	25587	
	Normalized	83.87%	100%
	Standard Deviation	1.4%	0.3%
Java 2D Microbenchmark - Image Rendering	8553597	10164303	
	Normalized	84.15%	100%
	Standard Deviation	0.8%	1.5%
Timed HMMer Search - P.D.S (sec)	165.035	192.732	
	Normalized	100%	85.63%
	Standard Deviation	0.3%	0.2%
Mipack Benchmark - scikit_ica (sec)	51.92	45.11	
	Normalized	86.88%	100%
	Standard Deviation	1.5%	1.9%
Timed FFmpeg Compilation - Time To Compile (sec)	19.736	17.224	
	Normalized	87.27%	100%
	Standard Deviation	0.5%	0.3%
GEGL - Wavelet Blur (sec)	64.725	56.581	
	Normalized	87.42%	100%
	Standard Deviation	0.6%	0.3%
librsvg - SVG Files To PNG (sec)	29.149	25.600	
	Normalized	87.82%	100%
	Standard Deviation	0.2%	0.7%
Stress-NG - Semaphores (Bogo Ops/s)	10710303	9502362	
	Normalized	100%	88.72%
	Standard Deviation	0.2%	1.3%
GEGL - Antialias (sec)	41.076	37.044	
	Normalized	90.18%	100%
	Standard Deviation	0.1%	0.1%
LeelaChessZero - Eigen (Nodes/s)	1403	1543	
	Normalized	90.93%	100%
	Standard Deviation	1%	1.1%
PyPerformance - django_template (Milliseconds)	47.5	43.3	
	Normalized	91.16%	100%
	Standard Deviation	0.9%	0.1%
GEGL - Color Enhance (sec)	58.097	52.978	
	Normalized	91.19%	100%
	Standard Deviation	0.3%	0.4%
NCNN - Vulkan GPU - blazeface (ms)	1.25	1.14	
	Normalized	91.2%	100%
	Standard Deviation	5.8%	2.5%
GEGL - Scale (sec)	6.604	6.025	
	Normalized	91.23%	100%
	Standard Deviation	0.5%	1.5%
GEGL - Tile Glass (sec)	32.965	30.158	
	Normalized	91.48%	100%
	Standard Deviation	0.2%	0.1%
PyPerformance - pickle_pure_python (Milliseconds)	441	404	
	Normalized	91.61%	100%
	Standard Deviation	0.9%	0.1%
TensorFlow Lite - I.R.V (us)	608725	662848	
	Normalized	100%	91.83%
	Standard Deviation	2.6%	2.5%

System76 Thelio Major 3990X Pop OS

TNN - CPU - MobileNet v2 (ms)	285.921	263.776
Normalized	92.25%	100%
Standard Deviation	2.1%	0.2%
Stress-NG - MEMFD (Bogo Ops/s)	1329	1228
Normalized	100%	92.42%
Standard Deviation	0.2%	0.3%
GEGL - Reflect (sec)	31.591	29.351
Normalized	92.91%	100%
Standard Deviation	0.4%	0%
GEGL - Crop (sec)	8.843	8.249
Normalized	93.28%	100%
Standard Deviation	0.8%	0.8%
PyPerformance - json.loads (Milliseconds)	23.9	25.5
Normalized	100%	93.73%
Standard Deviation	0.2%	0.2%
GEGL - Rotate 90 Degrees (sec)	39.918	37.454
Normalized	93.83%	100%
Standard Deviation	0%	0.1%
LeelaChessZero - BLAS (Nodes/s)	1462	1555
Normalized	94.02%	100%
Standard Deviation	2.8%	0.7%
Apache CouchDB - 100 - 1000 - 24 (sec)	119.187	112.348
Normalized	94.26%	100%
Standard Deviation	1.4%	0.1%
NCNN - CPU - shufflenet-v2 (ms)	14.40	13.59
Normalized	94.38%	100%
Standard Deviation	5.5%	4%
WebP Image Encode - Default (Encode Time - sec)	1.481	1.398
Normalized	94.4%	100%
Standard Deviation	0.3%	0.6%
Stress-NG - CPU Stress (Bogo Ops/s)	23481	24863
Normalized	94.44%	100%
Standard Deviation	0.9%	0.2%
Polyhedron Fortran Benchmarks - fatigue2 (sec)	48.61	51.47
Normalized	100%	94.44%
Coremark - CoreMark Size 666 - I.P.S (Iterations/Sec)	2256437	2389190
Normalized	94.44%	100%
Standard Deviation	1.2%	0.6%
Caffe - GoogleNet - CPU - 100 (ms)	148113	139913
Normalized	94.46%	100%
Standard Deviation	0.1%	0.5%
Stress-NG - NUMA (Bogo Ops/s)	1436	1360
Normalized	100%	94.7%
Standard Deviation	1.3%	1.4%
Stress-NG - Forking (Bogo Ops/s)	60629	57530
Normalized	100%	94.89%
Standard Deviation	0.9%	2.9%
GEGL - Cartoon (sec)	94.521	89.717
Normalized	94.92%	100%
Standard Deviation	0.6%	0.1%
SQLite - 8 (sec)	114.997	121.119
Normalized	100%	94.95%
Standard Deviation	0.5%	0.3%
Java 2D Microbenchmark - Text Rendering (Units/sec)	21836	20763
Normalized	100%	95.08%

System76 Thelio Major 3990X Pop OS

	Standard Deviation	2.4%	1.6%
Java 2D Microbenchmark - A.R.T (Units/sec)	7815321	8213273	
Normalized	95.15%	100%	
Standard Deviation	2.1%	0.8%	
Facebook RocksDB - Read While Writing (Ops/s)	7599551	7979515	
Normalized	95.24%	100%	
Standard Deviation	0.7%	1.6%	
GIMP - auto-levels (sec)	15.825	15.112	
Normalized	95.49%	100%	
Standard Deviation	2.8%	1%	
PyPerformance - regex_compile (Milliseconds)	160	153	
Normalized	95.63%	100%	
Standard Deviation	0.6%	0.4%	
ParaView - Wavelet Contour - 1920 x 1080 (MiPolys / Sec)	3146	3289	
Normalized	95.64%	100%	
Standard Deviation	2.9%	0.8%	
ParaView - Wavelet Contour - 1920 x 1080 (Frames / Sec)	301.88	315.63	
Normalized	95.64%	100%	
Standard Deviation	2.9%	0.8%	
Kvazaar - Bosphorus 1080p - Ultra Fast (FPS)	243.71	233.20	
Normalized	100%	95.69%	
Standard Deviation	2.5%	0.8%	
LuaJIT - S.M.M (Mflops)	1221	1276	
Normalized	95.73%	100%	
Standard Deviation	0.5%	0.6%	
Timed PHP Compilation - Time To Compile (sec)	35.452	37.023	
Normalized	100%	95.76%	
Standard Deviation	0.2%	0.2%	
ParaView - Wavelet Contour - 3840 x 2160 (Frames / Sec)	164.19	171.43	
Normalized	95.78%	100%	
Standard Deviation	0.2%	0.8%	
ParaView - Wavelet Contour - 3840 x 2160 (MiPolys / Sec)	1711	1787	
Normalized	95.78%	100%	
Standard Deviation	0.2%	0.8%	
LevelDB - Fill Sync (MB/s)	2.4	2.3	
Normalized	100%	95.83%	
Standard Deviation	0%	2.5%	
GNU Octave Benchmark (sec)	7.009	7.311	
Normalized	100%	95.87%	
Standard Deviation	1.5%	1.3%	
VkFFT (Benchmark Score)	20506	19661	
Normalized	100%	95.88%	
Standard Deviation	0.4%	0.5%	
PyPerformance - pathlib (Milliseconds)	16.3	17.0	
Normalized	100%	95.88%	
Standard Deviation	0.4%	0.6%	
PostMark - D.T.P (TPS)	7654	7352	
Normalized	100%	96.05%	
Standard Deviation	1.8%		
TNN - CPU - SqueezeNet v1.1 (ms)	252.180	242.386	
Normalized	96.12%	100%	

System76 Thelio Major 3990X Pop OS

SVT-VP9 - P.S.O - Bosphorus 1080p (FPS)	394.07	379.14
Standard Deviation	0.4%	0%
Normalized	100%	96.21%
Standard Deviation	1%	1.2%
LibRaw - P.P.B (Mpix/sec)	41.83	40.25
Normalized	100%	96.22%
Standard Deviation	1.9%	0.2%
LuaJIT - D.L.M.F (Mflops)	3669	3811
Normalized	96.27%	100%
Standard Deviation	0.9%	0.4%
TensorFlow Lite - Inception V4 (us)	712026	739387
Normalized	100%	96.3%
Standard Deviation	3%	1.9%
Caffe - AlexNet - CPU - 100 (ms)	55465	53425
Normalized	96.32%	100%
Standard Deviation	0.8%	0.3%
ParaView - Wavelet Volume - 1920 x 1080 (Frames / Sec)	219.58	227.81
Normalized	96.39%	100%
Standard Deviation	0.2%	3.2%
ParaView - Wavelet Volume - 1920 x 1080 (MiVoxels / Sec)	3513	3645
Normalized	96.39%	100%
Standard Deviation	0.2%	3.2%
WebP Image Encode - Q.1.H.C (Encode Time - sec)	7.138	7.404
Normalized	100%	96.41%
Standard Deviation	0.4%	0.3%
Appleseed - Material Tester (sec)	150.800832	145.512909
Normalized	96.49%	100%
Xonotic - 3840 x 2160 - High (FPS)	383.4692564	370.2077220
Normalized	100%	96.54%
Standard Deviation	1.5%	0.5%
Stress-NG - SENDFILE (Bogo Ops/s)	939892	908291
Normalized	100%	96.64%
Standard Deviation	0.8%	0.8%
Polyhedron Fortran Benchmarks - mdbx (sec)	4.4	4.55
Normalized	100%	96.7%
Polyhedron Fortran Benchmarks - channel2 (sec)	41.8	43.22
Normalized	100%	96.71%
Kripke (Throughput FoM)	44881177	46400823
Normalized	96.72%	100%
Standard Deviation	0.6%	1%
LevelDB - Hot Read (us/Op)	109.519	113.168
Normalized	100%	96.78%
Standard Deviation	0.6%	0.3%
AI Benchmark Alpha - D.I.S (Score)	1933	1873
Normalized	100%	96.9%
InfluxDB - 64 - 10000 - 2,5000,1 - 10000 (val/sec)	1512392	1560822
Normalized	96.9%	100%
Standard Deviation	0.3%	0.4%
Stress-NG - Malloc (Bogo Ops/s)	1434398195	1479267553
Normalized	96.97%	100%
Standard Deviation	0.4%	0.5%
SVT-VP9 - V.Q.O - Bosphorus 1080p (FPS)	326.72	316.81
Normalized	100%	96.97%
Standard Deviation	1.4%	1.1%

System76 Thelio Major 3990X Pop OS

LevelDB - Rand Read (us/Op)	109.997	113.431
Normalized	100%	96.97%
Standard Deviation	0.3%	2.9%
InfluxDB - 1024 - 10000 - 2,5000,1 - 10000 (val/sec)	1557894	1605456
Normalized	97.04%	100%
Standard Deviation	0.2%	0.3%
Polyhedron Fortran Benchmarks - test_fpu2 (sec)	28.55	29.4
Normalized	100%	97.11%
ASTC Encoder - Thorough (sec)	9.72	9.44
Normalized	97.12%	100%
Standard Deviation	0.6%	0.5%
PyPerformance - crypto_pyaes (Milliseconds)	103	106
Normalized	100%	97.17%
PyPerformance - nbody (Milliseconds)	108	111
Normalized	100%	97.3%
Standard Deviation	0.5%	0.5%
LAME MP3 Encoding - WAV To MP3 (sec)	7.312	7.512
Normalized	100%	97.34%
Standard Deviation	0.6%	0.3%
PyPerformance - 2to3 (Milliseconds)	302	294
Normalized	97.35%	100%
IOR - Read Test (MB/s)	1611	1569
Normalized	100%	97.38%
Standard Deviation	2.6%	2.2%
LuaJIT - Composite (Mflops)	1541	1582
Normalized	97.41%	100%
Standard Deviation	0.2%	0.2%
Stockfish - Total Time (Nodes/s)	146463486	142677414
Normalized	100%	97.42%
Standard Deviation	0.3%	3%
Cryptsetup - PBKDF2-whirlpool (Iterations/sec)	705963	724508
Normalized	97.44%	100%
Standard Deviation	0.5%	0.7%
Timed MPlayer Compilation - Time To Compile (sec)	10.613	10.890
Normalized	100%	97.46%
Standard Deviation	0.4%	1.1%
AI Benchmark Alpha - Device AI Score (Score)	3131	3052
Normalized	100%	97.48%
SVT-HEVC - 1.8.b.Y.T.H.V.E (FPS)	208.29	203.14
Normalized	100%	97.53%
Standard Deviation	1.5%	0.1%
CloverLeaf - L.E.H (sec)	0.40	0.41
Normalized	100%	97.56%
Standard Deviation	1.2%	0.2%
WebP Image Encode - Q.1.L.H.C (Encode Time - sec)	33.500	34.327
Normalized	100%	97.59%
Standard Deviation	1.1%	0.9%
TensorFlow Lite - Mobilenet Quant (us)	33371	32580
Normalized	97.63%	100%
Standard Deviation	1.8%	1.7%
Polyhedron Fortran Benchmarks - capacita (sec)	16.27	15.89
Normalized	97.66%	100%
oneDNN - D.B.d - f32 - CPU (ms)	2.07153	2.02358
Normalized	97.69%	100%
Standard Deviation	1%	0.1%

IOR - Write Test (MB/s)	316.52	309.61
Normalized	100%	97.82%
Standard Deviation	2.3%	1%
ASTC Encoder - Fast (sec)	4.62	4.52
Normalized	97.84%	100%
Standard Deviation	0.4%	0.7%
Mobile Neural Network - inception-v3 (ms)	31.854	31.185
Normalized	97.9%	100%
Standard Deviation	2.1%	2.4%
SQLite Speedtest - Timed Time - Size 1,000 (sec)	64.268	62.929
Normalized	97.92%	100%
Standard Deviation	0.2%	0.8%
Zstd Compression - 19 (MB/s)	81.7	80.0
Normalized	100%	97.92%
Standard Deviation	0.1%	2.3%
ASTC Encoder - Medium (sec)	5.33	5.22
Normalized	97.94%	100%
Standard Deviation	0.5%	0.1%
WebP Image Encode - Q.1.L (Encode Time - sec)	16.295	16.638
Normalized	100%	97.94%
Standard Deviation	0.7%	0.5%
LAMMPS Molecular Dynamics Simulator - Rhodopsin	23.845	23.360
Protein (ns/day)		
Normalized	100%	97.97%
Standard Deviation	3.3%	3.4%
SVT-AV1 - Enc Mode 4 - 1080p (FPS)	9.696	9.501
Normalized	100%	97.99%
Standard Deviation	0.4%	0.3%
ASTC Encoder - Exhaustive (sec)	37.6	36.85
Normalized	98.01%	100%
Standard Deviation	0.9%	0.9%
John The Ripper - Blowfish (Real C/S)	87910	89692
Normalized	98.01%	100%
Standard Deviation	1.4%	1.3%
WebP Image Encode - Quality 100 (Encode Time - sec)	2.289	2.245
Normalized	98.08%	100%
Standard Deviation	0.5%	0.9%
Zstd Compression - 3 (MB/s)	7286	7429
Normalized	98.08%	100%
Standard Deviation	0.3%	1.3%
oneDNN - IP Batch 1D - f32 - CPU (ms)	1.26441	1.24053
Normalized	98.11%	100%
Standard Deviation	2.8%	1.2%
RNNNoise (sec)	18.809	18.458
Normalized	98.13%	100%
Standard Deviation	0.4%	0.5%
Tesseract OCR - T.T.O.7.I (sec)	24.973	24.507
Normalized	98.13%	100%
Standard Deviation	0.6%	0.9%
oneDNN - R.N.N.I - f32 - CPU (ms)	115.068	112.926
Normalized	98.14%	100%
Standard Deviation	0.5%	0.6%
Hugin - P.P.A.S.T (sec)	46.739	45.870
Normalized	98.14%	100%
Standard Deviation	1.2%	1.6%

NCNN - CPU - resnet50 (ms)	38.42	37.72
Normalized	98.18%	100%
Standard Deviation	4.8%	4.5%
Selenium - ARES-6 - Firefox (ms)	44.14	43.34
Normalized	98.19%	100%
Standard Deviation	1%	0.4%
Polyhedron Fortran Benchmarks - ac (sec)	6.07	5.96
Normalized	98.19%	100%
GIMP - resize (sec)	8.525	8.377
Normalized	98.26%	100%
Standard Deviation	1%	0.4%
NCNN - CPU - efficientnet-b0 (ms)	17.66	17.37
Normalized	98.36%	100%
Standard Deviation	5.4%	5.6%
AI Benchmark Alpha - D.T.S (Score)	1198	1179
Normalized	100%	98.41%
PyPerformance - raytrace (Milliseconds)	439	446
Normalized	100%	98.43%
NCNN - CPU - mobilenet (ms)	28.32	27.88
Normalized	98.45%	100%
Standard Deviation	5.9%	1.1%
LevelDB - Rand Fill (us/Op)	623.726	614.091
Normalized	98.46%	100%
Standard Deviation	0.3%	0.2%
SVT-AV1 - Enc Mode 0 - 1080p (FPS)	0.128	0.130
Normalized	98.46%	100%
Standard Deviation	0%	0.4%
Stress-NG - Memory Copying (Bogo Ops/s)	8297	8172
Normalized	100%	98.5%
Standard Deviation	0.9%	0.7%
NCNN - CPU-v2-v2 - mobilenet-v2 (ms)	13.39	13.19
Normalized	98.51%	100%
Standard Deviation	3.2%	1.8%
Tesseract - 3840 x 2160 (FPS)	311.5822	316.2526
Normalized	98.52%	100%
Standard Deviation	1%	0.9%
Appleseed - Emily (sec)	133.244761	135.136381
Normalized	100%	98.6%
Facebook RocksDB - Rand Fill Sync (Op/s)	23168	22847
Normalized	100%	98.61%
Standard Deviation	0%	0.2%
NCNN - Vulkan GPU - efficientnet-b0 (ms)	11.55	11.39
Normalized	98.61%	100%
Standard Deviation	1.6%	4.9%
Mobile Neural Network - MobileNetV2_224 (ms)	5.375	5.450
Normalized	100%	98.62%
Standard Deviation	0.8%	2%
Hierarchical INTegration - FLOAT (QUIPs)	373293210	368160160
Normalized	100%	98.62%
Standard Deviation	0%	0.2%
Tesseract - 1920 x 1080 (FPS)	369.0690	364.0839
Normalized	100%	98.65%
Standard Deviation	3.3%	2.2%

Monte Carlo Simulations of Ionised Nebulae - Dust 2D	223	220
tau100.0 (sec)		
Normalized	98.65%	100%
Standard Deviation	0.7%	0.5%
LevelDB - Rand Fill (MB/s)	22.7	23.0
Normalized	98.7%	100%
Standard Deviation	0.3%	0.3%
NCNN - CPU - yolov4-tiny (ms)	36.30	35.83
Normalized	98.71%	100%
Standard Deviation	1.1%	1.5%
PyBench - T.F.A.T.T (Milliseconds)	941	953
Normalized	100%	98.74%
Standard Deviation	0.4%	0.3%
Mipack Benchmark - scikit_linearridge_regression	1.59	1.61
Normalized	100%	98.76%
Standard Deviation	3%	1.4%
ET: Legacy - Renderer2 - 3840 x 2160 (FPS)	241.5	238.5
Normalized	100%	98.76%
Standard Deviation	2.3%	1.1%
eSpeak-NG Speech Engine - T.T.S.S (sec)	28.119	28.470
Normalized	100%	98.77%
Standard Deviation	0.2%	0.2%
Polyhedron Fortran Benchmarks - aermod (sec)	5.74	5.81
Normalized	100%	98.8%
Polyhedron Fortran Benchmarks - mp_prop_design	55.3	54.64
Normalized	98.81%	100%
Blender - Classroom - CPU-Only (sec)	84.95	85.97
Normalized	100%	98.81%
Standard Deviation	0.9%	1.2%
Selenium - Speedometer - Firefox (Runs/min)	85.1	84.1
Normalized	100%	98.82%
Standard Deviation	0.3%	1.8%
OSPray - San Miguel - SciVis (FPS)	67.46	66.67
Normalized	100%	98.83%
Standard Deviation	2.9%	0%
Timed Linux Kernel Compilation - Time To Compile	24.295	24.582
Normalized	100%	98.83%
Standard Deviation	2.8%	2.9%
Optcarrot - O.B (FPS)	131.33	129.80
Normalized	100%	98.83%
Standard Deviation	0.4%	0.7%
Selenium - Basemark - Firefox (Overall Score)	788.16	779.19
Normalized	100%	98.86%
Standard Deviation	3%	2.3%
Polyhedron Fortran Benchmarks - gas_dyn2 (sec)	41.97	41.5
Normalized	98.88%	100%
Selenium - Jetstream - Firefox (Score)	205.39	207.68
Normalized	98.9%	100%
Standard Deviation	0.2%	0.6%
Xonotic - 3840 x 2160 - Ultimate (FPS)	268.3078375	265.3600874
Normalized	100%	98.9%
Standard Deviation	1.2%	0.7%
GIMP - rotate (sec)	12.757	12.896
Normalized	100%	98.92%
Standard Deviation	0.2%	0.1%

Kvazaar - Bosphorus 1080p - Very Fast (FPS)	139.66	138.16
Normalized	100%	98.93%
Standard Deviation	0.3%	0.3%
NCNN - CPU - alexnet (ms)	12.17	12.04
Normalized	98.93%	100%
Standard Deviation	5.6%	3.1%
Selenium - CanvasMark - Firefox (Score)	17638	17817
Normalized	99%	100%
Standard Deviation	0.7%	0.5%
Timed GDB GNU Debugger Compilation - Time To	89.787	88.898
Compile (sec)		
Normalized	99.01%	100%
Standard Deviation	0.2%	0.2%
Polyhedron Fortran Benchmarks - linpk (sec)	3.03	3.06
Normalized	100%	99.02%
Selenium - Jetstream 2 - Firefox (Score)	91.741	92.647
Normalized	99.02%	100%
Standard Deviation	3%	0.9%
PyPerformance - chaos (Milliseconds)	104	103
Normalized	99.04%	100%
GROMACS - Water Benchmark (Ns/Day)	3.767	3.803
Normalized	99.05%	100%
Standard Deviation	0.2%	3%
Xonotic - 3840 x 2160 - Low (FPS)	506.6888296	511.4765461
Normalized	99.06%	100%
Standard Deviation	0.6%	1.1%
PyPerformance - float (Milliseconds)	108	109
Normalized	100%	99.08%
Standard Deviation	0.5%	
Milpack Benchmark - scikit_qda (sec)	42.54	42.93
Normalized	100%	99.09%
Standard Deviation	0.5%	0.5%
TensorFlow Lite - NASNet Mobile (us)	77537	76836
Normalized	99.1%	100%
Standard Deviation	0.4%	0.8%
Git - T.T.C.C.G.C (sec)	48.365	47.930
Normalized	99.1%	100%
Standard Deviation	0.4%	0.6%
Blender - Barbershop - CPU-Only (sec)	131.12	132.31
Normalized	100%	99.1%
Standard Deviation	0.4%	0.3%
Appleseed - Disney Material (sec)	57.549236	57.032712
Normalized	99.1%	100%
LevelDB - Overwrite (MB/s)	22.8	23.0
Normalized	99.13%	100%
Standard Deviation	0%	0.3%
LevelDB - Overwrite (us/Op)	621.251	615.959
Normalized	99.15%	100%
Standard Deviation	0.1%	0.3%
GLmark2 - 3840 x 2160 (Score)	2681	2704
Normalized	99.15%	100%
SQLite - 1 (sec)	33.092	32.814
Normalized	99.16%	100%
Standard Deviation	0.7%	0.5%

TensorFlow Lite - Mobilenet Float (us)	31424	31688
Normalized	100%	99.16%
Standard Deviation	3%	2.8%
Stress-NG - Crypto (Bogo Ops/s)	14517	14639
Normalized	99.17%	100%
Standard Deviation	0.6%	0.8%
Selenium - WebXPRT - Firefox (Score)	239	241
Normalized	99.17%	100%
Standard Deviation	0.4%	
LevelDB - Seq Fill (MB/s)	23.9	24.1
Normalized	99.17%	100%
Standard Deviation	1.9%	2.7%
Timed Apache Compilation - Time To Compile (sec)	21.267	21.442
Normalized	100%	99.18%
Standard Deviation	0.2%	0.1%
LevelDB - Seq Fill (us/Op)	591.612	586.820
Normalized	99.19%	100%
Standard Deviation	1.9%	2.5%
GIMP - unsharp-mask (sec)	19.140	19.296
Normalized	100%	99.19%
Standard Deviation	2.7%	0.7%
Dolfyn - C.F.D (sec)	16.863	16.727
Normalized	99.19%	100%
Standard Deviation	1.5%	0.7%
BYTE Unix Benchmark - Dhrystone 2 (LPS)	43076609	42730398
Normalized	100%	99.2%
Standard Deviation	3%	0.8%
oneDNN - IP Batch All - f32 - CPU (ms)	23.7781	23.5877
Normalized	99.2%	100%
Standard Deviation	2.2%	1.8%
TensorFlow Lite - SqueezeNet (us)	50791	51198
Normalized	100%	99.21%
Standard Deviation	0.6%	0.3%
LevelDB - Fill Sync (us/Op)	5954	6001
Normalized	100%	99.21%
Standard Deviation	0.5%	1%
LAMMPS Molecular Dynamics Simulator - 20k Atoms (ns/day)	26.908	26.697
Normalized	100%	99.22%
Standard Deviation	0.2%	0.1%
oneDNN - D.B.d - f32 - CPU (ms)	1.55097	1.53906
Normalized	99.23%	100%
Standard Deviation	3%	1.3%
Cryptsetup - PBKDF2-sha512 (Iterations/sec)		1722793
Normalized		99.24%
Standard Deviation		0.7%
Kvazaar - Bosphorus 4K - Medium (FPS)	16.06	15.94
Normalized	100%	99.25%
Standard Deviation	0.3%	0.2%
Java 2D Microbenchmark - V.G.R (Units/sec)	7844284	7902854
Normalized	99.26%	100%
Standard Deviation	0.6%	0.3%
Intel Open Image Denoise - Memorial (Images / Sec)	27.01	27.21
Normalized	99.26%	100%
Standard Deviation	0.2%	0.3%

System76 Thelio Major 3990X Pop OS

Xonotic - 3840 x 2160 - Ultra (FPS)	335.6182130	333.1577205
Normalized	100%	99.27%
Standard Deviation	0.2%	1.3%
FFTE - N.2.3.C.F.R (MFLOPS)	129515	128567
Normalized	100%	99.27%
Standard Deviation	0.9%	2.7%
GPAW - Carbon Nanotube (sec)	109.746	110.542
Normalized	100%	99.28%
Standard Deviation	0.3%	0.3%
Selenium - W.i - Firefox (ms)	28.0	27.8
Normalized	99.29%	100%
Standard Deviation	0.5%	0.4%
Mipack Benchmark - scikit_svm (sec)	20.87	21.02
Normalized	100%	99.29%
Standard Deviation	0.1%	0.6%
Polyhedron Fortran Benchmarks - protein (sec)	12.72	12.63
Normalized	99.29%	100%
RawTherapee - T.B.T (sec)	50.510	50.864
Normalized	100%	99.3%
Standard Deviation	0.1%	0.4%
Kvazaar - Bosphorus 1080p - Medium (FPS)	62.42	61.99
Normalized	100%	99.31%
Standard Deviation	0.3%	0.5%
FLAC Audio Encoding - WAV To FLAC (sec)	7.971	7.919
Normalized	99.35%	100%
Standard Deviation	0.4%	0.2%
Blender - Fishy Cat - CPU-Only (sec)	46.34	46.64
Normalized	100%	99.36%
Standard Deviation	0.1%	0.5%
NCNN - CPU - googlenet (ms)	26.39	26.56
Normalized	100%	99.36%
Standard Deviation	1.6%	1.9%
G'MIC - 3.E.F.I.R.C.1.T (sec)	84.886	85.419
Normalized	100%	99.38%
Standard Deviation	0.7%	0.4%
Kvazaar - Bosphorus 4K - Very Fast (FPS)	34.88	34.67
Normalized	100%	99.4%
Standard Deviation	0.3%	0.5%
NCNN - CPU - resnet18 (ms)	17.87	17.77
Normalized	99.44%	100%
Standard Deviation	1.3%	1.3%
Stress-NG - Vector Math (Bogo Ops/s)	467816	470370
Normalized	99.46%	100%
Standard Deviation	0.6%	0.7%
SVT-VP9 - VMAF Optimized - Bosphorus 1080p (FPS)	374.64	372.64
Normalized	100%	99.47%
Standard Deviation	2.9%	1.4%
Stress-NG - G.C.S.F (Bogo Ops/s)	7401406	7440489
Normalized	99.47%	100%
Standard Deviation	2%	1.7%
Polyhedron Fortran Benchmarks - rnflow (sec)	15.32	15.24
Normalized	99.48%	100%
LevelDB - Rand Delete (us/Op)	597.960	594.852
Normalized	99.48%	100%
Standard Deviation	0.2%	0.4%

System76 Thelio Major 3990X Pop OS

OSPray - XFrog Forest - SciVis (FPS)	13.76	13.83
Normalized	99.49%	100%
Standard Deviation	0.8%	0.8%
OpenSSL - R.4.b.P (Signs/sec)	15077	15149
Normalized	99.52%	100%
Standard Deviation	1.3%	1%
G'MIC - P.I.O.A.3.V.1.T (sec)	19.379	19.288
Normalized	99.53%	100%
Standard Deviation	0.2%	0.6%
x265 - Bosphorus 4K (FPS)	26.25	26.37
Normalized	99.54%	100%
Standard Deviation	0.5%	1.1%
LuaJIT - J.S.O.R (Mflops)	2056	2047
Normalized	100%	99.55%
Standard Deviation	0.3%	0.3%
InfluxDB - 4 - 10000 - 2,5000,1 - 10000 (val/sec)	1145700	1150845
Normalized	99.55%	100%
Standard Deviation	0.2%	0.4%
LevelDB - Seek Rand (us/Op)	171.029	170.322
Normalized	99.59%	100%
Standard Deviation	0.2%	1.1%
SVT-AV1 - Enc Mode 8 - 1080p (FPS)	96.300	95.919
Normalized	100%	99.6%
Standard Deviation	0.5%	0.9%
NCNN - CPU - vgg16 (ms)	53.45	53.65
Normalized	100%	99.63%
Standard Deviation	3.1%	1.1%
Facebook RocksDB - Rand Fill (Op/s)	444425	442769
Normalized	100%	99.63%
Standard Deviation	0.1%	0.2%
Blender - Pabellon Barcelona - CPU-Only (sec)	98.66	99.00
Normalized	100%	99.66%
Standard Deviation	0.4%	0.8%
Stress-NG - G.Q.D.S (Bogo Ops/s)	847.40	850.31
Normalized	99.66%	100%
Standard Deviation	1.5%	0.9%
x265 - Bosphorus 1080p (FPS)	58.19	58.00
Normalized	100%	99.67%
Standard Deviation	0.6%	0.3%
Kvazaar - Bosphorus 4K - Slow (FPS)	15.83	15.78
Normalized	100%	99.68%
Standard Deviation	0.5%	0.4%
Blender - BMW27 - CPU-Only (sec)	32.43	32.53
Normalized	100%	99.69%
Standard Deviation	0.6%	0.6%
Facebook RocksDB - Seq Fill (Op/s)	447514	448857
Normalized	99.7%	100%
Standard Deviation	0.1%	0.3%
Mobile Neural Network - resnet-v2-50 (ms)	33.549	33.449
Normalized	99.7%	100%
Standard Deviation	2.2%	2.1%
Mobile Neural Network - mobilenet-v1-1.0 (ms)	5.457	5.473
Normalized	100%	99.71%
Standard Deviation	1.6%	1.4%
John The Ripper - MD5 (Real C/S)	5229667	5244667

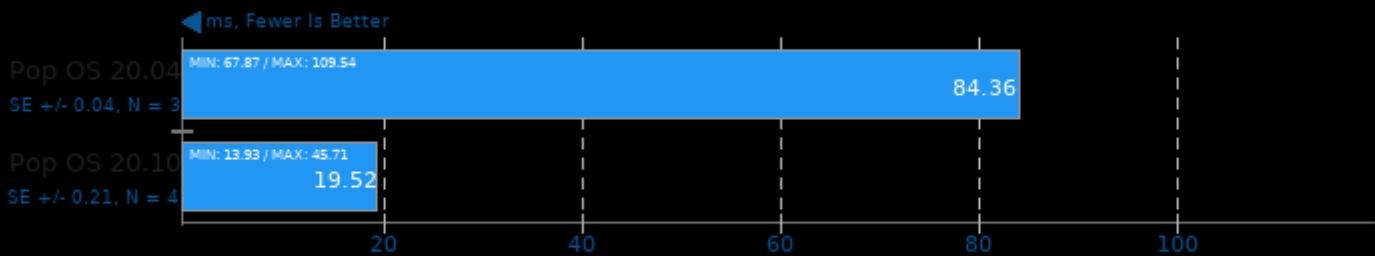
	Normalized	99.71%	100%
	Standard Deviation	0.9%	1%
Selenium - StyleBench - Firefox (Runs / Minute)	70.0	69.8	
	Normalized	100%	99.71%
	Standard Deviation	0.8%	1.4%
Stress-NG - Atomic (Bogo Ops/s)	493383	494742	
	Normalized	99.73%	100%
	Standard Deviation	0.2%	0.1%
Facebook RocksDB - Rand Read (Ops/s)	273146817	273895462	
	Normalized	99.73%	100%
	Standard Deviation	3%	3%
OSPray - XFrog Forest - Path Tracer (FPS)	7.32	7.34	
	Normalized	99.73%	100%
	Standard Deviation	0.4%	0.4%
OpenVKL - vkIBenchmark (Items / Sec)	461.15	459.94	
	Normalized	100%	99.74%
	Standard Deviation	0.7%	0.4%
NAMD - ATPase Simulation - 327,506 Atoms (days/ns)	0.42677	0.42787	
	Normalized	100%	99.74%
	Standard Deviation	0.2%	0.4%
Timed LLVM Compilation - Time To Compile (sec)	205.339	204.832	
	Normalized	99.75%	100%
	Standard Deviation	0.4%	0.2%
Polyhedron Fortran Benchmarks - induct2 (sec)	21.92	21.87	
	Normalized	99.77%	100%
oneDNN - R.N.N.T - f32 - CPU (ms)	328.325	327.633	
	Normalized	99.79%	100%
	Standard Deviation	0.3%	0.6%
Kvazaar - Bosphorus 1080p - Slow (FPS)	60.85	60.73	
	Normalized	100%	99.8%
	Standard Deviation	0.2%	0.4%
BRL-CAD - V.P.M (VGR Performance Metric)	784166	785558	
	Normalized	99.82%	100%
OSPray - San Miguel - Path Tracer (FPS)	5.70	5.69	
	Normalized	100%	99.82%
	Standard Deviation	0.3%	0.3%
NCNN - CPU - squeezenet (ms)	25.27	25.31	
	Normalized	100%	99.84%
	Standard Deviation	1.4%	0.9%
Selenium - Kraken - Firefox (ms)	829.8	828.5	
	Normalized	99.84%	100%
	Standard Deviation	0.4%	1.1%
Polyhedron Fortran Benchmarks - doduc (sec)	6.75	6.74	
	Normalized	99.85%	100%
Kvazaar - Bosphorus 4K - Ultra Fast (FPS)	60.73	60.81	
	Normalized	99.87%	100%
	Standard Deviation	0.3%	0.1%
GLmark2 - 1920 x 1080 (Score)	8575	8568	
	Normalized	100%	99.92%
rays1bench - Large Scene (mrays/s)	311.30	311.55	
	Normalized	99.92%	100%
	Standard Deviation	0.1%	0.3%
Timed MAFFT Alignment - M.S.A - LSU RNA (sec)	8.806	8.800	
	Normalized	99.93%	100%
	Standard Deviation	0.5%	1%

LuaJIT - Monte Carlo (Mflops)	506.84	506.60
Normalized	100%	99.95%
Standard Deviation	0%	0.1%
Stress-NG - Matrix Math (Bogo Ops/s)	225011	225080
Normalized	99.97%	100%
Standard Deviation	1%	1.2%
Selenium - W.c - Firefox (ms)	376.9	377.0
Normalized	100%	99.97%
Standard Deviation	0.5%	0.5%
Selenium - Octane - Firefox (Geometric Mean)	34621	34622
Normalized	100%	100%
Standard Deviation	0.2%	0.8%
OCRMyPDF - P.6.P.P.D (sec)		12.644
Standard Deviation		1.7%
Cryptsetup - PBKDF2-whirlpool (Iterations/sec)		728876
Standard Deviation		0.7%
Selenium - Maze Solver - Firefox (sec)	5.4	5.4
Standard Deviation	1.1%	1.1%
PyPerformance - go (Milliseconds)	233	233
Standard Deviation	0.2%	
OCRMyPDF - P.6.P.P.D (sec)	15.228	
Standard Deviation	0.6%	
Darktable - Server Room - CPU-only (sec)	2.136	
Standard Deviation	0.2%	
Darktable - Server Rack - CPU-only (sec)	0.092	
Standard Deviation	1.1%	
Darktable - Masskrug - CPU-only (sec)	2.974	
Standard Deviation	0.2%	
Darktable - Boat - CPU-only (sec)	5.496	
Standard Deviation	0.2%	
Cryptsetup - PBKDF2-sha512 (Iterations/sec)	1622356	
Standard Deviation	0.3%	
OSPray - M.R - Path Tracer (FPS)	333.33	333.33
Standard Deviation	0%	0%
OSPray - NASA Streamlines - Path Tracer (FPS)	20.41	20.41
Standard Deviation	0%	0%
OSPray - M.R - SciVis (FPS)	43.48	43.48
Standard Deviation	0%	0%
OSPray - NASA Streamlines - SciVis (FPS)	90.91	90.91
Standard Deviation	0%	0%
ParaView - Many Spheres - 3840 x 2160 (MiPolys / Sec)	5540	
Standard Deviation	0.4%	
ParaView - Many Spheres - 3840 x 2160 (Frames / Sec)	55.26	
Standard Deviation	0.4%	
ParaView - Many Spheres - 1920 x 1080 (MiPolys / Sec)	5732	
Standard Deviation	0.2%	
ParaView - Many Spheres - 1920 x 1080 (Frames / Sec)	57.17	
Standard Deviation	0.2%	
Selenium - MotionMark - Firefox (Score)	139.04	137.11
Normalized	100%	98.61%
Standard Deviation	8.6%	7.5%
NCNN - Vulkan GPU - alexnet (ms)	29.85	6.48
Normalized	21.71%	100%
Standard Deviation	1.4%	7.1%

NCNN - CPU - blazeface (ms)	5.88	5.59
Normalized	95.07%	100%
Standard Deviation	7.7%	3.6%
NCNN - CPU - mnasnet (ms)	13.45	12.53
Normalized	93.16%	100%
Standard Deviation	9.8%	2.8%
NCNN - CPU-v3-v3 - mobilenet-v3 (ms)	13.90	13.66
Normalized	98.27%	100%
Standard Deviation	9.7%	7.8%
Mobile Neural Network - SqueezeNetV1.0 (ms)	8.258	8.681
Normalized	100%	95.13%
Standard Deviation	4.4%	6.3%
Stress-NG - Context Switching (Bogo Ops/s)	28076291	24978428
Normalized	100%	88.97%
Standard Deviation	9.7%	2.2%
Stress-NG - CPU Cache (Bogo Ops/s)	70.95	71.50
Normalized	99.23%	100%
Standard Deviation	9.2%	6.4%
Stress-NG - MMAP (Bogo Ops/s)	199.60	1137
Normalized	17.56%	100%
Standard Deviation	45.1%	1.9%
LuaJIT - F.F.T (Mflops)	254.69	272.28
Normalized	93.54%	100%
Standard Deviation	15.7%	0.1%
Java Gradle Build - Reactor (sec)	264.231	286.396
Normalized	100%	92.26%
Standard Deviation	5.2%	6.7%
ParaView - Wavelet Volume - 3840 x 2160 (MiVoxels / Sec)	2576	2670
Normalized	96.47%	100%
Standard Deviation	6.4%	2.5%
ParaView - Wavelet Volume - 3840 x 2160 (Frames / Sec)	160.97	166.85
Normalized	96.48%	100%
Standard Deviation	6.4%	2.5%

NCNN 20200916

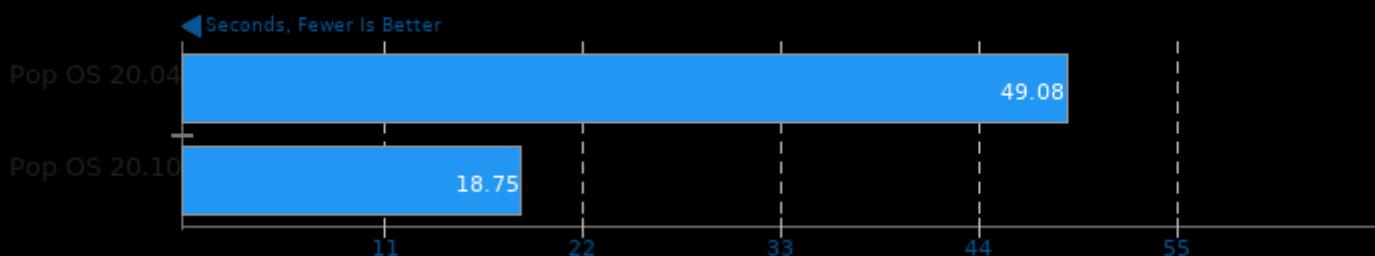
Target: Vulkan GPU - Model: vgg16



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

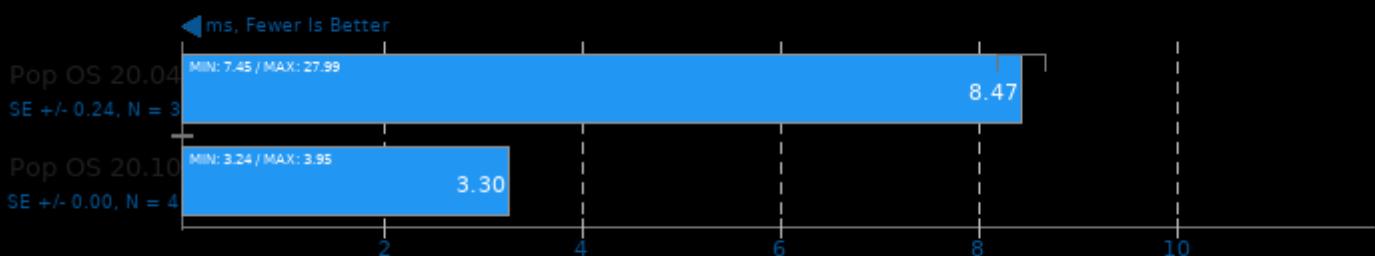
Polyhedron Fortran Benchmarks

Benchmark: tfft2



NCNN 20200916

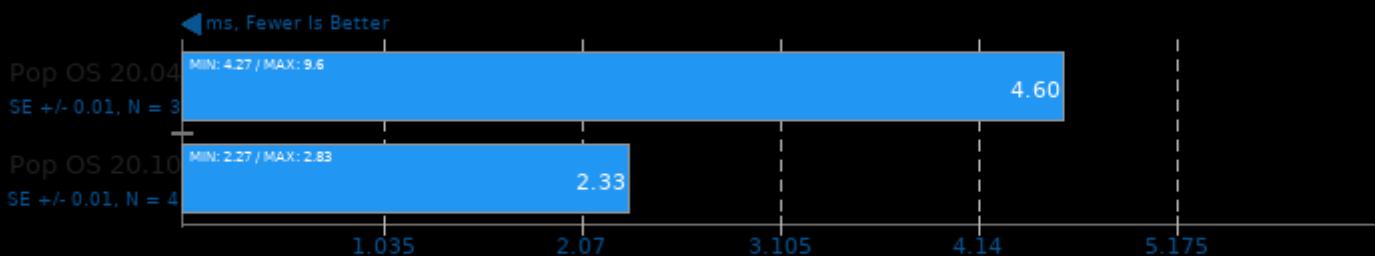
Target: Vulkan GPU-v3-v3 - Model: mobilenet-v3



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

NCNN 20200916

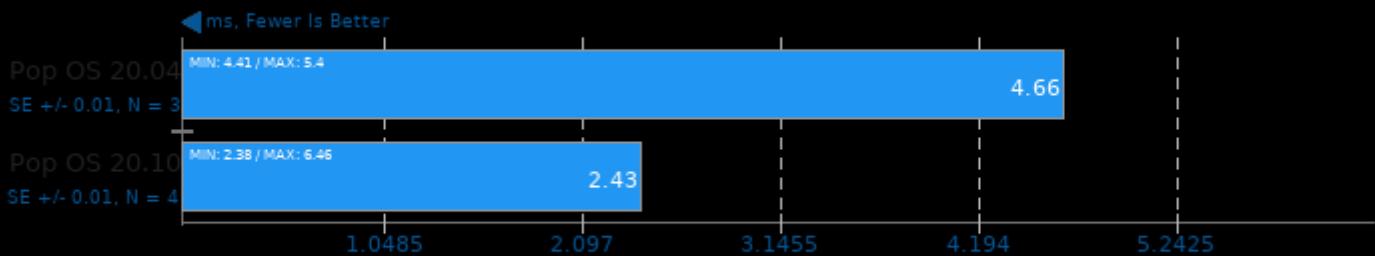
Target: Vulkan GPU-v2-v2 - Model: mobilenet-v2



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

NCNN 20200916

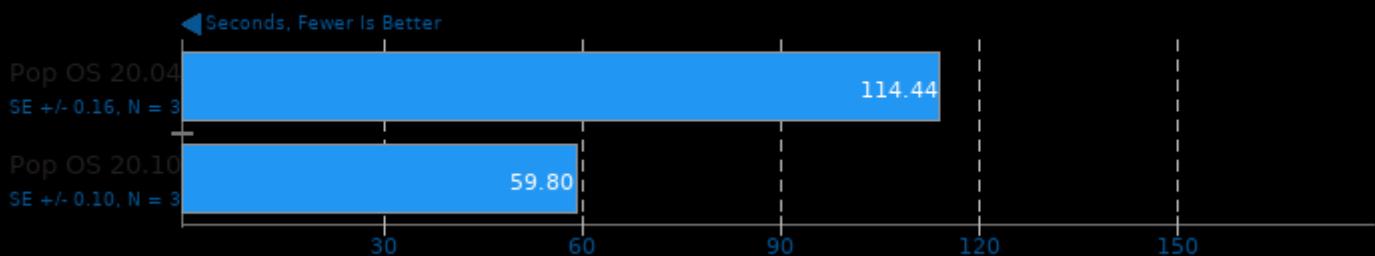
Target: Vulkan GPU - Model: mnasnet



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

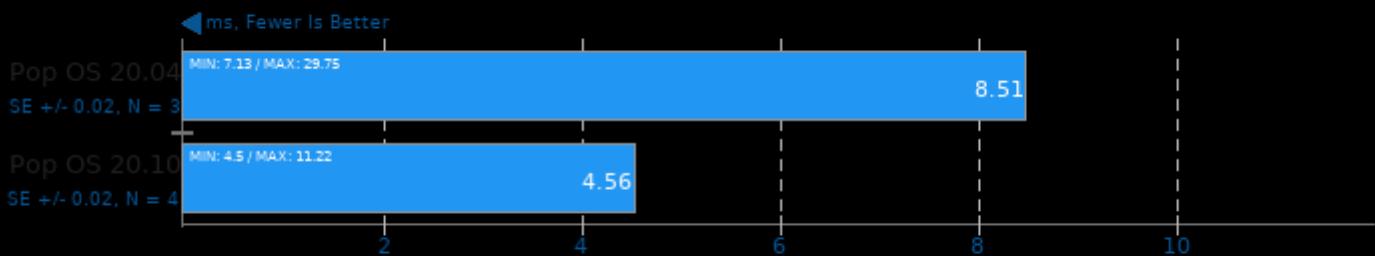
RealSR-NCNN 20200818

Scale: 4x - TAA: Yes



NCNN 20200916

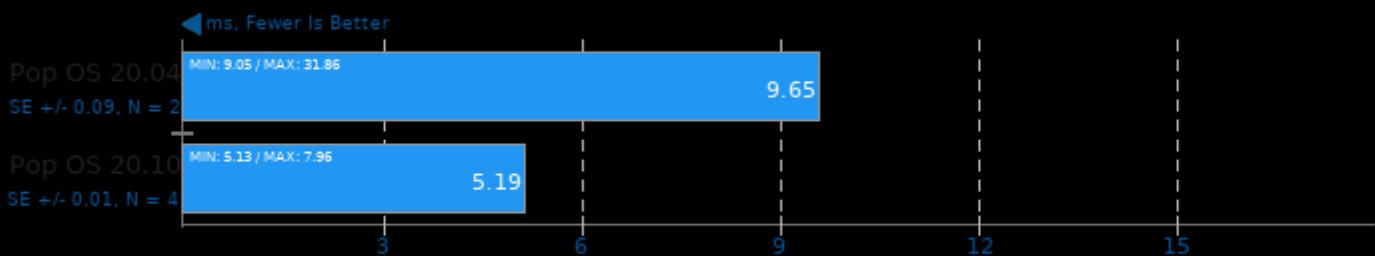
Target: Vulkan GPU - Model: googlenet



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

NCNN 20200916

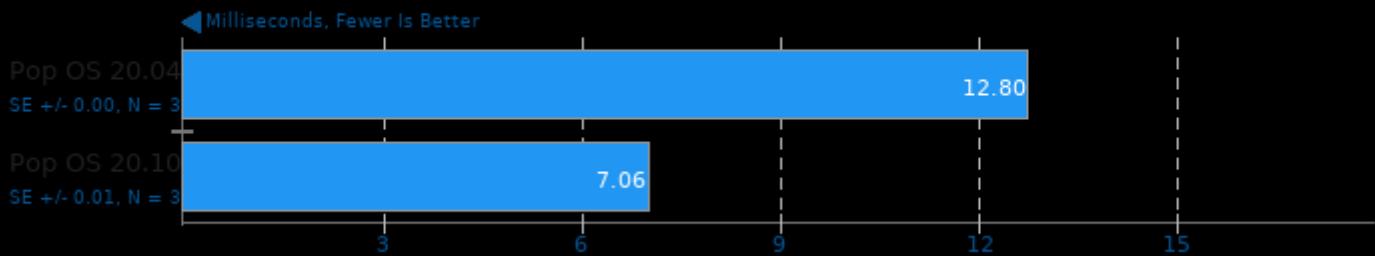
Target: Vulkan GPU - Model: resnet50



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

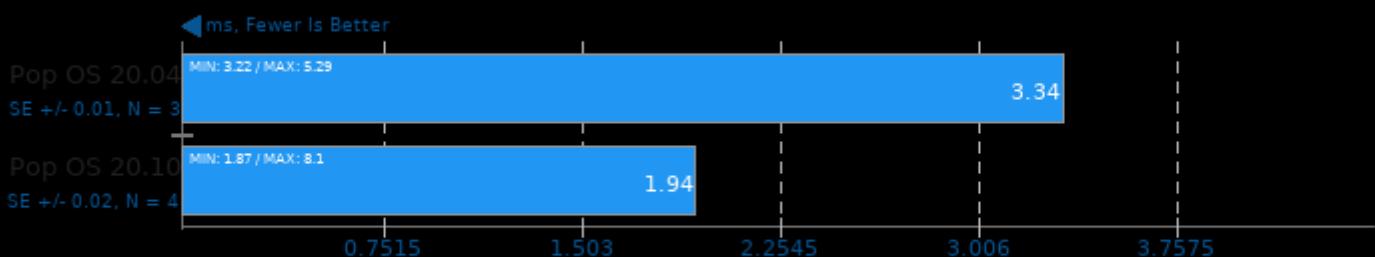
PyPerformance 1.0.0

Benchmark: python_startup



NCNN 20200916

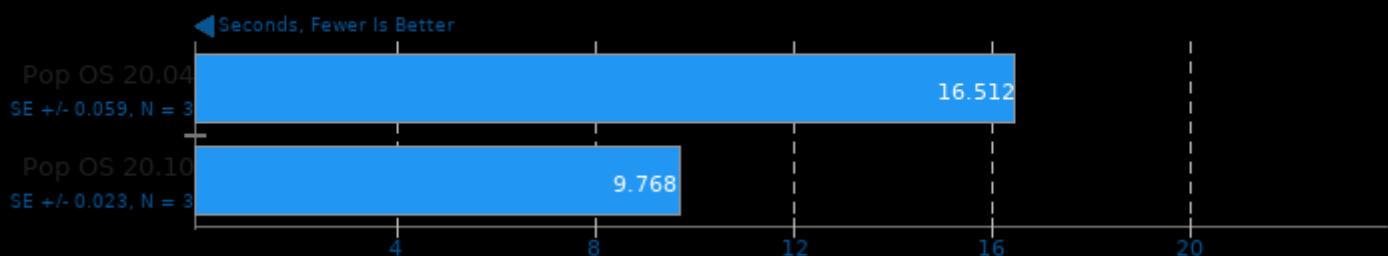
Target: Vulkan GPU - Model: resnet18



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

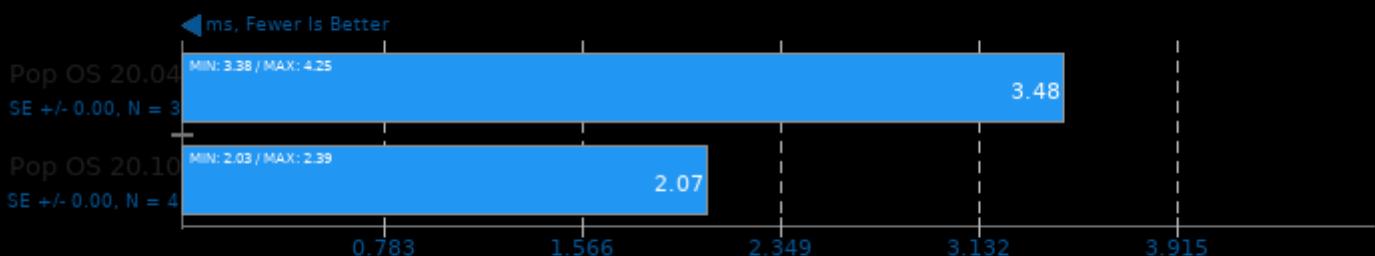
RealSR-NCNN 20200818

Scale: 4x - TAA: No



NCNN 20200916

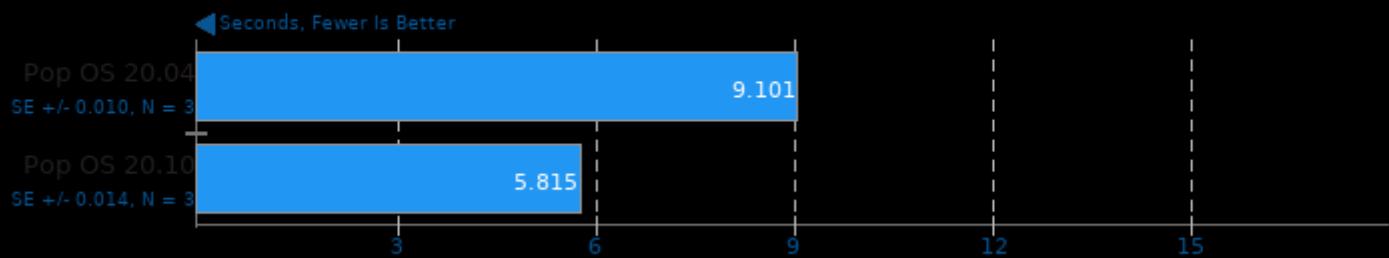
Target: Vulkan GPU - Model: shufflenet-v2



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

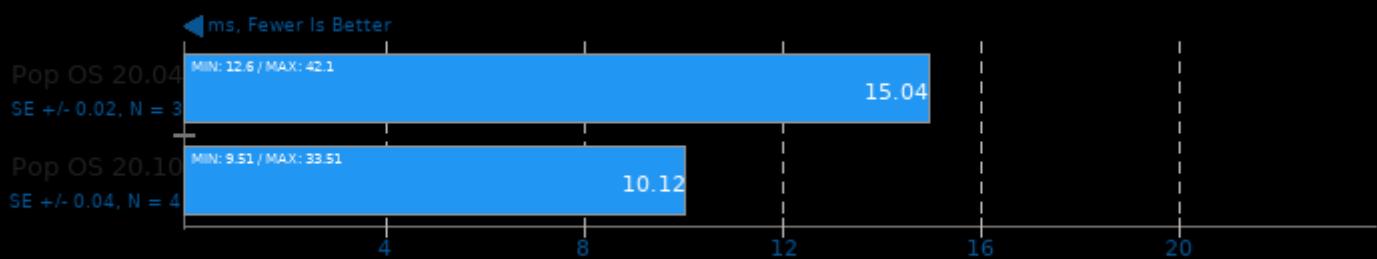
Waifu2x-NCNN Vulkan 20200818

Scale: 2x - Denoise: 3 - TAA: Yes



NCNN 20200916

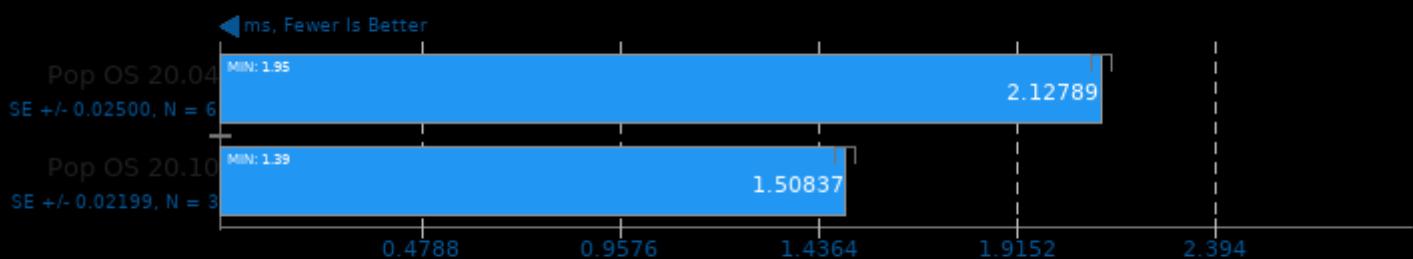
Target: Vulkan GPU - Model: yolov4-tiny



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

oneDNN 1.5

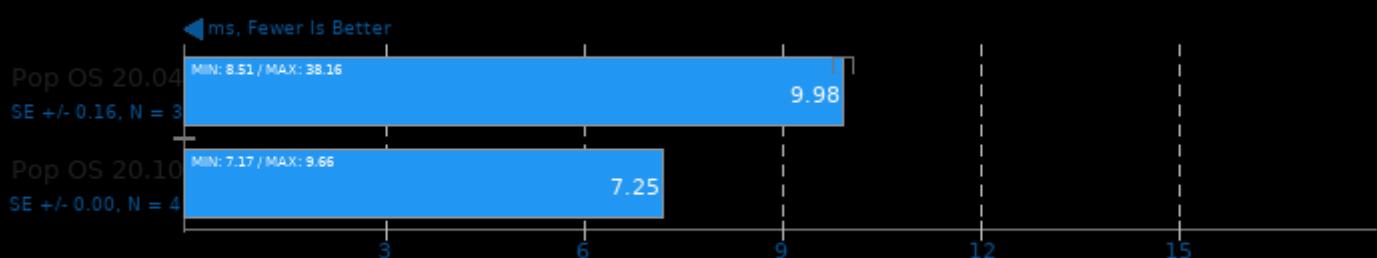
Harness: Convolution Batch Shapes Auto - Data Type: f32 - Engine: CPU



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

NCNN 20200916

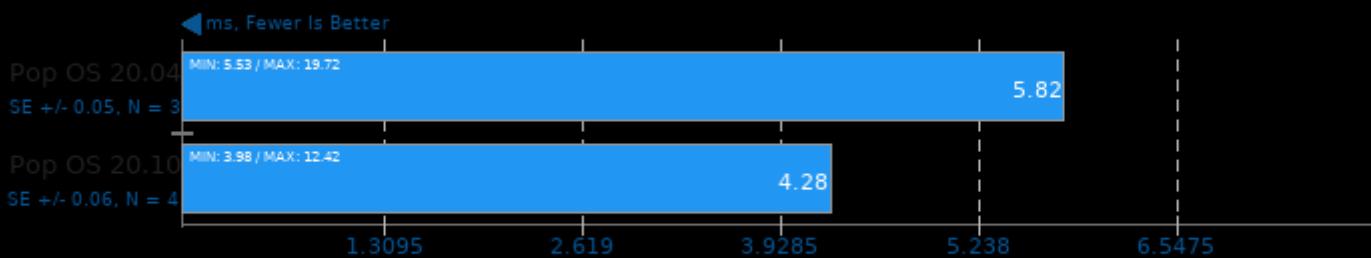
Target: Vulkan GPU - Model: mobilenet



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

NCNN 20200916

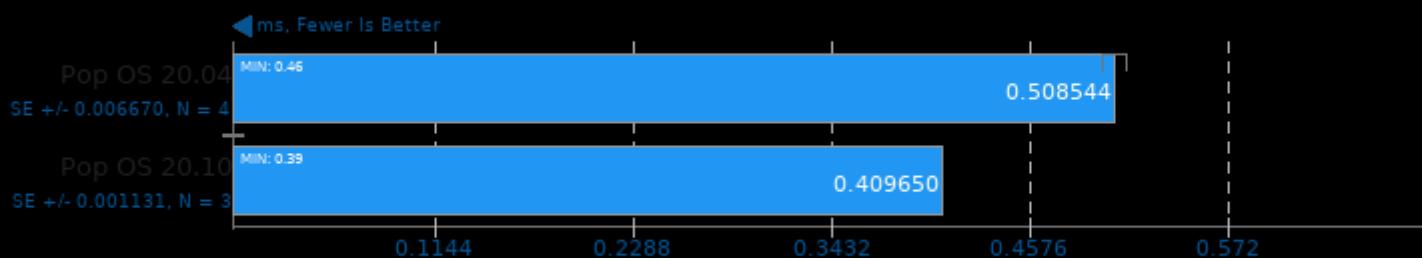
Target: Vulkan GPU - Model: squeezenet



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

oneDNN 1.5

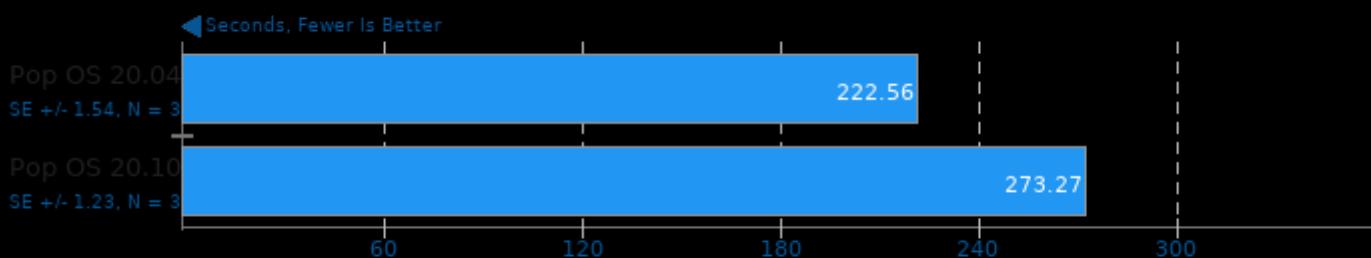
Harness: Matrix Multiply Batch Shapes Transformer - Data Type: f32 - Engine: CPU



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

G'MIC

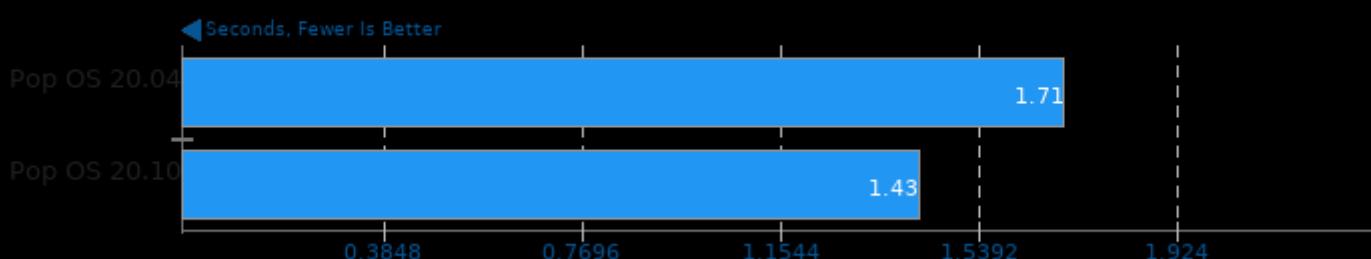
Test: 2D Function Plotting, 1000 Times



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

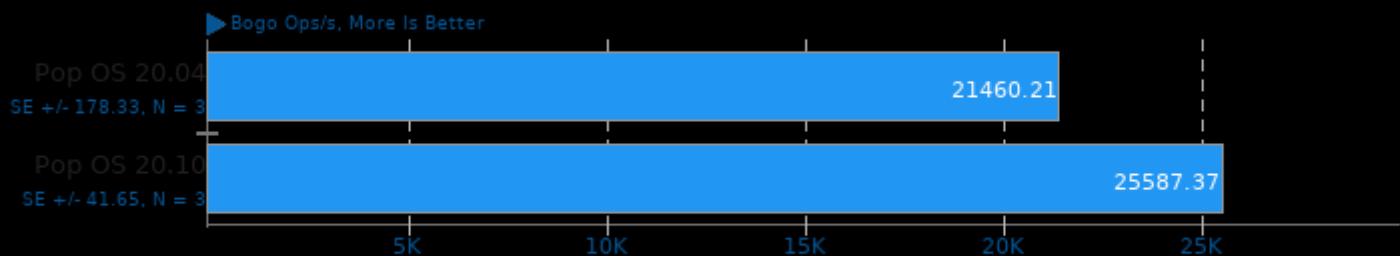
Polyhedron Fortran Benchmarks

Benchmark: air



Stress-NG 0.11.07

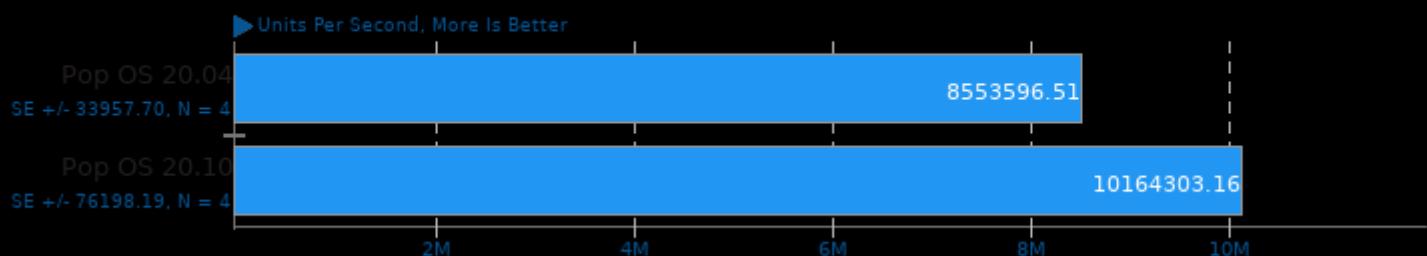
Test: Socket Activity



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

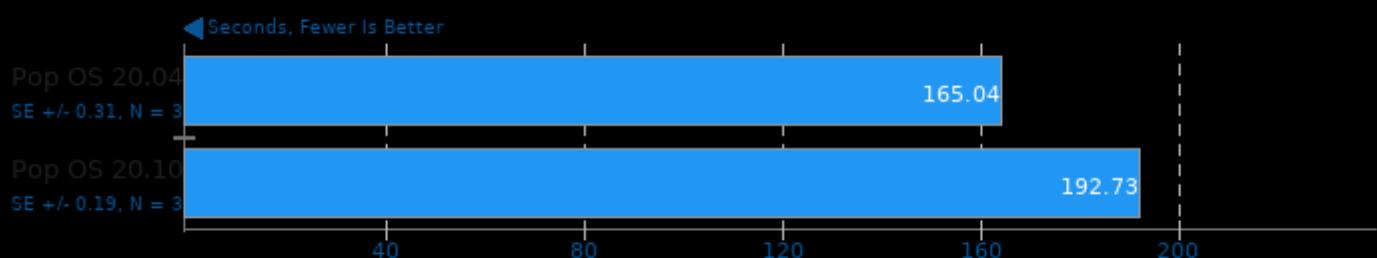
Java 2D Microbenchmark 1.0

Rendering Test: Image Rendering



Timed HMMer Search 3.3.1

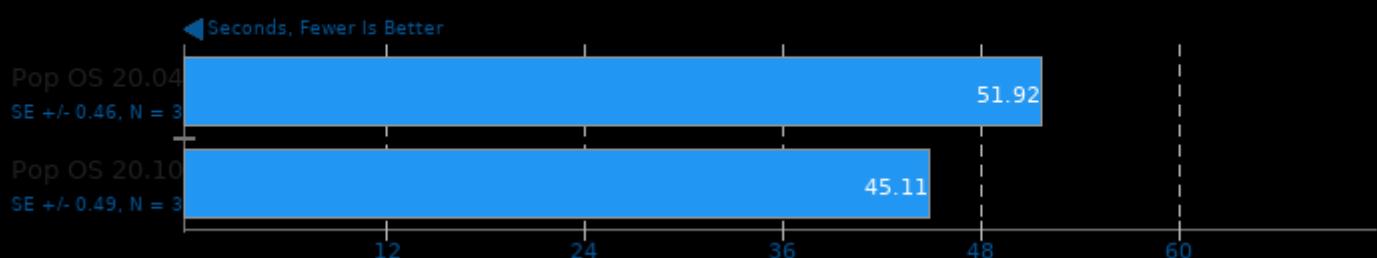
pfam Database Search



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

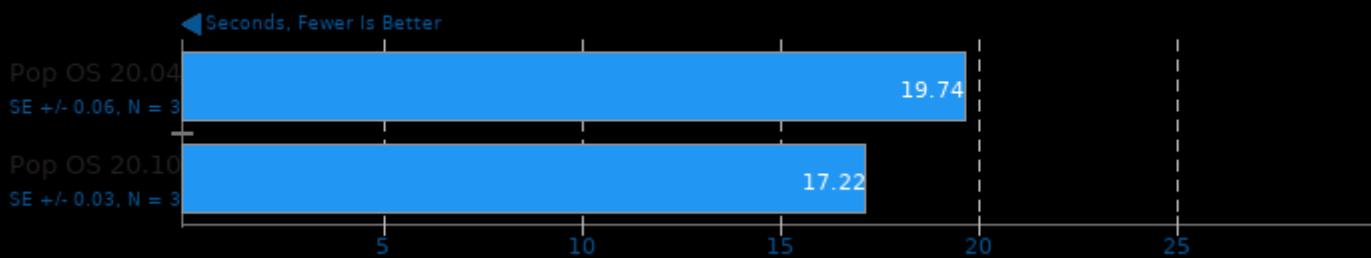
Milpack Benchmark

Benchmark: scikit_ica



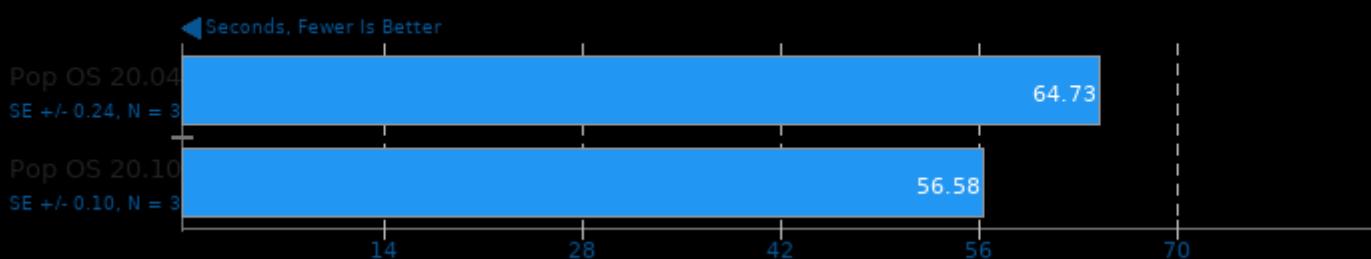
Timed FFmpeg Compilation 4.2.2

Time To Compile



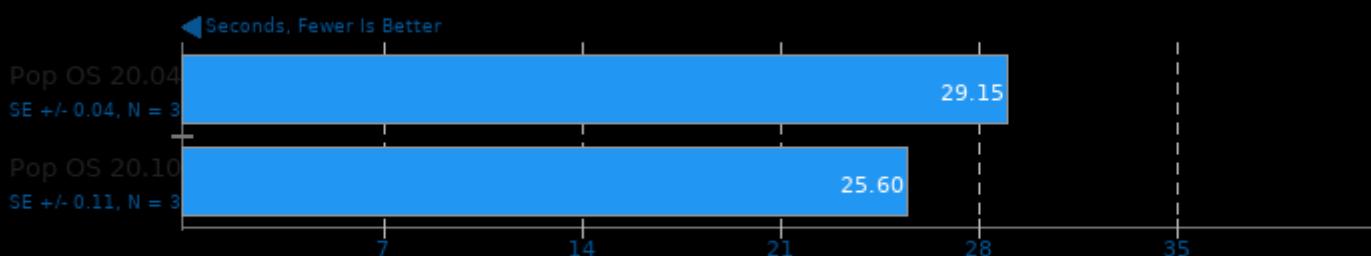
GEGL

Operation: Wavelet Blur



librsvg

Operation: SVG Files To PNG

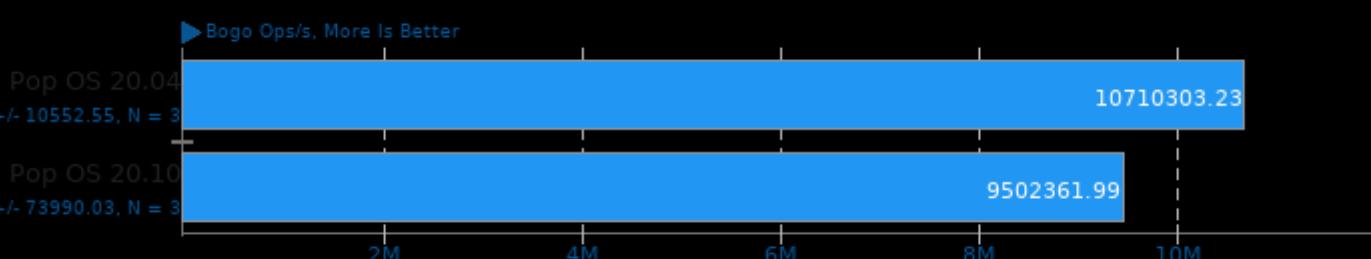


1. Pop OS 20.04: rsvg-convert version 2.48.7

2. Pop OS 20.10: rsvg-convert version 2.50.1

Stress-NG 0.11.07

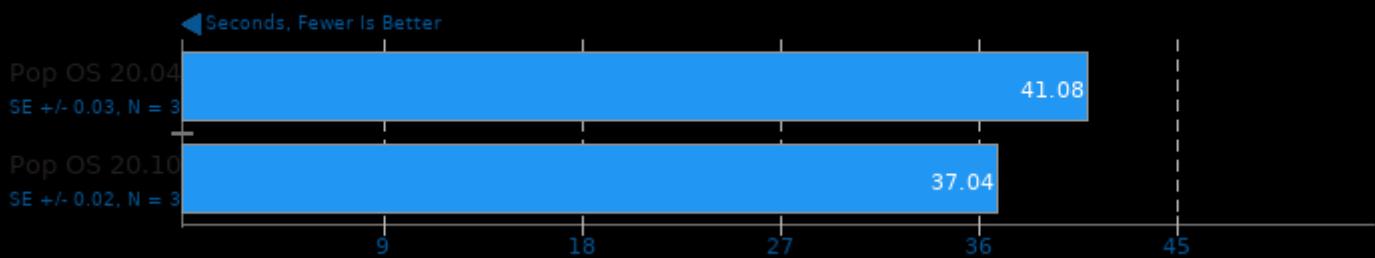
Test: Semaphores



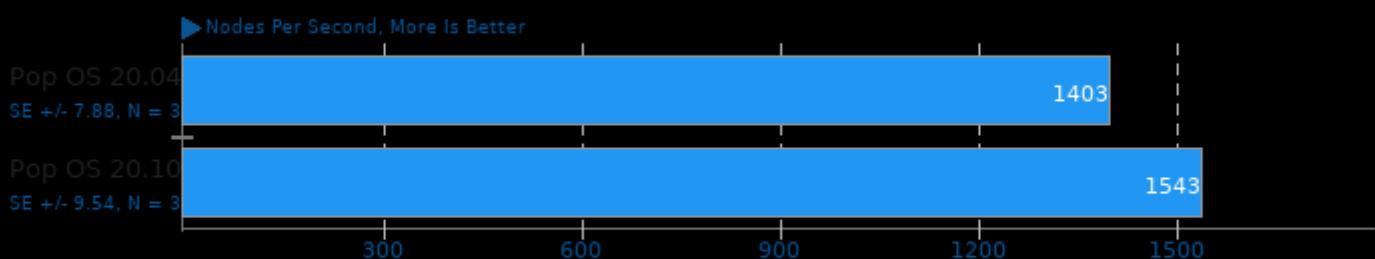
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

GEGL

Operation: Antialias

**LeelaChessZero 0.26**

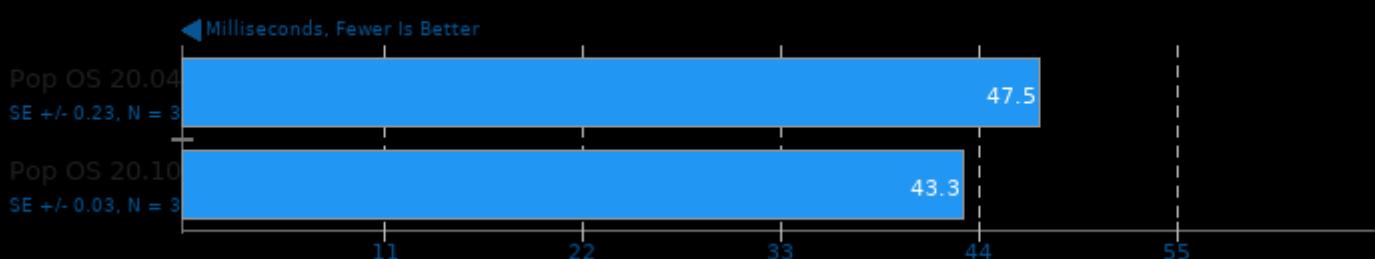
Backend: Eigen



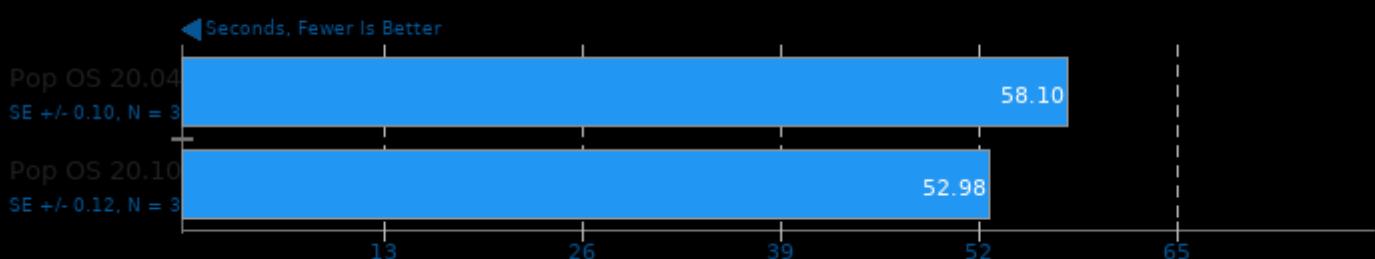
1. (CXX) g++ options: -fno -pthread

PyPerformance 1.0.0

Benchmark: django_template

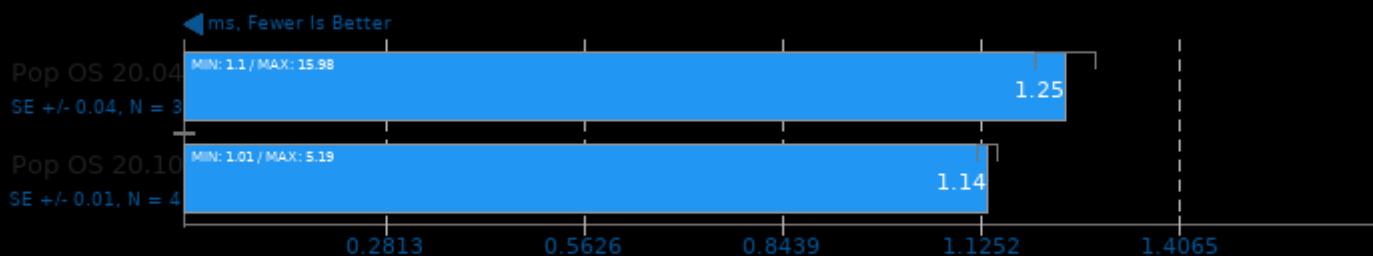
**GEGL**

Operation: Color Enhance



NCNN 20200916

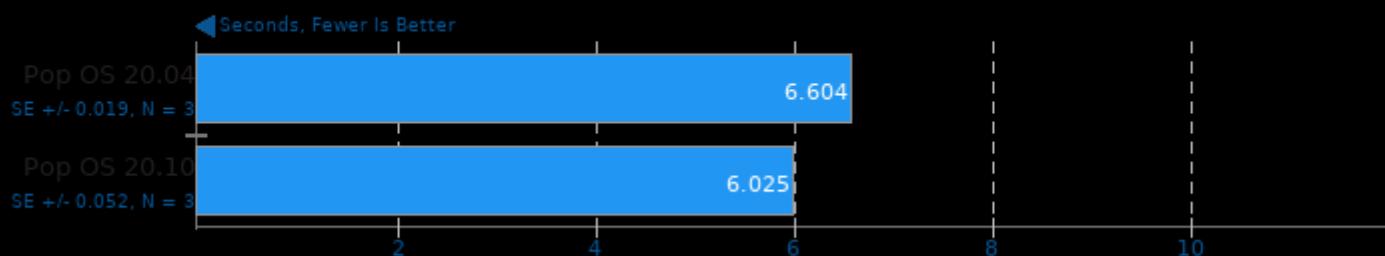
Target: Vulkan GPU - Model: blazeface



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

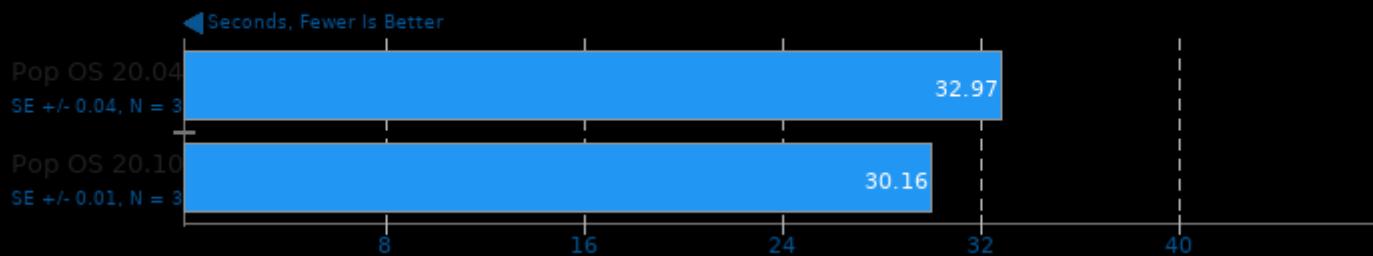
GEGL

Operation: Scale



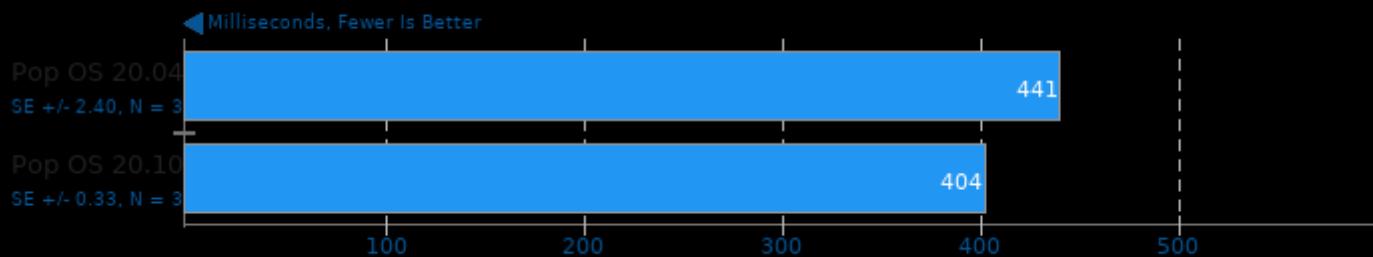
GEGL

Operation: Tile Glass



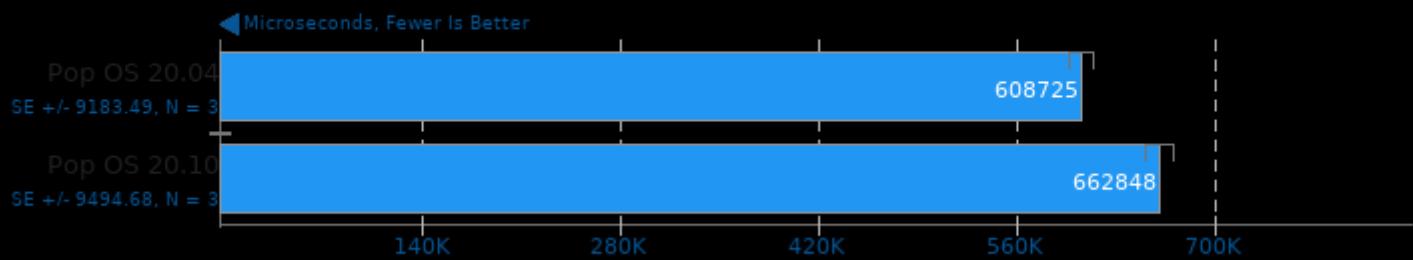
PyPerformance 1.0.0

Benchmark: pickle_pure_python



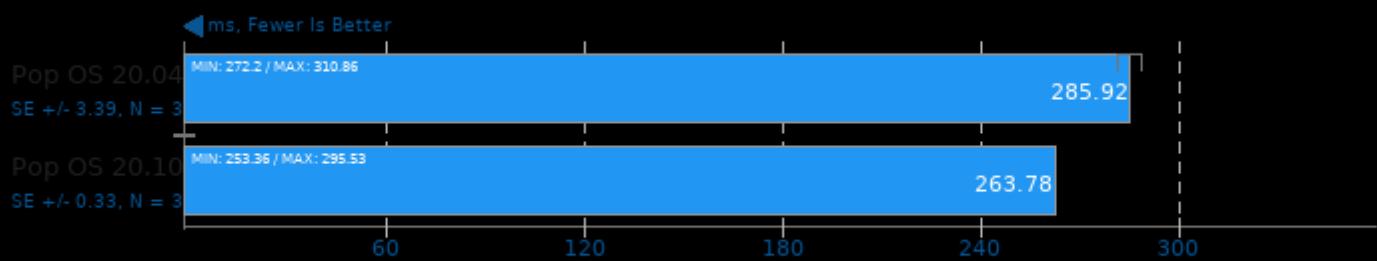
TensorFlow Lite 2020-08-23

Model: Inception ResNet V2



TNN 0.2.3

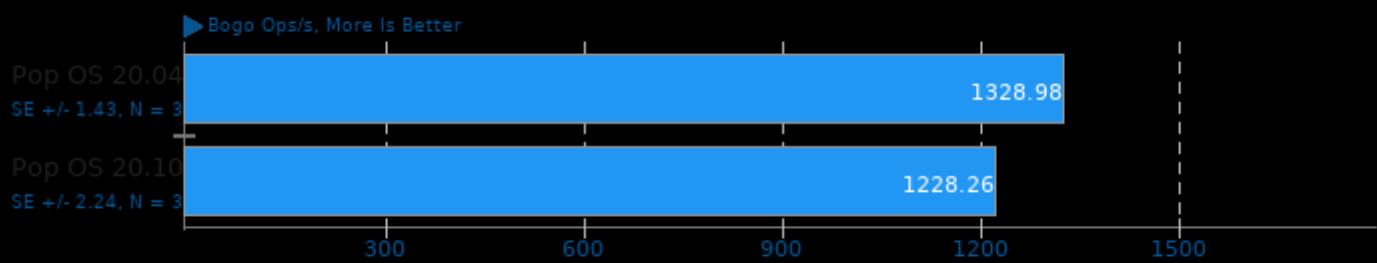
Target: CPU - Model: MobileNet v2



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -O3 -rdynamic -ldl

Stress-NG 0.11.07

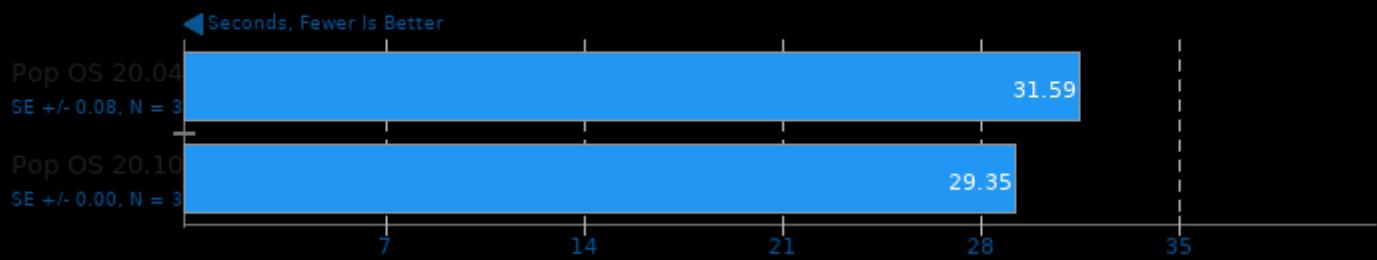
Test: MEMFD



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

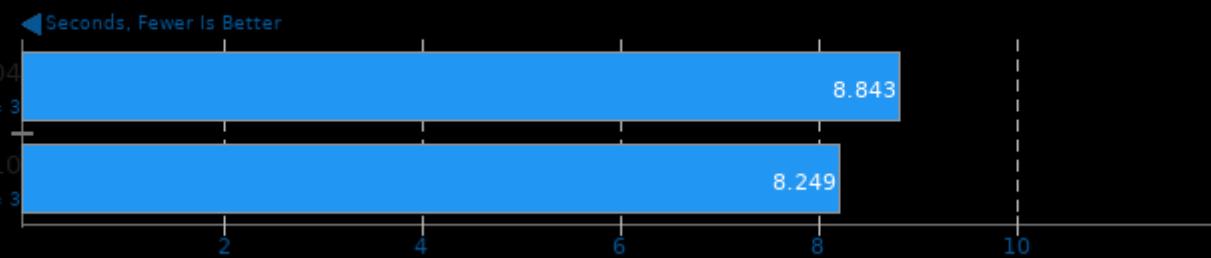
GEGL

Operation: Reflect

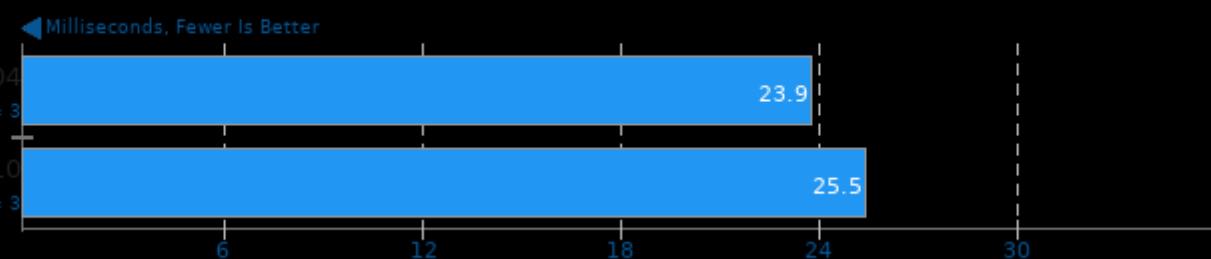


GEGL

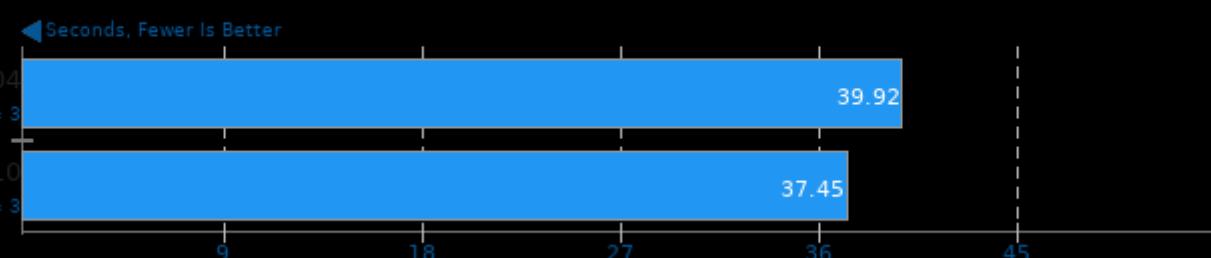
Operation: Crop

**PyPerformance 1.0.0**

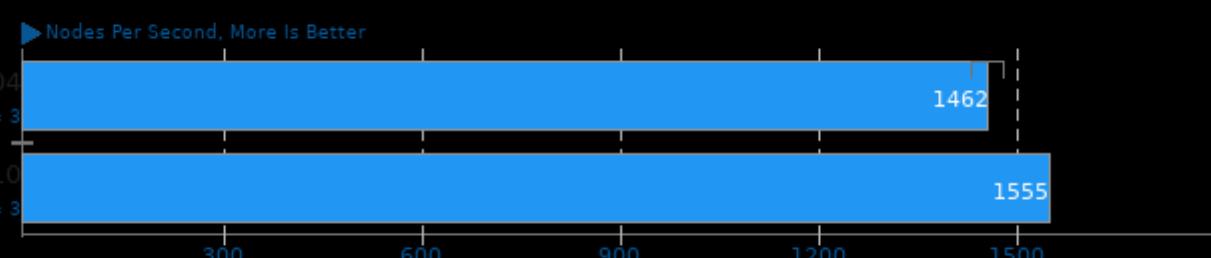
Benchmark: json.loads

**GEGL**

Operation: Rotate 90 Degrees

**LeelaChessZero 0.26**

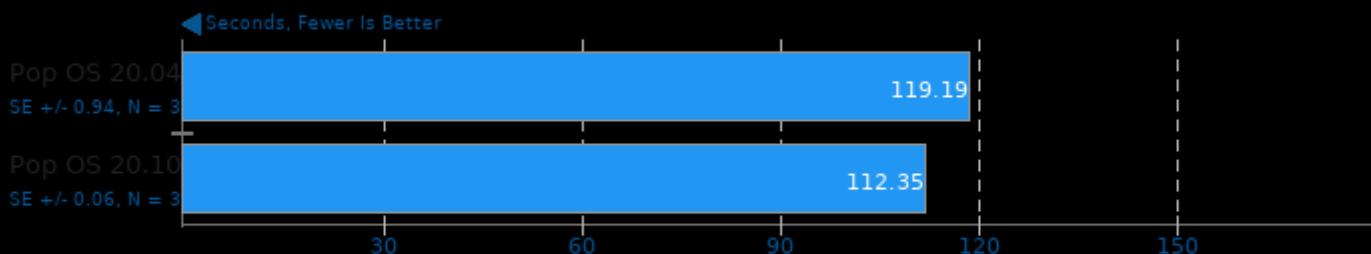
Backend: BLAS



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

Apache CouchDB 3.1.1

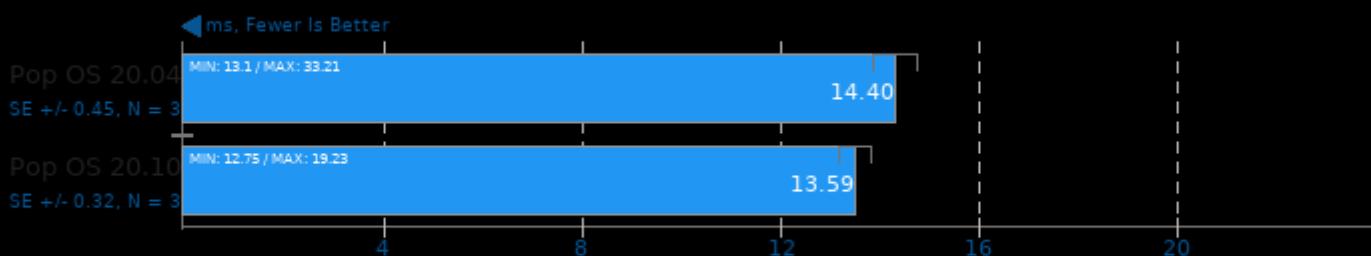
Bulk Size: 100 - Inserts: 1000 - Rounds: 24



1. (CXX) g++ options: -std=c++14 -lmozjs-68 -lm -l Erl_interface -lei -fPIC -MMD

NCNN 20200916

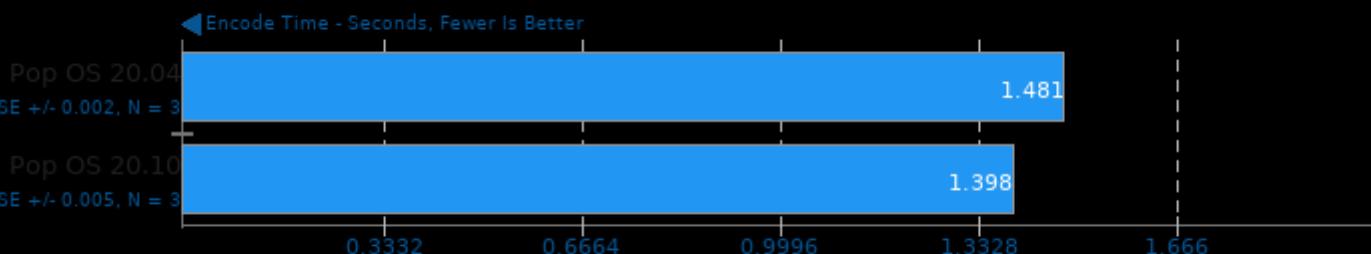
Target: CPU - Model: shufflenet-v2



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

WebP Image Encode 1.1

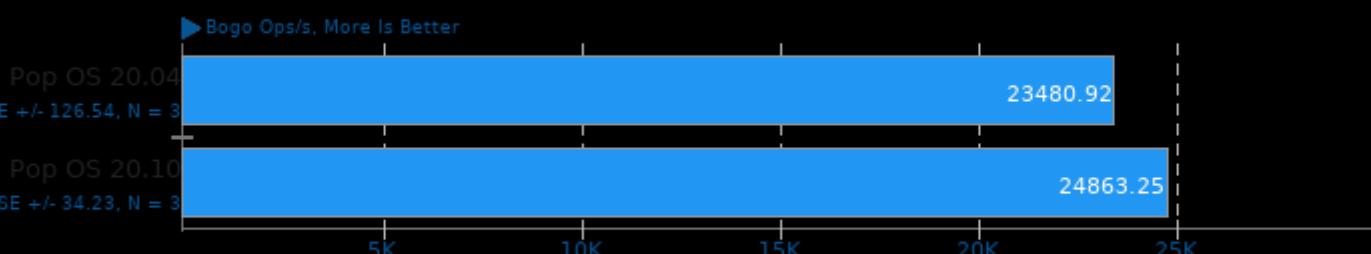
Encode Settings: Default



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

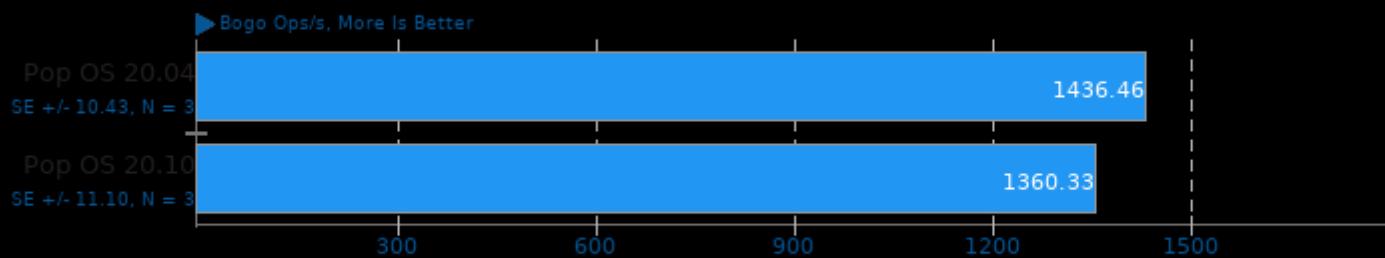
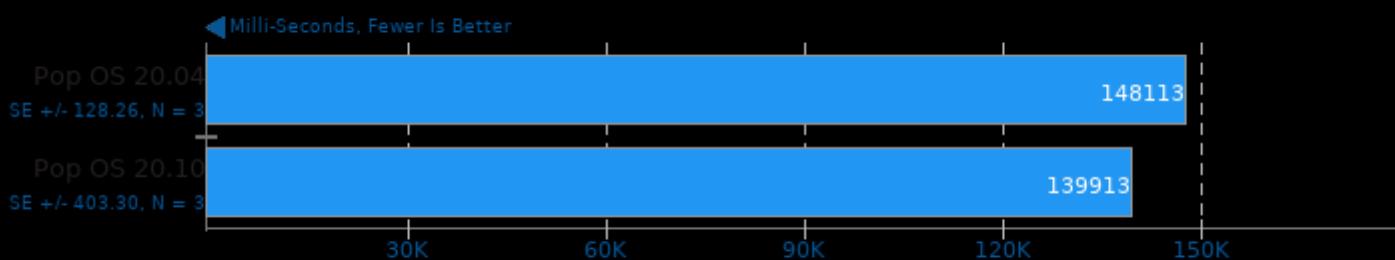
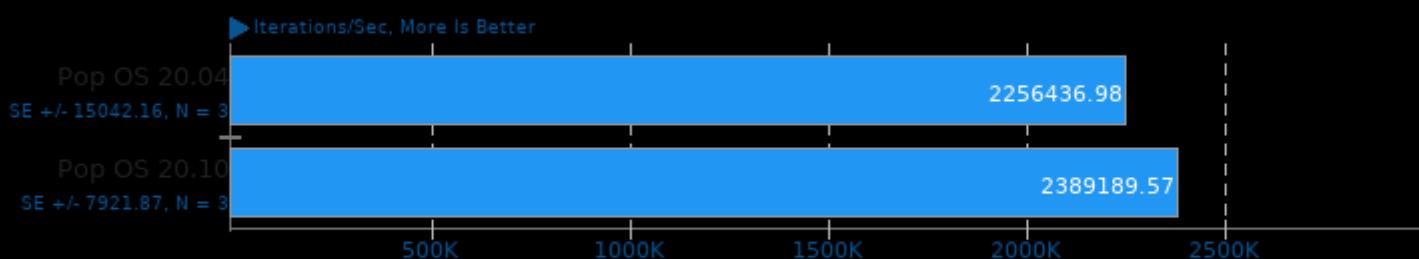
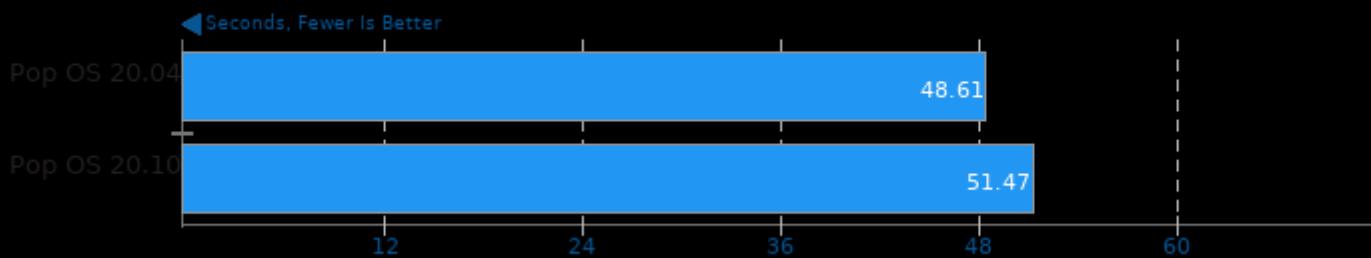
Stress-NG 0.11.07

Test: CPU Stress



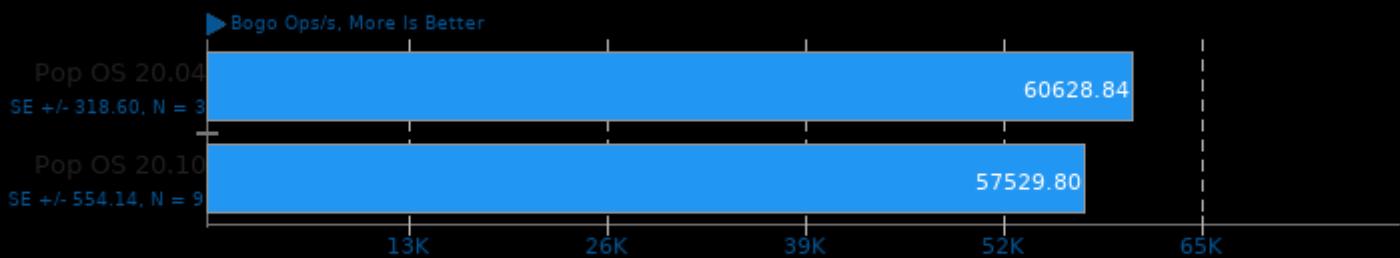
1. (CC) gcc options: -O2 -std=gnu99 -lm -lcrypt -lrt -lz -ldl -lpthread -lc

Polyhedron Fortran Benchmarks



Stress-NG 0.11.07

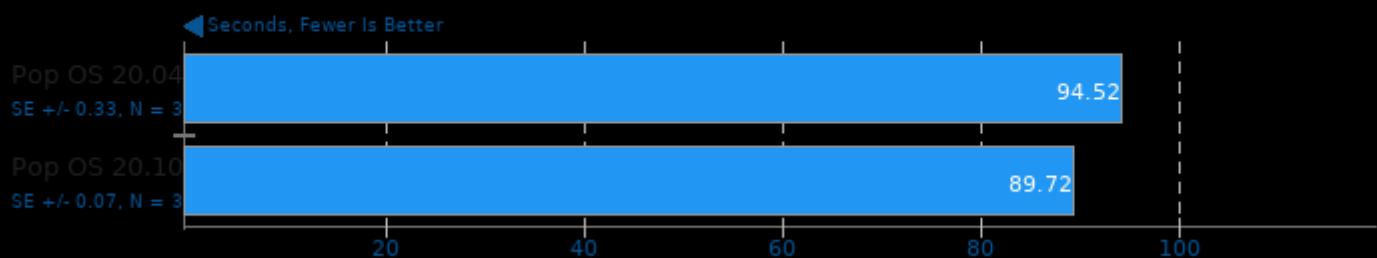
Test: Forking



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

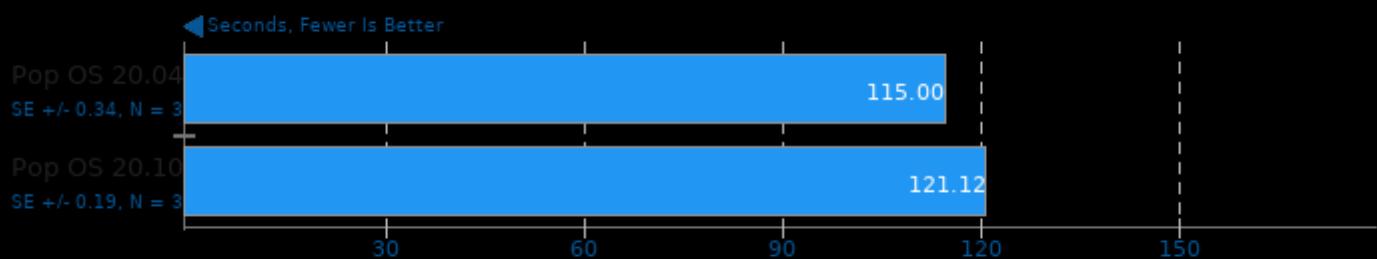
GEGL

Operation: Cartoon



SQLite 3.30.1

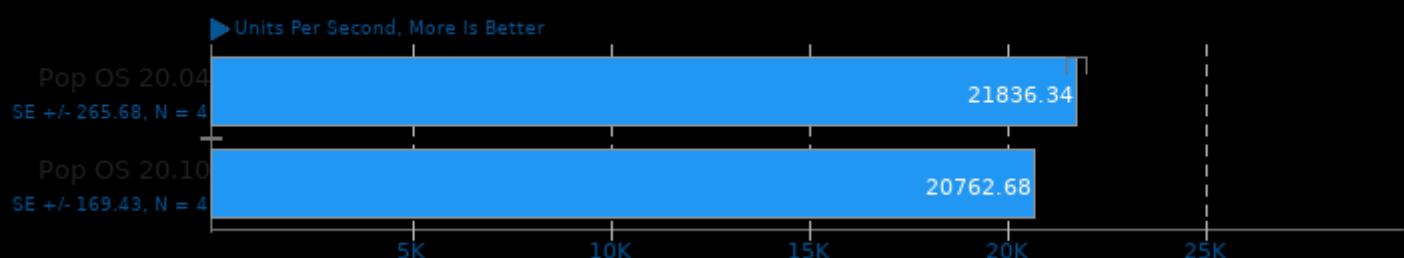
Threads / Copies: 8



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

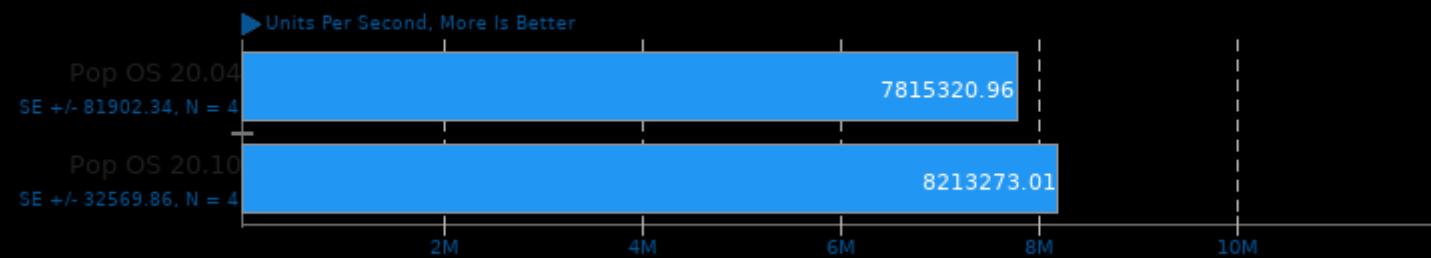
Java 2D Microbenchmark 1.0

Rendering Test: Text Rendering



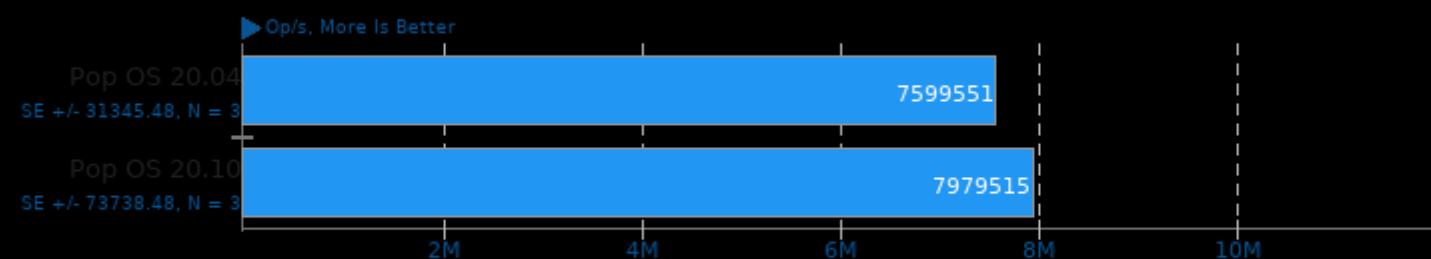
Java 2D Microbenchmark 1.0

Rendering Test: All Rendering Tests



Facebook RocksDB 6.3.6

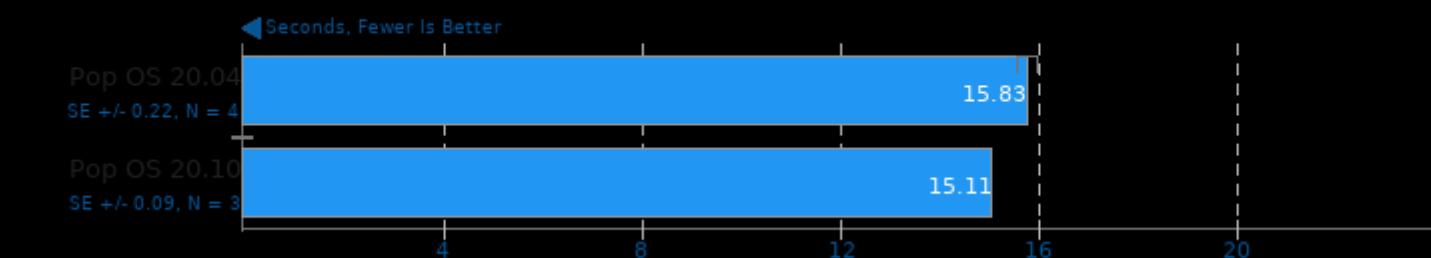
Test: Read While Writing



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

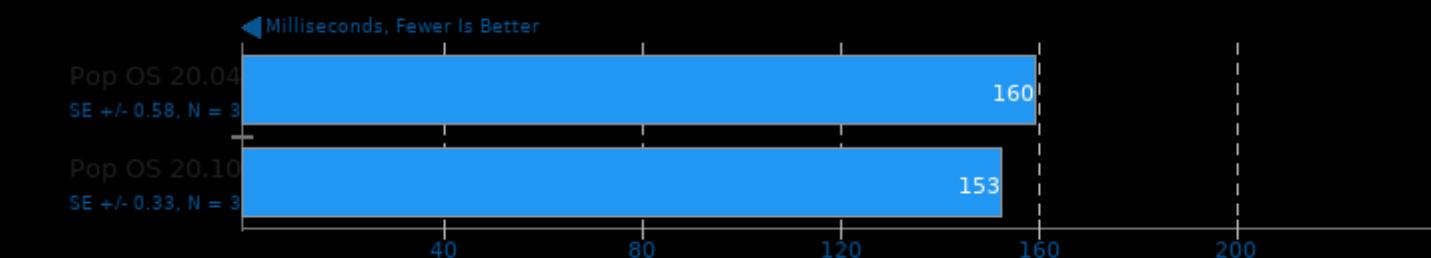
GIMP 2.10.18

Test: auto-levels



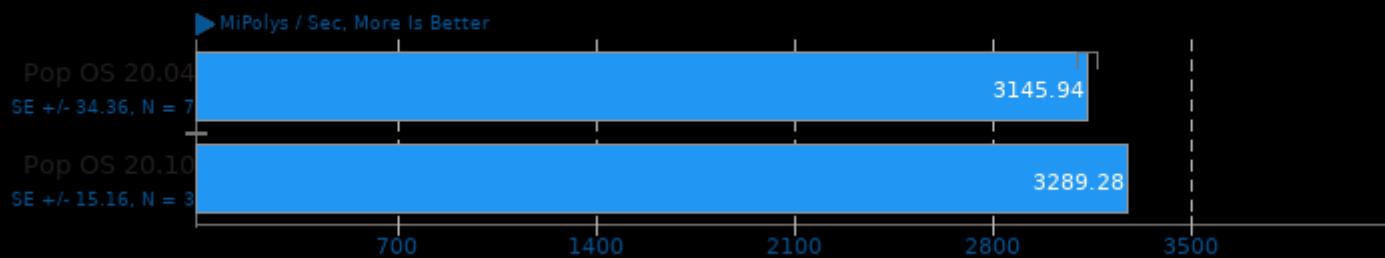
PyPerformance 1.0.0

Benchmark: regex_compile



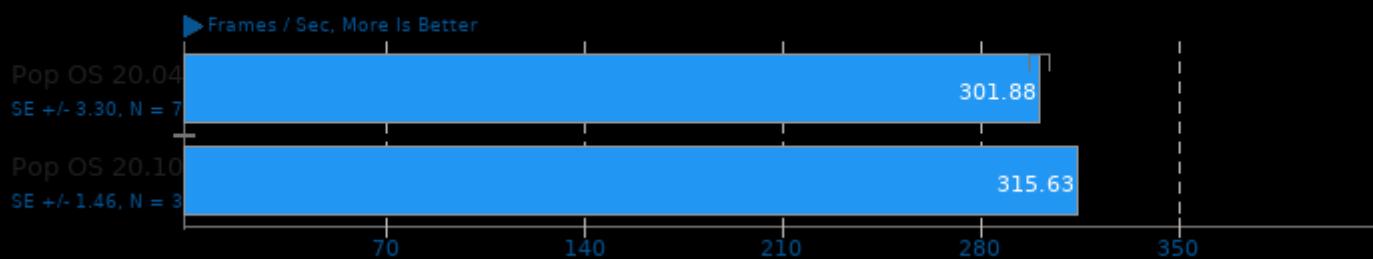
ParaView 5.4.1

Test: Wavelet Contour - Resolution: 1920 x 1080



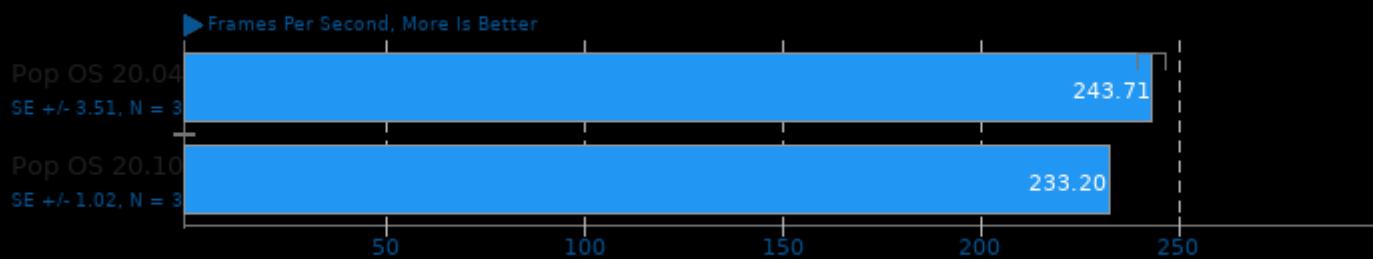
ParaView 5.4.1

Test: Wavelet Contour - Resolution: 1920 x 1080



Kvazaar 2.0

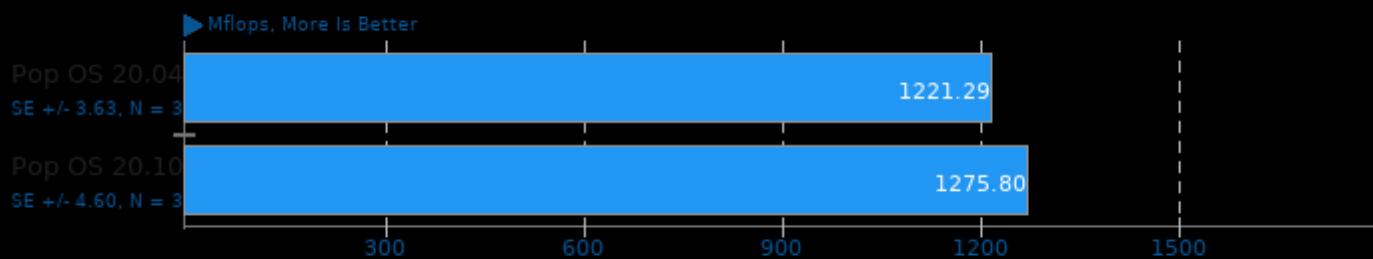
Video Input: Bosphorus 1080p - Video Preset: Ultra Fast



1. (CC) gcc options: -pthread -fno-vectorize -visibility=hidden -O2 -lpthread -lm -lt

LuajIT 2.1-git

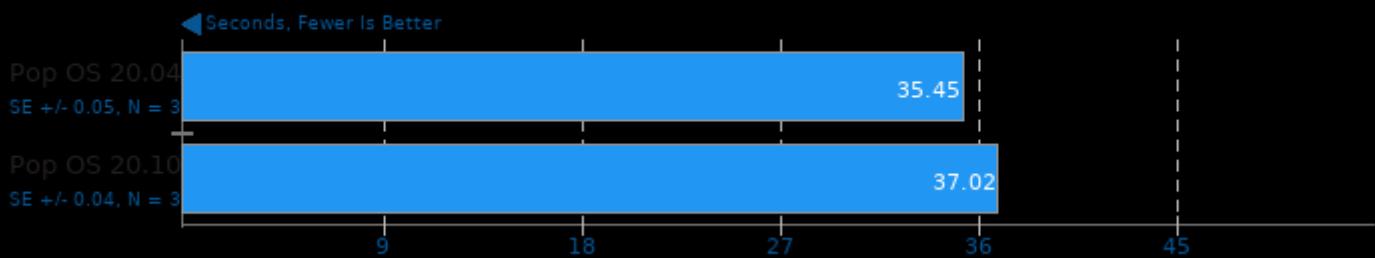
Test: Sparse Matrix Multiply



1. (CC) gcc options: -lm -ldl -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

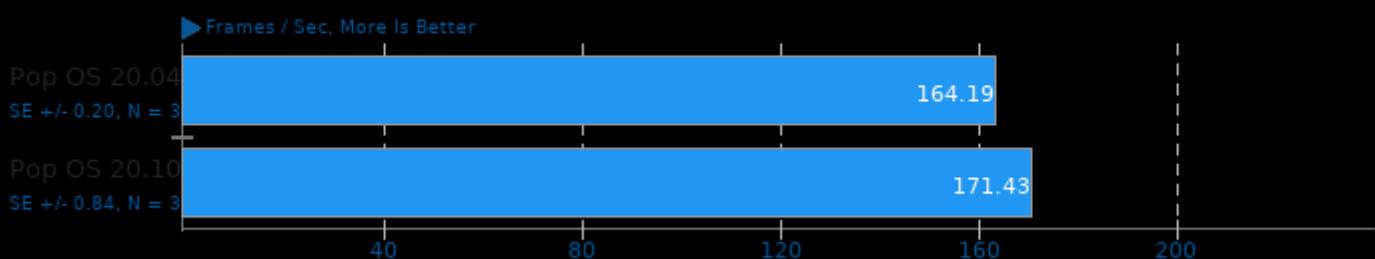
Timed PHP Compilation 7.4.2

Time To Compile



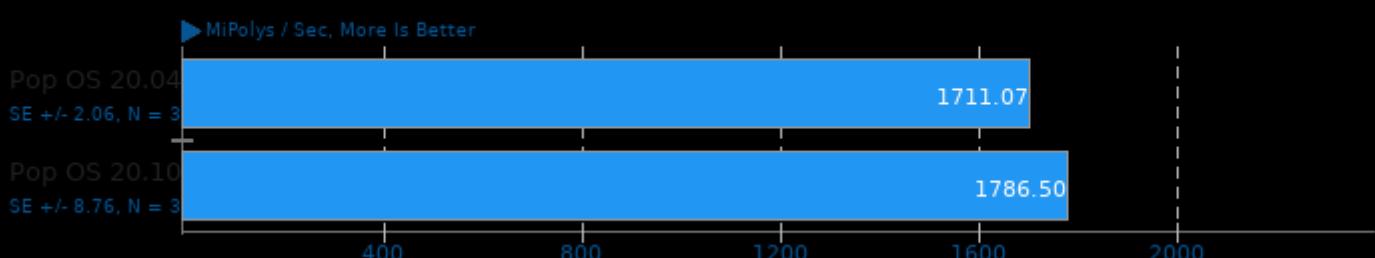
ParaView 5.4.1

Test: Wavelet Contour - Resolution: 3840 x 2160



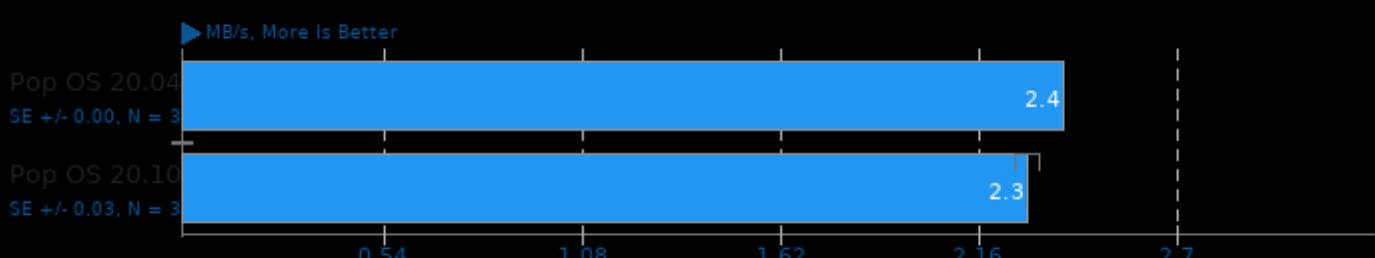
ParaView 5.4.1

Test: Wavelet Contour - Resolution: 3840 x 2160



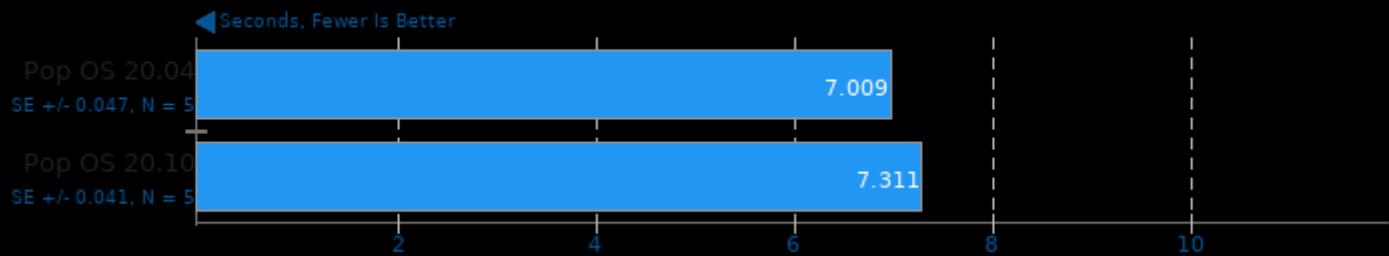
LevelDB 1.22

Benchmark: Fill Sync

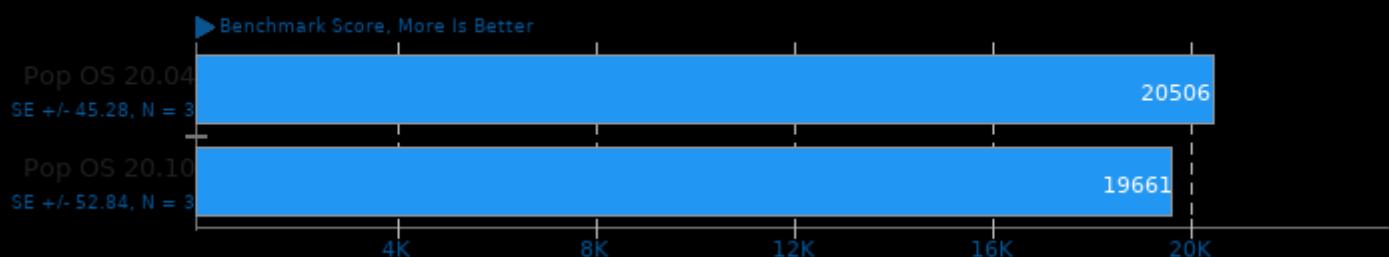


1. (CXX) g++ options: -O3 -lsnappy -lpthread

GNU Octave Benchmark 5.2.0

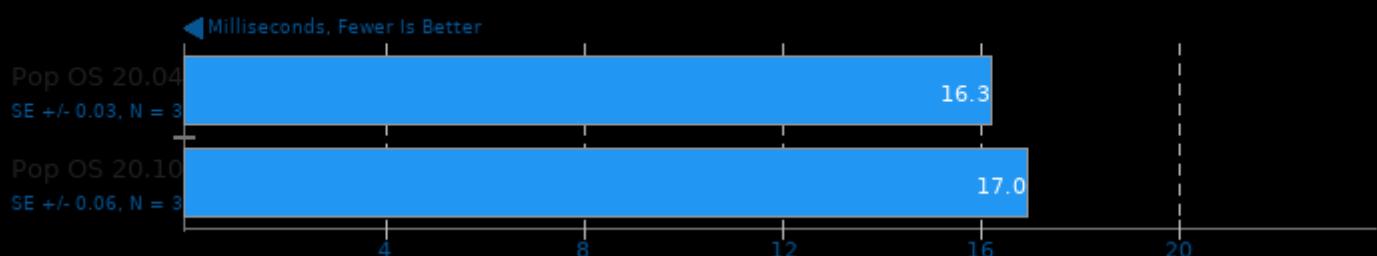


VkFFT 2020-09-29



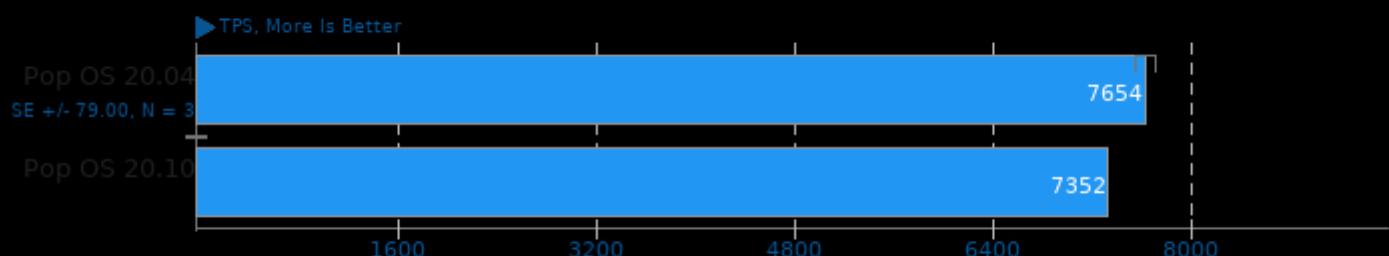
PyPerformance 1.0.0

Benchmark: pathlib



PostMark 1.51

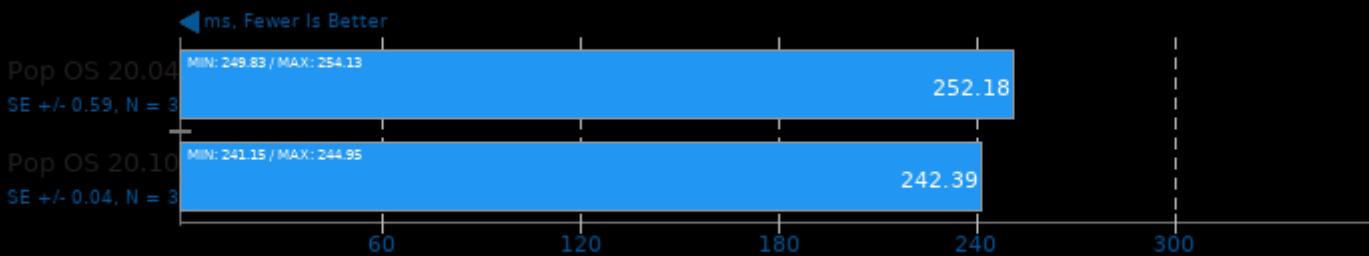
Disk Transaction Performance



1. (CC) gcc options: -O3

TNN 0.2.3

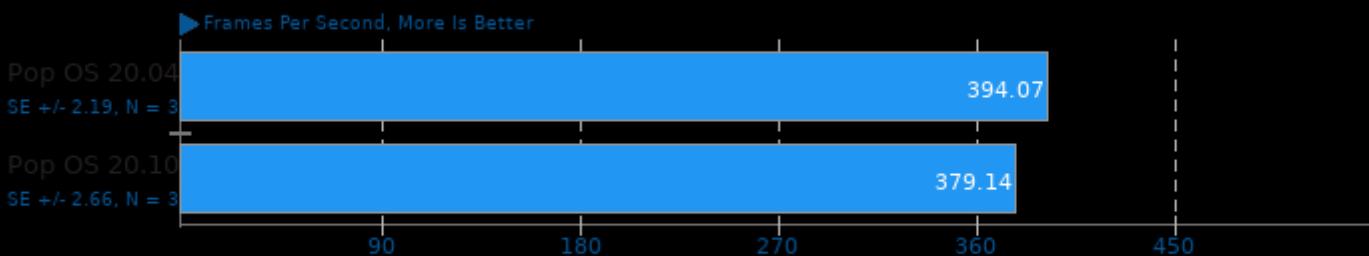
Target: CPU - Model: SqueezeNet v1.1



1. (CXX) g++ options: -fopenmp -pthread -fvisibility=hidden -O3 -rdynamic -ldl

SVT-VP9 0.1

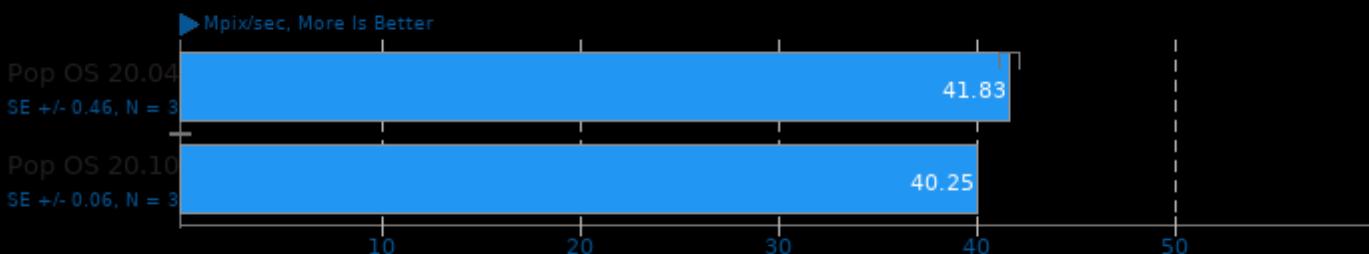
Tuning: PSNR/SSIM Optimized - Input: Bosphorus 1080p



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

LibRaw 0.20

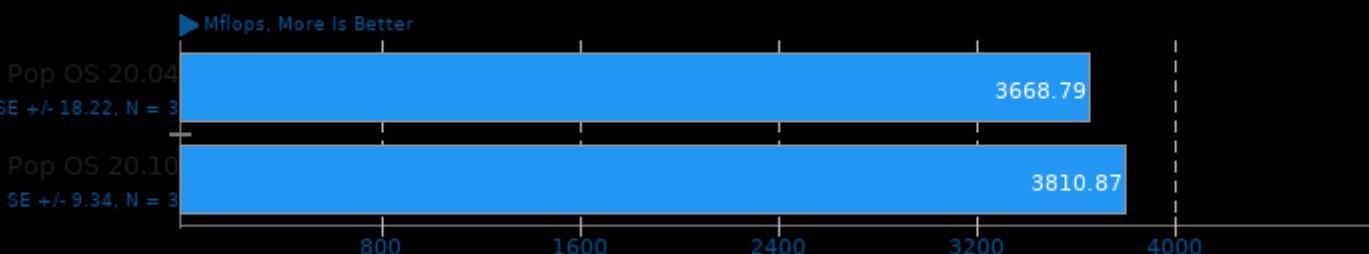
Post-Processing Benchmark



1. (CXX) g++ options: -O2 -fopenmp -ljpeg -lz -lm

LuajIT 2.1-git

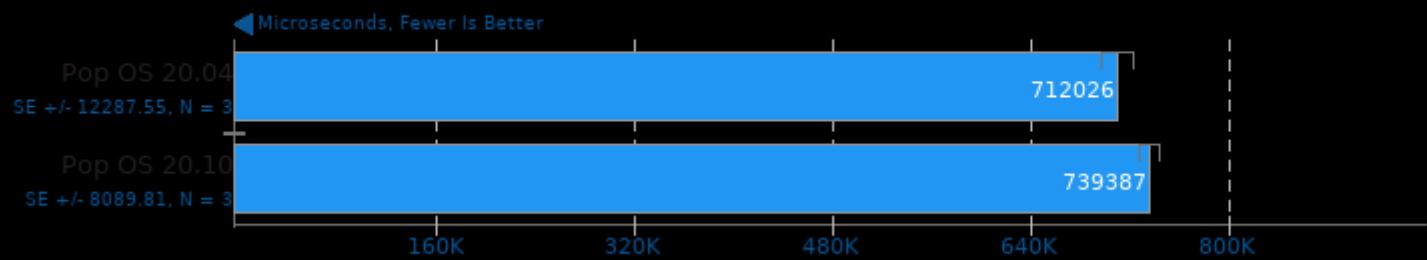
Test: Dense LU Matrix Factorization



1. (CC) gcc options: -lm -ldl -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

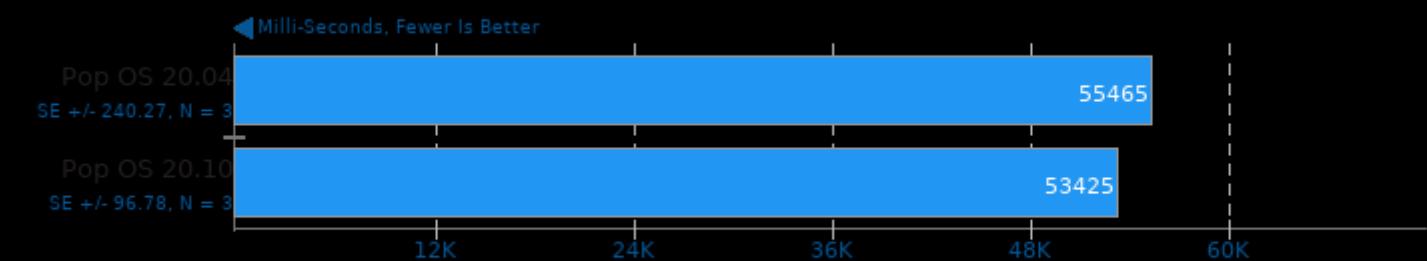
TensorFlow Lite 2020-08-23

Model: Inception V4



Caffe 2020-02-13

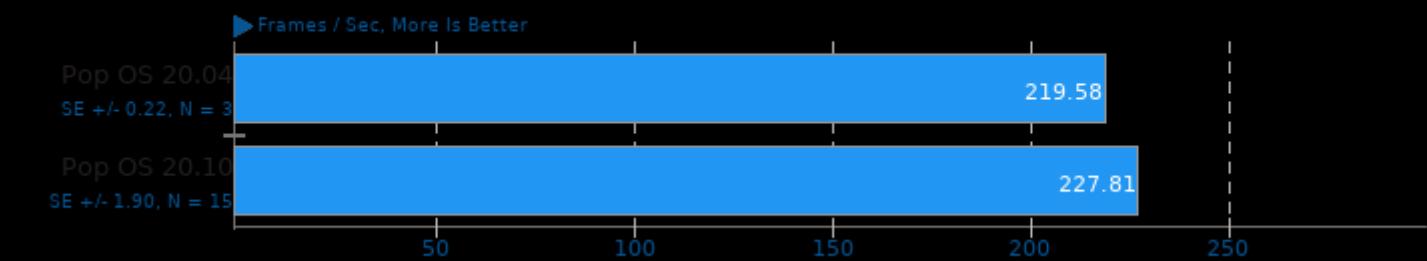
Model: AlexNet - Acceleration: CPU - Iterations: 100



1. (CXX) g++ options: -fPIC -O3 -rdynamic -lglog -lflags -lprotobuf -lpthread -lsz -lz -ldl -lm -llmdb -lopenblas

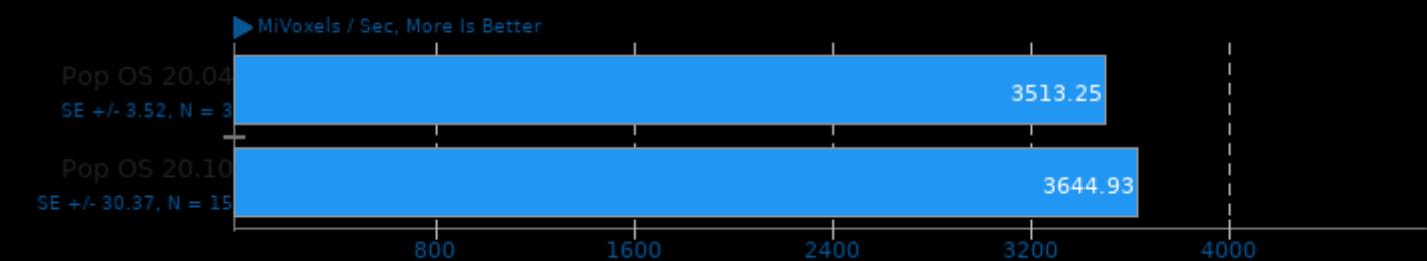
ParaView 5.4.1

Test: Wavelet Volume - Resolution: 1920 x 1080



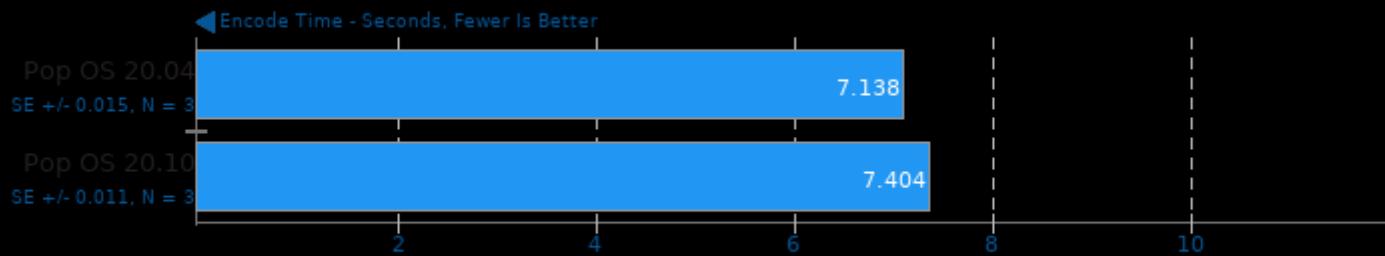
ParaView 5.4.1

Test: Wavelet Volume - Resolution: 1920 x 1080



WebP Image Encode 1.1

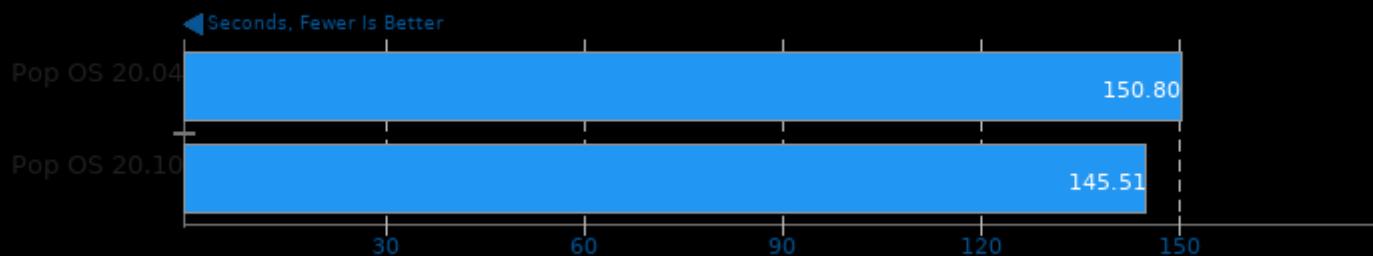
Encode Settings: Quality 100, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

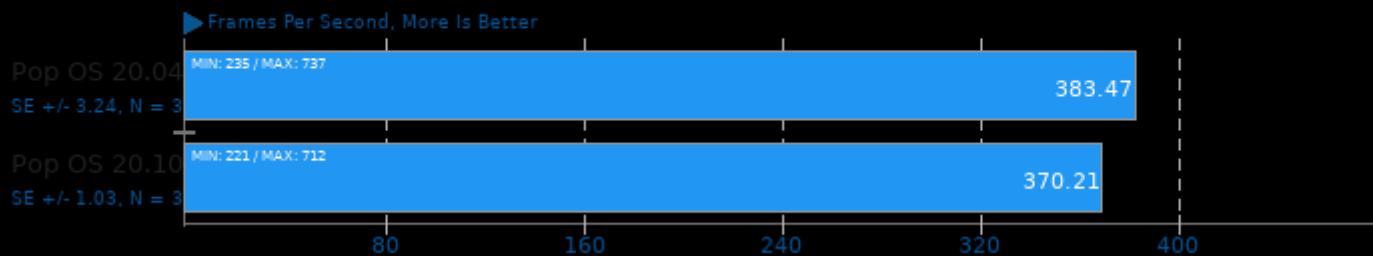
Appleseed 2.0 Beta

Scene: Material Tester



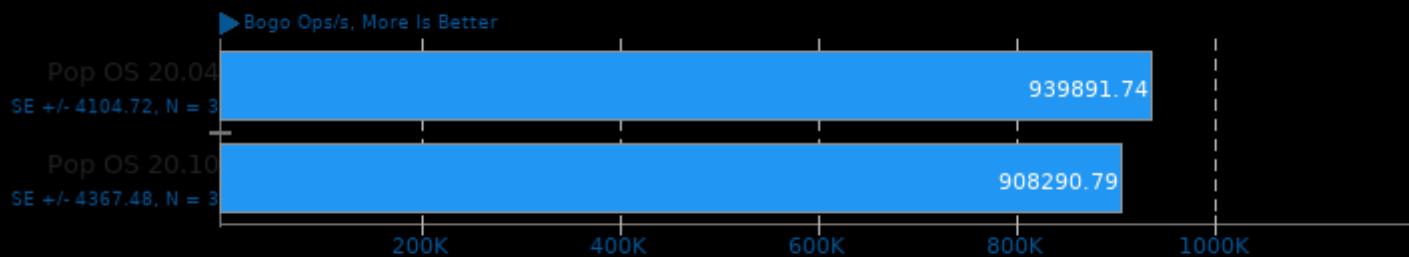
Xonotic 0.8.2

Resolution: 3840 x 2160 - Effects Quality: High



Stress-NG 0.11.07

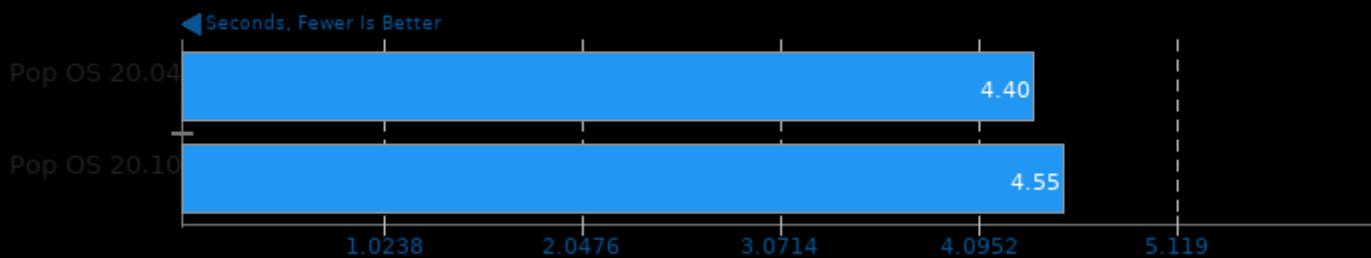
Test: SENDFILE



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

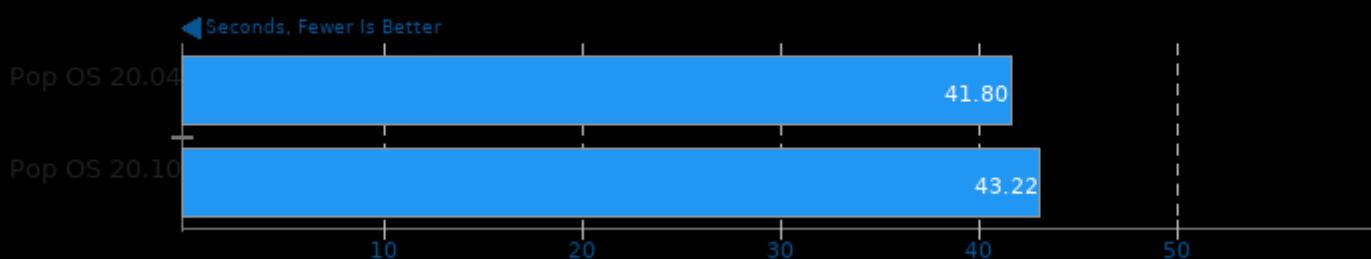
Polyhedron Fortran Benchmarks

Benchmark: mdbx

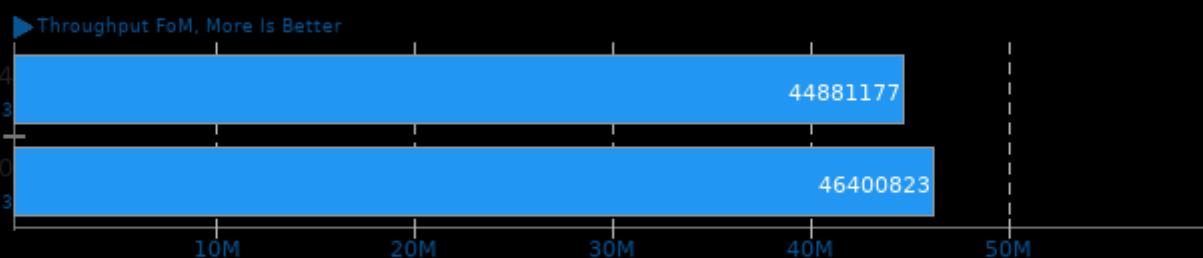


Polyhedron Fortran Benchmarks

Benchmark: channel2



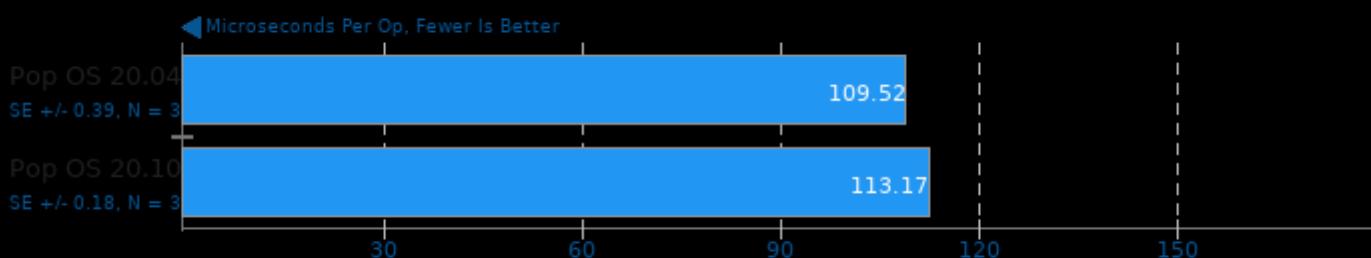
Kripke 1.2.4



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

LevelDB 1.22

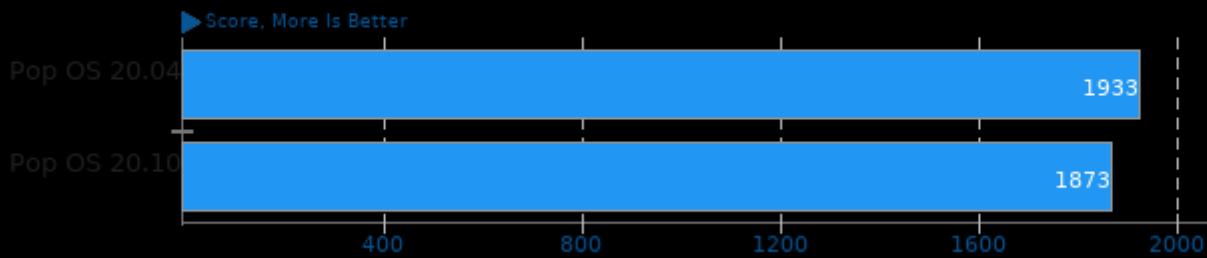
Benchmark: Hot Read



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

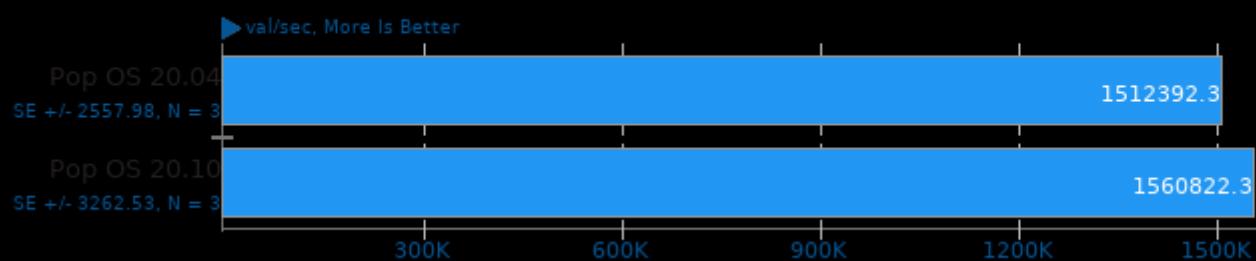
AI Benchmark Alpha 0.1.2

Device Inference Score



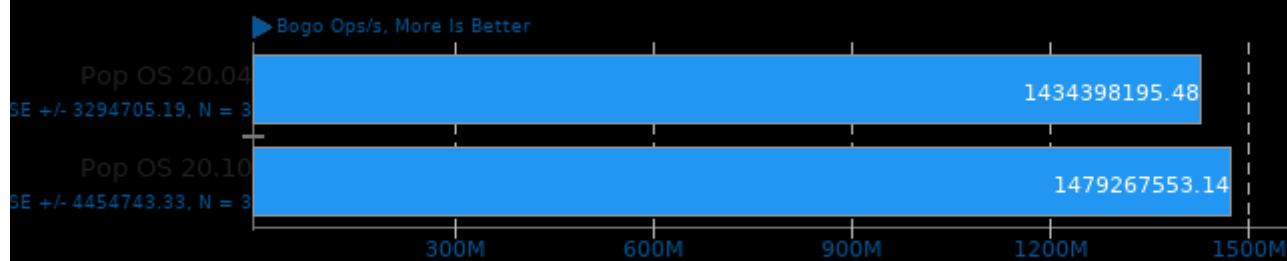
InfluxDB 1.8.2

Concurrent Streams: 64 - Batch Size: 10000 - Tags: 2,5000,1 - Points Per Series: 10000



Stress-NG 0.11.07

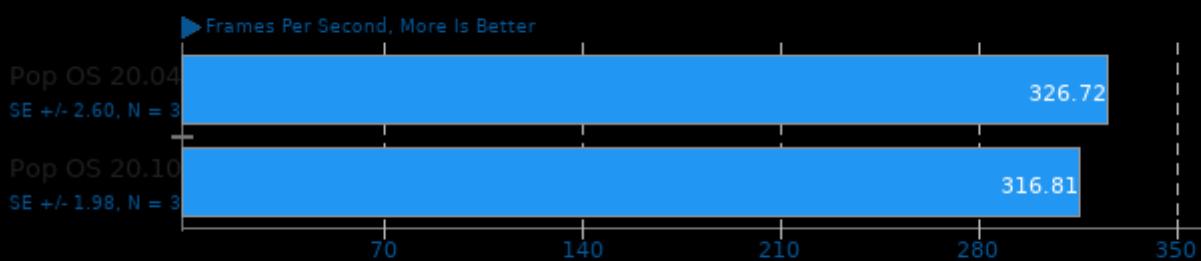
Test: Malloc



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

SVT-VP9 0.1

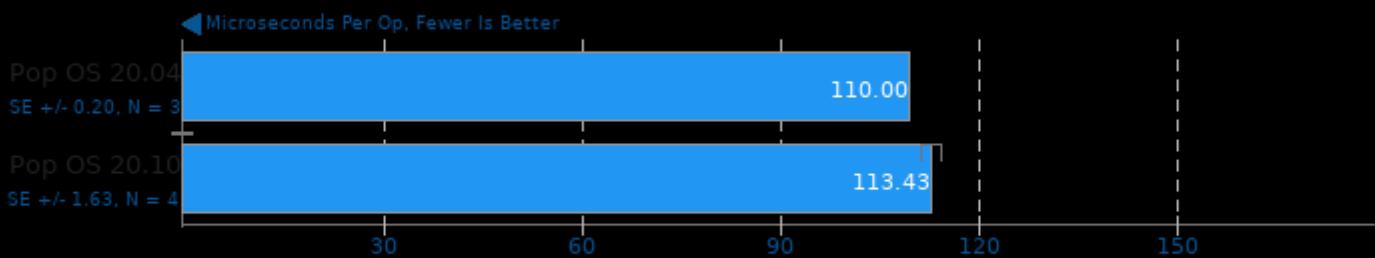
Tuning: Visual Quality Optimized - Input: Bosphorus 1080p



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

LevelDB 1.22

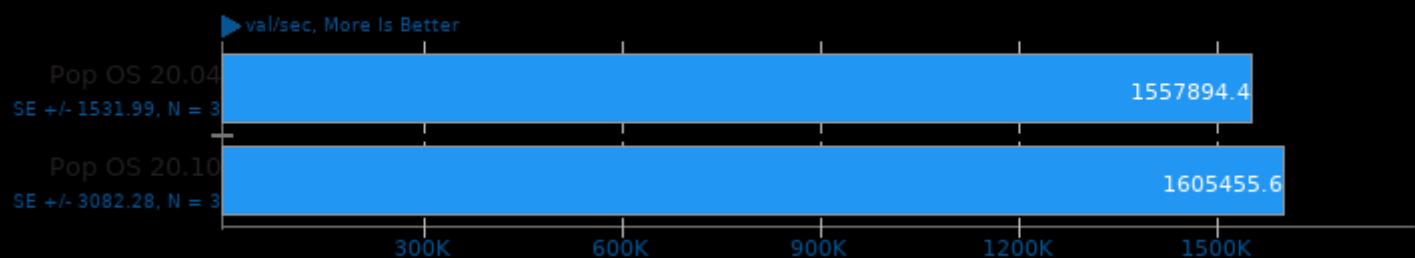
Benchmark: Random Read



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

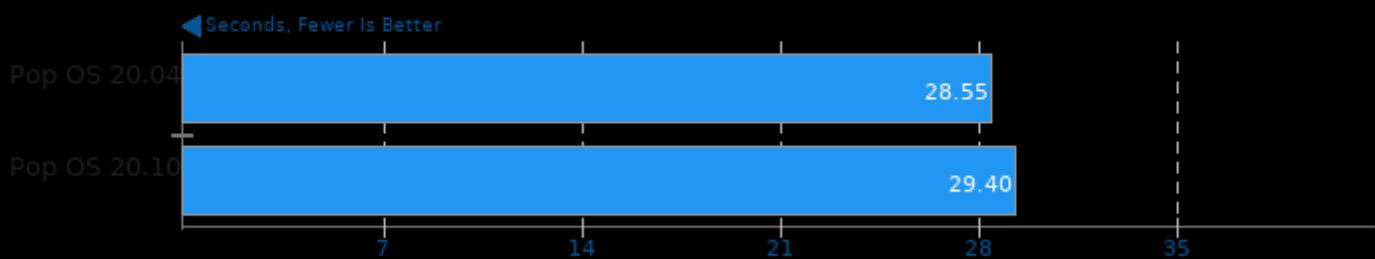
InfluxDB 1.8.2

Concurrent Streams: 1024 - Batch Size: 10000 - Tags: 2,5000,1 - Points Per Series: 10000



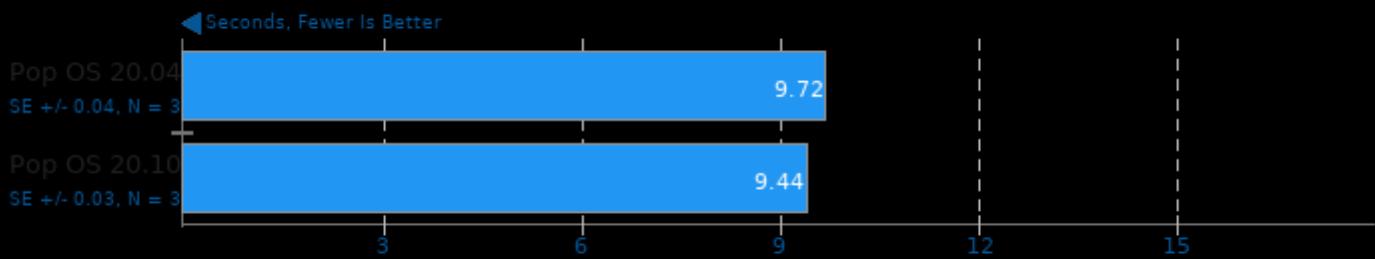
Polyhedron Fortran Benchmarks

Benchmark: test_fpu2



ASTC Encoder 2.0

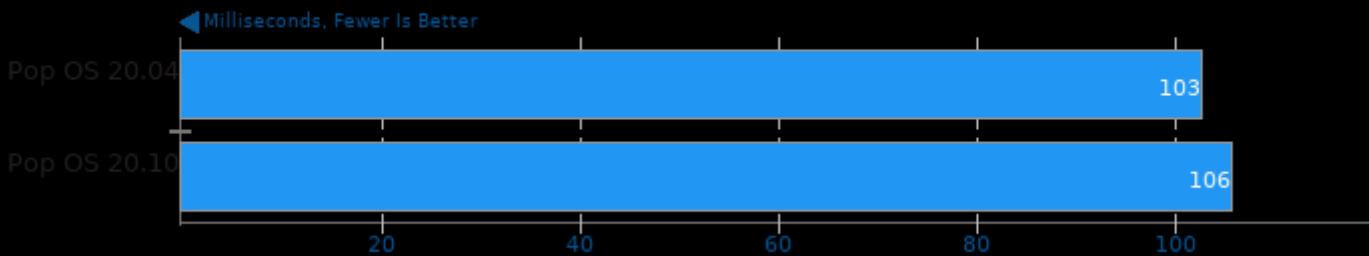
Preset: Thorough



1. (CXX) g++ options: -std=c++14 -fvisibility=hidden -O3 -fno-math-errno -mavx2 -mpopcnt -lpthread

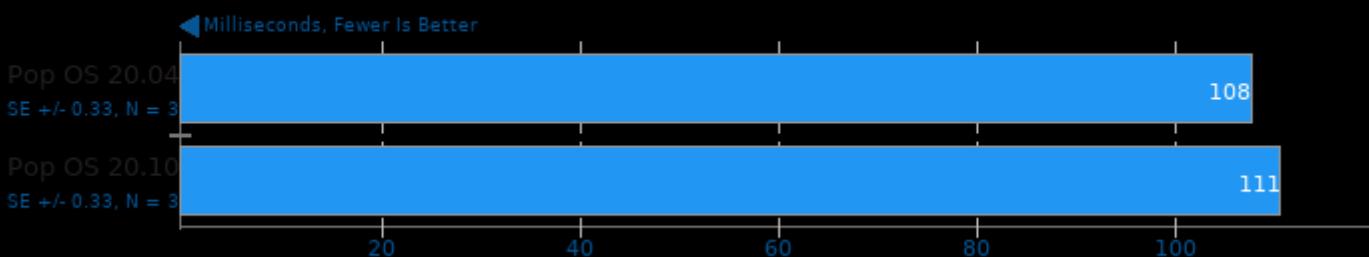
PyPerformance 1.0.0

Benchmark: crypto_pyaes



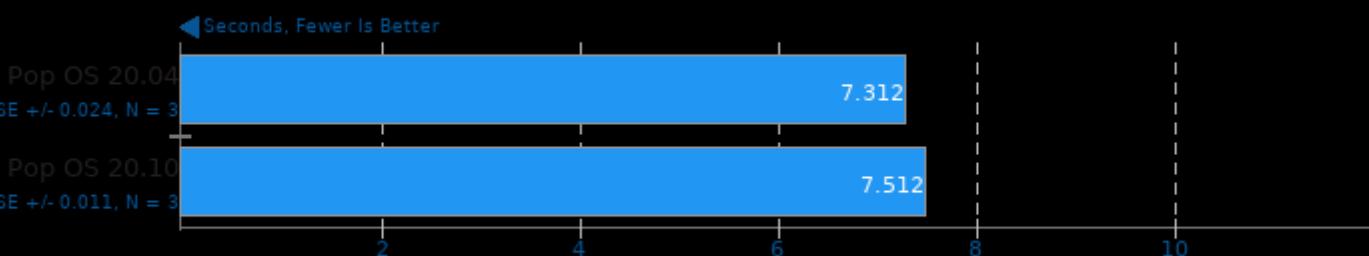
PyPerformance 1.0.0

Benchmark: nbody



LAME MP3 Encoding 3.100

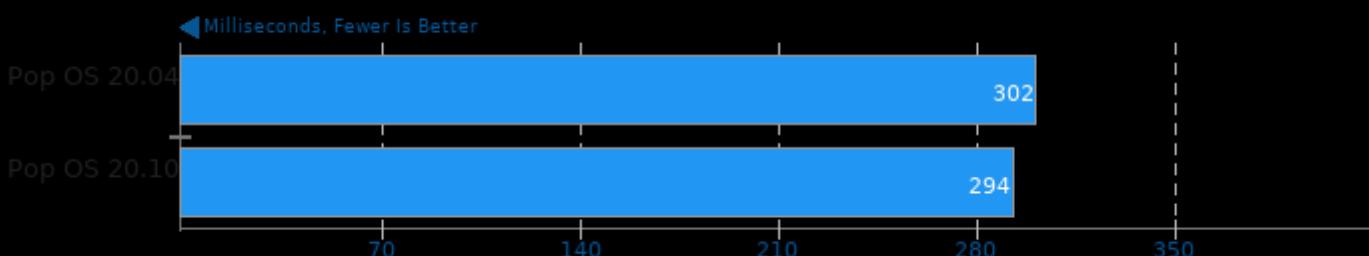
WAV To MP3



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

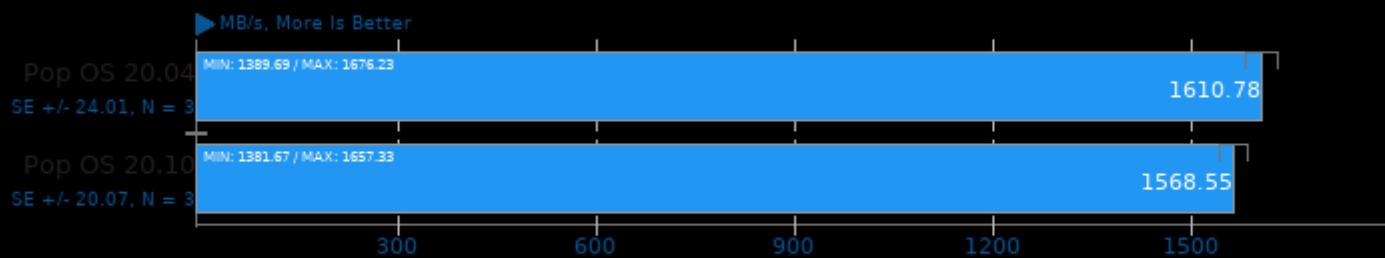
PyPerformance 1.0.0

Benchmark: 2to3



IOR 3.2.1

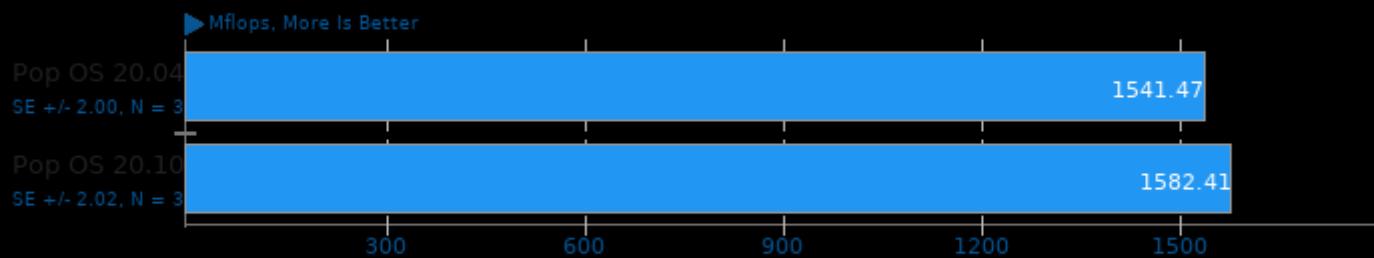
Read Test



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

LuaJIT 2.1-git

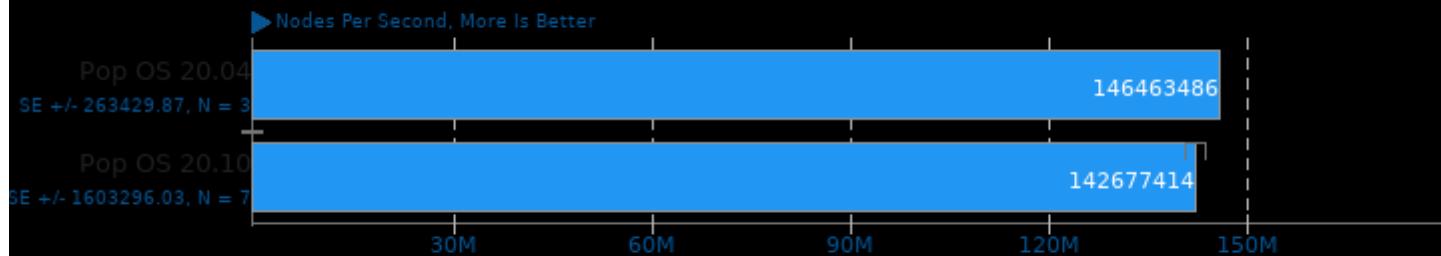
Test: Composite



1. (CC) gcc options: -lm -ldl -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

Stockfish 9

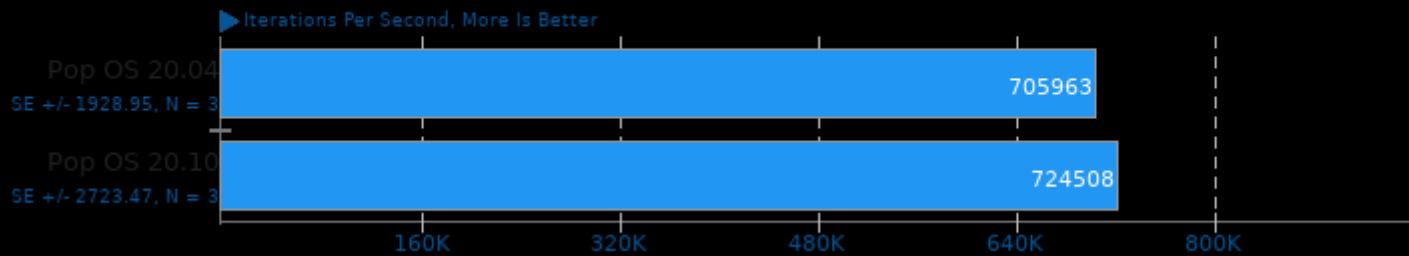
Total Time



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

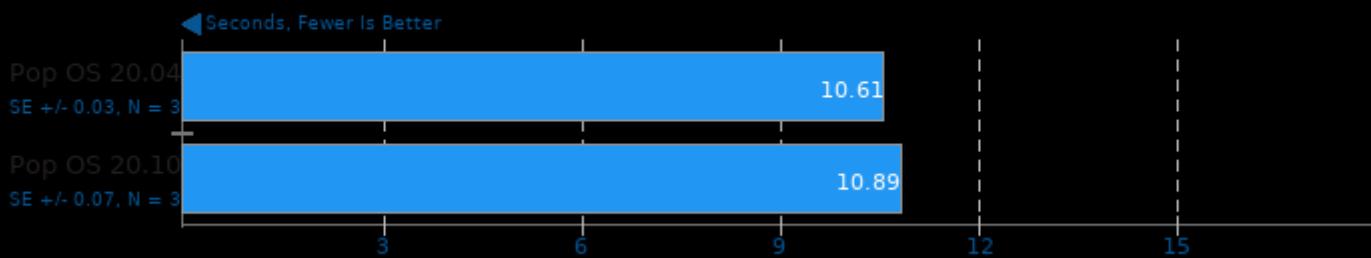
Cryptsetup

PBKDF2-whirlpool



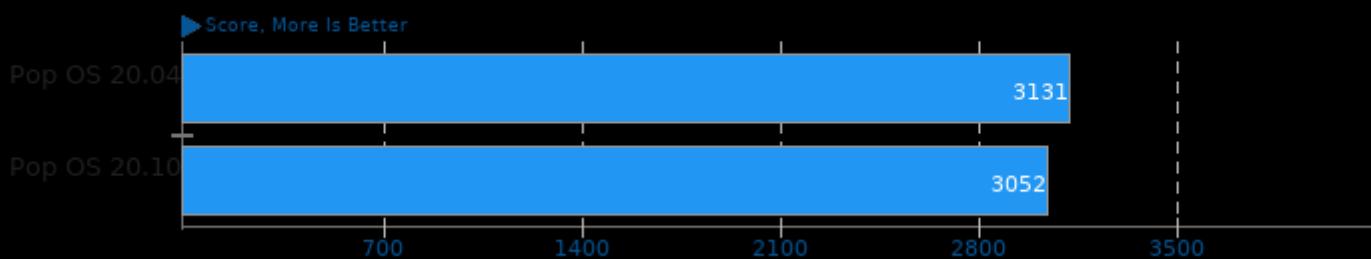
Timed MPlayer Compilation 1.4

Time To Compile



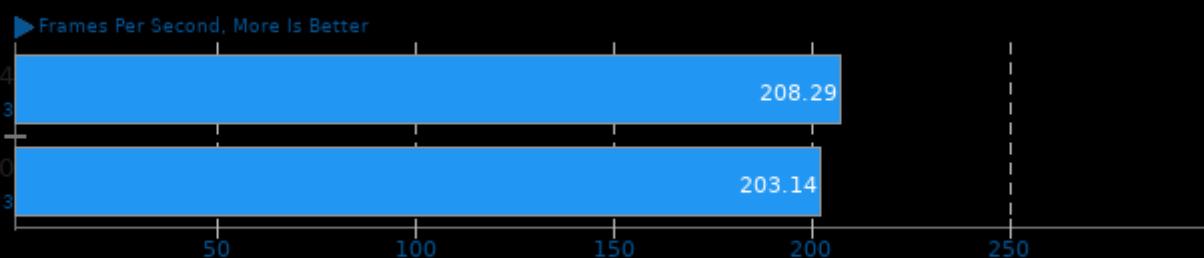
AI Benchmark Alpha 0.1.2

Device AI Score



SVT-HEVC 1.4.1

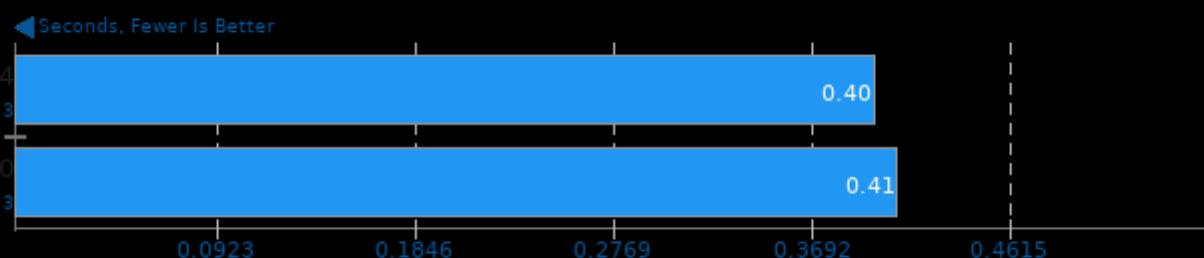
1080p 8-bit YUV To HEVC Video Encode



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

CloverLeaf

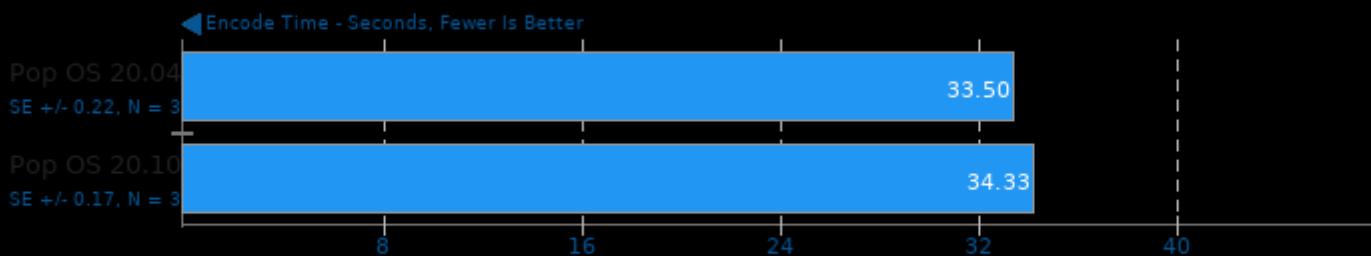
Lagrangian-Eulerian Hydrodynamics



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

WebP Image Encode 1.1

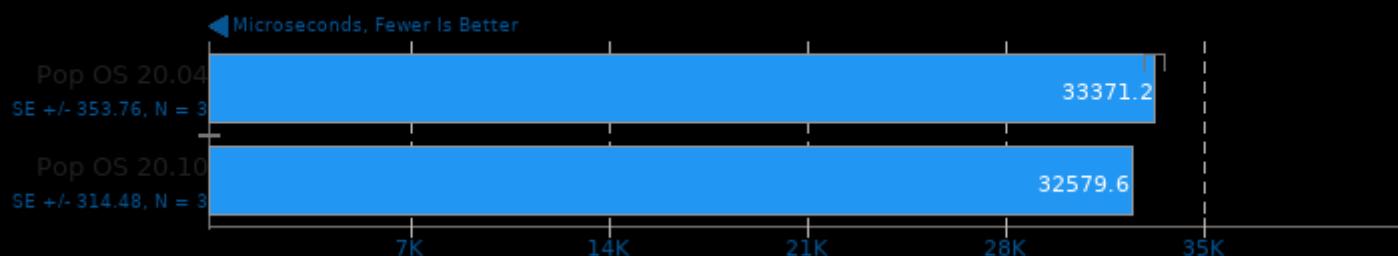
Encode Settings: Quality 100, Lossless, Highest Compression



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

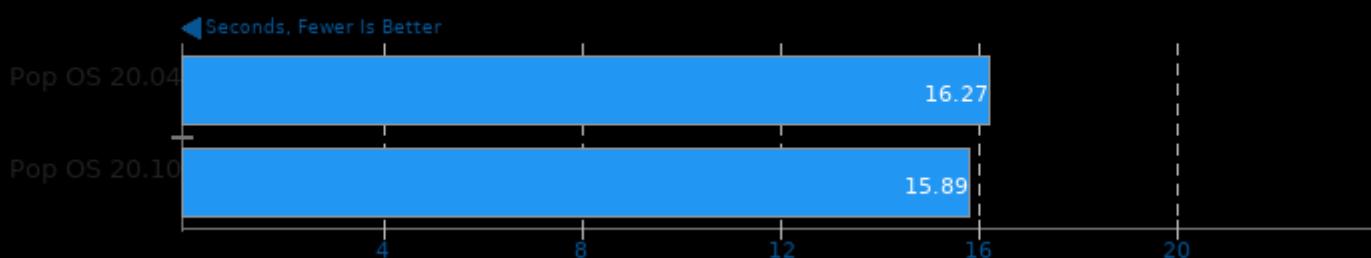
TensorFlow Lite 2020-08-23

Model: Mobilenet Quant



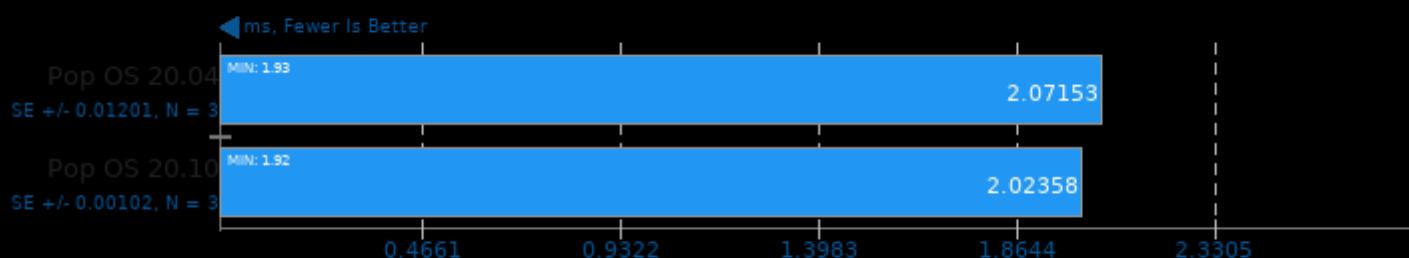
Polyhedron Fortran Benchmarks

Benchmark: capacita



oneDNN 1.5

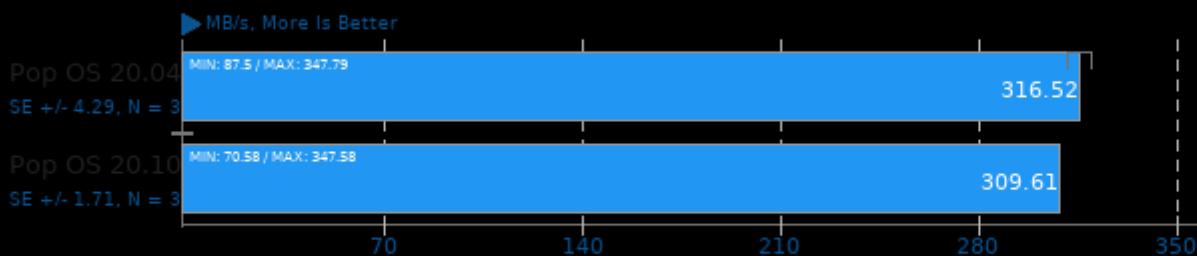
Harness: Deconvolution Batch deconv_3d - Data Type: f32 - Engine: CPU



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

IOR 3.2.1

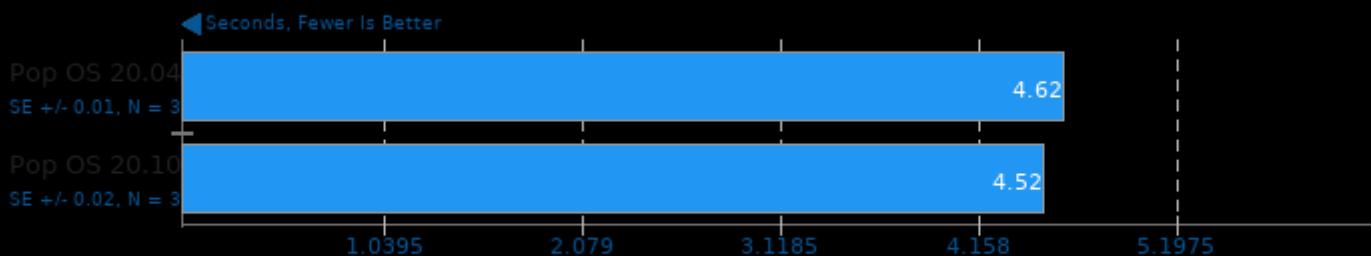
Write Test



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

ASTC Encoder 2.0

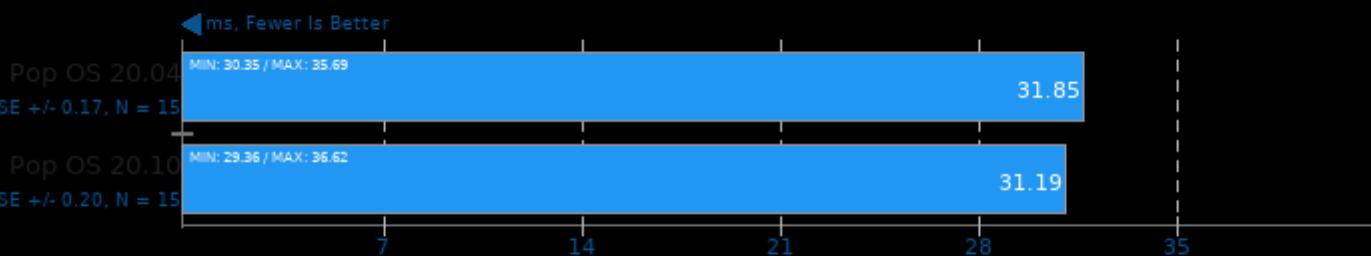
Preset: Fast



1. (CXX) g++ options: -std=c++14 -fvisibility=hidden -O3 -fno-math-errno -fno-popcnt -fno-threadsafe-statics

Mobile Neural Network 2020-09-17

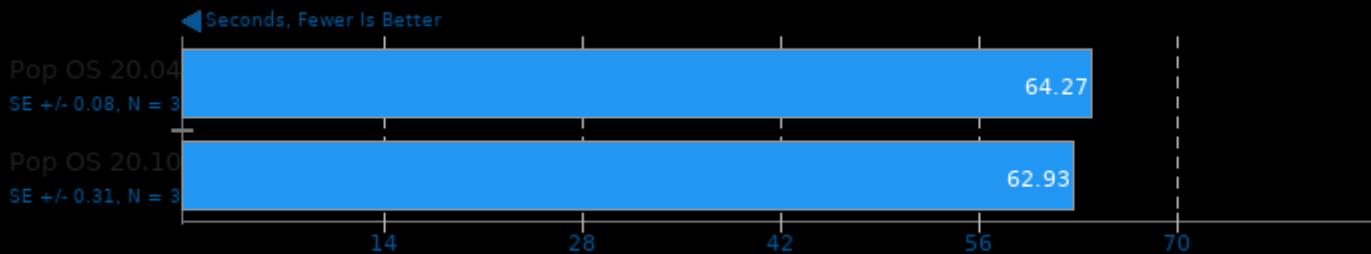
Model: inception-v3



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-threadsafe-statics

SQLite Speedtest 3.30

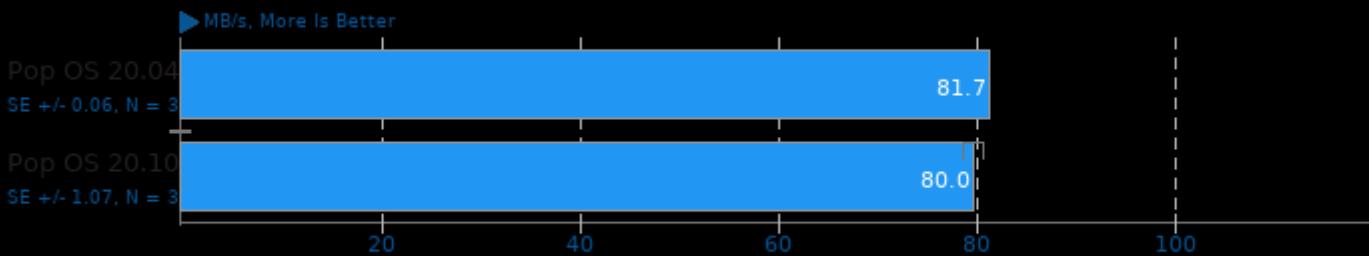
Timed Time - Size 1,000



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

Zstd Compression 1.4.5

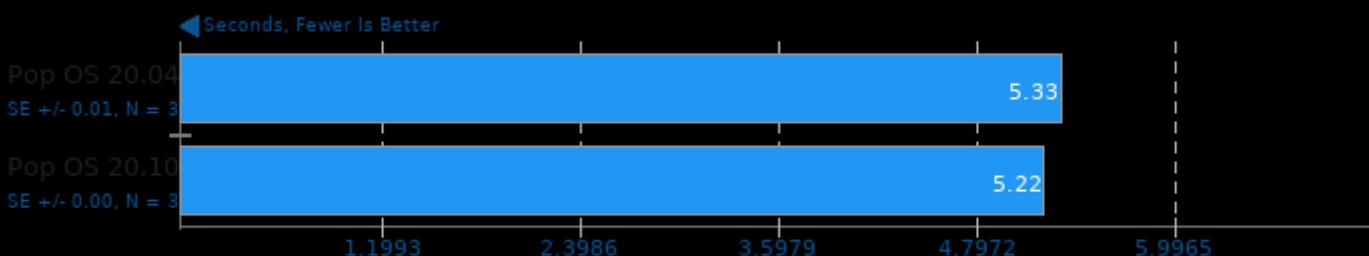
Compression Level: 19



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

ASTC Encoder 2.0

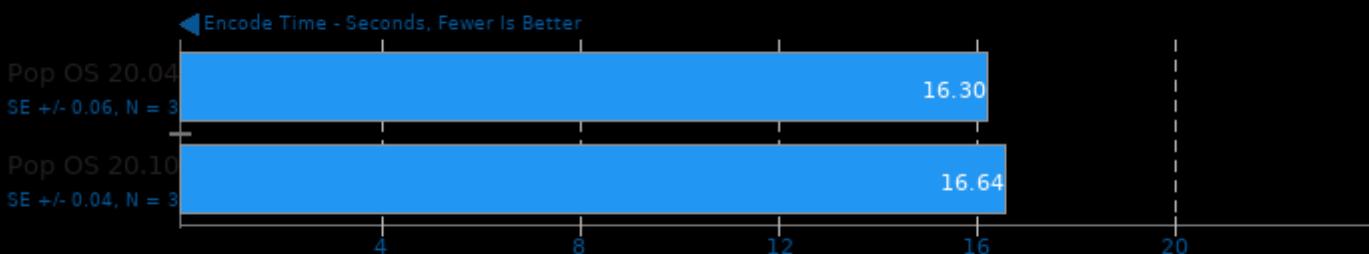
Preset: Medium



1. (CXX) g++ options: -std=c++14 -fvisibility=hidden -O3 -fno-math-errno -mavx2 -mpopcnt -lpthread

WebP Image Encode 1.1

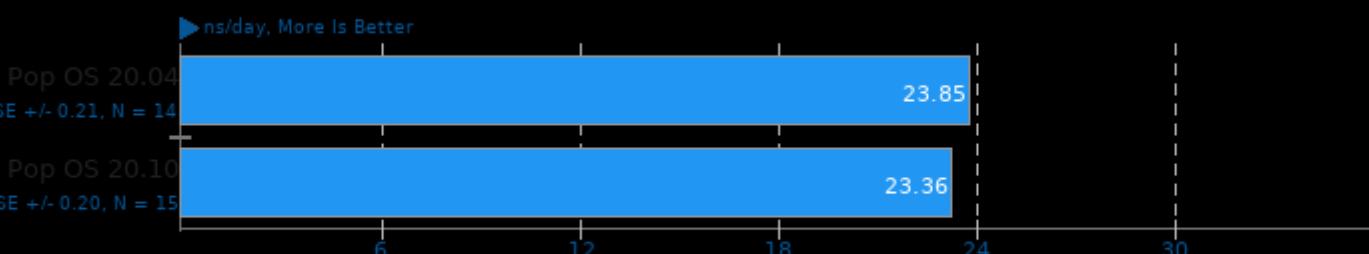
Encode Settings: Quality 100, Lossless



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

LAMMPS Molecular Dynamics Simulator 24Aug2020

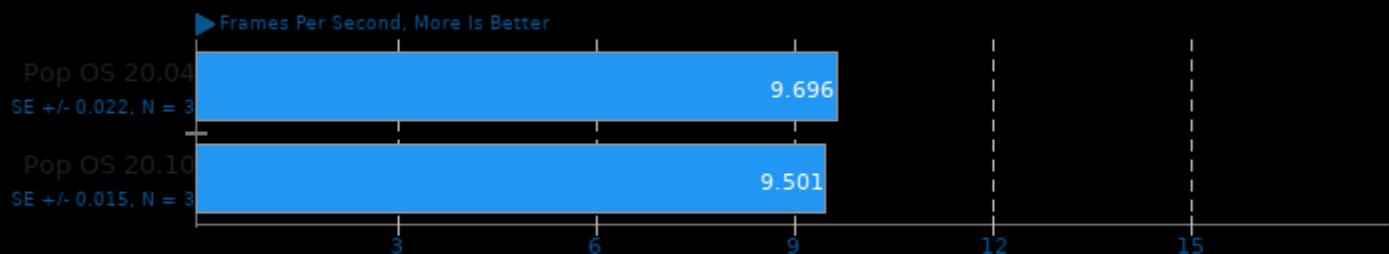
Model: Rhodopsin Protein



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

SVT-AV1 0.8

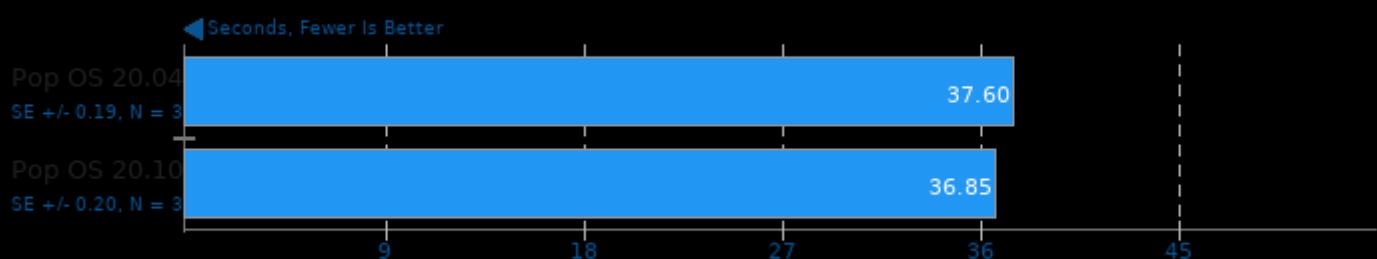
Encoder Mode: Enc Mode 4 - Input: 1080p



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

ASTC Encoder 2.0

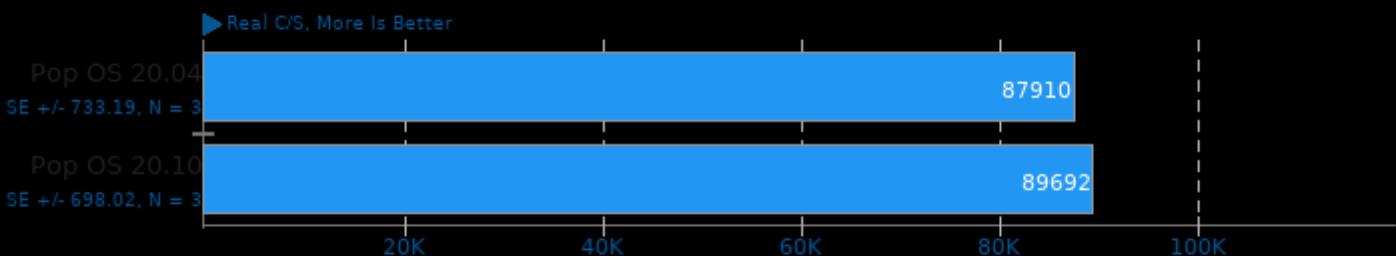
Preset: Exhaustive



1. (CXX) g++ options: -std=c++14 -fvisibility=hidden -O3 -fipa -mfpmath=sse -mavx2 -mpopcnt -lpthread

John The Ripper 1.9.0-jumbo-1

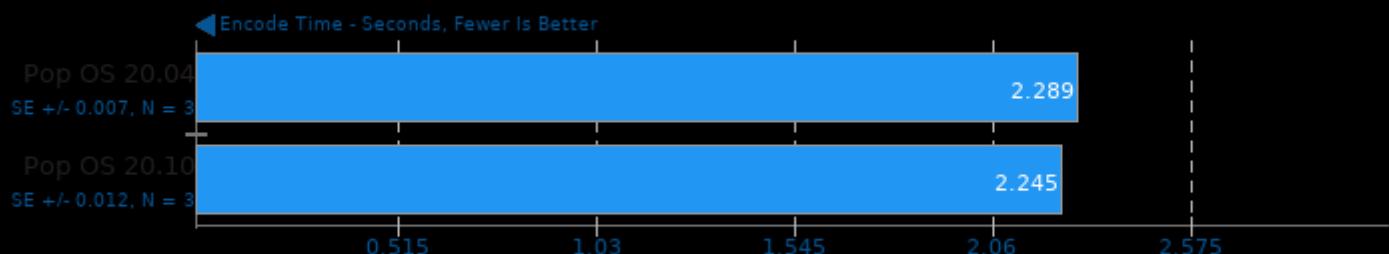
Test: Blowfish



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

WebP Image Encode 1.1

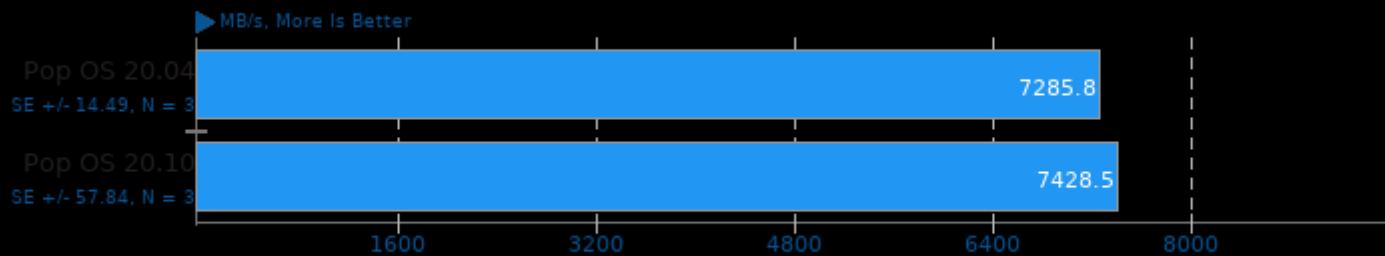
Encode Settings: Quality 100



1. (CC) gcc options: -fvisibility=hidden -O2 -pthread -lm -ljpeg -lpng16 -ltiff

Zstd Compression 1.4.5

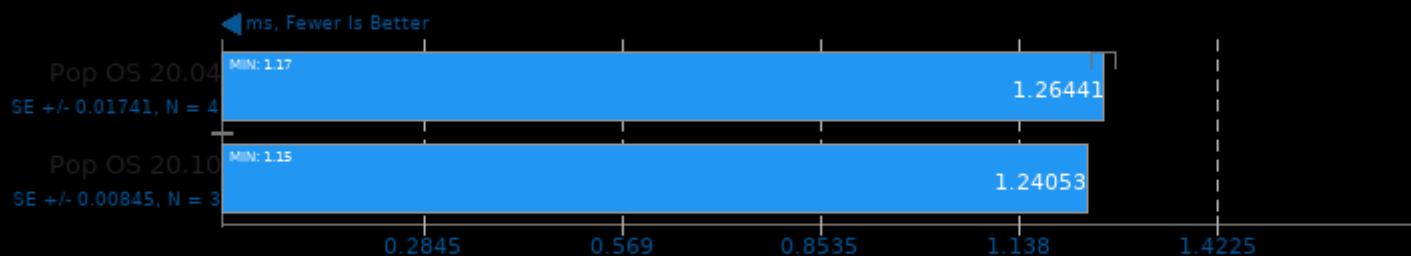
Compression Level: 3



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

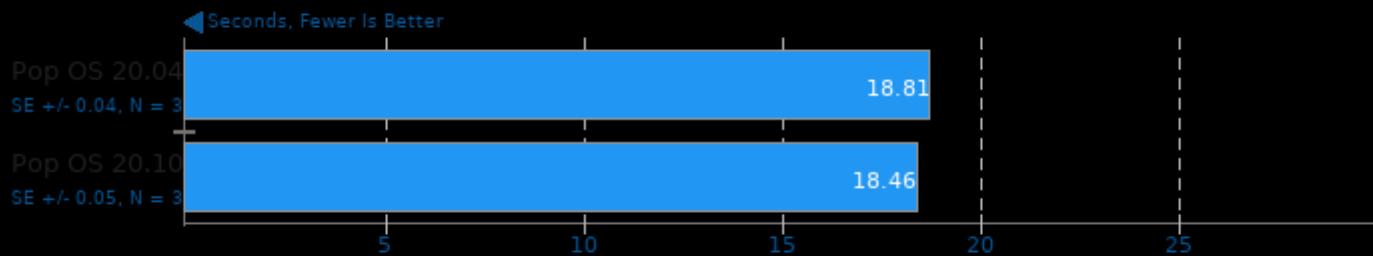
oneDNN 1.5

Harness: IP Batch 1D - Data Type: f32 - Engine: CPU



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

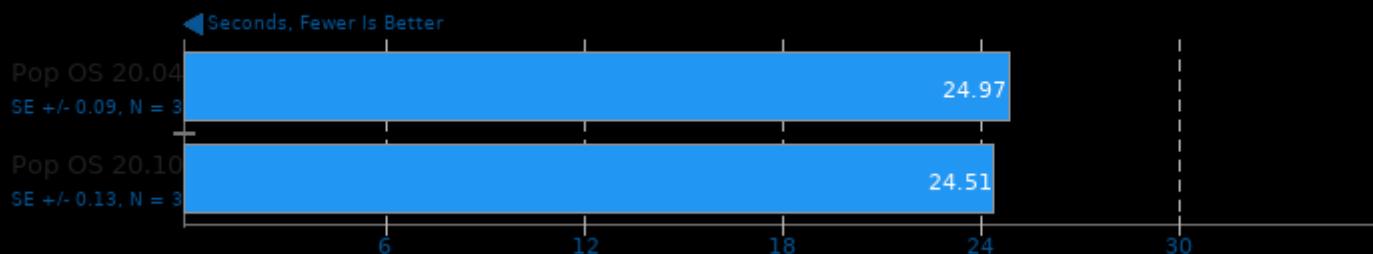
RNNoise 2020-06-28



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

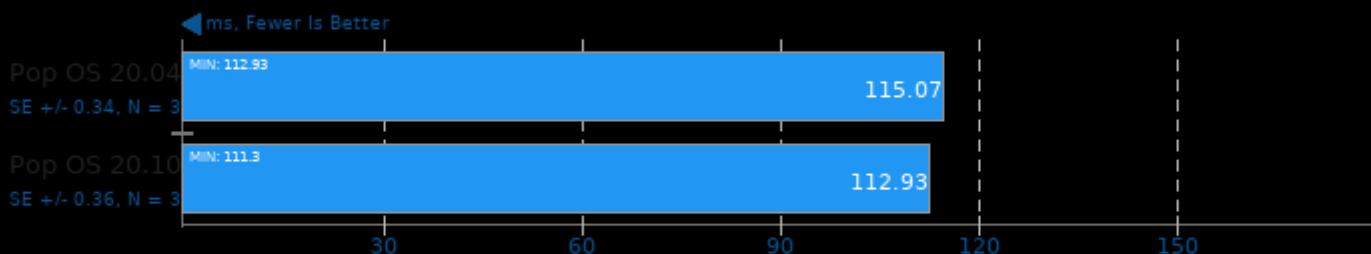
Tesseract OCR 4.1.1

Time To OCR 7 Images



oneDNN 1.5

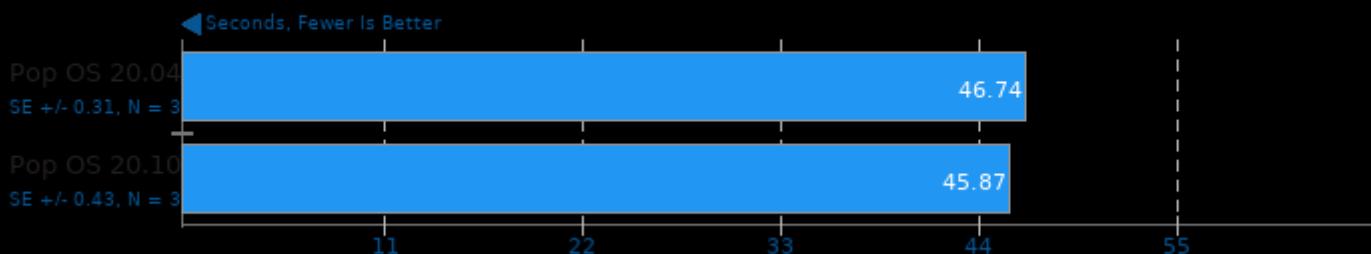
Harness: Recurrent Neural Network Inference - Data Type: f32 - Engine: CPU



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

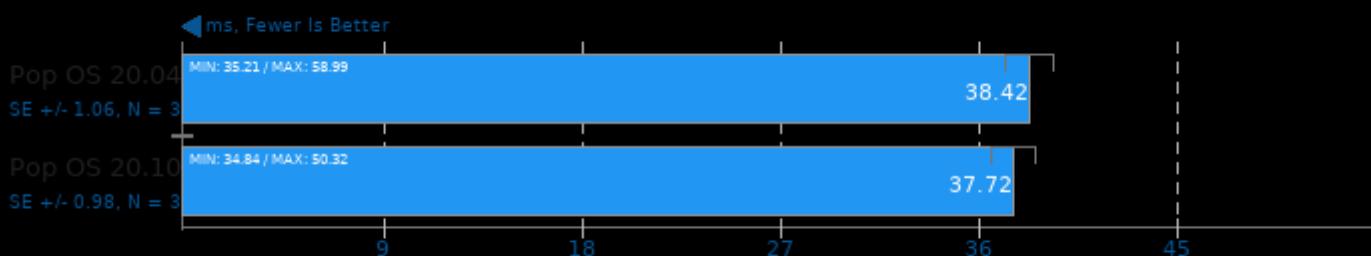
Hugin

Panorama Photo Assistant + Stitching Time



NCNN 20200916

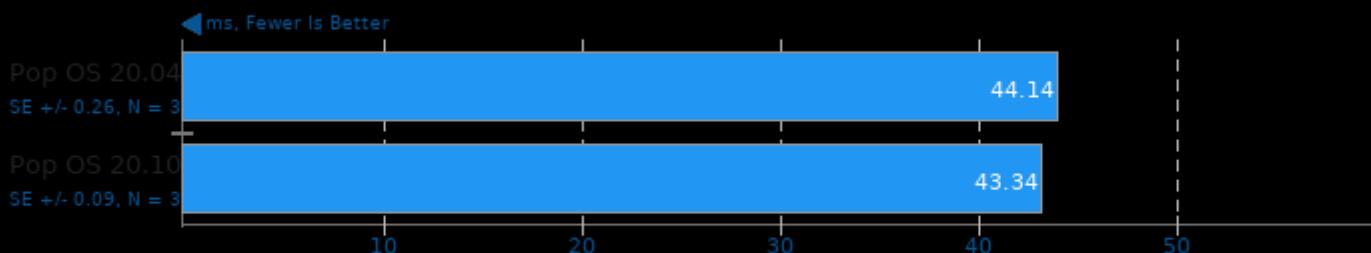
Target: CPU - Model: resnet50



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

Selenium

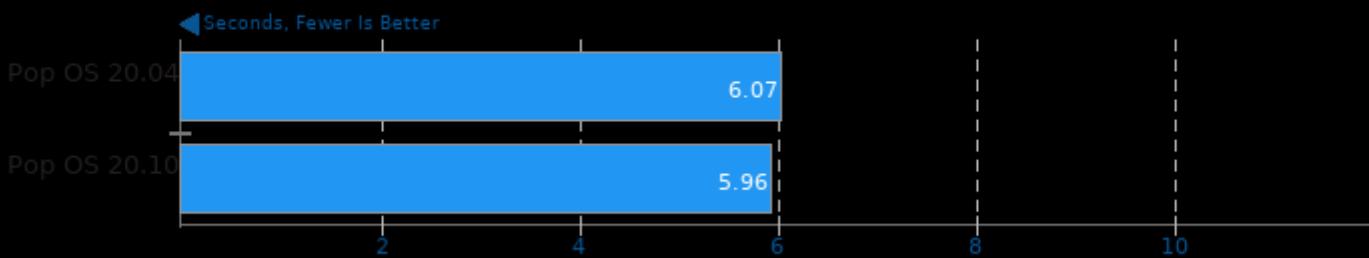
Benchmark: ARES-6 - Browser: Firefox



1. firefox 82.0

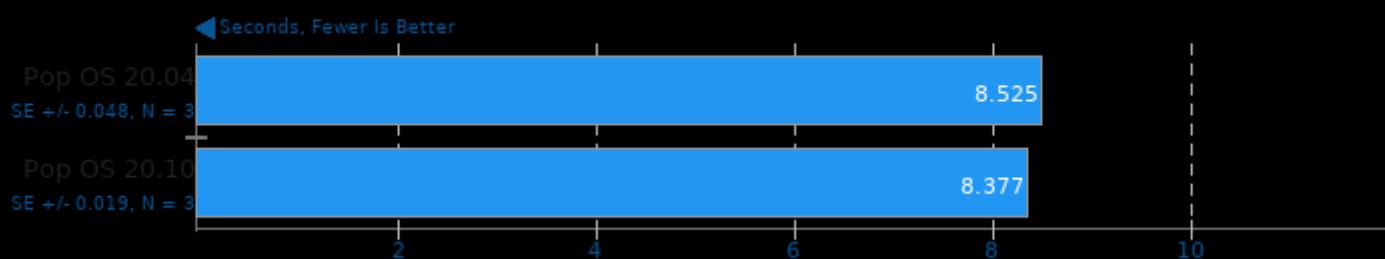
Polyhedron Fortran Benchmarks

Benchmark: ac



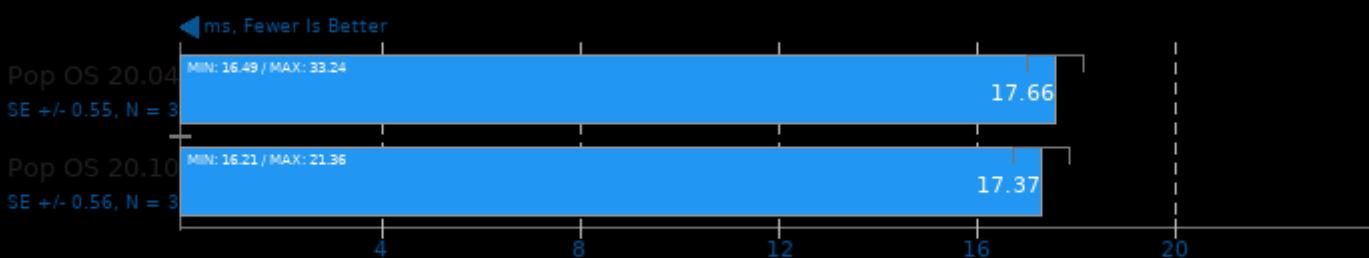
GIMP 2.10.18

Test: resize



NCNN 20200916

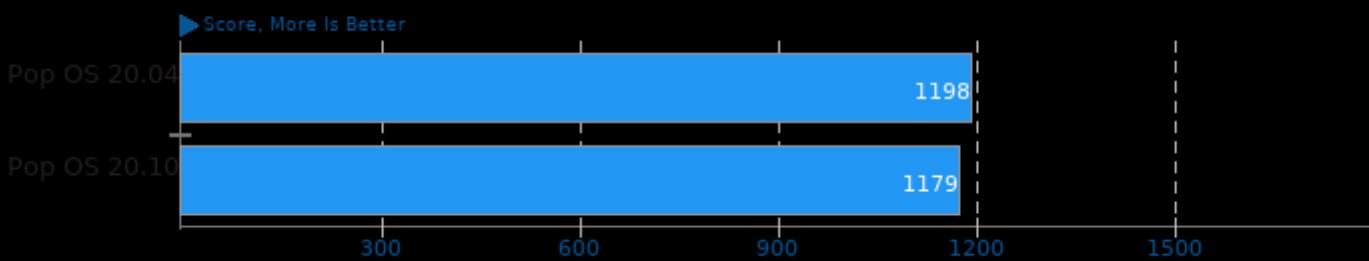
Target: CPU - Model: efficientnet-b0



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

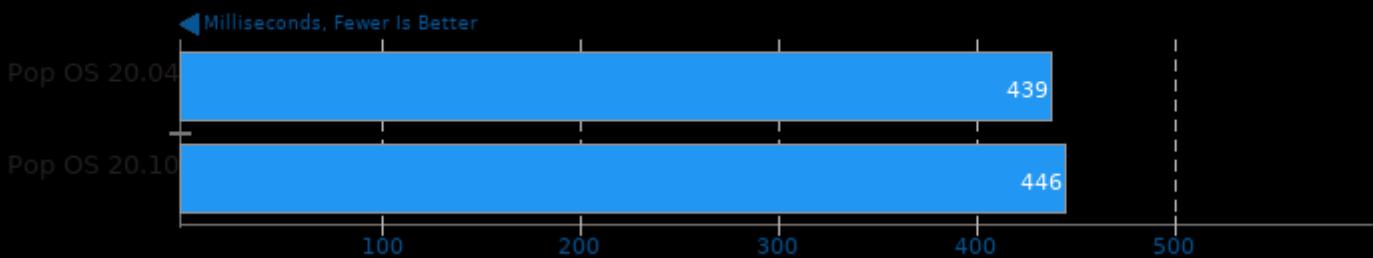
AI Benchmark Alpha 0.1.2

Device Training Score



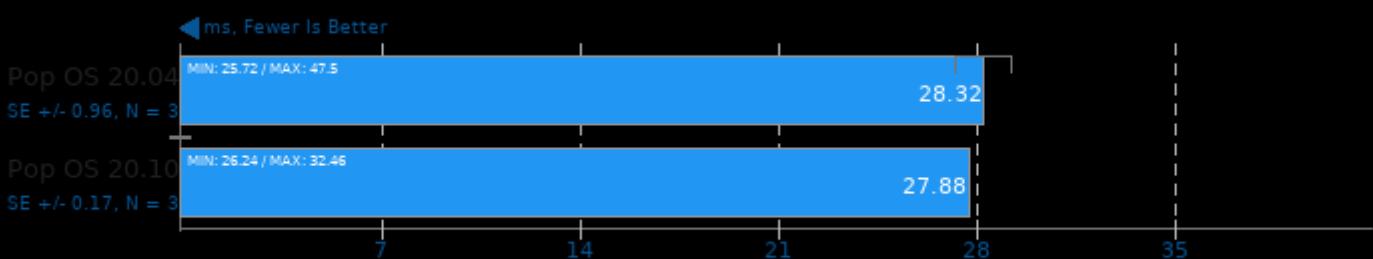
PyPerformance 1.0.0

Benchmark: raytrace



NCNN 20200916

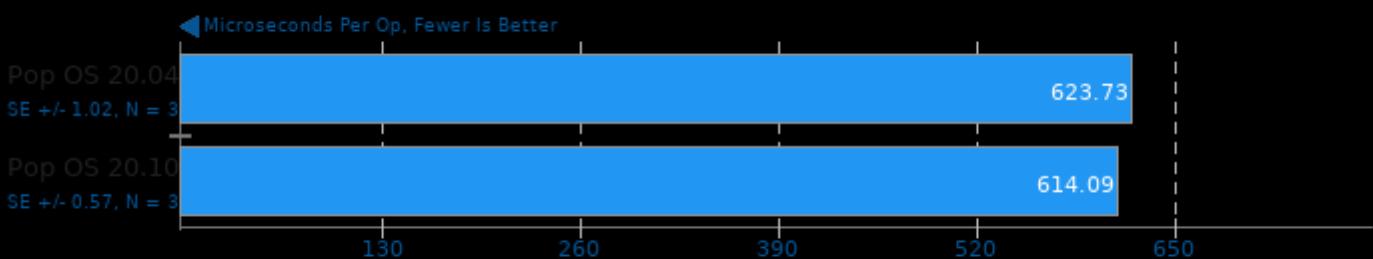
Target: CPU - Model: mobilenet



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

LevelDB 1.22

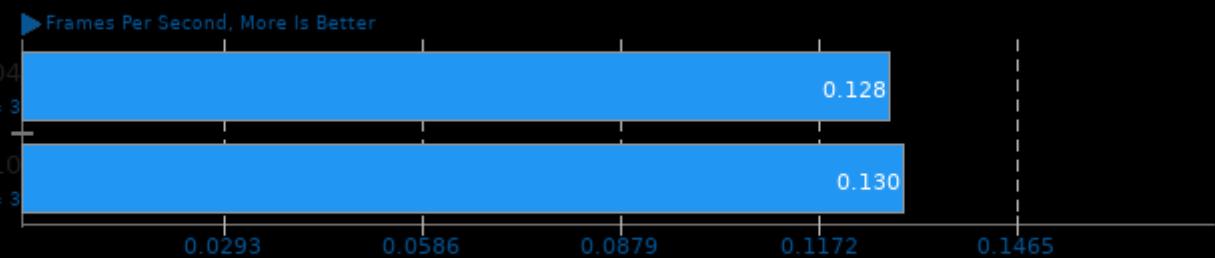
Benchmark: Random Fill



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

SVT-AV1 0.8

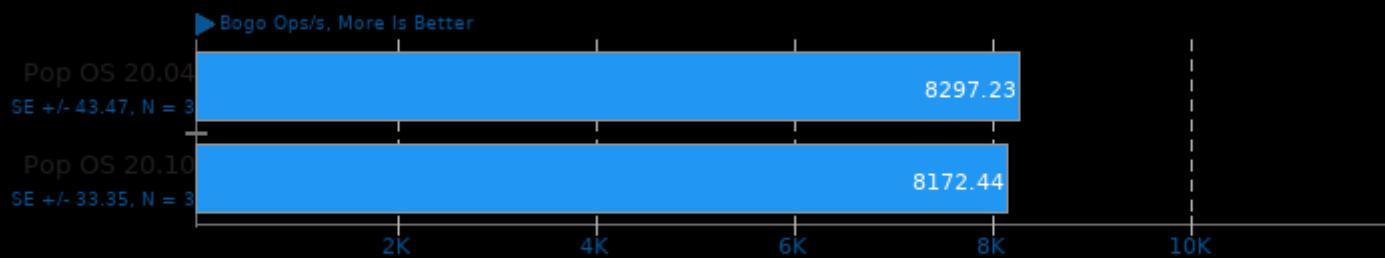
Encoder Mode: Enc Mode 0 - Input: 1080p



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

Stress-NG 0.11.07

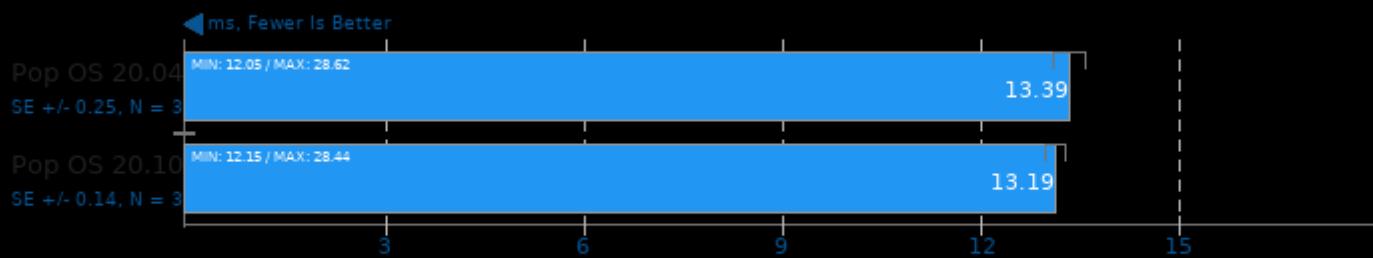
Test: Memory Copying



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

NCNN 20200916

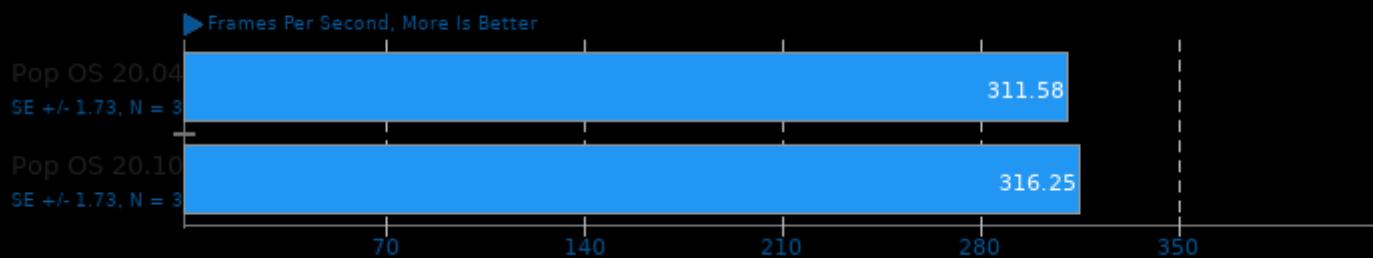
Target: CPU-v2-v2 - Model: mobilenet-v2



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

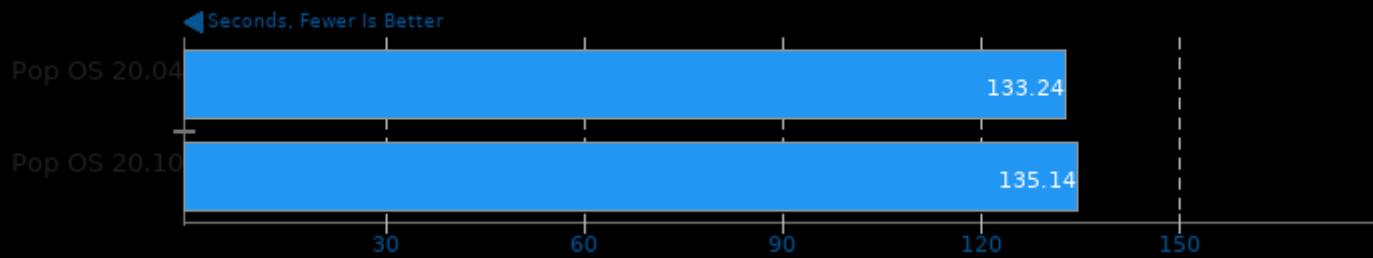
Tesseract 2014-05-12

Resolution: 3840 x 2160



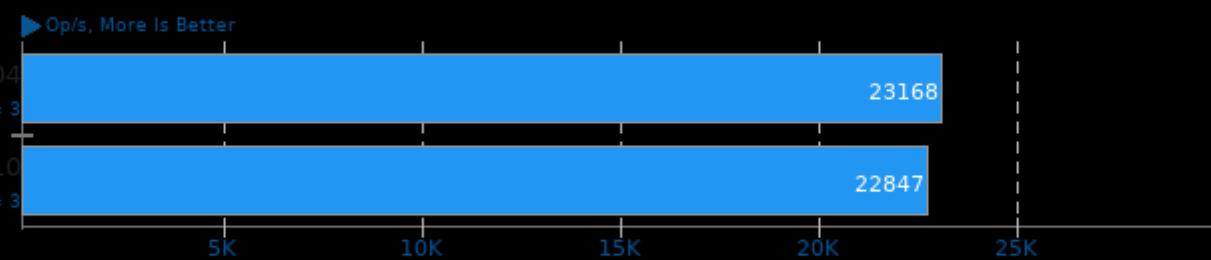
Appleseed 2.0 Beta

Scene: Emily



Facebook RocksDB 6.3.6

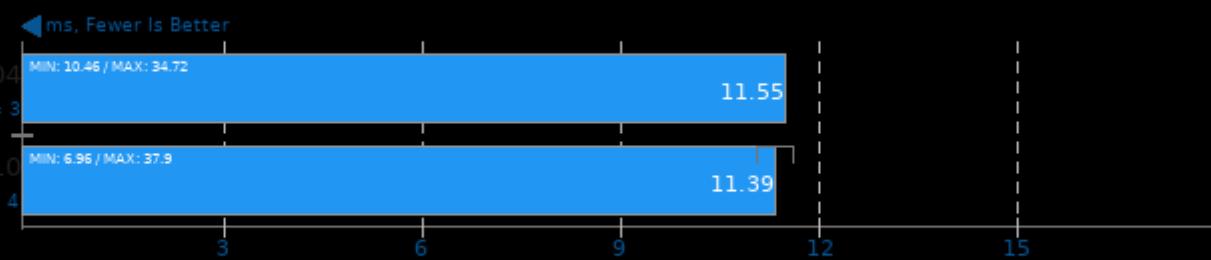
Test: Random Fill Sync



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

NCNN 20200916

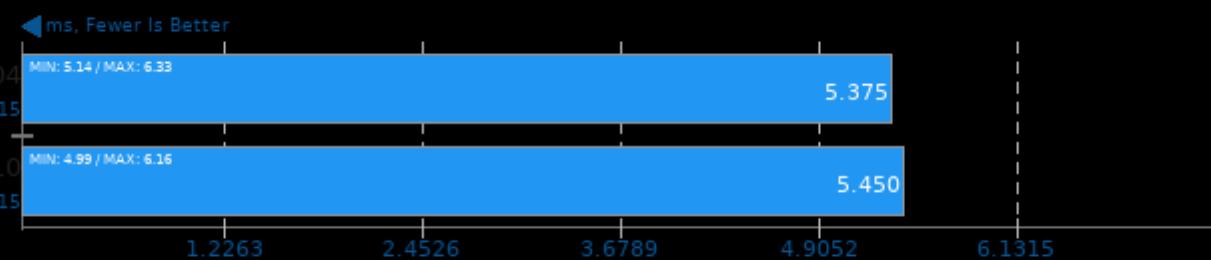
Target: Vulkan GPU - Model: efficientnet-b0



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

Mobile Neural Network 2020-09-17

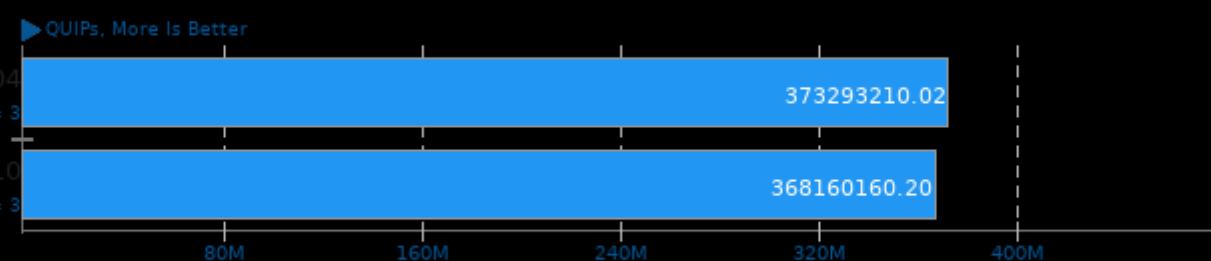
Model: MobileNetV2_224



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-tree-vectorize

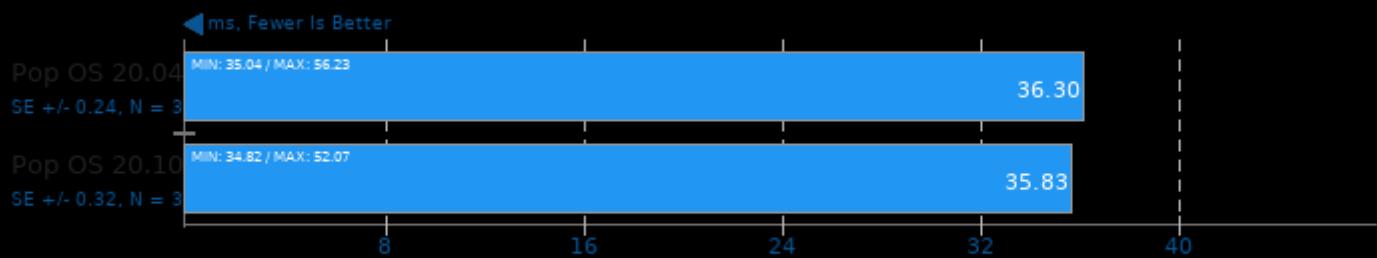
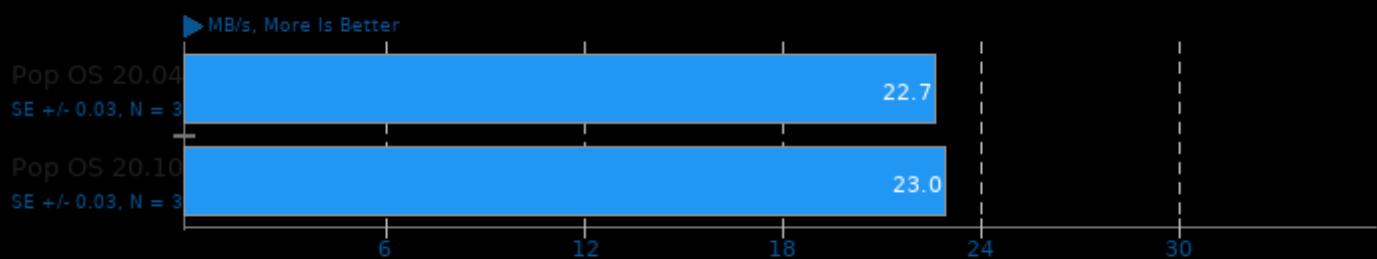
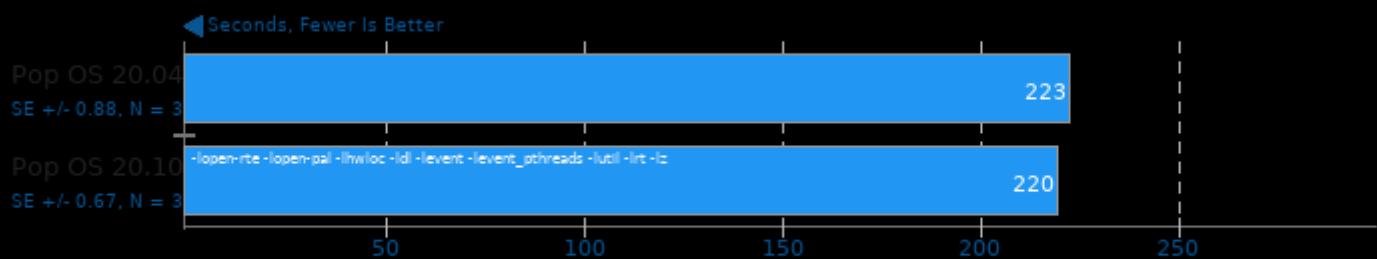
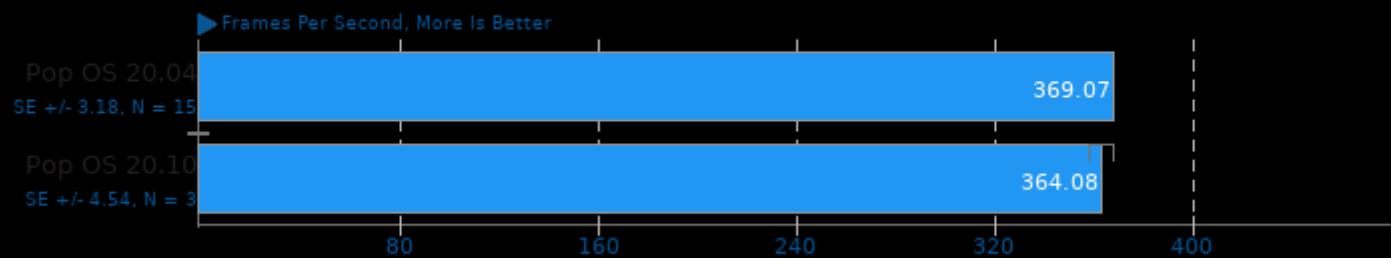
Hierarchical INTegration 1.0

Test: FLOAT



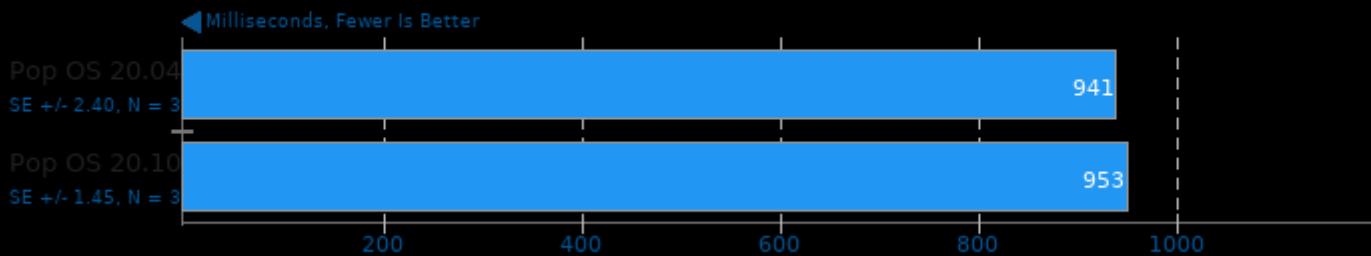
1. (CC) gcc options: -O3 -march=native -lm

Tesseract 2014-05-12



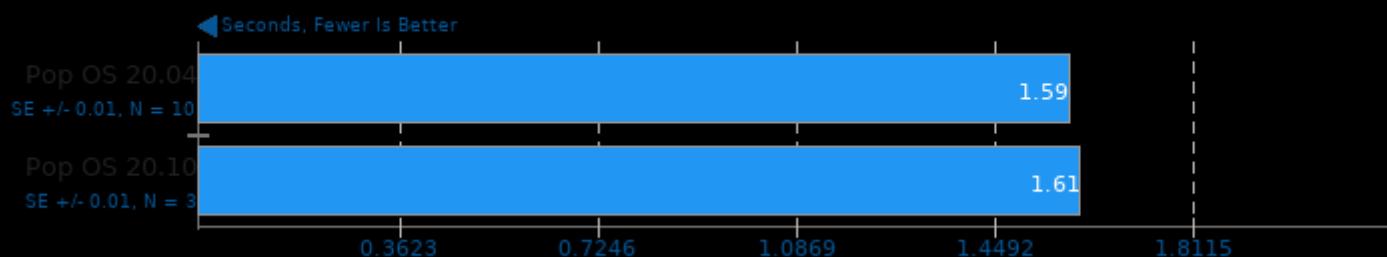
PyBench 2018-02-16

Total For Average Test Times



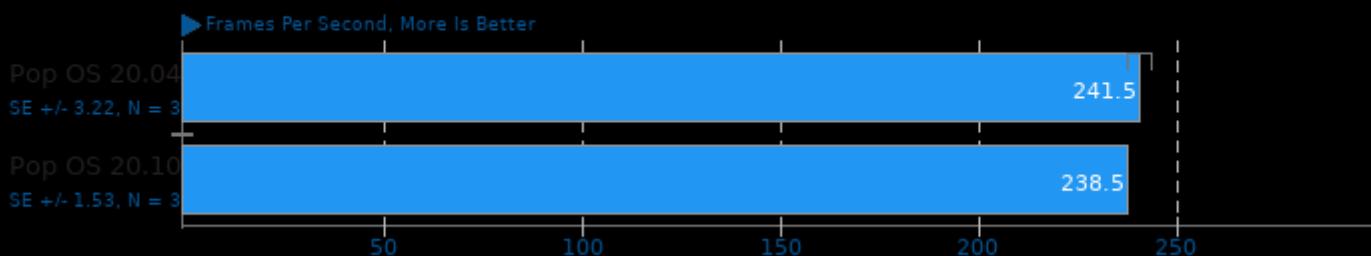
Milpack Benchmark

Benchmark: scikit_linearridge_regression



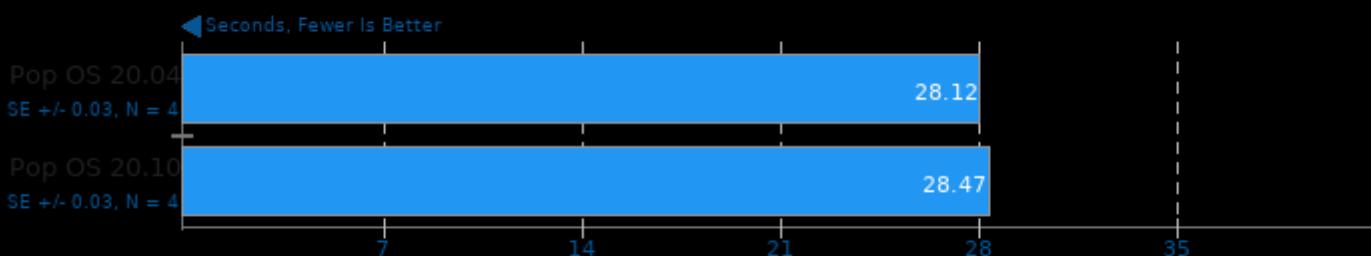
ET: Legacy 2.75

Renderer: Renderer2 - Resolution: 3840 x 2160



eSpeak-NG Speech Engine 20200907

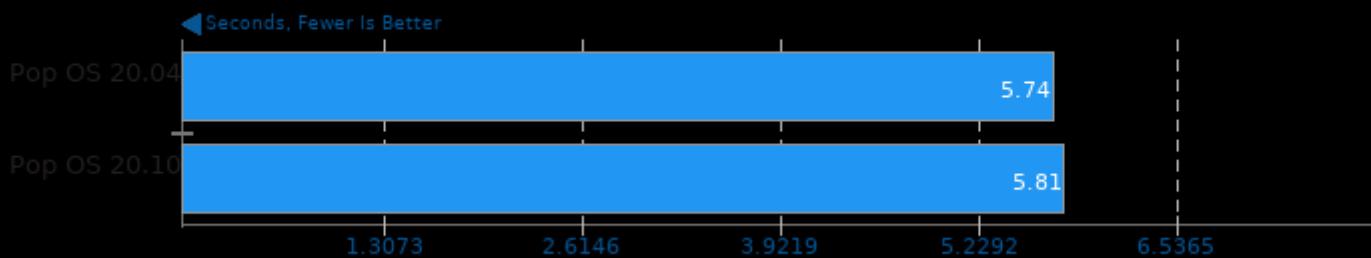
Text-To-Speech Synthesis



1. (CC) gcc options: -O2 -std=c99

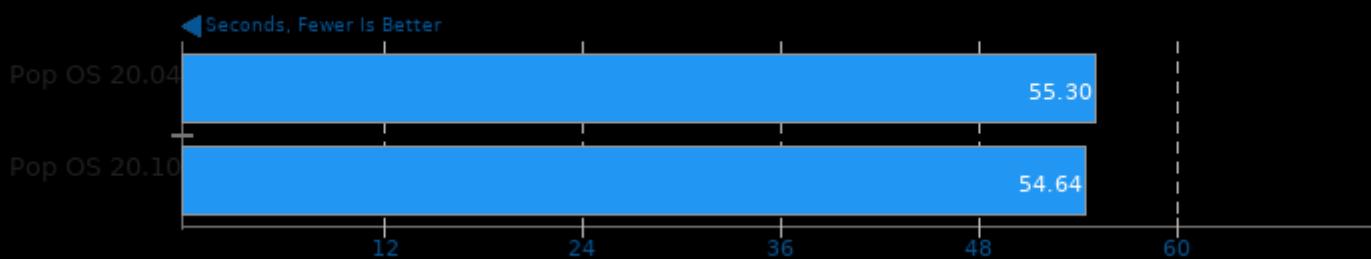
Polyhedron Fortran Benchmarks

Benchmark: aermod



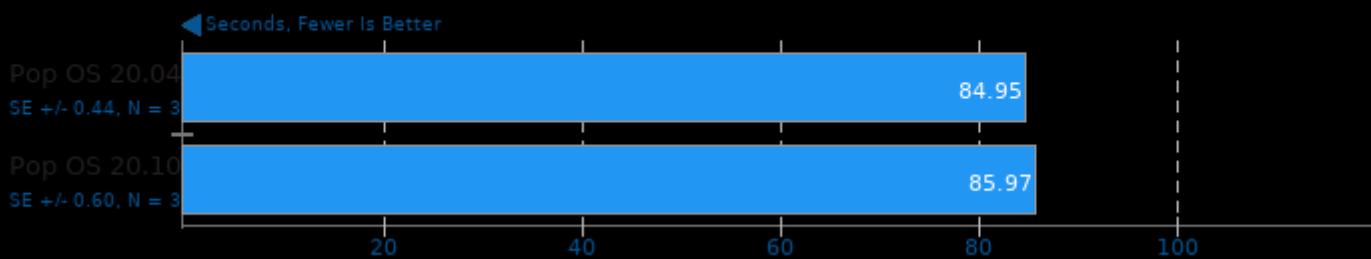
Polyhedron Fortran Benchmarks

Benchmark: mp_prop_design



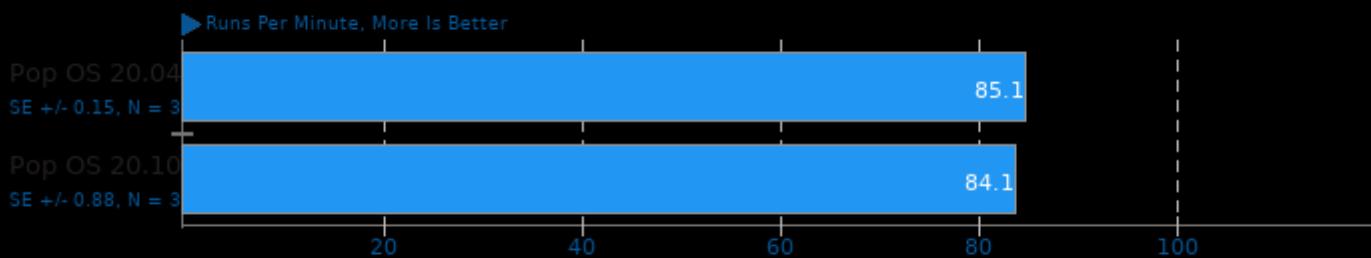
Blender 2.90

Blend File: Classroom - Compute: CPU-Only



Selenium

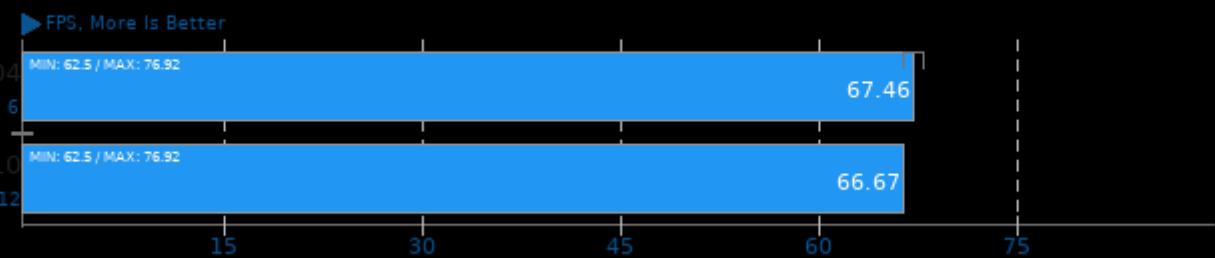
Benchmark: Speedometer - Browser: Firefox



1. firefox 82.0

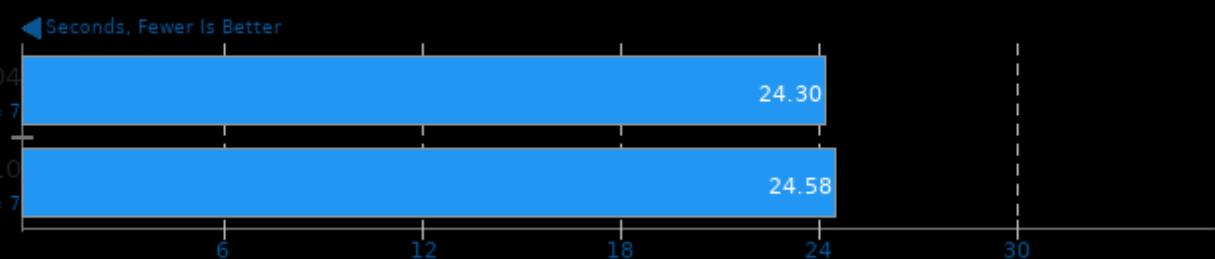
OSPray 1.8.5

Demo: San Miguel - Renderer: SciVis



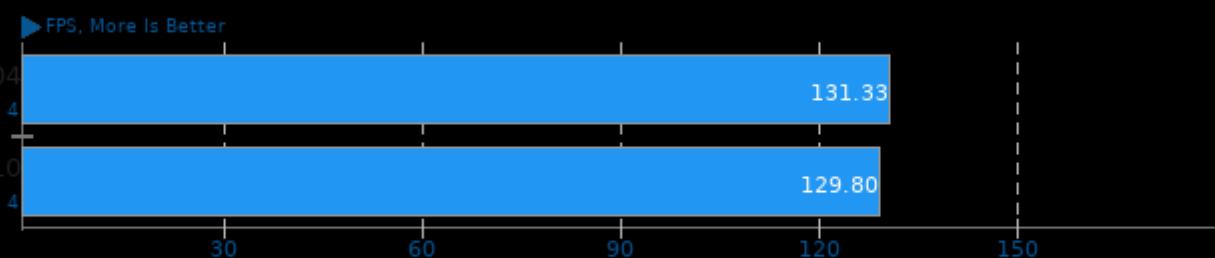
Timed Linux Kernel Compilation 5.4

Time To Compile



Optcarrot

Optimized Benchmark

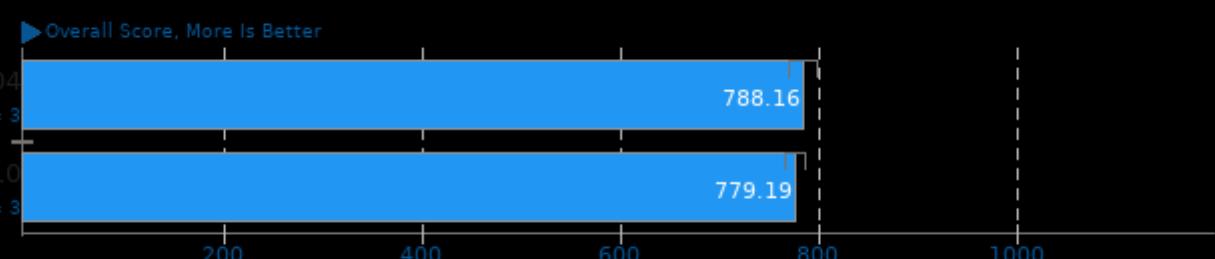


1. Pop OS 20.04: ruby 2.7.0p0 (2019-12-25 revision 647ee6f091) [x86_64-linux-gnu]

2. Pop OS 20.10: ruby 2.7.1p83 (2020-03-31 revision a0c7c23c9c) [x86_64-linux-gnu]

Selenium

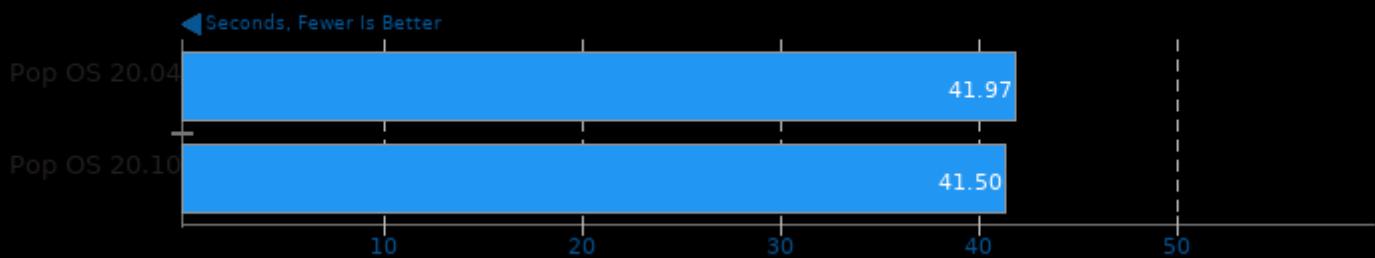
Benchmark: Basemark - Browser: Firefox



1. firefox 82.0

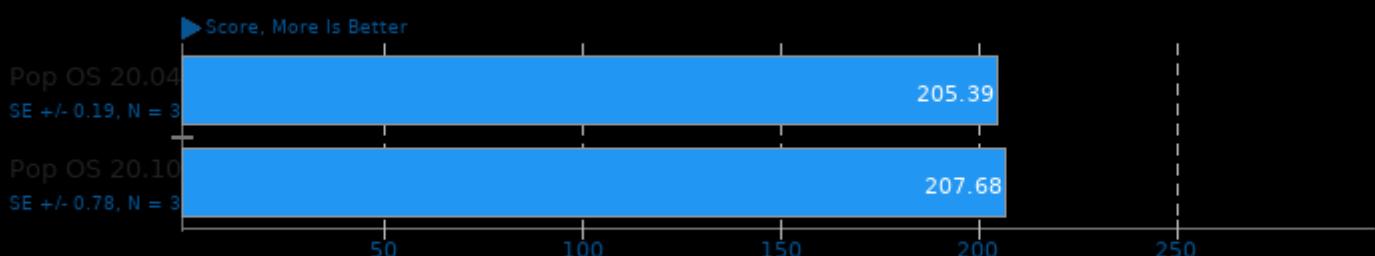
Polyhedron Fortran Benchmarks

Benchmark: gas_dyn2



Selenium

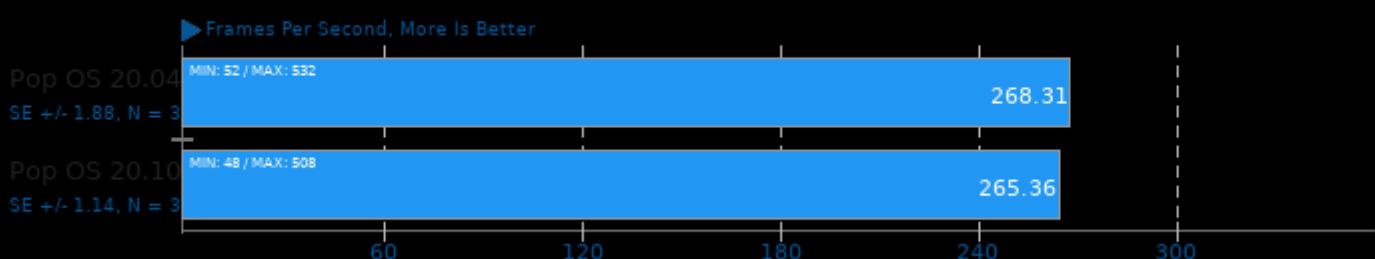
Benchmark: Jetstream - Browser: Firefox



1. firefox 82.0

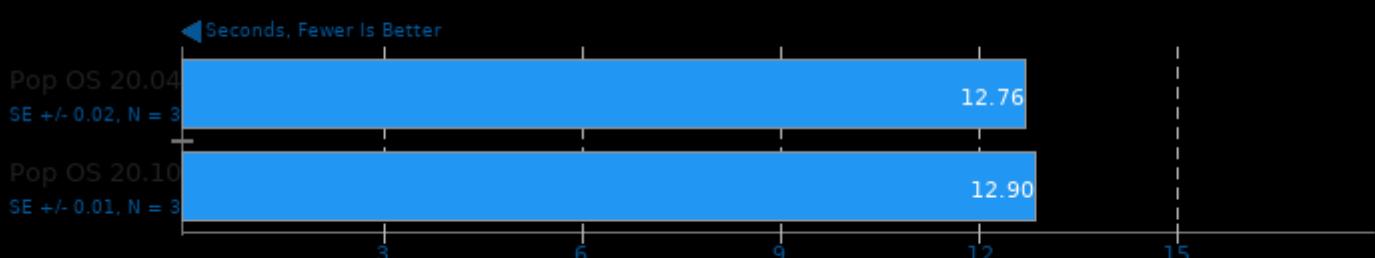
Xonotic 0.8.2

Resolution: 3840 x 2160 - Effects Quality: Ultimate



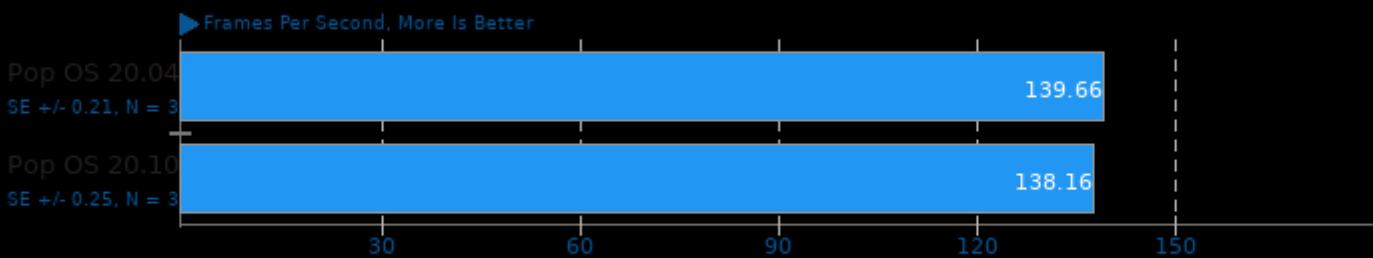
GIMP 2.10.18

Test: rotate



Kvazaar 2.0

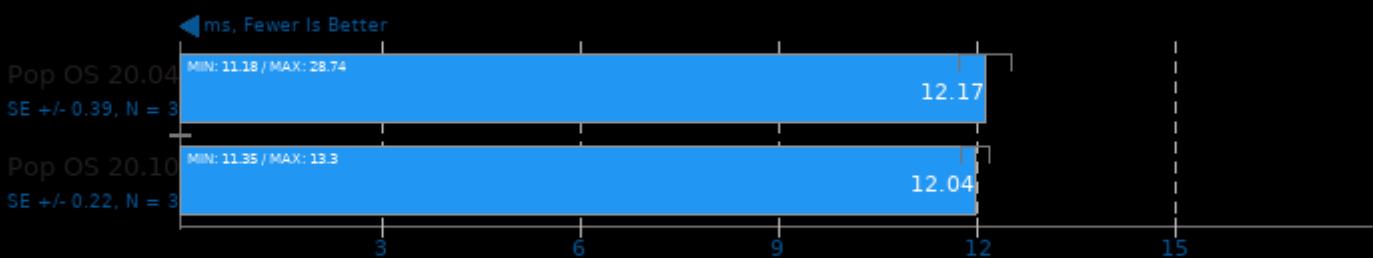
Video Input: Bosphorus 1080p - Video Preset: Very Fast



1. (CC) gcc options: -pthread -fthread-vectorize -visibility=hidden -O2 -lpthread -lm -lrt

NCNN 20200916

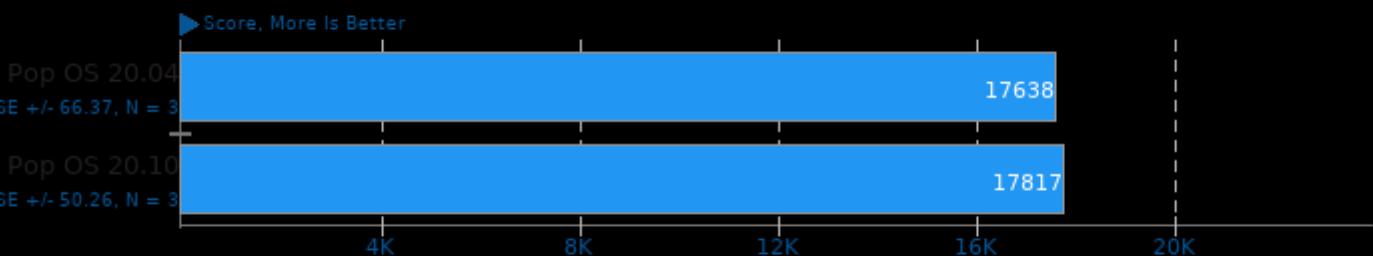
Target: CPU - Model: alexnet



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

Selenium

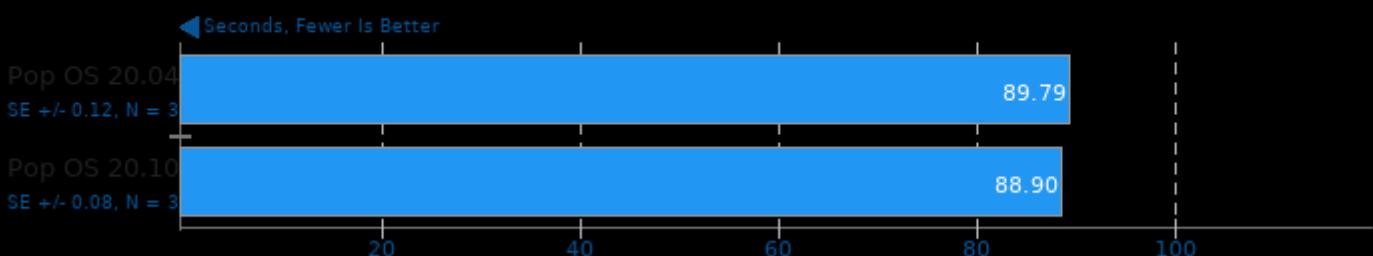
Benchmark: CanvasMark - Browser: Firefox



1. firefox 82.0

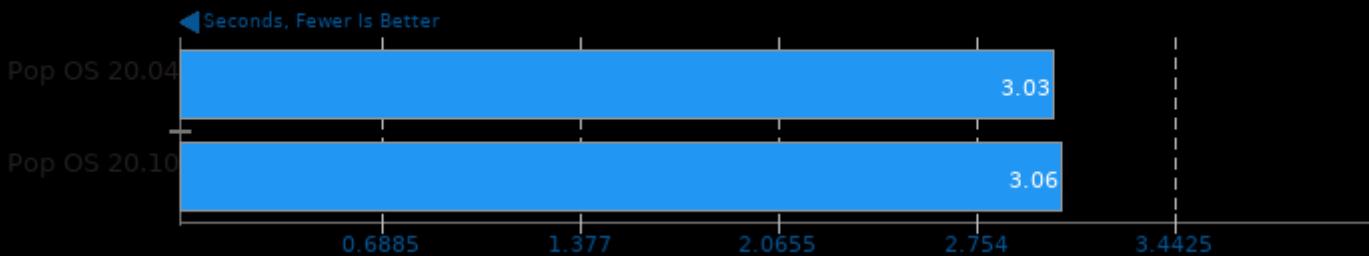
Timed GDB GNU Debugger Compilation 9.1

Time To Compile



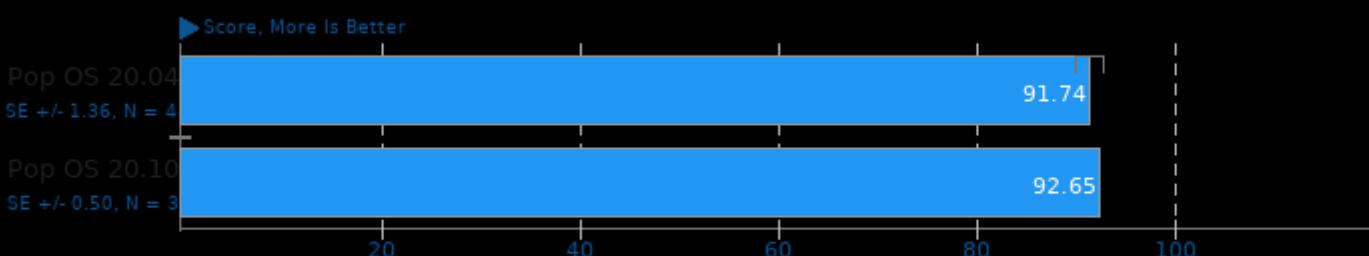
Polyhedron Fortran Benchmarks

Benchmark: linpk



Selenium

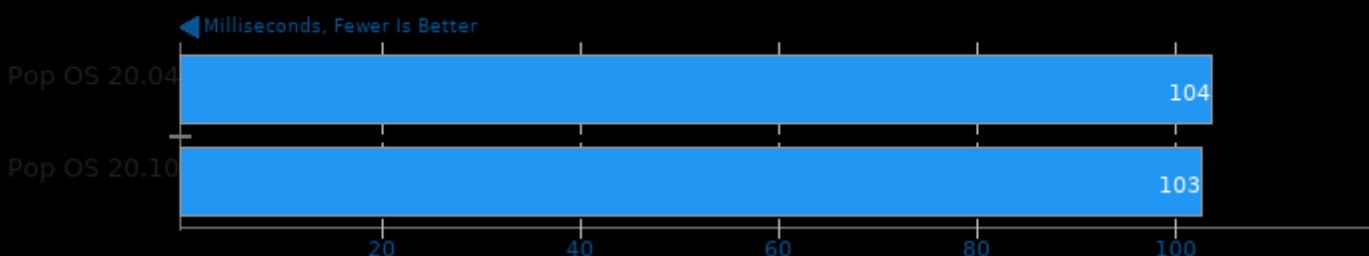
Benchmark: Jetstream 2 - Browser: Firefox



1. firefox 82.0

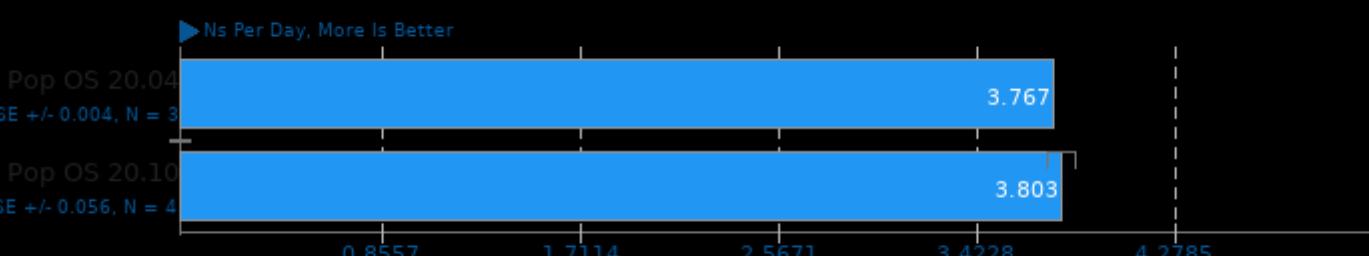
PyPerformance 1.0.0

Benchmark: chaos



GROMACS 2020.3

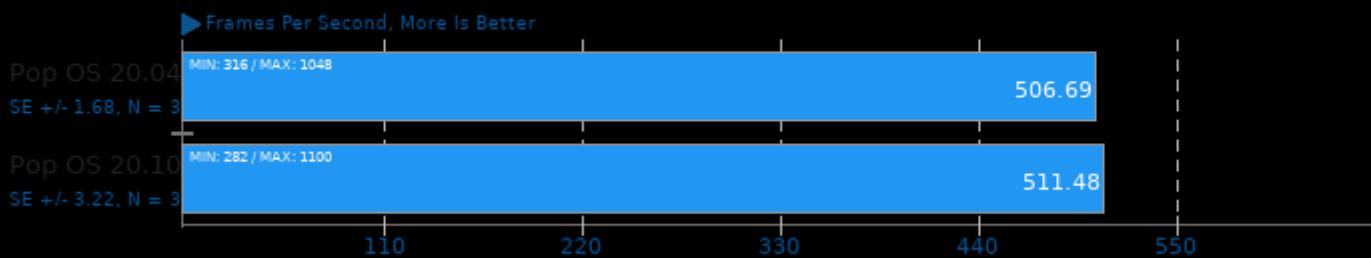
Water Benchmark



1. (CXX) g++ options: -O3 -pthread -Irt -Ipthread -lm

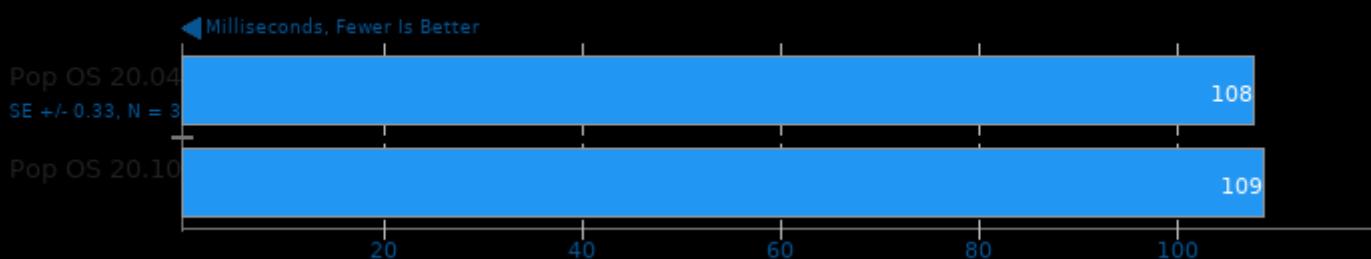
Xonotic 0.8.2

Resolution: 3840 x 2160 - Effects Quality: Low



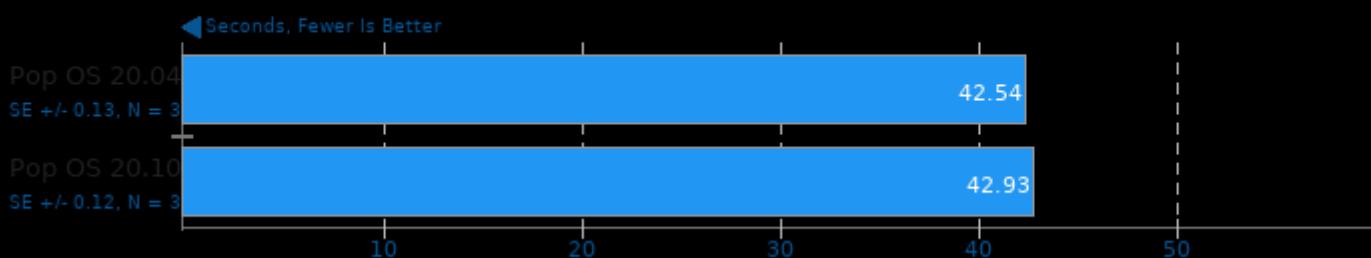
PyPerformance 1.0.0

Benchmark: float



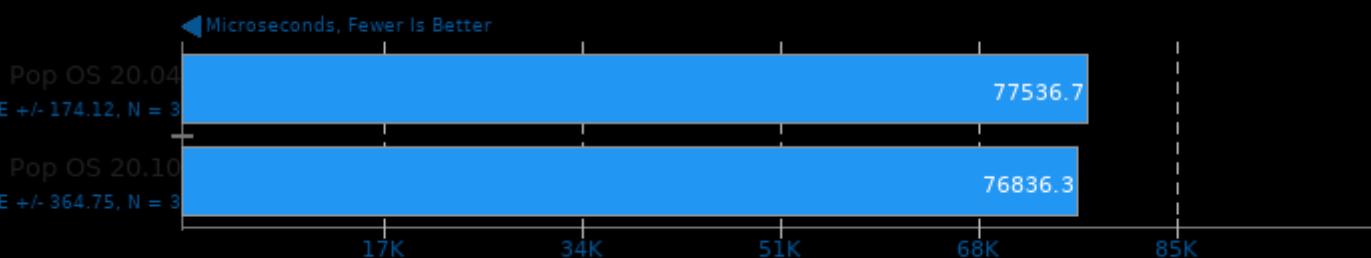
Milpack Benchmark

Benchmark: scikit_qda



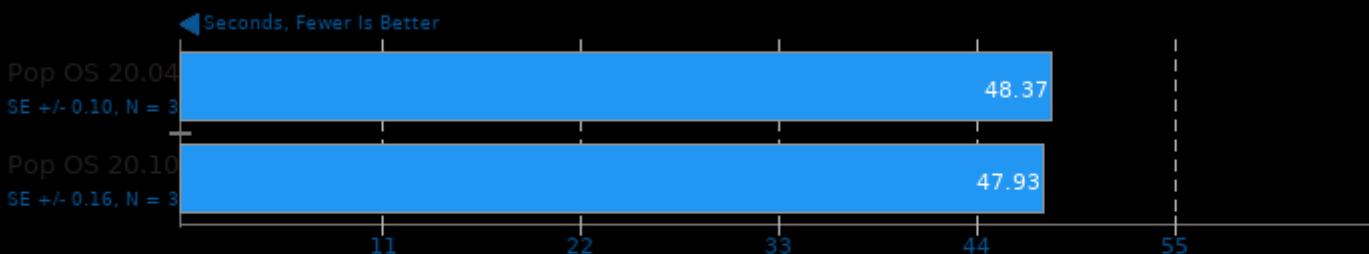
TensorFlow Lite 2020-08-23

Model: NASNet Mobile



Git

Time To Complete Common Git Commands

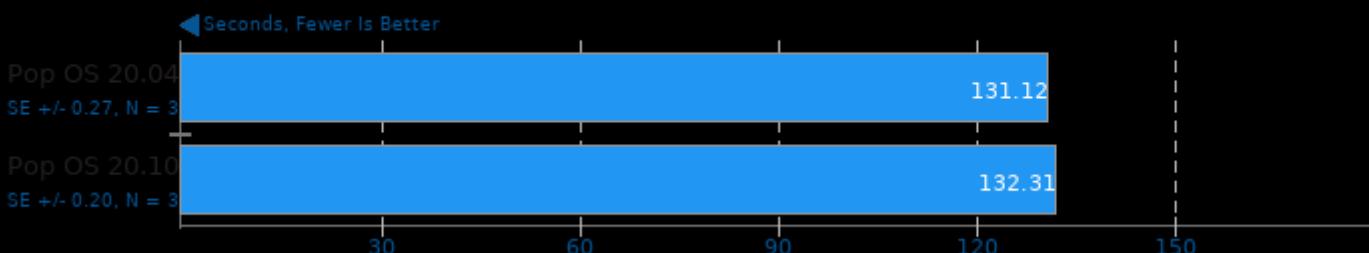


1. Pop OS 20.04: git version 2.25.1

2. Pop OS 20.10: git version 2.27.0

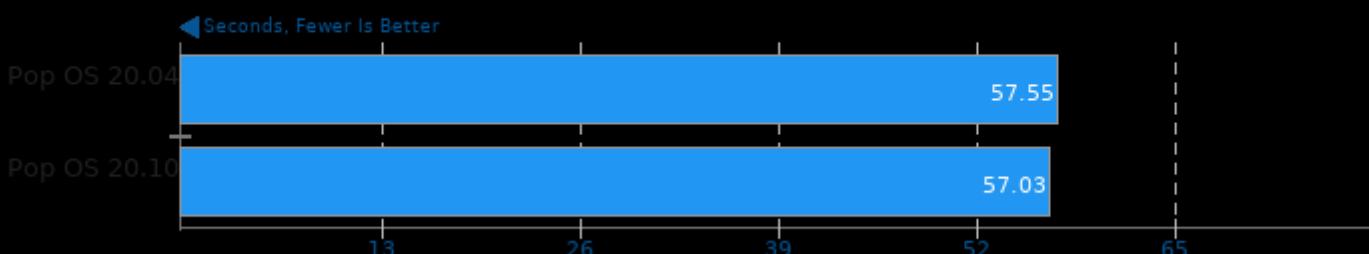
Blender 2.90

Blend File: Barbershop - Compute: CPU-Only



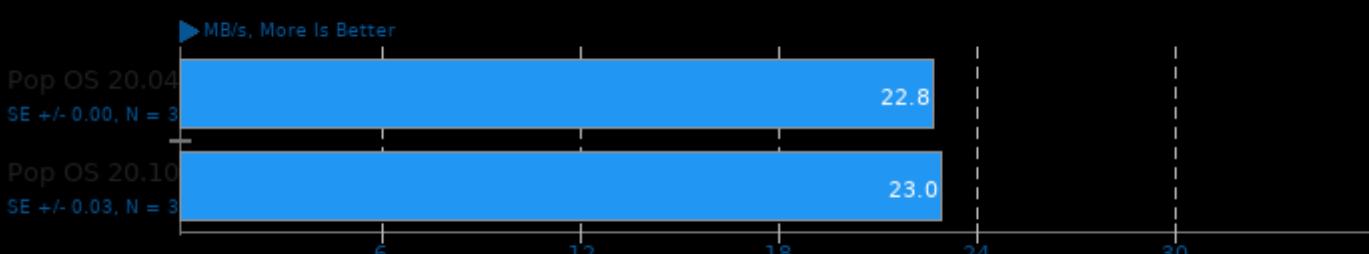
Appleseed 2.0 Beta

Scene: Disney Material



LevelDB 1.22

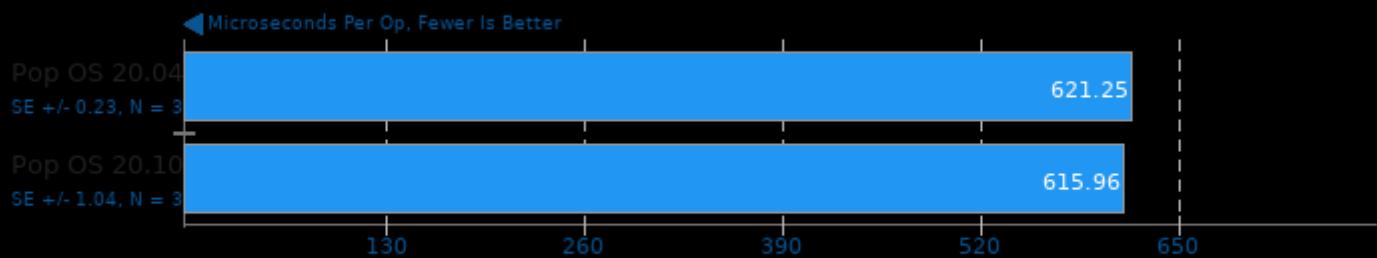
Benchmark: Overwrite



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

LevelDB 1.22

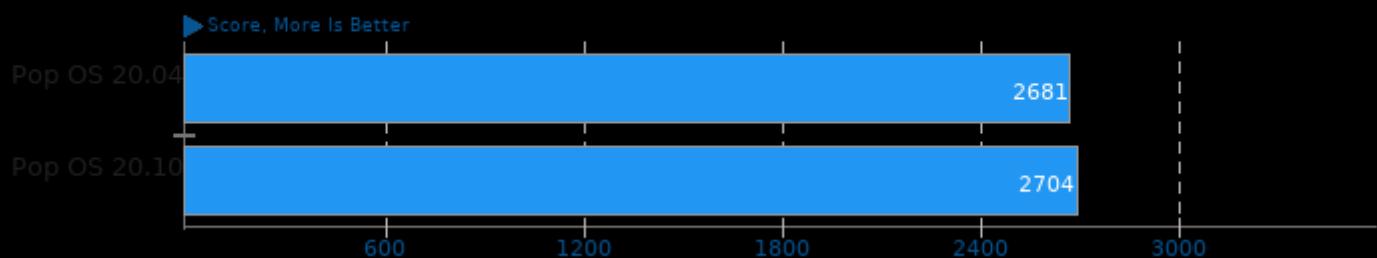
Benchmark: Overwrite



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

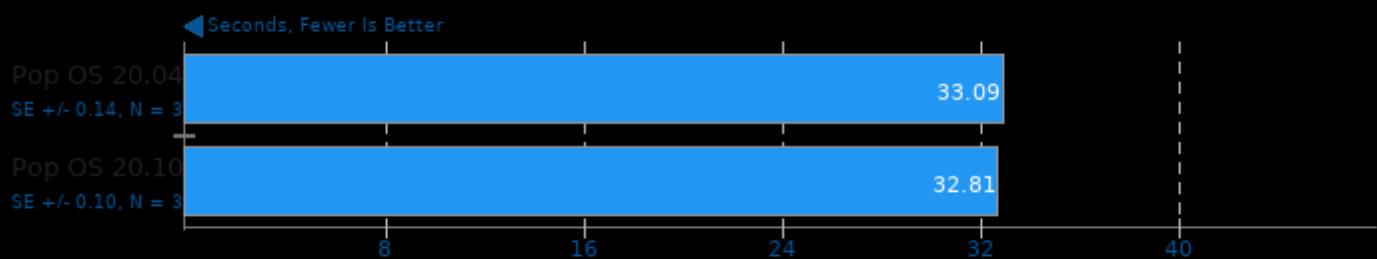
GLmark2 2020.04

Resolution: 3840 x 2160



SQLite 3.30.1

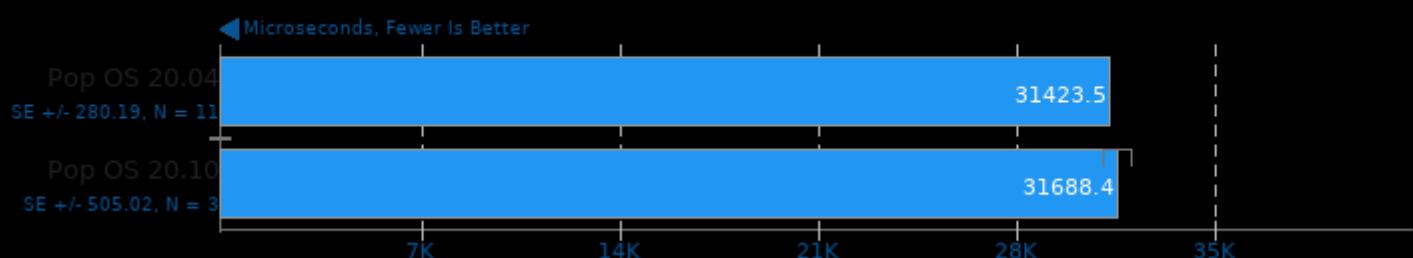
Threads / Copies: 1



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

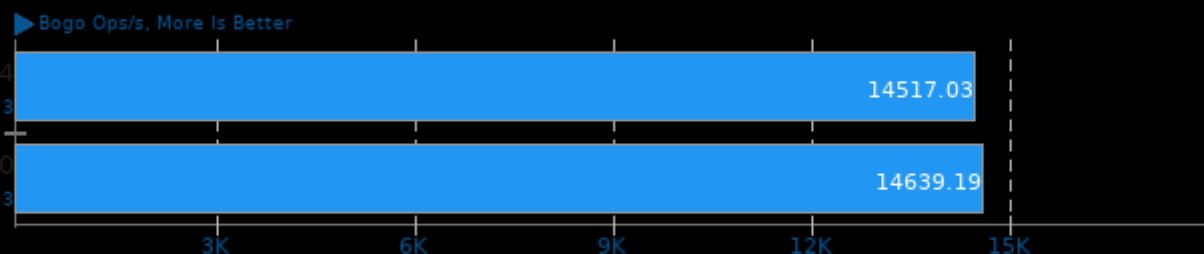
TensorFlow Lite 2020-08-23

Model: Mobilenet Float



Stress-NG 0.11.07

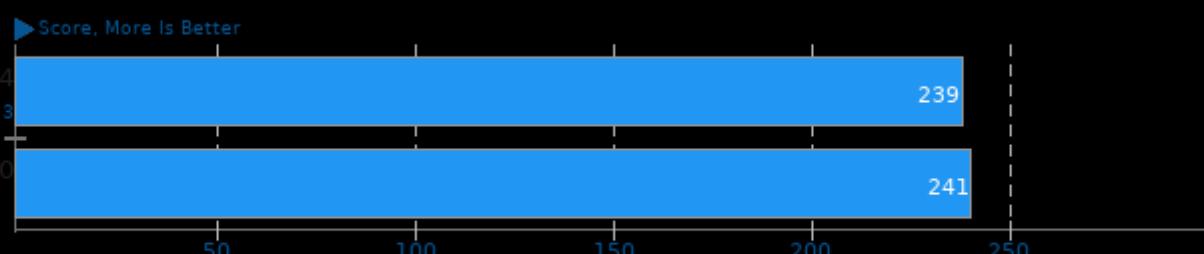
Test: Crypto



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

Selenium

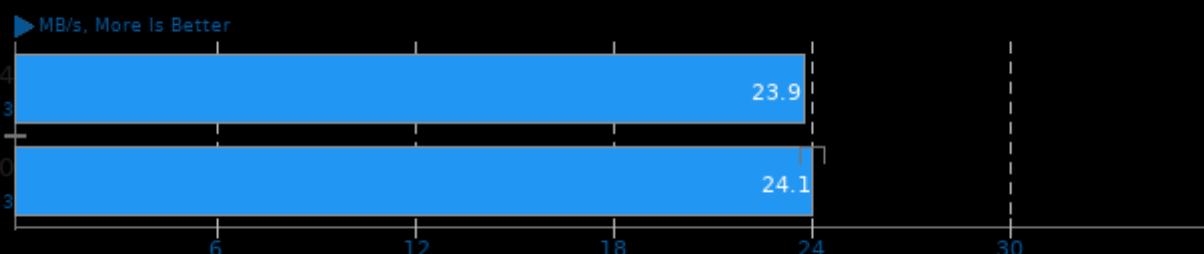
Benchmark: WebXPRT - Browser: Firefox



1. firefox 82.0

LevelDB 1.22

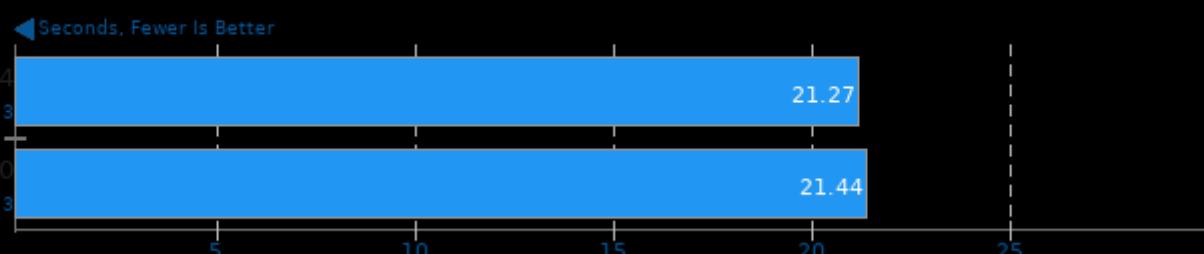
Benchmark: Sequential Fill



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

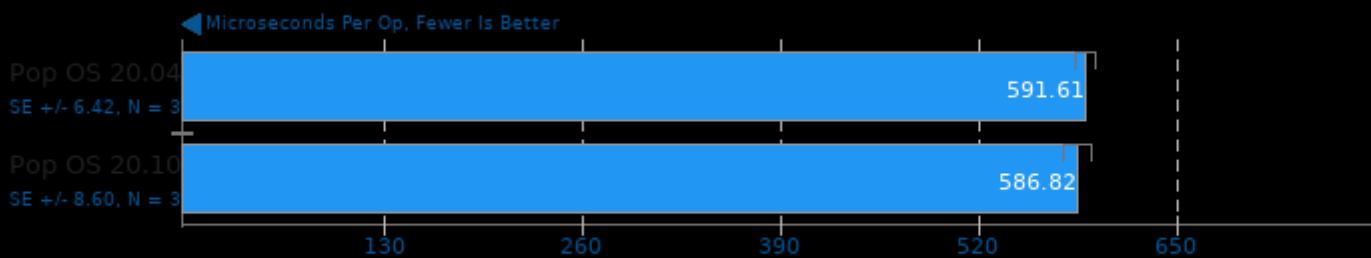
Timed Apache Compilation 2.4.41

Time To Compile



LevelDB 1.22

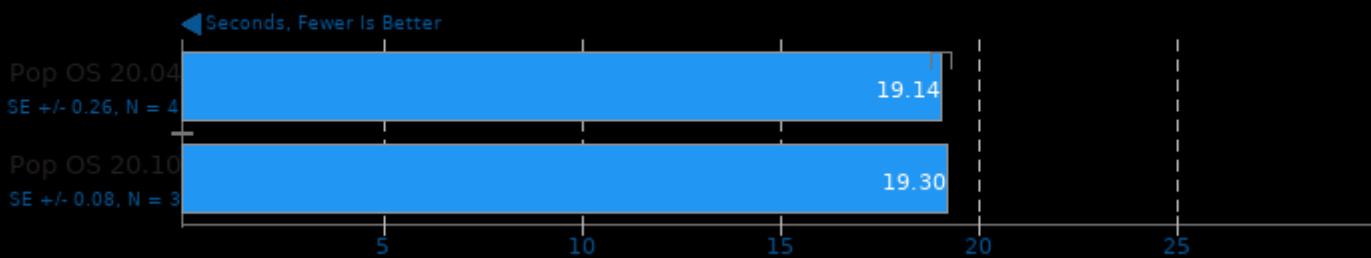
Benchmark: Sequential Fill



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

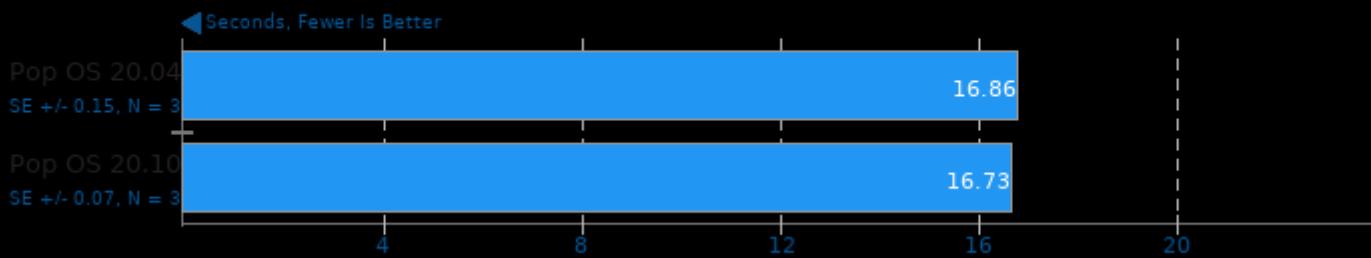
GIMP 2.10.18

Test: unsharp-mask



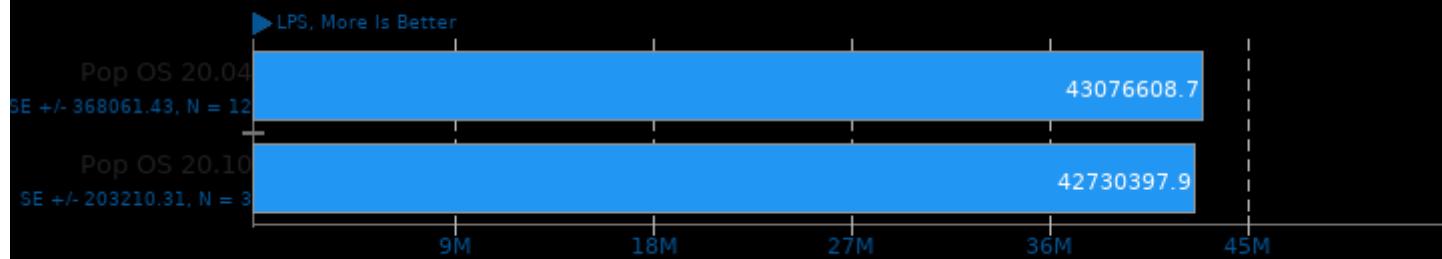
Dolfyn 0.527

Computational Fluid Dynamics



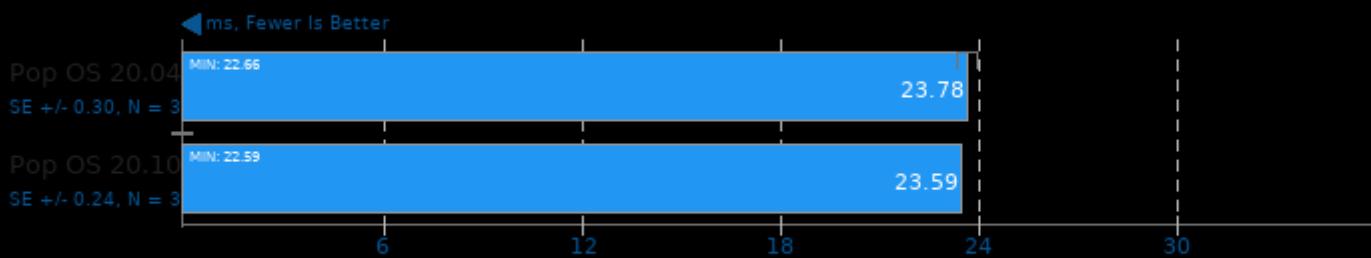
BYTE Unix Benchmark 3.6

Computational Test: Dhrystone 2



oneDNN 1.5

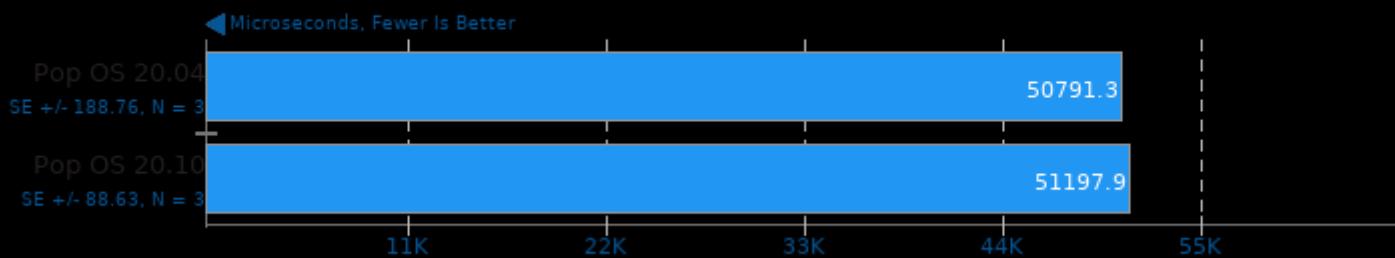
Harness: IP Batch All - Data Type: f32 - Engine: CPU



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

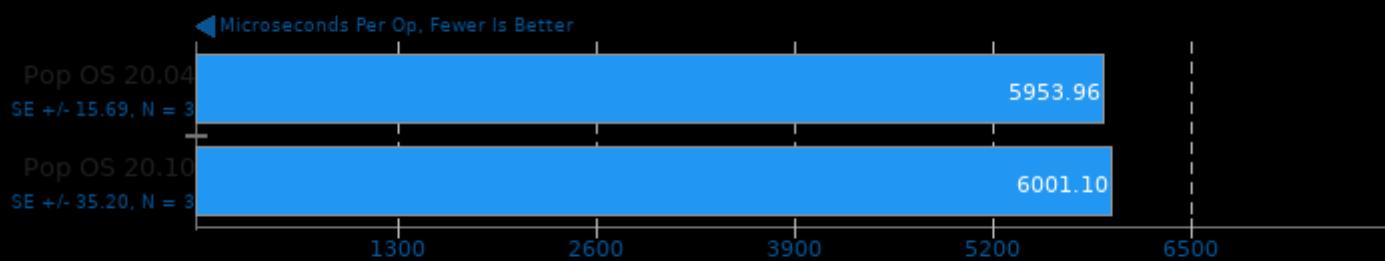
TensorFlow Lite 2020-08-23

Model: SqueezeNet



LevelDB 1.22

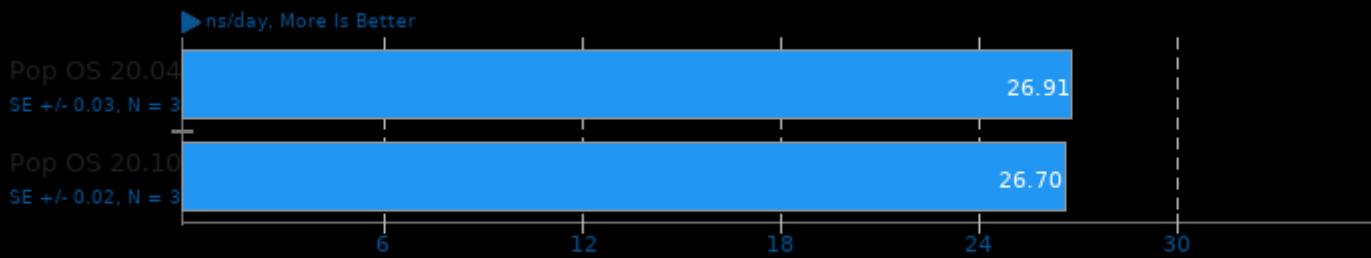
Benchmark: Fill Sync



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

LAMMPS Molecular Dynamics Simulator 24Aug2020

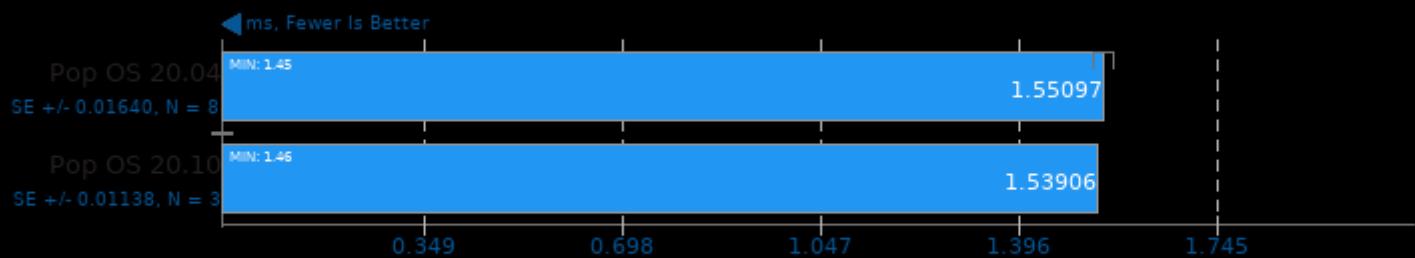
Model: 20k Atoms



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

oneDNN 1.5

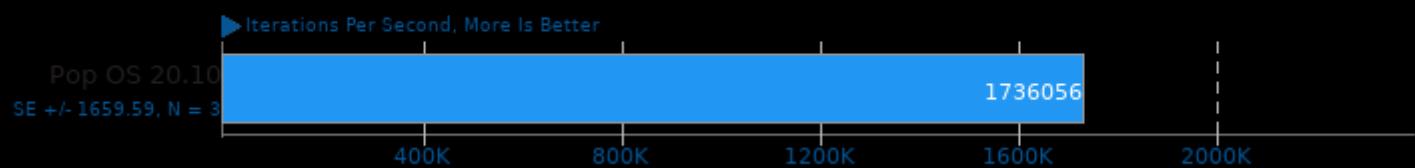
Harness: Deconvolution Batch deconv_1d - Data Type: f32 - Engine: CPU



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

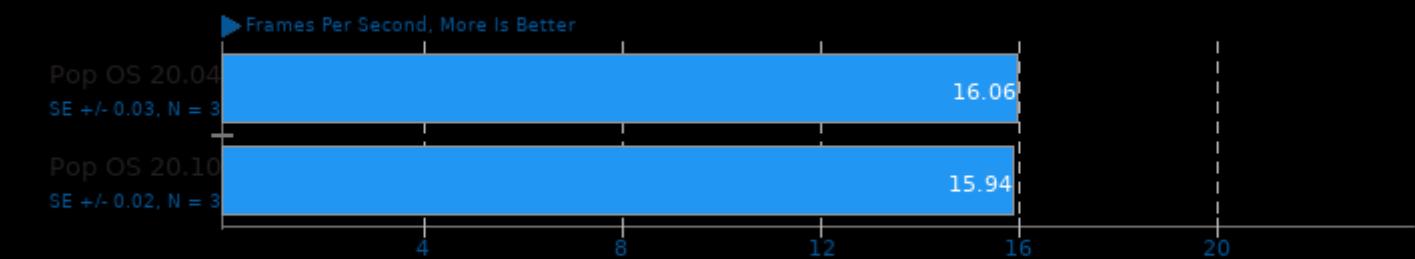
Cryptsetup 2.3.3

PBKDF2-sha512



Kvazaar 2.0

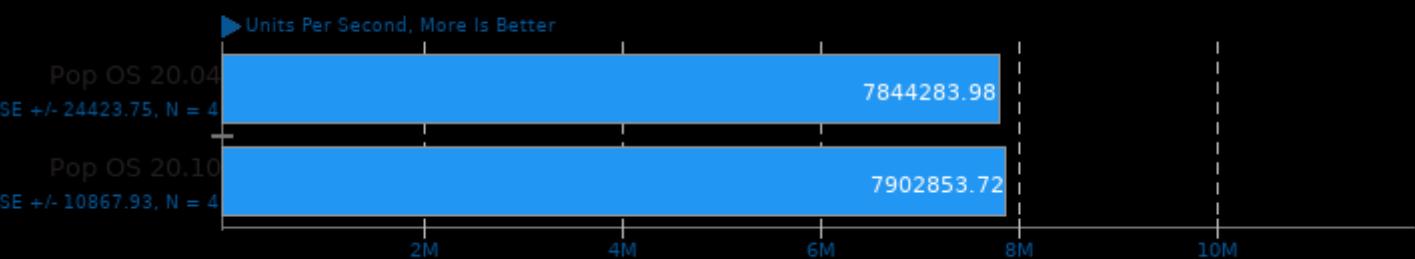
Video Input: Bosphorus 4K - Video Preset: Medium



1. (CC) gcc options: -pthread -fno-tree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

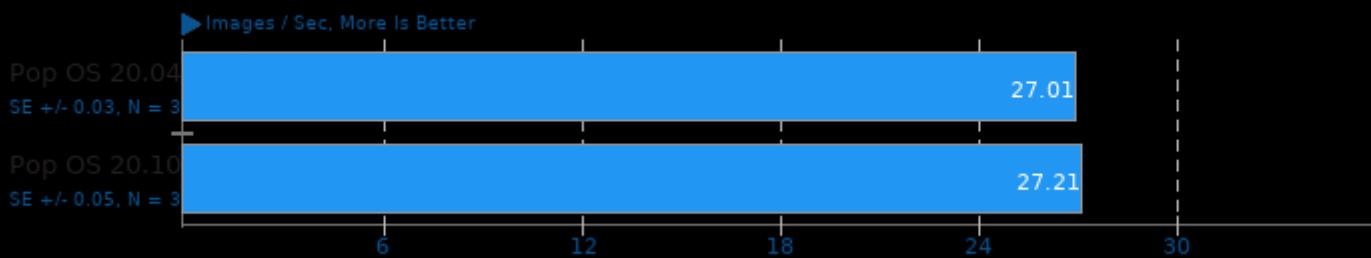
Java 2D Microbenchmark 1.0

Rendering Test: Vector Graphics Rendering



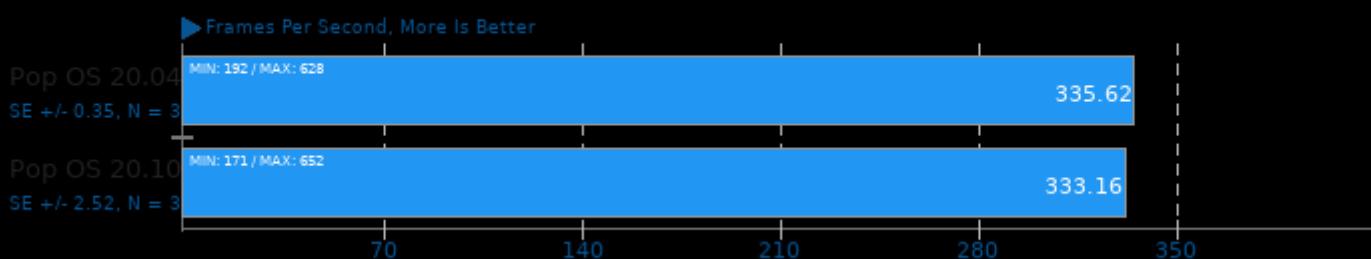
Intel Open Image Denoise 1.2.0

Scene: Memorial



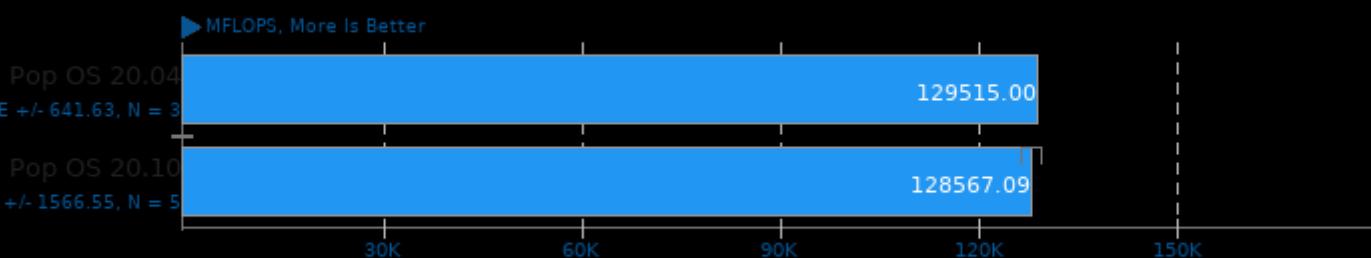
Xonotic 0.8.2

Resolution: 3840 x 2160 - Effects Quality: Ultra



FFTE 7.0

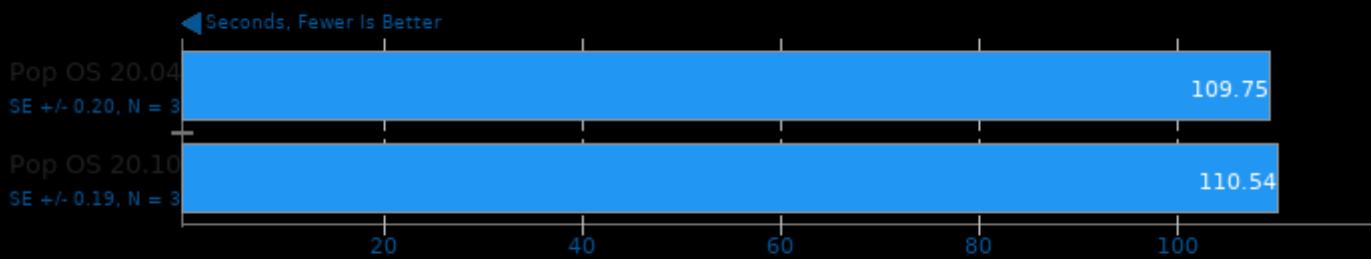
N=256, 3D Complex FFT Routine



1. (F9X) gfortran options: -O3 -fomit-frame-pointer -fopenmp

GPAW 20.1

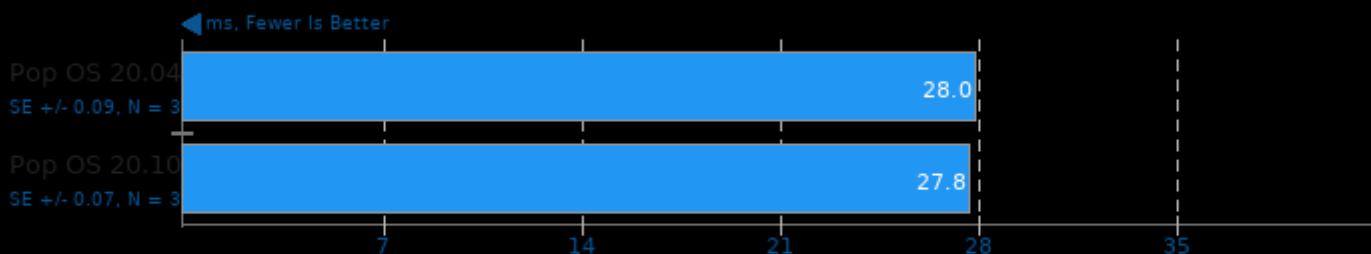
Input: Carbon Nanotube



1. (CC) gcc options: -pthread -fshared -fwrapv -O2 -lxc -lblas -lmpi

Selenium

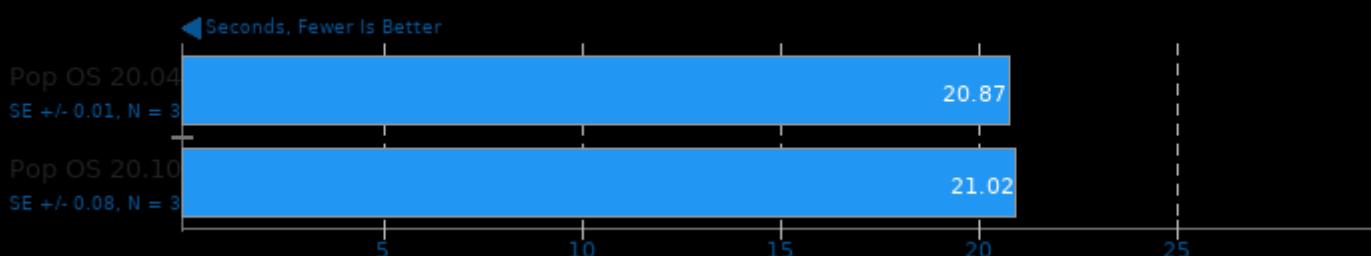
Benchmark: WASM imageConvolute - Browser: Firefox



1. firefox 82.0

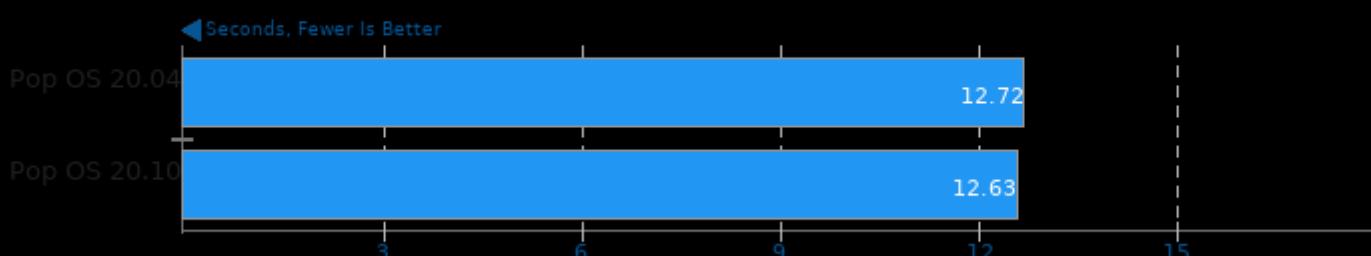
Milpack Benchmark

Benchmark: scikit_svm



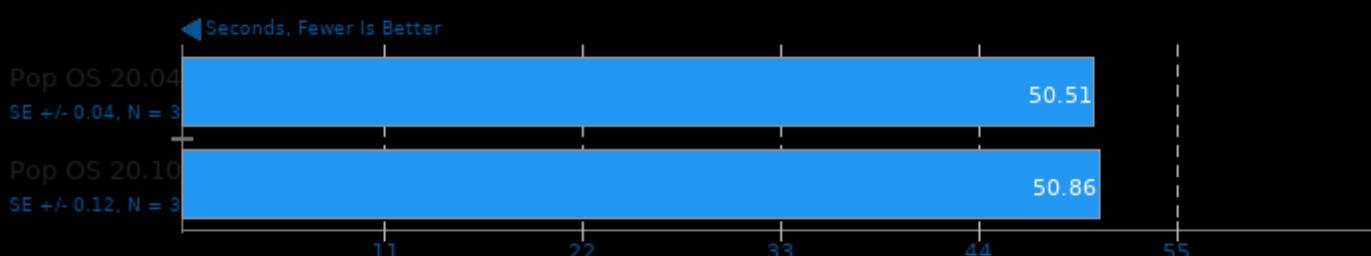
Polyhedron Fortran Benchmarks

Benchmark: protein



RawTherapee

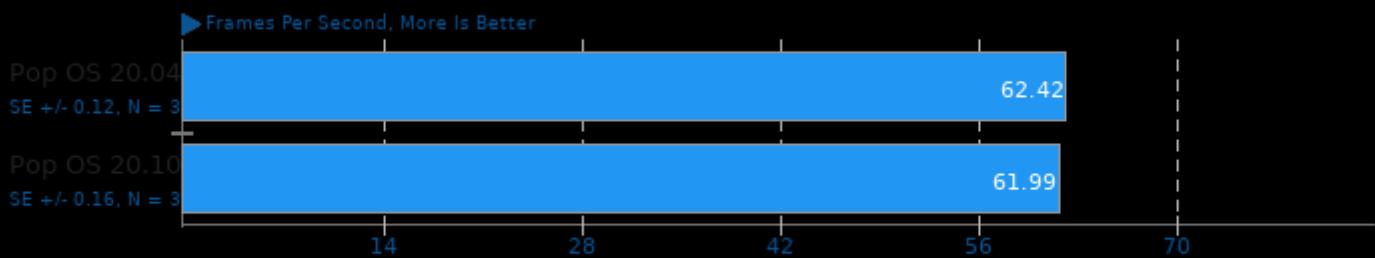
Total Benchmark Time



1. RawTherapee, version 5.8, command line.

Kvazaar 2.0

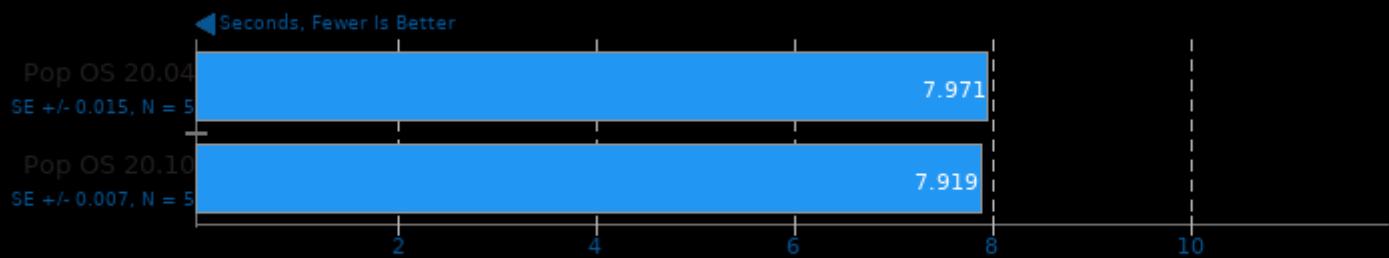
Video Input: Bosphorus 1080p - Video Preset: Medium



1. (CC) gcc options: -pthread -fthread-vectorize -visibility=hidden -O2 -lpthread -lm -lrt

FLAC Audio Encoding 1.3.2

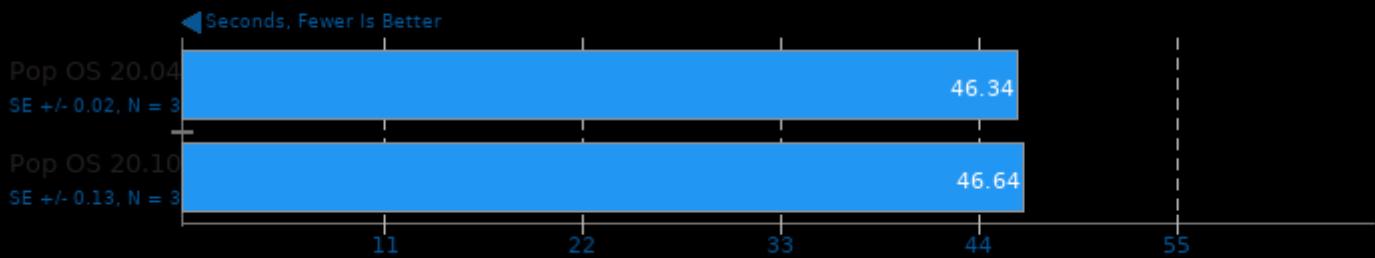
WAV To FLAC



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

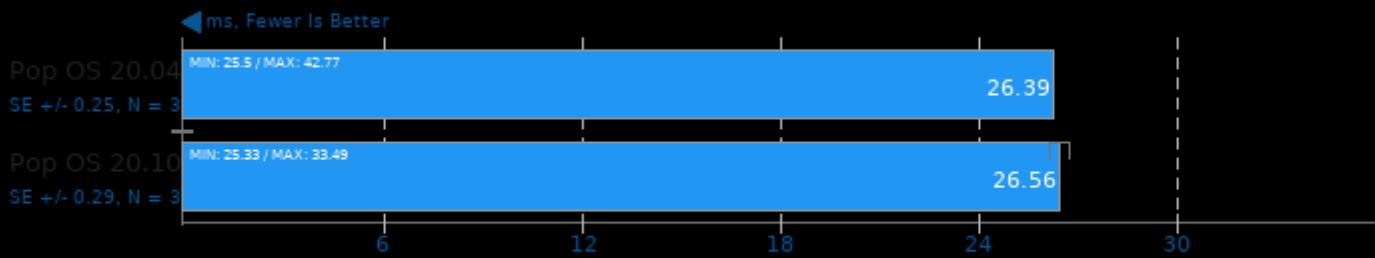
Blender 2.90

Blend File: Fishy Cat - Compute: CPU-Only



NCNN 20200916

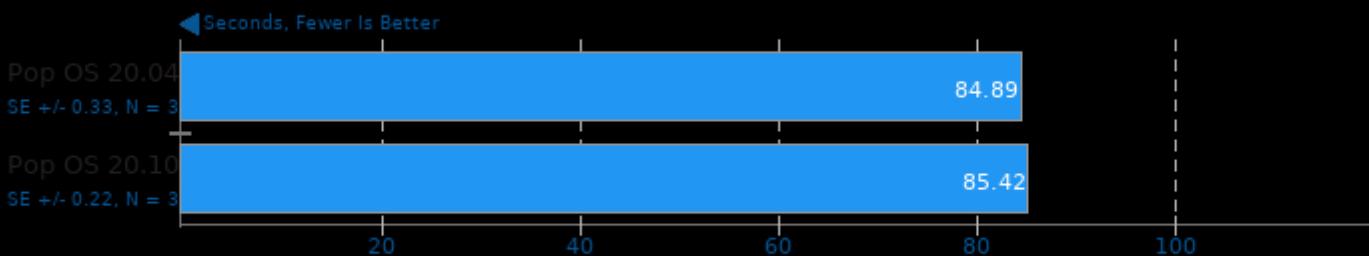
Target: CPU - Model: googlenet



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

G'MIC

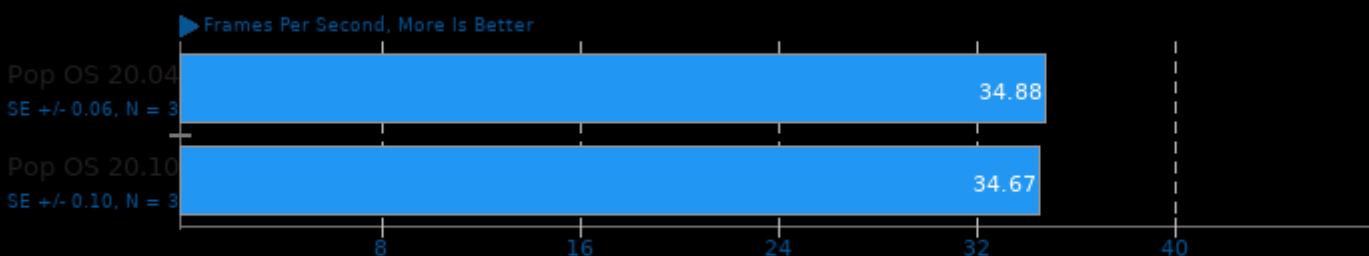
Test: 3D Elevated Function In Random Colors, 100 Times



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

Kvazaar 2.0

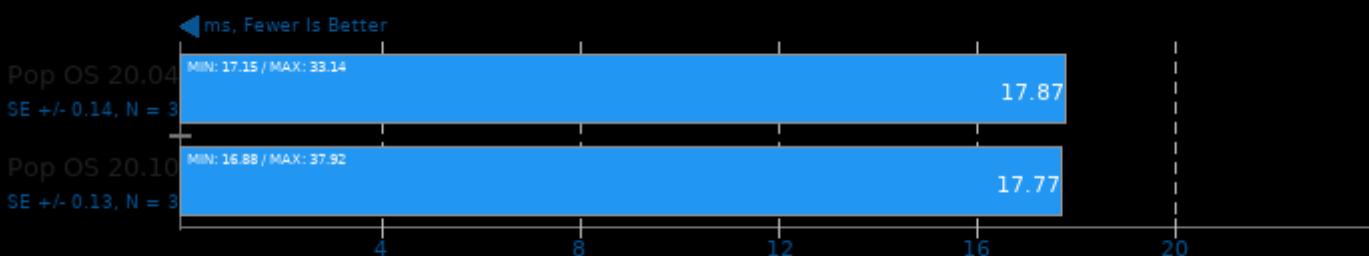
Video Input: Bosphorus 4K - Video Preset: Very Fast



1. (CC) gcc options: -pthread -fno-tree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

NCNN 20200916

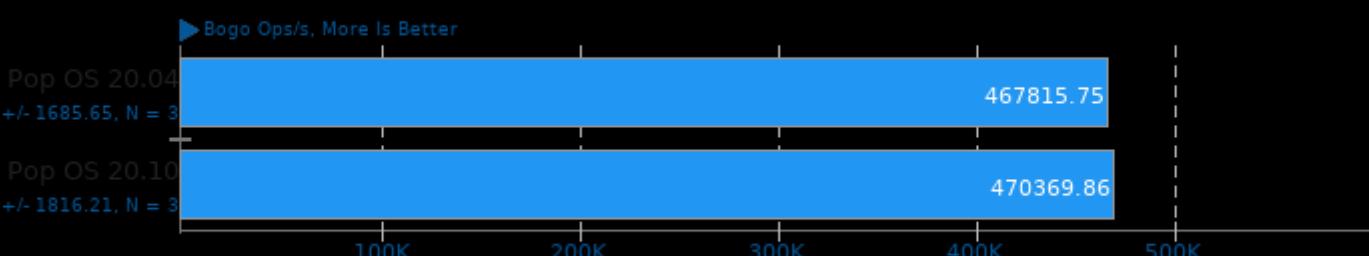
Target: CPU - Model: resnet18



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

Stress-NG 0.11.07

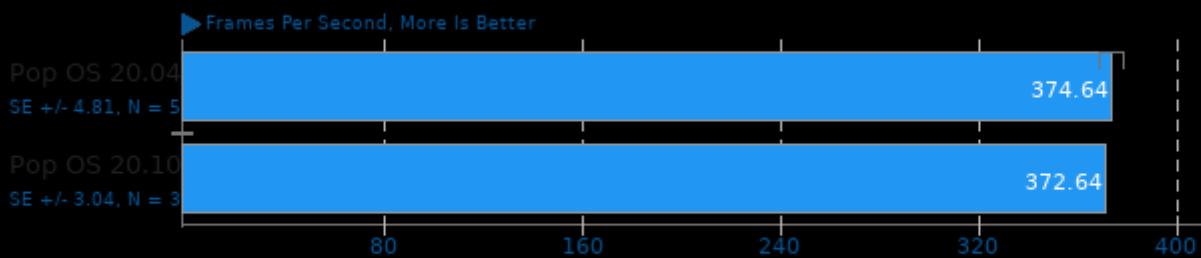
Test: Vector Math



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

SVT-VP9 0.1

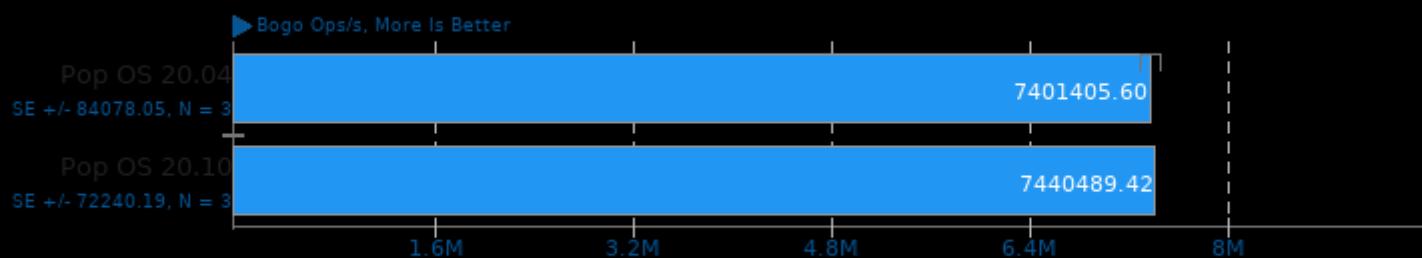
Tuning: VMAF Optimized - Input: Bosphorus 1080p



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

Stress-NG 0.11.07

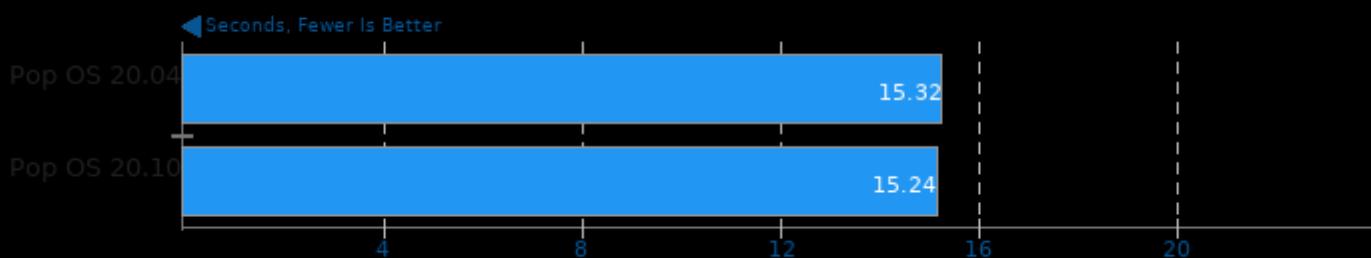
Test: Glibc C String Functions



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

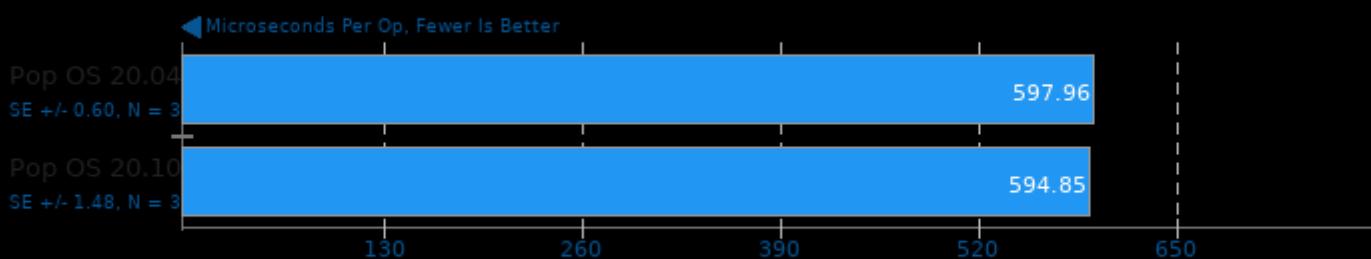
Polyhedron Fortran Benchmarks

Benchmark: rnflow



LevelDB 1.22

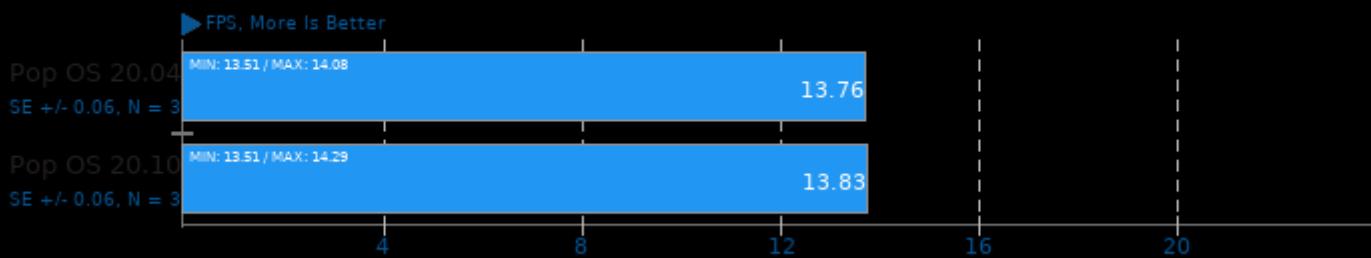
Benchmark: Random Delete



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

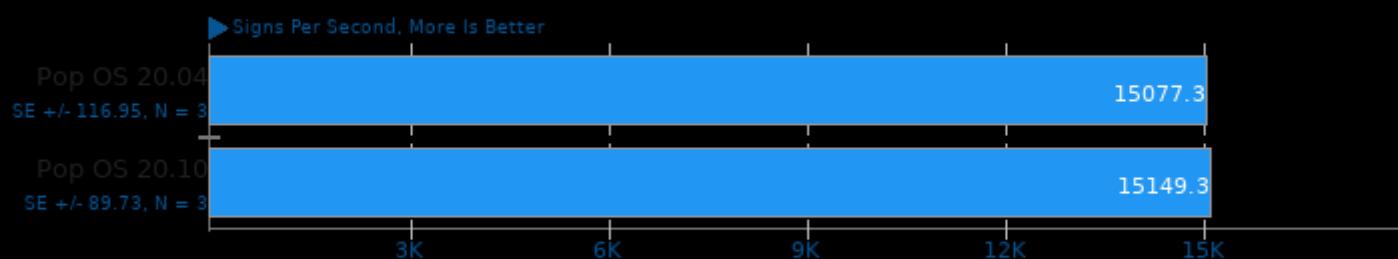
OSPray 1.8.5

Demo: XFrog Forest - Renderer: SciVis



OpenSSL 1.1.1

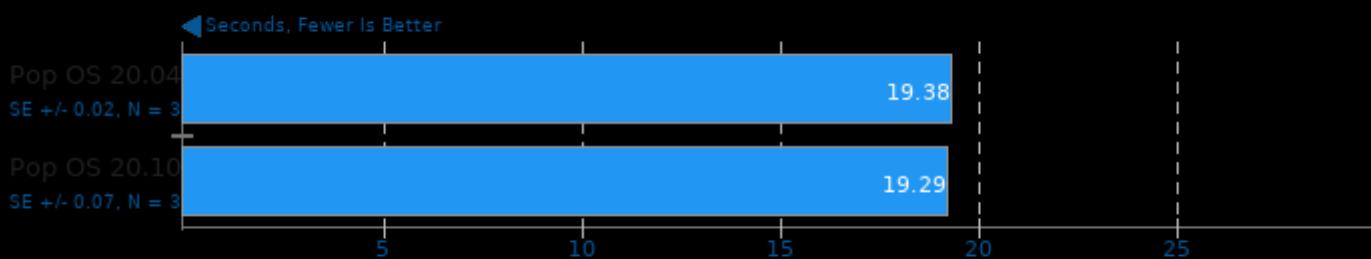
RSA 4096-bit Performance



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

G'MIC

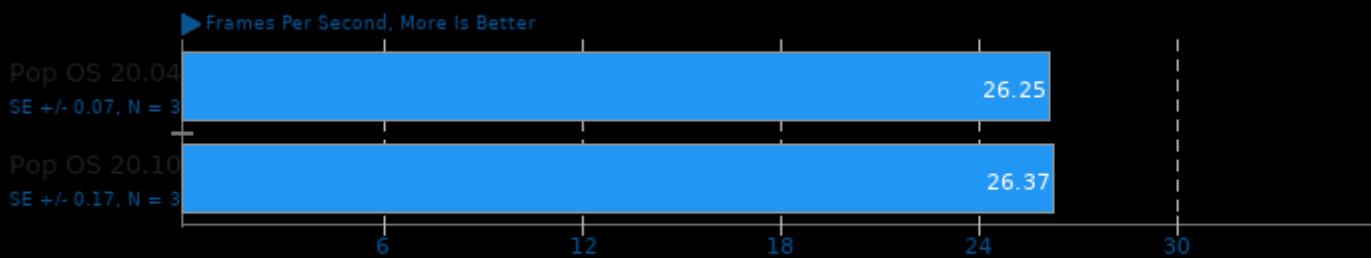
Test: Plotting Isosurface Of A 3D Volume, 1000 Times



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

x265 3.4

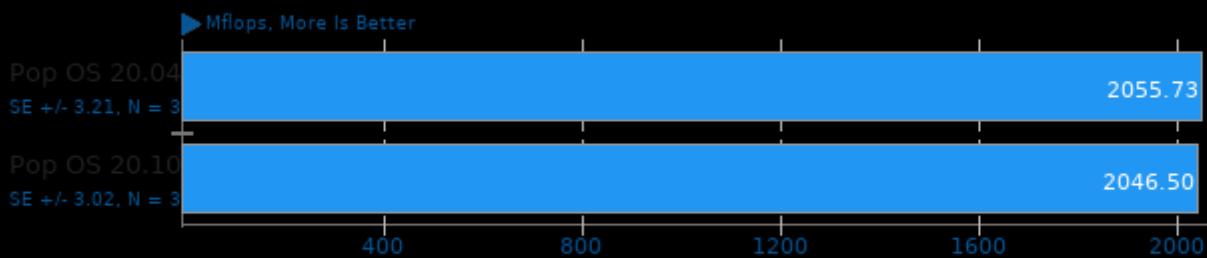
Video Input: Bosphorus 4K



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

LuaJIT 2.1-git

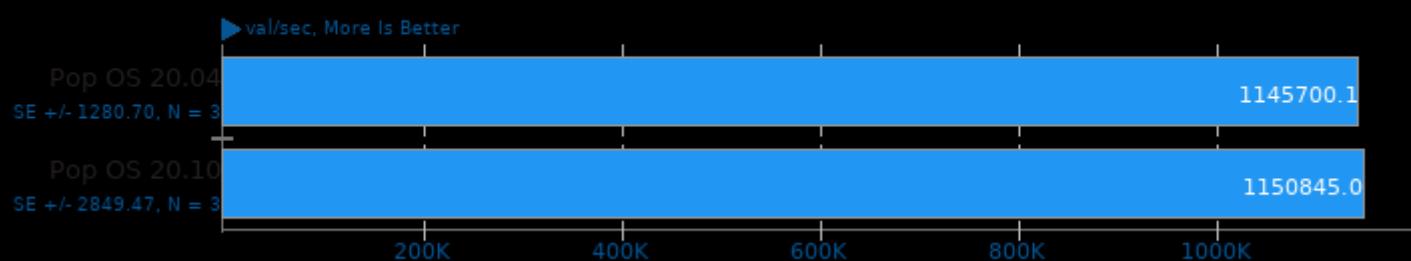
Test: Jacobi Successive Over-Relaxation



1. (CC) gcc options: -lm -ldl -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

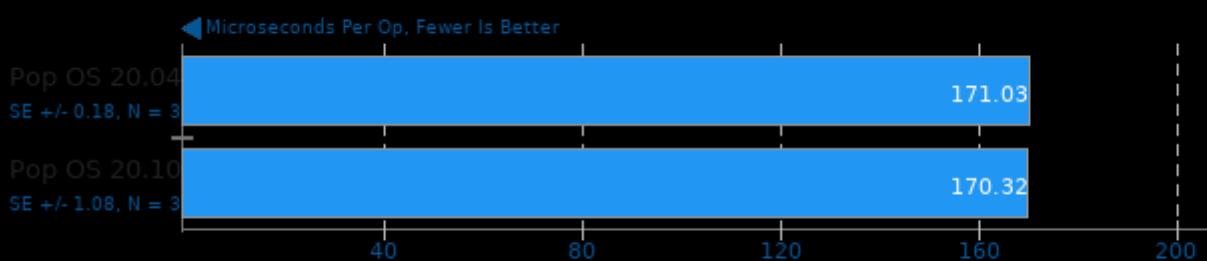
InfluxDB 1.8.2

Concurrent Streams: 4 - Batch Size: 10000 - Tags: 2,5000,1 - Points Per Series: 10000



LevelDB 1.22

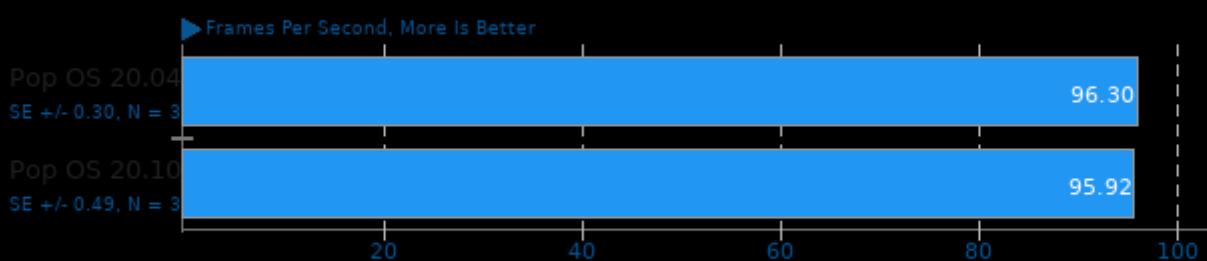
Benchmark: Seek Random



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

SVT-AV1 0.8

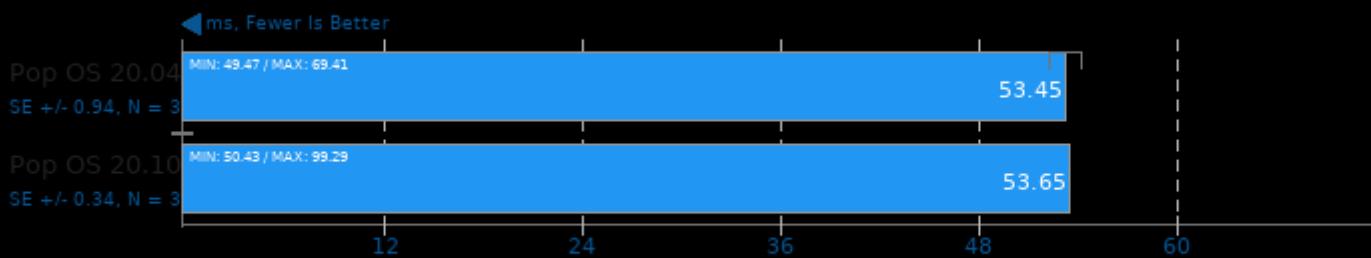
Encoder Mode: Enc Mode 8 - Input: 1080p



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

NCNN 20200916

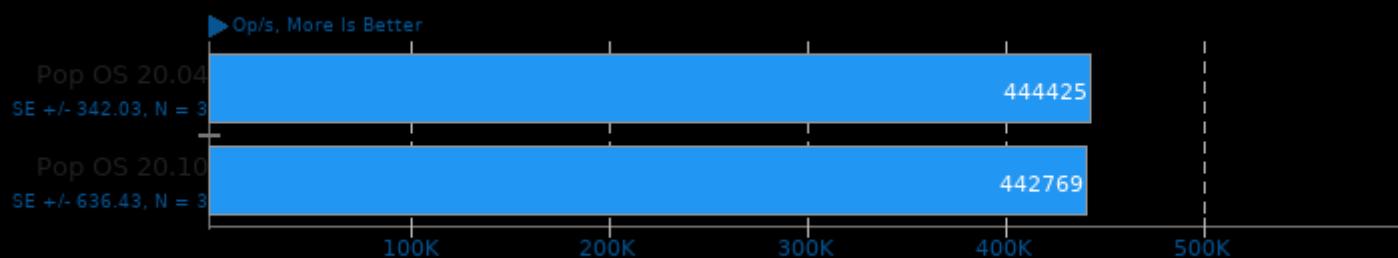
Target: CPU - Model: vgg16



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

Facebook RocksDB 6.3.6

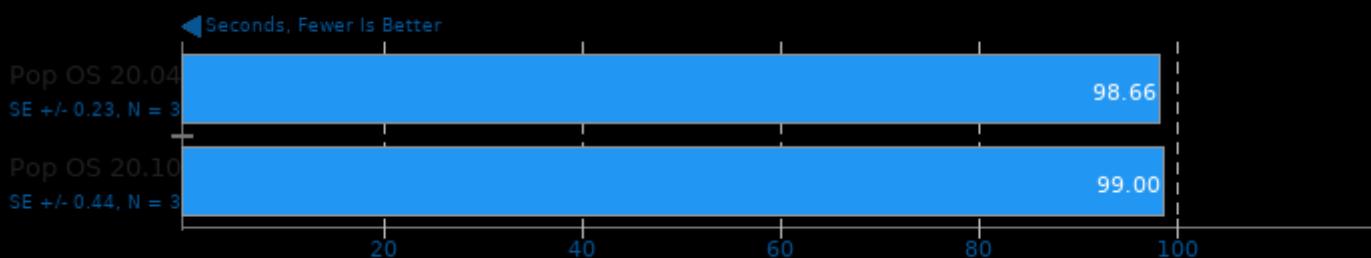
Test: Random Fill



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

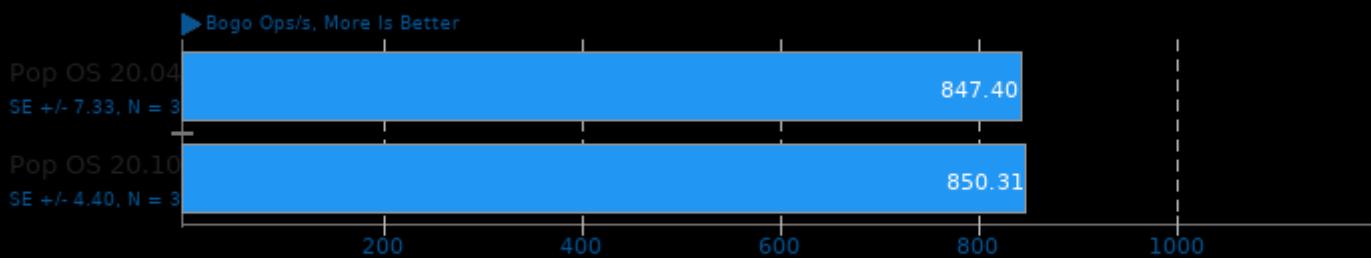
Blender 2.90

Blend File: Pabellon Barcelona - Compute: CPU-Only



Stress-NG 0.11.07

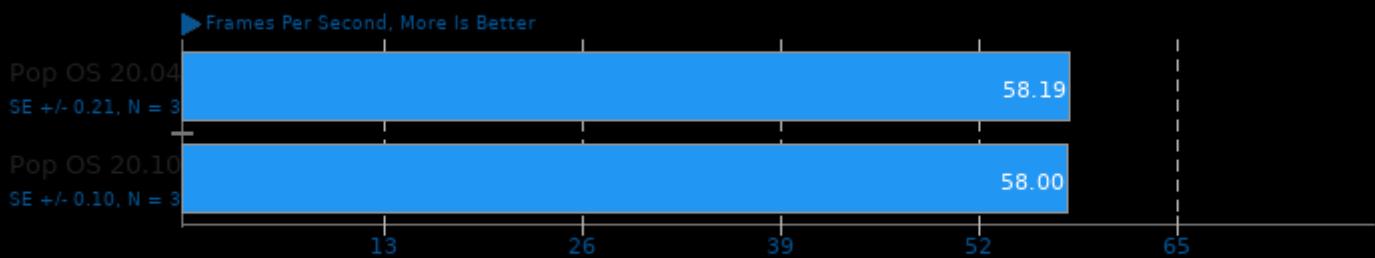
Test: Glibc Qsort Data Sorting



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

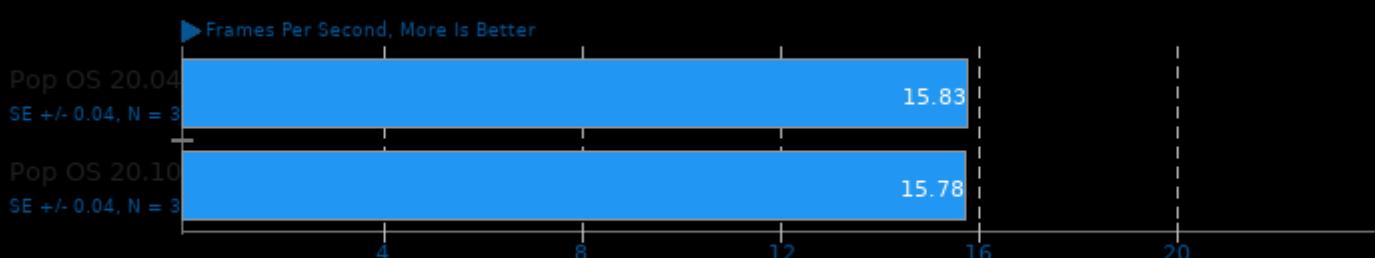
x265 3.4

Video Input: Bosphorus 1080p



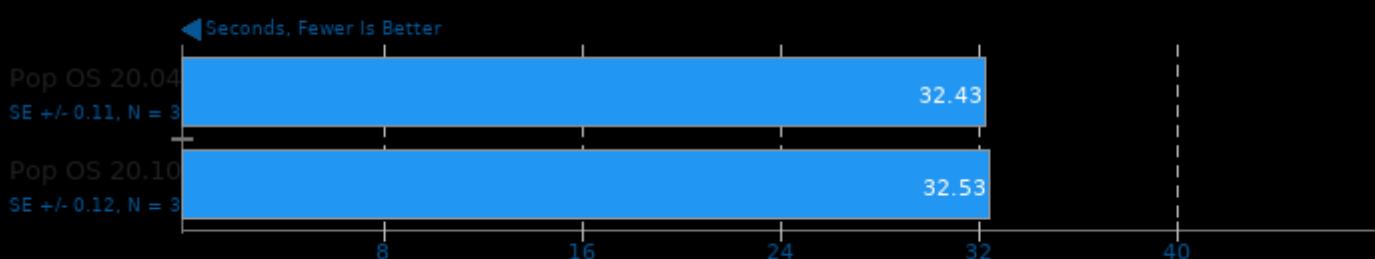
Kvazaar 2.0

Video Input: Bosphorus 4K - Video Preset: Slow



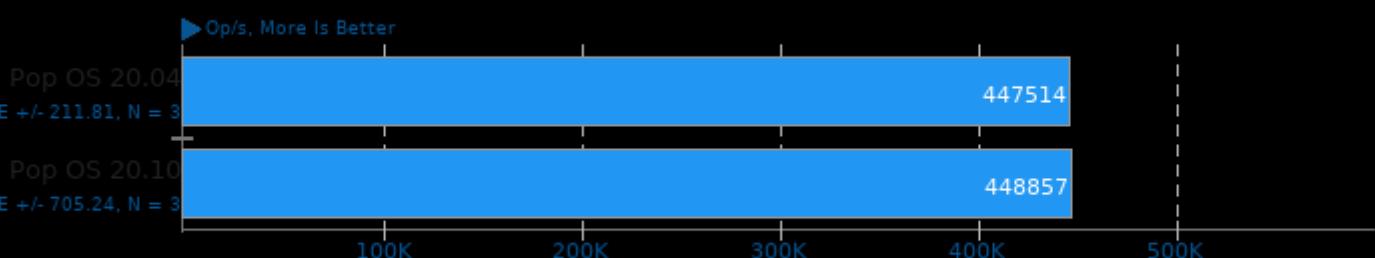
Blender 2.90

Blend File: BMW27 - Compute: CPU-Only



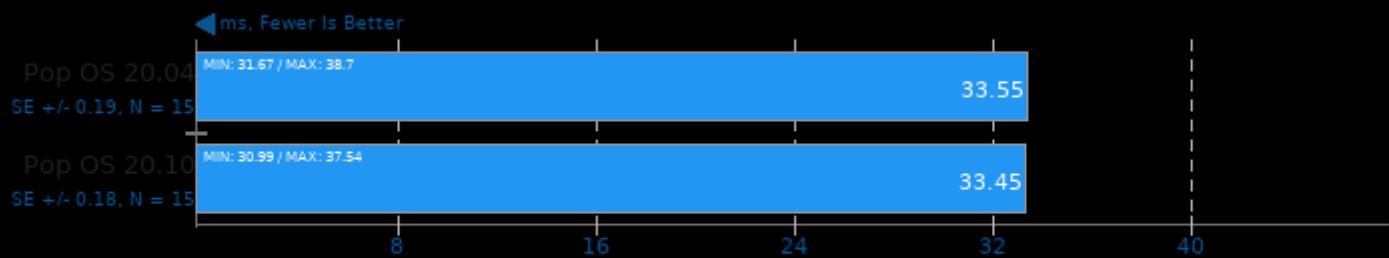
Facebook RocksDB 6.3.6

Test: Sequential Fill



Mobile Neural Network 2020-09-17

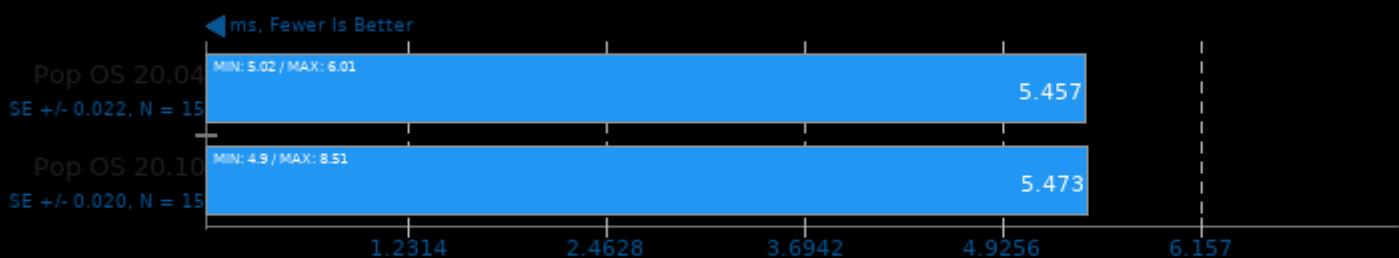
Model: resnet-v2-50



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-threadsafe-statics

Mobile Neural Network 2020-09-17

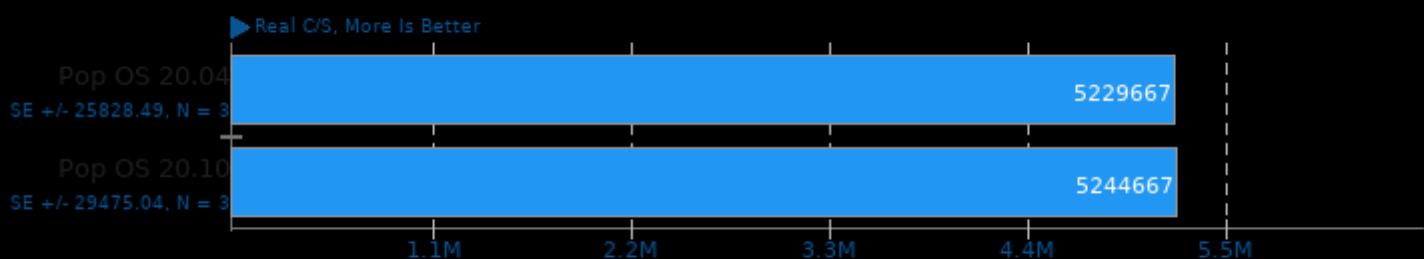
Model: mobilenet-v1-1.0



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fno-threadsafe-statics

John The Ripper 1.9.0-jumbo-1

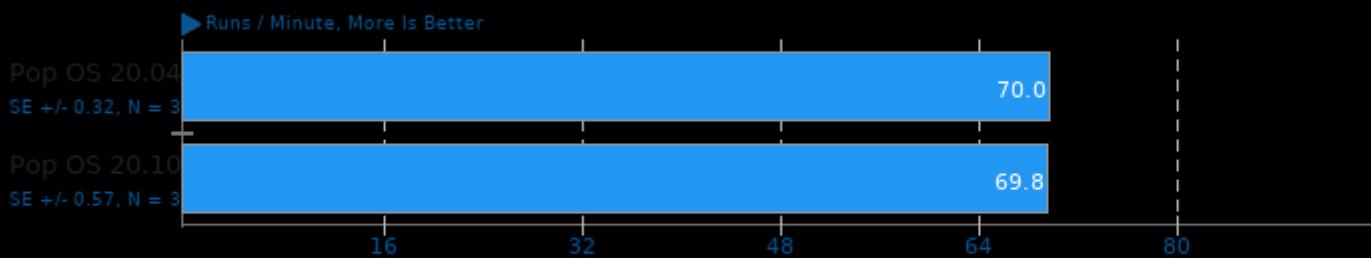
Test: MD5



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

Selenium

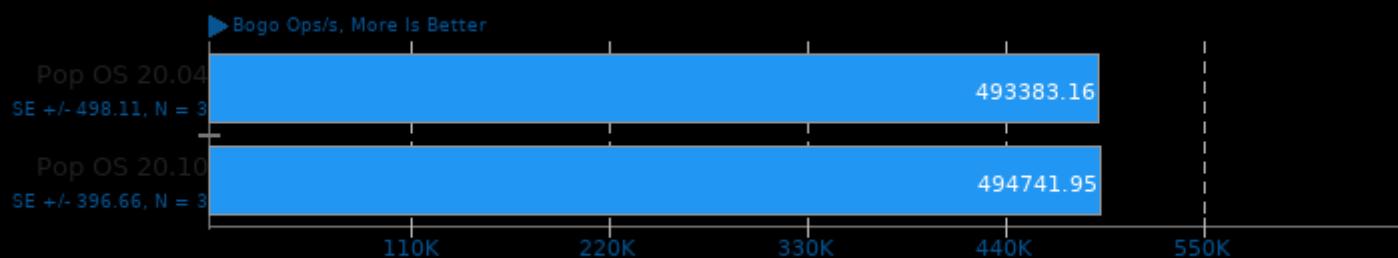
Benchmark: StyleBench - Browser: Firefox



1. firefox 82.0

Stress-NG 0.11.07

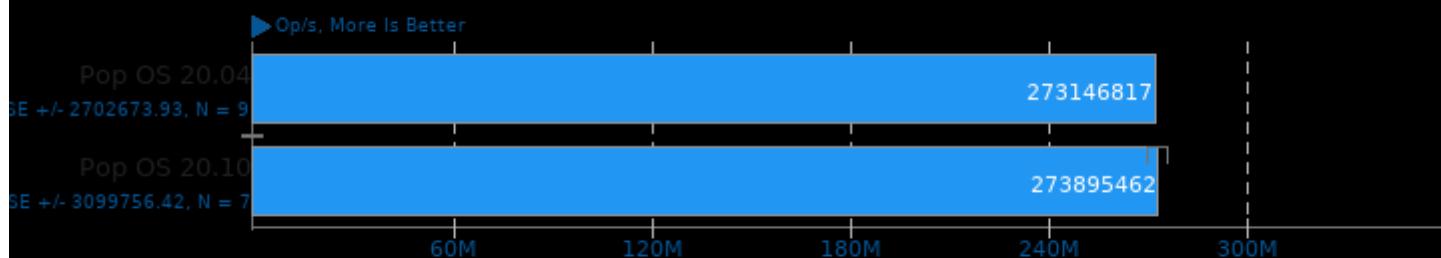
Test: Atomic



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

Facebook RocksDB 6.3.6

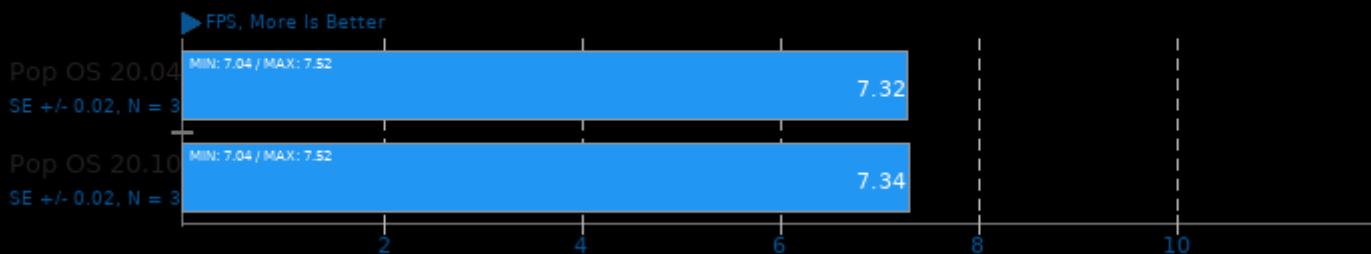
Test: Random Read



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

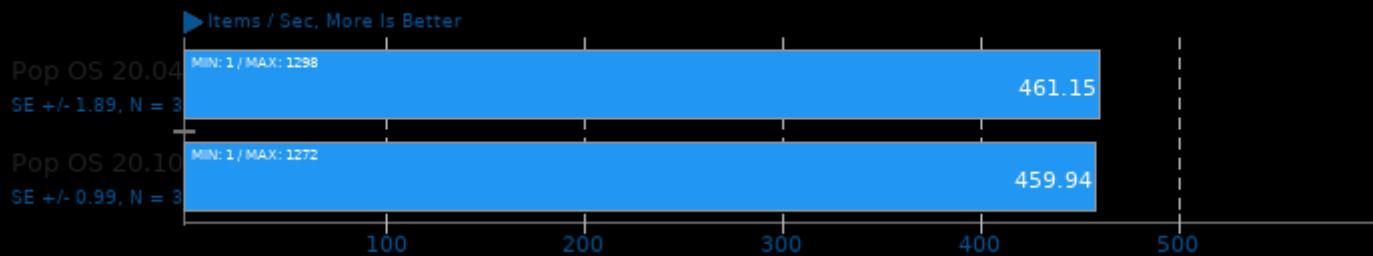
OSPray 1.8.5

Demo: XFrog Forest - Renderer: Path Tracer



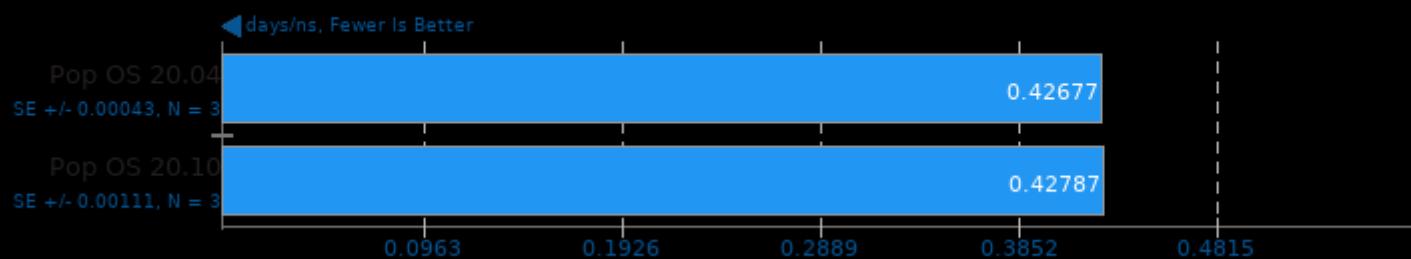
OpenVKL 0.9

Benchmark: vklBenchmark



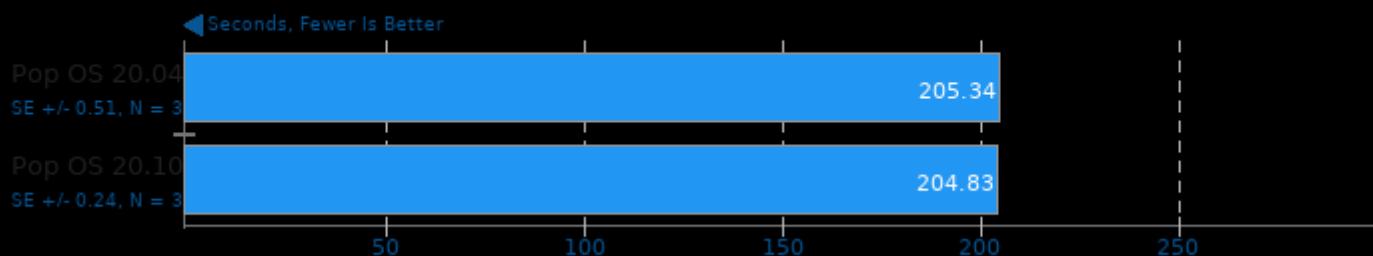
NAMD 2.14

ATPase Simulation - 327,506 Atoms



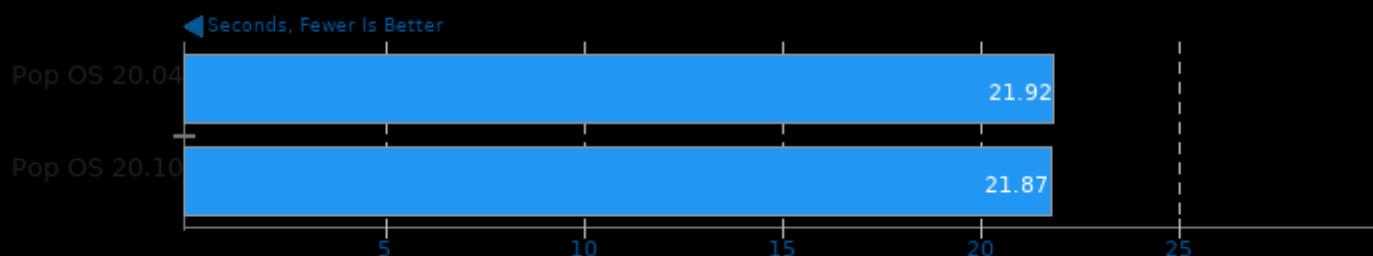
Timed LLVM Compilation 10.0

Time To Compile



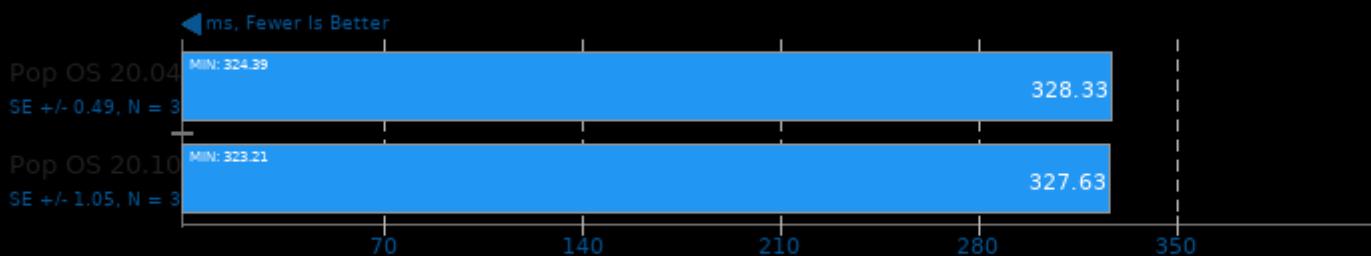
Polyhedron Fortran Benchmarks

Benchmark: induct2



oneDNN 1.5

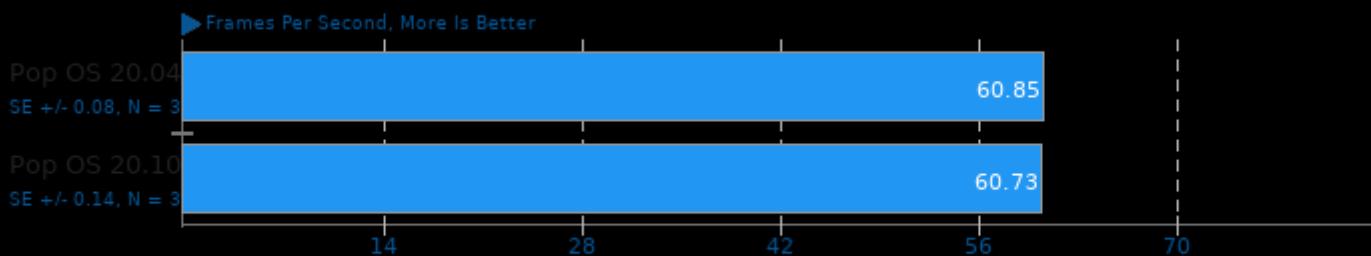
Harness: Recurrent Neural Network Training - Data Type: f32 - Engine: CPU



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

Kvazaar 2.0

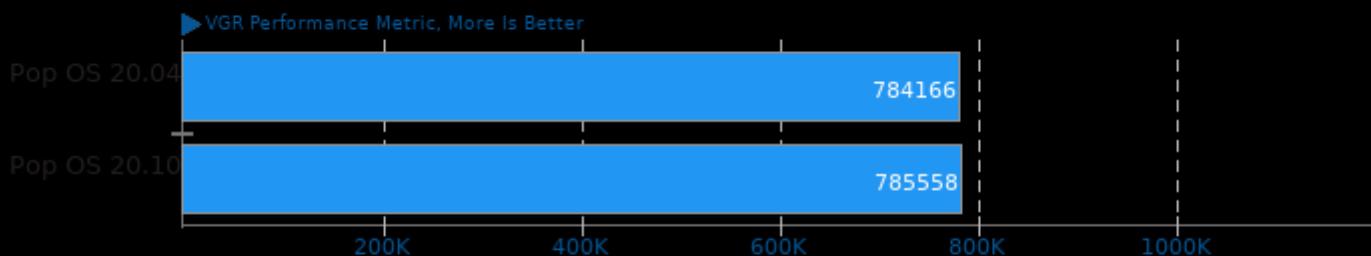
Video Input: Bosphorus 1080p - Video Preset: Slow



1. (CC) gcc options: -pthread -fno-vectorize -fvisibility=hidden -O2 -lpthread -lm -lrt

BRL-CAD 7.30.8

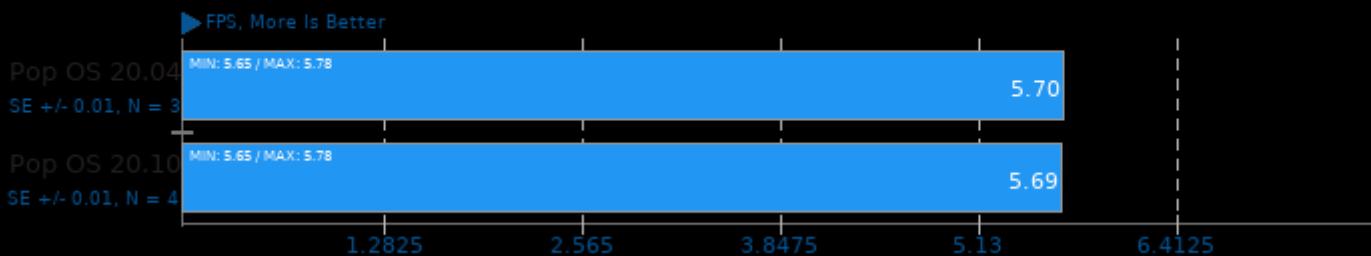
VGR Performance Metric



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

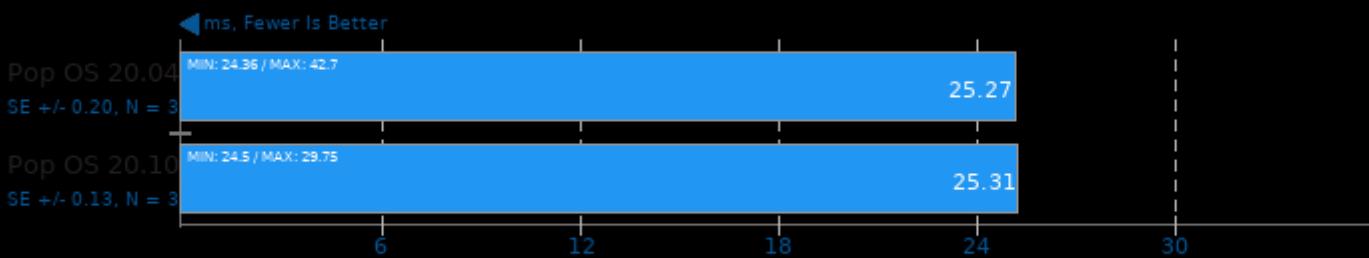
OSpray 1.8.5

Demo: San Miguel - Renderer: Path Tracer



NCNN 20200916

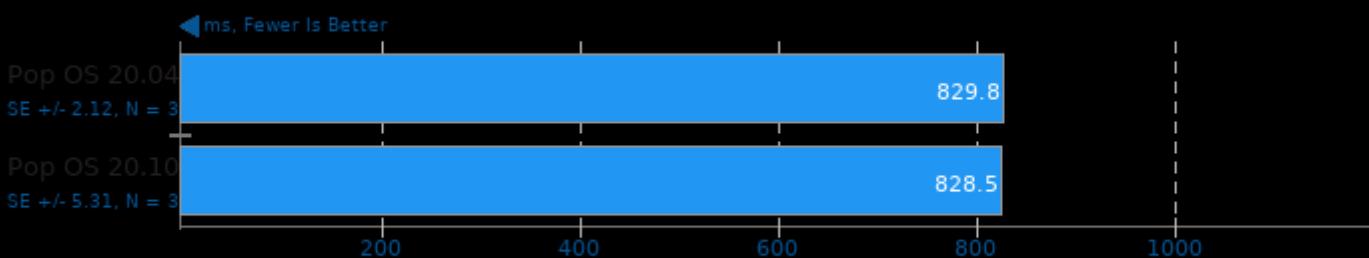
Target: CPU - Model: squeezeonet



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

Selenium

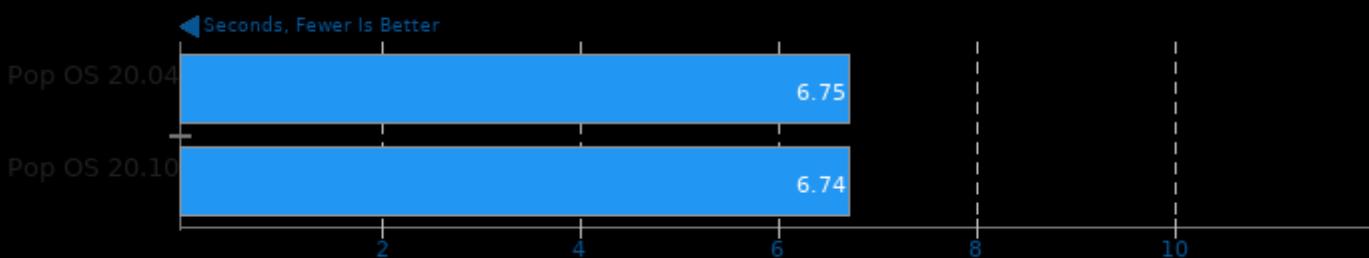
Benchmark: Kraken - Browser: Firefox



1. firefox 82.0

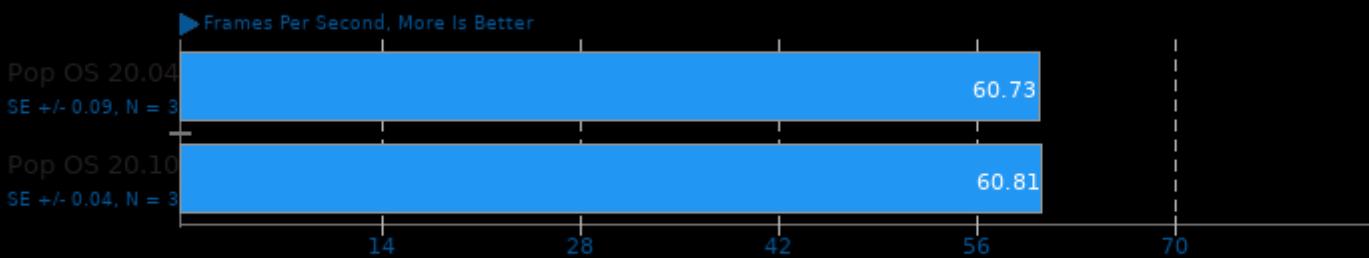
Polyhedron Fortran Benchmarks

Benchmark: doduc



Kvazaar 2.0

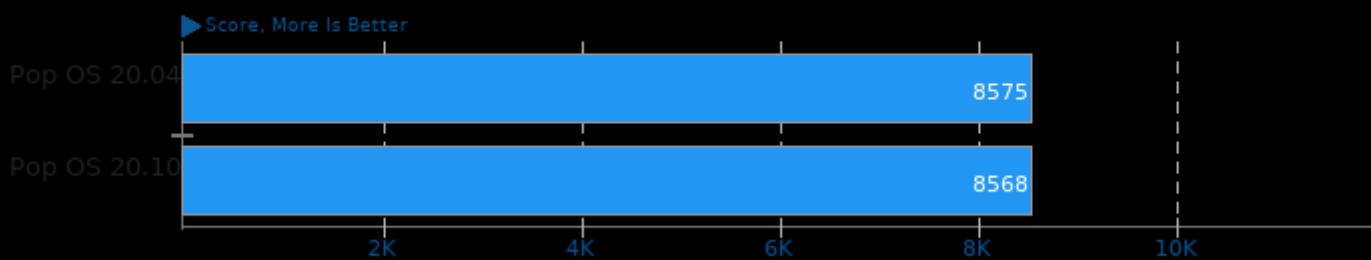
Video Input: Bosphorus 4K - Video Preset: Ultra Fast



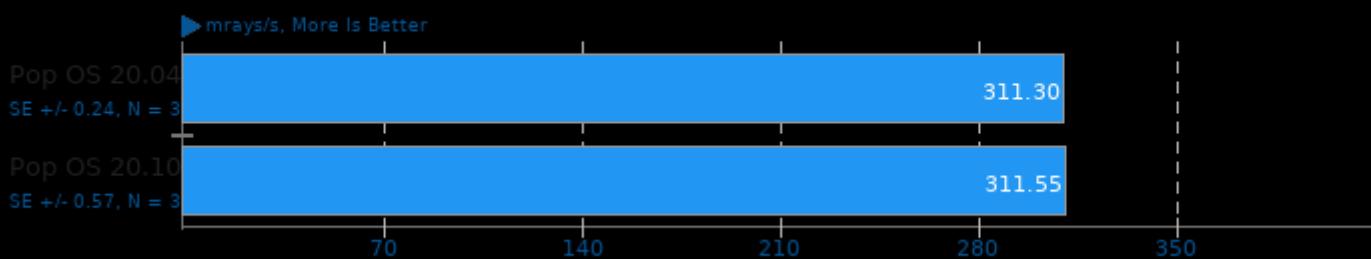
1. (CC) gcc options: -pthread -ftree-vectorize -fvisibility=hidden -O2 -lpthread -lm -lt

GLmark2 2020.04

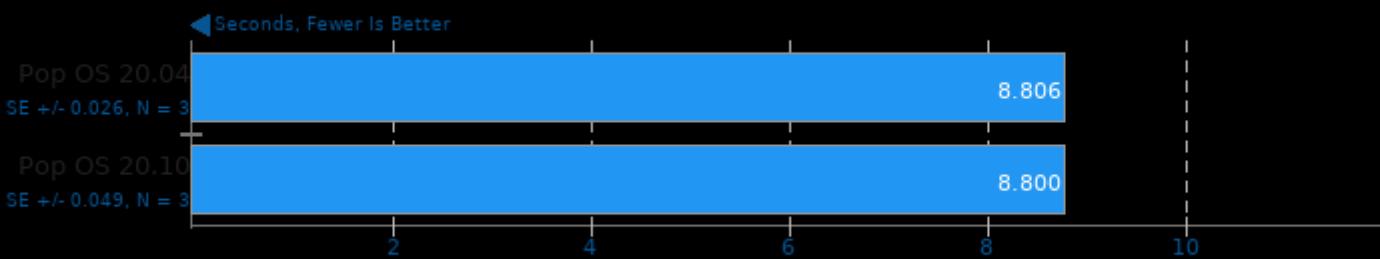
Resolution: 1920 x 1080

**rays1bench 2020-01-09**

Large Scene

**Timed MAFFT Alignment 7.471**

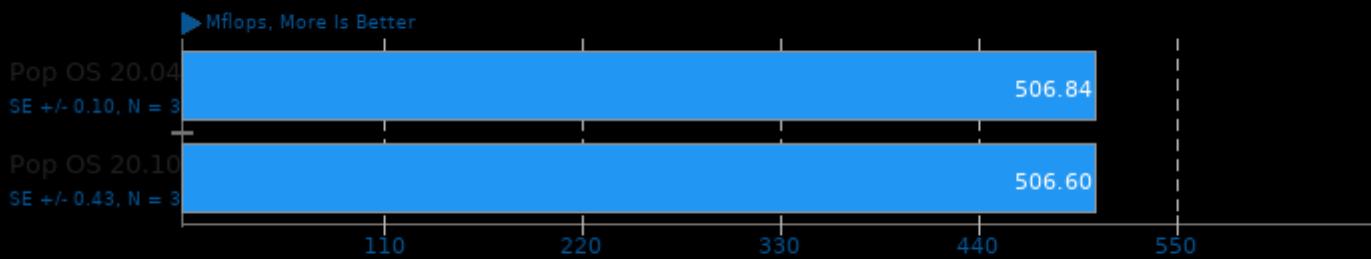
Multiple Sequence Alignment - LSU RNA



1. (CC) gcc options: -std=c99 -O3 -lm -lpthread

LuajIT 2.1-git

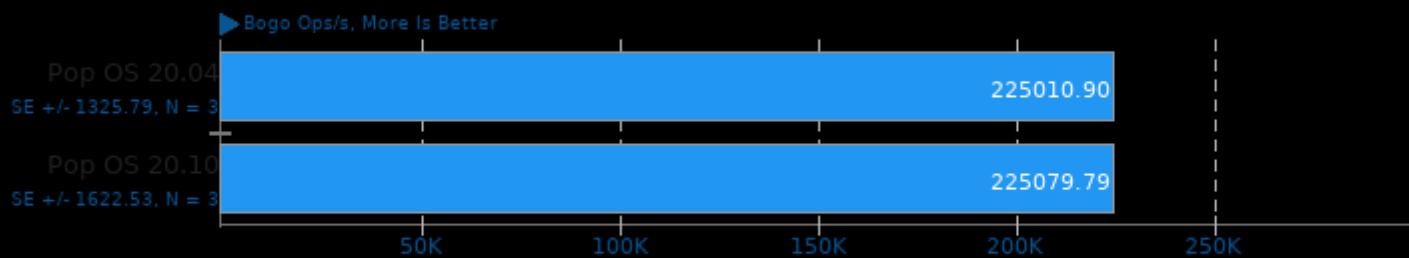
Test: Monte Carlo



1. (CC) gcc options: -lm -ldl -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

Stress-NG 0.11.07

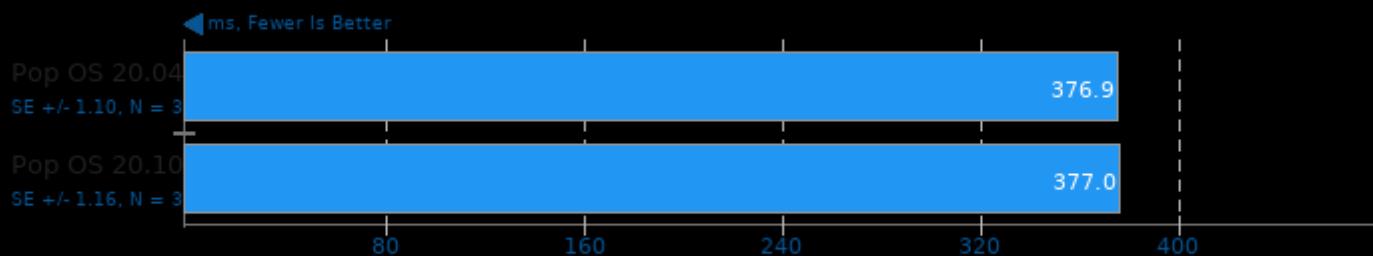
Test: Matrix Math



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

Selenium

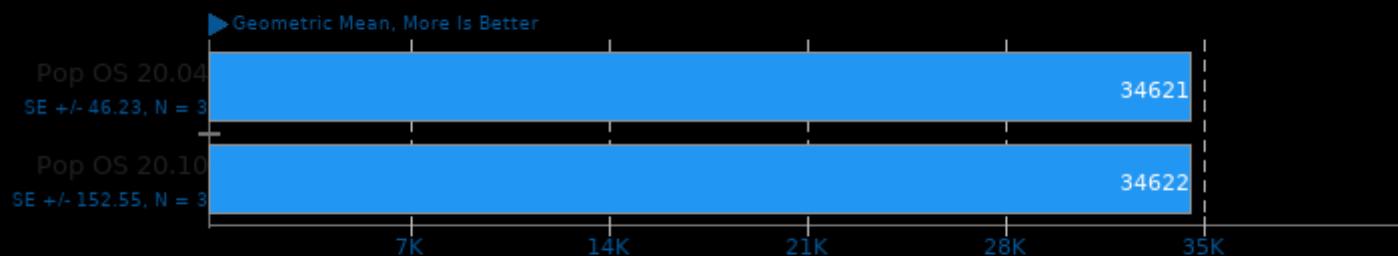
Benchmark: WASM collisionDetection - Browser: Firefox



1. firefox 82.0

Selenium

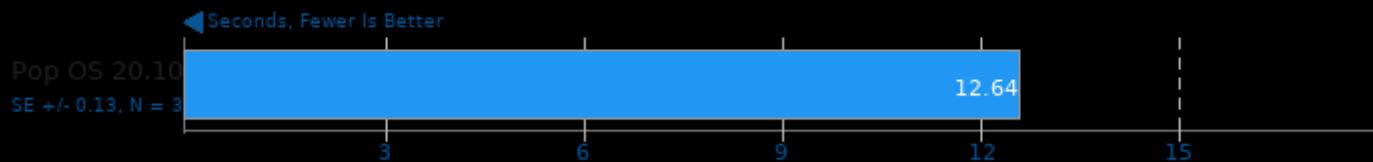
Benchmark: Octane - Browser: Firefox



1. firefox 82.0

OCRMyPDF 10.3.1+dfsg

Processing 60 Page PDF Document



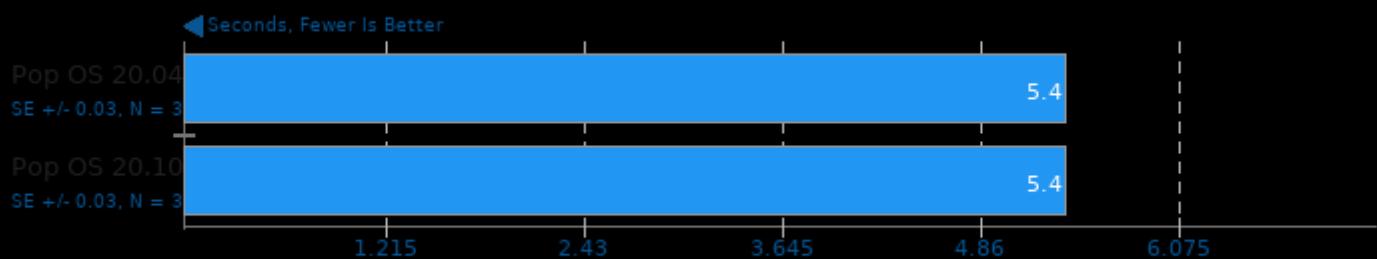
Cryptsetup 2.2.2

PBKDF2-whirlpool



Selenium

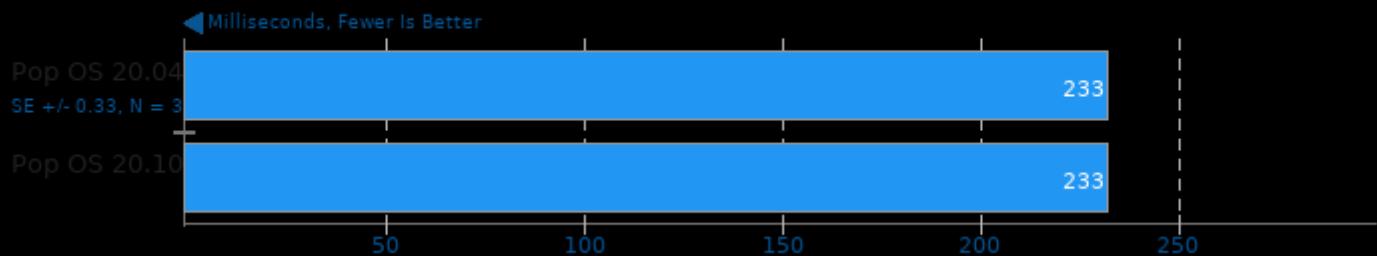
Benchmark: Maze Solver - Browser: Firefox



1. firefox 82.0

PyPerformance 1.0.0

Benchmark: go



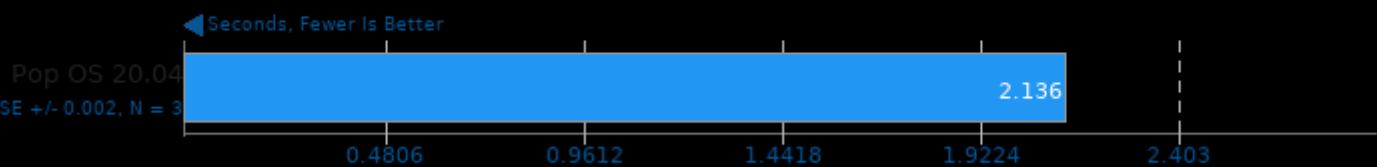
OCRMypdf 9.6.0+dfsg

Processing 60 Page PDF Document



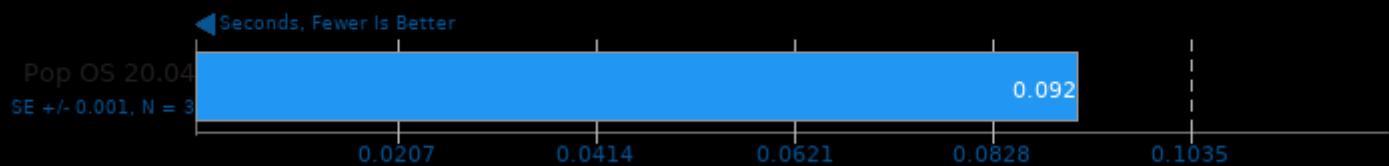
Darktable 3.0.1

Test: Server Room - Acceleration: CPU-only



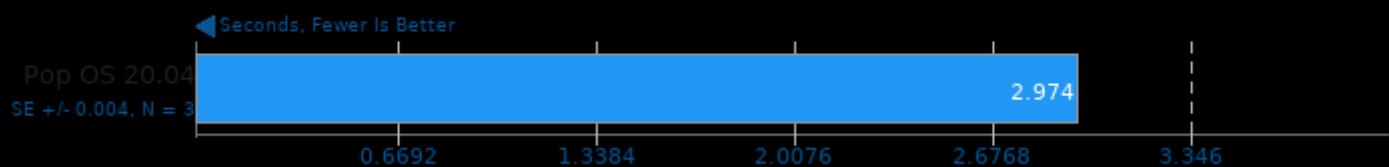
Darktable 3.0.1

Test: Server Rack - Acceleration: CPU-only



Darktable 3.0.1

Test: Masskrug - Acceleration: CPU-only



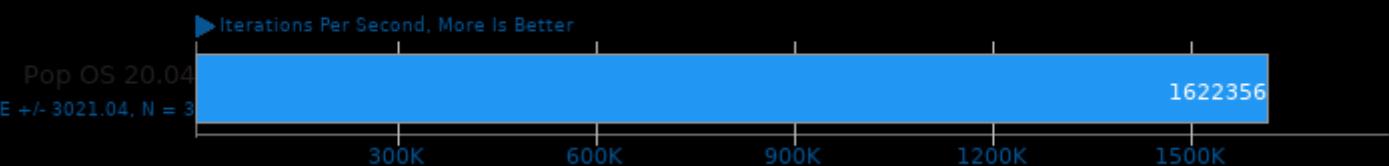
Darktable 3.0.1

Test: Boat - Acceleration: CPU-only



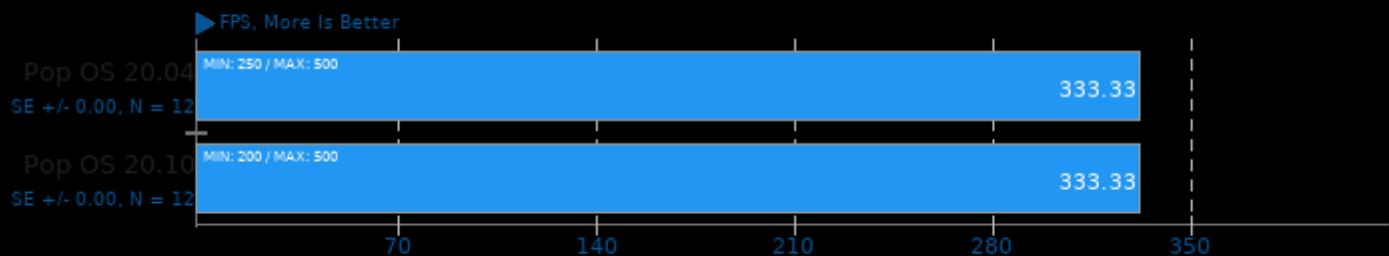
Cryptsetup 2.2.2

PBKDF2-sha512



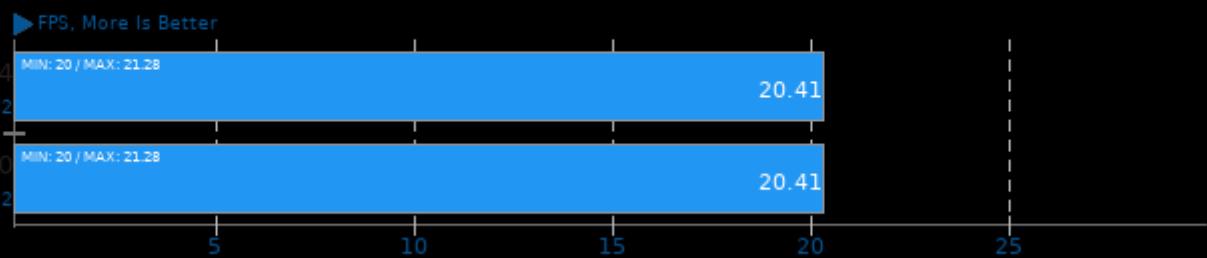
OSPray 1.8.5

Demo: Magnetic Reconnection - Renderer: Path Tracer



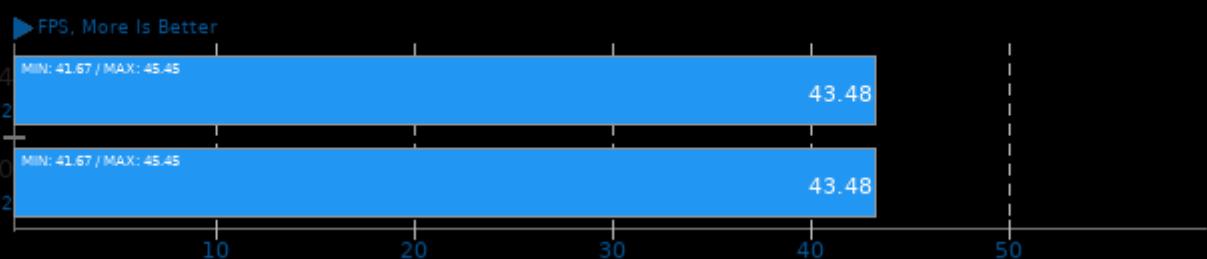
OSPray 1.8.5

Demo: NASA Streamlines - Renderer: Path Tracer



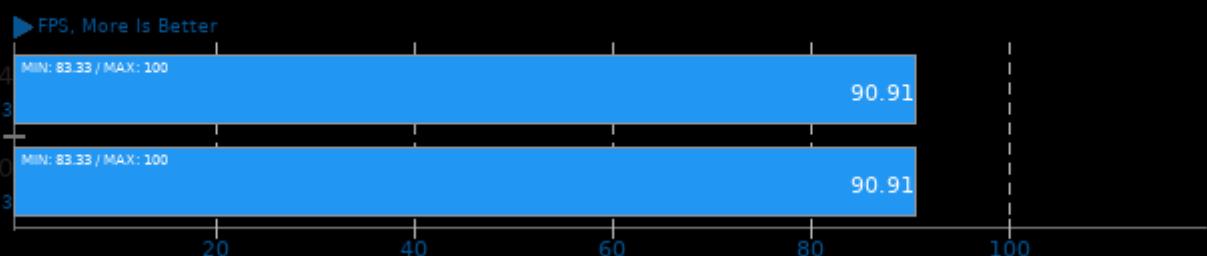
OSPray 1.8.5

Demo: Magnetic Reconnection - Renderer: SciVis



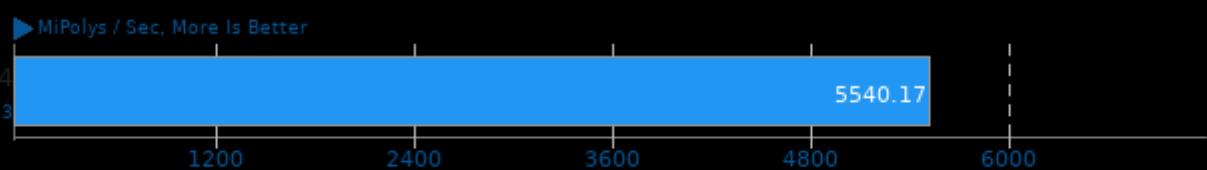
OSPray 1.8.5

Demo: NASA Streamlines - Renderer: SciVis



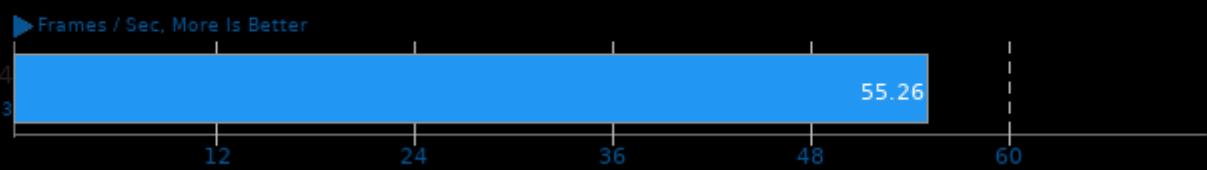
ParaView 5.4.1

Test: Many Spheres - Resolution: 3840 x 2160



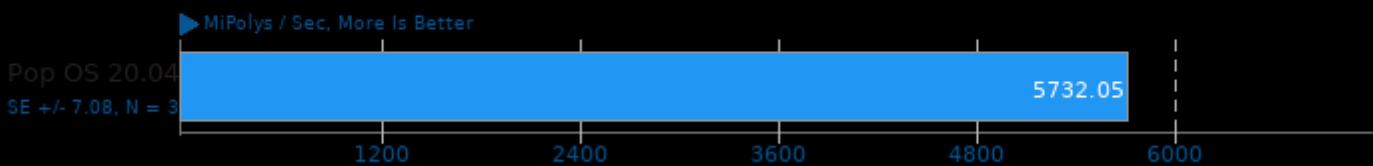
ParaView 5.4.1

Test: Many Spheres - Resolution: 3840 x 2160



ParaView 5.4.1

Test: Many Spheres - Resolution: 1920 x 1080



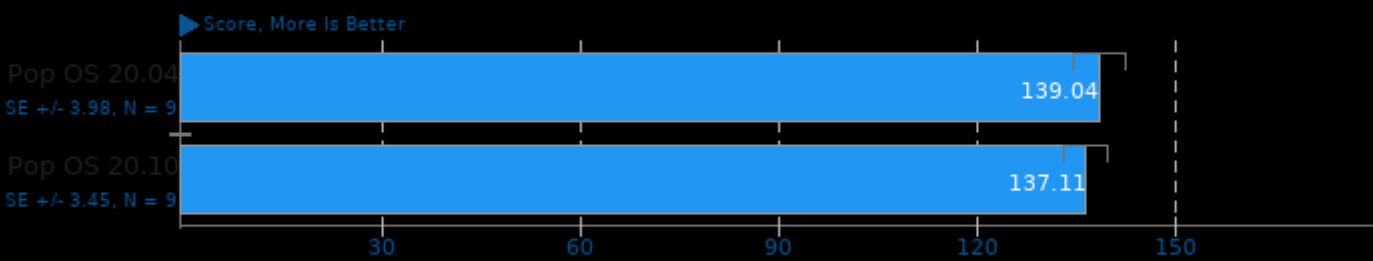
ParaView 5.4.1

Test: Many Spheres - Resolution: 1920 x 1080



Selenium

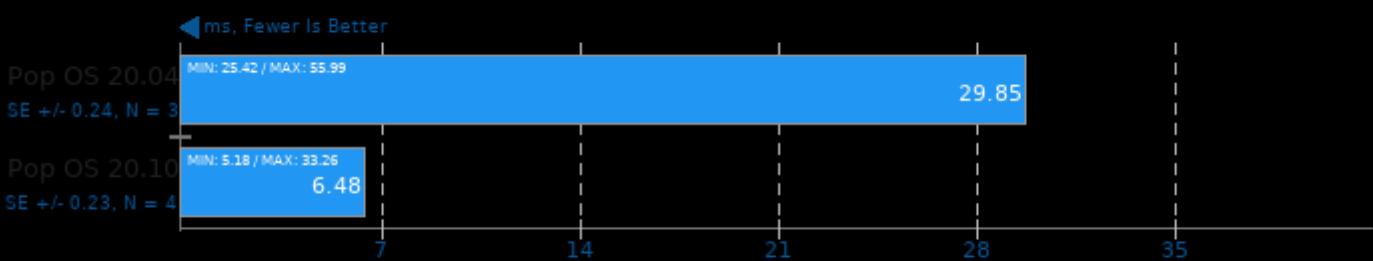
Benchmark: MotionMark - Browser: Firefox



1. firefox 82.0

NCNN 20200916

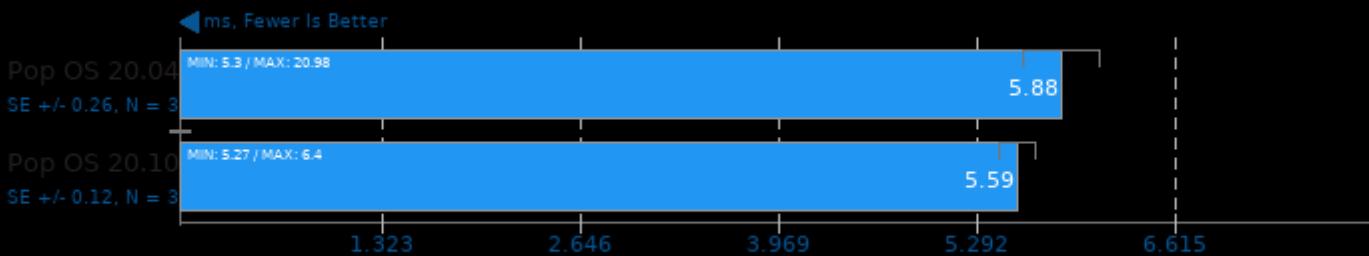
Target: Vulkan GPU - Model: alexnet



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

NCNN 20200916

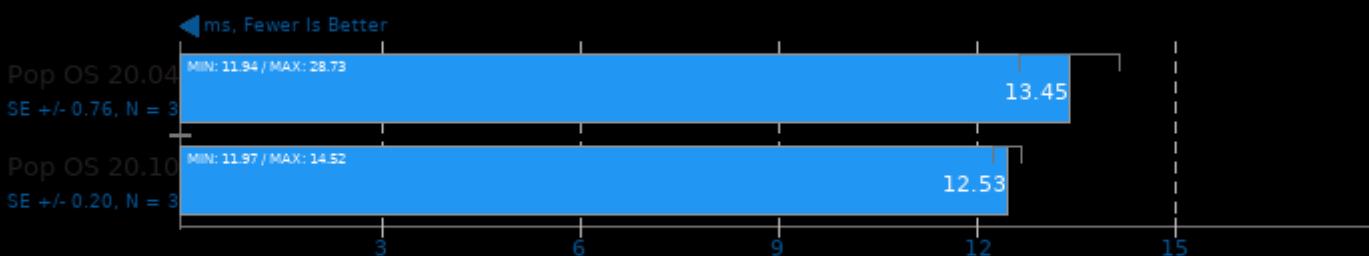
Target: CPU - Model: blazeface



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

NCNN 20200916

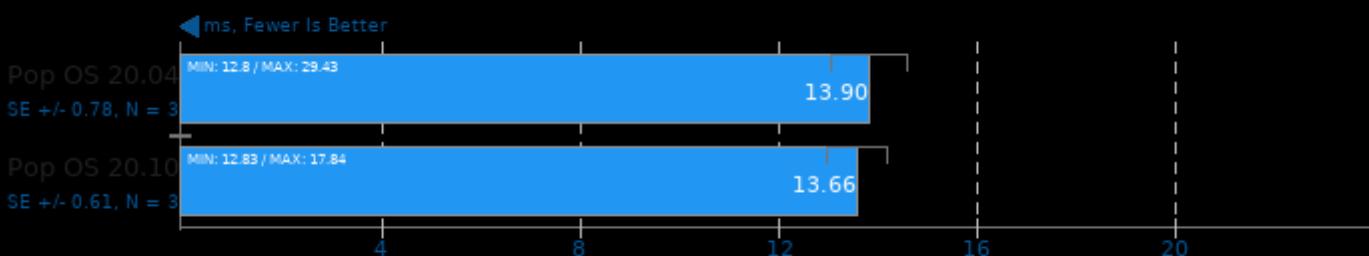
Target: CPU - Model: mnasnet



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

NCNN 20200916

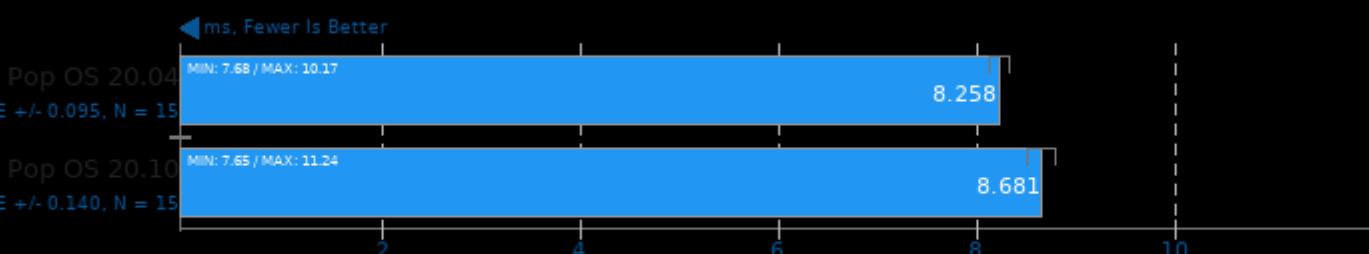
Target: CPU-v3-v3 - Model: mobilenet-v3



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

Mobile Neural Network 2020-09-17

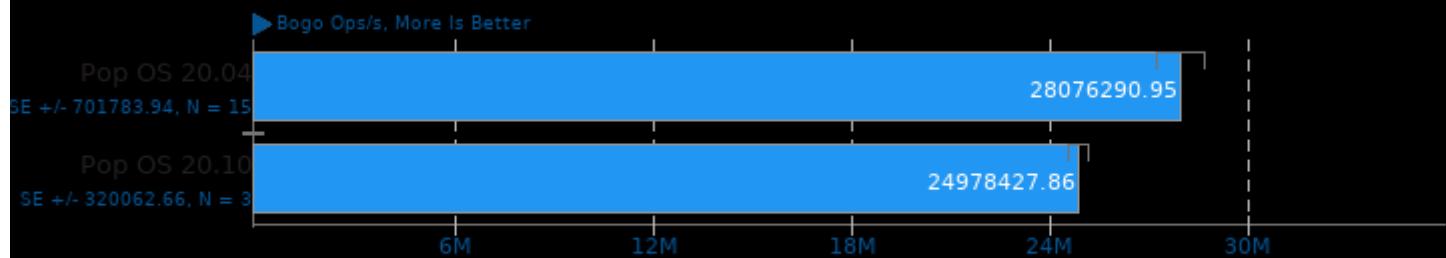
Model: SqueezeNetV1.0



1. (CXX) g++ options: -std=c++11 -O3 -fvisibility=hidden -fomit-frame-pointer -fstrict-aliasing -ffunction-sections -fdata-sections -ffast-math -fno-rtti -fr

Stress-NG 0.11.07

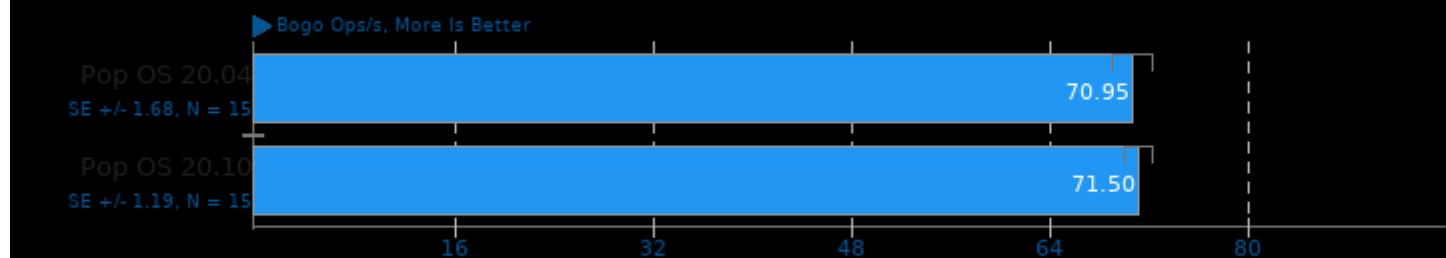
Test: Context Switching



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

Stress-NG 0.11.07

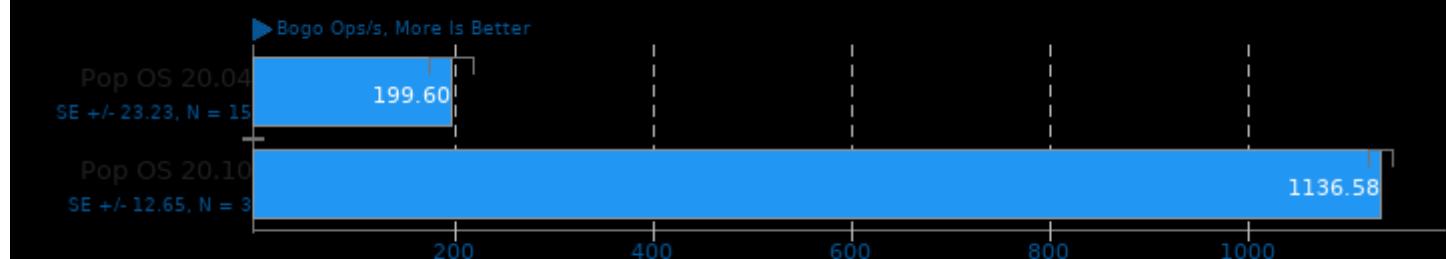
Test: CPU Cache



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

Stress-NG 0.11.07

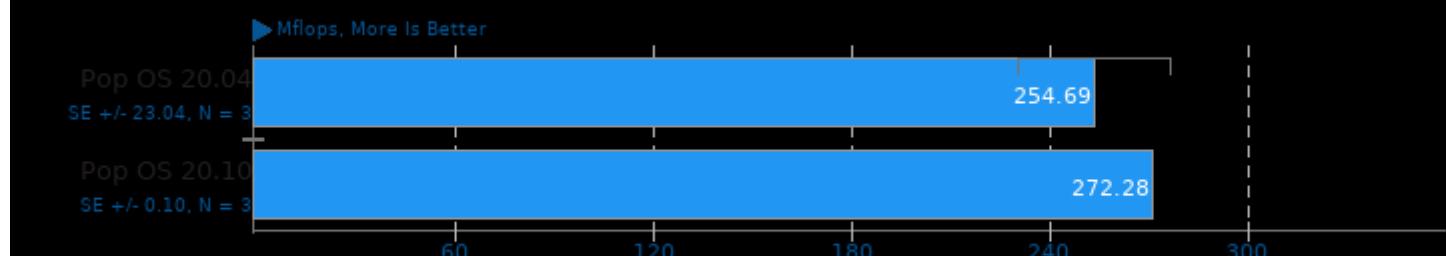
Test: MMAP



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

LuajIT 2.1-git

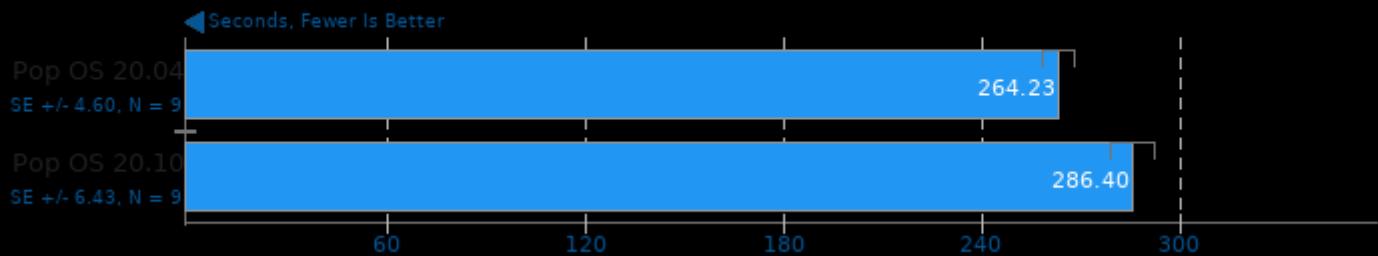
Test: Fast Fourier Transform



1. (CC) gcc options: -lm -ldl -O2 -fomit-frame-pointer -U_FORTIFY_SOURCE -fno-stack-protector

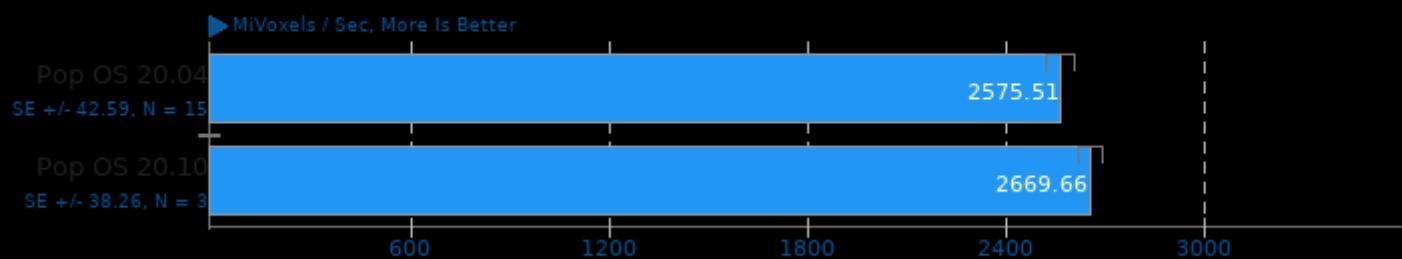
Java Gradle Build

Gradle Build: Reactor



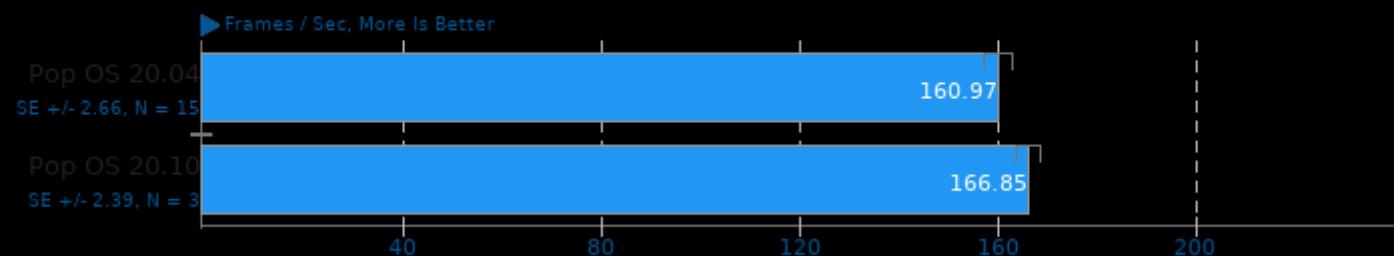
ParaView 5.4.1

Test: Wavelet Volume - Resolution: 3840 x 2160



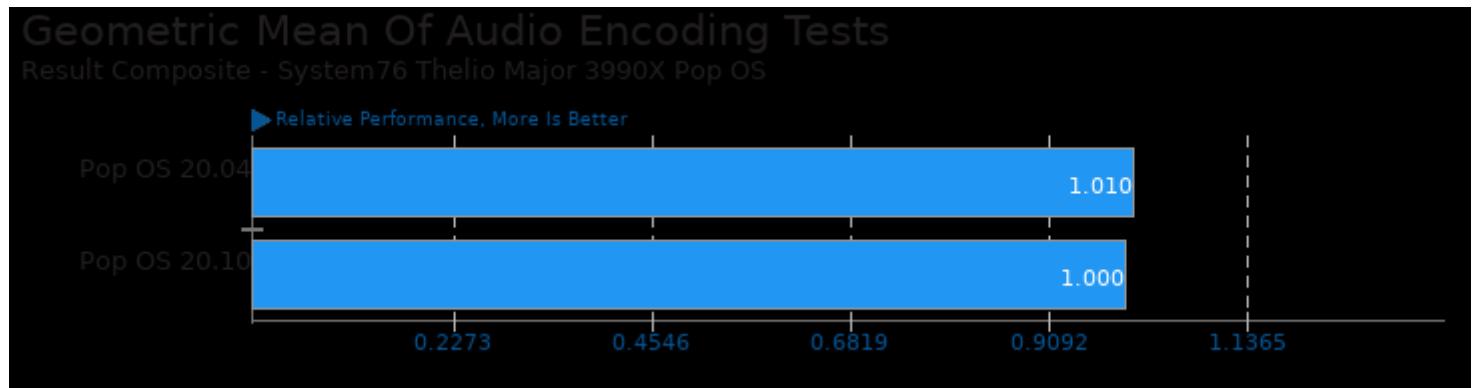
ParaView 5.4.1

Test: Wavelet Volume - Resolution: 3840 x 2160

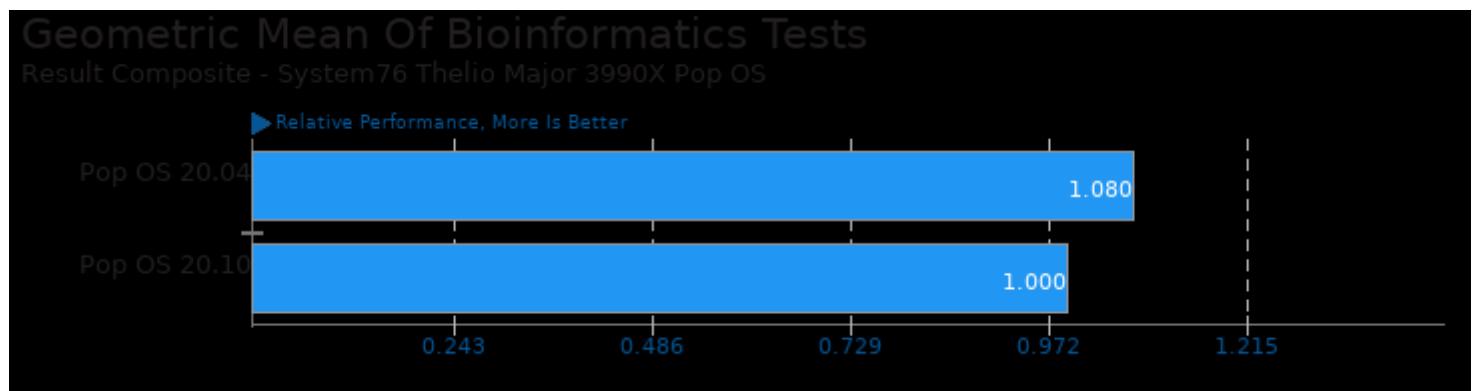


System76 Thelio Major 3990X Pop OS

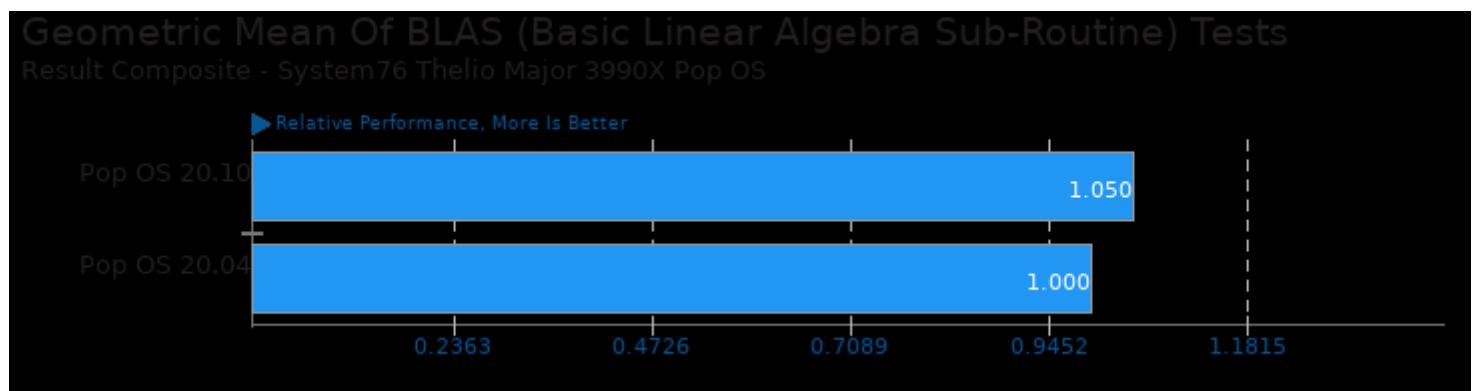
These geometric means are based upon test groupings / test suites for this result file.



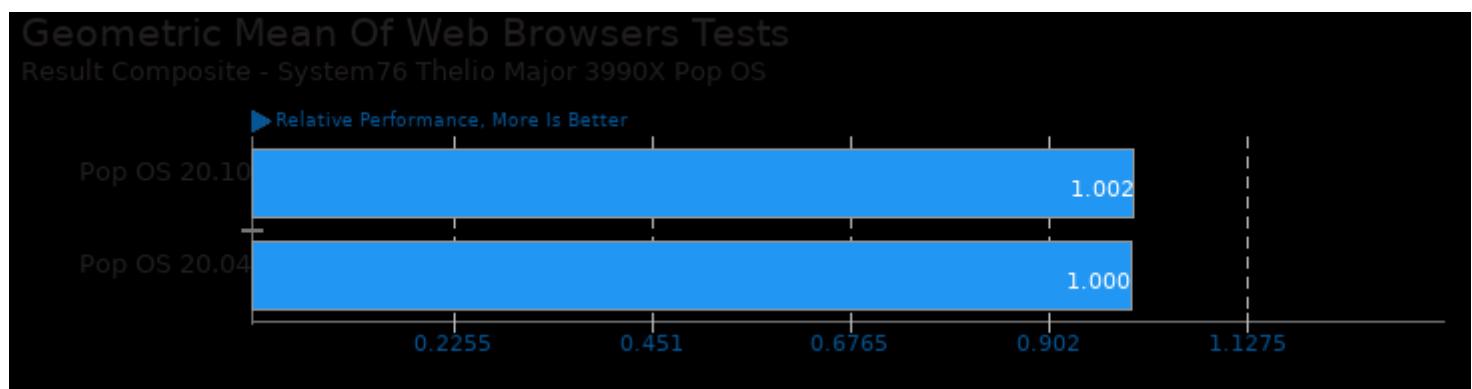
Geometric mean based upon tests: pts/encode-mp3 and pts/encode-flac



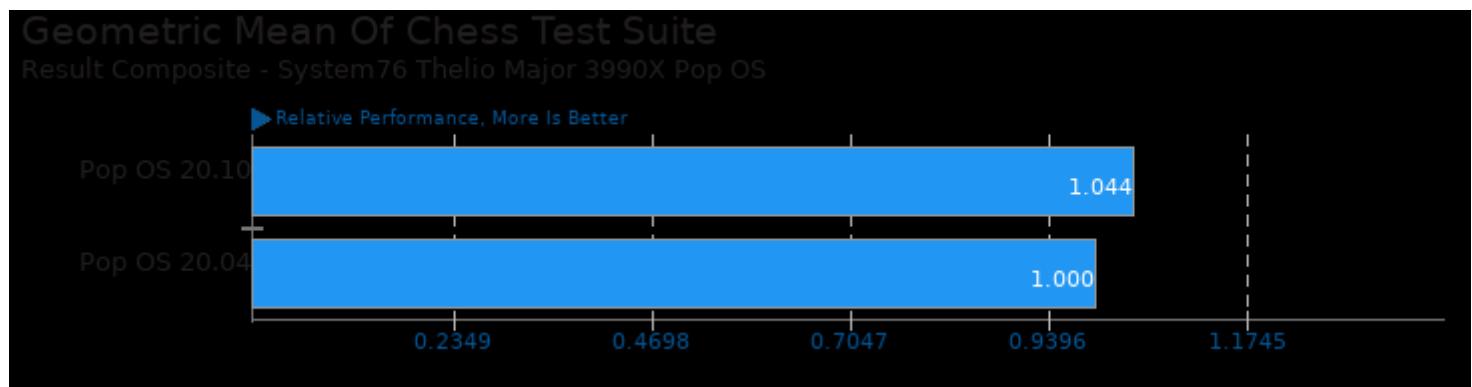
Geometric mean based upon tests: pts/hmmer and pts/mafft



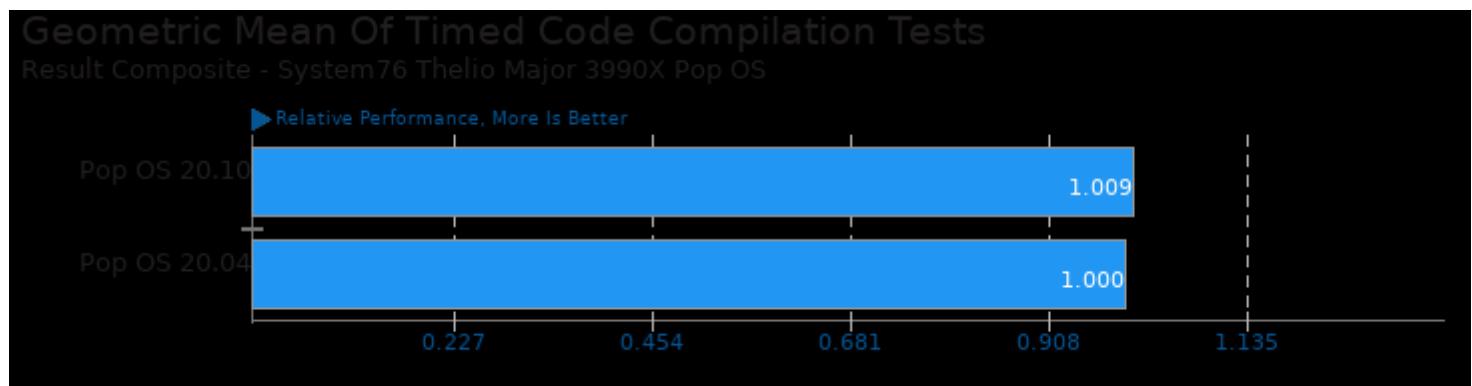
Geometric mean based upon tests: pts/lczero, pts/caffe and pts/gpaw



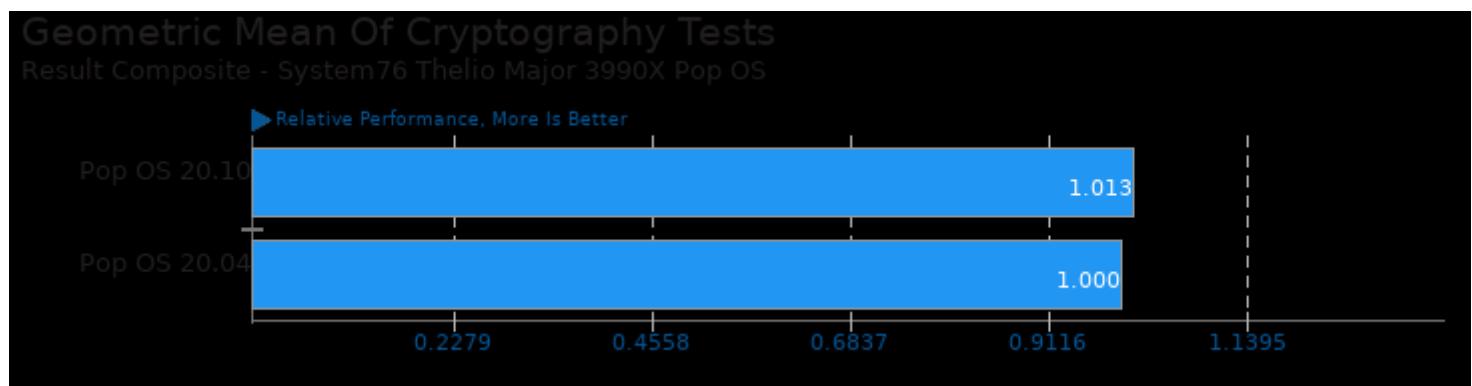
Geometric mean based upon tests: system/selenium



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



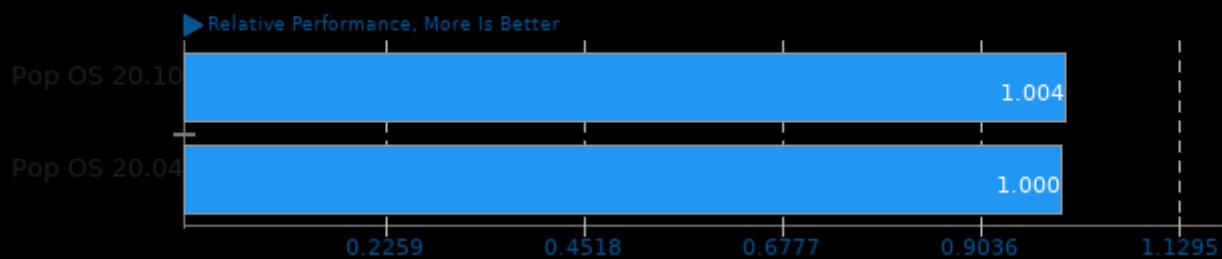
Geometric mean based upon tests: pts/build-apache, pts/build-php, pts/build-linux-kernel, pts/build-gdb, pts/build-llvm, pts/build-ffmpeg and pts/build-mplayer



Geometric mean based upon tests: pts/openssl, pts/john-the-ripper and system/cryptsetup

Geometric Mean Of Database Test Suite

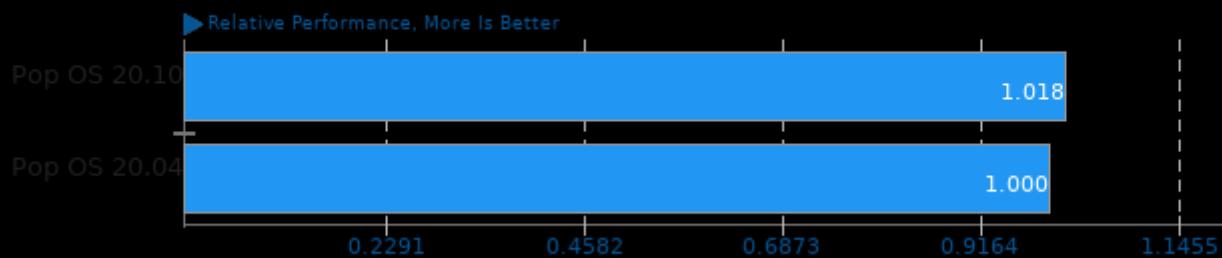
Result Composite - System76 Thelio Major 3990X Pop OS



Geometric mean based upon tests: pts/sqlite, pts/sqlite-speedtest, pts/leveldb, pts/rocksdb, pts/couchdb and pts/influxdb

Geometric Mean Of Desktop Graphics Tests

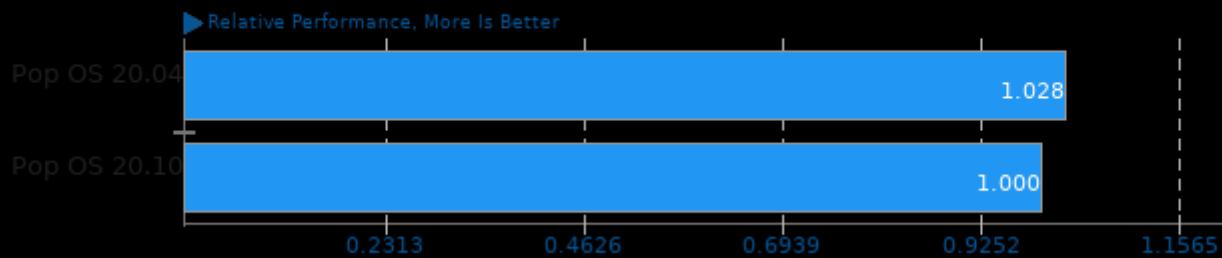
Result Composite - System76 Thelio Major 3990X Pop OS



Geometric mean based upon tests: pts/xonotic, pts/tesseract, pts/paraview and pts/glmark2

Geometric Mean Of Disk Test Suite

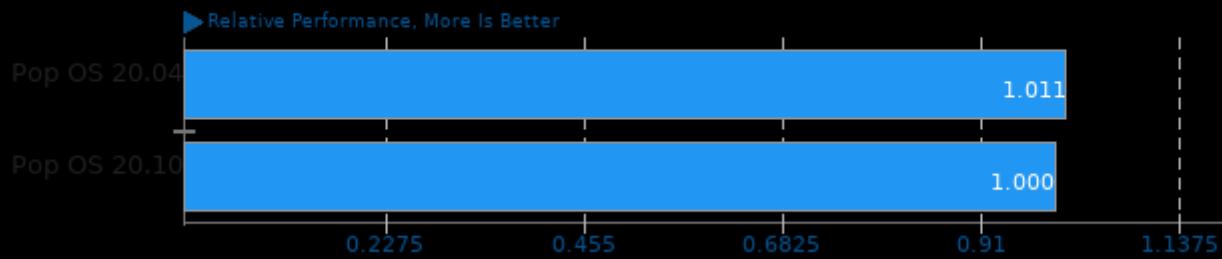
Result Composite - System76 Thelio Major 3990X Pop OS



Geometric mean based upon tests: pts/sqlite and pts/postmark

Geometric Mean Of Encoding Tests

Result Composite - System76 Thelio Major 3990X Pop OS

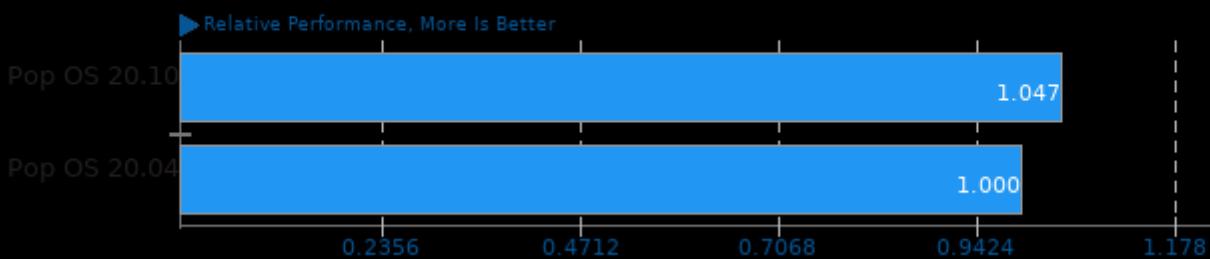


Geometric mean based upon tests: pts/encode-mp3, pts/encode-flac, pts/svt-vp9, pts/svt-hevc, pts/x265, pts/kvazaar and pts/svt-av1

System76 Thelio Major 3990X Pop OS

Geometric Mean Of Fortran Tests

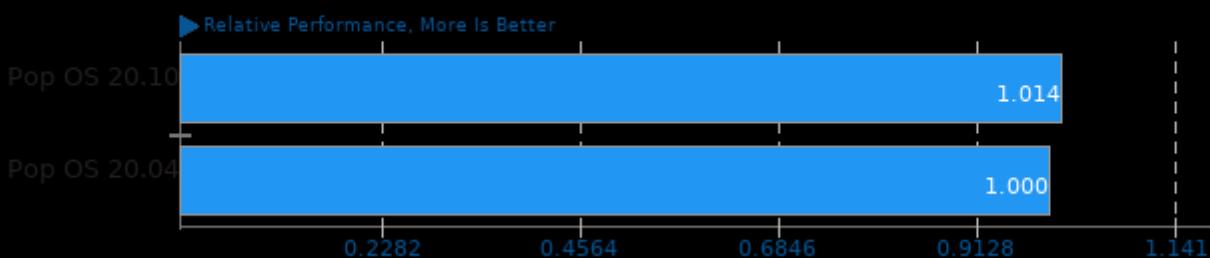
Result Composite - System76 Thelio Major 3990X Pop OS



Geometric mean based upon tests: pts/polyhedron, pts/cloverleaf, pts/lammps, pts/mocassin, pts/dolfyn and pts/ffte

Geometric Mean Of Game Development Tests

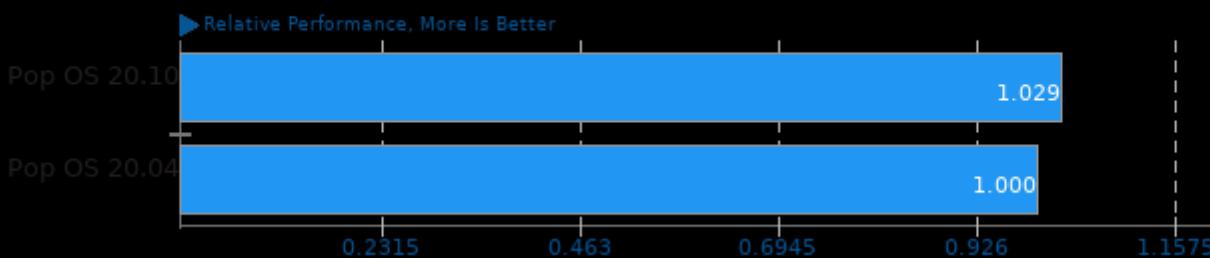
Result Composite - System76 Thelio Major 3990X Pop OS



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

Geometric Mean Of Imaging Tests

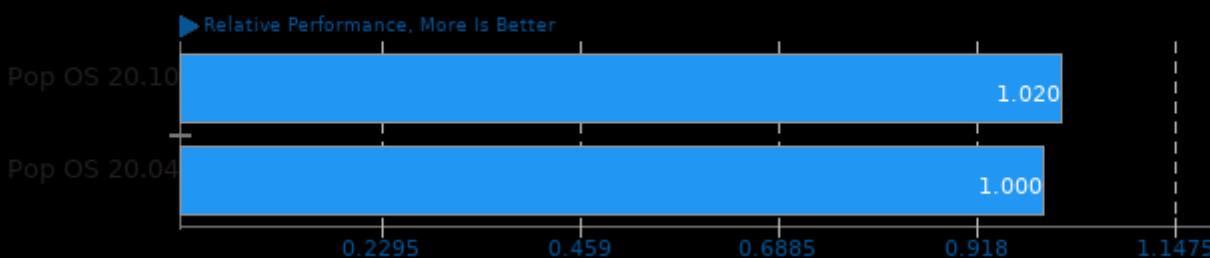
Result Composite - System76 Thelio Major 3990X Pop OS



Geometric mean based upon tests: system/gmic, pts/libraw, pts/webp, system/rawtherapee, system/gimp, system/hugin, system/darktable, system/rsvg and system/gegl

Geometric Mean Of Java Tests

Result Composite - System76 Thelio Major 3990X Pop OS

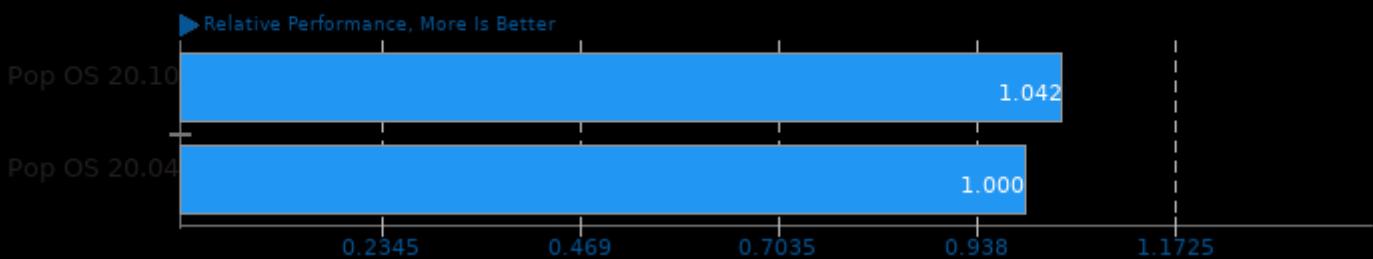


Geometric mean based upon tests: pts/j2dbench and pts/java-gradle-perf

System76 Thelio Major 3990X Pop OS

Geometric Mean Of Common Kernel Benchmarks Tests

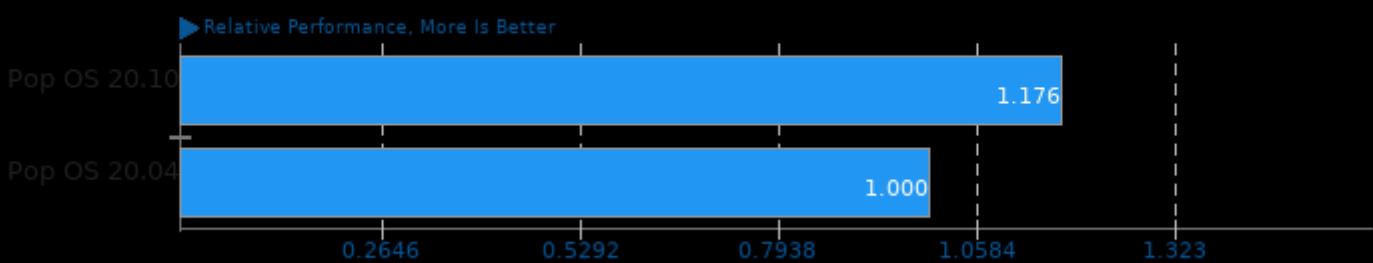
Result Composite - System76 Thelio Major 3990X Pop OS



Geometric mean based upon tests: pts/postmark, pts/sqlite-speedtest, pts/openssl, pts/stress-ng, pts/rocksdb and pts/leveldb

Geometric Mean Of Machine Learning Tests

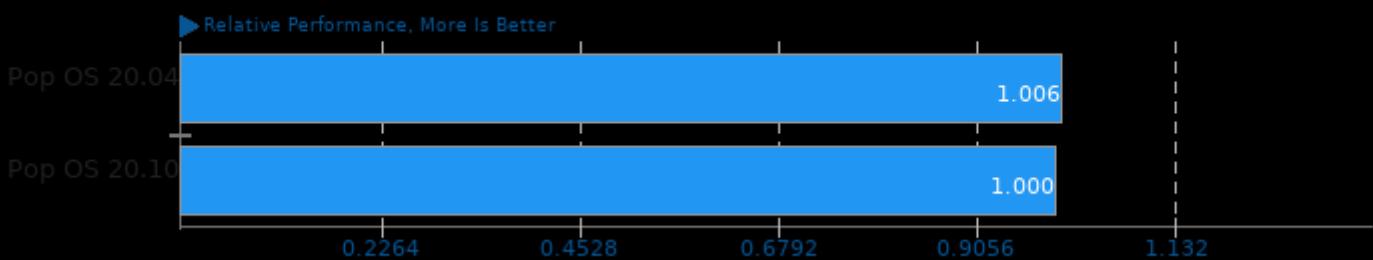
Result Composite - System76 Thelio Major 3990X Pop OS



Geometric mean based upon tests: pts/mnn, pts/ncnn, pts/tnn, pts/caffe, pts/ai-benchmark, pts/rnnoise, pts/mlpack, pts/tensorflow-lite, pts/onednn and pts/lczero

Geometric Mean Of Molecular Dynamics Tests

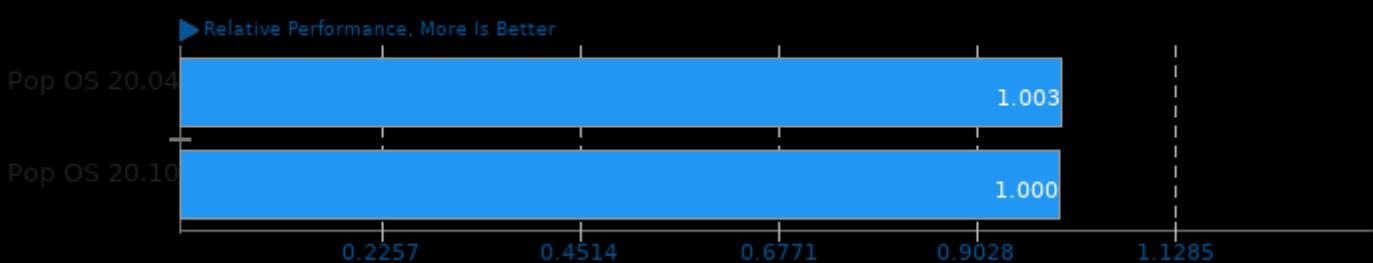
Result Composite - System76 Thelio Major 3990X Pop OS



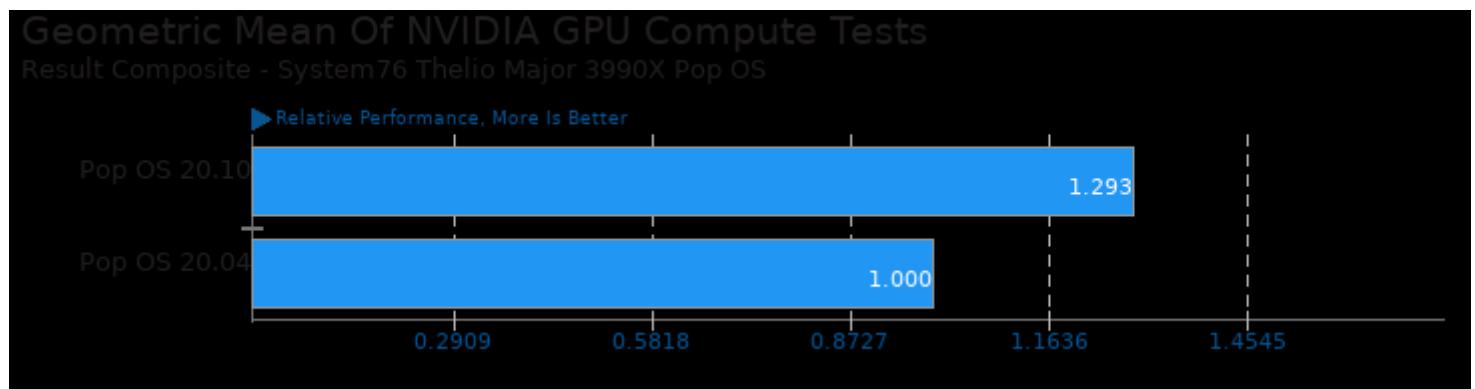
Geometric mean based upon tests: pts/namd, pts/gromacs, pts/dolfin, pts/cloverleaf and pts/lammps

Geometric Mean Of MPI Benchmarks Tests

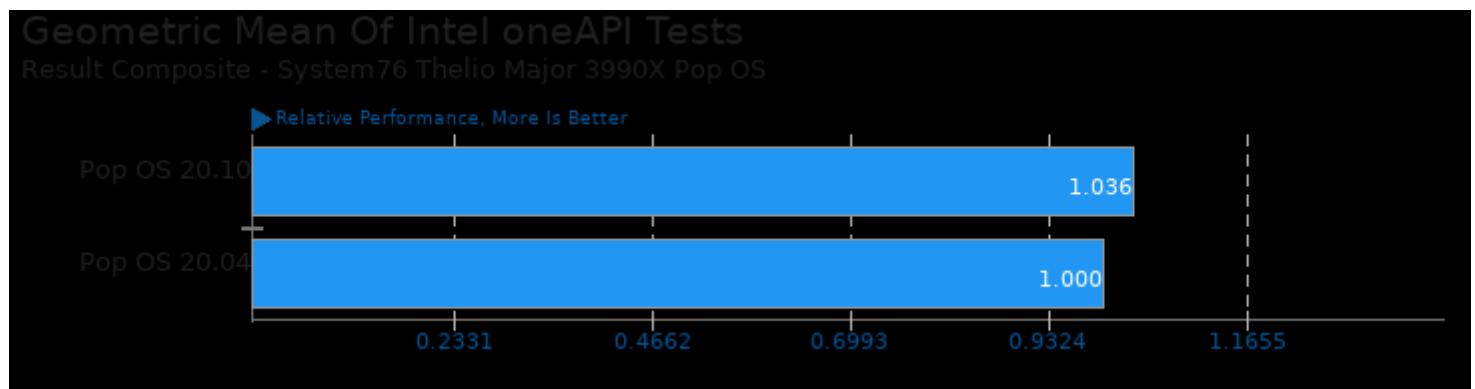
Result Composite - System76 Thelio Major 3990X Pop OS



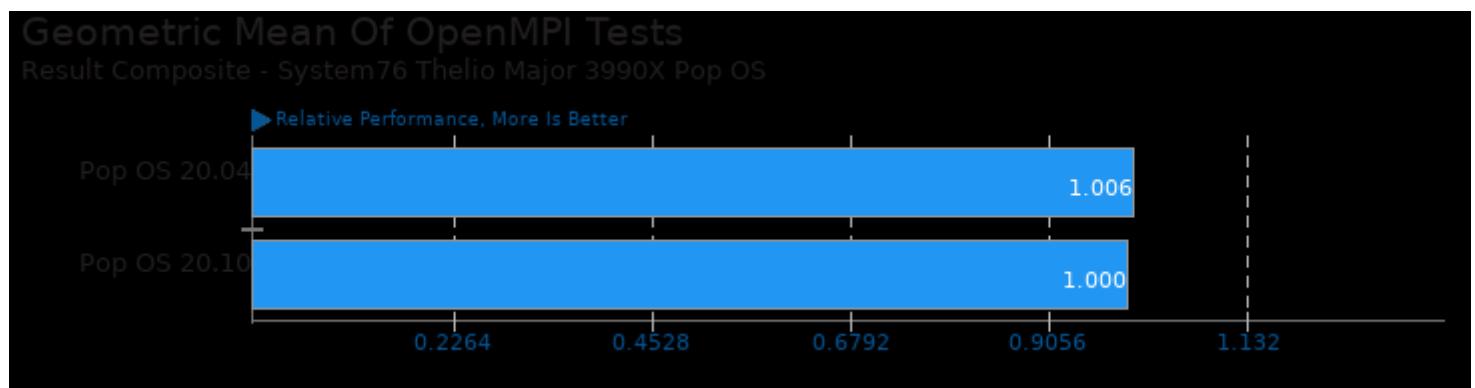
Geometric mean based upon tests: pts/lammps, pts/gpaw, pts/mocassin and pts/gromacs



Geometric mean based upon tests: pts/gromacs, pts/lcero, pts/blender, pts/caffe, pts/vkfft, pts/ncnn, pts/realsr-ncnn and pts/waifu2x-ncnn



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

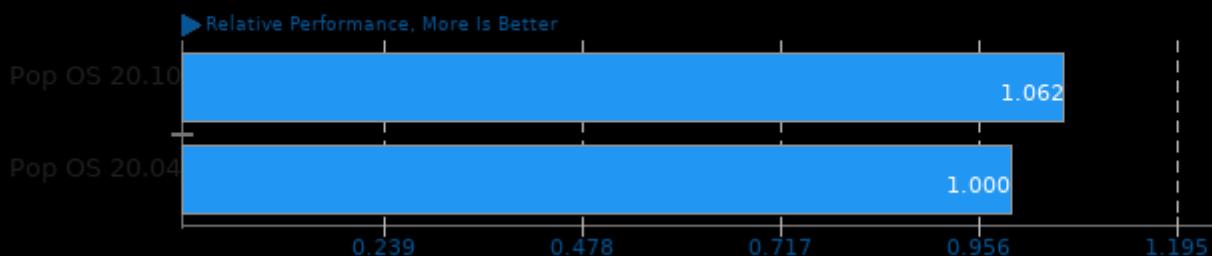


Geometric mean based upon tests: pts/cloverleaf, pts/lammps, pts/mocassin, pts/gromacs and pts/gpaw

System76 Thelio Major 3990X Pop OS

Geometric Mean Of Productivity Tests

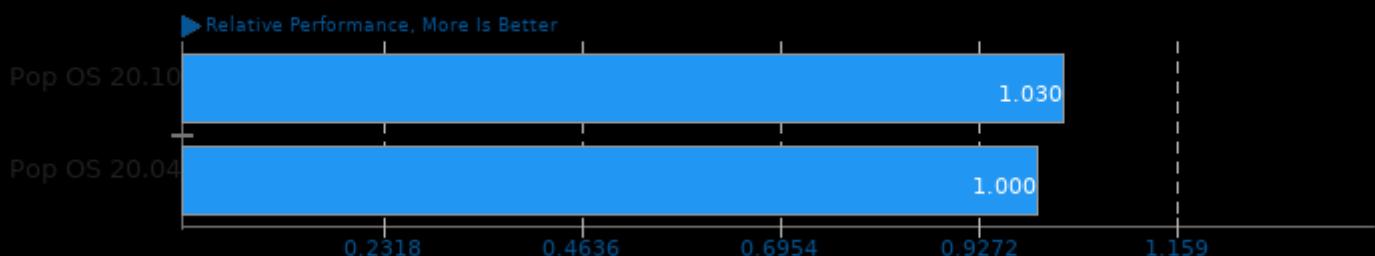
Result Composite - System76 Thelio Major 3990X Pop OS



Geometric mean based upon tests: system/octave-benchmark, system/gimp, system/gegl and system/rsvg

Geometric Mean Of Programmer / Developer System Benchmarks Tests

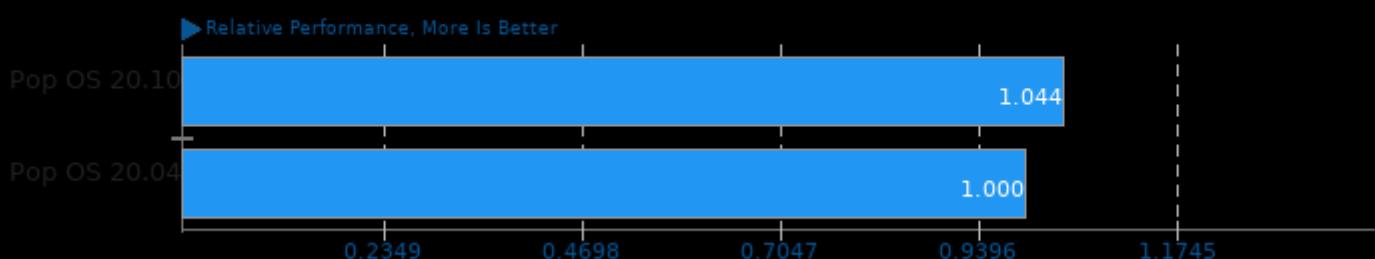
Result Composite - System76 Thelio Major 3990X Pop OS



Geometric mean based upon tests: pts/sqlite-speedtest, pts/git, pts/compress-zstd, pts/pyperformance, pts/pybench, system/cryptsetup, pts/build-apache, pts/build-php, pts/build-linux-kernel, pts/build-gdb, pts/build-llvm, pts/build-ffmpeg and pts/build-mplayer

Geometric Mean Of Python Tests

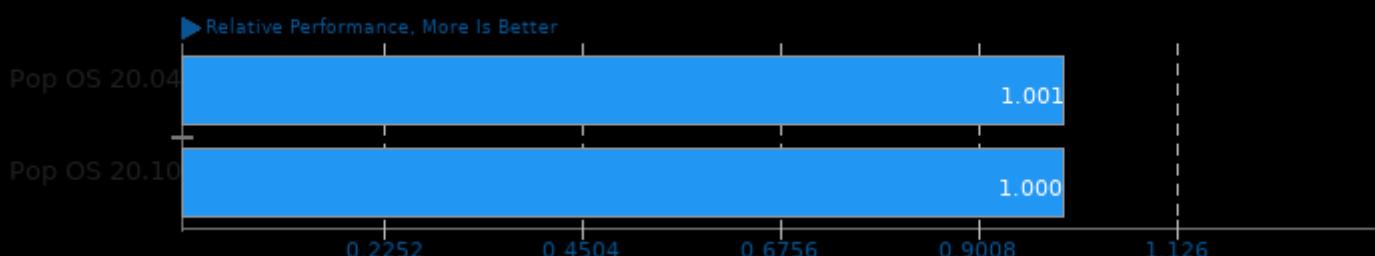
Result Composite - System76 Thelio Major 3990X Pop OS



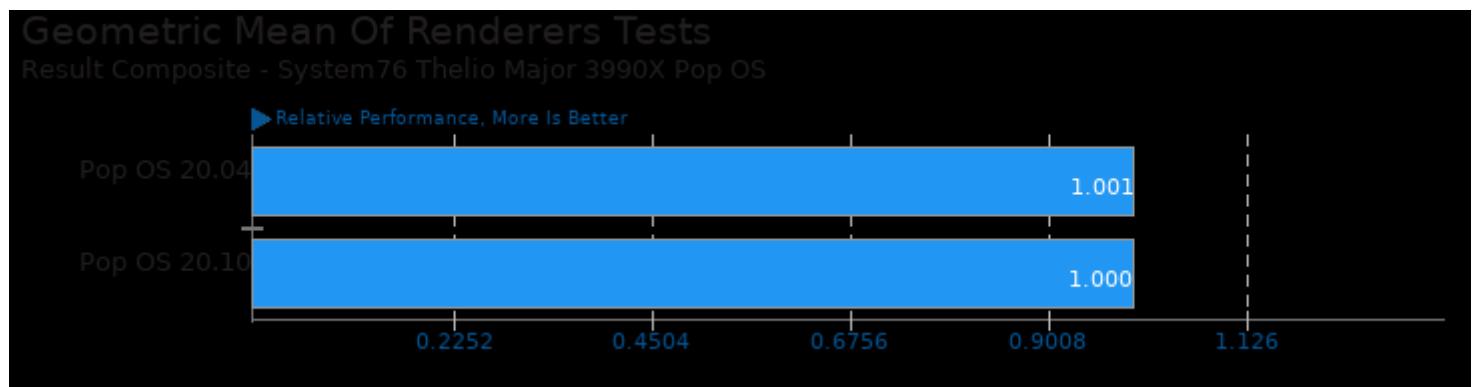
Geometric mean based upon tests: pts/pybench, pts/mlpack and pts/pyperformance

Geometric Mean Of Raytracing Tests

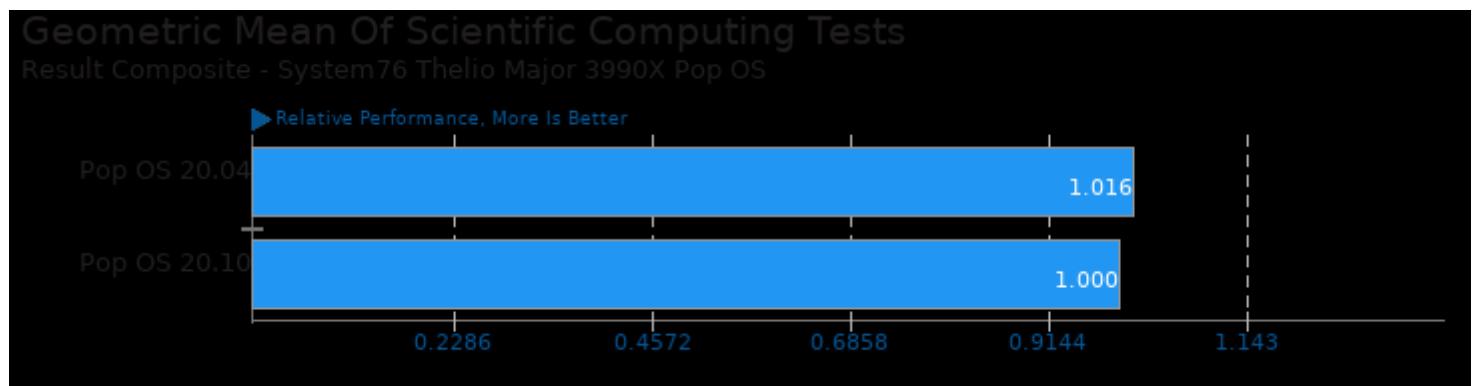
Result Composite - System76 Thelio Major 3990X Pop OS



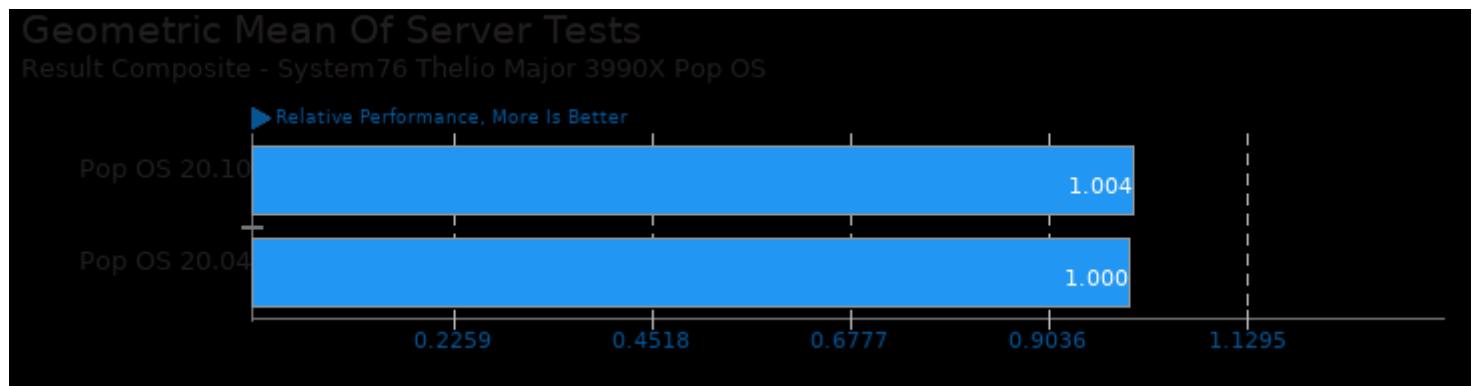
Geometric mean based upon tests: pts/ospray and pts/rays1bench



Geometric mean based upon tests: pts/ospray, pts/rays1bench, pts/blender and pts/appleseed



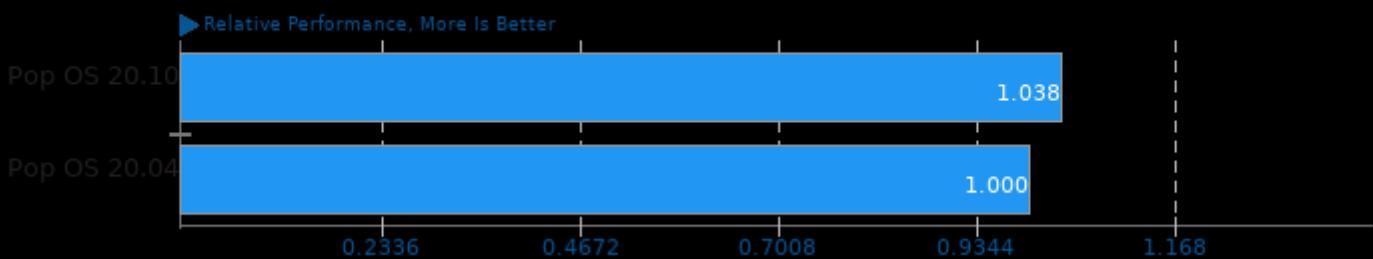
Geometric mean based upon tests: pts/ffte, system/octave-benchmark, pts/namd, pts/gromacs, pts/dolfyn, pts/cloverleaf, pts/lammps, pts/hmmer, pts/mafft, pts/gpaw, pts/mocassin and pts/kripke



Geometric mean based upon tests: pts/rocksdb, pts/openssl, pts/sqlite, pts/sqlite-speedtest, pts/leveldb, pts/couchdb and pts/influxdb

Geometric Mean Of Single-Threaded Tests

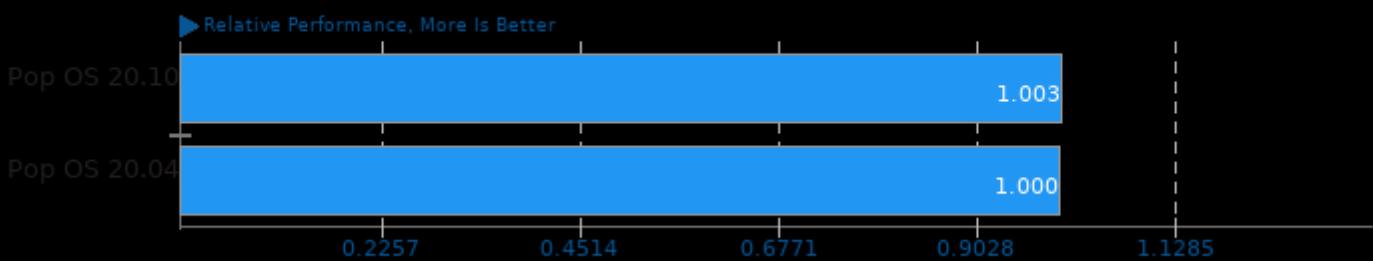
Result Composite - System76 Thelio Major 3990X Pop OS



Geometric mean based upon tests: pts/polyhedron, pts/byte, pts/luajit, pts/encode-flac, pts/encode-mp3, pts/espeak, pts/optcarrot, pts/pybench, pts/hint, pts/git and system/tesseract-ocr

Geometric Mean Of Speech Tests

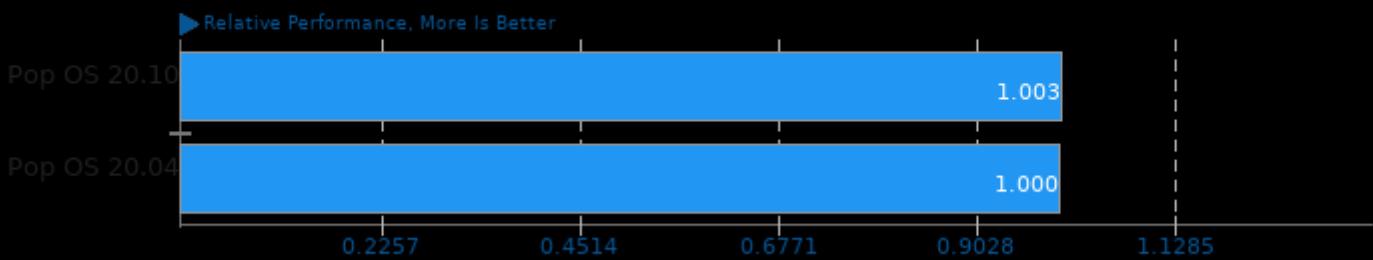
Result Composite - System76 Thelio Major 3990X Pop OS



Geometric mean based upon tests: pts/espeak and pts/rnnoise

Geometric Mean Of Telephony Tests

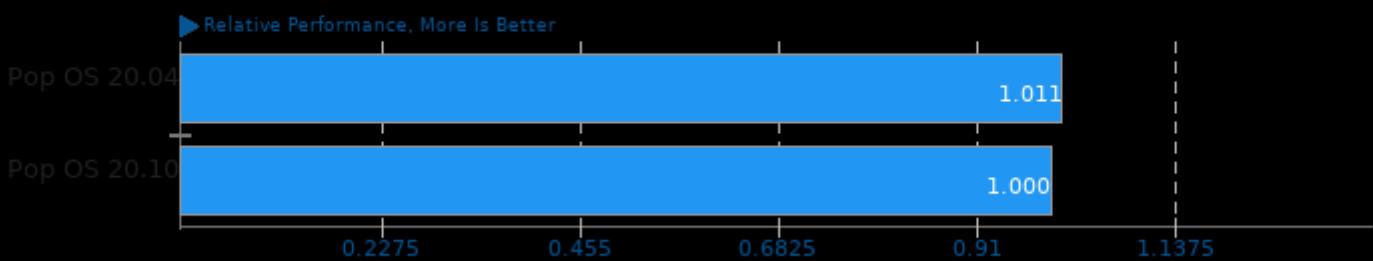
Result Composite - System76 Thelio Major 3990X Pop OS



Geometric mean based upon tests: pts/espeak and pts/rnnoise

Geometric Mean Of Video Encoding Tests

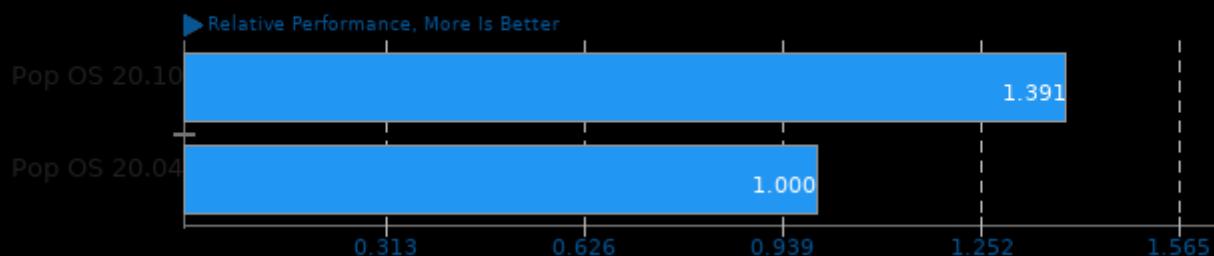
Result Composite - System76 Thelio Major 3990X Pop OS



Geometric mean based upon tests: pts/svt-vp9, pts/svt-hevc, pts/x265, pts/kvazaar and pts/svt-av1

Geometric Mean Of Vulkan Compute Tests

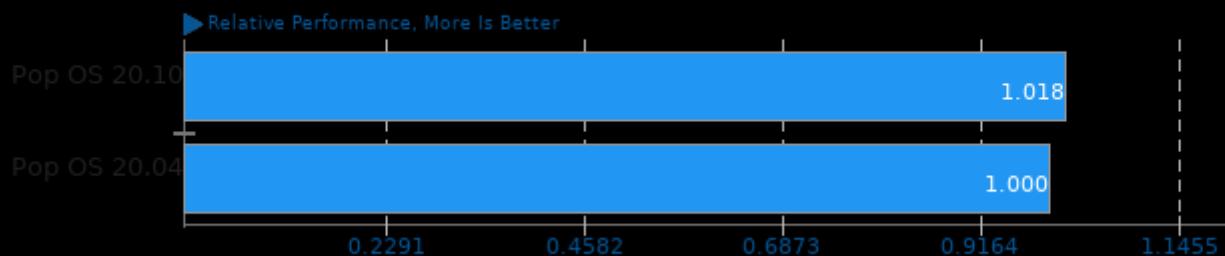
Result Composite - System76 Thelio Major 3990X Pop OS



Geometric mean based upon tests: pts/vkfft, pts/ncnn, pts/realsr-ncnn and pts/waifu2x-ncnn

Geometric Mean Of Common Workstation Benchmarks Tests

Result Composite - System76 Thelio Major 3990X Pop OS



Geometric mean based upon tests: pts/blender, pts/brl-cad, pts/x265, pts/paraview and pts/git

This file was automatically generated via the Phoronix Test Suite benchmarking software on Friday, 29 March 2024 08:09.